Pantheon Report

Generated at 2019-01-03 13:02:12 (UTC).

Data path: China on eno1 (*remote*) →AWS Korea on ens5 (*local*).

Repeated the test of 19 congestion control schemes 5 times.

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

NTP offsets were measured against `ntp.nict.jp` and have been applied to correct the timestamps in logs.
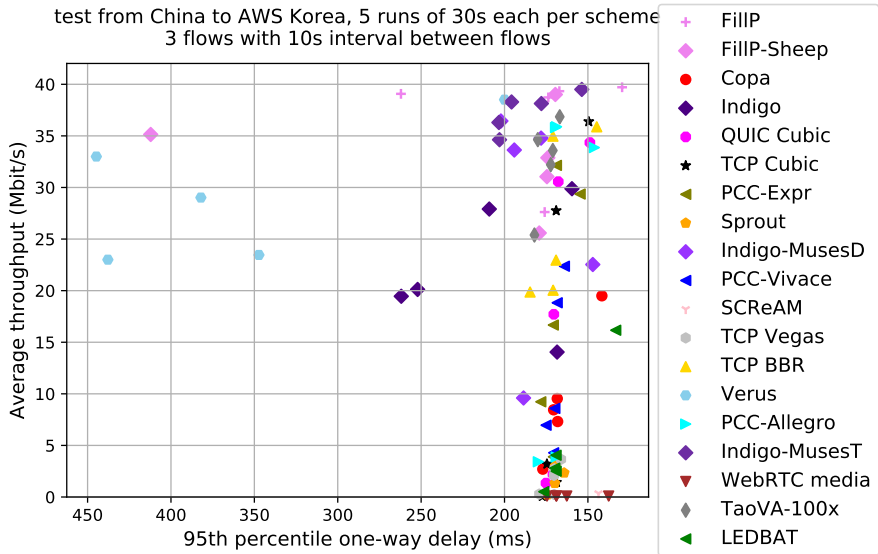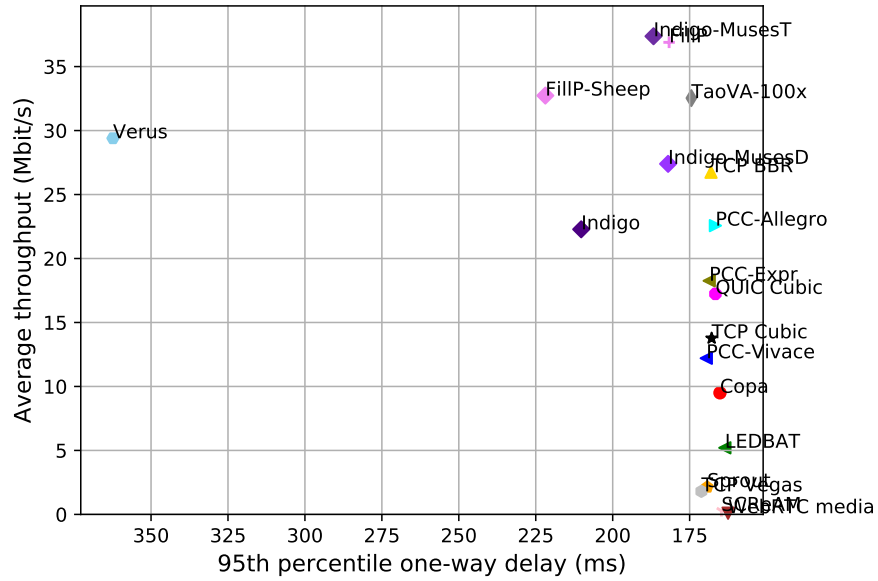
```
System info:
Linux 4.15.0-1029-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/muses-refactored @ 31f8f0ba8ef8b1da76c2bc0cd0a7850c33ff64fb
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 China to AWS Korea, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

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

3

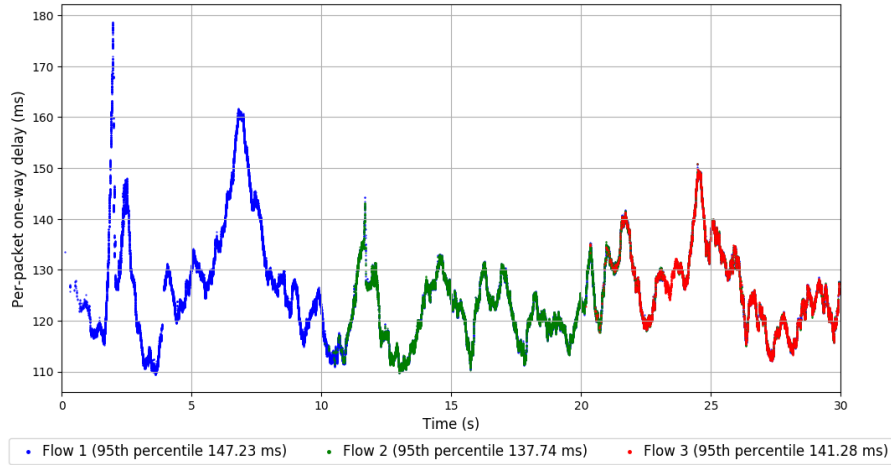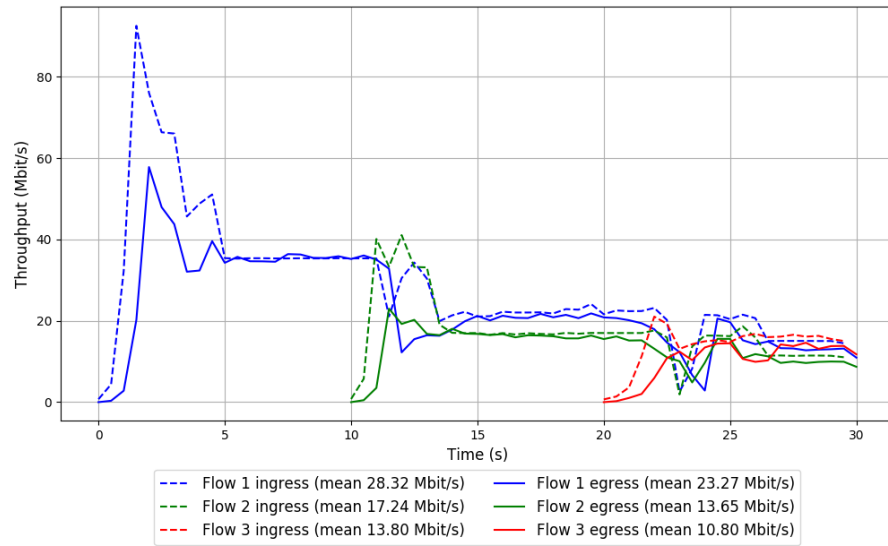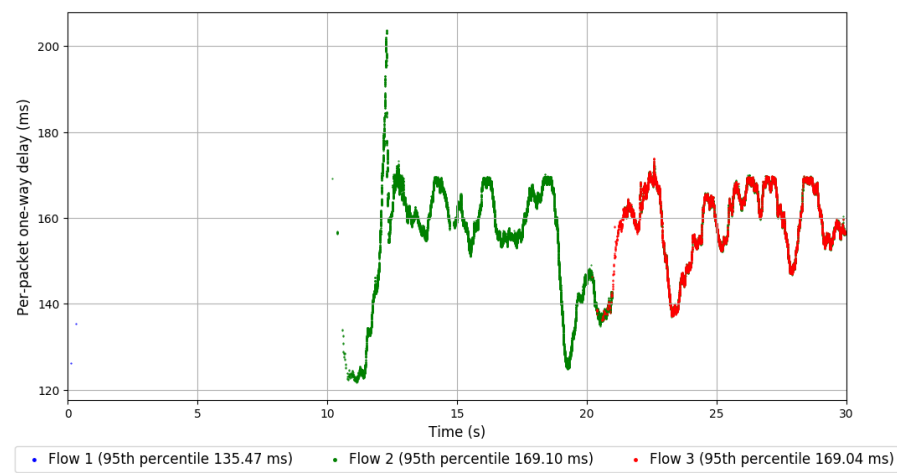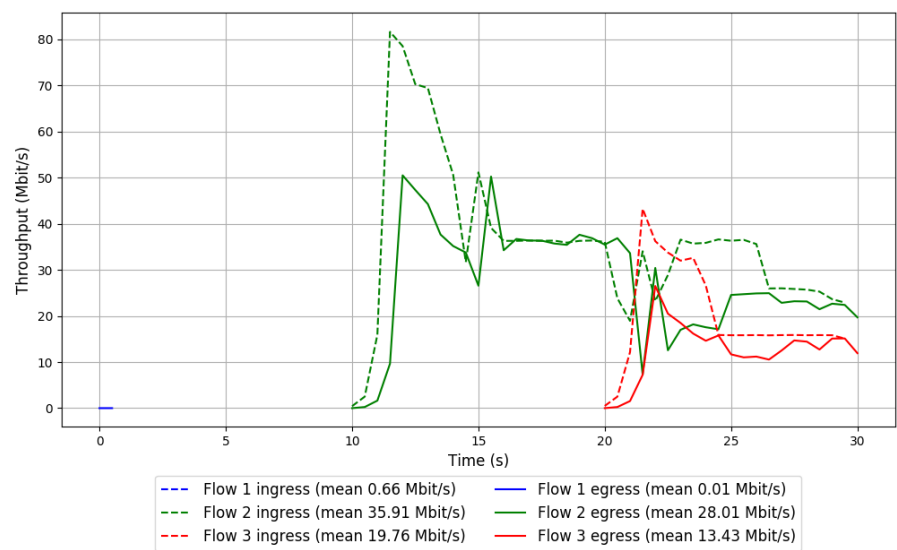| scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	9.14	22.78	8.29	159.43	166.27	170.23	67.29	24.23	30.05
Copa	5	4.91	5.06	3.79	164.19	165.12	166.02	20.00	4.08	5.17
TCP Cubic	5	6.86	5.41	10.15	162.59	167.19	168.08	61.21	7.38	9.35
FillP	5	27.55	10.52	7.26	187.25	159.69	158.77	23.59	26.47	23.81
FillP-Sheep	5	20.54	14.73	7.37	225.52	168.32	169.70	23.58	13.73	16.26
Indigo	5	69.60	15.87	11.99	172.35	200.55	200.26	45.28	48.17	59.20
Indigo-MusesD	5	15.71	13.03	9.34	179.20	183.28	173.86	11.86	19.72	25.36
Indigo-MusesT	5	21.81	15.78	16.52	188.66	184.32	181.18	15.90	25.78	30.18
LEDBAT	5	2.96	2.44	1.95	163.55	163.44	163.75	2.69	3.23	5.24
PCC-Allegro	5	16.58	8.28	1.51	166.09	170.40	158.38	21.50	26.50	31.95
PCC-Expr	5	7.70	10.99	10.03	168.15	168.75	167.65	52.50	20.12	7.29
QUIC Cubic	5	8.74	10.18	5.34	167.40	166.81	165.08	3.71	3.63	4.98
SCReAM	5	0.12	0.15	0.17	164.67	165.47	164.22	2.29	2.51	3.31
Sprout	5	1.15	1.07	1.59	163.59	169.34	168.92	5.57	4.14	4.02
TaoVA-100x	5	16.92	15.66	16.10	173.73	172.90	172.46	8.57	8.90	11.64
TCP Vegas	5	0.36	1.42	1.55	165.26	171.26	170.41	42.55	5.15	5.52
Verus	5	21.70	7.25	9.06	351.71	282.82	291.05	47.41	31.15	37.38
PCC-Vivace	5	3.70	9.50	6.78	169.36	169.68	169.69	3.34	3.96	6.37
WebRTC media	5	0.00	0.05	0.05	162.81	160.09	160.52	90.88	1.06	1.48

```
Run 1: Statistics of TCP BBR

Start at: 2019-01-03 09:54:33
End at: 2019-01-03 09:55:03
Local clock offset: 11.483 ms
Remote clock offset: 35.651 ms


# Below is generated by plot.py at 2019-01-03 12:58:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.88 Mbit/s
95th percentile per-packet one-way delay: 144.700 ms
Loss rate: 19.65%
-- Flow 1:
Average throughput: 23.27 Mbit/s
95th percentile per-packet one-way delay: 147.234 ms
Loss rate: 18.33%
-- Flow 2:
Average throughput: 13.65 Mbit/s
95th percentile per-packet one-way delay: 137.738 ms
Loss rate: 21.52%
-- Flow 3:
Average throughput: 10.80 Mbit/s
95th percentile per-packet one-way delay: 141.282 ms
Loss rate: 23.08%
```
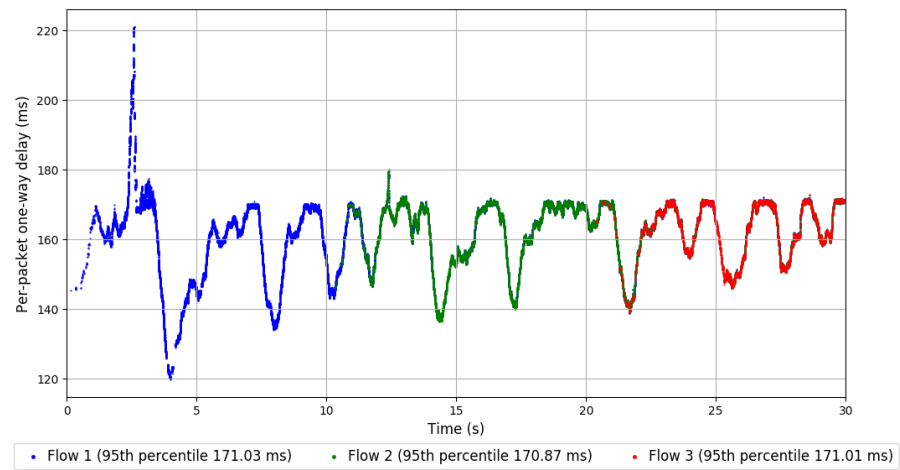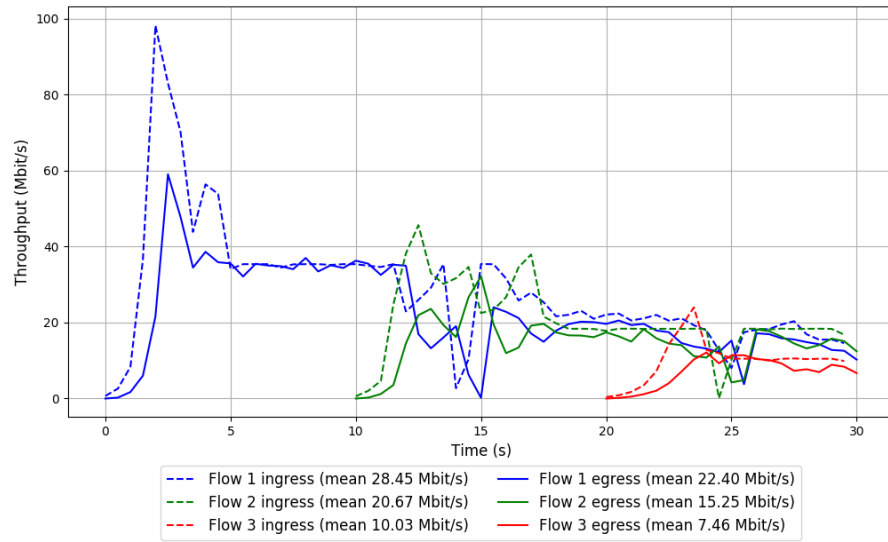
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-01-03 10:20:58
End at: 2019-01-03 10:21:28
Local clock offset: 19.729 ms
Remote clock offset: 50.898 ms


# Below is generated by plot.py at 2019-01-03 12:58:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 22.96 Mbit/s
95th percentile per-packet one-way delay: 169.091 ms
Loss rate: 25.10%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 135.467 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 28.01 Mbit/s
95th percentile per-packet one-way delay: 169.105 ms
Loss rate: 22.83%
-- Flow 3:
Average throughput: 13.43 Mbit/s
95th percentile per-packet one-way delay: 169.038 ms
Loss rate: 33.34%
```

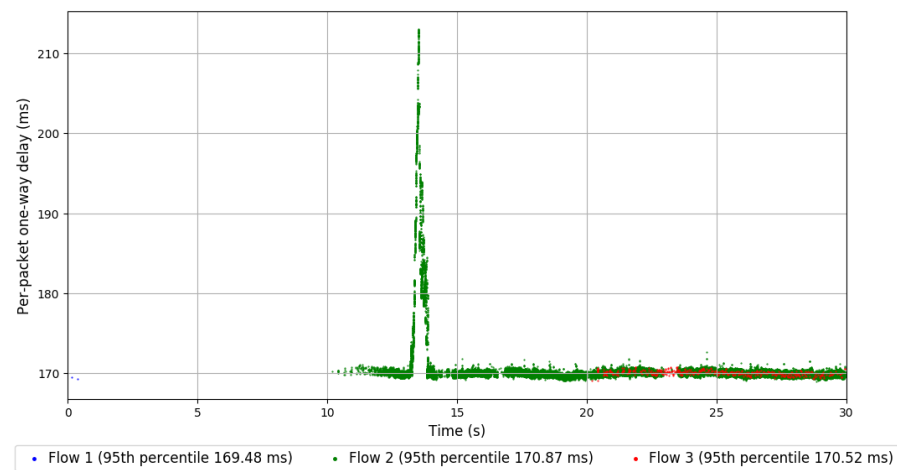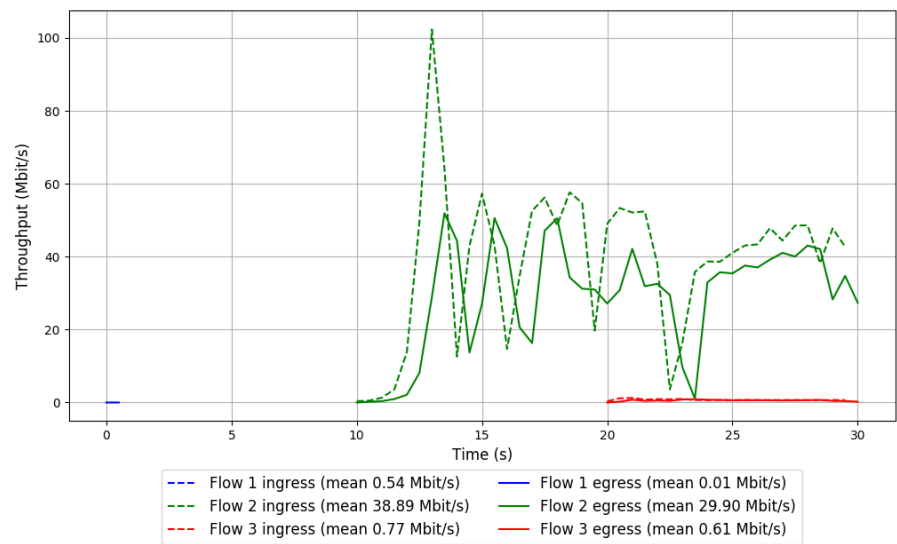Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 0.66 Mbit/s)   Flow 1 egress (mean 0.01 Mbit/s)
Flow 2 ingress (mean 35.91 Mbit/s)   Flow 2 egress (mean 28.01 Mbit/s)
Flow 3 ingress (mean 19.76 Mbit/s)   Flow 3 egress (mean 13.43 Mbit/s)

Flow 1 (95th percentile 135.47 ms)   Flow 2 (95th percentile 169.10 ms)   Flow 3 (95th percentile 169.04 ms)

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```
Run 3: Statistics of TCP BBR

Start at: 2019-01-03 10:53:56
End at: 2019-01-03 10:54:26
Local clock offset: 25.383 ms
Remote clock offset: 41.811 ms


# Below is generated by plot.py at 2019-01-03 12:58:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.97 Mbit/s
95th percentile per-packet one-way delay: 170.956 ms
Loss rate: 23.70%
-- Flow 1:
Average throughput: 22.40 Mbit/s
95th percentile per-packet one-way delay: 171.029 ms
Loss rate: 21.75%
-- Flow 2:
Average throughput: 15.25 Mbit/s
95th percentile per-packet one-way delay: 170.872 ms
Loss rate: 26.90%
-- Flow 3:
Average throughput: 7.46 Mbit/s
95th percentile per-packet one-way delay: 171.011 ms
Loss rate: 27.23%
```
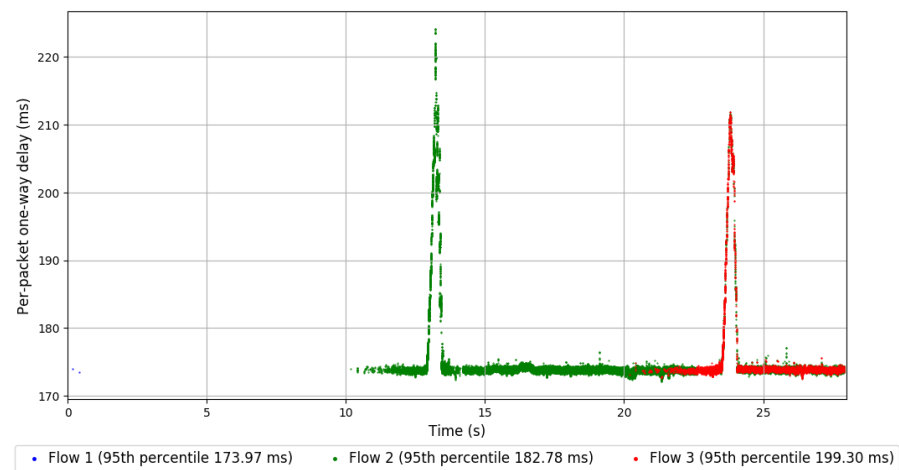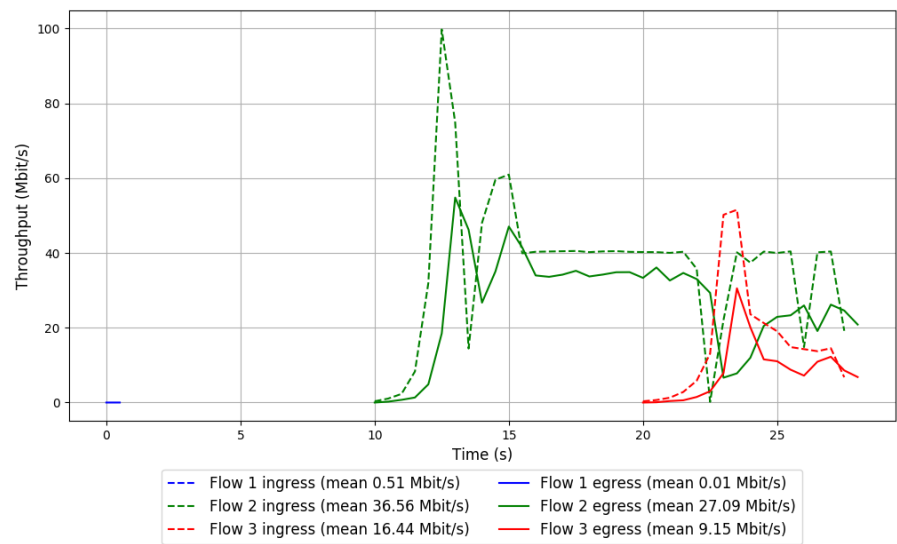
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2019-01-03 11:35:03
End at: 2019-01-03 11:35:33
Local clock offset: 3.725 ms
Remote clock offset: 35.122 ms


# Below is generated by plot.py at 2019-01-03 12:58:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.04 Mbit/s
95th percentile per-packet one-way delay: 170.847 ms
Loss rate: 23.98%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 169.476 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 29.90 Mbit/s
95th percentile per-packet one-way delay: 170.869 ms
Loss rate: 23.99%
-- Flow 3:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 170.521 ms
Loss rate: 22.24%
```
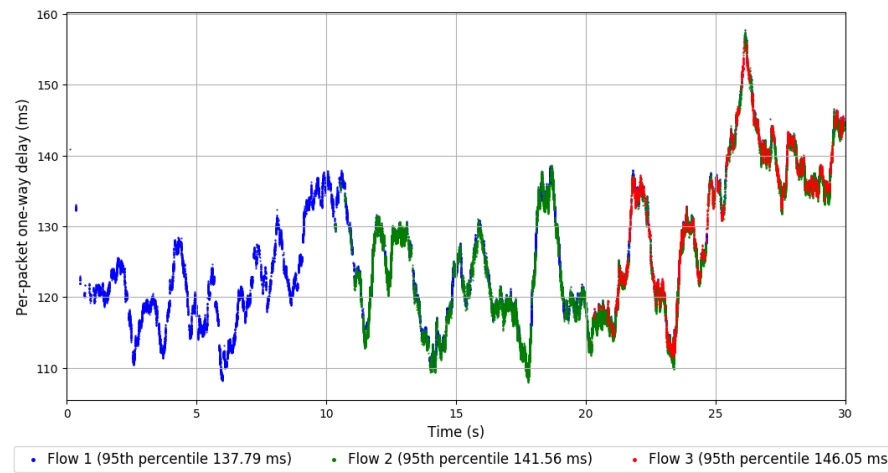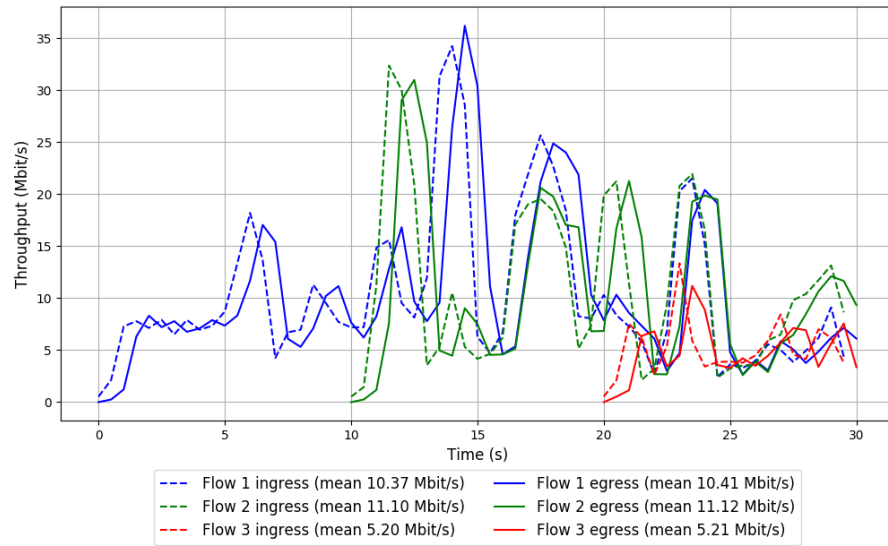
Run 4: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 0.54 Mbit/s) —— Flow 1 egress (mean 0.01 Mbit/s)
- - - Flow 2 ingress (mean 38.89 Mbit/s) —— Flow 2 egress (mean 29.90 Mbit/s)
- - - Flow 3 ingress (mean 0.77 Mbit/s) —— Flow 3 egress (mean 0.61 Mbit/s)

• Flow 1 (95th percentile 169.48 ms)   • Flow 2 (95th percentile 170.87 ms)   • Flow 3 (95th percentile 170.52 ms)

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```
Run 5: Statistics of TCP BBR

Start at: 2019-01-03 12:33:38
End at: 2019-01-03 12:34:08
Local clock offset: 2.069 ms
Remote clock offset: 23.801 ms


# Below is generated by plot.py at 2019-01-03 12:58:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.87 Mbit/s
95th percentile per-packet one-way delay: 184.668 ms
Loss rate: 28.93%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 173.966 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 27.09 Mbit/s
95th percentile per-packet one-way delay: 182.776 ms
Loss rate: 25.90%
-- Flow 3:
Average throughput: 9.15 Mbit/s
95th percentile per-packet one-way delay: 199.299 ms
Loss rate: 44.36%
```
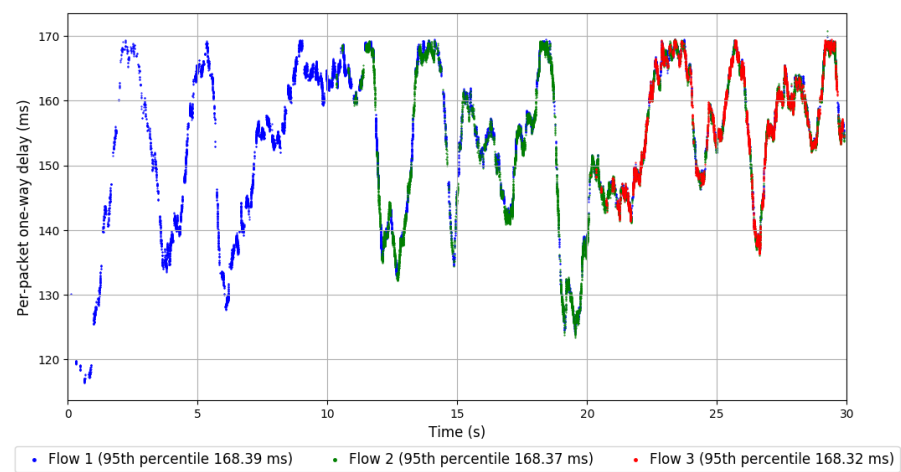
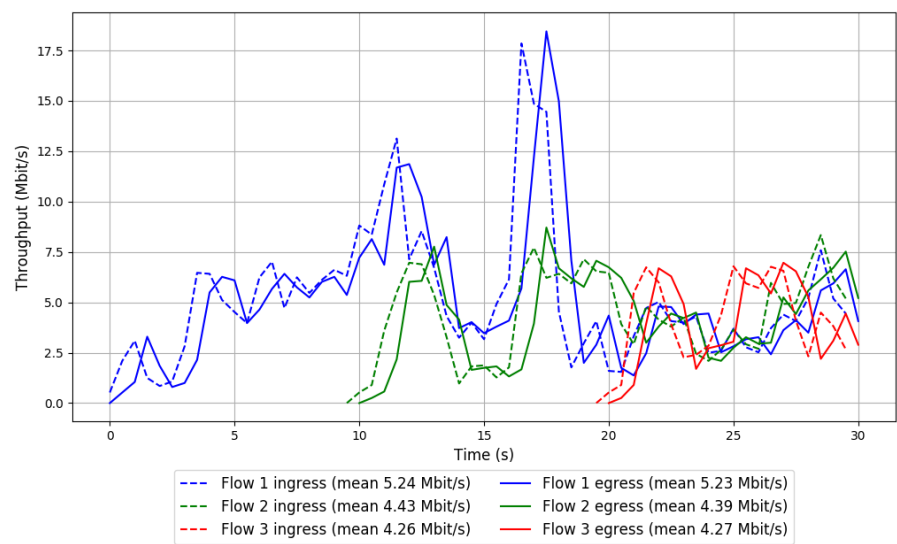Run 5: Report of TCP BBR — Data Link

```
Run 1: Statistics of Copa

Start at: 2019-01-03 09:45:21
End at: 2019-01-03 09:45:51
Local clock offset: 10.124 ms
Remote clock offset: 33.946 ms


# Below is generated by plot.py at 2019-01-03 12:58:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.50 Mbit/s
95th percentile per-packet one-way delay: 141.616 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 10.41 Mbit/s
95th percentile per-packet one-way delay: 137.792 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 11.12 Mbit/s
95th percentile per-packet one-way delay: 141.557 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 5.21 Mbit/s
95th percentile per-packet one-way delay: 146.052 ms
Loss rate: 1.57%
```
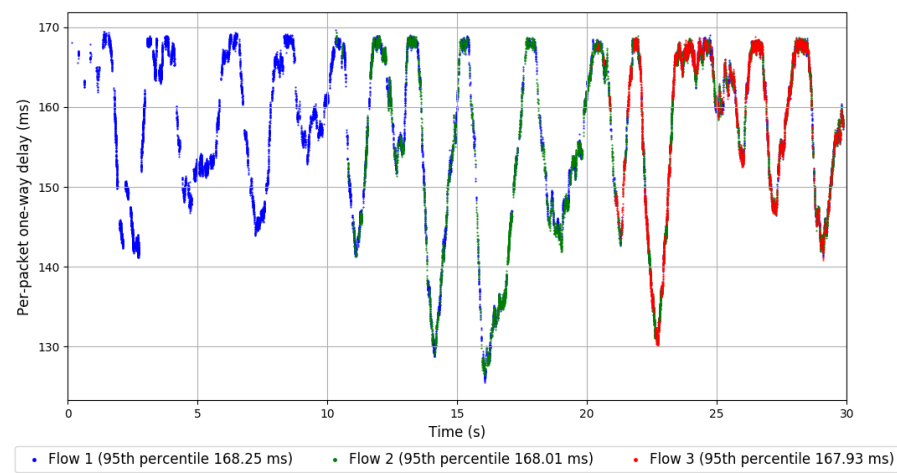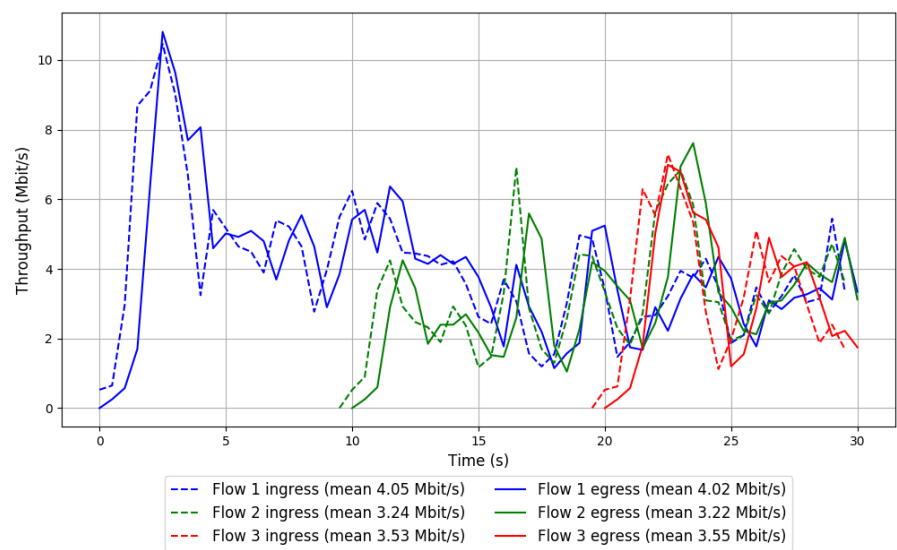
Run 1: Report of Copa — Data Link

- - - Flow 1 ingress (mean 10.37 Mbit/s)   —— Flow 1 egress (mean 10.41 Mbit/s)
- - - Flow 2 ingress (mean 11.10 Mbit/s)   —— Flow 2 egress (mean 11.12 Mbit/s)
- - - Flow 3 ingress (mean 5.20 Mbit/s)   —— Flow 3 egress (mean 5.21 Mbit/s)

• Flow 1 (95th percentile 137.79 ms)   • Flow 2 (95th percentile 141.56 ms)   • Flow 3 (95th percentile 146.05 ms)

```
Run 2: Statistics of Copa

Start at: 2019-01-03 10:10:40
End at: 2019-01-03 10:11:10
Local clock offset: 17.703 ms
Remote clock offset: 43.995 ms


# Below is generated by plot.py at 2019-01-03 12:58:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.54 Mbit/s
95th percentile per-packet one-way delay: 168.373 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 5.23 Mbit/s
95th percentile per-packet one-way delay: 168.389 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 4.39 Mbit/s
95th percentile per-packet one-way delay: 168.371 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 4.27 Mbit/s
95th percentile per-packet one-way delay: 168.323 ms
Loss rate: 1.65%
```
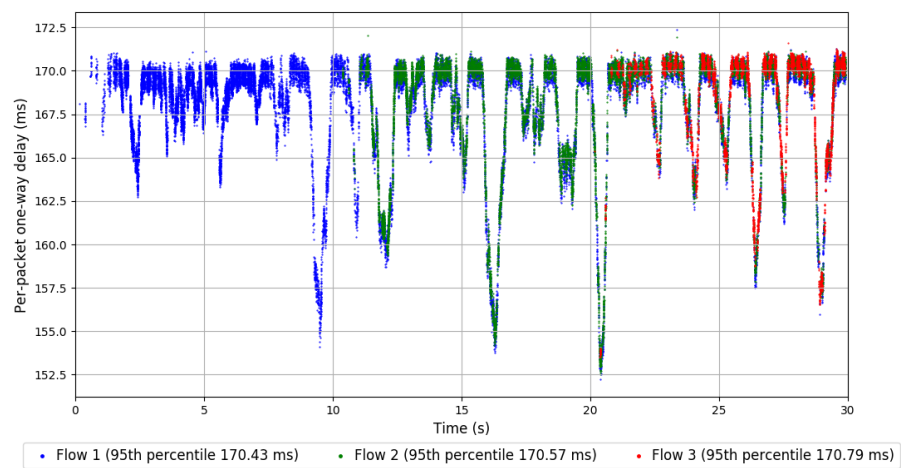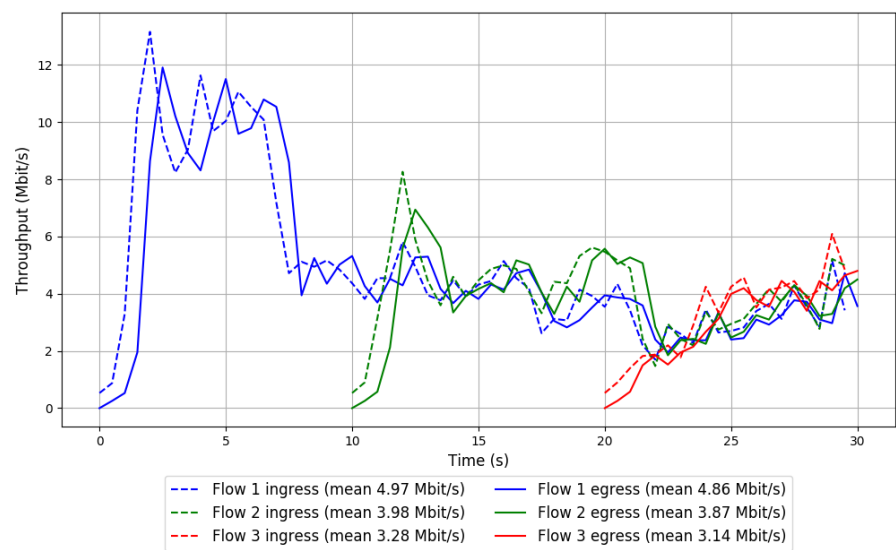
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-01-03 10:42:33
End at: 2019-01-03 10:43:03
Local clock offset: 23.621 ms
Remote clock offset: 51.78 ms


# Below is generated by plot.py at 2019-01-03 12:58:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.31 Mbit/s
95th percentile per-packet one-way delay: 168.142 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 4.02 Mbit/s
95th percentile per-packet one-way delay: 168.254 ms
Loss rate: 1.56%
-- Flow 2:
Average throughput: 3.22 Mbit/s
95th percentile per-packet one-way delay: 168.014 ms
Loss rate: 1.99%
-- Flow 3:
Average throughput: 3.55 Mbit/s
95th percentile per-packet one-way delay: 167.926 ms
Loss rate: 1.91%
```
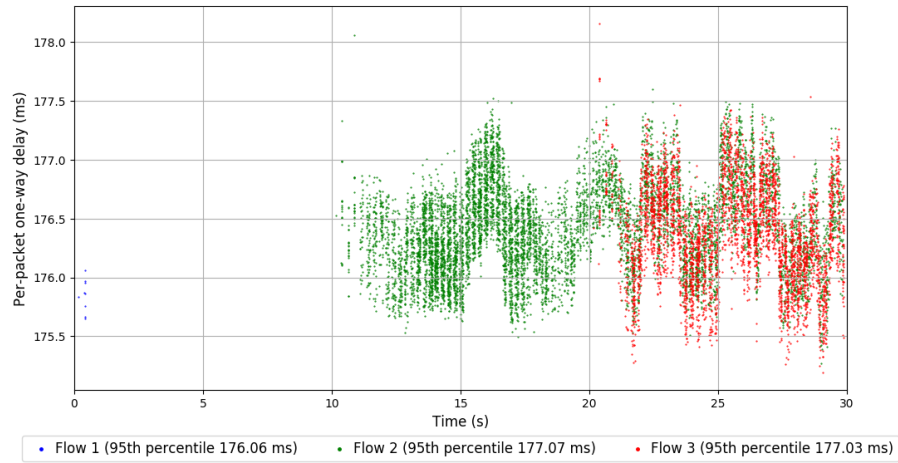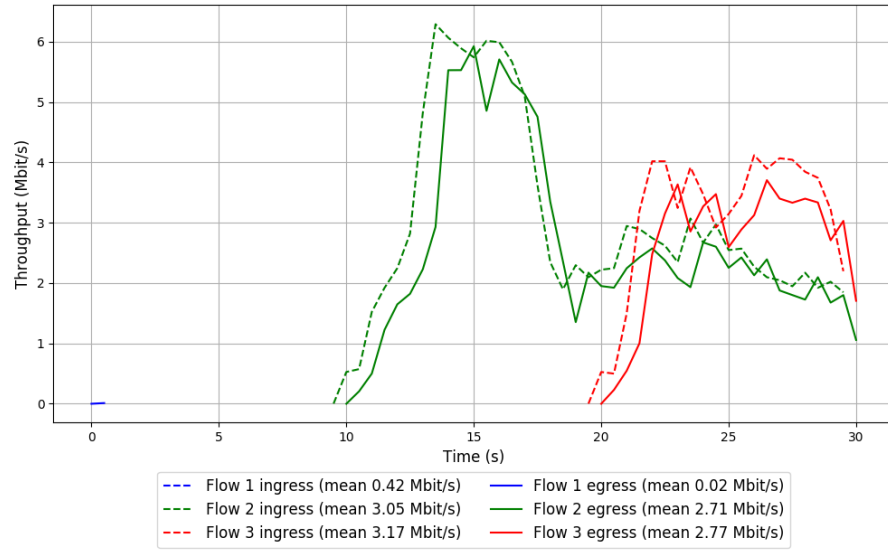
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2019-01-03 11:17:34
End at: 2019-01-03 11:18:04
Local clock offset: -6.522 ms
Remote clock offset: 36.618 ms


# Below is generated by plot.py at 2019-01-03 12:58:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.45 Mbit/s
95th percentile per-packet one-way delay: 170.556 ms
Loss rate: 3.57%
-- Flow 1:
Average throughput: 4.86 Mbit/s
95th percentile per-packet one-way delay: 170.434 ms
Loss rate: 2.87%
-- Flow 2:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 170.567 ms
Loss rate: 3.80%
-- Flow 3:
Average throughput: 3.14 Mbit/s
95th percentile per-packet one-way delay: 170.790 ms
Loss rate: 6.19%
```
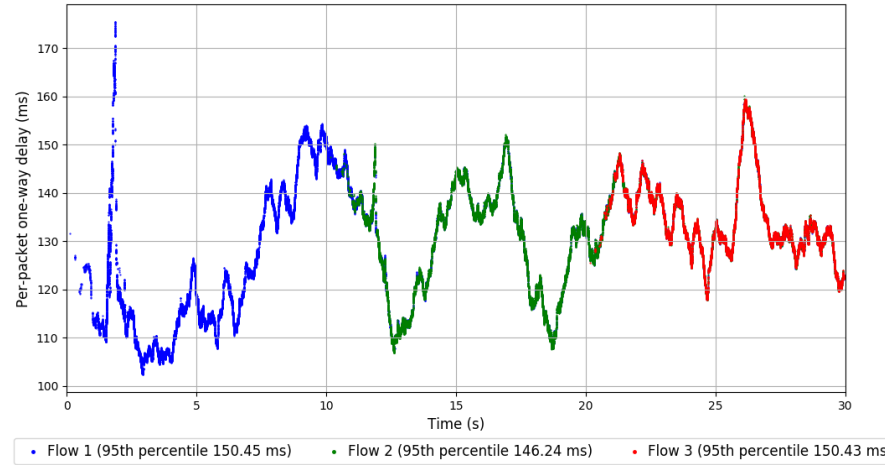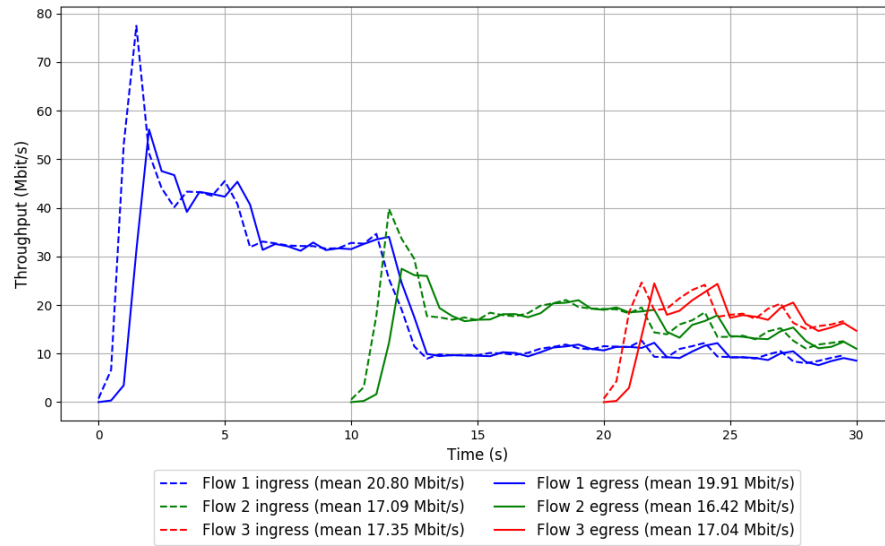
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-01-03 12:13:58
End at: 2019-01-03 12:14:28
Local clock offset: 8.837 ms
Remote clock offset: 33.476 ms


# Below is generated by plot.py at 2019-01-03 12:58:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.70 Mbit/s
95th percentile per-packet one-way delay: 177.055 ms
Loss rate: 13.20%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 176.060 ms
Loss rate: 94.44%
-- Flow 2:
Average throughput: 2.71 Mbit/s
95th percentile per-packet one-way delay: 177.066 ms
Loss rate: 12.38%
-- Flow 3:
Average throughput: 2.77 Mbit/s
95th percentile per-packet one-way delay: 177.032 ms
Loss rate: 14.54%
```
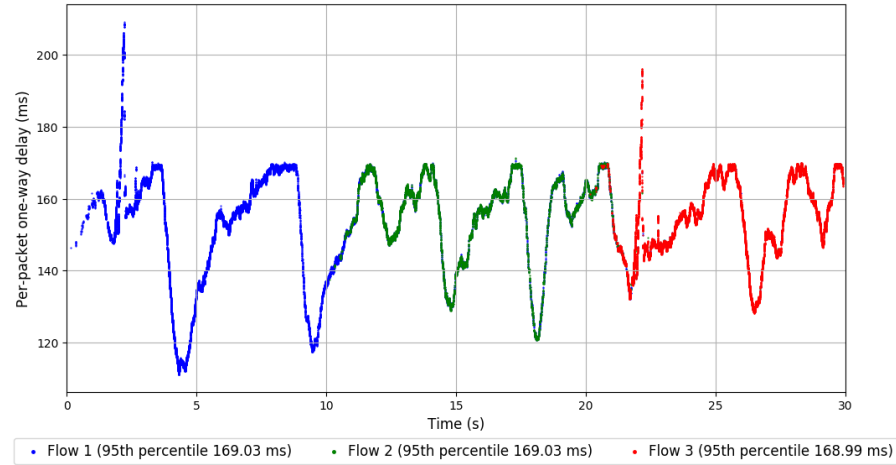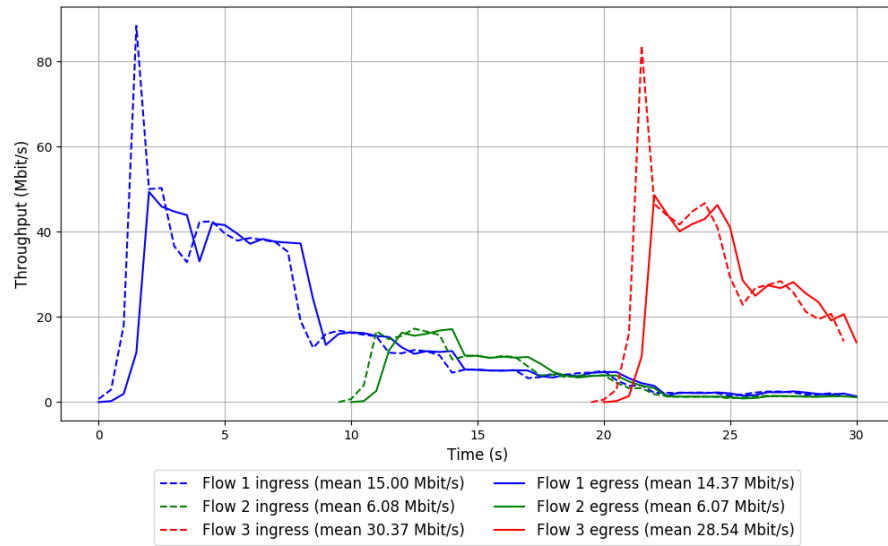
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-01-03 09:46:42
End at: 2019-01-03 09:47:12
Local clock offset: 10.286 ms
Remote clock offset: 35.245 ms


# Below is generated by plot.py at 2019-01-03 12:58:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.38 Mbit/s
95th percentile per-packet one-way delay: 149.468 ms
Loss rate: 4.66%
-- Flow 1:
Average throughput: 19.91 Mbit/s
95th percentile per-packet one-way delay: 150.447 ms
Loss rate: 4.83%
-- Flow 2:
Average throughput: 16.42 Mbit/s
95th percentile per-packet one-way delay: 146.238 ms
Loss rate: 4.92%
-- Flow 3:
Average throughput: 17.04 Mbit/s
95th percentile per-packet one-way delay: 150.432 ms
Loss rate: 3.52%
```

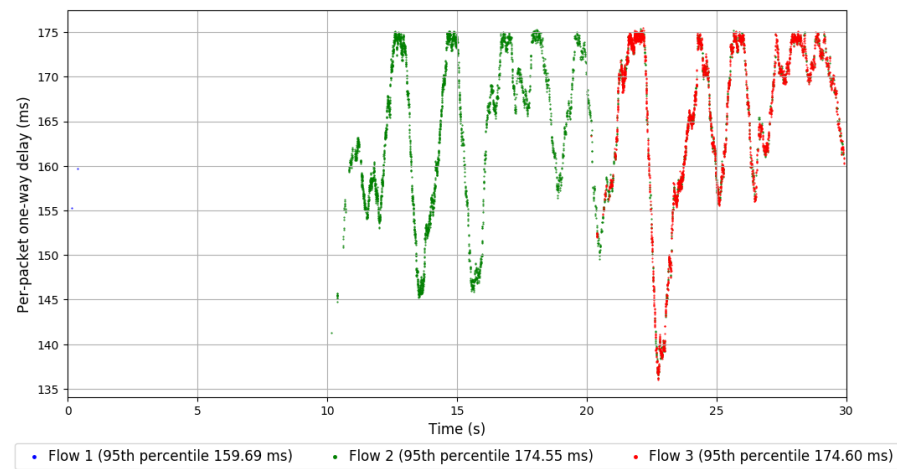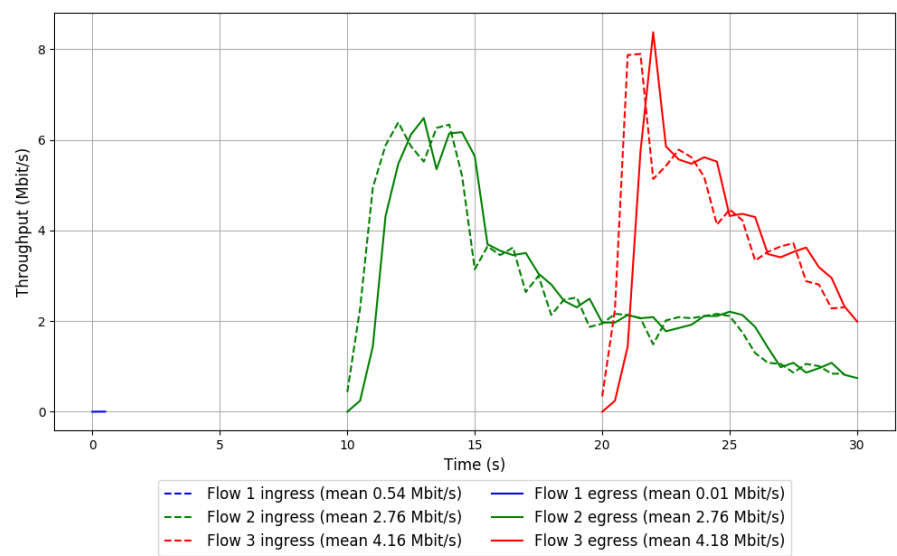Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-01-03 10:12:00
End at: 2019-01-03 10:12:30
Local clock offset: 18.052 ms
Remote clock offset: 45.043 ms


# Below is generated by plot.py at 2019-01-03 12:58:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 27.75 Mbit/s
95th percentile per-packet one-way delay: 169.018 ms
Loss rate: 5.42%
-- Flow 1:
Average throughput: 14.37 Mbit/s
95th percentile per-packet one-way delay: 169.028 ms
Loss rate: 4.83%
-- Flow 2:
Average throughput: 6.07 Mbit/s
95th percentile per-packet one-way delay: 169.027 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 28.54 Mbit/s
95th percentile per-packet one-way delay: 168.989 ms
Loss rate: 7.98%
```
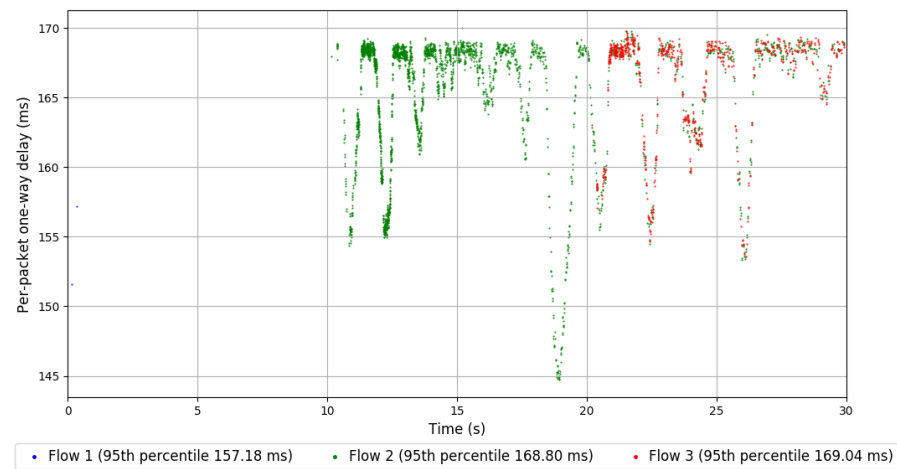
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2019-01-03 10:44:02
End at: 2019-01-03 10:44:32
Local clock offset: 23.801 ms
Remote clock offset: 43.487 ms


# Below is generated by plot.py at 2019-01-03 12:58:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.20 Mbit/s
95th percentile per-packet one-way delay: 174.580 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 159.692 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 2.76 Mbit/s
95th percentile per-packet one-way delay: 174.550 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 4.18 Mbit/s
95th percentile per-packet one-way delay: 174.603 ms
Loss rate: 1.83%
```

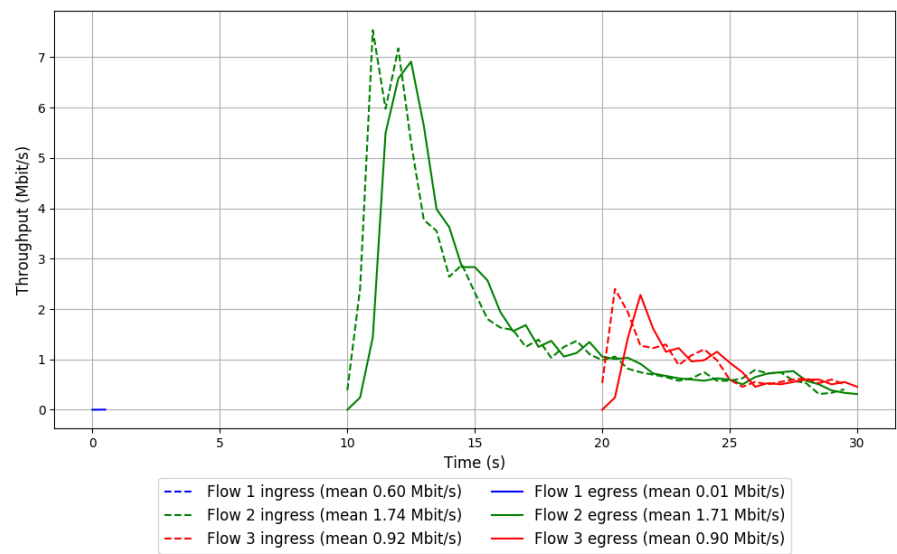Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2019-01-03 11:19:18
End at: 2019-01-03 11:19:48
Local clock offset: -7.575 ms
Remote clock offset: 38.338 ms


# Below is generated by plot.py at 2019-01-03 12:58:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 168.861 ms
Loss rate: 3.60%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 157.183 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 168.796 ms
Loss rate: 2.94%
-- Flow 3:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 169.043 ms
Loss rate: 4.84%
```

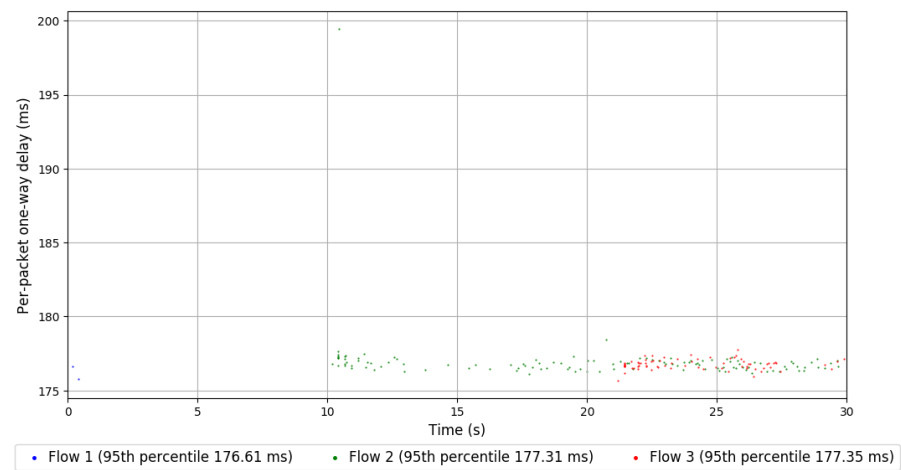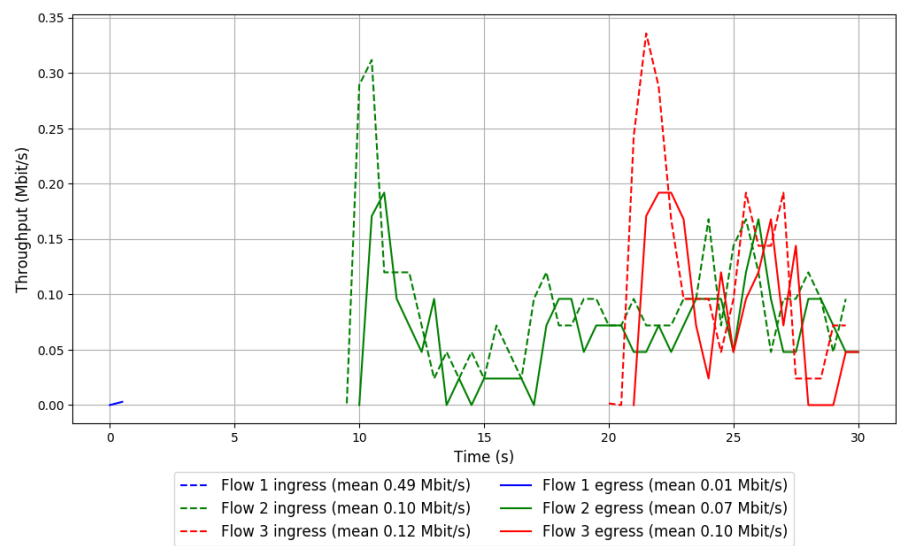Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-01-03 12:15:53
End at: 2019-01-03 12:16:23
Local clock offset: 9.193 ms
Remote clock offset: 33.776 ms


# Below is generated by plot.py at 2019-01-03 12:58:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 177.347 ms
Loss rate: 30.31%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 176.607 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 177.315 ms
Loss rate: 27.02%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 177.347 ms
Loss rate: 28.58%
```

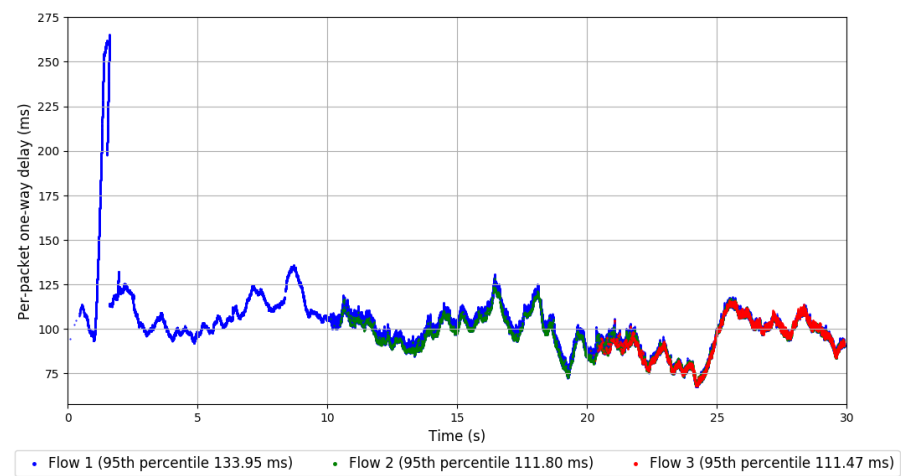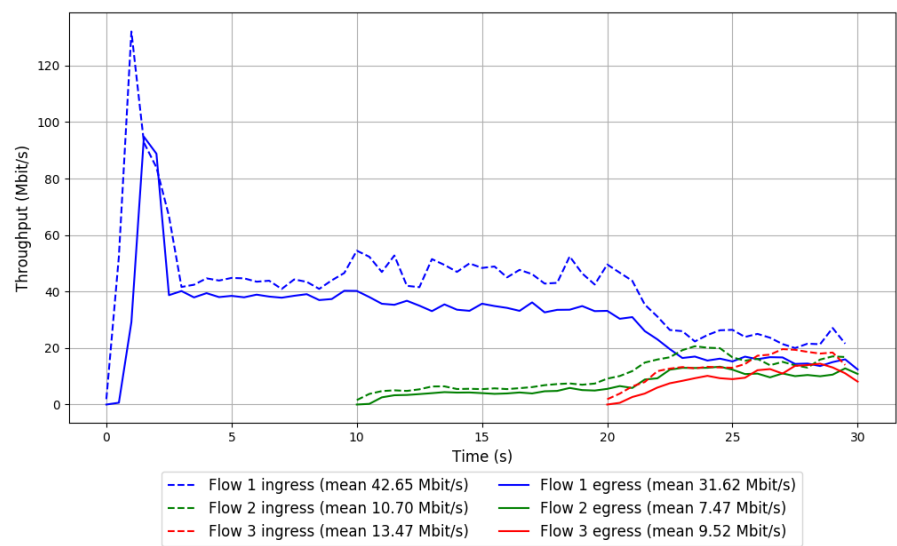Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2019-01-03 09:38:24
End at: 2019-01-03 09:38:54
Local clock offset: 8.892 ms
Remote clock offset: 32.134 ms

# Below is generated by plot.py at 2019-01-03 12:59:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.71 Mbit/s
95th percentile per-packet one-way delay: 129.482 ms
Loss rate: 27.13%
-- Flow 1:
Average throughput: 31.62 Mbit/s
95th percentile per-packet one-way delay: 133.952 ms
Loss rate: 26.20%
-- Flow 2:
Average throughput: 7.47 Mbit/s
95th percentile per-packet one-way delay: 111.800 ms
Loss rate: 30.67%
-- Flow 3:
Average throughput: 9.52 Mbit/s
95th percentile per-packet one-way delay: 111.465 ms
Loss rate: 30.34%
```
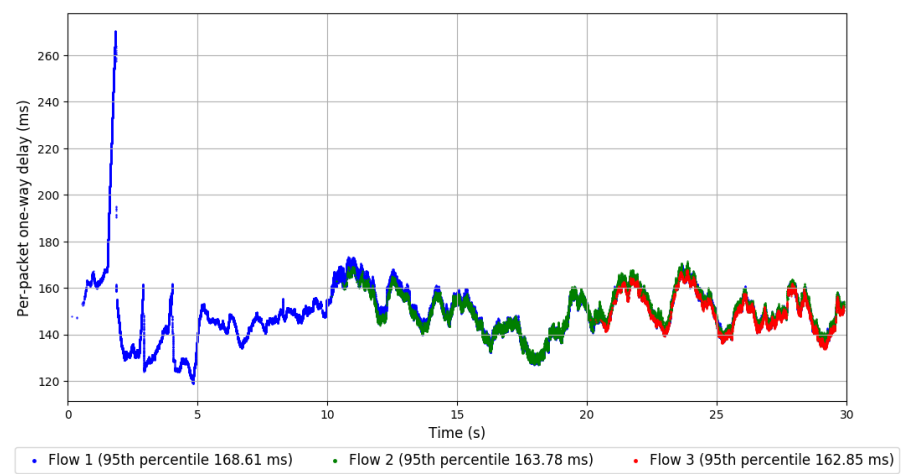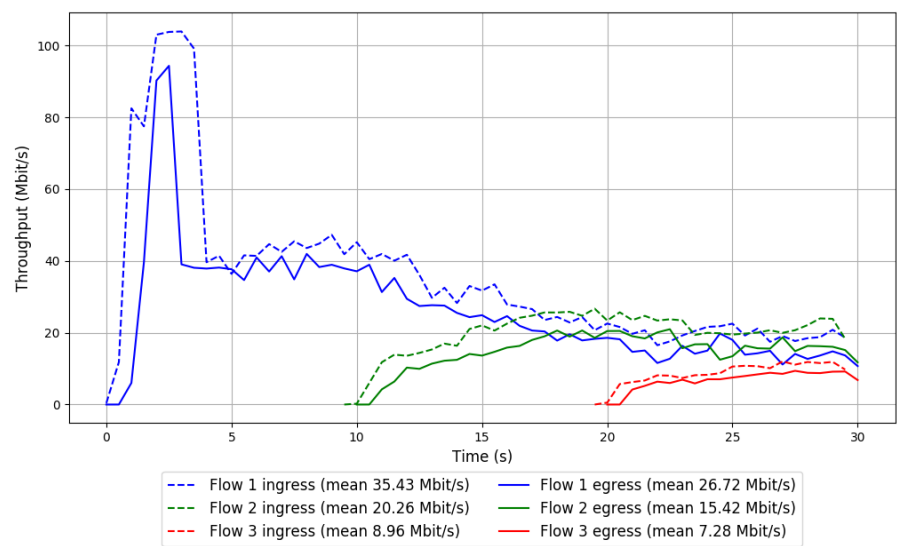
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 42.65 Mbit/s) — — —   Flow 1 egress (mean 31.62 Mbit/s)
Flow 2 ingress (mean 10.70 Mbit/s) — — —   Flow 2 egress (mean 7.47 Mbit/s)
Flow 3 ingress (mean 13.47 Mbit/s) — — —   Flow 3 egress (mean 9.52 Mbit/s)

Flow 1 (95th percentile 133.95 ms)   Flow 2 (95th percentile 111.80 ms)   Flow 3 (95th percentile 111.47 ms)

```
Run 2: Statistics of FillP

Start at: 2019-01-03 10:03:53
End at: 2019-01-03 10:04:23
Local clock offset: 15.966 ms
Remote clock offset: 37.371 ms


# Below is generated by plot.py at 2019-01-03 12:59:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.33 Mbit/s
95th percentile per-packet one-way delay: 167.109 ms
Loss rate: 24.70%
-- Flow 1:
Average throughput: 26.72 Mbit/s
95th percentile per-packet one-way delay: 168.608 ms
Loss rate: 25.07%
-- Flow 2:
Average throughput: 15.42 Mbit/s
95th percentile per-packet one-way delay: 163.777 ms
Loss rate: 24.68%
-- Flow 3:
Average throughput: 7.28 Mbit/s
95th percentile per-packet one-way delay: 162.853 ms
Loss rate: 20.30%
```
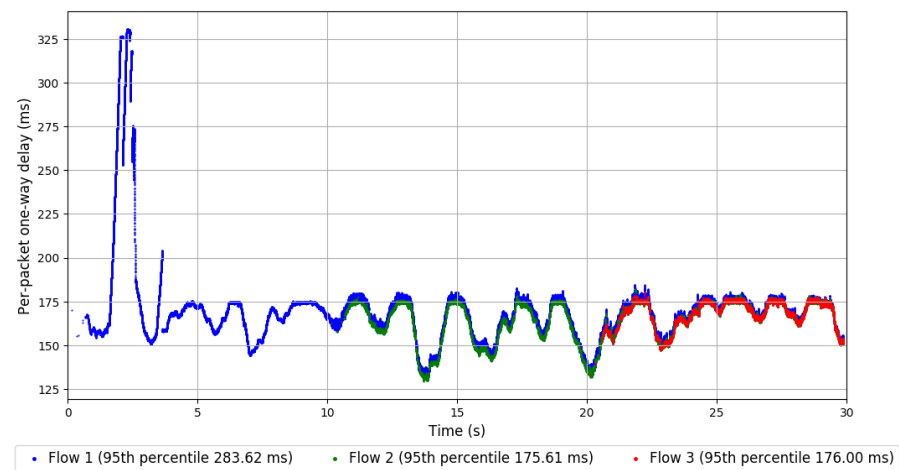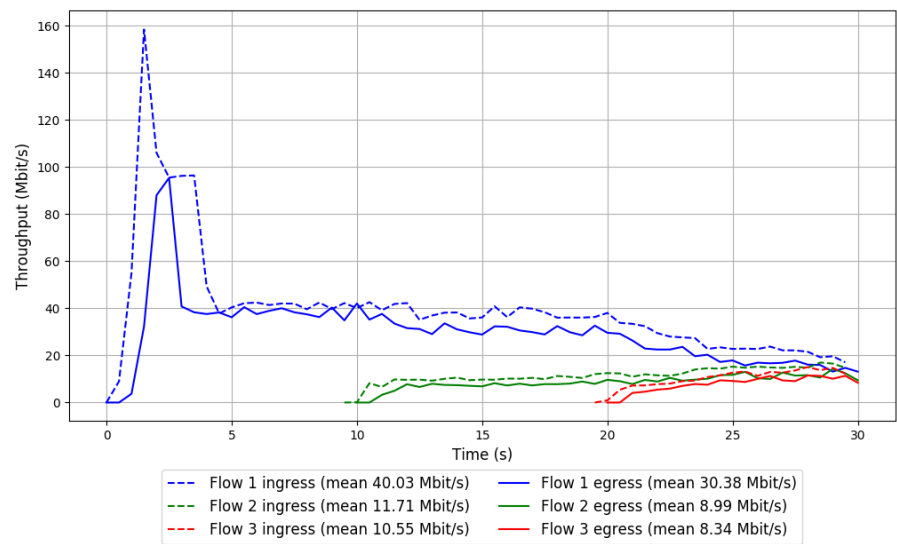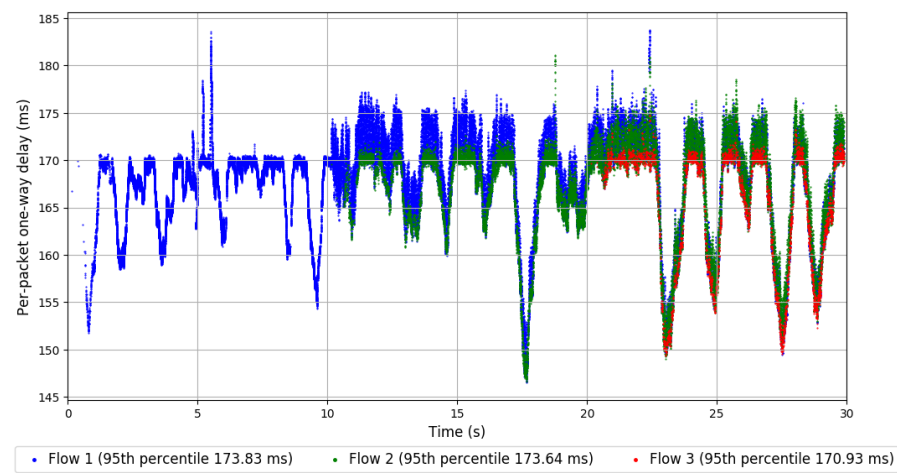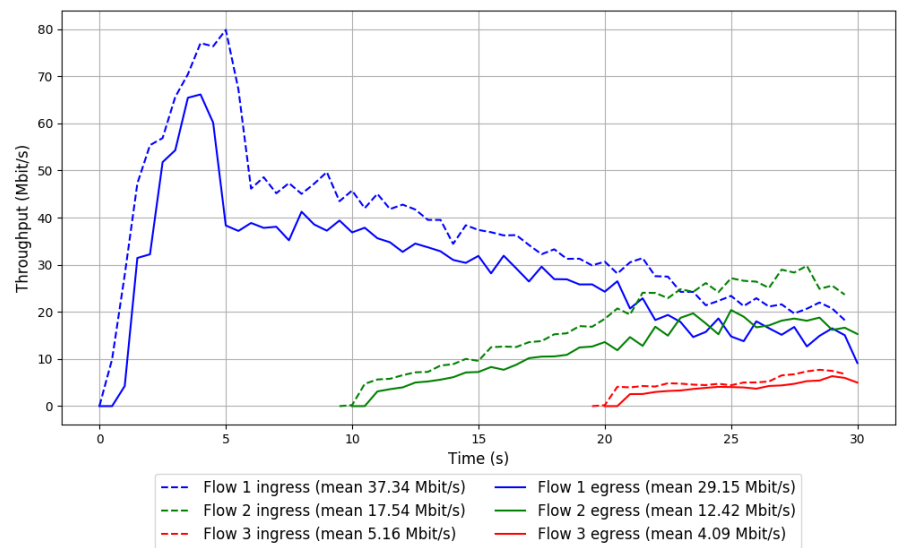
Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 35.43 Mbit/s) --- Flow 1 egress (mean 26.72 Mbit/s)
Flow 2 ingress (mean 20.26 Mbit/s) --- Flow 2 egress (mean 15.42 Mbit/s)
Flow 3 ingress (mean 8.96 Mbit/s) --- Flow 3 egress (mean 7.28 Mbit/s)

Flow 1 (95th percentile 168.61 ms)   Flow 2 (95th percentile 163.78 ms)   Flow 3 (95th percentile 162.85 ms)

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```
Run 3: Statistics of FillP

Start at: 2019-01-03 10:31:30
End at: 2019-01-03 10:32:00
Local clock offset: 21.771 ms
Remote clock offset: 49.643 ms


# Below is generated by plot.py at 2019-01-03 12:59:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.07 Mbit/s
95th percentile per-packet one-way delay: 262.098 ms
Loss rate: 24.42%
-- Flow 1:
Average throughput: 30.38 Mbit/s
95th percentile per-packet one-way delay: 283.619 ms
Loss rate: 24.64%
-- Flow 2:
Average throughput: 8.99 Mbit/s
95th percentile per-packet one-way delay: 175.606 ms
Loss rate: 24.12%
-- Flow 3:
Average throughput: 8.34 Mbit/s
95th percentile per-packet one-way delay: 176.000 ms
Loss rate: 22.56%
```
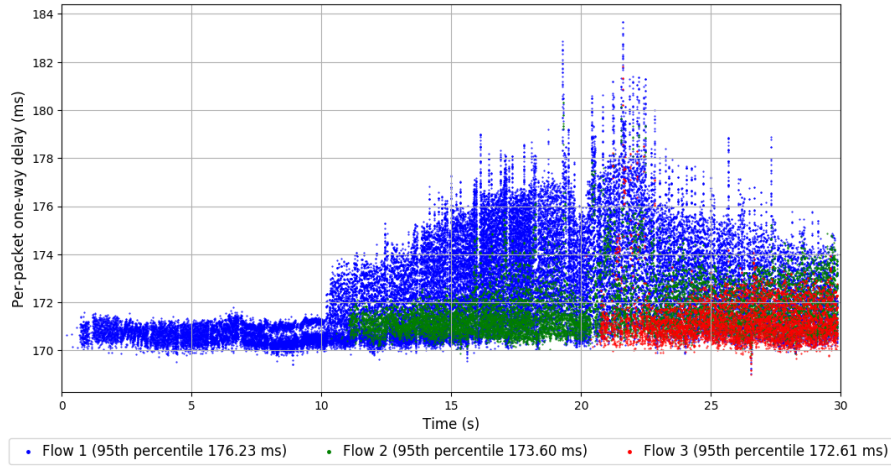
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-01-03 11:06:38
End at: 2019-01-03 11:07:08
Local clock offset: 1.484 ms
Remote clock offset: 37.879 ms


# Below is generated by plot.py at 2019-01-03 12:59:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.73 Mbit/s
95th percentile per-packet one-way delay: 173.746 ms
Loss rate: 24.22%
-- Flow 1:
Average throughput: 29.15 Mbit/s
95th percentile per-packet one-way delay: 173.830 ms
Loss rate: 22.50%
-- Flow 2:
Average throughput: 12.42 Mbit/s
95th percentile per-packet one-way delay: 173.644 ms
Loss rate: 29.96%
-- Flow 3:
Average throughput: 4.09 Mbit/s
95th percentile per-packet one-way delay: 170.933 ms
Loss rate: 22.47%
```

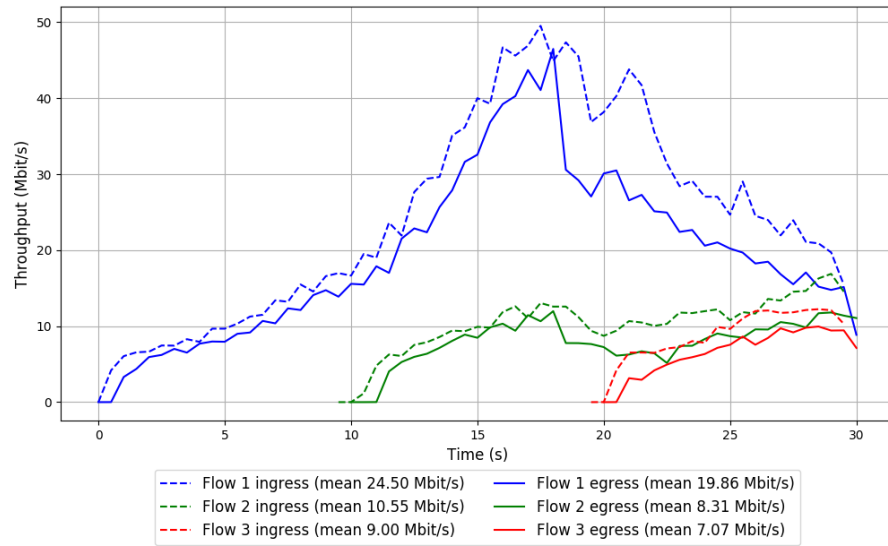Run 4: Report of FillP — Data Link

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```
Run 5: Statistics of FillP

Start at: 2019-01-03 11:57:41
End at: 2019-01-03 11:58:11
Local clock offset: 8.221 ms
Remote clock offset: 37.223 ms


# Below is generated by plot.py at 2019-01-03 12:59:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 27.62 Mbit/s
95th percentile per-packet one-way delay: 175.911 ms
Loss rate: 20.58%
-- Flow 1:
Average throughput: 19.86 Mbit/s
95th percentile per-packet one-way delay: 176.231 ms
Loss rate: 19.56%
-- Flow 2:
Average throughput: 8.31 Mbit/s
95th percentile per-packet one-way delay: 173.605 ms
Loss rate: 22.92%
-- Flow 3:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 172.608 ms
Loss rate: 23.37%
```

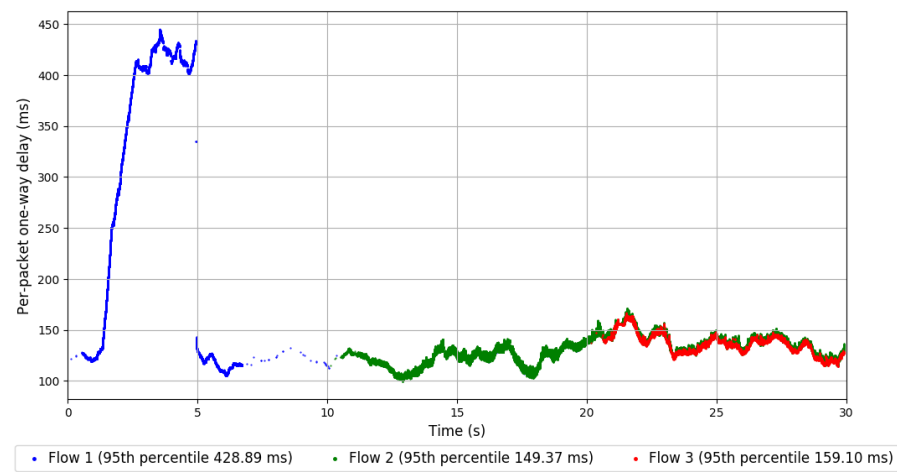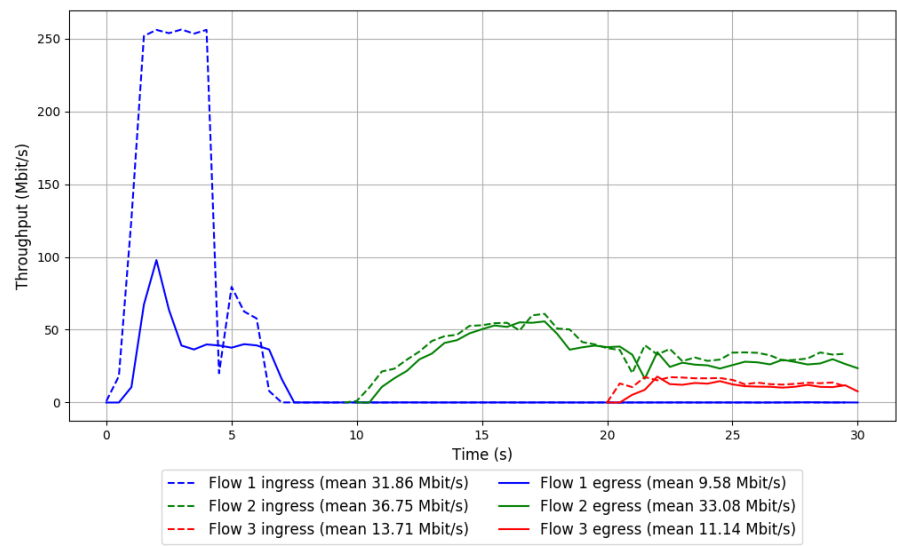Run 5: Report of FillP — Data Link

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```
Run 1: Statistics of FillP-Sheep

Start at: 2019-01-03 09:55:55
End at: 2019-01-03 09:56:25
Local clock offset: 12.313 ms
Remote clock offset: 36.664 ms


# Below is generated by plot.py at 2019-01-03 12:59:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.14 Mbit/s
95th percentile per-packet one-way delay: 412.153 ms
Loss rate: 42.52%
-- Flow 1:
Average throughput: 9.58 Mbit/s
95th percentile per-packet one-way delay: 428.887 ms
Loss rate: 70.23%
-- Flow 2:
Average throughput: 33.08 Mbit/s
95th percentile per-packet one-way delay: 149.373 ms
Loss rate: 10.74%
-- Flow 3:
Average throughput: 11.14 Mbit/s
95th percentile per-packet one-way delay: 159.102 ms
Loss rate: 20.29%
```

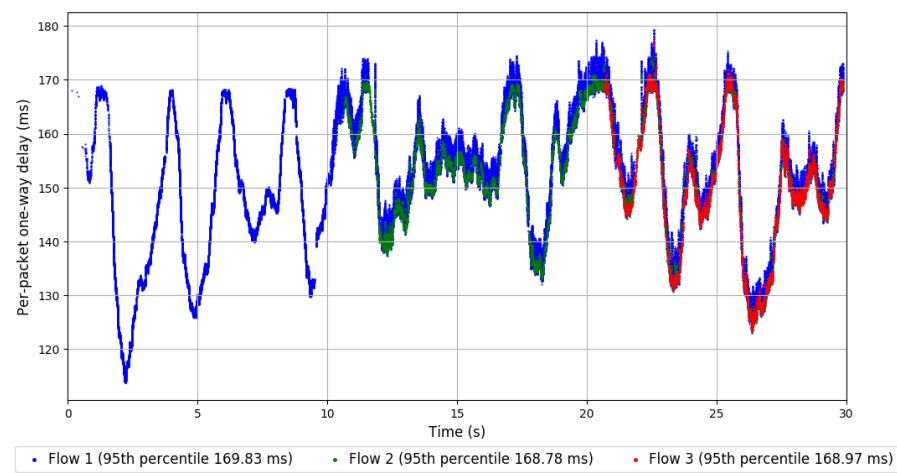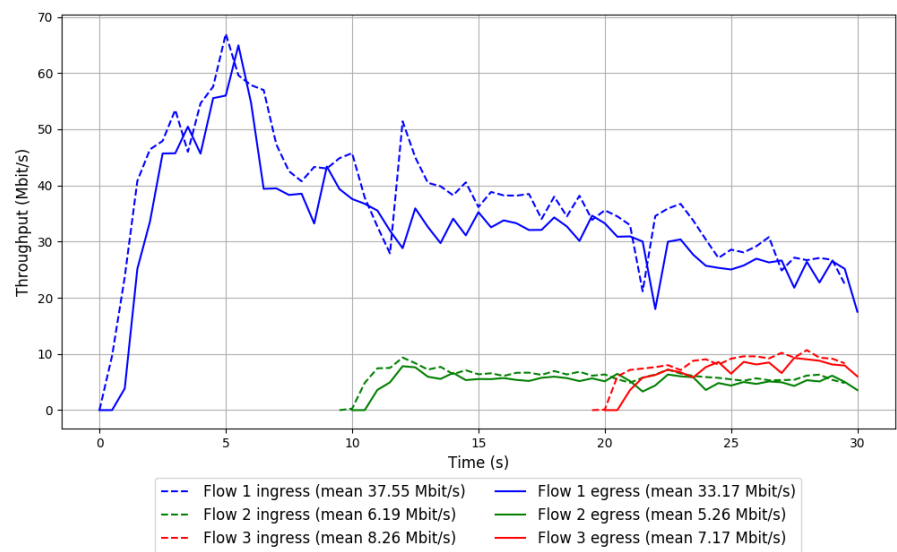Run 1: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 31.86 Mbit/s)   Flow 1 egress (mean 9.58 Mbit/s)
Flow 2 ingress (mean 36.75 Mbit/s)   Flow 2 egress (mean 33.08 Mbit/s)
Flow 3 ingress (mean 13.71 Mbit/s)   Flow 3 egress (mean 11.14 Mbit/s)

Flow 1 (95th percentile 428.89 ms)   Flow 2 (95th percentile 149.37 ms)   Flow 3 (95th percentile 159.10 ms)
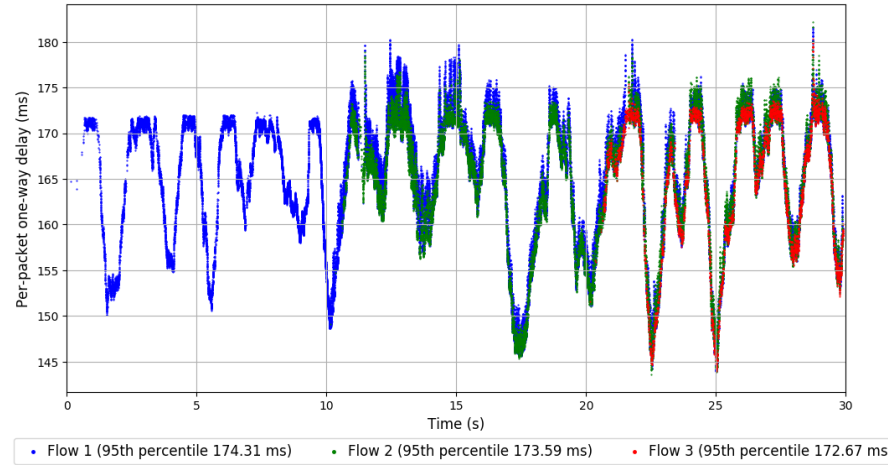
```
Run 2: Statistics of FillP-Sheep

Start at: 2019-01-03 10:22:32
End at: 2019-01-03 10:23:02
Local clock offset: 20.143 ms
Remote clock offset: 51.874 ms


# Below is generated by plot.py at 2019-01-03 12:59:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.01 Mbit/s
95th percentile per-packet one-way delay: 169.519 ms
Loss rate: 12.75%
-- Flow 1:
Average throughput: 33.17 Mbit/s
95th percentile per-packet one-way delay: 169.831 ms
Loss rate: 12.24%
-- Flow 2:
Average throughput: 5.26 Mbit/s
95th percentile per-packet one-way delay: 168.782 ms
Loss rate: 15.76%
-- Flow 3:
Average throughput: 7.17 Mbit/s
95th percentile per-packet one-way delay: 168.965 ms
Loss rate: 15.18%
```

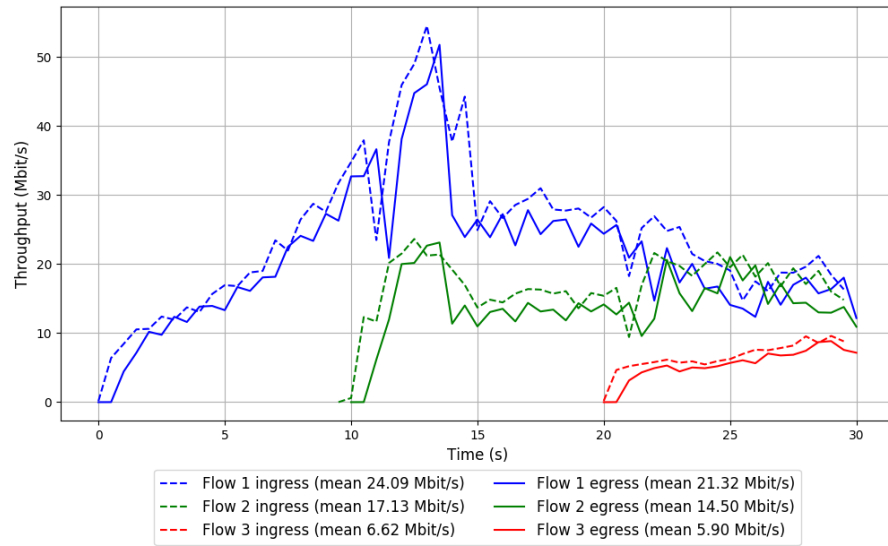Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-01-03 10:55:32
End at: 2019-01-03 10:56:02
Local clock offset: 22.326 ms
Remote clock offset: 41.265 ms


# Below is generated by plot.py at 2019-01-03 12:59:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 32.88 Mbit/s
95th percentile per-packet one-way delay: 174.036 ms
Loss rate: 13.38%
-- Flow 1:
Average throughput: 21.32 Mbit/s
95th percentile per-packet one-way delay: 174.311 ms
Loss rate: 12.12%
-- Flow 2:
Average throughput: 14.50 Mbit/s
95th percentile per-packet one-way delay: 173.593 ms
Loss rate: 16.19%
-- Flow 3:
Average throughput: 5.90 Mbit/s
95th percentile per-packet one-way delay: 172.674 ms
Loss rate: 12.50%
```

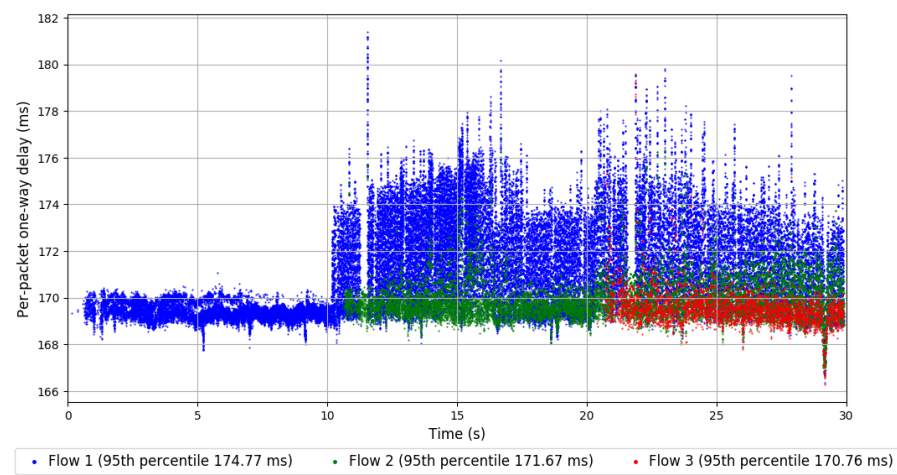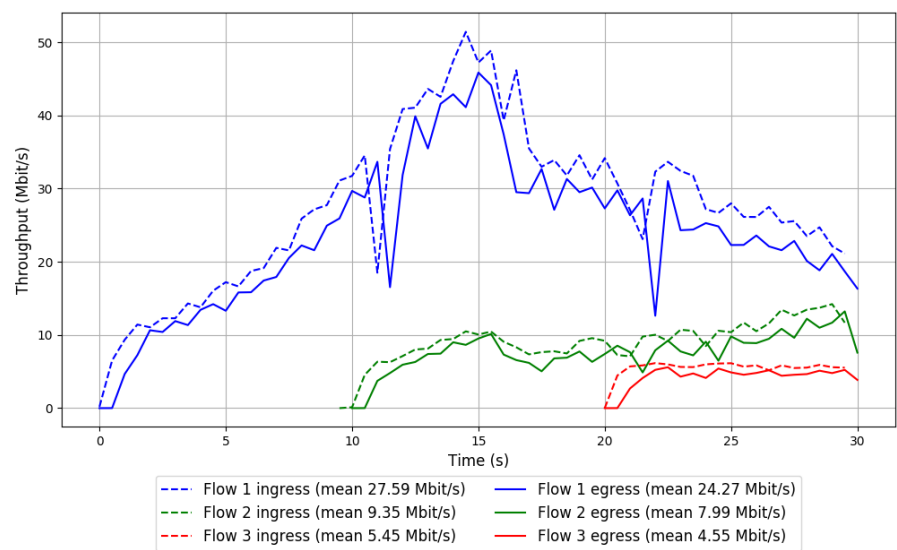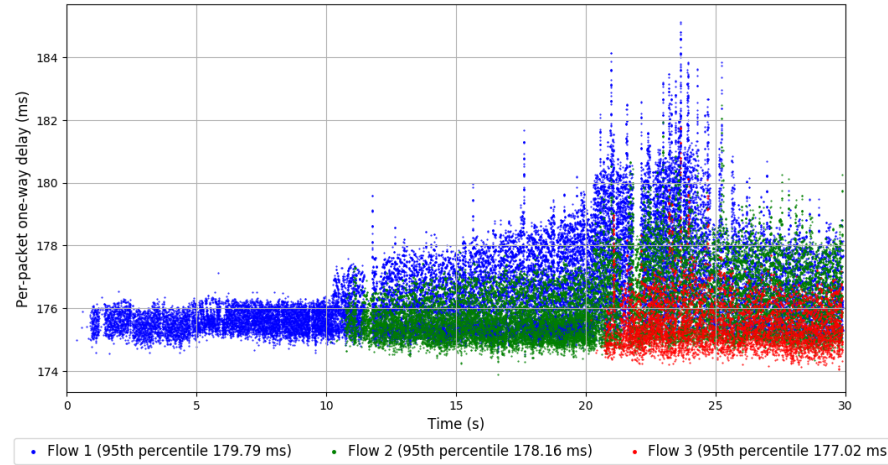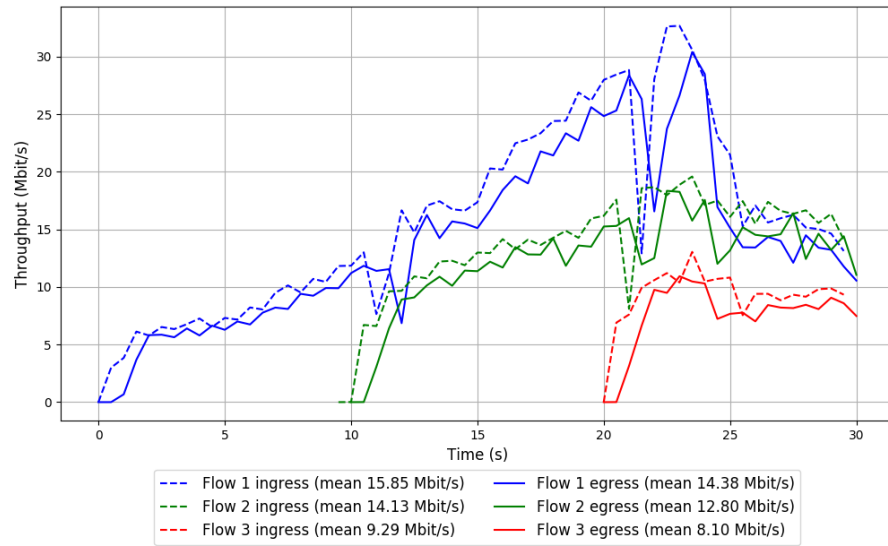Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 24.09 Mbit/s) --- Flow 1 egress (mean 21.32 Mbit/s)
Flow 2 ingress (mean 17.13 Mbit/s) --- Flow 2 egress (mean 14.50 Mbit/s)
Flow 3 ingress (mean 6.62 Mbit/s) --- Flow 3 egress (mean 5.90 Mbit/s)

Flow 1 (95th percentile 174.31 ms)   Flow 2 (95th percentile 173.59 ms)   Flow 3 (95th percentile 172.67 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-01-03 11:41:11
End at: 2019-01-03 11:41:41
Local clock offset: 6.111 ms
Remote clock offset: 34.554 ms


# Below is generated by plot.py at 2019-01-03 12:59:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.05 Mbit/s
95th percentile per-packet one-way delay: 174.563 ms
Loss rate: 13.49%
-- Flow 1:
Average throughput: 24.27 Mbit/s
95th percentile per-packet one-way delay: 174.772 ms
Loss rate: 12.71%
-- Flow 2:
Average throughput: 7.99 Mbit/s
95th percentile per-packet one-way delay: 171.669 ms
Loss rate: 15.49%
-- Flow 3:
Average throughput: 4.55 Mbit/s
95th percentile per-packet one-way delay: 170.757 ms
Loss rate: 18.41%
```
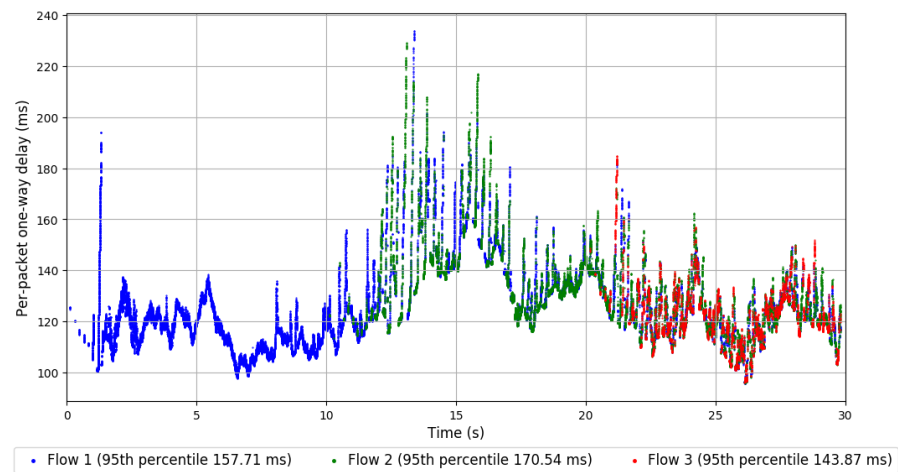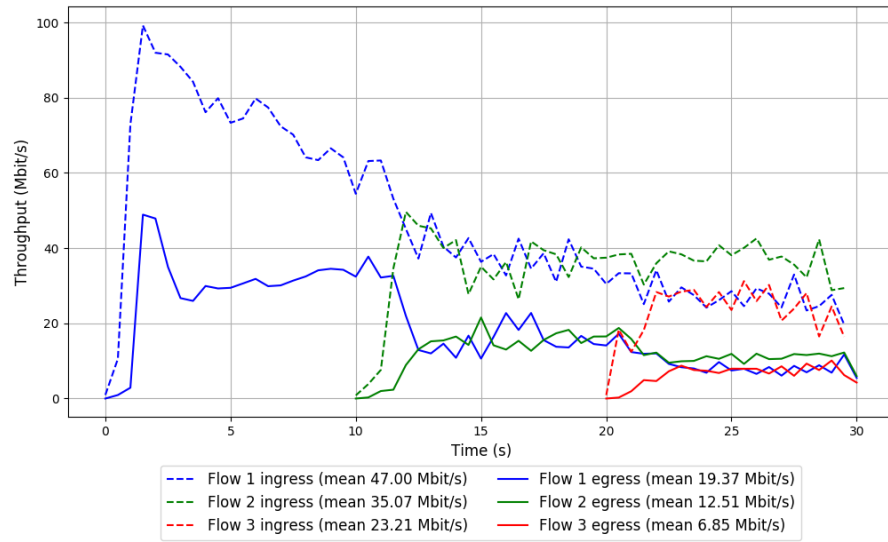
Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 27.59 Mbit/s) --- Flow 1 egress (mean 24.27 Mbit/s)
Flow 2 ingress (mean 9.35 Mbit/s) --- Flow 2 egress (mean 7.99 Mbit/s)
Flow 3 ingress (mean 5.45 Mbit/s) --- Flow 3 egress (mean 4.55 Mbit/s)

Flow 1 (95th percentile 174.77 ms)   Flow 2 (95th percentile 171.67 ms)   Flow 3 (95th percentile 170.76 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-01-03 12:38:39
End at: 2019-01-03 12:39:09
Local clock offset: 0.241 ms
Remote clock offset: 19.668 ms


# Below is generated by plot.py at 2019-01-03 12:59:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 25.59 Mbit/s
95th percentile per-packet one-way delay: 179.173 ms
Loss rate: 11.00%
-- Flow 1:
Average throughput: 14.38 Mbit/s
95th percentile per-packet one-way delay: 179.789 ms
Loss rate: 10.58%
-- Flow 2:
Average throughput: 12.80 Mbit/s
95th percentile per-packet one-way delay: 178.160 ms
Loss rate: 10.45%
-- Flow 3:
Average throughput: 8.10 Mbit/s
95th percentile per-packet one-way delay: 177.020 ms
Loss rate: 14.90%
```

Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 15.85 Mbit/s) --- Flow 1 egress (mean 14.38 Mbit/s)
Flow 2 ingress (mean 14.13 Mbit/s) --- Flow 2 egress (mean 12.80 Mbit/s)
Flow 3 ingress (mean 9.29 Mbit/s) --- Flow 3 egress (mean 8.10 Mbit/s)

Flow 1 (95th percentile 179.79 ms) • Flow 2 (95th percentile 178.16 ms) • Flow 3 (95th percentile 177.02 ms)

```
Run 1: Statistics of Indigo

Start at: 2019-01-03 09:43:49
End at: 2019-01-03 09:44:19
Local clock offset: 10.092 ms
Remote clock offset: 34.464 ms


# Below is generated by plot.py at 2019-01-03 12:59:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.88 Mbit/s
95th percentile per-packet one-way delay: 159.561 ms
Loss rate: 61.89%
-- Flow 1:
Average throughput: 19.37 Mbit/s
95th percentile per-packet one-way delay: 157.707 ms
Loss rate: 59.04%
-- Flow 2:
Average throughput: 12.51 Mbit/s
95th percentile per-packet one-way delay: 170.541 ms
Loss rate: 64.64%
-- Flow 3:
Average throughput: 6.85 Mbit/s
95th percentile per-packet one-way delay: 143.870 ms
Loss rate: 71.07%
```
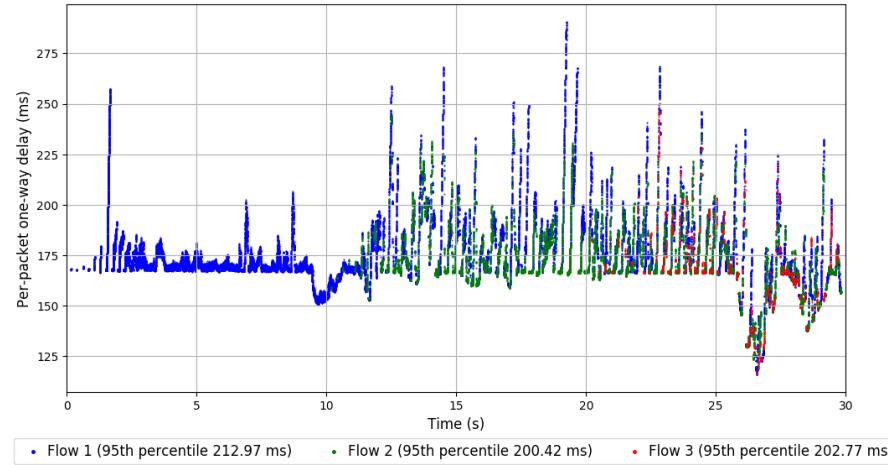
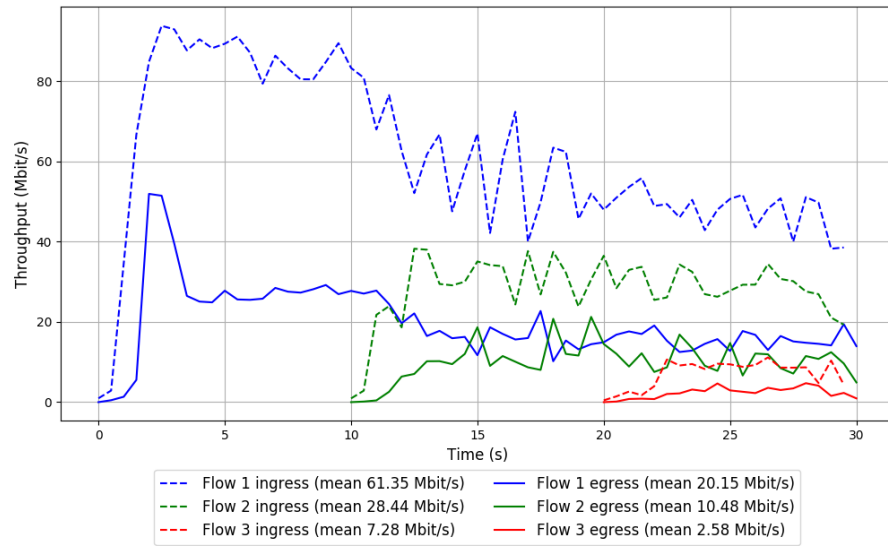Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-01-03 10:09:18
End at: 2019-01-03 10:09:48
Local clock offset: 17.428 ms
Remote clock offset: 42.667 ms


# Below is generated by plot.py at 2019-01-03 12:59:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.05 Mbit/s
95th percentile per-packet one-way delay: 168.470 ms
Loss rate: 25.12%
-- Flow 1:
Average throughput: 87.90 Mbit/s
95th percentile per-packet one-way delay: 160.594 ms
Loss rate: 28.74%
-- Flow 2:
Average throughput: 6.01 Mbit/s
95th percentile per-packet one-way delay: 168.588 ms
Loss rate: 8.79%
-- Flow 3:
Average throughput: 30.99 Mbit/s
95th percentile per-packet one-way delay: 168.192 ms
Loss rate: 30.07%
```
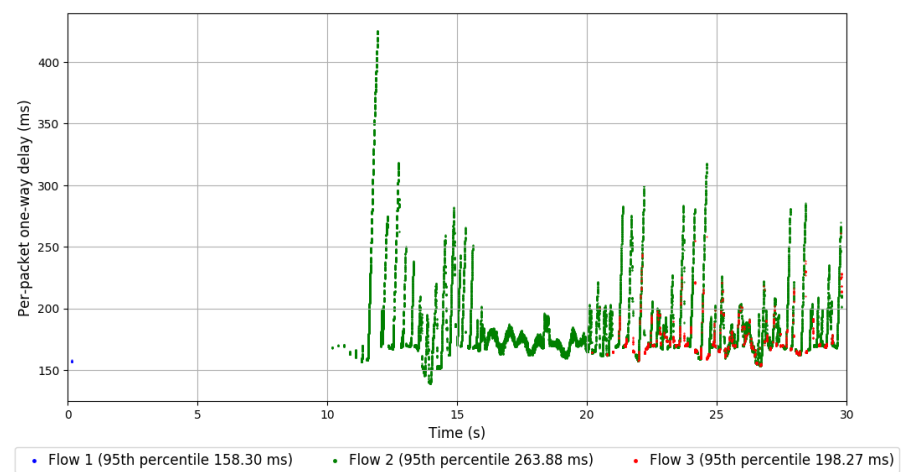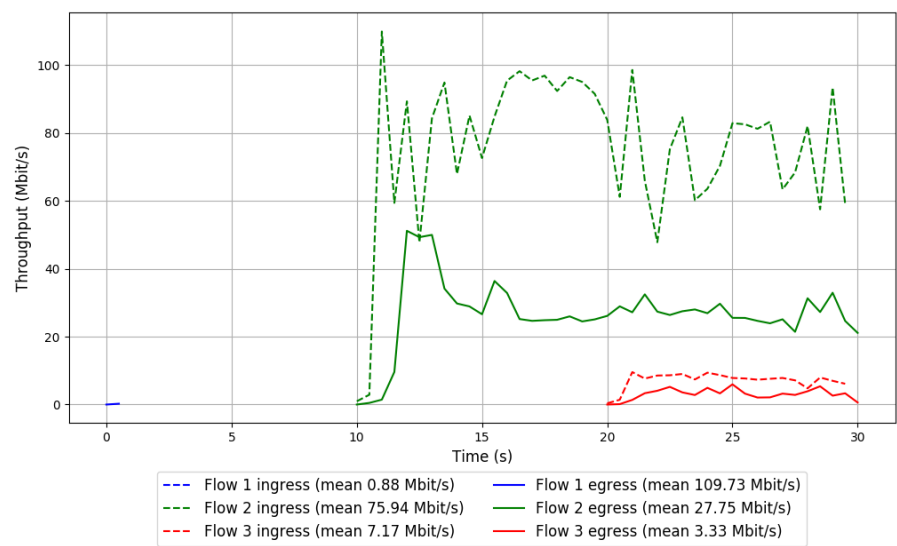
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-01-03 10:40:05
End at: 2019-01-03 10:40:35
Local clock offset: 23.086 ms
Remote clock offset: 56.75 ms


# Below is generated by plot.py at 2019-01-03 12:59:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 27.91 Mbit/s
95th percentile per-packet one-way delay: 209.130 ms
Loss rate: 66.47%
-- Flow 1:
Average throughput: 20.15 Mbit/s
95th percentile per-packet one-way delay: 212.966 ms
Loss rate: 67.41%
-- Flow 2:
Average throughput: 10.48 Mbit/s
95th percentile per-packet one-way delay: 200.416 ms
Loss rate: 63.55%
-- Flow 3:
Average throughput: 2.58 Mbit/s
95th percentile per-packet one-way delay: 202.769 ms
Loss rate: 65.51%
```
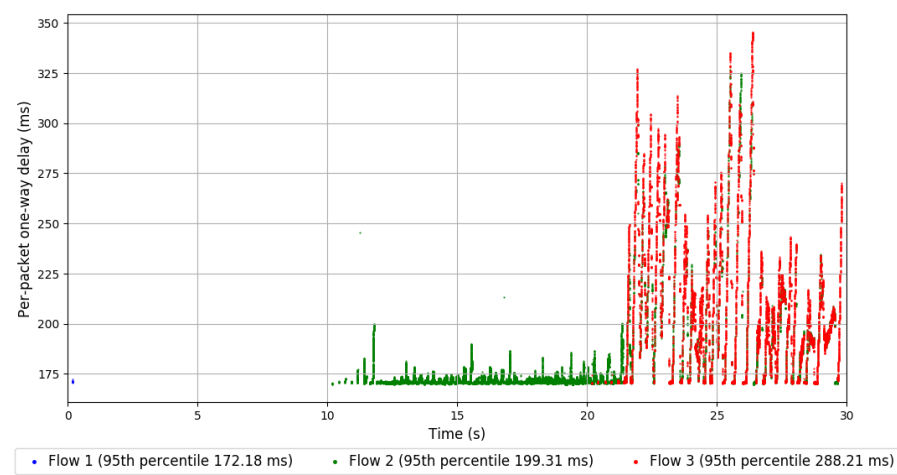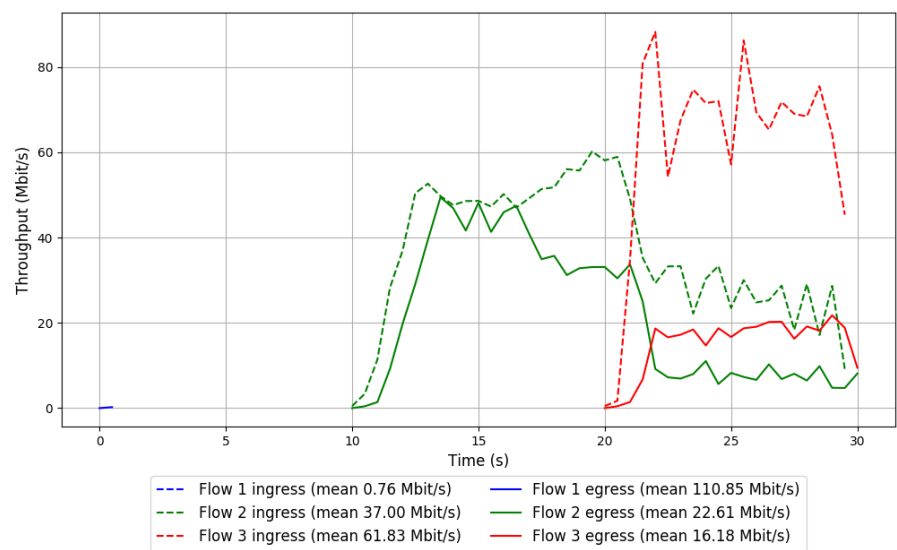
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-01-03 11:14:40
End at: 2019-01-03 11:15:10
Local clock offset: -5.086 ms
Remote clock offset: 36.959 ms


# Below is generated by plot.py at 2019-01-03 12:59:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.46 Mbit/s
95th percentile per-packet one-way delay: 261.906 ms
Loss rate: 63.58%
-- Flow 1:
Average throughput: 109.73 Mbit/s
95th percentile per-packet one-way delay: 158.298 ms
Loss rate: 37.69%
-- Flow 2:
Average throughput: 27.75 Mbit/s
95th percentile per-packet one-way delay: 263.876 ms
Loss rate: 63.99%
-- Flow 3:
Average throughput: 3.33 Mbit/s
95th percentile per-packet one-way delay: 198.274 ms
Loss rate: 54.94%
```
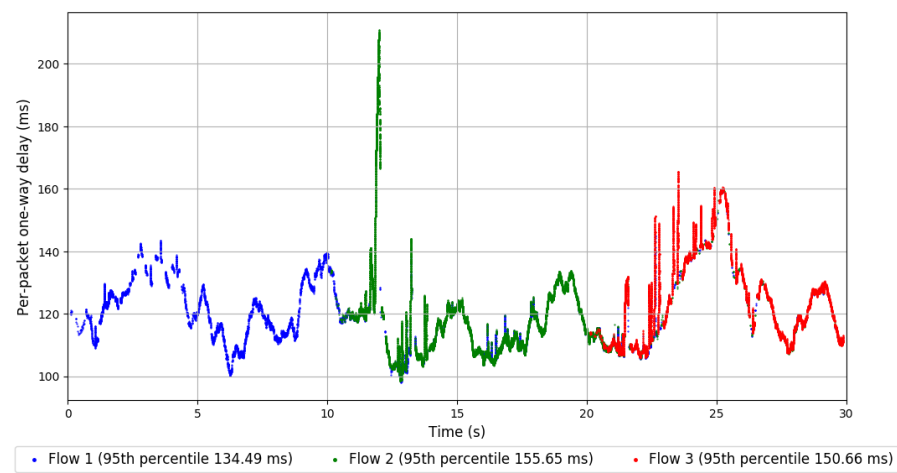
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-01-03 12:08:03
End at: 2019-01-03 12:08:33
Local clock offset: 8.962 ms
Remote clock offset: 38.822 ms


# Below is generated by plot.py at 2019-01-03 12:59:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.12 Mbit/s
95th percentile per-packet one-way delay: 252.110 ms
Loss rate: 55.56%
-- Flow 1:
Average throughput: 110.85 Mbit/s
95th percentile per-packet one-way delay: 172.180 ms
Loss rate: 33.51%
-- Flow 2:
Average throughput: 22.61 Mbit/s
95th percentile per-packet one-way delay: 199.313 ms
Loss rate: 39.87%
-- Flow 3:
Average throughput: 16.18 Mbit/s
95th percentile per-packet one-way delay: 288.211 ms
Loss rate: 74.42%
```
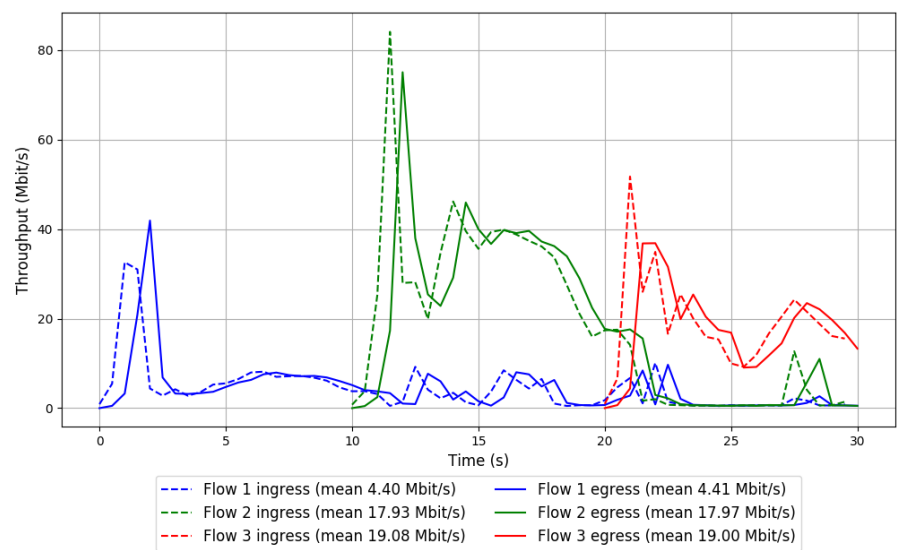
Run 5: Report of Indigo — Data Link

Flow 1 ingress (mean 0.76 Mbit/s) --- Flow 1 egress (mean 110.85 Mbit/s) ——
Flow 2 ingress (mean 37.00 Mbit/s) --- Flow 2 egress (mean 22.61 Mbit/s) ——
Flow 3 ingress (mean 61.83 Mbit/s) --- Flow 3 egress (mean 16.18 Mbit/s) ——

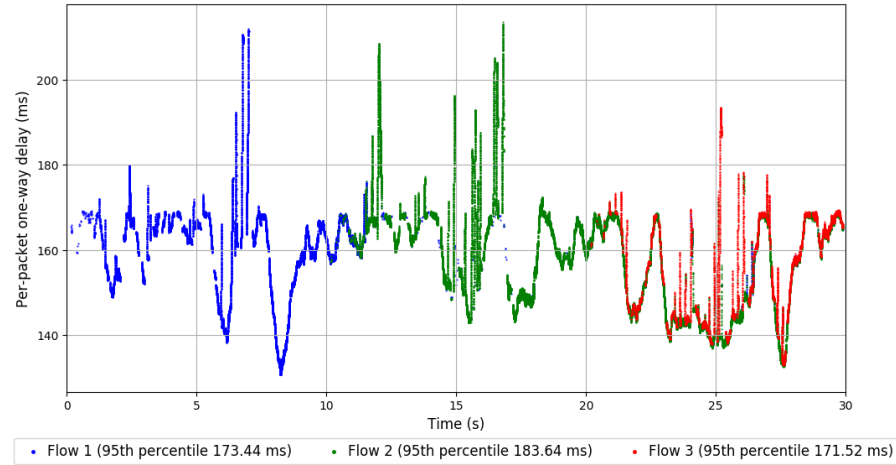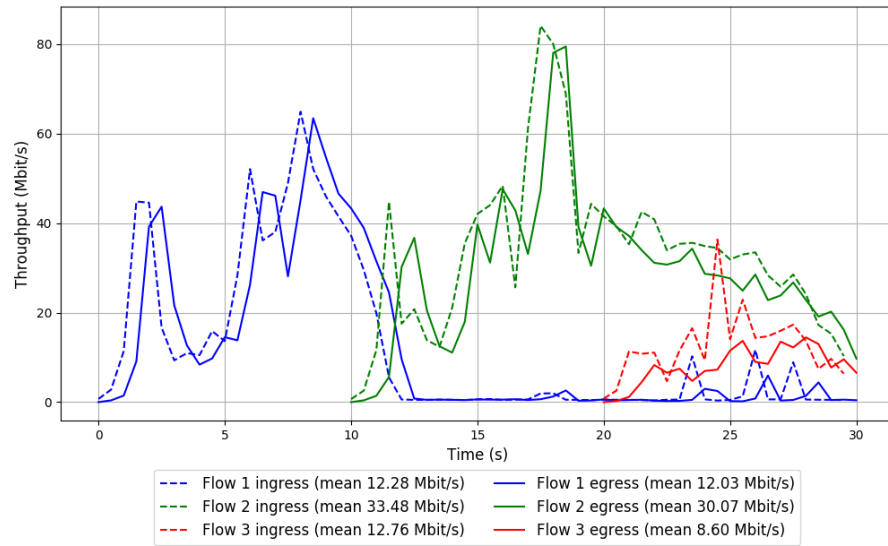Flow 1 (95th percentile 172.18 ms) · Flow 2 (95th percentile 199.31 ms) · Flow 3 (95th percentile 288.21 ms)

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-03 09:53:16
End at: 2019-01-03 09:53:46
Local clock offset: 11.078 ms
Remote clock offset: 35.523 ms


# Below is generated by plot.py at 2019-01-03 12:59:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 22.53 Mbit/s
95th percentile per-packet one-way delay: 147.063 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 134.493 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 17.97 Mbit/s
95th percentile per-packet one-way delay: 155.649 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 19.00 Mbit/s
95th percentile per-packet one-way delay: 150.661 ms
Loss rate: 2.03%
```

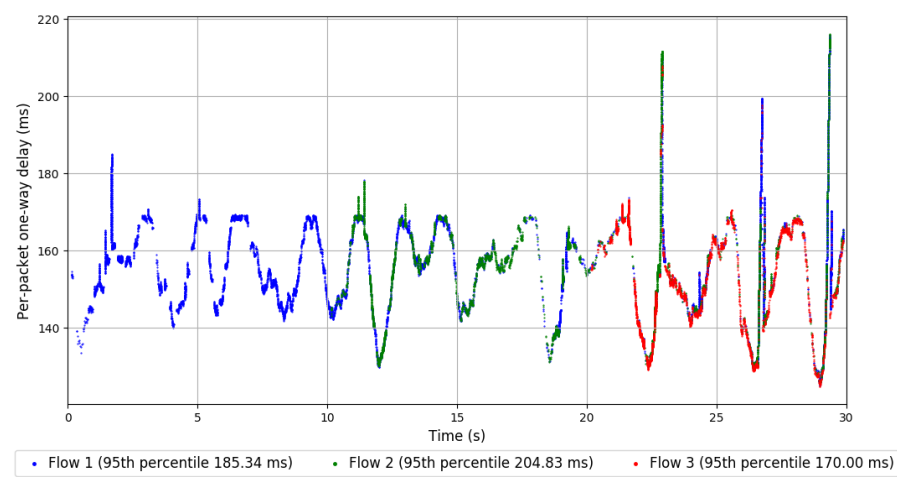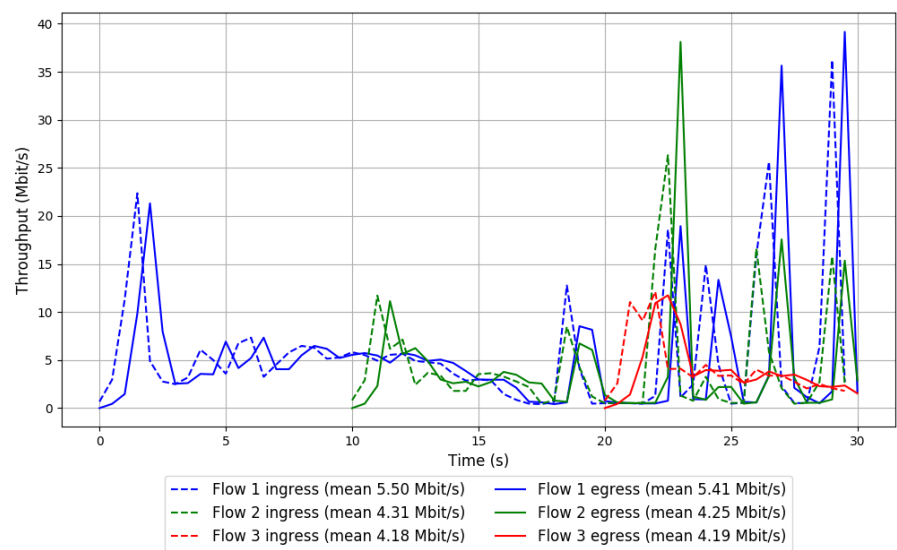Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-03 10:19:28
End at: 2019-01-03 10:19:58
Local clock offset: 19.704 ms
Remote clock offset: 50.165 ms


# Below is generated by plot.py at 2019-01-03 12:59:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.78 Mbit/s
95th percentile per-packet one-way delay: 178.068 ms
Loss rate: 10.85%
-- Flow 1:
Average throughput: 12.03 Mbit/s
95th percentile per-packet one-way delay: 173.442 ms
Loss rate: 2.55%
-- Flow 2:
Average throughput: 30.07 Mbit/s
95th percentile per-packet one-way delay: 183.638 ms
Loss rate: 11.13%
-- Flow 3:
Average throughput: 8.60 Mbit/s
95th percentile per-packet one-way delay: 171.521 ms
Loss rate: 33.59%
```

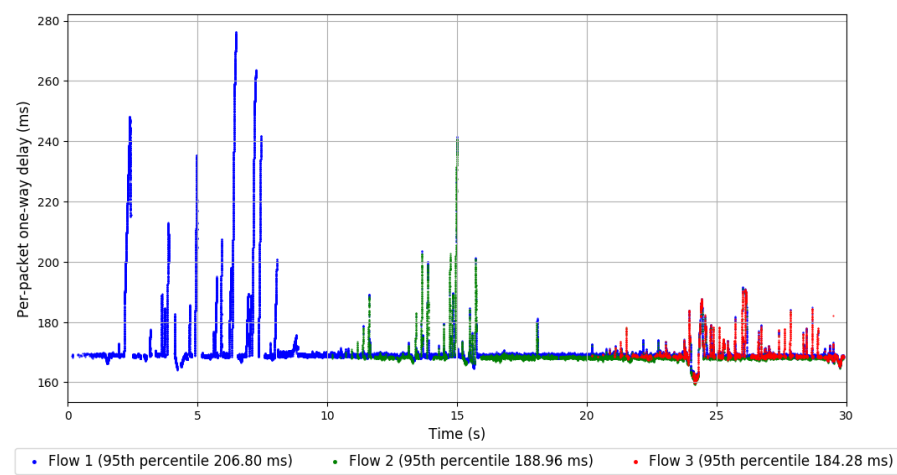Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-03 10:52:30
End at: 2019-01-03 10:53:00
Local clock offset: 25.236 ms
Remote clock offset: 43.199 ms


# Below is generated by plot.py at 2019-01-03 12:59:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.60 Mbit/s
95th percentile per-packet one-way delay: 188.587 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 5.41 Mbit/s
95th percentile per-packet one-way delay: 185.340 ms
Loss rate: 1.92%
-- Flow 2:
Average throughput: 4.25 Mbit/s
95th percentile per-packet one-way delay: 204.826 ms
Loss rate: 2.36%
-- Flow 3:
Average throughput: 4.19 Mbit/s
95th percentile per-packet one-way delay: 170.005 ms
Loss rate: 1.66%
```

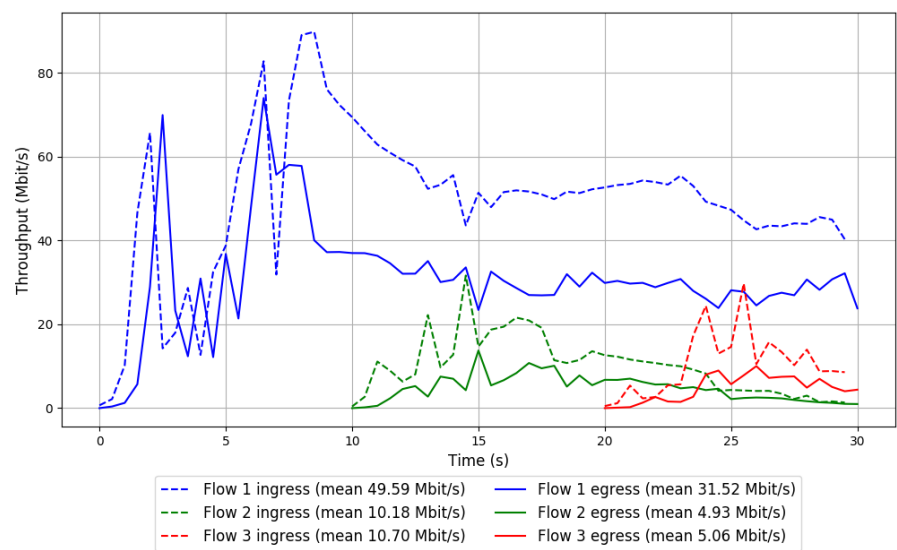Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-03 11:31:30
End at: 2019-01-03 11:32:00
Local clock offset: 0.729 ms
Remote clock offset: 35.902 ms


# Below is generated by plot.py at 2019-01-03 13:00:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.44 Mbit/s
95th percentile per-packet one-way delay: 202.162 ms
Loss rate: 39.62%
-- Flow 1:
Average throughput: 31.52 Mbit/s
95th percentile per-packet one-way delay: 206.798 ms
Loss rate: 36.91%
-- Flow 2:
Average throughput: 4.93 Mbit/s
95th percentile per-packet one-way delay: 188.964 ms
Loss rate: 52.06%
-- Flow 3:
Average throughput: 5.06 Mbit/s
95th percentile per-packet one-way delay: 184.277 ms
Loss rate: 53.70%
```
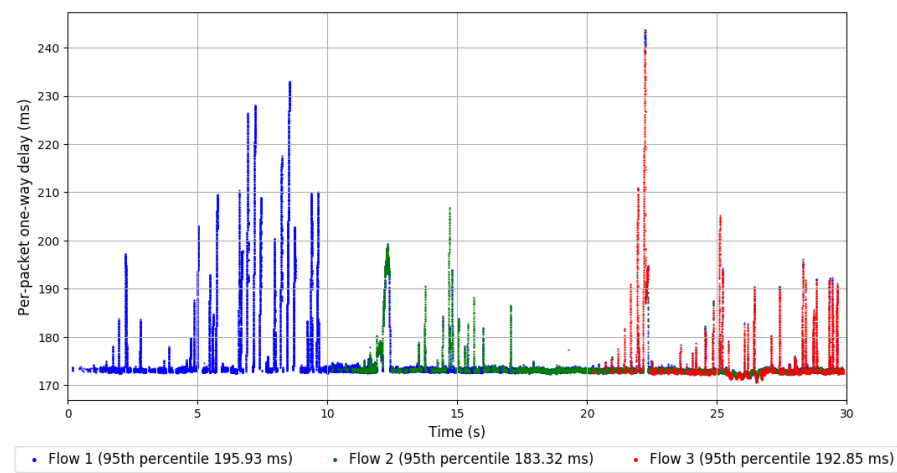
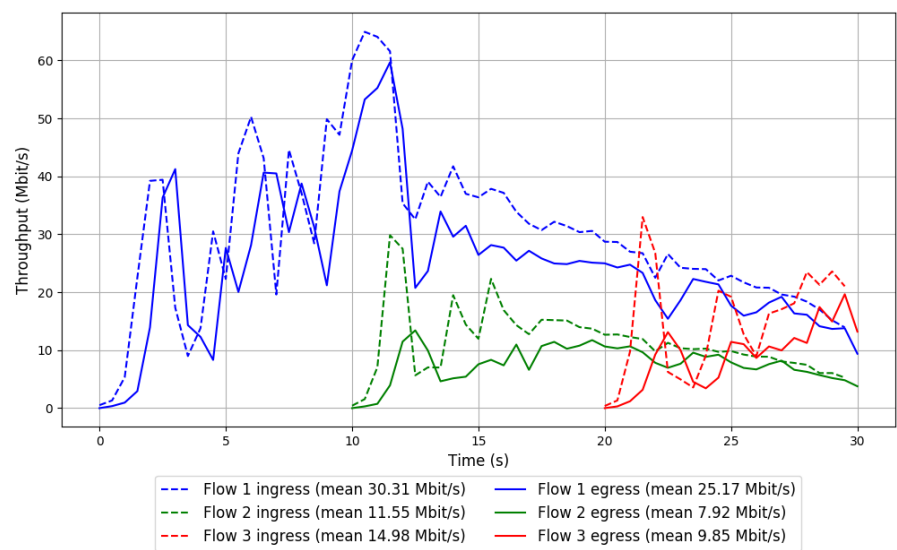Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-03 12:29:16
End at: 2019-01-03 12:29:46
Local clock offset: 4.619 ms
Remote clock offset: 27.639 ms


# Below is generated by plot.py at 2019-01-03 13:00:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.63 Mbit/s
95th percentile per-packet one-way delay: 194.131 ms
Loss rate: 22.35%
-- Flow 1:
Average throughput: 25.17 Mbit/s
95th percentile per-packet one-way delay: 195.929 ms
Loss rate: 17.64%
-- Flow 2:
Average throughput: 7.92 Mbit/s
95th percentile per-packet one-way delay: 183.322 ms
Loss rate: 32.24%
-- Flow 3:
Average throughput: 9.85 Mbit/s
95th percentile per-packet one-way delay: 192.850 ms
Loss rate: 35.83%
```

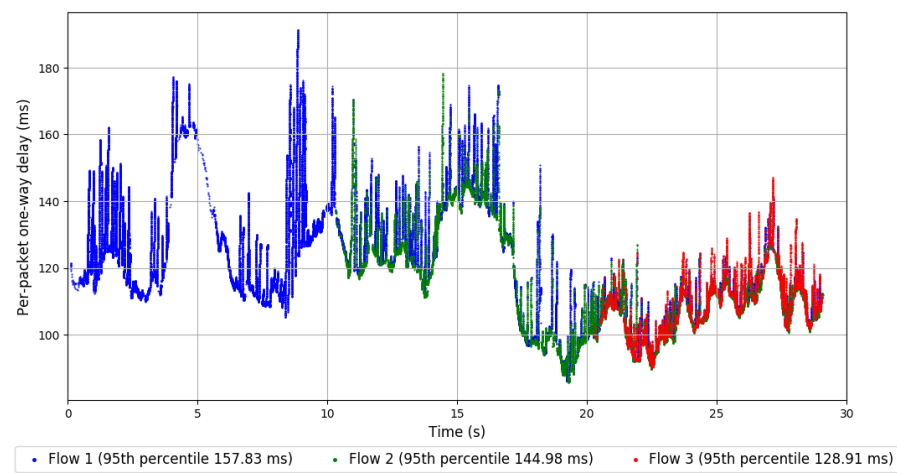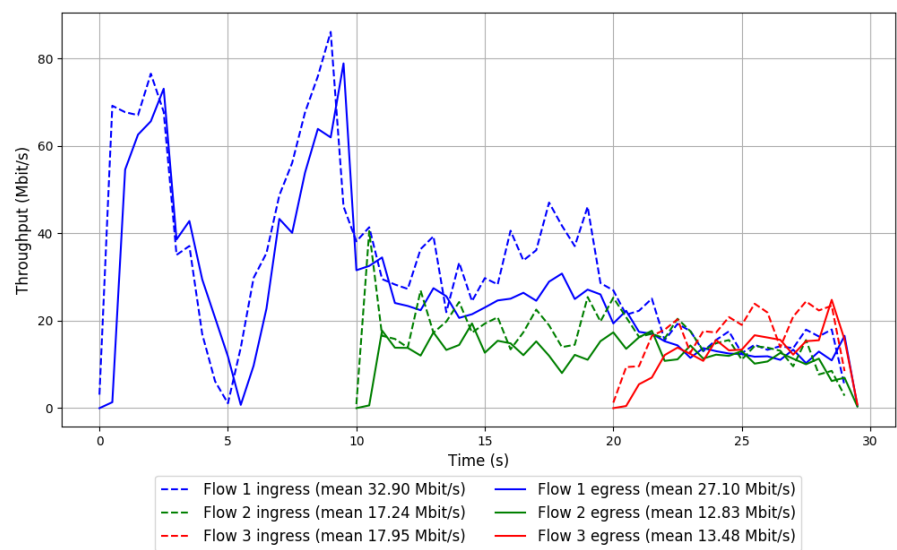Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-03 09:42:20
End at: 2019-01-03 09:42:50
Local clock offset: 9.739 ms
Remote clock offset: 33.116 ms


# Below is generated by plot.py at 2019-01-03 13:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.50 Mbit/s
95th percentile per-packet one-way delay: 153.656 ms
Loss rate: 20.89%
-- Flow 1:
Average throughput: 27.10 Mbit/s
95th percentile per-packet one-way delay: 157.829 ms
Loss rate: 18.13%
-- Flow 2:
Average throughput: 12.83 Mbit/s
95th percentile per-packet one-way delay: 144.982 ms
Loss rate: 26.34%
-- Flow 3:
Average throughput: 13.48 Mbit/s
95th percentile per-packet one-way delay: 128.912 ms
Loss rate: 26.29%
```
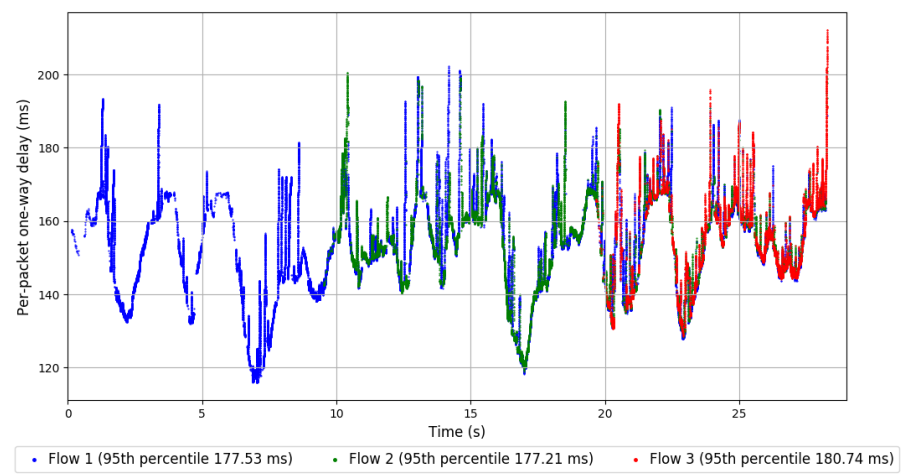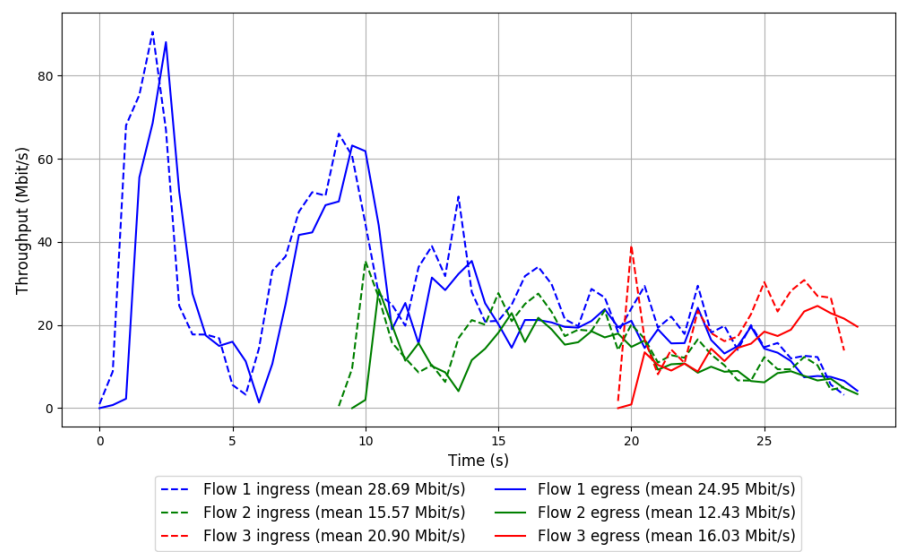
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-03 10:07:50
End at: 2019-01-03 10:08:20
Local clock offset: 16.966 ms
Remote clock offset: 41.725 ms


# Below is generated by plot.py at 2019-01-03 13:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.13 Mbit/s
95th percentile per-packet one-way delay: 177.899 ms
Loss rate: 16.93%
-- Flow 1:
Average throughput: 24.95 Mbit/s
95th percentile per-packet one-way delay: 177.532 ms
Loss rate: 13.64%
-- Flow 2:
Average throughput: 12.43 Mbit/s
95th percentile per-packet one-way delay: 177.207 ms
Loss rate: 20.85%
-- Flow 3:
Average throughput: 16.03 Mbit/s
95th percentile per-packet one-way delay: 180.735 ms
Loss rate: 25.15%
```

Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-03 10:35:41
End at: 2019-01-03 10:36:11
Local clock offset: 22.38 ms
Remote clock offset: 55.92 ms


# Below is generated by plot.py at 2019-01-03 13:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.30 Mbit/s
95th percentile per-packet one-way delay: 203.370 ms
Loss rate: 22.39%
-- Flow 1:
Average throughput: 18.77 Mbit/s
95th percentile per-packet one-way delay: 198.752 ms
Loss rate: 15.08%
-- Flow 2:
Average throughput: 15.12 Mbit/s
95th percentile per-packet one-way delay: 207.591 ms
Loss rate: 23.17%
-- Flow 3:
Average throughput: 23.73 Mbit/s
95th percentile per-packet one-way delay: 206.097 ms
Loss rate: 35.66%
```
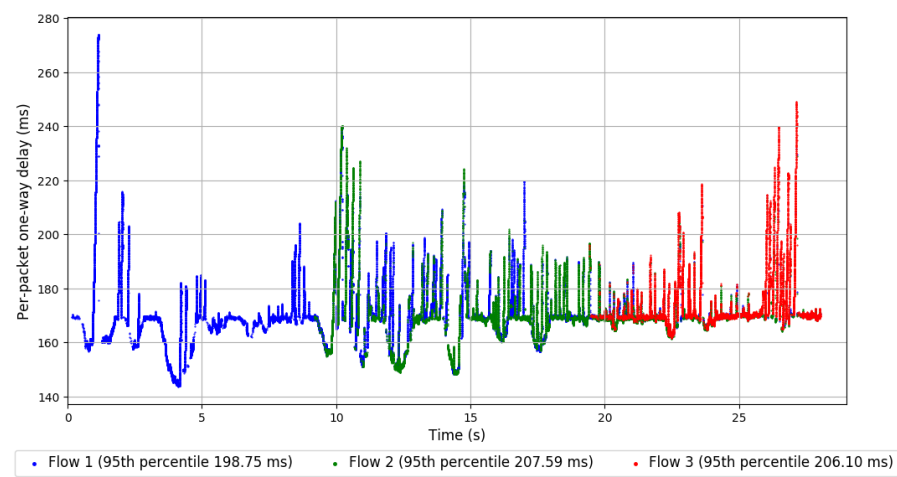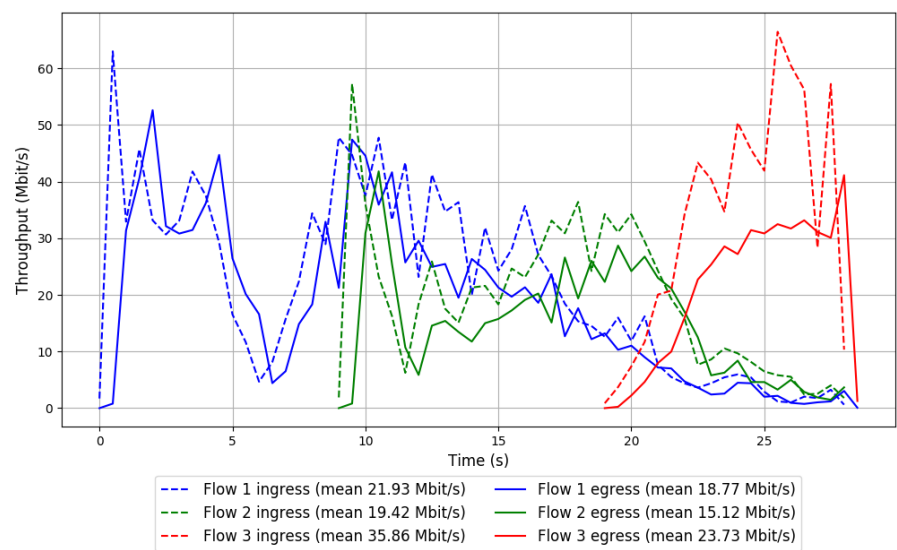
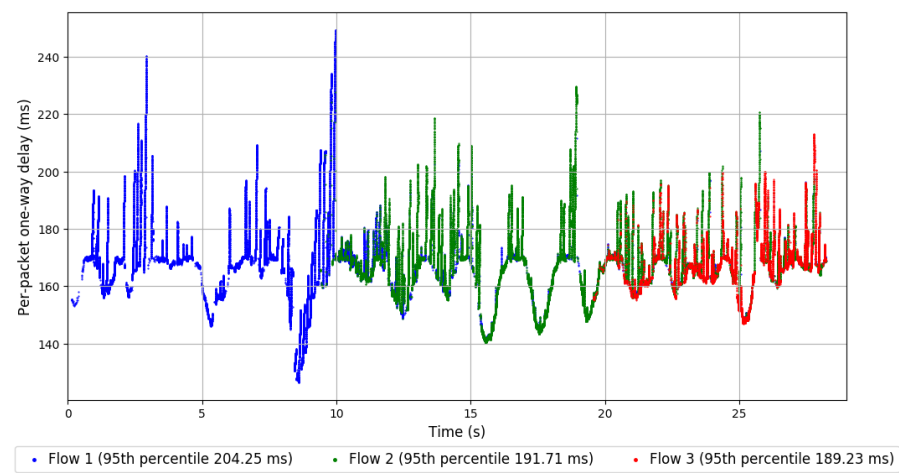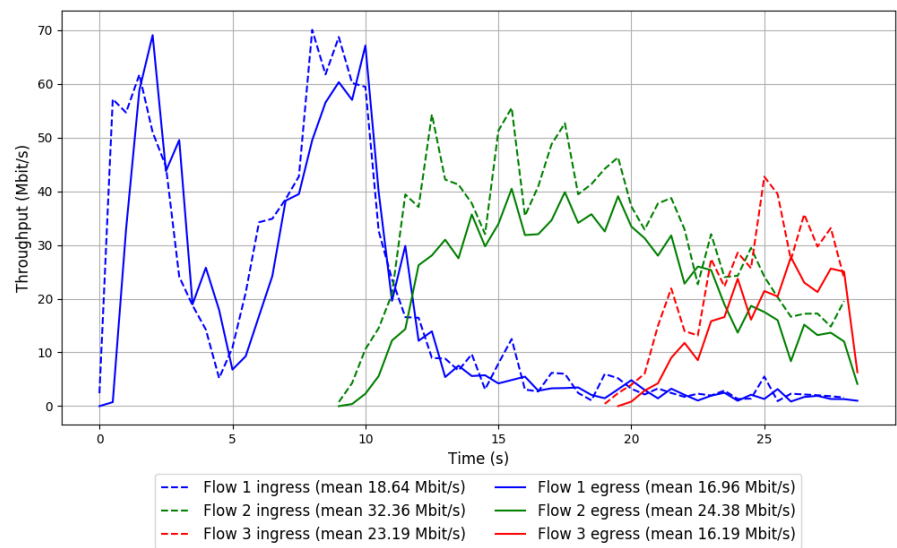Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-03 11:12:46
End at: 2019-01-03 11:13:16
Local clock offset: -3.764 ms
Remote clock offset: 36.777 ms


# Below is generated by plot.py at 2019-01-03 13:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.29 Mbit/s
95th percentile per-packet one-way delay: 195.782 ms
Loss rate: 20.38%
-- Flow 1:
Average throughput: 16.96 Mbit/s
95th percentile per-packet one-way delay: 204.245 ms
Loss rate: 9.73%
-- Flow 2:
Average throughput: 24.38 Mbit/s
95th percentile per-packet one-way delay: 191.706 ms
Loss rate: 25.59%
-- Flow 3:
Average throughput: 16.19 Mbit/s
95th percentile per-packet one-way delay: 189.226 ms
Loss rate: 32.06%
```
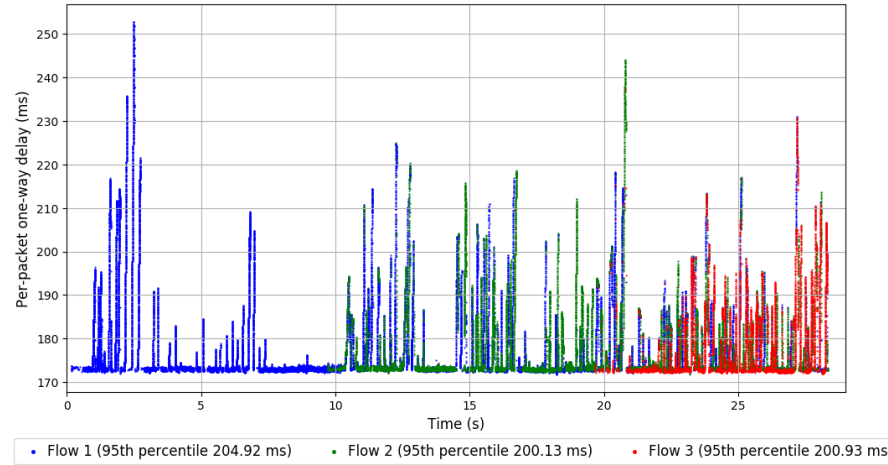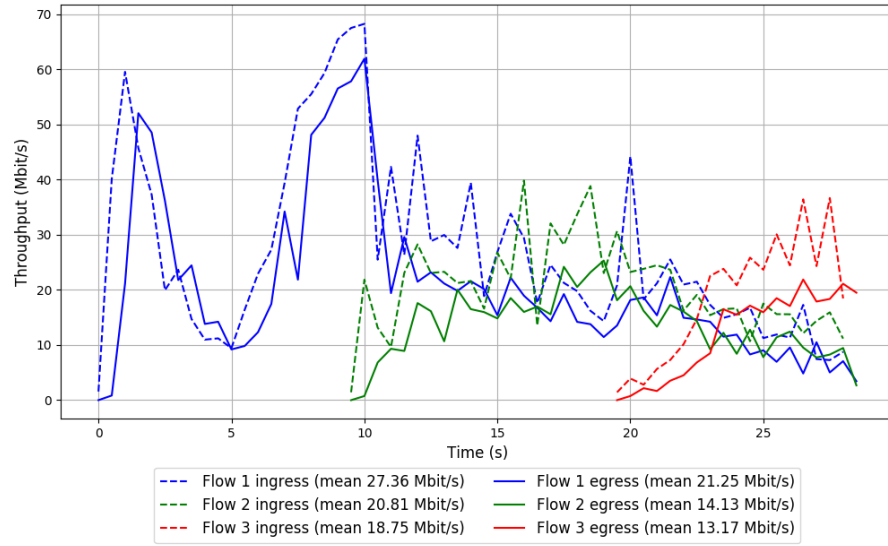
Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-03 12:04:38
End at: 2019-01-03 12:05:08
Local clock offset: 8.956 ms
Remote clock offset: 36.178 ms


# Below is generated by plot.py at 2019-01-03 13:00:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.63 Mbit/s
95th percentile per-packet one-way delay: 203.002 ms
Loss rate: 26.97%
-- Flow 1:
Average throughput: 21.25 Mbit/s
95th percentile per-packet one-way delay: 204.923 ms
Loss rate: 22.94%
-- Flow 2:
Average throughput: 14.13 Mbit/s
95th percentile per-packet one-way delay: 200.128 ms
Loss rate: 32.94%
-- Flow 3:
Average throughput: 13.17 Mbit/s
95th percentile per-packet one-way delay: 200.927 ms
Loss rate: 31.73%
```
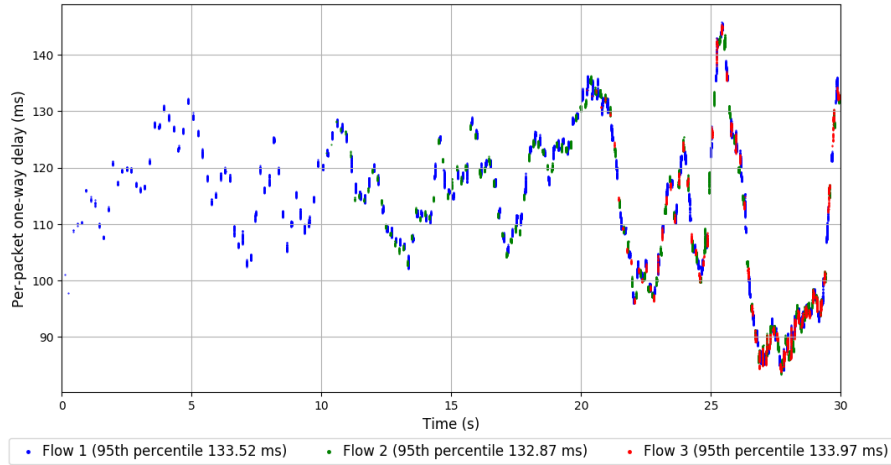
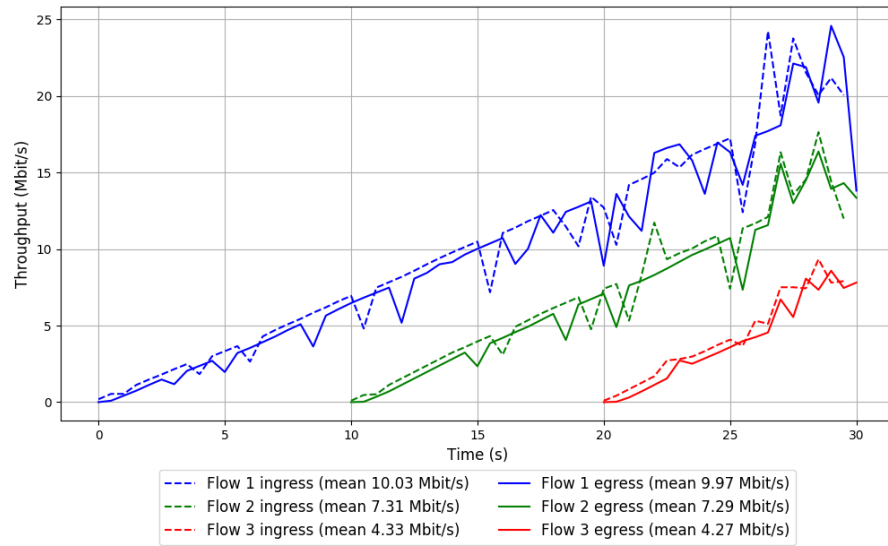Run 5: Report of Indigo-MusesT — Data Link

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```
Run 1: Statistics of LEDBAT

Start at: 2019-01-03 09:41:01
End at: 2019-01-03 09:41:31
Local clock offset: 9.517 ms
Remote clock offset: 33.62 ms

# Below is generated by plot.py at 2019-01-03 13:00:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.16 Mbit/s
95th percentile per-packet one-way delay: 133.321 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 9.97 Mbit/s
95th percentile per-packet one-way delay: 133.521 ms
Loss rate: 1.16%
-- Flow 2:
Average throughput: 7.29 Mbit/s
95th percentile per-packet one-way delay: 132.867 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 4.27 Mbit/s
95th percentile per-packet one-way delay: 133.972 ms
Loss rate: 3.12%
```

Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-01-03 10:06:30
End at: 2019-01-03 10:07:00
Local clock offset: 16.749 ms
Remote clock offset: 38.87 ms


# Below is generated by plot.py at 2019-01-03 13:00:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.05 Mbit/s
95th percentile per-packet one-way delay: 169.096 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 168.963 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 169.236 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 2.46 Mbit/s
95th percentile per-packet one-way delay: 169.159 ms
Loss rate: 4.05%
```
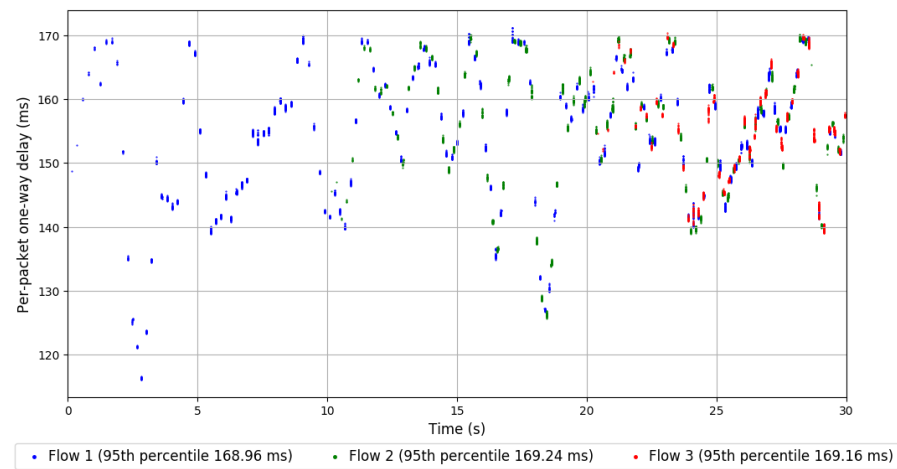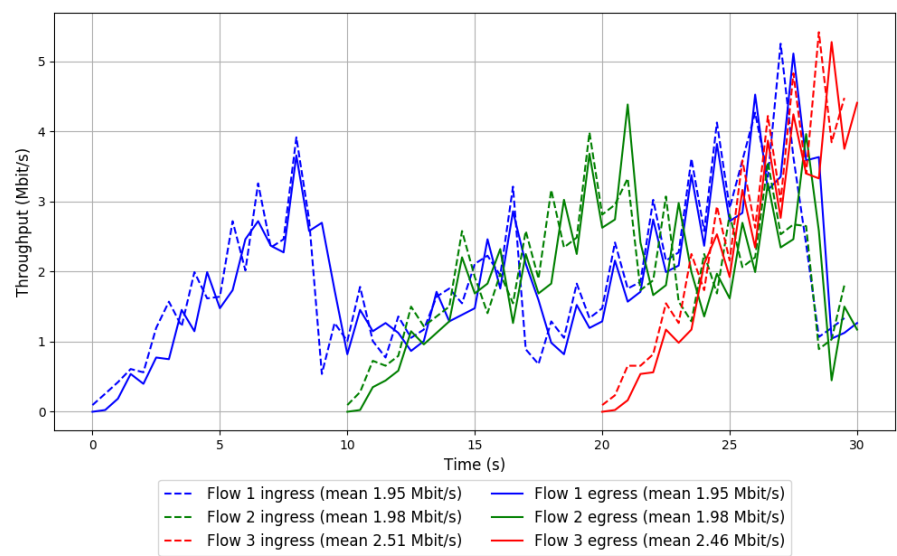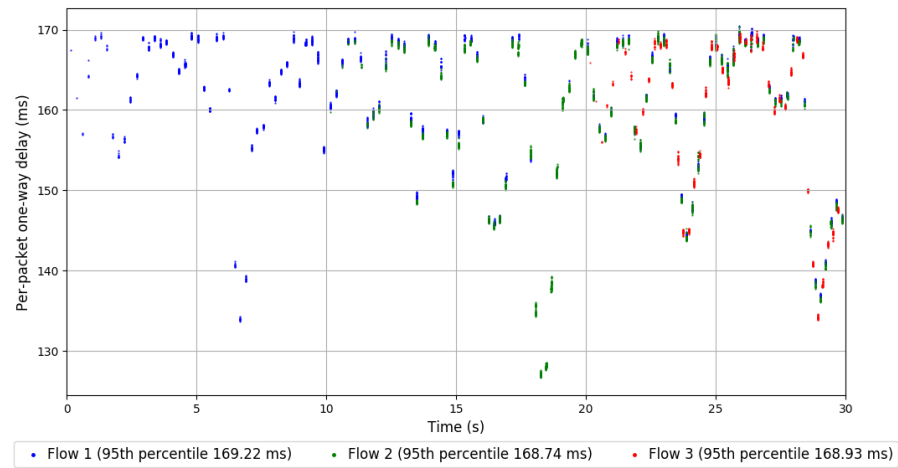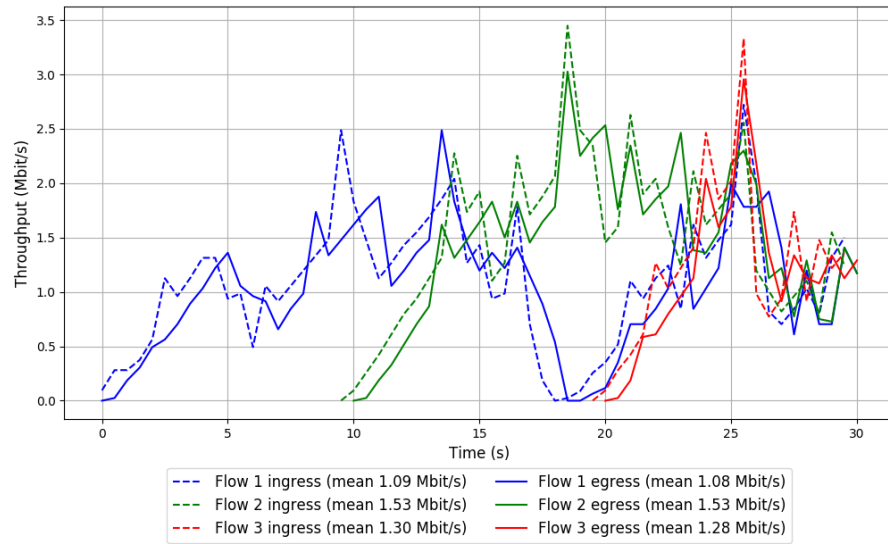
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-01-03 10:34:17
End at: 2019-01-03 10:34:47
Local clock offset: 22.345 ms
Remote clock offset: 56.078 ms

# Below is generated by plot.py at 2019-01-03 13:00:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.50 Mbit/s
95th percentile per-packet one-way delay: 169.061 ms
Loss rate: 1.96%
-- Flow 1:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 169.219 ms
Loss rate: 1.76%
-- Flow 2:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 168.743 ms
Loss rate: 1.38%
-- Flow 3:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 168.932 ms
Loss rate: 3.88%
```

Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 1.09 Mbit/s)   Flow 1 egress (mean 1.08 Mbit/s)
Flow 2 ingress (mean 1.53 Mbit/s)   Flow 2 egress (mean 1.53 Mbit/s)
Flow 3 ingress (mean 1.30 Mbit/s)   Flow 3 egress (mean 1.28 Mbit/s)

Flow 1 (95th percentile 169.22 ms)   Flow 2 (95th percentile 168.74 ms)   Flow 3 (95th percentile 168.93 ms)
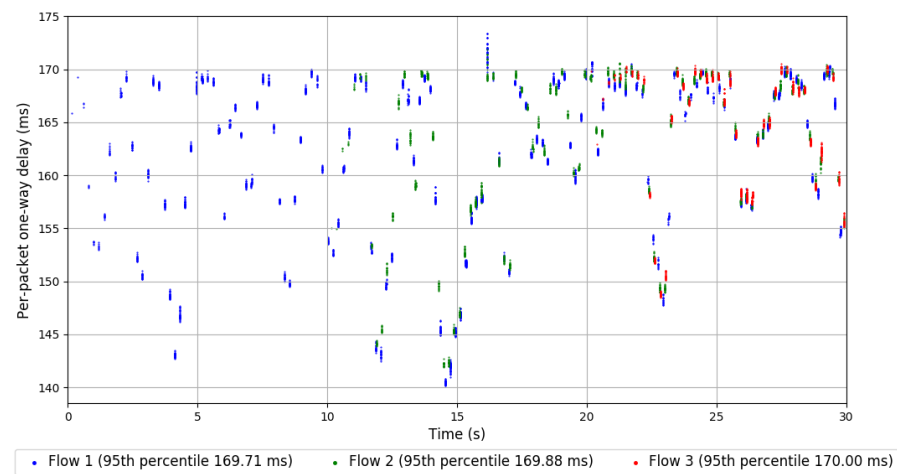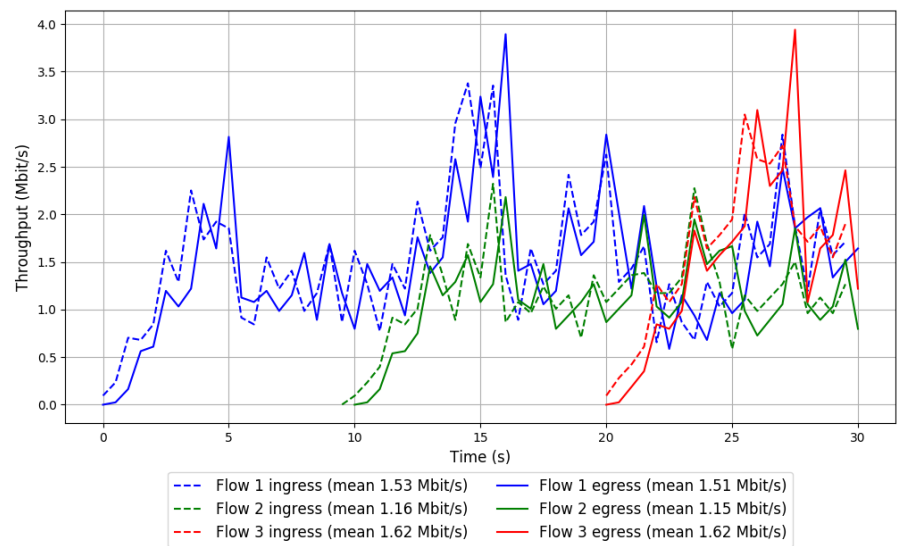
90

```
Run 4: Statistics of LEDBAT

Start at: 2019-01-03 11:11:22
End at: 2019-01-03 11:11:52
Local clock offset: -2.783 ms
Remote clock offset: 37.372 ms


# Below is generated by plot.py at 2019-01-03 13:00:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.79 Mbit/s
95th percentile per-packet one-way delay: 169.862 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 169.712 ms
Loss rate: 1.83%
-- Flow 2:
Average throughput: 1.15 Mbit/s
95th percentile per-packet one-way delay: 169.877 ms
Loss rate: 1.93%
-- Flow 3:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 170.002 ms
Loss rate: 2.46%
```

Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 1.53 Mbit/s)   Flow 1 egress (mean 1.51 Mbit/s)
Flow 2 ingress (mean 1.16 Mbit/s)   Flow 2 egress (mean 1.15 Mbit/s)
Flow 3 ingress (mean 1.62 Mbit/s)   Flow 3 egress (mean 1.62 Mbit/s)

Flow 1 (95th percentile 169.71 ms)   Flow 2 (95th percentile 169.88 ms)   Flow 3 (95th percentile 170.00 ms)
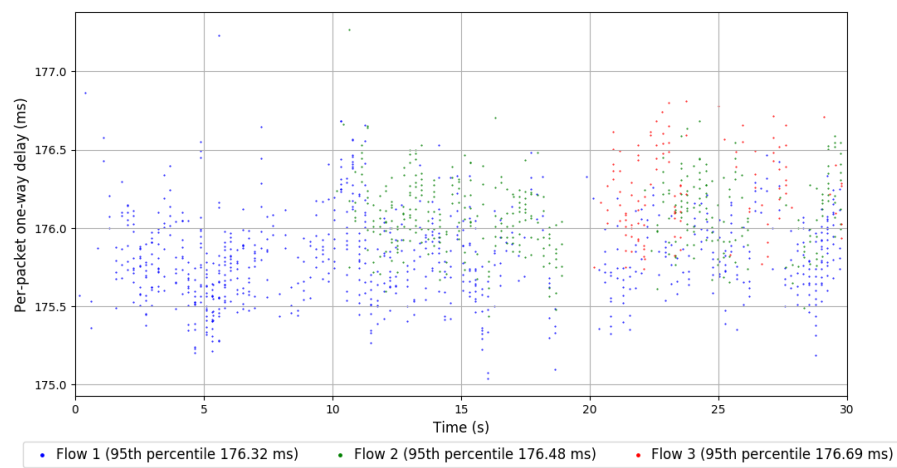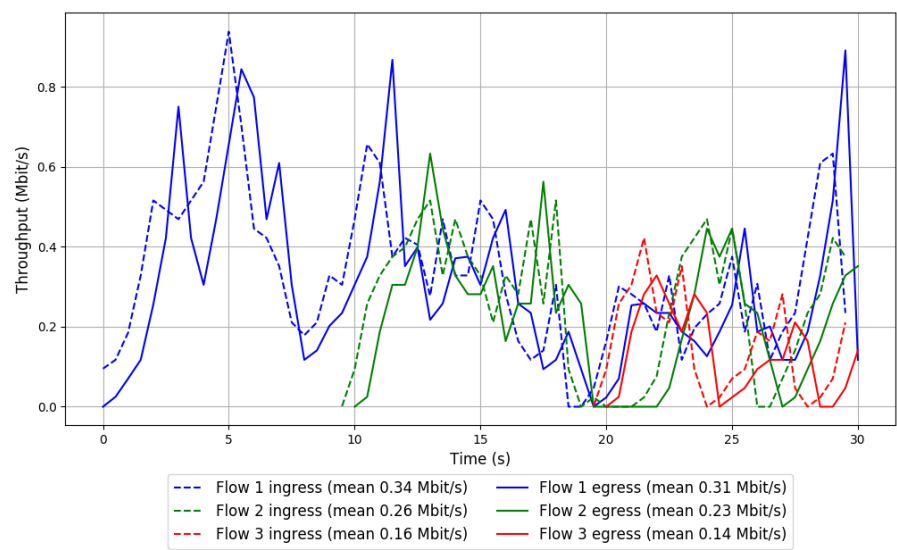
```
Run 5: Statistics of LEDBAT

Start at: 2019-01-03 12:03:12
End at: 2019-01-03 12:03:42
Local clock offset: 8.778 ms
Remote clock offset: 33.214 ms


# Below is generated by plot.py at 2019-01-03 13:00:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 176.478 ms
Loss rate: 9.06%
-- Flow 1:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 176.319 ms
Loss rate: 7.75%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 176.479 ms
Loss rate: 10.52%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 176.685 ms
Loss rate: 12.68%
```
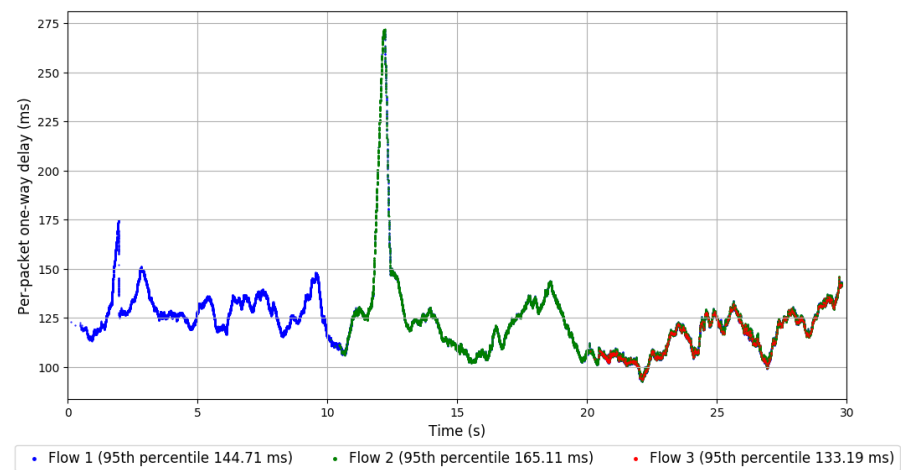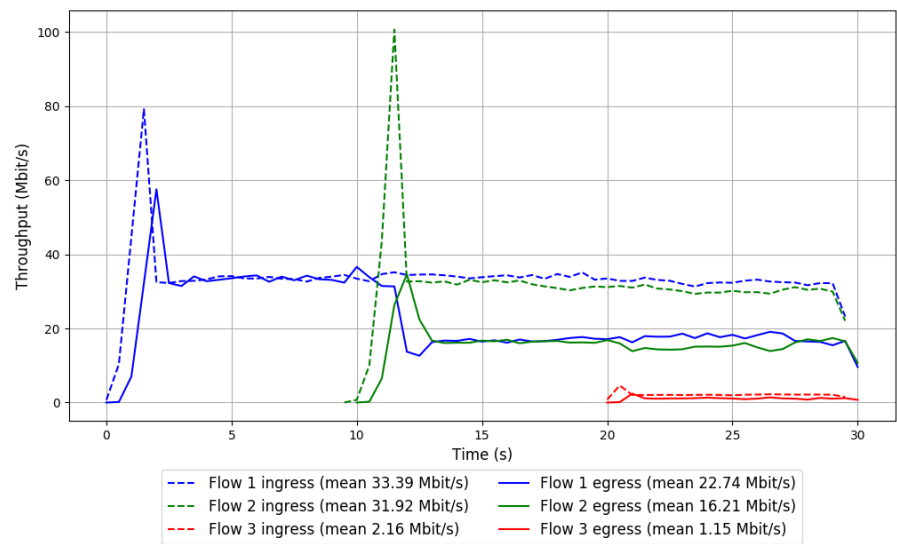
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-03 09:48:01
End at: 2019-01-03 09:48:31
Local clock offset: 10.701 ms
Remote clock offset: 34.66 ms


# Below is generated by plot.py at 2019-01-03 13:00:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.87 Mbit/s
95th percentile per-packet one-way delay: 146.159 ms
Loss rate: 39.15%
-- Flow 1:
Average throughput: 22.74 Mbit/s
95th percentile per-packet one-way delay: 144.709 ms
Loss rate: 32.29%
-- Flow 2:
Average throughput: 16.21 Mbit/s
95th percentile per-packet one-way delay: 165.112 ms
Loss rate: 49.64%
-- Flow 3:
Average throughput: 1.15 Mbit/s
95th percentile per-packet one-way delay: 133.192 ms
Loss rate: 47.75%
```

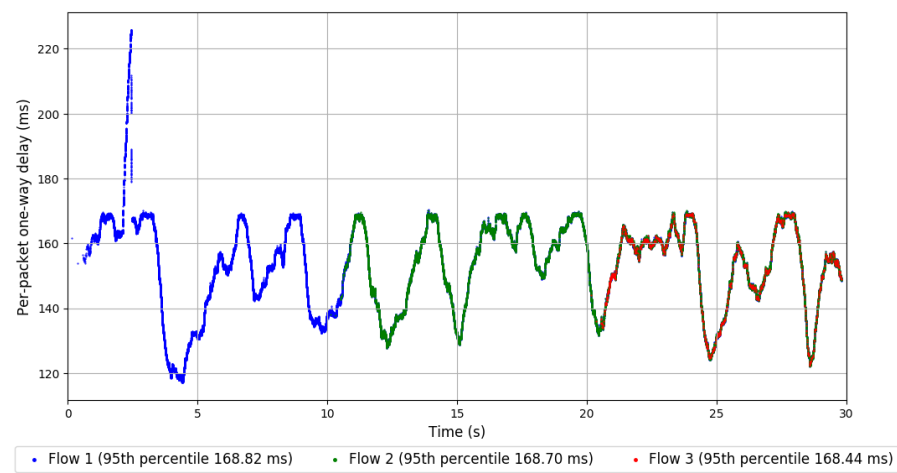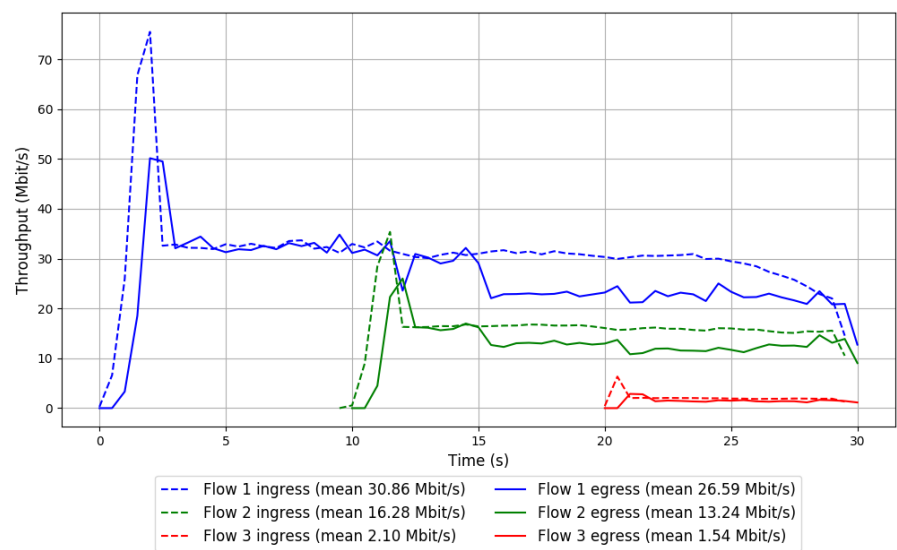Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-01-03 10:13:21
End at: 2019-01-03 10:13:51
Local clock offset: 18.381 ms
Remote clock offset: 46.314 ms


# Below is generated by plot.py at 2019-01-03 13:00:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.88 Mbit/s
95th percentile per-packet one-way delay: 168.790 ms
Loss rate: 15.93%
-- Flow 1:
Average throughput: 26.59 Mbit/s
95th percentile per-packet one-way delay: 168.822 ms
Loss rate: 14.44%
-- Flow 2:
Average throughput: 13.24 Mbit/s
95th percentile per-packet one-way delay: 168.704 ms
Loss rate: 19.43%
-- Flow 3:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 168.435 ms
Loss rate: 27.96%
```
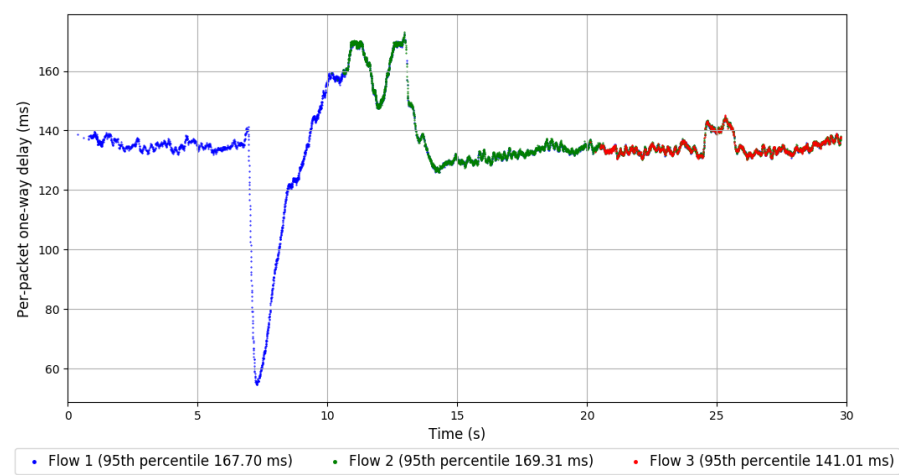
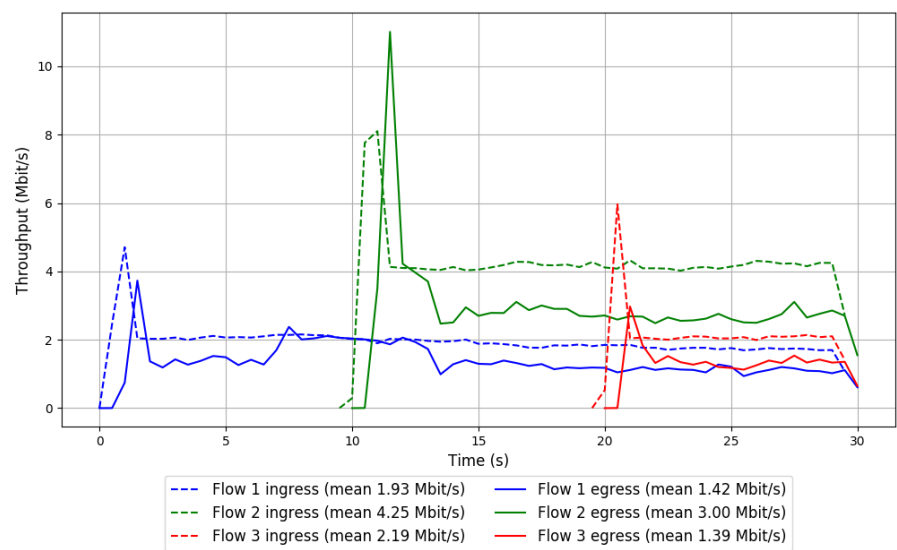Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-01-03 10:45:25
End at: 2019-01-03 10:45:55
Local clock offset: 23.927 ms
Remote clock offset: 47.363 ms


# Below is generated by plot.py at 2019-01-03 13:00:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 169.038 ms
Loss rate: 30.35%
-- Flow 1:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 167.702 ms
Loss rate: 27.79%
-- Flow 2:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 169.315 ms
Loss rate: 30.17%
-- Flow 3:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 141.014 ms
Loss rate: 37.90%
```

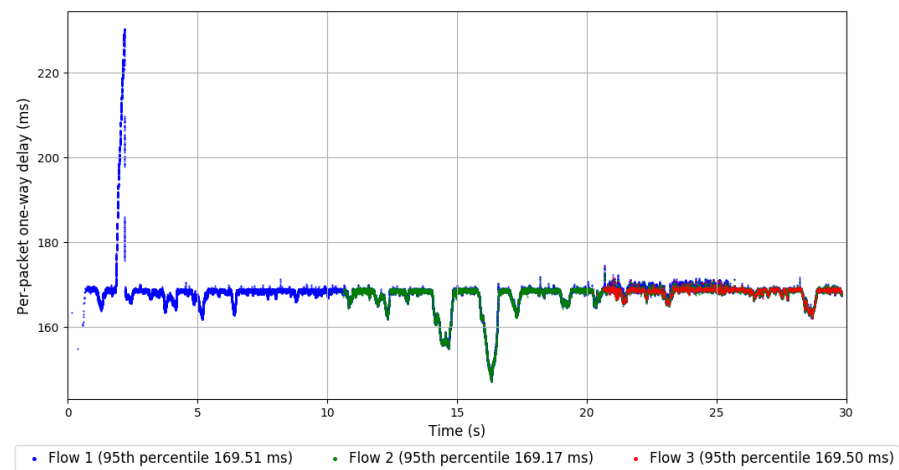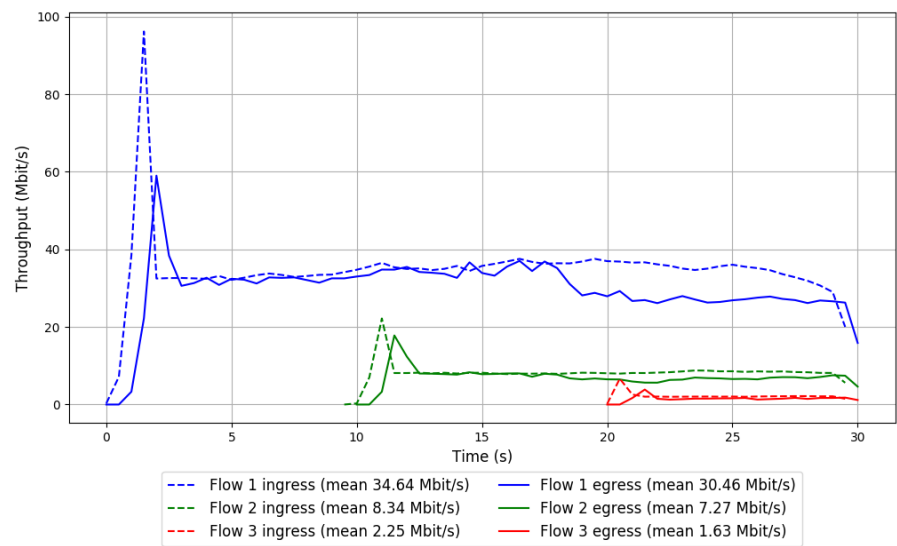Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-01-03 11:20:39
End at: 2019-01-03 11:21:09
Local clock offset: -8.222 ms
Remote clock offset: 37.634 ms


# Below is generated by plot.py at 2019-01-03 13:00:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.80 Mbit/s
95th percentile per-packet one-way delay: 169.411 ms
Loss rate: 13.17%
-- Flow 1:
Average throughput: 30.46 Mbit/s
95th percentile per-packet one-way delay: 169.508 ms
Loss rate: 12.72%
-- Flow 2:
Average throughput: 7.27 Mbit/s
95th percentile per-packet one-way delay: 169.174 ms
Loss rate: 13.82%
-- Flow 3:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 169.503 ms
Loss rate: 29.01%
```

Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 34.64 Mbit/s) --- Flow 1 egress (mean 30.46 Mbit/s)
Flow 2 ingress (mean 8.34 Mbit/s) --- Flow 2 egress (mean 7.27 Mbit/s)
Flow 3 ingress (mean 2.25 Mbit/s) --- Flow 3 egress (mean 1.63 Mbit/s)

Flow 1 (95th percentile 169.51 ms)   Flow 2 (95th percentile 169.17 ms)   Flow 3 (95th percentile 169.50 ms)
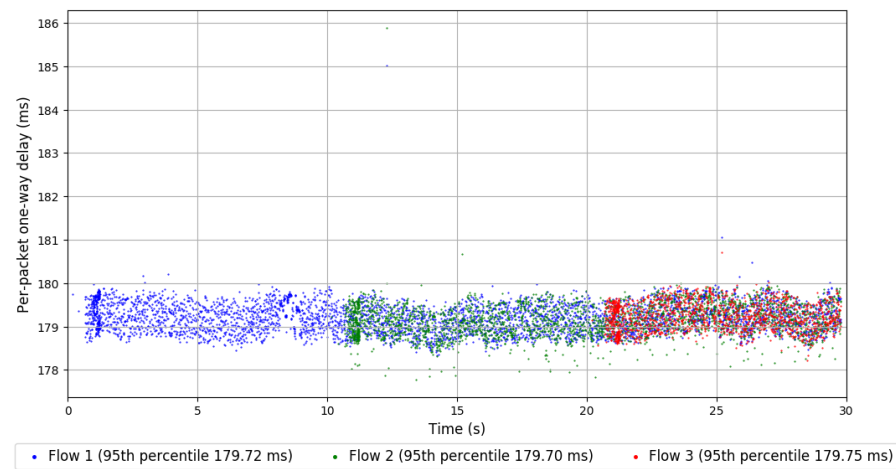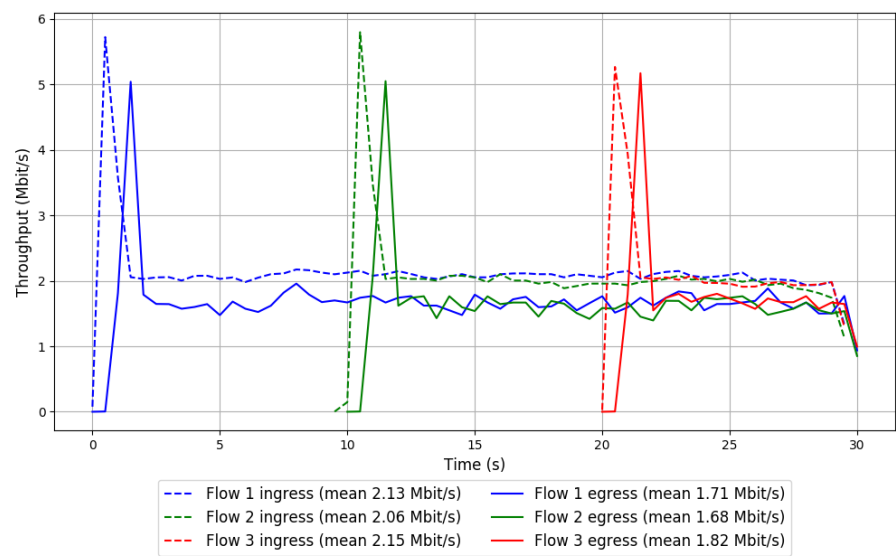
```
Run 5: Statistics of PCC-Allegro

Start at: 2019-01-03 12:17:20
End at: 2019-01-03 12:17:50
Local clock offset: 9.061 ms
Remote clock offset: 31.117 ms

# Below is generated by plot.py at 2019-01-03 13:00:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.41 Mbit/s
95th percentile per-packet one-way delay: 179.718 ms
Loss rate: 19.46%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 179.721 ms
Loss rate: 20.25%
-- Flow 2:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 179.698 ms
Loss rate: 19.45%
-- Flow 3:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 179.752 ms
Loss rate: 17.14%
```
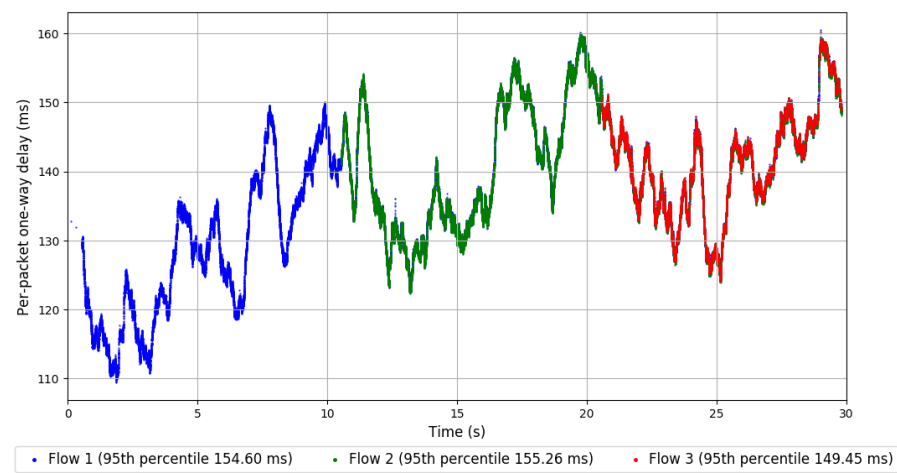
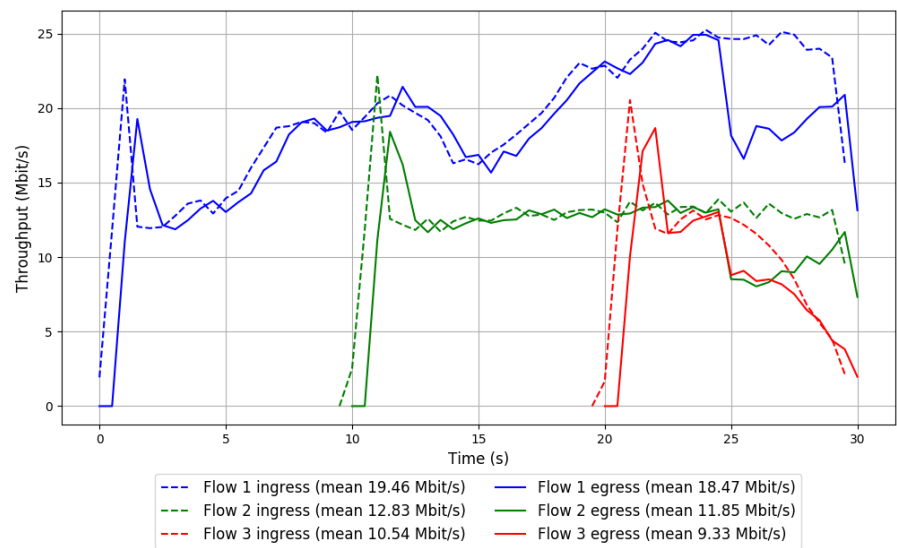Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-03 09:59:55
End at: 2019-01-03 10:00:25
Local clock offset: 14.432 ms
Remote clock offset: 40.274 ms


# Below is generated by plot.py at 2019-01-03 13:01:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.36 Mbit/s
95th percentile per-packet one-way delay: 154.673 ms
Loss rate: 7.31%
-- Flow 1:
Average throughput: 18.47 Mbit/s
95th percentile per-packet one-way delay: 154.598 ms
Loss rate: 5.68%
-- Flow 2:
Average throughput: 11.85 Mbit/s
95th percentile per-packet one-way delay: 155.260 ms
Loss rate: 8.57%
-- Flow 3:
Average throughput: 9.33 Mbit/s
95th percentile per-packet one-way delay: 149.447 ms
Loss rate: 13.32%
```

Run 1: Report of PCC-Expr — Data Link

- - - Flow 1 ingress (mean 19.46 Mbit/s)   —— Flow 1 egress (mean 18.47 Mbit/s)
- - - Flow 2 ingress (mean 12.83 Mbit/s)   —— Flow 2 egress (mean 11.85 Mbit/s)
- - - Flow 3 ingress (mean 10.54 Mbit/s)   —— Flow 3 egress (mean 9.33 Mbit/s)

• Flow 1 (95th percentile 154.60 ms)   • Flow 2 (95th percentile 155.26 ms)   • Flow 3 (95th percentile 149.45 ms)
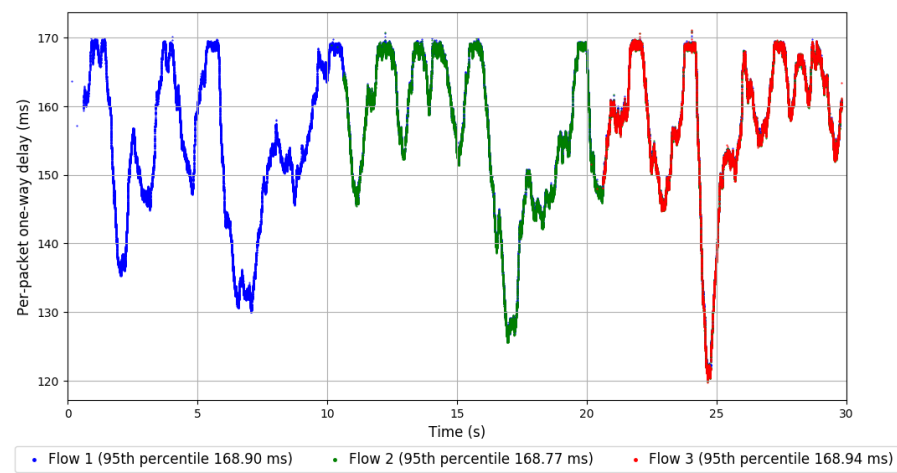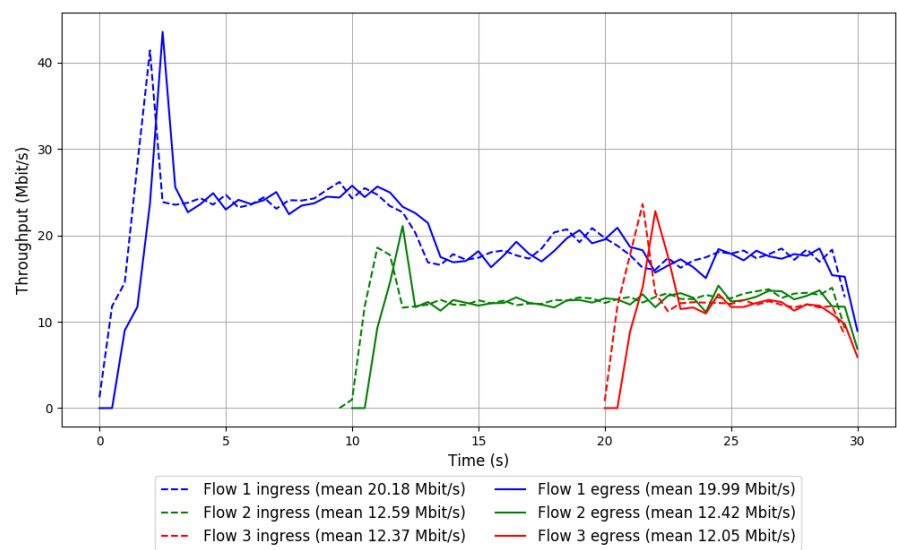
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```
Run 2: Statistics of PCC-Expr

Start at: 2019-01-03 10:26:43
End at: 2019-01-03 10:27:13
Local clock offset: 20.771 ms
Remote clock offset: 53.073 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 32.14 Mbit/s
95th percentile per-packet one-way delay: 168.879 ms
Loss rate: 2.27%
-- Flow 1:
Average throughput: 19.99 Mbit/s
95th percentile per-packet one-way delay: 168.899 ms
Loss rate: 1.68%
-- Flow 2:
Average throughput: 12.42 Mbit/s
95th percentile per-packet one-way delay: 168.772 ms
Loss rate: 2.56%
-- Flow 3:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 168.943 ms
Loss rate: 4.58%
```

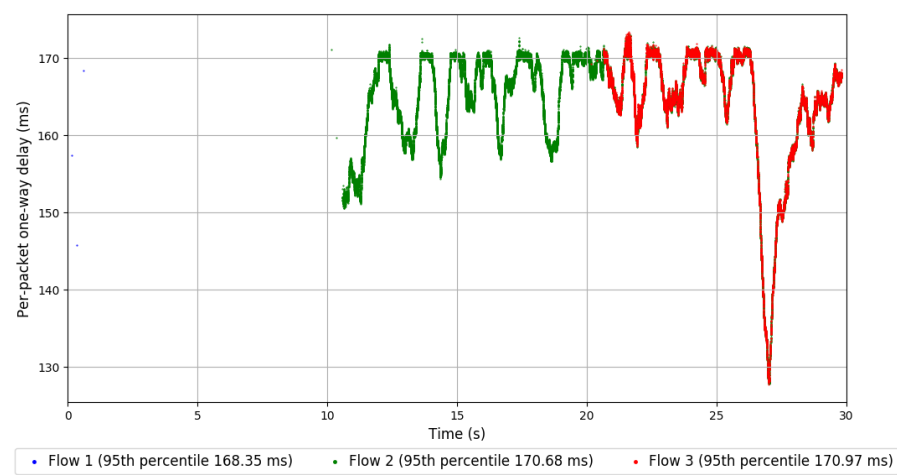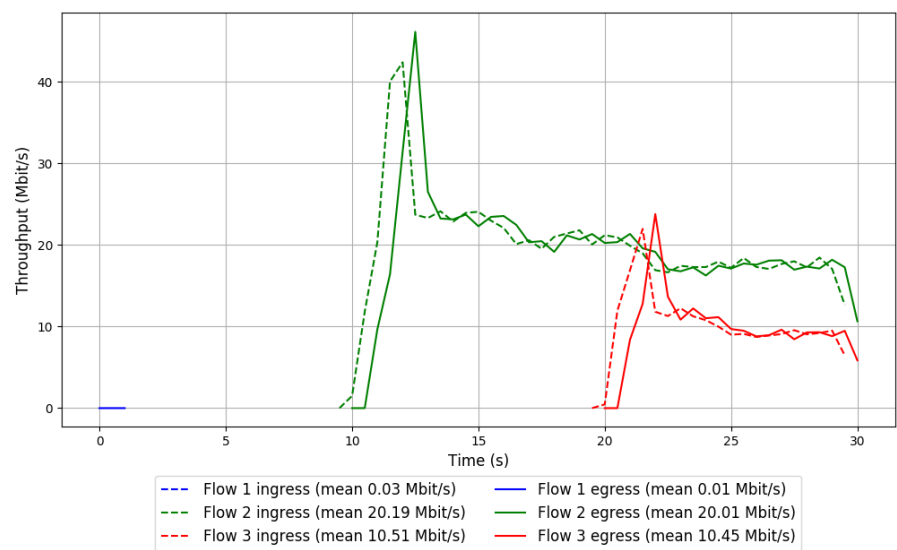## Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-01-03 10:59:54
End at: 2019-01-03 11:00:24
Local clock offset: 11.136 ms
Remote clock offset: 39.917 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.67 Mbit/s
95th percentile per-packet one-way delay: 170.751 ms
Loss rate: 2.20%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 168.353 ms
Loss rate: 80.95%
-- Flow 2:
Average throughput: 20.01 Mbit/s
95th percentile per-packet one-way delay: 170.681 ms
Loss rate: 2.06%
-- Flow 3:
Average throughput: 10.45 Mbit/s
95th percentile per-packet one-way delay: 170.972 ms
Loss rate: 2.74%
```
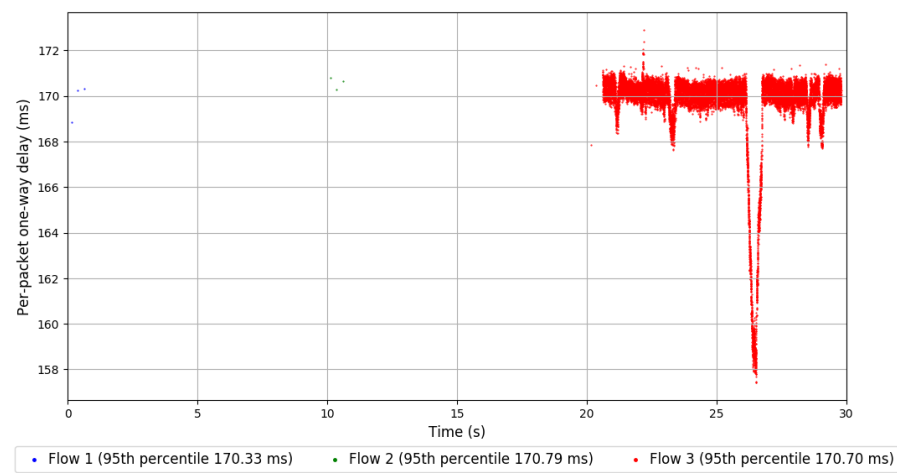
Run 3: Report of PCC-Expr — Data Link

- - - Flow 1 ingress (mean 0.03 Mbit/s) ——— Flow 1 egress (mean 0.01 Mbit/s)
- - - Flow 2 ingress (mean 20.19 Mbit/s) ——— Flow 2 egress (mean 20.01 Mbit/s)
- - - Flow 3 ingress (mean 10.51 Mbit/s) ——— Flow 3 egress (mean 10.45 Mbit/s)

• Flow 1 (95th percentile 168.35 ms)   • Flow 2 (95th percentile 170.68 ms)   • Flow 3 (95th percentile 170.97 ms)
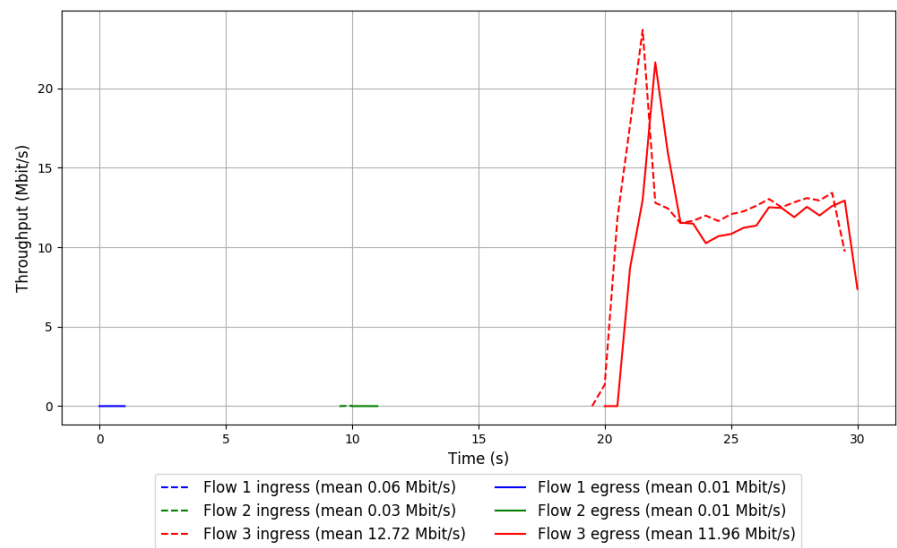
```
Run 4: Statistics of PCC-Expr

Start at: 2019-01-03 11:49:05
End at: 2019-01-03 11:49:35
Local clock offset: 7.25 ms
Remote clock offset: 34.007 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.90 Mbit/s
95th percentile per-packet one-way delay: 170.702 ms
Loss rate: 8.06%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 170.334 ms
Loss rate: 89.77%
-- Flow 2:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 170.793 ms
Loss rate: 80.95%
-- Flow 3:
Average throughput: 11.96 Mbit/s
95th percentile per-packet one-way delay: 170.702 ms
Loss rate: 8.03%
```
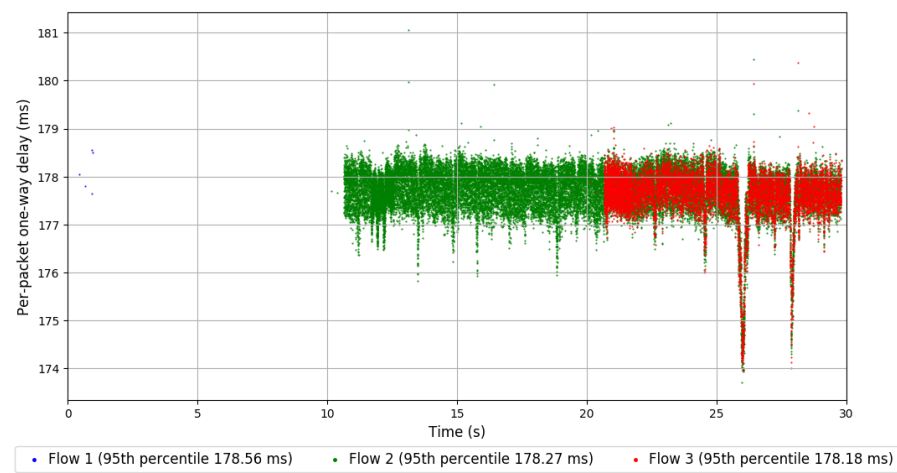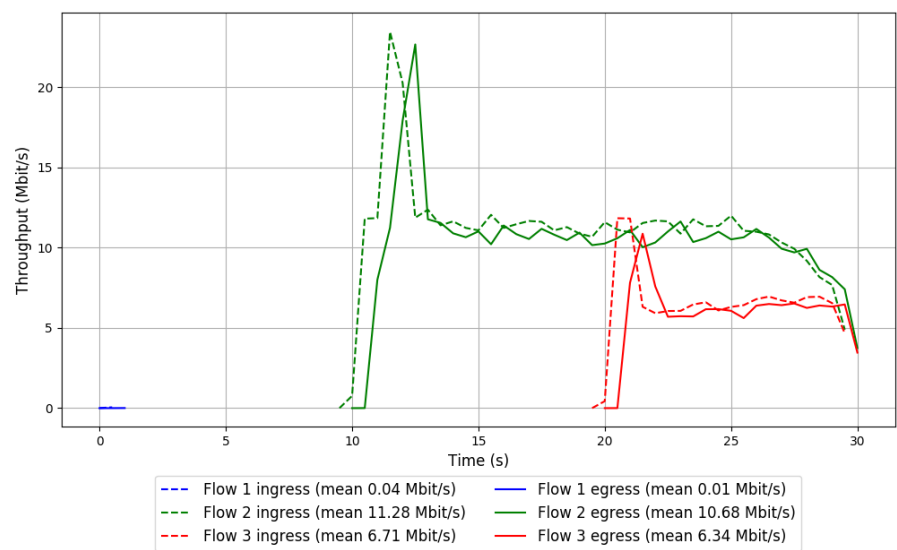
Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 0.06 Mbit/s)   Flow 1 egress (mean 0.01 Mbit/s)
Flow 2 ingress (mean 0.03 Mbit/s)   Flow 2 egress (mean 0.01 Mbit/s)
Flow 3 ingress (mean 12.72 Mbit/s)   Flow 3 egress (mean 11.96 Mbit/s)

Flow 1 (95th percentile 170.33 ms)   Flow 2 (95th percentile 170.79 ms)   Flow 3 (95th percentile 170.70 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2019-01-03 12:47:21
End at: 2019-01-03 12:47:51
Local clock offset: -2.066 ms
Remote clock offset: 14.329 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.23 Mbit/s
95th percentile per-packet one-way delay: 178.252 ms
Loss rate: 6.76%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 178.560 ms
Loss rate: 84.42%
-- Flow 2:
Average throughput: 10.68 Mbit/s
95th percentile per-packet one-way delay: 178.267 ms
Loss rate: 6.46%
-- Flow 3:
Average throughput: 6.34 Mbit/s
95th percentile per-packet one-way delay: 178.182 ms
Loss rate: 7.76%
```
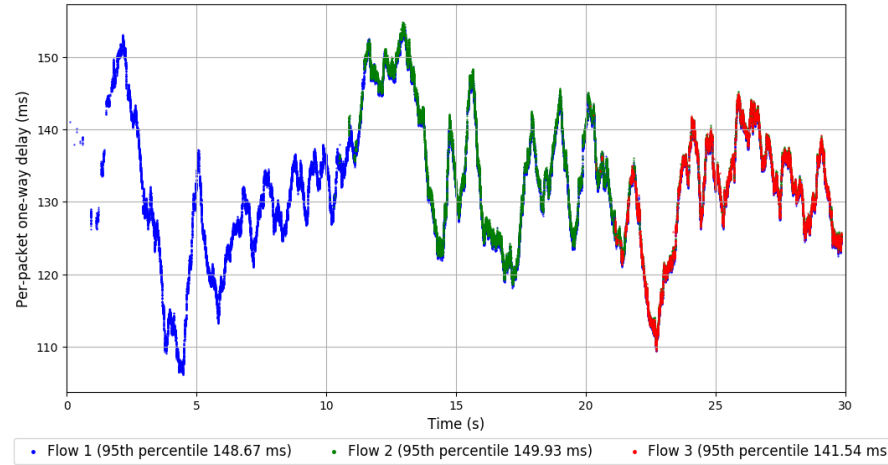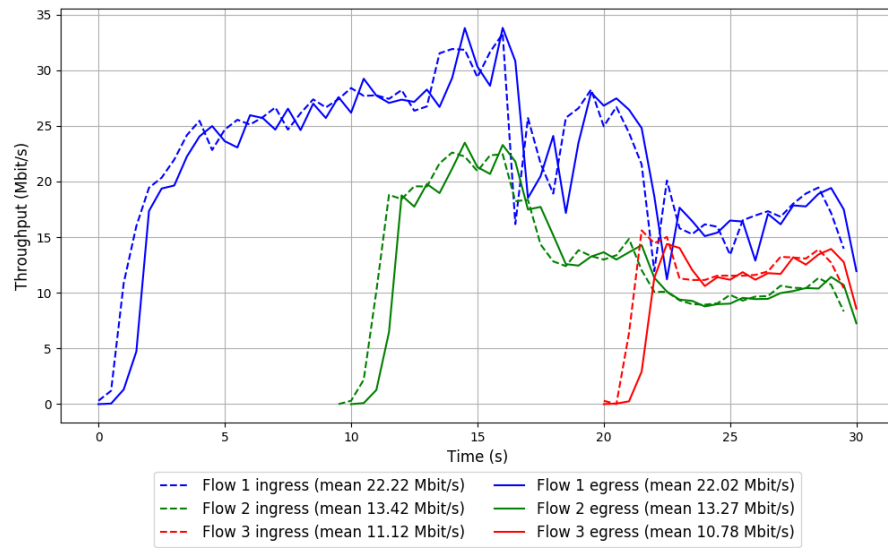
Run 5: Report of PCC-Expr — Data Link

- --- Flow 1 ingress (mean 0.04 Mbit/s)
- —— Flow 1 egress (mean 0.01 Mbit/s)
- --- Flow 2 ingress (mean 11.28 Mbit/s)
- —— Flow 2 egress (mean 10.68 Mbit/s)
- --- Flow 3 ingress (mean 6.71 Mbit/s)
- —— Flow 3 egress (mean 6.34 Mbit/s)

- Flow 1 (95th percentile 178.56 ms)
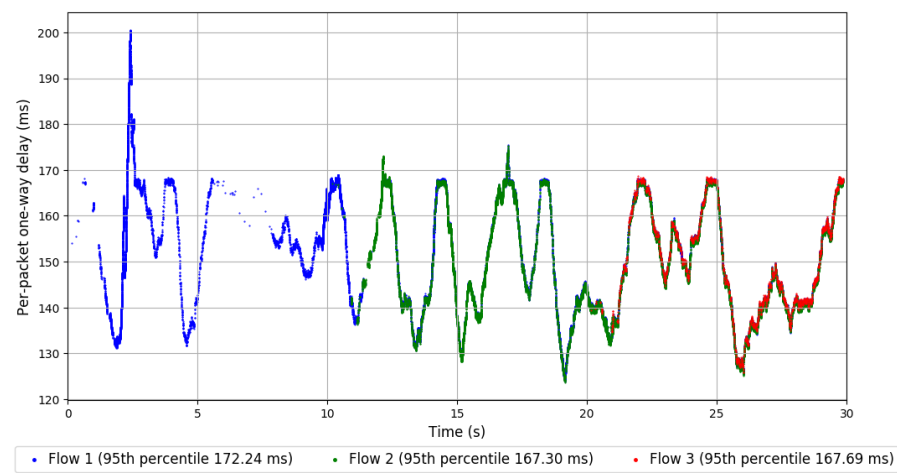- Flow 2 (95th percentile 178.27 ms)
- Flow 3 (95th percentile 178.18 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-01-03 09:58:35
End at: 2019-01-03 09:59:05
Local clock offset: 13.683 ms
Remote clock offset: 36.804 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.35 Mbit/s
95th percentile per-packet one-way delay: 148.811 ms
Loss rate: 2.02%
-- Flow 1:
Average throughput: 22.02 Mbit/s
95th percentile per-packet one-way delay: 148.673 ms
Loss rate: 1.53%
-- Flow 2:
Average throughput: 13.27 Mbit/s
95th percentile per-packet one-way delay: 149.931 ms
Loss rate: 2.04%
-- Flow 3:
Average throughput: 10.78 Mbit/s
95th percentile per-packet one-way delay: 141.545 ms
Loss rate: 4.94%
```

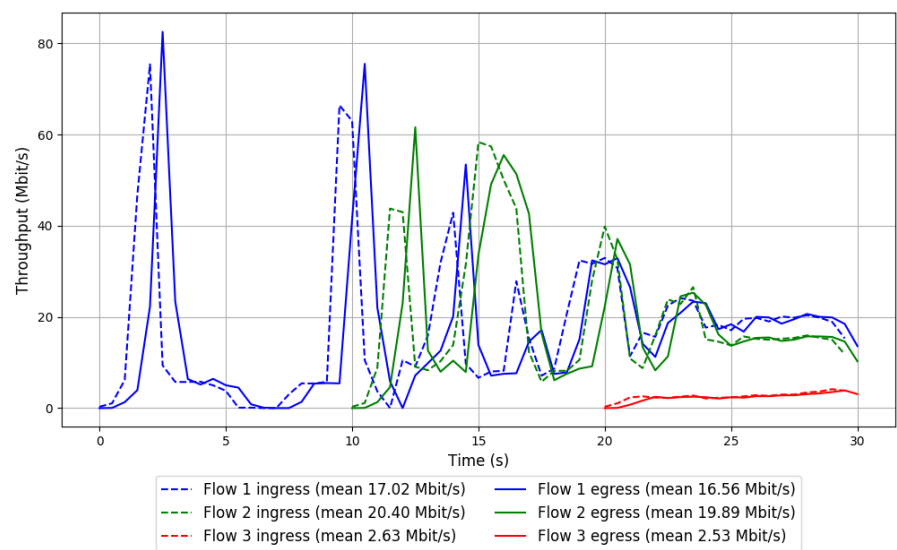Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-01-03 10:25:19
End at: 2019-01-03 10:25:49
Local clock offset: 20.413 ms
Remote clock offset: 53.767 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 30.56 Mbit/s
95th percentile per-packet one-way delay: 167.773 ms
Loss rate: 3.55%
-- Flow 1:
Average throughput: 16.56 Mbit/s
95th percentile per-packet one-way delay: 172.236 ms
Loss rate: 3.42%
-- Flow 2:
Average throughput: 19.89 Mbit/s
95th percentile per-packet one-way delay: 167.299 ms
Loss rate: 3.58%
-- Flow 3:
Average throughput: 2.53 Mbit/s
95th percentile per-packet one-way delay: 167.690 ms
Loss rate: 5.87%
```

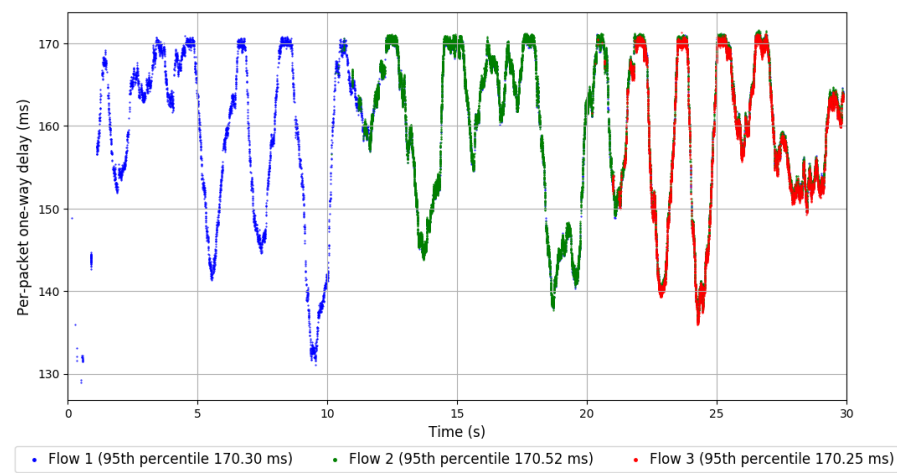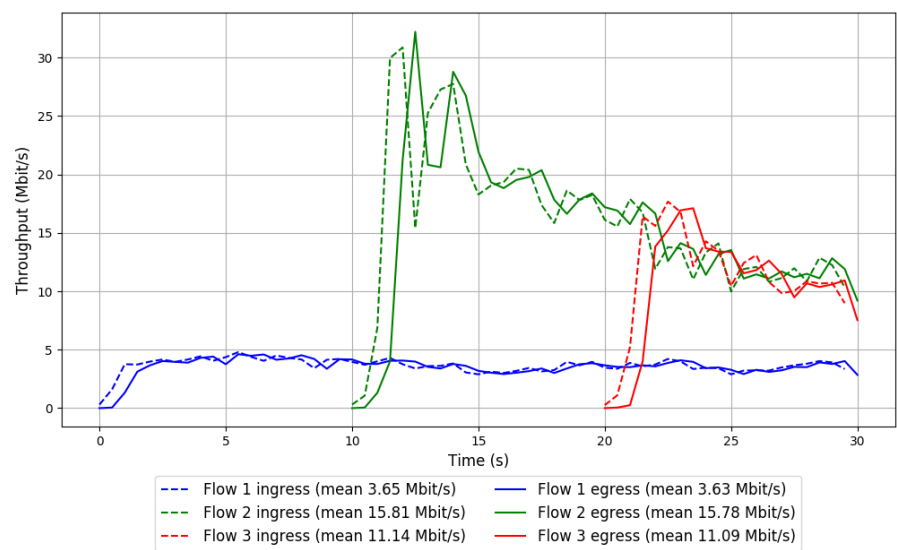Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-01-03 10:58:26
End at: 2019-01-03 10:58:56
Local clock offset: 14.083 ms
Remote clock offset: 40.228 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.71 Mbit/s
95th percentile per-packet one-way delay: 170.433 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 3.63 Mbit/s
95th percentile per-packet one-way delay: 170.300 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 15.78 Mbit/s
95th percentile per-packet one-way delay: 170.521 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 11.09 Mbit/s
95th percentile per-packet one-way delay: 170.249 ms
Loss rate: 2.68%
```

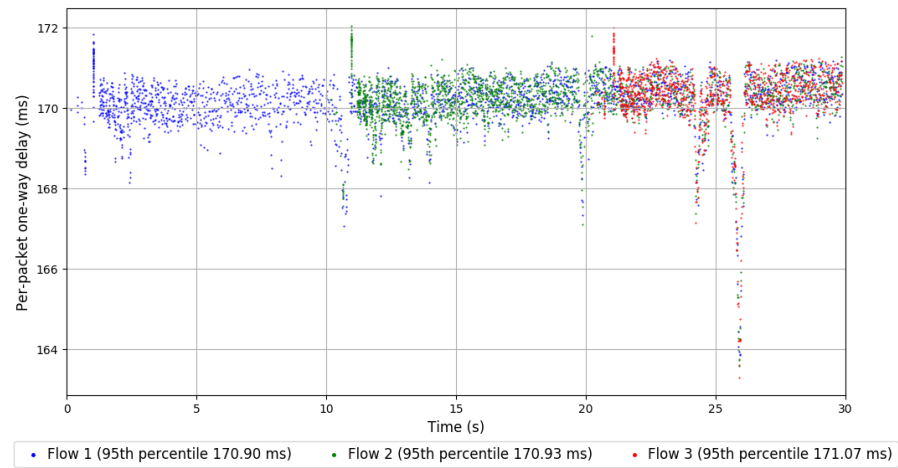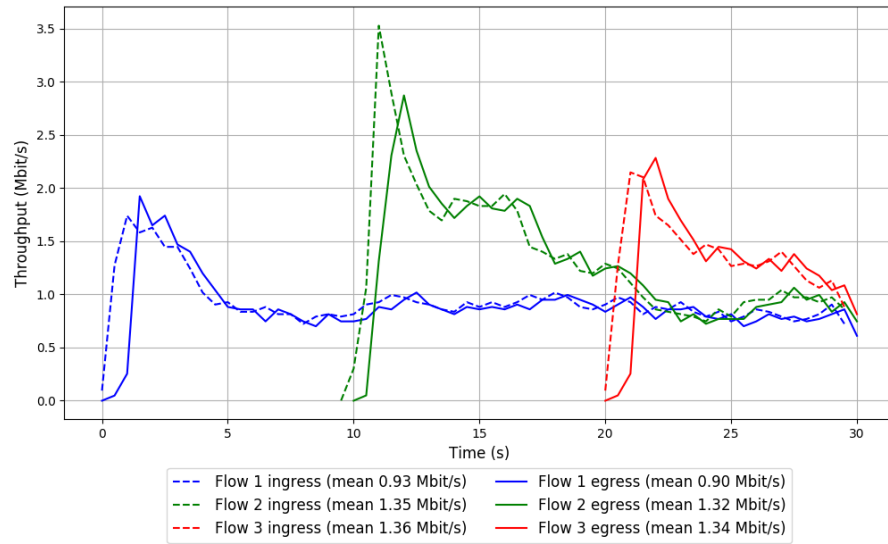# Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-01-03 11:47:41
End at: 2019-01-03 11:48:11
Local clock offset: 7.118 ms
Remote clock offset: 33.159 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 170.961 ms
Loss rate: 3.70%
-- Flow 1:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 170.901 ms
Loss rate: 3.94%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 170.929 ms
Loss rate: 3.46%
-- Flow 3:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 171.068 ms
Loss rate: 3.71%
```

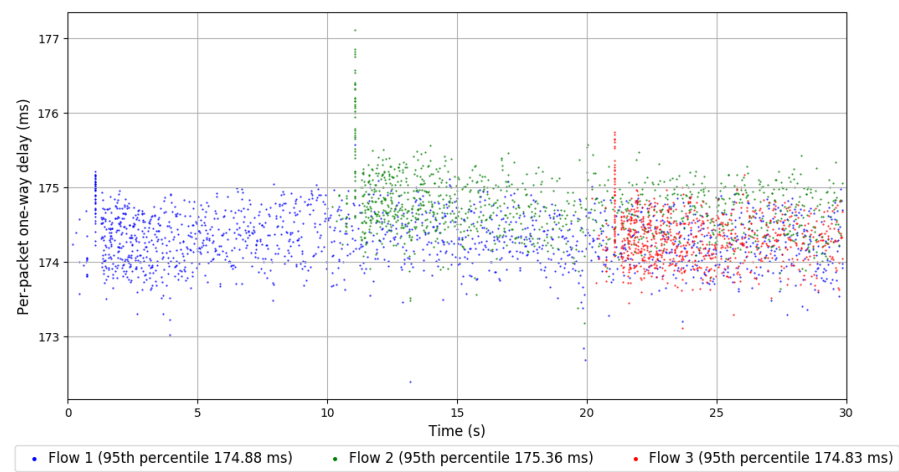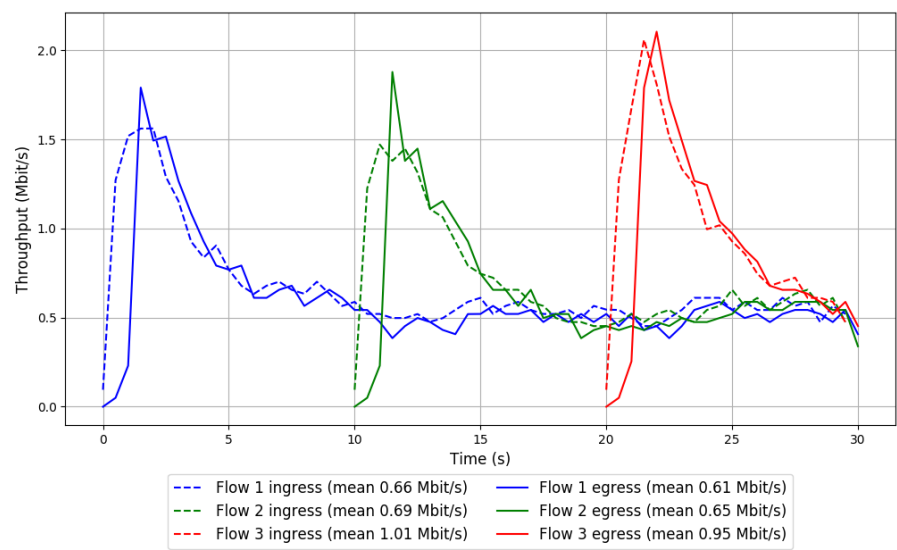Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-01-03 12:45:52
End at: 2019-01-03 12:46:22
Local clock offset: -1.6 ms
Remote clock offset: 18.575 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 175.135 ms
Loss rate: 8.09%
-- Flow 1:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 174.876 ms
Loss rate: 8.44%
-- Flow 2:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 175.364 ms
Loss rate: 7.86%
-- Flow 3:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 174.833 ms
Loss rate: 7.71%
```
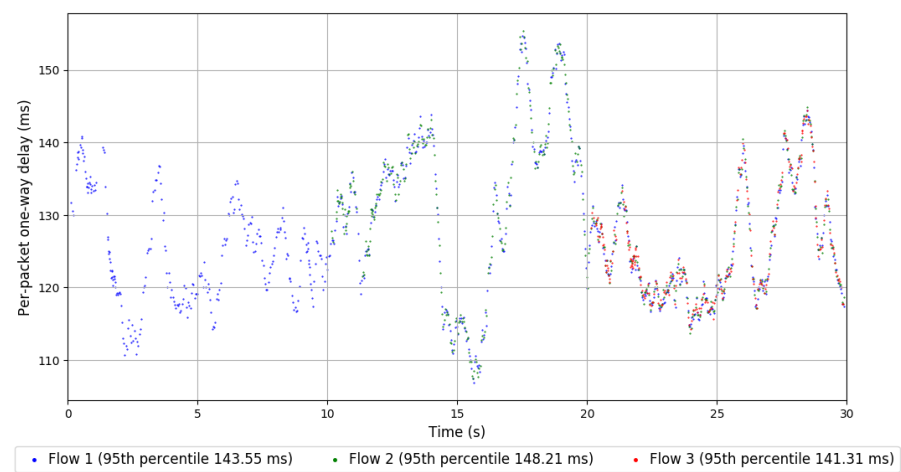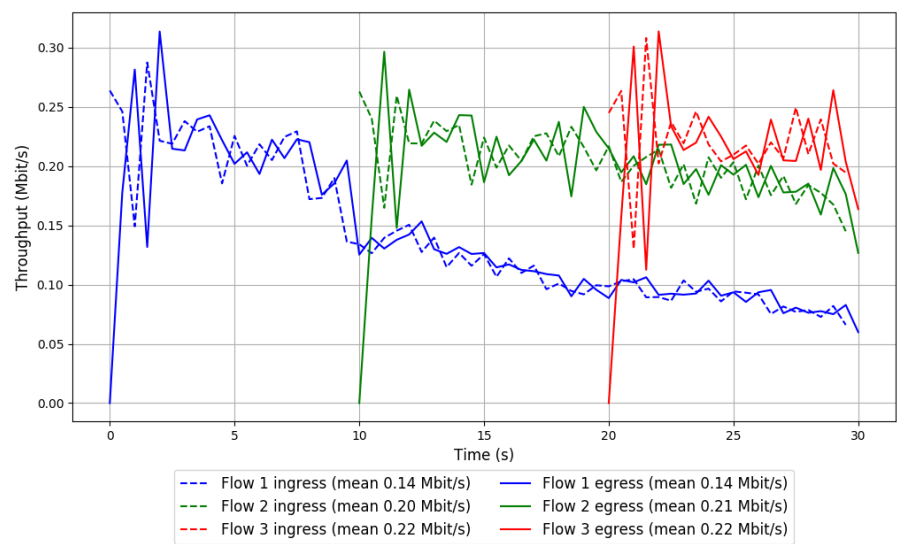
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 0.66 Mbit/s)   Flow 1 egress (mean 0.61 Mbit/s)
Flow 2 ingress (mean 0.69 Mbit/s)   Flow 2 egress (mean 0.65 Mbit/s)
Flow 3 ingress (mean 1.01 Mbit/s)   Flow 3 egress (mean 0.95 Mbit/s)

Flow 1 (95th percentile 174.88 ms)   Flow 2 (95th percentile 175.36 ms)   Flow 3 (95th percentile 174.83 ms)

```
Run 1: Statistics of SCReAM

Start at: 2019-01-03 09:52:00
End at: 2019-01-03 09:52:30
Local clock offset: 10.931 ms
Remote clock offset: 35.139 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 143.634 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 143.551 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 148.210 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 141.305 ms
Loss rate: 1.79%
```
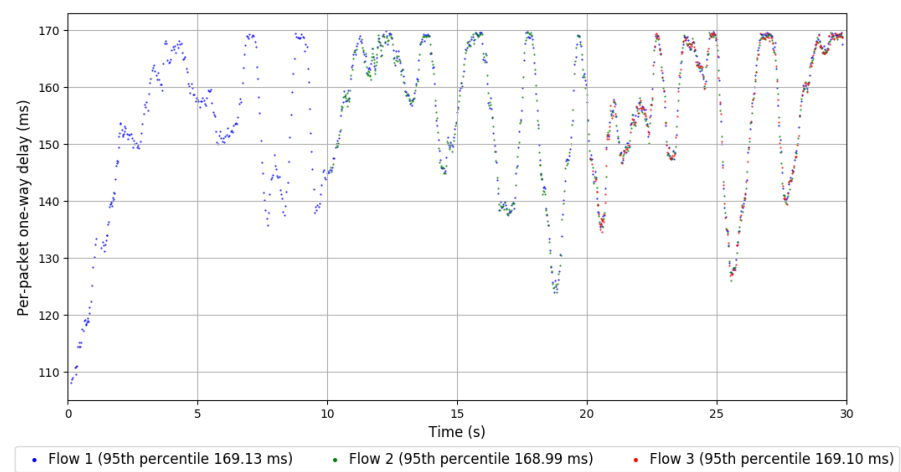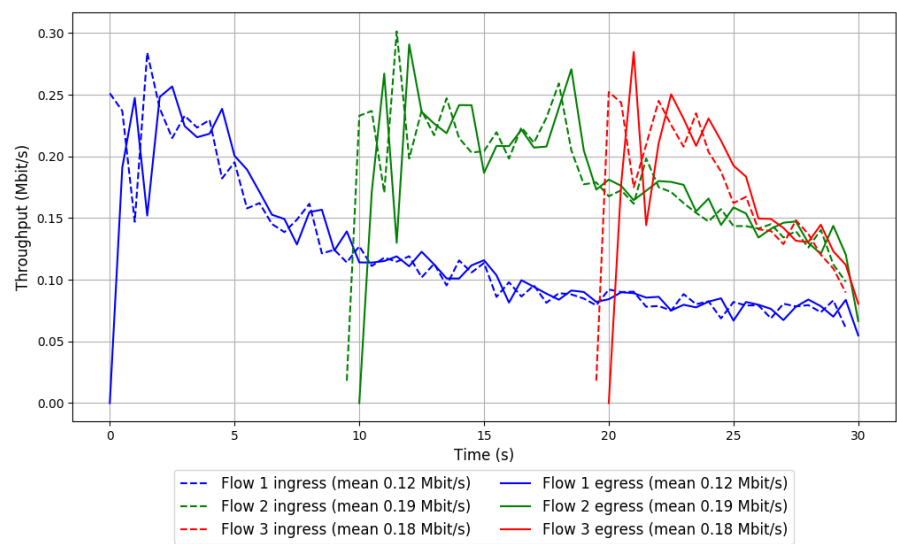
Run 1: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.14 Mbit/s) --- Flow 1 egress (mean 0.14 Mbit/s)
Flow 2 ingress (mean 0.20 Mbit/s) --- Flow 2 egress (mean 0.21 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s) --- Flow 3 egress (mean 0.22 Mbit/s)

Flow 1 (95th percentile 143.55 ms) • Flow 2 (95th percentile 148.21 ms) • Flow 3 (95th percentile 141.31 ms)
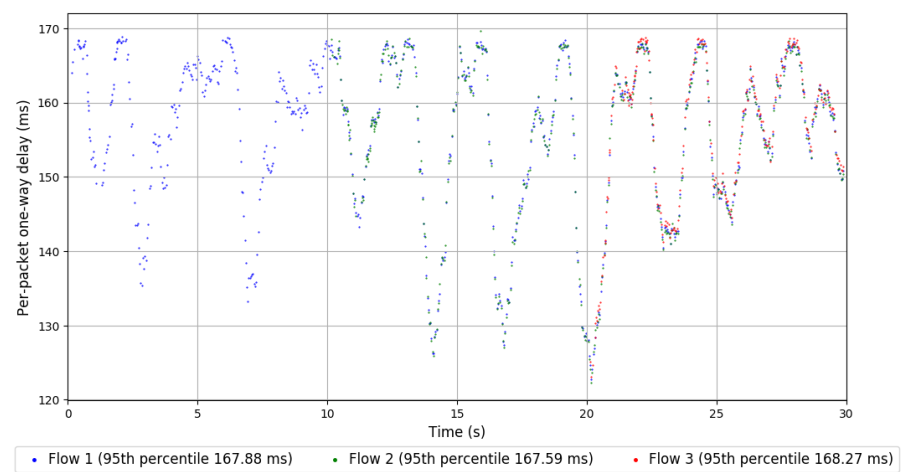
```
Run 2: Statistics of SCReAM

Start at: 2019-01-03 10:18:10
End at: 2019-01-03 10:18:40
Local clock offset: 19.434 ms
Remote clock offset: 49.5 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 169.050 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 169.129 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 168.992 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 169.097 ms
Loss rate: 1.57%
```

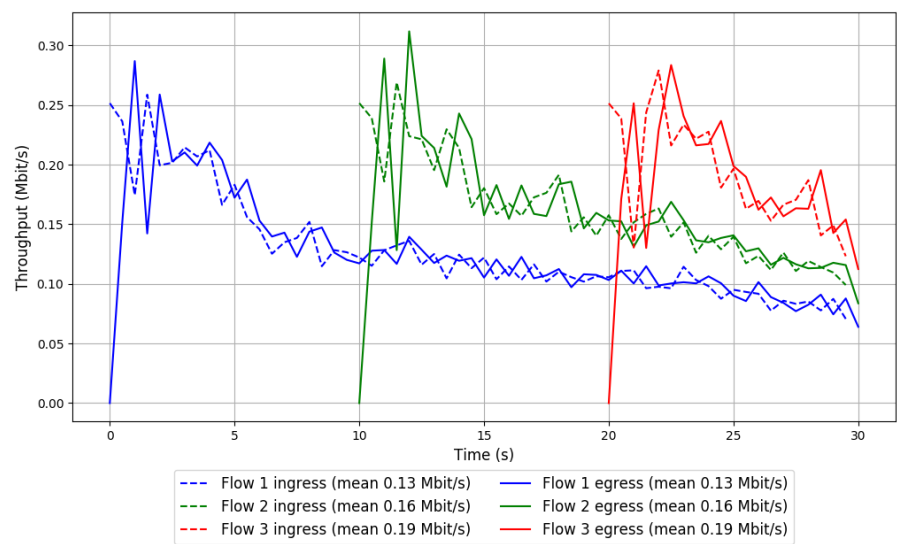Run 2: Report of SCReAM — Data Link

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```
Run 3: Statistics of SCReAM

Start at: 2019-01-03 10:51:11
End at: 2019-01-03 10:51:42
Local clock offset: 24.856 ms
Remote clock offset: 43.71 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 167.870 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 167.883 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 167.585 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 168.271 ms
Loss rate: 1.43%
```

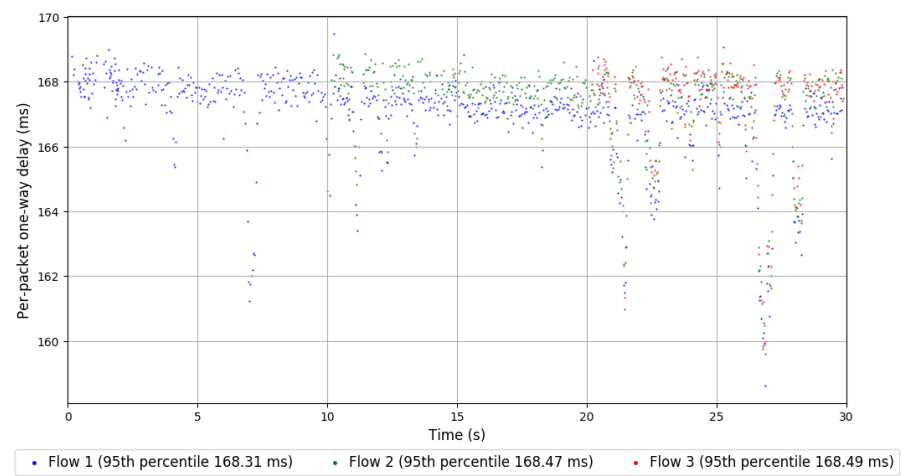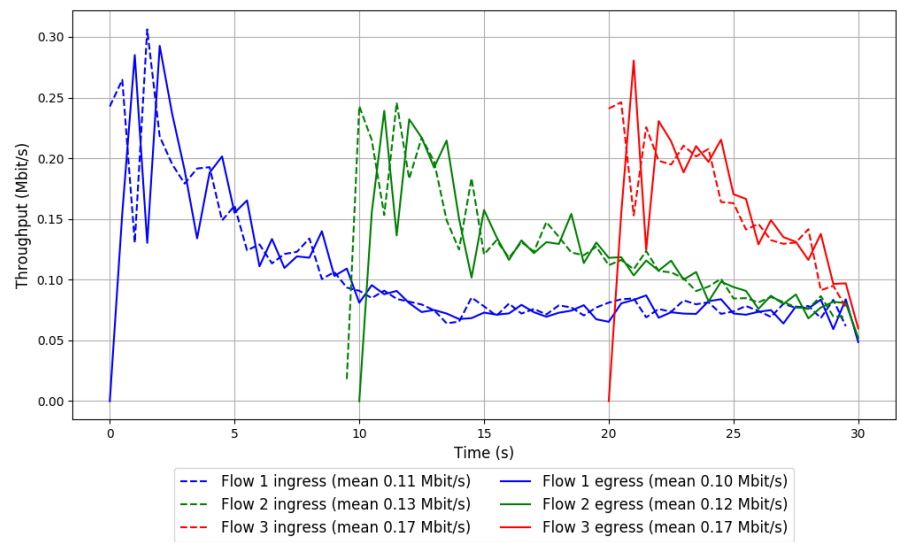Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-01-03 11:30:11
End at: 2019-01-03 11:30:41
Local clock offset: -0.674 ms
Remote clock offset: 36.358 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 168.413 ms
Loss rate: 3.08%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 168.314 ms
Loss rate: 3.19%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 168.466 ms
Loss rate: 3.22%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 168.487 ms
Loss rate: 2.64%
```
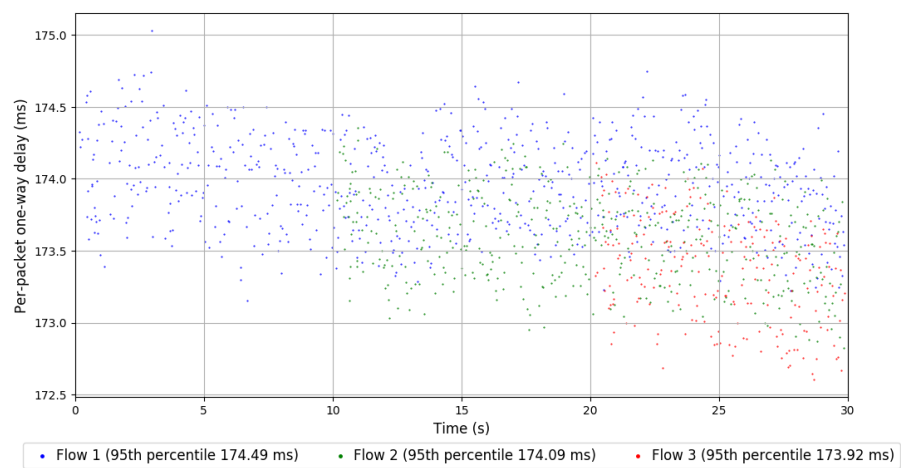
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-01-03 12:27:50
End at: 2019-01-03 12:28:20
Local clock offset: 5.956 ms
Remote clock offset: 28.84 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 174.396 ms
Loss rate: 6.94%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 174.488 ms
Loss rate: 6.24%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 174.085 ms
Loss rate: 6.74%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 173.924 ms
Loss rate: 9.10%
```
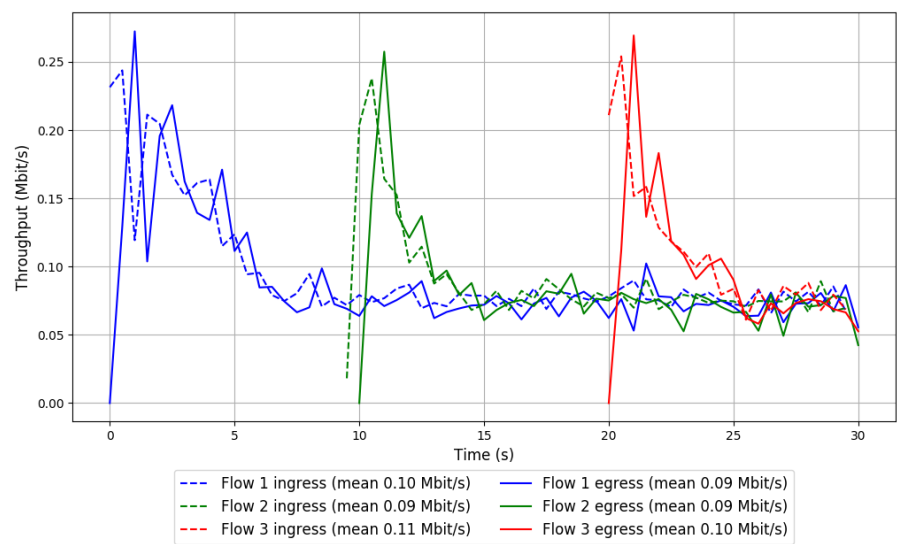
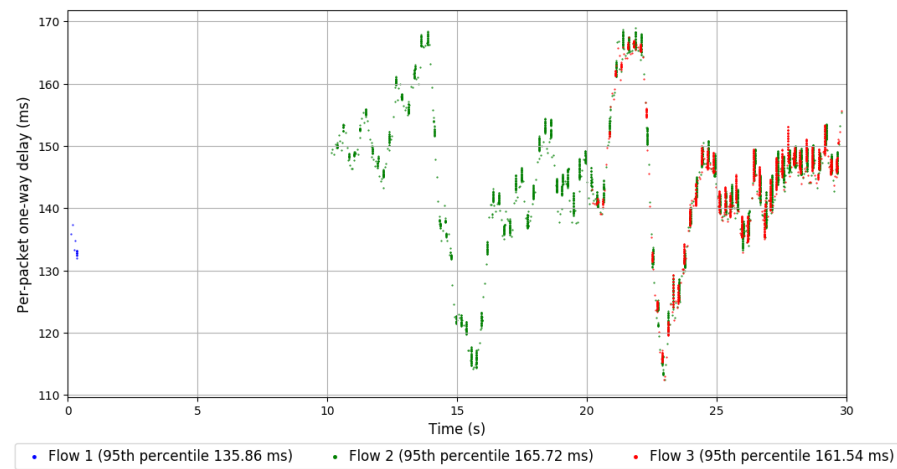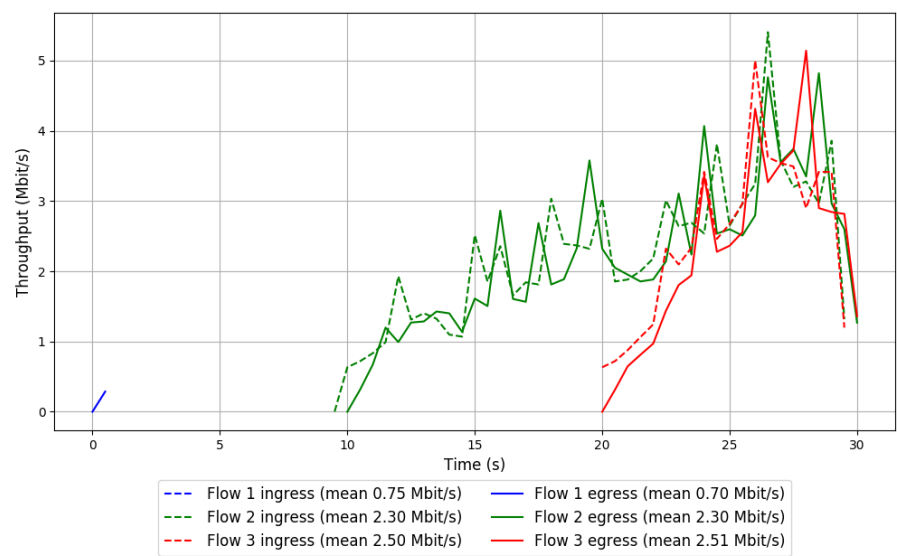# Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-01-03 09:50:43
End at: 2019-01-03 09:51:13
Local clock offset: 10.78 ms
Remote clock offset: 36.749 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 164.245 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 135.860 ms
Loss rate: 7.70%
-- Flow 2:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 165.723 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 2.51 Mbit/s
95th percentile per-packet one-way delay: 161.537 ms
Loss rate: 2.04%
```
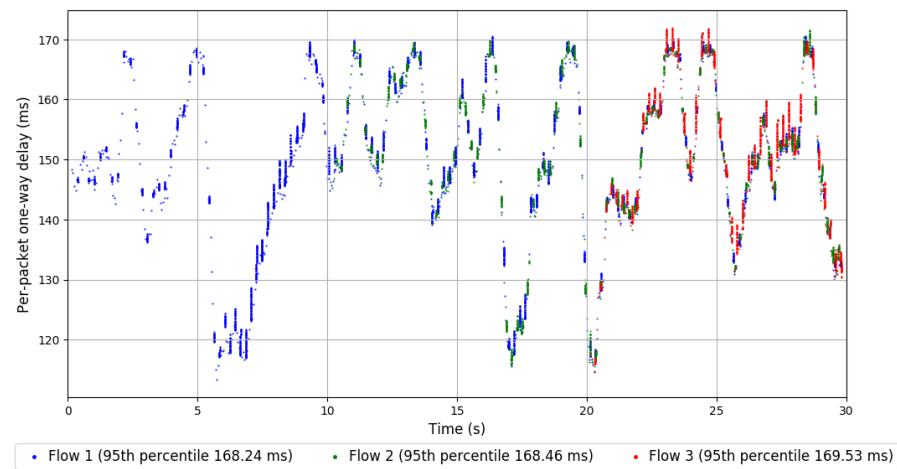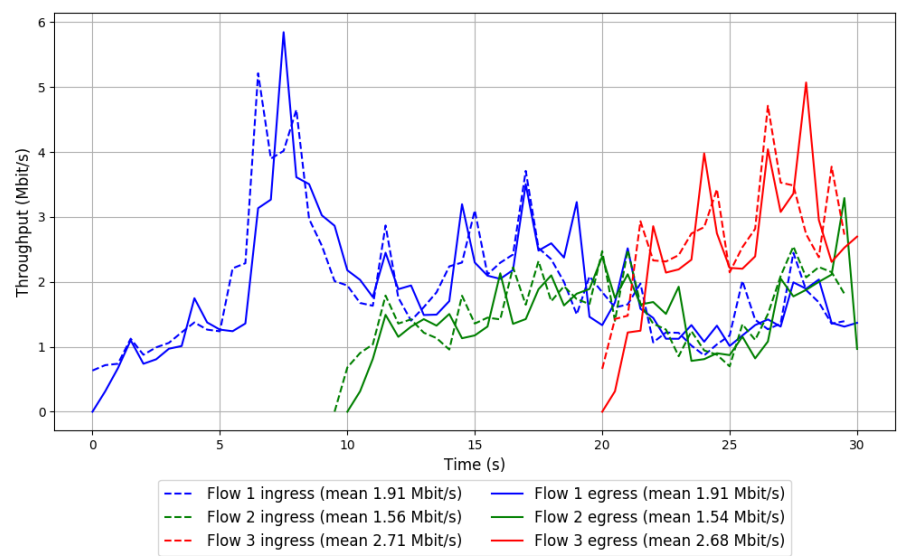
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-01-03 10:16:51
End at: 2019-01-03 10:17:21
Local clock offset: 19.007 ms
Remote clock offset: 49.366 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.80 Mbit/s
95th percentile per-packet one-way delay: 168.520 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 168.237 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 168.458 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 2.68 Mbit/s
95th percentile per-packet one-way delay: 169.531 ms
Loss rate: 2.85%
```
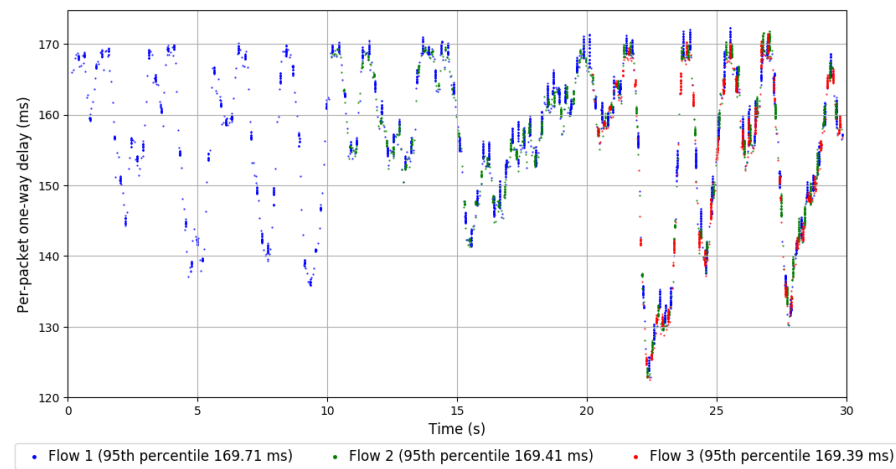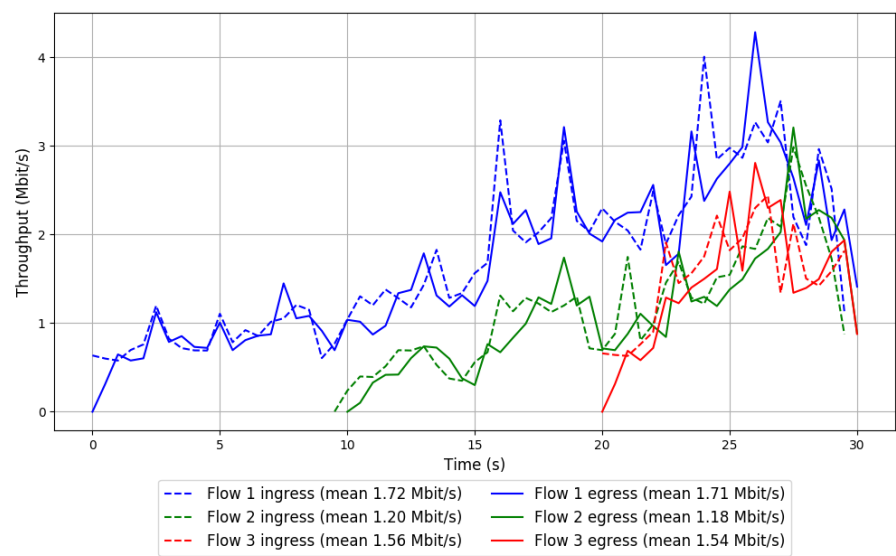
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-01-03 10:49:53
End at: 2019-01-03 10:50:23
Local clock offset: 24.629 ms
Remote clock offset: 44.294 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.99 Mbit/s
95th percentile per-packet one-way delay: 169.595 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 169.709 ms
Loss rate: 1.35%
-- Flow 2:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 169.413 ms
Loss rate: 2.25%
-- Flow 3:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 169.390 ms
Loss rate: 3.37%
```
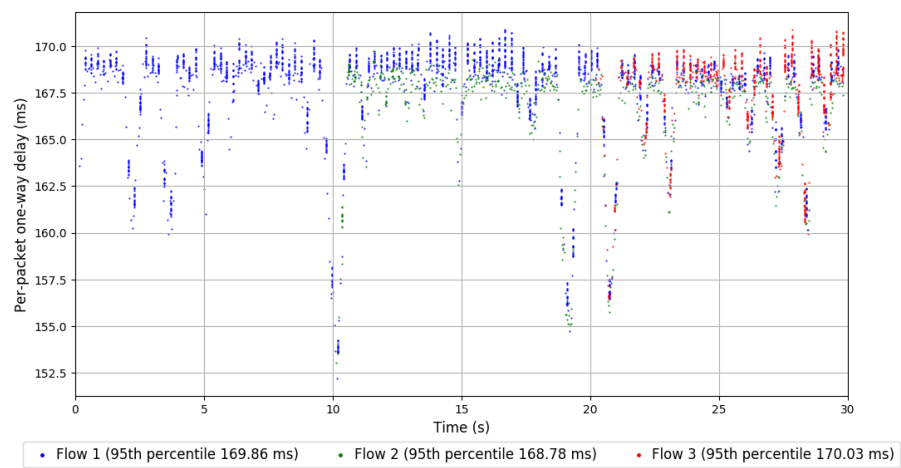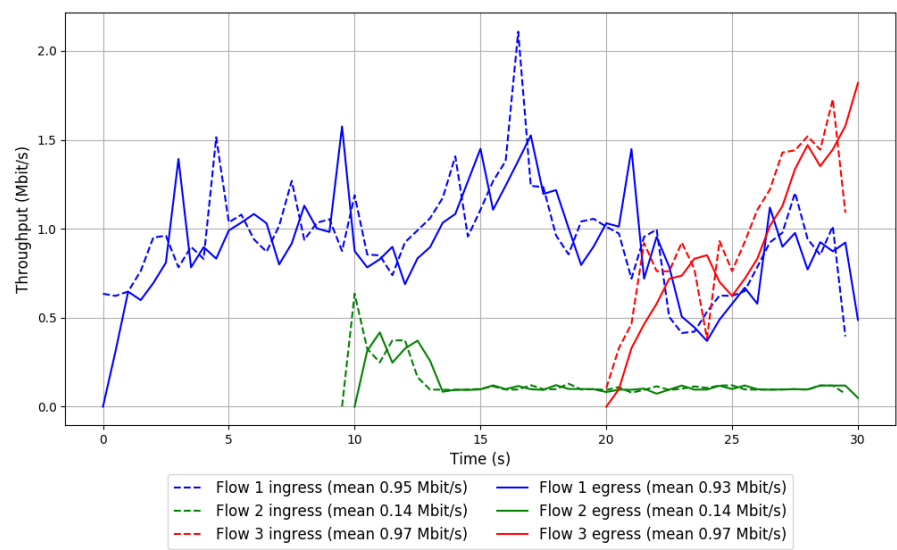
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-01-03 11:28:46
End at: 2019-01-03 11:29:16
Local clock offset: -2.136 ms
Remote clock offset: 35.91 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 169.837 ms
Loss rate: 2.70%
-- Flow 1:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 169.858 ms
Loss rate: 2.74%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 168.775 ms
Loss rate: 4.57%
-- Flow 3:
Average throughput: 0.97 Mbit/s
95th percentile per-packet one-way delay: 170.026 ms
Loss rate: 2.05%
```

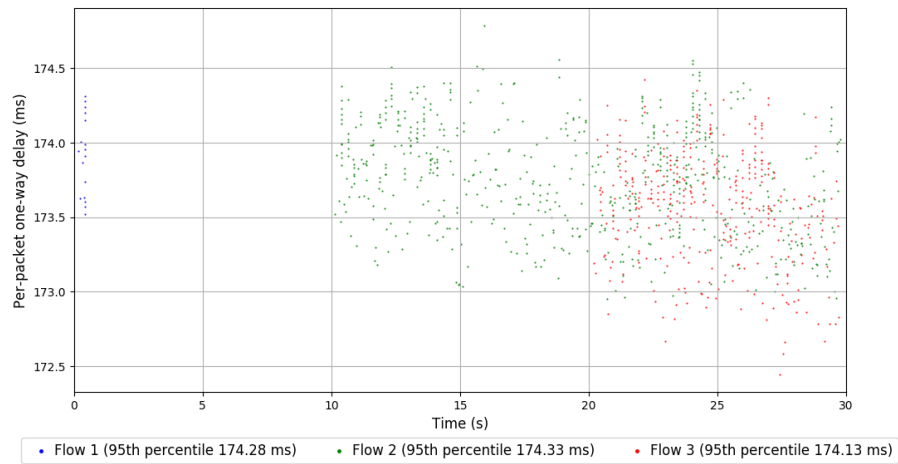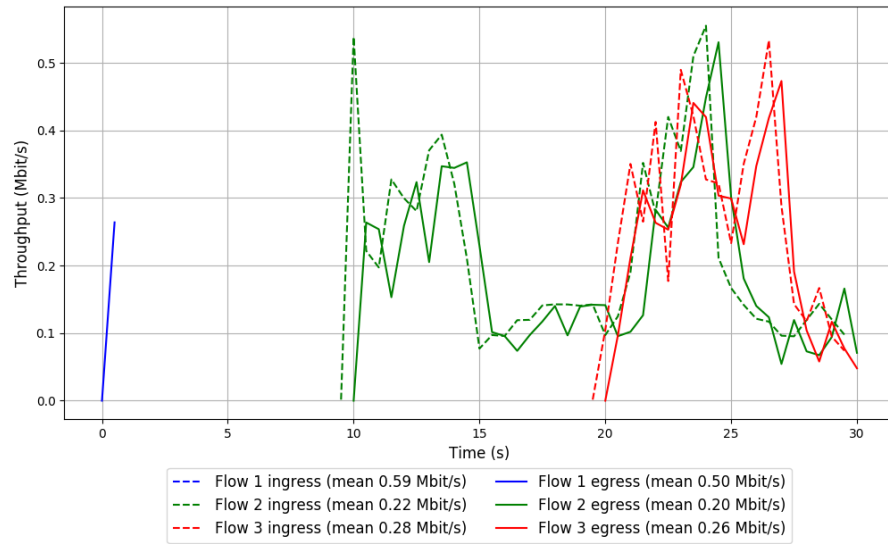Run 4: Report of Sprout — Data Link

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```
Run 5: Statistics of Sprout

Start at: 2019-01-03 12:26:22
End at: 2019-01-03 12:26:52
Local clock offset: 7.146 ms
Remote clock offset: 30.458 ms


# Below is generated by plot.py at 2019-01-03 13:01:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 174.286 ms
Loss rate: 10.43%
-- Flow 1:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 174.276 ms
Loss rate: 15.29%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 174.331 ms
Loss rate: 10.66%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 174.126 ms
Loss rate: 9.80%
```

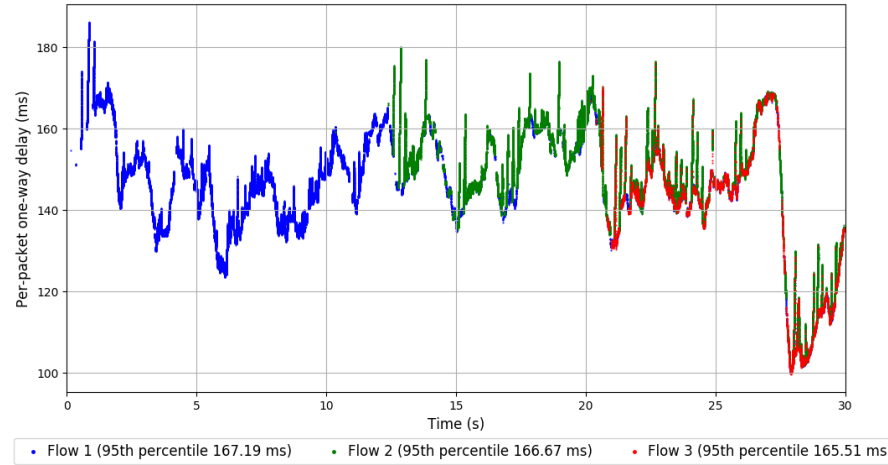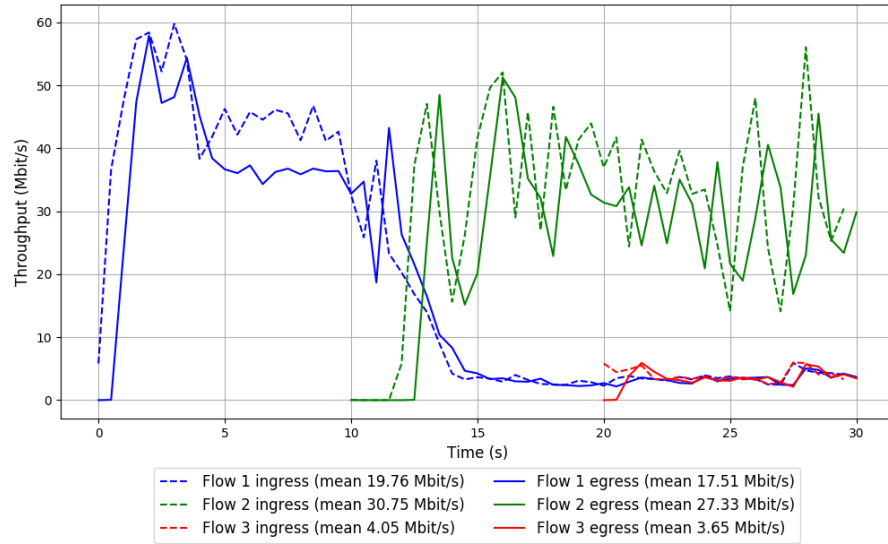# Run 5: Report of Sprout — Data Link

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

Start at: 2019-01-03 09:49:22
End at: 2019-01-03 09:49:52
Local clock offset: 10.856 ms
Remote clock offset: 35.022 ms

# Below is generated by plot.py at 2019-01-03 13:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.85 Mbit/s
95th percentile per-packet one-way delay: 166.884 ms
Loss rate: 11.99%
-- Flow 1:
Average throughput: 17.51 Mbit/s
95th percentile per-packet one-way delay: 167.186 ms
Loss rate: 12.00%
-- Flow 2:
Average throughput: 27.33 Mbit/s
95th percentile per-packet one-way delay: 166.670 ms
Loss rate: 11.99%
-- Flow 3:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 165.509 ms
Loss rate: 11.82%
```

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

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

Start at: 2019-01-03 10:14:43
End at: 2019-01-03 10:15:13
Local clock offset: 18.547 ms
Remote clock offset: 48.47 ms


# Below is generated by plot.py at 2019-01-03 13:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.58 Mbit/s
95th percentile per-packet one-way delay: 171.025 ms
Loss rate: 9.53%
-- Flow 1:
Average throughput: 11.00 Mbit/s
95th percentile per-packet one-way delay: 169.813 ms
Loss rate: 7.47%
-- Flow 2:
Average throughput: 19.73 Mbit/s
95th percentile per-packet one-way delay: 170.841 ms
Loss rate: 6.75%
-- Flow 3:
Average throughput: 29.37 Mbit/s
95th percentile per-packet one-way delay: 171.964 ms
Loss rate: 15.20%
```
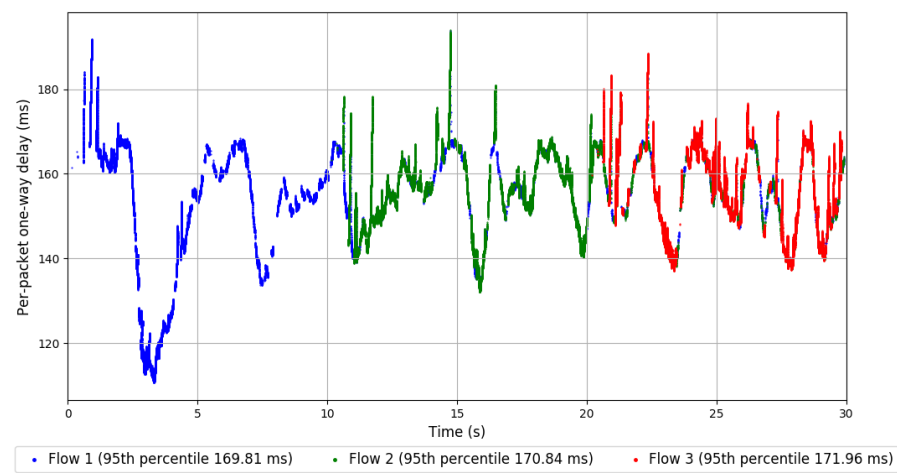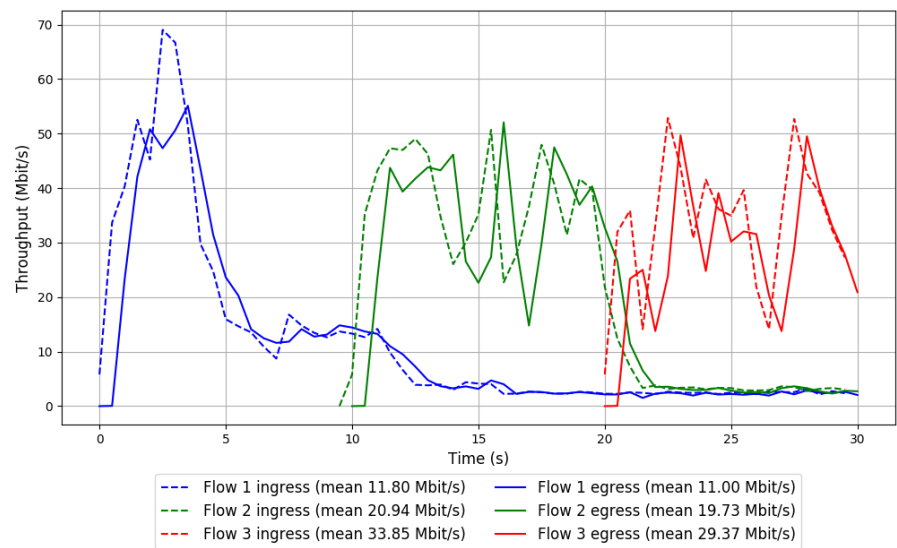
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 11.80 Mbit/s) --- Flow 1 egress (mean 11.00 Mbit/s)
Flow 2 ingress (mean 20.94 Mbit/s) --- Flow 2 egress (mean 19.73 Mbit/s)
Flow 3 ingress (mean 33.85 Mbit/s) --- Flow 3 egress (mean 29.37 Mbit/s)

Flow 1 (95th percentile 169.81 ms)   Flow 2 (95th percentile 170.84 ms)   Flow 3 (95th percentile 171.96 ms)
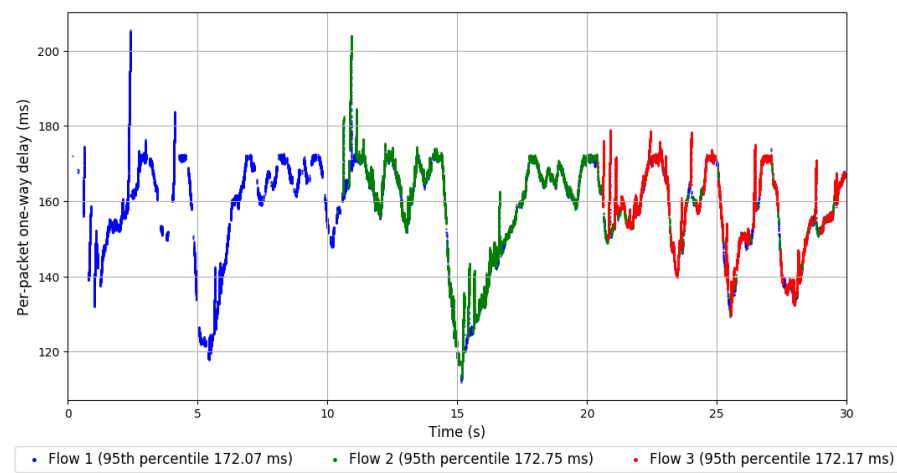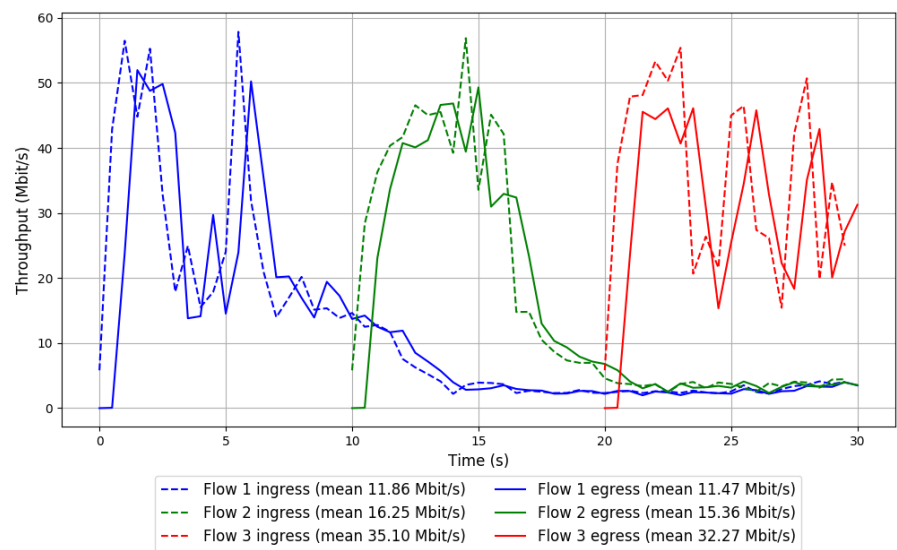
```
Run 3: Statistics of TaoVA-100x

Start at: 2019-01-03 10:48:16
End at: 2019-01-03 10:48:46
Local clock offset: 24.427 ms
Remote clock offset: 42.039 ms


# Below is generated by plot.py at 2019-01-03 13:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 32.21 Mbit/s
95th percentile per-packet one-way delay: 172.274 ms
Loss rate: 6.95%
-- Flow 1:
Average throughput: 11.47 Mbit/s
95th percentile per-packet one-way delay: 172.071 ms
Loss rate: 4.00%
-- Flow 2:
Average throughput: 15.36 Mbit/s
95th percentile per-packet one-way delay: 172.752 ms
Loss rate: 6.69%
-- Flow 3:
Average throughput: 32.27 Mbit/s
95th percentile per-packet one-way delay: 172.166 ms
Loss rate: 10.19%
```

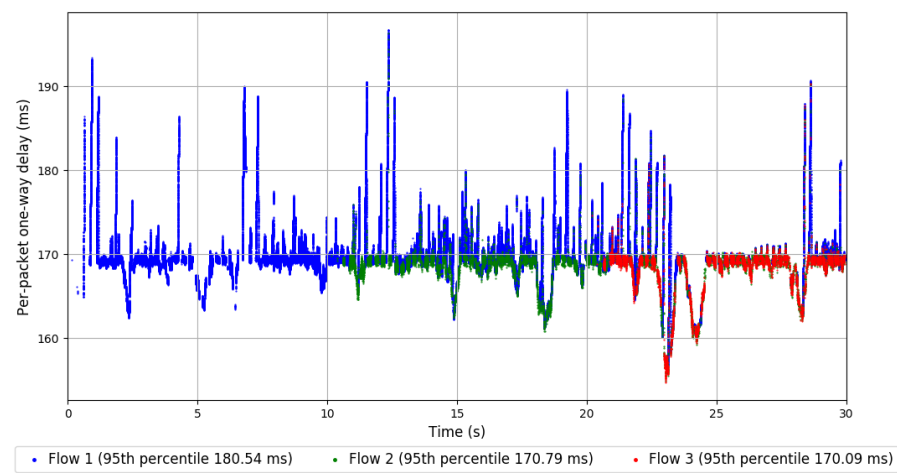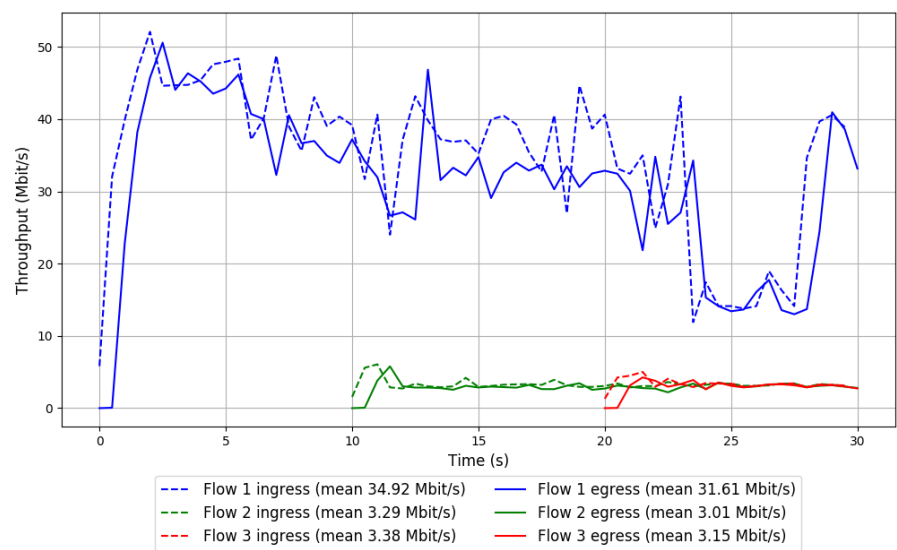Run 3: Report of TaoVA-100x — Data Link

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

Start at: 2019-01-03 11:23:22
End at: 2019-01-03 11:23:52
Local clock offset: -9.34 ms
Remote clock offset: 36.862 ms


# Below is generated by plot.py at 2019-01-03 13:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.63 Mbit/s
95th percentile per-packet one-way delay: 180.044 ms
Loss rate: 10.07%
-- Flow 1:
Average throughput: 31.61 Mbit/s
95th percentile per-packet one-way delay: 180.545 ms
Loss rate: 10.14%
-- Flow 2:
Average throughput: 3.01 Mbit/s
95th percentile per-packet one-way delay: 170.787 ms
Loss rate: 9.57%
-- Flow 3:
Average throughput: 3.15 Mbit/s
95th percentile per-packet one-way delay: 170.091 ms
Loss rate: 8.82%
```

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

- - - Flow 1 ingress (mean 34.92 Mbit/s) —— Flow 1 egress (mean 31.61 Mbit/s)
- - - Flow 2 ingress (mean 3.29 Mbit/s) —— Flow 2 egress (mean 3.01 Mbit/s)
- - - Flow 3 ingress (mean 3.38 Mbit/s) —— Flow 3 egress (mean 3.15 Mbit/s)

• Flow 1 (95th percentile 180.54 ms)   • Flow 2 (95th percentile 170.79 ms)   • Flow 3 (95th percentile 170.09 ms)
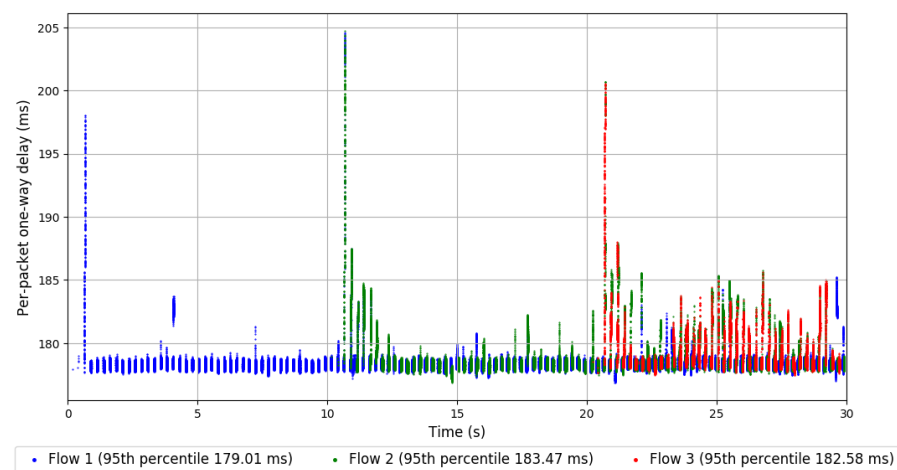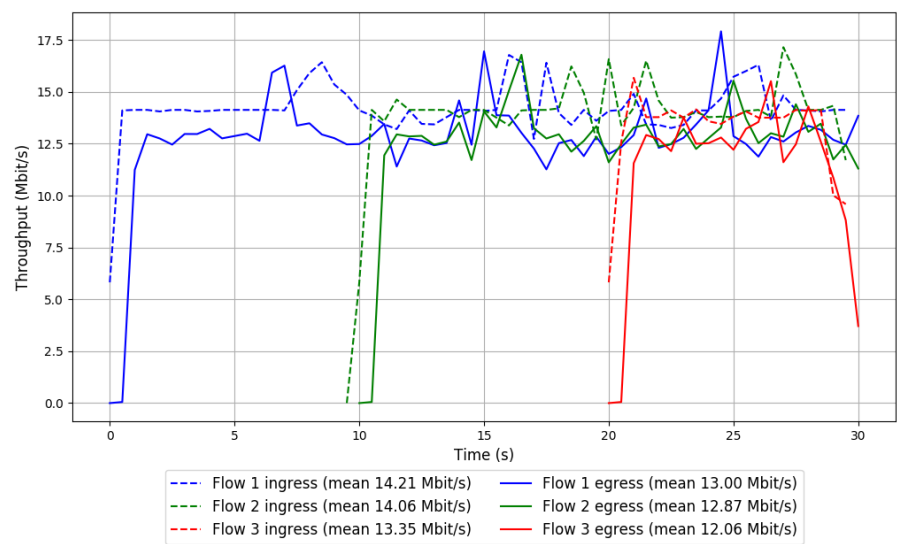
```
Run 5: Statistics of TaoVA-100x

Start at: 2019-01-03 12:19:10
End at: 2019-01-03 12:19:40
Local clock offset: 9.177 ms
Remote clock offset: 31.722 ms


# Below is generated by plot.py at 2019-01-03 13:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 25.39 Mbit/s
95th percentile per-packet one-way delay: 182.053 ms
Loss rate: 9.80%
-- Flow 1:
Average throughput: 13.00 Mbit/s
95th percentile per-packet one-way delay: 179.014 ms
Loss rate: 9.26%
-- Flow 2:
Average throughput: 12.87 Mbit/s
95th percentile per-packet one-way delay: 183.468 ms
Loss rate: 9.51%
-- Flow 3:
Average throughput: 12.06 Mbit/s
95th percentile per-packet one-way delay: 182.576 ms
Loss rate: 12.19%
```

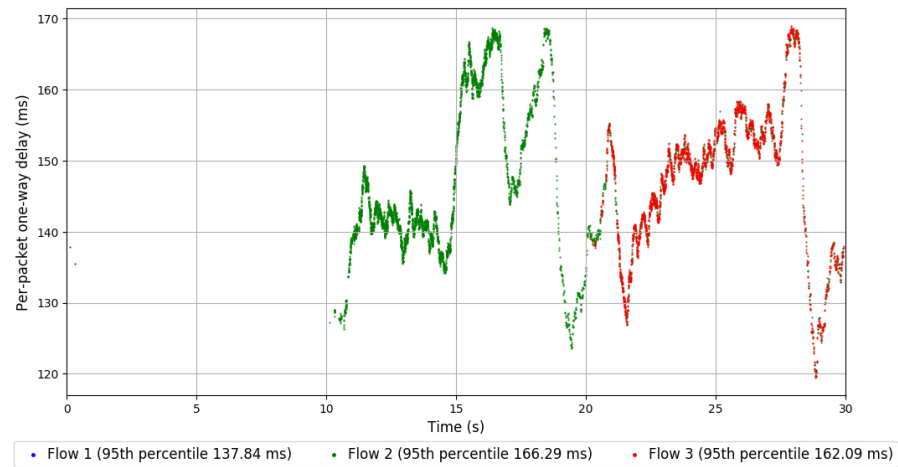# Run 5: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 14.21 Mbit/s)   —— Flow 1 egress (mean 13.00 Mbit/s)
- - - - Flow 2 ingress (mean 14.06 Mbit/s)   —— Flow 2 egress (mean 12.87 Mbit/s)
- - - - Flow 3 ingress (mean 13.35 Mbit/s)   —— Flow 3 egress (mean 12.06 Mbit/s)

- Flow 1 (95th percentile 179.01 ms)   • Flow 2 (95th percentile 183.47 ms)   • Flow 3 (95th percentile 182.58 ms)
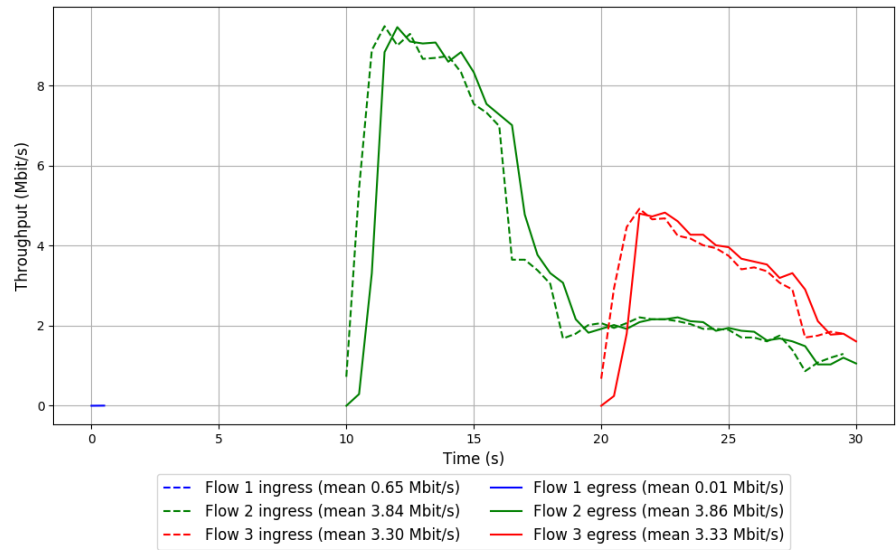
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```
Run 1: Statistics of TCP Vegas

Start at: 2019-01-03 10:02:36
End at: 2019-01-03 10:03:06
Local clock offset: 15.37 ms
Remote clock offset: 37.024 ms


# Below is generated by plot.py at 2019-01-03 13:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 166.092 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 137.839 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 166.292 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 3.33 Mbit/s
95th percentile per-packet one-way delay: 162.092 ms
Loss rate: 1.10%
```

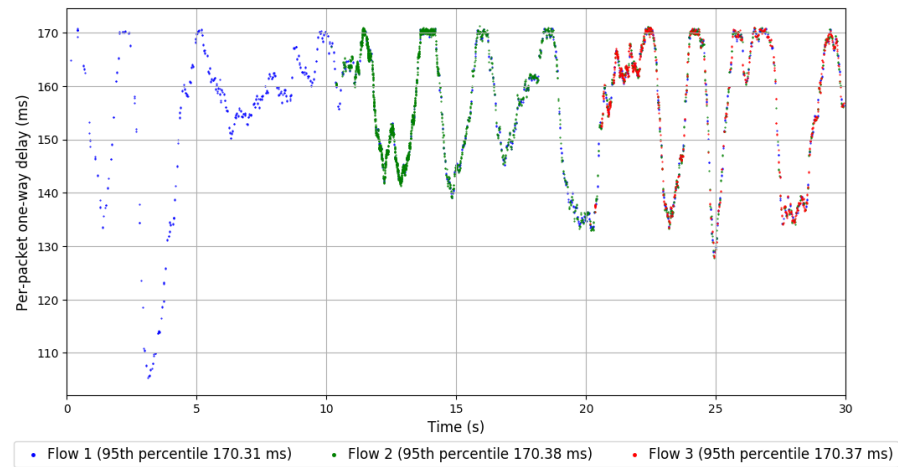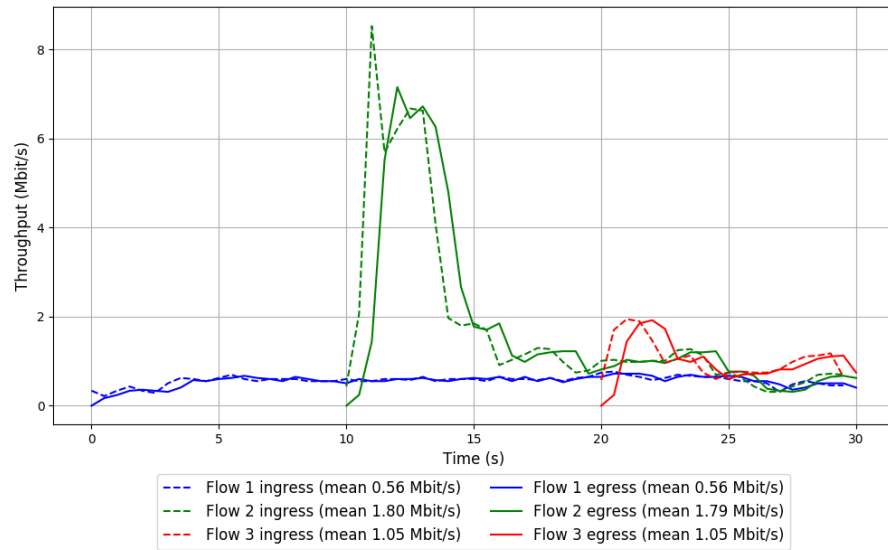Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-01-03 10:30:07
End at: 2019-01-03 10:30:37
Local clock offset: 21.477 ms
Remote clock offset: 53.586 ms


# Below is generated by plot.py at 2019-01-03 13:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 170.365 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 170.311 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 170.385 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 170.370 ms
Loss rate: 2.18%
```

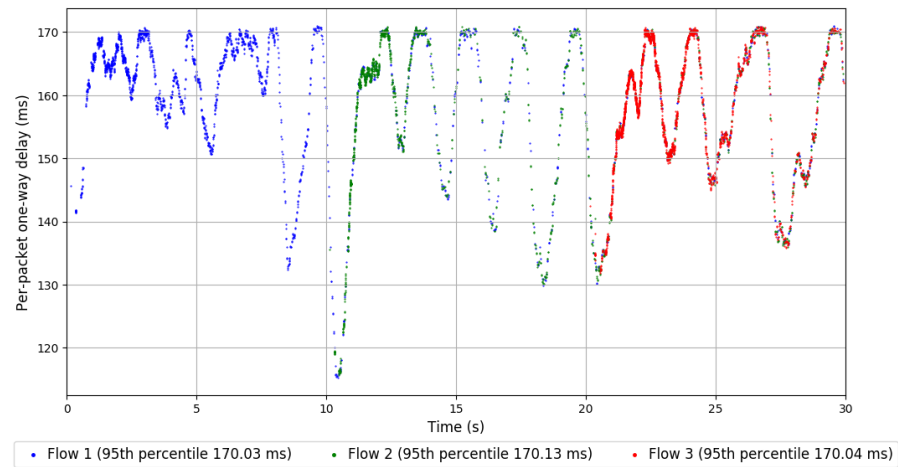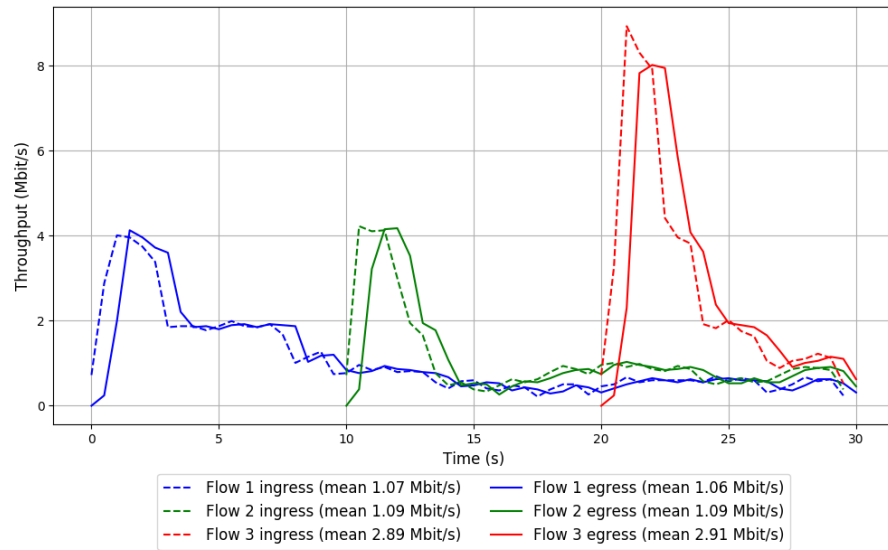Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-01-03 11:05:19
End at: 2019-01-03 11:05:49
Local clock offset: 3.093 ms
Remote clock offset: 38.603 ms


# Below is generated by plot.py at 2019-01-03 13:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.74 Mbit/s
95th percentile per-packet one-way delay: 170.062 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 170.034 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 170.131 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 2.91 Mbit/s
95th percentile per-packet one-way delay: 170.043 ms
Loss rate: 1.21%
```

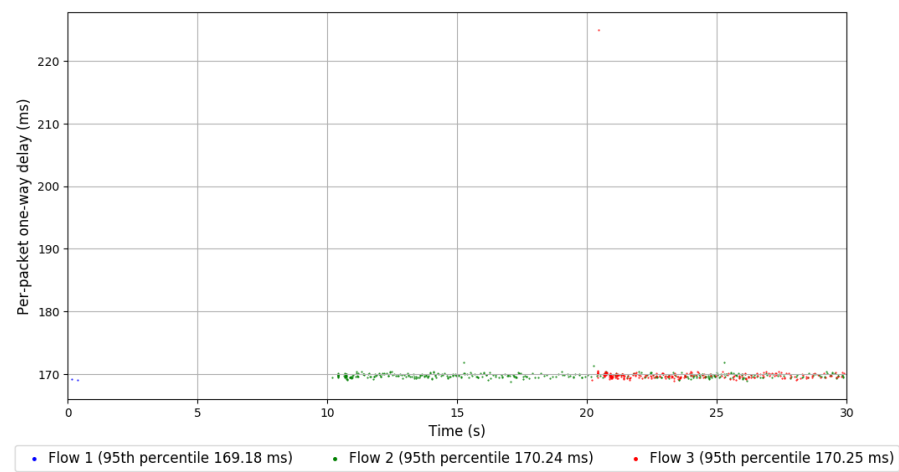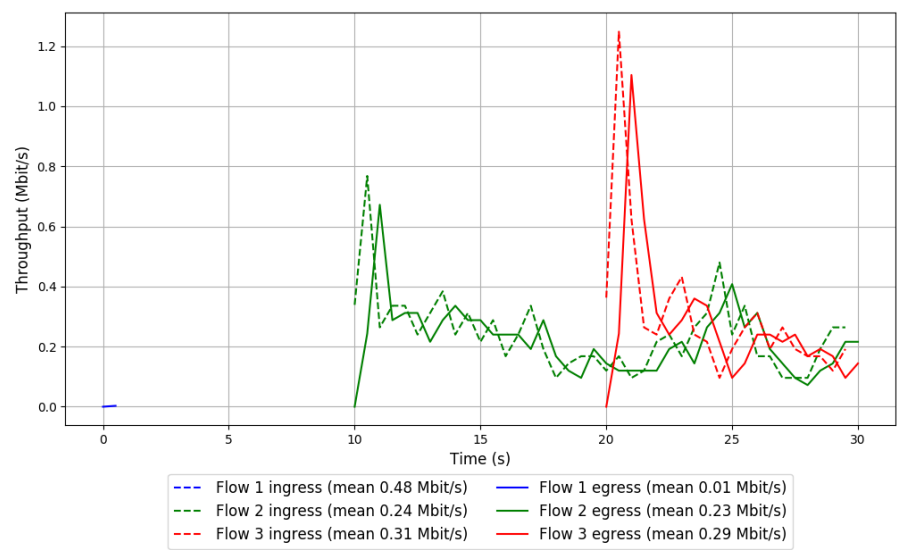Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-01-03 11:56:21
End at: 2019-01-03 11:56:51
Local clock offset: 8.056 ms
Remote clock offset: 38.193 ms


# Below is generated by plot.py at 2019-01-03 13:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 170.246 ms
Loss rate: 8.69%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 169.182 ms
Loss rate: 98.66%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 170.244 ms
Loss rate: 7.21%
-- Flow 3:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 170.246 ms
Loss rate: 7.81%
```

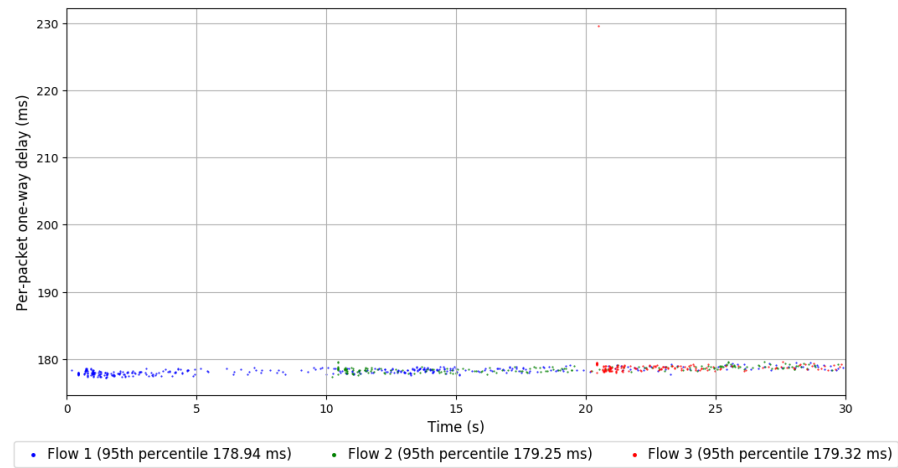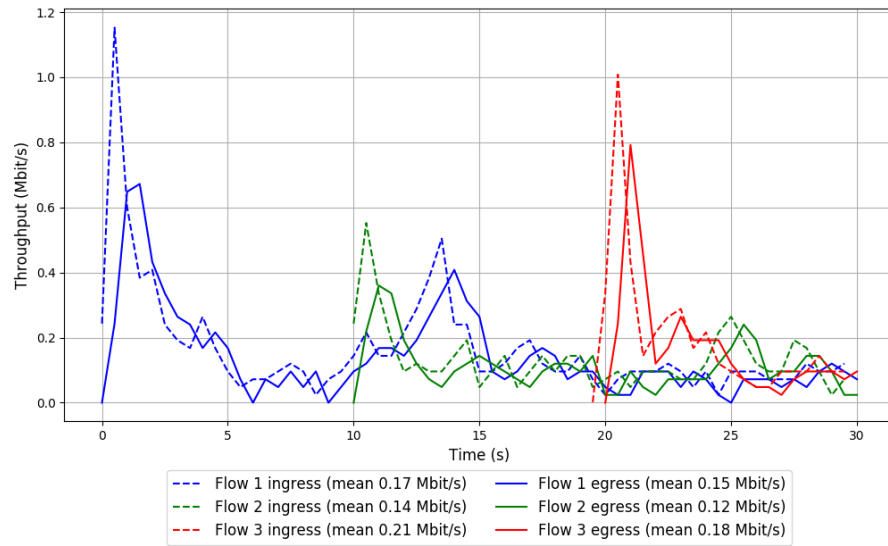# Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-01-03 12:56:50
End at: 2019-01-03 12:57:20
Local clock offset: -2.821 ms
Remote clock offset: 16.024 ms


# Below is generated by plot.py at 2019-01-03 13:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 179.188 ms
Loss rate: 14.28%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 178.944 ms
Loss rate: 13.15%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 179.247 ms
Loss rate: 15.62%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 179.317 ms
Loss rate: 15.28%
```

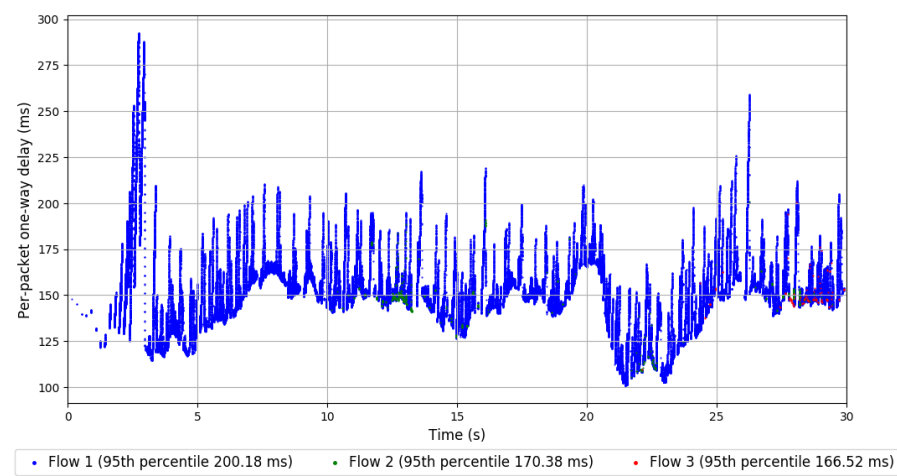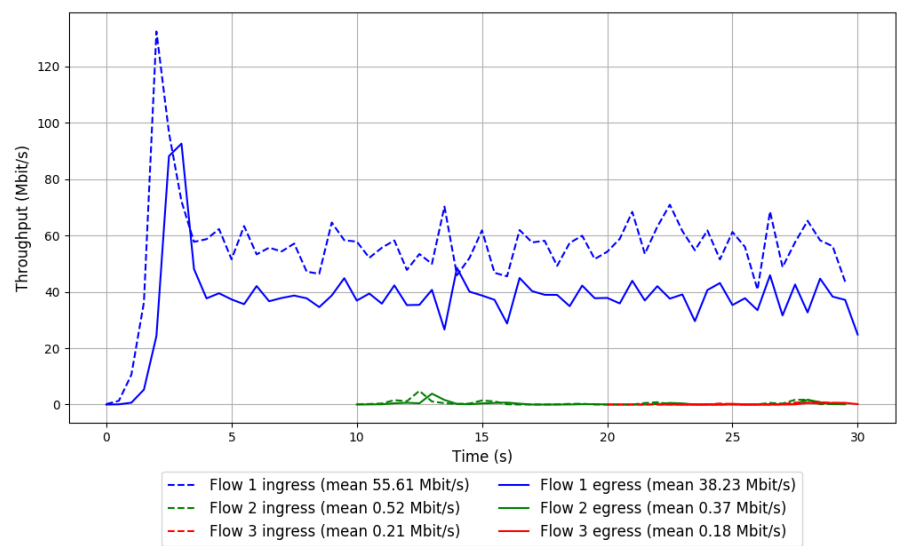# Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-01-03 10:01:16
End at: 2019-01-03 10:01:46
Local clock offset: 14.958 ms
Remote clock offset: 36.338 ms


# Below is generated by plot.py at 2019-01-03 13:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.51 Mbit/s
95th percentile per-packet one-way delay: 199.990 ms
Loss rate: 31.63%
-- Flow 1:
Average throughput: 38.23 Mbit/s
95th percentile per-packet one-way delay: 200.184 ms
Loss rate: 31.64%
-- Flow 2:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 170.379 ms
Loss rate: 29.48%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 166.523 ms
Loss rate: 33.33%
```

Run 1: Report of Verus — Data Link

- Flow 1 ingress (mean 55.61 Mbit/s)   Flow 1 egress (mean 38.23 Mbit/s)
- Flow 2 ingress (mean 0.52 Mbit/s)   Flow 2 egress (mean 0.37 Mbit/s)
- Flow 3 ingress (mean 0.21 Mbit/s)   Flow 3 egress (mean 0.18 Mbit/s)

- Flow 1 (95th percentile 200.18 ms)   Flow 2 (95th percentile 170.38 ms)   Flow 3 (95th percentile 166.52 ms)
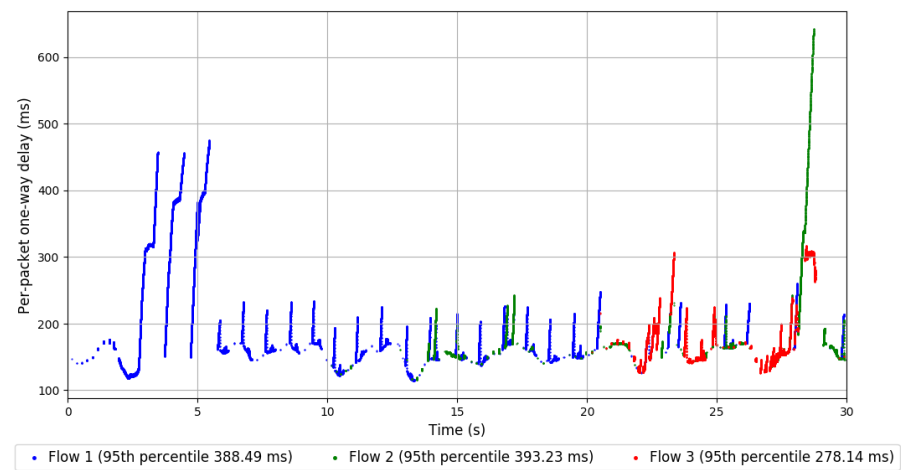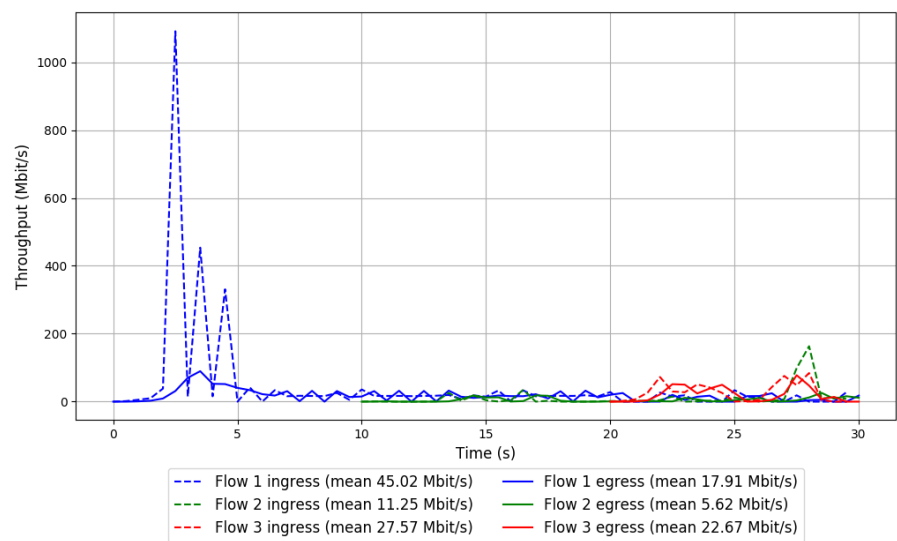
```
Run 2: Statistics of Verus

Start at: 2019-01-03 10:28:29
End at: 2019-01-03 10:28:59
Local clock offset: 21.132 ms
Remote clock offset: 52.417 ms


# Below is generated by plot.py at 2019-01-03 13:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.02 Mbit/s
95th percentile per-packet one-way delay: 382.055 ms
Loss rate: 53.23%
-- Flow 1:
Average throughput: 17.91 Mbit/s
95th percentile per-packet one-way delay: 388.492 ms
Loss rate: 60.52%
-- Flow 2:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 393.228 ms
Loss rate: 50.53%
-- Flow 3:
Average throughput: 22.67 Mbit/s
95th percentile per-packet one-way delay: 278.140 ms
Loss rate: 19.48%
```
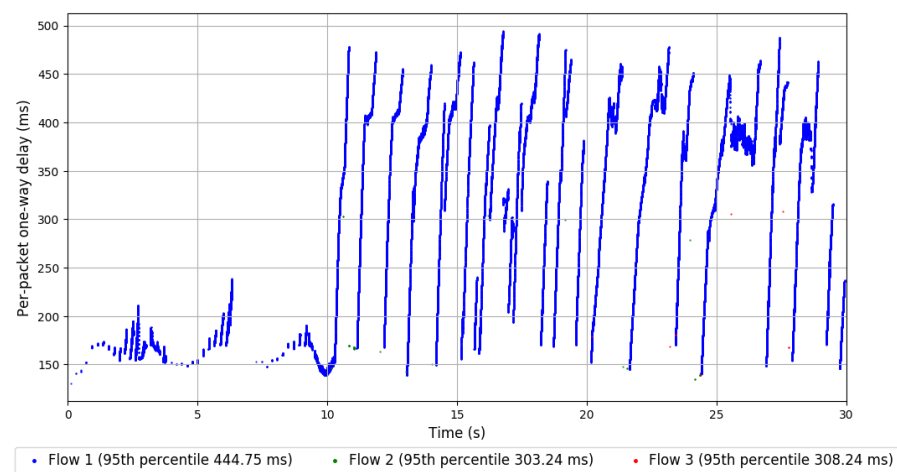
Run 2: Report of Verus — Data Link

Flow 1 ingress (mean 45.02 Mbit/s)   Flow 1 egress (mean 17.91 Mbit/s)
Flow 2 ingress (mean 11.25 Mbit/s)   Flow 2 egress (mean 5.62 Mbit/s)
Flow 3 ingress (mean 27.57 Mbit/s)   Flow 3 egress (mean 22.67 Mbit/s)

Flow 1 (95th percentile 388.49 ms)   Flow 2 (95th percentile 393.23 ms)   Flow 3 (95th percentile 278.14 ms)
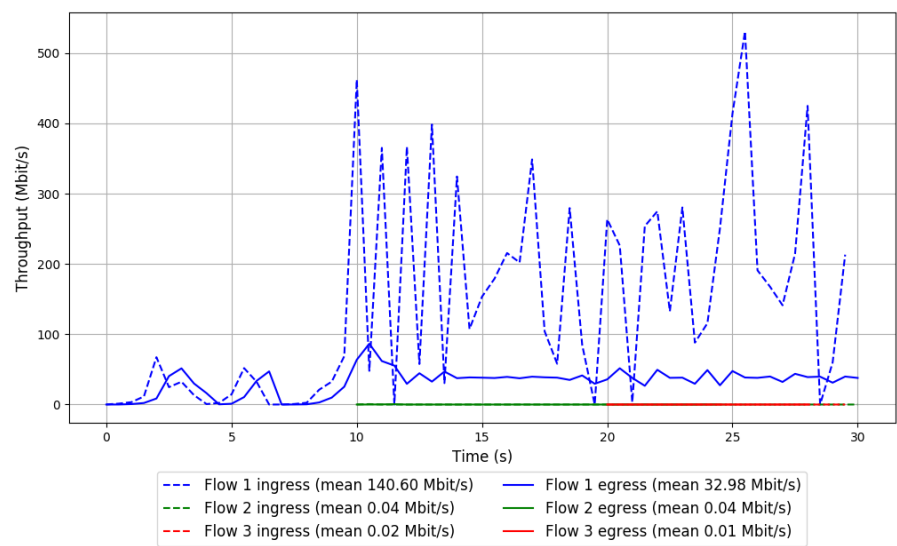
```
Run 3: Statistics of Verus

Start at: 2019-01-03 11:01:33
End at: 2019-01-03 11:02:03
Local clock offset: 8.244 ms
Remote clock offset: 39.689 ms


# Below is generated by plot.py at 2019-01-03 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.00 Mbit/s
95th percentile per-packet one-way delay: 444.743 ms
Loss rate: 76.64%
-- Flow 1:
Average throughput: 32.98 Mbit/s
95th percentile per-packet one-way delay: 444.751 ms
Loss rate: 76.65%
-- Flow 2:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 303.244 ms
Loss rate: 27.69%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 308.240 ms
Loss rate: 35.71%
```

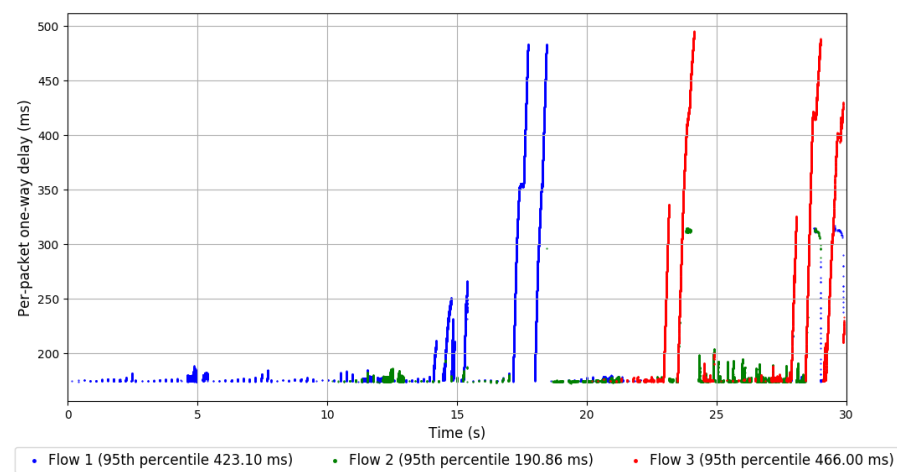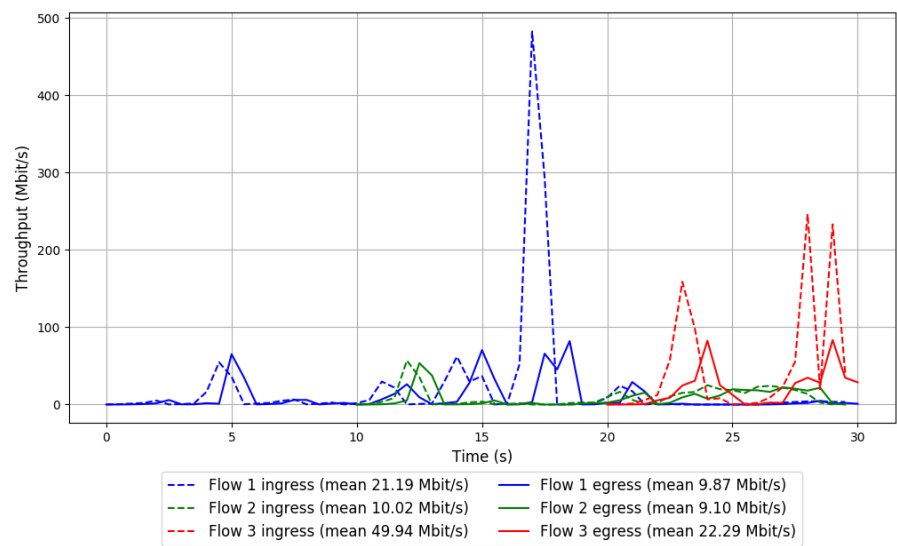## Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-01-03 11:51:16
End at: 2019-01-03 11:51:46
Local clock offset: 7.459 ms
Remote clock offset: 31.544 ms


# Below is generated by plot.py at 2019-01-03 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.00 Mbit/s
95th percentile per-packet one-way delay: 437.828 ms
Loss rate: 47.91%
-- Flow 1:
Average throughput: 9.87 Mbit/s
95th percentile per-packet one-way delay: 423.096 ms
Loss rate: 53.63%
-- Flow 2:
Average throughput: 9.10 Mbit/s
95th percentile per-packet one-way delay: 190.860 ms
Loss rate: 8.91%
-- Flow 3:
Average throughput: 22.29 Mbit/s
95th percentile per-packet one-way delay: 465.998 ms
Loss rate: 55.76%
```
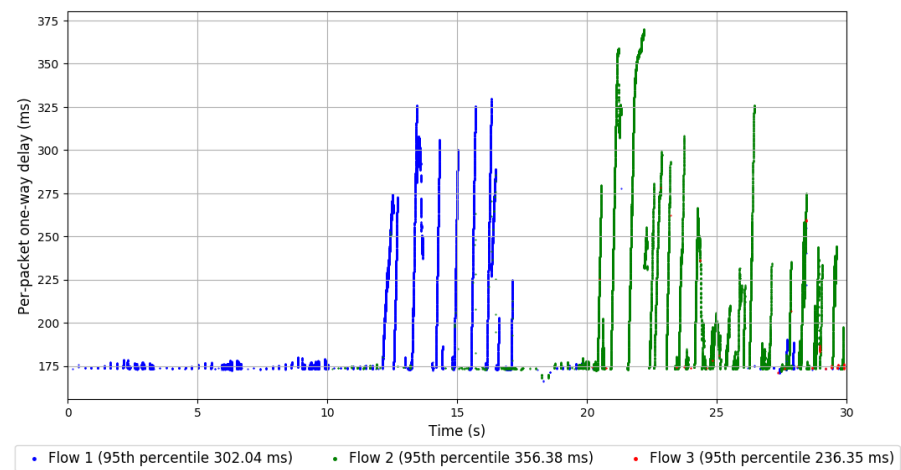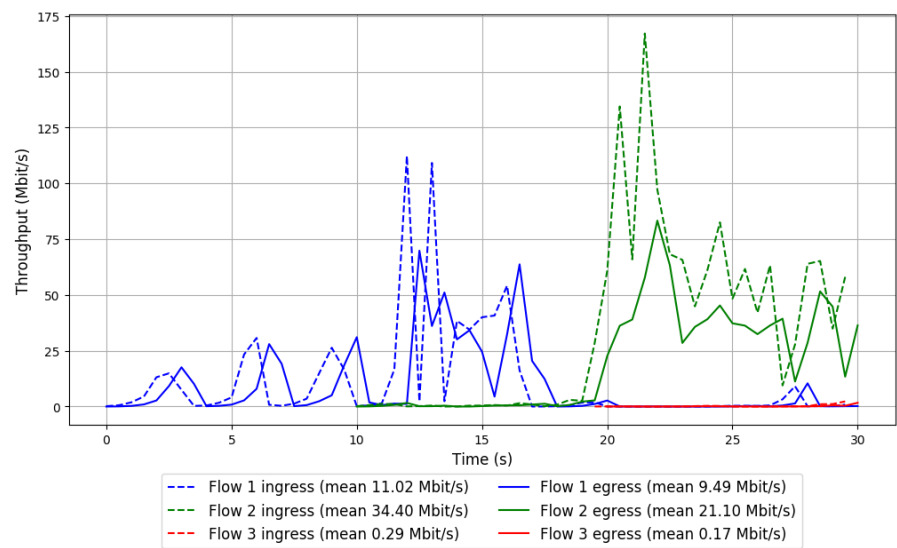
Run 4: Report of Verus — Data Link

Flow 1 ingress (mean 21.19 Mbit/s) — Flow 1 egress (mean 9.87 Mbit/s)
Flow 2 ingress (mean 10.02 Mbit/s) — Flow 2 egress (mean 9.10 Mbit/s)
Flow 3 ingress (mean 49.94 Mbit/s) — Flow 3 egress (mean 22.29 Mbit/s)

Flow 1 (95th percentile 423.10 ms)   Flow 2 (95th percentile 190.86 ms)   Flow 3 (95th percentile 466.00 ms)

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```
Run 5: Statistics of Verus

Start at: 2019-01-03 12:50:18
End at: 2019-01-03 12:50:48
Local clock offset: -2.509 ms
Remote clock offset: 18.175 ms


# Below is generated by plot.py at 2019-01-03 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.46 Mbit/s
95th percentile per-packet one-way delay: 347.258 ms
Loss rate: 31.22%
-- Flow 1:
Average throughput: 9.49 Mbit/s
95th percentile per-packet one-way delay: 302.040 ms
Loss rate: 14.63%
-- Flow 2:
Average throughput: 21.10 Mbit/s
95th percentile per-packet one-way delay: 356.376 ms
Loss rate: 39.14%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 236.355 ms
Loss rate: 42.62%
```

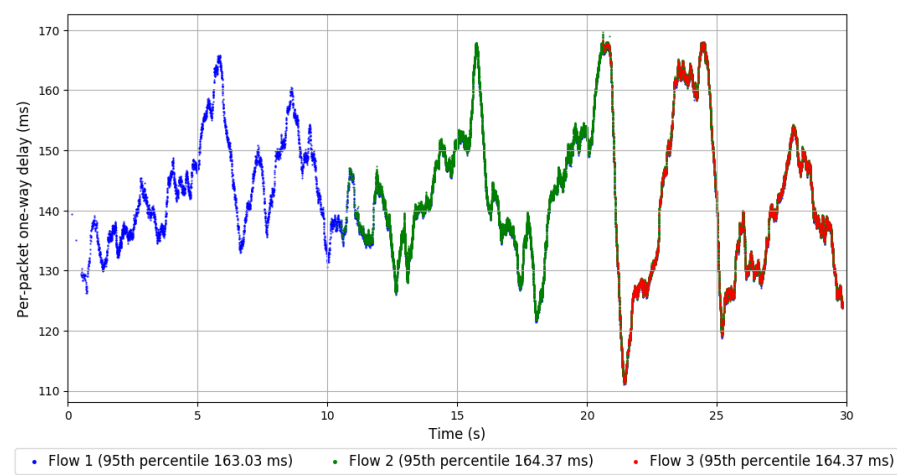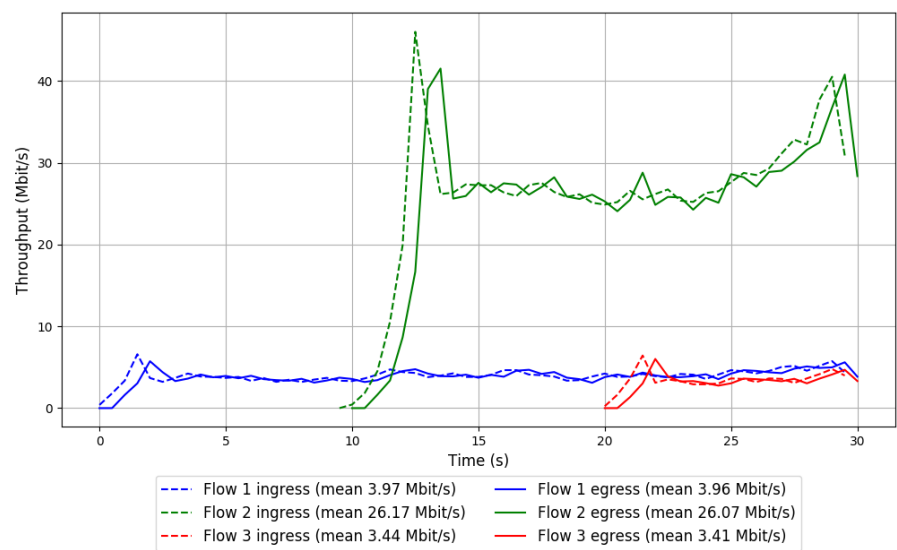## Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-01-03 09:57:15
End at: 2019-01-03 09:57:45
Local clock offset: 13.005 ms
Remote clock offset: 36.202 ms


# Below is generated by plot.py at 2019-01-03 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 22.37 Mbit/s
95th percentile per-packet one-way delay: 164.098 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 3.96 Mbit/s
95th percentile per-packet one-way delay: 163.033 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 26.07 Mbit/s
95th percentile per-packet one-way delay: 164.370 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 3.41 Mbit/s
95th percentile per-packet one-way delay: 164.371 ms
Loss rate: 2.93%
```

Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-01-03 10:23:55
End at: 2019-01-03 10:24:25
Local clock offset: 20.256 ms
Remote clock offset: 51.96 ms

# Below is generated by plot.py at 2019-01-03 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.83 Mbit/s
95th percentile per-packet one-way delay: 168.432 ms
Loss rate: 5.79%
-- Flow 1:
Average throughput: 6.91 Mbit/s
95th percentile per-packet one-way delay: 168.457 ms
Loss rate: 2.71%
-- Flow 2:
Average throughput: 6.80 Mbit/s
95th percentile per-packet one-way delay: 168.689 ms
Loss rate: 4.33%
-- Flow 3:
Average throughput: 22.74 Mbit/s
95th percentile per-packet one-way delay: 168.242 ms
Loss rate: 9.32%
```
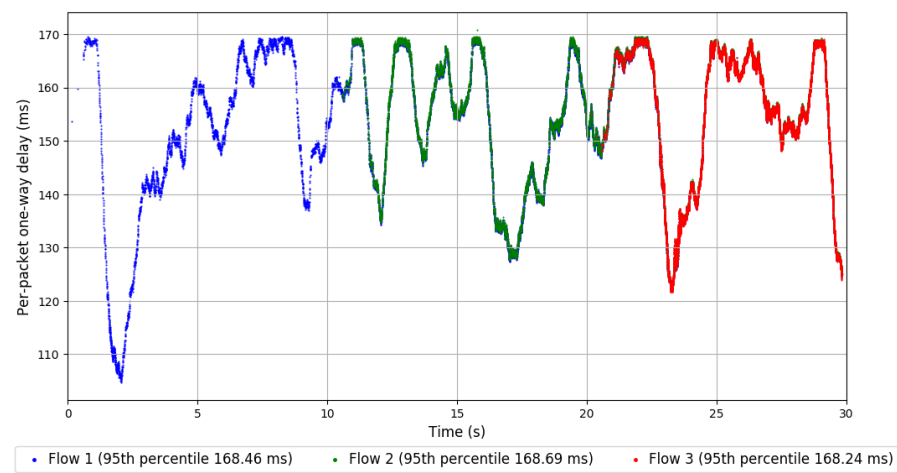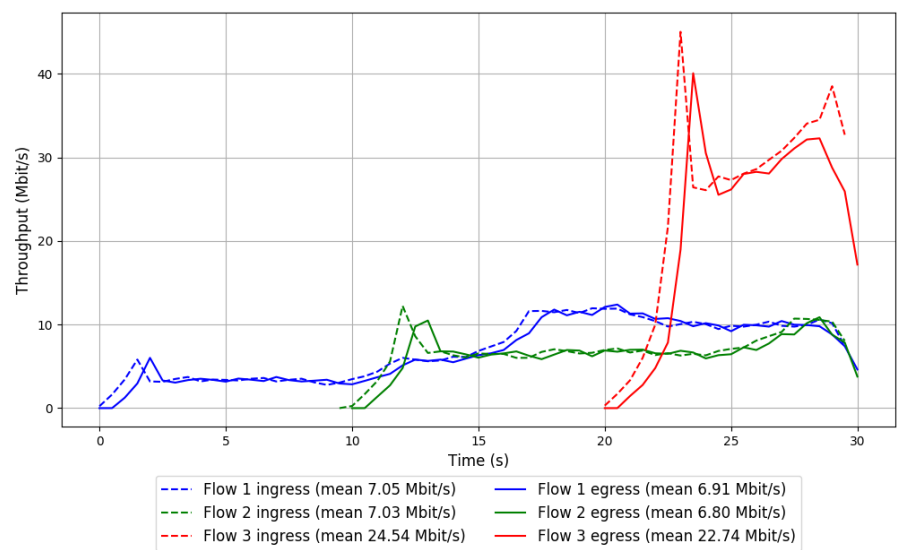
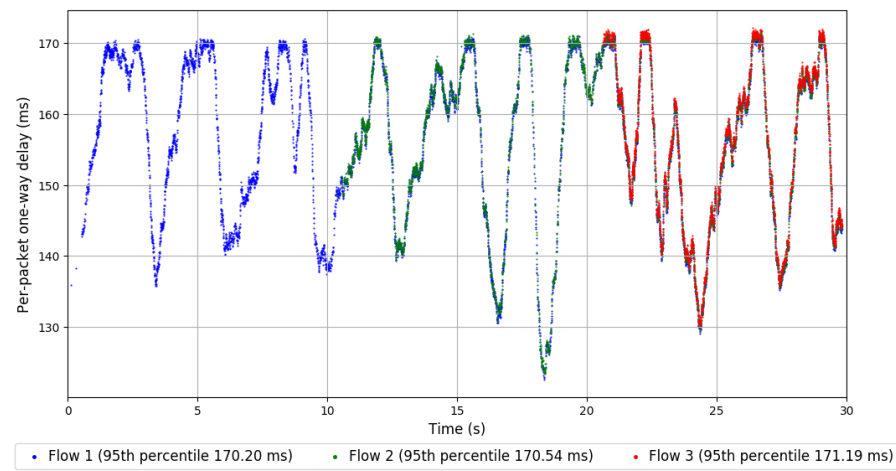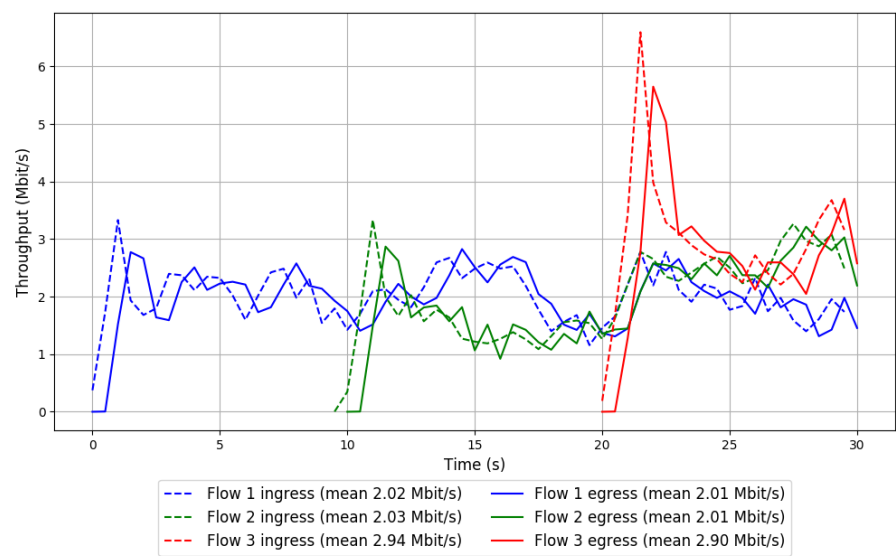Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-01-03 10:57:00
End at: 2019-01-03 10:57:30
Local clock offset: 17.622 ms
Remote clock offset: 40.693 ms


# Below is generated by plot.py at 2019-01-03 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.29 Mbit/s
95th percentile per-packet one-way delay: 170.546 ms
Loss rate: 1.88%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 170.196 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 170.539 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 2.90 Mbit/s
95th percentile per-packet one-way delay: 171.195 ms
Loss rate: 3.44%
```

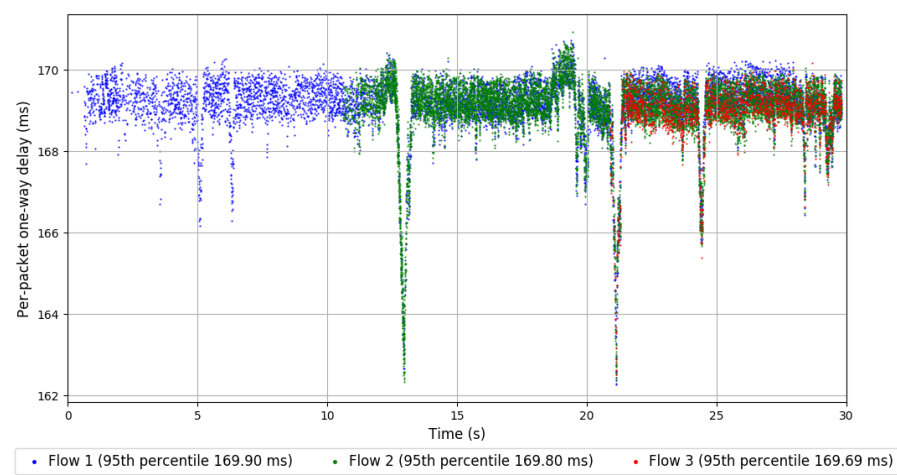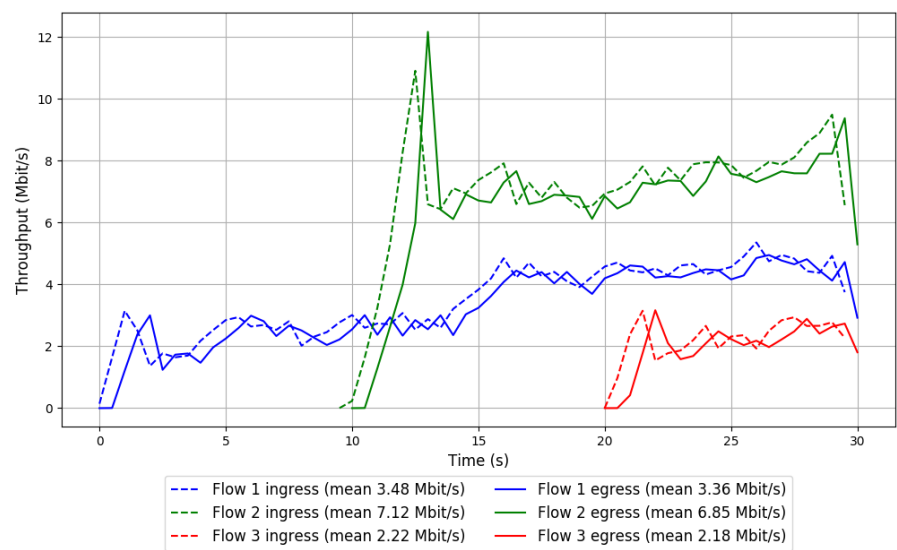# Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-01-03 11:45:53
End at: 2019-01-03 11:46:23
Local clock offset: 7.113 ms
Remote clock offset: 34.197 ms


# Below is generated by plot.py at 2019-01-03 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.59 Mbit/s
95th percentile per-packet one-way delay: 169.840 ms
Loss rate: 4.81%
-- Flow 1:
Average throughput: 3.36 Mbit/s
95th percentile per-packet one-way delay: 169.898 ms
Loss rate: 4.30%
-- Flow 2:
Average throughput: 6.85 Mbit/s
95th percentile per-packet one-way delay: 169.799 ms
Loss rate: 4.93%
-- Flow 3:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 169.690 ms
Loss rate: 6.49%
```

Run 4: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 3.48 Mbit/s)   Flow 1 egress (mean 3.36 Mbit/s)
Flow 2 ingress (mean 7.12 Mbit/s)   Flow 2 egress (mean 6.85 Mbit/s)
Flow 3 ingress (mean 2.22 Mbit/s)   Flow 3 egress (mean 2.18 Mbit/s)

Flow 1 (95th percentile 169.90 ms)   Flow 2 (95th percentile 169.80 ms)   Flow 3 (95th percentile 169.69 ms)
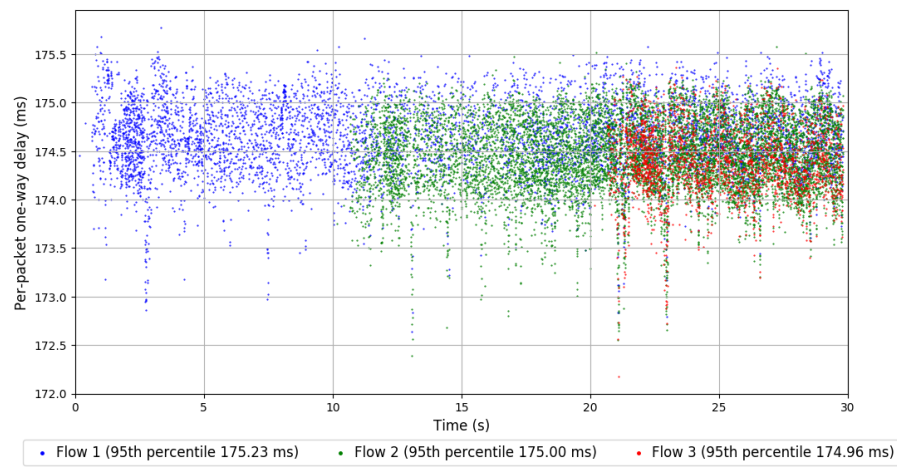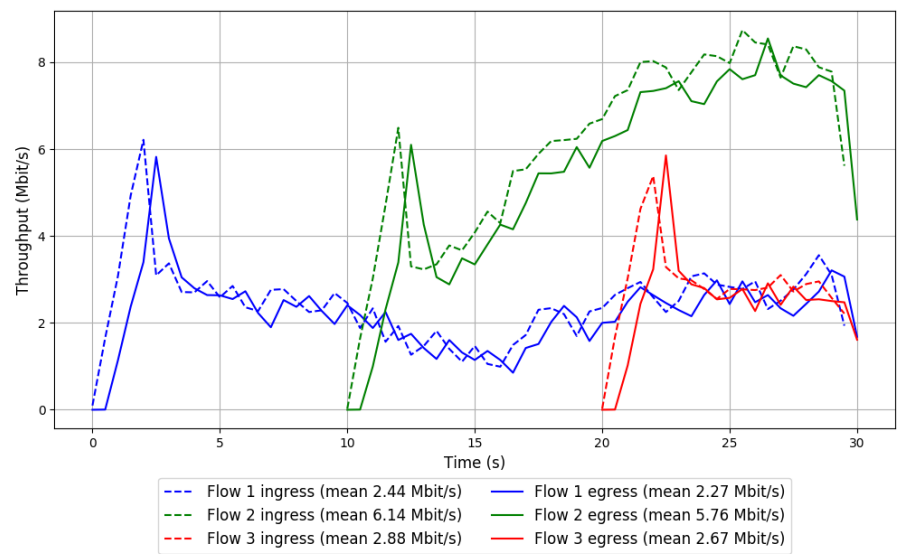
```
Run 5: Statistics of PCC-Vivace

Start at: 2019-01-03 12:43:11
End at: 2019-01-03 12:43:42
Local clock offset: -1.07 ms
Remote clock offset: 18.779 ms


# Below is generated by plot.py at 2019-01-03 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.96 Mbit/s
95th percentile per-packet one-way delay: 175.096 ms
Loss rate: 7.72%
-- Flow 1:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 175.233 ms
Loss rate: 7.69%
-- Flow 2:
Average throughput: 5.76 Mbit/s
95th percentile per-packet one-way delay: 175.005 ms
Loss rate: 7.27%
-- Flow 3:
Average throughput: 2.67 Mbit/s
95th percentile per-packet one-way delay: 174.962 ms
Loss rate: 9.67%
```

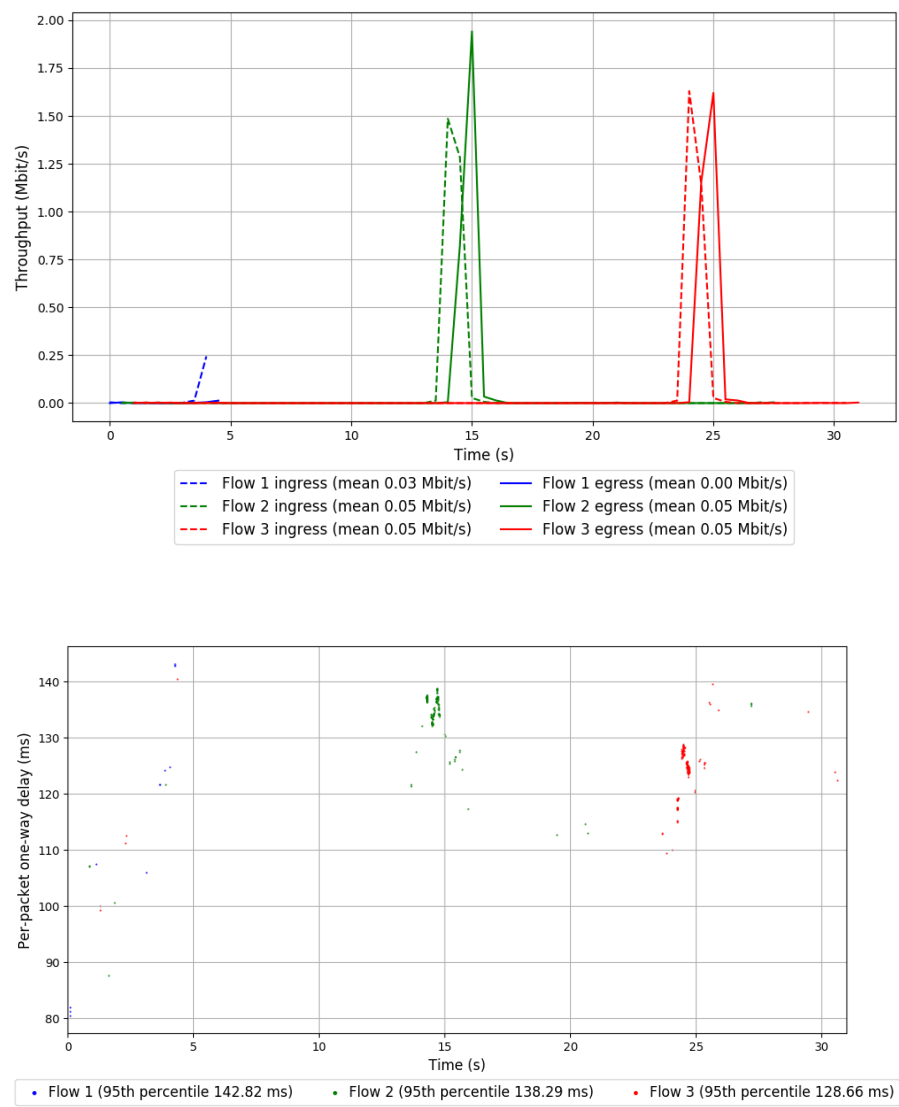Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-01-03 09:39:48
End at: 2019-01-03 09:40:18
Local clock offset: 9.071 ms
Remote clock offset: 32.471 ms


# Below is generated by plot.py at 2019-01-03 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 137.546 ms
Loss rate: 4.05%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 142.824 ms
Loss rate: 90.59%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 138.294 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 128.664 ms
Loss rate: 0.00%
```

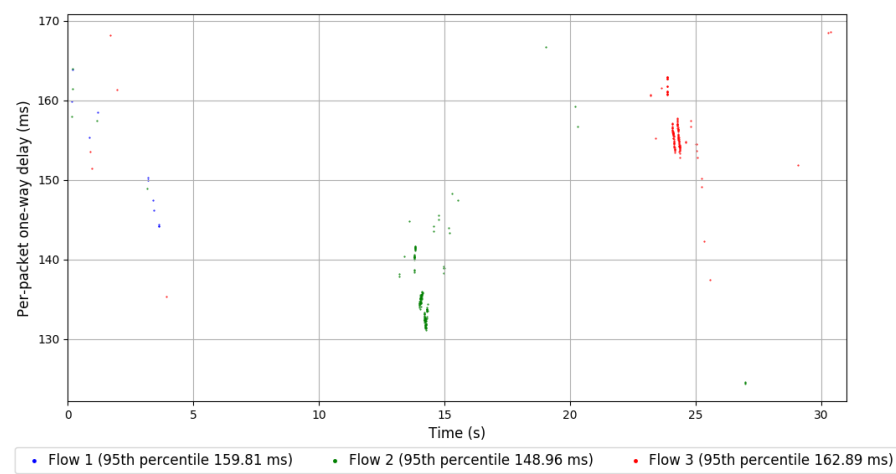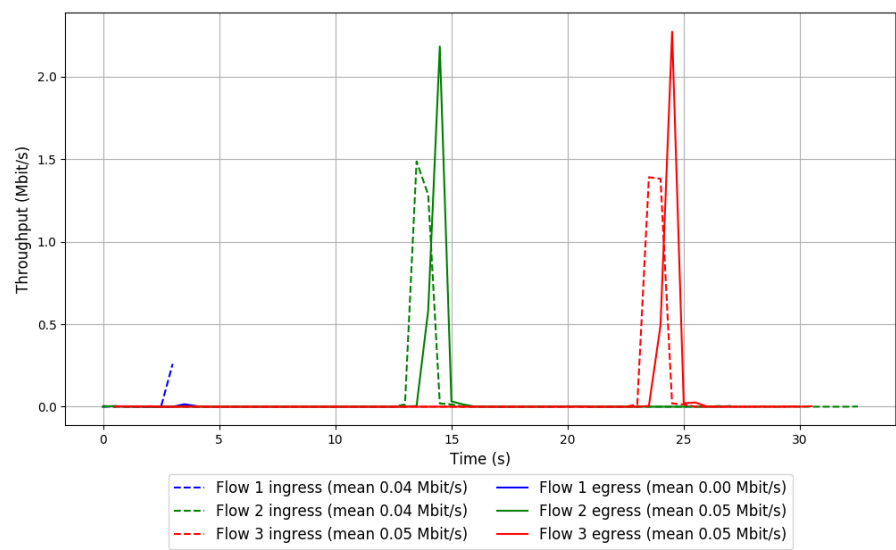Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-01-03 10:05:14
End at: 2019-01-03 10:05:44
Local clock offset: 16.334 ms
Remote clock offset: 36.847 ms


# Below is generated by plot.py at 2019-01-03 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 162.669 ms
Loss rate: 4.07%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 159.807 ms
Loss rate: 90.59%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 148.957 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 162.889 ms
Loss rate: 0.00%
```

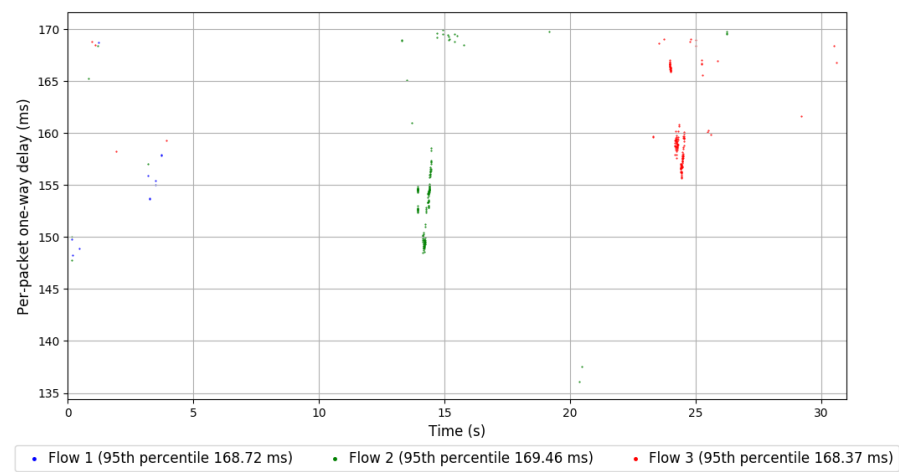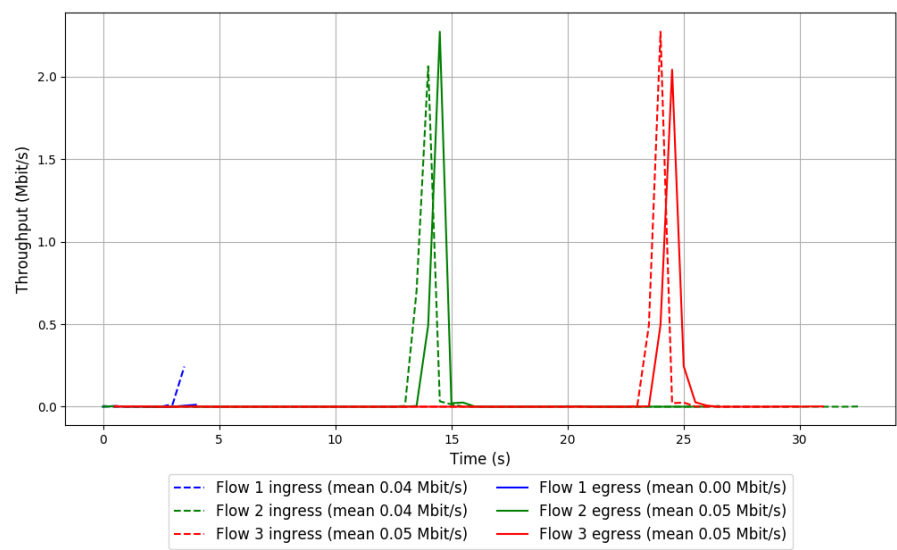Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-01-03 10:33:01
End at: 2019-01-03 10:33:31
Local clock offset: 21.933 ms
Remote clock offset: 55.278 ms


# Below is generated by plot.py at 2019-01-03 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 168.940 ms
Loss rate: 4.09%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 168.723 ms
Loss rate: 91.07%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 169.464 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 168.373 ms
Loss rate: 0.04%
```

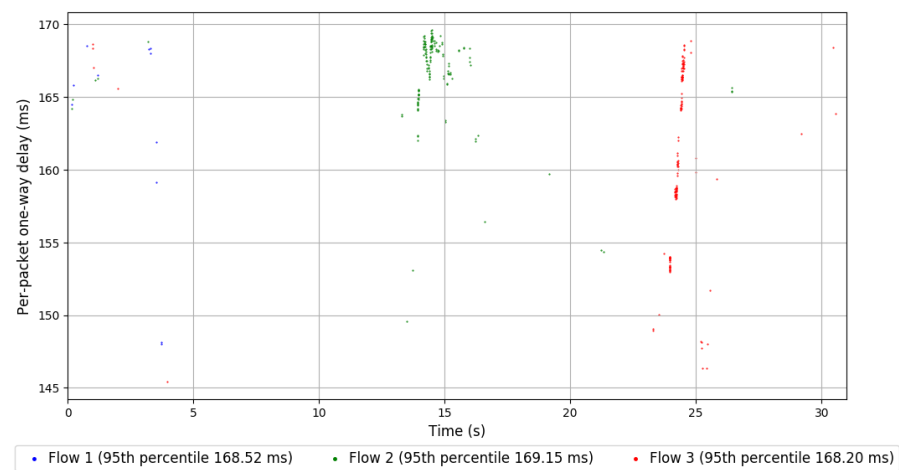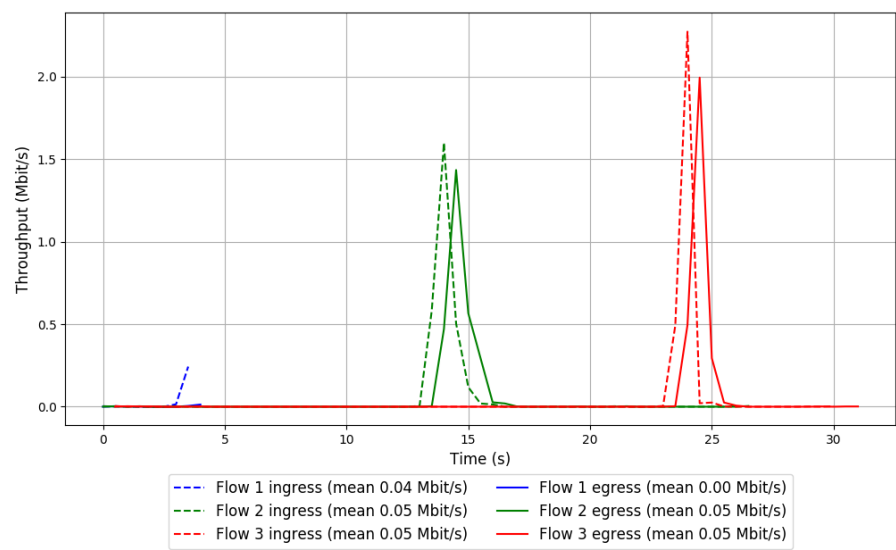Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-01-03 11:10:05
End at: 2019-01-03 11:10:35
Local clock offset: -1.905 ms
Remote clock offset: 38.531 ms


# Below is generated by plot.py at 2019-01-03 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 168.888 ms
Loss rate: 4.44%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 168.521 ms
Loss rate: 91.07%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 169.150 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 168.200 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-01-03 12:01:50
End at: 2019-01-03 12:02:20
Local clock offset: 8.524 ms
Remote clock offset: 35.399 ms


# Below is generated by plot.py at 2019-01-03 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 174.520 ms
Loss rate: 9.47%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 174.157 ms
Loss rate: 91.07%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 174.586 ms
Loss rate: 4.36%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 174.476 ms
Loss rate: 7.38%
```

Run 5: Report of WebRTC media — Data Link