Pantheon Report

Generated at 2019-01-18 15:26:42 (UTC).

Data path: GCE London on **ens4** (*local*) →GCE Iowa on **ens4** (*remote*).

Repeated the test of 21 congestion control schemes 5 times.

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

NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.

```
System info:
Linux 4.15.0-1026-gcp
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 @ c80a283586bf7b0cc1fe08c69c8f60d56498f81c
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ c3eee875824760ec5b2fd207fefe166e1afe2170
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
```
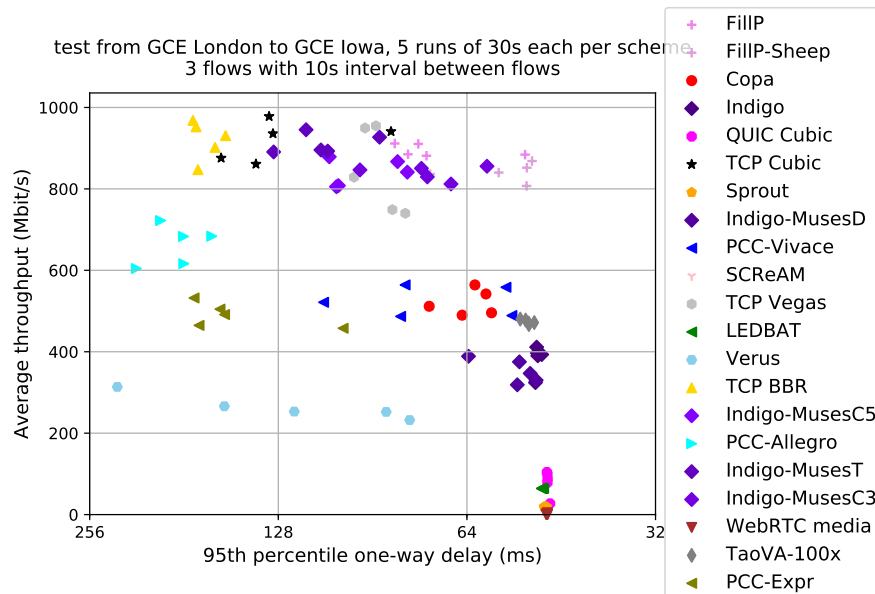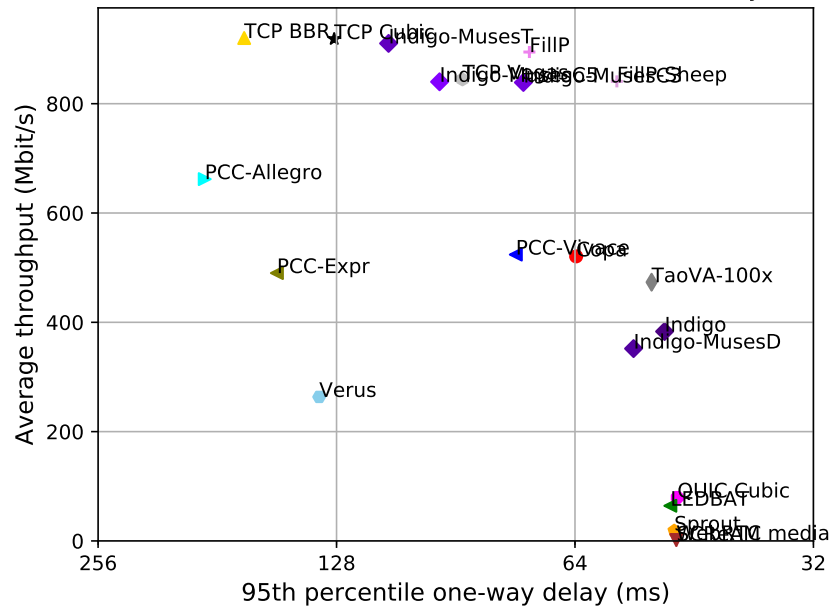
```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from GCE London to GCE Iowa, 5 runs of 30s each per scheme
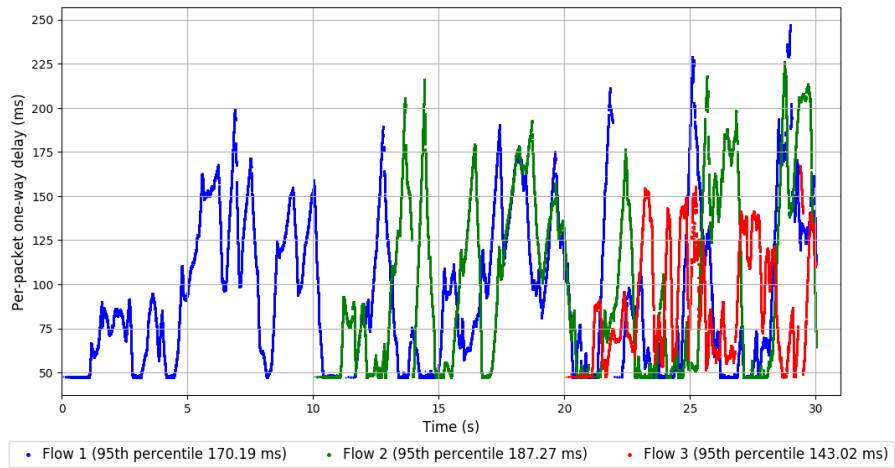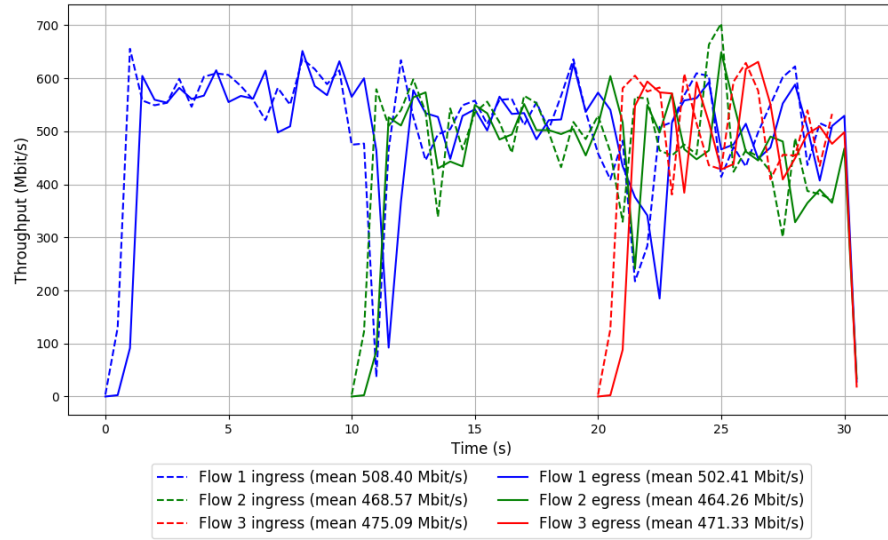3 flows with 10s interval between flows (mean of all runs by scheme)

test from GCE London to GCE Iowa, 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	479.59	456.23	411.17	166.55	165.77	154.71	0.78	0.71	0.68
Copa	5	272.10	253.46	240.06	59.23	61.08	78.26	0.00	0.00	0.03
TCP Cubic	5	478.80	441.64	437.56	102.26	128.69	123.65	0.10	0.12	0.31
FillP	5	570.13	359.06	257.95	81.10	51.63	49.95	0.30	0.00	0.00
FillP-Sheep	5	541.75	327.41	245.26	58.52	51.02	49.85	0.04	0.01	0.00
Indigo	5	197.48	195.04	174.75	49.19	49.35	49.38	0.00	0.00	0.00
Indigo-MusesC3	5	505.25	421.88	233.74	75.31	74.74	51.03	0.00	0.00	0.04
Indigo-MusesC5	5	543.07	348.73	261.84	96.39	78.62	71.06	0.02	0.00	0.21
Indigo-MusesD	5	264.81	119.55	34.47	56.03	48.72	47.43	0.00	0.01	0.00
Indigo-MusesT	5	551.61	464.07	224.41	108.94	113.68	52.65	0.04	0.04	0.34
LEDBAT	5	41.27	27.80	13.82	48.53	48.45	47.77	0.00	0.00	0.00
PCC-Allegro	5	379.17	286.85	279.30	196.74	115.36	150.79	3.73	0.76	3.70
PCC-Expr	5	275.37	246.52	154.71	150.52	143.93	53.57	1.43	2.88	0.22
QUIC Cubic	5	34.44	47.61	41.24	47.62	47.31	47.48	0.00	0.00	0.00
SCReAM	5	0.22	0.22	0.22	47.67	47.41	47.25	0.00	0.00	0.00
Sprout	5	9.59	9.38	9.19	47.68	47.93	47.99	0.00	0.00	0.00
TaoVA-100x	5	239.83	239.73	221.75	50.36	50.90	53.70	0.00	0.00	0.01
TCP Vegas	5	471.16	405.53	310.17	85.49	85.89	78.16	0.03	0.06	0.07
Verus	5	140.75	134.58	102.28	100.78	141.50	126.66	0.16	2.41	2.01
PCC-Vivace	5	314.71	273.34	83.02	73.47	71.36	48.82	0.00	0.00	0.00
WebRTC media	5	0.86	0.54	0.24	47.60	47.73	47.51	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-01-18 09:28:08
End at: 2019-01-18 09:28:38
Local clock offset: -0.066 ms
Remote clock offset: -0.034 ms


# Below is generated by plot.py at 2019-01-18 12:56:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 968.26 Mbit/s
95th percentile per-packet one-way delay: 175.154 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 502.41 Mbit/s
95th percentile per-packet one-way delay: 170.190 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 464.26 Mbit/s
95th percentile per-packet one-way delay: 187.270 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 471.33 Mbit/s
95th percentile per-packet one-way delay: 143.022 ms
Loss rate: 0.80%
```
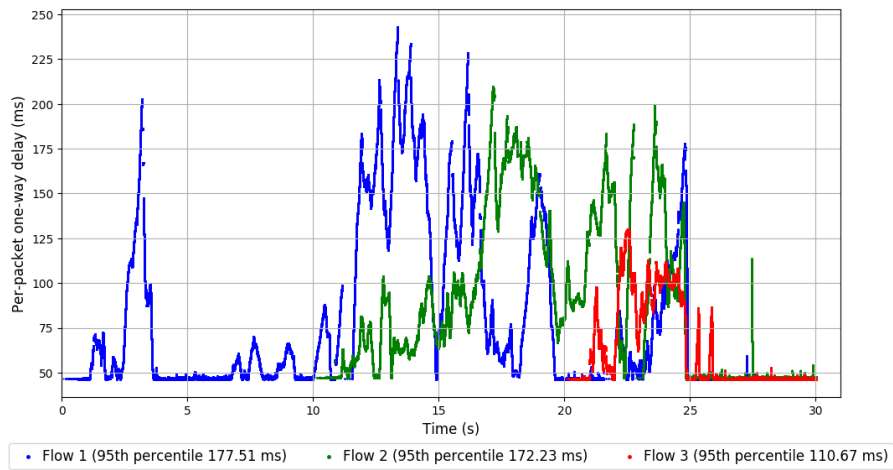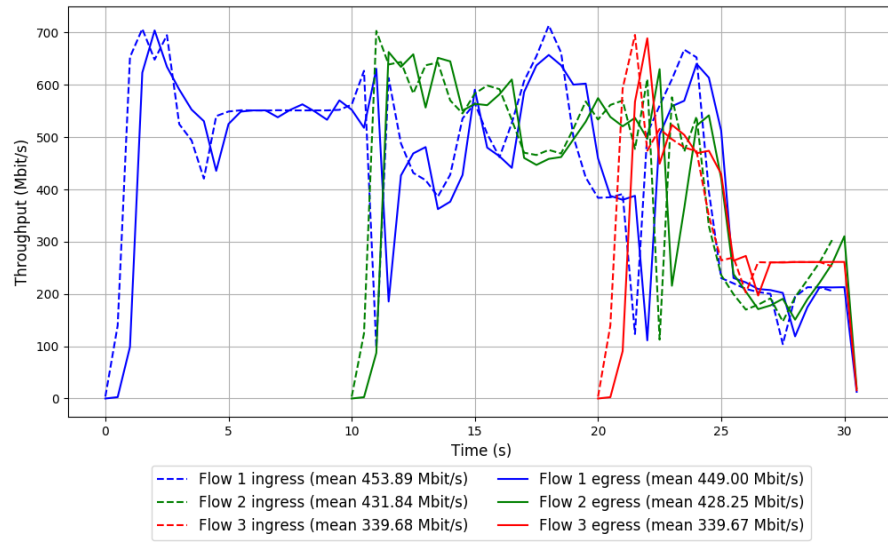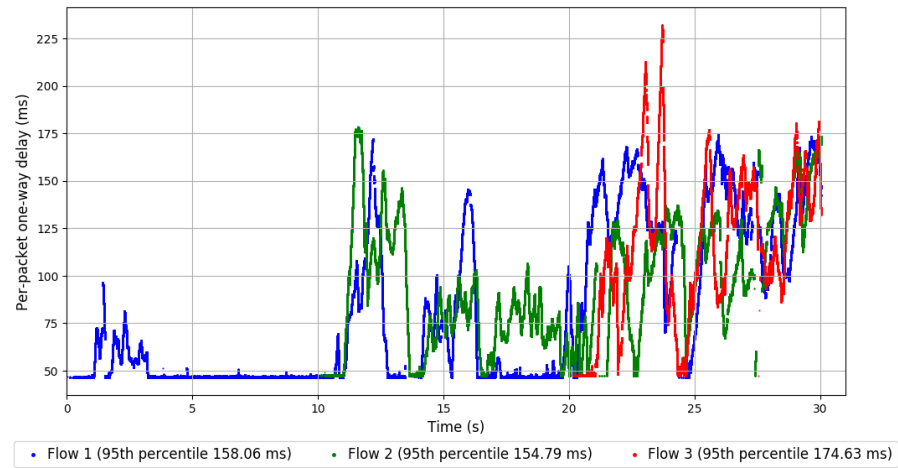
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 508.40 Mbit/s) --- Flow 1 egress (mean 502.41 Mbit/s)
Flow 2 ingress (mean 468.57 Mbit/s) --- Flow 2 egress (mean 464.26 Mbit/s)
Flow 3 ingress (mean 475.09 Mbit/s) --- Flow 3 egress (mean 471.33 Mbit/s)

Flow 1 (95th percentile 170.19 ms)   Flow 2 (95th percentile 187.27 ms)   Flow 3 (95th percentile 143.02 ms)

6

```
Run 2: Statistics of TCP BBR

Start at: 2019-01-18 10:04:45
End at: 2019-01-18 10:05:15
Local clock offset: -0.082 ms
Remote clock offset: 0.002 ms


# Below is generated by plot.py at 2019-01-18 12:56:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 847.37 Mbit/s
95th percentile per-packet one-way delay: 171.971 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 449.00 Mbit/s
95th percentile per-packet one-way delay: 177.513 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 428.25 Mbit/s
95th percentile per-packet one-way delay: 172.233 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 339.67 Mbit/s
95th percentile per-packet one-way delay: 110.666 ms
Loss rate: 0.00%
```
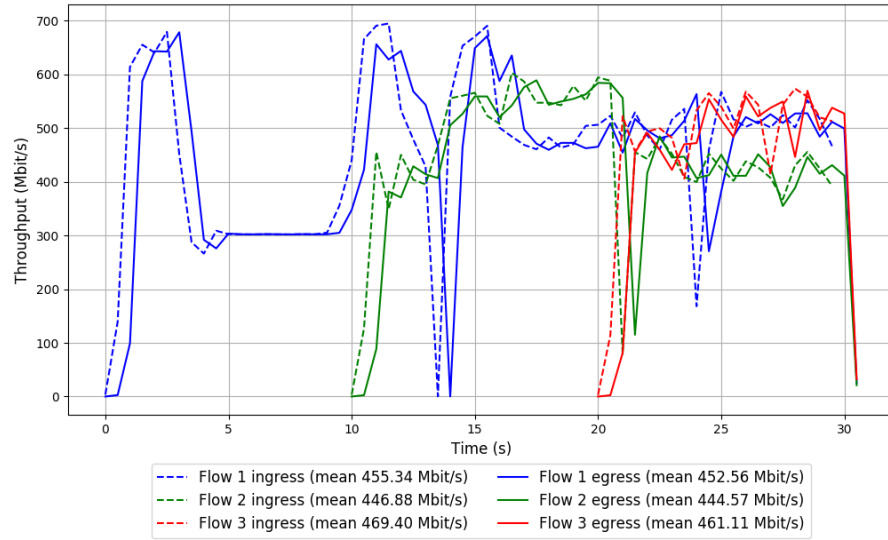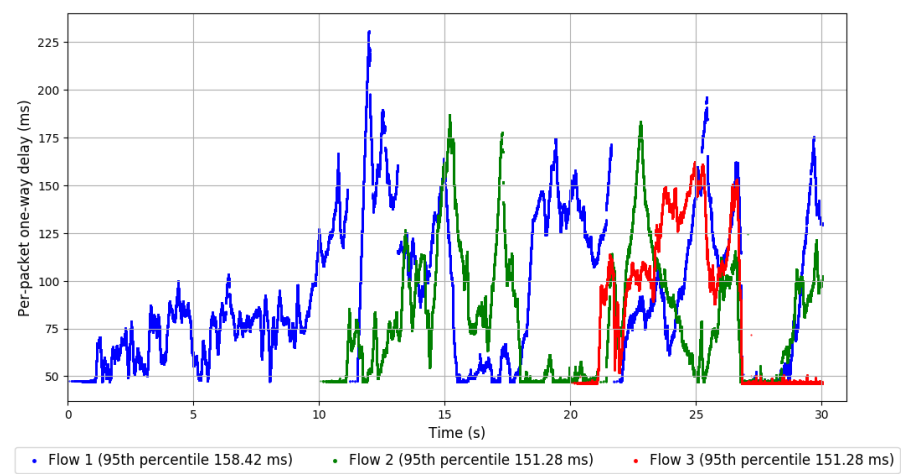
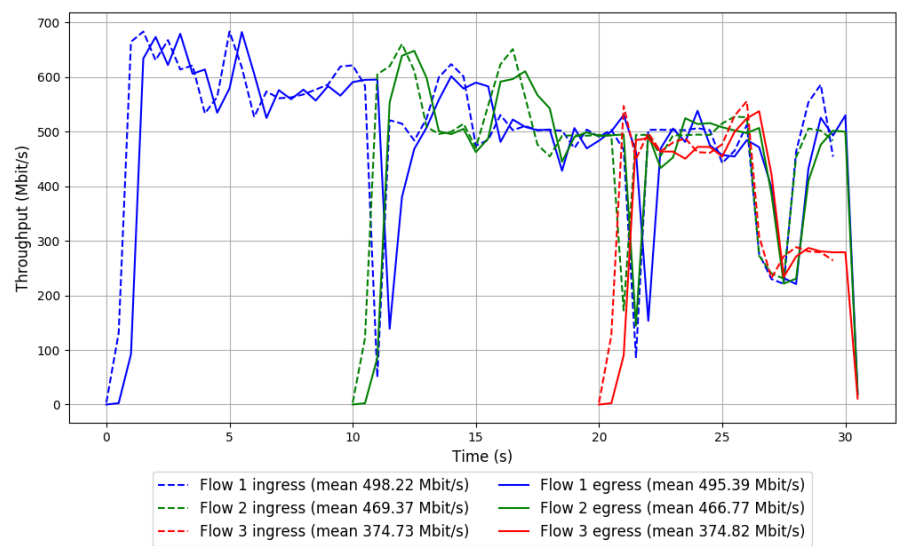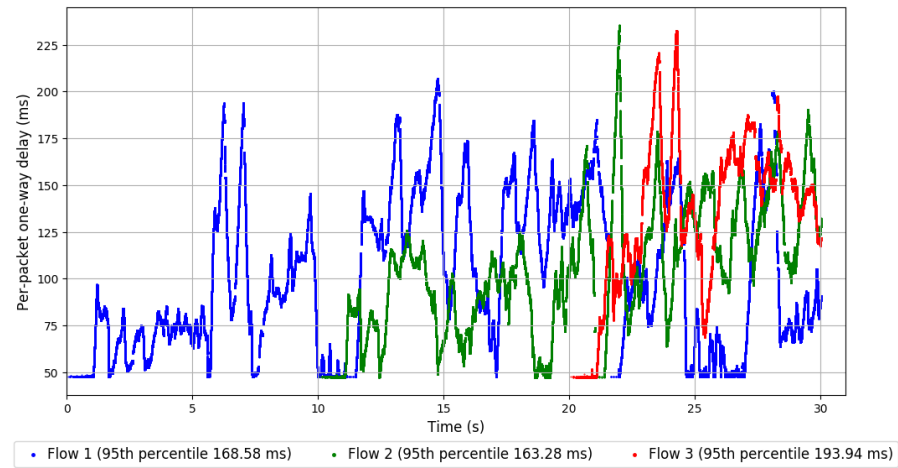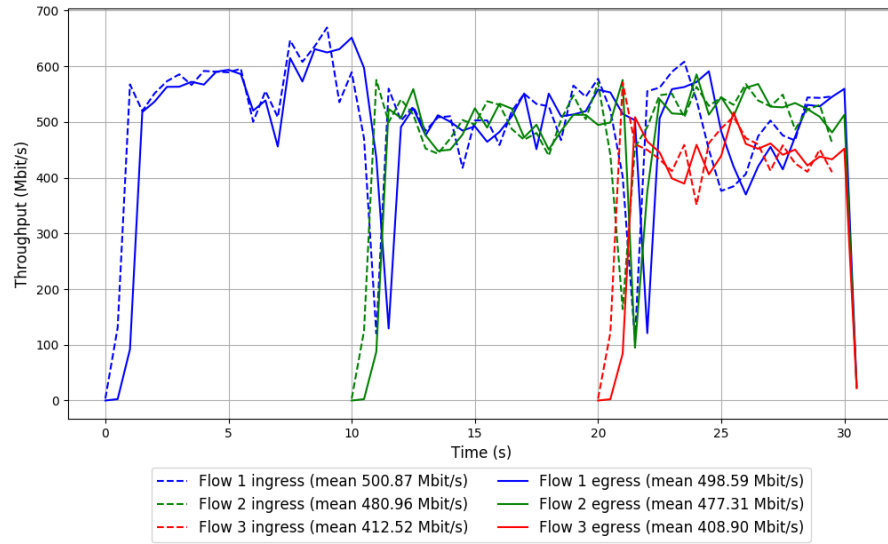Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-01-18 10:41:22
End at: 2019-01-18 10:41:52
Local clock offset: -0.088 ms
Remote clock offset: -0.08 ms

# Below is generated by plot.py at 2019-01-18 12:56:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 901.96 Mbit/s
95th percentile per-packet one-way delay: 161.468 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 452.56 Mbit/s
95th percentile per-packet one-way delay: 158.059 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 444.57 Mbit/s
95th percentile per-packet one-way delay: 154.788 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 461.11 Mbit/s
95th percentile per-packet one-way delay: 174.630 ms
Loss rate: 1.76%
```

Run 3: Report of TCP BBR — Data Link

- - - - Flow 1 ingress (mean 455.34 Mbit/s) ——— Flow 1 egress (mean 452.56 Mbit/s)
- - - - Flow 2 ingress (mean 446.88 Mbit/s) ——— Flow 2 egress (mean 444.57 Mbit/s)
- - - - Flow 3 ingress (mean 469.40 Mbit/s) ——— Flow 3 egress (mean 461.11 Mbit/s)

• Flow 1 (95th percentile 158.06 ms)   • Flow 2 (95th percentile 154.79 ms)   • Flow 3 (95th percentile 174.63 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2019-01-18 11:17:17
End at: 2019-01-18 11:17:47
Local clock offset: -0.024 ms
Remote clock offset: -0.257 ms


# Below is generated by plot.py at 2019-01-18 12:56:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 930.78 Mbit/s
95th percentile per-packet one-way delay: 155.363 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 495.39 Mbit/s
95th percentile per-packet one-way delay: 158.423 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 466.77 Mbit/s
95th percentile per-packet one-way delay: 151.284 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 374.82 Mbit/s
95th percentile per-packet one-way delay: 151.276 ms
Loss rate: 0.00%
```
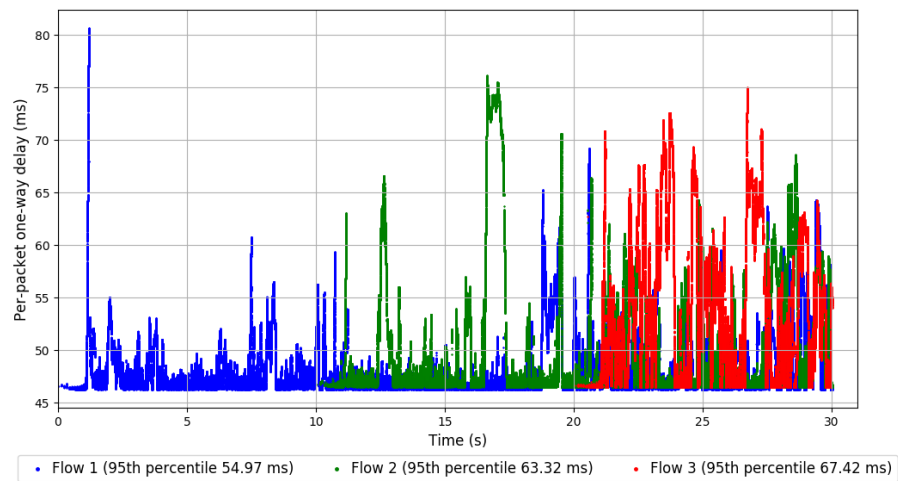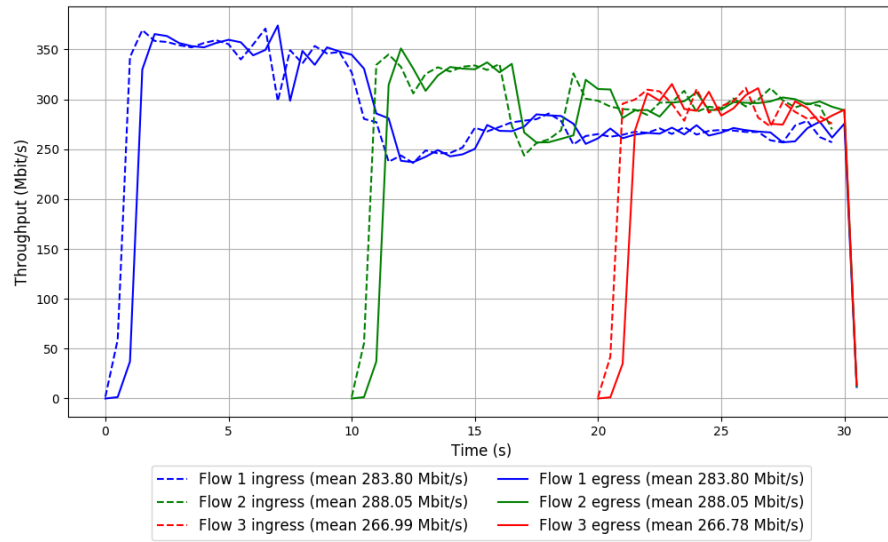
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2019-01-18 11:53:26
End at: 2019-01-18 11:53:56
Local clock offset: -0.377 ms
Remote clock offset: -0.307 ms


# Below is generated by plot.py at 2019-01-18 12:56:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 952.44 Mbit/s
95th percentile per-packet one-way delay: 173.139 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 498.59 Mbit/s
95th percentile per-packet one-way delay: 168.583 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 477.31 Mbit/s
95th percentile per-packet one-way delay: 163.277 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 408.90 Mbit/s
95th percentile per-packet one-way delay: 193.939 ms
Loss rate: 0.86%
```

Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 500.87 Mbit/s) --- Flow 1 egress (mean 498.59 Mbit/s)
Flow 2 ingress (mean 480.96 Mbit/s) --- Flow 2 egress (mean 477.31 Mbit/s)
Flow 3 ingress (mean 412.52 Mbit/s) --- Flow 3 egress (mean 408.90 Mbit/s)

Flow 1 (95th percentile 168.58 ms)   Flow 2 (95th percentile 163.28 ms)   Flow 3 (95th percentile 193.94 ms)

```
Run 1: Statistics of Copa

Start at: 2019-01-18 09:51:30
End at: 2019-01-18 09:52:00
Local clock offset: 0.048 ms
Remote clock offset: -0.011 ms


# Below is generated by plot.py at 2019-01-18 12:57:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 564.19 Mbit/s
95th percentile per-packet one-way delay: 62.148 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 283.80 Mbit/s
95th percentile per-packet one-way delay: 54.965 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 288.05 Mbit/s
95th percentile per-packet one-way delay: 63.321 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 266.78 Mbit/s
95th percentile per-packet one-way delay: 67.417 ms
Loss rate: 0.07%
```
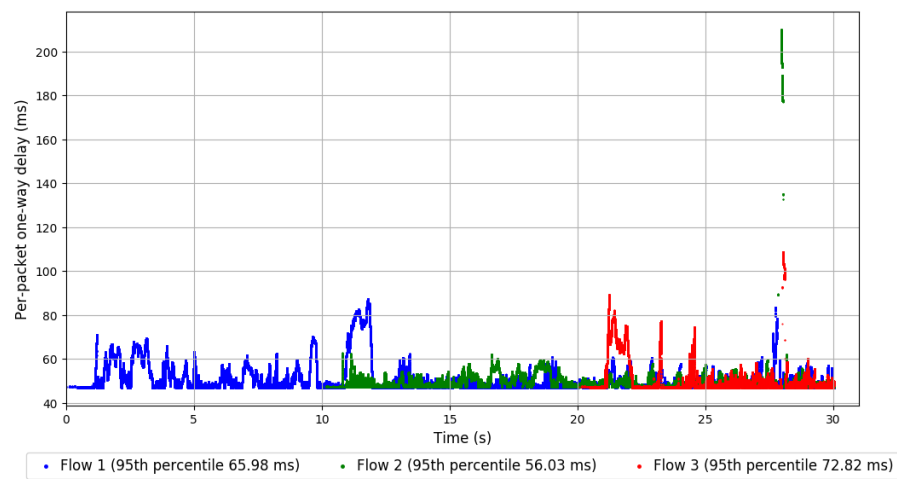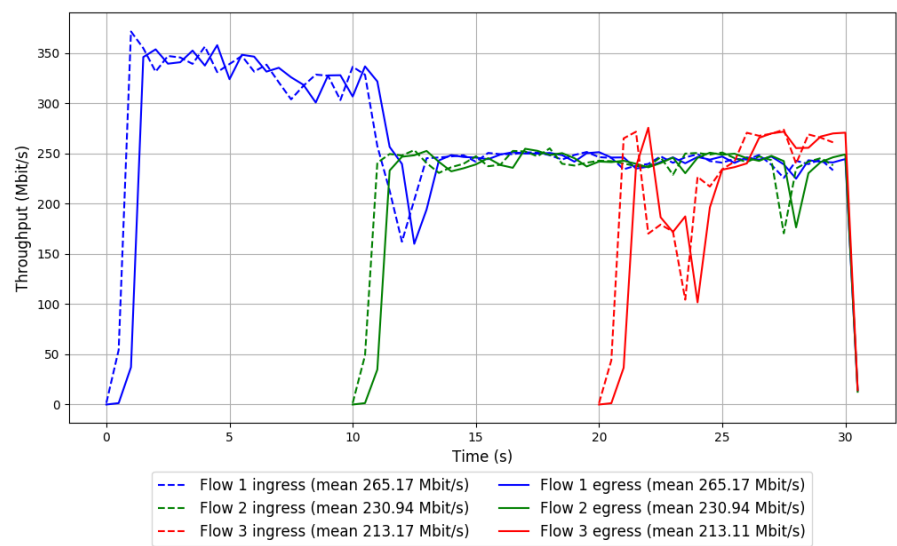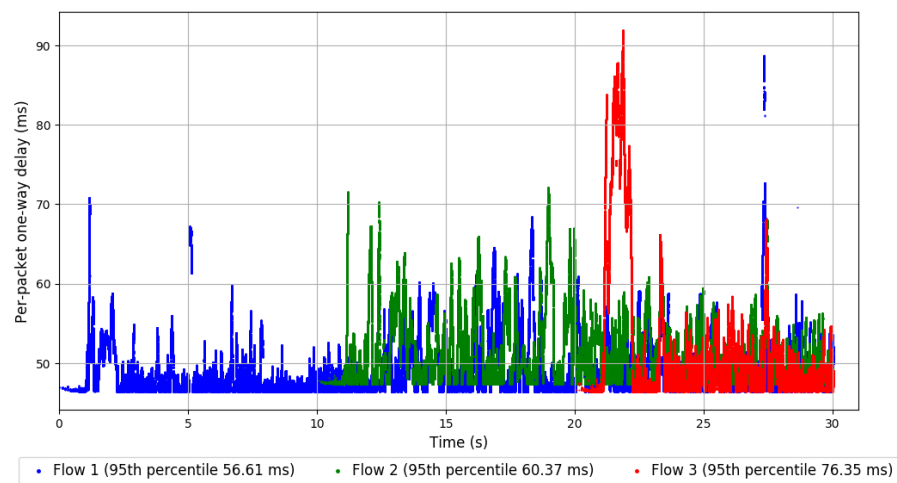
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2019-01-18 10:28:03
End at: 2019-01-18 10:28:33
Local clock offset: -0.065 ms
Remote clock offset: -0.119 ms


# Below is generated by plot.py at 2019-01-18 12:57:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 511.68 Mbit/s
95th percentile per-packet one-way delay: 73.514 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 271.95 Mbit/s
95th percentile per-packet one-way delay: 63.977 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 238.70 Mbit/s
95th percentile per-packet one-way delay: 67.938 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 243.33 Mbit/s
95th percentile per-packet one-way delay: 109.519 ms
Loss rate: 0.00%
```
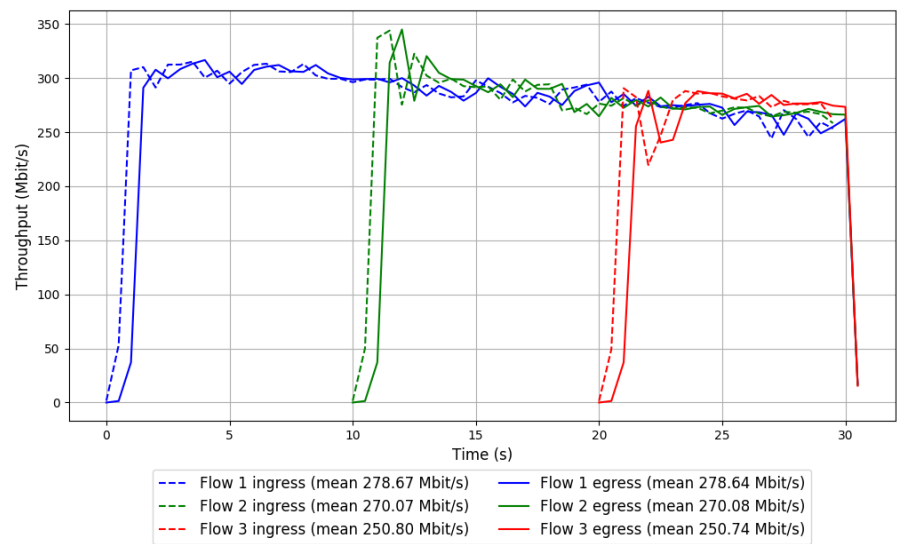
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 271.97 Mbit/s) --- Flow 1 egress (mean 271.95 Mbit/s)
Flow 2 ingress (mean 238.69 Mbit/s) --- Flow 2 egress (mean 238.70 Mbit/s)
Flow 3 ingress (mean 243.33 Mbit/s) --- Flow 3 egress (mean 243.33 Mbit/s)

Flow 1 (95th percentile 63.98 ms) · Flow 2 (95th percentile 67.94 ms) · Flow 3 (95th percentile 109.52 ms)
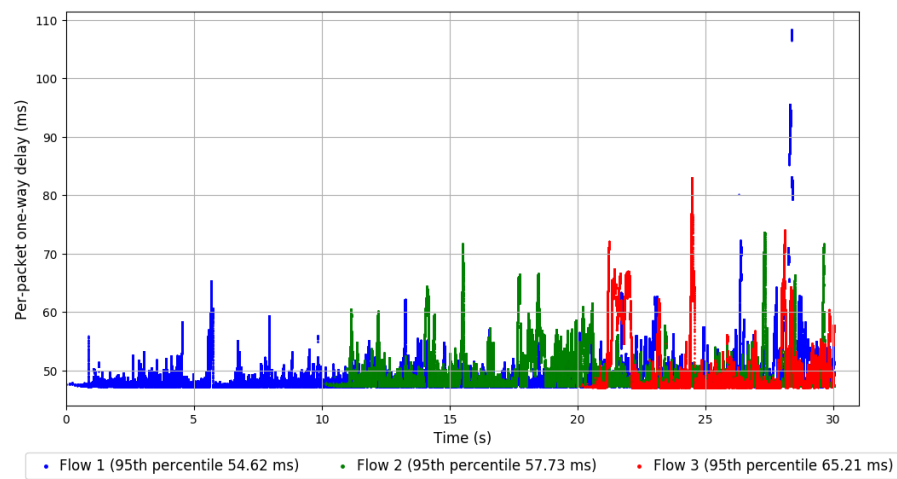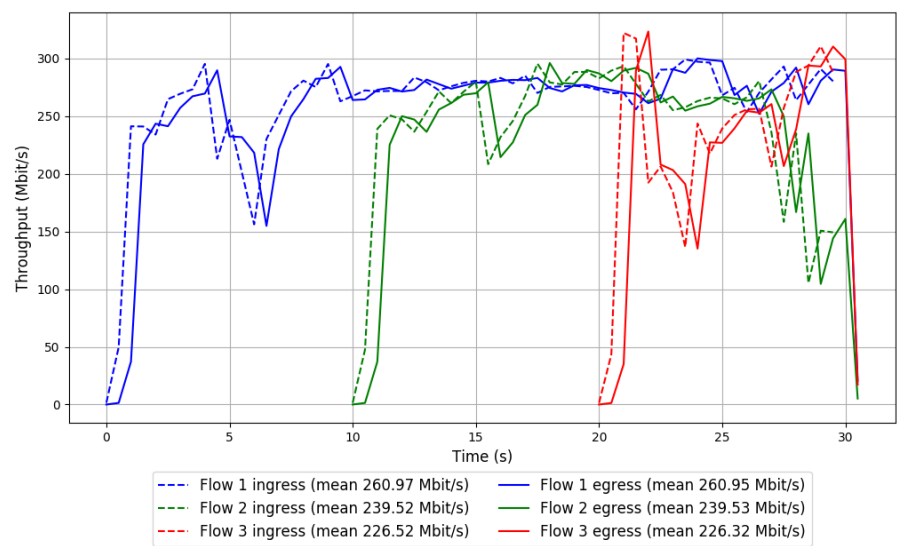
```
Run 3: Statistics of Copa

Start at: 2019-01-18 11:04:11
End at: 2019-01-18 11:04:41
Local clock offset: -0.024 ms
Remote clock offset: -0.207 ms


# Below is generated by plot.py at 2019-01-18 12:57:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 489.80 Mbit/s
95th percentile per-packet one-way delay: 65.129 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 265.17 Mbit/s
95th percentile per-packet one-way delay: 65.981 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 230.94 Mbit/s
95th percentile per-packet one-way delay: 56.031 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 213.11 Mbit/s
95th percentile per-packet one-way delay: 72.818 ms
Loss rate: 0.02%
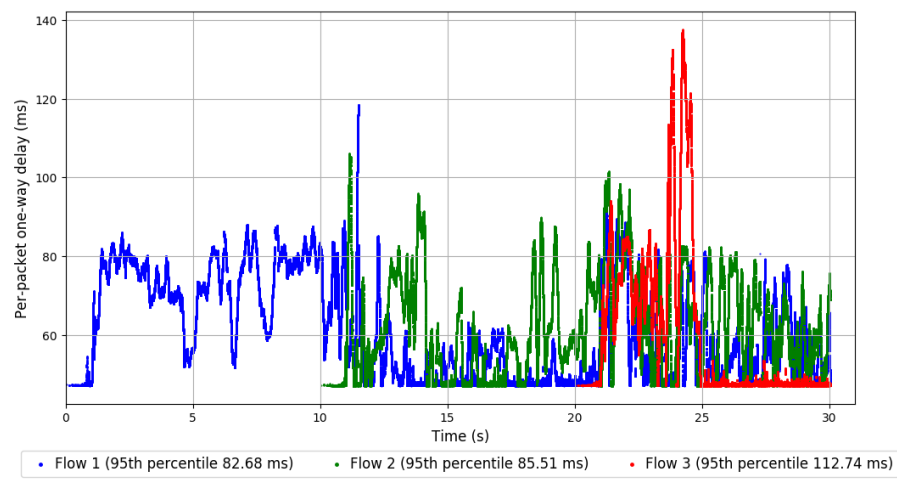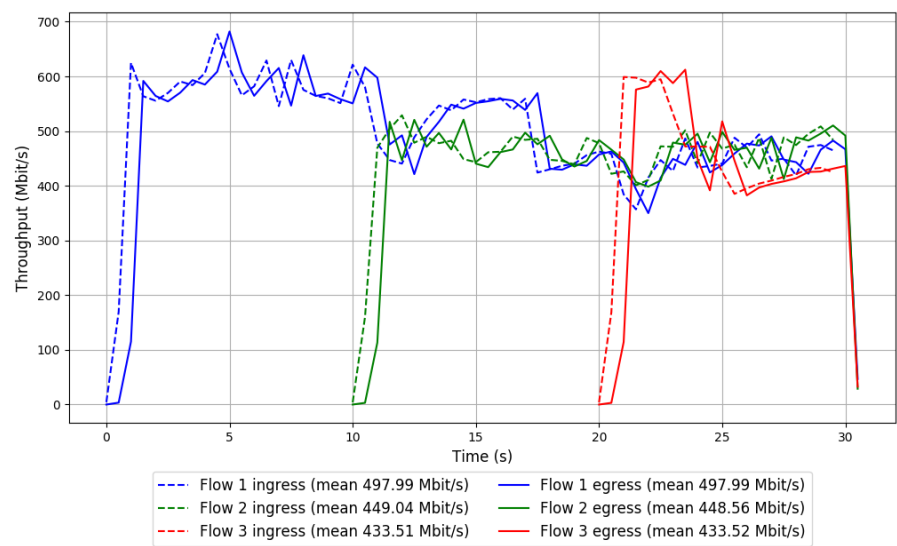```

Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2019-01-18 11:40:00
End at: 2019-01-18 11:40:30
Local clock offset: -0.14 ms
Remote clock offset: -0.256 ms


# Below is generated by plot.py at 2019-01-18 13:13:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 541.90 Mbit/s
95th percentile per-packet one-way delay: 59.680 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 278.64 Mbit/s
95th percentile per-packet one-way delay: 56.610 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 270.08 Mbit/s
95th percentile per-packet one-way delay: 60.374 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 250.74 Mbit/s
95th percentile per-packet one-way delay: 76.346 ms
Loss rate: 0.00%
```

Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 278.67 Mbit/s) --- Flow 1 egress (mean 278.64 Mbit/s)
Flow 2 ingress (mean 270.07 Mbit/s) --- Flow 2 egress (mean 270.08 Mbit/s)
Flow 3 ingress (mean 250.80 Mbit/s) --- Flow 3 egress (mean 250.74 Mbit/s)

Flow 1 (95th percentile 56.61 ms)   Flow 2 (95th percentile 60.37 ms)   Flow 3 (95th percentile 76.35 ms)

```
Run 5: Statistics of Copa

Start at: 2019-01-18 12:16:19
End at: 2019-01-18 12:16:49
Local clock offset: -0.074 ms
Remote clock offset: -0.029 ms


# Below is generated by plot.py at 2019-01-18 13:13:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 495.68 Mbit/s
95th percentile per-packet one-way delay: 58.465 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 260.95 Mbit/s
95th percentile per-packet one-way delay: 54.619 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 239.53 Mbit/s
95th percentile per-packet one-way delay: 57.734 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 226.32 Mbit/s
95th percentile per-packet one-way delay: 65.210 ms
Loss rate: 0.08%
```
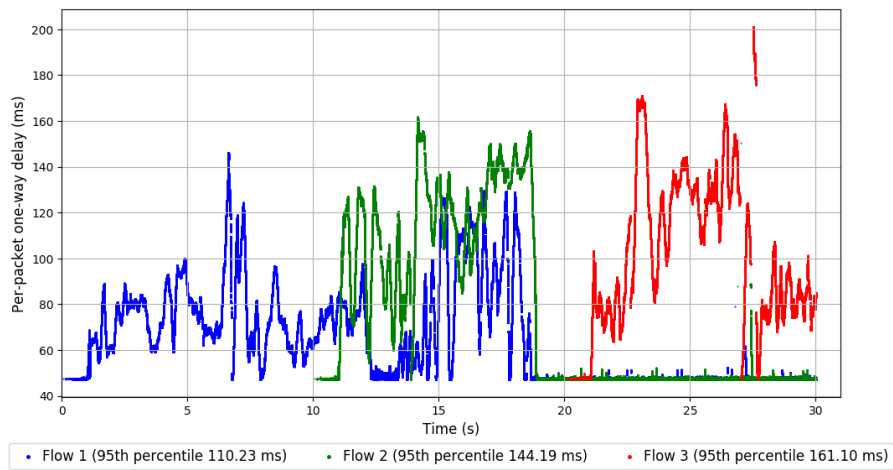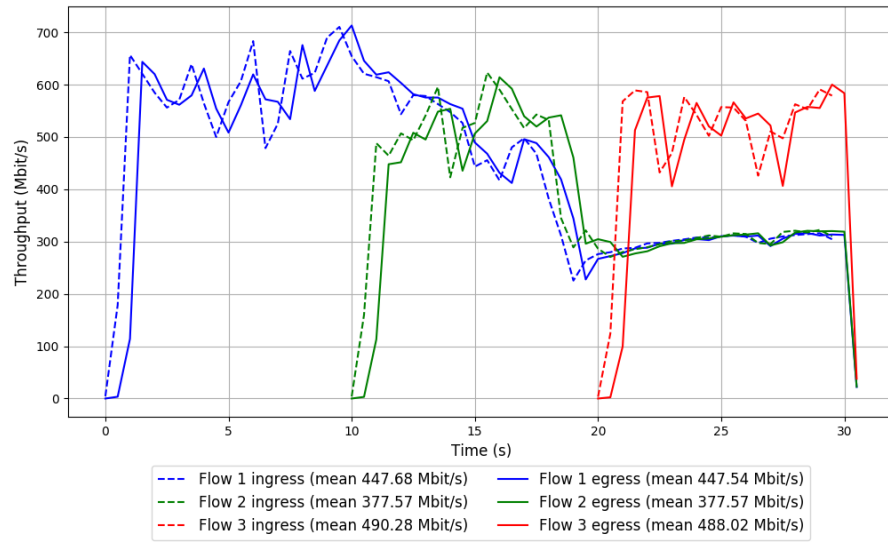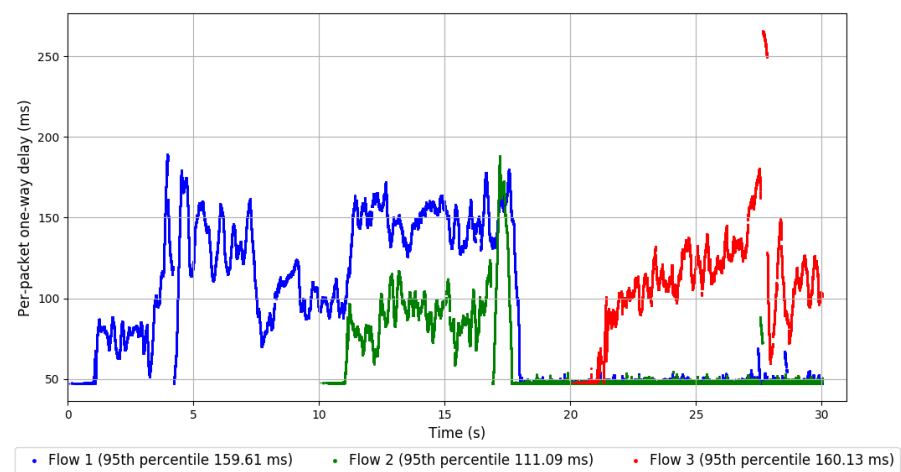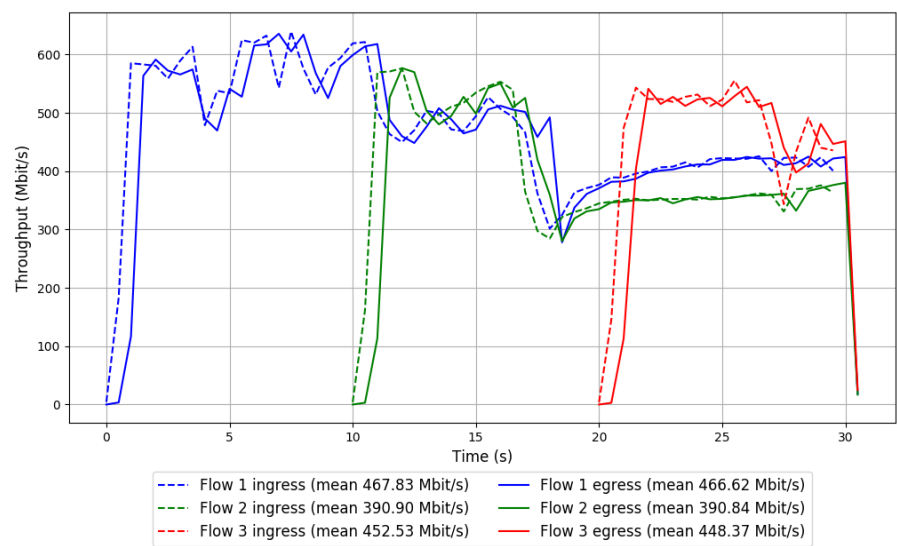
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-01-18 09:44:09
End at: 2019-01-18 09:44:39
Local clock offset: -0.025 ms
Remote clock offset: -0.055 ms

# Below is generated by plot.py at 2019-01-18 13:13:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 940.94 Mbit/s
95th percentile per-packet one-way delay: 84.589 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 497.99 Mbit/s
95th percentile per-packet one-way delay: 82.676 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 448.56 Mbit/s
95th percentile per-packet one-way delay: 85.511 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 433.52 Mbit/s
95th percentile per-packet one-way delay: 112.739 ms
Loss rate: 0.00%
```
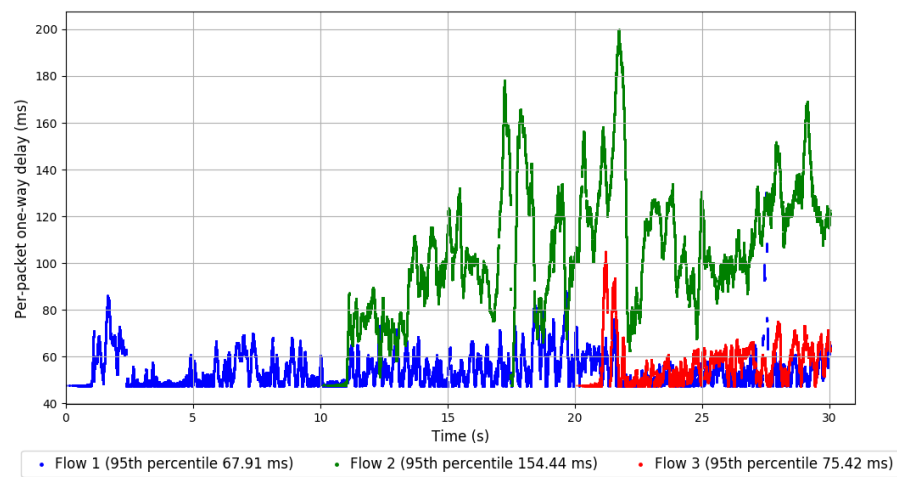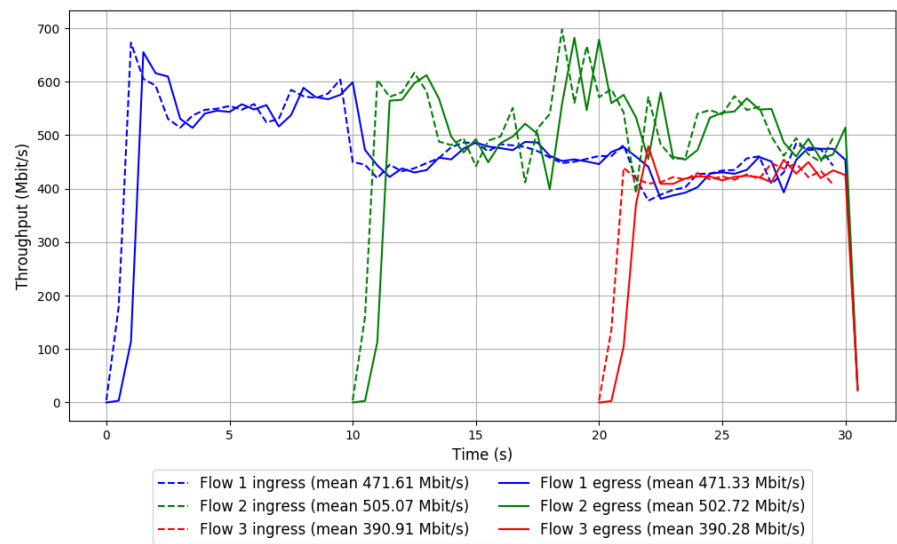
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-01-18 10:20:59
End at: 2019-01-18 10:21:29
Local clock offset: -0.073 ms
Remote clock offset: -0.02 ms


# Below is generated by plot.py at 2019-01-18 13:13:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 860.98 Mbit/s
95th percentile per-packet one-way delay: 138.966 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 447.54 Mbit/s
95th percentile per-packet one-way delay: 110.233 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 377.57 Mbit/s
95th percentile per-packet one-way delay: 144.192 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 488.02 Mbit/s
95th percentile per-packet one-way delay: 161.100 ms
Loss rate: 0.45%
```

Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 447.68 Mbit/s) --- Flow 1 egress (mean 447.54 Mbit/s)
Flow 2 ingress (mean 377.57 Mbit/s) --- Flow 2 egress (mean 377.57 Mbit/s)
Flow 3 ingress (mean 490.28 Mbit/s) --- Flow 3 egress (mean 488.02 Mbit/s)

Flow 1 (95th percentile 110.23 ms)   Flow 2 (95th percentile 144.19 ms)   Flow 3 (95th percentile 161.10 ms)
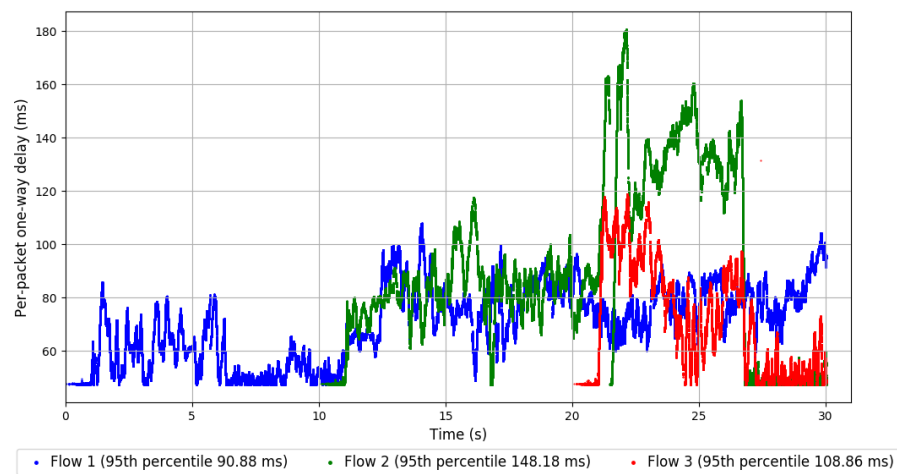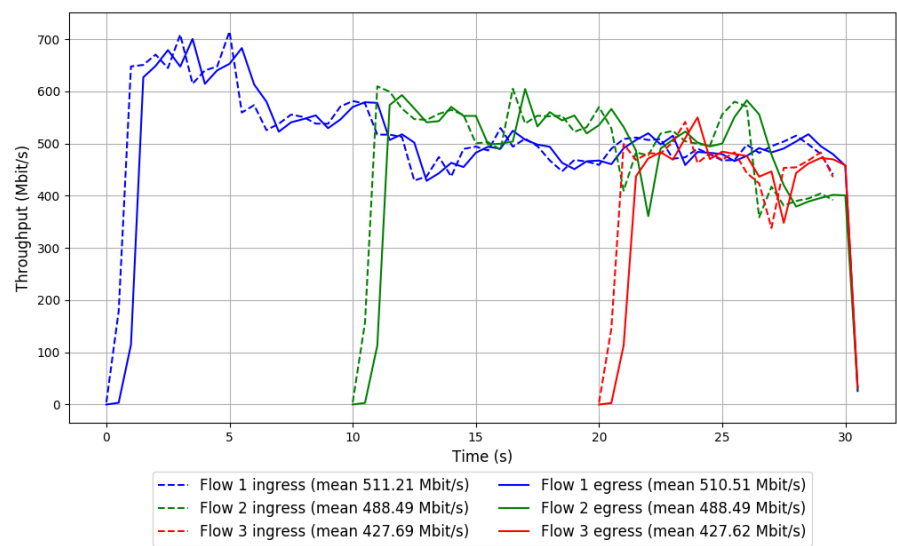
```
Run 3: Statistics of TCP Cubic

Start at: 2019-01-18 10:57:18
End at: 2019-01-18 10:57:48
Local clock offset: -0.115 ms
Remote clock offset: -0.135 ms


# Below is generated by plot.py at 2019-01-18 13:13:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 875.89 Mbit/s
95th percentile per-packet one-way delay: 157.930 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 466.62 Mbit/s
95th percentile per-packet one-way delay: 159.607 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 390.84 Mbit/s
95th percentile per-packet one-way delay: 111.095 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 448.37 Mbit/s
95th percentile per-packet one-way delay: 160.134 ms
Loss rate: 0.91%
```

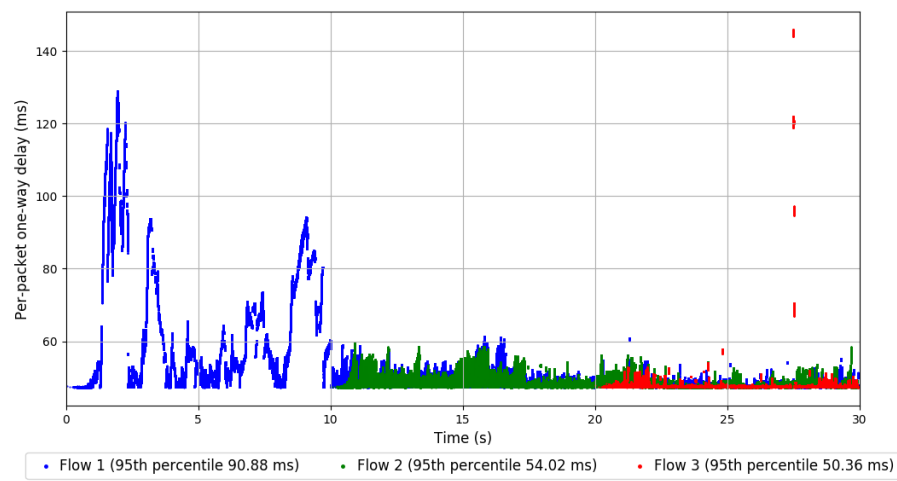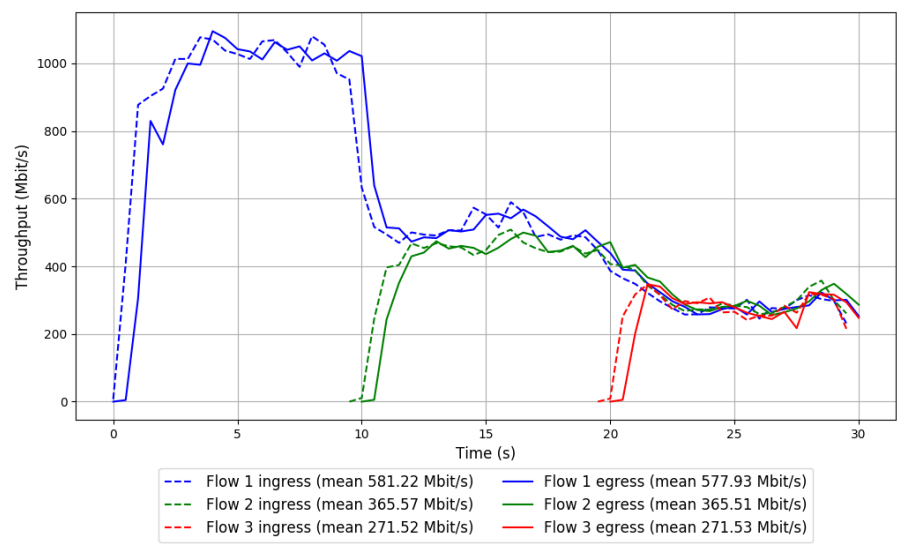Run 3: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 467.83 Mbit/s) —— Flow 1 egress (mean 466.62 Mbit/s)
- - - Flow 2 ingress (mean 390.90 Mbit/s) —— Flow 2 egress (mean 390.84 Mbit/s)
- - - Flow 3 ingress (mean 452.53 Mbit/s) —— Flow 3 egress (mean 448.37 Mbit/s)

• Flow 1 (95th percentile 159.61 ms)   • Flow 2 (95th percentile 111.09 ms)   • Flow 3 (95th percentile 160.13 ms)

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```
Run 4: Statistics of TCP Cubic

Start at: 2019-01-18 11:33:06
End at: 2019-01-18 11:33:36
Local clock offset: -0.085 ms
Remote clock offset: -0.226 ms


# Below is generated by plot.py at 2019-01-18 13:14:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 935.75 Mbit/s
95th percentile per-packet one-way delay: 130.524 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 471.33 Mbit/s
95th percentile per-packet one-way delay: 67.913 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 502.72 Mbit/s
95th percentile per-packet one-way delay: 154.445 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 390.28 Mbit/s
95th percentile per-packet one-way delay: 75.417 ms
Loss rate: 0.16%
```

Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-01-18 12:09:22
End at: 2019-01-18 12:09:52
Local clock offset: -0.075 ms
Remote clock offset: -0.116 ms


# Below is generated by plot.py at 2019-01-18 13:15:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 977.99 Mbit/s
95th percentile per-packet one-way delay: 132.399 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 510.51 Mbit/s
95th percentile per-packet one-way delay: 90.878 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 488.49 Mbit/s
95th percentile per-packet one-way delay: 148.183 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 427.62 Mbit/s
95th percentile per-packet one-way delay: 108.859 ms
Loss rate: 0.01%
```
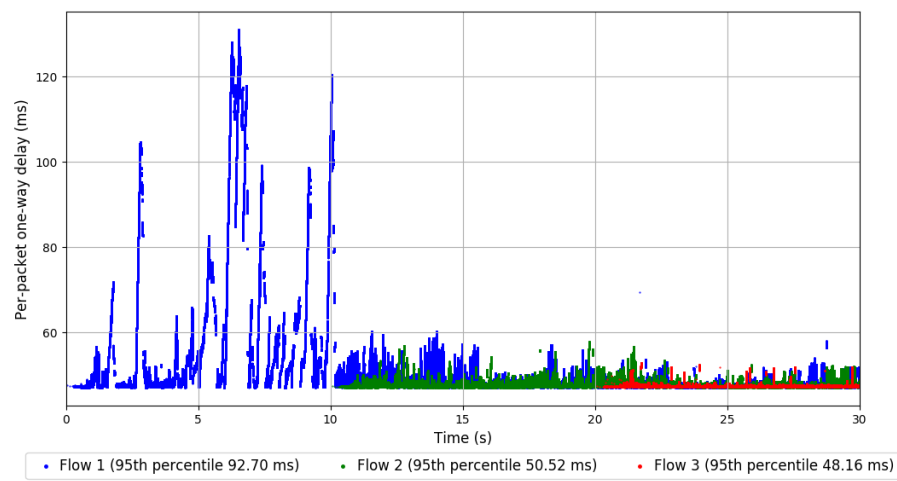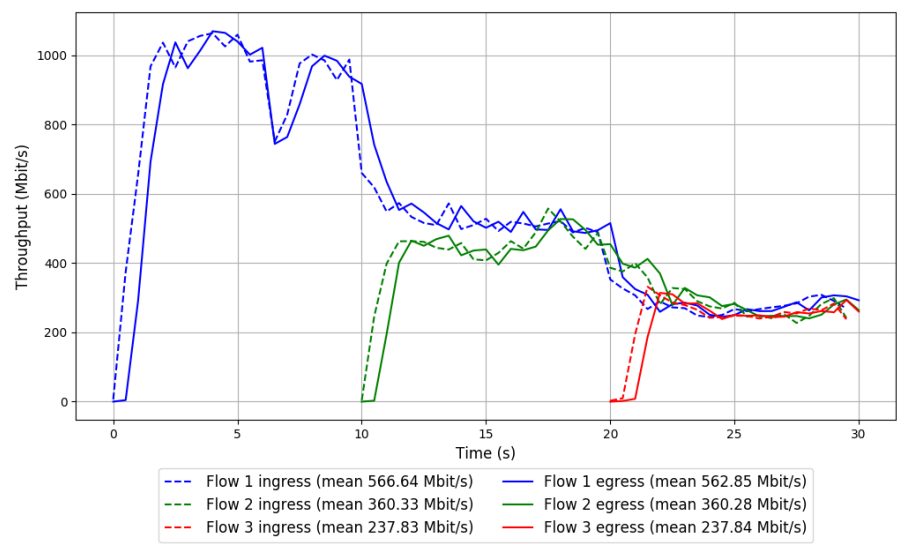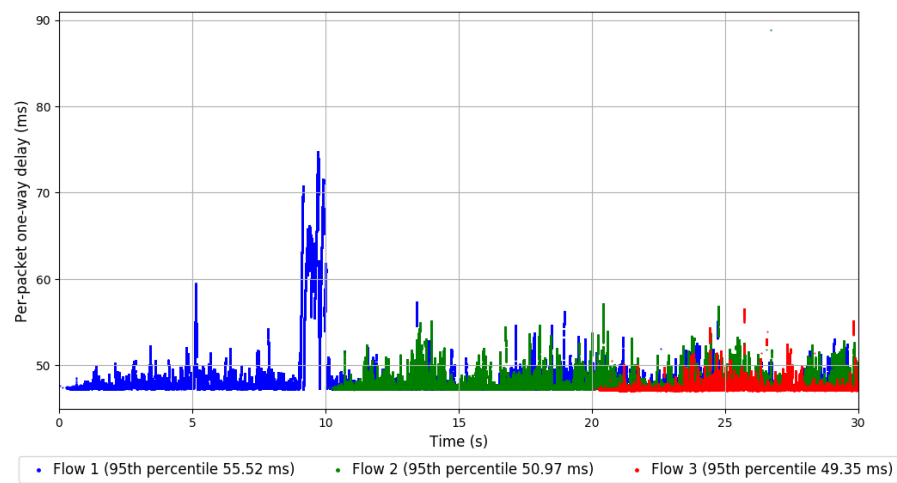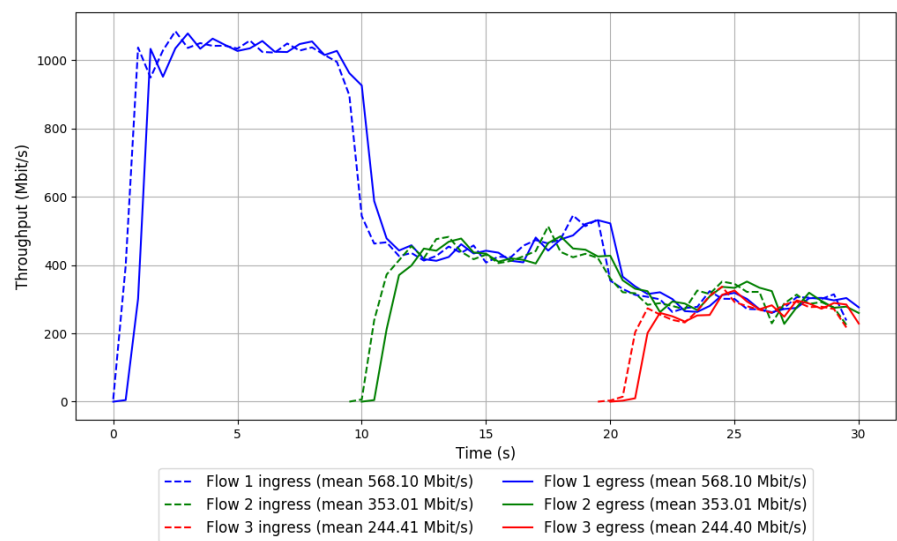
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 511.21 Mbit/s) --- Flow 1 egress (mean 510.51 Mbit/s)
Flow 2 ingress (mean 488.49 Mbit/s) --- Flow 2 egress (mean 488.49 Mbit/s)
Flow 3 ingress (mean 427.69 Mbit/s) --- Flow 3 egress (mean 427.62 Mbit/s)

Flow 1 (95th percentile 90.88 ms)   Flow 2 (95th percentile 148.18 ms)   Flow 3 (95th percentile 108.86 ms)

```
Run 1: Statistics of FillP

Start at: 2019-01-18 09:26:19
End at: 2019-01-18 09:26:49
Local clock offset: -0.06 ms
Remote clock offset: -0.035 ms


# Below is generated by plot.py at 2019-01-18 13:18:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 911.56 Mbit/s
95th percentile per-packet one-way delay: 83.441 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 577.93 Mbit/s
95th percentile per-packet one-way delay: 90.883 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 365.51 Mbit/s
95th percentile per-packet one-way delay: 54.020 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 271.53 Mbit/s
95th percentile per-packet one-way delay: 50.356 ms
Loss rate: 0.00%
```
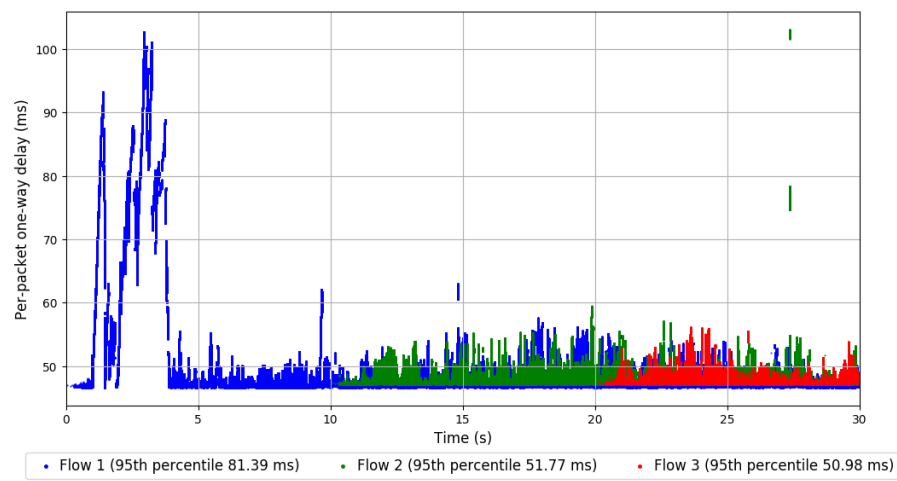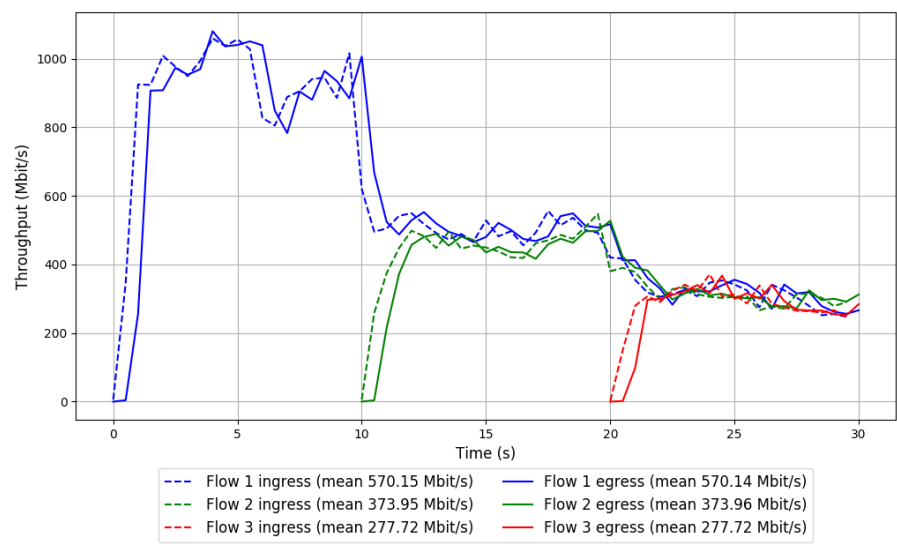
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2019-01-18 10:02:55
End at: 2019-01-18 10:03:25
Local clock offset: -0.013 ms
Remote clock offset: -0.02 ms


# Below is generated by plot.py at 2019-01-18 13:32:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 881.36 Mbit/s
95th percentile per-packet one-way delay: 74.251 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 562.85 Mbit/s
95th percentile per-packet one-way delay: 92.696 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 360.28 Mbit/s
95th percentile per-packet one-way delay: 50.518 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 237.84 Mbit/s
95th percentile per-packet one-way delay: 48.155 ms
Loss rate: 0.00%
```
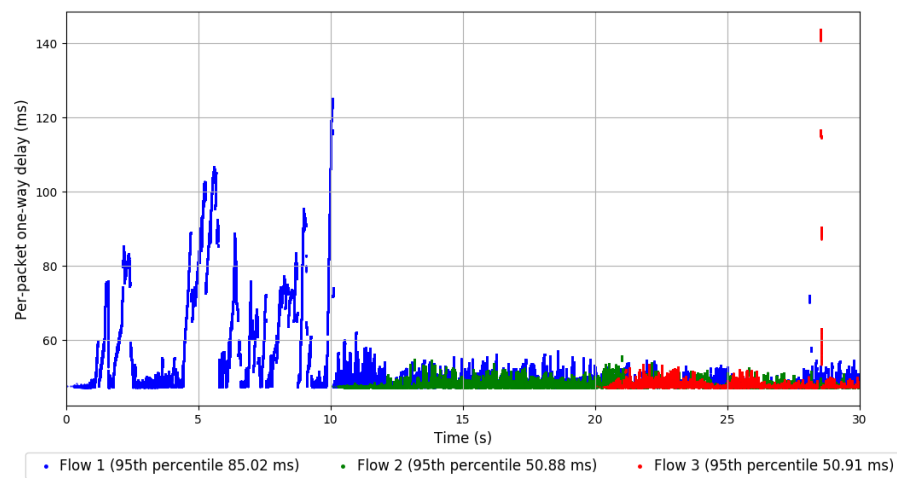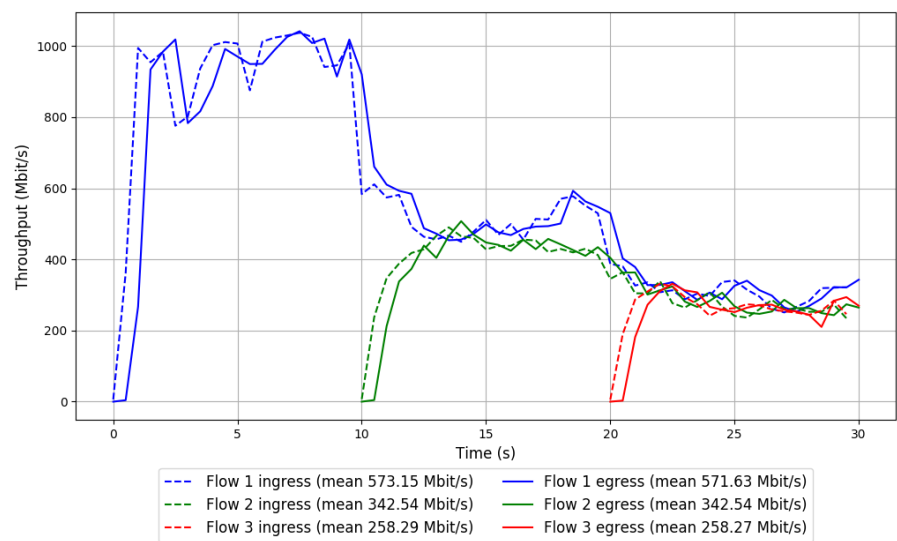
Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 566.64 Mbit/s)   Flow 1 egress (mean 562.85 Mbit/s)
Flow 2 ingress (mean 360.33 Mbit/s)   Flow 2 egress (mean 360.28 Mbit/s)
Flow 3 ingress (mean 237.83 Mbit/s)   Flow 3 egress (mean 237.84 Mbit/s)

Flow 1 (95th percentile 92.70 ms)   Flow 2 (95th percentile 50.52 ms)   Flow 3 (95th percentile 48.16 ms)

```
Run 3: Statistics of FillP

Start at: 2019-01-18 10:39:28
End at: 2019-01-18 10:39:58
Local clock offset: -0.114 ms
Remote clock offset: -0.067 ms


# Below is generated by plot.py at 2019-01-18 13:33:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 884.25 Mbit/s
95th percentile per-packet one-way delay: 51.683 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 568.10 Mbit/s
95th percentile per-packet one-way delay: 55.523 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 353.01 Mbit/s
95th percentile per-packet one-way delay: 50.965 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 244.40 Mbit/s
95th percentile per-packet one-way delay: 49.353 ms
Loss rate: 0.00%
```
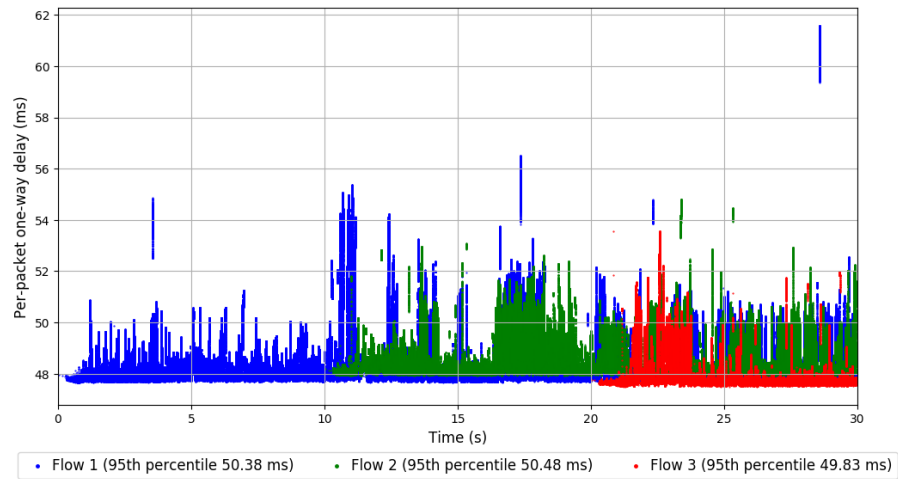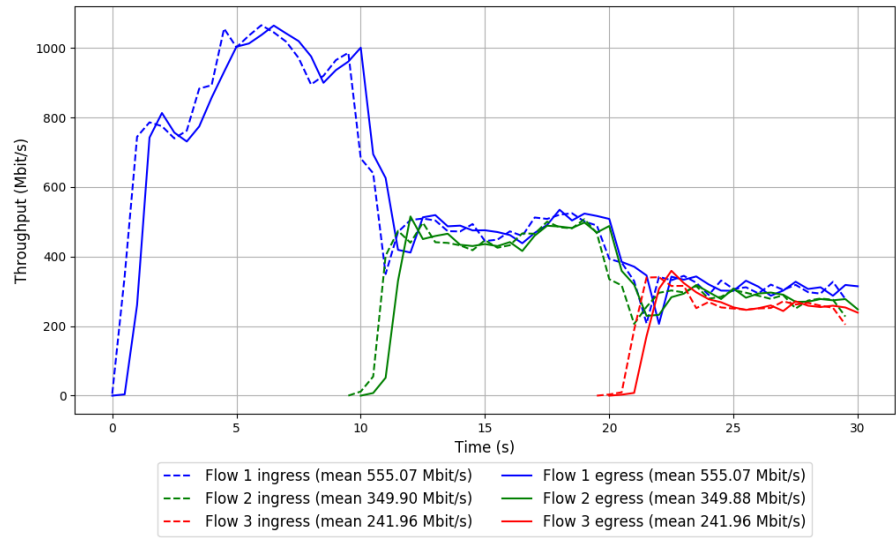
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-01-18 11:15:28
End at: 2019-01-18 11:15:58
Local clock offset: -0.071 ms
Remote clock offset: -0.223 ms


# Below is generated by plot.py at 2019-01-18 13:34:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 910.49 Mbit/s
95th percentile per-packet one-way delay: 76.514 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 570.14 Mbit/s
95th percentile per-packet one-way delay: 81.385 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 373.96 Mbit/s
95th percentile per-packet one-way delay: 51.775 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 277.72 Mbit/s
95th percentile per-packet one-way delay: 50.979 ms
Loss rate: 0.00%
```
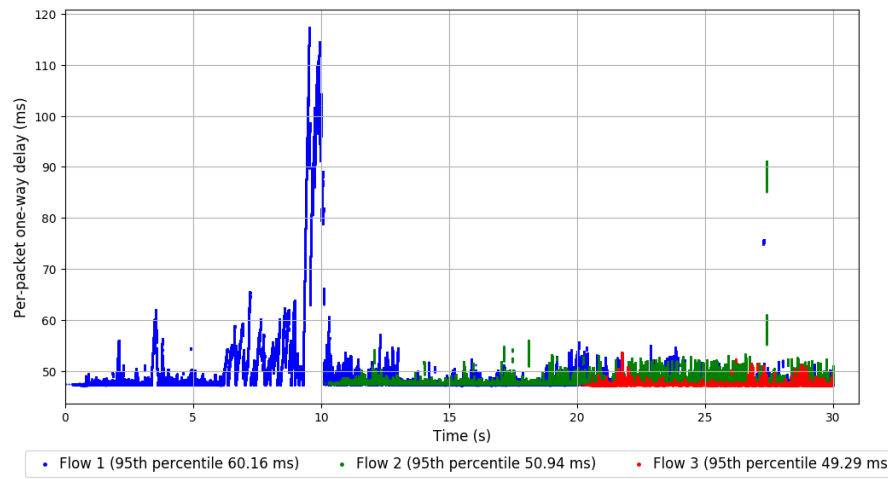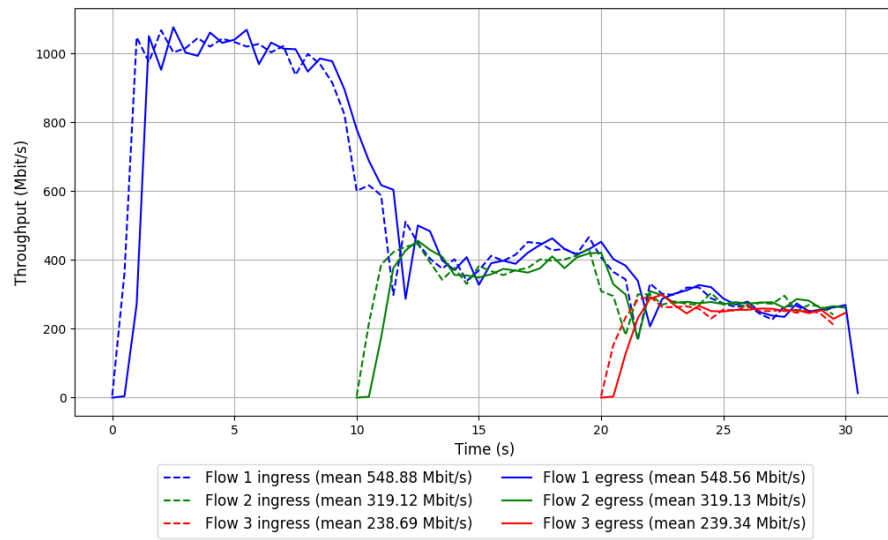
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2019-01-18 11:51:37
End at: 2019-01-18 11:52:07
Local clock offset: -0.126 ms
Remote clock offset: -0.288 ms


# Below is generated by plot.py at 2019-01-18 13:34:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 884.97 Mbit/s
95th percentile per-packet one-way delay: 79.471 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 571.63 Mbit/s
95th percentile per-packet one-way delay: 85.015 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 342.54 Mbit/s
95th percentile per-packet one-way delay: 50.883 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 258.27 Mbit/s
95th percentile per-packet one-way delay: 50.906 ms
Loss rate: 0.00%
```

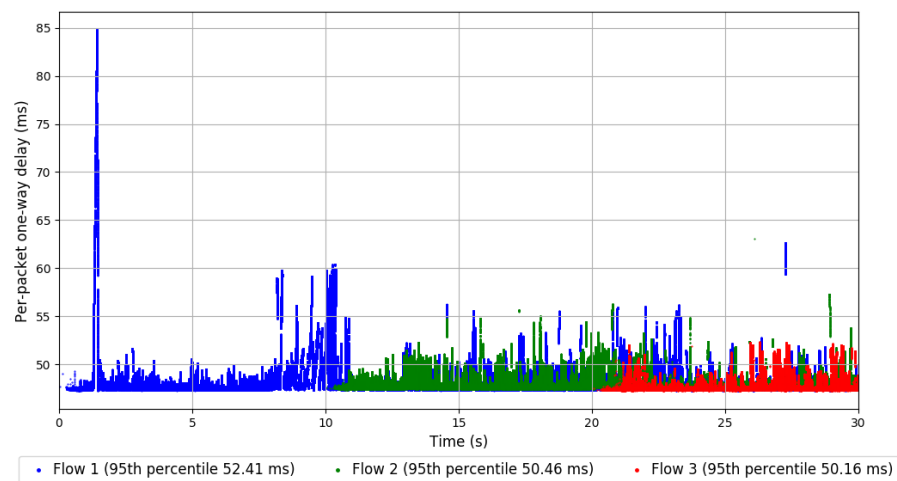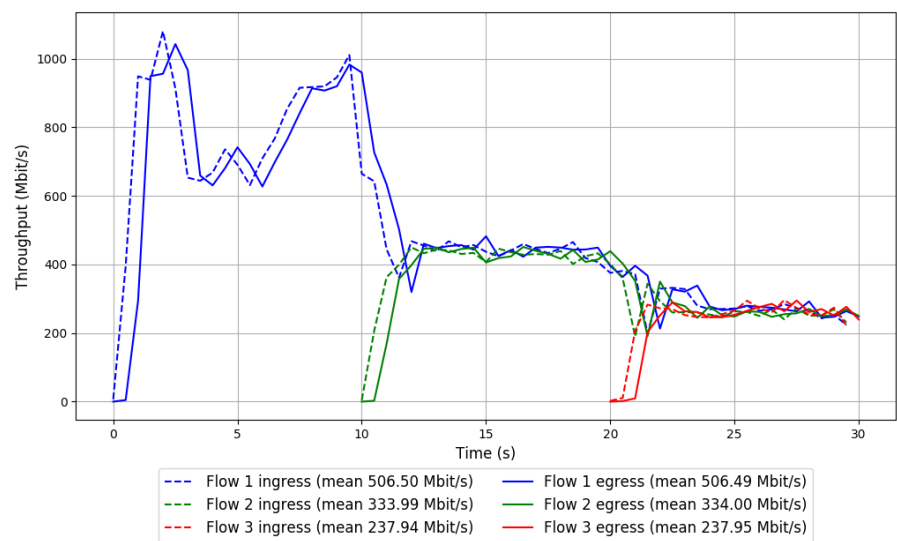Run 5: Report of FillP — Data Link

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```
Run 1: Statistics of FillP-Sheep

Start at: 2019-01-18 09:40:21
End at: 2019-01-18 09:40:51
Local clock offset: -0.479 ms
Remote clock offset: -0.013 ms


# Below is generated by plot.py at 2019-01-18 13:34:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 868.46 Mbit/s
95th percentile per-packet one-way delay: 50.378 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 555.07 Mbit/s
95th percentile per-packet one-way delay: 50.379 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 349.88 Mbit/s
95th percentile per-packet one-way delay: 50.481 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 241.96 Mbit/s
95th percentile per-packet one-way delay: 49.826 ms
Loss rate: 0.00%
```

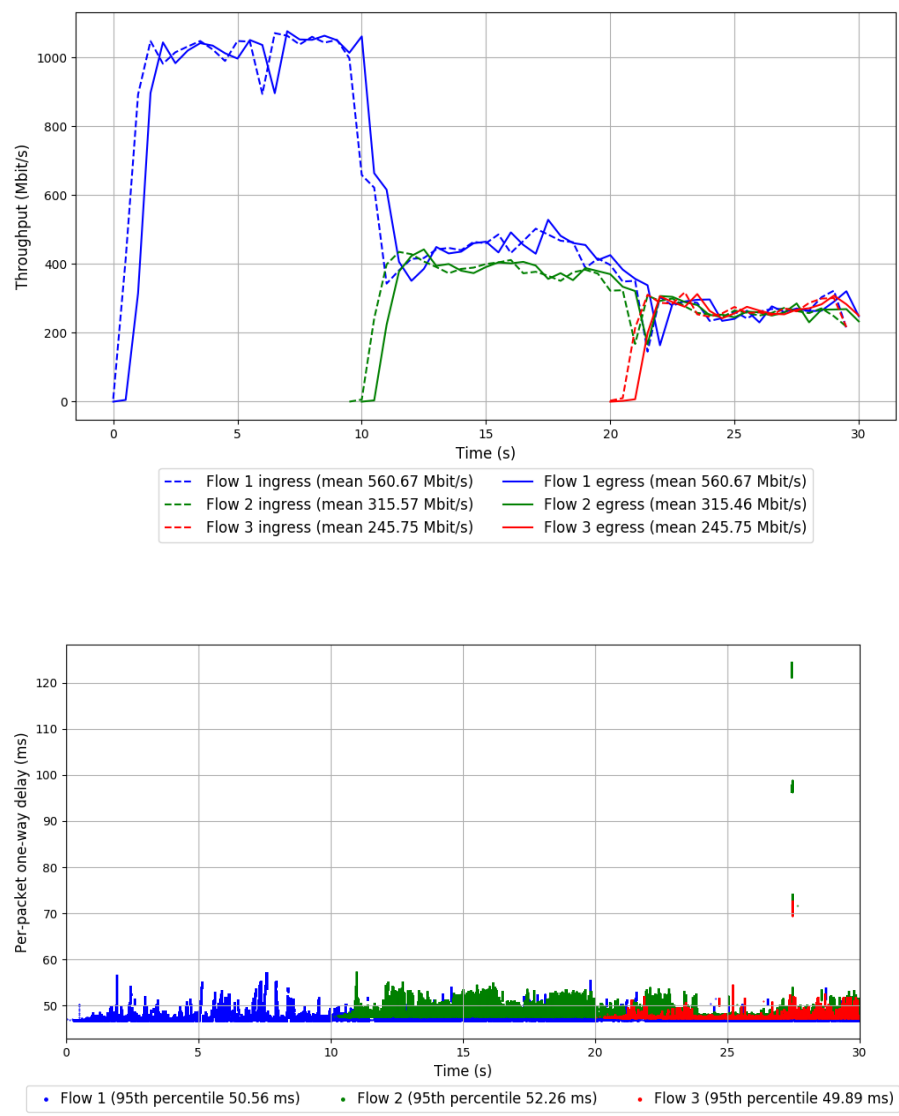Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-01-18 10:17:02
End at: 2019-01-18 10:17:32
Local clock offset: -0.003 ms
Remote clock offset: -0.002 ms


# Below is generated by plot.py at 2019-01-18 13:34:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 840.10 Mbit/s
95th percentile per-packet one-way delay: 56.941 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 548.56 Mbit/s
95th percentile per-packet one-way delay: 60.158 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 319.13 Mbit/s
95th percentile per-packet one-way delay: 50.937 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 239.34 Mbit/s
95th percentile per-packet one-way delay: 49.291 ms
Loss rate: 0.00%
```

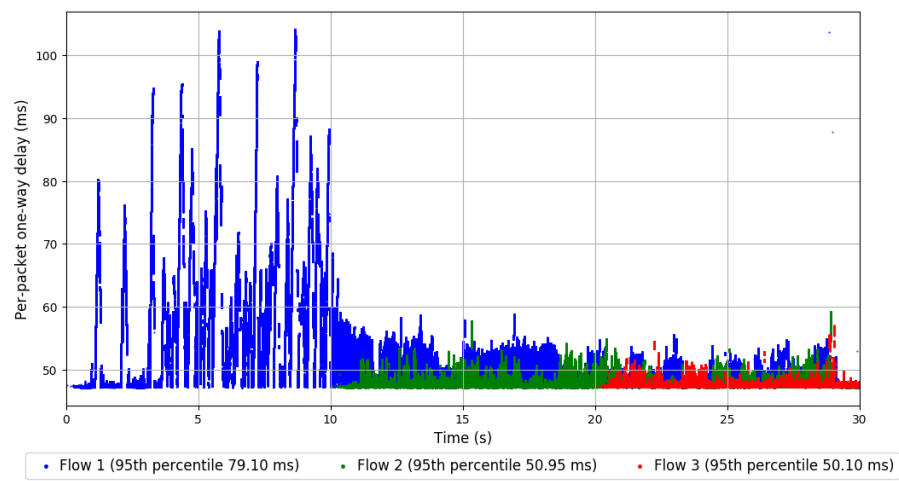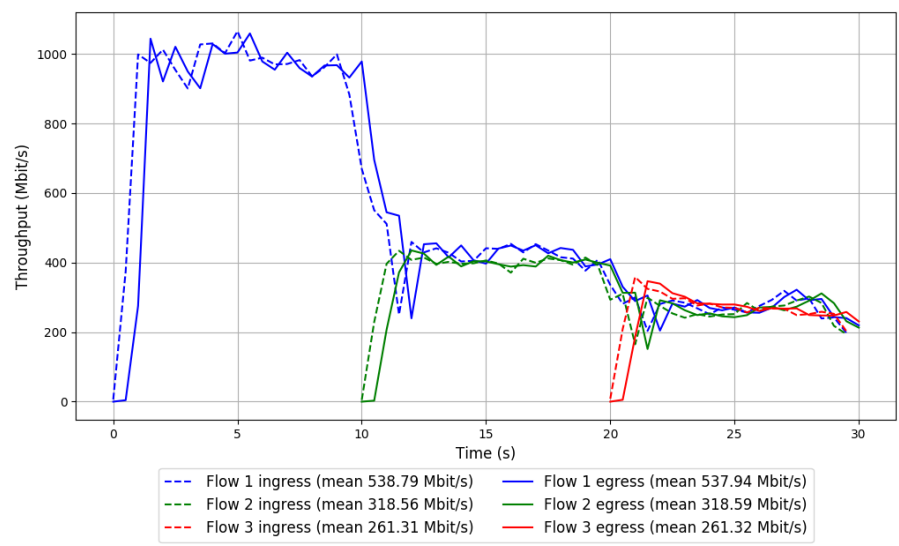Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-01-18 10:53:30
End at: 2019-01-18 10:54:00
Local clock offset: -0.137 ms
Remote clock offset: -0.093 ms


# Below is generated by plot.py at 2019-01-18 13:34:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 807.26 Mbit/s
95th percentile per-packet one-way delay: 51.400 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 506.49 Mbit/s
95th percentile per-packet one-way delay: 52.415 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 334.00 Mbit/s
95th percentile per-packet one-way delay: 50.459 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 237.95 Mbit/s
95th percentile per-packet one-way delay: 50.161 ms
Loss rate: 0.00%
```

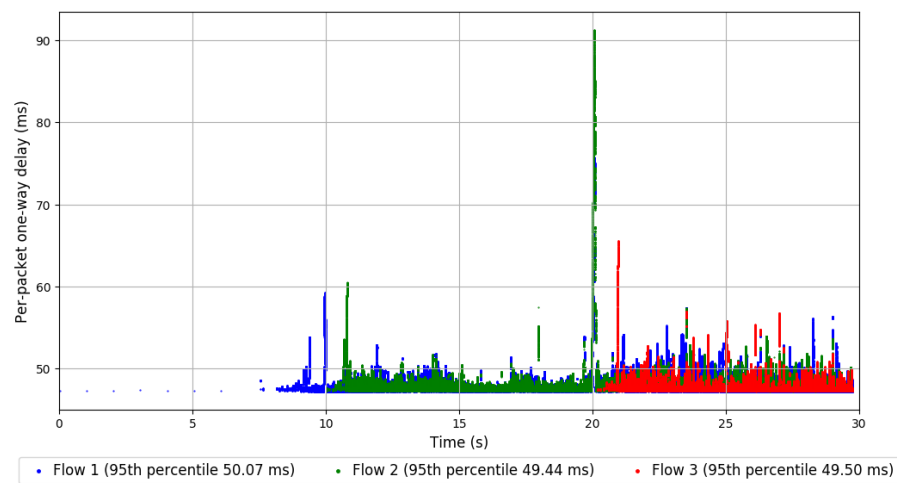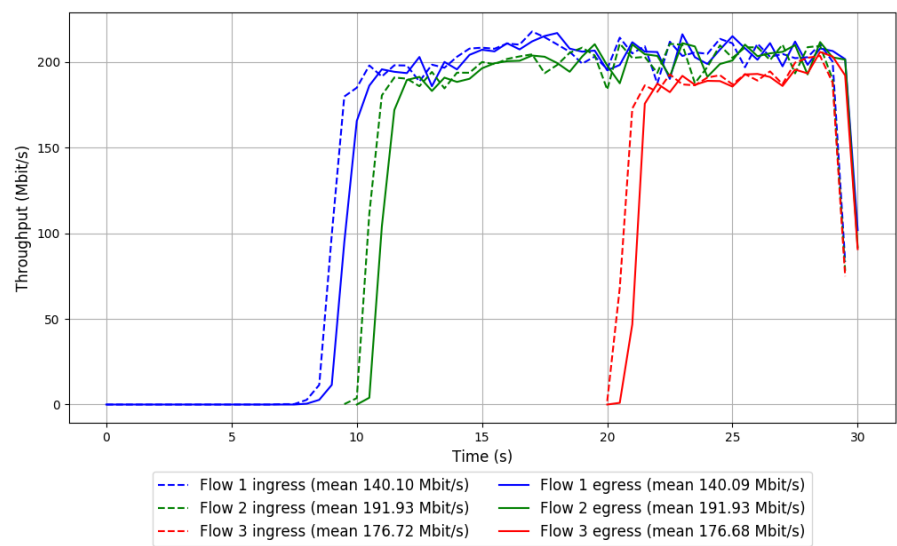Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 506.50 Mbit/s) Flow 1 egress (mean 506.49 Mbit/s)
Flow 2 ingress (mean 333.99 Mbit/s) Flow 2 egress (mean 334.00 Mbit/s)
Flow 3 ingress (mean 237.94 Mbit/s) Flow 3 egress (mean 237.95 Mbit/s)

Flow 1 (95th percentile 52.41 ms) Flow 2 (95th percentile 50.46 ms) Flow 3 (95th percentile 50.16 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-01-18 11:29:24
End at: 2019-01-18 11:29:54
Local clock offset: -0.108 ms
Remote clock offset: -0.289 ms


# Below is generated by plot.py at 2019-01-18 13:38:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 851.95 Mbit/s
95th percentile per-packet one-way delay: 51.350 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 560.67 Mbit/s
95th percentile per-packet one-way delay: 50.564 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 315.46 Mbit/s
95th percentile per-packet one-way delay: 52.261 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 245.75 Mbit/s
95th percentile per-packet one-way delay: 49.889 ms
Loss rate: 0.00%
```

Run 4: Report of FillP-Sheep — Data Link
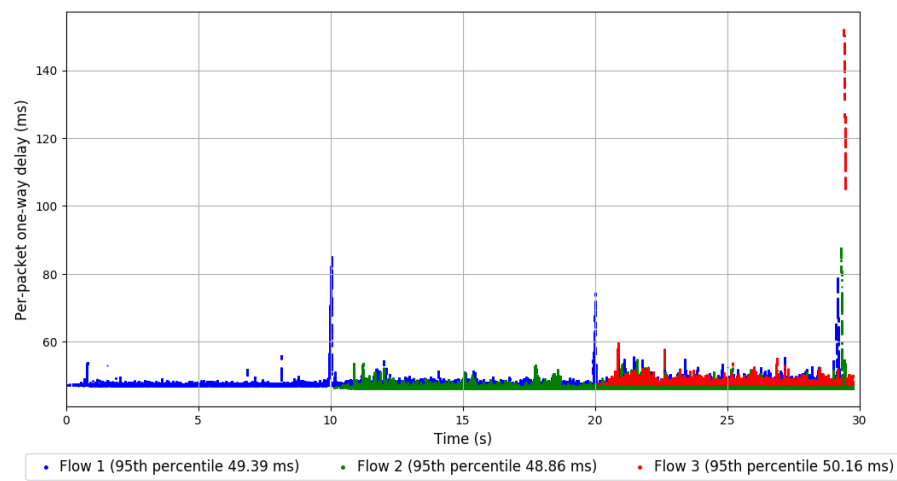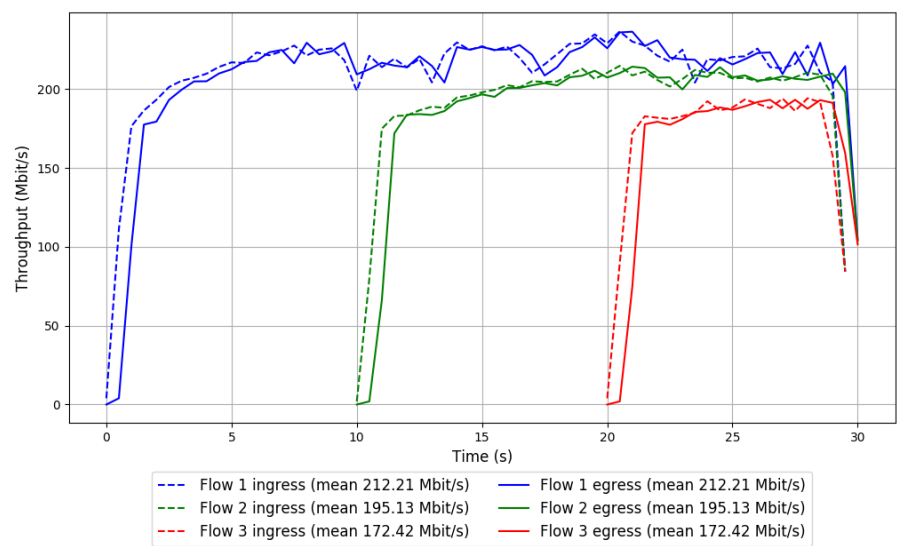

Flow 1 ingress (mean 560.67 Mbit/s)   Flow 1 egress (mean 560.67 Mbit/s)
Flow 2 ingress (mean 315.57 Mbit/s)   Flow 2 egress (mean 315.46 Mbit/s)
Flow 3 ingress (mean 245.75 Mbit/s)   Flow 3 egress (mean 245.75 Mbit/s)

Flow 1 (95th percentile 50.56 ms)   Flow 2 (95th percentile 52.26 ms)   Flow 3 (95th percentile 49.89 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-01-18 12:05:36
End at: 2019-01-18 12:06:06
Local clock offset: -0.086 ms
Remote clock offset: -0.162 ms


# Below is generated by plot.py at 2019-01-18 13:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 836.41 Mbit/s
95th percentile per-packet one-way delay: 73.257 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 537.94 Mbit/s
95th percentile per-packet one-way delay: 79.102 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 318.59 Mbit/s
95th percentile per-packet one-way delay: 50.949 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 261.32 Mbit/s
95th percentile per-packet one-way delay: 50.101 ms
Loss rate: 0.00%
```
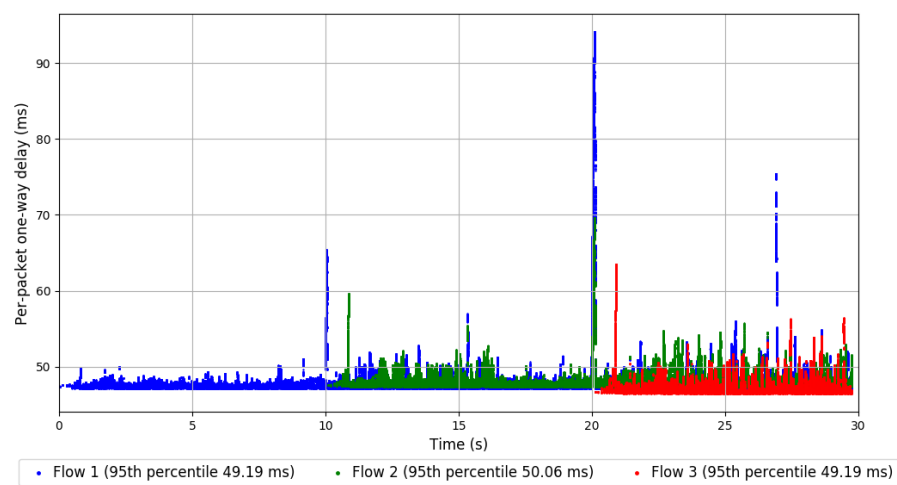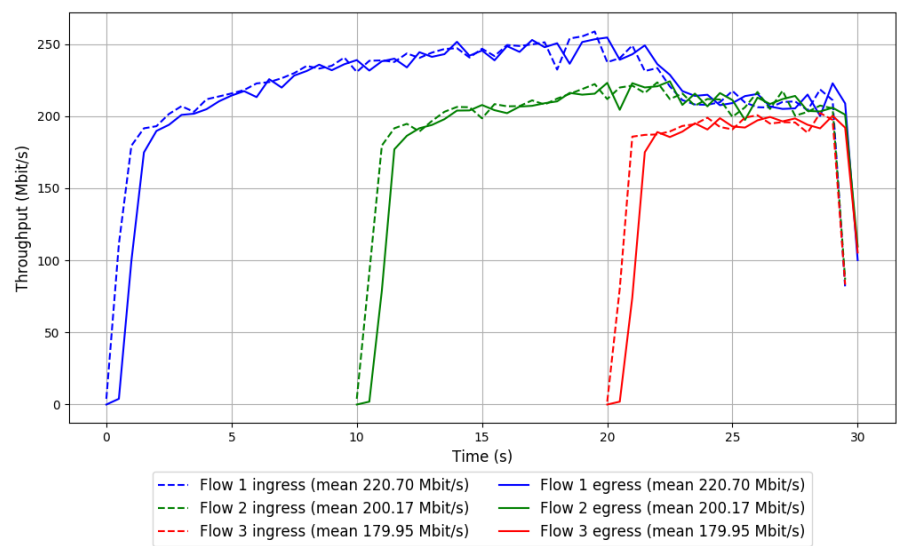
Run 5: Report of FillP-Sheep — Data Link

```
Run 1: Statistics of Indigo

Start at: 2019-01-18 09:21:55
End at: 2019-01-18 09:22:25
Local clock offset: -0.032 ms
Remote clock offset: -0.015 ms


# Below is generated by plot.py at 2019-01-18 13:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 324.32 Mbit/s
95th percentile per-packet one-way delay: 49.753 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 140.09 Mbit/s
95th percentile per-packet one-way delay: 50.070 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 191.93 Mbit/s
95th percentile per-packet one-way delay: 49.443 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 176.68 Mbit/s
95th percentile per-packet one-way delay: 49.501 ms
Loss rate: 0.02%
```
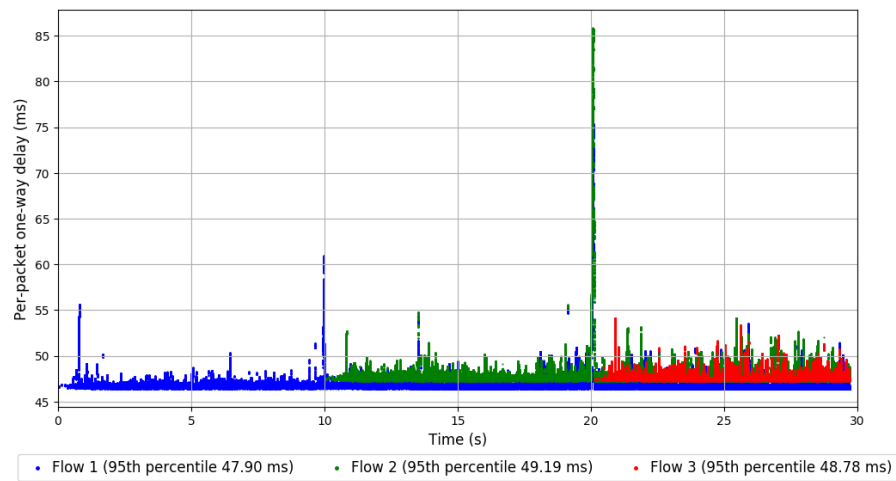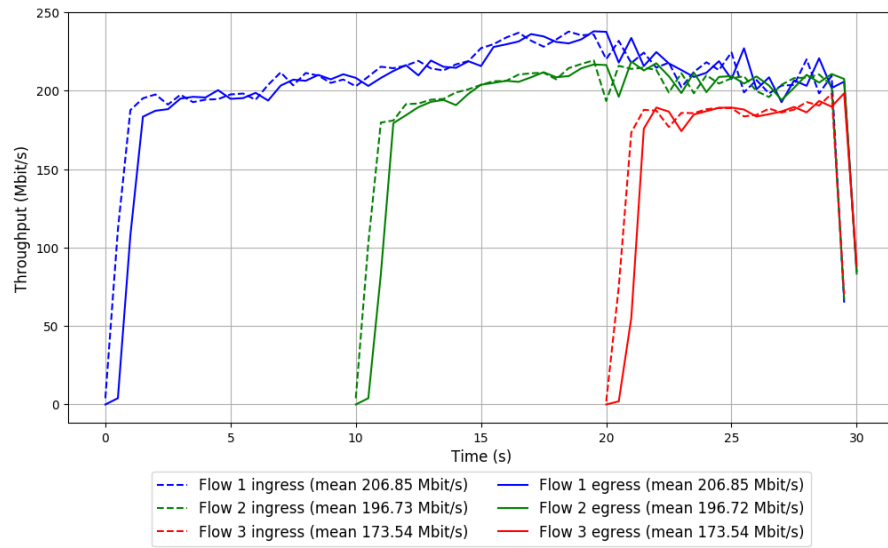
Run 1: Report of Indigo — Data Link

Flow 1 ingress (mean 140.10 Mbit/s)   Flow 1 egress (mean 140.09 Mbit/s)
Flow 2 ingress (mean 191.93 Mbit/s)   Flow 2 egress (mean 191.93 Mbit/s)
Flow 3 ingress (mean 176.72 Mbit/s)   Flow 3 egress (mean 176.68 Mbit/s)

Flow 1 (95th percentile 50.07 ms)   Flow 2 (95th percentile 49.44 ms)   Flow 3 (95th percentile 49.50 ms)

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```
Run 2: Statistics of Indigo

Start at: 2019-01-18 09:58:17
End at: 2019-01-18 09:58:47
Local clock offset: 0.016 ms
Remote clock offset: -0.012 ms

# Below is generated by plot.py at 2019-01-18 13:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 397.08 Mbit/s
95th percentile per-packet one-way delay: 49.416 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 212.21 Mbit/s
95th percentile per-packet one-way delay: 49.392 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 195.13 Mbit/s
95th percentile per-packet one-way delay: 48.858 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 172.42 Mbit/s
95th percentile per-packet one-way delay: 50.163 ms
Loss rate: 0.00%
```
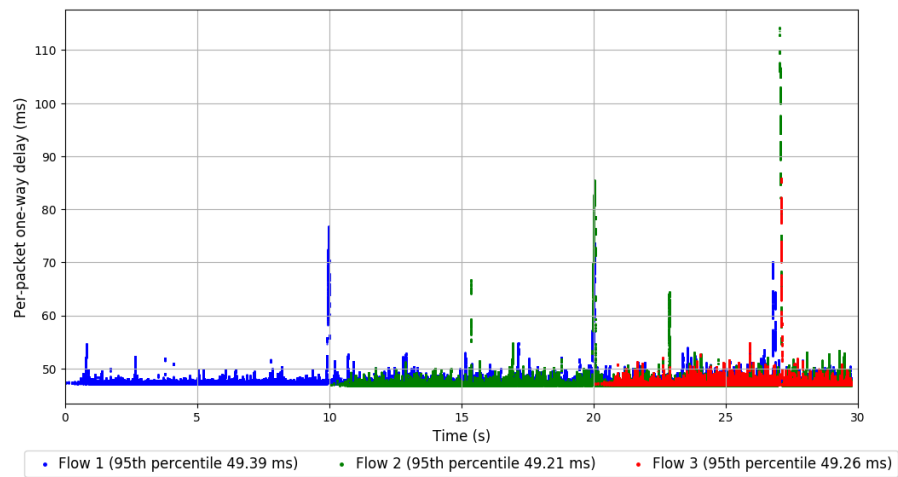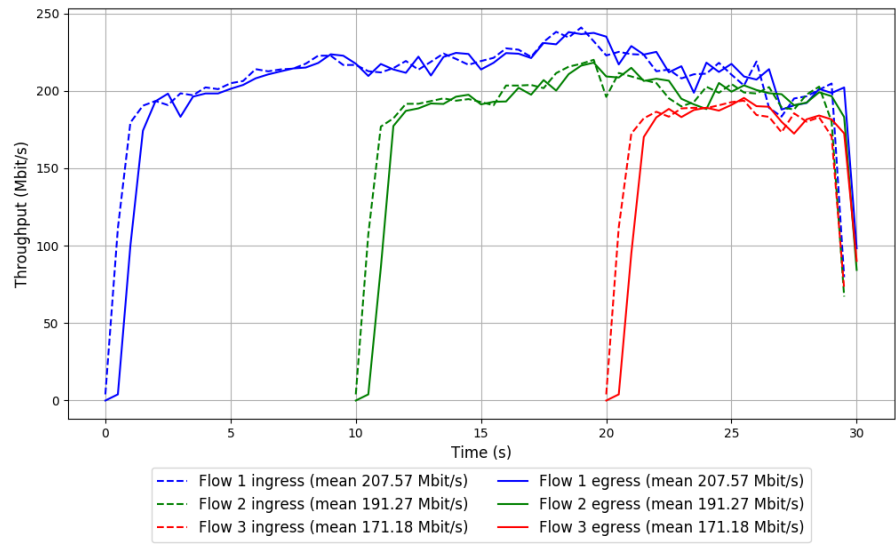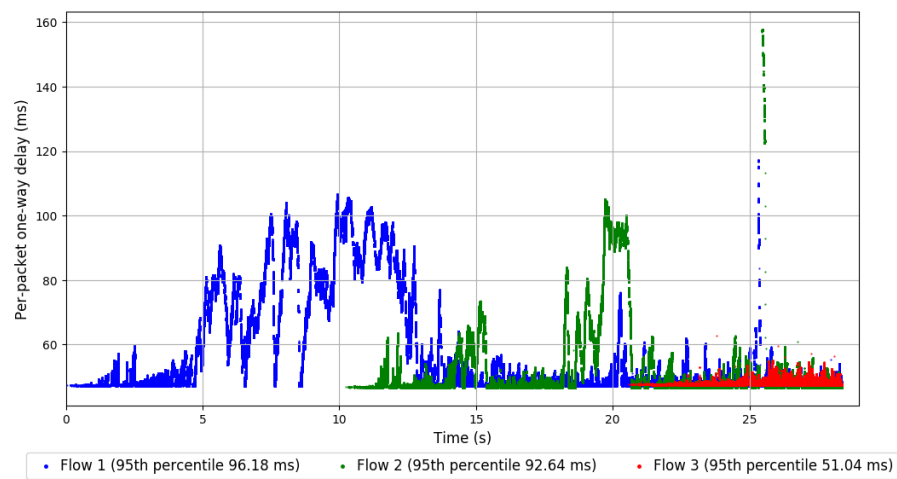
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-01-18 10:34:51
End at: 2019-01-18 10:35:21
Local clock offset: -0.107 ms
Remote clock offset: 0.028 ms


# Below is generated by plot.py at 2019-01-18 13:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 411.35 Mbit/s
95th percentile per-packet one-way delay: 49.531 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 220.70 Mbit/s
95th percentile per-packet one-way delay: 49.187 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 200.17 Mbit/s
95th percentile per-packet one-way delay: 50.063 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 179.95 Mbit/s
95th percentile per-packet one-way delay: 49.185 ms
Loss rate: 0.00%
```
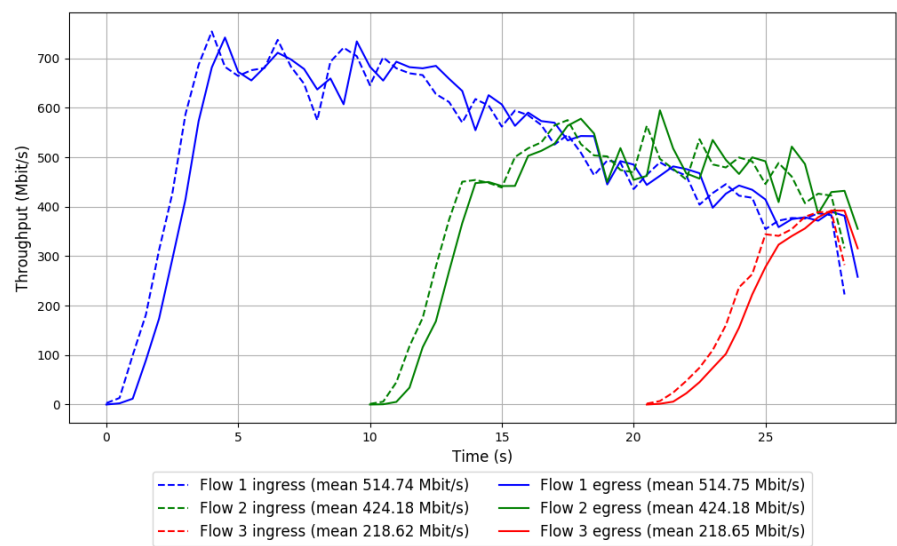
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-01-18 11:10:54
End at: 2019-01-18 11:11:24
Local clock offset: -0.096 ms
Remote clock offset: -0.214 ms


# Below is generated by plot.py at 2019-01-18 13:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 393.12 Mbit/s
95th percentile per-packet one-way delay: 48.624 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 206.85 Mbit/s
95th percentile per-packet one-way delay: 47.903 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 196.72 Mbit/s
95th percentile per-packet one-way delay: 49.189 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 173.54 Mbit/s
95th percentile per-packet one-way delay: 48.781 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-01-18 11:46:47
End at: 2019-01-18 11:47:17
Local clock offset: 0.231 ms
Remote clock offset: -0.312 ms


# Below is generated by plot.py at 2019-01-18 13:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 390.15 Mbit/s
95th percentile per-packet one-way delay: 49.320 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 207.57 Mbit/s
95th percentile per-packet one-way delay: 49.391 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 191.27 Mbit/s
95th percentile per-packet one-way delay: 49.210 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 171.18 Mbit/s
95th percentile per-packet one-way delay: 49.258 ms
Loss rate: 0.00%
```
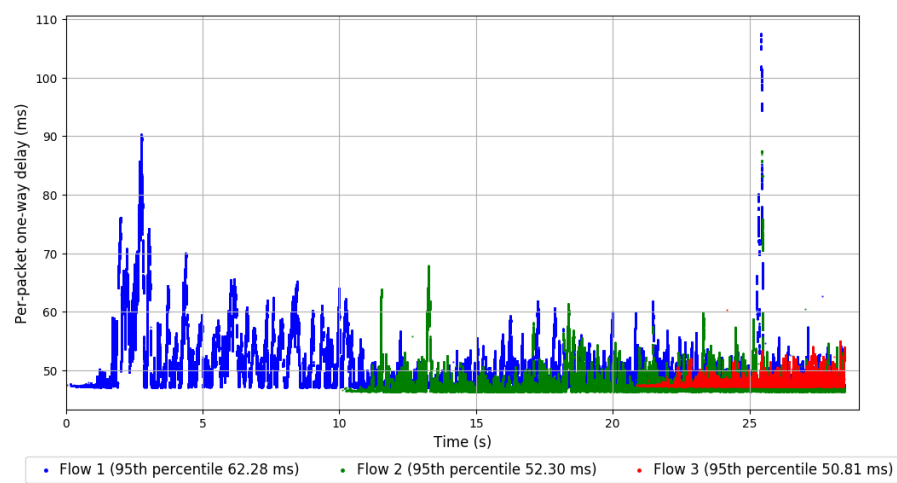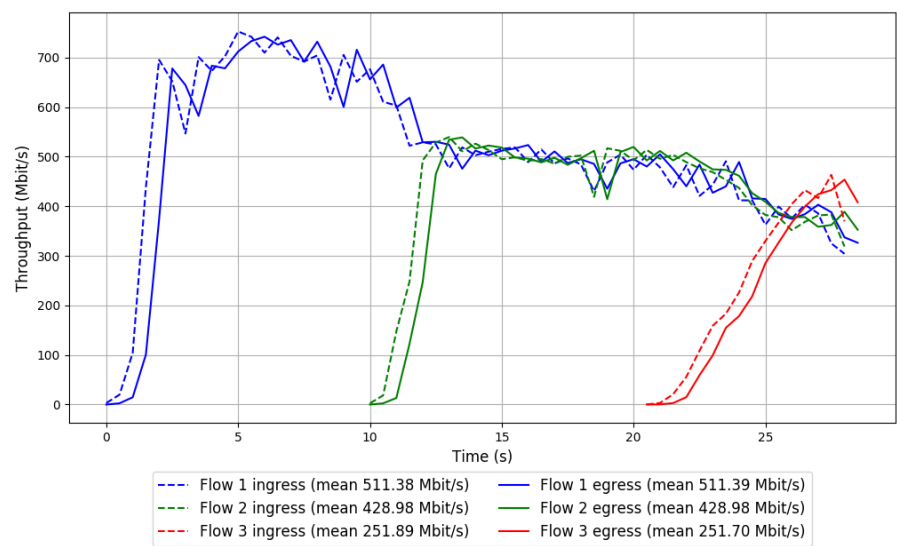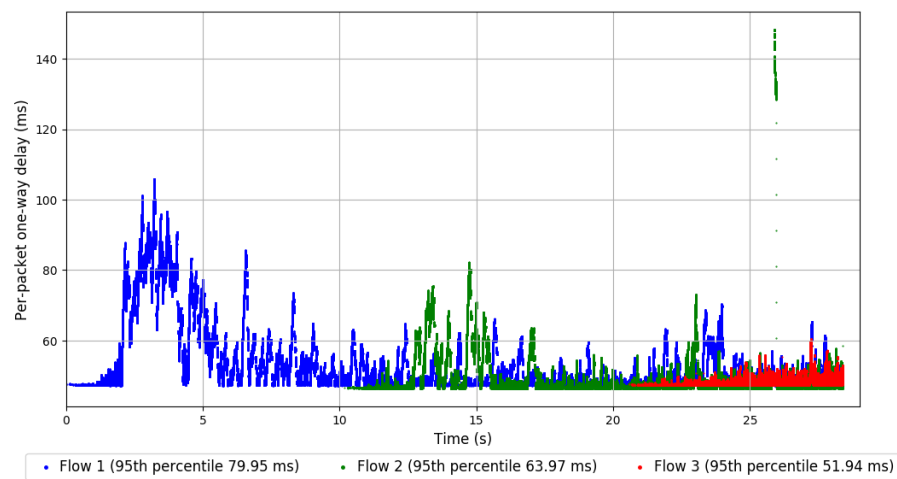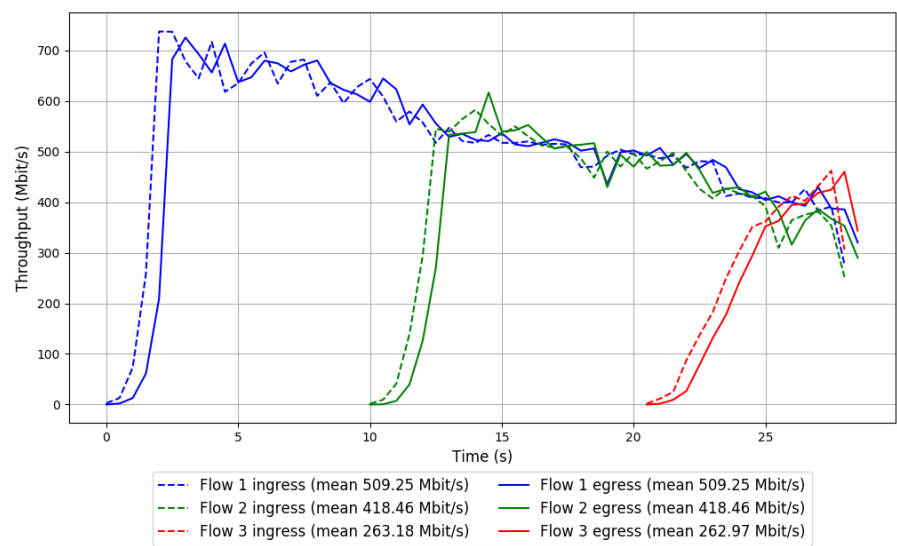
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-18 09:46:13
End at: 2019-01-18 09:46:43
Local clock offset: -0.067 ms
Remote clock offset: -0.029 ms


# Below is generated by plot.py at 2019-01-18 13:52:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 846.63 Mbit/s
95th percentile per-packet one-way delay: 94.815 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 514.75 Mbit/s
95th percentile per-packet one-way delay: 96.180 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 424.18 Mbit/s
95th percentile per-packet one-way delay: 92.644 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 218.65 Mbit/s
95th percentile per-packet one-way delay: 51.039 ms
Loss rate: 0.00%
```

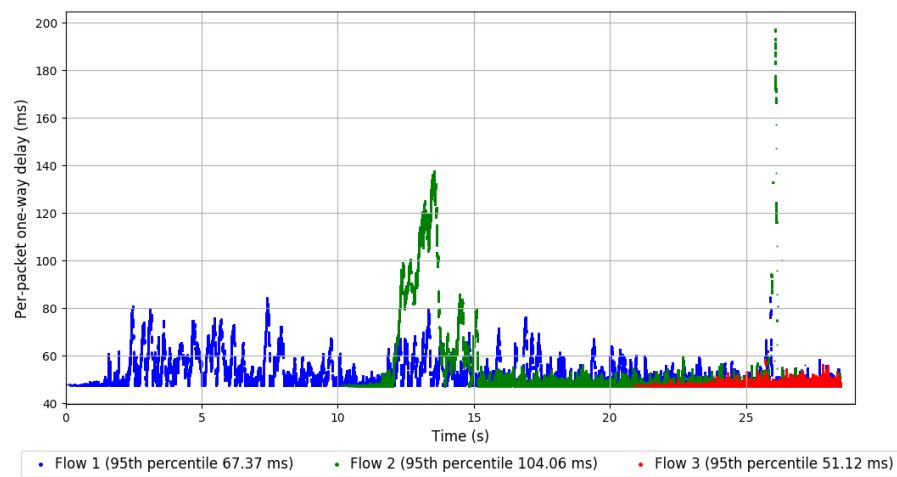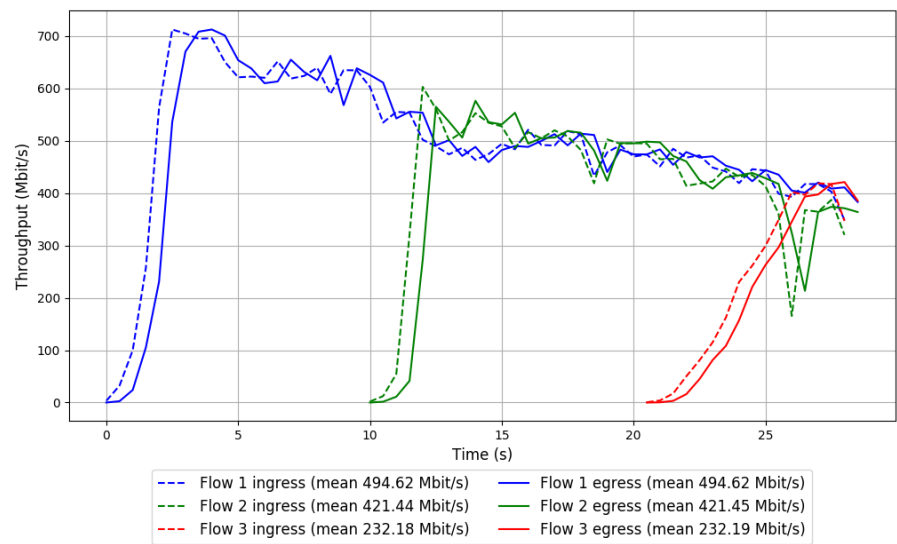Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-18 10:22:58
End at: 2019-01-18 10:23:28
Local clock offset: -0.116 ms
Remote clock offset: -0.031 ms


# Below is generated by plot.py at 2019-01-18 13:54:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 855.63 Mbit/s
95th percentile per-packet one-way delay: 59.445 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 511.39 Mbit/s
95th percentile per-packet one-way delay: 62.284 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 428.98 Mbit/s
95th percentile per-packet one-way delay: 52.296 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 251.70 Mbit/s
95th percentile per-packet one-way delay: 50.813 ms
Loss rate: 0.11%
```
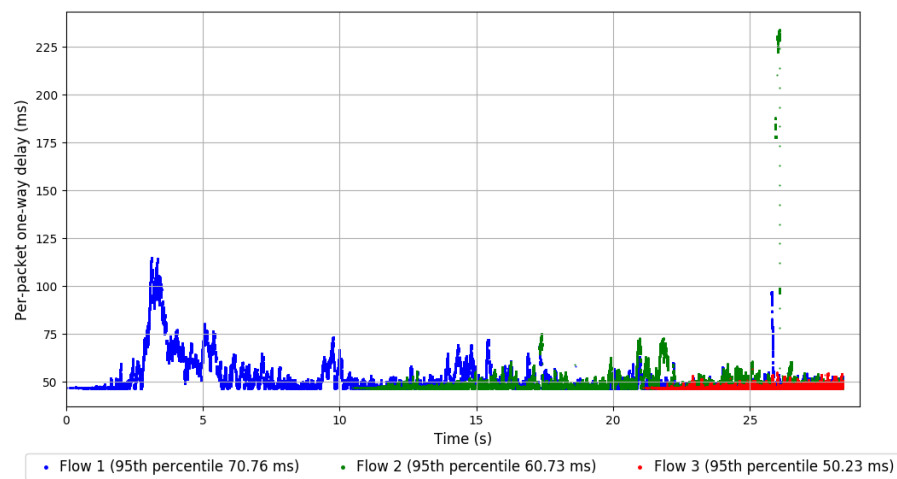
Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-18 10:59:14
End at: 2019-01-18 10:59:44
Local clock offset: -0.095 ms
Remote clock offset: -0.146 ms


# Below is generated by plot.py at 2019-01-18 14:00:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 850.46 Mbit/s
95th percentile per-packet one-way delay: 75.646 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 509.25 Mbit/s
95th percentile per-packet one-way delay: 79.949 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 418.46 Mbit/s
95th percentile per-packet one-way delay: 63.973 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 262.97 Mbit/s
95th percentile per-packet one-way delay: 51.943 ms
Loss rate: 0.08%
```
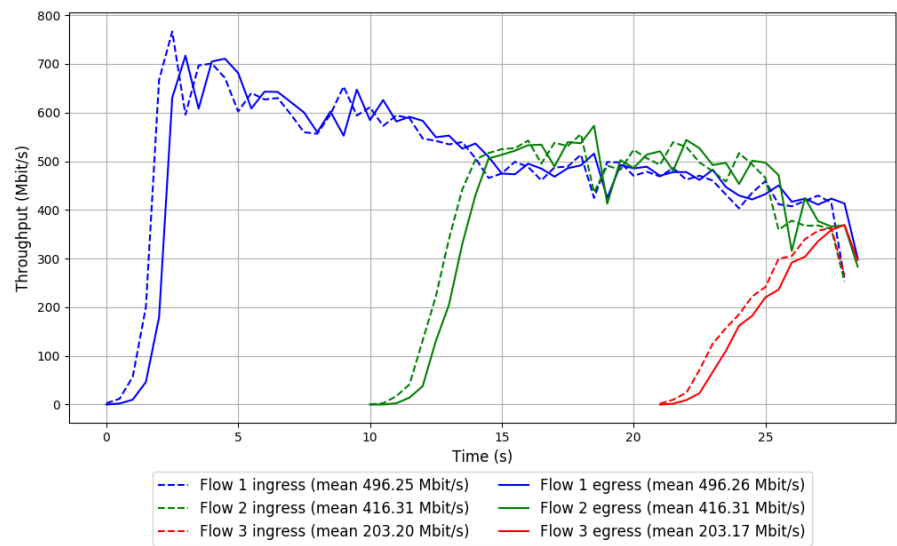
Run 3: Report of Indigo-MusesC3 — Data Link

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-18 11:35:04
End at: 2019-01-18 11:35:34
Local clock offset: -0.059 ms
Remote clock offset: -0.281 ms


# Below is generated by plot.py at 2019-01-18 14:03:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 829.46 Mbit/s
95th percentile per-packet one-way delay: 74.016 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 494.62 Mbit/s
95th percentile per-packet one-way delay: 67.366 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 421.45 Mbit/s
95th percentile per-packet one-way delay: 104.061 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 232.19 Mbit/s
95th percentile per-packet one-way delay: 51.116 ms
Loss rate: 0.00%
```
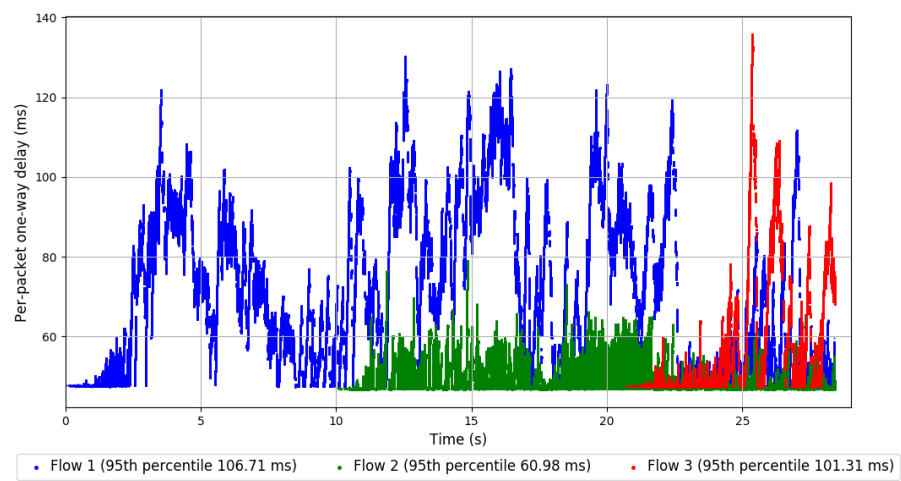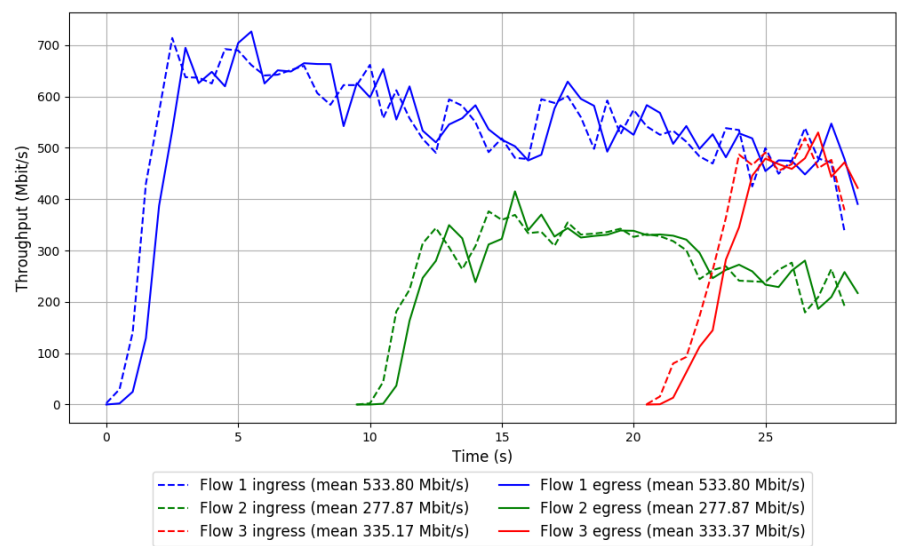
Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-18 12:11:23
End at: 2019-01-18 12:11:53
Local clock offset: -0.066 ms
Remote clock offset: -0.054 ms


# Below is generated by plot.py at 2019-01-18 14:03:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 812.04 Mbit/s
95th percentile per-packet one-way delay: 67.860 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 496.26 Mbit/s
95th percentile per-packet one-way delay: 70.756 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 416.31 Mbit/s
95th percentile per-packet one-way delay: 60.730 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 203.17 Mbit/s
95th percentile per-packet one-way delay: 50.229 ms
Loss rate: 0.00%
```
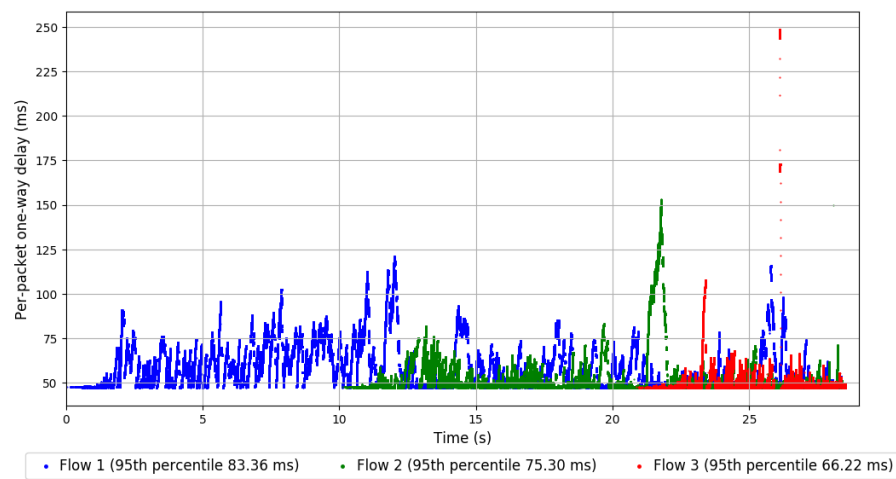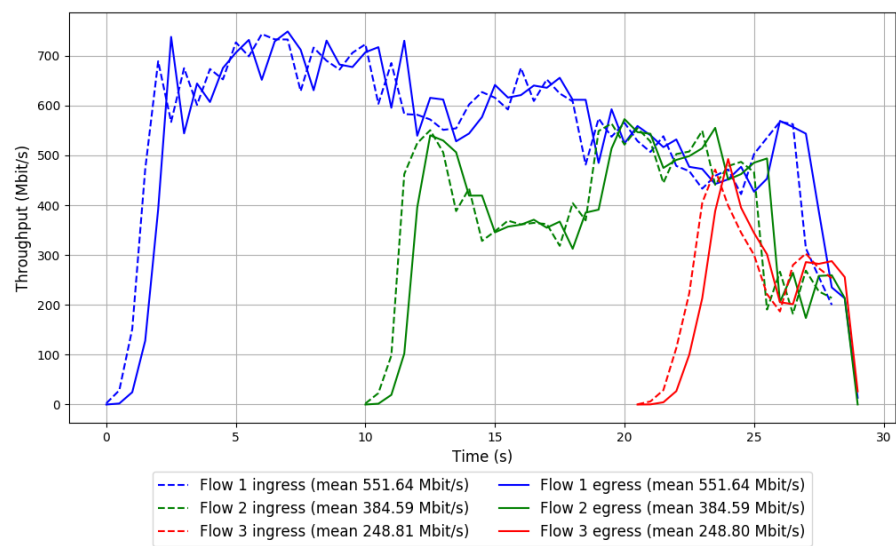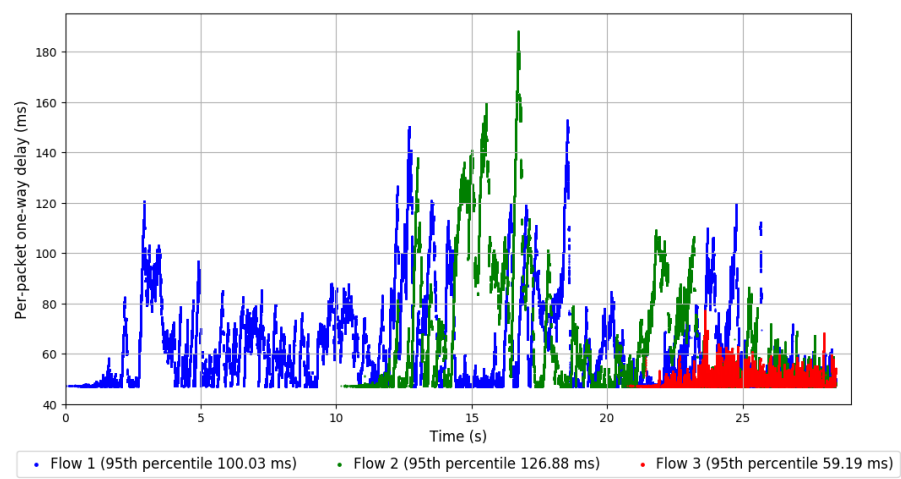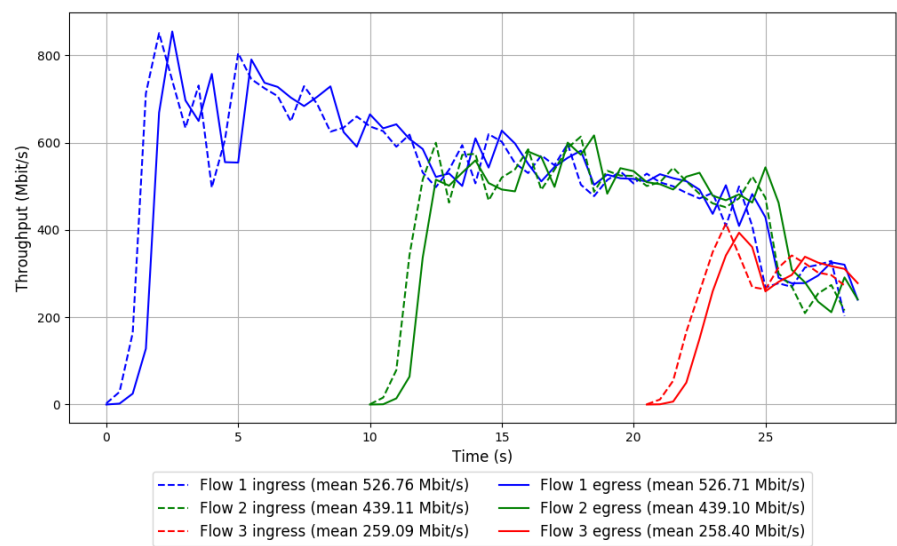
Run 5: Report of Indigo-MusesC3 — Data Link

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Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-18 09:33:33
End at: 2019-01-18 09:34:03
Local clock offset: -0.104 ms
Remote clock offset: 0.031 ms

Below is generated by plot.py at 2019-01-18 14:03:50
Datalink statistics
-- Total of 3 flows:
Average throughput: 805.33 Mbit/s
95th percentile per-packet one-way delay: 103.373 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 533.80 Mbit/s
95th percentile per-packet one-way delay: 106.712 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 277.87 Mbit/s
95th percentile per-packet one-way delay: 60.975 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 333.37 Mbit/s
95th percentile per-packet one-way delay: 101.306 ms
Loss rate: 0.55%

Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-01-18 10:10:07
End at: 2019-01-18 10:10:37
Local clock offset: -0.065 ms
Remote clock offset: 0.035 ms


# Below is generated by plot.py at 2019-01-18 14:05:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 867.06 Mbit/s
95th percentile per-packet one-way delay: 82.578 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 551.64 Mbit/s
95th percentile per-packet one-way delay: 83.360 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 384.59 Mbit/s
95th percentile per-packet one-way delay: 75.298 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 248.80 Mbit/s
95th percentile per-packet one-way delay: 66.223 ms
Loss rate: 0.00%
```

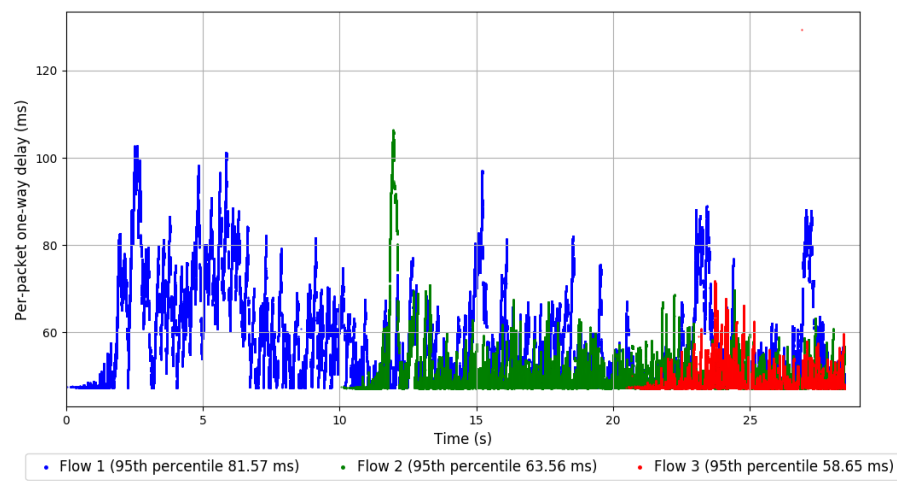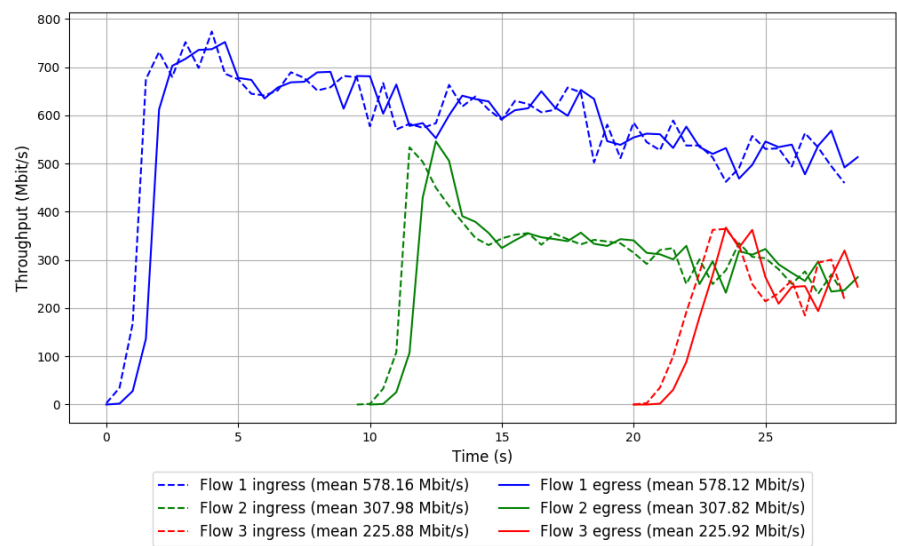Run 2: Report of Indigo-MusesC5 — Data Link

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-18 10:46:39
End at: 2019-01-18 10:47:09
Local clock offset: -0.046 ms
Remote clock offset: -0.126 ms


# Below is generated by plot.py at 2019-01-18 14:07:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 878.83 Mbit/s
95th percentile per-packet one-way delay: 106.125 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 526.71 Mbit/s
95th percentile per-packet one-way delay: 100.028 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 439.10 Mbit/s
95th percentile per-packet one-way delay: 126.884 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 258.40 Mbit/s
95th percentile per-packet one-way delay: 59.193 ms
Loss rate: 0.26%
```
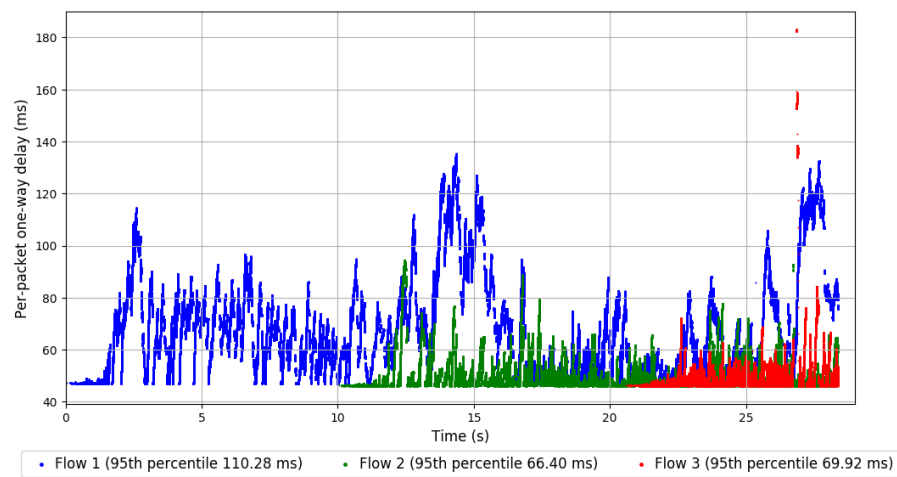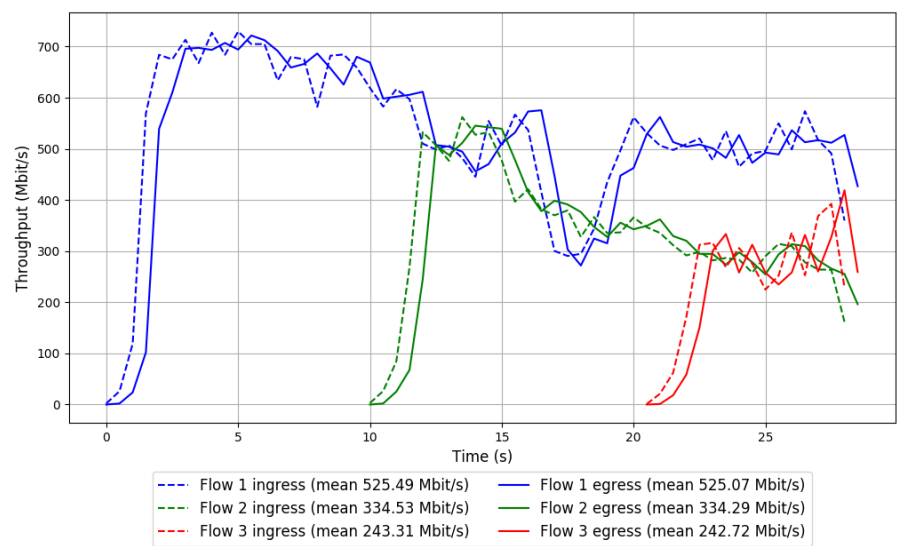
Run 3: Report of Indigo-MusesC5 — Data Link

- - - Flow 1 ingress (mean 526.76 Mbit/s)　　—— Flow 1 egress (mean 526.71 Mbit/s)
- - - Flow 2 ingress (mean 439.11 Mbit/s)　　—— Flow 2 egress (mean 439.10 Mbit/s)
- - - Flow 3 ingress (mean 259.09 Mbit/s)　　—— Flow 3 egress (mean 258.40 Mbit/s)

• Flow 1 (95th percentile 100.03 ms)　　• Flow 2 (95th percentile 126.88 ms)　　• Flow 3 (95th percentile 59.19 ms)

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```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-18 11:22:32
End at: 2019-01-18 11:23:02
Local clock offset: -0.011 ms
Remote clock offset: -0.282 ms

# Below is generated by plot.py at 2019-01-18 14:09:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 841.16 Mbit/s
95th percentile per-packet one-way delay: 79.664 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 578.12 Mbit/s
95th percentile per-packet one-way delay: 81.570 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 307.82 Mbit/s
95th percentile per-packet one-way delay: 63.559 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 225.92 Mbit/s
95th percentile per-packet one-way delay: 58.649 ms
Loss rate: 0.00%
```
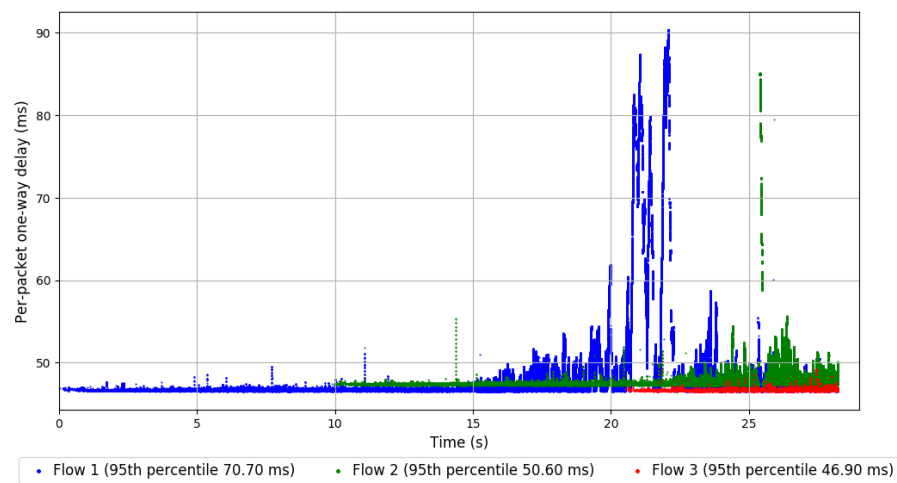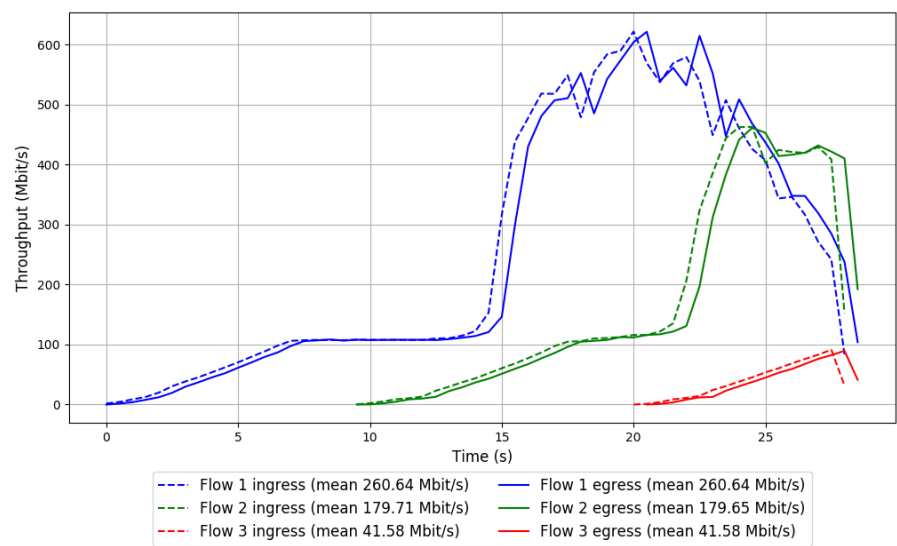
Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-01-18 11:58:42
End at: 2019-01-18 11:59:12
Local clock offset: 0.235 ms
Remote clock offset: -0.292 ms


# Below is generated by plot.py at 2019-01-18 14:11:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 807.99 Mbit/s
95th percentile per-packet one-way delay: 102.629 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 525.07 Mbit/s
95th percentile per-packet one-way delay: 110.278 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 334.29 Mbit/s
95th percentile per-packet one-way delay: 66.398 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 242.72 Mbit/s
95th percentile per-packet one-way delay: 69.921 ms
Loss rate: 0.22%
```

Run 5: Report of Indigo-MusesC5 — Data Link

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-18 09:24:49
End at: 2019-01-18 09:25:19
Local clock offset: -0.067 ms
Remote clock offset: 0.097 ms


# Below is generated by plot.py at 2019-01-18 14:11:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 388.85 Mbit/s
95th percentile per-packet one-way delay: 63.623 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 260.64 Mbit/s
95th percentile per-packet one-way delay: 70.700 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 179.65 Mbit/s
95th percentile per-packet one-way delay: 50.600 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 41.58 Mbit/s
95th percentile per-packet one-way delay: 46.895 ms
Loss rate: 0.00%
```
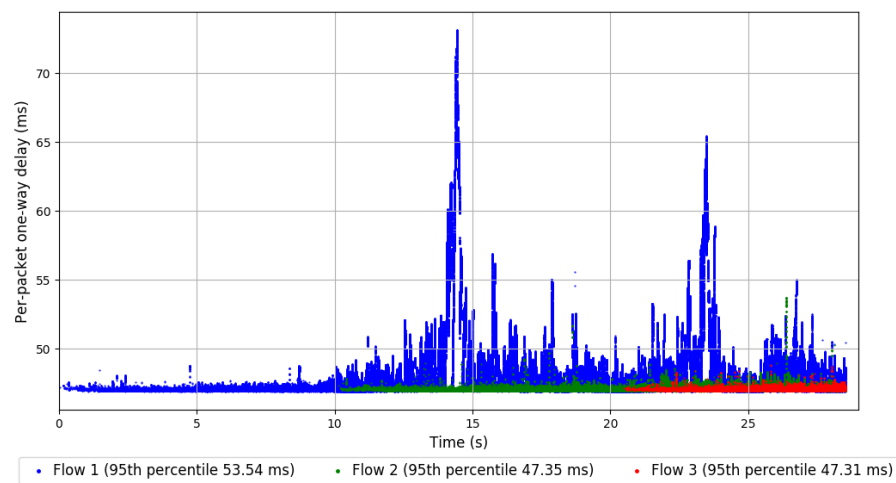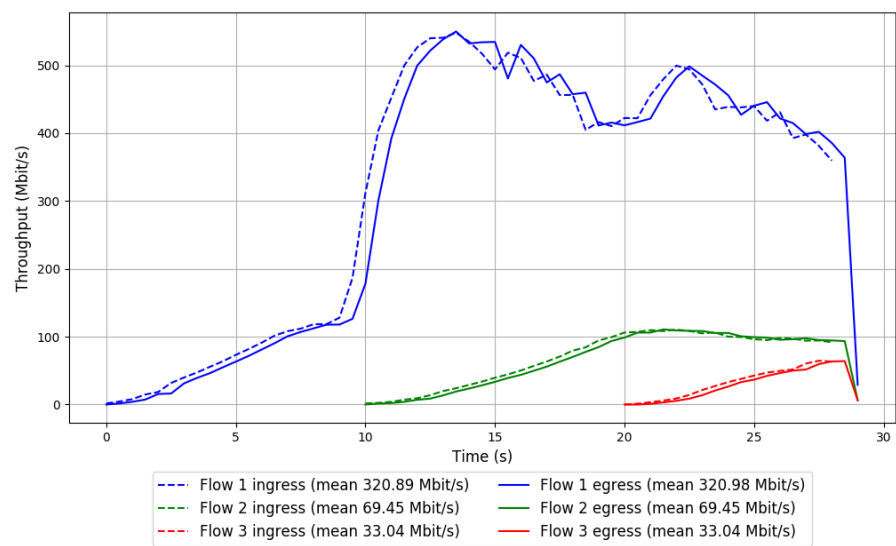
Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-18 10:01:24
End at: 2019-01-18 10:01:54
Local clock offset: 0.268 ms
Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2019-01-18 14:11:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 375.16 Mbit/s
95th percentile per-packet one-way delay: 52.767 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 320.98 Mbit/s
95th percentile per-packet one-way delay: 53.541 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 69.45 Mbit/s
95th percentile per-packet one-way delay: 47.351 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.04 Mbit/s
95th percentile per-packet one-way delay: 47.308 ms
Loss rate: 0.00%
```
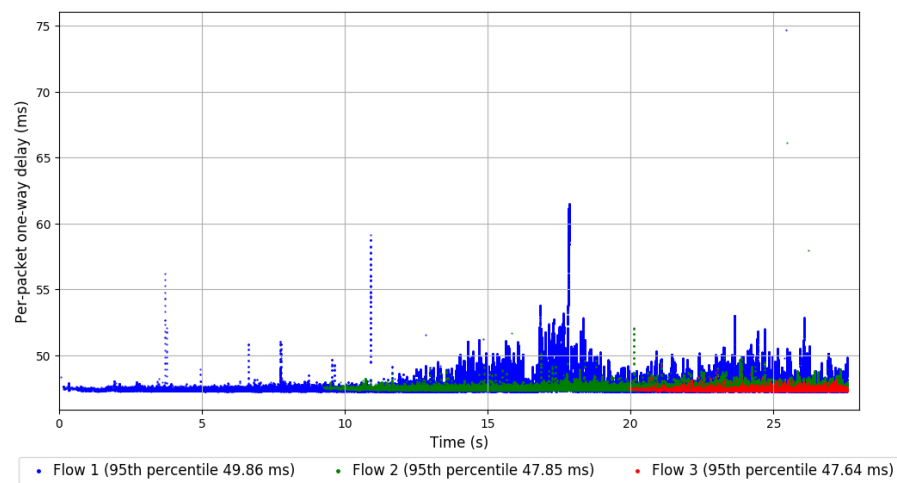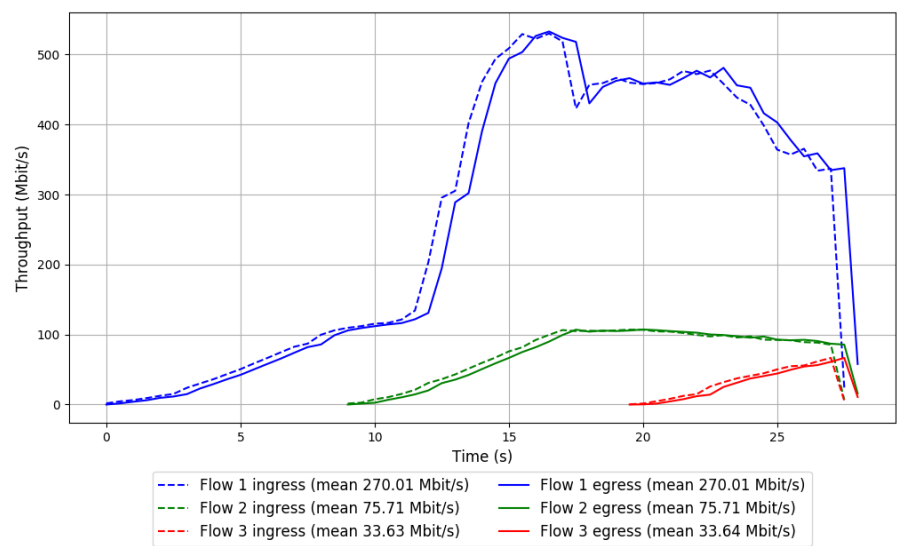
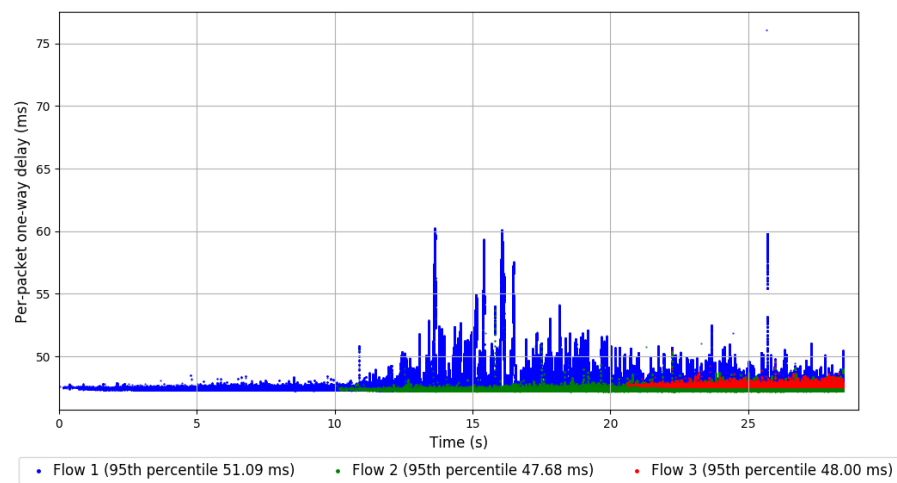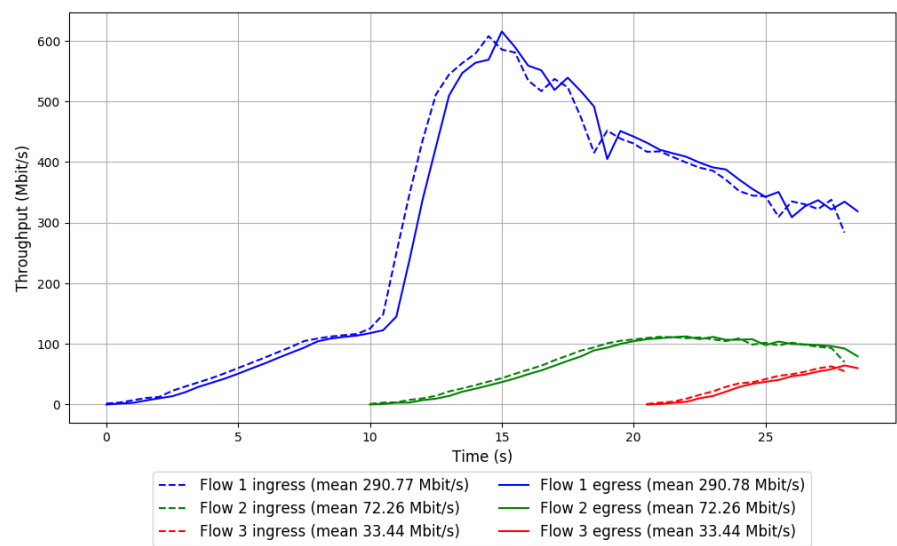Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-18 10:37:59
End at: 2019-01-18 10:38:29
Local clock offset: 0.011 ms
Remote clock offset: 0.093 ms


# Below is generated by plot.py at 2019-01-18 14:11:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 329.93 Mbit/s
95th percentile per-packet one-way delay: 49.616 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 270.01 Mbit/s
95th percentile per-packet one-way delay: 49.859 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 75.71 Mbit/s
95th percentile per-packet one-way delay: 47.855 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.64 Mbit/s
95th percentile per-packet one-way delay: 47.638 ms
Loss rate: 0.00%
```

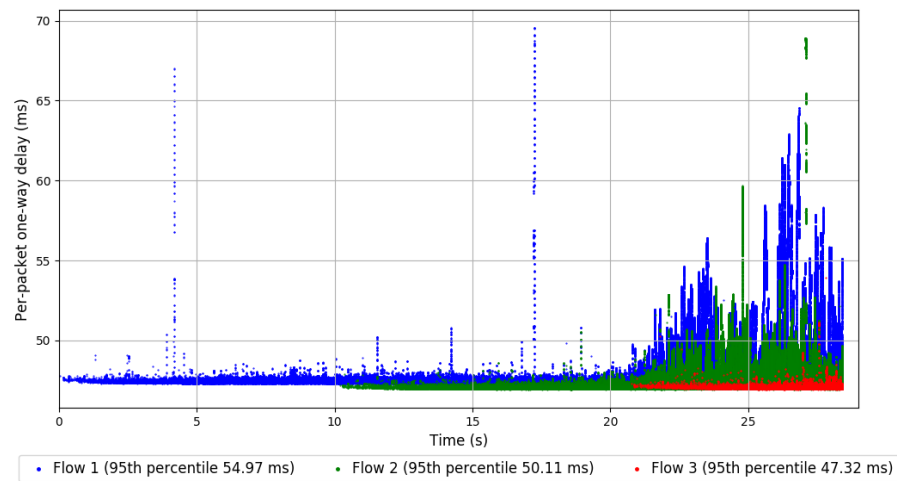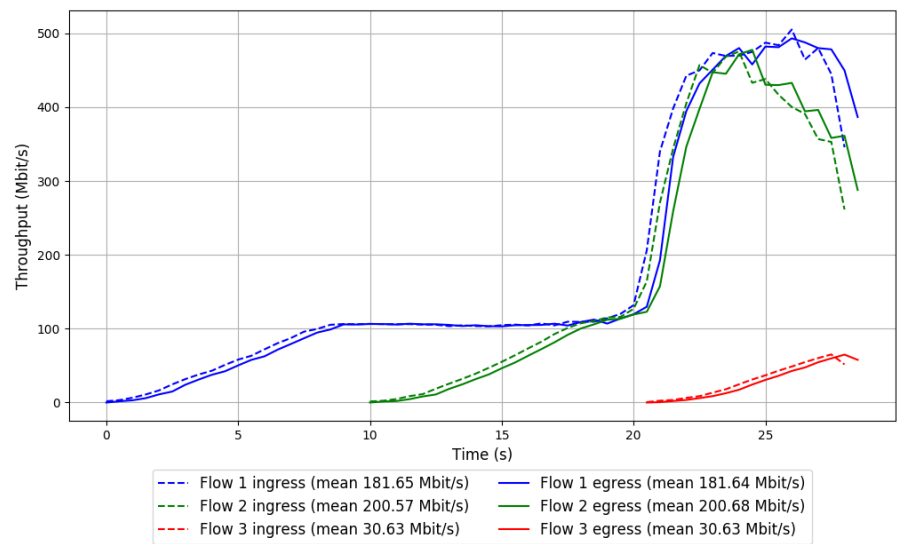Run 3: Report of Indigo-MusesD — Data Link

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```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-18 11:13:59
End at: 2019-01-18 11:14:29
Local clock offset: -0.107 ms
Remote clock offset: -0.195 ms


# Below is generated by plot.py at 2019-01-18 14:11:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 346.83 Mbit/s
95th percentile per-packet one-way delay: 50.726 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 290.78 Mbit/s
95th percentile per-packet one-way delay: 51.087 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 72.26 Mbit/s
95th percentile per-packet one-way delay: 47.681 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.44 Mbit/s
95th percentile per-packet one-way delay: 48.003 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-18 11:50:10
End at: 2019-01-18 11:50:40
Local clock offset: 0.039 ms
Remote clock offset: -0.346 ms


# Below is generated by plot.py at 2019-01-18 14:12:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 318.83 Mbit/s
95th percentile per-packet one-way delay: 53.181 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 181.64 Mbit/s
95th percentile per-packet one-way delay: 54.970 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 200.68 Mbit/s
95th percentile per-packet one-way delay: 50.107 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.63 Mbit/s
95th percentile per-packet one-way delay: 47.322 ms
Loss rate: 0.00%
```
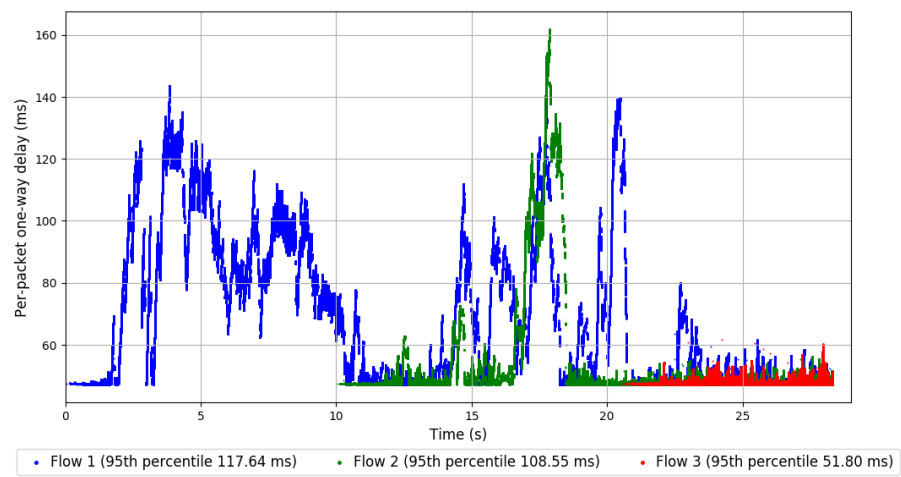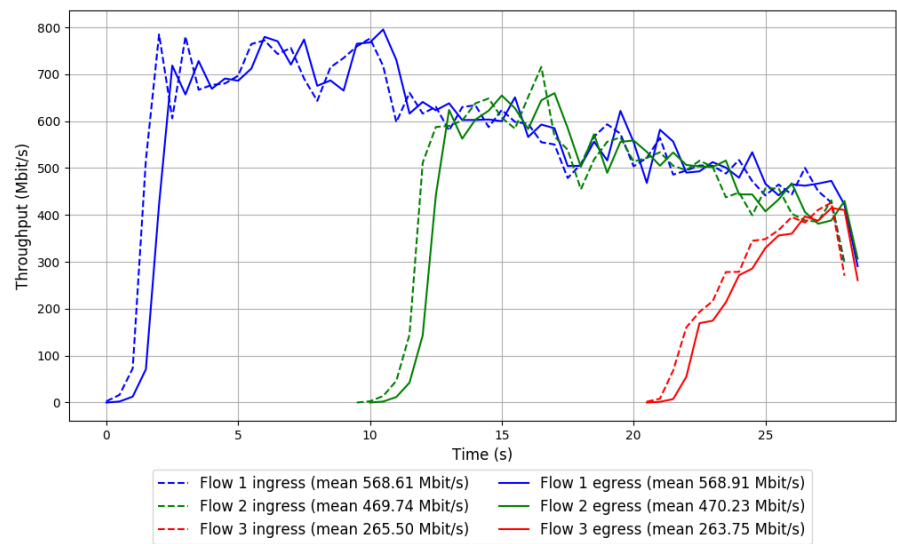
Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-18 09:49:23
End at: 2019-01-18 09:49:53
Local clock offset: 0.044 ms
Remote clock offset: 0.015 ms


# Below is generated by plot.py at 2019-01-18 14:24:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 945.26 Mbit/s
95th percentile per-packet one-way delay: 115.578 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 568.91 Mbit/s
95th percentile per-packet one-way delay: 117.638 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 470.23 Mbit/s
95th percentile per-packet one-way delay: 108.551 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 263.75 Mbit/s
95th percentile per-packet one-way delay: 51.799 ms
Loss rate: 1.39%
```

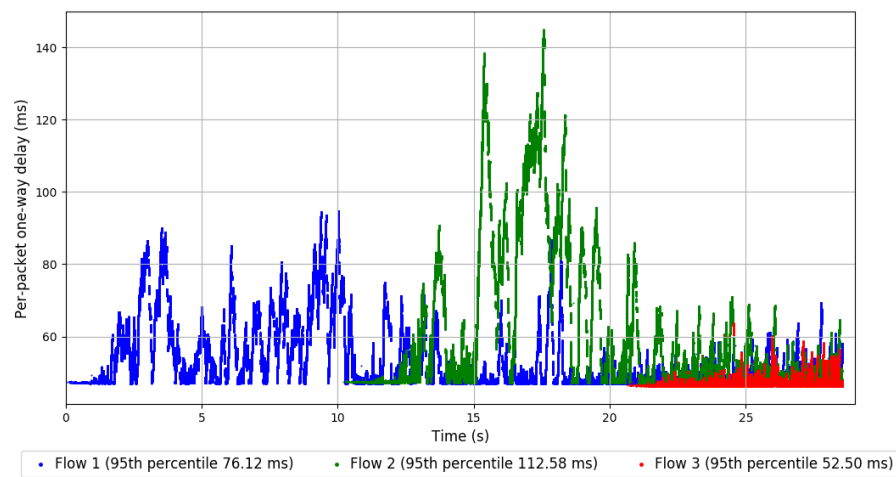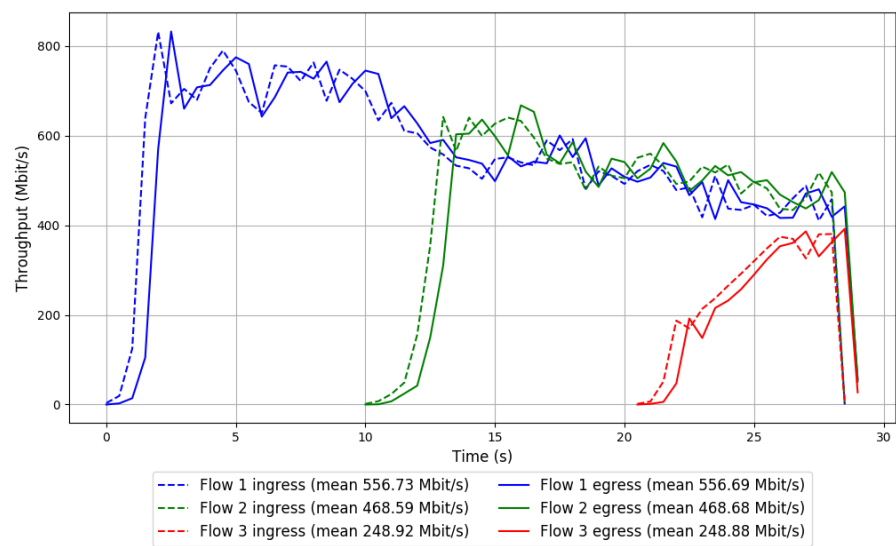Run 1: Report of Indigo-MusesT — Data Link

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```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-18 10:26:04
End at: 2019-01-18 10:26:34
Local clock offset: -0.068 ms
Remote clock offset: -0.065 ms


# Below is generated by plot.py at 2019-01-18 14:25:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 926.99 Mbit/s
95th percentile per-packet one-way delay: 88.226 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 556.69 Mbit/s
95th percentile per-packet one-way delay: 76.123 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 468.68 Mbit/s
95th percentile per-packet one-way delay: 112.582 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 248.88 Mbit/s
95th percentile per-packet one-way delay: 52.501 ms
Loss rate: 0.00%
```

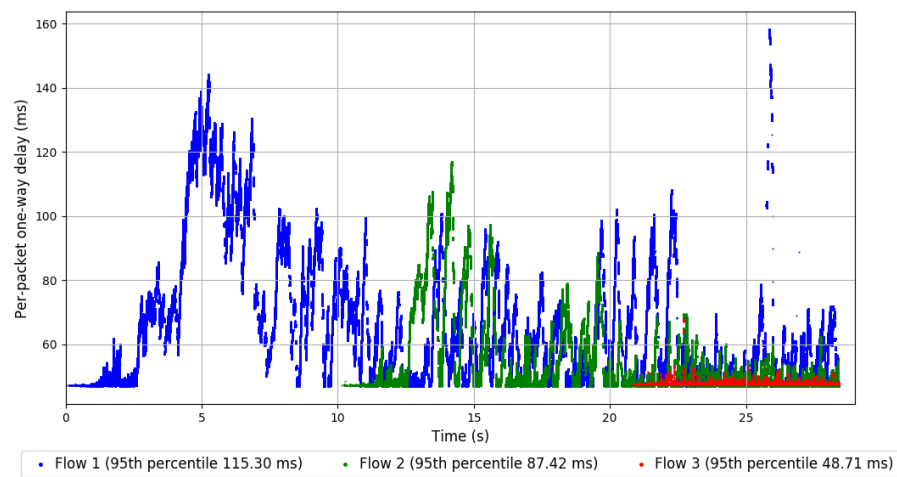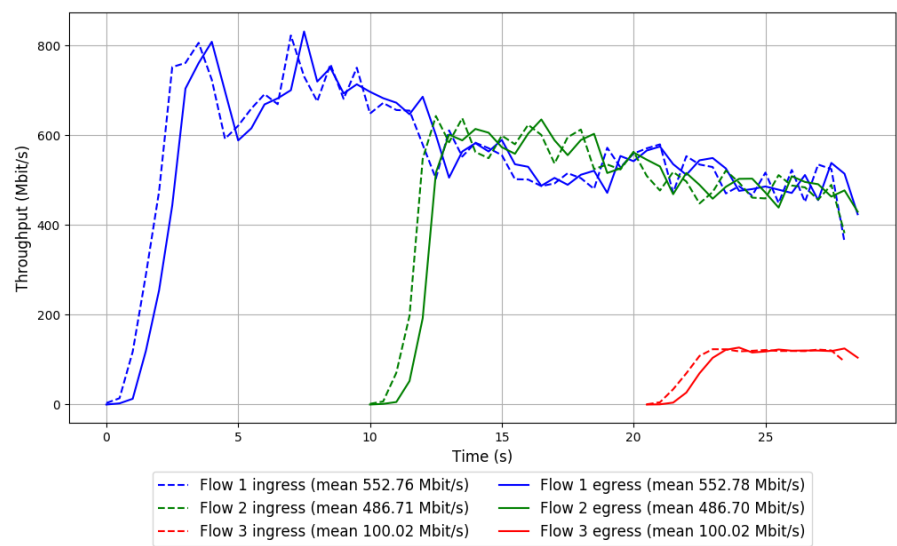Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-18 11:02:18
End at: 2019-01-18 11:02:48
Local clock offset: 0.024 ms
Remote clock offset: -0.194 ms


# Below is generated by plot.py at 2019-01-18 14:25:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 892.83 Mbit/s
95th percentile per-packet one-way delay: 106.738 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 552.78 Mbit/s
95th percentile per-packet one-way delay: 115.295 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 486.70 Mbit/s
95th percentile per-packet one-way delay: 87.416 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 100.02 Mbit/s
95th percentile per-packet one-way delay: 48.710 ms
Loss rate: 0.00%
```

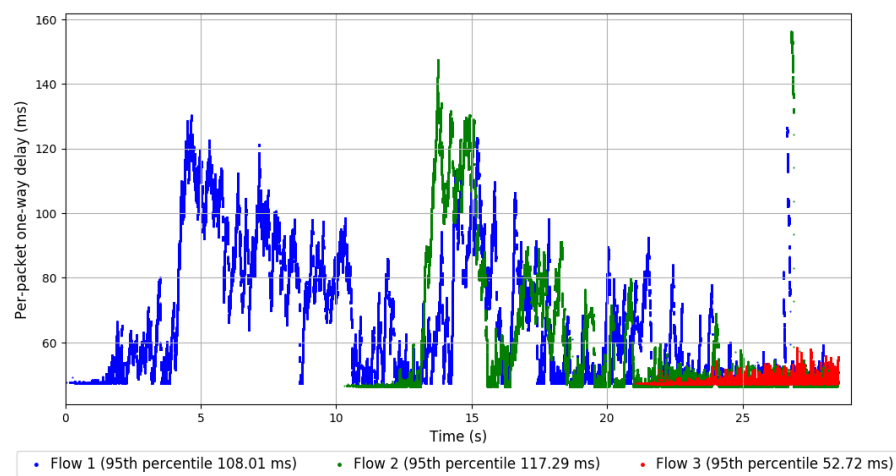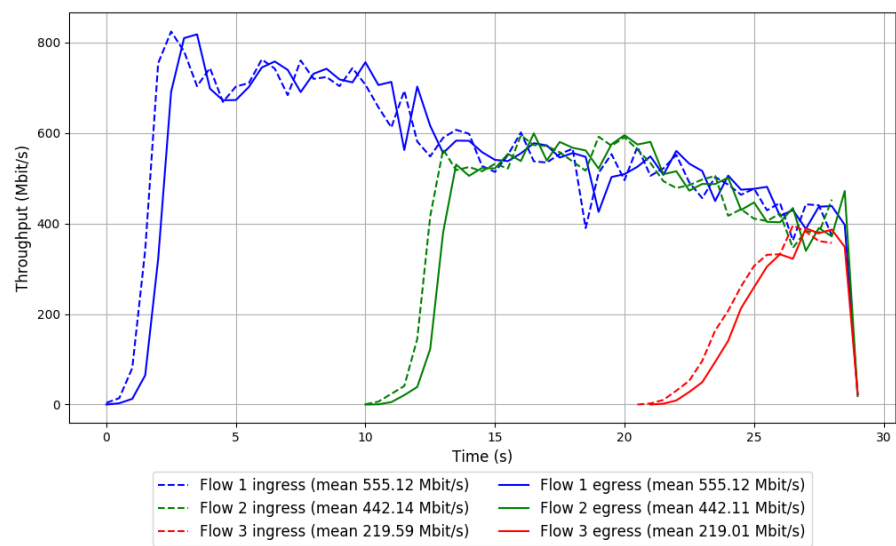Run 3: Report of Indigo-MusesT — Data Link

- - - Flow 1 ingress (mean 552.76 Mbit/s) —— Flow 1 egress (mean 552.78 Mbit/s)
- - - Flow 2 ingress (mean 486.71 Mbit/s) —— Flow 2 egress (mean 486.70 Mbit/s)
- - - Flow 3 ingress (mean 100.02 Mbit/s) —— Flow 3 egress (mean 100.02 Mbit/s)

• Flow 1 (95th percentile 115.30 ms)   • Flow 2 (95th percentile 87.42 ms)   • Flow 3 (95th percentile 48.71 ms)

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-18 11:38:07
End at: 2019-01-18 11:38:37
Local clock offset: -0.112 ms
Remote clock offset: -0.331 ms


# Below is generated by plot.py at 2019-01-18 14:26:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 895.69 Mbit/s
95th percentile per-packet one-way delay: 109.432 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 555.12 Mbit/s
95th percentile per-packet one-way delay: 108.014 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 442.11 Mbit/s
95th percentile per-packet one-way delay: 117.294 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 219.01 Mbit/s
95th percentile per-packet one-way delay: 52.720 ms
Loss rate: 0.28%
```
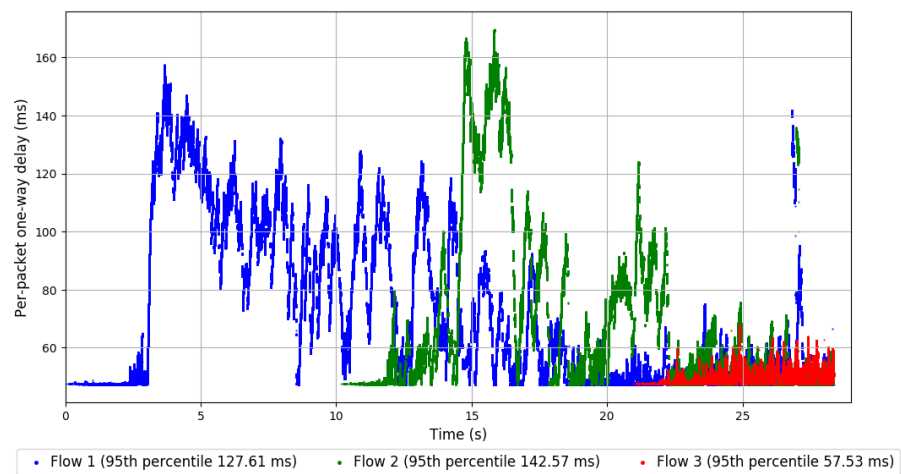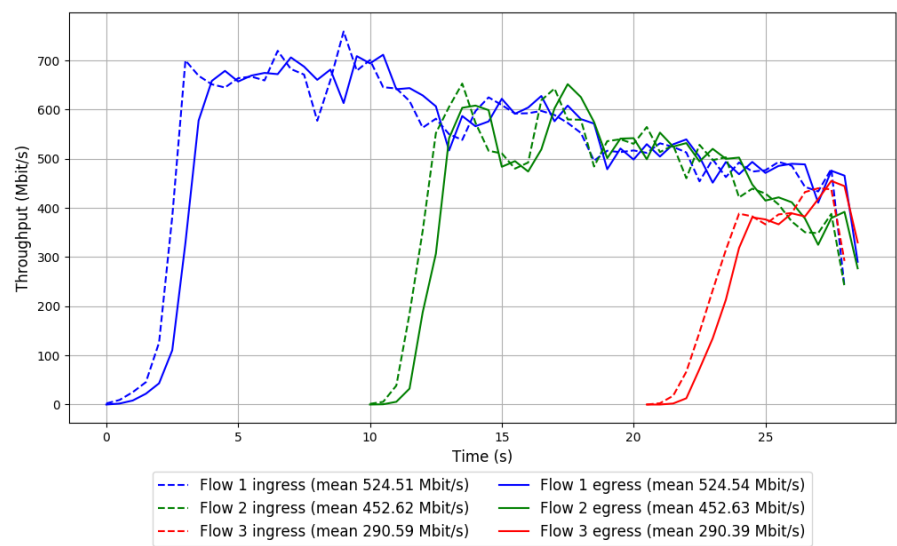
Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-18 12:14:25
End at: 2019-01-18 12:14:55
Local clock offset: -0.048 ms
Remote clock offset: -0.012 ms


# Below is generated by plot.py at 2019-01-18 14:26:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 890.78 Mbit/s
95th percentile per-packet one-way delay: 130.208 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 524.54 Mbit/s
95th percentile per-packet one-way delay: 127.608 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 452.63 Mbit/s
95th percentile per-packet one-way delay: 142.574 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 290.39 Mbit/s
95th percentile per-packet one-way delay: 57.528 ms
Loss rate: 0.04%
```
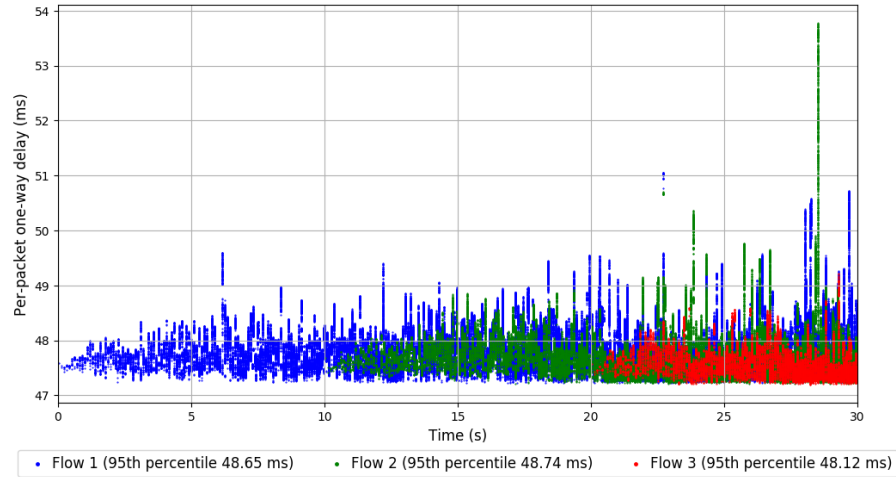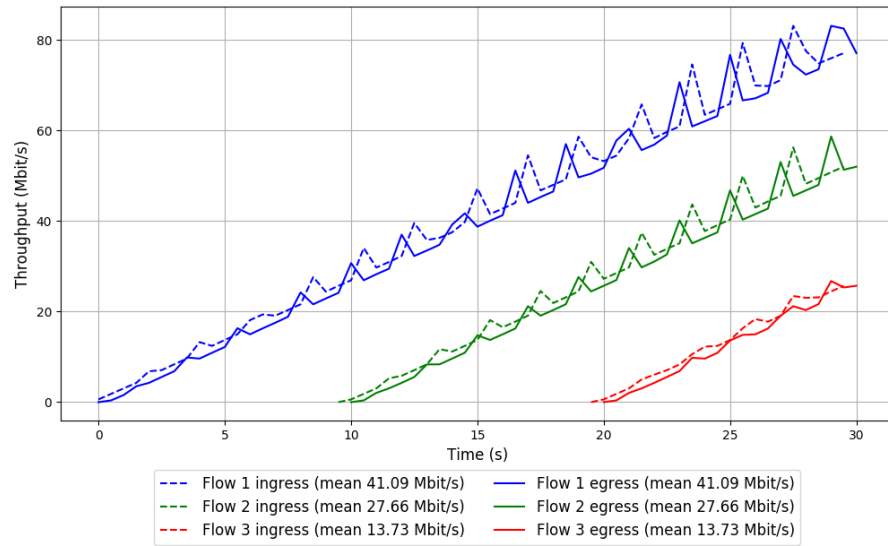
Run 5: Report of Indigo-MusesT — Data Link

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```
Run 1: Statistics of LEDBAT

Start at: 2019-01-18 09:30:20
End at: 2019-01-18 09:30:50
Local clock offset: -0.019 ms
Remote clock offset: -0.056 ms


# Below is generated by plot.py at 2019-01-18 14:26:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.06 Mbit/s
95th percentile per-packet one-way delay: 48.639 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.09 Mbit/s
95th percentile per-packet one-way delay: 48.646 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.66 Mbit/s
95th percentile per-packet one-way delay: 48.737 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 13.73 Mbit/s
95th percentile per-packet one-way delay: 48.124 ms
Loss rate: 0.00%
```
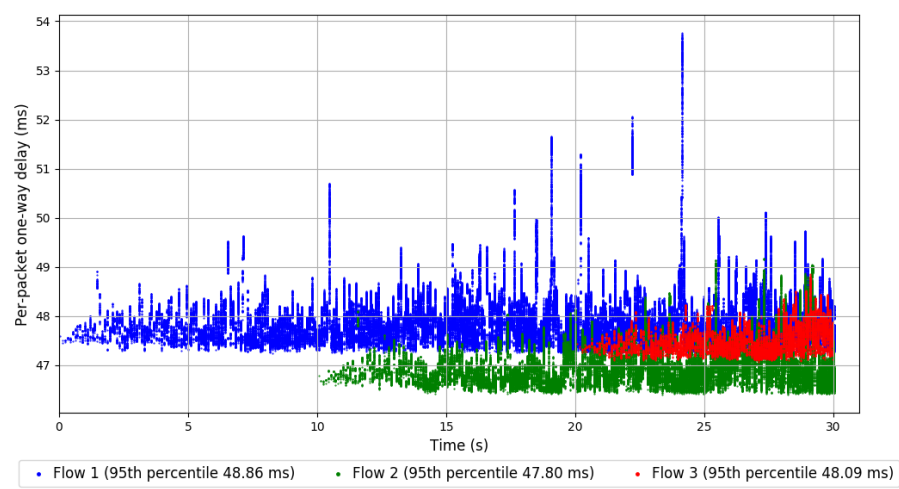
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-01-18 10:06:49
End at: 2019-01-18 10:07:19
Local clock offset: -0.102 ms
Remote clock offset: 0.012 ms


# Below is generated by plot.py at 2019-01-18 14:26:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.72 Mbit/s
95th percentile per-packet one-way delay: 48.596 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.09 Mbit/s
95th percentile per-packet one-way delay: 48.861 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 28.67 Mbit/s
95th percentile per-packet one-way delay: 47.796 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 13.74 Mbit/s
95th percentile per-packet one-way delay: 48.085 ms
Loss rate: 0.00%
```
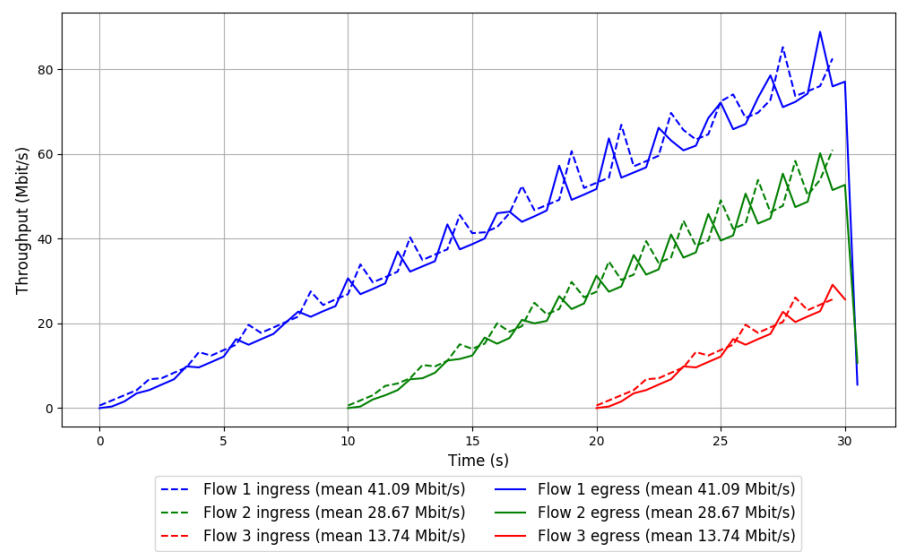
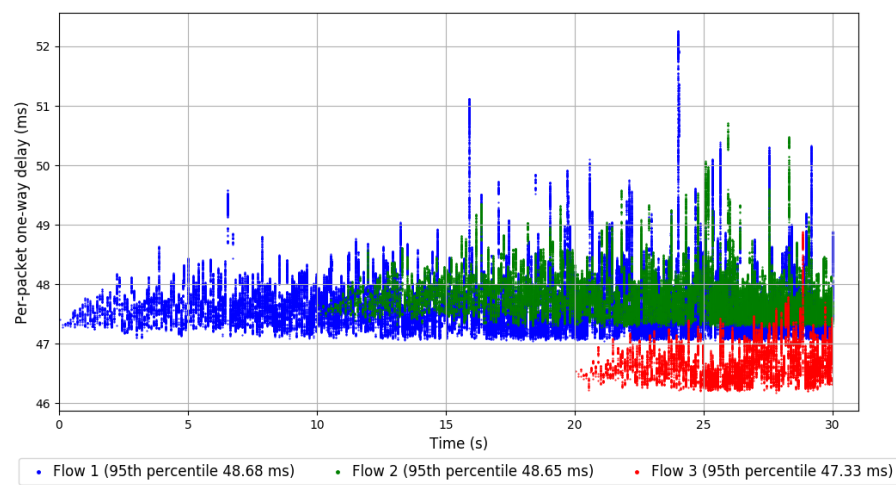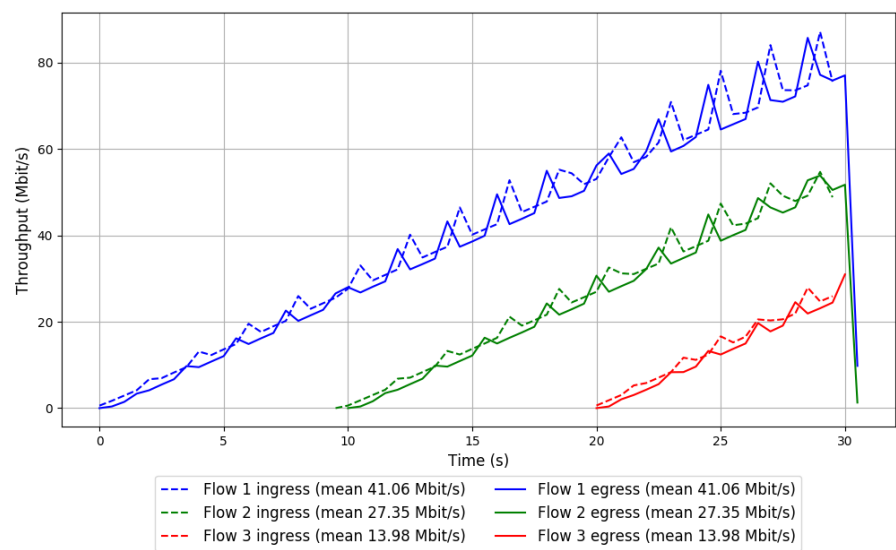Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-01-18 10:43:26
End at: 2019-01-18 10:43:56
Local clock offset: 0.044 ms
Remote clock offset: -0.074 ms


# Below is generated by plot.py at 2019-01-18 14:26:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.92 Mbit/s
95th percentile per-packet one-way delay: 48.635 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.06 Mbit/s
95th percentile per-packet one-way delay: 48.680 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.35 Mbit/s
95th percentile per-packet one-way delay: 48.646 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 13.98 Mbit/s
95th percentile per-packet one-way delay: 47.329 ms
Loss rate: 0.00%
```

Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2019-01-18 11:19:17
End at: 2019-01-18 11:19:47
Local clock offset: -0.058 ms
Remote clock offset: -0.277 ms


# Below is generated by plot.py at 2019-01-18 14:26:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.69 Mbit/s
95th percentile per-packet one-way delay: 48.286 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.78 Mbit/s
95th percentile per-packet one-way delay: 47.959 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.64 Mbit/s
95th percentile per-packet one-way delay: 48.814 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 13.71 Mbit/s
95th percentile per-packet one-way delay: 48.015 ms
Loss rate: 0.00%
```
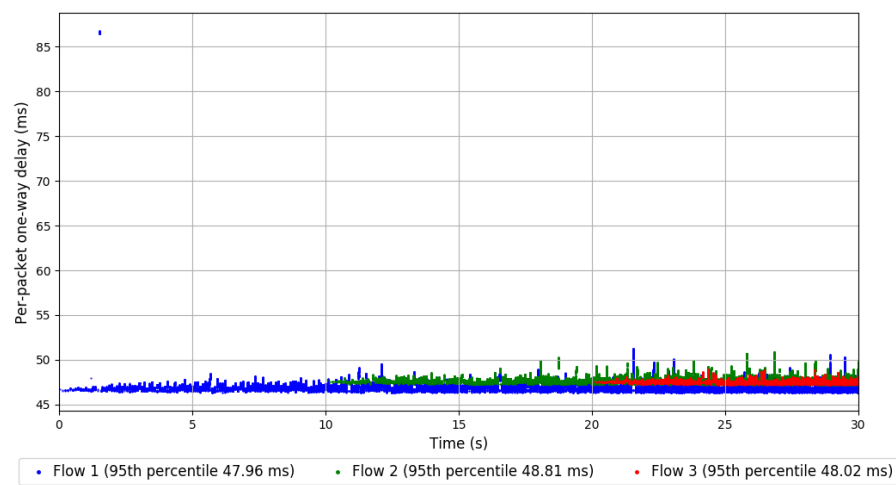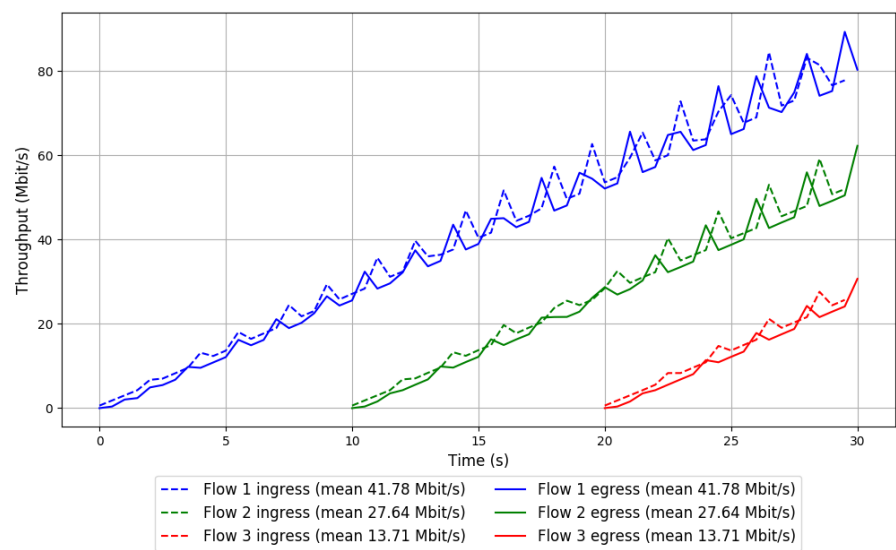
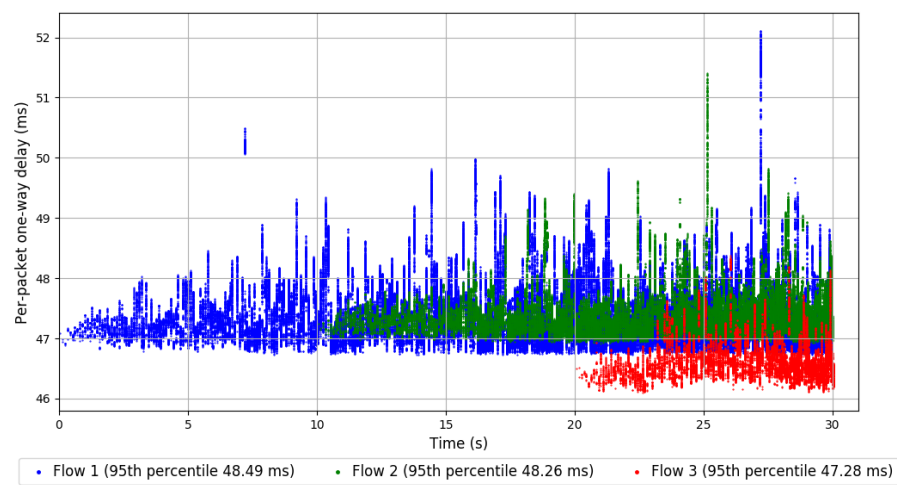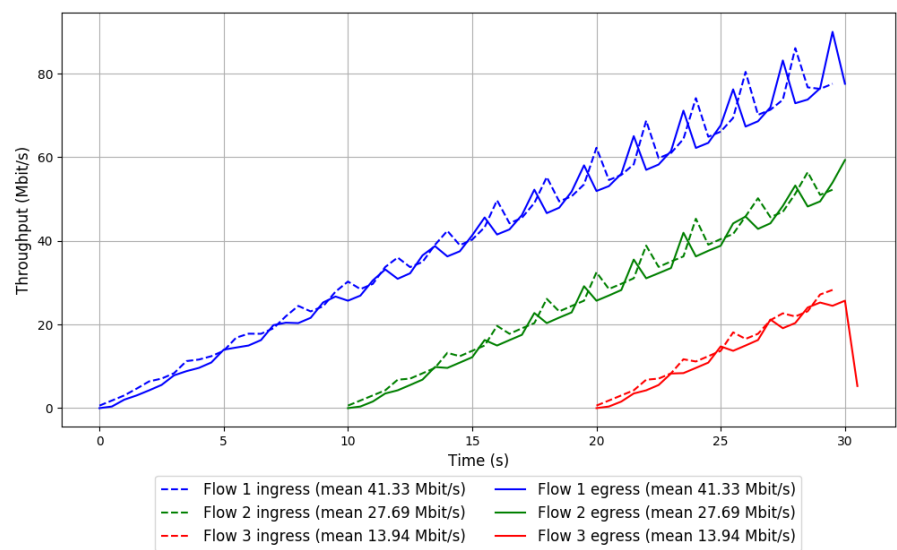Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-01-18 11:55:27
End at: 2019-01-18 11:55:57
Local clock offset: 0.208 ms
Remote clock offset: -0.343 ms


# Below is generated by plot.py at 2019-01-18 14:26:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.30 Mbit/s
95th percentile per-packet one-way delay: 48.383 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.33 Mbit/s
95th percentile per-packet one-way delay: 48.487 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.69 Mbit/s
95th percentile per-packet one-way delay: 48.255 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 13.94 Mbit/s
95th percentile per-packet one-way delay: 47.285 ms
Loss rate: 0.00%
```
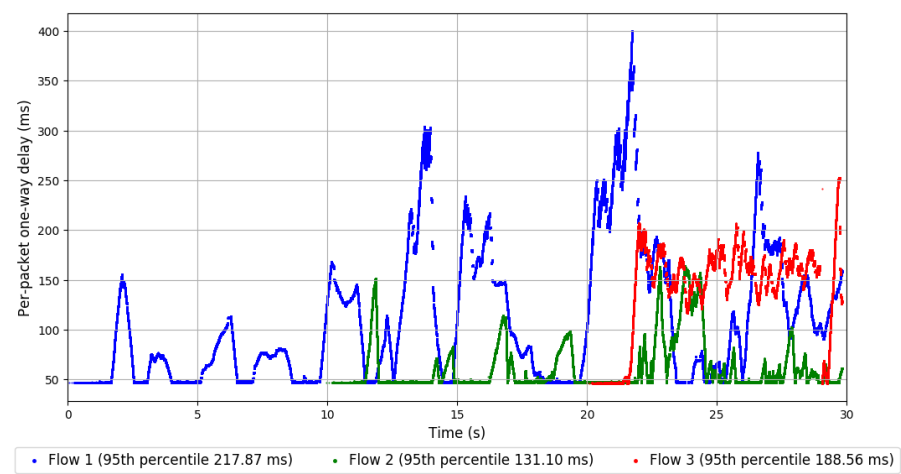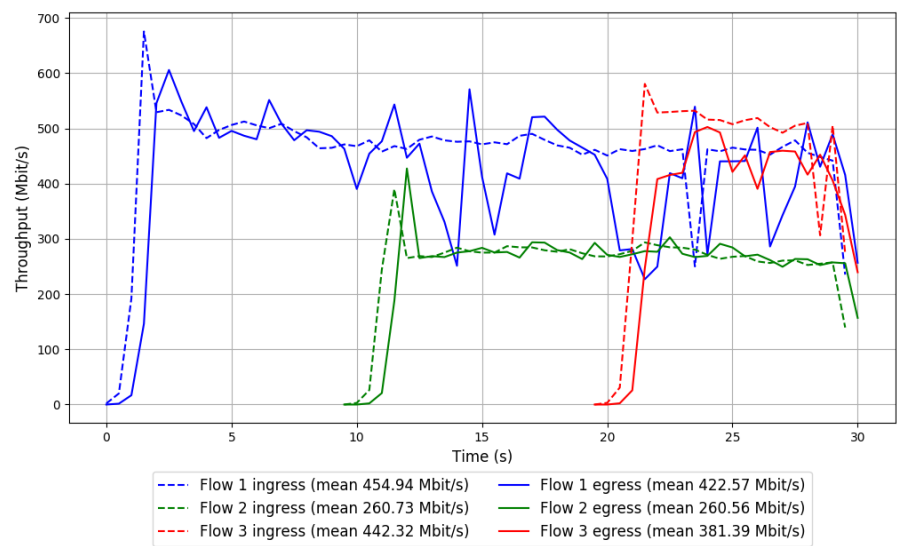
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-18 09:35:22
End at: 2019-01-18 09:35:52
Local clock offset: -0.061 ms
Remote clock offset: -0.055 ms


# Below is generated by plot.py at 2019-01-18 14:40:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 722.26 Mbit/s
95th percentile per-packet one-way delay: 197.243 ms
Loss rate: 6.79%
-- Flow 1:
Average throughput: 422.57 Mbit/s
95th percentile per-packet one-way delay: 217.867 ms
Loss rate: 7.11%
-- Flow 2:
Average throughput: 260.56 Mbit/s
95th percentile per-packet one-way delay: 131.103 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 381.39 Mbit/s
95th percentile per-packet one-way delay: 188.560 ms
Loss rate: 13.77%
```

Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-01-18 10:12:03
End at: 2019-01-18 10:12:33
Local clock offset: -0.126 ms
Remote clock offset: 0.004 ms


# Below is generated by plot.py at 2019-01-18 14:40:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 683.78 Mbit/s
95th percentile per-packet one-way delay: 163.444 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 392.45 Mbit/s
95th percentile per-packet one-way delay: 170.931 ms
Loss rate: 1.11%
-- Flow 2:
Average throughput: 309.81 Mbit/s
95th percentile per-packet one-way delay: 78.740 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 260.06 Mbit/s
95th percentile per-packet one-way delay: 155.323 ms
Loss rate: 1.13%
```
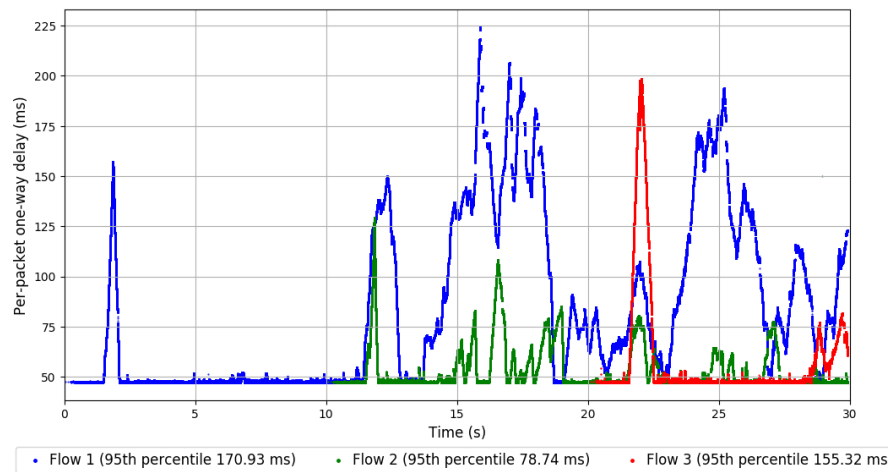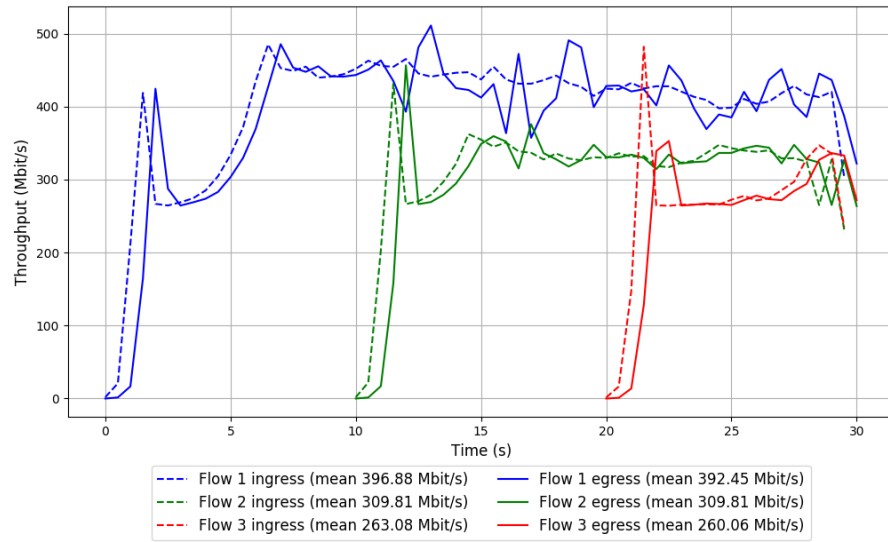
Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 396.88 Mbit/s) --- Flow 1 egress (mean 392.45 Mbit/s)
Flow 2 ingress (mean 309.81 Mbit/s) --- Flow 2 egress (mean 309.81 Mbit/s)
Flow 3 ingress (mean 263.08 Mbit/s) --- Flow 3 egress (mean 260.06 Mbit/s)

Flow 1 (95th percentile 170.93 ms)   Flow 2 (95th percentile 78.74 ms)   Flow 3 (95th percentile 155.32 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-01-18 10:48:32
End at: 2019-01-18 10:49:02
Local clock offset: -0.108 ms
Remote clock offset: 0.041 ms


# Below is generated by plot.py at 2019-01-18 14:41:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 683.18 Mbit/s
95th percentile per-packet one-way delay: 181.318 ms
Loss rate: 4.35%
-- Flow 1:
Average throughput: 402.46 Mbit/s
95th percentile per-packet one-way delay: 182.987 ms
Loss rate: 6.81%
-- Flow 2:
Average throughput: 297.08 Mbit/s
95th percentile per-packet one-way delay: 87.841 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 252.09 Mbit/s
95th percentile per-packet one-way delay: 128.568 ms
Loss rate: 0.69%
```
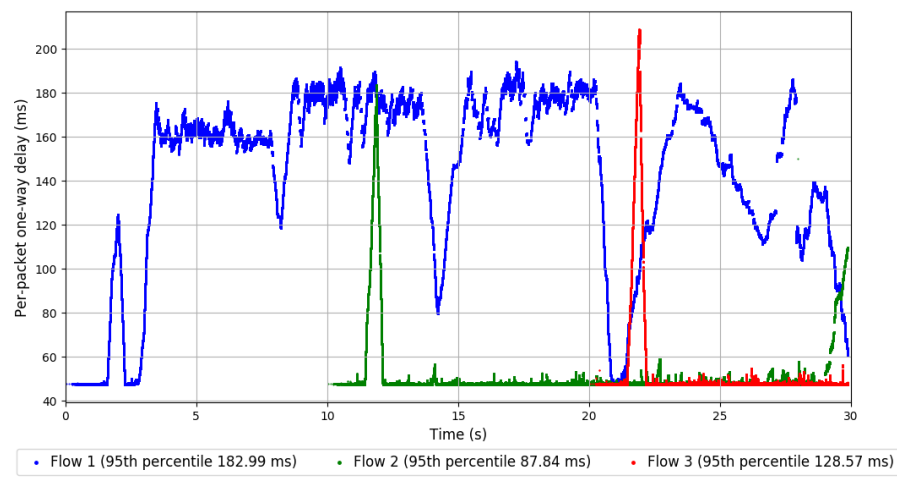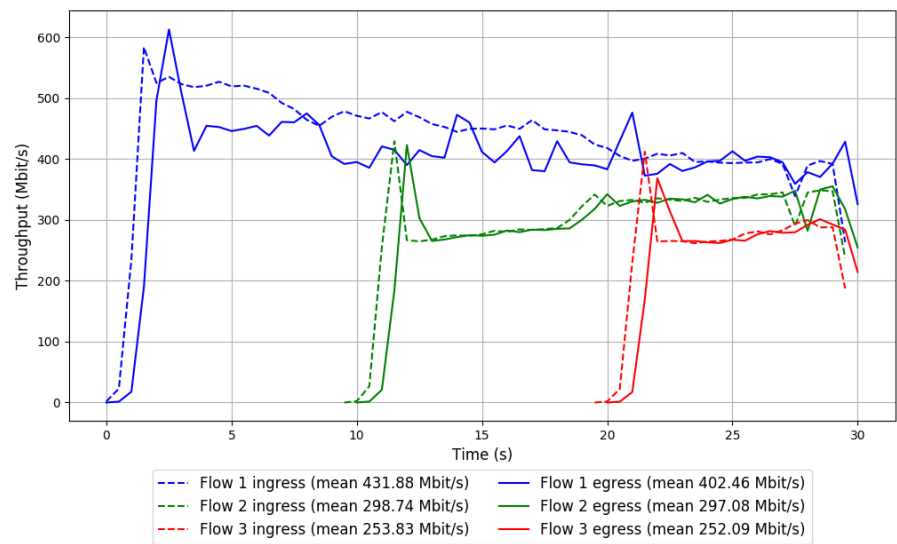
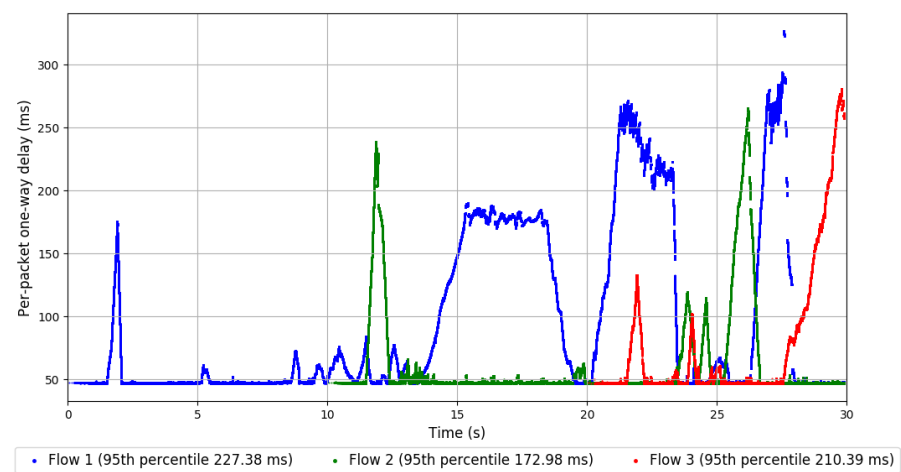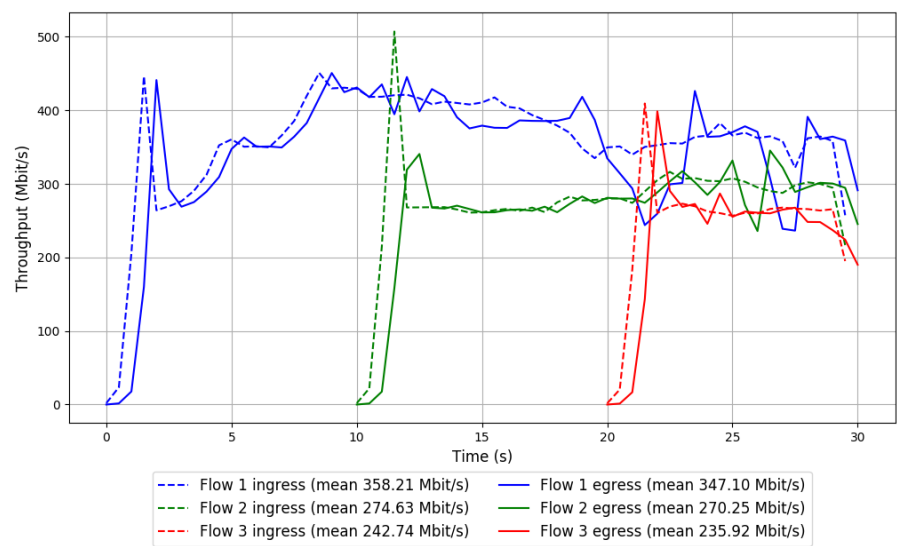Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-01-18 11:24:27
End at: 2019-01-18 11:24:57
Local clock offset: -0.1 ms
Remote clock offset: -0.251 ms


# Below is generated by plot.py at 2019-01-18 14:48:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 604.45 Mbit/s
95th percentile per-packet one-way delay: 215.626 ms
Loss rate: 2.63%
-- Flow 1:
Average throughput: 347.10 Mbit/s
95th percentile per-packet one-way delay: 227.377 ms
Loss rate: 3.10%
-- Flow 2:
Average throughput: 270.25 Mbit/s
95th percentile per-packet one-way delay: 172.983 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 235.92 Mbit/s
95th percentile per-packet one-way delay: 210.390 ms
Loss rate: 2.81%
```

Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 358.21 Mbit/s) — Flow 1 egress (mean 347.10 Mbit/s)
Flow 2 ingress (mean 274.63 Mbit/s) — Flow 2 egress (mean 270.25 Mbit/s)
Flow 3 ingress (mean 242.74 Mbit/s) — Flow 3 egress (mean 235.92 Mbit/s)

Flow 1 (95th percentile 227.38 ms) • Flow 2 (95th percentile 172.98 ms) • Flow 3 (95th percentile 210.39 ms)
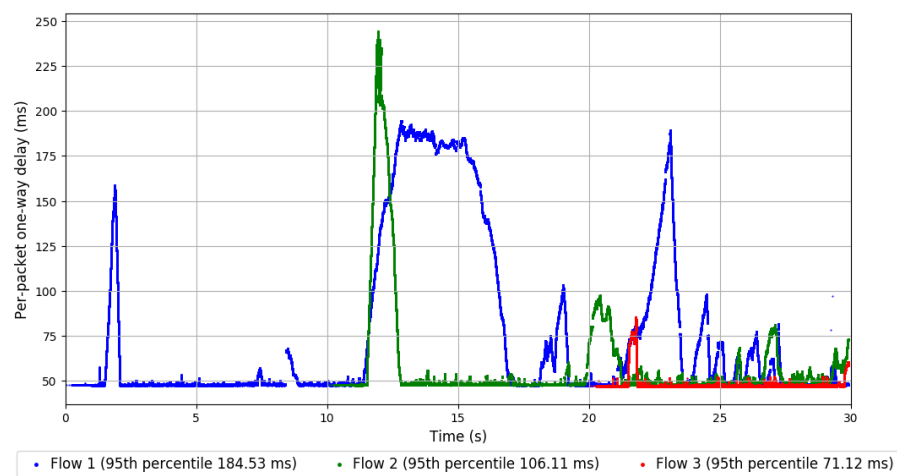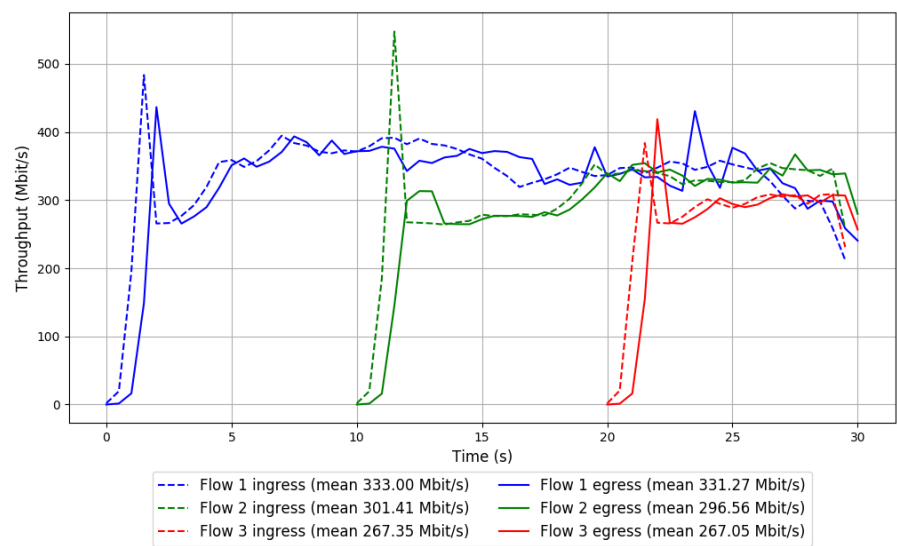
```
Run 5: Statistics of PCC-Allegro

Start at: 2019-01-18 12:00:44
End at: 2019-01-18 12:01:14
Local clock offset: -0.47 ms
Remote clock offset: -0.278 ms


# Below is generated by plot.py at 2019-01-18 14:49:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 616.33 Mbit/s
95th percentile per-packet one-way delay: 181.151 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 331.27 Mbit/s
95th percentile per-packet one-way delay: 184.527 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 296.56 Mbit/s
95th percentile per-packet one-way delay: 106.114 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 267.05 Mbit/s
95th percentile per-packet one-way delay: 71.122 ms
Loss rate: 0.08%
```

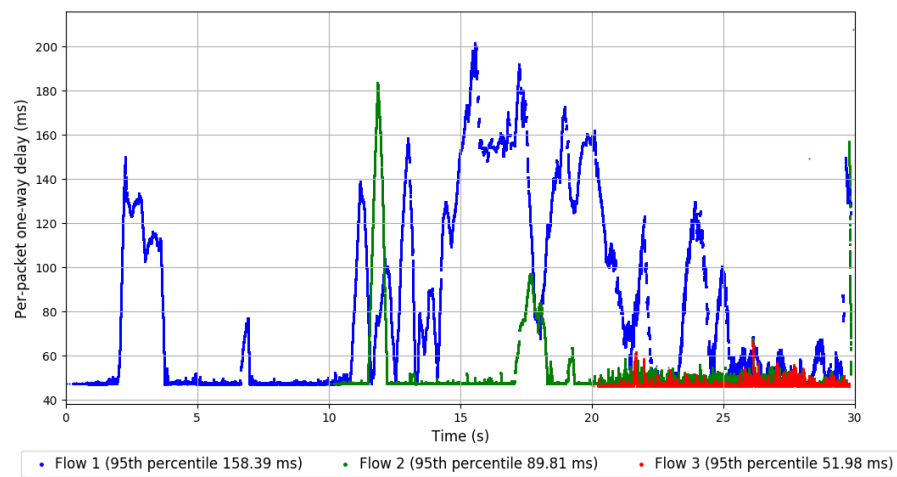Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 333.00 Mbit/s) ---- Flow 1 egress (mean 331.27 Mbit/s) ——
Flow 2 ingress (mean 301.41 Mbit/s) ---- Flow 2 egress (mean 296.56 Mbit/s) ——
Flow 3 ingress (mean 267.35 Mbit/s) ---- Flow 3 egress (mean 267.05 Mbit/s) ——

Flow 1 (95th percentile 184.53 ms)   Flow 2 (95th percentile 106.11 ms)   Flow 3 (95th percentile 71.12 ms)
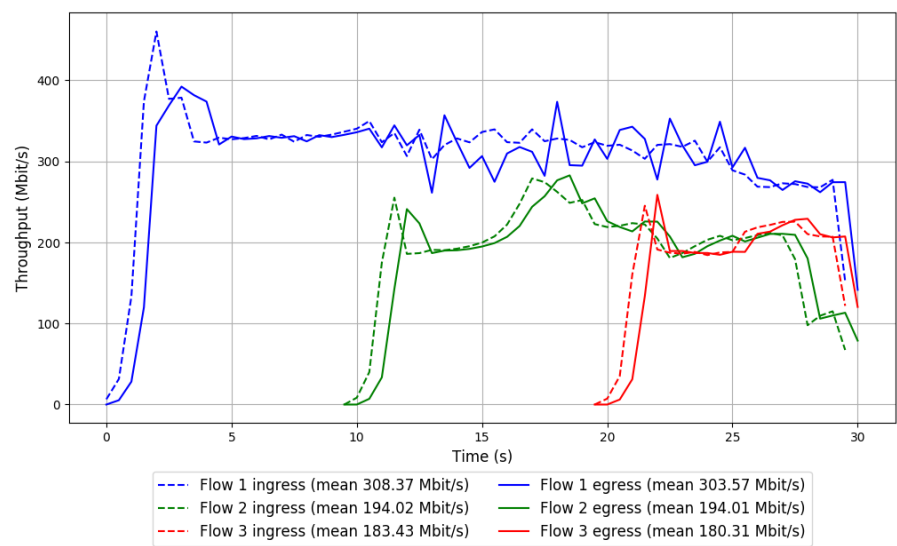
```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-18 09:42:08
End at: 2019-01-18 09:42:38
Local clock offset: 0.068 ms
Remote clock offset: -0.04 ms


# Below is generated by plot.py at 2019-01-18 14:49:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 491.42 Mbit/s
95th percentile per-packet one-way delay: 155.951 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 303.57 Mbit/s
95th percentile per-packet one-way delay: 158.390 ms
Loss rate: 1.55%
-- Flow 2:
Average throughput: 194.01 Mbit/s
95th percentile per-packet one-way delay: 89.815 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 180.31 Mbit/s
95th percentile per-packet one-way delay: 51.985 ms
Loss rate: 0.61%
```

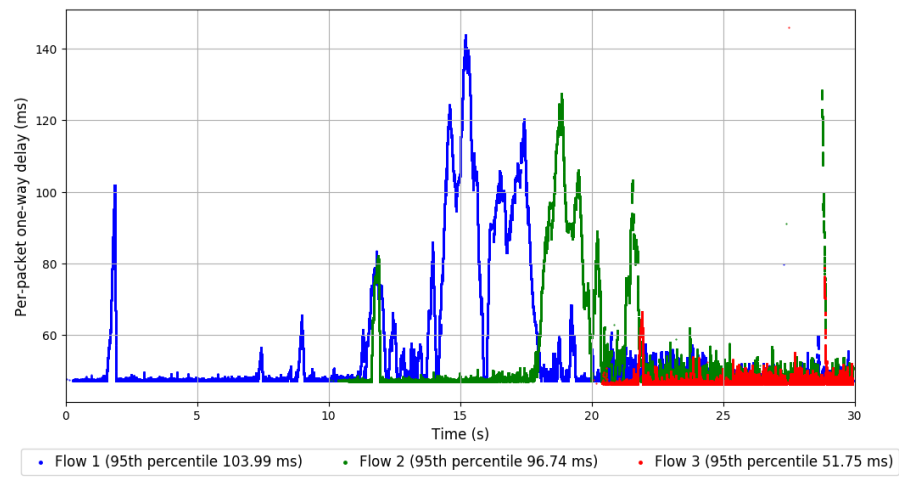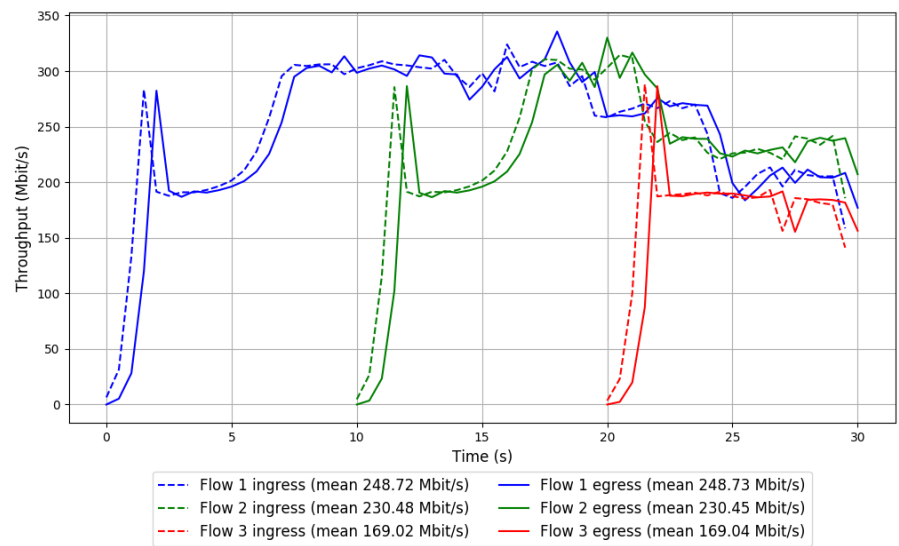Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 308.37 Mbit/s)   Flow 1 egress (mean 303.57 Mbit/s)
Flow 2 ingress (mean 194.02 Mbit/s)   Flow 2 egress (mean 194.01 Mbit/s)
Flow 3 ingress (mean 183.43 Mbit/s)   Flow 3 egress (mean 180.31 Mbit/s)

Flow 1 (95th percentile 158.39 ms)   Flow 2 (95th percentile 89.81 ms)   Flow 3 (95th percentile 51.98 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-01-18 10:18:54
End at: 2019-01-18 10:19:24
Local clock offset: -0.088 ms
Remote clock offset: -0.001 ms


# Below is generated by plot.py at 2019-01-18 14:49:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 457.67 Mbit/s
95th percentile per-packet one-way delay: 100.874 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 248.73 Mbit/s
95th percentile per-packet one-way delay: 103.986 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 230.45 Mbit/s
95th percentile per-packet one-way delay: 96.741 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 169.04 Mbit/s
95th percentile per-packet one-way delay: 51.754 ms
Loss rate: 0.00%
```

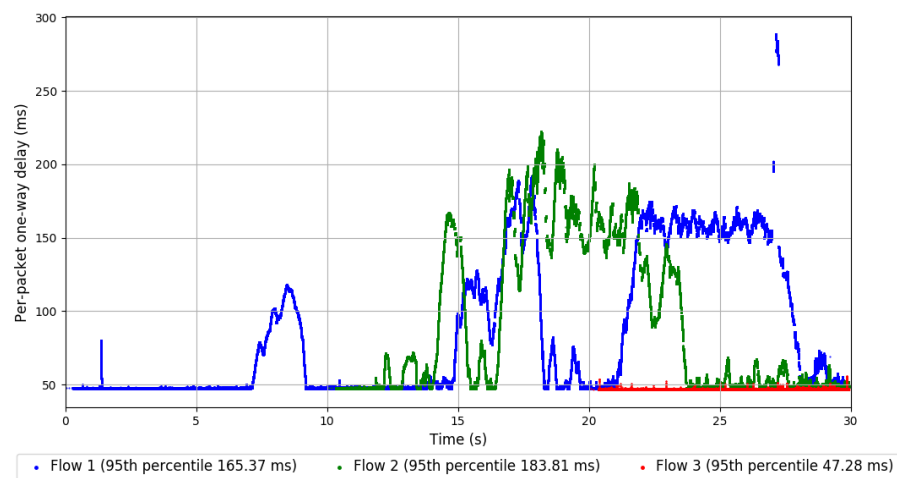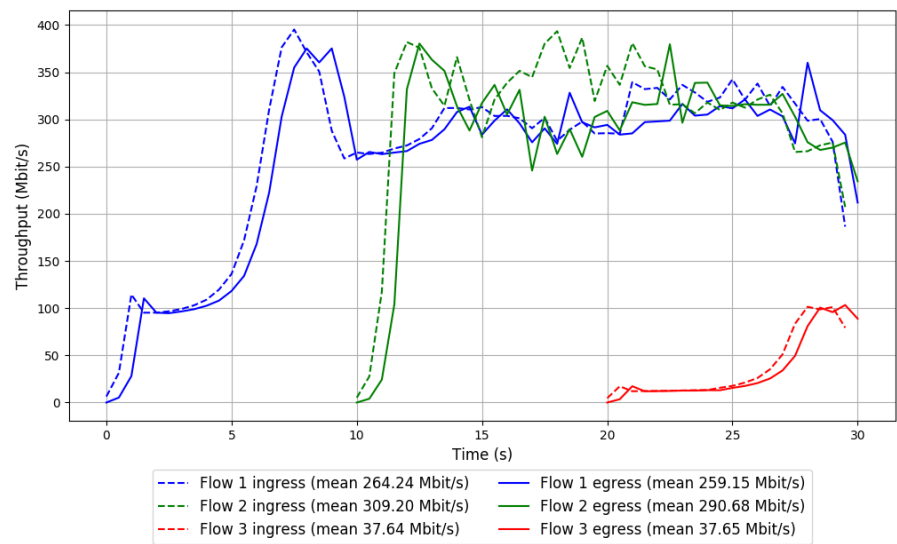Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-01-18 10:55:20
End at: 2019-01-18 10:55:50
Local clock offset: -0.093 ms
Remote clock offset: -0.011 ms


# Below is generated by plot.py at 2019-01-18 14:49:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 464.76 Mbit/s
95th percentile per-packet one-way delay: 171.298 ms
Loss rate: 3.61%
-- Flow 1:
Average throughput: 259.15 Mbit/s
95th percentile per-packet one-way delay: 165.366 ms
Loss rate: 1.93%
-- Flow 2:
Average throughput: 290.68 Mbit/s
95th percentile per-packet one-way delay: 183.815 ms
Loss rate: 5.99%
-- Flow 3:
Average throughput: 37.65 Mbit/s
95th percentile per-packet one-way delay: 47.280 ms
Loss rate: 0.00%
```
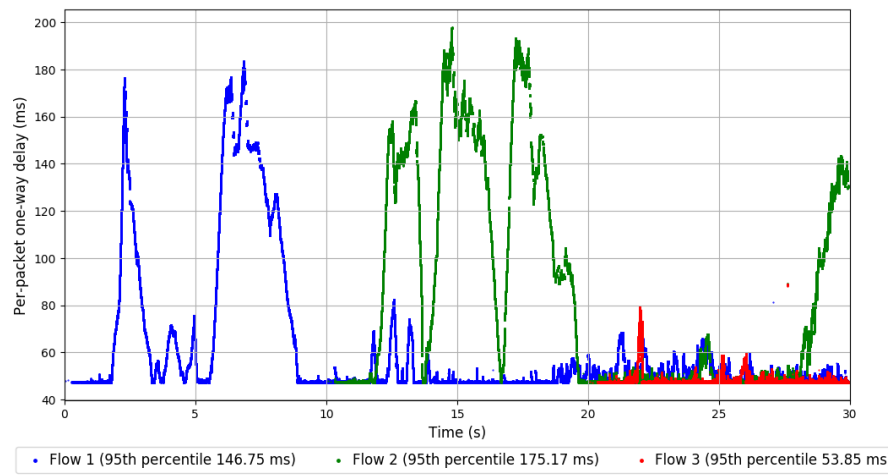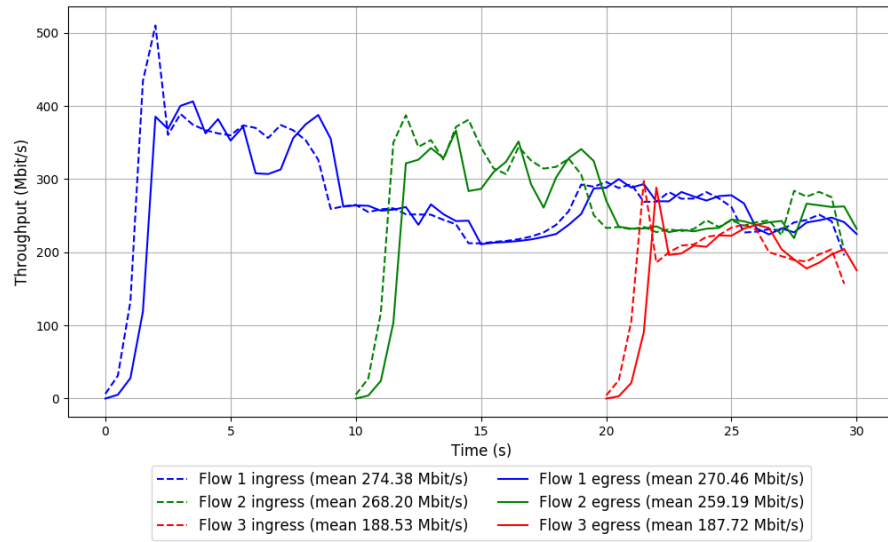
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 264.24 Mbit/s) --- Flow 1 egress (mean 259.15 Mbit/s) ---
Flow 2 ingress (mean 309.20 Mbit/s) --- Flow 2 egress (mean 290.68 Mbit/s) ---
Flow 3 ingress (mean 37.64 Mbit/s) --- Flow 3 egress (mean 37.65 Mbit/s)

Flow 1 (95th percentile 165.37 ms) • Flow 2 (95th percentile 183.81 ms) • Flow 3 (95th percentile 47.28 ms)
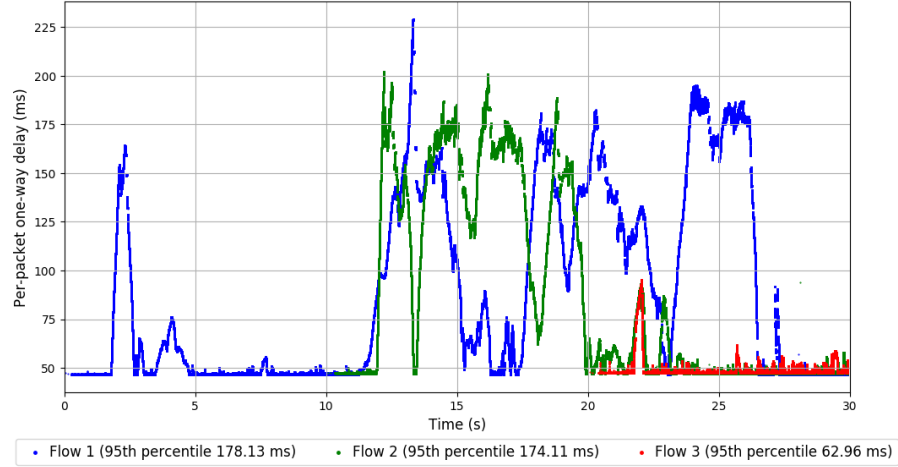
```
Run 4: Statistics of PCC-Expr

Start at: 2019-01-18 11:31:10
End at: 2019-01-18 11:31:40
Local clock offset: -0.067 ms
Remote clock offset: -0.252 ms


# Below is generated by plot.py at 2019-01-18 14:59:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 504.66 Mbit/s
95th percentile per-packet one-way delay: 158.608 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 270.46 Mbit/s
95th percentile per-packet one-way delay: 146.753 ms
Loss rate: 1.43%
-- Flow 2:
Average throughput: 259.19 Mbit/s
95th percentile per-packet one-way delay: 175.173 ms
Loss rate: 3.37%
-- Flow 3:
Average throughput: 187.72 Mbit/s
95th percentile per-packet one-way delay: 53.849 ms
Loss rate: 0.43%
```
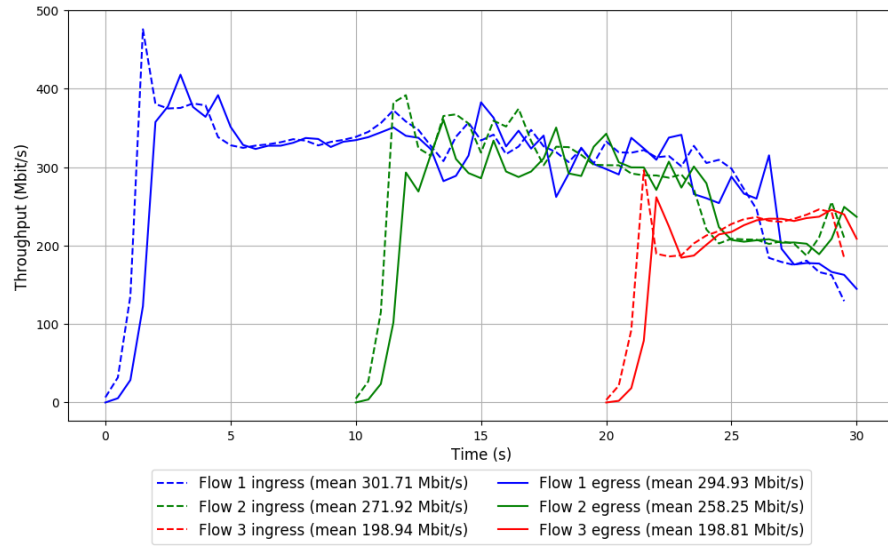
Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-01-18 12:07:21
End at: 2019-01-18 12:07:51
Local clock offset: 0.032 ms
Remote clock offset: -0.132 ms


# Below is generated by plot.py at 2019-01-18 15:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 532.06 Mbit/s
95th percentile per-packet one-way delay: 174.460 ms
Loss rate: 2.90%
-- Flow 1:
Average throughput: 294.93 Mbit/s
95th percentile per-packet one-way delay: 178.129 ms
Loss rate: 2.25%
-- Flow 2:
Average throughput: 258.25 Mbit/s
95th percentile per-packet one-way delay: 174.111 ms
Loss rate: 5.03%
-- Flow 3:
Average throughput: 198.81 Mbit/s
95th percentile per-packet one-way delay: 62.964 ms
Loss rate: 0.07%
```
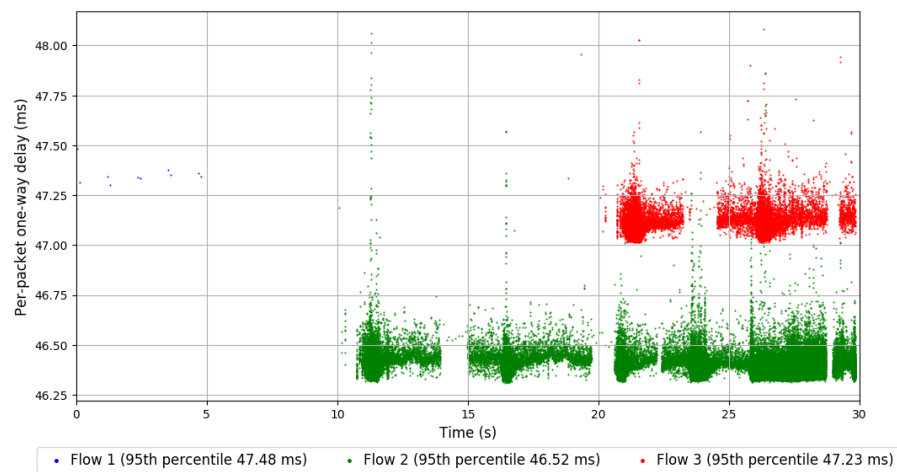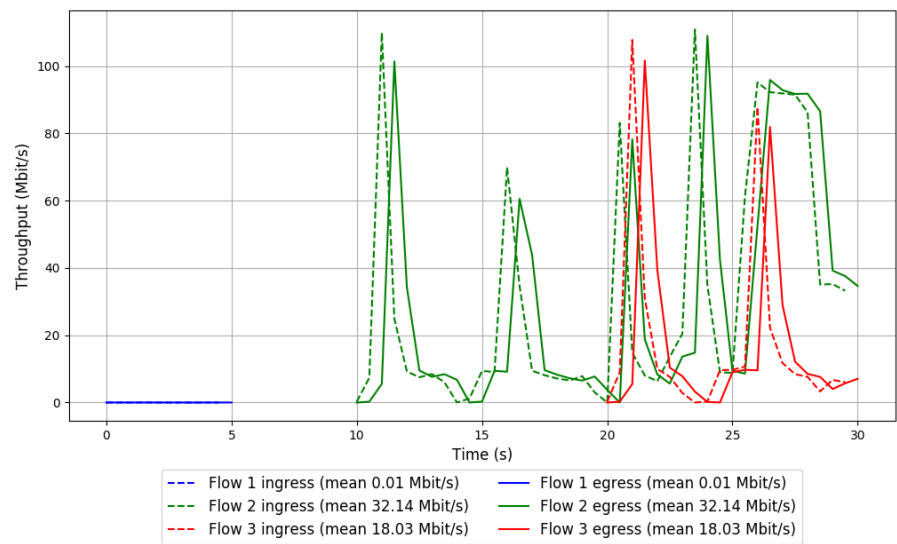
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 301.71 Mbit/s) --- Flow 1 egress (mean 294.93 Mbit/s)
Flow 2 ingress (mean 271.92 Mbit/s) --- Flow 2 egress (mean 258.25 Mbit/s)
Flow 3 ingress (mean 198.94 Mbit/s) --- Flow 3 egress (mean 198.81 Mbit/s)

Flow 1 (95th percentile 178.13 ms) • Flow 2 (95th percentile 174.11 ms) • Flow 3 (95th percentile 62.96 ms)
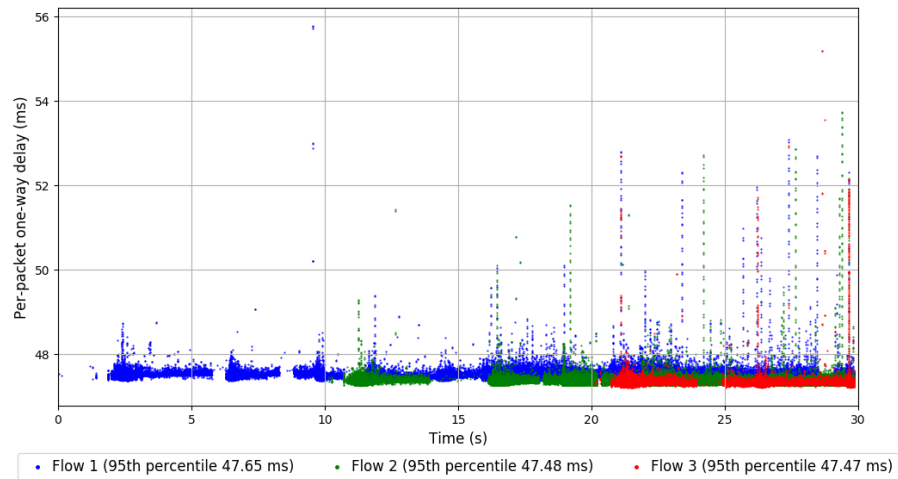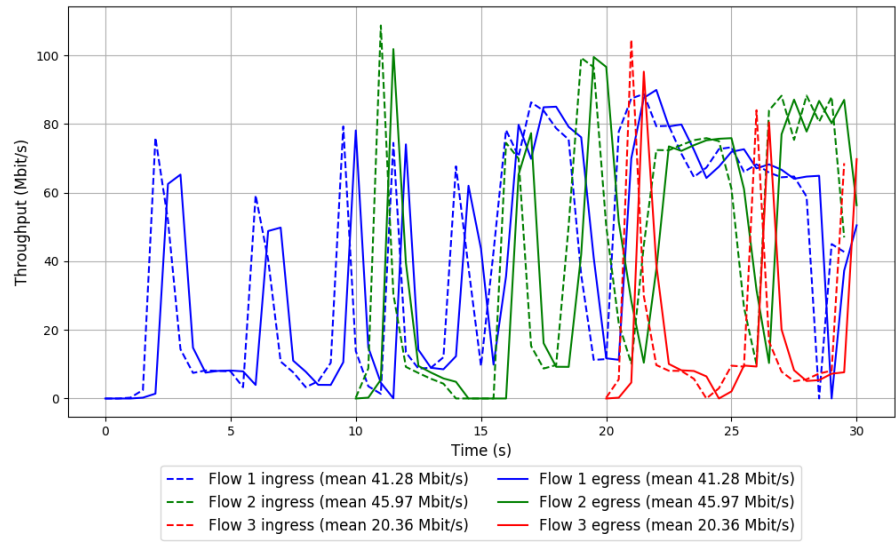
```
Run 1: Statistics of QUIC Cubic

Start at: 2019-01-18 09:23:36
End at: 2019-01-18 09:24:06
Local clock offset: -0.064 ms
Remote clock offset: -0.066 ms


# Below is generated by plot.py at 2019-01-18 15:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 27.26 Mbit/s
95th percentile per-packet one-way delay: 47.154 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 47.481 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.14 Mbit/s
95th percentile per-packet one-way delay: 46.524 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 18.03 Mbit/s
95th percentile per-packet one-way delay: 47.233 ms
Loss rate: 0.00%
```

Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-01-18 10:00:08
End at: 2019-01-18 10:00:38
Local clock offset: -0.121 ms
Remote clock offset: -0.017 ms


# Below is generated by plot.py at 2019-01-18 15:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.48 Mbit/s
95th percentile per-packet one-way delay: 47.613 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.28 Mbit/s
95th percentile per-packet one-way delay: 47.653 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.97 Mbit/s
95th percentile per-packet one-way delay: 47.478 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.36 Mbit/s
95th percentile per-packet one-way delay: 47.471 ms
Loss rate: 0.00%
```
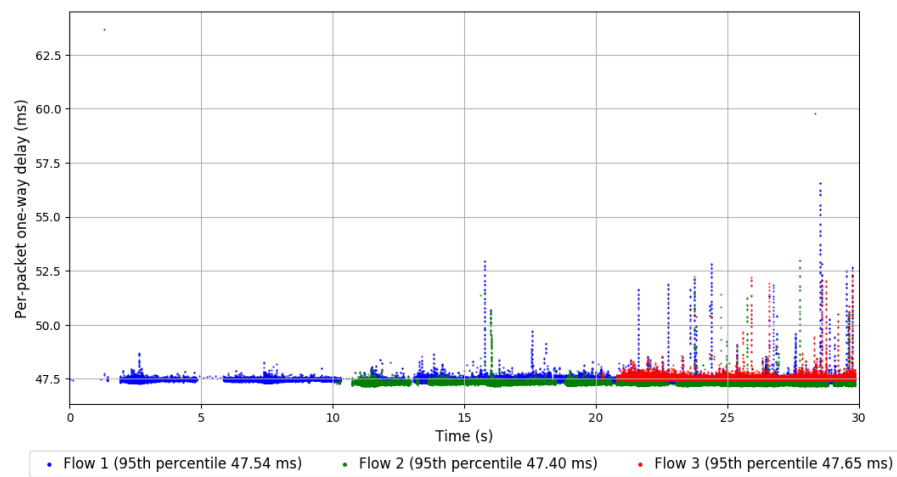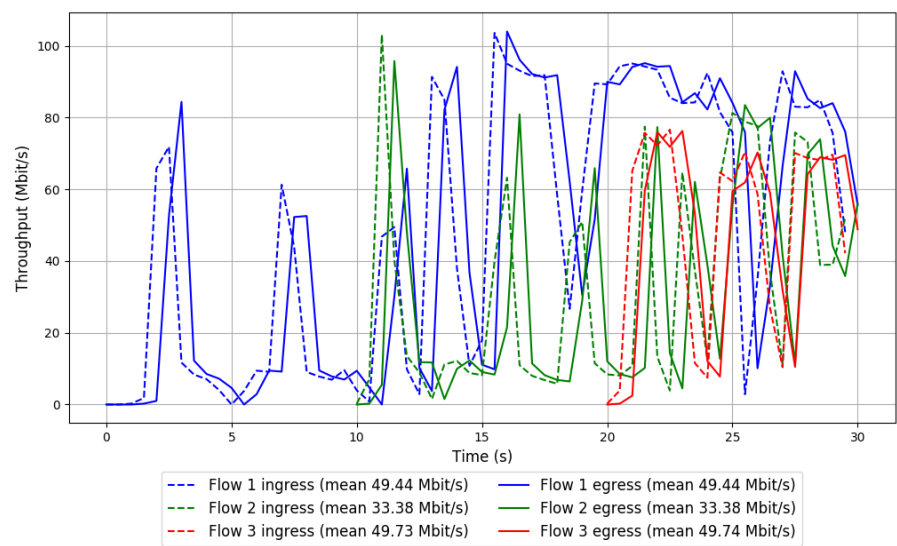
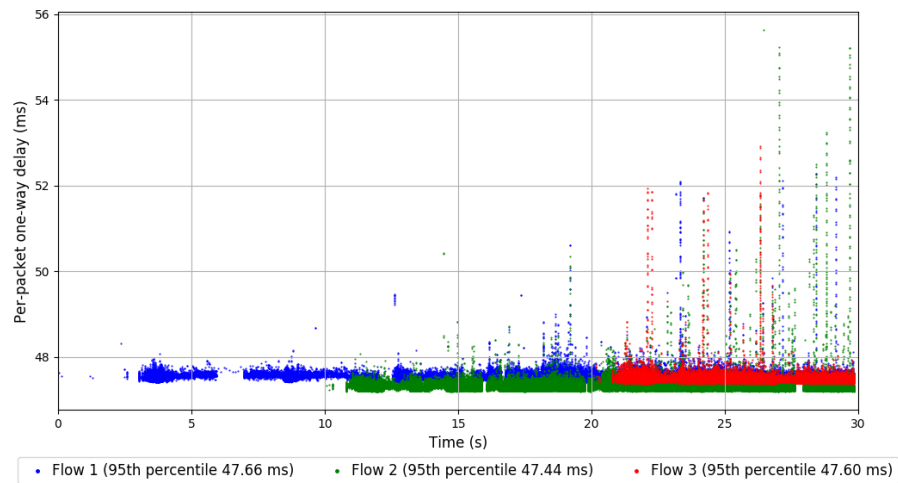Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-01-18 10:36:42
End at: 2019-01-18 10:37:12
Local clock offset: -0.115 ms
Remote clock offset: 0.024 ms


# Below is generated by plot.py at 2019-01-18 15:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.92 Mbit/s
95th percentile per-packet one-way delay: 47.577 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.44 Mbit/s
95th percentile per-packet one-way delay: 47.541 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.38 Mbit/s
95th percentile per-packet one-way delay: 47.404 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.74 Mbit/s
95th percentile per-packet one-way delay: 47.654 ms
Loss rate: 0.00%
```
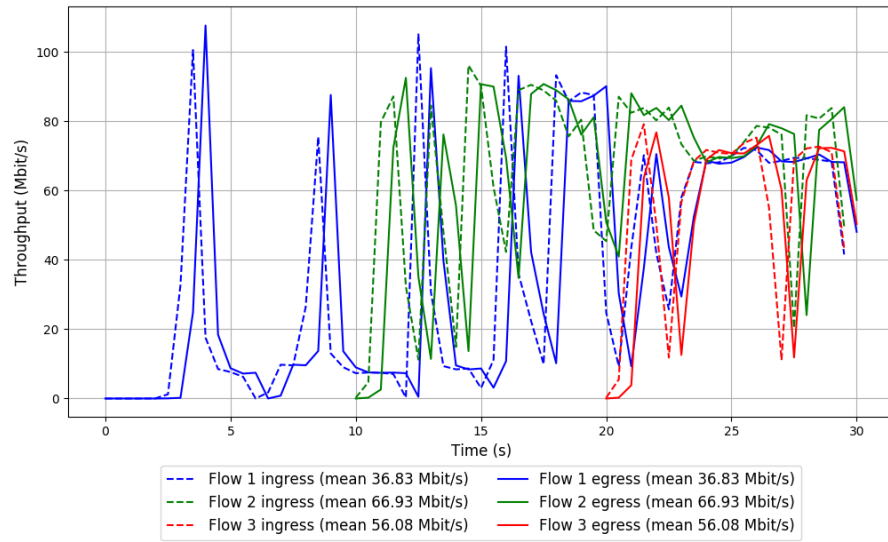
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 49.44 Mbit/s)   Flow 1 egress (mean 49.44 Mbit/s)
Flow 2 ingress (mean 33.38 Mbit/s)   Flow 2 egress (mean 33.38 Mbit/s)
Flow 3 ingress (mean 49.73 Mbit/s)   Flow 3 egress (mean 49.74 Mbit/s)

Flow 1 (95th percentile 47.54 ms)   Flow 2 (95th percentile 47.40 ms)   Flow 3 (95th percentile 47.65 ms)
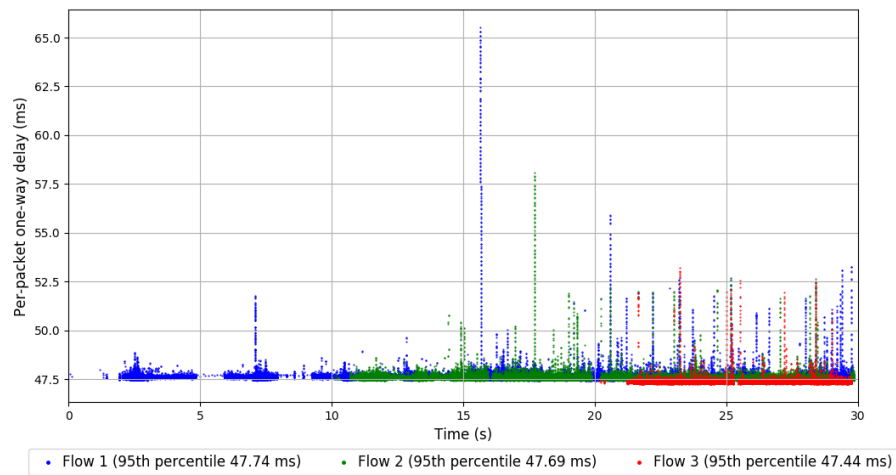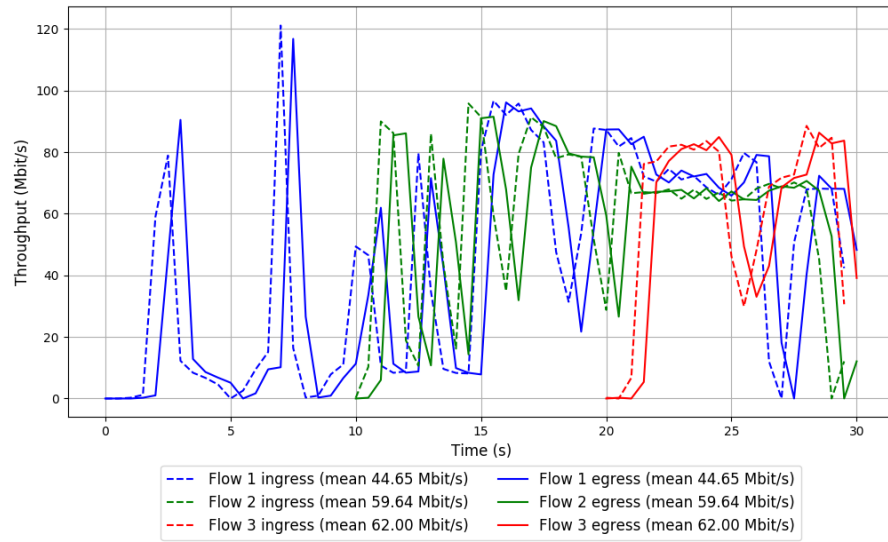
140

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-01-18 11:12:42
End at: 2019-01-18 11:13:12
Local clock offset: -0.09 ms
Remote clock offset: -0.107 ms


# Below is generated by plot.py at 2019-01-18 15:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.67 Mbit/s
95th percentile per-packet one-way delay: 47.617 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 36.83 Mbit/s
95th percentile per-packet one-way delay: 47.659 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 66.93 Mbit/s
95th percentile per-packet one-way delay: 47.439 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 56.08 Mbit/s
95th percentile per-packet one-way delay: 47.602 ms
Loss rate: 0.00%
```
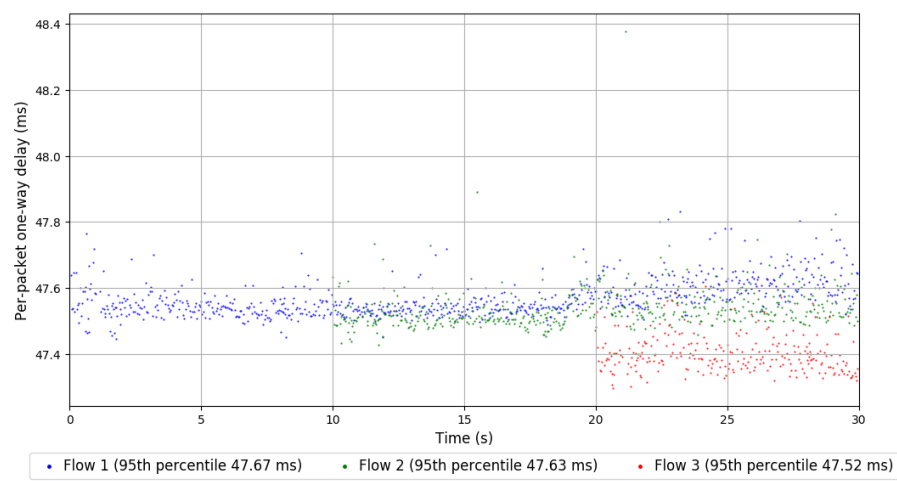
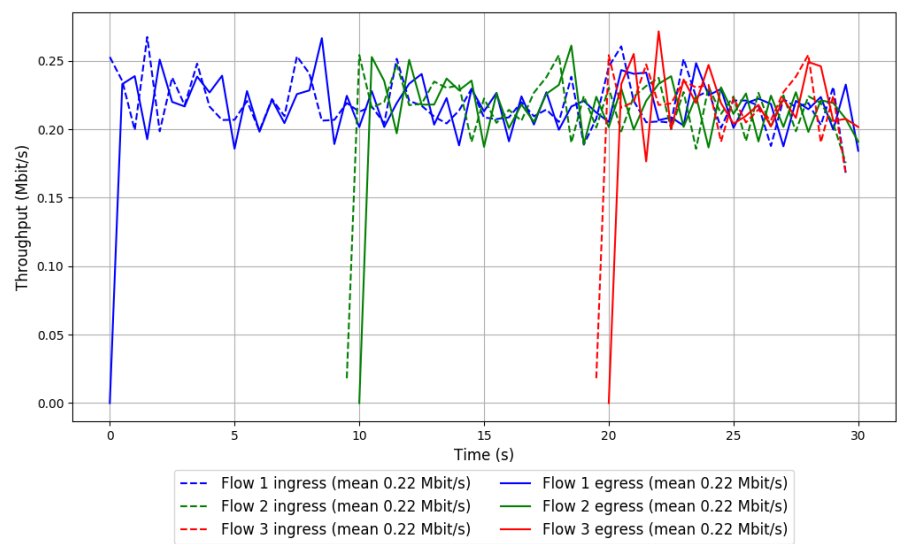Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-01-18 11:48:51
End at: 2019-01-18 11:49:21
Local clock offset: -0.111 ms
Remote clock offset: -0.327 ms


# Below is generated by plot.py at 2019-01-18 15:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 104.26 Mbit/s
95th percentile per-packet one-way delay: 47.697 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 44.65 Mbit/s
95th percentile per-packet one-way delay: 47.745 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 59.64 Mbit/s
95th percentile per-packet one-way delay: 47.686 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.00 Mbit/s
95th percentile per-packet one-way delay: 47.439 ms
Loss rate: 0.00%
```

Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 44.65 Mbit/s) — Flow 1 egress (mean 44.65 Mbit/s)
Flow 2 ingress (mean 59.64 Mbit/s) — Flow 2 egress (mean 59.64 Mbit/s)
Flow 3 ingress (mean 62.00 Mbit/s) — Flow 3 egress (mean 62.00 Mbit/s)

Flow 1 (95th percentile 47.74 ms)   Flow 2 (95th percentile 47.69 ms)   Flow 3 (95th percentile 47.44 ms)
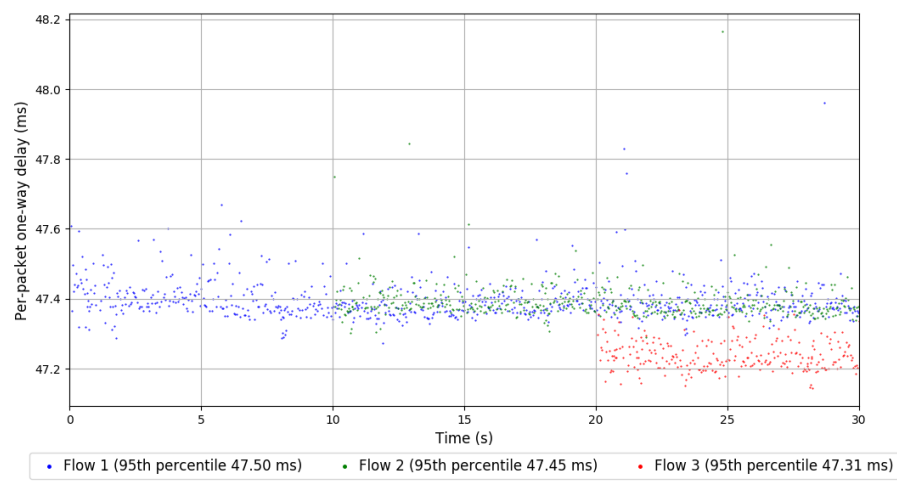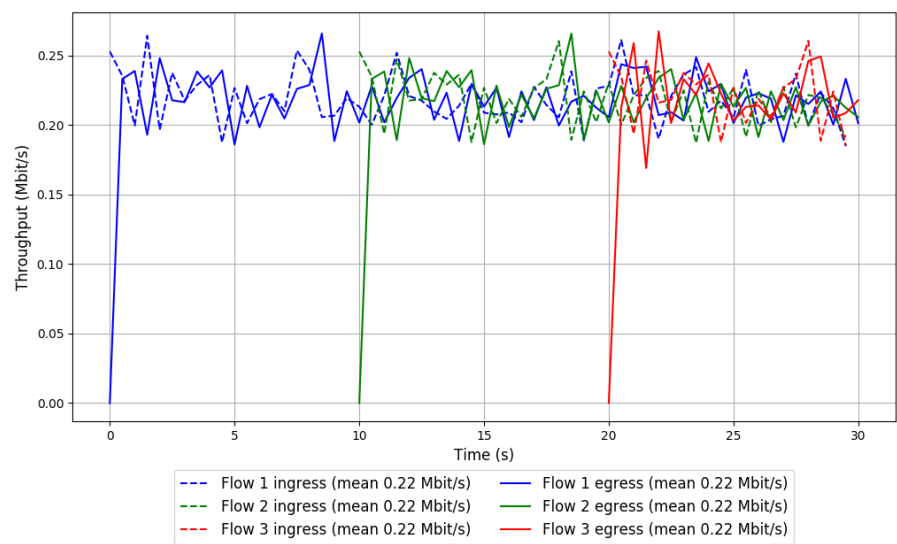
144

```
Run 1: Statistics of SCReAM

Start at: 2019-01-18 09:37:21
End at: 2019-01-18 09:37:51
Local clock offset: -0.047 ms
Remote clock offset: 0.012 ms


# Below is generated by plot.py at 2019-01-18 15:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 47.651 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.673 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.629 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.515 ms
Loss rate: 0.00%
```
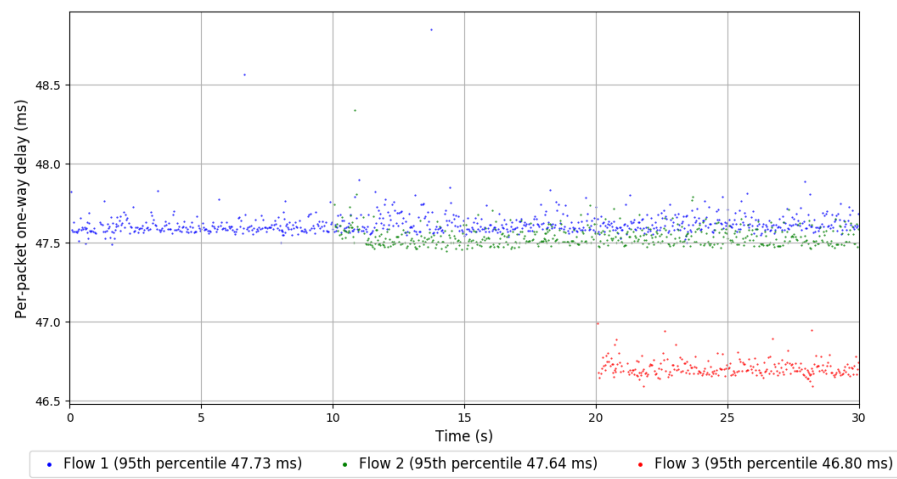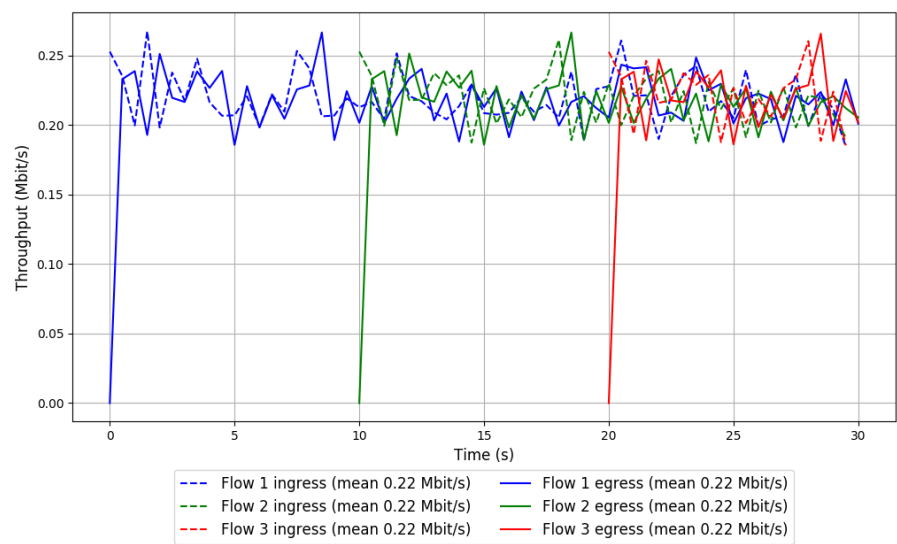
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-01-18 10:14:01
End at: 2019-01-18 10:14:31
Local clock offset: -0.067 ms
Remote clock offset: -0.036 ms


# Below is generated by plot.py at 2019-01-18 15:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 47.464 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.498 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.455 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.313 ms
Loss rate: 0.00%
```
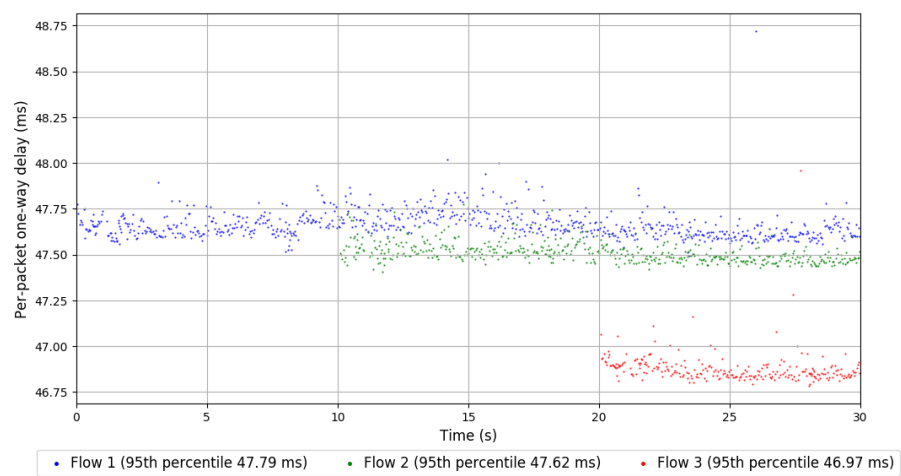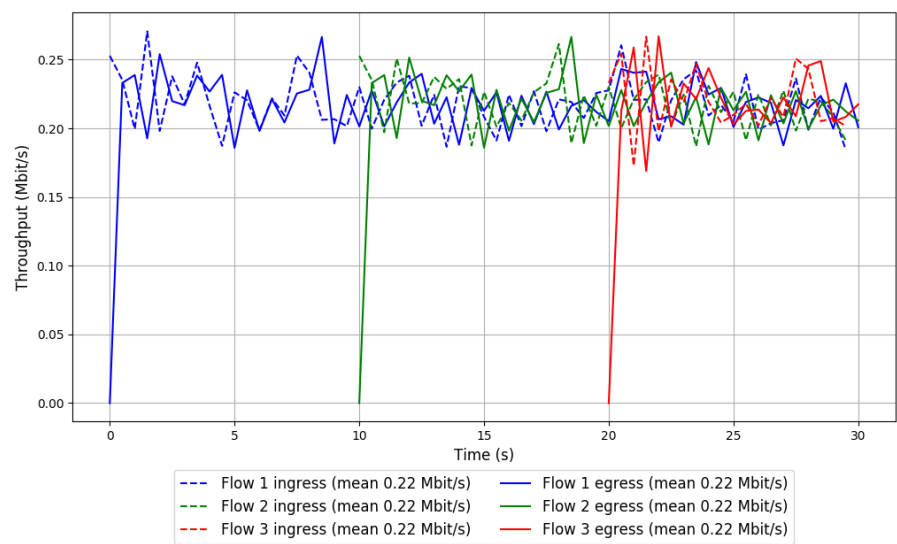
Run 2: Report of SCReAM — Data Link

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 47.50 ms)   Flow 2 (95th percentile 47.45 ms)   Flow 3 (95th percentile 47.31 ms)

```
Run 3: Statistics of SCReAM

Start at: 2019-01-18 10:50:31
End at: 2019-01-18 10:51:01
Local clock offset: -0.132 ms
Remote clock offset: 0.021 ms


# Below is generated by plot.py at 2019-01-18 15:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 47.694 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.730 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.640 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.800 ms
Loss rate: 0.00%
```
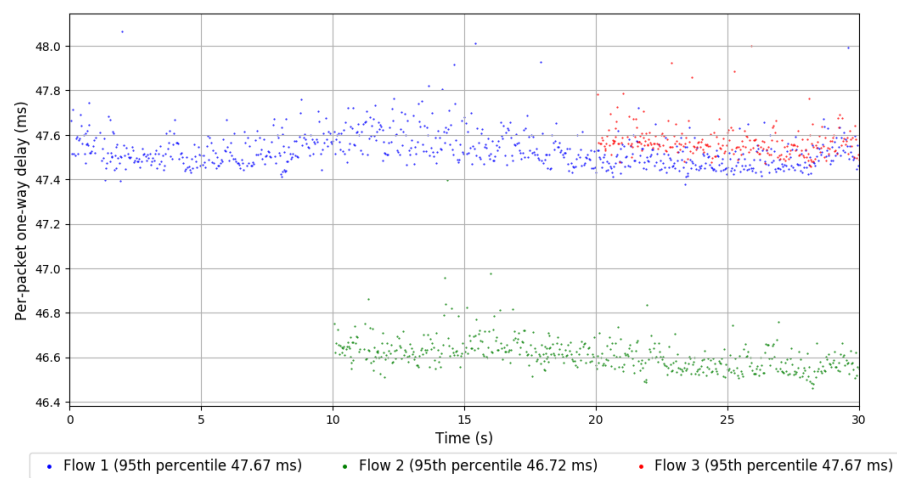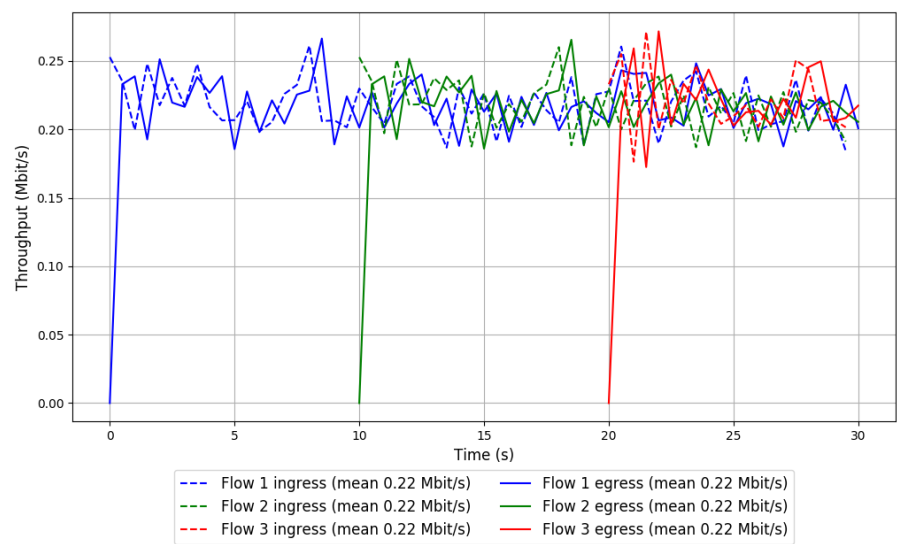
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-01-18 11:26:21
End at: 2019-01-18 11:26:51
Local clock offset: -0.127 ms
Remote clock offset: -0.246 ms


# Below is generated by plot.py at 2019-01-18 15:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 47.754 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.789 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.618 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.971 ms
Loss rate: 0.00%
```
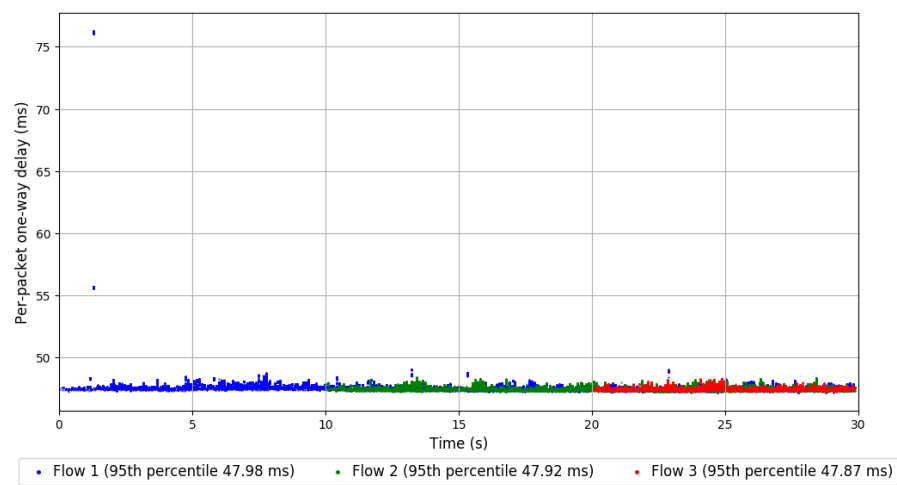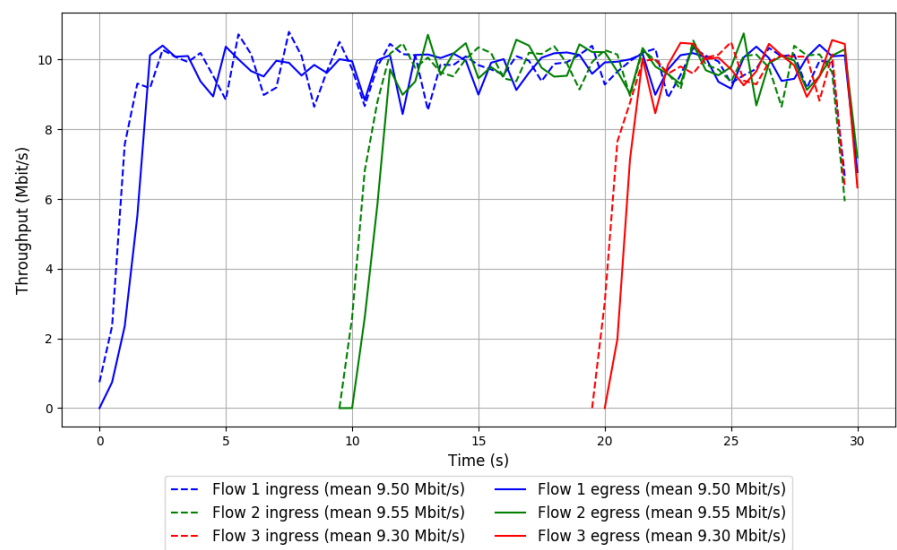
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-01-18 12:02:40
End at: 2019-01-18 12:03:10
Local clock offset: -0.101 ms
Remote clock offset: -0.259 ms


# Below is generated by plot.py at 2019-01-18 15:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 47.650 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.668 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.719 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.674 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-01-18 09:48:10
End at: 2019-01-18 09:48:40
Local clock offset: -0.056 ms
Remote clock offset: -0.033 ms


# Below is generated by plot.py at 2019-01-18 15:00:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.94 Mbit/s
95th percentile per-packet one-way delay: 47.951 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.50 Mbit/s
95th percentile per-packet one-way delay: 47.981 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 9.55 Mbit/s
95th percentile per-packet one-way delay: 47.922 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.30 Mbit/s
95th percentile per-packet one-way delay: 47.869 ms
Loss rate: 0.00%
```
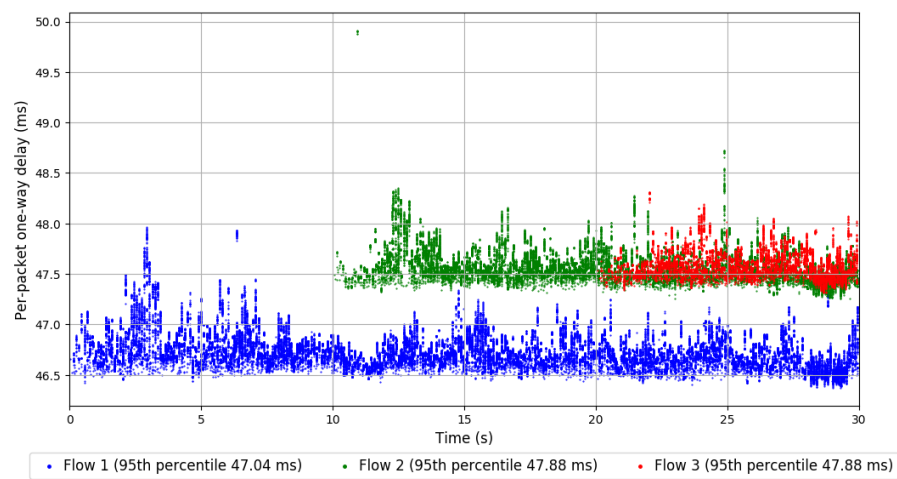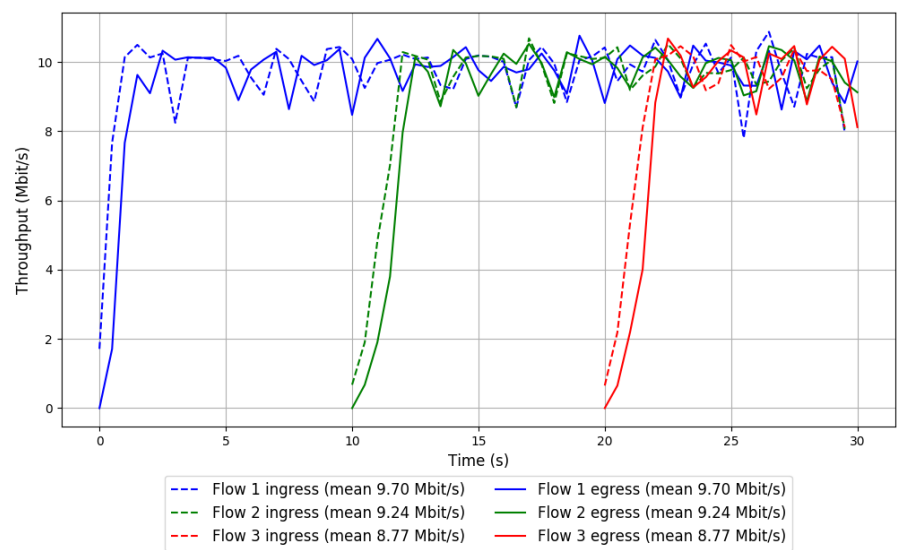
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-01-18 10:24:51
End at: 2019-01-18 10:25:21
Local clock offset: -0.11 ms
Remote clock offset: -0.06 ms


# Below is generated by plot.py at 2019-01-18 15:00:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.73 Mbit/s
95th percentile per-packet one-way delay: 47.768 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.70 Mbit/s
95th percentile per-packet one-way delay: 47.043 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 9.24 Mbit/s
95th percentile per-packet one-way delay: 47.877 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.77 Mbit/s
95th percentile per-packet one-way delay: 47.885 ms
Loss rate: 0.00%
```
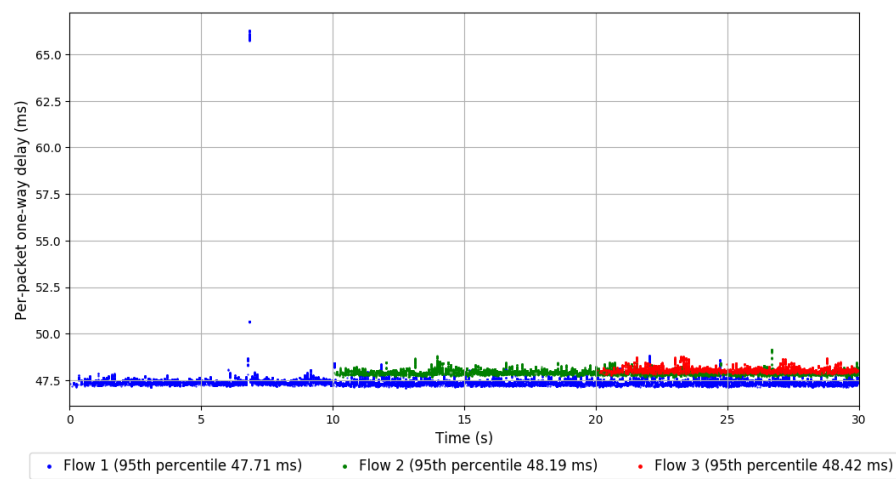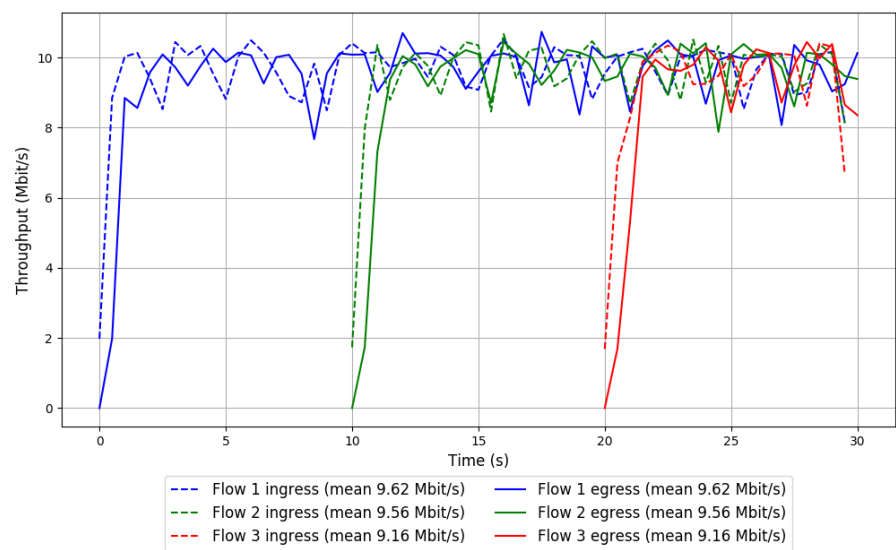
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-01-18 11:01:04
End at: 2019-01-18 11:01:34
Local clock offset: -0.449 ms
Remote clock offset: -0.171 ms


# Below is generated by plot.py at 2019-01-18 15:00:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.99 Mbit/s
95th percentile per-packet one-way delay: 48.212 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.62 Mbit/s
95th percentile per-packet one-way delay: 47.711 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 9.56 Mbit/s
95th percentile per-packet one-way delay: 48.192 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.16 Mbit/s
95th percentile per-packet one-way delay: 48.416 ms
Loss rate: 0.00%
```
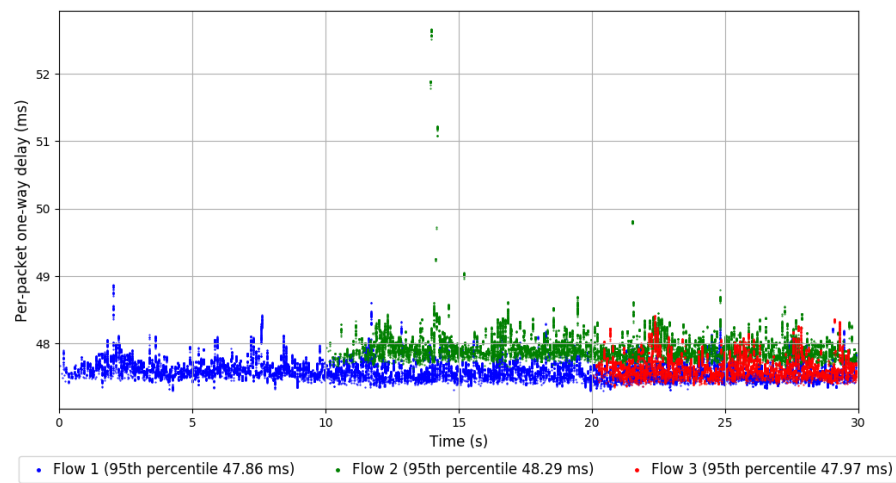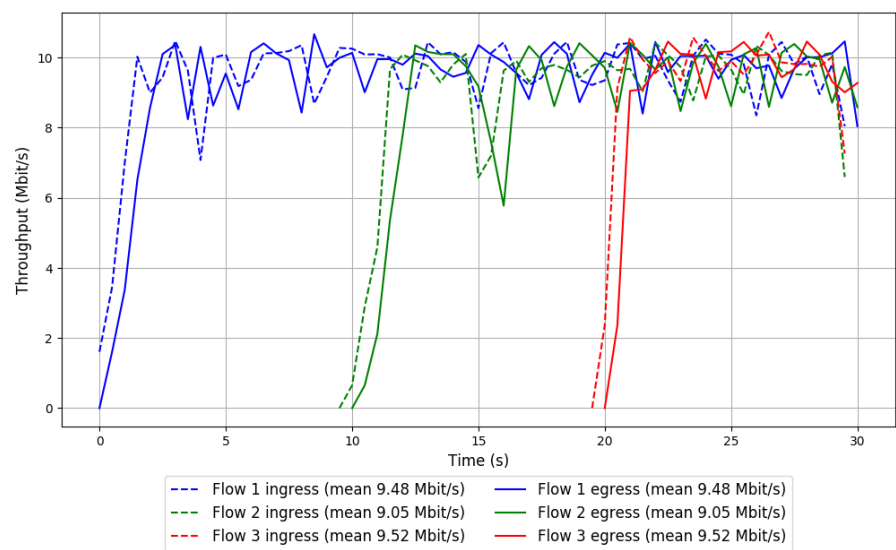
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-01-18 11:36:54
End at: 2019-01-18 11:37:24
Local clock offset: -0.125 ms
Remote clock offset: -0.313 ms


# Below is generated by plot.py at 2019-01-18 15:00:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.63 Mbit/s
95th percentile per-packet one-way delay: 48.126 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.48 Mbit/s
95th percentile per-packet one-way delay: 47.861 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 9.05 Mbit/s
95th percentile per-packet one-way delay: 48.290 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.52 Mbit/s
95th percentile per-packet one-way delay: 47.973 ms
Loss rate: 0.00%
```
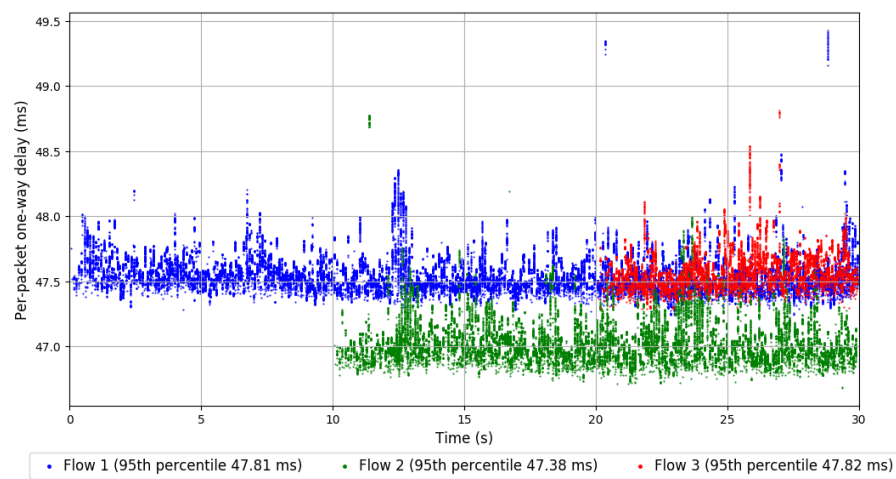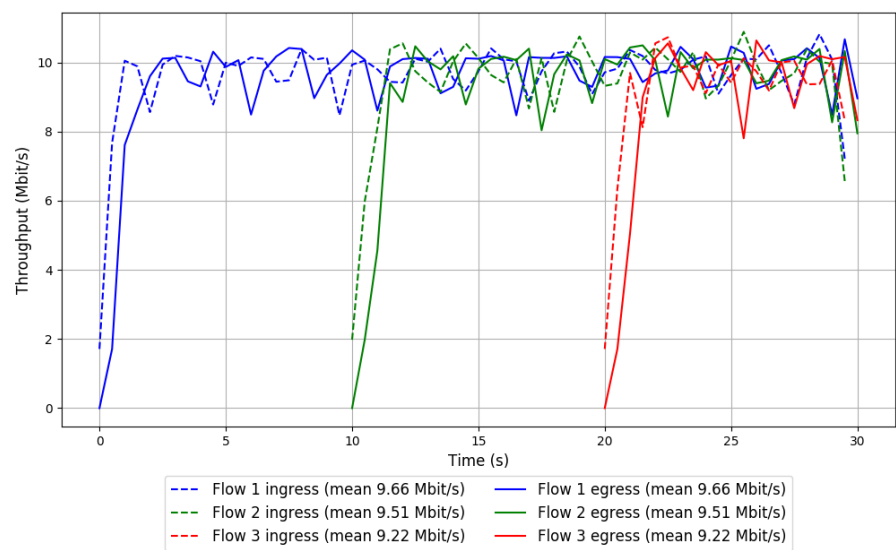
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-01-18 12:13:12
End at: 2019-01-18 12:13:42
Local clock offset: -0.049 ms
Remote clock offset: -0.062 ms


# Below is generated by plot.py at 2019-01-18 15:00:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.01 Mbit/s
95th percentile per-packet one-way delay: 47.770 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.66 Mbit/s
95th percentile per-packet one-way delay: 47.815 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 9.51 Mbit/s
95th percentile per-packet one-way delay: 47.376 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.22 Mbit/s
95th percentile per-packet one-way delay: 47.824 ms
Loss rate: 0.00%
```
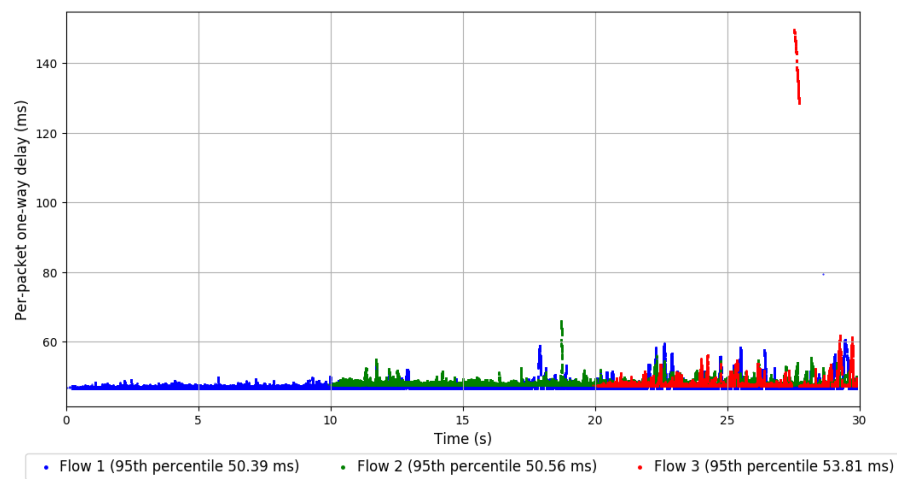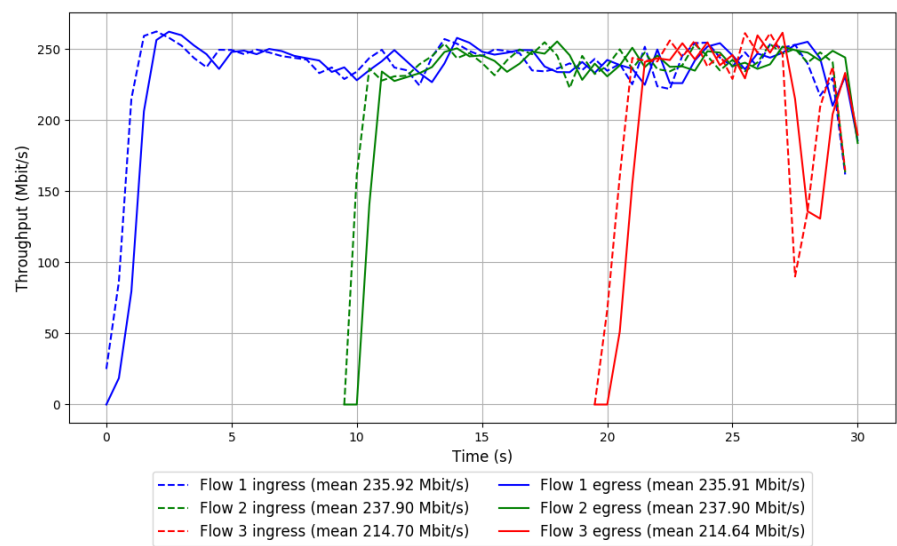
Run 5: Report of Sprout — Data Link

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

Start at: 2019-01-18 09:31:38
End at: 2019-01-18 09:32:08
Local clock offset: -0.081 ms
Remote clock offset: -0.056 ms


# Below is generated by plot.py at 2019-01-18 15:04:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 466.74 Mbit/s
95th percentile per-packet one-way delay: 50.967 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 235.91 Mbit/s
95th percentile per-packet one-way delay: 50.392 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 237.90 Mbit/s
95th percentile per-packet one-way delay: 50.556 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 214.64 Mbit/s
95th percentile per-packet one-way delay: 53.814 ms
Loss rate: 0.02%
```

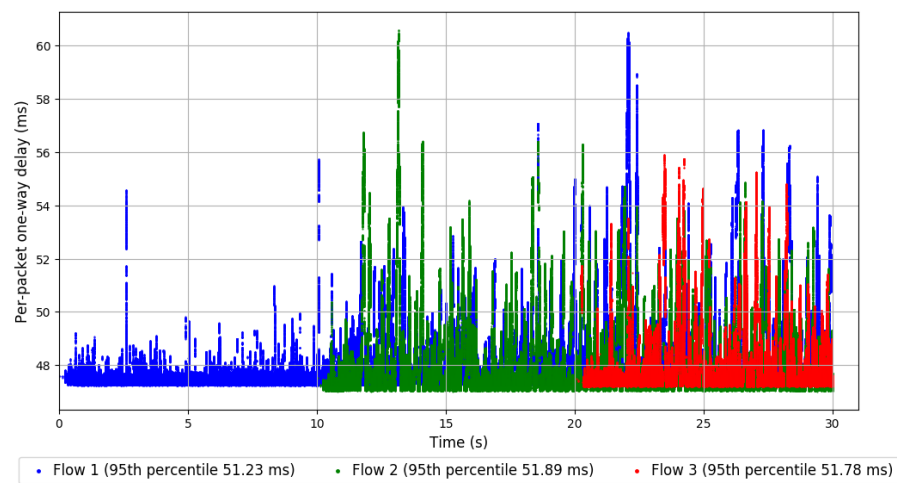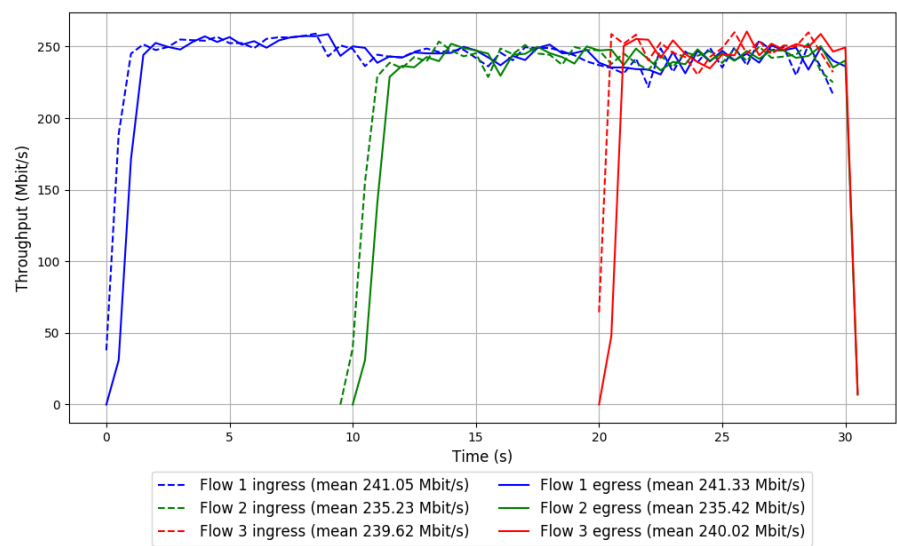# Run 1: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 235.92 Mbit/s) ——— Flow 1 egress (mean 235.91 Mbit/s)
- - - - Flow 2 ingress (mean 237.90 Mbit/s) ——— Flow 2 egress (mean 237.90 Mbit/s)
- - - - Flow 3 ingress (mean 214.70 Mbit/s) ——— Flow 3 egress (mean 214.64 Mbit/s)

- Flow 1 (95th percentile 50.39 ms) • Flow 2 (95th percentile 50.56 ms) • Flow 3 (95th percentile 53.81 ms)

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

Start at: 2019-01-18 10:08:07
End at: 2019-01-18 10:08:37
Local clock offset: -0.09 ms
Remote clock offset: -0.014 ms

# Below is generated by plot.py at 2019-01-18 15:05:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 477.80 Mbit/s
95th percentile per-packet one-way delay: 51.577 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 241.33 Mbit/s
95th percentile per-packet one-way delay: 51.228 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 235.42 Mbit/s
95th percentile per-packet one-way delay: 51.893 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 240.02 Mbit/s
95th percentile per-packet one-way delay: 51.781 ms
Loss rate: 0.00%
```
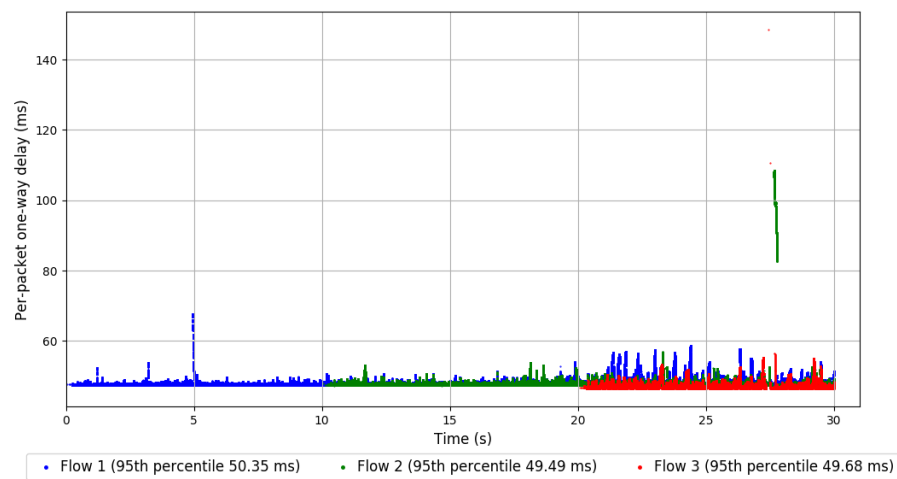
Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2019-01-18 10:44:43
End at: 2019-01-18 10:45:13
Local clock offset: -0.111 ms
Remote clock offset: 0.016 ms


# Below is generated by plot.py at 2019-01-18 15:05:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 471.66 Mbit/s
95th percentile per-packet one-way delay: 49.959 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 241.94 Mbit/s
95th percentile per-packet one-way delay: 50.346 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 236.97 Mbit/s
95th percentile per-packet one-way delay: 49.491 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 216.22 Mbit/s
95th percentile per-packet one-way delay: 49.683 ms
Loss rate: 0.00%
```
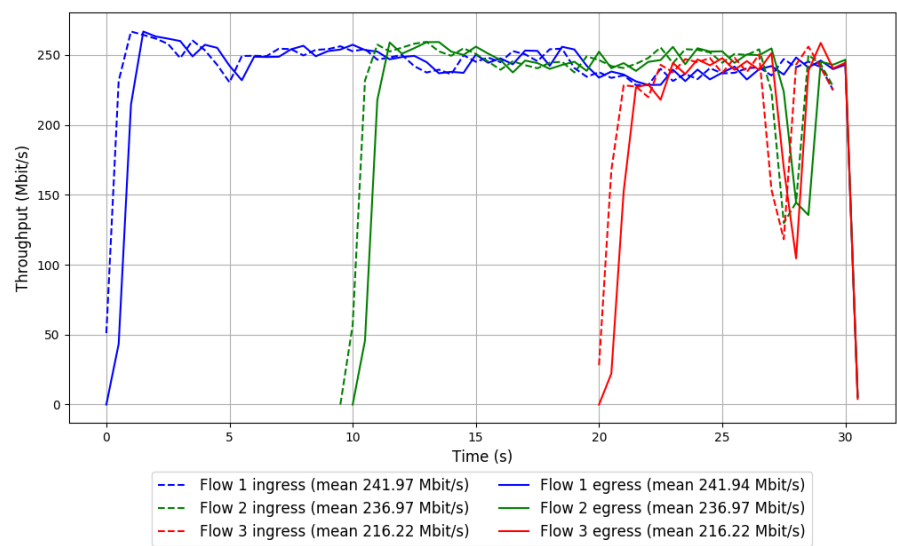
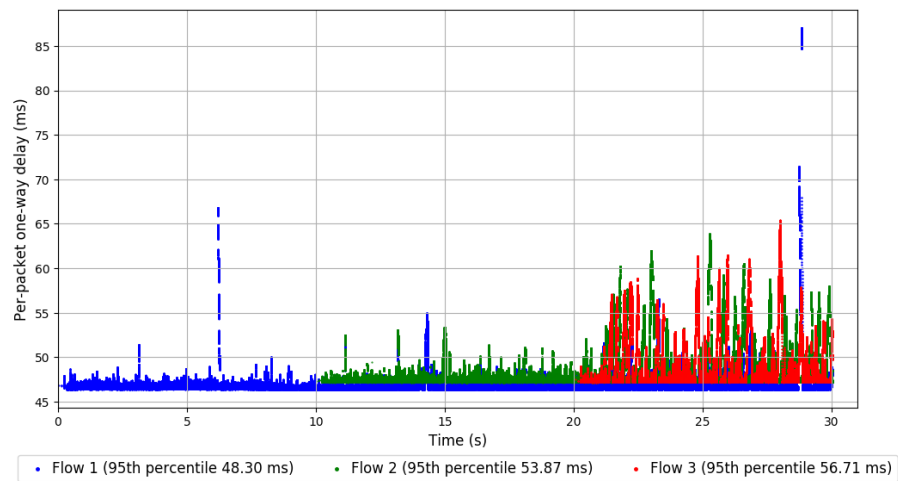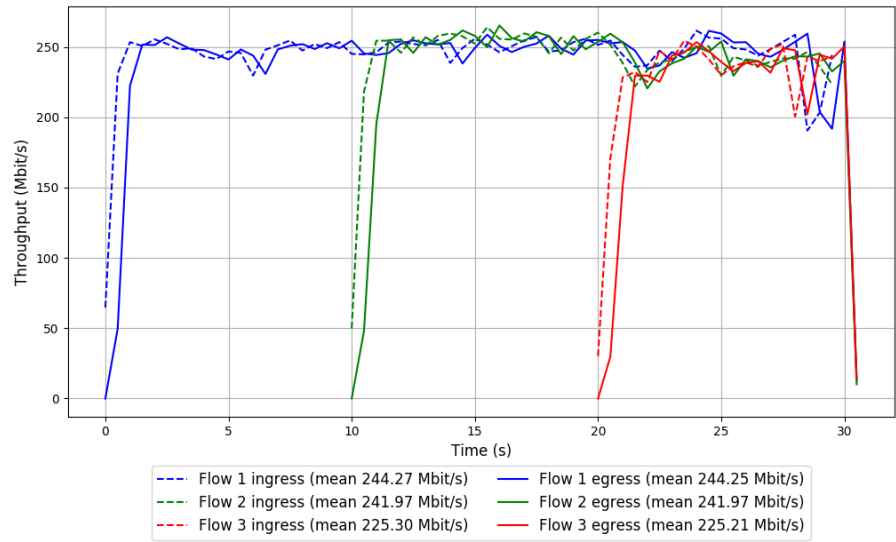Run 3: Report of TaoVA-100x — Data Link

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

Start at: 2019-01-18 11:20:34
End at: 2019-01-18 11:21:04
Local clock offset: -0.063 ms
Remote clock offset: -0.256 ms


# Below is generated by plot.py at 2019-01-18 15:05:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 480.25 Mbit/s
95th percentile per-packet one-way delay: 52.605 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 244.25 Mbit/s
95th percentile per-packet one-way delay: 48.297 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 241.97 Mbit/s
95th percentile per-packet one-way delay: 53.871 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 225.21 Mbit/s
95th percentile per-packet one-way delay: 56.712 ms
Loss rate: 0.04%
```

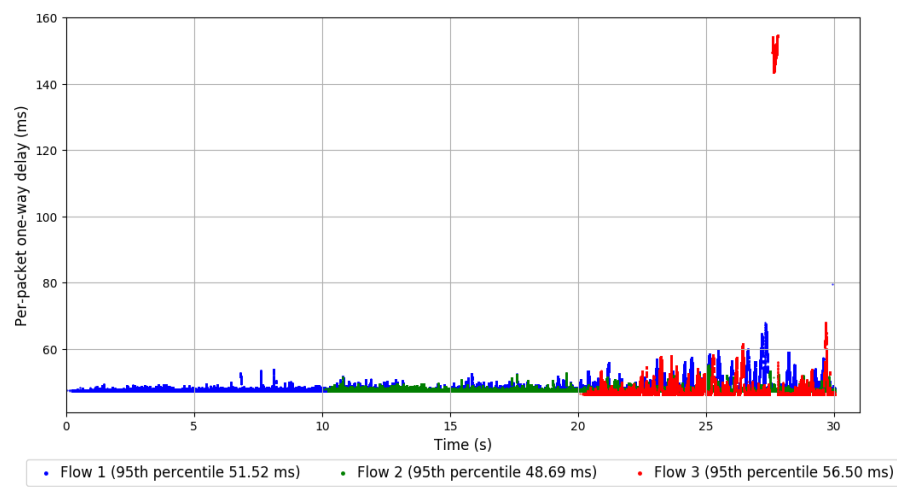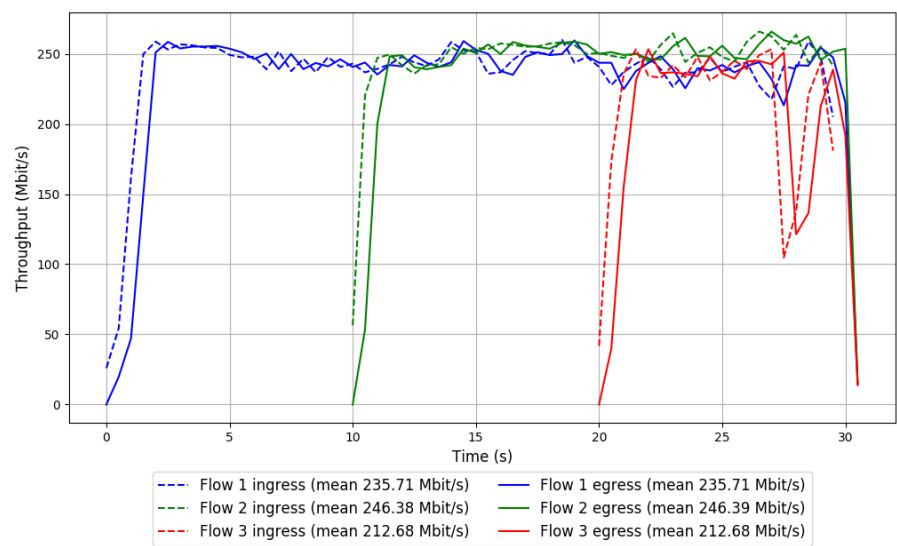# Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 244.27 Mbit/s) --- Flow 1 egress (mean 244.25 Mbit/s)
Flow 2 ingress (mean 241.97 Mbit/s) --- Flow 2 egress (mean 241.97 Mbit/s)
Flow 3 ingress (mean 225.30 Mbit/s) --- Flow 3 egress (mean 225.21 Mbit/s)

Flow 1 (95th percentile 48.30 ms)   Flow 2 (95th percentile 53.87 ms)   Flow 3 (95th percentile 56.71 ms)

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

Start at: 2019-01-18 11:56:45
End at: 2019-01-18 11:57:15
Local clock offset: -0.116 ms
Remote clock offset: -0.364 ms


# Below is generated by plot.py at 2019-01-18 15:06:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 470.48 Mbit/s
95th percentile per-packet one-way delay: 51.007 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 235.71 Mbit/s
95th percentile per-packet one-way delay: 51.523 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 246.39 Mbit/s
95th percentile per-packet one-way delay: 48.687 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 212.68 Mbit/s
95th percentile per-packet one-way delay: 56.500 ms
Loss rate: 0.00%
```

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

```
Run 1: Statistics of TCP Vegas

Start at: 2019-01-18 09:20:02
End at: 2019-01-18 09:20:32
Local clock offset: 0.311 ms
Remote clock offset: -0.05 ms


# Below is generated by plot.py at 2019-01-18 15:06:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 828.73 Mbit/s
95th percentile per-packet one-way delay: 96.935 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 451.30 Mbit/s
95th percentile per-packet one-way delay: 97.443 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 446.27 Mbit/s
95th percentile per-packet one-way delay: 97.383 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 239.84 Mbit/s
95th percentile per-packet one-way delay: 47.999 ms
Loss rate: 0.03%
```
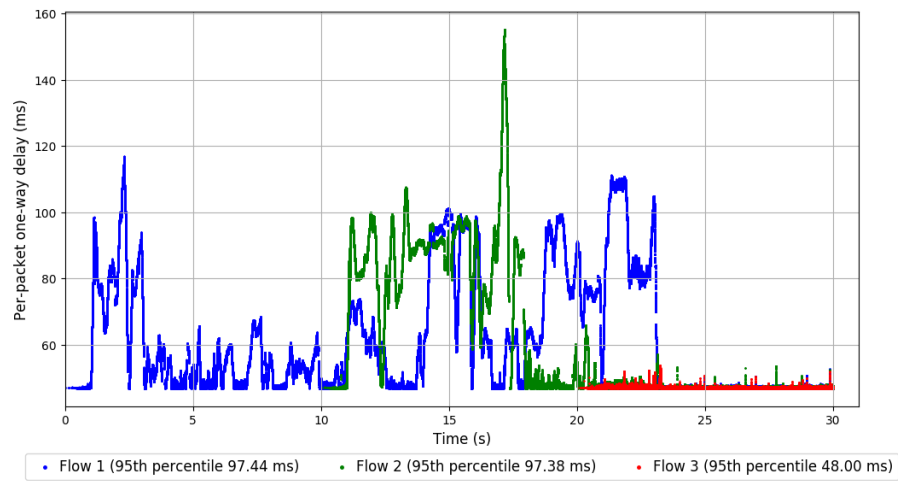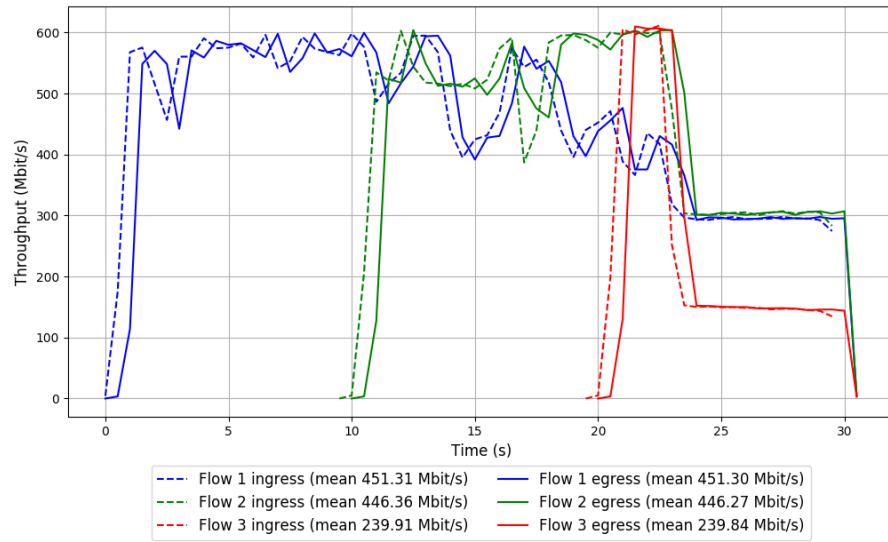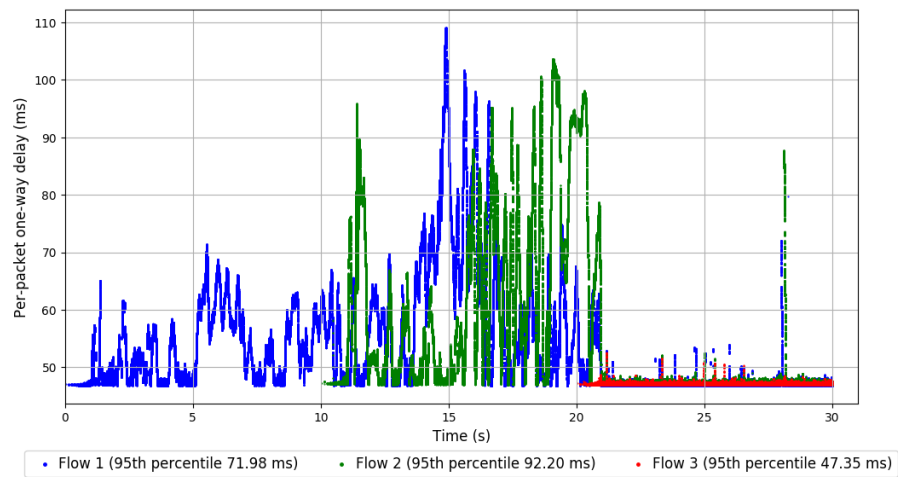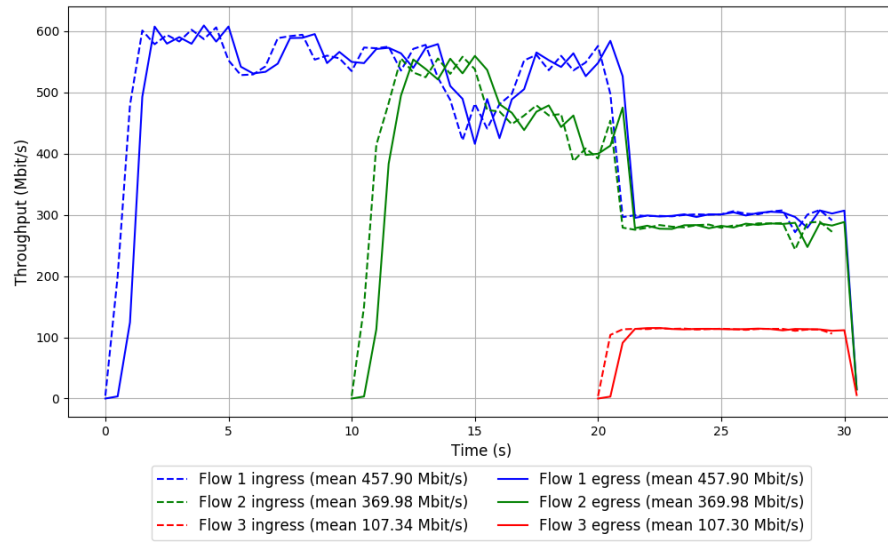
Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 451.31 Mbit/s) --- Flow 1 egress (mean 451.30 Mbit/s)
Flow 2 ingress (mean 446.36 Mbit/s) --- Flow 2 egress (mean 446.27 Mbit/s)
Flow 3 ingress (mean 239.91 Mbit/s) --- Flow 3 egress (mean 239.84 Mbit/s)

Flow 1 (95th percentile 97.44 ms)   Flow 2 (95th percentile 97.38 ms)   Flow 3 (95th percentile 48.00 ms)

```
Run 2: Statistics of TCP Vegas

Start at: 2019-01-18 09:56:25
End at: 2019-01-18 09:56:55
Local clock offset: 0.255 ms
Remote clock offset: 0.019 ms


# Below is generated by plot.py at 2019-01-18 15:14:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 740.07 Mbit/s
95th percentile per-packet one-way delay: 80.271 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 457.90 Mbit/s
95th percentile per-packet one-way delay: 71.977 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 369.98 Mbit/s
95th percentile per-packet one-way delay: 92.197 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 107.30 Mbit/s
95th percentile per-packet one-way delay: 47.352 ms
Loss rate: 0.03%
```

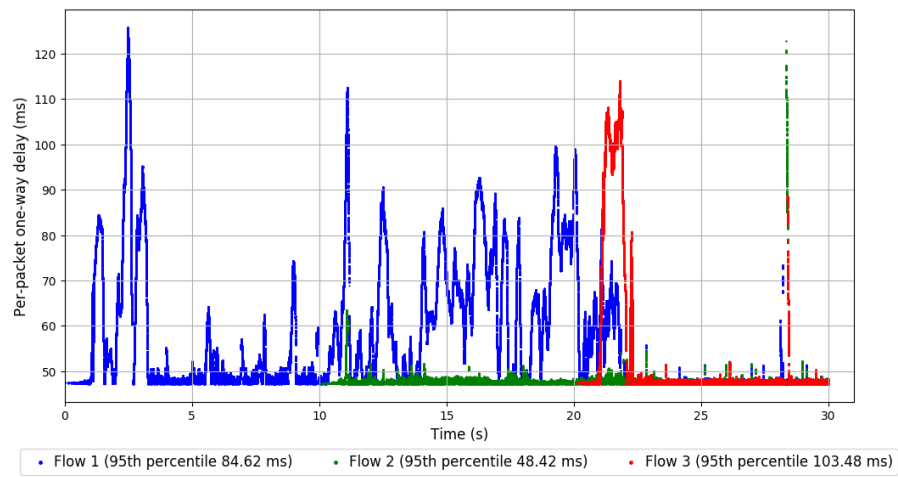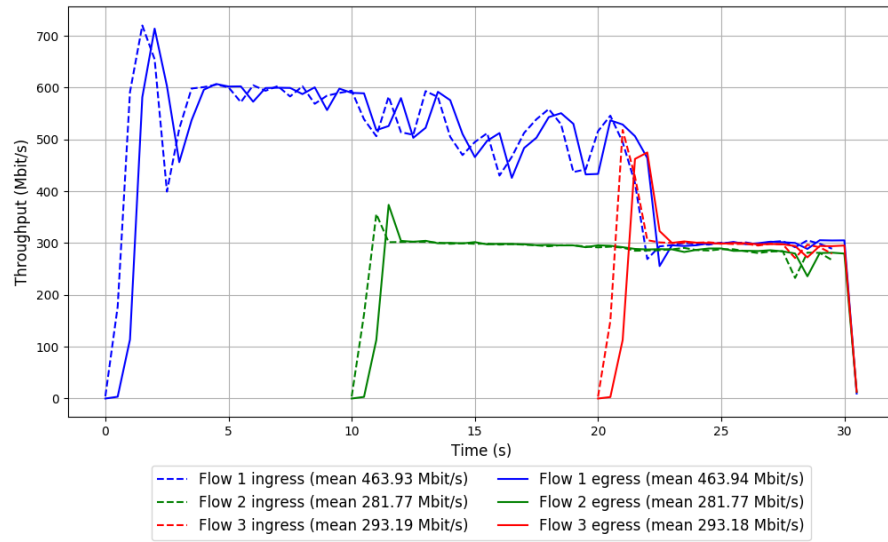## Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-01-18 10:33:01
End at: 2019-01-18 10:33:31
Local clock offset: -0.117 ms
Remote clock offset: -0.063 ms


# Below is generated by plot.py at 2019-01-18 15:16:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 748.98 Mbit/s
95th percentile per-packet one-way delay: 84.162 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 463.94 Mbit/s
95th percentile per-packet one-way delay: 84.616 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 281.77 Mbit/s
95th percentile per-packet one-way delay: 48.417 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 293.18 Mbit/s
95th percentile per-packet one-way delay: 103.477 ms
Loss rate: 0.00%
```

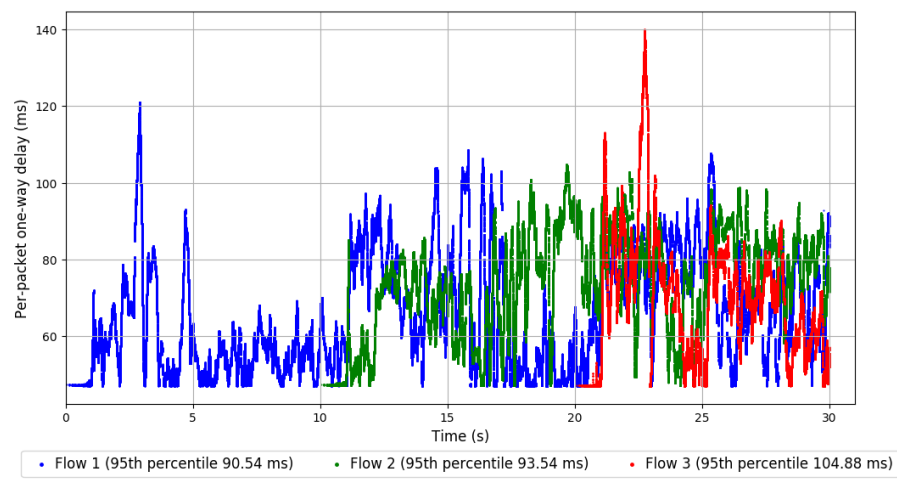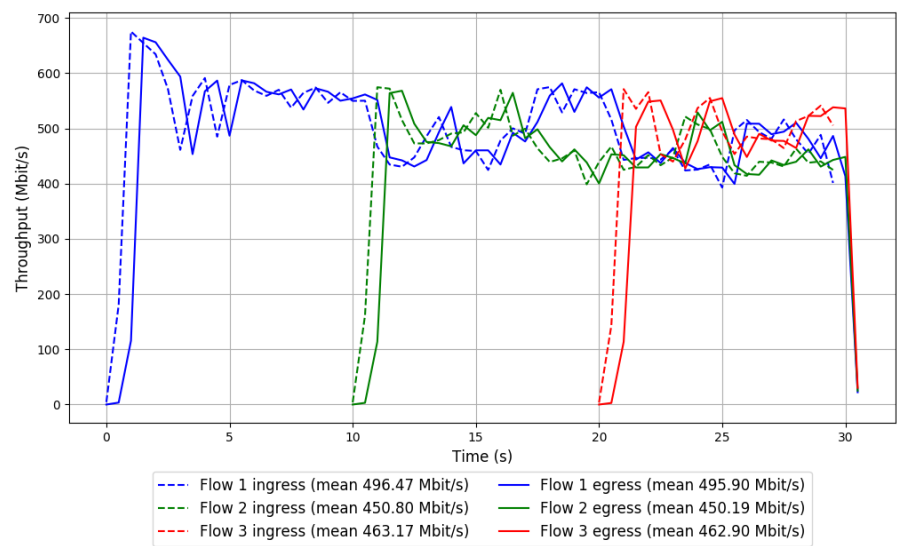## Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-01-18 11:08:56
End at: 2019-01-18 11:09:26
Local clock offset: -0.069 ms
Remote clock offset: -0.198 ms


# Below is generated by plot.py at 2019-01-18 15:23:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 949.55 Mbit/s
95th percentile per-packet one-way delay: 93.056 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 495.90 Mbit/s
95th percentile per-packet one-way delay: 90.544 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 450.19 Mbit/s
95th percentile per-packet one-way delay: 93.538 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 462.90 Mbit/s
95th percentile per-packet one-way delay: 104.881 ms
Loss rate: 0.05%
```

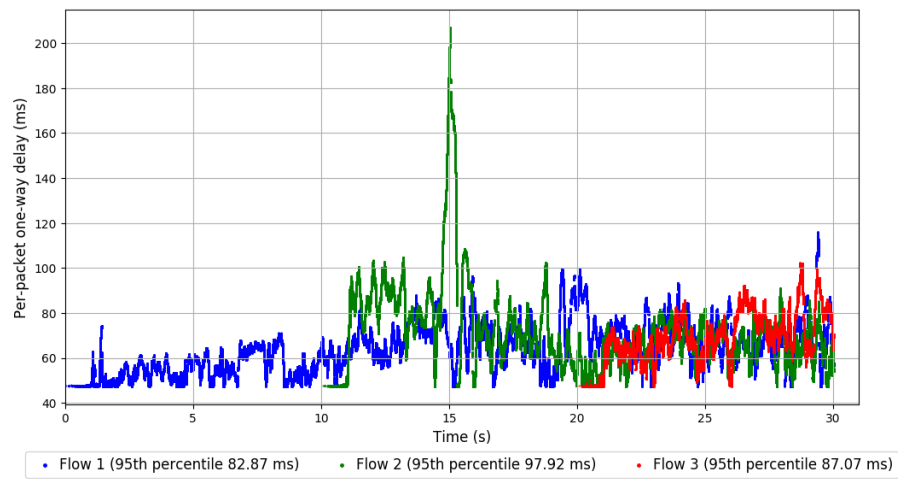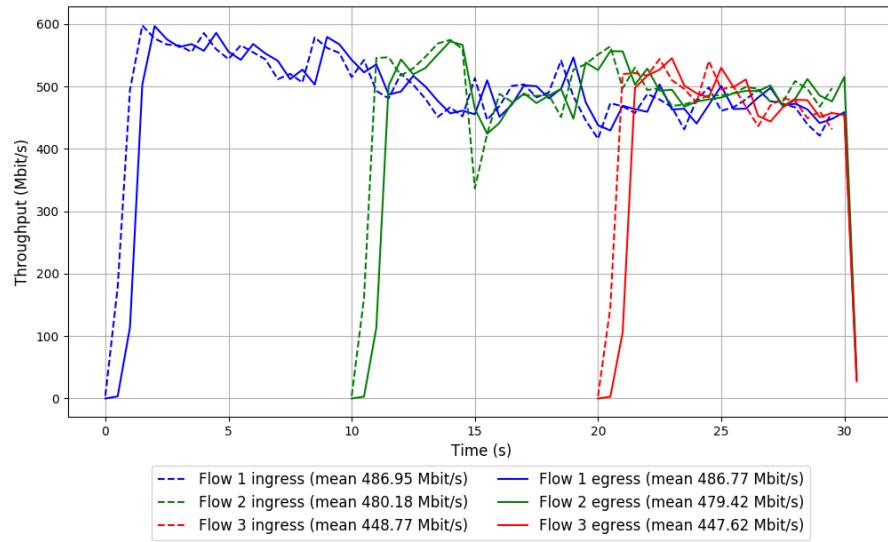Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-01-18 11:44:46
End at: 2019-01-18 11:45:16
Local clock offset: -0.104 ms
Remote clock offset: -0.239 ms


# Below is generated by plot.py at 2019-01-18 15:24:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 954.87 Mbit/s
95th percentile per-packet one-way delay: 89.416 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 486.77 Mbit/s
95th percentile per-packet one-way delay: 82.866 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 479.42 Mbit/s
95th percentile per-packet one-way delay: 97.919 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 447.62 Mbit/s
95th percentile per-packet one-way delay: 87.072 ms
Loss rate: 0.25%
```
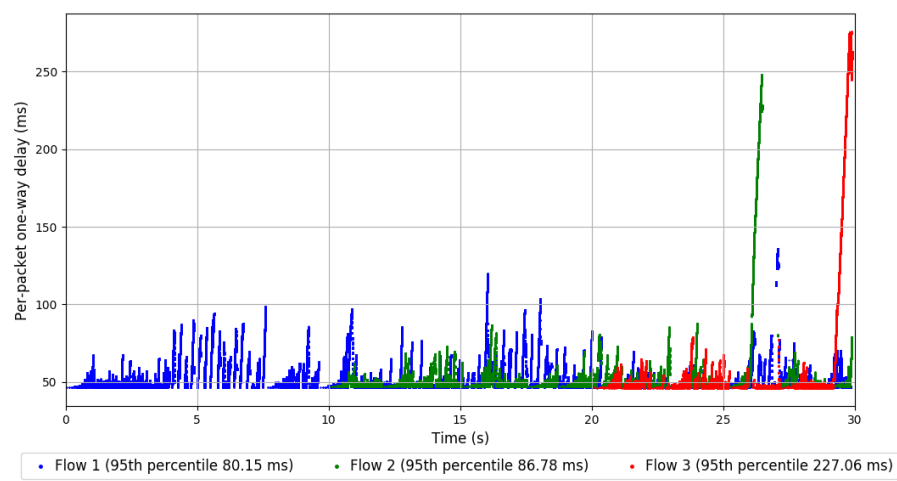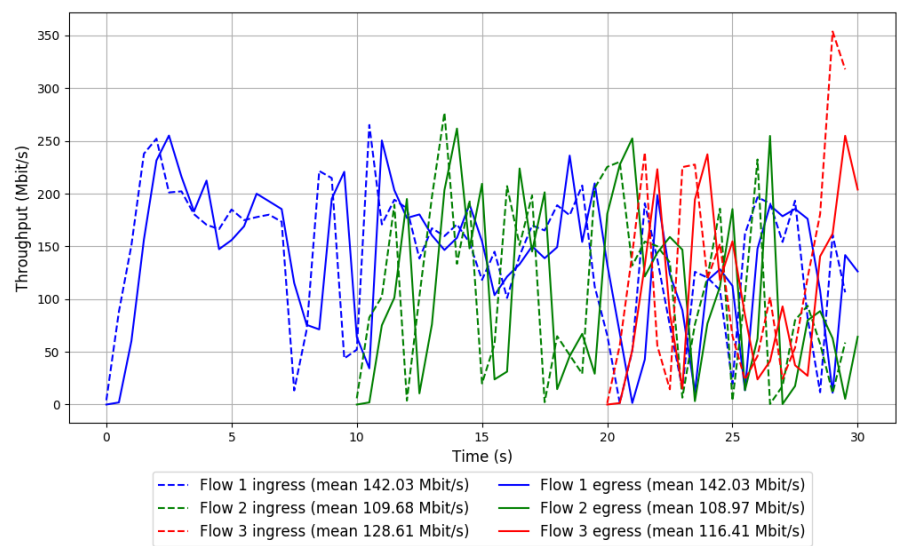
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 486.95 Mbit/s) --- Flow 1 egress (mean 486.77 Mbit/s)
Flow 2 ingress (mean 480.18 Mbit/s) --- Flow 2 egress (mean 479.42 Mbit/s)
Flow 3 ingress (mean 448.77 Mbit/s) --- Flow 3 egress (mean 447.62 Mbit/s)

Flow 1 (95th percentile 82.87 ms) • Flow 2 (95th percentile 97.92 ms) • Flow 3 (95th percentile 87.07 ms)

```
Run 1: Statistics of Verus

Start at: 2019-01-18 09:53:36
End at: 2019-01-18 09:54:06
Local clock offset: 0.274 ms
Remote clock offset: -0.032 ms


# Below is generated by plot.py at 2019-01-18 15:24:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 252.31 Mbit/s
95th percentile per-packet one-way delay: 86.096 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 142.03 Mbit/s
95th percentile per-packet one-way delay: 80.148 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 108.97 Mbit/s
95th percentile per-packet one-way delay: 86.782 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 116.41 Mbit/s
95th percentile per-packet one-way delay: 227.063 ms
Loss rate: 9.46%
```

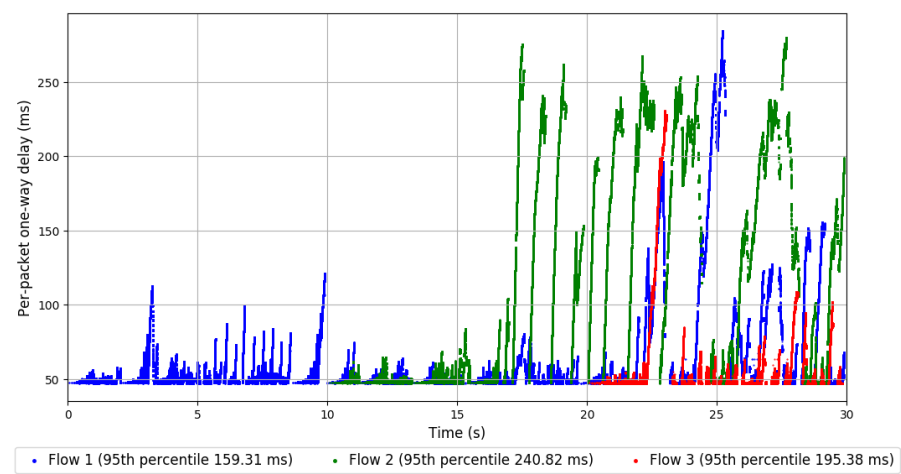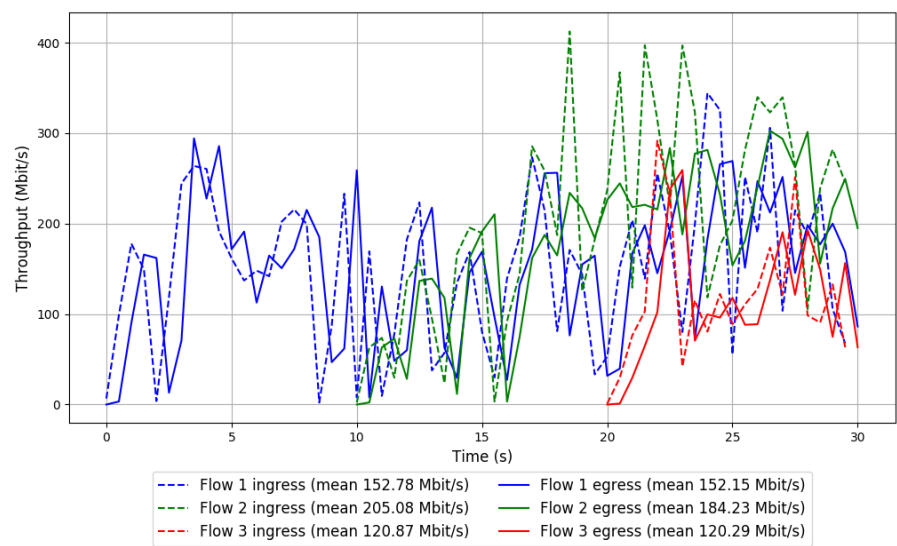Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-01-18 10:30:06
End at: 2019-01-18 10:30:36
Local clock offset: -0.082 ms
Remote clock offset: -0.089 ms


# Below is generated by plot.py at 2019-01-18 15:24:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 313.67 Mbit/s
95th percentile per-packet one-way delay: 231.304 ms
Loss rate: 4.46%
-- Flow 1:
Average throughput: 152.15 Mbit/s
95th percentile per-packet one-way delay: 159.306 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 184.23 Mbit/s
95th percentile per-packet one-way delay: 240.822 ms
Loss rate: 10.16%
-- Flow 3:
Average throughput: 120.29 Mbit/s
95th percentile per-packet one-way delay: 195.375 ms
Loss rate: 0.48%
```

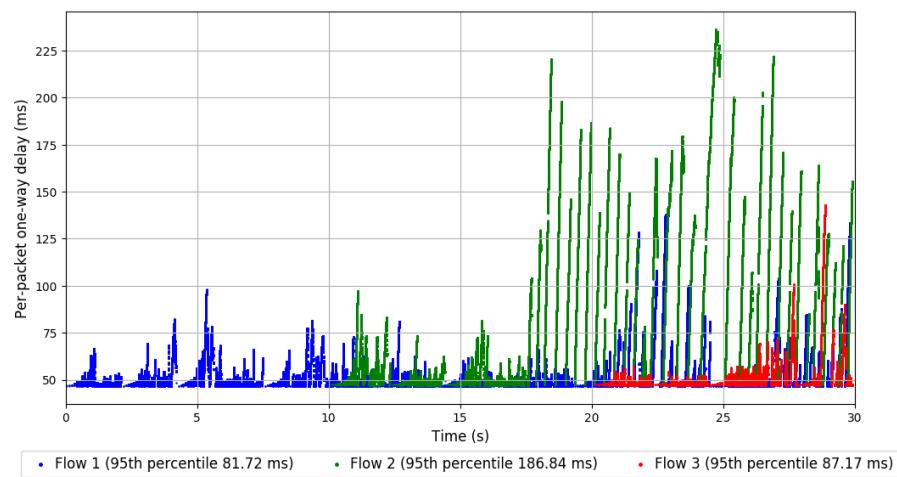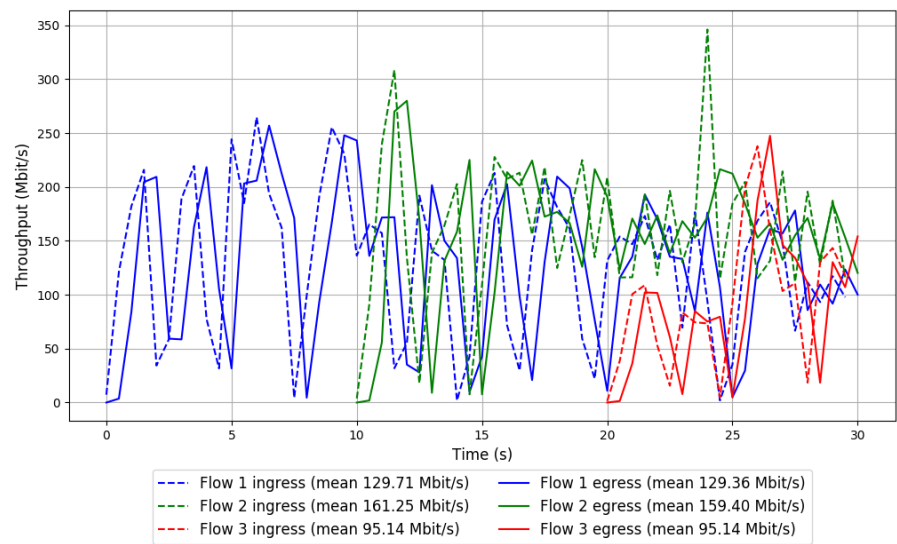Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-01-18 11:06:07
End at: 2019-01-18 11:06:37
Local clock offset: -0.091 ms
Remote clock offset: -0.217 ms


# Below is generated by plot.py at 2019-01-18 15:24:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 266.19 Mbit/s
95th percentile per-packet one-way delay: 156.058 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 129.36 Mbit/s
95th percentile per-packet one-way delay: 81.725 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 159.40 Mbit/s
95th percentile per-packet one-way delay: 186.837 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 95.14 Mbit/s
95th percentile per-packet one-way delay: 87.166 ms
Loss rate: 0.01%
```

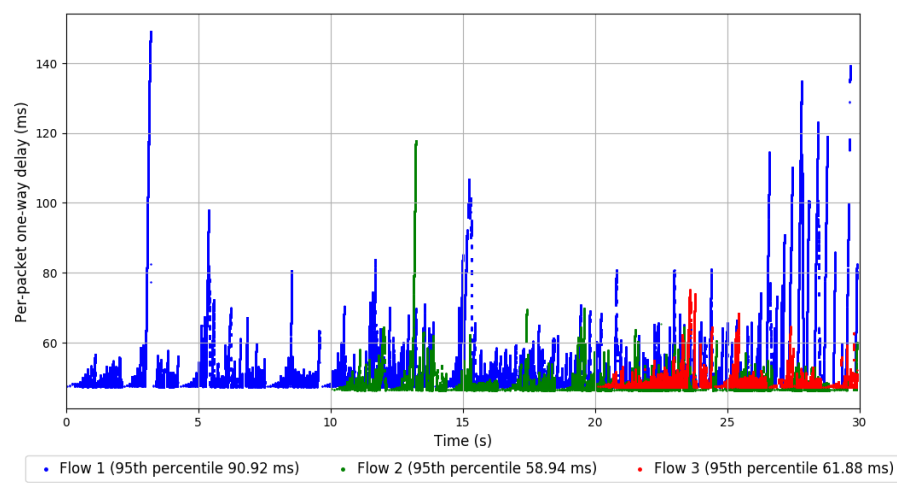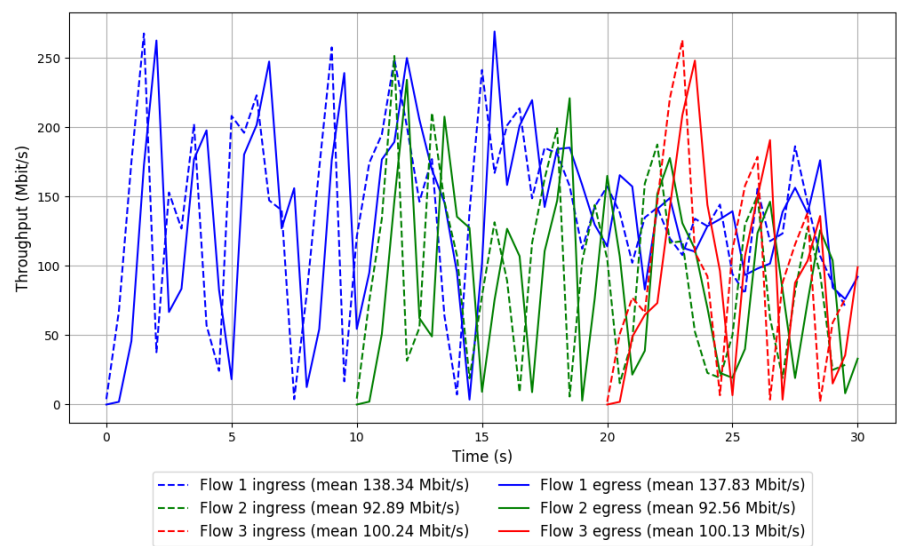Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-01-18 11:42:01
End at: 2019-01-18 11:42:31
Local clock offset: -0.094 ms
Remote clock offset: -0.287 ms


# Below is generated by plot.py at 2019-01-18 15:24:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 232.25 Mbit/s
95th percentile per-packet one-way delay: 78.979 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 137.83 Mbit/s
95th percentile per-packet one-way delay: 90.920 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 92.56 Mbit/s
95th percentile per-packet one-way delay: 58.941 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 100.13 Mbit/s
95th percentile per-packet one-way delay: 61.876 ms
Loss rate: 0.09%
```

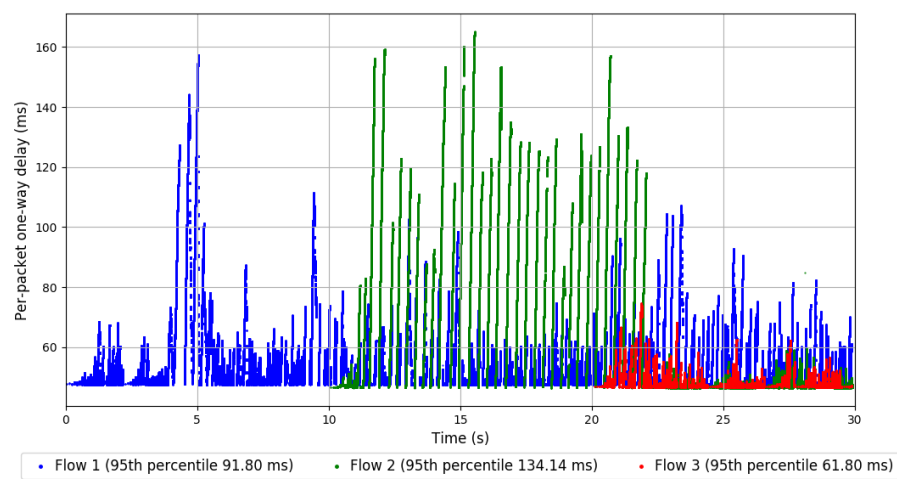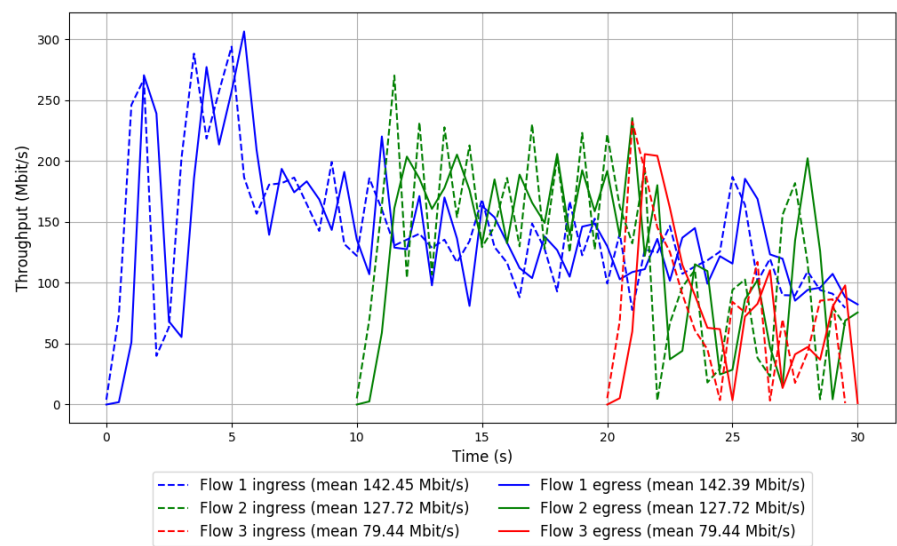Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-01-18 12:18:17
End at: 2019-01-18 12:18:47
Local clock offset: -0.088 ms
Remote clock offset: -0.011 ms


# Below is generated by plot.py at 2019-01-18 15:24:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 253.11 Mbit/s
95th percentile per-packet one-way delay: 120.713 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 142.39 Mbit/s
95th percentile per-packet one-way delay: 91.800 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 127.72 Mbit/s
95th percentile per-packet one-way delay: 134.142 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 79.44 Mbit/s
95th percentile per-packet one-way delay: 61.796 ms
Loss rate: 0.00%
```

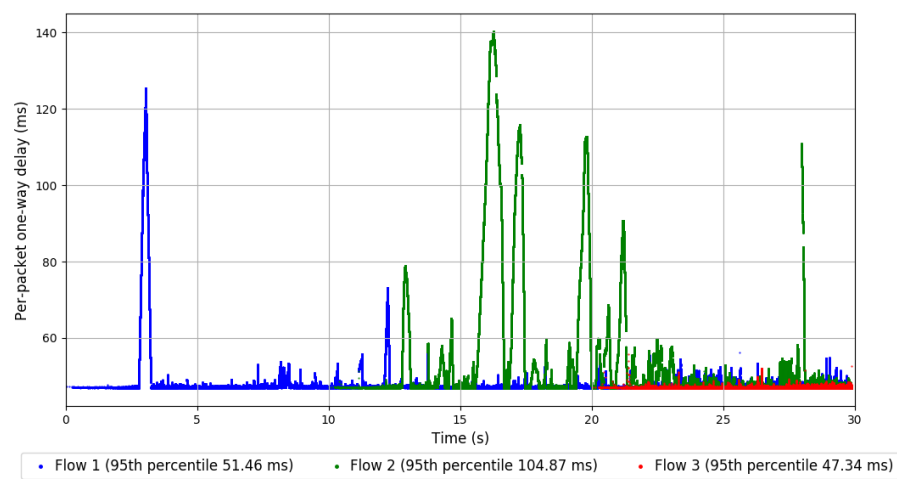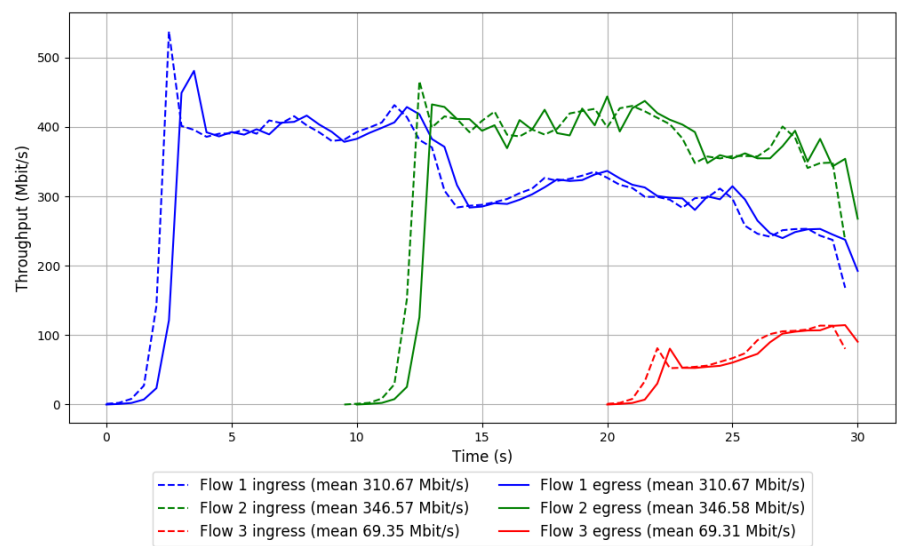Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-01-18 09:38:32
End at: 2019-01-18 09:39:02
Local clock offset: 0.346 ms
Remote clock offset: -0.027 ms


# Below is generated by plot.py at 2019-01-18 15:26:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 564.19 Mbit/s
95th percentile per-packet one-way delay: 80.327 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 310.67 Mbit/s
95th percentile per-packet one-way delay: 51.463 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 346.58 Mbit/s
95th percentile per-packet one-way delay: 104.866 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 69.31 Mbit/s
95th percentile per-packet one-way delay: 47.344 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 310.67 Mbit/s) --- Flow 1 egress (mean 310.67 Mbit/s)
Flow 2 ingress (mean 346.57 Mbit/s) --- Flow 2 egress (mean 346.58 Mbit/s)
Flow 3 ingress (mean 69.35 Mbit/s) --- Flow 3 egress (mean 69.31 Mbit/s)

Flow 1 (95th percentile 51.46 ms)   Flow 2 (95th percentile 104.87 ms)   Flow 3 (95th percentile 47.34 ms)

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-01-18 10:15:12
End at: 2019-01-18 10:15:42
Local clock offset: -0.096 ms
Remote clock offset: 0.008 ms


# Below is generated by plot.py at 2019-01-18 15:26:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 488.86 Mbit/s
95th percentile per-packet one-way delay: 54.258 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 312.62 Mbit/s
95th percentile per-packet one-way delay: 54.118 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 253.80 Mbit/s
95th percentile per-packet one-way delay: 54.765 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.57 Mbit/s
95th percentile per-packet one-way delay: 47.487 ms
Loss rate: 0.00%
```
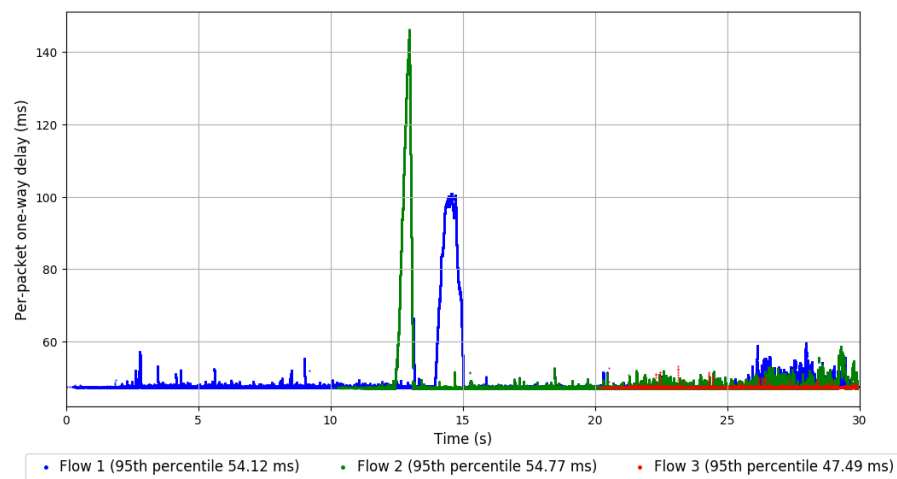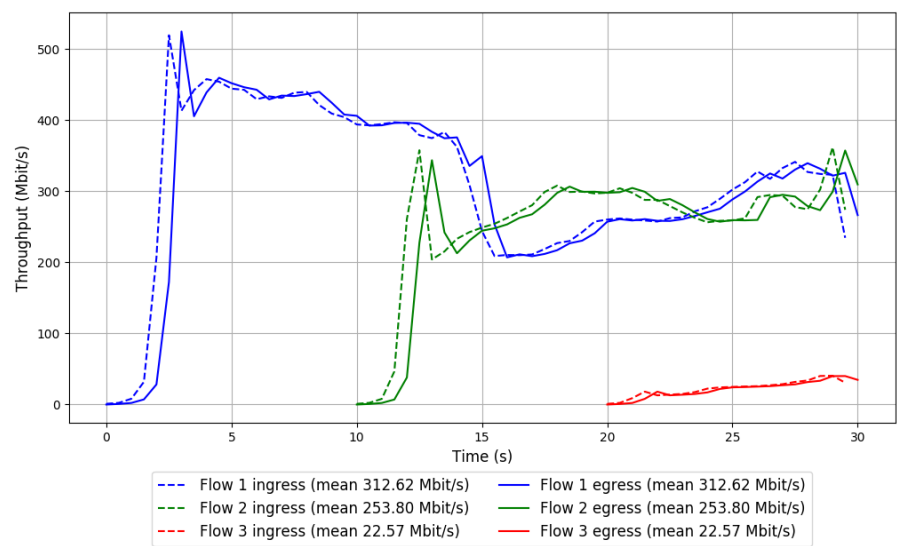
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-01-18 10:51:42
End at: 2019-01-18 10:52:12
Local clock offset: -0.113 ms
Remote clock offset: 0.077 ms


# Below is generated by plot.py at 2019-01-18 15:26:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 521.44 Mbit/s
95th percentile per-packet one-way delay: 108.388 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 306.70 Mbit/s
95th percentile per-packet one-way delay: 119.756 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 276.01 Mbit/s
95th percentile per-packet one-way delay: 51.473 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 94.07 Mbit/s
95th percentile per-packet one-way delay: 48.041 ms
Loss rate: 0.00%
```
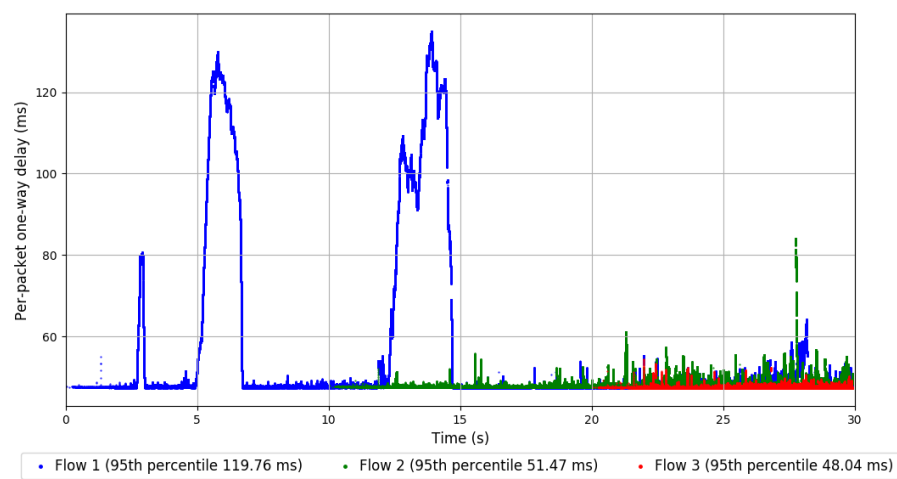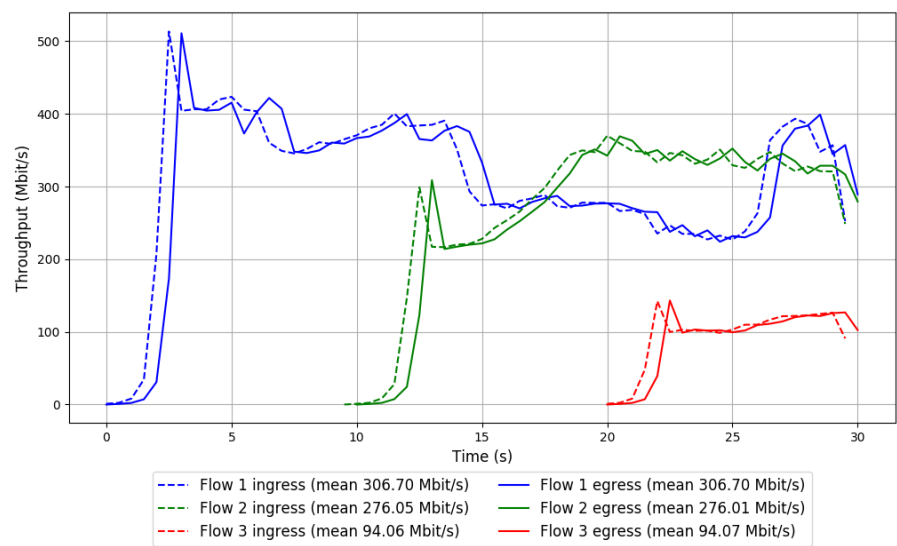
Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 306.70 Mbit/s) --- Flow 1 egress (mean 306.70 Mbit/s)
Flow 2 ingress (mean 276.05 Mbit/s) --- Flow 2 egress (mean 276.01 Mbit/s)
Flow 3 ingress (mean 94.06 Mbit/s) --- Flow 3 egress (mean 94.07 Mbit/s)

Flow 1 (95th percentile 119.76 ms)   •   Flow 2 (95th percentile 51.47 ms)   •   Flow 3 (95th percentile 48.04 ms)
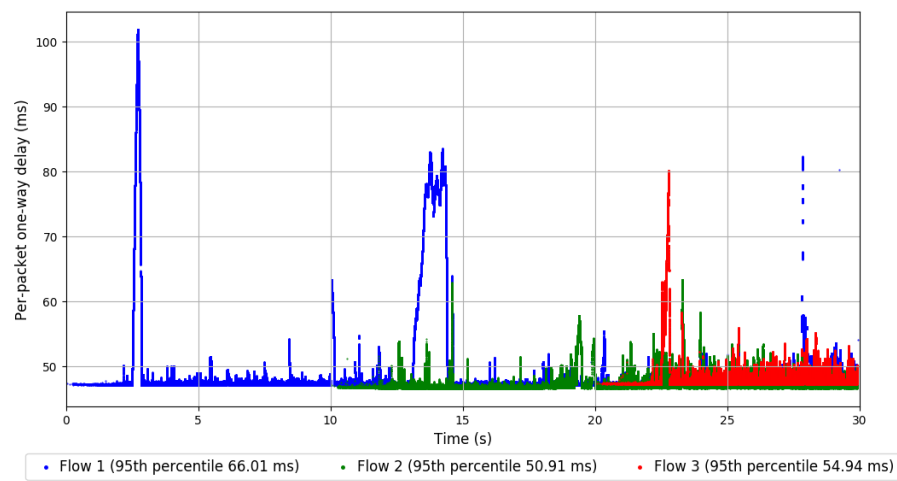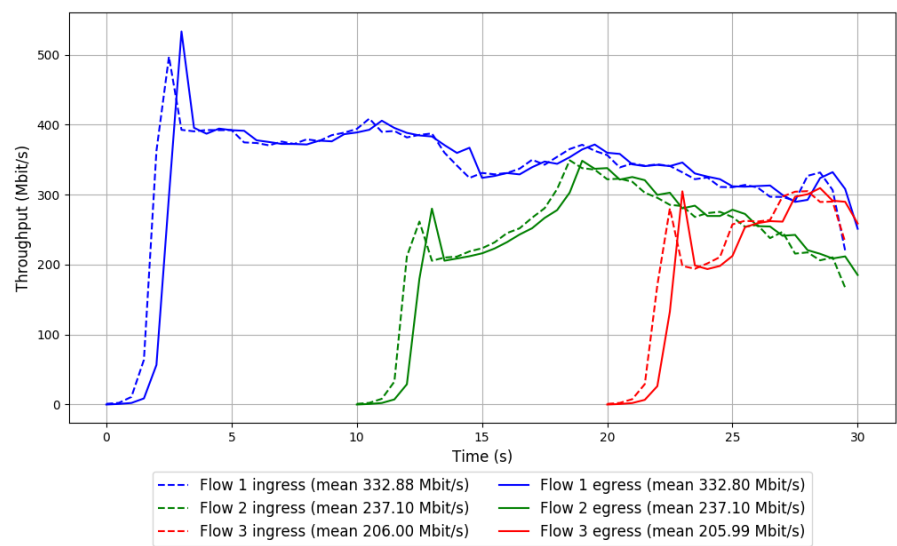
```
Run 4: Statistics of PCC-Vivace

Start at: 2019-01-18 11:27:32
End at: 2019-01-18 11:28:02
Local clock offset: -0.095 ms
Remote clock offset: -0.296 ms


# Below is generated by plot.py at 2019-01-18 15:26:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 558.35 Mbit/s
95th percentile per-packet one-way delay: 55.451 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 332.80 Mbit/s
95th percentile per-packet one-way delay: 66.007 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 237.10 Mbit/s
95th percentile per-packet one-way delay: 50.909 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 205.99 Mbit/s
95th percentile per-packet one-way delay: 54.944 ms
Loss rate: 0.00%
```

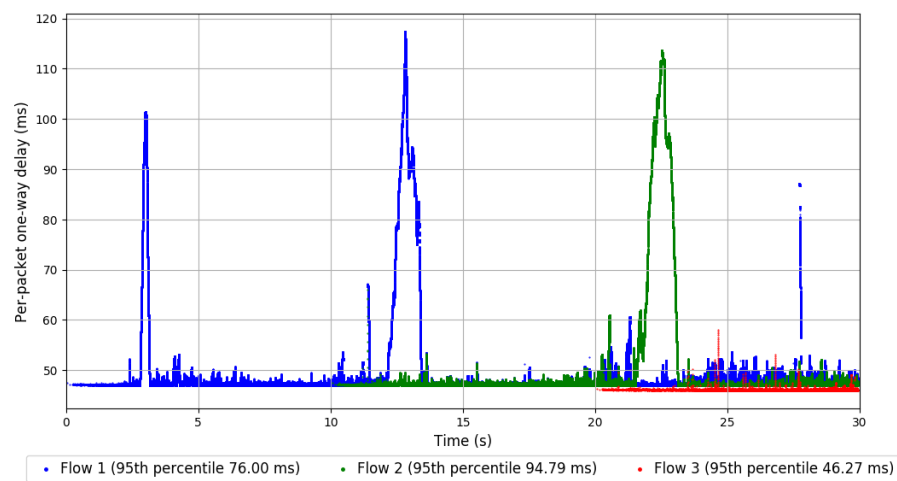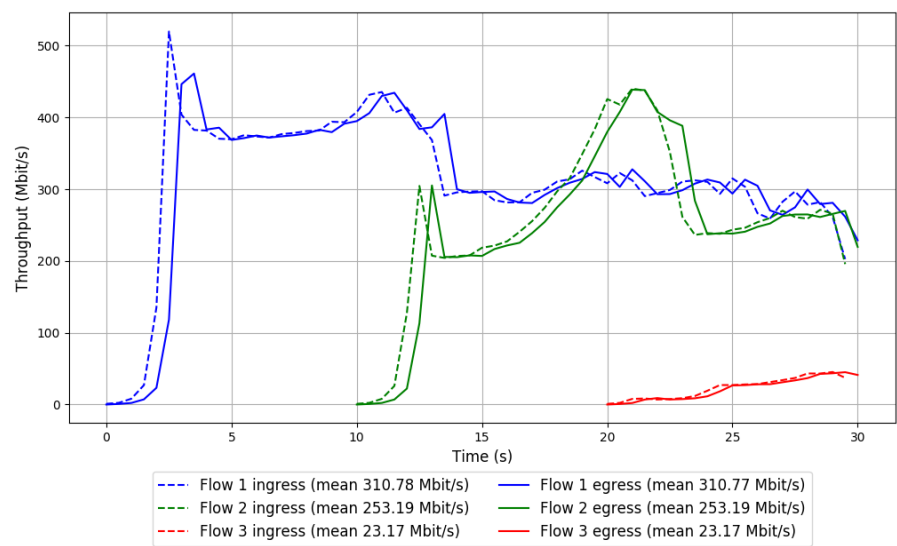# Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-01-18 12:03:51
End at: 2019-01-18 12:04:21
Local clock offset: 0.265 ms
Remote clock offset: -0.179 ms


# Below is generated by plot.py at 2019-01-18 15:26:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 486.77 Mbit/s
95th percentile per-packet one-way delay: 81.659 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 310.77 Mbit/s
95th percentile per-packet one-way delay: 76.001 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 253.19 Mbit/s
95th percentile per-packet one-way delay: 94.793 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 23.17 Mbit/s
95th percentile per-packet one-way delay: 46.274 ms
Loss rate: 0.00%
```

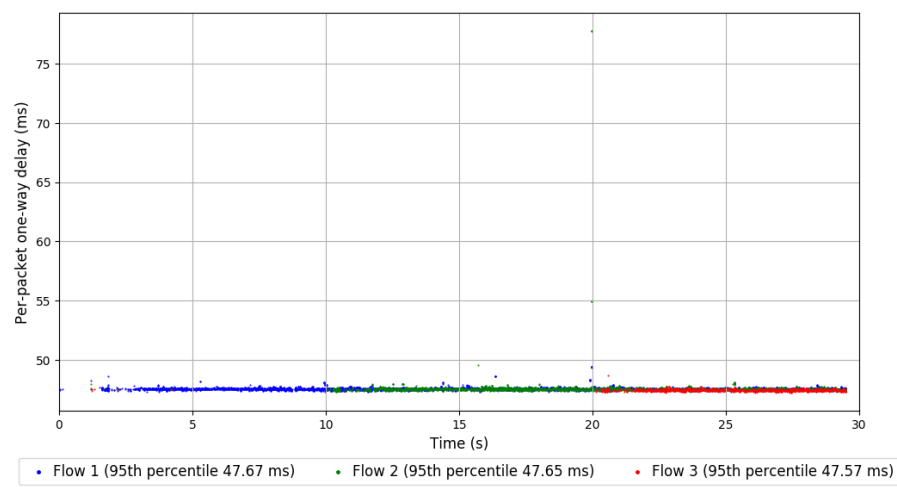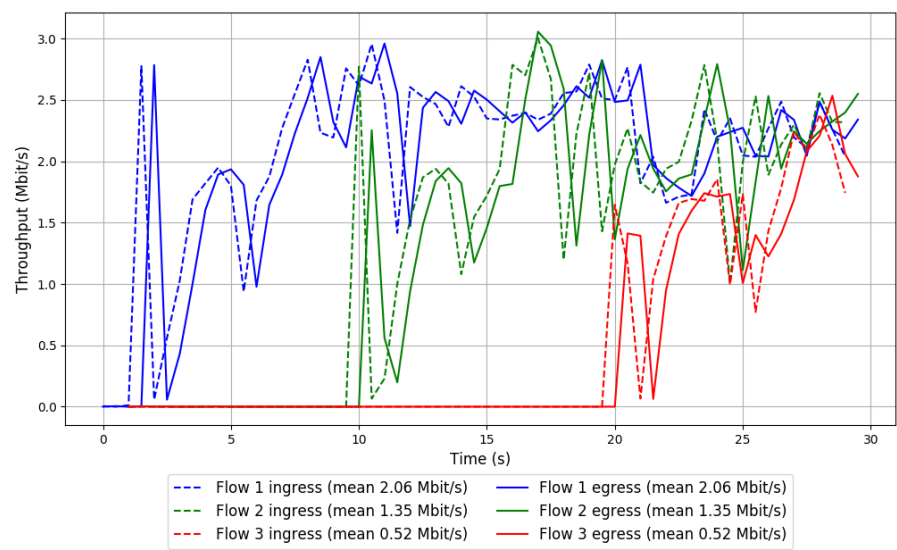# Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-01-18 09:18:50
End at: 2019-01-18 09:19:20
Local clock offset: -0.089 ms
Remote clock offset: -0.016 ms


# Below is generated by plot.py at 2019-01-18 15:26:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 47.657 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 47.667 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 47.650 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 47.570 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-01-18 09:55:14
End at: 2019-01-18 09:55:44
Local clock offset: -0.095 ms
Remote clock offset: -0.01 ms


# Below is generated by plot.py at 2019-01-18 15:26:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 47.627 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.584 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.663 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.630 ms
Loss rate: 0.00%
```
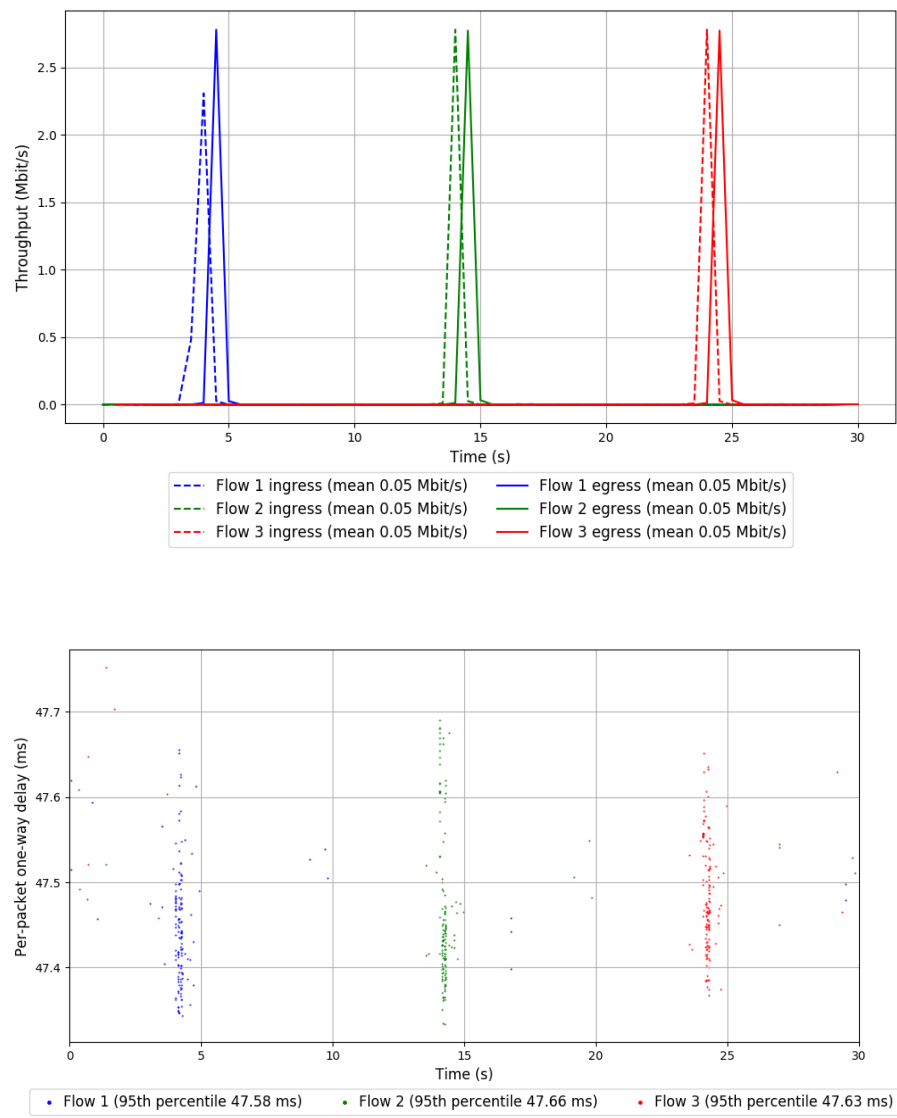
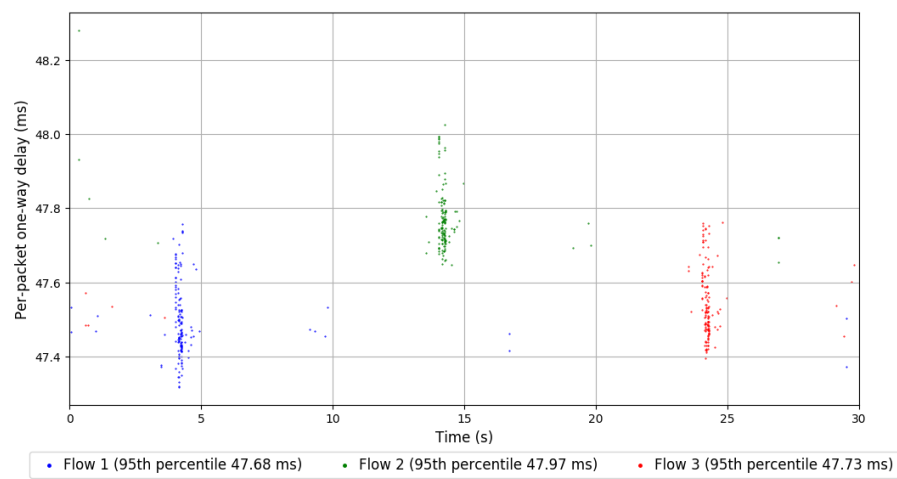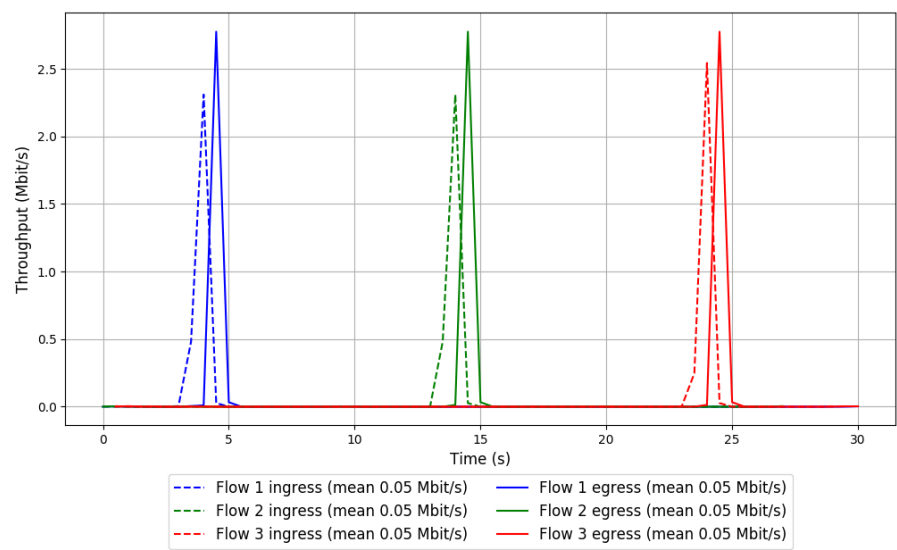Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-01-18 10:31:50
End at: 2019-01-18 10:32:20
Local clock offset: -0.11 ms
Remote clock offset: -0.022 ms


# Below is generated by plot.py at 2019-01-18 15:26:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 47.828 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.676 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.974 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.733 ms
Loss rate: 0.00%
```

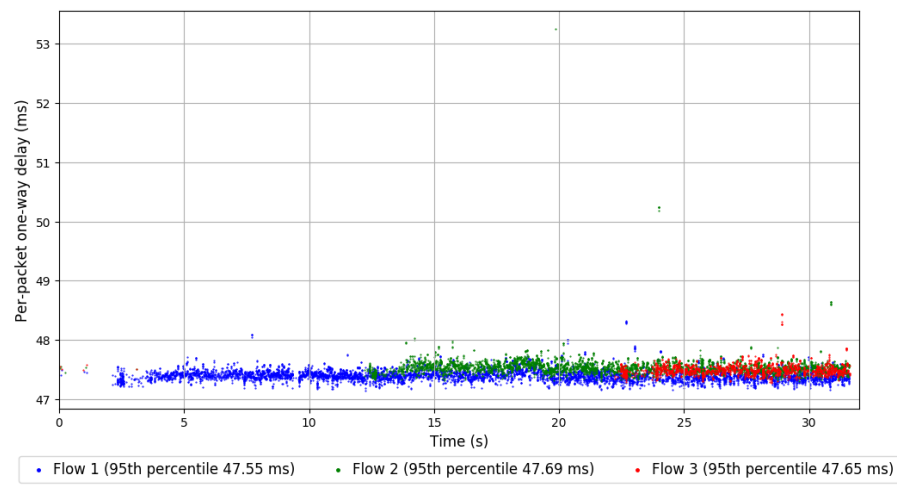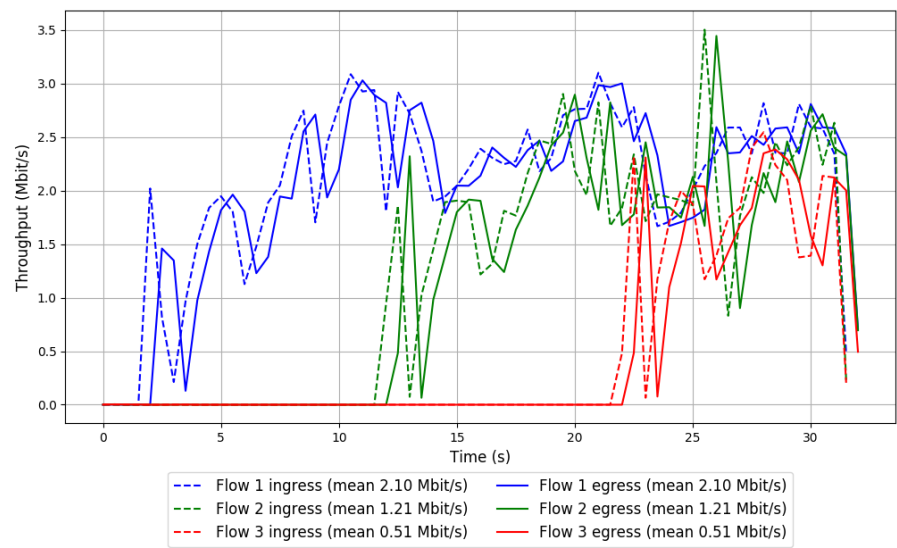Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-01-18 11:07:44
End at: 2019-01-18 11:08:14
Local clock offset: -0.094 ms
Remote clock offset: -0.165 ms


# Below is generated by plot.py at 2019-01-18 15:26:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.82 Mbit/s
95th percentile per-packet one-way delay: 47.644 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 47.554 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 47.688 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 47.648 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-01-18 11:43:35
End at: 2019-01-18 11:44:05
Local clock offset: -0.104 ms
Remote clock offset: -0.32 ms


# Below is generated by plot.py at 2019-01-18 15:26:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 47.635 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.514 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.700 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 46.973 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link