Pantheon Report

Generated at 2018-11-30 10:24:58 (UTC).

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

Repeated the test of 19 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 4.15.0-1027-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 @ 7b6dad87cde3ab65f7c4052140eb54098aa58e9d
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
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
```
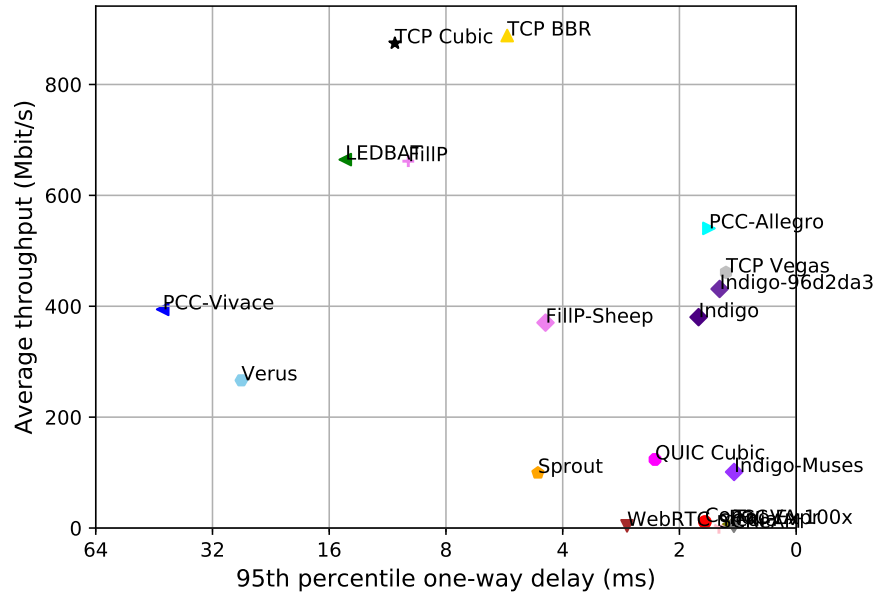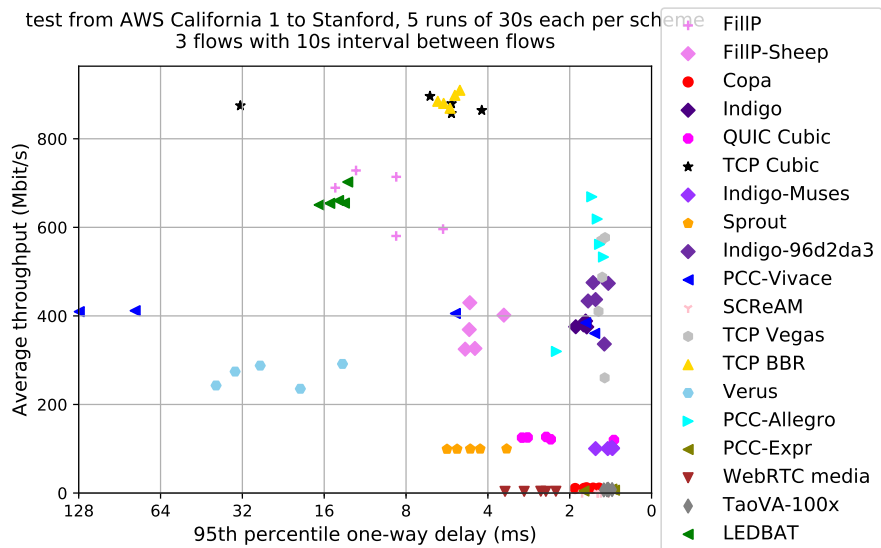
```
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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
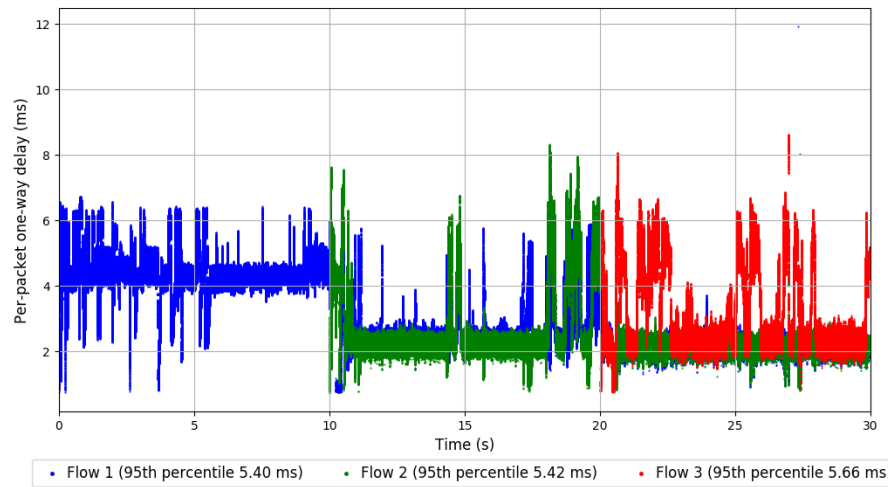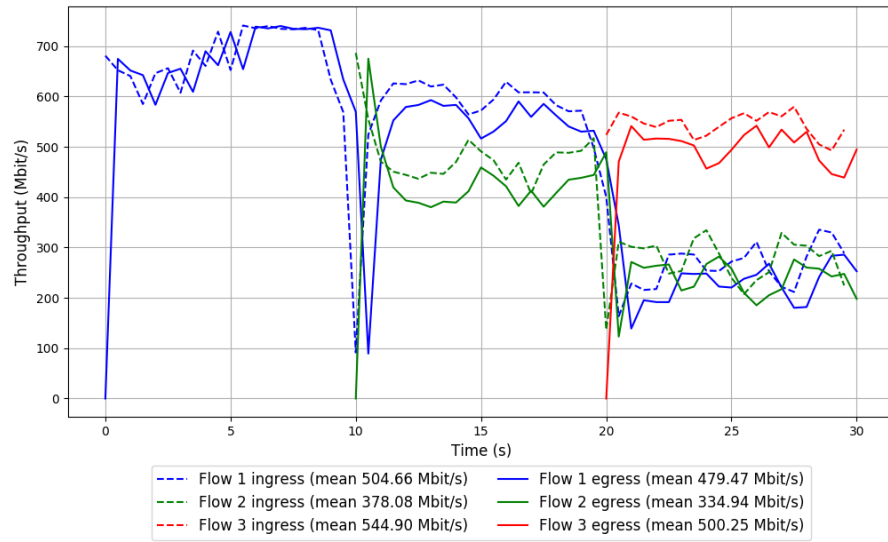3 flows with 10s interval between flows

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	521.65	377.43	346.27	5.42	5.54	4.34	4.99	9.85	11.93
Copa	5	6.51	3.85	7.56	1.55	1.86	1.51	48.56	50.35	50.75
TCP Cubic	5	512.93	384.08	317.46	12.18	2.20	2.23	0.06	0.05	0.08
FillP	5	454.42	259.04	105.29	11.31	3.58	3.42	11.32	9.55	14.23
FillP-Sheep	5	315.42	65.95	33.77	4.63	1.97	2.42	3.12	2.73	5.80
Indigo	5	195.56	188.13	184.63	1.49	1.67	2.01	0.00	0.00	0.00
Indigo-96d2da3	5	258.97	136.84	246.06	1.31	1.12	1.41	0.00	0.00	0.00
LEDBAT	5	359.66	336.39	260.23	15.96	8.26	5.67	0.18	0.29	0.41
Indigo-Muses	5	50.29	50.59	52.23	1.08	1.06	0.98	0.00	0.00	0.00
PCC-Allegro	5	183.68	485.89	102.12	1.42	1.52	1.59	0.06	0.11	0.15
PCC-Expr	5	0.74	7.48	6.62	1.21	1.16	1.13	85.71	21.06	28.87
QUIC Cubic	5	65.74	60.60	53.56	0.90	2.53	5.38	0.00	0.00	0.02
SCReAM	5	0.22	0.22	0.22	1.33	1.30	1.32	0.00	0.00	0.00
Sprout	5	49.95	49.82	49.56	4.59	4.69	4.60	0.06	0.08	0.15
TaoVA-100x	5	0.00	5.79	11.15	1.06	1.10	1.01	95.92	55.98	75.96
TCP Vegas	5	181.28	260.20	319.73	1.19	1.17	1.23	0.00	0.00	0.00
Verus	5	146.71	118.64	124.15	17.65	35.73	44.74	3.92	5.32	4.41
PCC-Vivace	5	223.87	171.72	170.74	26.59	2.33	78.96	0.19	0.05	2.47
WebRTC media	5	2.01	1.38	0.50	2.71	2.62	2.78	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2018-11-30 07:21:25
End at: 2018-11-30 07:21:55
Local clock offset: -0.114 ms
Remote clock offset: -0.307 ms


# Below is generated by plot.py at 2018-11-30 09:46:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 869.00 Mbit/s
95th percentile per-packet one-way delay: 5.510 ms
Loss rate: 7.33%
-- Flow 1:
Average throughput: 479.47 Mbit/s
95th percentile per-packet one-way delay: 5.401 ms
Loss rate: 4.99%
-- Flow 2:
Average throughput: 334.94 Mbit/s
95th percentile per-packet one-way delay: 5.416 ms
Loss rate: 11.39%
-- Flow 3:
Average throughput: 500.25 Mbit/s
95th percentile per-packet one-way delay: 5.664 ms
Loss rate: 8.19%
```
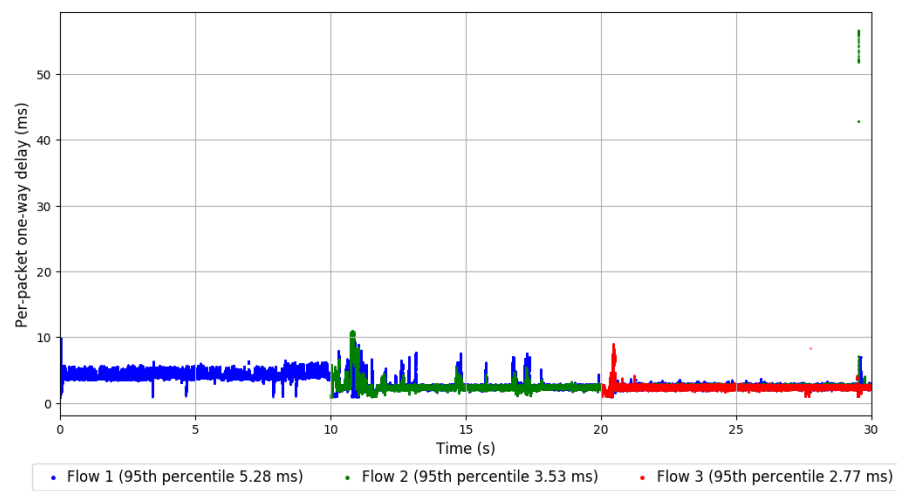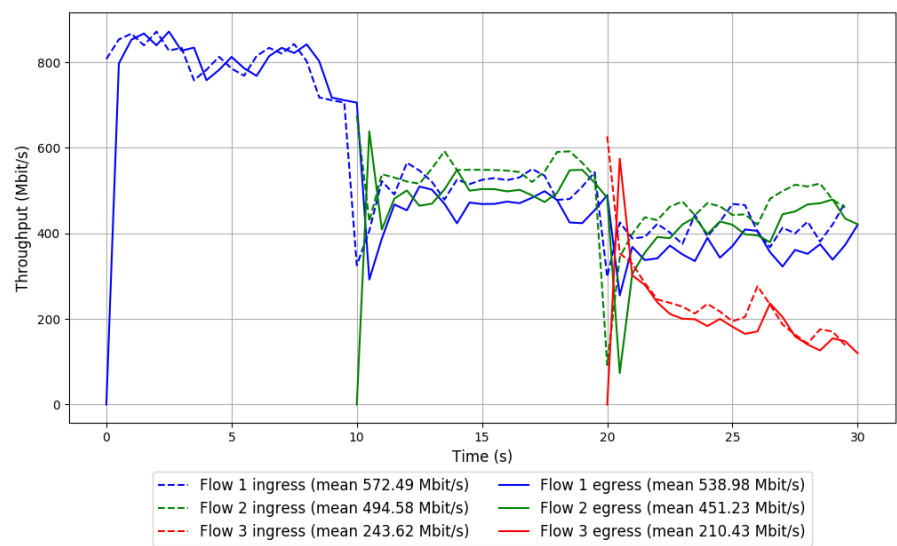
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-11-30 07:48:34
End at: 2018-11-30 07:49:04
Local clock offset: 1.099 ms
Remote clock offset: 0.225 ms


# Below is generated by plot.py at 2018-11-30 09:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 909.58 Mbit/s
95th percentile per-packet one-way delay: 5.072 ms
Loss rate: 7.47%
-- Flow 1:
Average throughput: 538.98 Mbit/s
95th percentile per-packet one-way delay: 5.279 ms
Loss rate: 5.85%
-- Flow 2:
Average throughput: 451.23 Mbit/s
95th percentile per-packet one-way delay: 3.527 ms
Loss rate: 8.76%
-- Flow 3:
Average throughput: 210.43 Mbit/s
95th percentile per-packet one-way delay: 2.771 ms
Loss rate: 13.62%
```
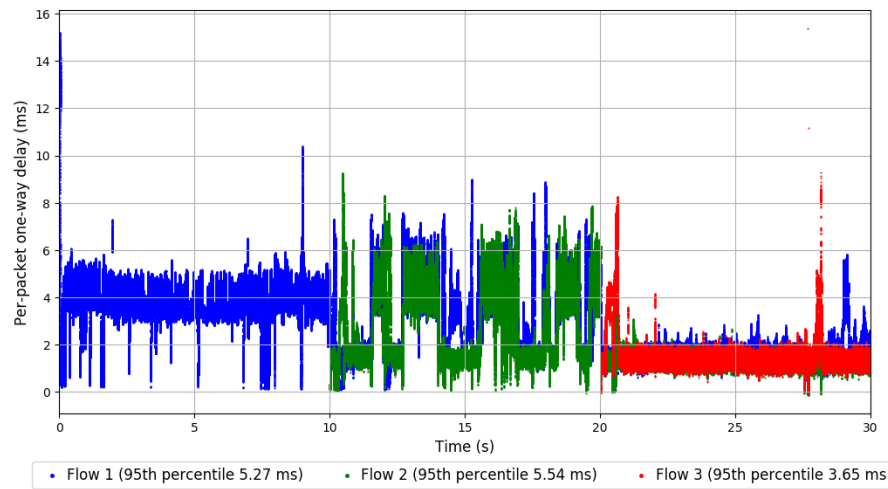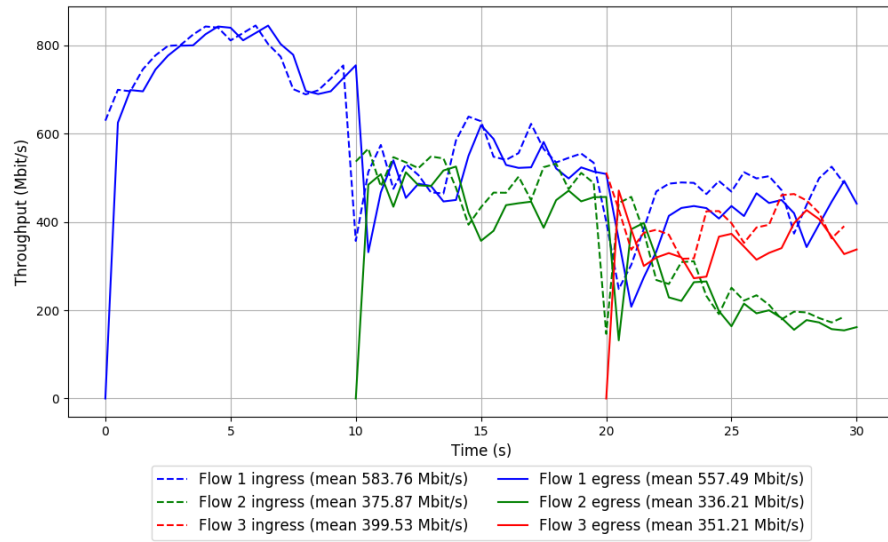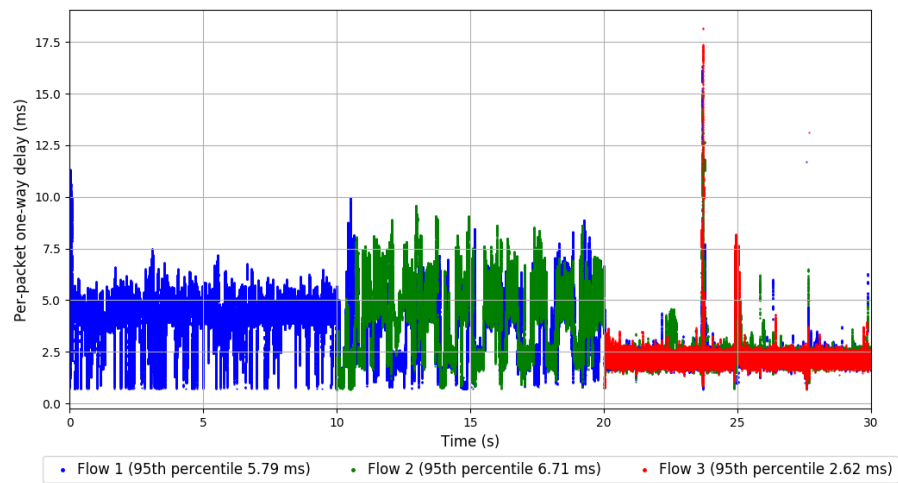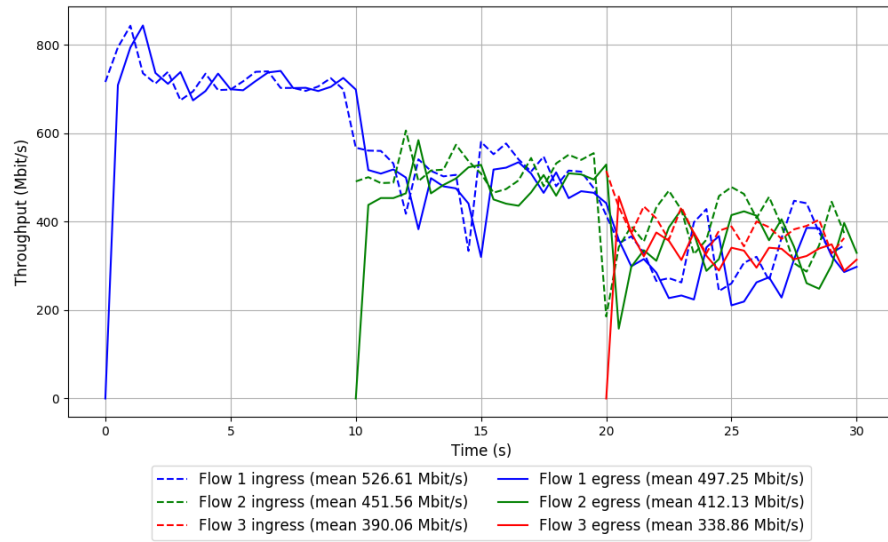
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2018-11-30 08:15:37
End at: 2018-11-30 08:16:07
Local clock offset: 3.632 ms
Remote clock offset: 0.119 ms

# Below is generated by plot.py at 2018-11-30 09:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 898.14 Mbit/s
95th percentile per-packet one-way delay: 5.291 ms
Loss rate: 7.11%
-- Flow 1:
Average throughput: 557.49 Mbit/s
95th percentile per-packet one-way delay: 5.273 ms
Loss rate: 4.50%
-- Flow 2:
Average throughput: 336.21 Mbit/s
95th percentile per-packet one-way delay: 5.545 ms
Loss rate: 10.55%
-- Flow 3:
Average throughput: 351.21 Mbit/s
95th percentile per-packet one-way delay: 3.646 ms
Loss rate: 12.09%
```

Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2018-11-30 08:42:42
End at: 2018-11-30 08:43:12
Local clock offset: -4.128 ms
Remote clock offset: 0.168 ms


# Below is generated by plot.py at 2018-11-30 09:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 884.70 Mbit/s
95th percentile per-packet one-way delay: 6.115 ms
Loss rate: 7.59%
-- Flow 1:
Average throughput: 497.25 Mbit/s
95th percentile per-packet one-way delay: 5.795 ms
Loss rate: 5.57%
-- Flow 2:
Average throughput: 412.13 Mbit/s
95th percentile per-packet one-way delay: 6.715 ms
Loss rate: 8.73%
-- Flow 3:
Average throughput: 338.86 Mbit/s
95th percentile per-packet one-way delay: 2.623 ms
Loss rate: 13.13%
```
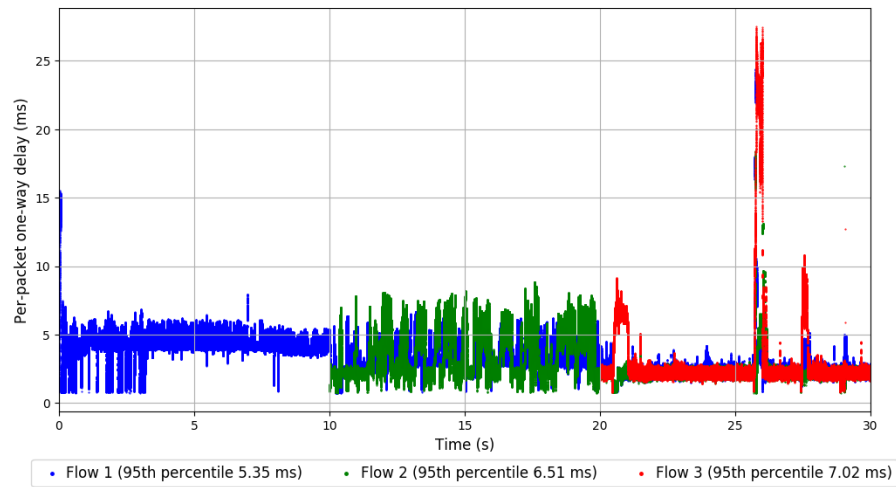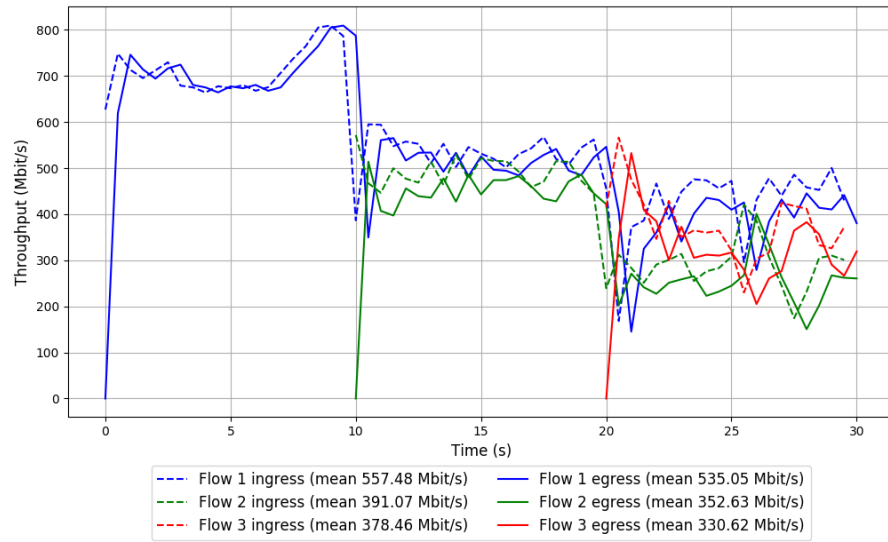
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 526.61 Mbit/s)   Flow 1 egress (mean 497.25 Mbit/s)
Flow 2 ingress (mean 451.56 Mbit/s)   Flow 2 egress (mean 412.13 Mbit/s)
Flow 3 ingress (mean 390.06 Mbit/s)   Flow 3 egress (mean 338.86 Mbit/s)

Flow 1 (95th percentile 5.79 ms)   Flow 2 (95th percentile 6.71 ms)   Flow 3 (95th percentile 2.62 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2018-11-30 09:09:49
End at: 2018-11-30 09:10:19
Local clock offset: -6.037 ms
Remote clock offset: 0.392 ms


# Below is generated by plot.py at 2018-11-30 09:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 879.94 Mbit/s
95th percentile per-packet one-way delay: 5.819 ms
Loss rate: 6.77%
-- Flow 1:
Average throughput: 535.05 Mbit/s
95th percentile per-packet one-way delay: 5.346 ms
Loss rate: 4.02%
-- Flow 2:
Average throughput: 352.63 Mbit/s
95th percentile per-packet one-way delay: 6.514 ms
Loss rate: 9.82%
-- Flow 3:
Average throughput: 330.62 Mbit/s
95th percentile per-packet one-way delay: 7.020 ms
Loss rate: 12.64%
```
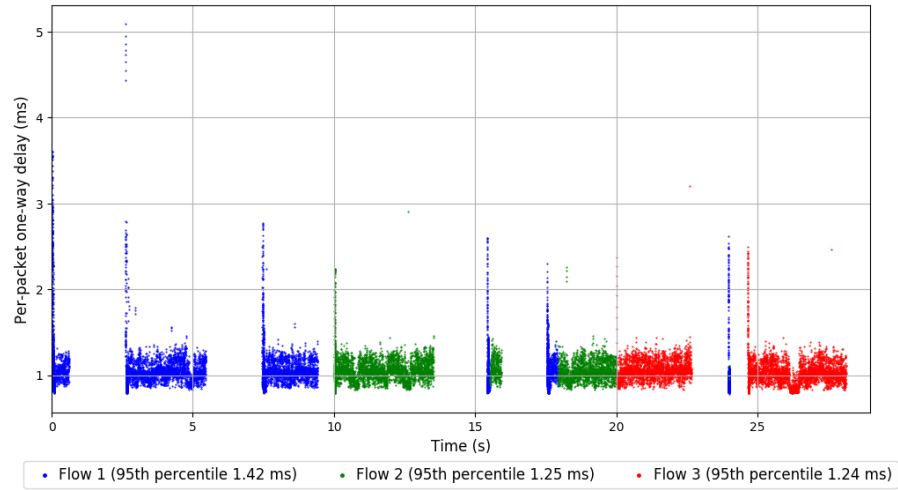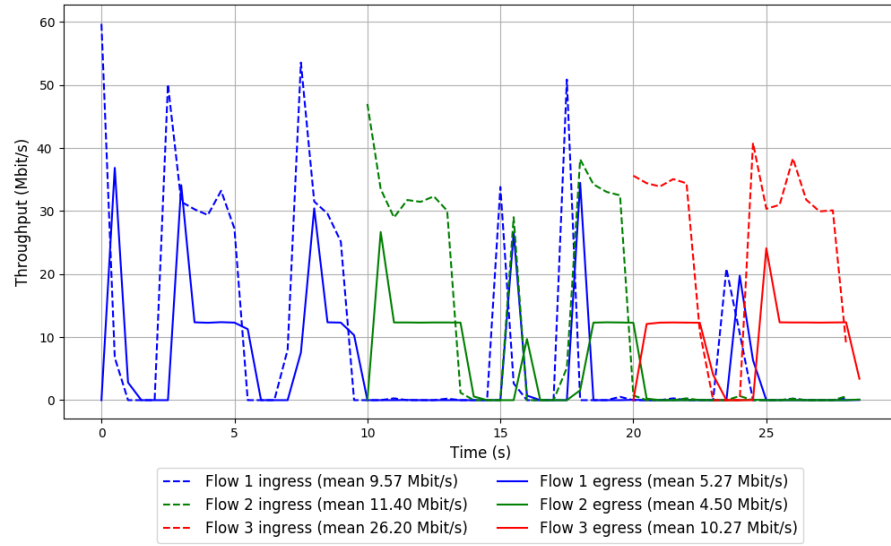
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 557.48 Mbit/s) --- Flow 1 egress (mean 535.05 Mbit/s)
Flow 2 ingress (mean 391.07 Mbit/s) --- Flow 2 egress (mean 352.63 Mbit/s)
Flow 3 ingress (mean 378.46 Mbit/s) --- Flow 3 egress (mean 330.62 Mbit/s)

Flow 1 (95th percentile 5.35 ms)   Flow 2 (95th percentile 6.51 ms)   Flow 3 (95th percentile 7.02 ms)

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```
Run 1: Statistics of Copa

Start at: 2018-11-30 07:40:19
End at: 2018-11-30 07:40:49
Local clock offset: -0.011 ms
Remote clock offset: 0.162 ms


# Below is generated by plot.py at 2018-11-30 09:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.08 Mbit/s
95th percentile per-packet one-way delay: 1.283 ms
Loss rate: 54.55%
-- Flow 1:
Average throughput: 5.27 Mbit/s
95th percentile per-packet one-way delay: 1.423 ms
Loss rate: 44.99%
-- Flow 2:
Average throughput: 4.50 Mbit/s
95th percentile per-packet one-way delay: 1.248 ms
Loss rate: 60.55%
-- Flow 3:
Average throughput: 10.27 Mbit/s
95th percentile per-packet one-way delay: 1.240 ms
Loss rate: 60.81%
```
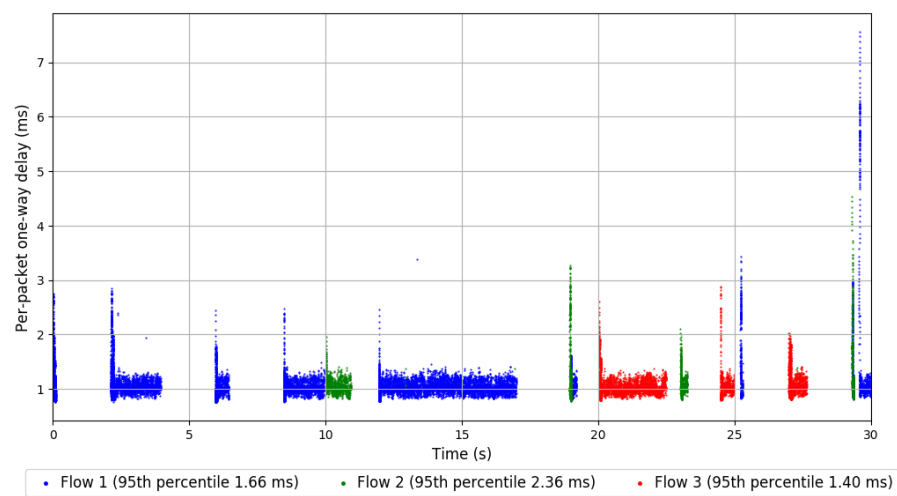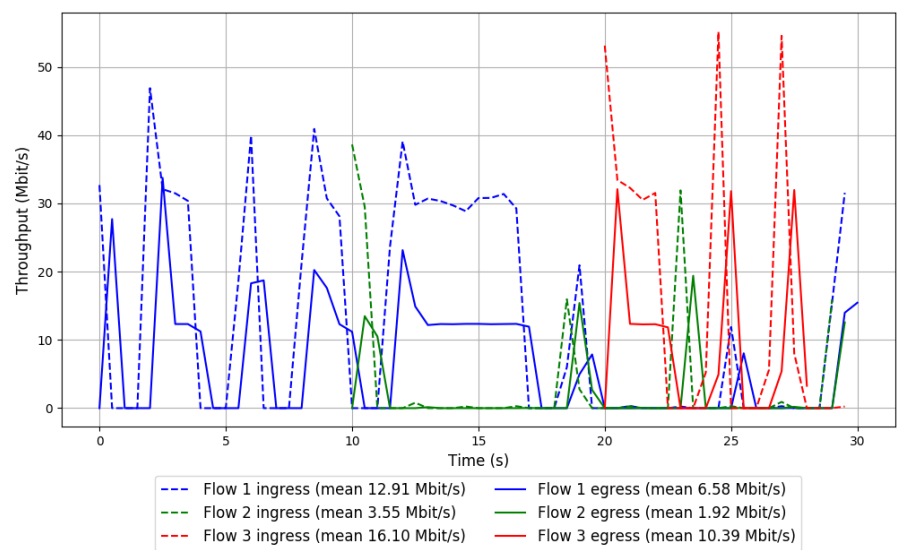
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 9.57 Mbit/s) — Flow 1 egress (mean 5.27 Mbit/s)
Flow 2 ingress (mean 11.40 Mbit/s) — Flow 2 egress (mean 4.50 Mbit/s)
Flow 3 ingress (mean 26.20 Mbit/s) — Flow 3 egress (mean 10.27 Mbit/s)

Flow 1 (95th percentile 1.42 ms) · Flow 2 (95th percentile 1.25 ms) · Flow 3 (95th percentile 1.24 ms)

```
Run 2: Statistics of Copa

Start at: 2018-11-30 08:07:34
End at: 2018-11-30 08:08:04
Local clock offset: 3.631 ms
Remote clock offset: 0.365 ms


# Below is generated by plot.py at 2018-11-30 09:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.45 Mbit/s
95th percentile per-packet one-way delay: 1.651 ms
Loss rate: 48.66%
-- Flow 1:
Average throughput: 6.58 Mbit/s
95th percentile per-packet one-way delay: 1.660 ms
Loss rate: 49.05%
-- Flow 2:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 2.361 ms
Loss rate: 45.86%
-- Flow 3:
Average throughput: 10.39 Mbit/s
95th percentile per-packet one-way delay: 1.401 ms
Loss rate: 48.92%
```
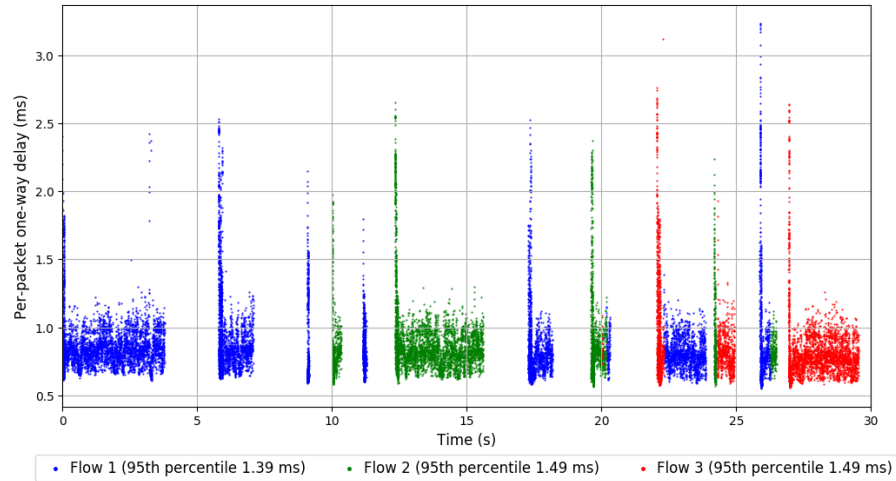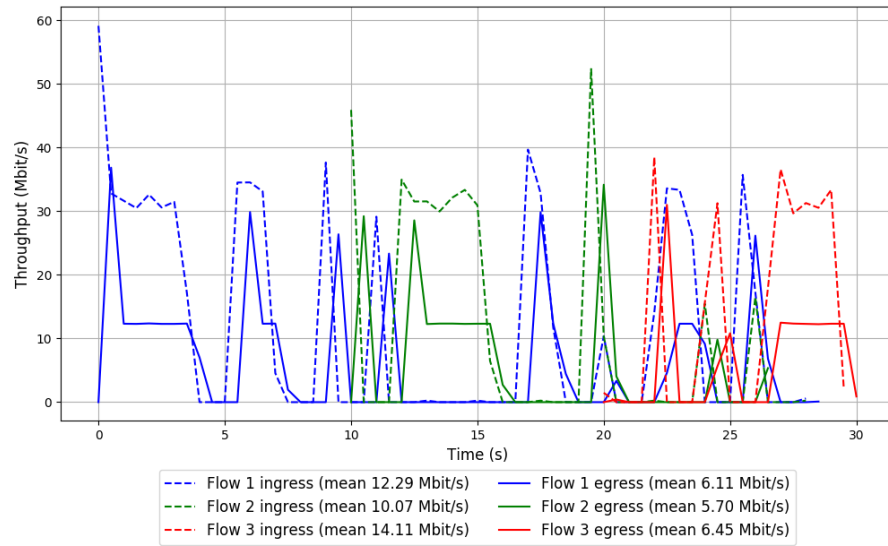
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-11-30 08:34:37
End at: 2018-11-30 08:35:07
Local clock offset: -3.22 ms
Remote clock offset: 0.089 ms


# Below is generated by plot.py at 2018-11-30 09:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.10 Mbit/s
95th percentile per-packet one-way delay: 1.429 ms
Loss rate: 50.90%
-- Flow 1:
Average throughput: 6.11 Mbit/s
95th percentile per-packet one-way delay: 1.387 ms
Loss rate: 50.33%
-- Flow 2:
Average throughput: 5.70 Mbit/s
95th percentile per-packet one-way delay: 1.487 ms
Loss rate: 49.54%
-- Flow 3:
Average throughput: 6.45 Mbit/s
95th percentile per-packet one-way delay: 1.493 ms
Loss rate: 54.27%
```
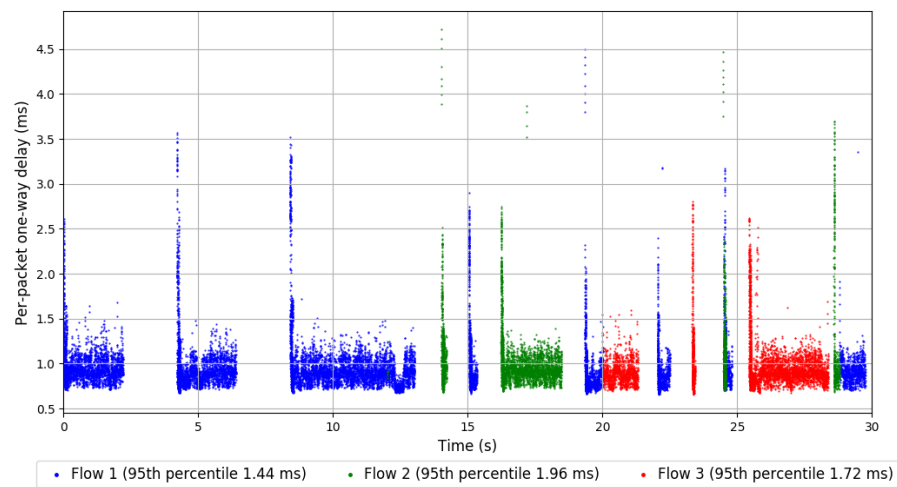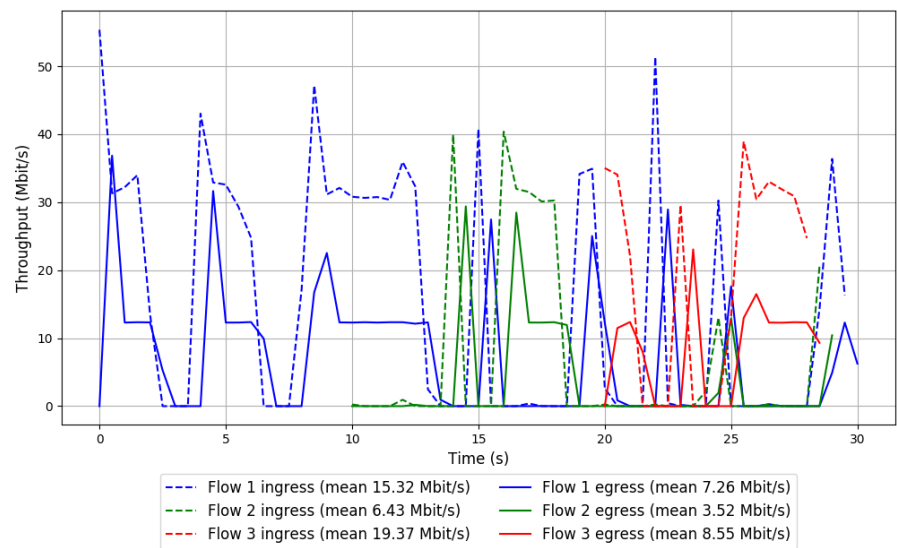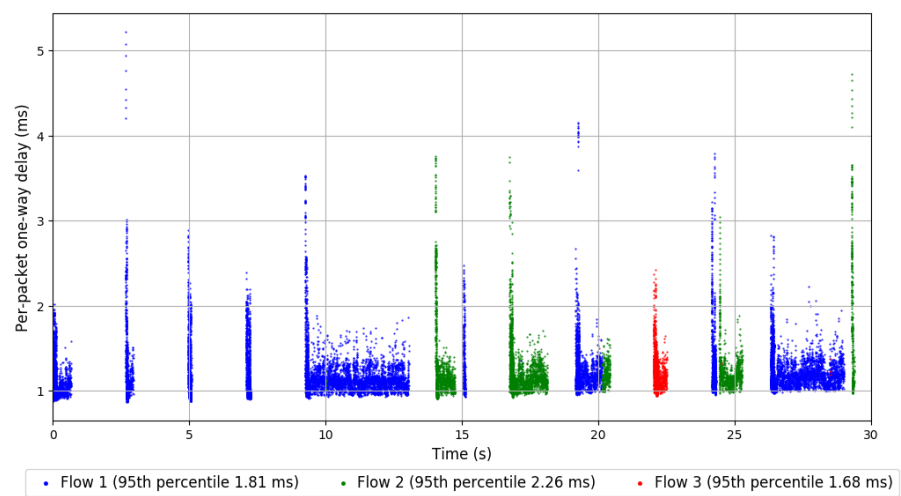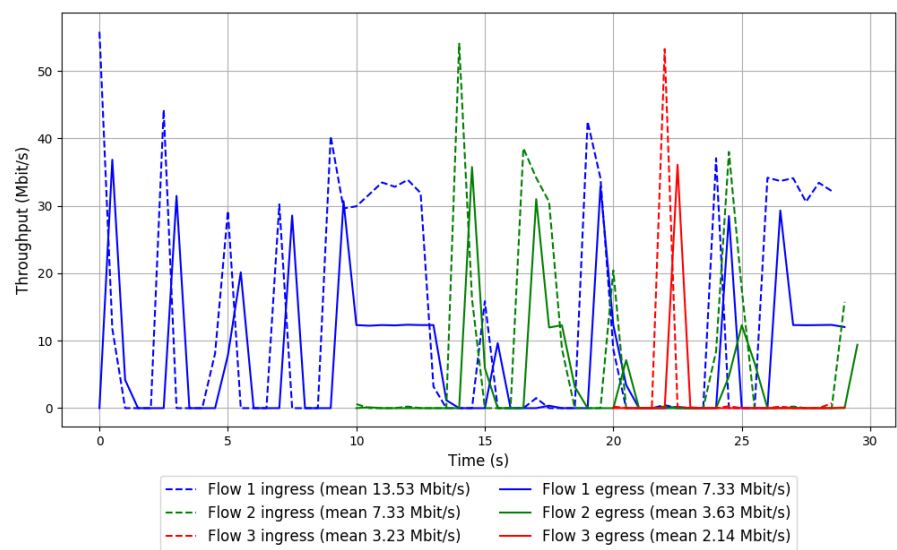
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-11-30 09:01:33
End at: 2018-11-30 09:02:03
Local clock offset: -5.49 ms
Remote clock offset: 0.312 ms


# Below is generated by plot.py at 2018-11-30 09:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.89 Mbit/s
95th percentile per-packet one-way delay: 1.589 ms
Loss rate: 52.13%
-- Flow 1:
Average throughput: 7.26 Mbit/s
95th percentile per-packet one-way delay: 1.444 ms
Loss rate: 52.61%
-- Flow 2:
Average throughput: 3.52 Mbit/s
95th percentile per-packet one-way delay: 1.963 ms
Loss rate: 45.31%
-- Flow 3:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 1.715 ms
Loss rate: 55.88%
```

Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2018-11-30 09:28:43
End at: 2018-11-30 09:29:13
Local clock offset: -0.439 ms
Remote clock offset: -0.201 ms


# Below is generated by plot.py at 2018-11-30 09:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.25 Mbit/s
95th percentile per-packet one-way delay: 1.867 ms
Loss rate: 46.43%
-- Flow 1:
Average throughput: 7.33 Mbit/s
95th percentile per-packet one-way delay: 1.813 ms
Loss rate: 45.83%
-- Flow 2:
Average throughput: 3.63 Mbit/s
95th percentile per-packet one-way delay: 2.256 ms
Loss rate: 50.51%
-- Flow 3:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 1.680 ms
Loss rate: 33.89%
```
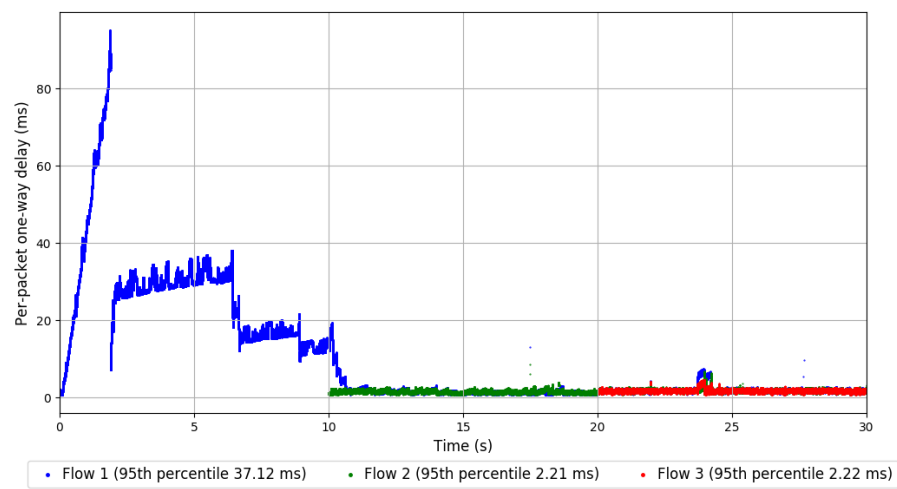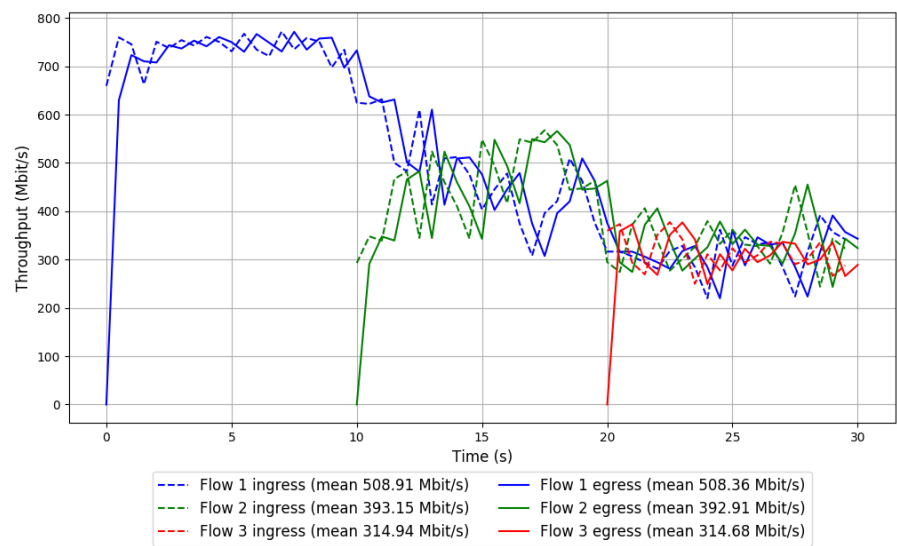
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2018-11-30 07:35:21
End at: 2018-11-30 07:35:51
Local clock offset: -0.003 ms
Remote clock offset: 0.036 ms

# Below is generated by plot.py at 2018-11-30 09:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 874.75 Mbit/s
95th percentile per-packet one-way delay: 32.550 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 508.36 Mbit/s
95th percentile per-packet one-way delay: 37.121 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 392.91 Mbit/s
95th percentile per-packet one-way delay: 2.214 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 314.68 Mbit/s
95th percentile per-packet one-way delay: 2.219 ms
Loss rate: 0.08%
```
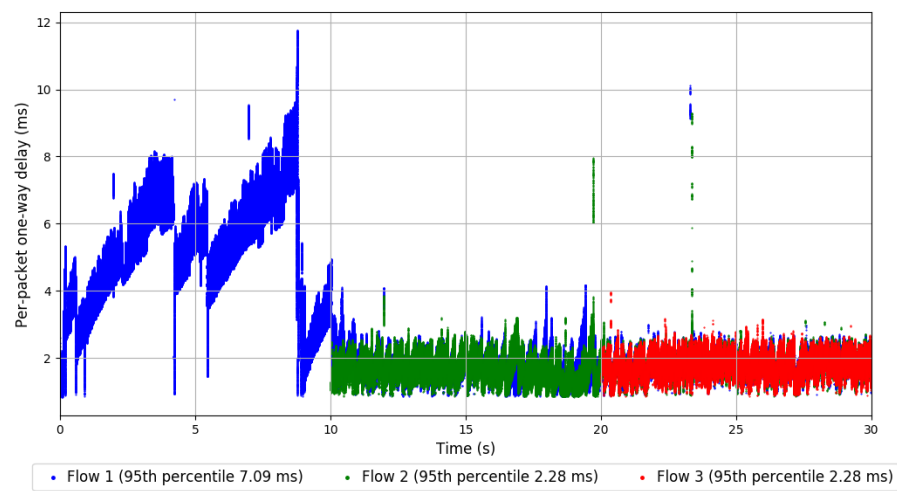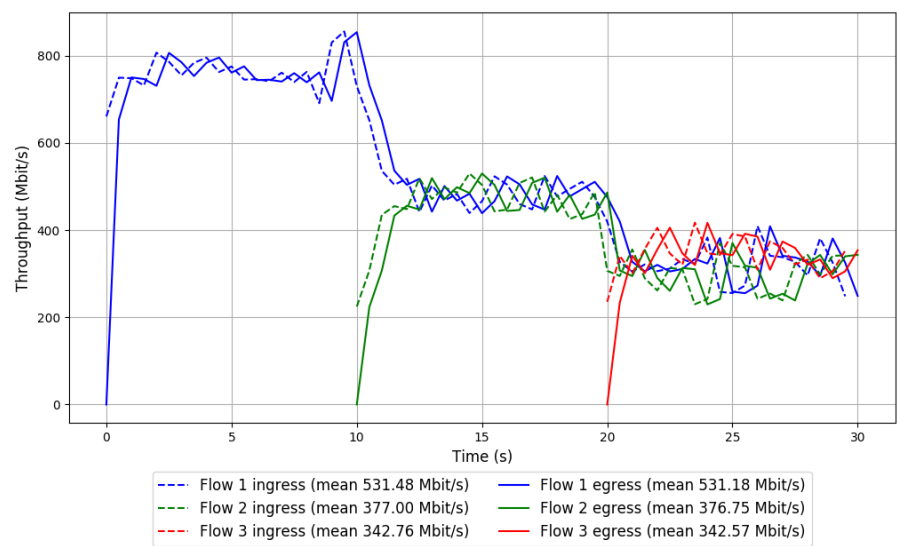
Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 508.91 Mbit/s) —— Flow 1 egress (mean 508.36 Mbit/s)
Flow 2 ingress (mean 393.15 Mbit/s) —— Flow 2 egress (mean 392.91 Mbit/s)
Flow 3 ingress (mean 314.94 Mbit/s) —— Flow 3 egress (mean 314.68 Mbit/s)

• Flow 1 (95th percentile 37.12 ms)   • Flow 2 (95th percentile 2.21 ms)   • Flow 3 (95th percentile 2.22 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2018-11-30 08:02:36
End at: 2018-11-30 08:03:06
Local clock offset: 3.246 ms
Remote clock offset: 0.572 ms

# Below is generated by plot.py at 2018-11-30 09:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 896.09 Mbit/s
95th percentile per-packet one-way delay: 6.531 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 531.18 Mbit/s
95th percentile per-packet one-way delay: 7.087 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 376.75 Mbit/s
95th percentile per-packet one-way delay: 2.280 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 342.57 Mbit/s
95th percentile per-packet one-way delay: 2.278 ms
Loss rate: 0.06%
```
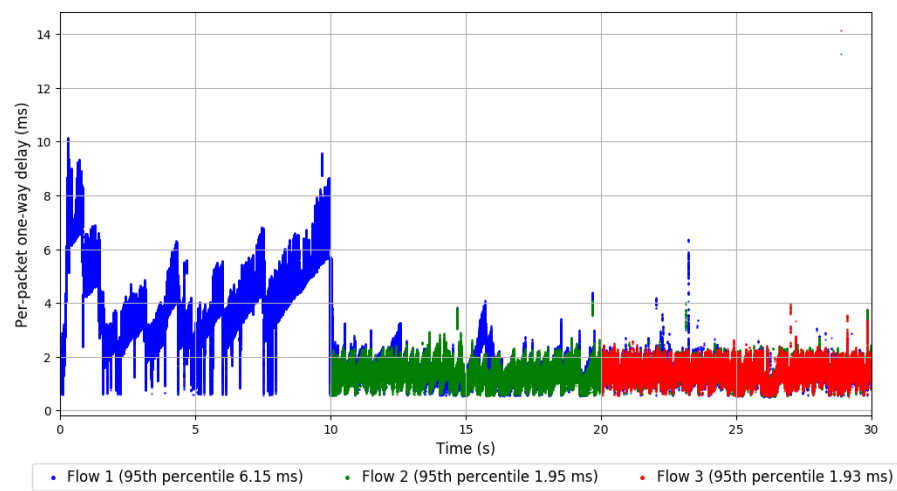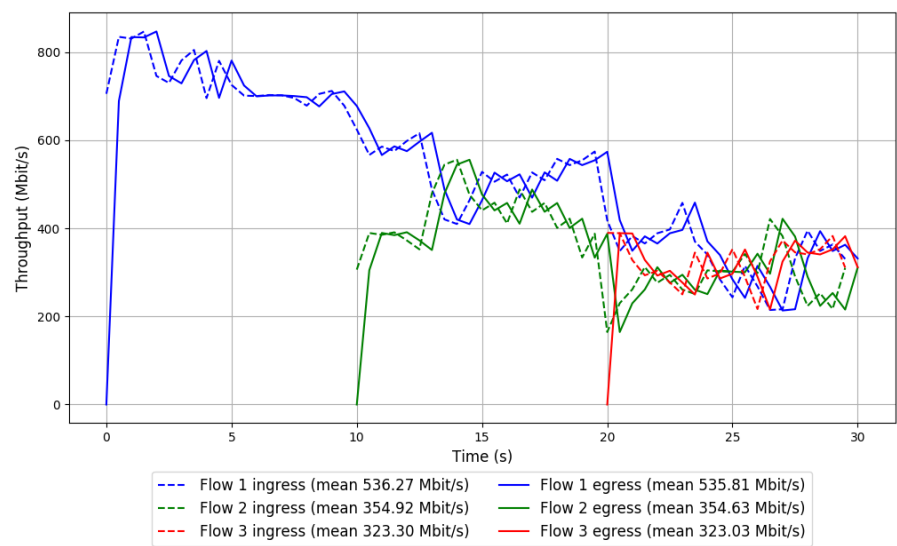
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2018-11-30 08:29:40
End at: 2018-11-30 08:30:10
Local clock offset: -2.382 ms
Remote clock offset: 0.103 ms


# Below is generated by plot.py at 2018-11-30 09:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 879.45 Mbit/s
95th percentile per-packet one-way delay: 5.443 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 535.81 Mbit/s
95th percentile per-packet one-way delay: 6.149 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 354.63 Mbit/s
95th percentile per-packet one-way delay: 1.949 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 323.03 Mbit/s
95th percentile per-packet one-way delay: 1.934 ms
Loss rate: 0.08%
```
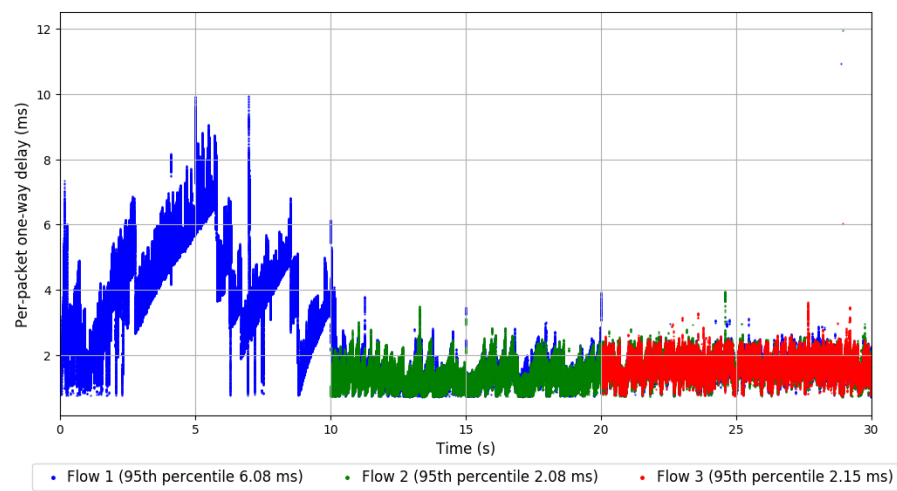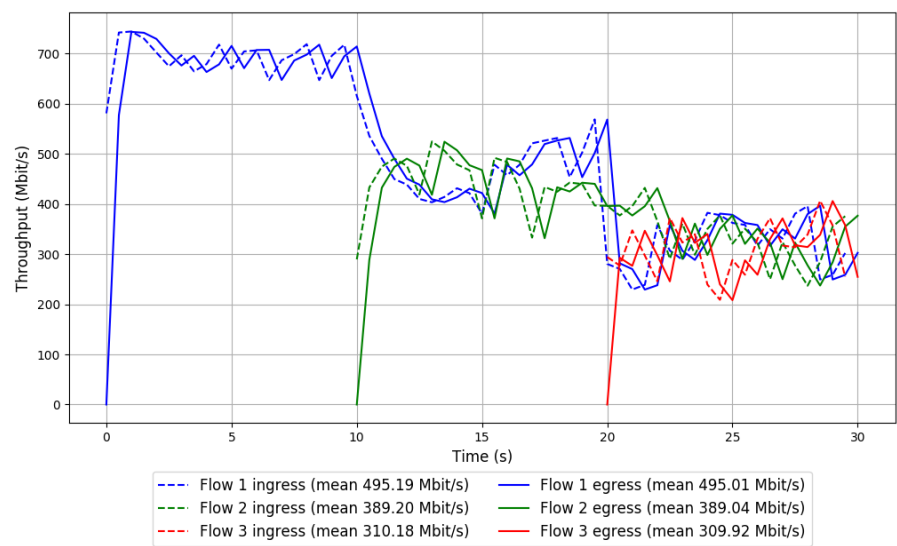
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2018-11-30 08:56:36
End at: 2018-11-30 08:57:06
Local clock offset: -5.19 ms
Remote clock offset: 0.327 ms


# Below is generated by plot.py at 2018-11-30 09:55:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 857.21 Mbit/s
95th percentile per-packet one-way delay: 5.444 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 495.01 Mbit/s
95th percentile per-packet one-way delay: 6.081 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 389.04 Mbit/s
95th percentile per-packet one-way delay: 2.076 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 309.92 Mbit/s
95th percentile per-packet one-way delay: 2.151 ms
Loss rate: 0.08%
```

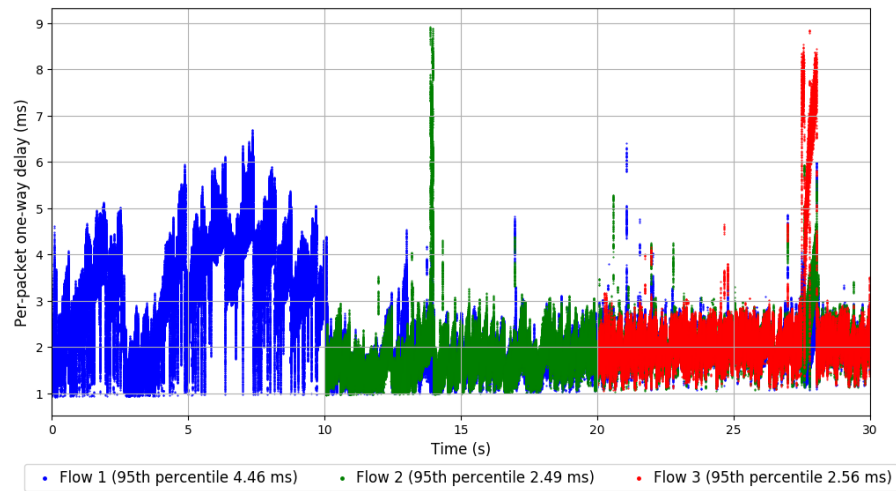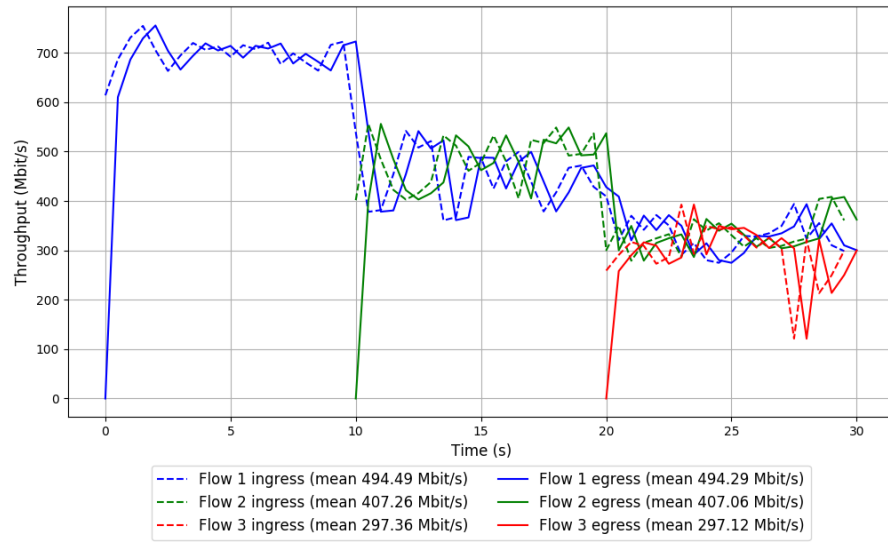Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-11-30 09:23:47
End at: 2018-11-30 09:24:17
Local clock offset: -1.741 ms
Remote clock offset: -0.124 ms


# Below is generated by plot.py at 2018-11-30 09:56:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 864.28 Mbit/s
95th percentile per-packet one-way delay: 4.213 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 494.29 Mbit/s
95th percentile per-packet one-way delay: 4.464 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 407.06 Mbit/s
95th percentile per-packet one-way delay: 2.494 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 297.12 Mbit/s
95th percentile per-packet one-way delay: 2.561 ms
Loss rate: 0.08%
```
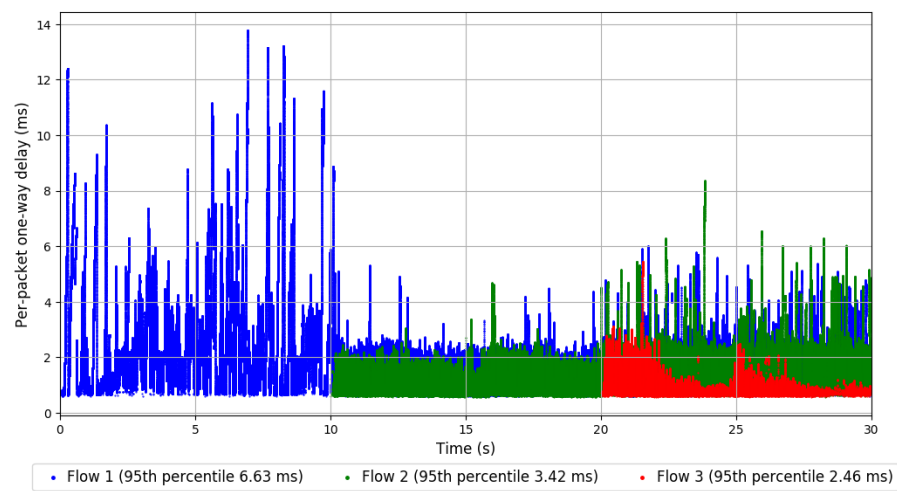
Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2018-11-30 07:28:38
End at: 2018-11-30 07:29:08
Local clock offset: -0.027 ms
Remote clock offset: -0.22 ms


# Below is generated by plot.py at 2018-11-30 09:56:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 596.03 Mbit/s
95th percentile per-packet one-way delay: 5.847 ms
Loss rate: 10.59%
-- Flow 1:
Average throughput: 438.36 Mbit/s
95th percentile per-packet one-way delay: 6.632 ms
Loss rate: 9.89%
-- Flow 2:
Average throughput: 208.22 Mbit/s
95th percentile per-packet one-way delay: 3.417 ms
Loss rate: 13.22%
-- Flow 3:
Average throughput: 57.15 Mbit/s
95th percentile per-packet one-way delay: 2.460 ms
Loss rate: 6.65%
```
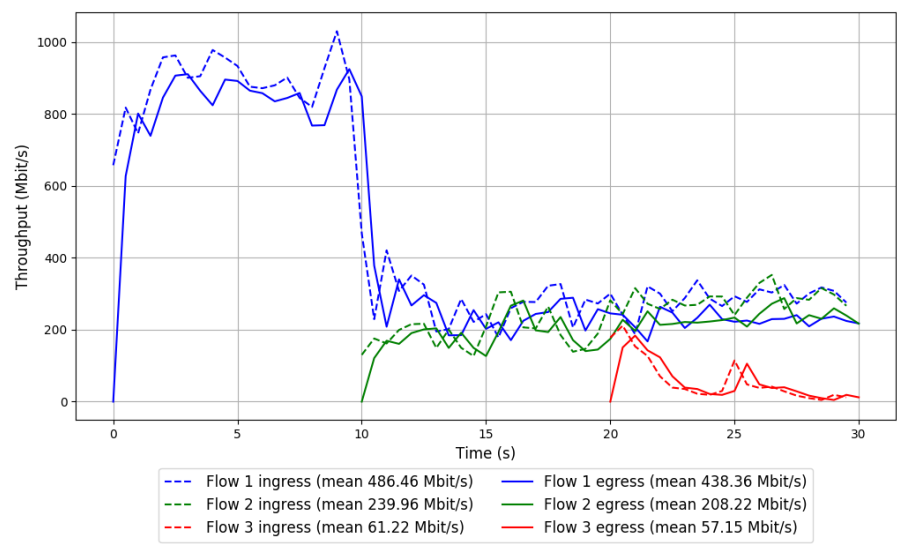
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2018-11-30 07:55:49
End at: 2018-11-30 07:56:19
Local clock offset: 2.529 ms
Remote clock offset: 0.436 ms


# Below is generated by plot.py at 2018-11-30 09:57:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 714.03 Mbit/s
95th percentile per-packet one-way delay: 8.692 ms
Loss rate: 12.06%
-- Flow 1:
Average throughput: 458.65 Mbit/s
95th percentile per-packet one-way delay: 10.224 ms
Loss rate: 8.96%
-- Flow 2:
Average throughput: 259.58 Mbit/s
95th percentile per-packet one-way delay: 4.201 ms
Loss rate: 16.75%
-- Flow 3:
Average throughput: 248.94 Mbit/s
95th percentile per-packet one-way delay: 4.913 ms
Loss rate: 17.93%
```
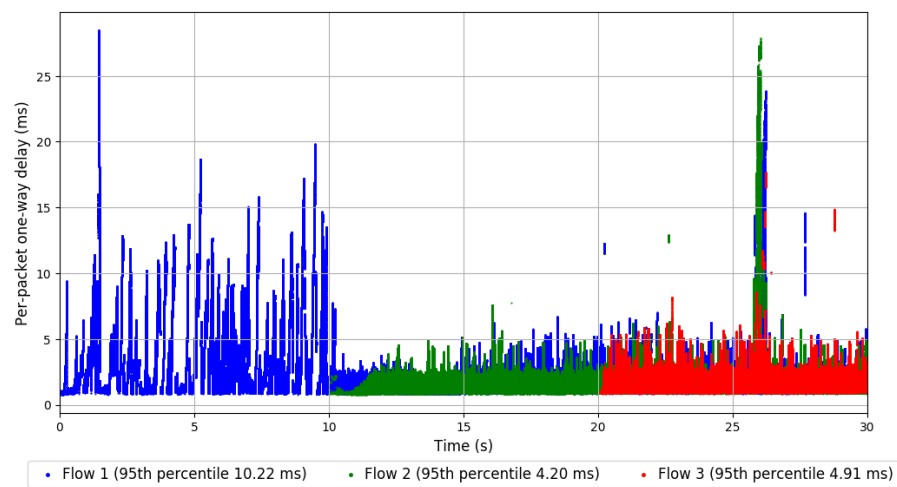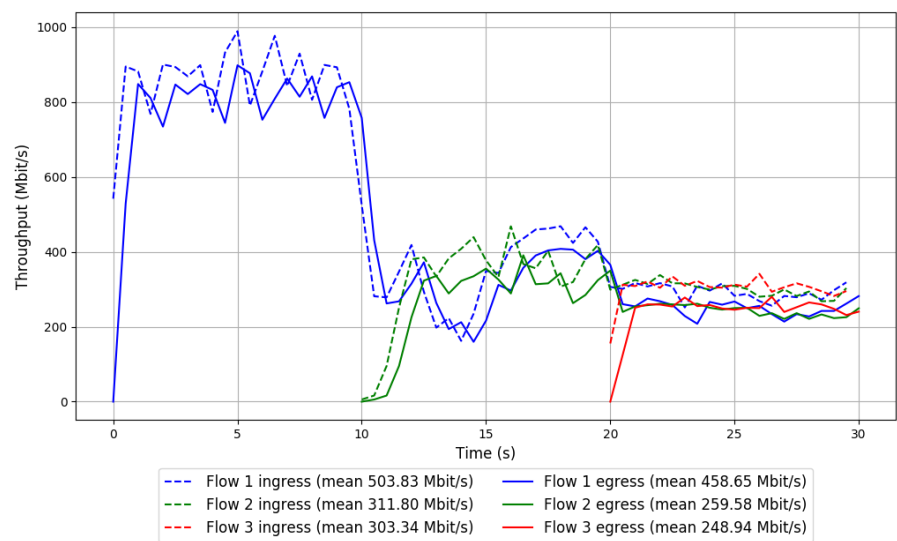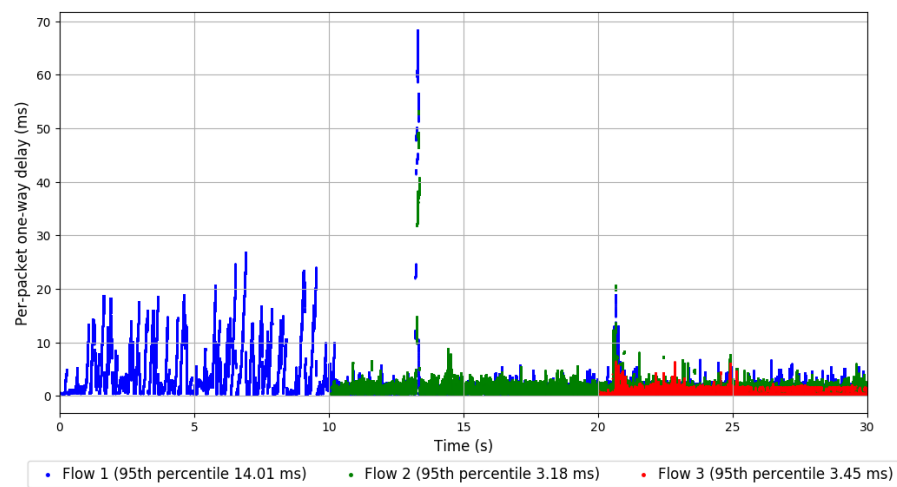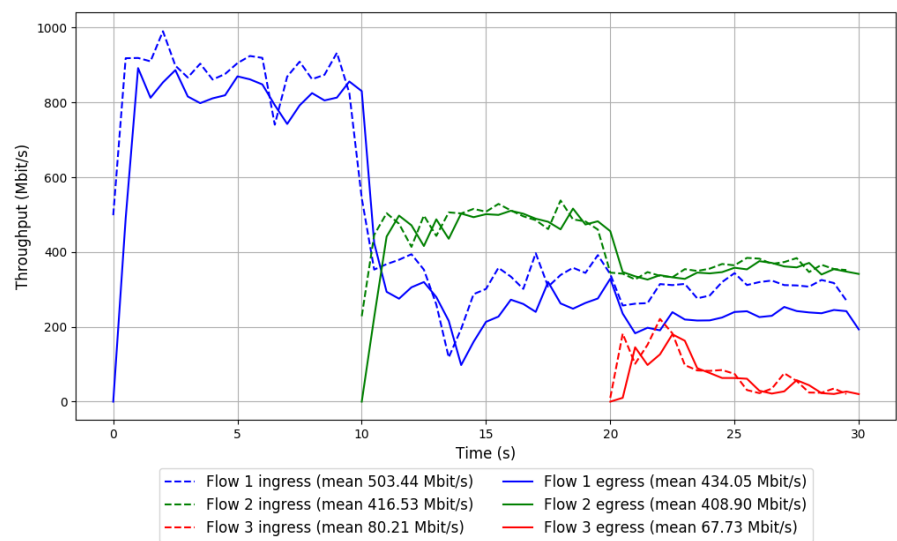
Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 503.83 Mbit/s) --- Flow 1 egress (mean 458.65 Mbit/s)
Flow 2 ingress (mean 311.80 Mbit/s) --- Flow 2 egress (mean 259.58 Mbit/s)
Flow 3 ingress (mean 303.34 Mbit/s) --- Flow 3 egress (mean 248.94 Mbit/s)

Flow 1 (95th percentile 10.22 ms)   Flow 2 (95th percentile 4.20 ms)   Flow 3 (95th percentile 4.91 ms)

```
Run 3: Statistics of FillP

Start at: 2018-11-30 08:22:54
End at: 2018-11-30 08:23:24
Local clock offset: -0.497 ms
Remote clock offset: 0.079 ms

# Below is generated by plot.py at 2018-11-30 09:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 728.44 Mbit/s
95th percentile per-packet one-way delay: 12.220 ms
Loss rate: 9.74%
-- Flow 1:
Average throughput: 434.05 Mbit/s
95th percentile per-packet one-way delay: 14.010 ms
Loss rate: 13.78%
-- Flow 2:
Average throughput: 408.90 Mbit/s
95th percentile per-packet one-way delay: 3.176 ms
Loss rate: 1.83%
-- Flow 3:
Average throughput: 67.73 Mbit/s
95th percentile per-packet one-way delay: 3.450 ms
Loss rate: 15.56%
```
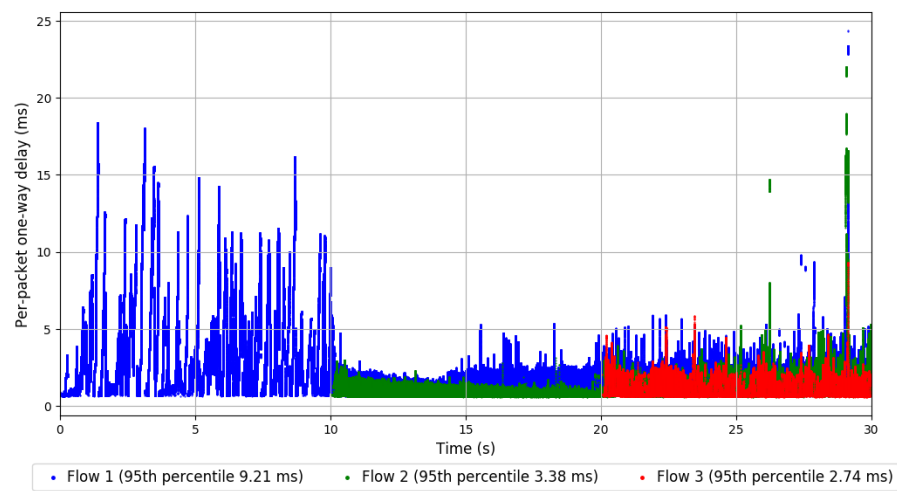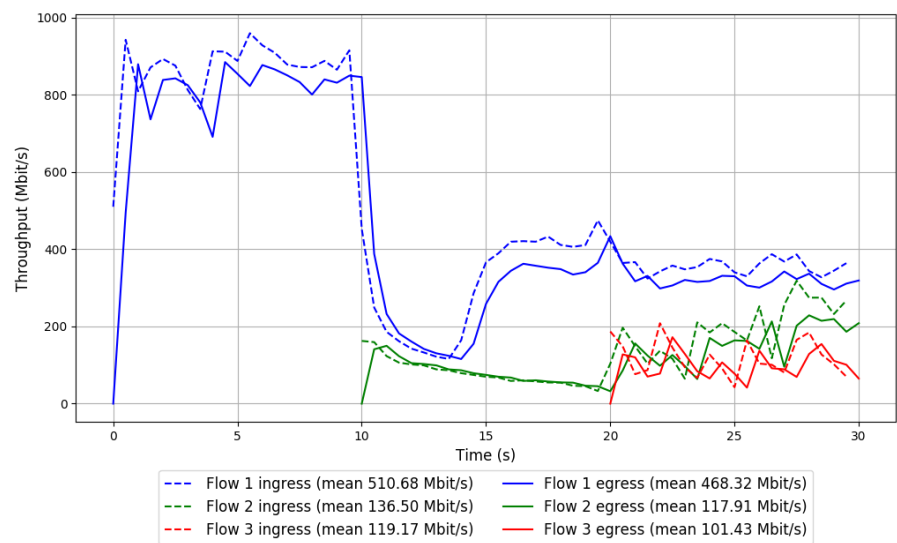
Run 3: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 503.44 Mbit/s) ——— Flow 1 egress (mean 434.05 Mbit/s)
- - - - Flow 2 ingress (mean 416.53 Mbit/s) ——— Flow 2 egress (mean 408.90 Mbit/s)
- - - - Flow 3 ingress (mean 80.21 Mbit/s) ——— Flow 3 egress (mean 67.73 Mbit/s)

- Flow 1 (95th percentile 14.01 ms)   - Flow 2 (95th percentile 3.18 ms)   - Flow 3 (95th percentile 3.45 ms)

40

```
Run 4: Statistics of FillP

Start at: 2018-11-30 08:49:57
End at: 2018-11-30 08:50:27
Local clock offset: -4.714 ms
Remote clock offset: 0.234 ms


# Below is generated by plot.py at 2018-11-30 09:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 580.47 Mbit/s
95th percentile per-packet one-way delay: 8.699 ms
Loss rate: 9.45%
-- Flow 1:
Average throughput: 468.32 Mbit/s
95th percentile per-packet one-way delay: 9.205 ms
Loss rate: 8.29%
-- Flow 2:
Average throughput: 117.91 Mbit/s
95th percentile per-packet one-way delay: 3.385 ms
Loss rate: 13.61%
-- Flow 3:
Average throughput: 101.43 Mbit/s
95th percentile per-packet one-way delay: 2.744 ms
Loss rate: 14.89%
```
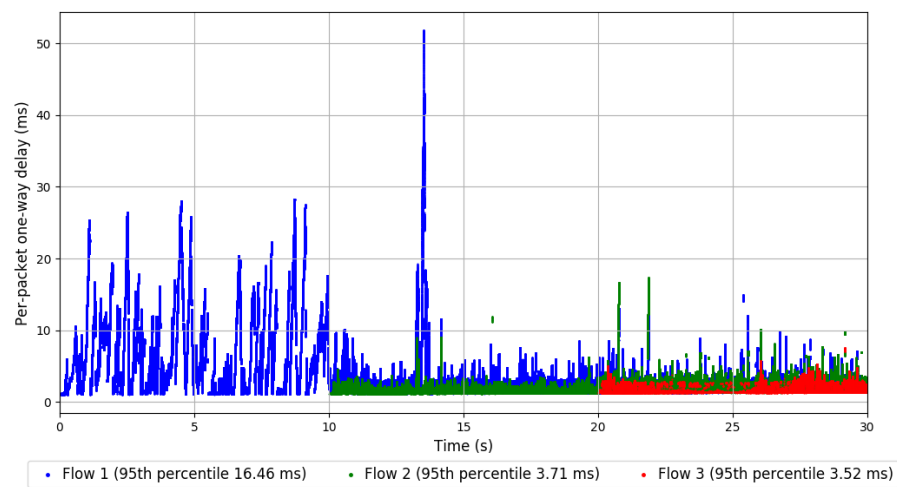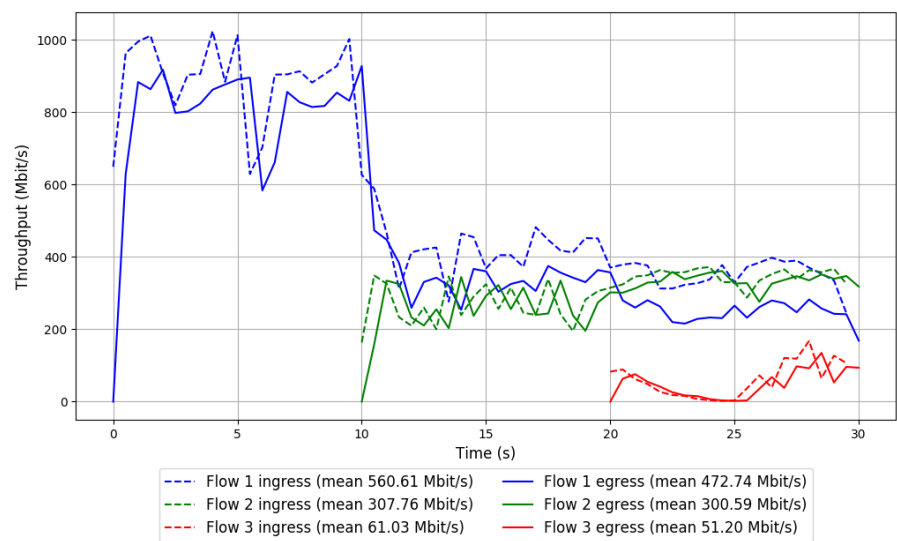
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2018-11-30 09:17:02
End at: 2018-11-30 09:17:32
Local clock offset: -4.776 ms
Remote clock offset: 0.187 ms


# Below is generated by plot.py at 2018-11-30 09:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 689.34 Mbit/s
95th percentile per-packet one-way delay: 14.566 ms
Loss rate: 12.20%
-- Flow 1:
Average throughput: 472.74 Mbit/s
95th percentile per-packet one-way delay: 16.463 ms
Loss rate: 15.67%
-- Flow 2:
Average throughput: 300.59 Mbit/s
95th percentile per-packet one-way delay: 3.705 ms
Loss rate: 2.32%
-- Flow 3:
Average throughput: 51.20 Mbit/s
95th percentile per-packet one-way delay: 3.523 ms
Loss rate: 16.11%
```
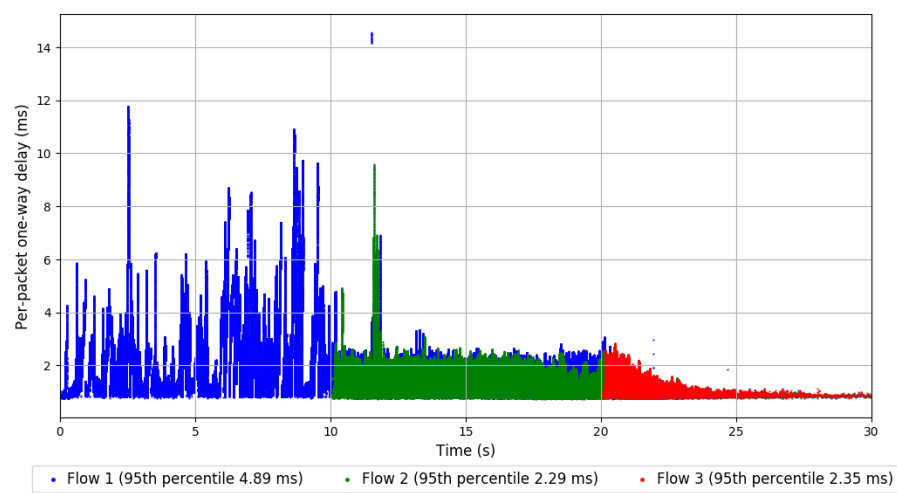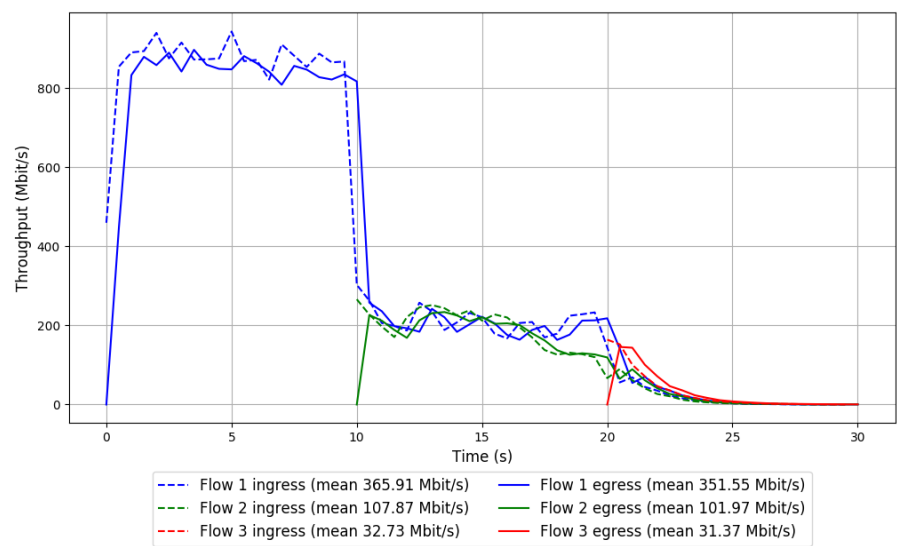
Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2018-11-30 07:24:33
End at: 2018-11-30 07:25:03
Local clock offset: -0.048 ms
Remote clock offset: -0.14 ms


# Below is generated by plot.py at 2018-11-30 09:57:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 429.79 Mbit/s
95th percentile per-packet one-way delay: 4.662 ms
Loss rate: 4.18%
-- Flow 1:
Average throughput: 351.55 Mbit/s
95th percentile per-packet one-way delay: 4.894 ms
Loss rate: 3.92%
-- Flow 2:
Average throughput: 101.97 Mbit/s
95th percentile per-packet one-way delay: 2.286 ms
Loss rate: 5.47%
-- Flow 3:
Average throughput: 31.37 Mbit/s
95th percentile per-packet one-way delay: 2.348 ms
Loss rate: 4.15%
```
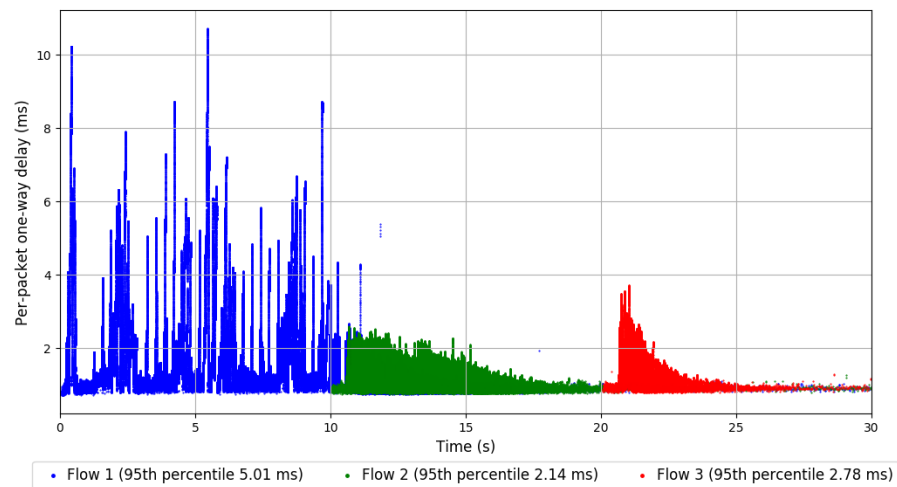
Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2018-11-30 07:51:44
End at: 2018-11-30 07:52:14
Local clock offset: 1.889 ms
Remote clock offset: 0.287 ms

# Below is generated by plot.py at 2018-11-30 09:57:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 324.93 Mbit/s
95th percentile per-packet one-way delay: 4.847 ms
Loss rate: 3.29%
-- Flow 1:
Average throughput: 285.40 Mbit/s
95th percentile per-packet one-way delay: 5.014 ms
Loss rate: 3.25%
-- Flow 2:
Average throughput: 42.68 Mbit/s
95th percentile per-packet one-way delay: 2.137 ms
Loss rate: 3.66%
-- Flow 3:
Average throughput: 34.21 Mbit/s
95th percentile per-packet one-way delay: 2.782 ms
Loss rate: 3.36%
```
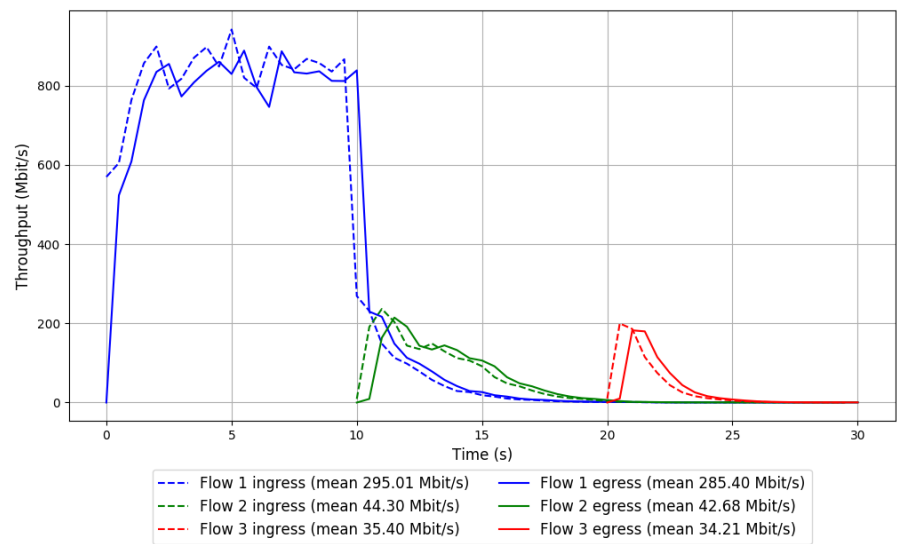
Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2018-11-30 08:18:45
End at: 2018-11-30 08:19:15
Local clock offset: 1.491 ms
Remote clock offset: 0.064 ms


# Below is generated by plot.py at 2018-11-30 10:00:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.70 Mbit/s
95th percentile per-packet one-way delay: 3.494 ms
Loss rate: 2.87%
-- Flow 1:
Average throughput: 330.52 Mbit/s
95th percentile per-packet one-way delay: 3.634 ms
Loss rate: 3.05%
-- Flow 2:
Average throughput: 90.07 Mbit/s
95th percentile per-packet one-way delay: 1.628 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 34.12 Mbit/s
95th percentile per-packet one-way delay: 1.989 ms
Loss rate: 4.48%
```
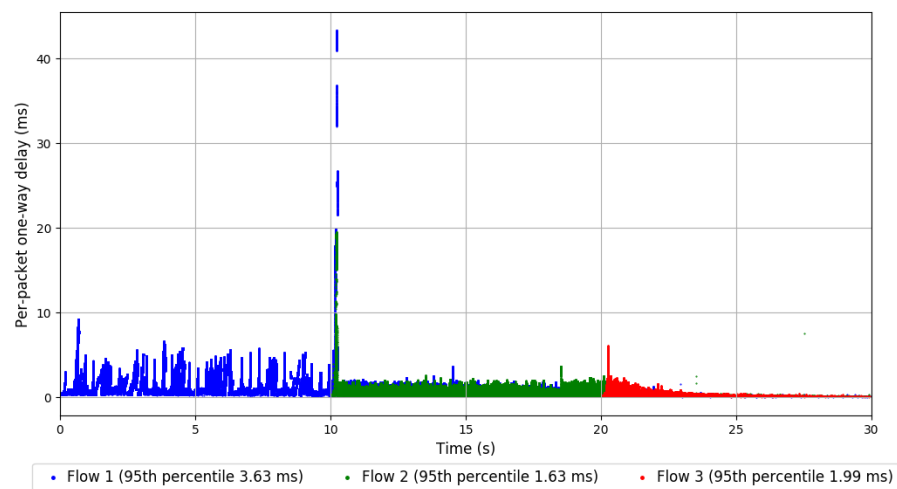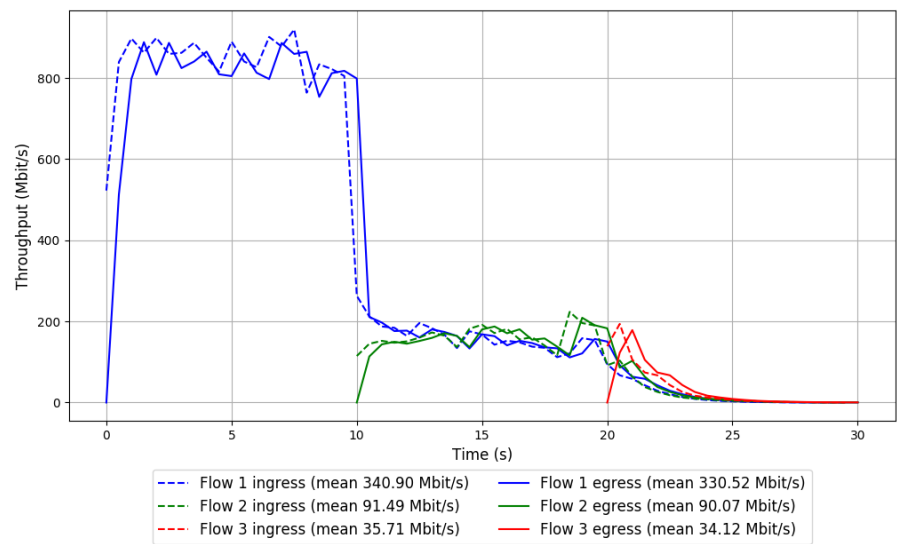
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 340.90 Mbit/s)   Flow 1 egress (mean 330.52 Mbit/s)
Flow 2 ingress (mean 91.49 Mbit/s)   Flow 2 egress (mean 90.07 Mbit/s)
Flow 3 ingress (mean 35.71 Mbit/s)   Flow 3 egress (mean 34.12 Mbit/s)

Flow 1 (95th percentile 3.63 ms)   Flow 2 (95th percentile 1.63 ms)   Flow 3 (95th percentile 1.99 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2018-11-30 08:45:49
End at: 2018-11-30 08:46:19
Local clock offset: -4.397 ms
Remote clock offset: 0.243 ms


# Below is generated by plot.py at 2018-11-30 10:00:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 369.14 Mbit/s
95th percentile per-packet one-way delay: 4.683 ms
Loss rate: 2.96%
-- Flow 1:
Average throughput: 314.17 Mbit/s
95th percentile per-packet one-way delay: 4.966 ms
Loss rate: 2.92%
-- Flow 2:
Average throughput: 62.42 Mbit/s
95th percentile per-packet one-way delay: 1.810 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 40.78 Mbit/s
95th percentile per-packet one-way delay: 2.374 ms
Loss rate: 8.66%
```
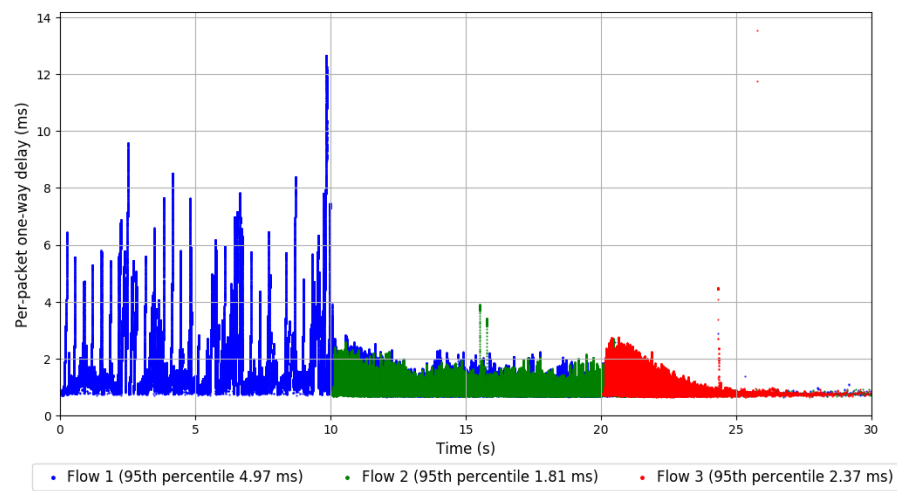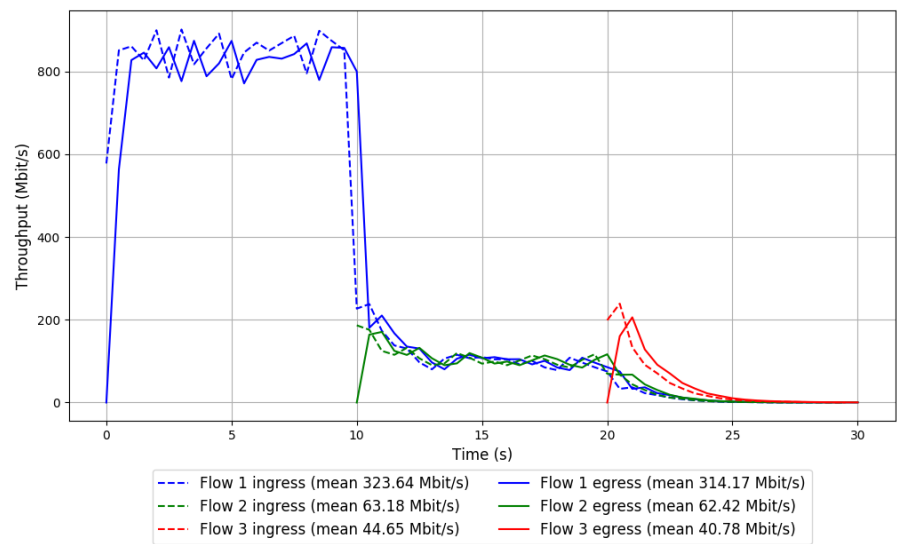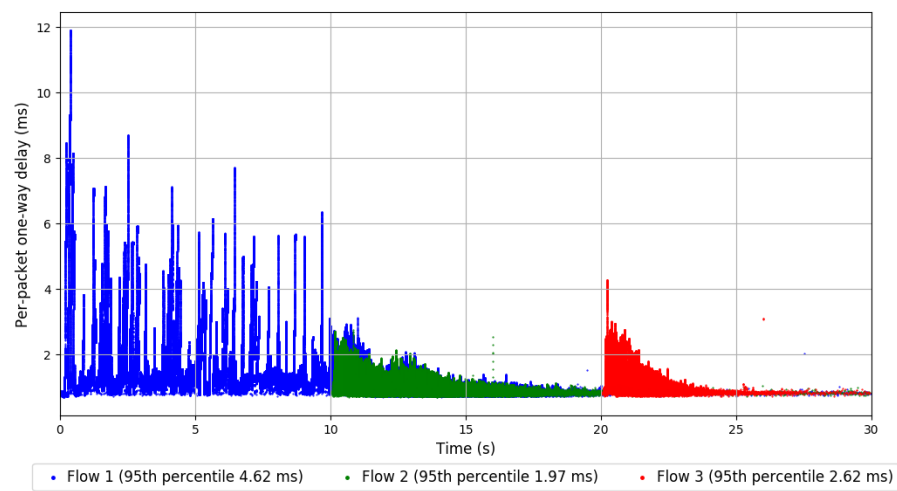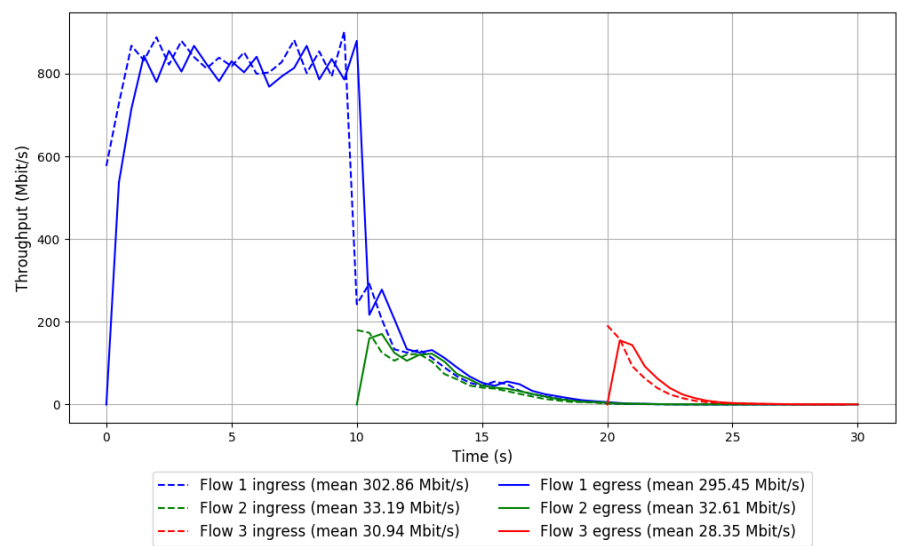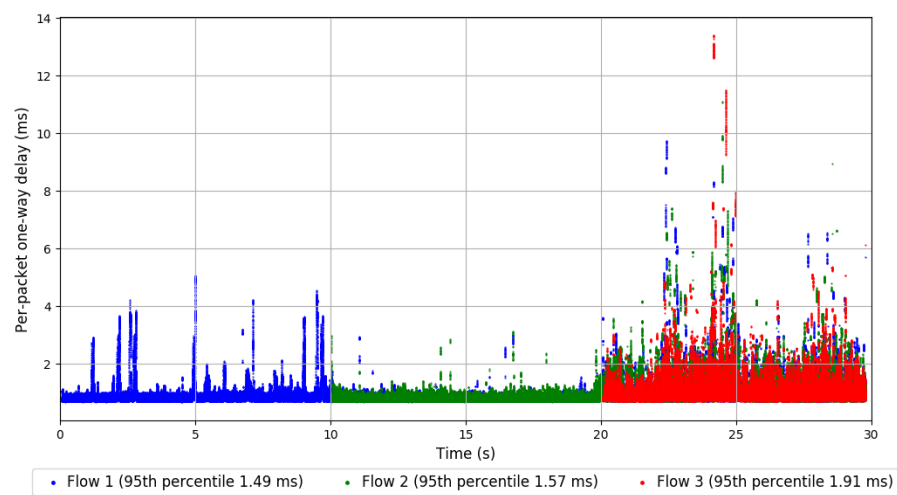
Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 323.64 Mbit/s) --- Flow 1 egress (mean 314.17 Mbit/s)
Flow 2 ingress (mean 63.18 Mbit/s) --- Flow 2 egress (mean 62.42 Mbit/s)
Flow 3 ingress (mean 44.65 Mbit/s) --- Flow 3 egress (mean 40.78 Mbit/s)

Flow 1 (95th percentile 4.97 ms)   Flow 2 (95th percentile 1.81 ms)   Flow 3 (95th percentile 2.37 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2018-11-30 09:12:57
End at: 2018-11-30 09:13:27
Local clock offset: -6.213 ms
Remote clock offset: 0.456 ms

# Below is generated by plot.py at 2018-11-30 10:00:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 326.53 Mbit/s
95th percentile per-packet one-way delay: 4.464 ms
Loss rate: 2.58%
-- Flow 1:
Average throughput: 295.45 Mbit/s
95th percentile per-packet one-way delay: 4.625 ms
Loss rate: 2.45%
-- Flow 2:
Average throughput: 32.61 Mbit/s
95th percentile per-packet one-way delay: 1.971 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 28.35 Mbit/s
95th percentile per-packet one-way delay: 2.620 ms
Loss rate: 8.37%
```

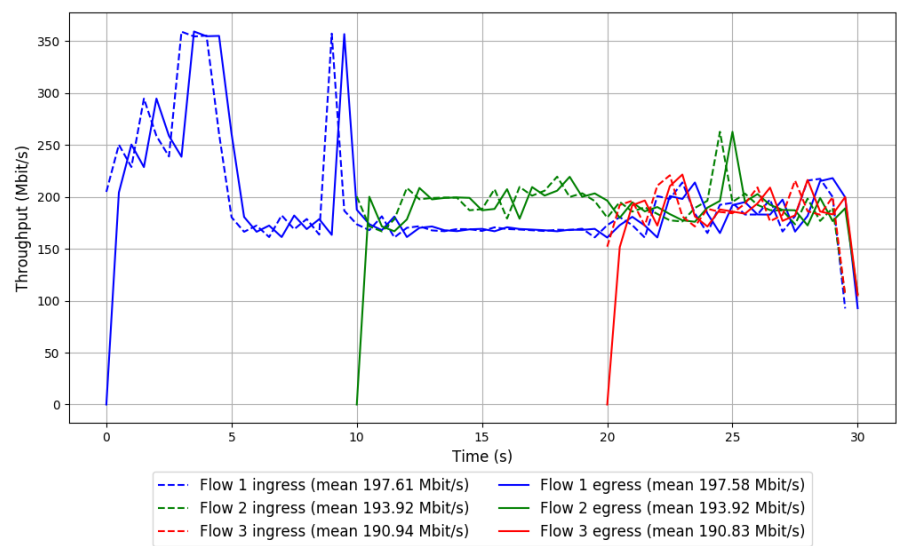Run 5: Report of FillP-Sheep — Data Link

```
Run 1: Statistics of Indigo

Start at: 2018-11-30 07:14:21
End at: 2018-11-30 07:14:51
Local clock offset: -0.281 ms
Remote clock offset: -0.389 ms


# Below is generated by plot.py at 2018-11-30 10:00:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 388.42 Mbit/s
95th percentile per-packet one-way delay: 1.612 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 197.58 Mbit/s
95th percentile per-packet one-way delay: 1.489 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 193.92 Mbit/s
95th percentile per-packet one-way delay: 1.567 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 190.83 Mbit/s
95th percentile per-packet one-way delay: 1.905 ms
Loss rate: 0.00%
```
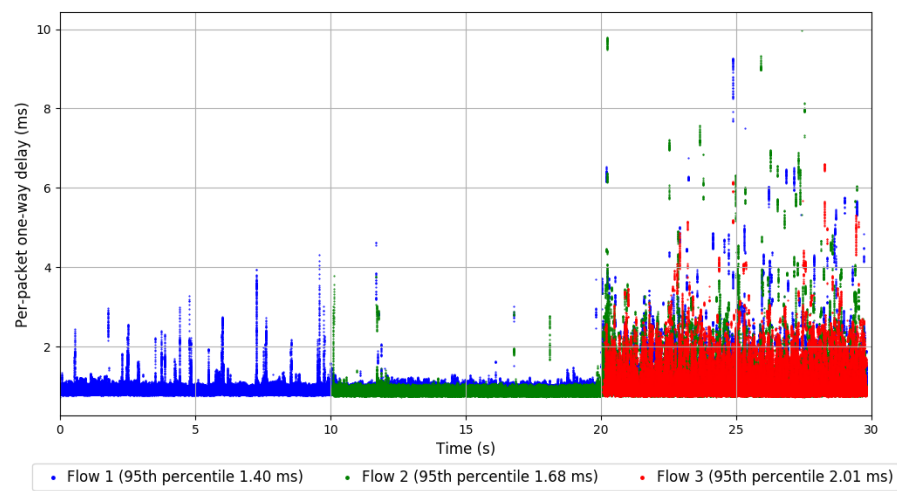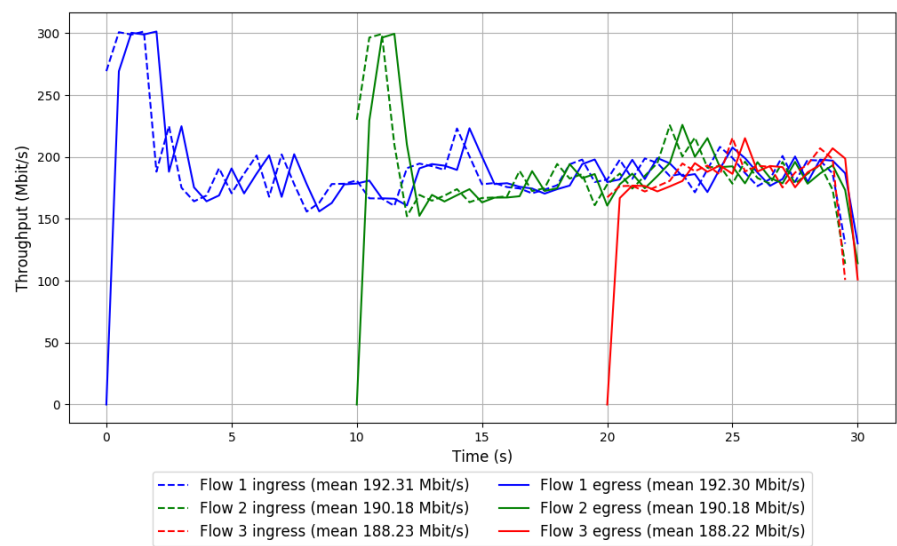
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-11-30 07:41:33
End at: 2018-11-30 07:42:03
Local clock offset: -0.019 ms
Remote clock offset: 0.153 ms

# Below is generated by plot.py at 2018-11-30 10:01:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 379.77 Mbit/s
95th percentile per-packet one-way delay: 1.664 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 192.30 Mbit/s
95th percentile per-packet one-way delay: 1.404 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 190.18 Mbit/s
95th percentile per-packet one-way delay: 1.679 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 188.22 Mbit/s
95th percentile per-packet one-way delay: 2.011 ms
Loss rate: 0.00%
```
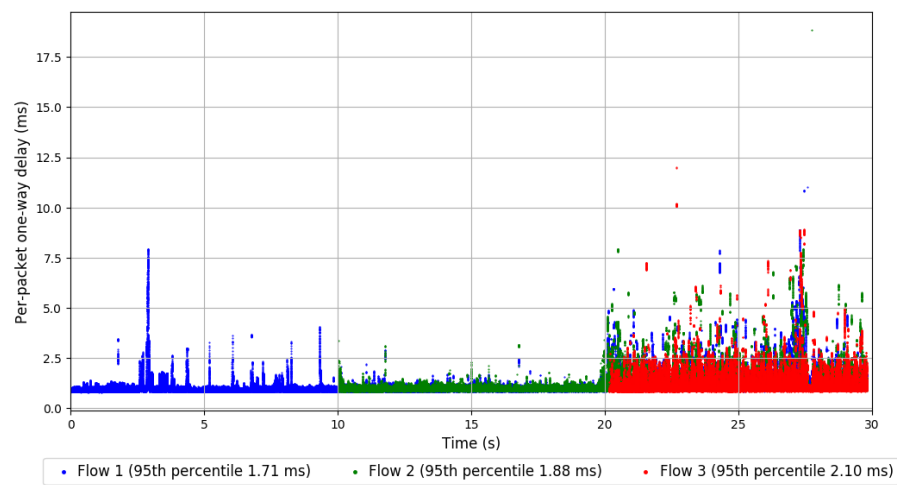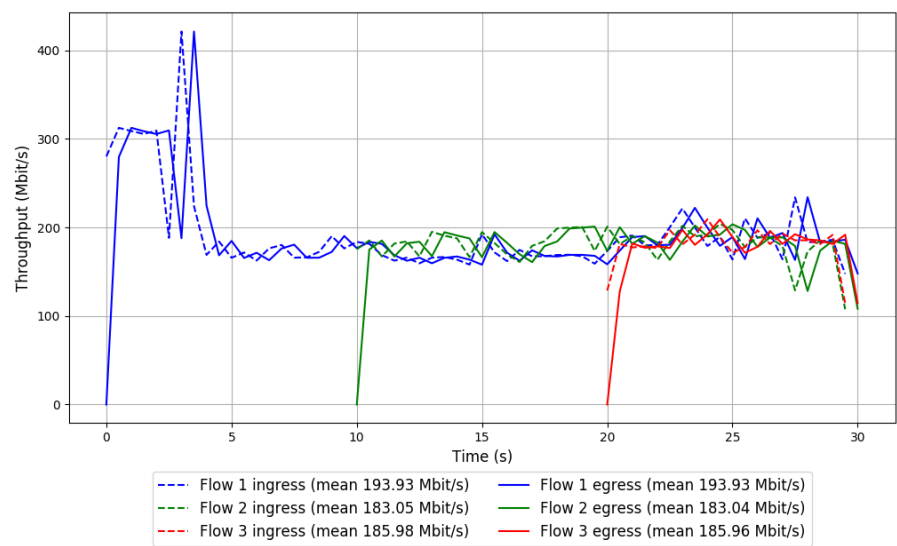
Run 2: Report of Indigo — Data Link

Flow 1 ingress (mean 192.31 Mbit/s)   Flow 1 egress (mean 192.30 Mbit/s)
Flow 2 ingress (mean 190.18 Mbit/s)   Flow 2 egress (mean 190.18 Mbit/s)
Flow 3 ingress (mean 188.23 Mbit/s)   Flow 3 egress (mean 188.22 Mbit/s)

Flow 1 (95th percentile 1.40 ms)   Flow 2 (95th percentile 1.68 ms)   Flow 3 (95th percentile 2.01 ms)

```
Run 3: Statistics of Indigo

Start at: 2018-11-30 08:08:48
End at: 2018-11-30 08:09:18
Local clock offset: 3.705 ms
Remote clock offset: 0.378 ms

# Below is generated by plot.py at 2018-11-30 10:01:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 375.56 Mbit/s
95th percentile per-packet one-way delay: 1.853 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 193.93 Mbit/s
95th percentile per-packet one-way delay: 1.713 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 183.04 Mbit/s
95th percentile per-packet one-way delay: 1.882 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 185.96 Mbit/s
95th percentile per-packet one-way delay: 2.102 ms
Loss rate: 0.00%
```
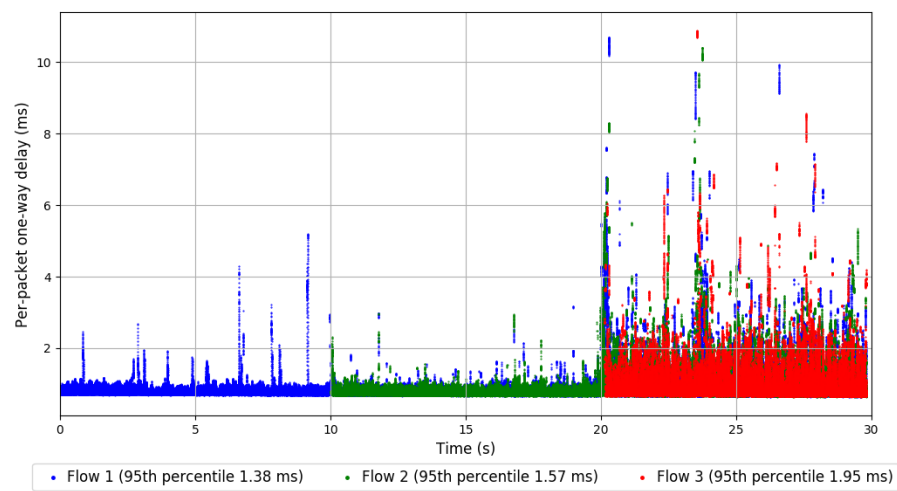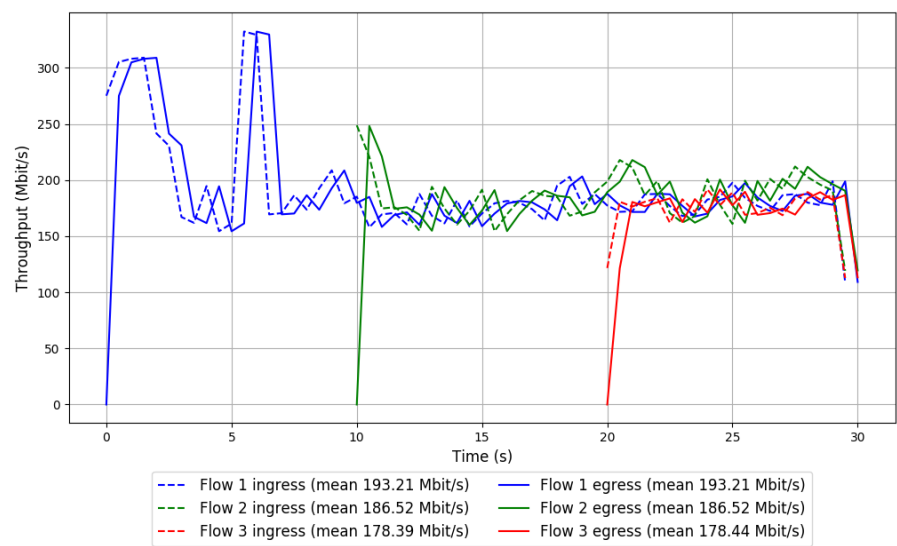
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-11-30 08:35:51
End at: 2018-11-30 08:36:21
Local clock offset: -3.403 ms
Remote clock offset: 0.159 ms


# Below is generated by plot.py at 2018-11-30 10:01:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 375.08 Mbit/s
95th percentile per-packet one-way delay: 1.584 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 193.21 Mbit/s
95th percentile per-packet one-way delay: 1.377 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 186.52 Mbit/s
95th percentile per-packet one-way delay: 1.575 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 178.44 Mbit/s
95th percentile per-packet one-way delay: 1.946 ms
Loss rate: 0.00%
```
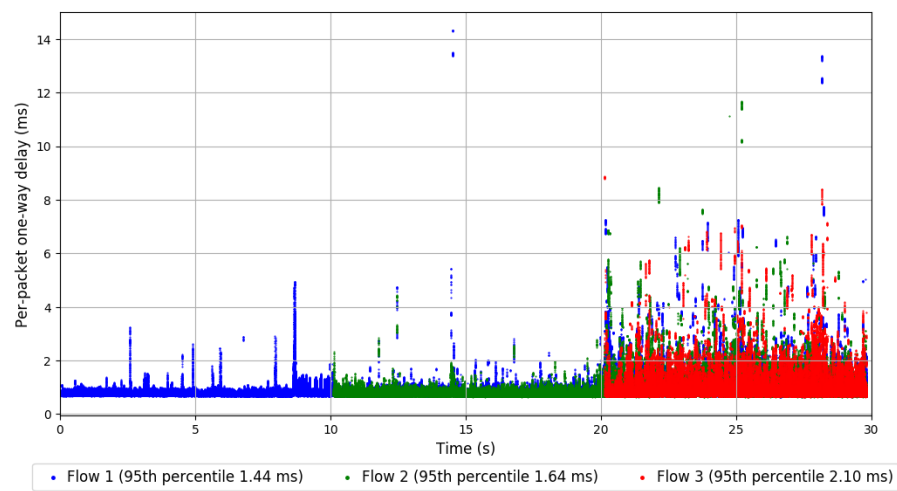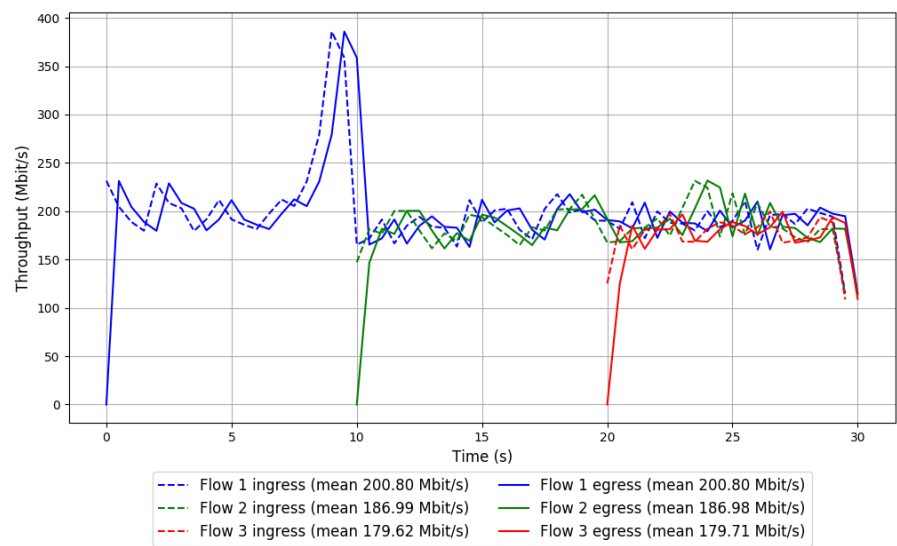
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2018-11-30 09:02:47
End at: 2018-11-30 09:03:17
Local clock offset: -5.592 ms
Remote clock offset: 0.294 ms

# Below is generated by plot.py at 2018-11-30 10:02:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 382.89 Mbit/s
95th percentile per-packet one-way delay: 1.648 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 200.80 Mbit/s
95th percentile per-packet one-way delay: 1.443 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 186.98 Mbit/s
95th percentile per-packet one-way delay: 1.643 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 179.71 Mbit/s
95th percentile per-packet one-way delay: 2.098 ms
Loss rate: 0.01%
```
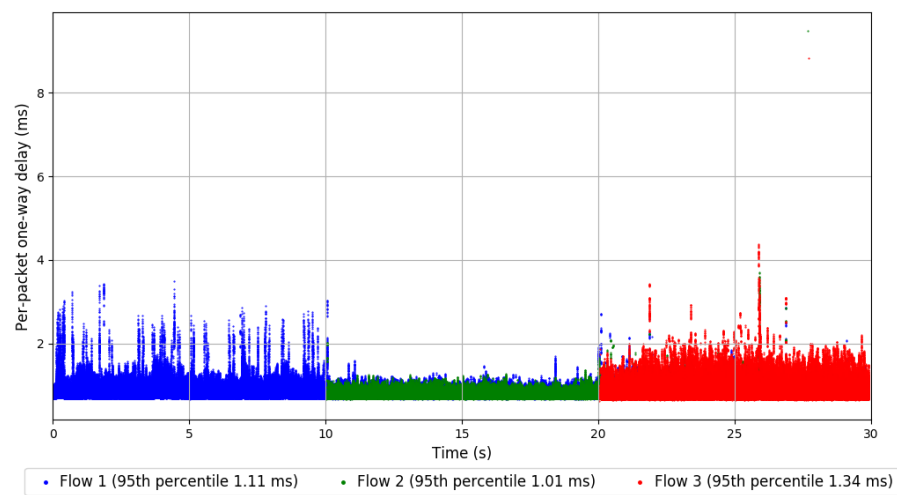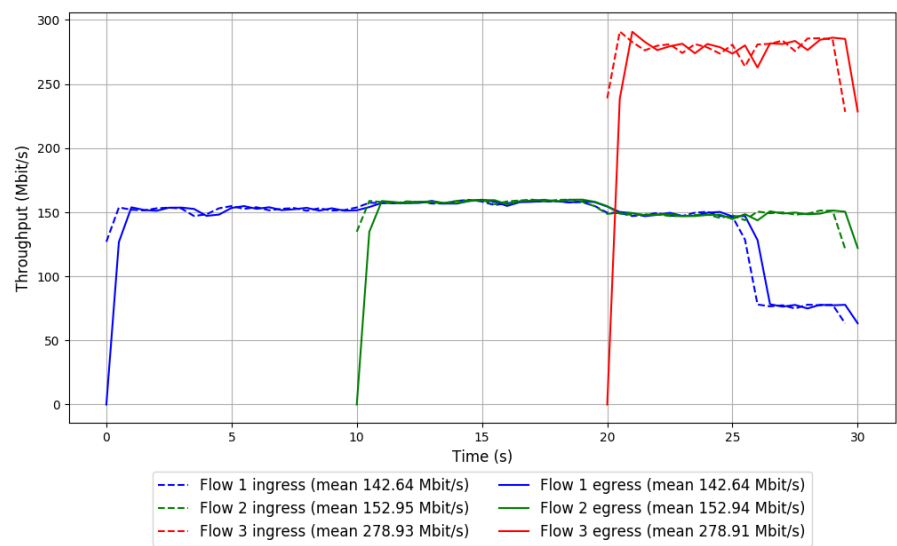
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-96d2da3

Start at: 2018-11-30 07:25:59
End at: 2018-11-30 07:26:29
Local clock offset: -0.031 ms
Remote clock offset: -0.257 ms


# Below is generated by plot.py at 2018-11-30 10:04:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 336.43 Mbit/s
95th percentile per-packet one-way delay: 1.154 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 142.64 Mbit/s
95th percentile per-packet one-way delay: 1.107 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 152.94 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 278.91 Mbit/s
95th percentile per-packet one-way delay: 1.337 ms
Loss rate: 0.01%
```

Run 1: Report of Indigo-96d2da3 — Data Link

```
Run 2: Statistics of Indigo-96d2da3

Start at: 2018-11-30 07:53:07
End at: 2018-11-30 07:53:37
Local clock offset: 2.11 ms
Remote clock offset: 0.311 ms


# Below is generated by plot.py at 2018-11-30 10:05:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 437.01 Mbit/s
95th percentile per-packet one-way delay: 1.368 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 285.79 Mbit/s
95th percentile per-packet one-way delay: 1.440 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 153.31 Mbit/s
95th percentile per-packet one-way delay: 1.236 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 149.96 Mbit/s
95th percentile per-packet one-way delay: 1.276 ms
Loss rate: 0.00%
```
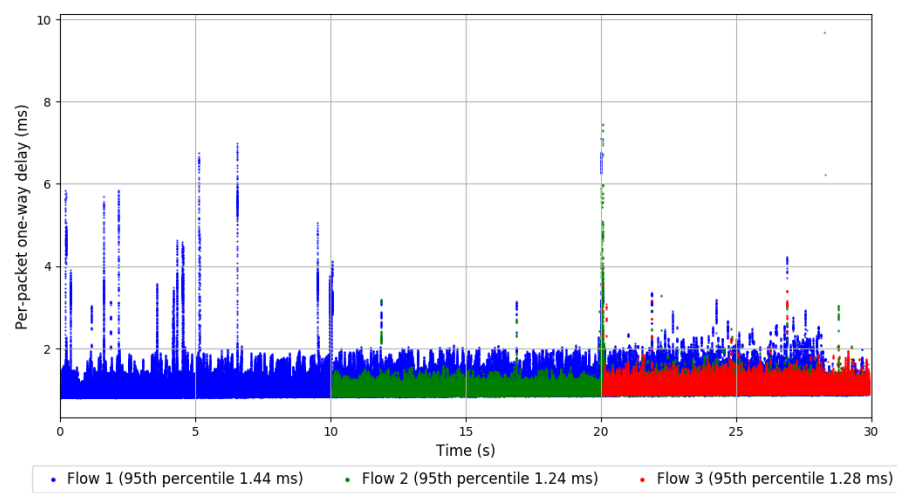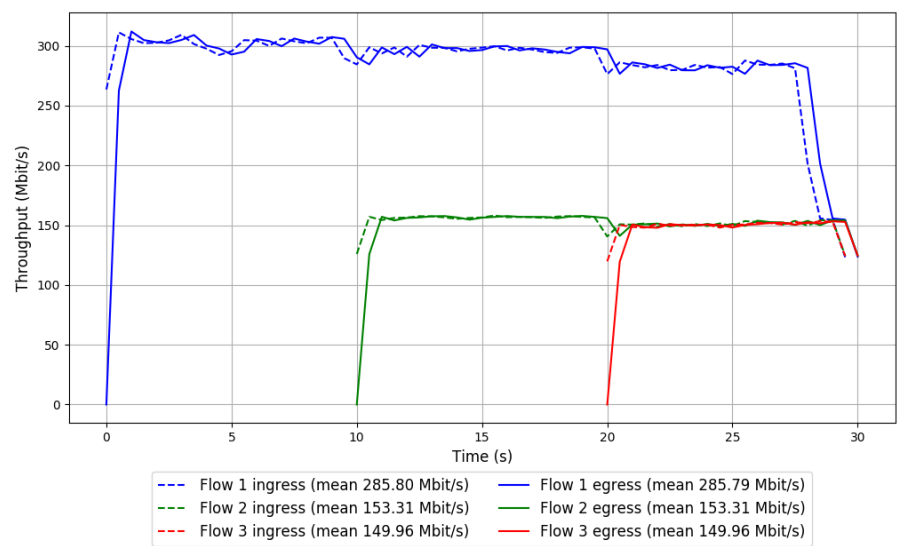
Run 2: Report of Indigo-96d2da3 — Data Link

```
Run 3: Statistics of Indigo-96d2da3

Start at: 2018-11-30 08:20:10
End at: 2018-11-30 08:20:40
Local clock offset: 0.685 ms
Remote clock offset: 0.151 ms


# Below is generated by plot.py at 2018-11-30 10:05:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 473.51 Mbit/s
95th percentile per-packet one-way delay: 1.057 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 286.61 Mbit/s
95th percentile per-packet one-way delay: 1.071 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 149.13 Mbit/s
95th percentile per-packet one-way delay: 0.822 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 265.90 Mbit/s
95th percentile per-packet one-way delay: 1.184 ms
Loss rate: 0.01%
```
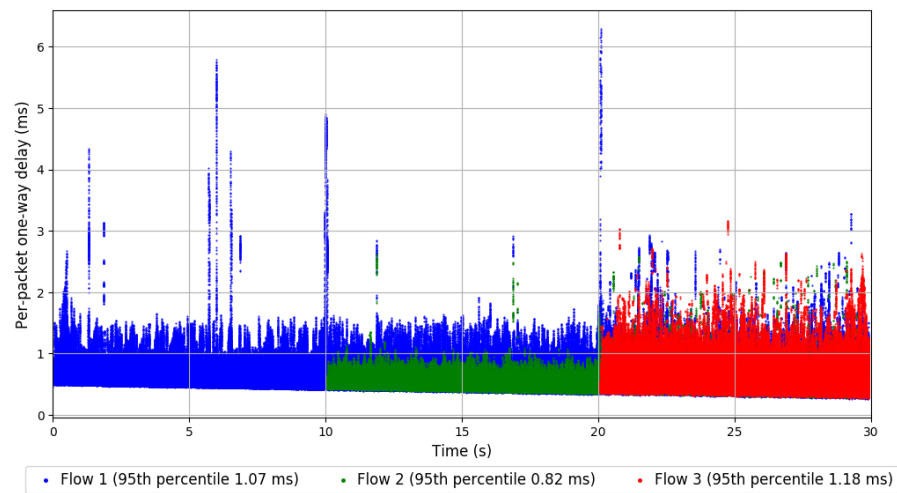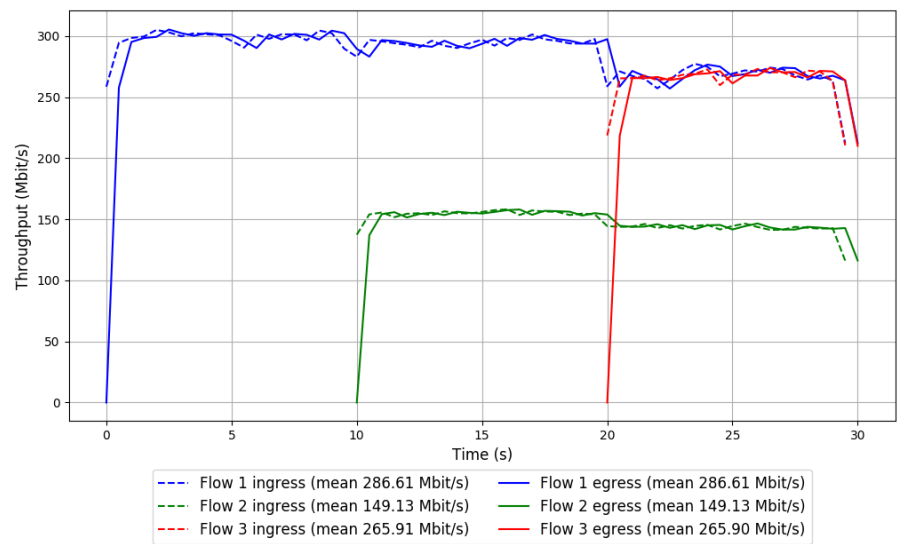
Run 3: Report of Indigo-96d2da3 — Data Link

```
Run 4: Statistics of Indigo-96d2da3

Start at: 2018-11-30 08:47:13
End at: 2018-11-30 08:47:43
Local clock offset: -4.5 ms
Remote clock offset: 0.258 ms


# Below is generated by plot.py at 2018-11-30 10:06:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 475.29 Mbit/s
95th percentile per-packet one-way delay: 1.429 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 289.06 Mbit/s
95th percentile per-packet one-way delay: 1.421 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 149.53 Mbit/s
95th percentile per-packet one-way delay: 1.233 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 263.18 Mbit/s
95th percentile per-packet one-way delay: 1.575 ms
Loss rate: 0.00%
```
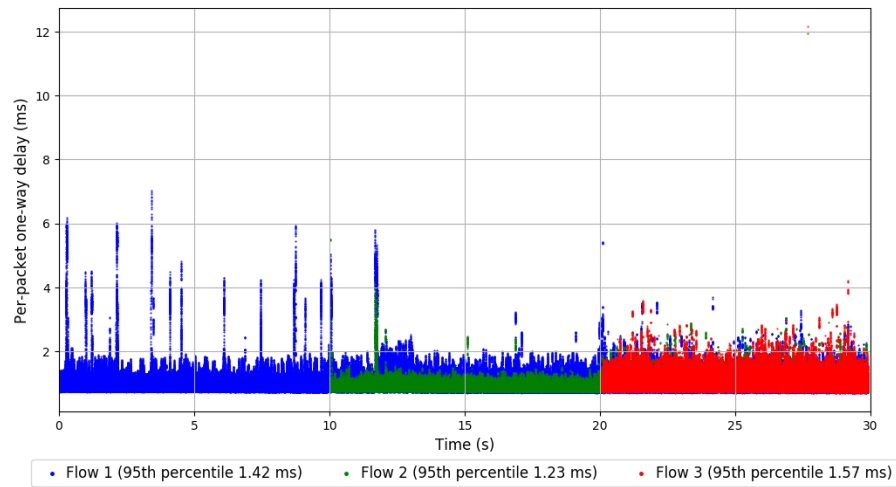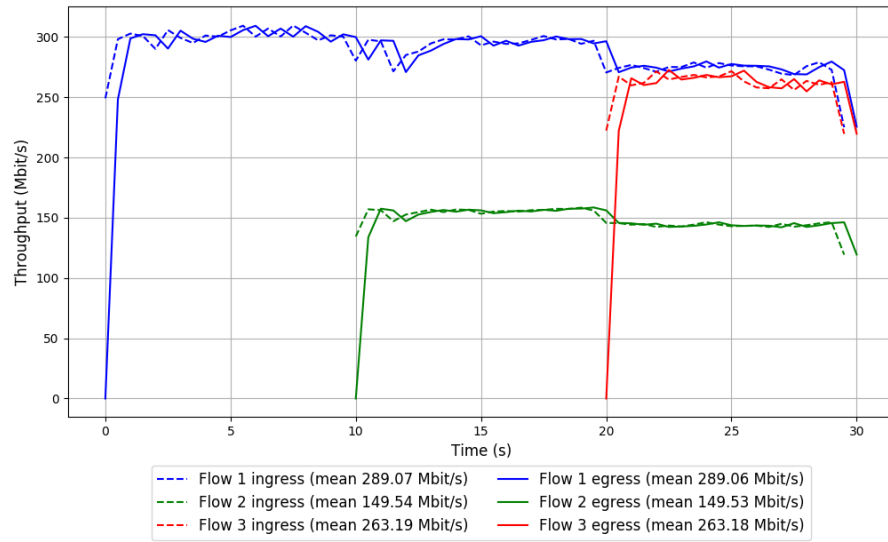
Run 4: Report of Indigo-96d2da3 — Data Link

Flow 1 ingress (mean 289.07 Mbit/s)   Flow 1 egress (mean 289.06 Mbit/s)
Flow 2 ingress (mean 149.54 Mbit/s)   Flow 2 egress (mean 149.53 Mbit/s)
Flow 3 ingress (mean 263.19 Mbit/s)   Flow 3 egress (mean 263.18 Mbit/s)

Flow 1 (95th percentile 1.42 ms)   Flow 2 (95th percentile 1.23 ms)   Flow 3 (95th percentile 1.57 ms)

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```
Run 5: Statistics of Indigo-96d2da3

Start at: 2018-11-30 09:14:19
End at: 2018-11-30 09:14:49
Local clock offset: -6.29 ms
Remote clock offset: 0.231 ms

# Below is generated by plot.py at 2018-11-30 10:06:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 433.67 Mbit/s
95th percentile per-packet one-way delay: 1.551 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 290.76 Mbit/s
95th percentile per-packet one-way delay: 1.528 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 79.29 Mbit/s
95th percentile per-packet one-way delay: 1.296 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 272.37 Mbit/s
95th percentile per-packet one-way delay: 1.681 ms
Loss rate: 0.00%
```
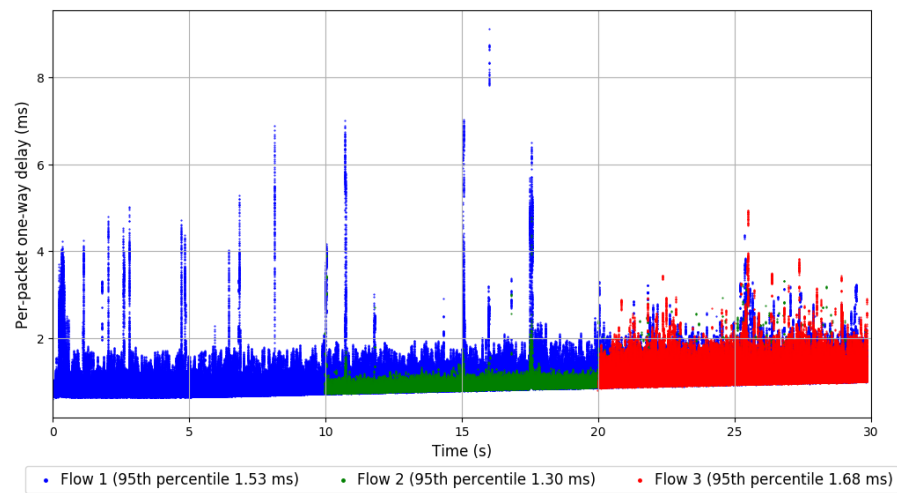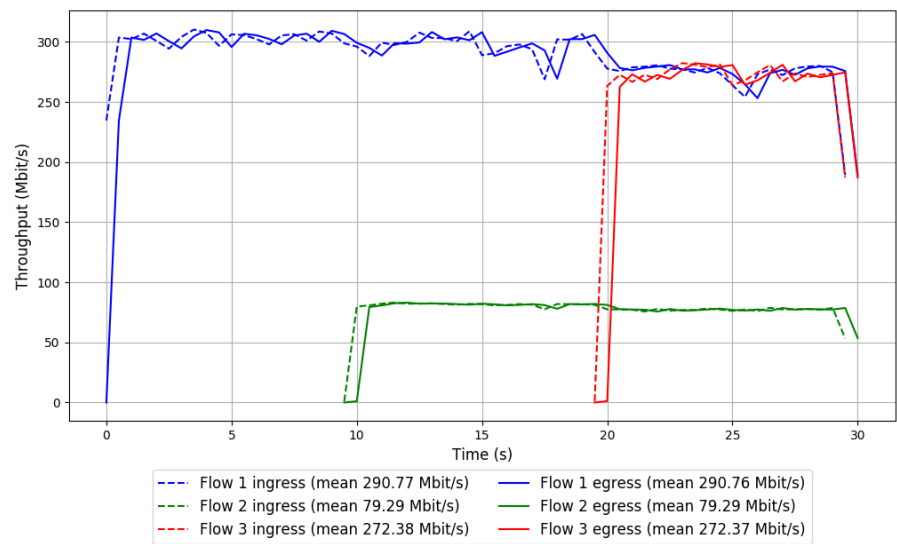
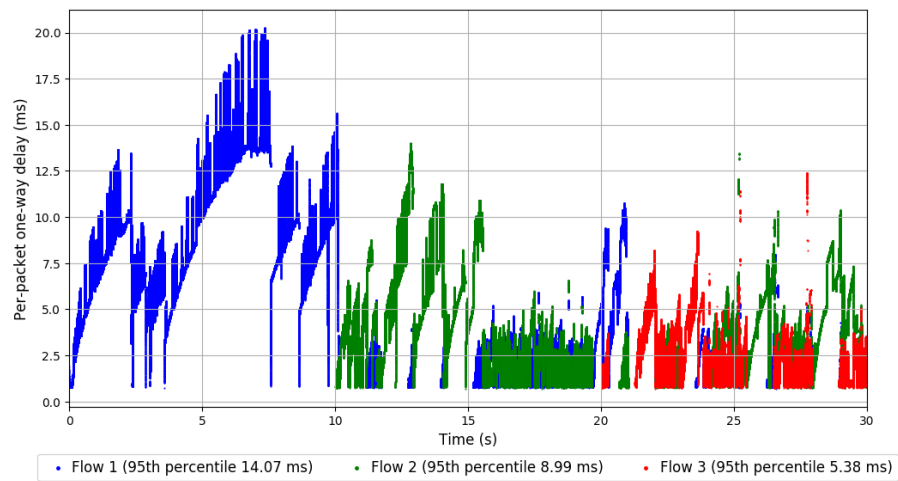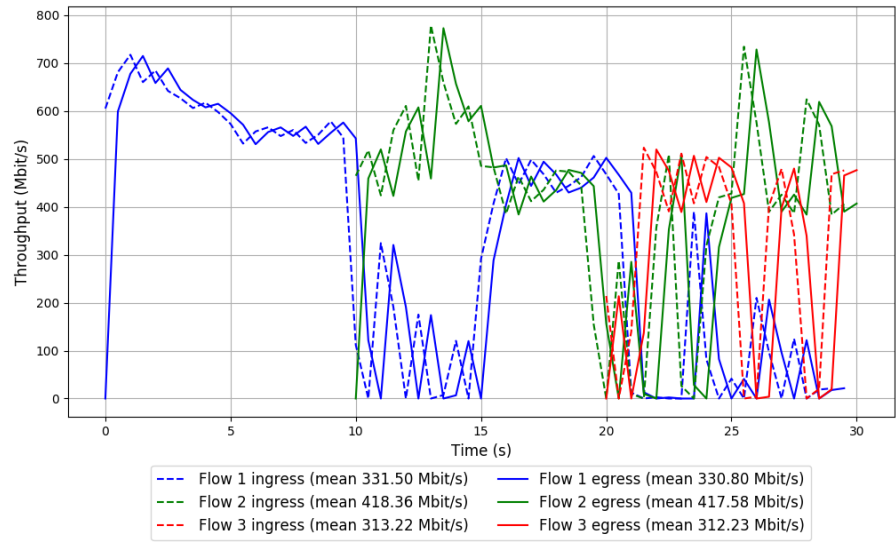Run 5: Report of Indigo-96d2da3 — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2018-11-30 07:37:04
End at: 2018-11-30 07:37:34
Local clock offset: -0.007 ms
Remote clock offset: 0.057 ms

# Below is generated by plot.py at 2018-11-30 10:09:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 702.36 Mbit/s
95th percentile per-packet one-way delay: 13.112 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 330.80 Mbit/s
95th percentile per-packet one-way delay: 14.068 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 417.58 Mbit/s
95th percentile per-packet one-way delay: 8.993 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 312.23 Mbit/s
95th percentile per-packet one-way delay: 5.383 ms
Loss rate: 0.30%
```

Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-11-30 08:04:19
End at: 2018-11-30 08:04:49
Local clock offset: 3.381 ms
Remote clock offset: 0.597 ms

# Below is generated by plot.py at 2018-11-30 10:09:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 654.20 Mbit/s
95th percentile per-packet one-way delay: 15.267 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 362.53 Mbit/s
95th percentile per-packet one-way delay: 16.365 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 370.69 Mbit/s
95th percentile per-packet one-way delay: 8.895 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 142.72 Mbit/s
95th percentile per-packet one-way delay: 7.183 ms
Loss rate: 0.52%
```
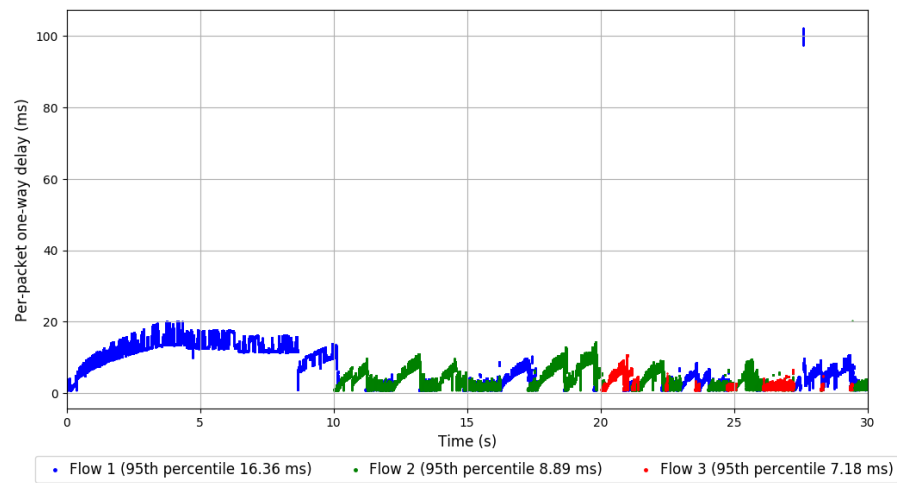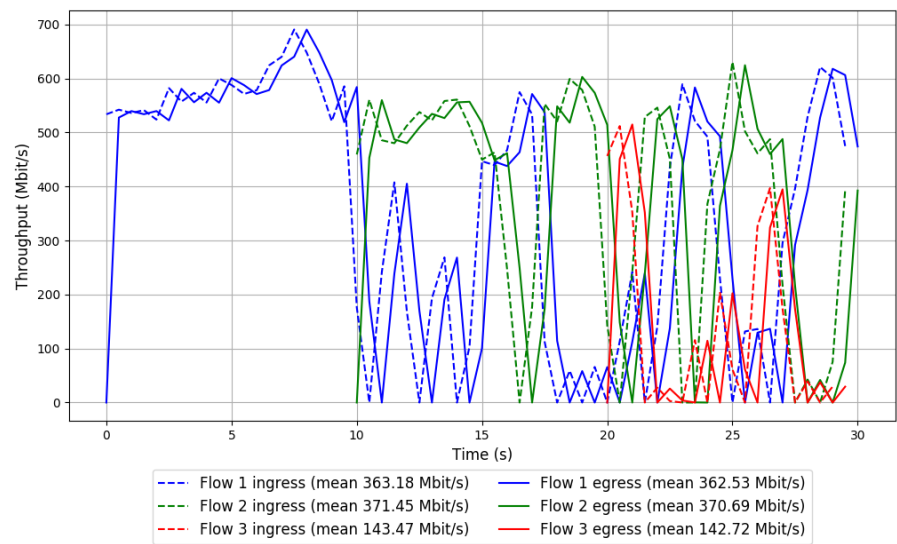
Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 363.18 Mbit/s) --- Flow 1 egress (mean 362.53 Mbit/s)
Flow 2 ingress (mean 371.45 Mbit/s) --- Flow 2 egress (mean 370.69 Mbit/s)
Flow 3 ingress (mean 143.47 Mbit/s) --- Flow 3 egress (mean 142.72 Mbit/s)

Flow 1 (95th percentile 16.36 ms)   •   Flow 2 (95th percentile 8.89 ms)   •   Flow 3 (95th percentile 7.18 ms)

```
Run 3: Statistics of LEDBAT

Start at: 2018-11-30 08:31:22
End at: 2018-11-30 08:31:52
Local clock offset: -2.691 ms
Remote clock offset: 0.044 ms

# Below is generated by plot.py at 2018-11-30 10:09:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 654.75 Mbit/s
95th percentile per-packet one-way delay: 13.485 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 335.50 Mbit/s
95th percentile per-packet one-way delay: 15.836 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 401.30 Mbit/s
95th percentile per-packet one-way delay: 8.585 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 198.02 Mbit/s
95th percentile per-packet one-way delay: 7.077 ms
Loss rate: 0.33%
```
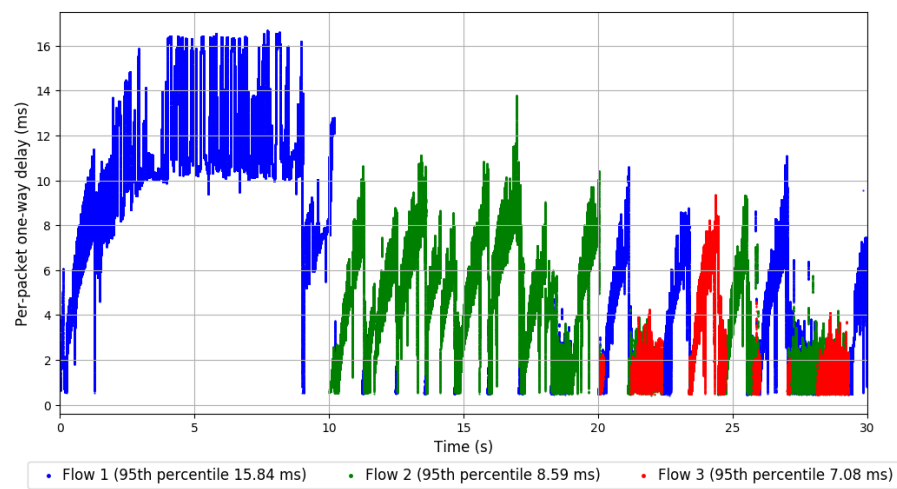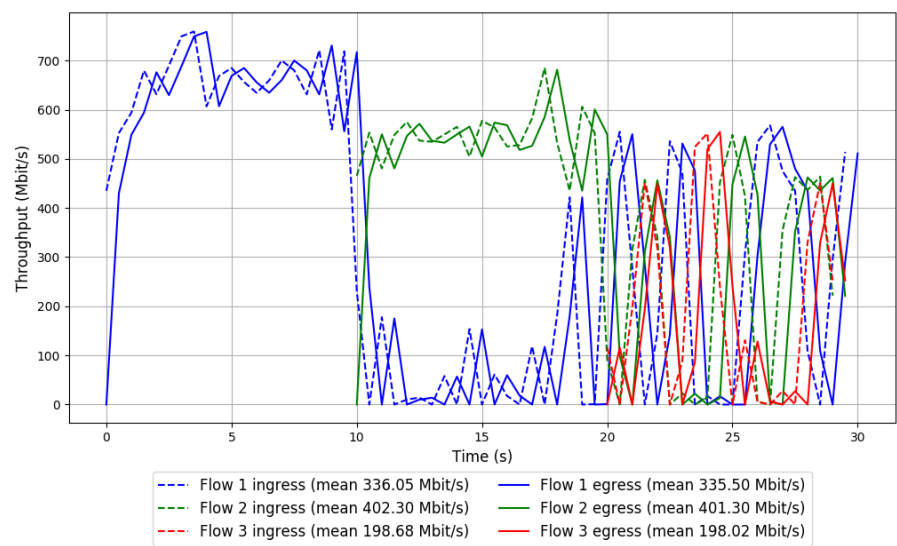
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2018-11-30 08:58:18
End at: 2018-11-30 08:58:48
Local clock offset: -5.307 ms
Remote clock offset: 0.348 ms


# Below is generated by plot.py at 2018-11-30 10:12:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 660.53 Mbit/s
95th percentile per-packet one-way delay: 14.170 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 385.72 Mbit/s
95th percentile per-packet one-way delay: 15.688 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 235.14 Mbit/s
95th percentile per-packet one-way delay: 7.677 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 360.71 Mbit/s
95th percentile per-packet one-way delay: 5.679 ms
Loss rate: 0.48%
```
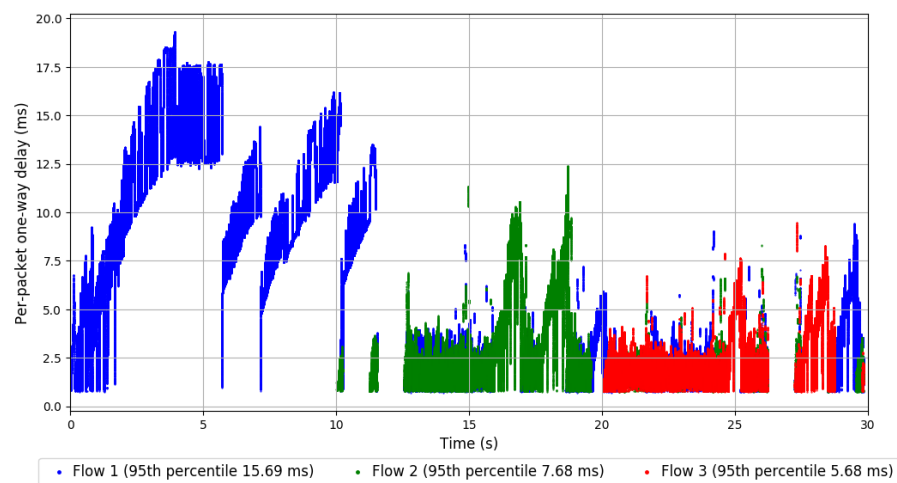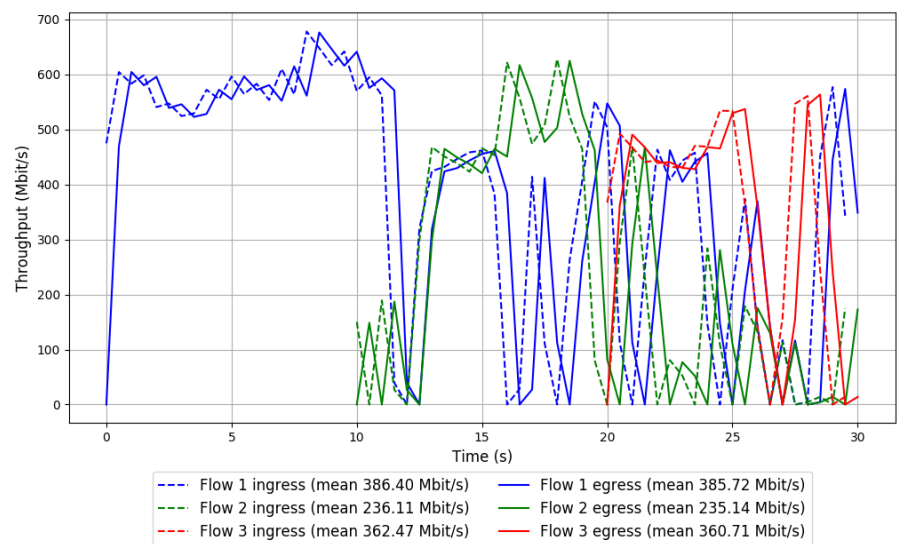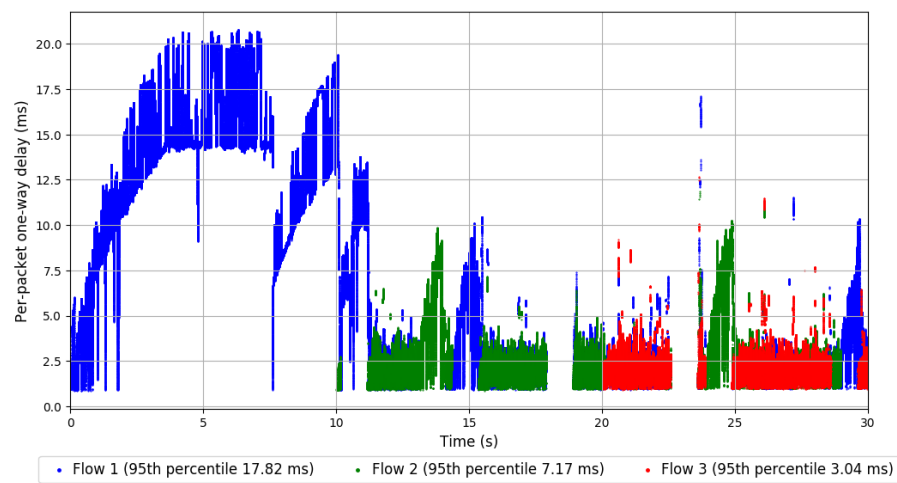
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 386.40 Mbit/s) --- Flow 1 egress (mean 385.72 Mbit/s)
Flow 2 ingress (mean 236.11 Mbit/s) --- Flow 2 egress (mean 235.14 Mbit/s)
Flow 3 ingress (mean 362.47 Mbit/s) --- Flow 3 egress (mean 360.71 Mbit/s)

Flow 1 (95th percentile 15.69 ms)   Flow 2 (95th percentile 7.68 ms)   Flow 3 (95th percentile 5.68 ms)
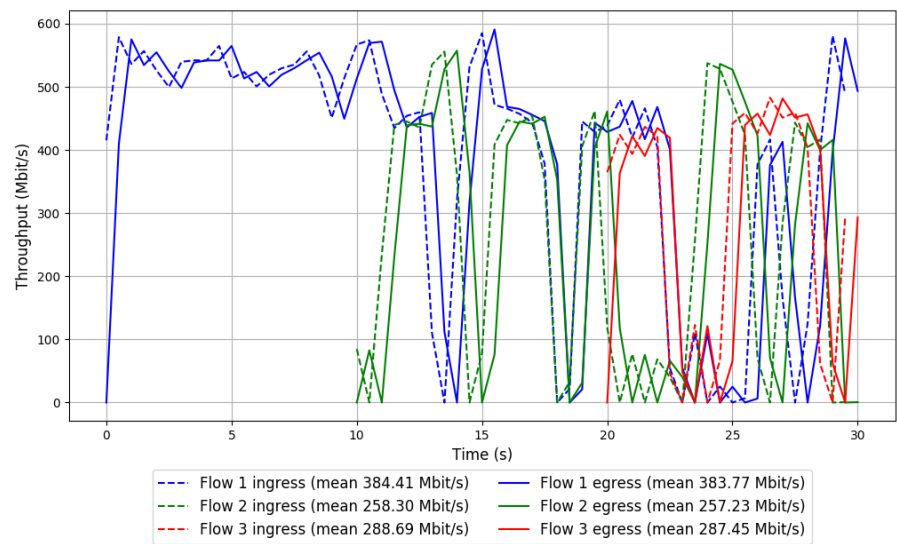
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```
Run 5: Statistics of LEDBAT

Start at: 2018-11-30 09:25:30
End at: 2018-11-30 09:26:00
Local clock offset: -1.236 ms
Remote clock offset: -0.201 ms


# Below is generated by plot.py at 2018-11-30 10:13:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 650.68 Mbit/s
95th percentile per-packet one-way delay: 16.702 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 383.77 Mbit/s
95th percentile per-packet one-way delay: 17.822 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 257.23 Mbit/s
95th percentile per-packet one-way delay: 7.171 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 287.45 Mbit/s
95th percentile per-packet one-way delay: 3.038 ms
Loss rate: 0.42%
```

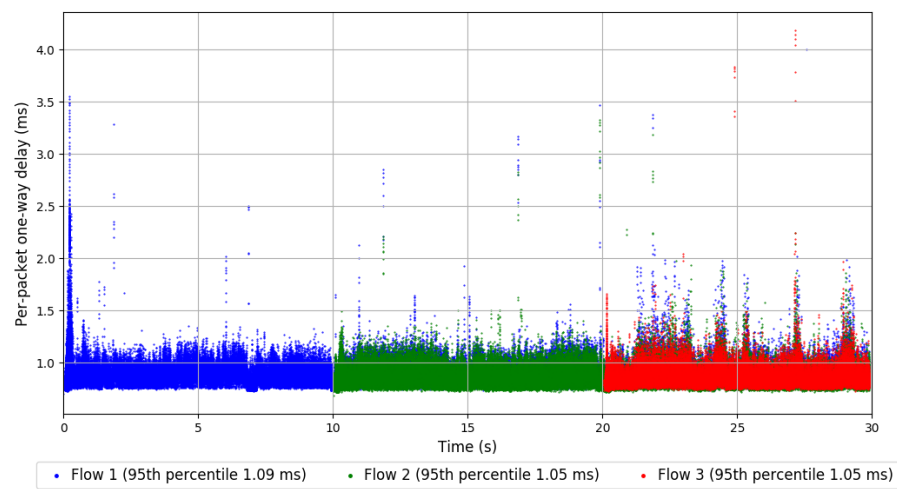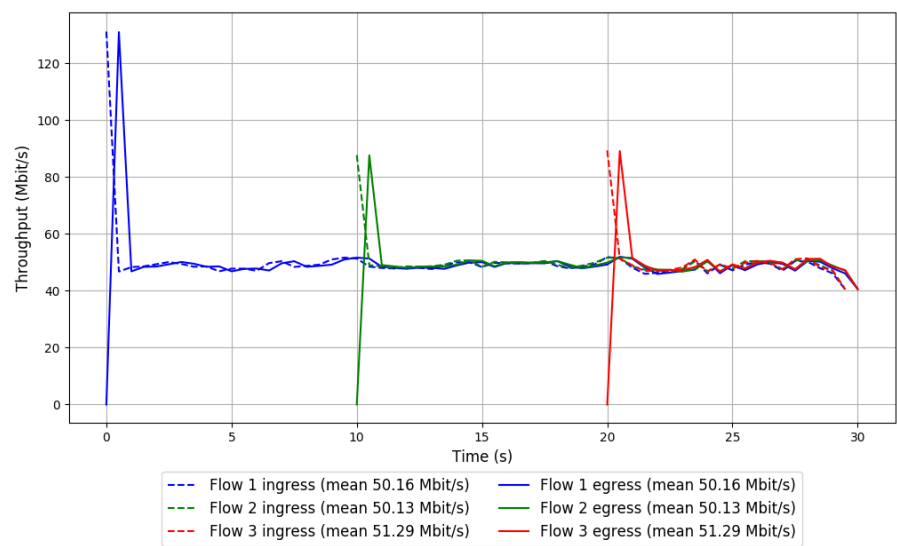Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Indigo-Muses

Start at: 2018-11-30 07:20:08
End at: 2018-11-30 07:20:38
Local clock offset: -0.142 ms
Remote clock offset: -0.325 ms


# Below is generated by plot.py at 2018-11-30 10:13:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.39 Mbit/s
95th percentile per-packet one-way delay: 1.070 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.16 Mbit/s
95th percentile per-packet one-way delay: 1.086 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.13 Mbit/s
95th percentile per-packet one-way delay: 1.053 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 51.29 Mbit/s
95th percentile per-packet one-way delay: 1.047 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-Muses — Data Link

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-11-30 07:47:17
End at: 2018-11-30 07:47:47
Local clock offset: 0.741 ms
Remote clock offset: 0.263 ms

# Below is generated by plot.py at 2018-11-30 10:13:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.34 Mbit/s
95th percentile per-packet one-way delay: 1.368 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.95 Mbit/s
95th percentile per-packet one-way delay: 1.367 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.63 Mbit/s
95th percentile per-packet one-way delay: 1.381 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 50.91 Mbit/s
95th percentile per-packet one-way delay: 1.342 ms
Loss rate: 0.01%
```
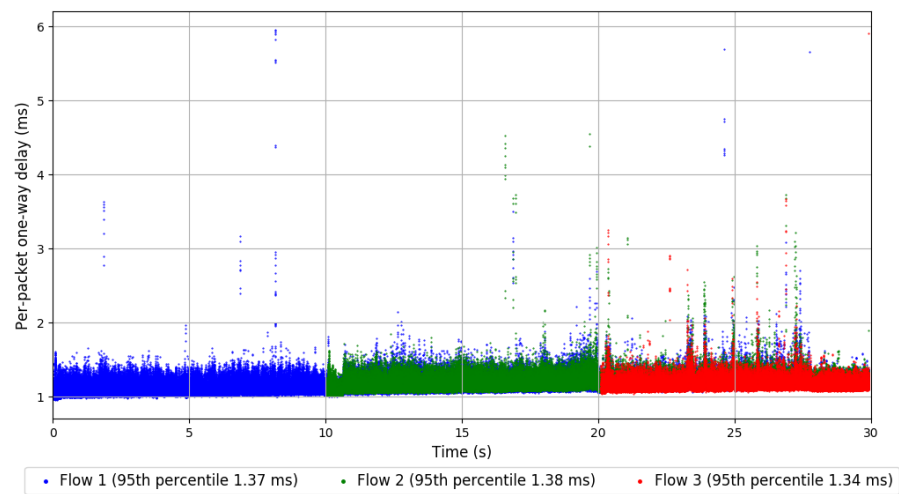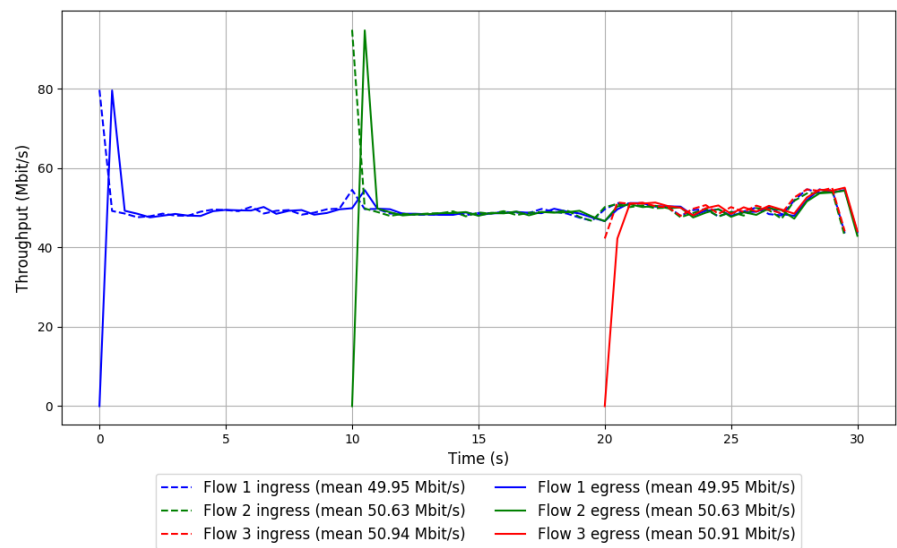
Run 2: Report of Indigo-Muses — Data Link

```
Run 3: Statistics of Indigo-Muses

Start at: 2018-11-30 08:14:20
End at: 2018-11-30 08:14:50
Local clock offset: 4.026 ms
Remote clock offset: 0.126 ms


# Below is generated by plot.py at 2018-11-30 10:13:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.60 Mbit/s
95th percentile per-packet one-way delay: 0.959 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.93 Mbit/s
95th percentile per-packet one-way delay: 0.987 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.20 Mbit/s
95th percentile per-packet one-way delay: 0.940 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 52.74 Mbit/s
95th percentile per-packet one-way delay: 0.733 ms
Loss rate: 0.00%
```
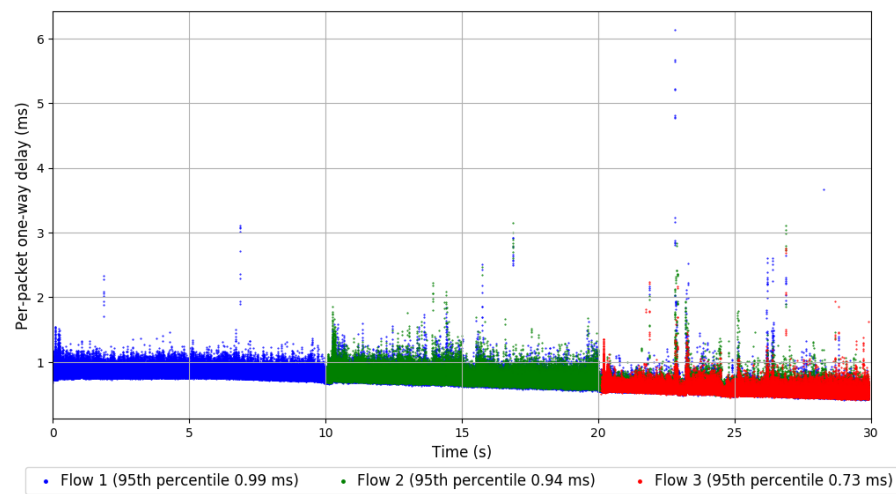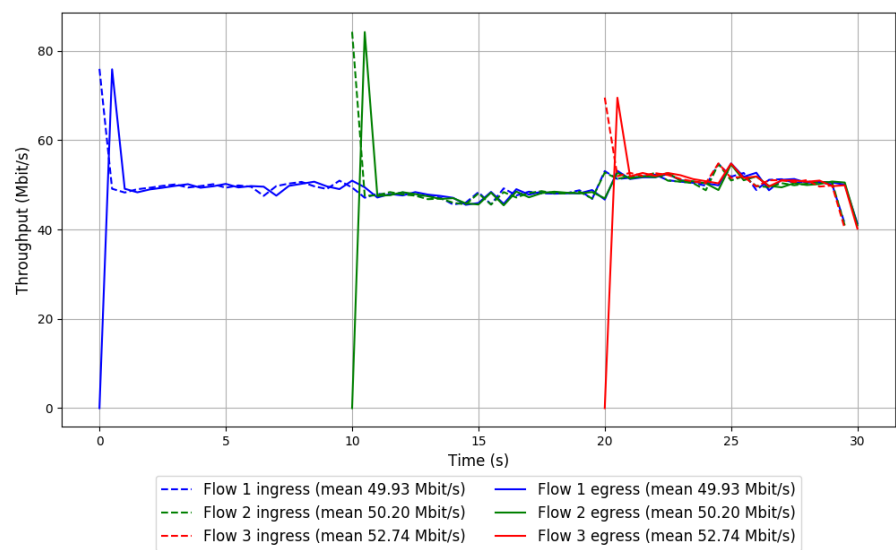
Run 3: Report of Indigo-Muses — Data Link

- - - Flow 1 ingress (mean 49.93 Mbit/s)   —— Flow 1 egress (mean 49.93 Mbit/s)
- - - Flow 2 ingress (mean 50.20 Mbit/s)   —— Flow 2 egress (mean 50.20 Mbit/s)
- - - Flow 3 ingress (mean 52.74 Mbit/s)   —— Flow 3 egress (mean 52.74 Mbit/s)

• Flow 1 (95th percentile 0.99 ms)   • Flow 2 (95th percentile 0.94 ms)   • Flow 3 (95th percentile 0.73 ms)

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```
Run 4: Statistics of Indigo-Muses

Start at: 2018-11-30 08:41:25
End at: 2018-11-30 08:41:55
Local clock offset: -4.017 ms
Remote clock offset: 0.107 ms


# Below is generated by plot.py at 2018-11-30 10:13:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 101.17 Mbit/s
95th percentile per-packet one-way delay: 0.952 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.29 Mbit/s
95th percentile per-packet one-way delay: 0.956 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.83 Mbit/s
95th percentile per-packet one-way delay: 0.967 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 52.05 Mbit/s
95th percentile per-packet one-way delay: 0.897 ms
Loss rate: 0.00%
```
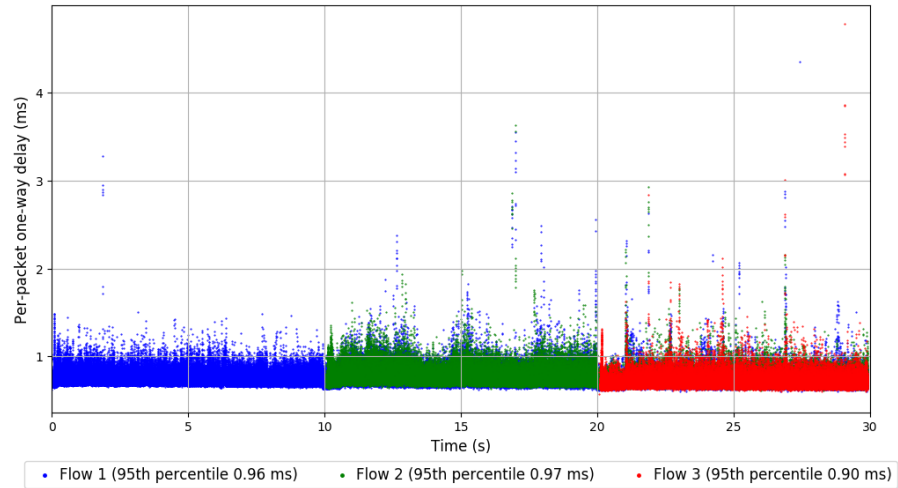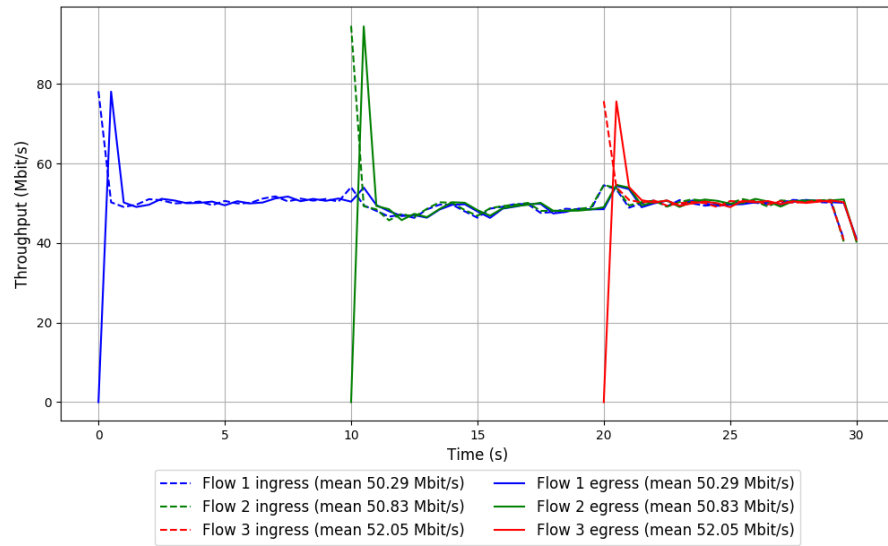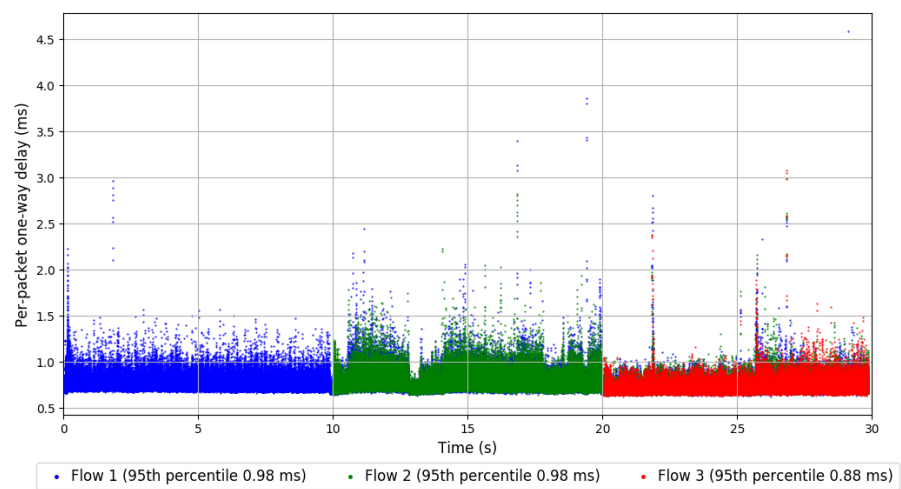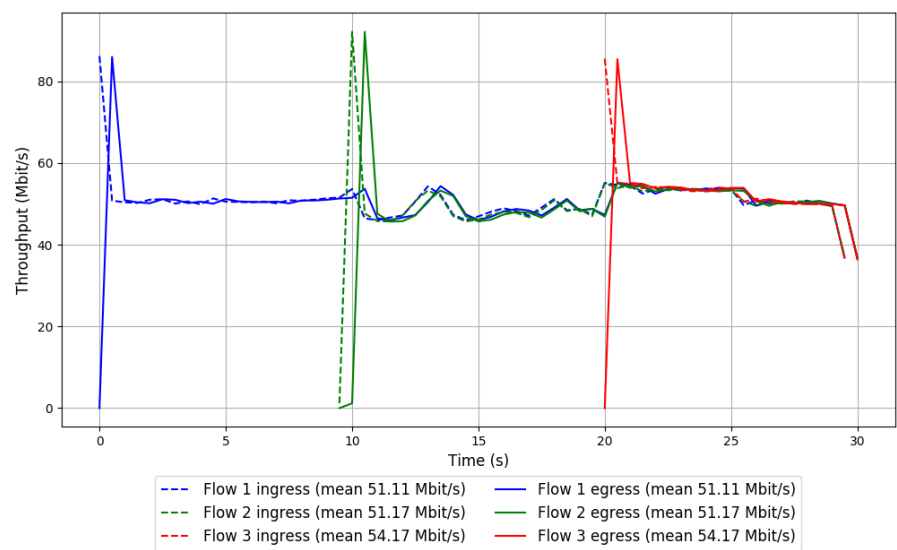
Run 4: Report of Indigo-Muses — Data Link

- - - - Flow 1 ingress (mean 50.29 Mbit/s) ——— Flow 1 egress (mean 50.29 Mbit/s)
- - - - Flow 2 ingress (mean 50.83 Mbit/s) ——— Flow 2 egress (mean 50.83 Mbit/s)
- - - - Flow 3 ingress (mean 52.05 Mbit/s) ——— Flow 3 egress (mean 52.05 Mbit/s)

• Flow 1 (95th percentile 0.96 ms)   • Flow 2 (95th percentile 0.97 ms)   • Flow 3 (95th percentile 0.90 ms)

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```
Run 5: Statistics of Indigo-Muses

Start at: 2018-11-30 09:08:32
End at: 2018-11-30 09:09:02
Local clock offset: -5.936 ms
Remote clock offset: 0.311 ms


# Below is generated by plot.py at 2018-11-30 10:13:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 102.99 Mbit/s
95th percentile per-packet one-way delay: 0.970 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.11 Mbit/s
95th percentile per-packet one-way delay: 0.983 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 51.17 Mbit/s
95th percentile per-packet one-way delay: 0.984 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 54.17 Mbit/s
95th percentile per-packet one-way delay: 0.883 ms
Loss rate: 0.00%
```

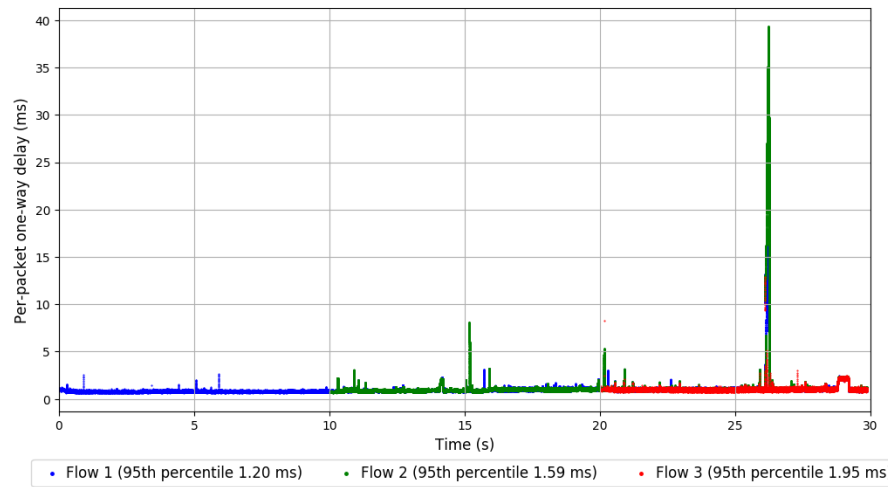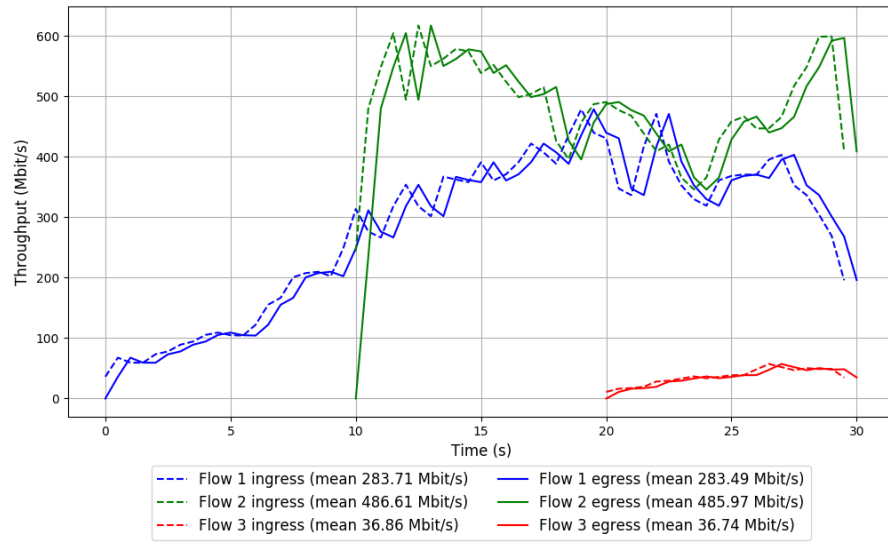Run 5: Report of Indigo-Muses — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-11-30 07:18:39
End at: 2018-11-30 07:19:09
Local clock offset: -0.159 ms
Remote clock offset: -0.351 ms

# Below is generated by plot.py at 2018-11-30 10:15:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 618.76 Mbit/s
95th percentile per-packet one-way delay: 1.327 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 283.49 Mbit/s
95th percentile per-packet one-way delay: 1.202 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 485.97 Mbit/s
95th percentile per-packet one-way delay: 1.595 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 36.74 Mbit/s
95th percentile per-packet one-way delay: 1.953 ms
Loss rate: 0.33%
```

Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-11-30 07:45:47
End at: 2018-11-30 07:46:17
Local clock offset: 0.286 ms
Remote clock offset: 0.102 ms

# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 668.95 Mbit/s
95th percentile per-packet one-way delay: 1.461 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 455.51 Mbit/s
95th percentile per-packet one-way delay: 1.535 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 318.75 Mbit/s
95th percentile per-packet one-way delay: 1.389 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 4.79 Mbit/s
95th percentile per-packet one-way delay: 1.466 ms
Loss rate: 0.10%
```
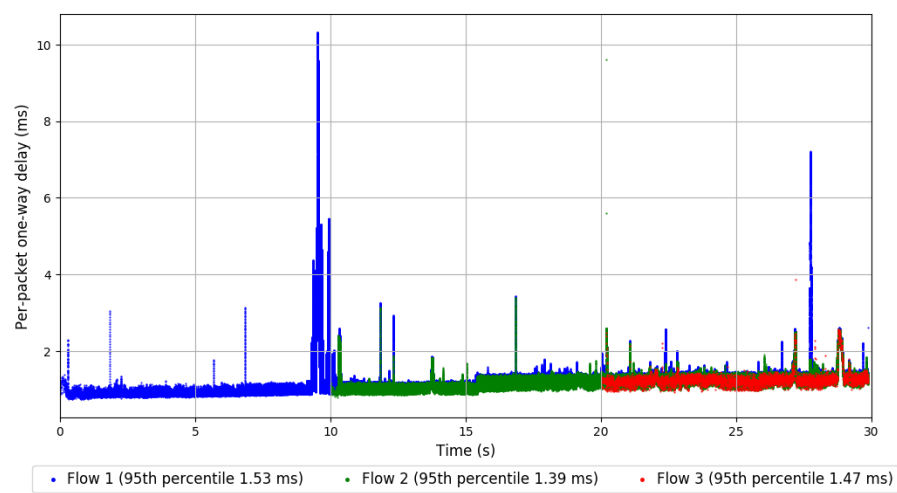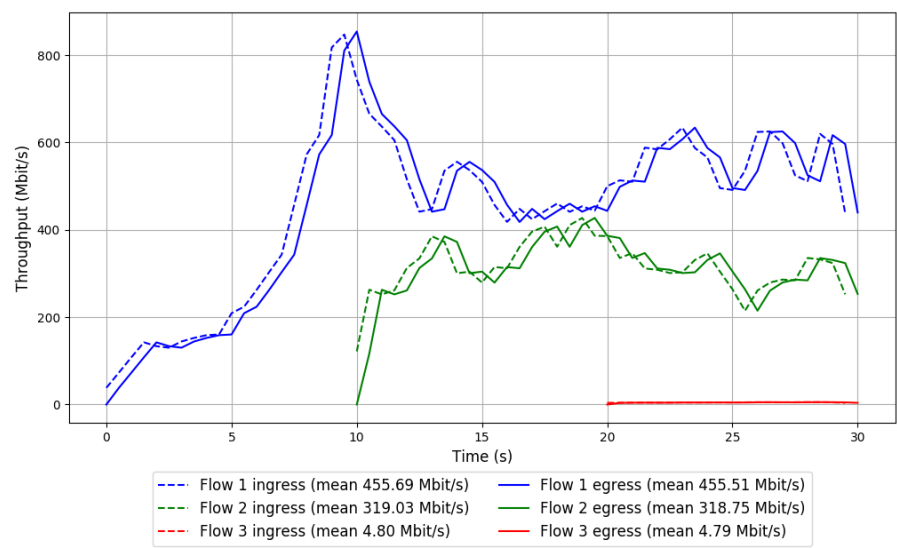
Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-11-30 08:12:59
End at: 2018-11-30 08:13:29
Local clock offset: 3.952 ms
Remote clock offset: 0.191 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 319.80 Mbit/s
95th percentile per-packet one-way delay: 2.239 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 78.33 Mbit/s
95th percentile per-packet one-way delay: 2.209 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 161.89 Mbit/s
95th percentile per-packet one-way delay: 2.145 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 405.77 Mbit/s
95th percentile per-packet one-way delay: 2.274 ms
Loss rate: 0.24%
```
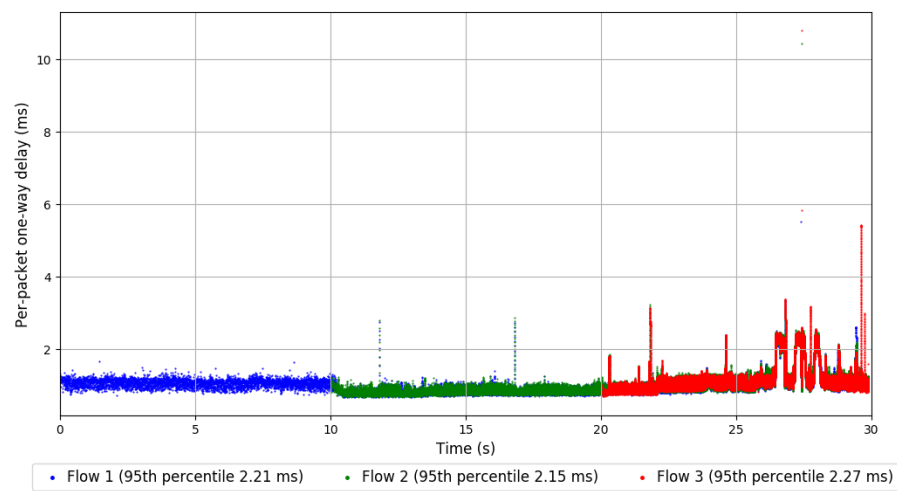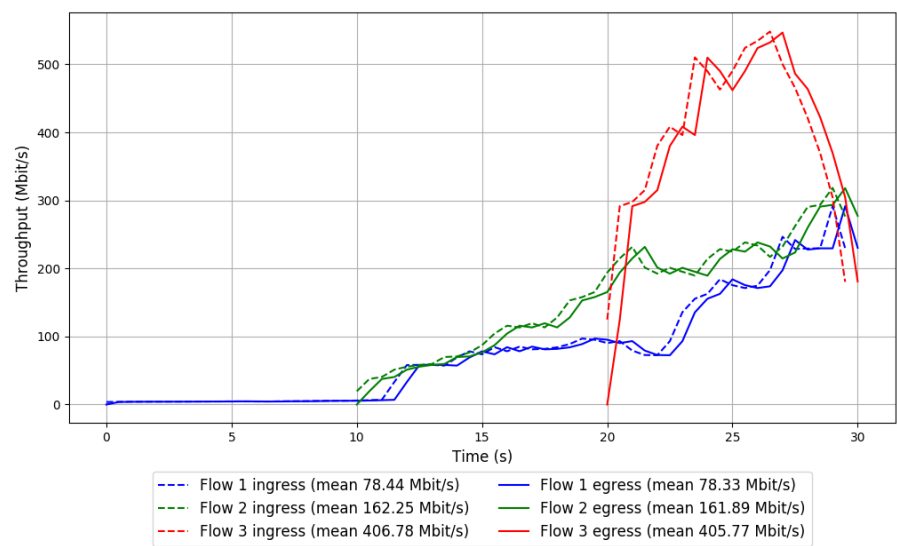
Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-11-30 08:39:58
End at: 2018-11-30 08:40:28
Local clock offset: -3.846 ms
Remote clock offset: 0.227 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 532.99 Mbit/s
95th percentile per-packet one-way delay: 1.175 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 36.09 Mbit/s
95th percentile per-packet one-way delay: 1.092 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 722.19 Mbit/s
95th percentile per-packet one-way delay: 1.178 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 50.73 Mbit/s
95th percentile per-packet one-way delay: 1.160 ms
Loss rate: 0.04%
```
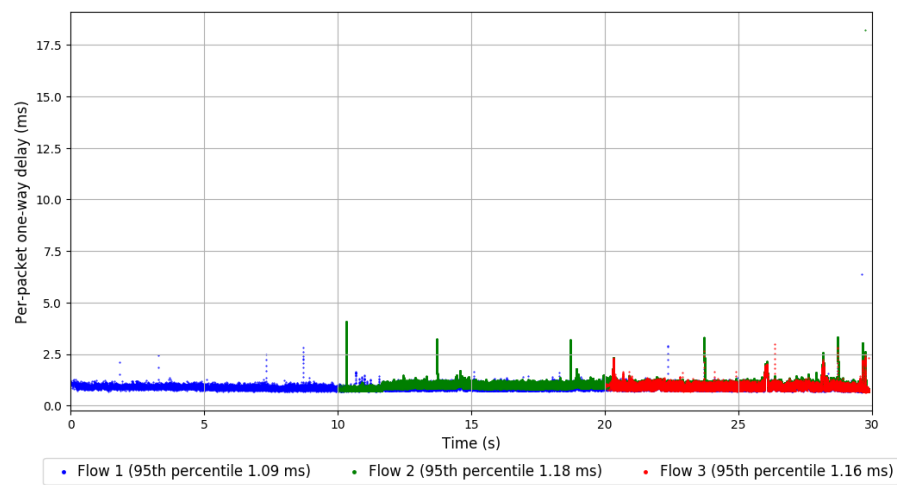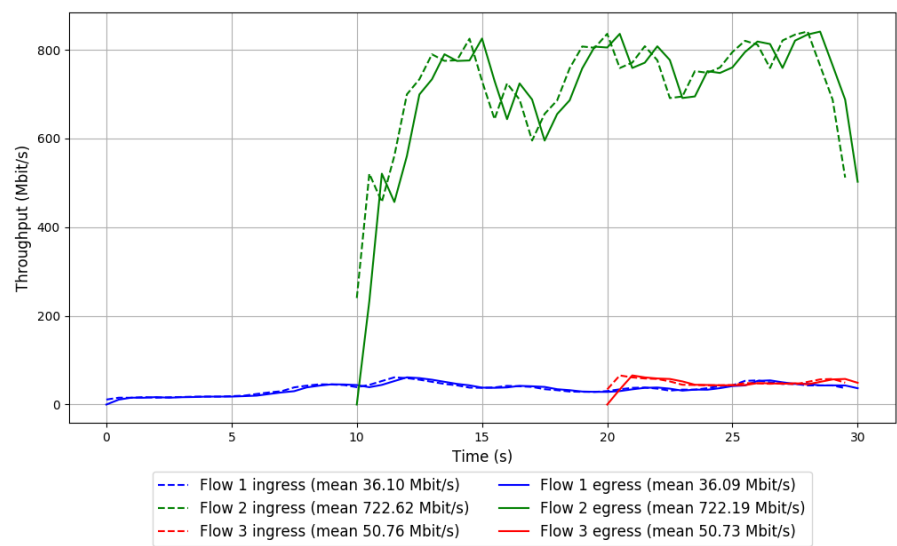
Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 36.10 Mbit/s)   Flow 1 egress (mean 36.09 Mbit/s)
Flow 2 ingress (mean 722.62 Mbit/s)   Flow 2 egress (mean 722.19 Mbit/s)
Flow 3 ingress (mean 50.76 Mbit/s)   Flow 3 egress (mean 50.73 Mbit/s)

Flow 1 (95th percentile 1.09 ms)   Flow 2 (95th percentile 1.18 ms)   Flow 3 (95th percentile 1.16 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-11-30 09:07:05
End at: 2018-11-30 09:07:35
Local clock offset: -5.845 ms
Remote clock offset: 0.32 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 561.60 Mbit/s
95th percentile per-packet one-way delay: 1.271 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 64.96 Mbit/s
95th percentile per-packet one-way delay: 1.055 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 740.66 Mbit/s
95th percentile per-packet one-way delay: 1.304 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 12.56 Mbit/s
95th percentile per-packet one-way delay: 1.091 ms
Loss rate: 0.03%
```
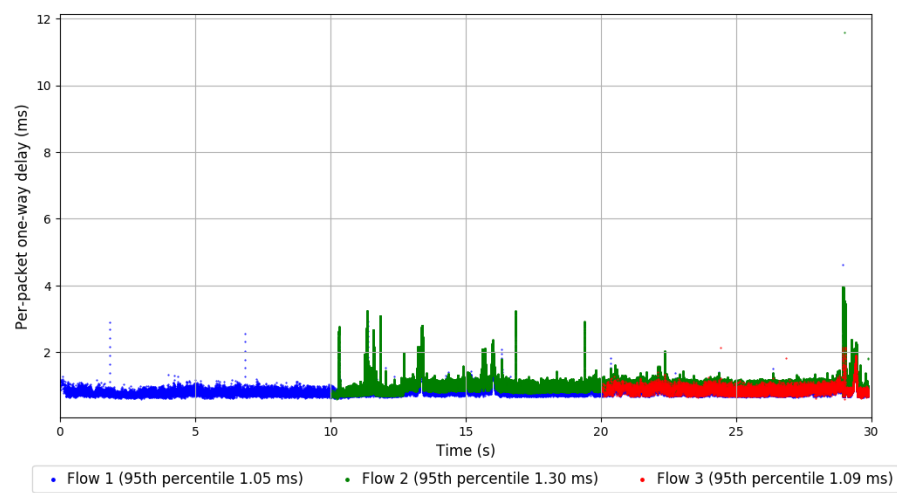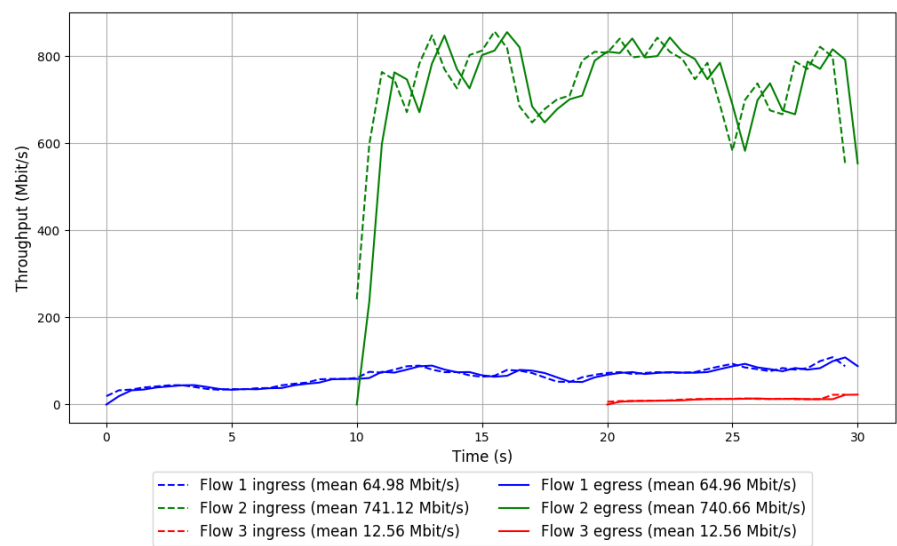
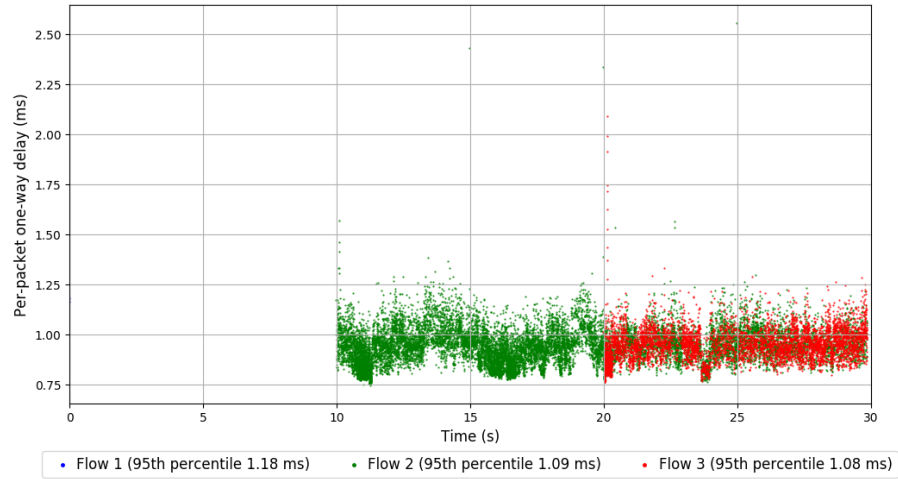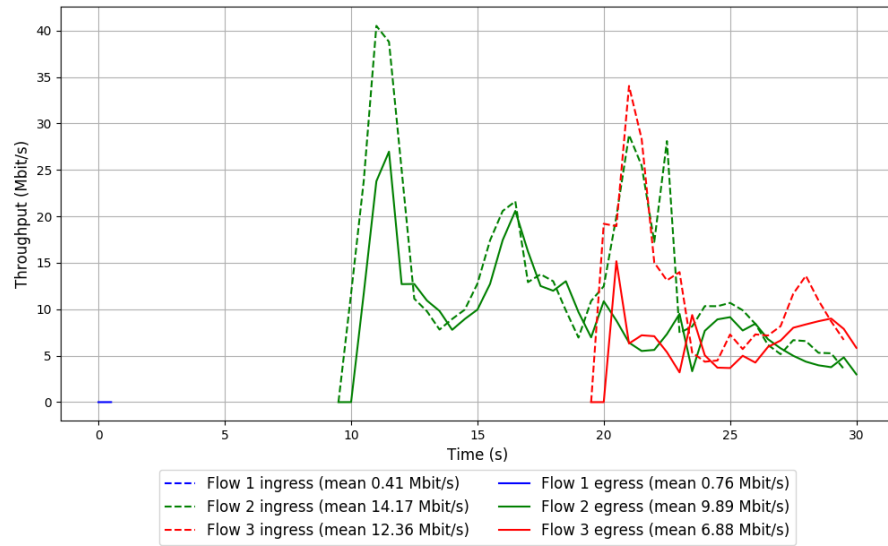Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2018-11-30 07:32:51
End at: 2018-11-30 07:33:21
Local clock offset: 0.004 ms
Remote clock offset: -0.002 ms

# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.86 Mbit/s
95th percentile per-packet one-way delay: 1.089 ms
Loss rate: 34.48%
-- Flow 1:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 1.182 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.89 Mbit/s
95th percentile per-packet one-way delay: 1.092 ms
Loss rate: 30.20%
-- Flow 3:
Average throughput: 6.88 Mbit/s
95th percentile per-packet one-way delay: 1.082 ms
Loss rate: 44.35%
```
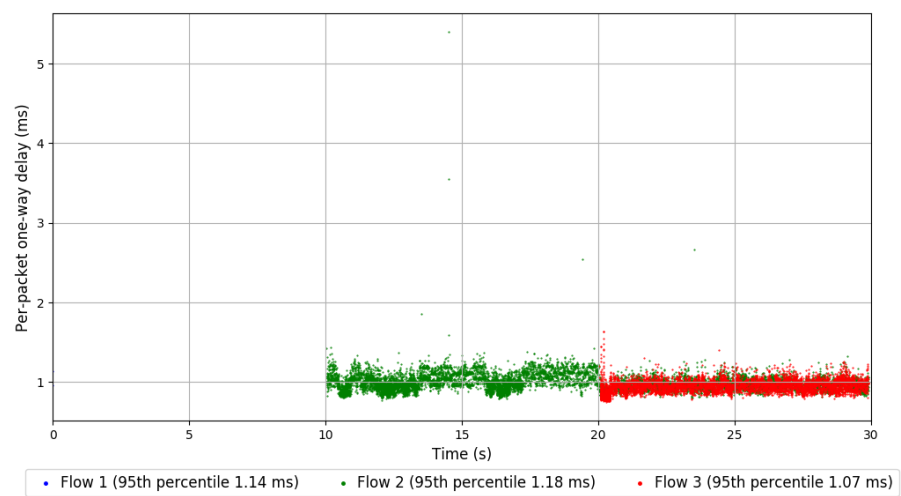
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 0.41 Mbit/s) --- Flow 1 egress (mean 0.76 Mbit/s)
Flow 2 ingress (mean 14.17 Mbit/s) --- Flow 2 egress (mean 9.89 Mbit/s)
Flow 3 ingress (mean 12.36 Mbit/s) --- Flow 3 egress (mean 6.88 Mbit/s)

Flow 1 (95th percentile 1.18 ms)   Flow 2 (95th percentile 1.09 ms)   Flow 3 (95th percentile 1.08 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2018-11-30 08:00:06
End at: 2018-11-30 08:00:36
Local clock offset: 3.042 ms
Remote clock offset: 0.44 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.14 Mbit/s
95th percentile per-packet one-way delay: 1.144 ms
Loss rate: 58.11%
-- Flow 1:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 1.142 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 6.36 Mbit/s
95th percentile per-packet one-way delay: 1.180 ms
Loss rate: 51.10%
-- Flow 3:
Average throughput: 8.81 Mbit/s
95th percentile per-packet one-way delay: 1.069 ms
Loss rate: 65.35%
```
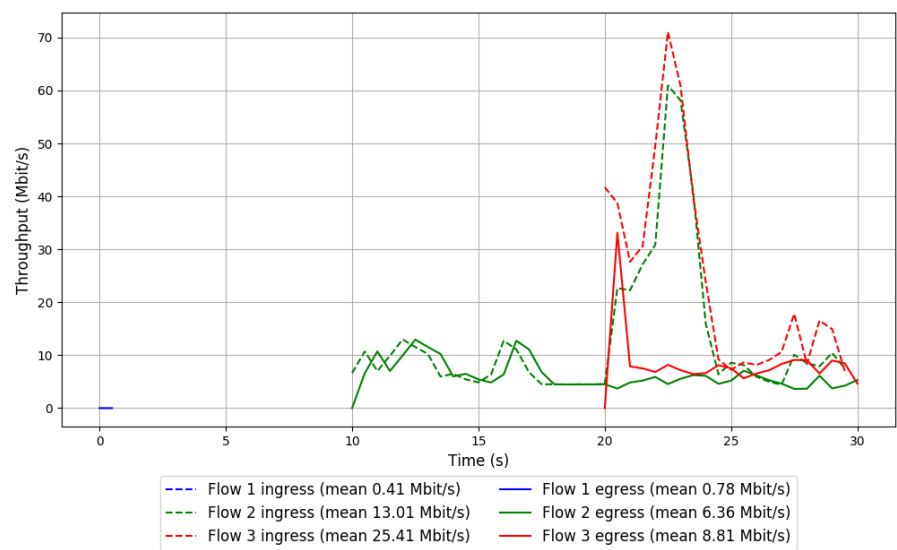
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-11-30 08:27:10
End at: 2018-11-30 08:27:40
Local clock offset: -1.819 ms
Remote clock offset: 0.095 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.35 Mbit/s
95th percentile per-packet one-way delay: 0.906 ms
Loss rate: 2.46%
-- Flow 1:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 1.057 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 6.27 Mbit/s
95th percentile per-packet one-way delay: 0.925 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 6.60 Mbit/s
95th percentile per-packet one-way delay: 0.838 ms
Loss rate: 4.95%
```
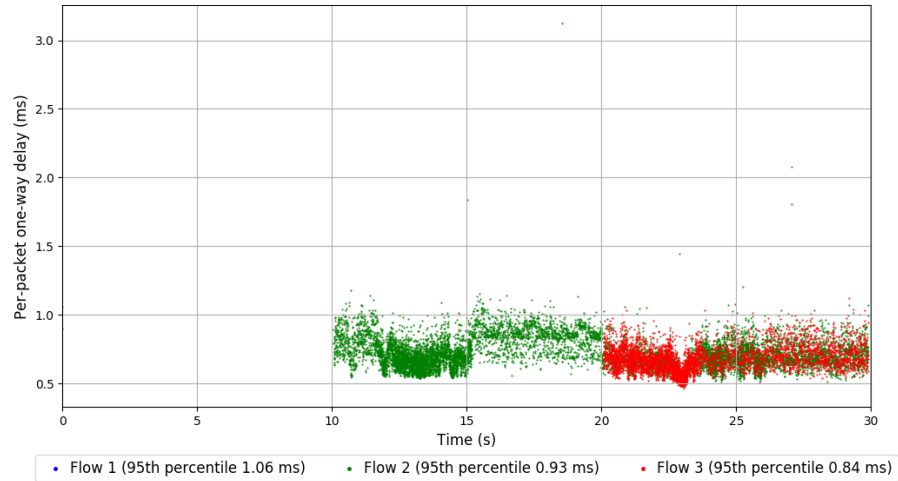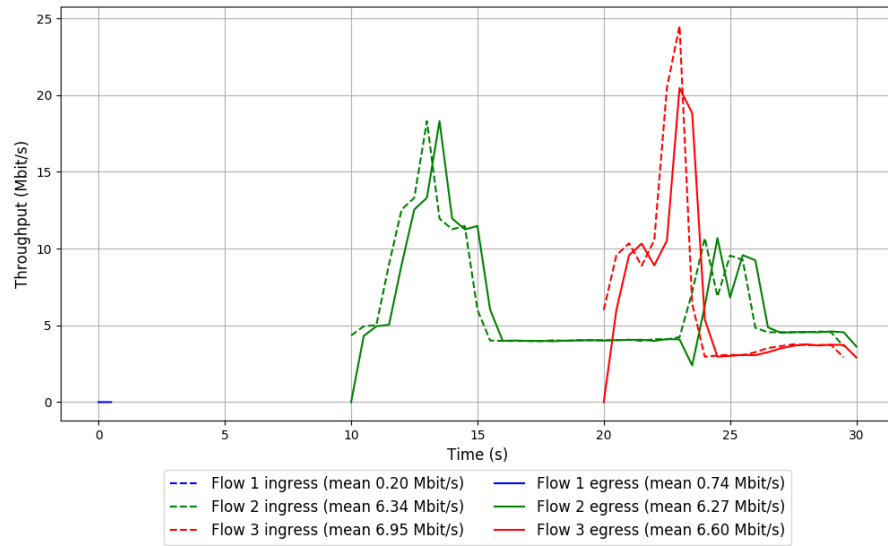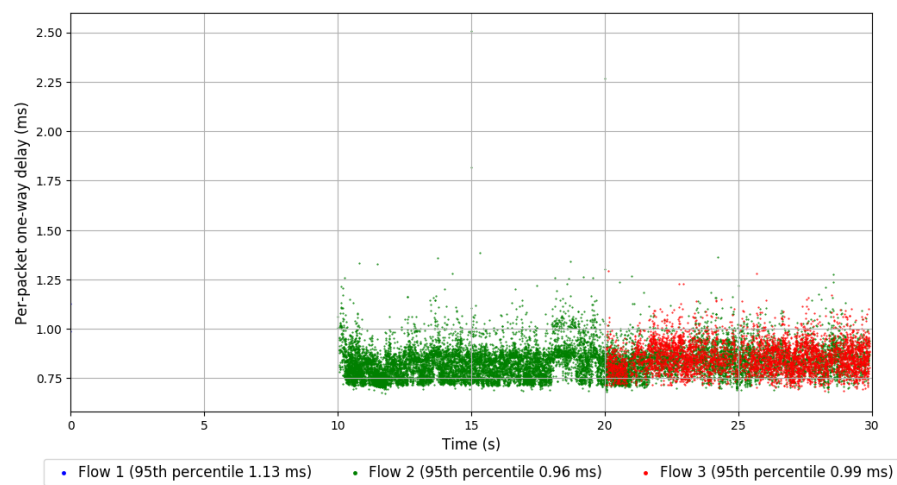
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 0.20 Mbit/s) --- Flow 1 egress (mean 0.74 Mbit/s)
Flow 2 ingress (mean 6.34 Mbit/s) --- Flow 2 egress (mean 6.27 Mbit/s)
Flow 3 ingress (mean 6.95 Mbit/s) --- Flow 3 egress (mean 6.60 Mbit/s)

Flow 1 (95th percentile 1.06 ms) • Flow 2 (95th percentile 0.93 ms) • Flow 3 (95th percentile 0.84 ms)

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```
Run 4: Statistics of PCC-Expr

Start at: 2018-11-30 08:54:06
End at: 2018-11-30 08:54:36
Local clock offset: -5.004 ms
Remote clock offset: 0.259 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.82 Mbit/s
95th percentile per-packet one-way delay: 0.970 ms
Loss rate: 24.57%
-- Flow 1:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 1.128 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 10.22 Mbit/s
95th percentile per-packet one-way delay: 0.960 ms
Loss rate: 22.90%
-- Flow 3:
Average throughput: 6.11 Mbit/s
95th percentile per-packet one-way delay: 0.987 ms
Loss rate: 29.70%
```
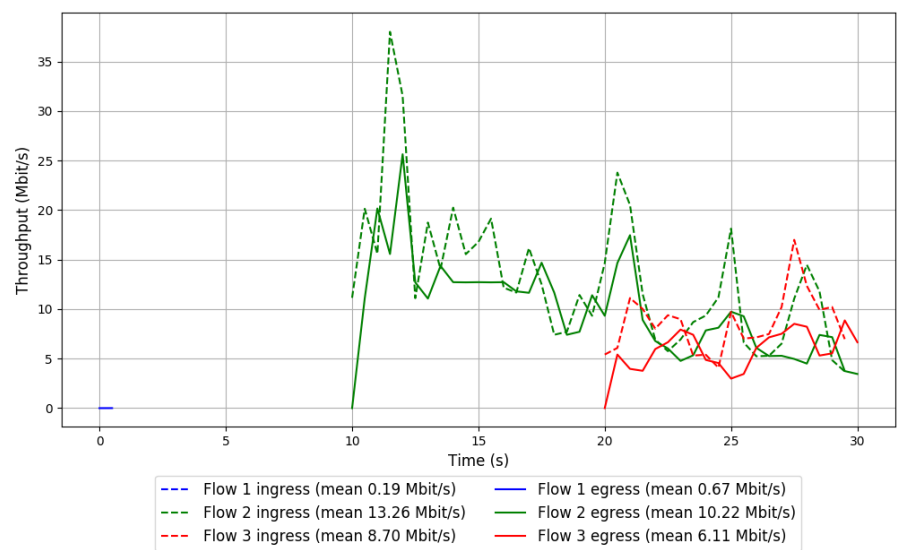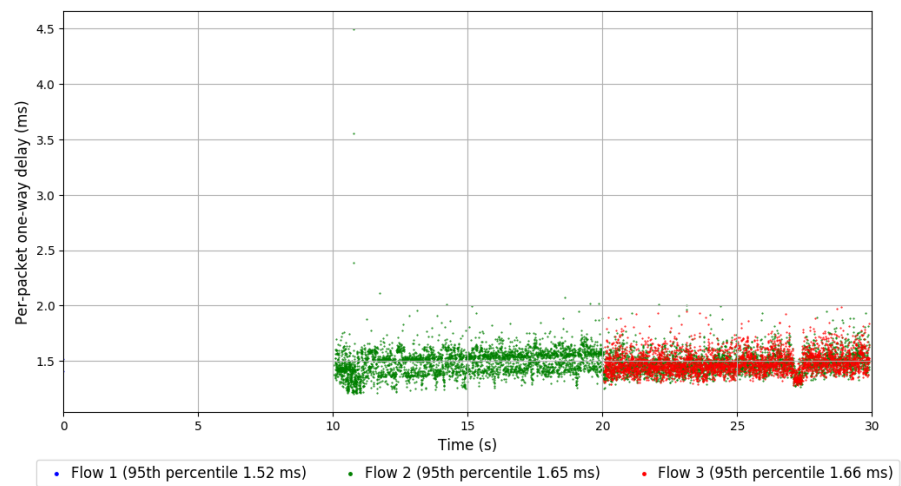
Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2018-11-30 09:21:18
End at: 2018-11-30 09:21:48
Local clock offset: -2.692 ms
Remote clock offset: 0.023 ms

# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.65 Mbit/s
95th percentile per-packet one-way delay: 1.652 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 1.517 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 4.66 Mbit/s
95th percentile per-packet one-way delay: 1.647 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.70 Mbit/s
95th percentile per-packet one-way delay: 1.664 ms
Loss rate: 0.00%
```
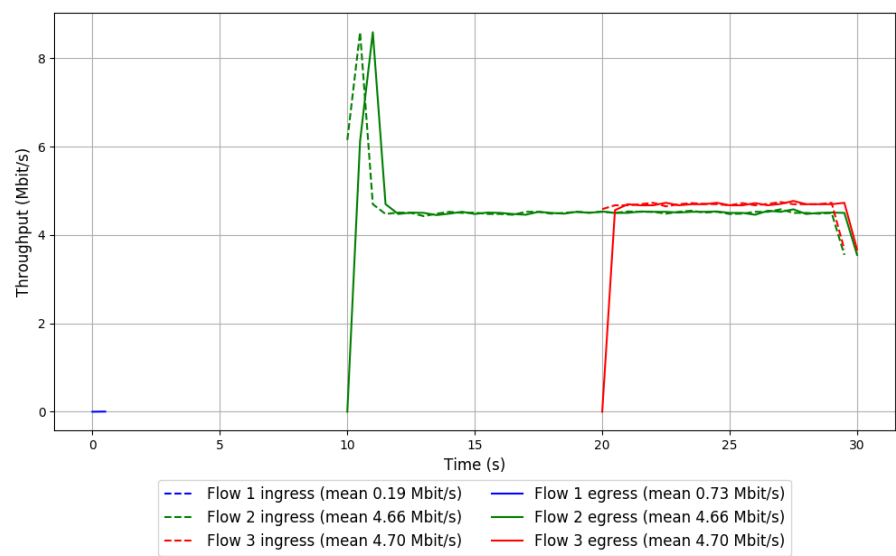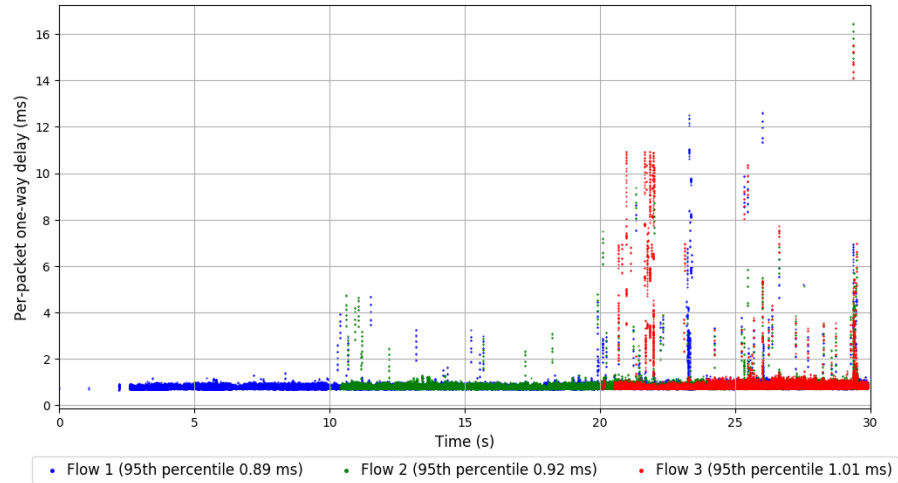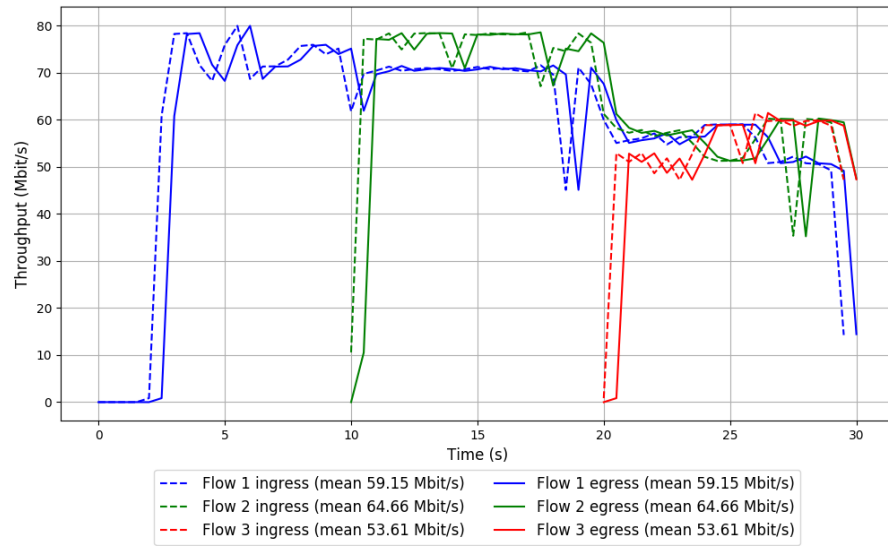
Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-11-30 07:23:15
End at: 2018-11-30 07:23:45
Local clock offset: -0.065 ms
Remote clock offset: -0.275 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 119.72 Mbit/s
95th percentile per-packet one-way delay: 0.920 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.15 Mbit/s
95th percentile per-packet one-way delay: 0.891 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 64.66 Mbit/s
95th percentile per-packet one-way delay: 0.917 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 53.61 Mbit/s
95th percentile per-packet one-way delay: 1.012 ms
Loss rate: 0.00%
```

Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-11-30 07:50:26
End at: 2018-11-30 07:50:56
Local clock offset: 1.586 ms
Remote clock offset: 0.346 ms

# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 126.70 Mbit/s
95th percentile per-packet one-way delay: 2.440 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 69.17 Mbit/s
95th percentile per-packet one-way delay: 1.153 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 61.23 Mbit/s
95th percentile per-packet one-way delay: 2.695 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 51.17 Mbit/s
95th percentile per-packet one-way delay: 7.031 ms
Loss rate: 0.00%
```
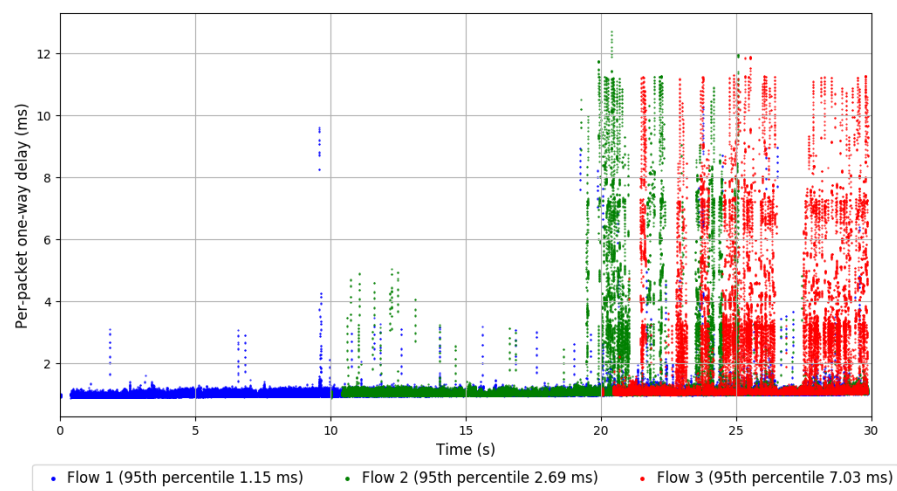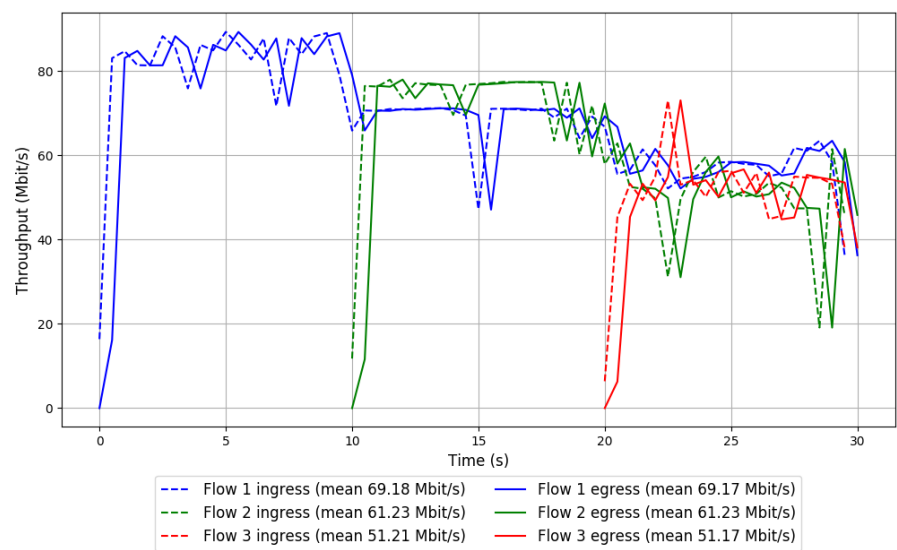
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-11-30 08:17:27
End at: 2018-11-30 08:17:57
Local clock offset: 2.236 ms
Remote clock offset: 0.122 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 121.35 Mbit/s
95th percentile per-packet one-way delay: 2.349 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.78 Mbit/s
95th percentile per-packet one-way delay: 0.432 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 63.27 Mbit/s
95th percentile per-packet one-way delay: 3.465 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 53.36 Mbit/s
95th percentile per-packet one-way delay: 5.699 ms
Loss rate: 0.00%
```
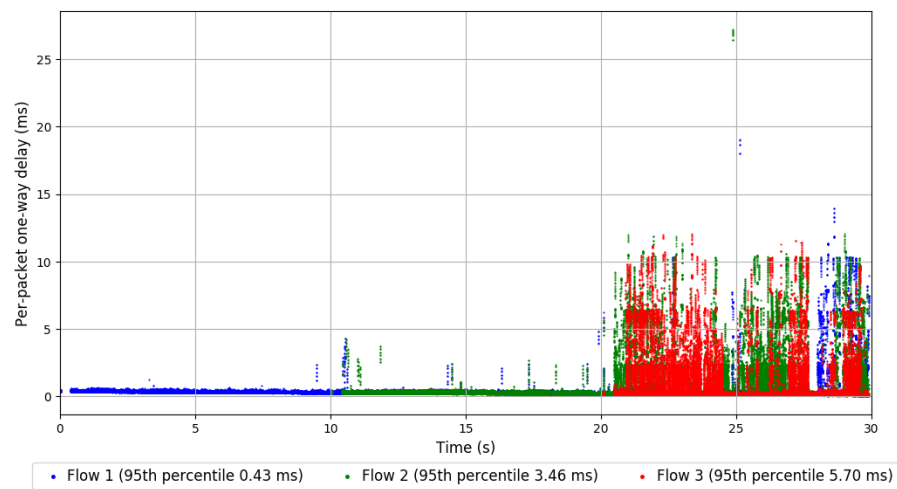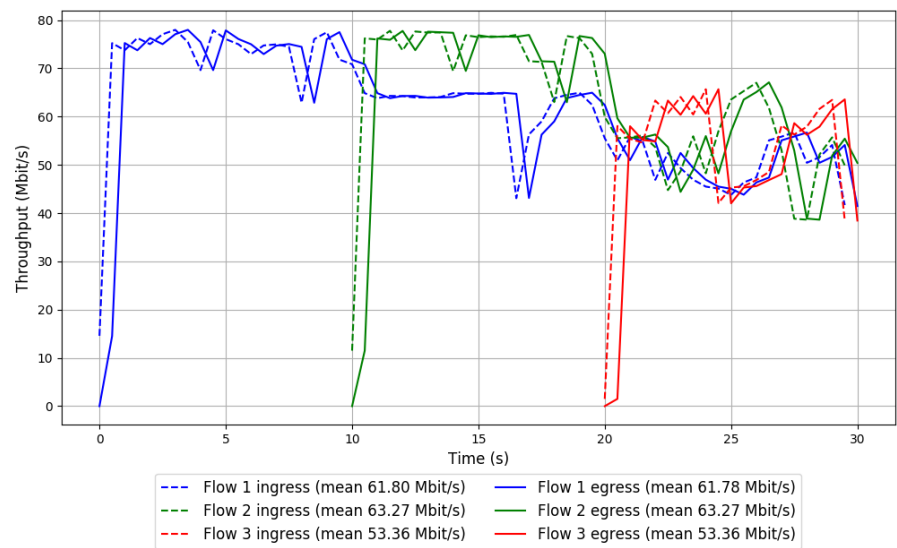
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-11-30 08:44:31
End at: 2018-11-30 08:45:01
Local clock offset: -4.285 ms
Remote clock offset: 0.174 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 125.45 Mbit/s
95th percentile per-packet one-way delay: 2.857 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 69.44 Mbit/s
95th percentile per-packet one-way delay: 0.978 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 57.60 Mbit/s
95th percentile per-packet one-way delay: 2.857 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 53.71 Mbit/s
95th percentile per-packet one-way delay: 6.457 ms
Loss rate: 0.06%
```
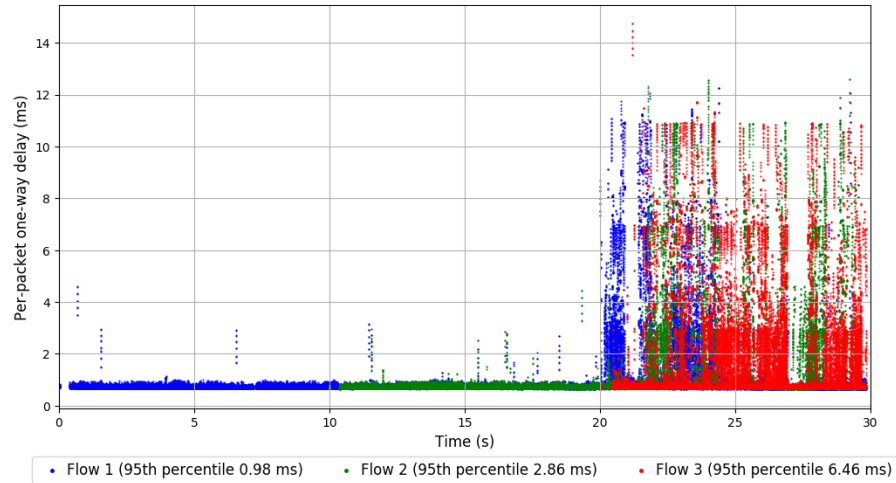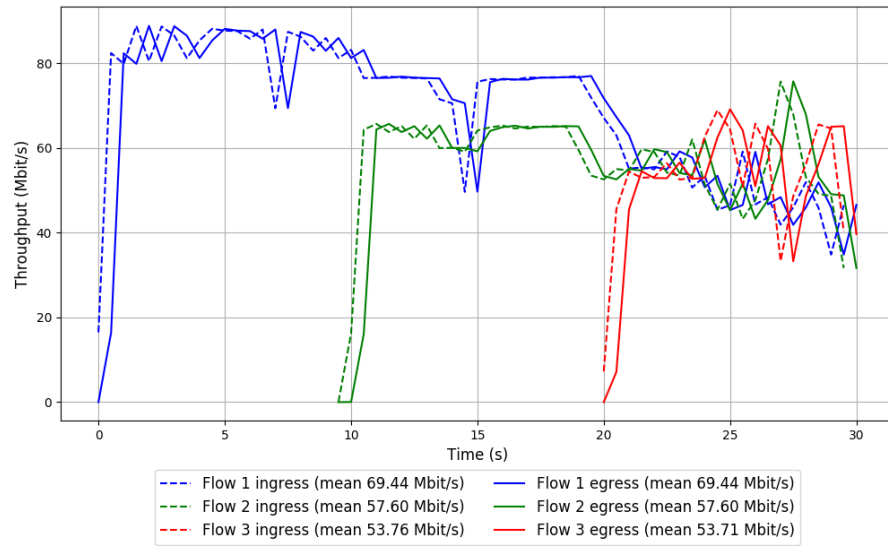
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 69.44 Mbit/s)   Flow 1 egress (mean 69.44 Mbit/s)
Flow 2 ingress (mean 57.60 Mbit/s)   Flow 2 egress (mean 57.60 Mbit/s)
Flow 3 ingress (mean 53.76 Mbit/s)   Flow 3 egress (mean 53.71 Mbit/s)

Flow 1 (95th percentile 0.98 ms)   Flow 2 (95th percentile 2.86 ms)   Flow 3 (95th percentile 6.46 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-11-30 09:11:38
End at: 2018-11-30 09:12:08
Local clock offset: -6.14 ms
Remote clock offset: 0.373 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 125.08 Mbit/s
95th percentile per-packet one-way delay: 2.994 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 69.15 Mbit/s
95th percentile per-packet one-way delay: 1.035 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 56.26 Mbit/s
95th percentile per-packet one-way delay: 2.702 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 55.95 Mbit/s
95th percentile per-packet one-way delay: 6.726 ms
Loss rate: 0.05%
```
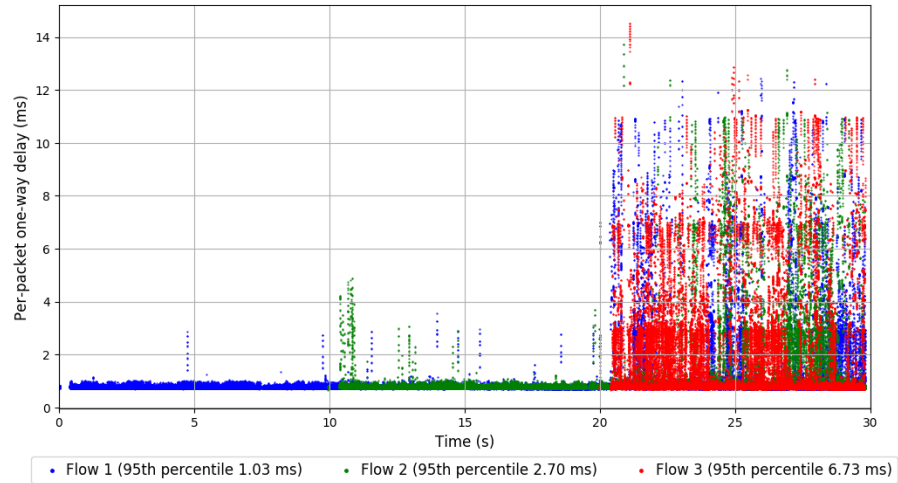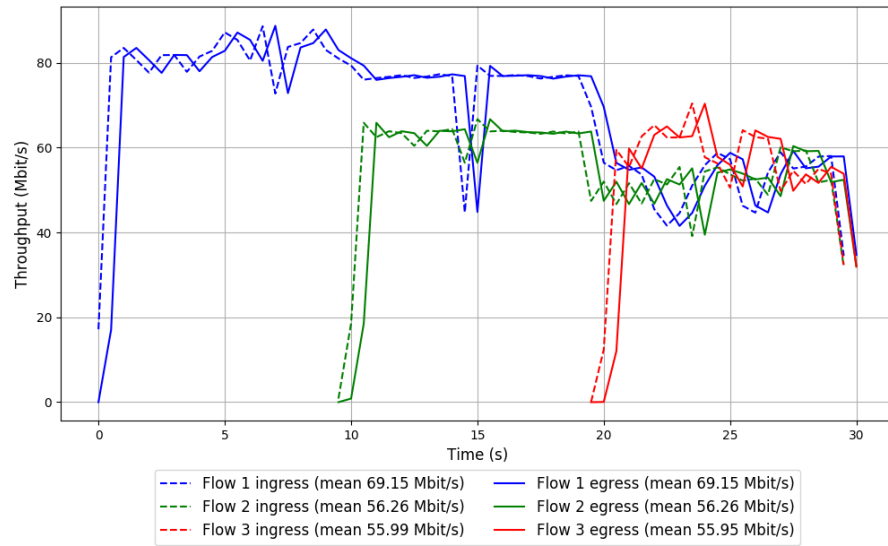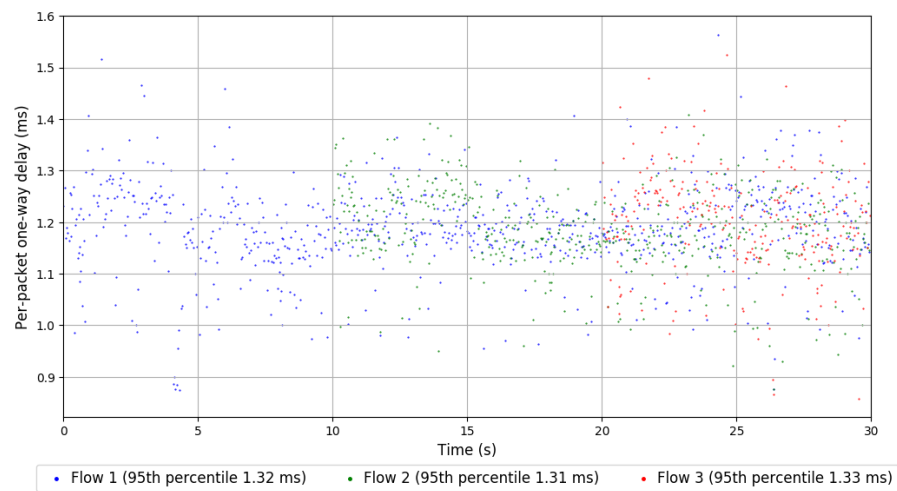
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 69.15 Mbit/s)   Flow 1 egress (mean 69.15 Mbit/s)
Flow 2 ingress (mean 56.26 Mbit/s)   Flow 2 egress (mean 56.26 Mbit/s)
Flow 3 ingress (mean 55.99 Mbit/s)   Flow 3 egress (mean 55.95 Mbit/s)

Flow 1 (95th percentile 1.03 ms)   Flow 2 (95th percentile 2.70 ms)   Flow 3 (95th percentile 6.73 ms)
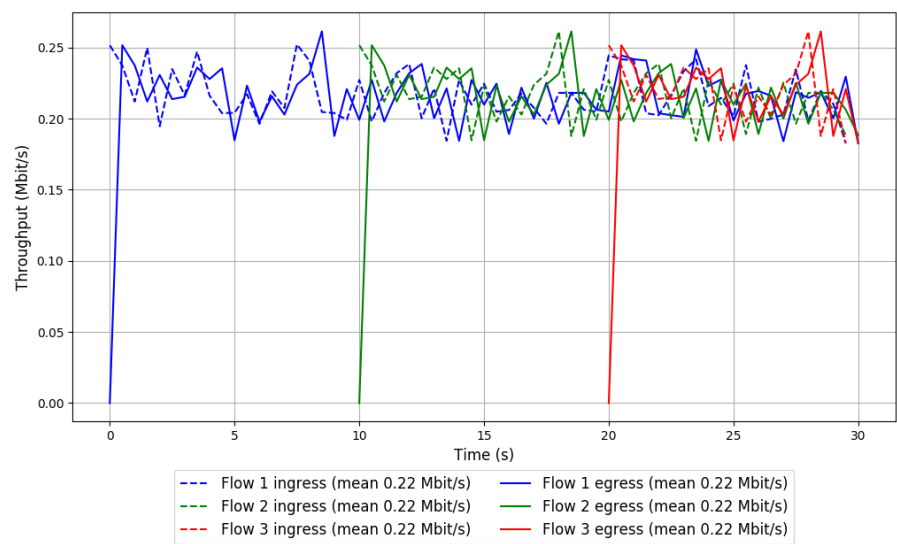
```
Run 1: Statistics of SCReAM

Start at: 2018-11-30 07:30:11
End at: 2018-11-30 07:30:41
Local clock offset: -0.03 ms
Remote clock offset: -0.034 ms

# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.317 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.316 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.309 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.332 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

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```
Run 2: Statistics of SCReAM

Start at: 2018-11-30 07:57:26
End at: 2018-11-30 07:57:56
Local clock offset: 2.733 ms
Remote clock offset: 0.408 ms

# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.312 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.310 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.307 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.331 ms
Loss rate: 0.00%
```
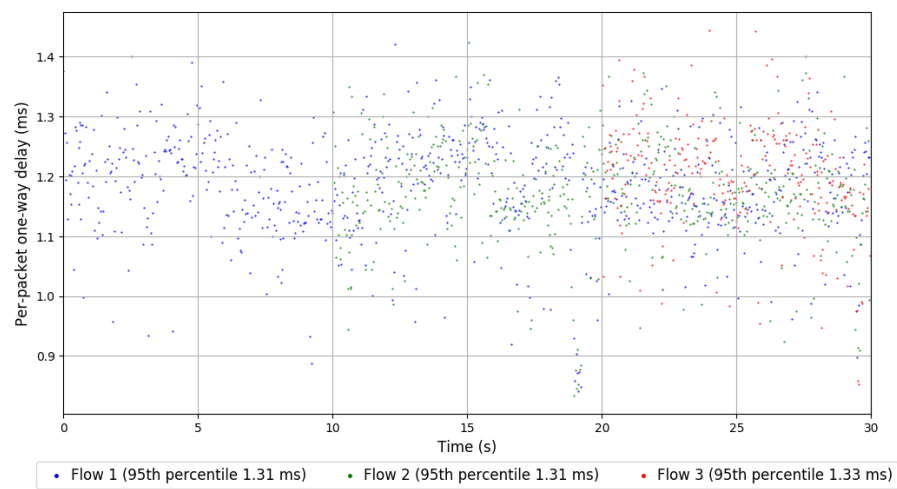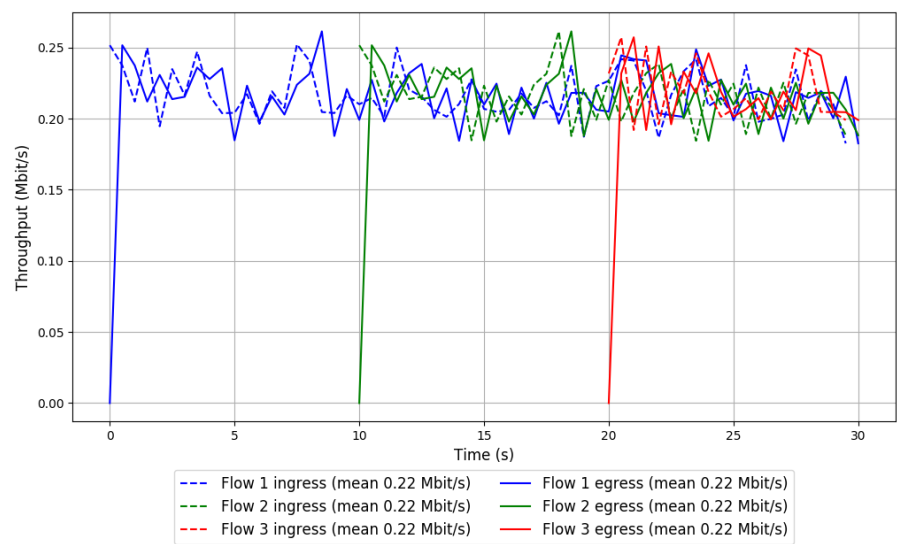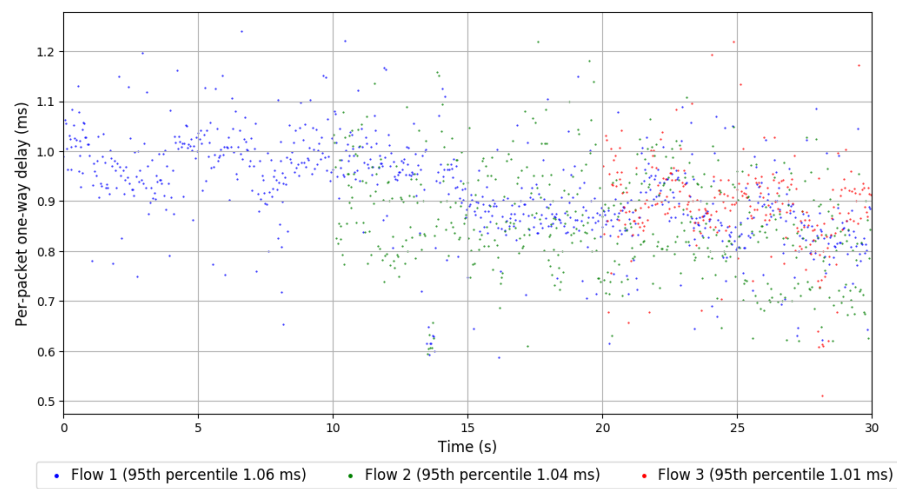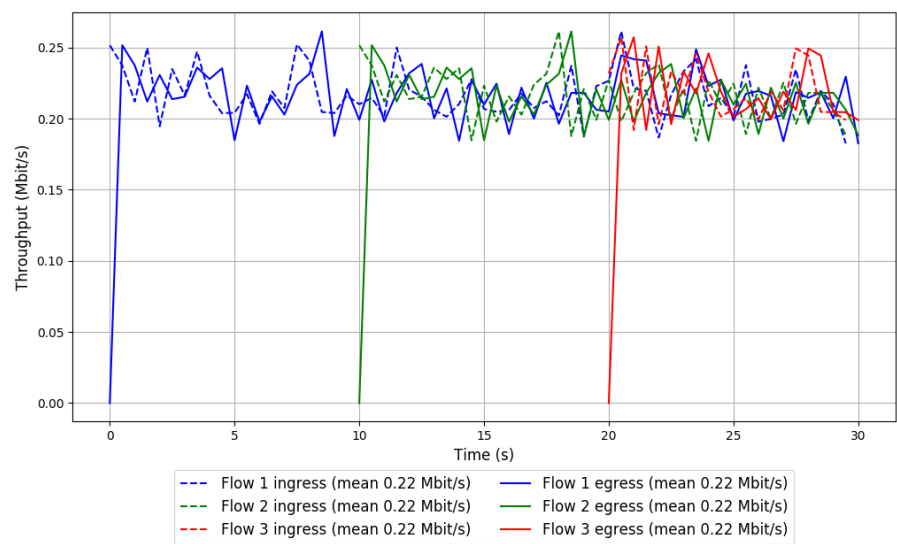
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-11-30 08:24:31
End at: 2018-11-30 08:25:01
Local clock offset: -1.083 ms
Remote clock offset: 0.167 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.051 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.062 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.040 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.007 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-11-30 08:51:29
End at: 2018-11-30 08:51:59
Local clock offset: -4.841 ms
Remote clock offset: 0.227 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.238 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.264 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.166 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.211 ms
Loss rate: 0.00%
```
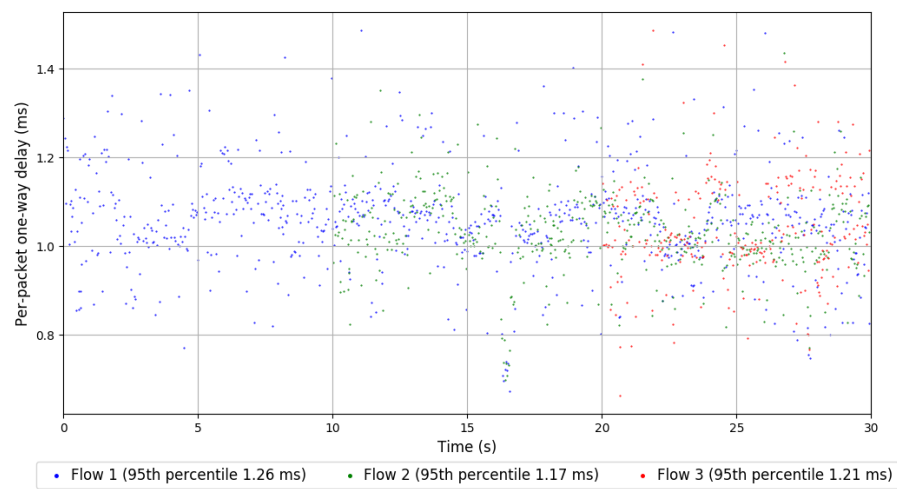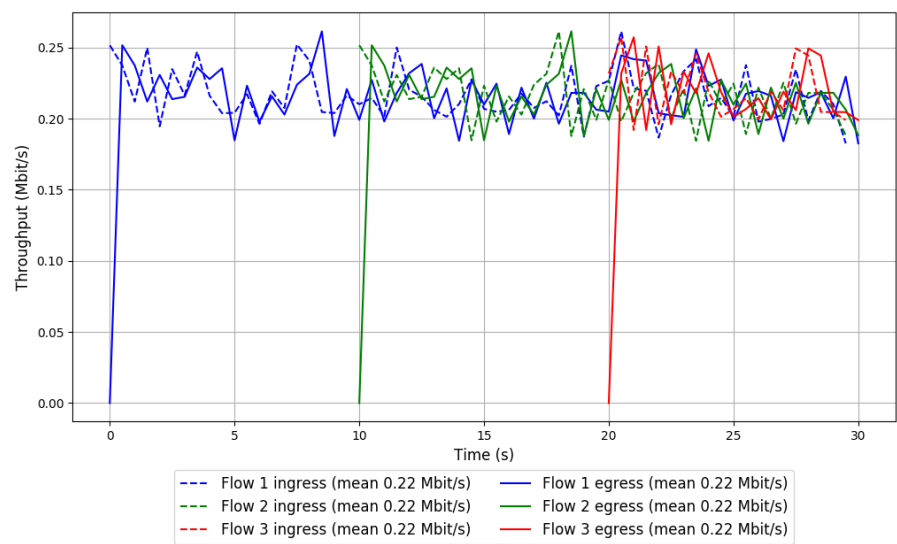
Run 4: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 1.26 ms)   Flow 2 (95th percentile 1.17 ms)   Flow 3 (95th percentile 1.21 ms)

```
Run 5: Statistics of SCReAM

Start at: 2018-11-30 09:18:38
End at: 2018-11-30 09:19:08
Local clock offset: -3.884 ms
Remote clock offset: 0.046 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.698 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.696 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.678 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.720 ms
Loss rate: 0.00%
```
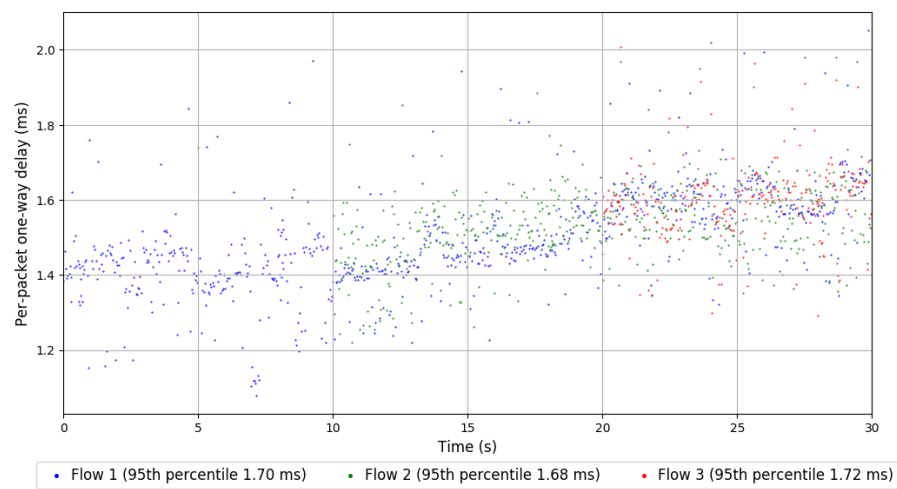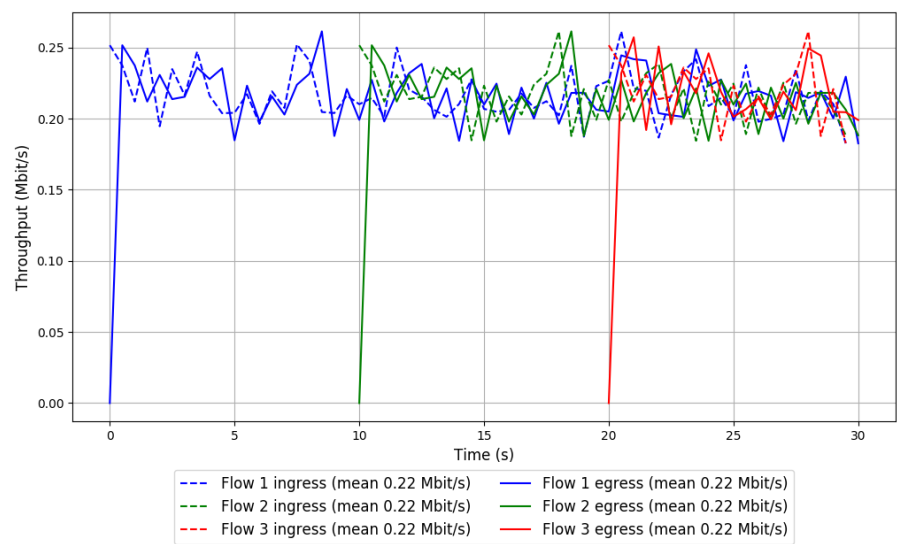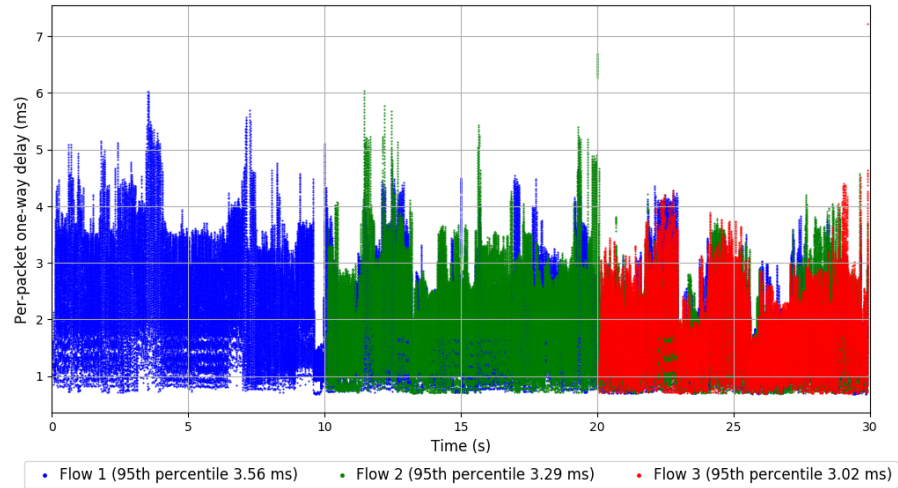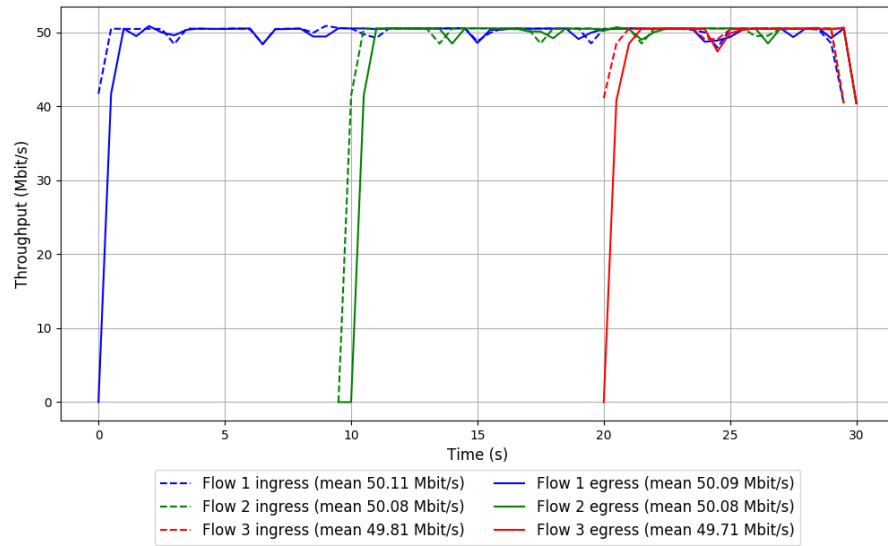
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-11-30 07:34:05
End at: 2018-11-30 07:34:35
Local clock offset: -0.004 ms
Remote clock offset: -0.081 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.83 Mbit/s
95th percentile per-packet one-way delay: 3.413 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 50.09 Mbit/s
95th percentile per-packet one-way delay: 3.562 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 50.08 Mbit/s
95th percentile per-packet one-way delay: 3.285 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.71 Mbit/s
95th percentile per-packet one-way delay: 3.022 ms
Loss rate: 0.13%
```

Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-11-30 08:01:20
End at: 2018-11-30 08:01:50
Local clock offset: 3.168 ms
Remote clock offset: 0.449 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.59 Mbit/s
95th percentile per-packet one-way delay: 4.270 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 49.98 Mbit/s
95th percentile per-packet one-way delay: 4.293 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 49.90 Mbit/s
95th percentile per-packet one-way delay: 4.280 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 49.61 Mbit/s
95th percentile per-packet one-way delay: 4.150 ms
Loss rate: 0.04%
```
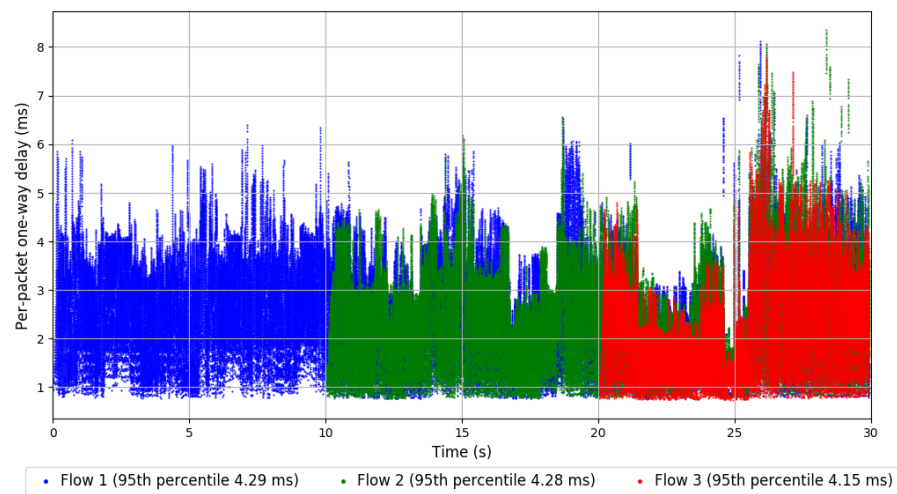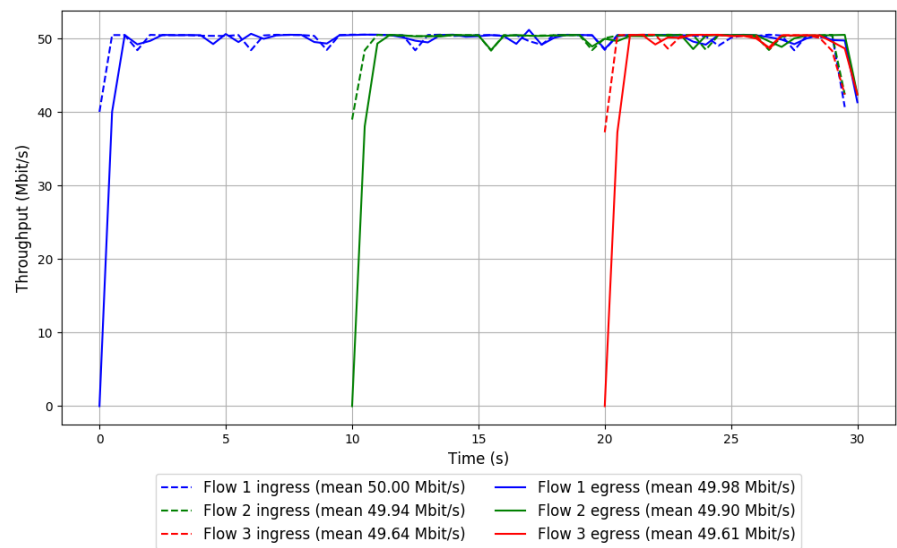
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-11-30 08:28:24
End at: 2018-11-30 08:28:54
Local clock offset: -2.122 ms
Remote clock offset: 0.068 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.56 Mbit/s
95th percentile per-packet one-way delay: 4.643 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 49.97 Mbit/s
95th percentile per-packet one-way delay: 4.701 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 49.79 Mbit/s
95th percentile per-packet one-way delay: 4.723 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 49.85 Mbit/s
95th percentile per-packet one-way delay: 4.298 ms
Loss rate: 0.08%
```
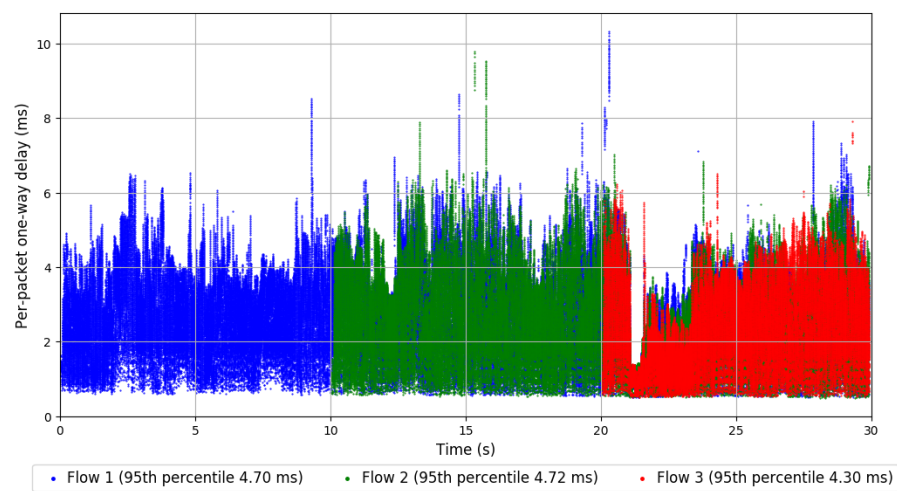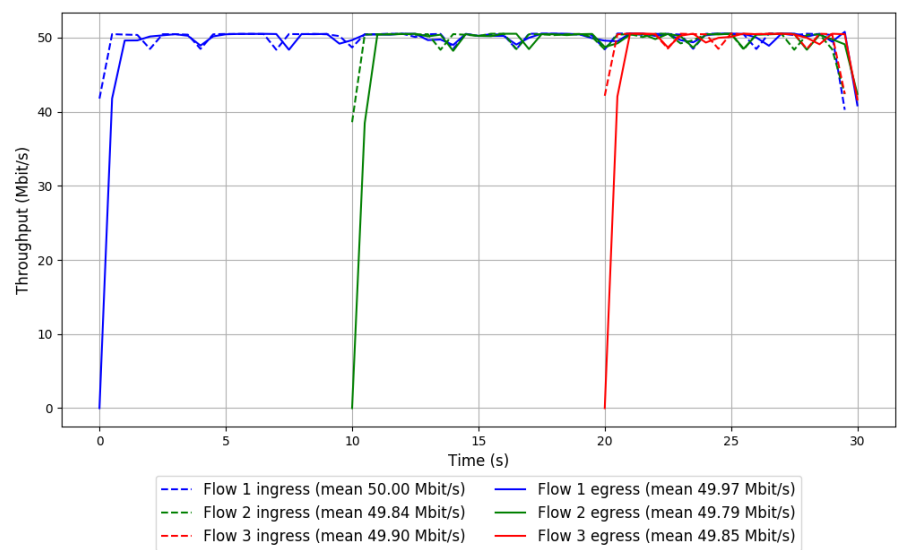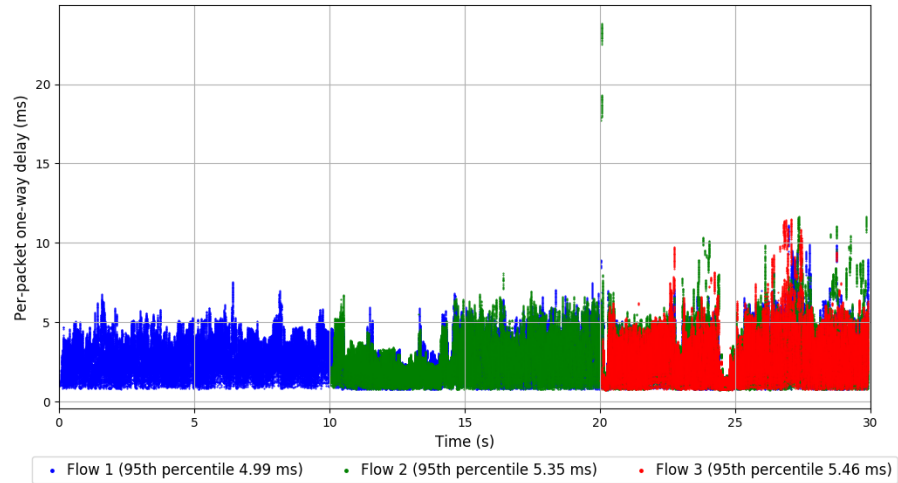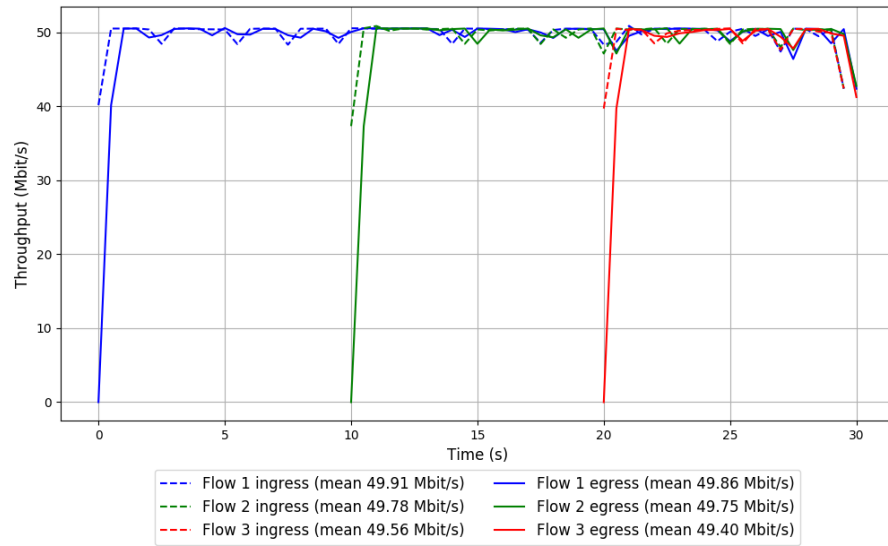
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-11-30 08:55:20
End at: 2018-11-30 08:55:50
Local clock offset: -5.103 ms
Remote clock offset: 0.326 ms

# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.32 Mbit/s
95th percentile per-packet one-way delay: 5.191 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 49.86 Mbit/s
95th percentile per-packet one-way delay: 4.990 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 49.75 Mbit/s
95th percentile per-packet one-way delay: 5.350 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 49.40 Mbit/s
95th percentile per-packet one-way delay: 5.458 ms
Loss rate: 0.29%
```
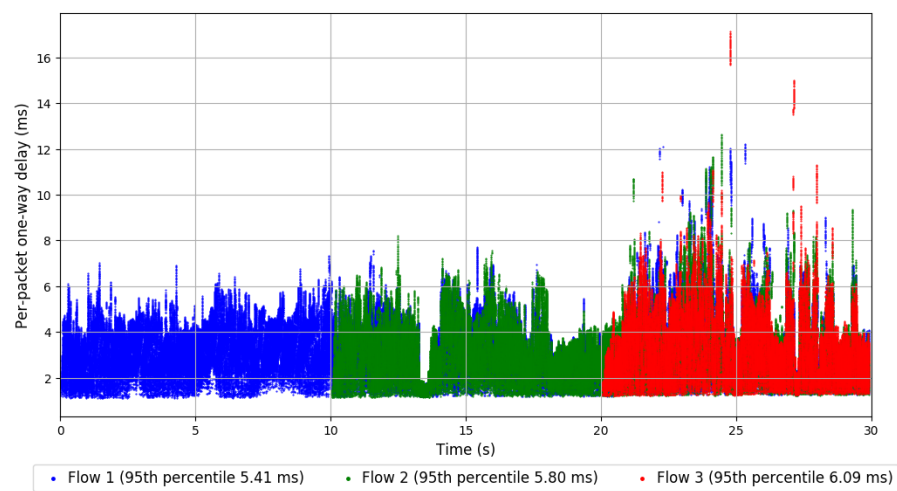
Run 4: Report of Sprout — Data Link

Flow 1 ingress (mean 49.91 Mbit/s)   Flow 1 egress (mean 49.86 Mbit/s)
Flow 2 ingress (mean 49.78 Mbit/s)   Flow 2 egress (mean 49.75 Mbit/s)
Flow 3 ingress (mean 49.56 Mbit/s)   Flow 3 egress (mean 49.40 Mbit/s)

Flow 1 (95th percentile 4.99 ms)   Flow 2 (95th percentile 5.35 ms)   Flow 3 (95th percentile 5.46 ms)
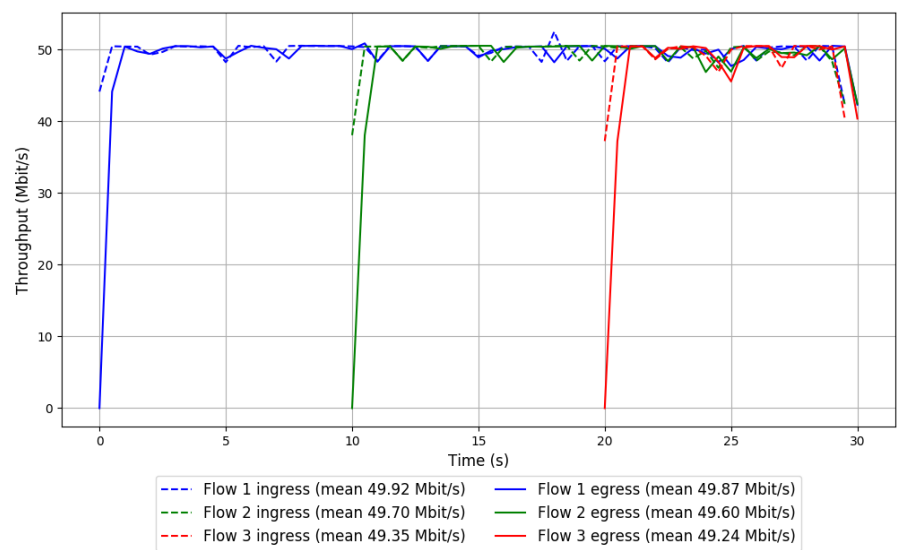
```
Run 5: Statistics of Sprout

Start at: 2018-11-30 09:22:31
End at: 2018-11-30 09:23:01
Local clock offset: -2.208 ms
Remote clock offset: -0.004 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.13 Mbit/s
95th percentile per-packet one-way delay: 5.655 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 49.87 Mbit/s
95th percentile per-packet one-way delay: 5.410 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 49.60 Mbit/s
95th percentile per-packet one-way delay: 5.802 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 49.24 Mbit/s
95th percentile per-packet one-way delay: 6.086 ms
Loss rate: 0.21%
```

Run 5: Report of Sprout — Data Link

- - - - Flow 1 ingress (mean 49.92 Mbit/s)   ——— Flow 1 egress (mean 49.87 Mbit/s)
- - - - Flow 2 ingress (mean 49.70 Mbit/s)   ——— Flow 2 egress (mean 49.60 Mbit/s)
- - - - Flow 3 ingress (mean 49.35 Mbit/s)   ——— Flow 3 egress (mean 49.24 Mbit/s)

• Flow 1 (95th percentile 5.41 ms)   • Flow 2 (95th percentile 5.80 ms)   • Flow 3 (95th percentile 6.09 ms)
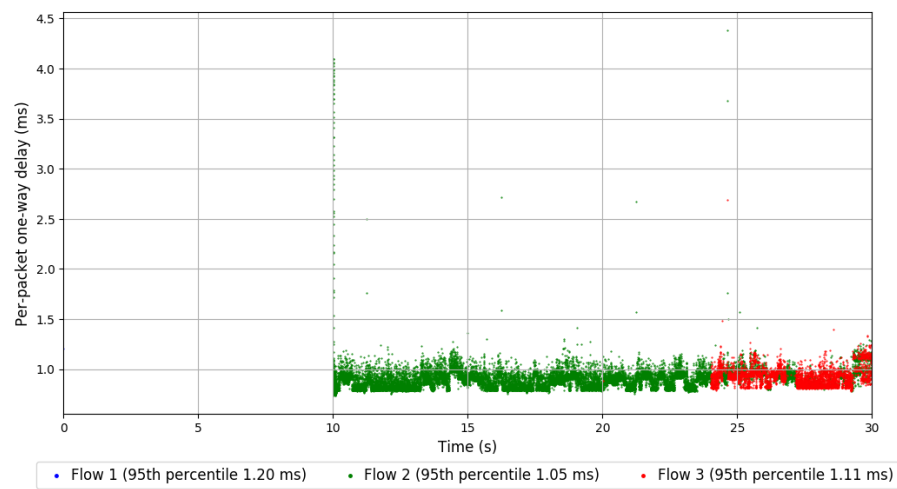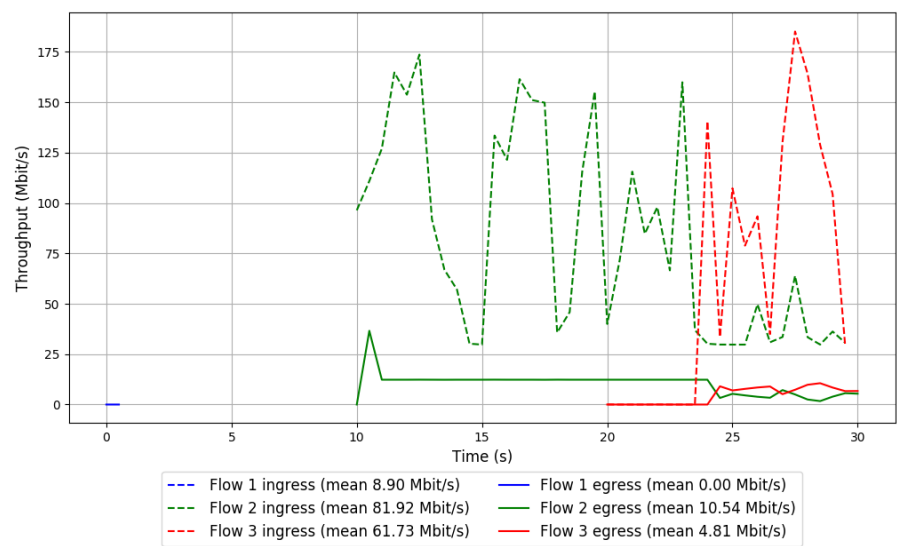
144

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

Start at: 2018-11-30 07:15:52
End at: 2018-11-30 07:16:22
Local clock offset: -0.255 ms
Remote clock offset: -0.359 ms

# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 1.062 ms
Loss rate: 88.52%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.203 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 10.54 Mbit/s
95th percentile per-packet one-way delay: 1.050 ms
Loss rate: 87.14%
-- Flow 3:
Average throughput: 4.81 Mbit/s
95th percentile per-packet one-way delay: 1.110 ms
Loss rate: 92.21%
```
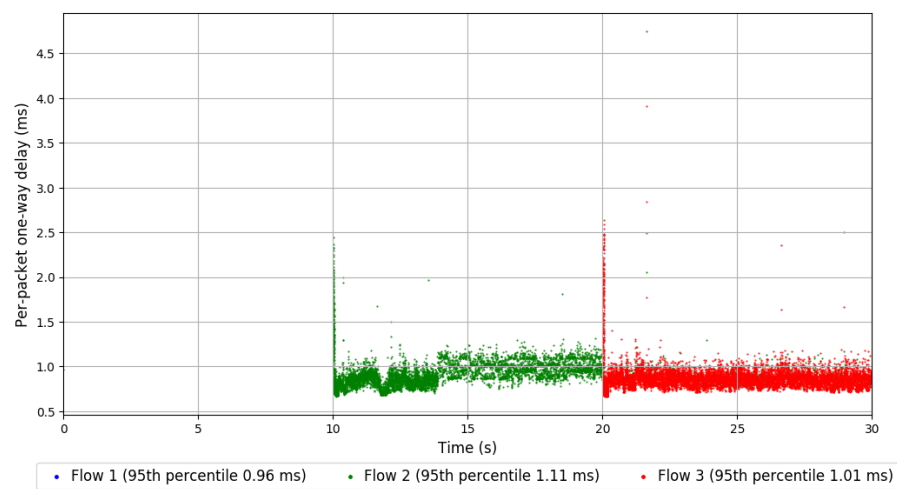
Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 8.90 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 81.92 Mbit/s) --- Flow 2 egress (mean 10.54 Mbit/s)
Flow 3 ingress (mean 61.73 Mbit/s) --- Flow 3 egress (mean 4.81 Mbit/s)

Flow 1 (95th percentile 1.20 ms) • Flow 2 (95th percentile 1.05 ms) • Flow 3 (95th percentile 1.11 ms)

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

Start at: 2018-11-30 07:43:03
End at: 2018-11-30 07:43:33
Local clock offset: -0.027 ms
Remote clock offset: 0.093 ms

# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.51 Mbit/s
95th percentile per-packet one-way delay: 1.090 ms
Loss rate: 64.38%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.962 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 4.98 Mbit/s
95th percentile per-packet one-way delay: 1.115 ms
Loss rate: 63.53%
-- Flow 3:
Average throughput: 12.62 Mbit/s
95th percentile per-packet one-way delay: 1.008 ms
Loss rate: 65.03%
```
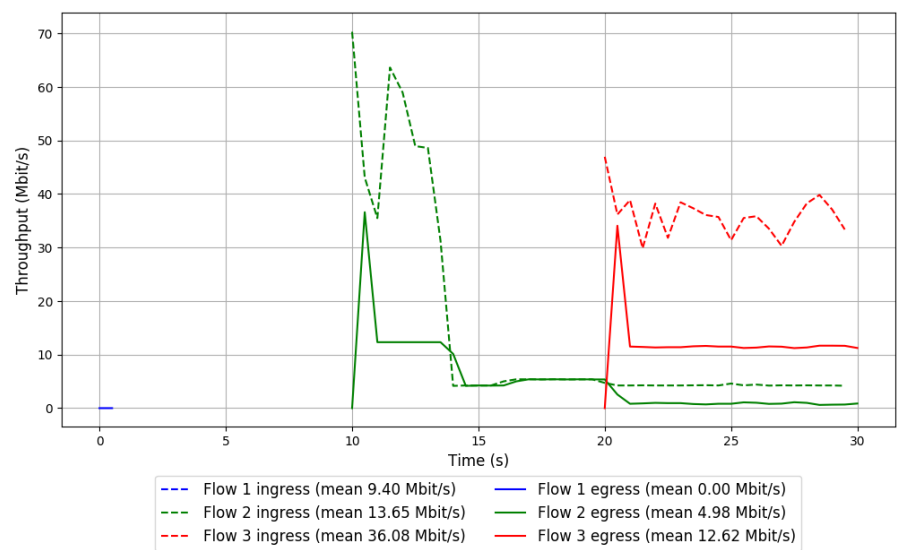
Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2018-11-30 08:10:18
End at: 2018-11-30 08:10:48
Local clock offset: 3.786 ms
Remote clock offset: 0.249 ms

# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.06 Mbit/s
95th percentile per-packet one-way delay: 1.167 ms
Loss rate: 61.77%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.147 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 4.29 Mbit/s
95th percentile per-packet one-way delay: 1.210 ms
Loss rate: 28.89%
-- Flow 3:
Average throughput: 12.66 Mbit/s
95th percentile per-packet one-way delay: 1.091 ms
Loss rate: 70.90%
```
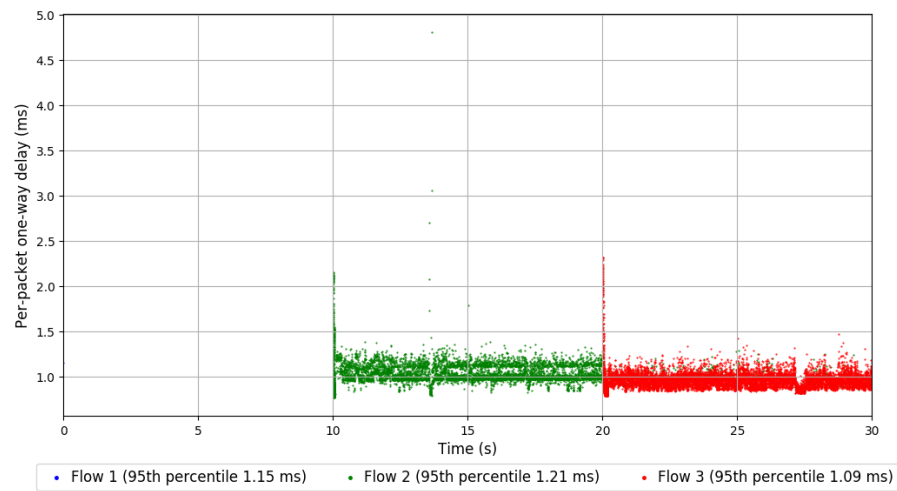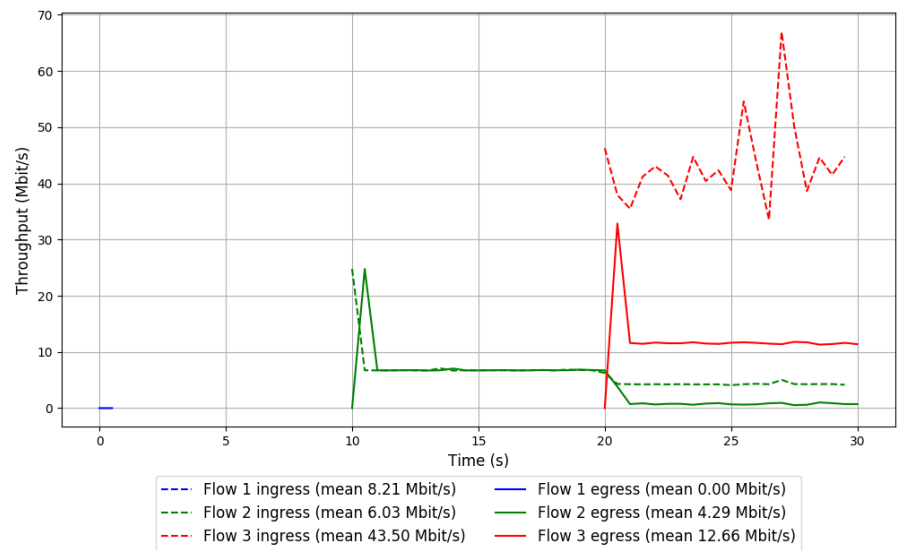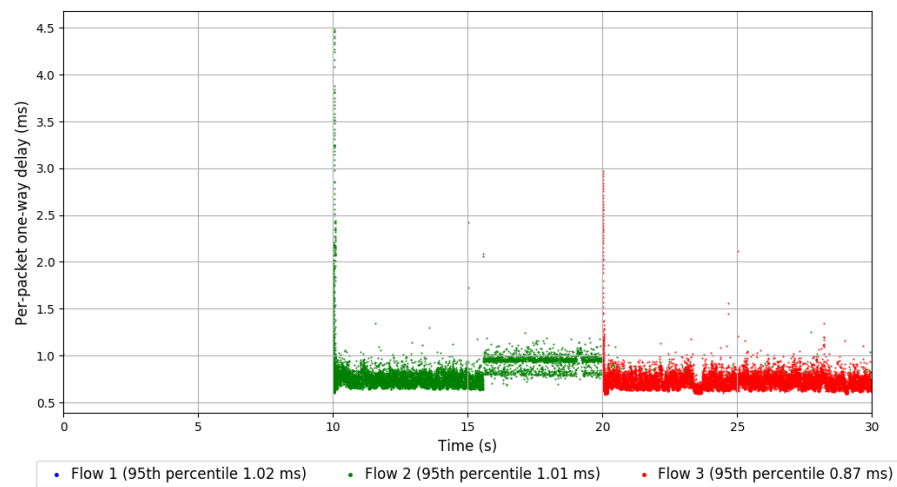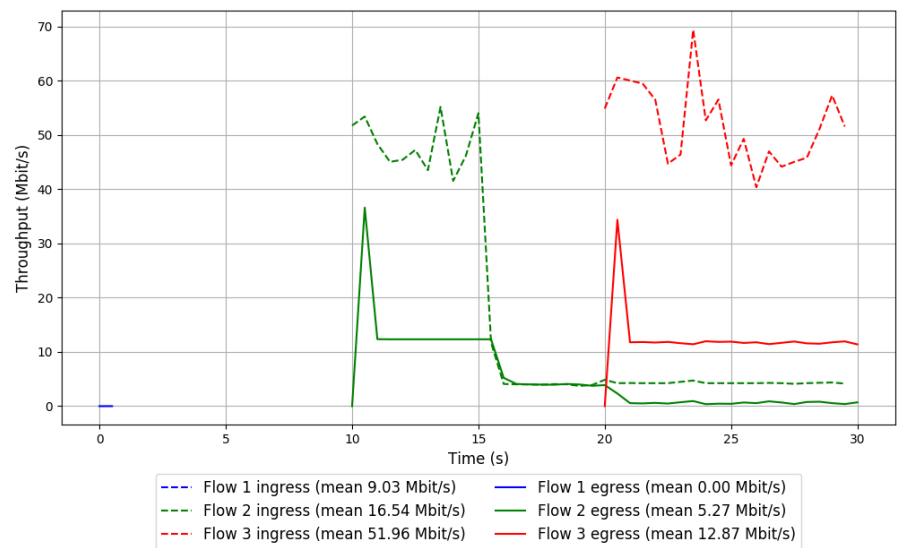
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 8.21 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 6.03 Mbit/s) --- Flow 2 egress (mean 4.29 Mbit/s)
Flow 3 ingress (mean 43.50 Mbit/s) --- Flow 3 egress (mean 12.66 Mbit/s)

Flow 1 (95th percentile 1.15 ms)   Flow 2 (95th percentile 1.21 ms)   Flow 3 (95th percentile 1.09 ms)

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

Start at: 2018-11-30 08:37:21
End at: 2018-11-30 08:37:51
Local clock offset: -3.577 ms
Remote clock offset: 0.099 ms

# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.79 Mbit/s
95th percentile per-packet one-way delay: 0.964 ms
Loss rate: 72.47%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.023 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 5.27 Mbit/s
95th percentile per-packet one-way delay: 1.006 ms
Loss rate: 68.14%
-- Flow 3:
Average throughput: 12.87 Mbit/s
95th percentile per-packet one-way delay: 0.872 ms
Loss rate: 75.23%
```
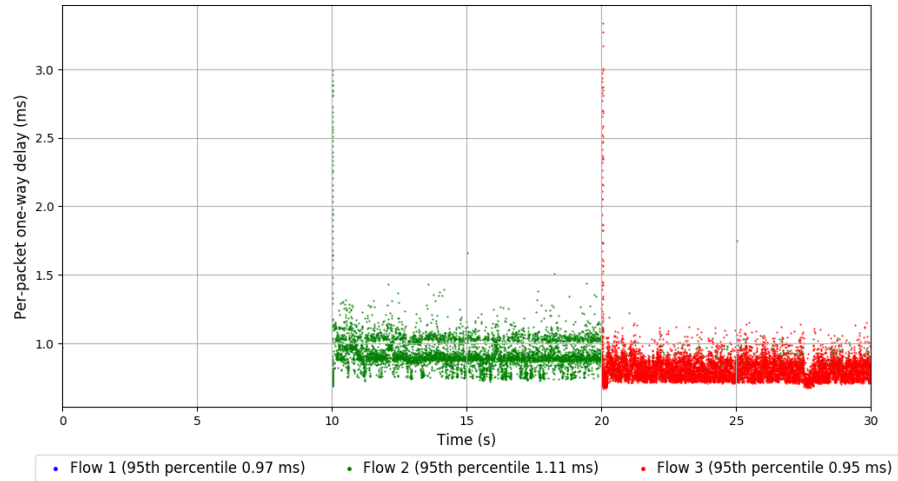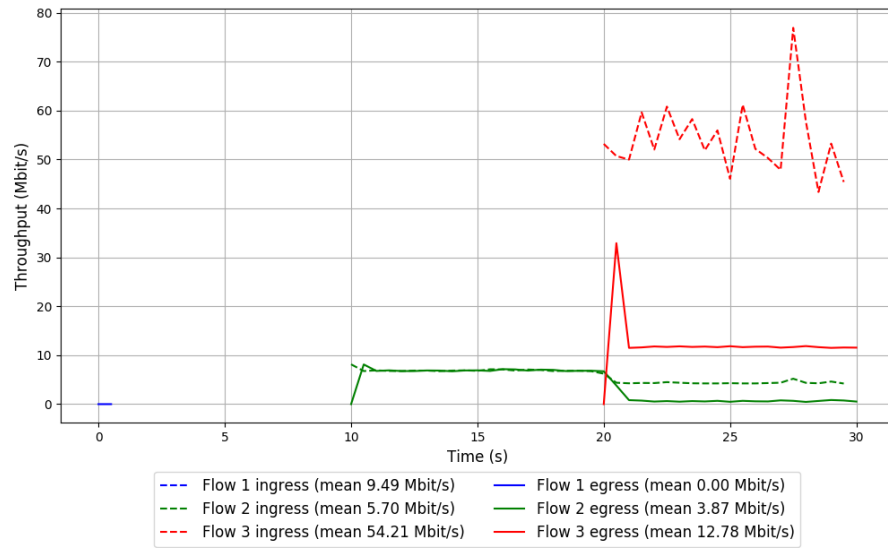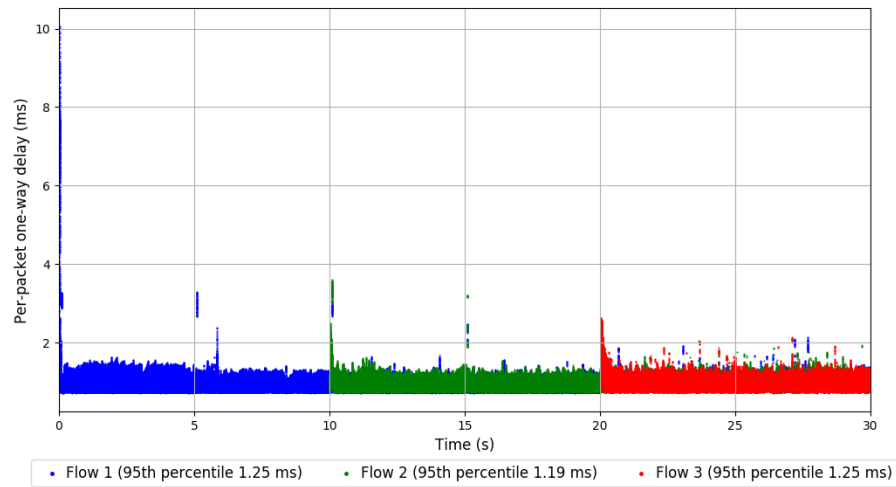
Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 9.03 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 16.54 Mbit/s) --- Flow 2 egress (mean 5.27 Mbit/s)
Flow 3 ingress (mean 51.96 Mbit/s) --- Flow 3 egress (mean 12.87 Mbit/s)

Flow 1 (95th percentile 1.02 ms) · Flow 2 (95th percentile 1.01 ms) · Flow 3 (95th percentile 0.87 ms)

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

Start at: 2018-11-30 09:04:17
End at: 2018-11-30 09:04:47
Local clock offset: -5.681 ms
Remote clock offset: 0.316 ms


# Below is generated by plot.py at 2018-11-30 10:17:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.82 Mbit/s
95th percentile per-packet one-way delay: 1.052 ms
Loss rate: 68.73%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.971 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 1.107 ms
Loss rate: 32.22%
-- Flow 3:
Average throughput: 12.78 Mbit/s
95th percentile per-packet one-way delay: 0.948 ms
Loss rate: 76.43%
```
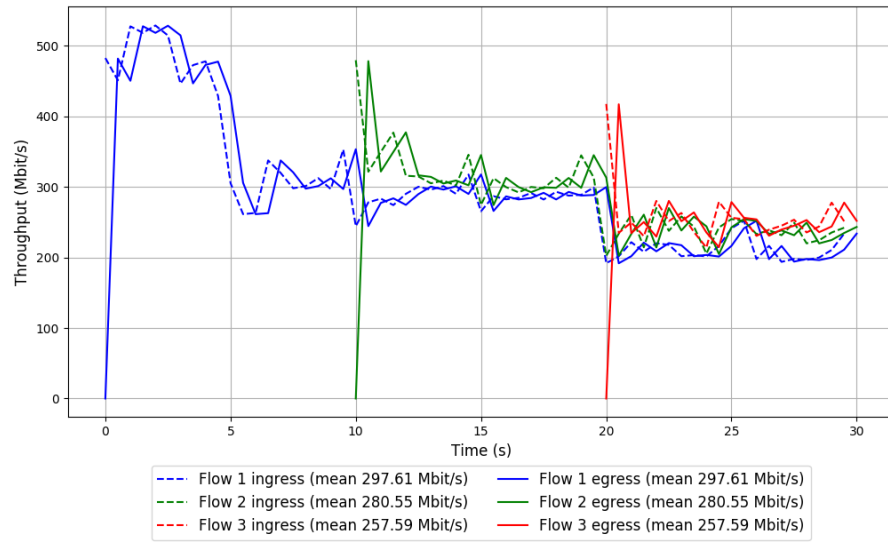
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 9.49 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 5.70 Mbit/s) --- Flow 2 egress (mean 3.87 Mbit/s)
Flow 3 ingress (mean 54.21 Mbit/s) --- Flow 3 egress (mean 12.78 Mbit/s)

Flow 1 (95th percentile 0.97 ms) • Flow 2 (95th percentile 1.11 ms) • Flow 3 (95th percentile 0.95 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2018-11-30 07:17:07
End at: 2018-11-30 07:17:37
Local clock offset: -0.204 ms
Remote clock offset: -0.355 ms


# Below is generated by plot.py at 2018-11-30 10:22:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 570.23 Mbit/s
95th percentile per-packet one-way delay: 1.230 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 297.61 Mbit/s
95th percentile per-packet one-way delay: 1.246 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 280.55 Mbit/s
95th percentile per-packet one-way delay: 1.187 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 257.59 Mbit/s
95th percentile per-packet one-way delay: 1.246 ms
Loss rate: 0.00%
```
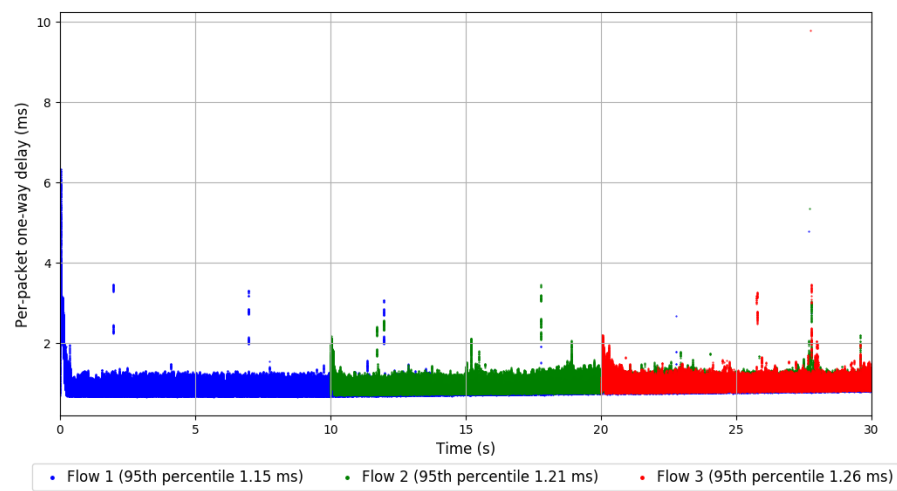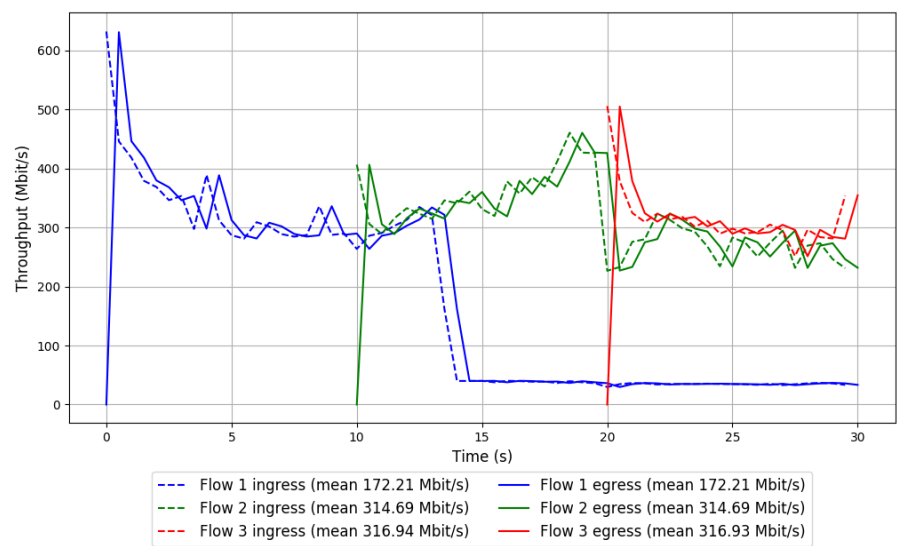
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-11-30 07:44:17
End at: 2018-11-30 07:44:47
Local clock offset: -0.023 ms
Remote clock offset: 0.142 ms


# Below is generated by plot.py at 2018-11-30 10:22:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 487.38 Mbit/s
95th percentile per-packet one-way delay: 1.205 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 172.21 Mbit/s
95th percentile per-packet one-way delay: 1.154 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 314.69 Mbit/s
95th percentile per-packet one-way delay: 1.205 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 316.93 Mbit/s
95th percentile per-packet one-way delay: 1.256 ms
Loss rate: 0.00%
```
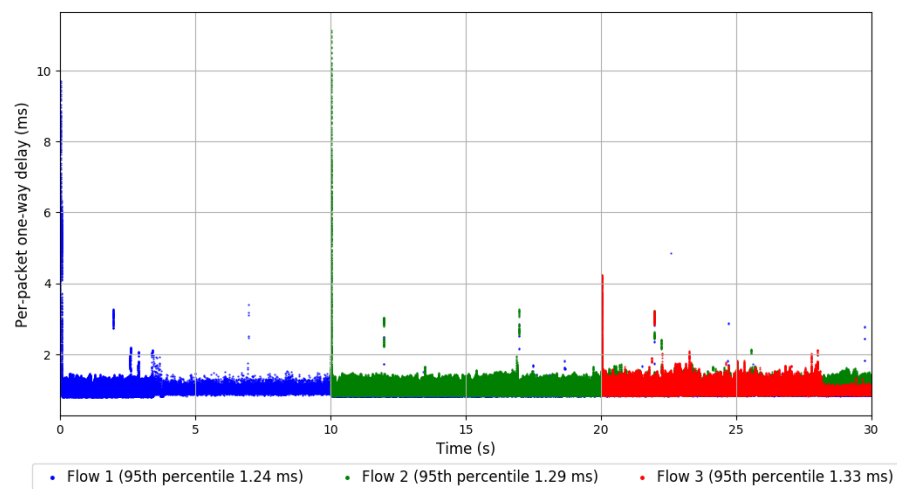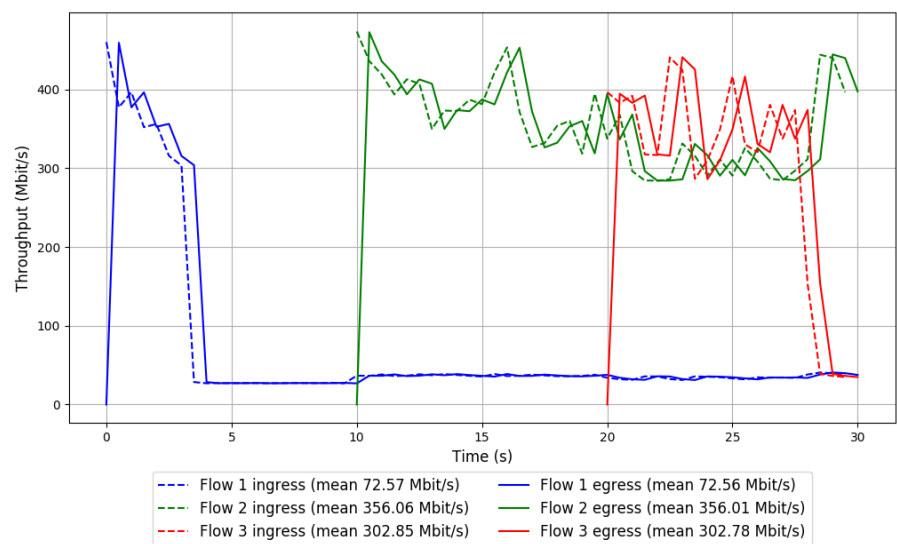
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-11-30 08:11:32
End at: 2018-11-30 08:12:02
Local clock offset: 3.841 ms
Remote clock offset: 0.247 ms


# Below is generated by plot.py at 2018-11-30 10:22:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 410.43 Mbit/s
95th percentile per-packet one-way delay: 1.296 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 72.56 Mbit/s
95th percentile per-packet one-way delay: 1.244 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 356.01 Mbit/s
95th percentile per-packet one-way delay: 1.295 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 302.78 Mbit/s
95th percentile per-packet one-way delay: 1.326 ms
Loss rate: 0.02%
```
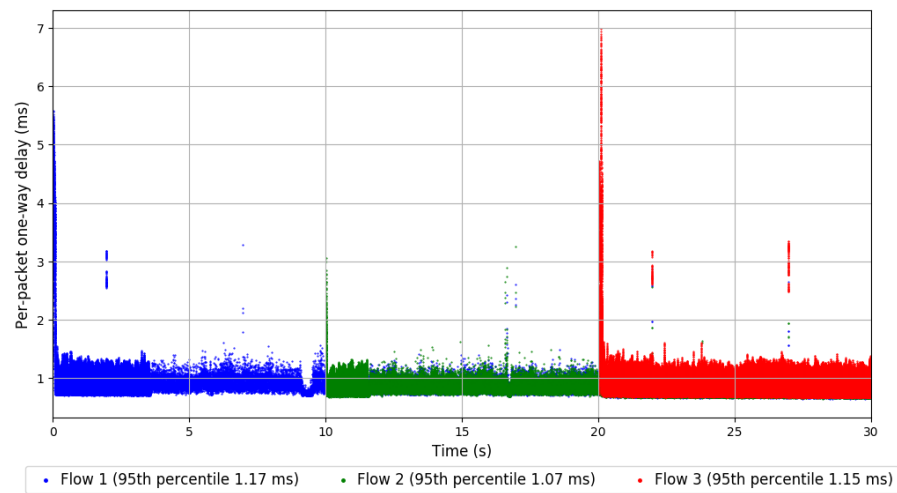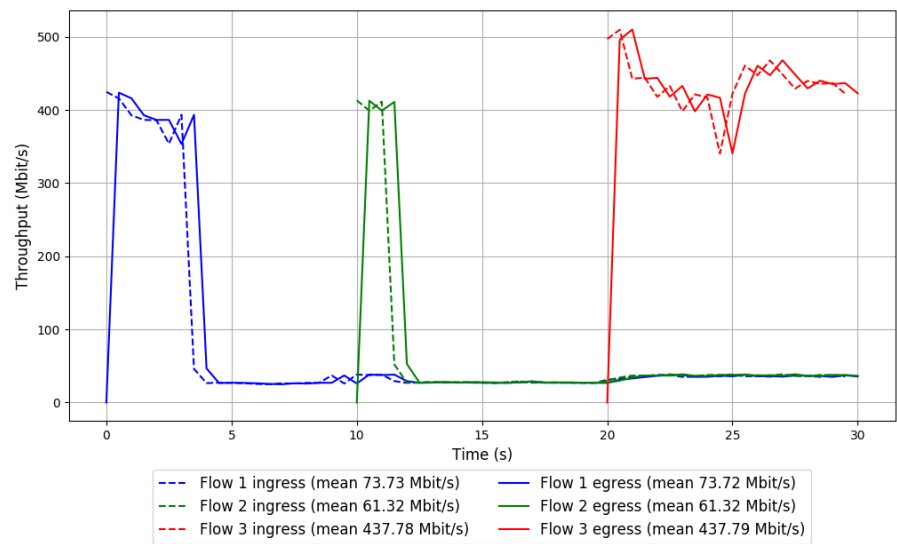
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2018-11-30 08:38:36
End at: 2018-11-30 08:39:06
Local clock offset: -3.742 ms
Remote clock offset: 0.16 ms


# Below is generated by plot.py at 2018-11-30 10:22:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 260.14 Mbit/s
95th percentile per-packet one-way delay: 1.146 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 73.72 Mbit/s
95th percentile per-packet one-way delay: 1.165 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 61.32 Mbit/s
95th percentile per-packet one-way delay: 1.074 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 437.79 Mbit/s
95th percentile per-packet one-way delay: 1.148 ms
Loss rate: 0.00%
```
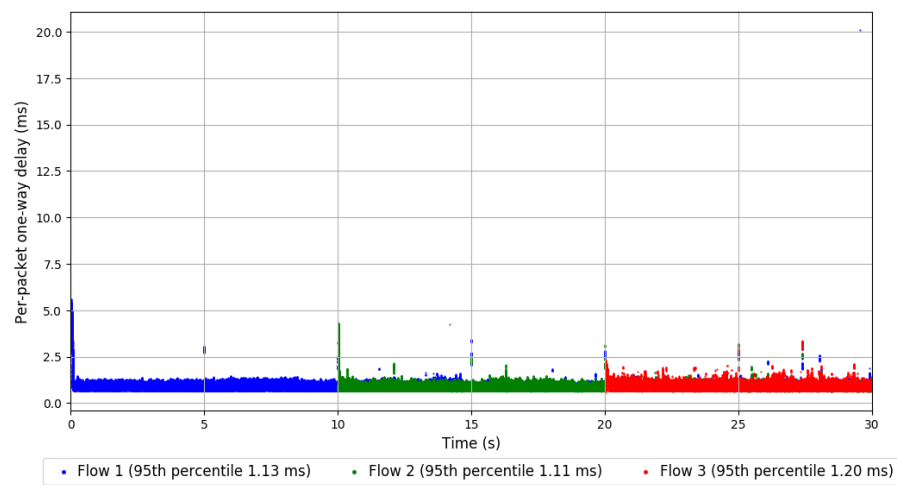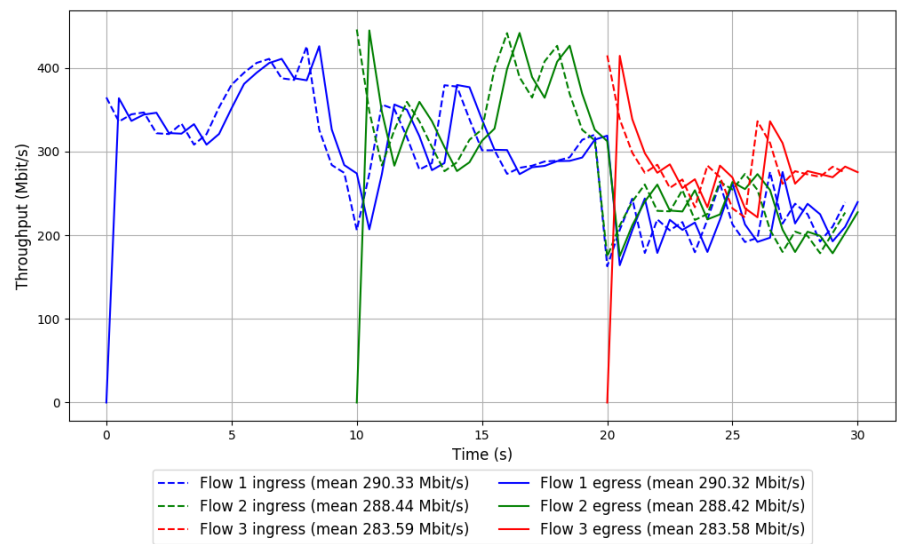
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-11-30 09:05:31
End at: 2018-11-30 09:06:01
Local clock offset: -5.753 ms
Remote clock offset: 0.301 ms


# Below is generated by plot.py at 2018-11-30 10:23:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 576.75 Mbit/s
95th percentile per-packet one-way delay: 1.137 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 290.32 Mbit/s
95th percentile per-packet one-way delay: 1.132 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 288.42 Mbit/s
95th percentile per-packet one-way delay: 1.110 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 283.58 Mbit/s
95th percentile per-packet one-way delay: 1.196 ms
Loss rate: 0.00%
```

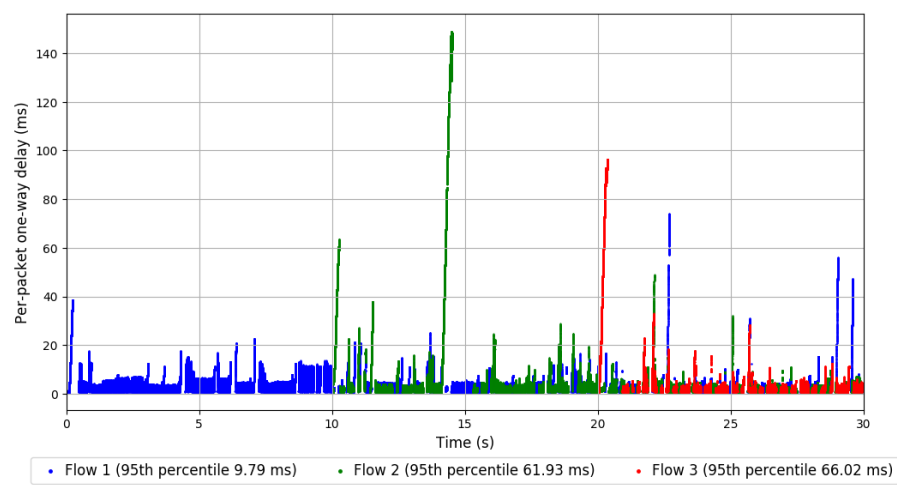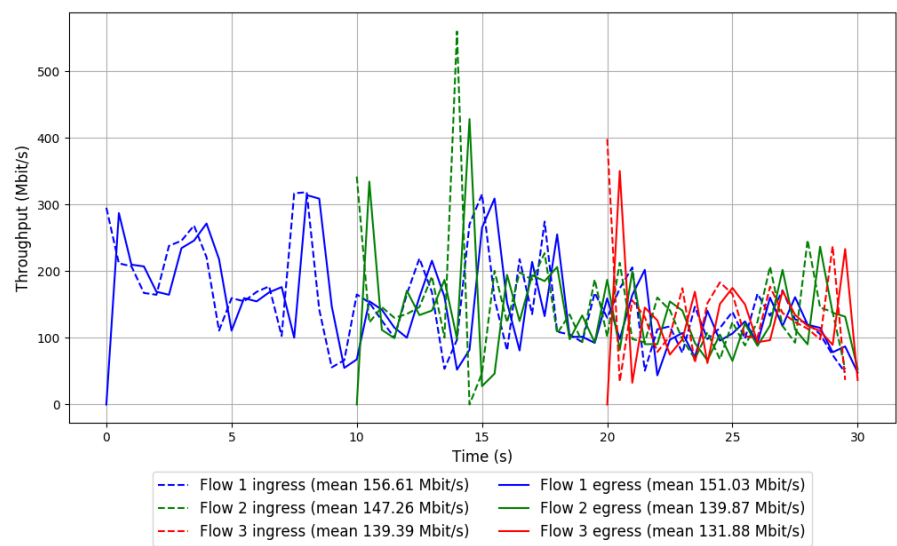Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2018-11-30 07:31:24
End at: 2018-11-30 07:31:54
Local clock offset: -0.005 ms
Remote clock offset: -0.058 ms


# Below is generated by plot.py at 2018-11-30 10:23:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 287.74 Mbit/s
95th percentile per-packet one-way delay: 27.511 ms
Loss rate: 4.31%
-- Flow 1:
Average throughput: 151.03 Mbit/s
95th percentile per-packet one-way delay: 9.792 ms
Loss rate: 3.55%
-- Flow 2:
Average throughput: 139.87 Mbit/s
95th percentile per-packet one-way delay: 61.934 ms
Loss rate: 5.00%
-- Flow 3:
Average throughput: 131.88 Mbit/s
95th percentile per-packet one-way delay: 66.022 ms
Loss rate: 5.39%
```

Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-11-30 07:58:39
End at: 2018-11-30 07:59:09
Local clock offset: 2.879 ms
Remote clock offset: 0.507 ms


# Below is generated by plot.py at 2018-11-30 10:23:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 291.58 Mbit/s
95th percentile per-packet one-way delay: 13.704 ms
Loss rate: 2.92%
-- Flow 1:
Average throughput: 150.78 Mbit/s
95th percentile per-packet one-way delay: 11.813 ms
Loss rate: 2.00%
-- Flow 2:
Average throughput: 148.46 Mbit/s
95th percentile per-packet one-way delay: 13.671 ms
Loss rate: 3.72%
-- Flow 3:
Average throughput: 127.03 Mbit/s
95th percentile per-packet one-way delay: 31.515 ms
Loss rate: 4.27%
```
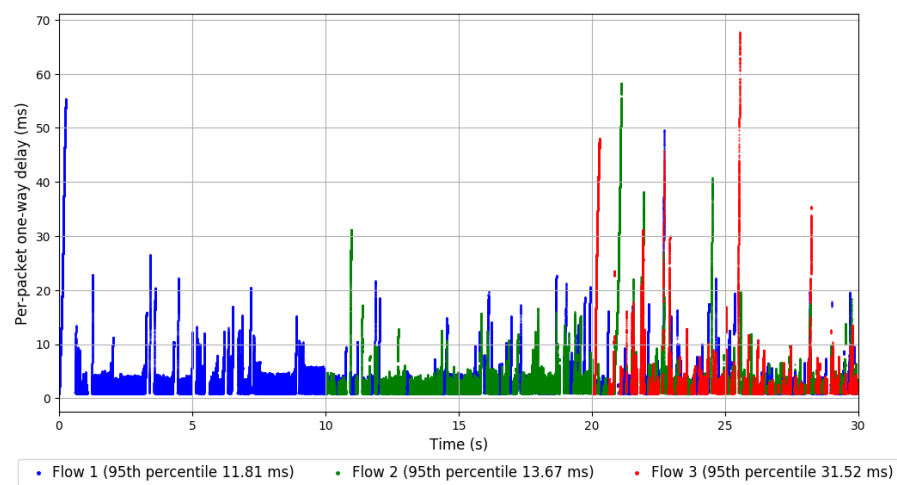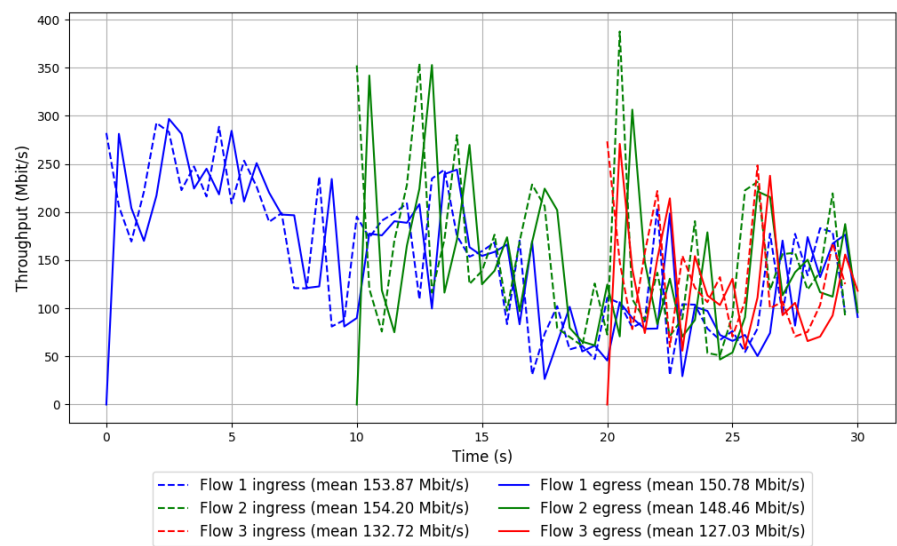
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-11-30 08:25:45
End at: 2018-11-30 08:26:15
Local clock offset: -1.434 ms
Remote clock offset: 0.168 ms


# Below is generated by plot.py at 2018-11-30 10:23:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 242.88 Mbit/s
95th percentile per-packet one-way delay: 39.981 ms
Loss rate: 6.86%
-- Flow 1:
Average throughput: 123.72 Mbit/s
95th percentile per-packet one-way delay: 45.256 ms
Loss rate: 8.72%
-- Flow 2:
Average throughput: 123.37 Mbit/s
95th percentile per-packet one-way delay: 13.050 ms
Loss rate: 4.63%
-- Flow 3:
Average throughput: 112.43 Mbit/s
95th percentile per-packet one-way delay: 47.332 ms
Loss rate: 5.28%
```
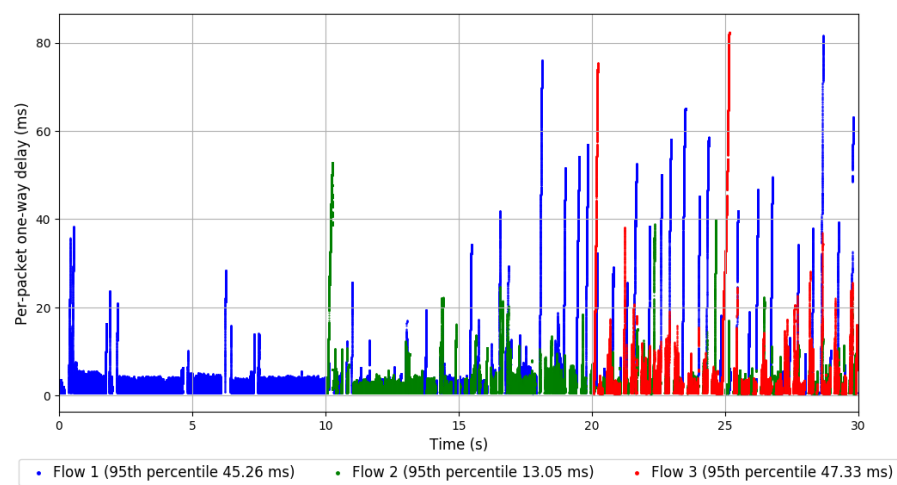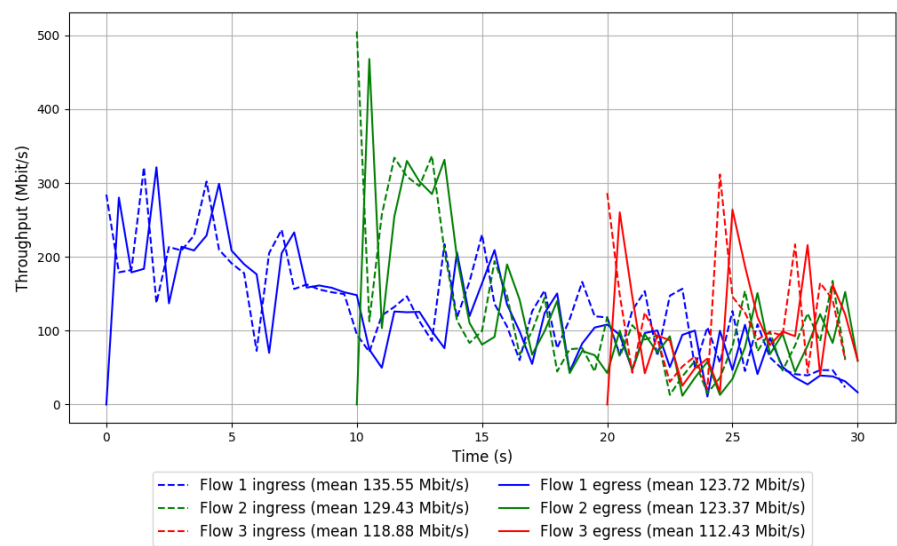
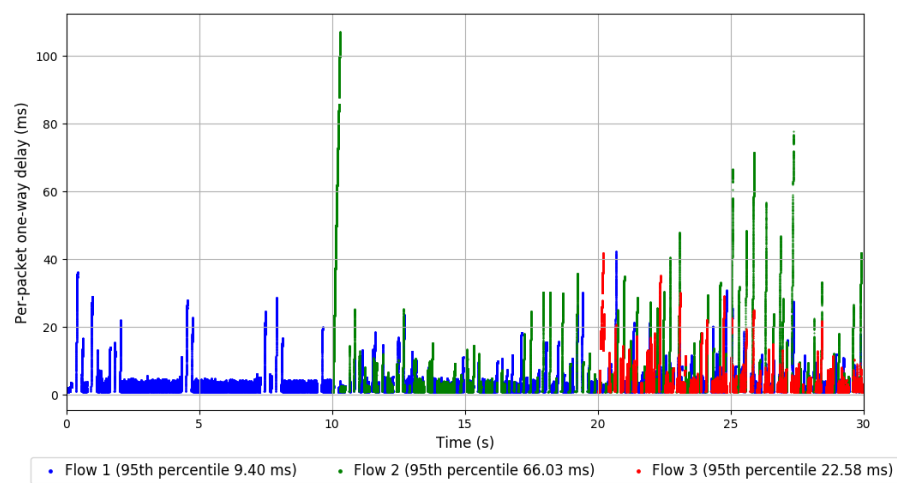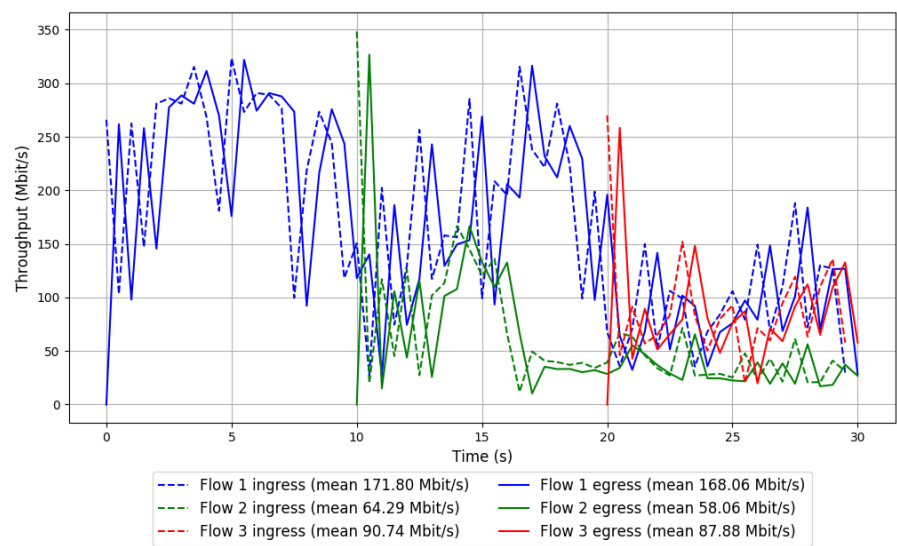Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-11-30 08:52:42
End at: 2018-11-30 08:53:12
Local clock offset: -4.901 ms
Remote clock offset: 0.346 ms


# Below is generated by plot.py at 2018-11-30 10:23:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 235.46 Mbit/s
95th percentile per-packet one-way delay: 19.583 ms
Loss rate: 3.55%
-- Flow 1:
Average throughput: 168.06 Mbit/s
95th percentile per-packet one-way delay: 9.398 ms
Loss rate: 2.13%
-- Flow 2:
Average throughput: 58.06 Mbit/s
95th percentile per-packet one-way delay: 66.035 ms
Loss rate: 9.52%
-- Flow 3:
Average throughput: 87.88 Mbit/s
95th percentile per-packet one-way delay: 22.576 ms
Loss rate: 3.15%
```

Run 4: Report of Verus — Data Link

Flow 1 ingress (mean 171.80 Mbit/s) --- Flow 1 egress (mean 168.06 Mbit/s)
Flow 2 ingress (mean 64.29 Mbit/s) --- Flow 2 egress (mean 58.06 Mbit/s)
Flow 3 ingress (mean 90.74 Mbit/s) --- Flow 3 egress (mean 87.88 Mbit/s)

Flow 1 (95th percentile 9.40 ms) • Flow 2 (95th percentile 66.03 ms) • Flow 3 (95th percentile 22.58 ms)

```
Run 5: Statistics of Verus

Start at: 2018-11-30 09:19:52
End at: 2018-11-30 09:20:22
Local clock offset: -3.354 ms
Remote clock offset: 0.097 ms


# Below is generated by plot.py at 2018-11-30 10:23:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 274.30 Mbit/s
95th percentile per-packet one-way delay: 34.023 ms
Loss rate: 3.50%
-- Flow 1:
Average throughput: 139.96 Mbit/s
95th percentile per-packet one-way delay: 11.991 ms
Loss rate: 3.18%
-- Flow 2:
Average throughput: 123.43 Mbit/s
95th percentile per-packet one-way delay: 23.968 ms
Loss rate: 3.75%
-- Flow 3:
Average throughput: 161.52 Mbit/s
95th percentile per-packet one-way delay: 56.265 ms
Loss rate: 3.95%
```
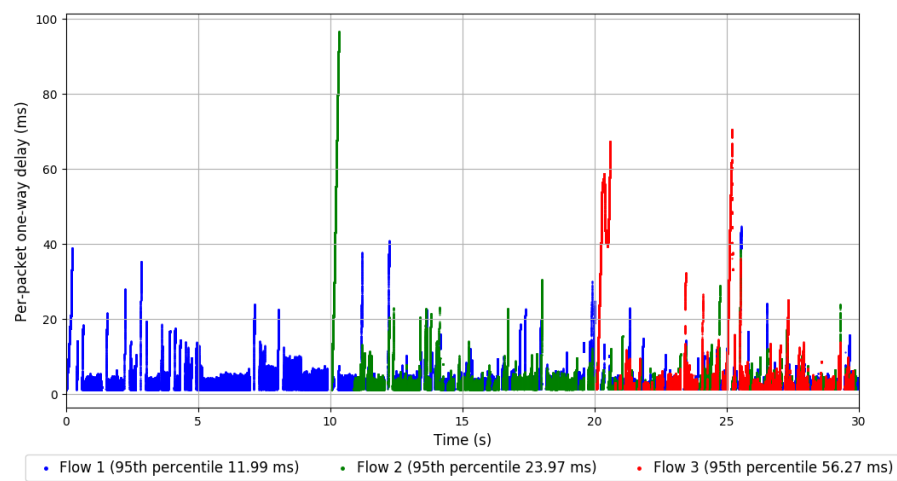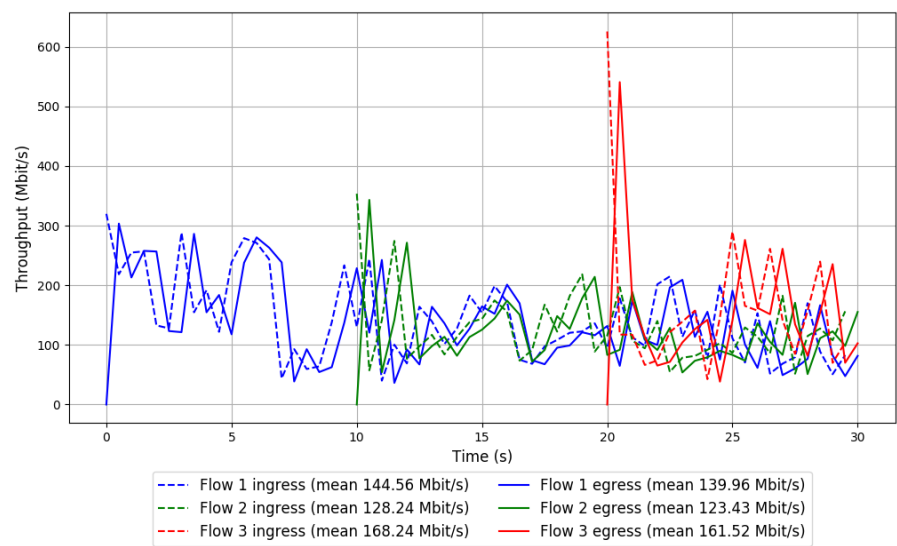
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-11-30 07:38:48
End at: 2018-11-30 07:39:18
Local clock offset: 0.005 ms
Remote clock offset: 0.118 ms


# Below is generated by plot.py at 2018-11-30 10:23:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 360.53 Mbit/s
95th percentile per-packet one-way delay: 1.390 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 207.70 Mbit/s
95th percentile per-packet one-way delay: 1.512 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 186.21 Mbit/s
95th percentile per-packet one-way delay: 1.091 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 87.74 Mbit/s
95th percentile per-packet one-way delay: 3.008 ms
Loss rate: 0.07%
```
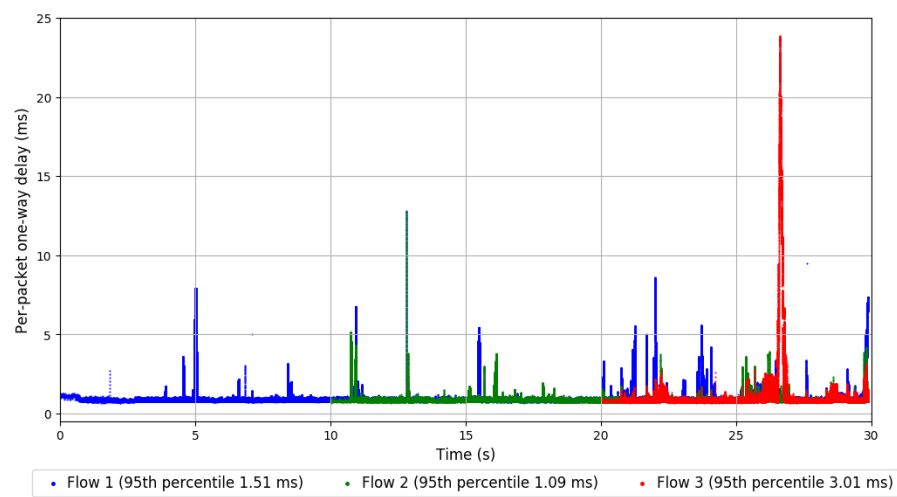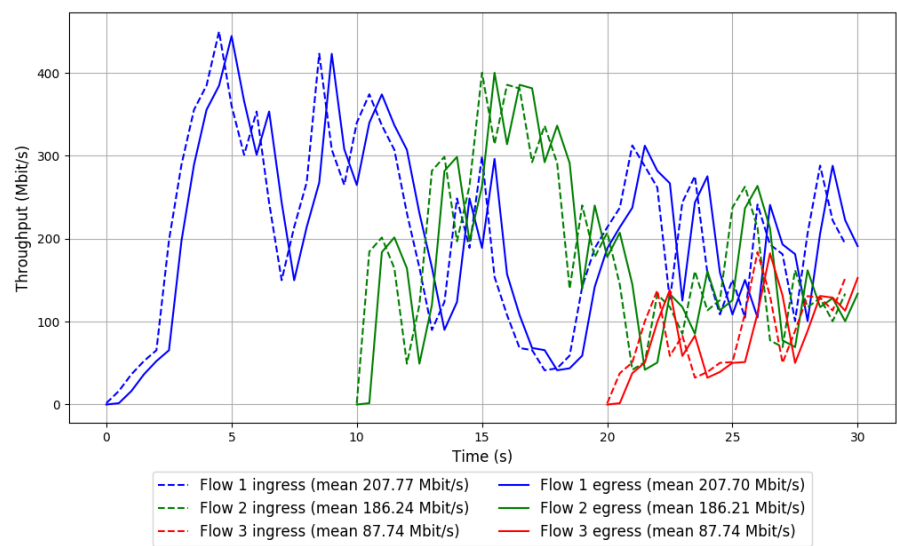
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-11-30 08:06:02
End at: 2018-11-30 08:06:32
Local clock offset: 3.525 ms
Remote clock offset: 0.434 ms


# Below is generated by plot.py at 2018-11-30 10:24:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 384.67 Mbit/s
95th percentile per-packet one-way delay: 1.609 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 189.79 Mbit/s
95th percentile per-packet one-way delay: 1.348 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 193.52 Mbit/s
95th percentile per-packet one-way delay: 1.531 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 200.60 Mbit/s
95th percentile per-packet one-way delay: 2.148 ms
Loss rate: 0.18%
```
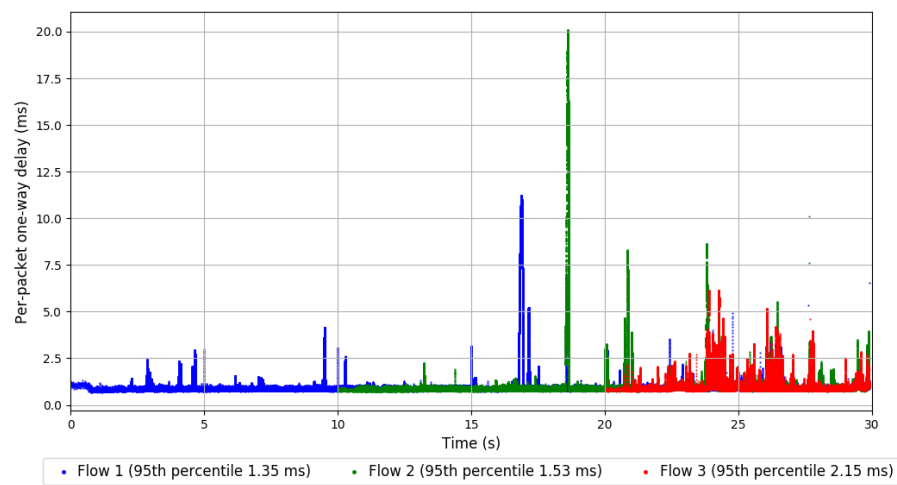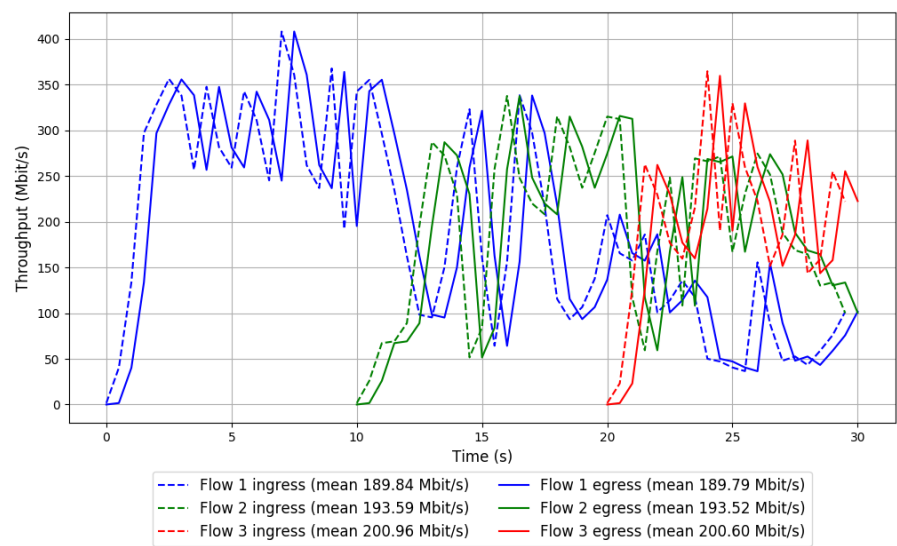
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-11-30 08:33:04
End at: 2018-11-30 08:33:34
Local clock offset: -3.021 ms
Remote clock offset: 0.055 ms


# Below is generated by plot.py at 2018-11-30 10:24:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 405.48 Mbit/s
95th percentile per-packet one-way delay: 5.269 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 252.94 Mbit/s
95th percentile per-packet one-way delay: 1.860 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 136.36 Mbit/s
95th percentile per-packet one-way delay: 1.067 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 187.36 Mbit/s
95th percentile per-packet one-way delay: 55.900 ms
Loss rate: 0.34%
```
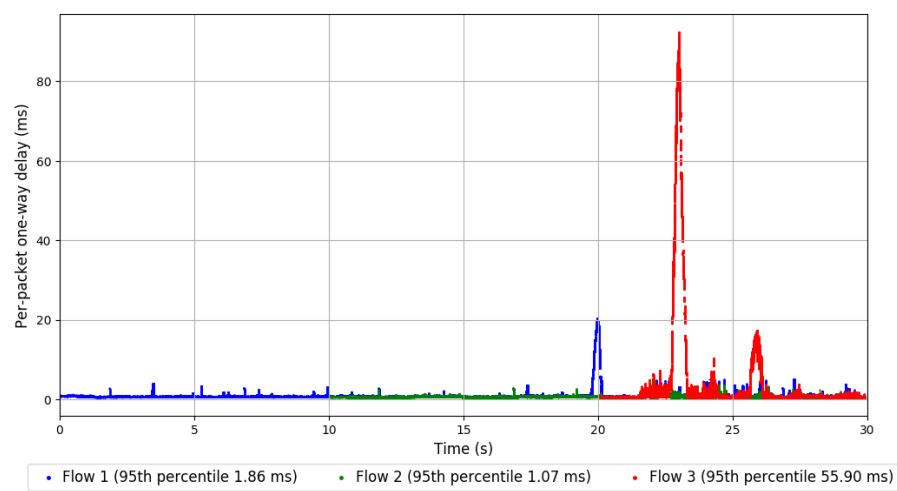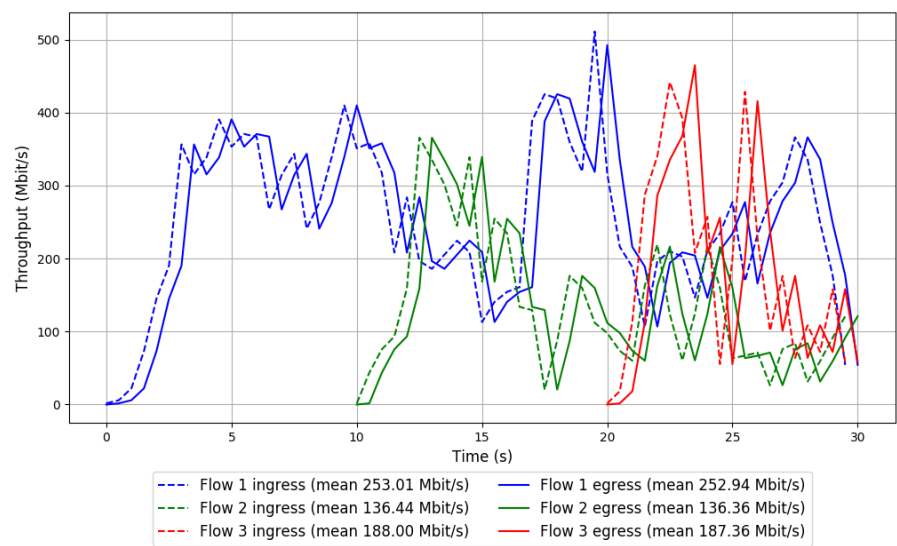
Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-11-30 08:59:59
End at: 2018-11-30 09:00:30
Local clock offset: -5.391 ms
Remote clock offset: 0.272 ms


# Below is generated by plot.py at 2018-11-30 10:24:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 411.79 Mbit/s
95th percentile per-packet one-way delay: 79.374 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 209.49 Mbit/s
95th percentile per-packet one-way delay: 1.055 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 192.99 Mbit/s
95th percentile per-packet one-way delay: 6.703 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 224.22 Mbit/s
95th percentile per-packet one-way delay: 191.967 ms
Loss rate: 7.78%
```
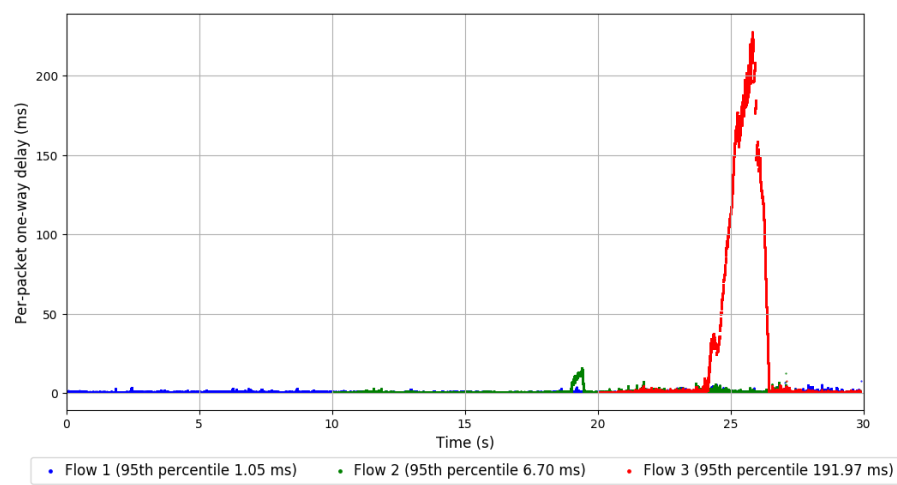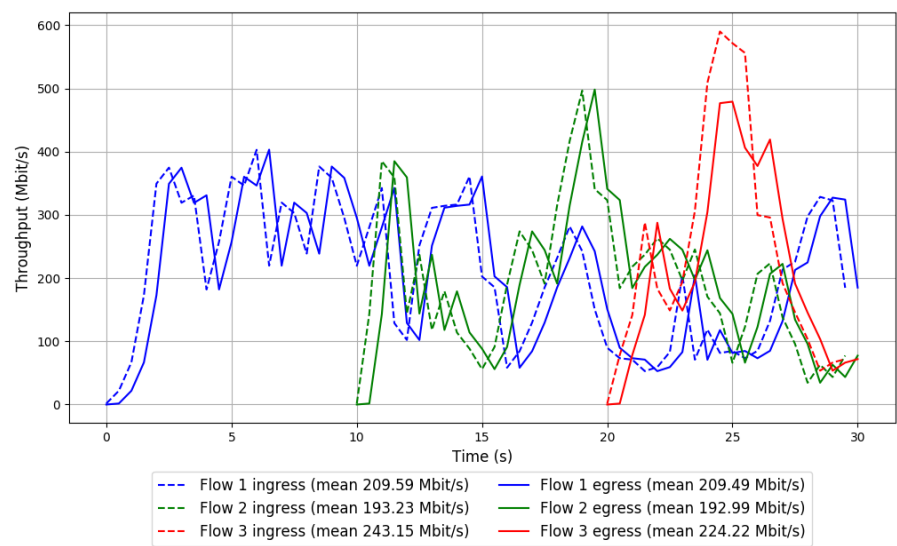
Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-11-30 09:27:10
End at: 2018-11-30 09:27:40
Local clock offset: -0.763 ms
Remote clock offset: -0.2 ms


# Below is generated by plot.py at 2018-11-30 10:24:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 409.61 Mbit/s
95th percentile per-packet one-way delay: 127.430 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 259.42 Mbit/s
95th percentile per-packet one-way delay: 127.156 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 149.53 Mbit/s
95th percentile per-packet one-way delay: 1.275 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 153.79 Mbit/s
95th percentile per-packet one-way delay: 141.799 ms
Loss rate: 3.98%
```
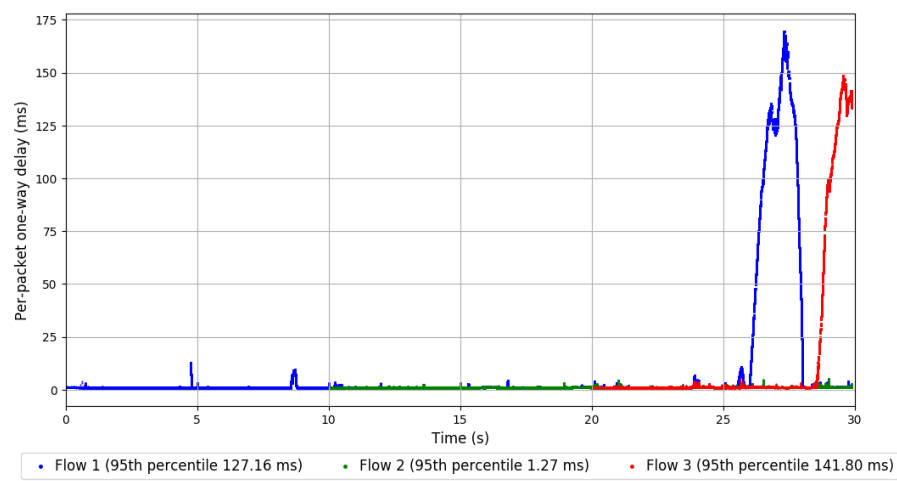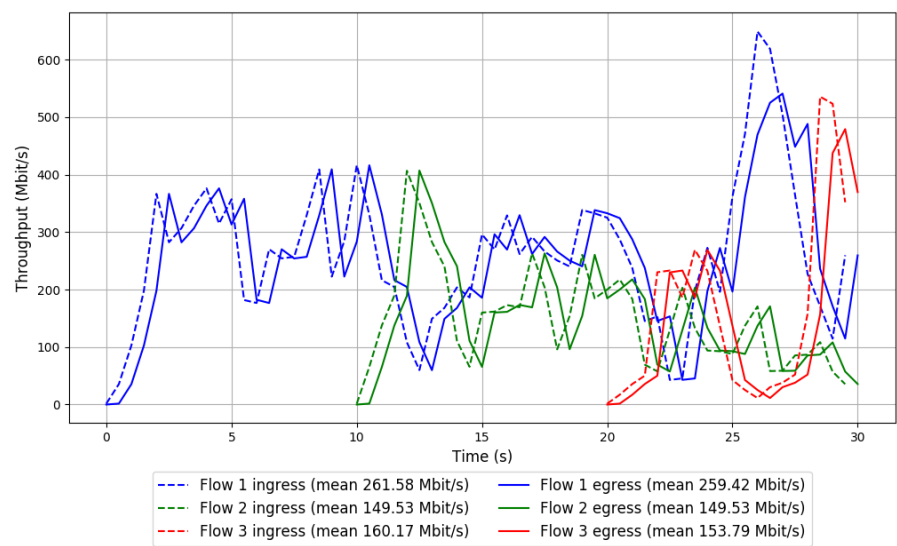
Run 5: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 261.58 Mbit/s) --- Flow 1 egress (mean 259.42 Mbit/s)
Flow 2 ingress (mean 149.53 Mbit/s) --- Flow 2 egress (mean 149.53 Mbit/s)
Flow 3 ingress (mean 160.17 Mbit/s) --- Flow 3 egress (mean 153.79 Mbit/s)

Flow 1 (95th percentile 127.16 ms) • Flow 2 (95th percentile 1.27 ms) • Flow 3 (95th percentile 141.80 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2018-11-30 07:27:24
End at: 2018-11-30 07:27:54
Local clock offset: -0.037 ms
Remote clock offset: -0.16 ms


# Below is generated by plot.py at 2018-11-30 10:24:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.08 Mbit/s
95th percentile per-packet one-way delay: 2.555 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 2.186 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 2.792 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 2.651 ms
Loss rate: 0.00%
```
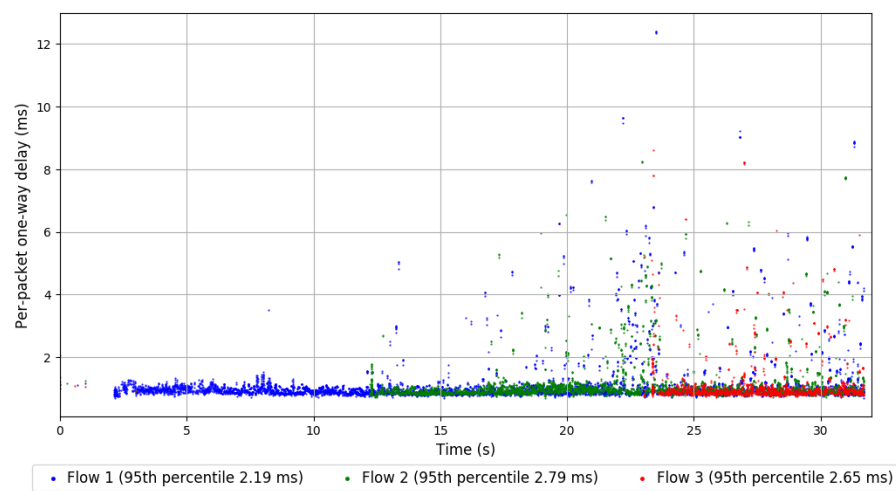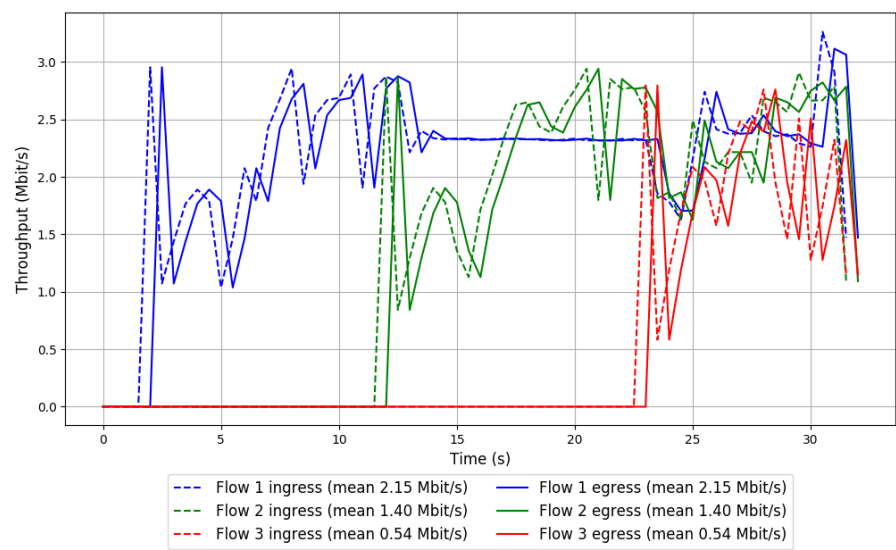
Run 1: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.15 Mbit/s) — Flow 1 egress (mean 2.15 Mbit/s)
Flow 2 ingress (mean 1.40 Mbit/s) — Flow 2 egress (mean 1.40 Mbit/s)
Flow 3 ingress (mean 0.54 Mbit/s) — Flow 3 egress (mean 0.54 Mbit/s)

Flow 1 (95th percentile 2.19 ms) • Flow 2 (95th percentile 2.79 ms) • Flow 3 (95th percentile 2.65 ms)

```
Run 2: Statistics of WebRTC media

Start at: 2018-11-30 07:54:35
End at: 2018-11-30 07:55:05
Local clock offset: 2.346 ms
Remote clock offset: 0.402 ms


# Below is generated by plot.py at 2018-11-30 10:24:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 3.459 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 3.859 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 2.752 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 2.760 ms
Loss rate: 0.00%
```
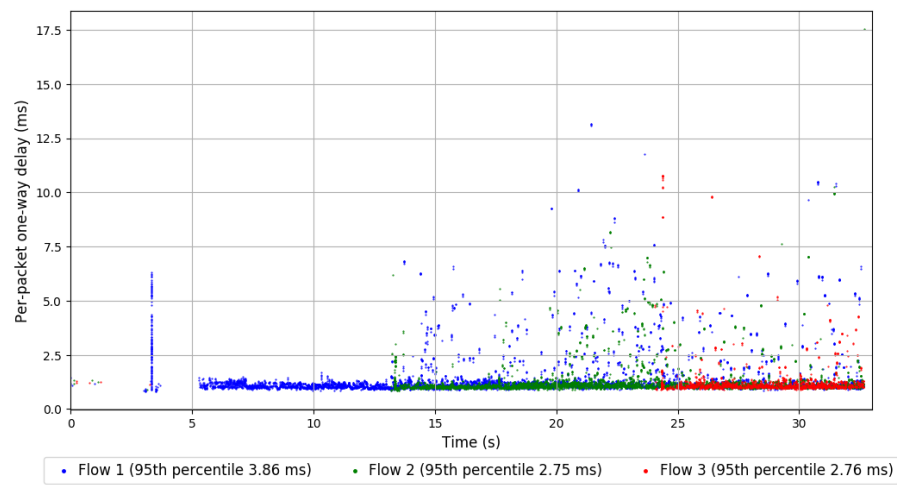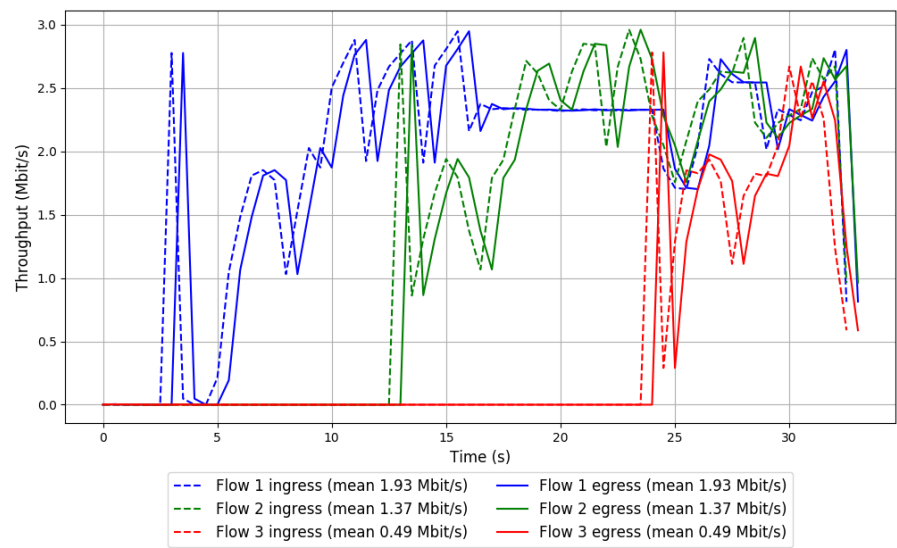
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-11-30 08:21:40
End at: 2018-11-30 08:22:10
Local clock offset: -0.017 ms
Remote clock offset: 0.106 ms


# Below is generated by plot.py at 2018-11-30 10:24:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.76 Mbit/s
95th percentile per-packet one-way delay: 2.447 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 2.590 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.38 Mbit/s
95th percentile per-packet one-way delay: 2.228 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 2.353 ms
Loss rate: 0.00%
```
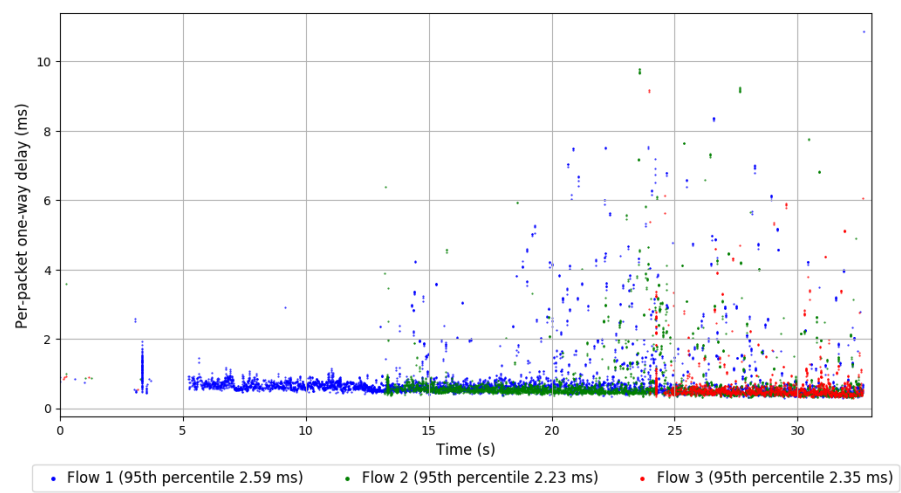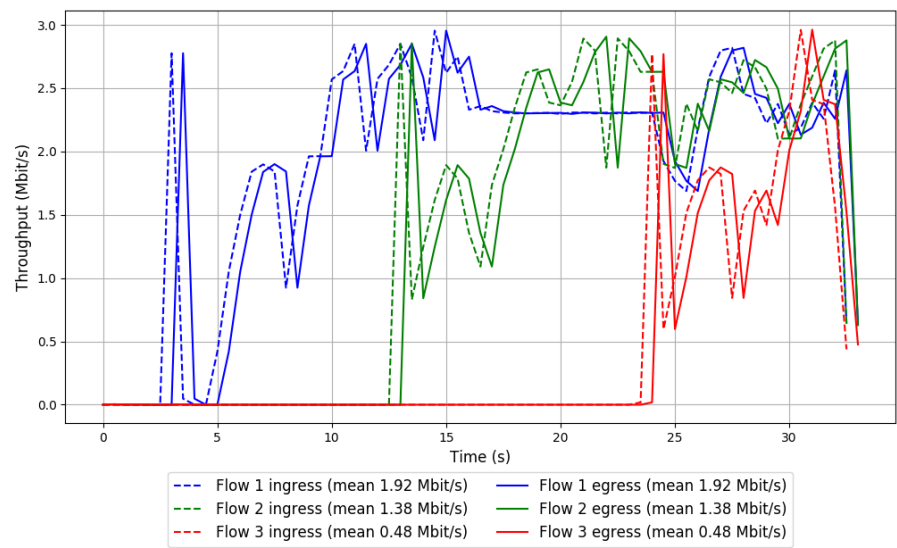
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-11-30 08:48:43
End at: 2018-11-30 08:49:13
Local clock offset: -4.608 ms
Remote clock offset: 0.149 ms


# Below is generated by plot.py at 2018-11-30 10:24:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.99 Mbit/s
95th percentile per-packet one-way delay: 2.249 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 2.010 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.38 Mbit/s
95th percentile per-packet one-way delay: 2.226 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 3.281 ms
Loss rate: 0.00%
```
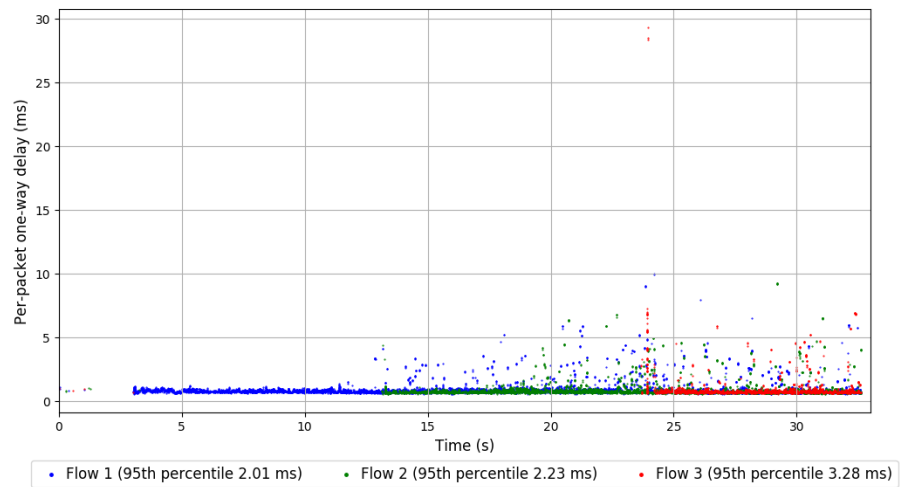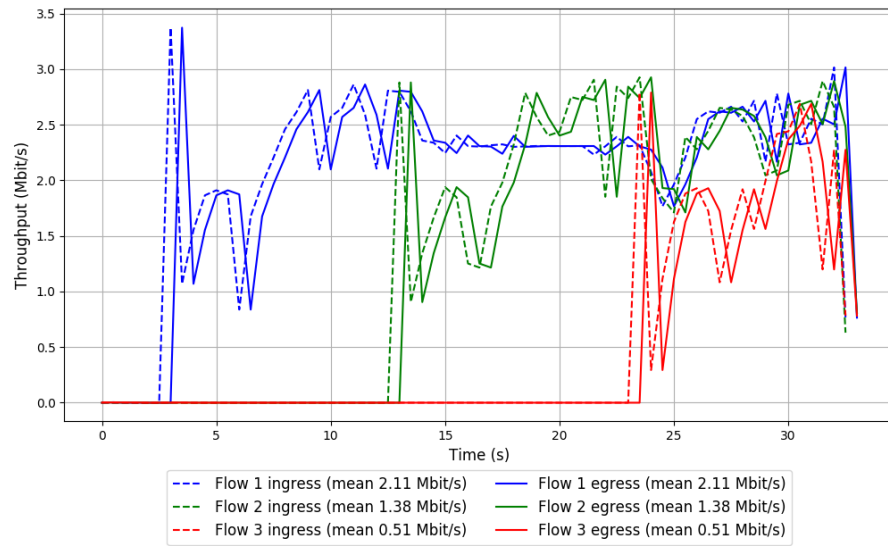
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-11-30 09:15:48
End at: 2018-11-30 09:16:18
Local clock offset: -5.612 ms
Remote clock offset: 0.153 ms


# Below is generated by plot.py at 2018-11-30 10:24:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.76 Mbit/s
95th percentile per-packet one-way delay: 2.941 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 2.924 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 3.098 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 2.855 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link