Pantheon Report

Generated at 2019-02-21 06:47:20 (UTC).

Data path: GCE Sydney on `ens4` (*local*) →GCE Tokyo on `ens4` (*remote*).

Repeated the test of 21 congestion control schemes 5 times.

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

NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.
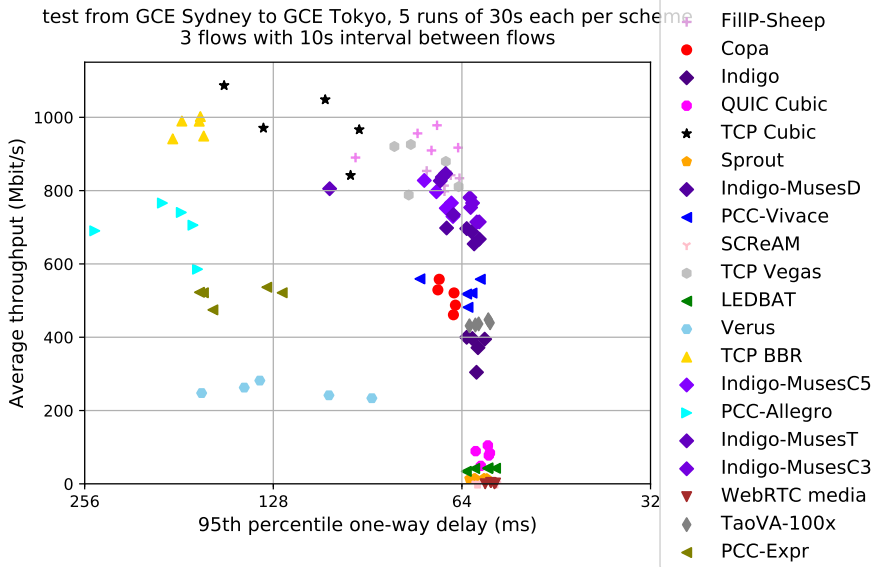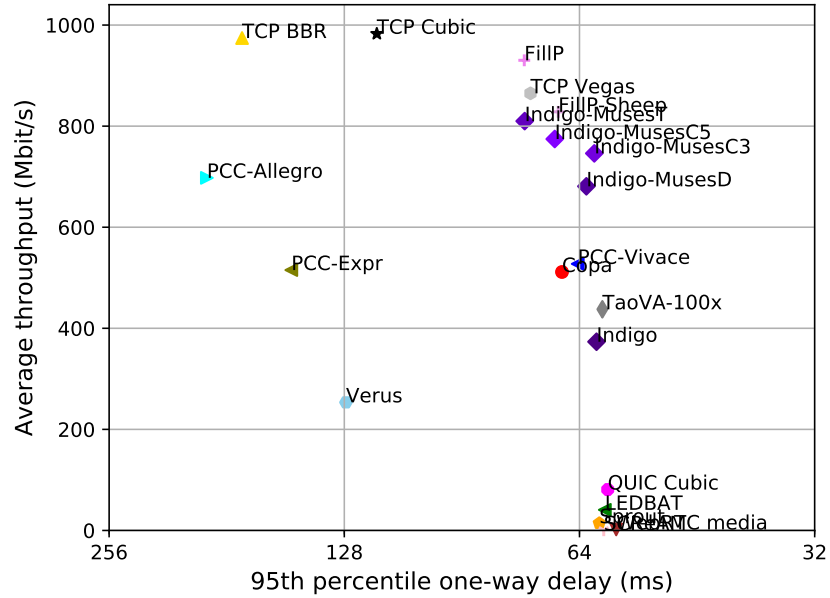
```
System info:
Linux 4.15.0-1026-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
```

```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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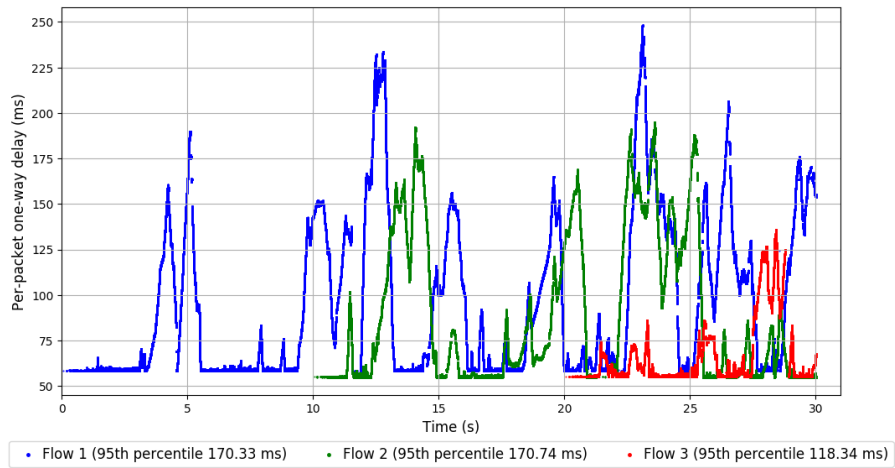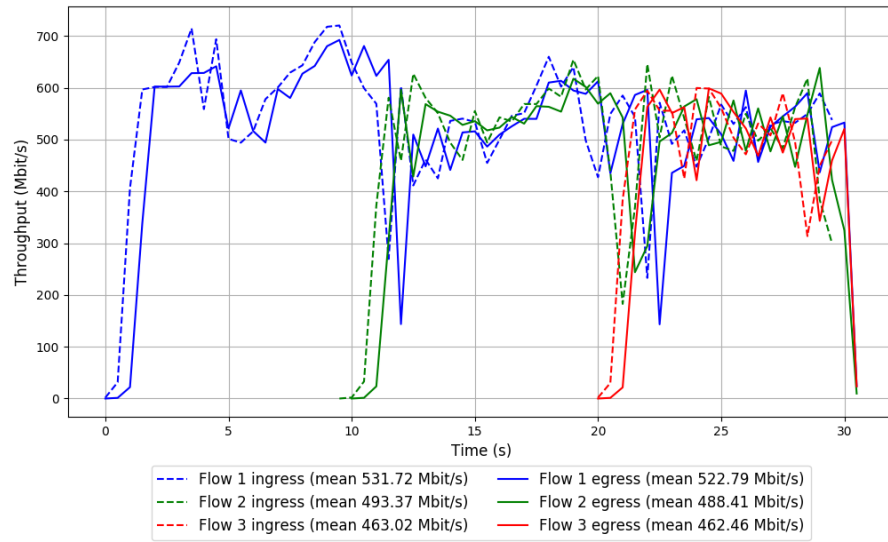3 flows with 10s interval between flows (mean of all runs by scheme)

test from GCE Sydney to GCE Tokyo, 5 runs of 30s each per scheme
3 flows with 10s interval between flows

scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	511.37	477.29	437.02	166.59	166.72	171.14	0.89	1.08	1.82
Copa	5	250.04	264.53	256.32	64.23	67.83	72.34	0.00	0.00	0.04
TCP Cubic	5	526.73	463.05	444.07	102.57	96.41	135.49	0.04	0.07	0.29
FillP	5	581.05	395.57	259.46	80.38	64.42	63.84	0.17	0.04	0.06
FillP-Sheep	5	533.11	323.10	242.46	70.74	61.76	62.80	0.07	0.03	0.04
Indigo	5	192.24	194.71	160.97	60.09	59.59	60.44	0.00	0.01	0.03
Indigo-MusesC3	5	429.69	372.85	271.03	61.03	61.58	60.04	0.00	0.00	0.00
Indigo-MusesC5	5	455.85	430.75	164.13	65.87	80.33	59.97	0.03	0.08	0.02
Indigo-MusesD	5	386.23	353.69	262.20	61.87	64.87	60.10	0.01	0.01	0.01
Indigo-MusesT	5	490.55	405.13	222.36	76.41	72.72	61.43	0.01	0.01	0.02
LEDBAT	5	26.11	17.50	9.22	59.51	58.22	58.09	0.00	0.02	0.00
PCC-Allegro	5	406.24	310.96	256.77	190.49	150.00	143.58	5.09	1.71	4.18
PCC-Expr	5	303.27	249.08	140.39	129.78	132.61	76.50	1.74	0.92	0.02
QUIC Cubic	5	36.64	50.46	33.17	58.30	57.52	58.22	0.00	0.00	0.50
SCReAM	5	0.22	0.22	0.22	58.45	58.18	57.57	0.00	0.00	0.07
Sprout	5	7.49	7.13	6.53	58.95	59.67	60.53	0.00	0.00	0.00
TaoVA-100x	5	222.68	215.90	213.14	58.76	59.53	58.43	0.01	0.01	0.00
TCP Vegas	5	436.88	448.51	389.30	68.18	76.04	73.34	0.01	0.01	0.24
Verus	5	147.13	123.66	74.24	122.20	116.02	97.54	0.03	1.06	0.01
PCC-Vivace	5	336.04	215.57	145.83	65.31	59.05	66.26	0.01	0.00	0.01
WebRTC media	5	1.24	0.55	0.23	57.44	57.38	57.21	0.00	0.00	0.01

```
Run 1: Statistics of TCP BBR

Start at: 2019-02-21 00:06:33
End at: 2019-02-21 00:07:03
Local clock offset: 0.885 ms
Remote clock offset: -1.547 ms


# Below is generated by plot.py at 2019-02-21 04:17:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1002.09 Mbit/s
95th percentile per-packet one-way delay: 167.350 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 522.79 Mbit/s
95th percentile per-packet one-way delay: 170.333 ms
Loss rate: 1.69%
-- Flow 2:
Average throughput: 488.41 Mbit/s
95th percentile per-packet one-way delay: 170.736 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 462.46 Mbit/s
95th percentile per-packet one-way delay: 118.341 ms
Loss rate: 0.11%
```
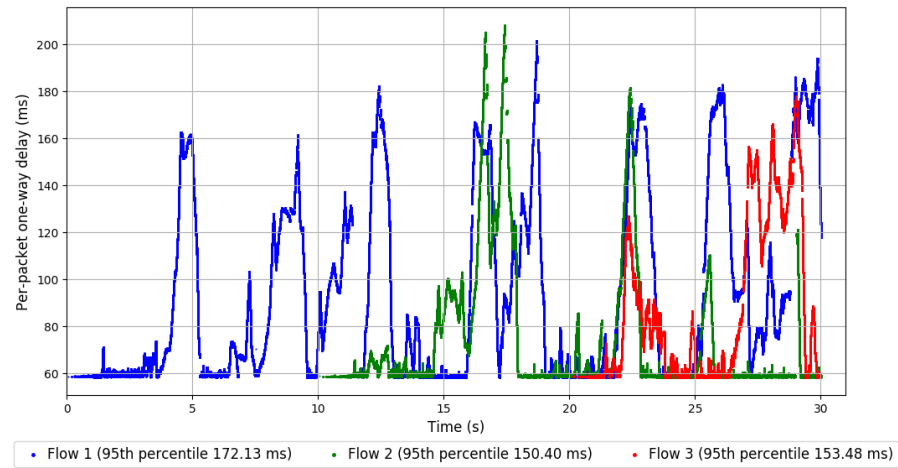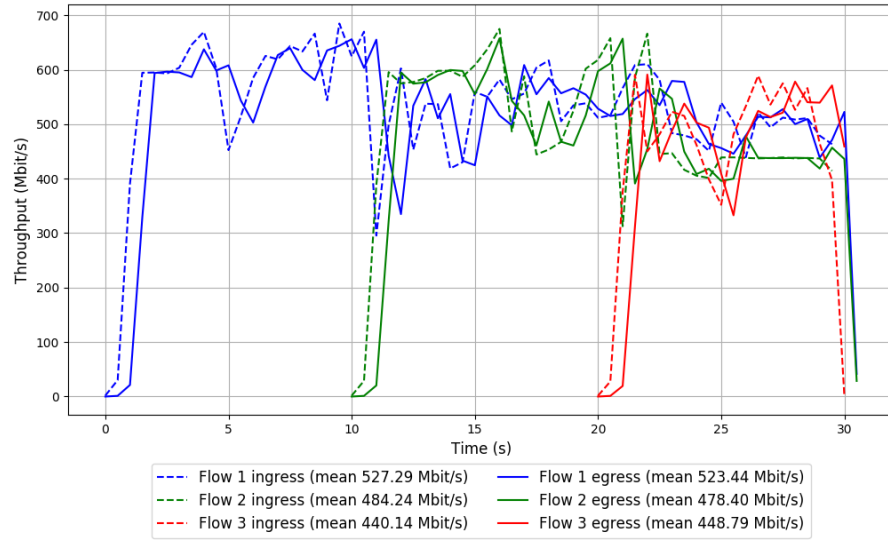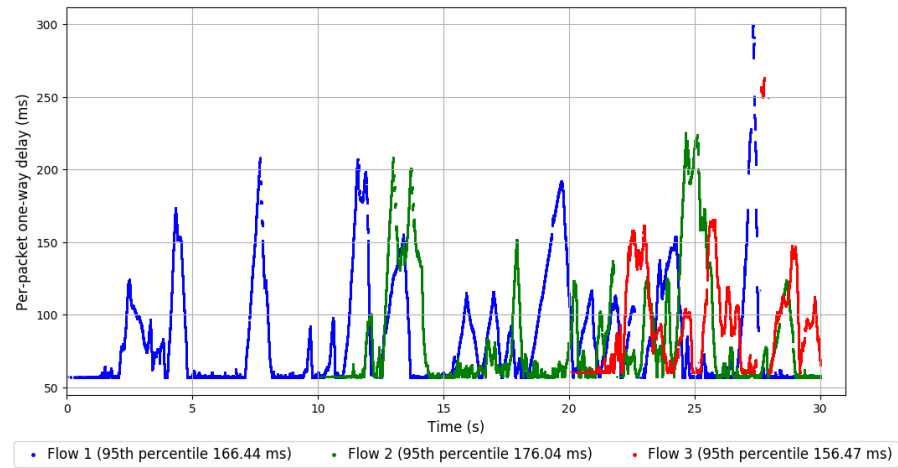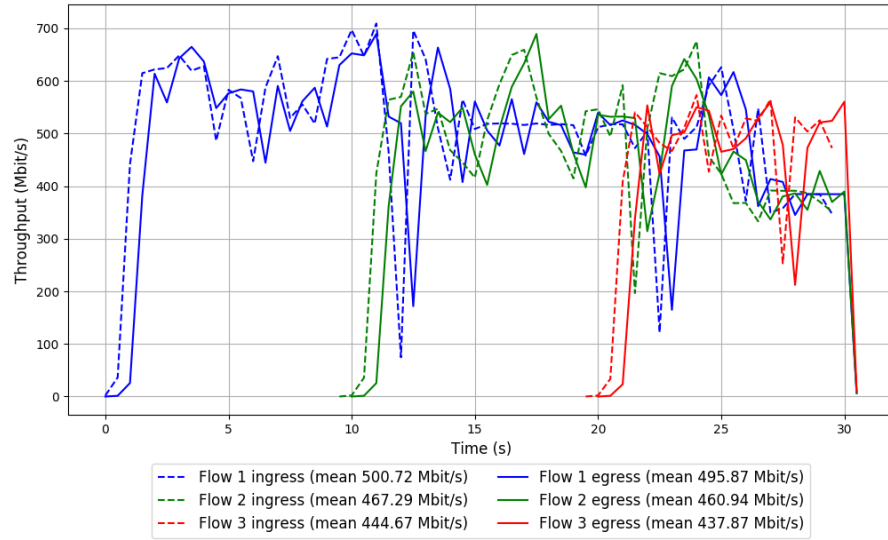
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-02-21 00:50:53
End at: 2019-02-21 00:51:23
Local clock offset: -0.152 ms
Remote clock offset: 1.228 ms


# Below is generated by plot.py at 2019-02-21 04:17:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 989.56 Mbit/s
95th percentile per-packet one-way delay: 168.034 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 523.44 Mbit/s
95th percentile per-packet one-way delay: 172.128 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 478.40 Mbit/s
95th percentile per-packet one-way delay: 150.396 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 448.79 Mbit/s
95th percentile per-packet one-way delay: 153.477 ms
Loss rate: 0.04%
```

Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-02-21 01:35:01
End at: 2019-02-21 01:35:31
Local clock offset: 0.078 ms
Remote clock offset: -0.197 ms


# Below is generated by plot.py at 2019-02-21 04:17:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 948.94 Mbit/s
95th percentile per-packet one-way delay: 165.309 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 495.87 Mbit/s
95th percentile per-packet one-way delay: 166.441 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 460.94 Mbit/s
95th percentile per-packet one-way delay: 176.037 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 437.87 Mbit/s
95th percentile per-packet one-way delay: 156.470 ms
Loss rate: 1.56%
```
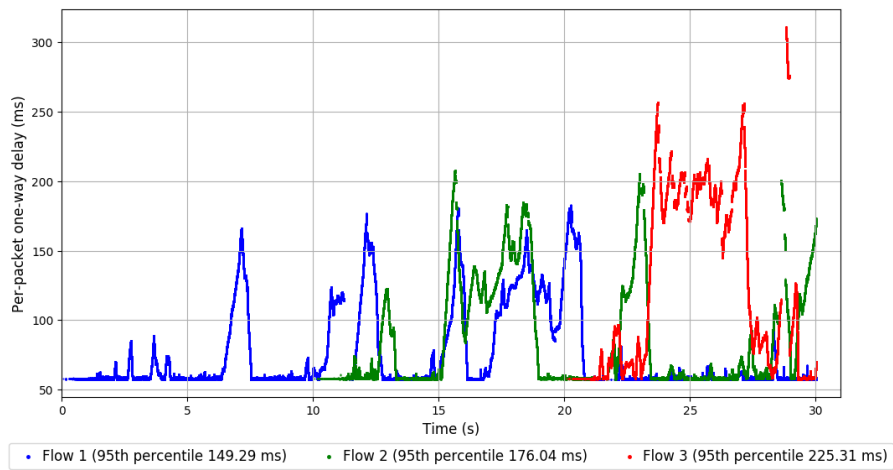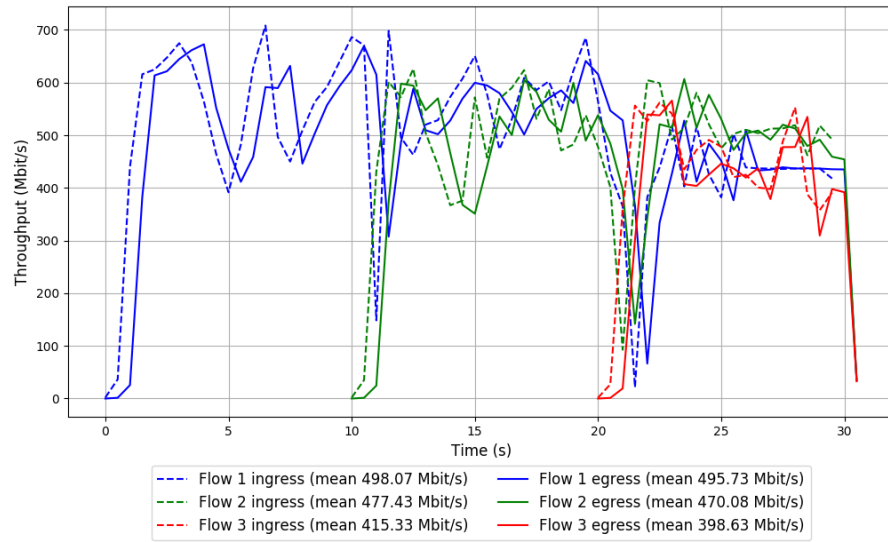
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 500.72 Mbit/s) --- Flow 1 egress (mean 495.87 Mbit/s)
Flow 2 ingress (mean 467.29 Mbit/s) --- Flow 2 egress (mean 460.94 Mbit/s)
Flow 3 ingress (mean 444.67 Mbit/s) --- Flow 3 egress (mean 437.87 Mbit/s)

Flow 1 (95th percentile 166.44 ms)   Flow 2 (95th percentile 176.04 ms)   Flow 3 (95th percentile 156.47 ms)
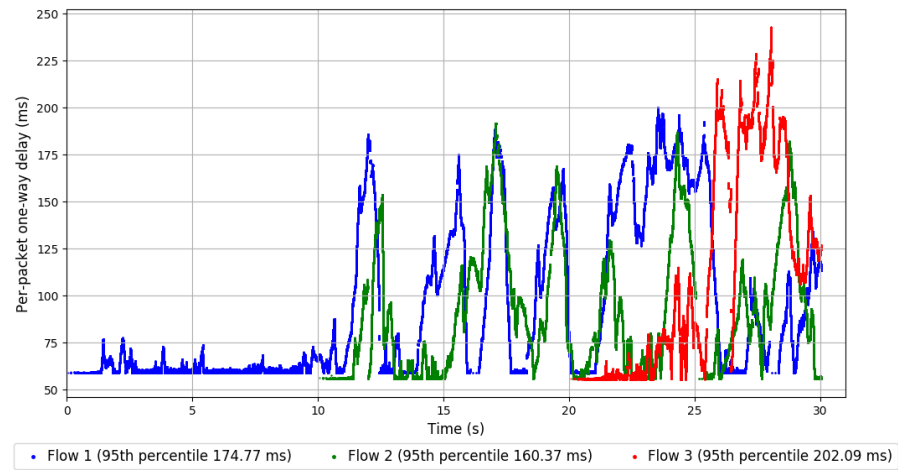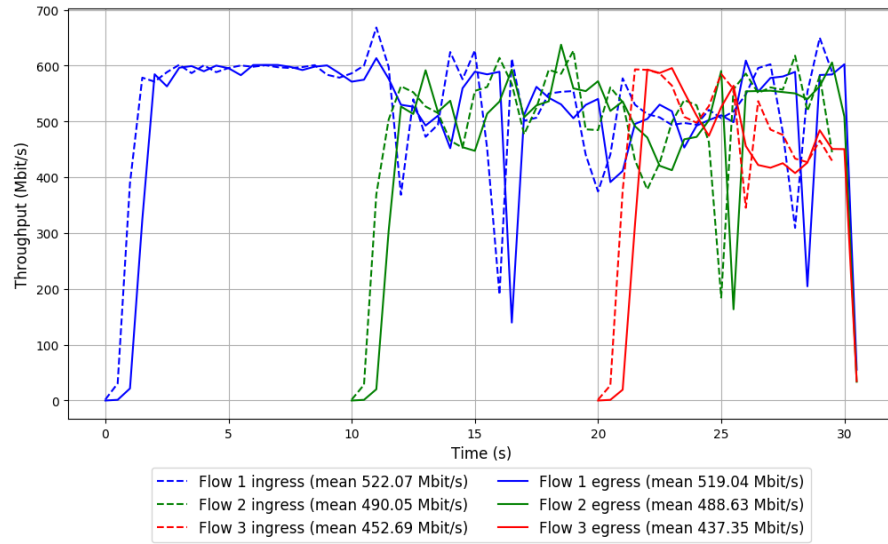
```
Run 4: Statistics of TCP BBR

Start at: 2019-02-21 02:19:01
End at: 2019-02-21 02:19:31
Local clock offset: 0.269 ms
Remote clock offset: 0.698 ms


# Below is generated by plot.py at 2019-02-21 04:17:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 941.28 Mbit/s
95th percentile per-packet one-way delay: 185.229 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 495.73 Mbit/s
95th percentile per-packet one-way delay: 149.290 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 470.08 Mbit/s
95th percentile per-packet one-way delay: 176.045 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 398.63 Mbit/s
95th percentile per-packet one-way delay: 225.315 ms
Loss rate: 4.01%
```
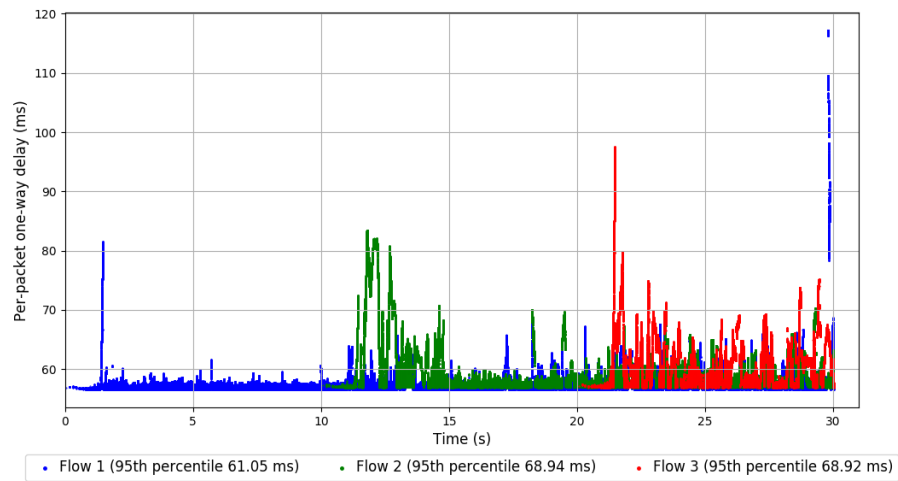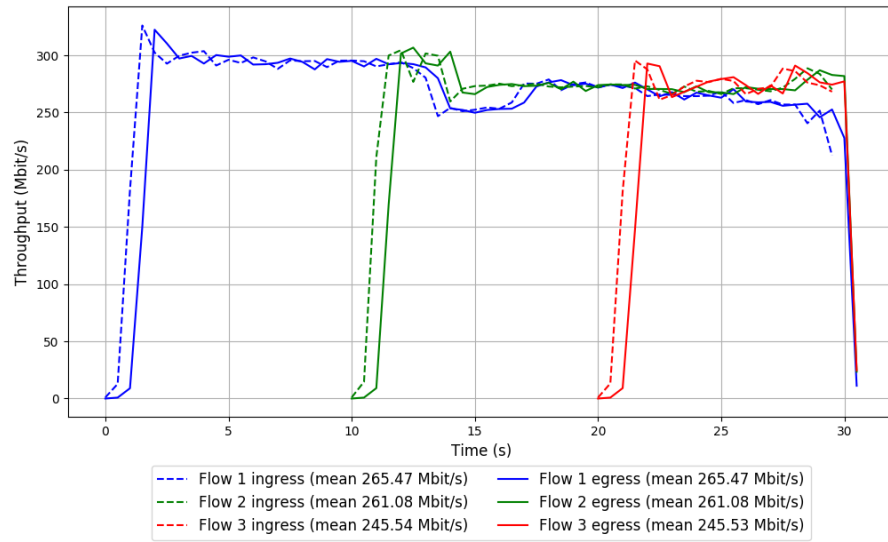
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 498.07 Mbit/s)   Flow 1 egress (mean 495.73 Mbit/s)
Flow 2 ingress (mean 477.43 Mbit/s)   Flow 2 egress (mean 470.08 Mbit/s)
Flow 3 ingress (mean 415.33 Mbit/s)   Flow 3 egress (mean 398.63 Mbit/s)

Flow 1 (95th percentile 149.29 ms)   Flow 2 (95th percentile 176.04 ms)   Flow 3 (95th percentile 225.31 ms)

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```
Run 5: Statistics of TCP BBR

Start at: 2019-02-21 03:01:45
End at: 2019-02-21 03:02:15
Local clock offset: -0.271 ms
Remote clock offset: -1.556 ms


# Below is generated by plot.py at 2019-02-21 04:17:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 989.87 Mbit/s
95th percentile per-packet one-way delay: 179.128 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 519.04 Mbit/s
95th percentile per-packet one-way delay: 174.768 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 488.63 Mbit/s
95th percentile per-packet one-way delay: 160.371 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 437.35 Mbit/s
95th percentile per-packet one-way delay: 202.092 ms
Loss rate: 3.38%
```
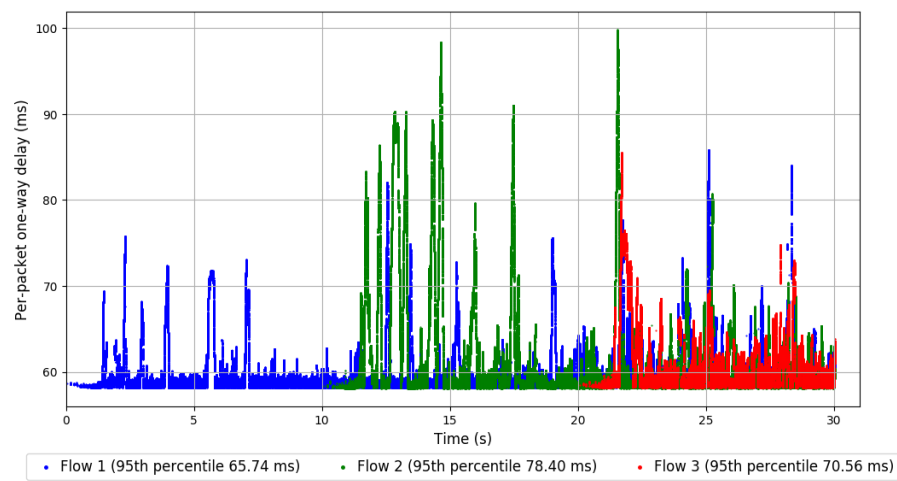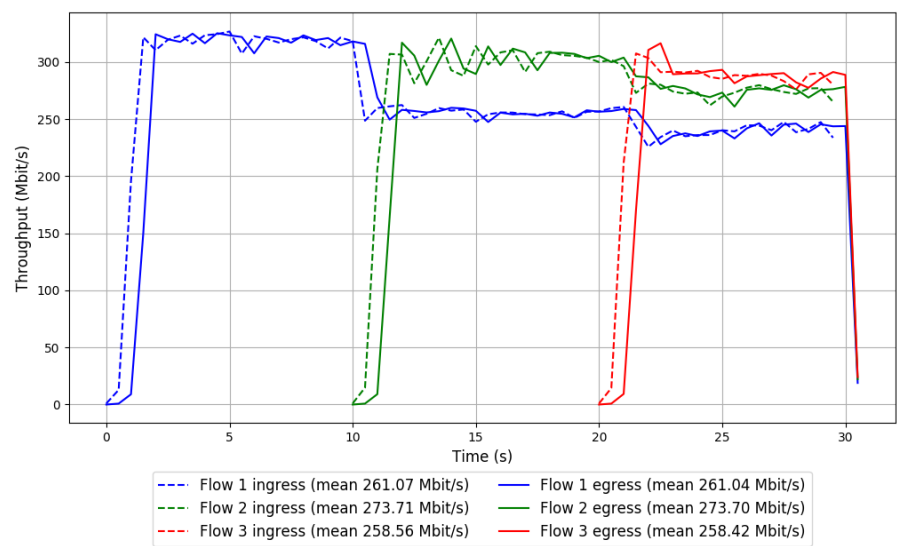
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 522.07 Mbit/s) — Flow 1 egress (mean 519.04 Mbit/s)
Flow 2 ingress (mean 490.05 Mbit/s) — Flow 2 egress (mean 488.63 Mbit/s)
Flow 3 ingress (mean 452.69 Mbit/s) — Flow 3 egress (mean 437.35 Mbit/s)

Flow 1 (95th percentile 174.77 ms) · Flow 2 (95th percentile 160.37 ms) · Flow 3 (95th percentile 202.09 ms)

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```
Run 1: Statistics of Copa

Start at: 2019-02-21 00:25:11
End at: 2019-02-21 00:25:41
Local clock offset: -0.047 ms
Remote clock offset: -0.501 ms


# Below is generated by plot.py at 2019-02-21 04:17:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 520.92 Mbit/s
95th percentile per-packet one-way delay: 65.880 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 265.47 Mbit/s
95th percentile per-packet one-way delay: 61.045 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 261.08 Mbit/s
95th percentile per-packet one-way delay: 68.936 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 245.53 Mbit/s
95th percentile per-packet one-way delay: 68.925 ms
Loss rate: 0.00%
```
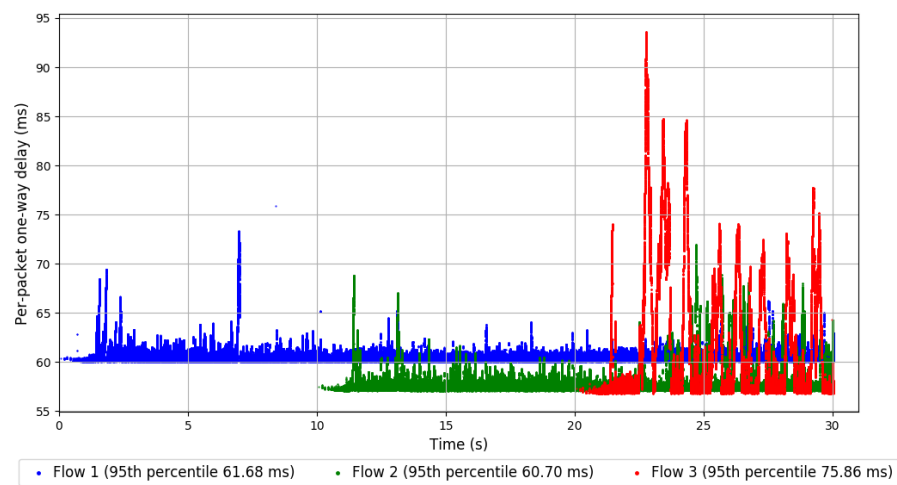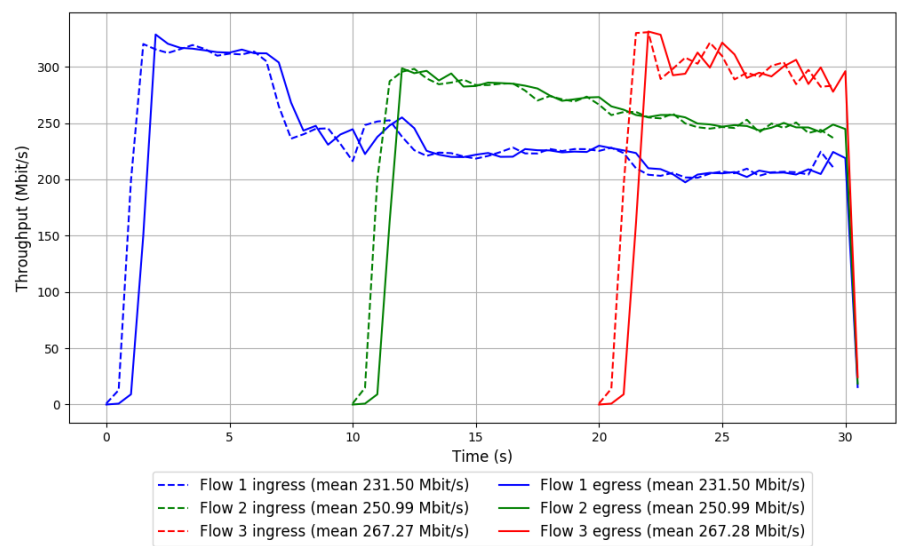
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2019-02-21 01:09:20
End at: 2019-02-21 01:09:50
Local clock offset: -0.042 ms
Remote clock offset: 1.197 ms


# Below is generated by plot.py at 2019-02-21 04:17:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 529.19 Mbit/s
95th percentile per-packet one-way delay: 69.912 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 261.04 Mbit/s
95th percentile per-packet one-way delay: 65.738 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 273.70 Mbit/s
95th percentile per-packet one-way delay: 78.401 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 258.42 Mbit/s
95th percentile per-packet one-way delay: 70.555 ms
Loss rate: 0.04%
```
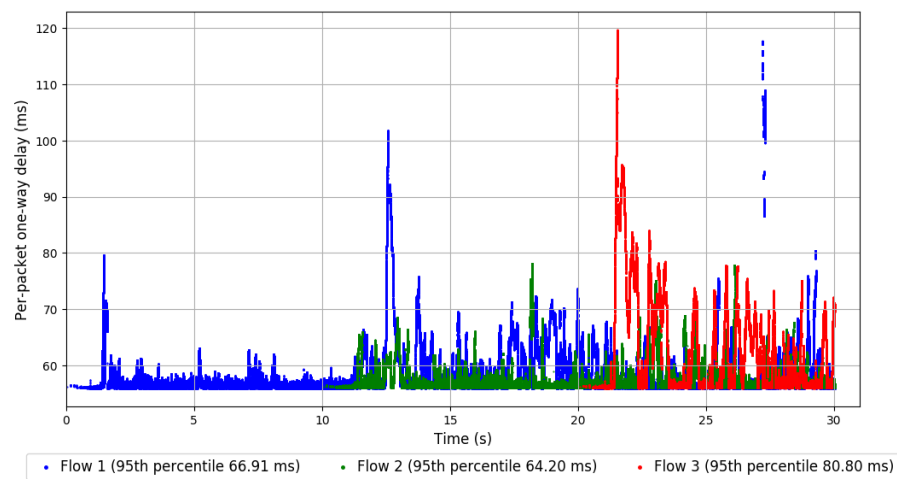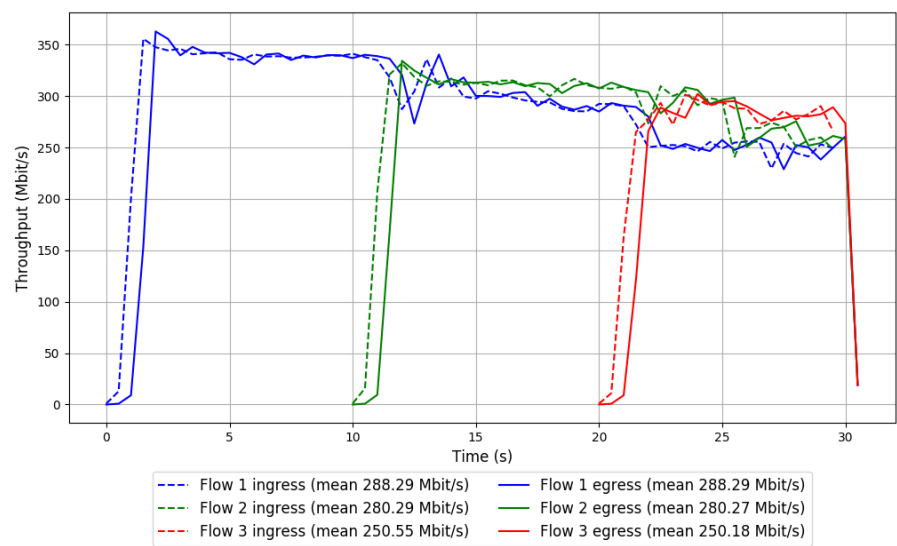
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-02-21 01:53:43
End at: 2019-02-21 01:54:13
Local clock offset: -0.027 ms
Remote clock offset: -0.294 ms


# Below is generated by plot.py at 2019-02-21 04:17:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 487.55 Mbit/s
95th percentile per-packet one-way delay: 65.548 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 231.50 Mbit/s
95th percentile per-packet one-way delay: 61.680 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 250.99 Mbit/s
95th percentile per-packet one-way delay: 60.700 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 267.28 Mbit/s
95th percentile per-packet one-way delay: 75.856 ms
Loss rate: 0.00%
```
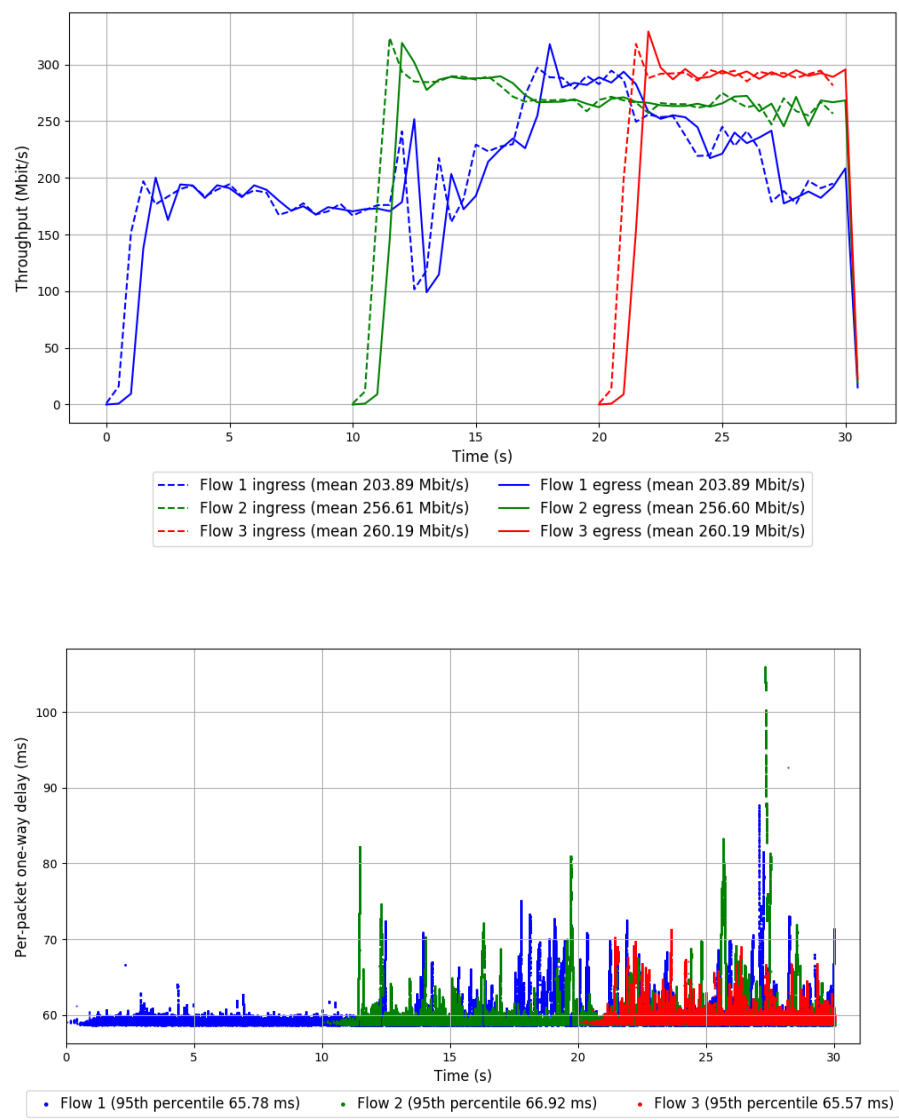
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 231.50 Mbit/s) --- Flow 1 egress (mean 231.50 Mbit/s)
Flow 2 ingress (mean 250.99 Mbit/s) --- Flow 2 egress (mean 250.99 Mbit/s)
Flow 3 ingress (mean 267.27 Mbit/s) --- Flow 3 egress (mean 267.28 Mbit/s)

Flow 1 (95th percentile 61.68 ms)   Flow 2 (95th percentile 60.70 ms)   Flow 3 (95th percentile 75.86 ms)

```
Run 4: Statistics of Copa

Start at: 2019-02-21 02:36:59
End at: 2019-02-21 02:37:29
Local clock offset: -0.038 ms
Remote clock offset: -0.896 ms


# Below is generated by plot.py at 2019-02-21 04:35:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 558.12 Mbit/s
95th percentile per-packet one-way delay: 69.565 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 288.29 Mbit/s
95th percentile per-packet one-way delay: 66.905 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 280.27 Mbit/s
95th percentile per-packet one-way delay: 64.196 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 250.18 Mbit/s
95th percentile per-packet one-way delay: 80.802 ms
Loss rate: 0.15%
```
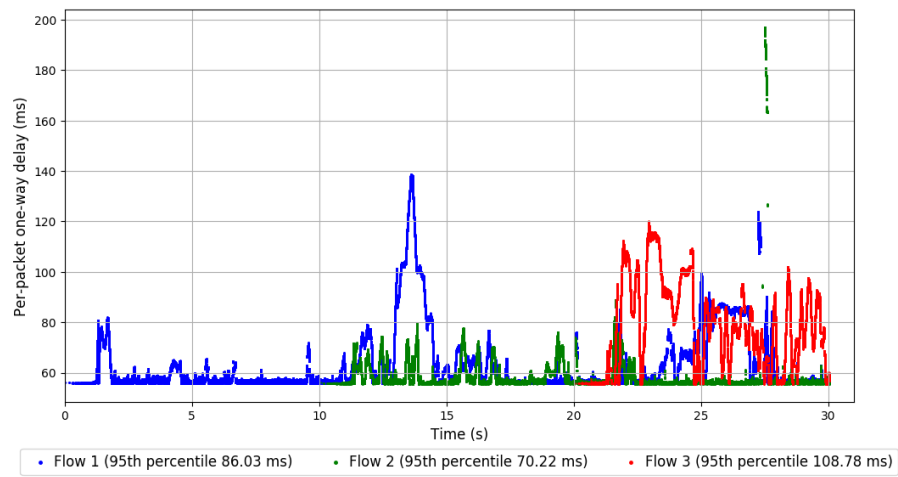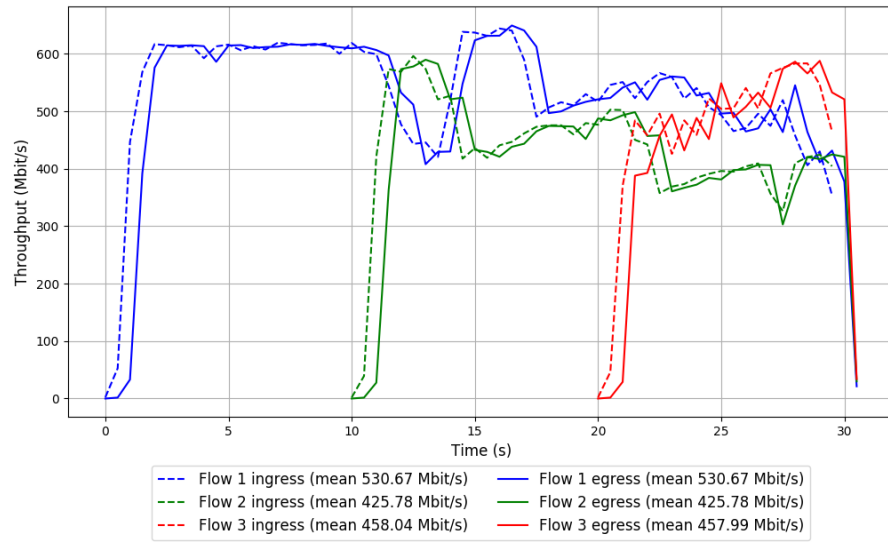
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-02-21 03:21:10
End at: 2019-02-21 03:21:40
Local clock offset: -0.085 ms
Remote clock offset: 1.329 ms


# Below is generated by plot.py at 2019-02-21 04:35:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 461.24 Mbit/s
95th percentile per-packet one-way delay: 66.030 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 203.89 Mbit/s
95th percentile per-packet one-way delay: 65.777 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 256.60 Mbit/s
95th percentile per-packet one-way delay: 66.922 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 260.19 Mbit/s
95th percentile per-packet one-way delay: 65.569 ms
Loss rate: 0.00%
```
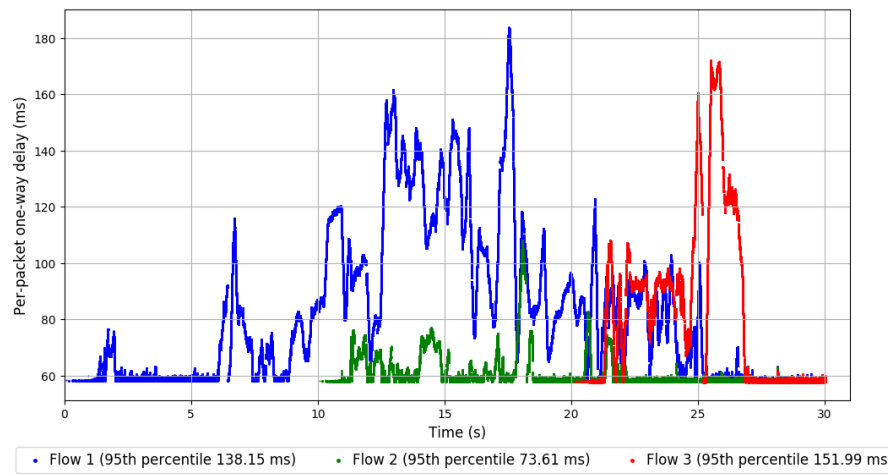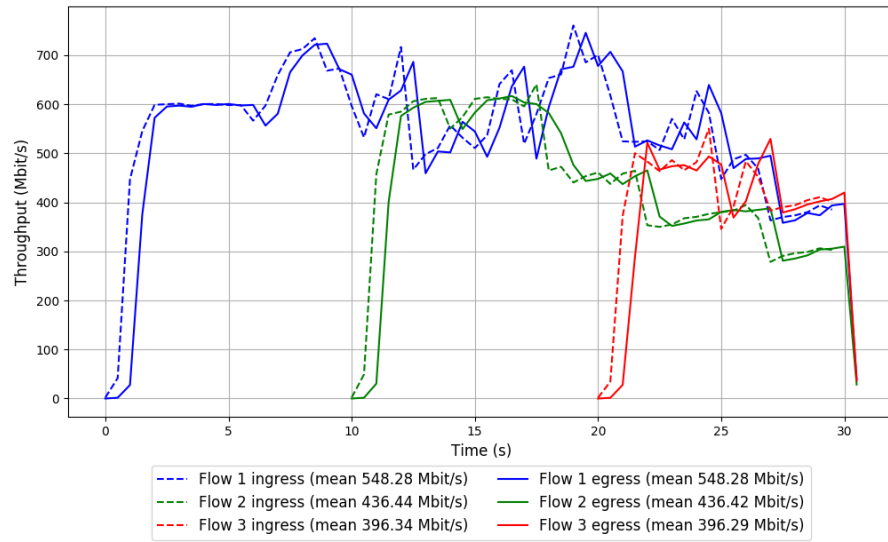
Run 5: Report of Copa — Data Link

- - - Flow 1 ingress (mean 203.89 Mbit/s) — Flow 1 egress (mean 203.89 Mbit/s)
- - - Flow 2 ingress (mean 256.61 Mbit/s) — Flow 2 egress (mean 256.60 Mbit/s)
- - - Flow 3 ingress (mean 260.19 Mbit/s) — Flow 3 egress (mean 260.19 Mbit/s)

• Flow 1 (95th percentile 65.78 ms)   • Flow 2 (95th percentile 66.92 ms)   • Flow 3 (95th percentile 65.57 ms)

```
Run 1: Statistics of TCP Cubic

Start at: 2019-02-21 00:27:37
End at: 2019-02-21 00:28:07
Local clock offset: -0.053 ms
Remote clock offset: -1.459 ms


# Below is generated by plot.py at 2019-02-21 04:35:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 966.38 Mbit/s
95th percentile per-packet one-way delay: 93.329 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 530.67 Mbit/s
95th percentile per-packet one-way delay: 86.030 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 425.78 Mbit/s
95th percentile per-packet one-way delay: 70.224 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 457.99 Mbit/s
95th percentile per-packet one-way delay: 108.778 ms
Loss rate: 0.01%
```
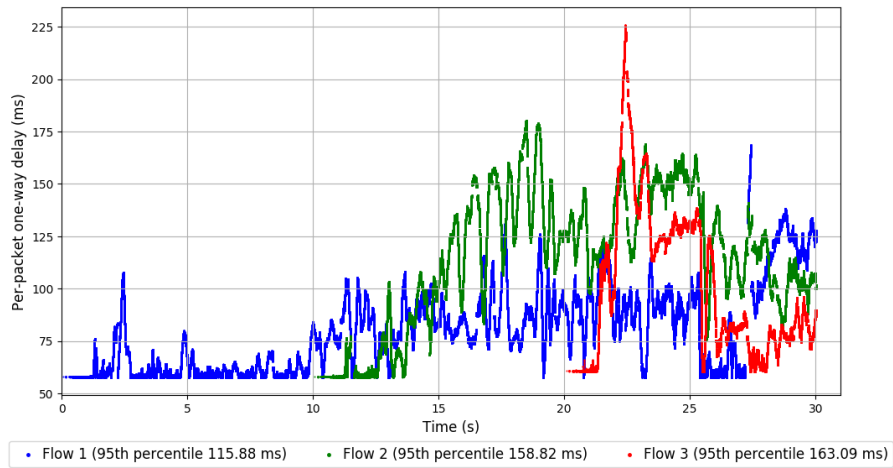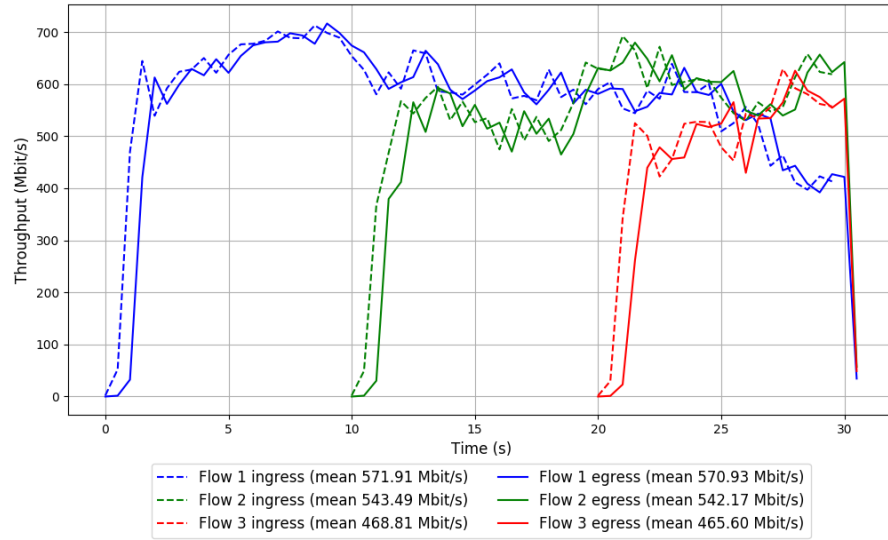
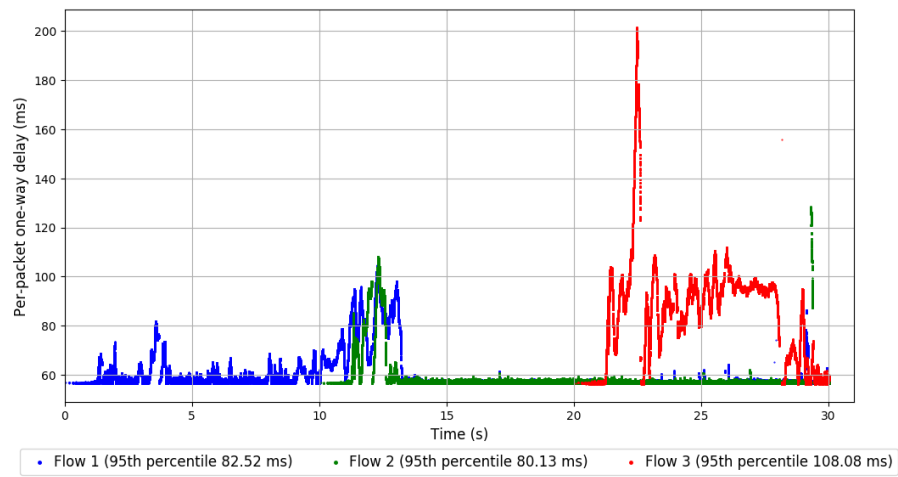Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-02-21 01:11:47
End at: 2019-02-21 01:12:17
Local clock offset: -0.38 ms
Remote clock offset: 0.358 ms


# Below is generated by plot.py at 2019-02-21 04:35:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 970.65 Mbit/s
95th percentile per-packet one-way delay: 132.722 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 548.28 Mbit/s
95th percentile per-packet one-way delay: 138.146 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 436.42 Mbit/s
95th percentile per-packet one-way delay: 73.613 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 396.29 Mbit/s
95th percentile per-packet one-way delay: 151.985 ms
Loss rate: 0.00%
```

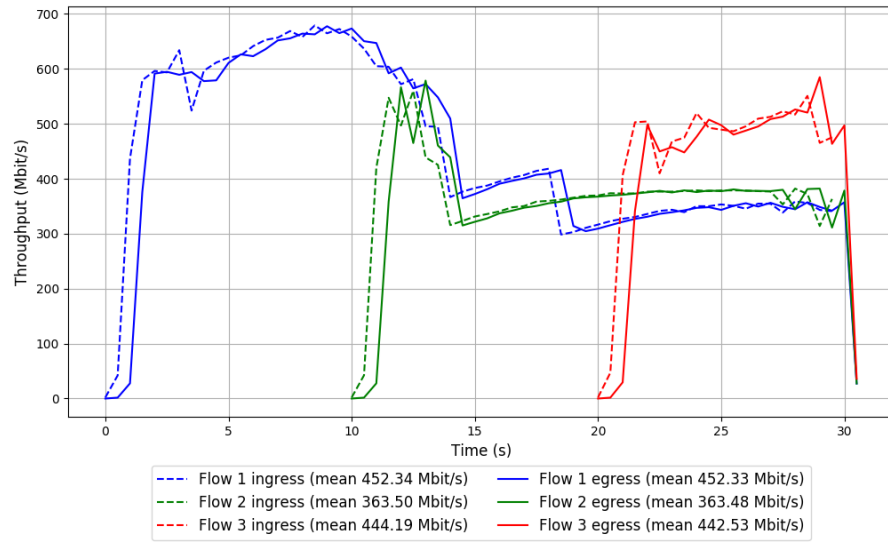Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2019-02-21 01:56:23
End at: 2019-02-21 01:56:53
Local clock offset: 0.153 ms
Remote clock offset: 0.603 ms


# Below is generated by plot.py at 2019-02-21 04:37:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1086.79 Mbit/s
95th percentile per-packet one-way delay: 153.348 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 570.93 Mbit/s
95th percentile per-packet one-way delay: 115.879 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 542.17 Mbit/s
95th percentile per-packet one-way delay: 158.816 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 465.60 Mbit/s
95th percentile per-packet one-way delay: 163.085 ms
Loss rate: 0.71%
```

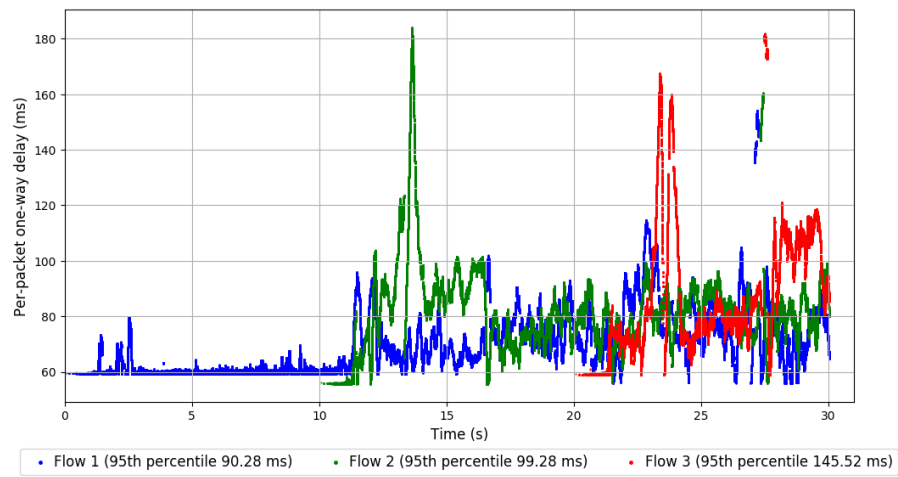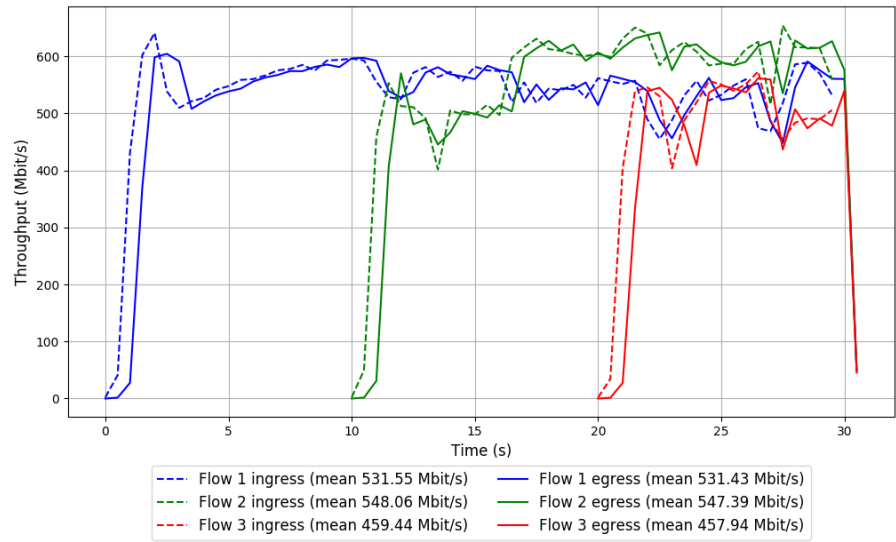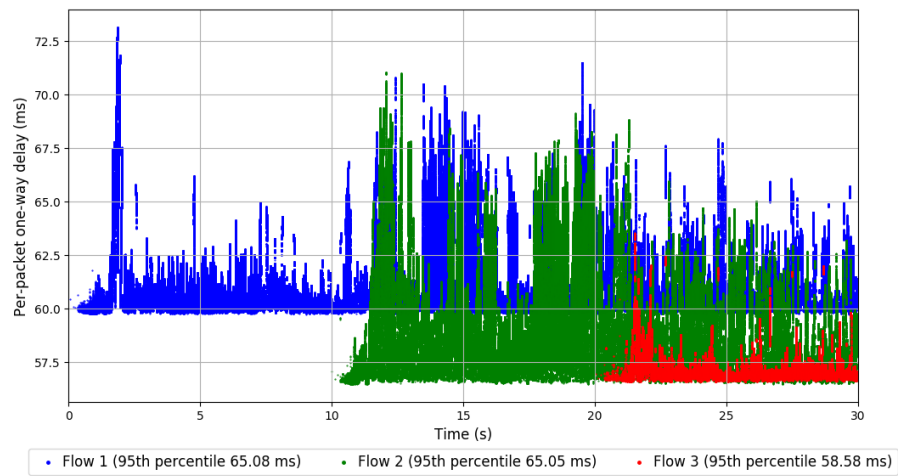## Run 3: Report of TCP Cubic — Data Link

- - - - Flow 1 ingress (mean 571.91 Mbit/s) —— Flow 1 egress (mean 570.93 Mbit/s)
- - - - Flow 2 ingress (mean 543.49 Mbit/s) —— Flow 2 egress (mean 542.17 Mbit/s)
- - - - Flow 3 ingress (mean 468.81 Mbit/s) —— Flow 3 egress (mean 465.60 Mbit/s)

- Flow 1 (95th percentile 115.88 ms)   • Flow 2 (95th percentile 158.82 ms)   • Flow 3 (95th percentile 163.09 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-02-21 02:39:31
End at: 2019-02-21 02:40:01
Local clock offset: -0.424 ms
Remote clock offset: -0.792 ms


# Below is generated by plot.py at 2019-02-21 04:37:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 841.62 Mbit/s
95th percentile per-packet one-way delay: 96.359 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 452.33 Mbit/s
95th percentile per-packet one-way delay: 82.516 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 363.48 Mbit/s
95th percentile per-packet one-way delay: 80.129 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 442.53 Mbit/s
95th percentile per-packet one-way delay: 108.083 ms
Loss rate: 0.36%
```

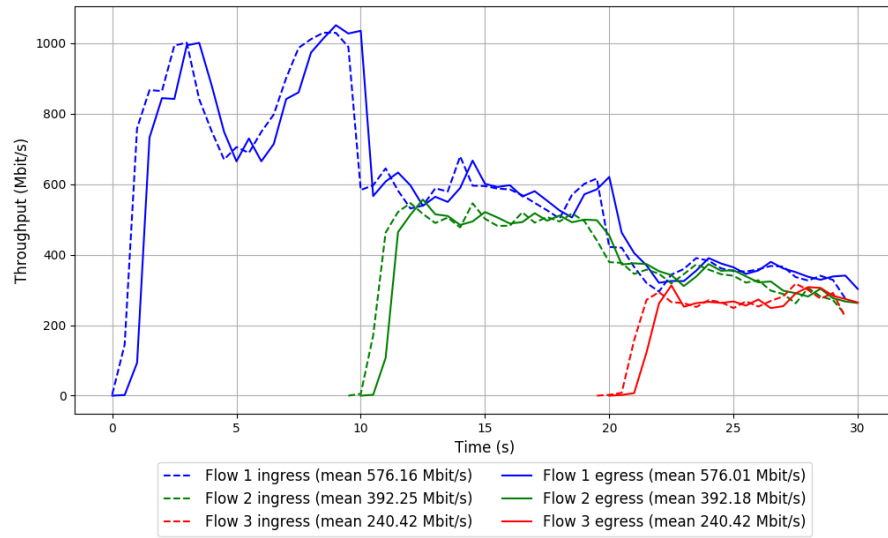Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-02-21 03:23:32
End at: 2019-02-21 03:24:02
Local clock offset: -0.007 ms
Remote clock offset: -1.515 ms


# Below is generated by plot.py at 2019-02-21 04:37:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1048.19 Mbit/s
95th percentile per-packet one-way delay: 105.757 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 531.43 Mbit/s
95th percentile per-packet one-way delay: 90.283 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 547.39 Mbit/s
95th percentile per-packet one-way delay: 99.285 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 457.94 Mbit/s
95th percentile per-packet one-way delay: 145.520 ms
Loss rate: 0.36%
```
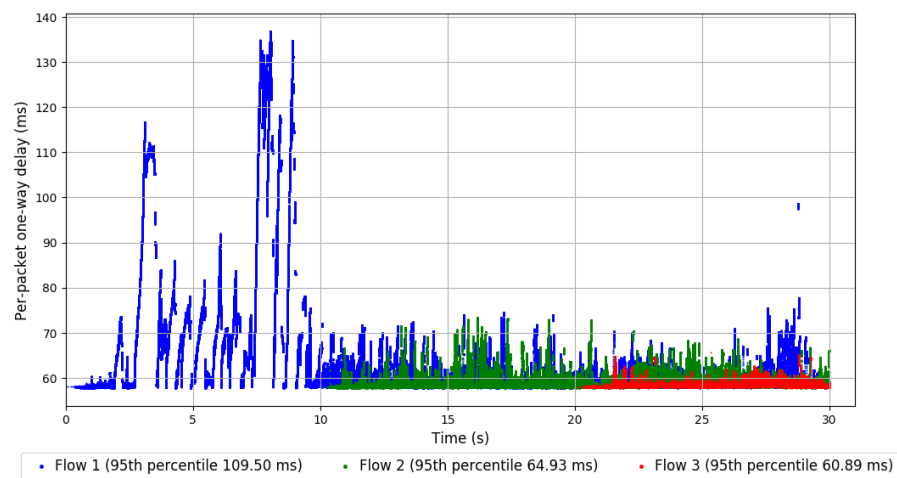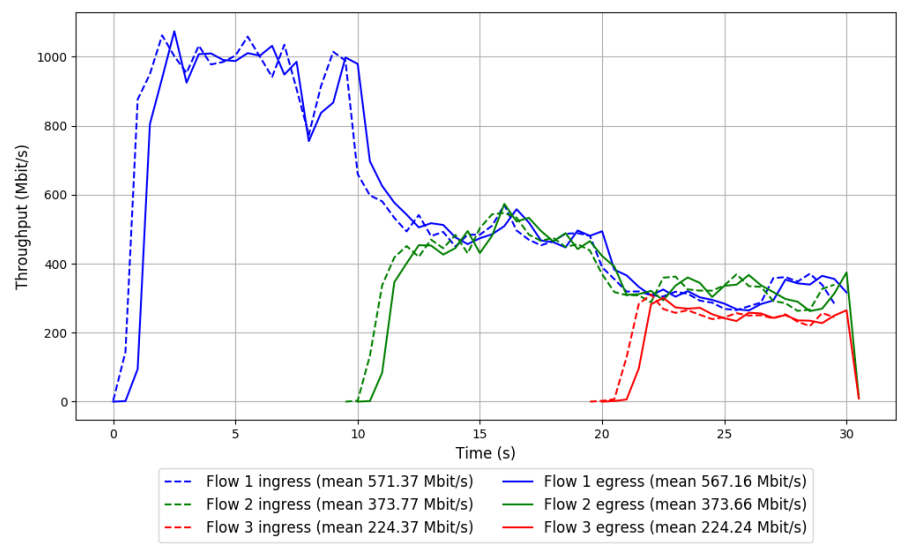
Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2019-02-21 00:39:53
End at: 2019-02-21 00:40:23
Local clock offset: -0.168 ms
Remote clock offset: -0.579 ms

# Below is generated by plot.py at 2019-02-21 04:38:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 917.22 Mbit/s
95th percentile per-packet one-way delay: 64.900 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 576.01 Mbit/s
95th percentile per-packet one-way delay: 65.081 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 392.18 Mbit/s
95th percentile per-packet one-way delay: 65.054 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 240.42 Mbit/s
95th percentile per-packet one-way delay: 58.576 ms
Loss rate: 0.01%
```
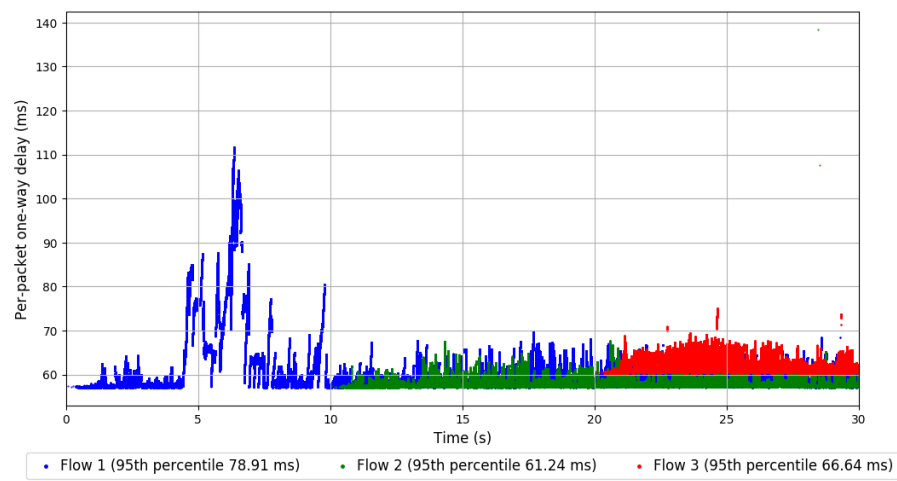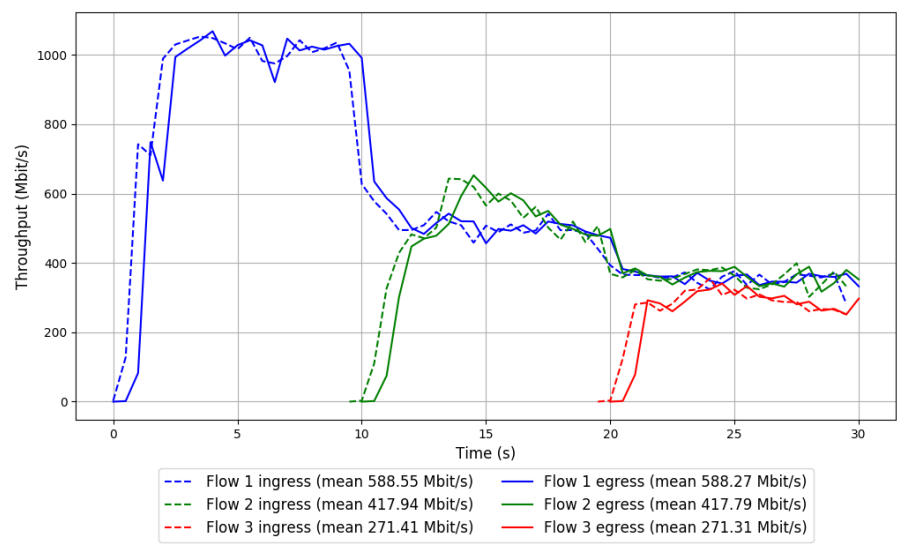
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2019-02-21 01:24:03
End at: 2019-02-21 01:24:33
Local clock offset: -0.324 ms
Remote clock offset: 0.564 ms


# Below is generated by plot.py at 2019-02-21 04:53:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 890.16 Mbit/s
95th percentile per-packet one-way delay: 94.618 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 567.16 Mbit/s
95th percentile per-packet one-way delay: 109.498 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 373.66 Mbit/s
95th percentile per-packet one-way delay: 64.926 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 224.24 Mbit/s
95th percentile per-packet one-way delay: 60.887 ms
Loss rate: 0.06%
```

Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-02-21 02:08:19
End at: 2019-02-21 02:08:49
Local clock offset: -0.352 ms
Remote clock offset: -0.267 ms


# Below is generated by plot.py at 2019-02-21 04:55:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 956.16 Mbit/s
95th percentile per-packet one-way delay: 75.330 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 588.27 Mbit/s
95th percentile per-packet one-way delay: 78.909 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 417.79 Mbit/s
95th percentile per-packet one-way delay: 61.237 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 271.31 Mbit/s
95th percentile per-packet one-way delay: 66.636 ms
Loss rate: 0.04%
```
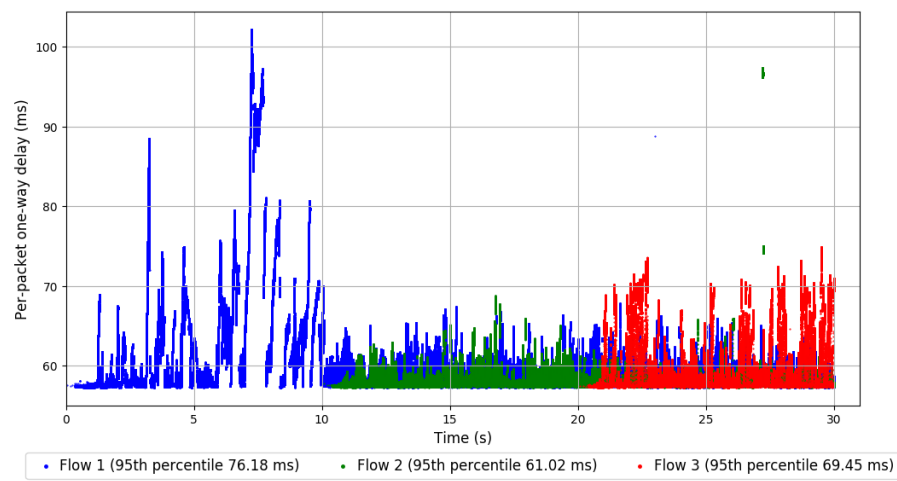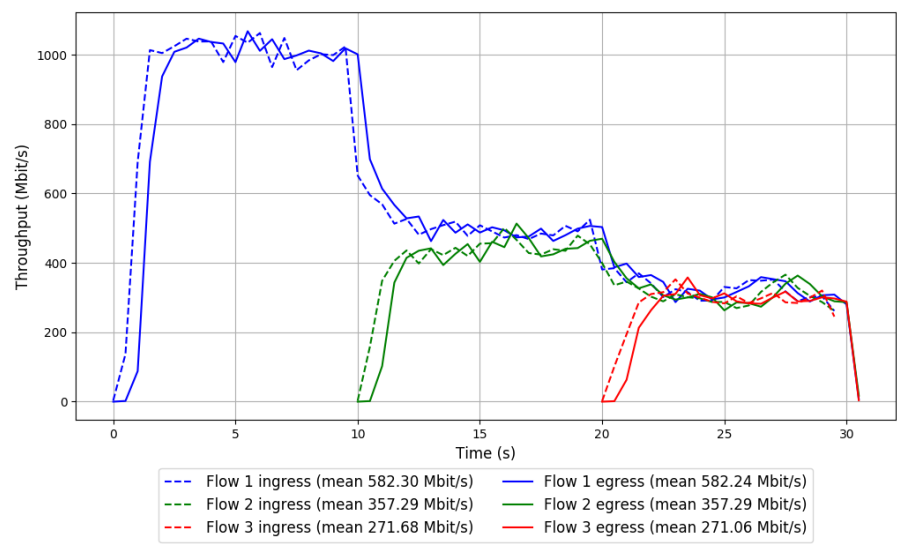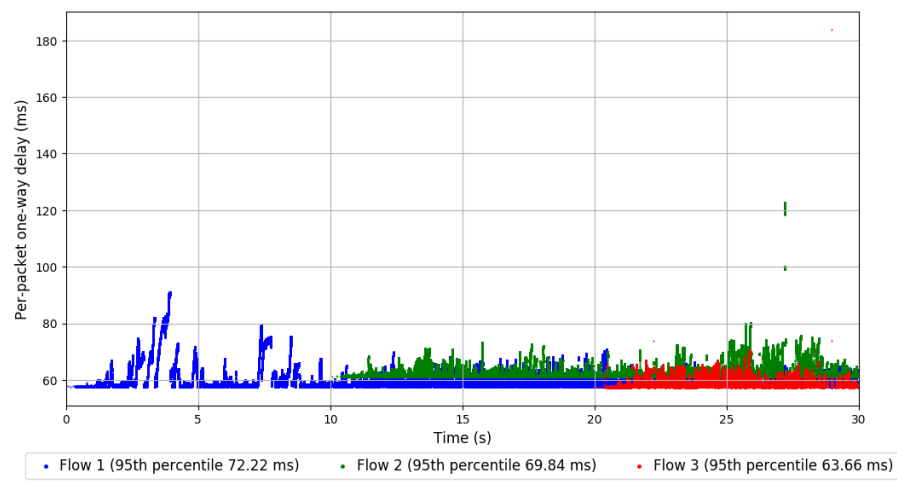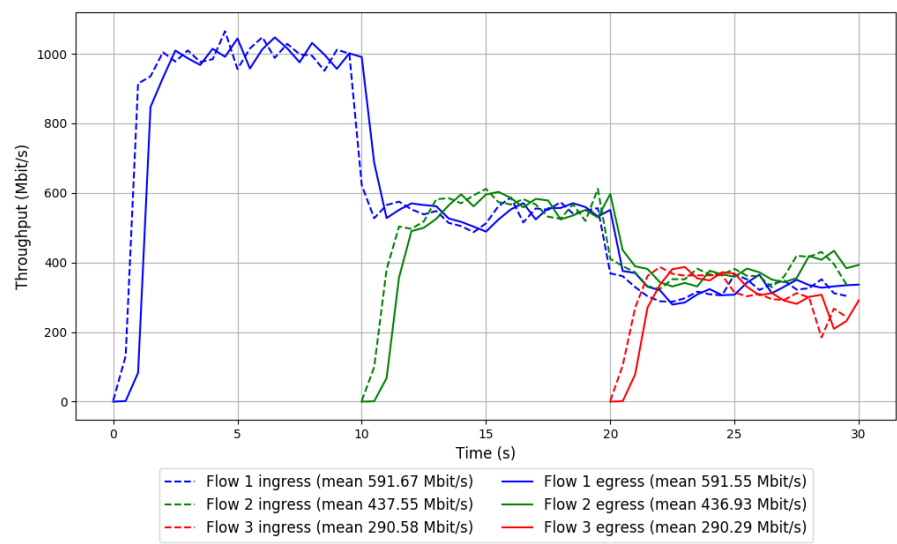
Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 588.55 Mbit/s) --- Flow 1 egress (mean 588.27 Mbit/s)
Flow 2 ingress (mean 417.94 Mbit/s) --- Flow 2 egress (mean 417.79 Mbit/s)
Flow 3 ingress (mean 271.41 Mbit/s) --- Flow 3 egress (mean 271.31 Mbit/s)

Flow 1 (95th percentile 78.91 ms)   Flow 2 (95th percentile 61.24 ms)   Flow 3 (95th percentile 66.64 ms)

```
Run 4: Statistics of FillP

Start at: 2019-02-21 02:51:19
End at: 2019-02-21 02:51:49
Local clock offset: -0.255 ms
Remote clock offset: 0.265 ms


# Below is generated by plot.py at 2019-02-21 04:56:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 909.62 Mbit/s
95th percentile per-packet one-way delay: 71.575 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 582.24 Mbit/s
95th percentile per-packet one-way delay: 76.183 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 357.29 Mbit/s
95th percentile per-packet one-way delay: 61.025 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 271.06 Mbit/s
95th percentile per-packet one-way delay: 69.448 ms
Loss rate: 0.10%
```
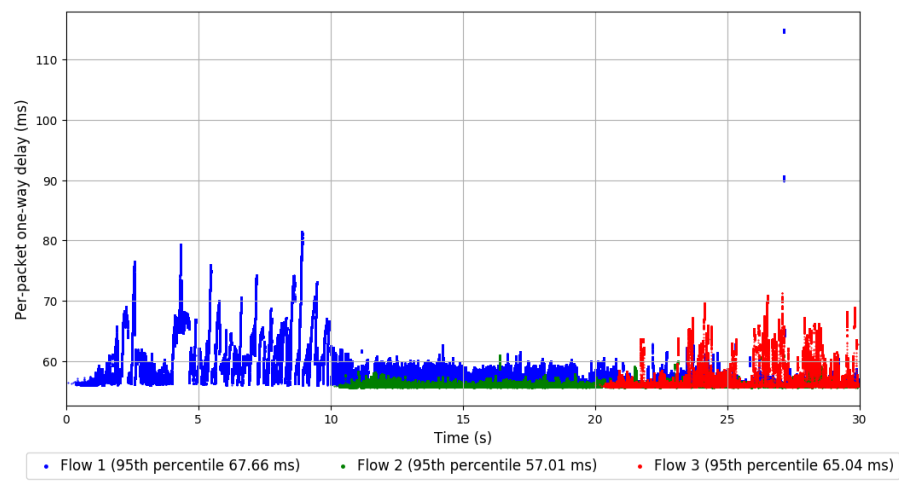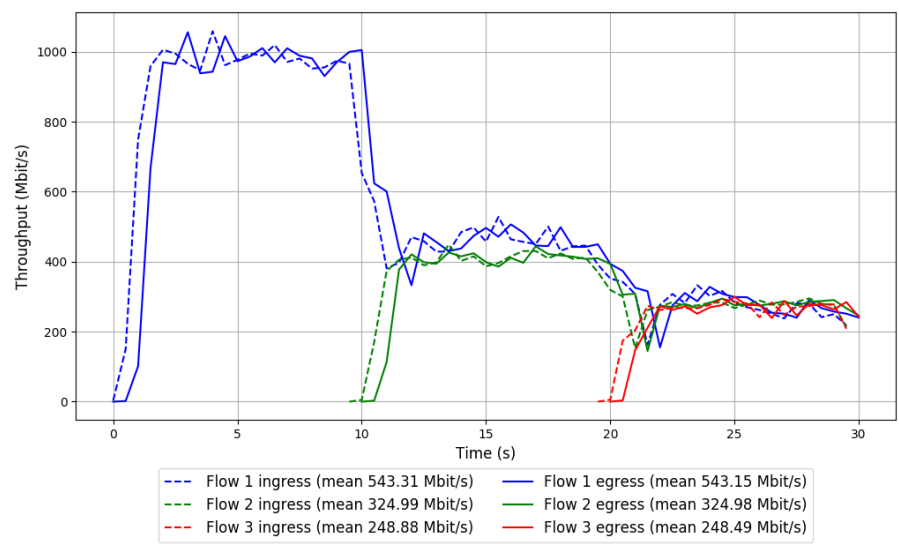
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2019-02-21 03:35:39
End at: 2019-02-21 03:36:09
Local clock offset: 0.06 ms
Remote clock offset: 0.42 ms


# Below is generated by plot.py at 2019-02-21 04:57:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 978.19 Mbit/s
95th percentile per-packet one-way delay: 70.127 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 591.55 Mbit/s
95th percentile per-packet one-way delay: 72.220 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 436.93 Mbit/s
95th percentile per-packet one-way delay: 69.838 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 290.29 Mbit/s
95th percentile per-packet one-way delay: 63.665 ms
Loss rate: 0.10%
```
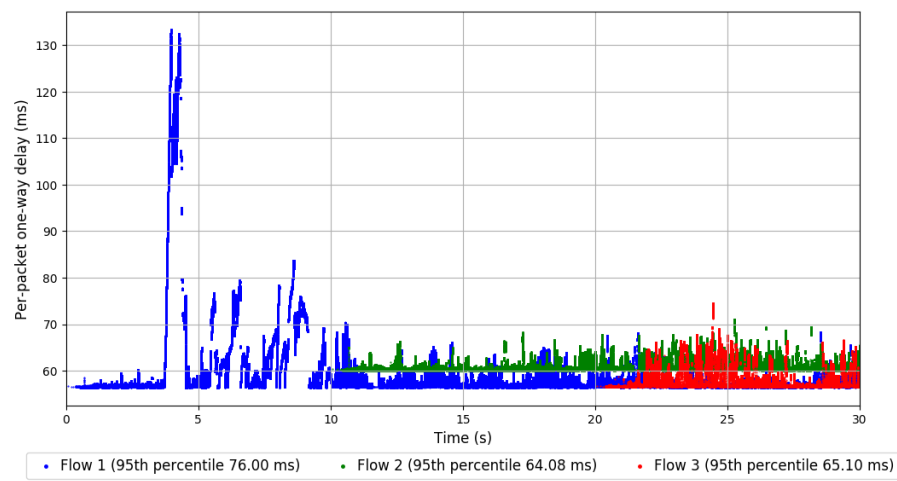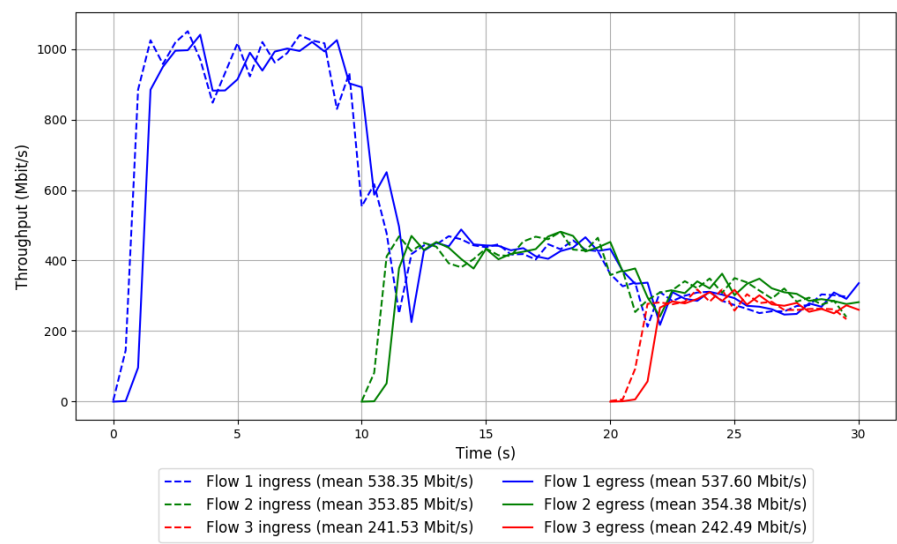
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 591.67 Mbit/s)   Flow 1 egress (mean 591.55 Mbit/s)
Flow 2 ingress (mean 437.55 Mbit/s)   Flow 2 egress (mean 436.93 Mbit/s)
Flow 3 ingress (mean 290.58 Mbit/s)   Flow 3 egress (mean 290.29 Mbit/s)

Flow 1 (95th percentile 72.22 ms)   Flow 2 (95th percentile 69.84 ms)   Flow 3 (95th percentile 63.66 ms)

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-02-21 00:13:56
End at: 2019-02-21 00:14:26
Local clock offset: 0.737 ms
Remote clock offset: -0.969 ms


# Below is generated by plot.py at 2019-02-21 04:57:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 841.94 Mbit/s
95th percentile per-packet one-way delay: 66.692 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 543.15 Mbit/s
95th percentile per-packet one-way delay: 67.663 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 324.98 Mbit/s
95th percentile per-packet one-way delay: 57.007 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 248.49 Mbit/s
95th percentile per-packet one-way delay: 65.041 ms
Loss rate: 0.10%
```

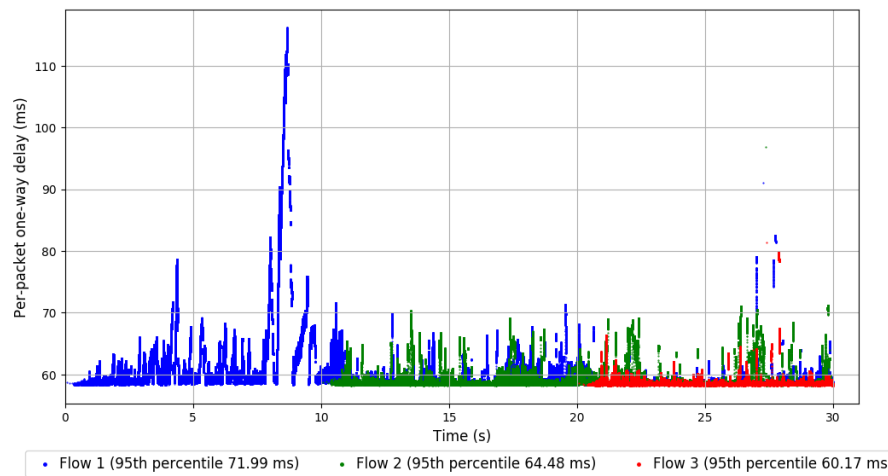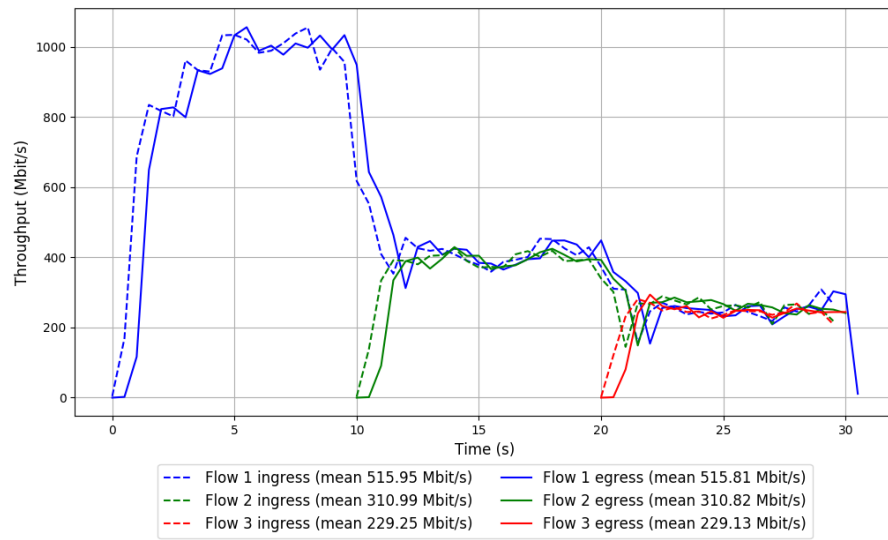Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-02-21 00:58:23
End at: 2019-02-21 00:58:53
Local clock offset: -0.06 ms
Remote clock offset: -0.604 ms

# Below is generated by plot.py at 2019-02-21 04:57:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 853.66 Mbit/s
95th percentile per-packet one-way delay: 72.843 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 537.60 Mbit/s
95th percentile per-packet one-way delay: 76.002 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 354.38 Mbit/s
95th percentile per-packet one-way delay: 64.075 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 242.49 Mbit/s
95th percentile per-packet one-way delay: 65.097 ms
Loss rate: 0.04%
```

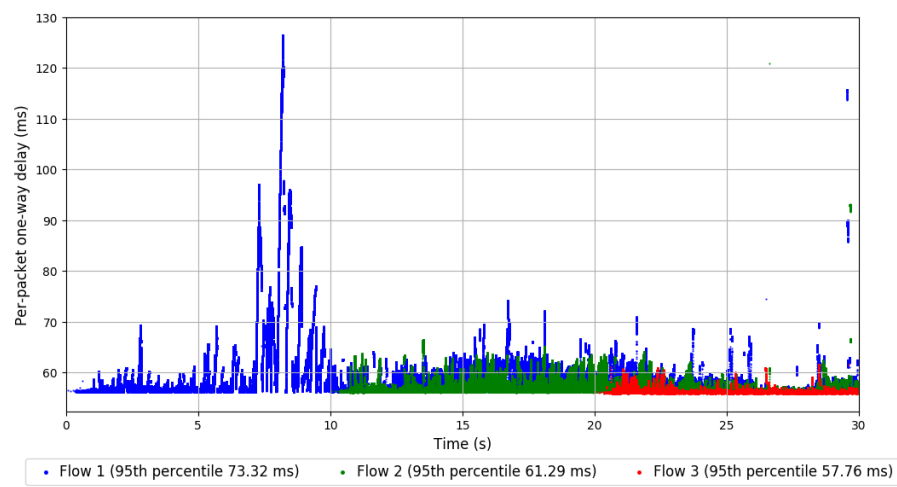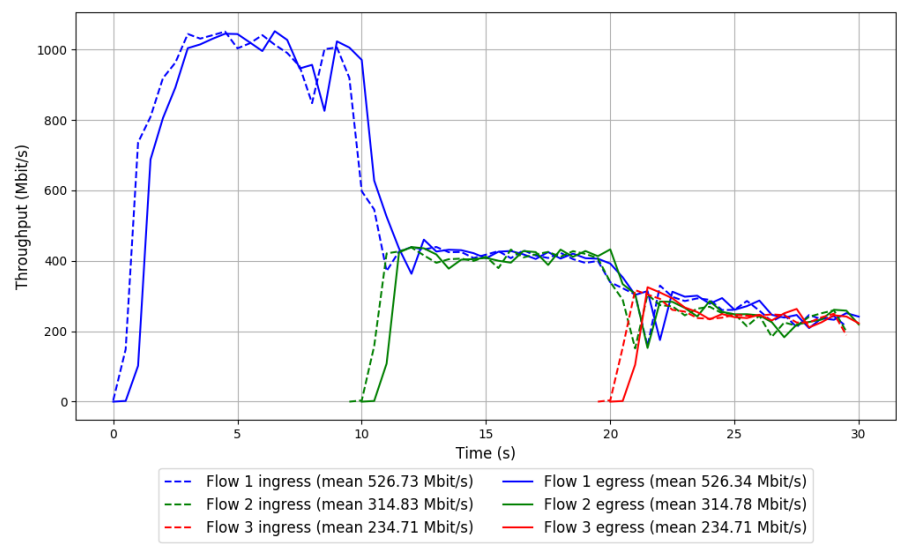Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-02-21 01:42:41
End at: 2019-02-21 01:43:11
Local clock offset: -0.077 ms
Remote clock offset: 1.174 ms


# Below is generated by plot.py at 2019-02-21 04:57:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 798.35 Mbit/s
95th percentile per-packet one-way delay: 68.239 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 515.81 Mbit/s
95th percentile per-packet one-way delay: 71.994 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 310.82 Mbit/s
95th percentile per-packet one-way delay: 64.481 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 229.13 Mbit/s
95th percentile per-packet one-way delay: 60.166 ms
Loss rate: 0.05%
```
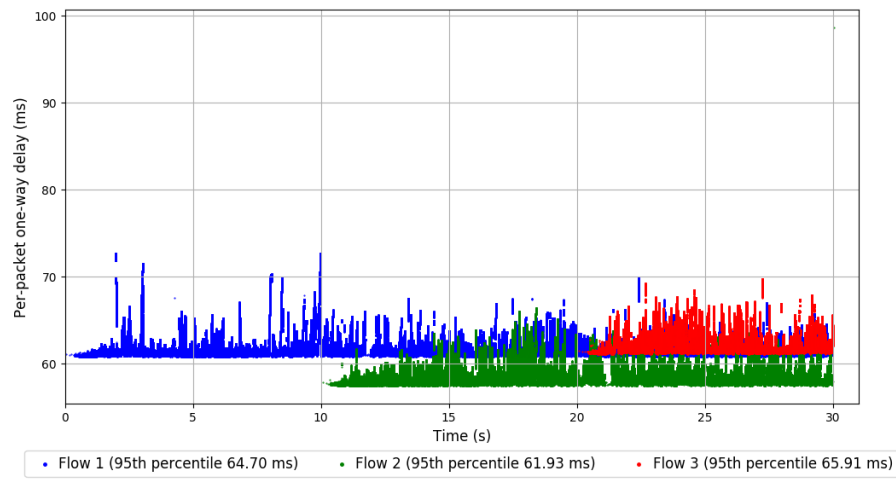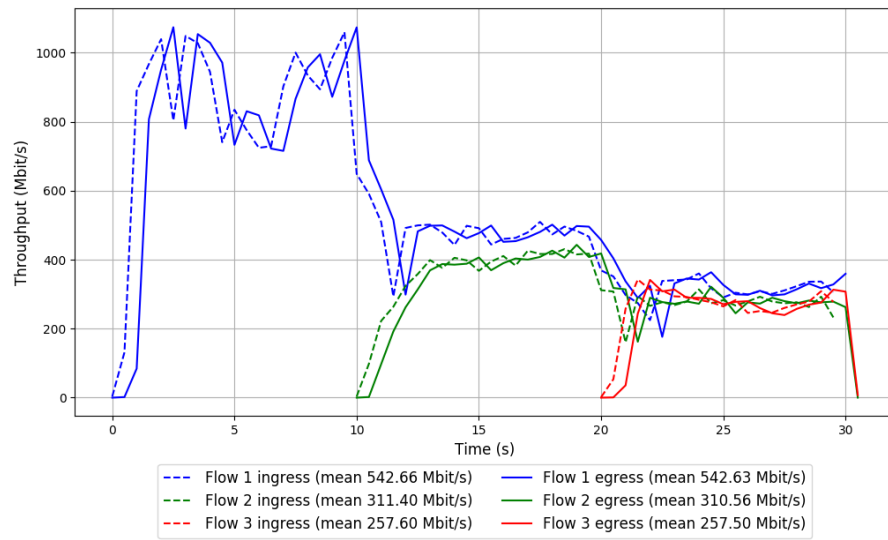
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 515.95 Mbit/s) --- Flow 1 egress (mean 515.81 Mbit/s)
Flow 2 ingress (mean 310.99 Mbit/s) --- Flow 2 egress (mean 310.82 Mbit/s)
Flow 3 ingress (mean 229.25 Mbit/s) --- Flow 3 egress (mean 229.13 Mbit/s)

Flow 1 (95th percentile 71.99 ms)   Flow 2 (95th percentile 64.48 ms)   Flow 3 (95th percentile 60.17 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-02-21 02:26:14
End at: 2019-02-21 02:26:44
Local clock offset: 0.065 ms
Remote clock offset: -0.703 ms


# Below is generated by plot.py at 2019-02-21 04:57:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 813.67 Mbit/s
95th percentile per-packet one-way delay: 68.326 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 526.34 Mbit/s
95th percentile per-packet one-way delay: 73.319 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 314.78 Mbit/s
95th percentile per-packet one-way delay: 61.288 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 234.71 Mbit/s
95th percentile per-packet one-way delay: 57.764 ms
Loss rate: 0.00%
```

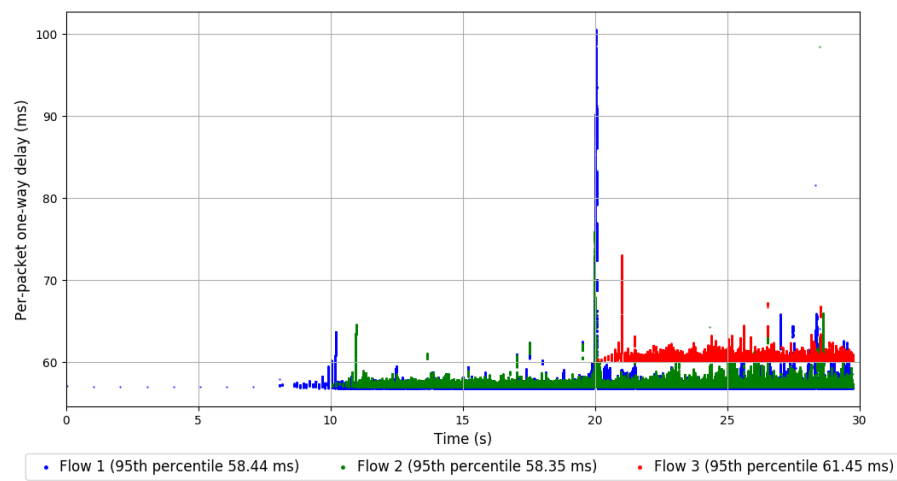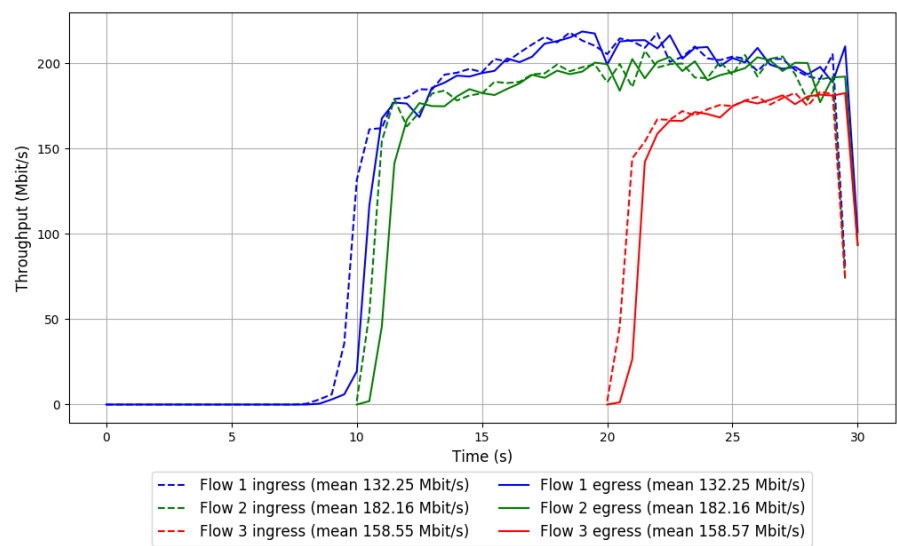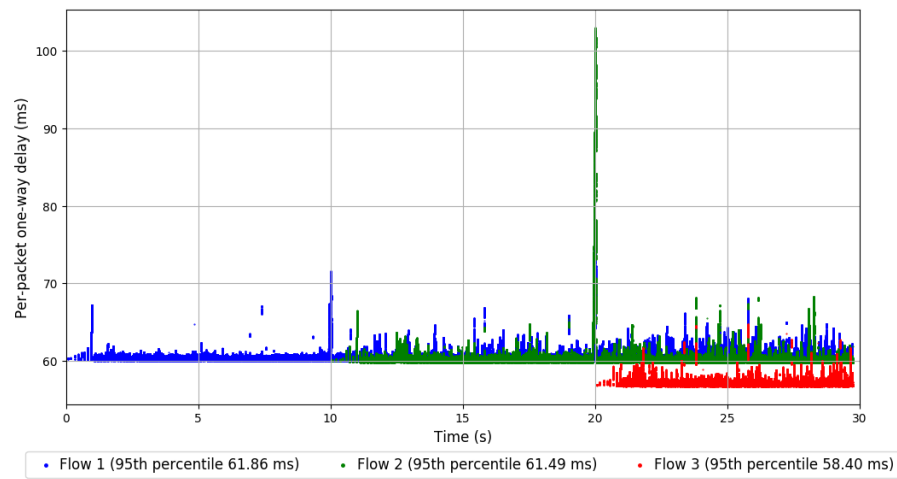Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 526.73 Mbit/s) --- Flow 1 egress (mean 526.34 Mbit/s)
Flow 2 ingress (mean 314.83 Mbit/s) --- Flow 2 egress (mean 314.78 Mbit/s)
Flow 3 ingress (mean 234.71 Mbit/s) --- Flow 3 egress (mean 234.71 Mbit/s)

Flow 1 (95th percentile 73.32 ms)   Flow 2 (95th percentile 61.29 ms)   Flow 3 (95th percentile 57.76 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-02-21 03:09:29
End at: 2019-02-21 03:09:59
Local clock offset: -0.315 ms
Remote clock offset: 0.408 ms


# Below is generated by plot.py at 2019-02-21 05:12:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 833.82 Mbit/s
95th percentile per-packet one-way delay: 64.574 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 542.63 Mbit/s
95th percentile per-packet one-way delay: 64.705 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 310.56 Mbit/s
95th percentile per-packet one-way delay: 61.932 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 257.50 Mbit/s
95th percentile per-packet one-way delay: 65.910 ms
Loss rate: 0.01%
```

Run 5: Report of FillP-Sheep — Data Link
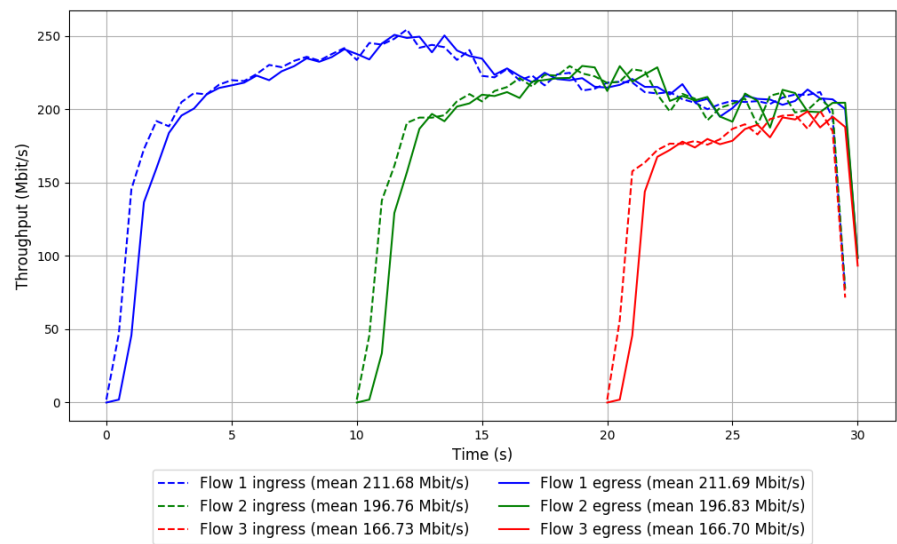

Flow 1 ingress (mean 542.66 Mbit/s) --- Flow 1 egress (mean 542.63 Mbit/s) ---
Flow 2 ingress (mean 311.40 Mbit/s) --- Flow 2 egress (mean 310.56 Mbit/s) ---
Flow 3 ingress (mean 257.60 Mbit/s) --- Flow 3 egress (mean 257.50 Mbit/s) ---

Flow 1 (95th percentile 64.70 ms) Flow 2 (95th percentile 61.93 ms) Flow 3 (95th percentile 65.91 ms)

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```
Run 1: Statistics of Indigo

Start at: 2019-02-21 00:10:36
End at: 2019-02-21 00:11:06
Local clock offset: 0.247 ms
Remote clock offset: -0.243 ms


# Below is generated by plot.py at 2019-02-21 05:12:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 304.40 Mbit/s
95th percentile per-packet one-way delay: 60.660 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 132.25 Mbit/s
95th percentile per-packet one-way delay: 58.440 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 182.16 Mbit/s
95th percentile per-packet one-way delay: 58.347 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 158.57 Mbit/s
95th percentile per-packet one-way delay: 61.451 ms
Loss rate: 0.02%
```
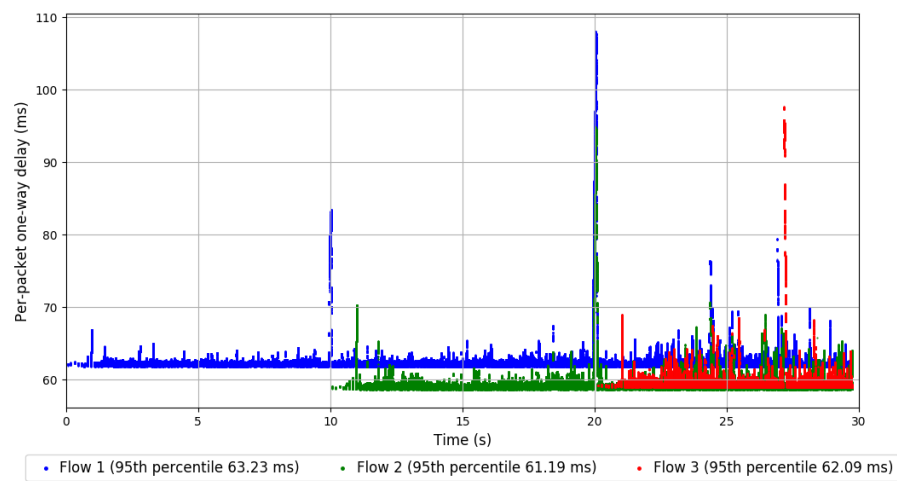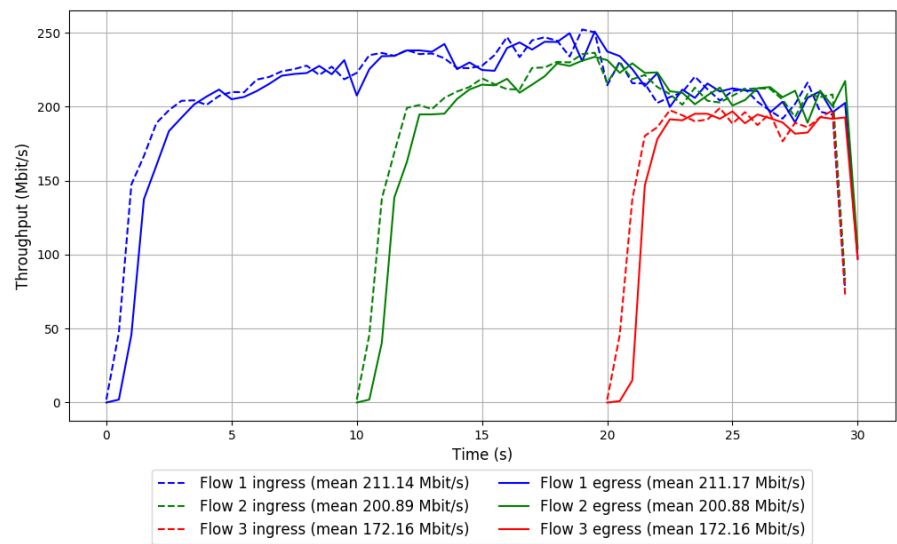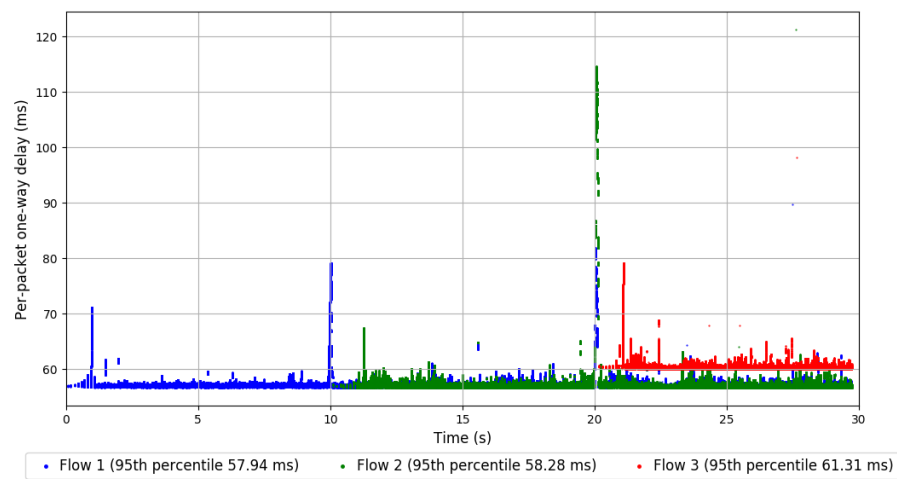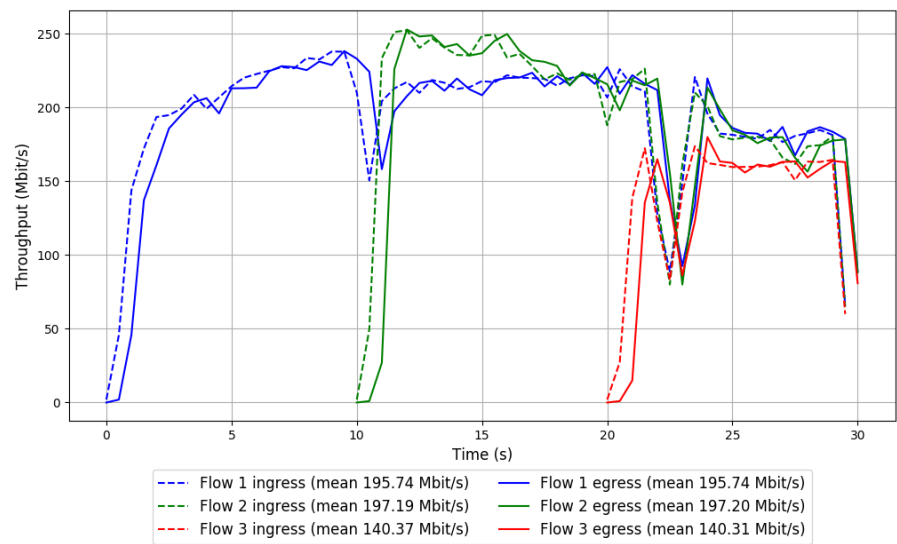
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-02-21 00:54:51
End at: 2019-02-21 00:55:21
Local clock offset: 0.069 ms
Remote clock offset: -0.126 ms


# Below is generated by plot.py at 2019-02-21 05:12:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 396.48 Mbit/s
95th percentile per-packet one-way delay: 61.593 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 211.69 Mbit/s
95th percentile per-packet one-way delay: 61.859 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 196.83 Mbit/s
95th percentile per-packet one-way delay: 61.489 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 166.70 Mbit/s
95th percentile per-packet one-way delay: 58.395 ms
Loss rate: 0.02%
```

Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-02-21 01:39:07
End at: 2019-02-21 01:39:37
Local clock offset: -0.407 ms
Remote clock offset: 1.204 ms


# Below is generated by plot.py at 2019-02-21 05:12:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 399.87 Mbit/s
95th percentile per-packet one-way delay: 62.890 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 211.17 Mbit/s
95th percentile per-packet one-way delay: 63.225 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 200.88 Mbit/s
95th percentile per-packet one-way delay: 61.187 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 172.16 Mbit/s
95th percentile per-packet one-way delay: 62.094 ms
Loss rate: 0.00%
```
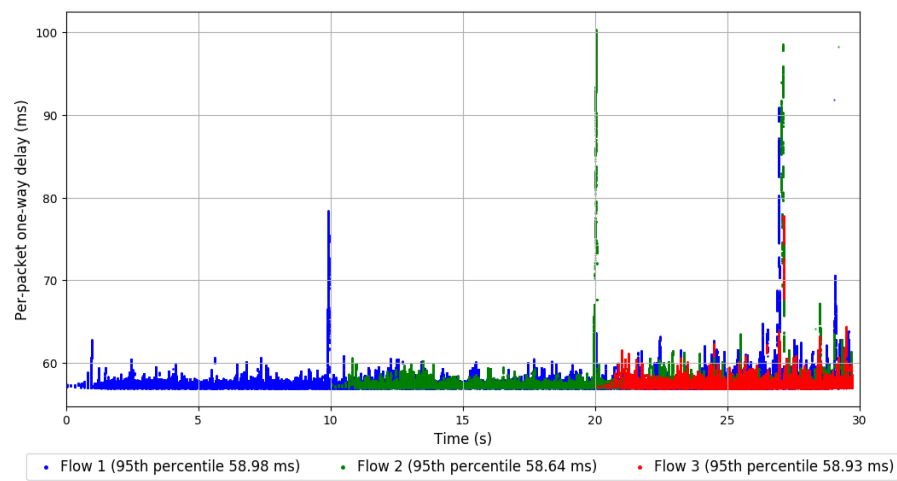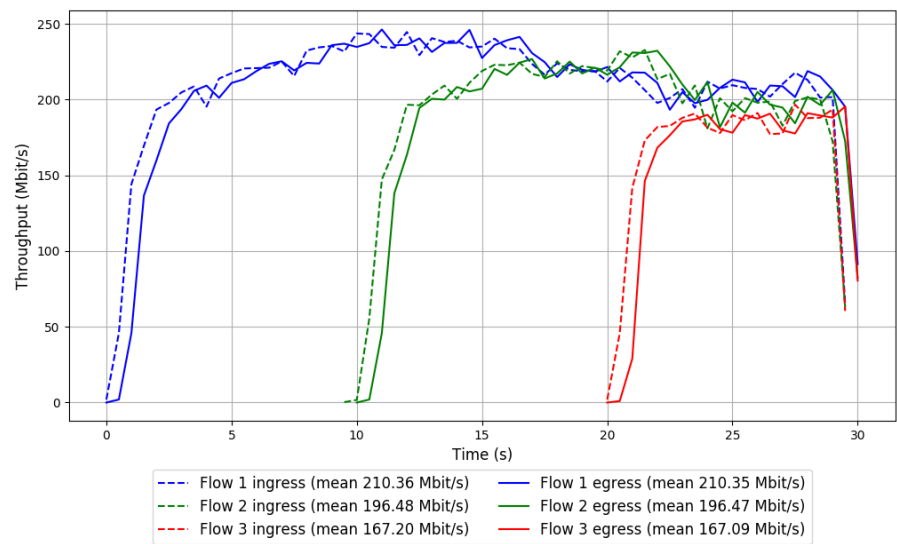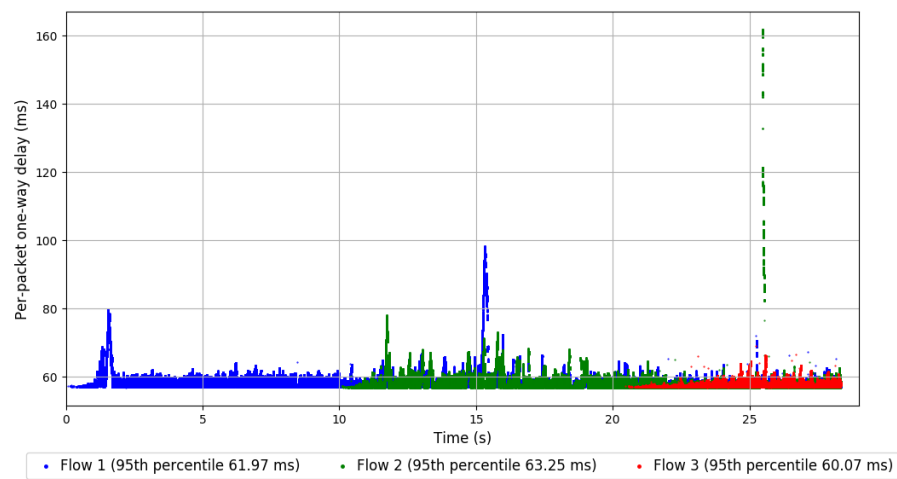
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-02-21 02:22:57
End at: 2019-02-21 02:23:27
Local clock offset: 0.166 ms
Remote clock offset: -0.048 ms


# Below is generated by plot.py at 2019-02-21 05:12:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 371.45 Mbit/s
95th percentile per-packet one-way delay: 60.335 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 195.74 Mbit/s
95th percentile per-packet one-way delay: 57.936 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 197.20 Mbit/s
95th percentile per-packet one-way delay: 58.284 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 140.31 Mbit/s
95th percentile per-packet one-way delay: 61.312 ms
Loss rate: 0.06%
```
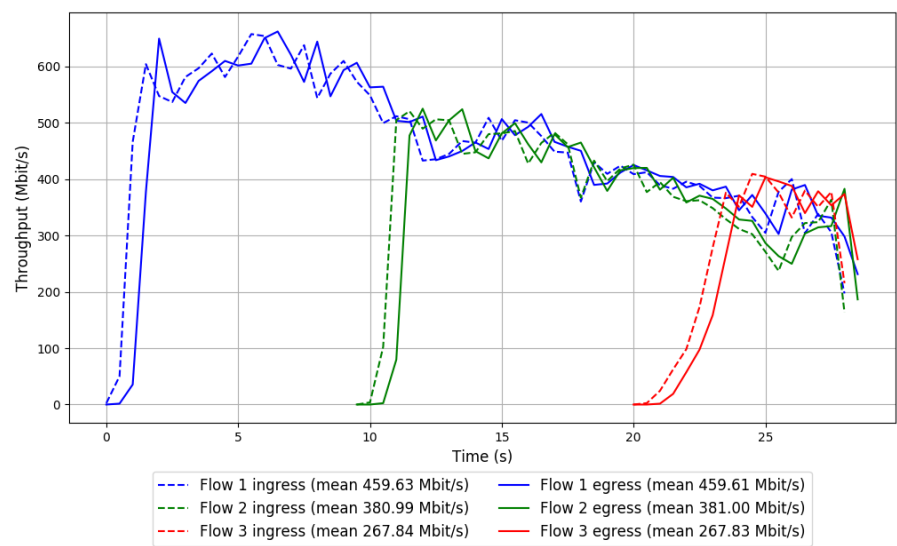
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-02-21 03:05:58
End at: 2019-02-21 03:06:29
Local clock offset: -0.174 ms
Remote clock offset: -0.14 ms


# Below is generated by plot.py at 2019-02-21 05:12:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 394.77 Mbit/s
95th percentile per-packet one-way delay: 58.869 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 210.35 Mbit/s
95th percentile per-packet one-way delay: 58.982 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 196.47 Mbit/s
95th percentile per-packet one-way delay: 58.641 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 167.09 Mbit/s
95th percentile per-packet one-way delay: 58.932 ms
Loss rate: 0.06%
```

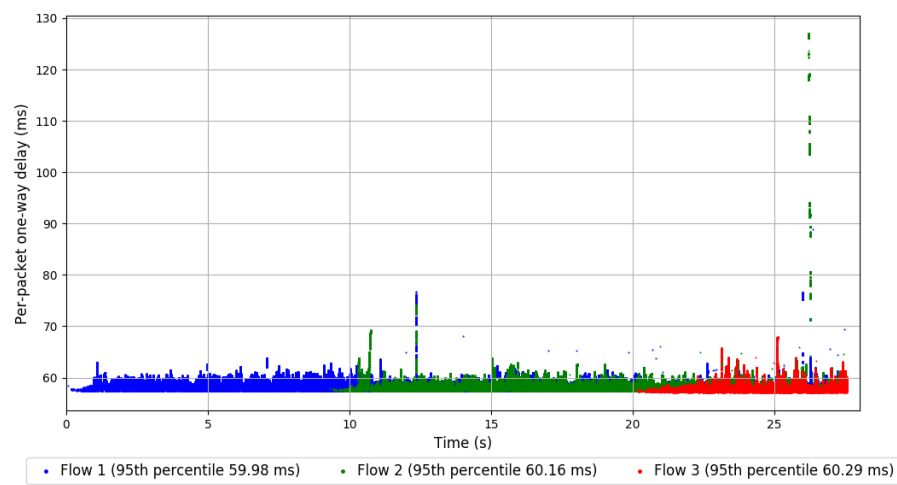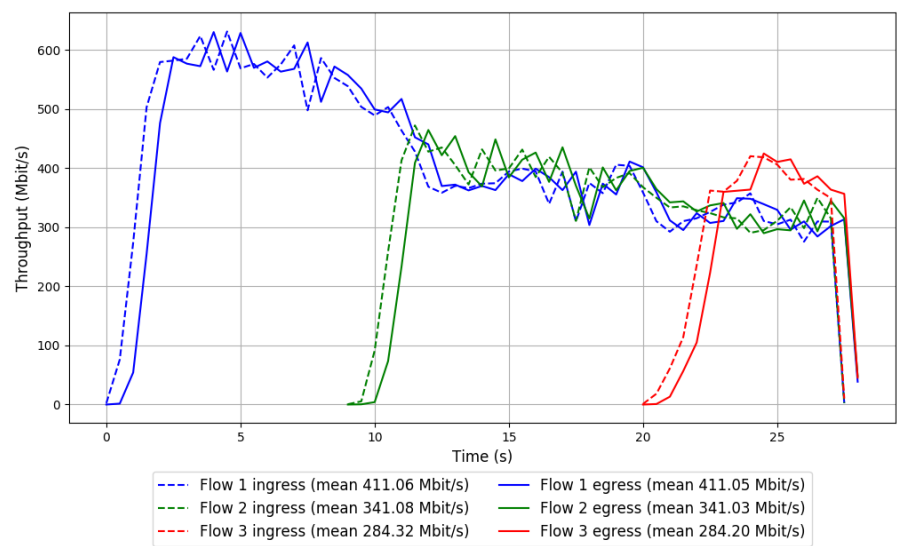## Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-21 00:42:14
End at: 2019-02-21 00:42:44
Local clock offset: -0.174 ms
Remote clock offset: -0.369 ms


# Below is generated by plot.py at 2019-02-21 05:12:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 781.22 Mbit/s
95th percentile per-packet one-way delay: 62.165 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 459.61 Mbit/s
95th percentile per-packet one-way delay: 61.969 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 381.00 Mbit/s
95th percentile per-packet one-way delay: 63.249 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 267.83 Mbit/s
95th percentile per-packet one-way delay: 60.066 ms
Loss rate: 0.00%
```
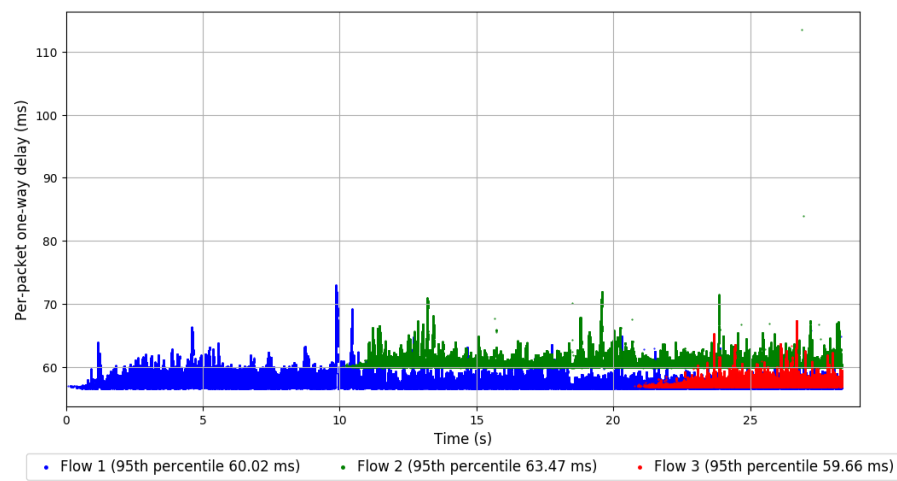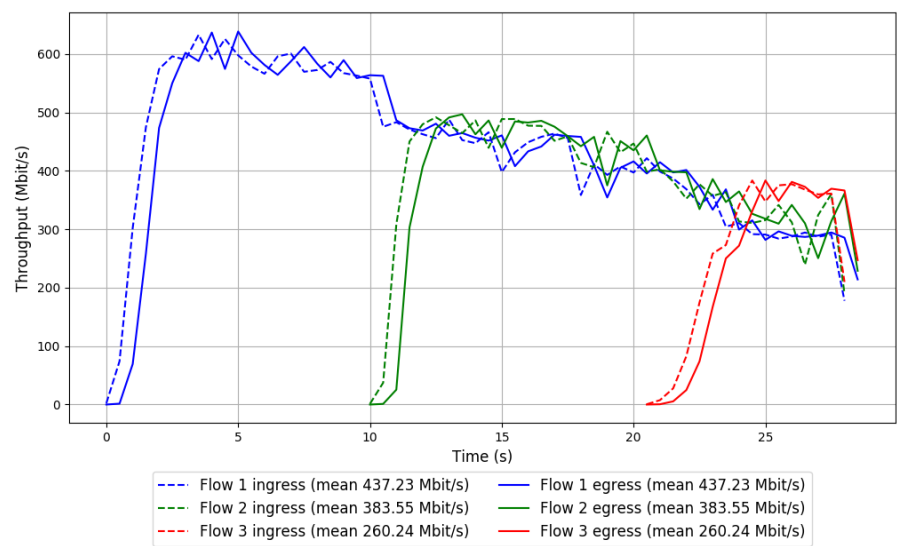
Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-21 01:26:17
End at: 2019-02-21 01:26:47
Local clock offset: -0.471 ms
Remote clock offset: -0.061 ms

# Below is generated by plot.py at 2019-02-21 05:12:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 714.66 Mbit/s
95th percentile per-packet one-way delay: 60.053 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 411.05 Mbit/s
95th percentile per-packet one-way delay: 59.979 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 341.03 Mbit/s
95th percentile per-packet one-way delay: 60.157 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 284.20 Mbit/s
95th percentile per-packet one-way delay: 60.288 ms
Loss rate: 0.02%
```

Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-21 02:10:45
End at: 2019-02-21 02:11:15
Local clock offset: -0.376 ms
Remote clock offset: -0.427 ms


# Below is generated by plot.py at 2019-02-21 05:18:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 754.01 Mbit/s
95th percentile per-packet one-way delay: 61.982 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 437.23 Mbit/s
95th percentile per-packet one-way delay: 60.025 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 383.55 Mbit/s
95th percentile per-packet one-way delay: 63.466 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 260.24 Mbit/s
95th percentile per-packet one-way delay: 59.663 ms
Loss rate: 0.00%
```
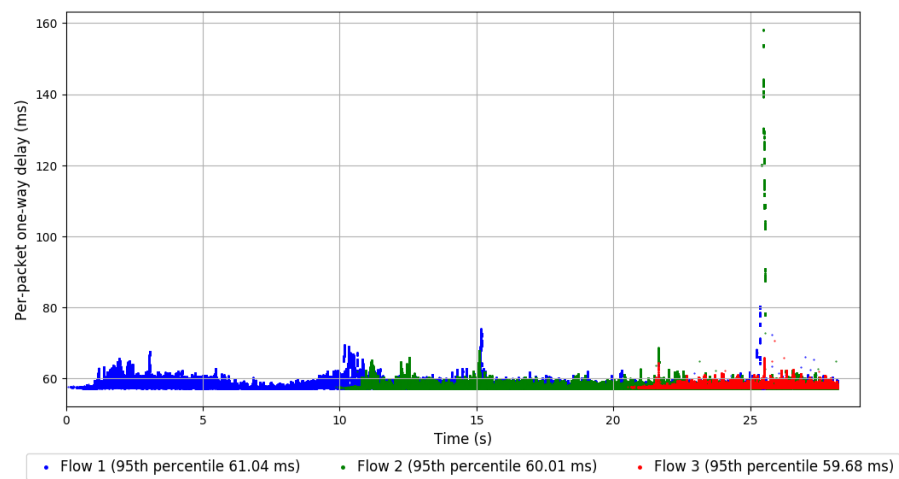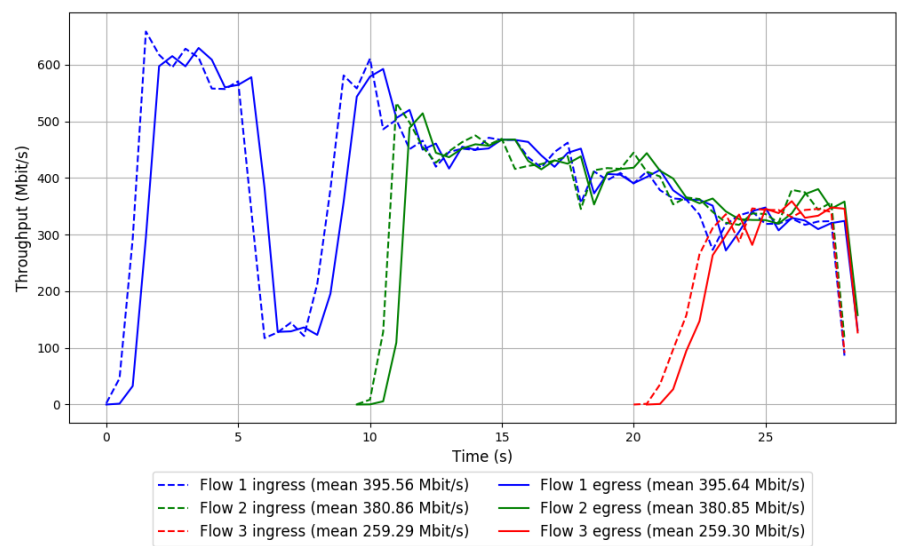
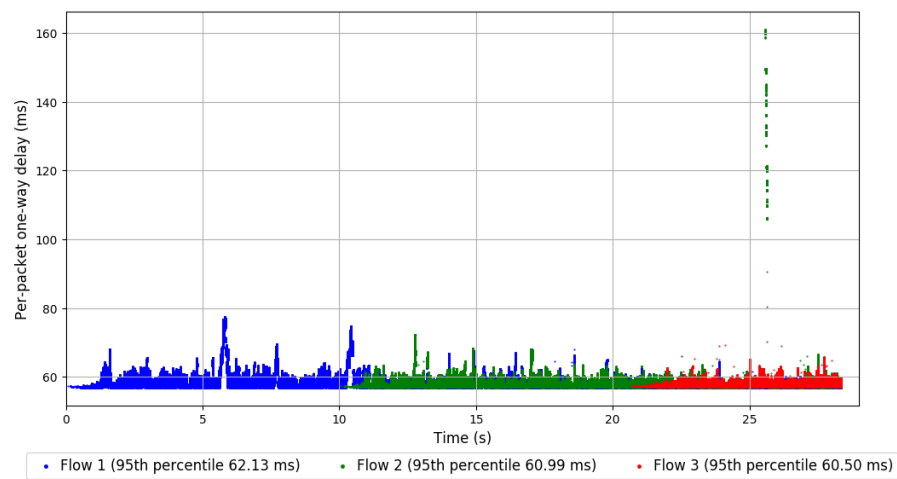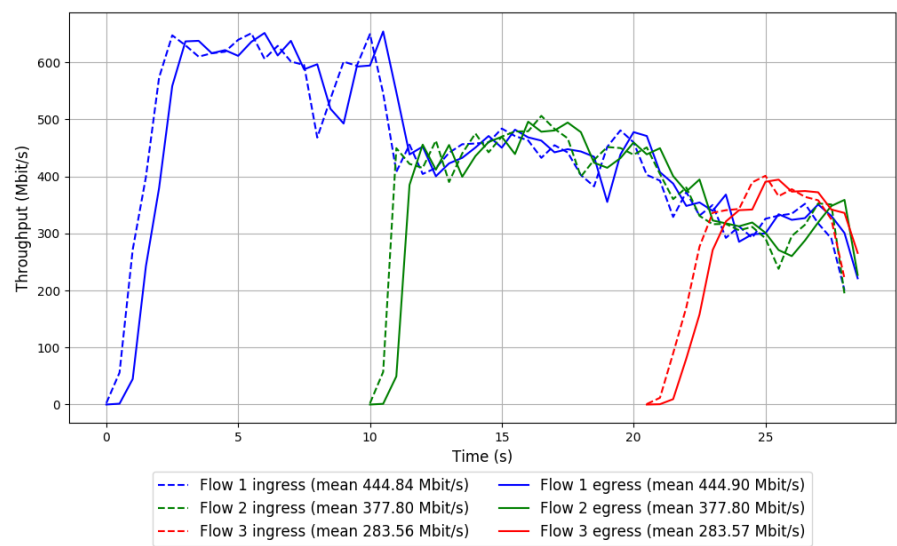Run 3: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 437.23 Mbit/s) --- Flow 1 egress (mean 437.23 Mbit/s)
Flow 2 ingress (mean 383.55 Mbit/s) --- Flow 2 egress (mean 383.55 Mbit/s)
Flow 3 ingress (mean 260.24 Mbit/s) --- Flow 3 egress (mean 260.24 Mbit/s)

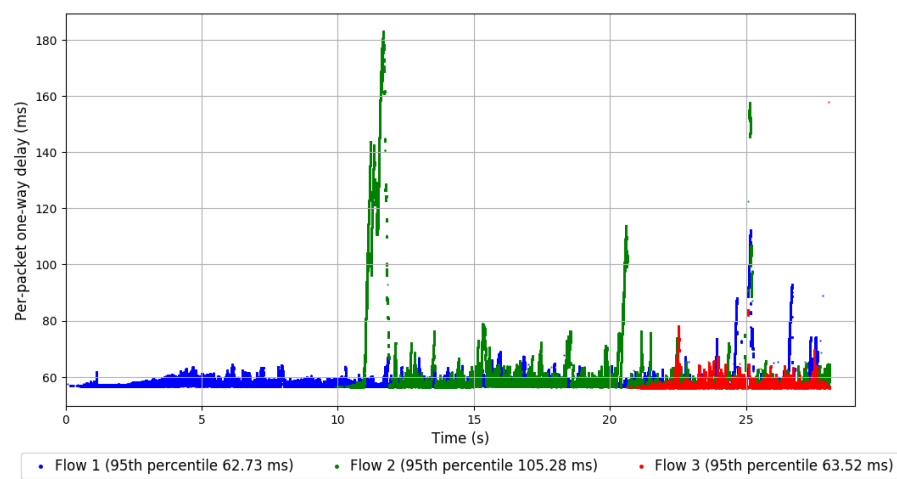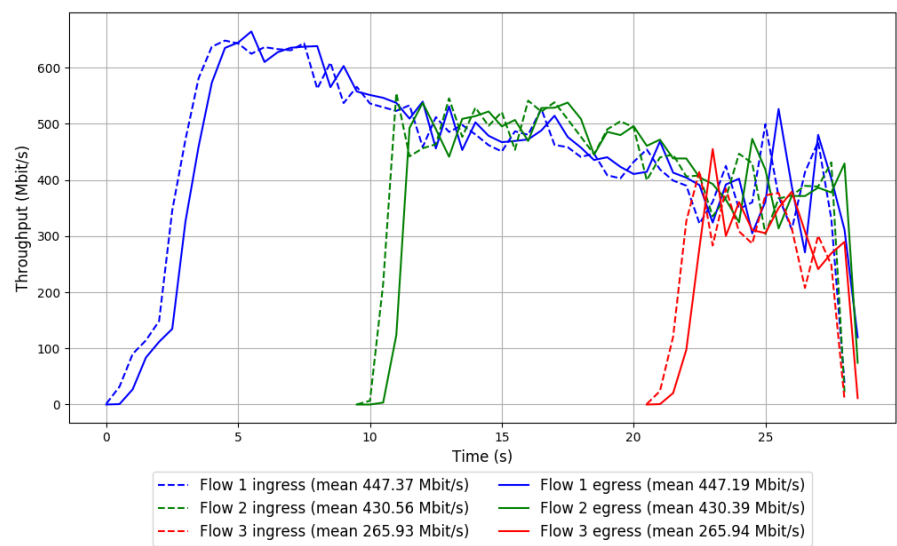Flow 1 (95th percentile 60.02 ms) Flow 2 (95th percentile 63.47 ms) Flow 3 (95th percentile 59.66 ms)

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-21 02:53:36
End at: 2019-02-21 02:54:06
Local clock offset: -0.248 ms
Remote clock offset: 0.111 ms


# Below is generated by plot.py at 2019-02-21 05:23:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 714.44 Mbit/s
95th percentile per-packet one-way delay: 60.592 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 395.64 Mbit/s
95th percentile per-packet one-way delay: 61.042 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 380.85 Mbit/s
95th percentile per-packet one-way delay: 60.014 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 259.30 Mbit/s
95th percentile per-packet one-way delay: 59.681 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 395.56 Mbit/s)   Flow 1 egress (mean 395.64 Mbit/s)
Flow 2 ingress (mean 380.86 Mbit/s)   Flow 2 egress (mean 380.85 Mbit/s)
Flow 3 ingress (mean 259.29 Mbit/s)   Flow 3 egress (mean 259.30 Mbit/s)

Flow 1 (95th percentile 61.04 ms)   Flow 2 (95th percentile 60.01 ms)   Flow 3 (95th percentile 59.68 ms)

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```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-21 03:37:58
End at: 2019-02-21 03:38:28
Local clock offset: 0.005 ms
Remote clock offset: -0.268 ms


# Below is generated by plot.py at 2019-02-21 05:24:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 766.21 Mbit/s
95th percentile per-packet one-way delay: 61.546 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 444.90 Mbit/s
95th percentile per-packet one-way delay: 62.126 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 377.80 Mbit/s
95th percentile per-packet one-way delay: 60.993 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 283.57 Mbit/s
95th percentile per-packet one-way delay: 60.501 ms
Loss rate: 0.00%
```
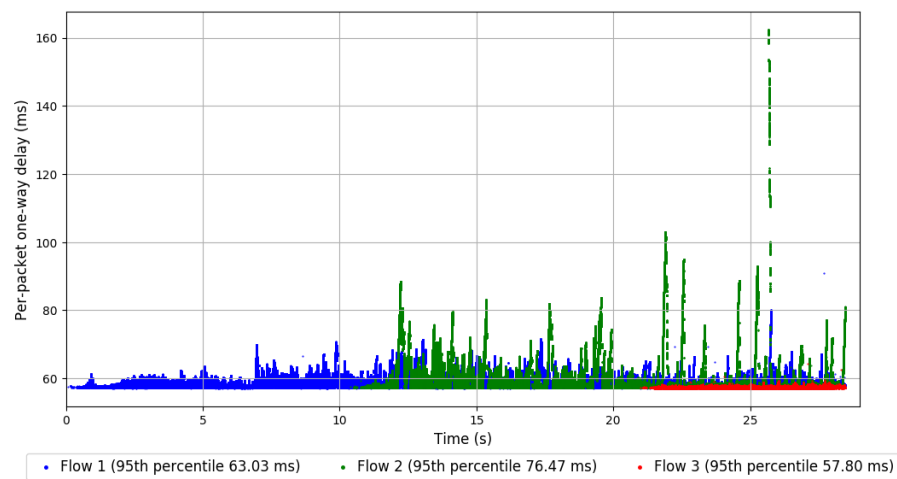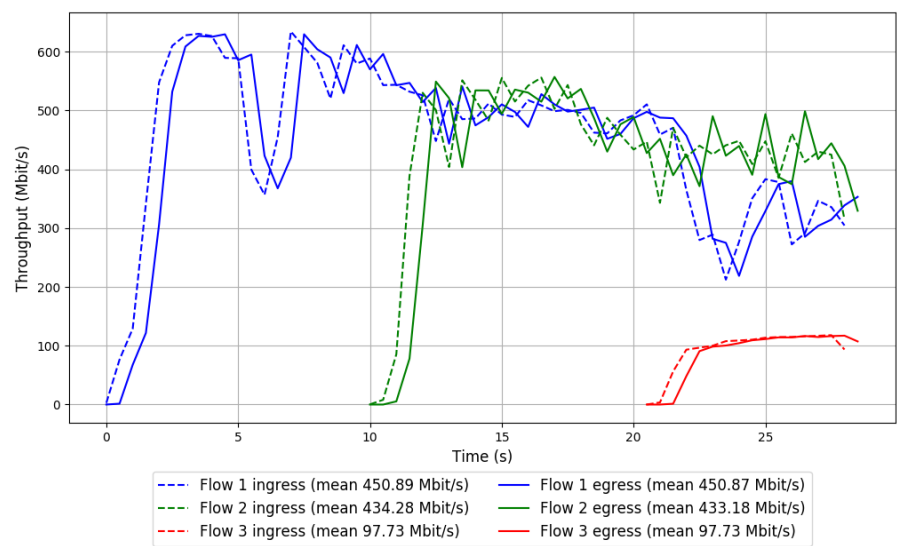
Run 5: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 444.84 Mbit/s) ----- Flow 1 egress (mean 444.90 Mbit/s) —
Flow 2 ingress (mean 377.80 Mbit/s) ----- Flow 2 egress (mean 377.80 Mbit/s) —
Flow 3 ingress (mean 283.56 Mbit/s) ----- Flow 3 egress (mean 283.57 Mbit/s) —

Flow 1 (95th percentile 62.13 ms) Flow 2 (95th percentile 60.99 ms) Flow 3 (95th percentile 60.50 ms)

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-21 00:22:55
End at: 2019-02-21 00:23:25
Local clock offset: -0.217 ms
Remote clock offset: -1.011 ms

# Below is generated by plot.py at 2019-02-21 05:25:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 796.91 Mbit/s
95th percentile per-packet one-way delay: 70.284 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 447.19 Mbit/s
95th percentile per-packet one-way delay: 62.734 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 430.39 Mbit/s
95th percentile per-packet one-way delay: 105.282 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 265.94 Mbit/s
95th percentile per-packet one-way delay: 63.523 ms
Loss rate: 0.00%
```
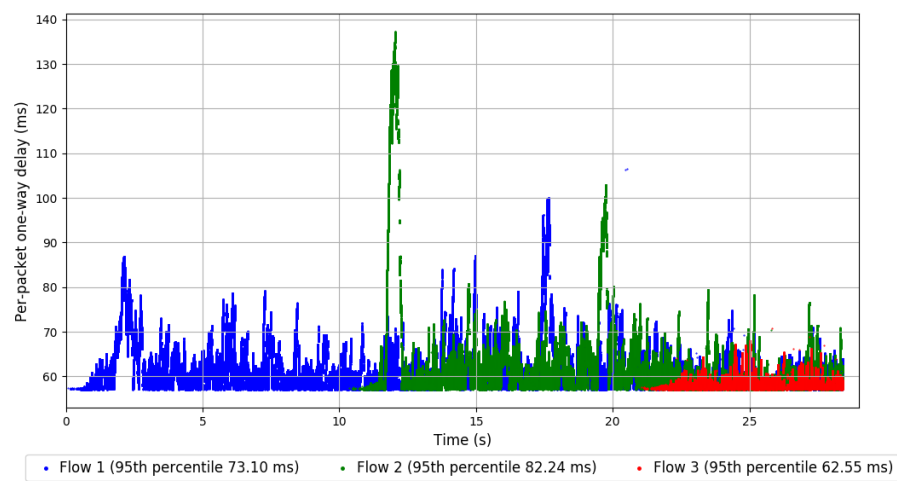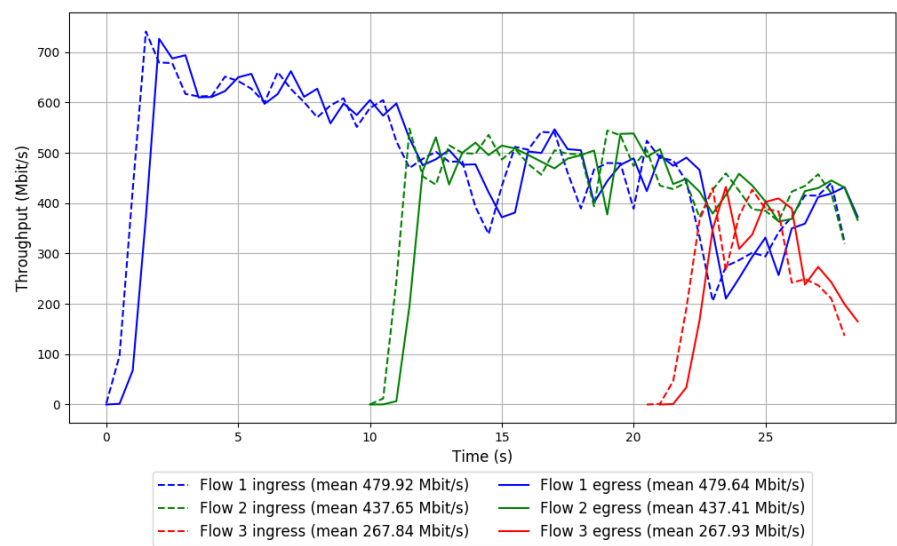
Run 1: Report of Indigo-MusesC5 — Data Link

- - - - Flow 1 ingress (mean 447.37 Mbit/s)   —— Flow 1 egress (mean 447.19 Mbit/s)
- - - - Flow 2 ingress (mean 430.56 Mbit/s)   —— Flow 2 egress (mean 430.39 Mbit/s)
- - - - Flow 3 ingress (mean 265.93 Mbit/s)   —— Flow 3 egress (mean 265.94 Mbit/s)

- Flow 1 (95th percentile 62.73 ms)   • Flow 2 (95th percentile 105.28 ms)   • Flow 3 (95th percentile 63.52 ms)

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-21 01:07:06
End at: 2019-02-21 01:07:37
Local clock offset: -0.093 ms
Remote clock offset: 0.021 ms


# Below is generated by plot.py at 2019-02-21 05:25:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 752.18 Mbit/s
95th percentile per-packet one-way delay: 67.784 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 450.87 Mbit/s
95th percentile per-packet one-way delay: 63.032 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 433.18 Mbit/s
95th percentile per-packet one-way delay: 76.469 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 97.73 Mbit/s
95th percentile per-packet one-way delay: 57.796 ms
Loss rate: 0.00%
```
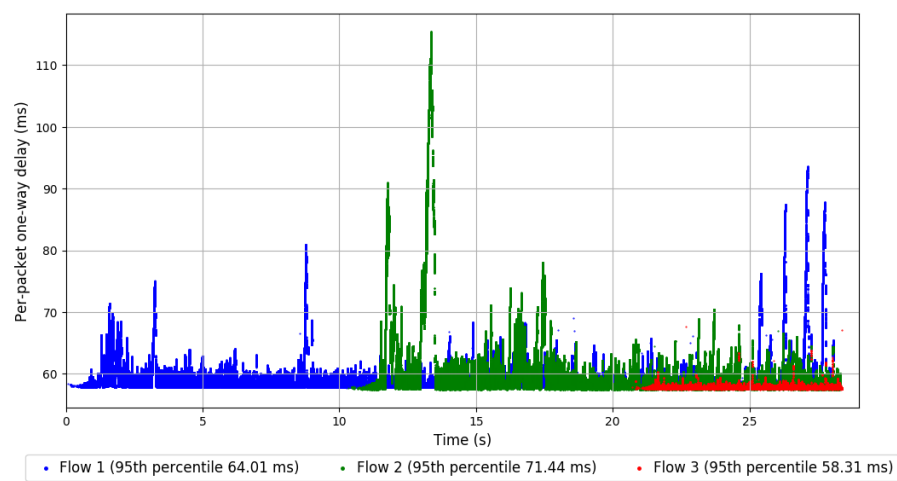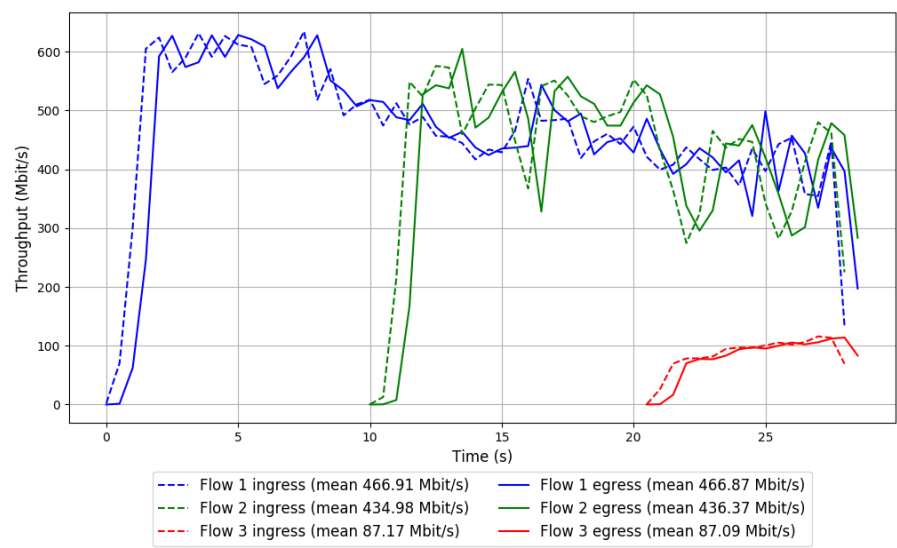
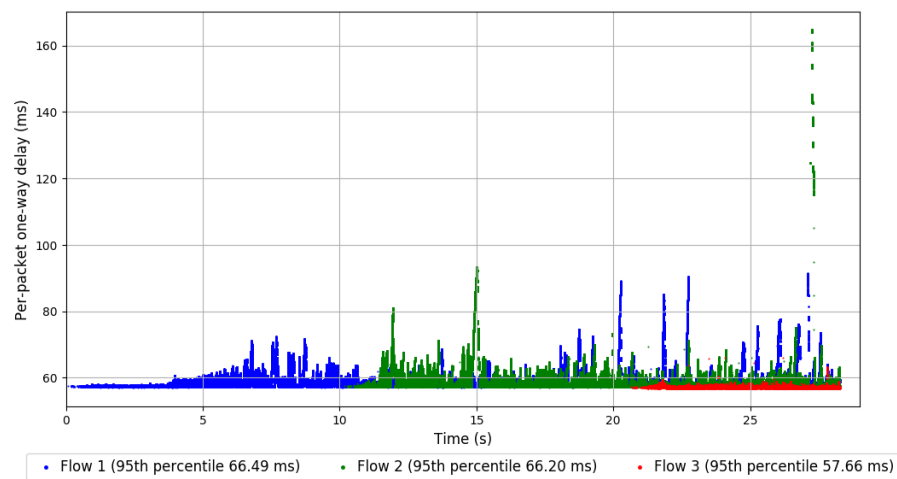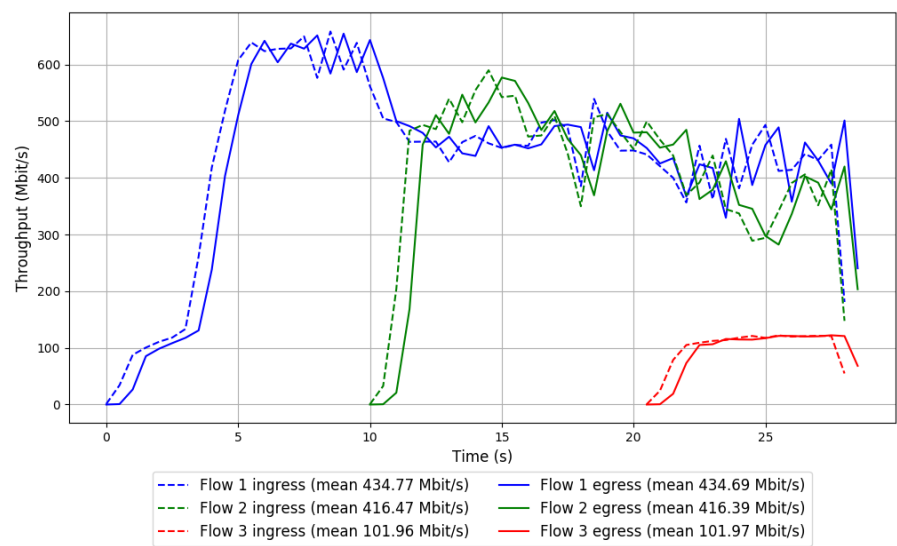Run 2: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 450.89 Mbit/s)   Flow 1 egress (mean 450.87 Mbit/s)
Flow 2 ingress (mean 434.28 Mbit/s)   Flow 2 egress (mean 433.18 Mbit/s)
Flow 3 ingress (mean 97.73 Mbit/s)   Flow 3 egress (mean 97.73 Mbit/s)

Flow 1 (95th percentile 63.03 ms)   Flow 2 (95th percentile 76.47 ms)   Flow 3 (95th percentile 57.80 ms)

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-21 01:51:20
End at: 2019-02-21 01:51:50
Local clock offset: 0.336 ms
Remote clock offset: 0.377 ms


# Below is generated by plot.py at 2019-02-21 05:26:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 827.74 Mbit/s
95th percentile per-packet one-way delay: 73.492 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 479.64 Mbit/s
95th percentile per-packet one-way delay: 73.098 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 437.41 Mbit/s
95th percentile per-packet one-way delay: 82.241 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 267.93 Mbit/s
95th percentile per-packet one-way delay: 62.549 ms
Loss rate: 0.00%
```

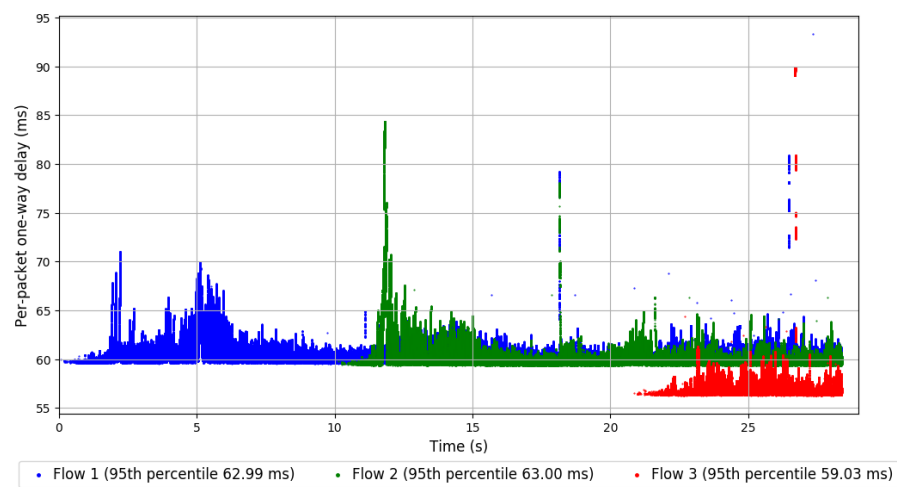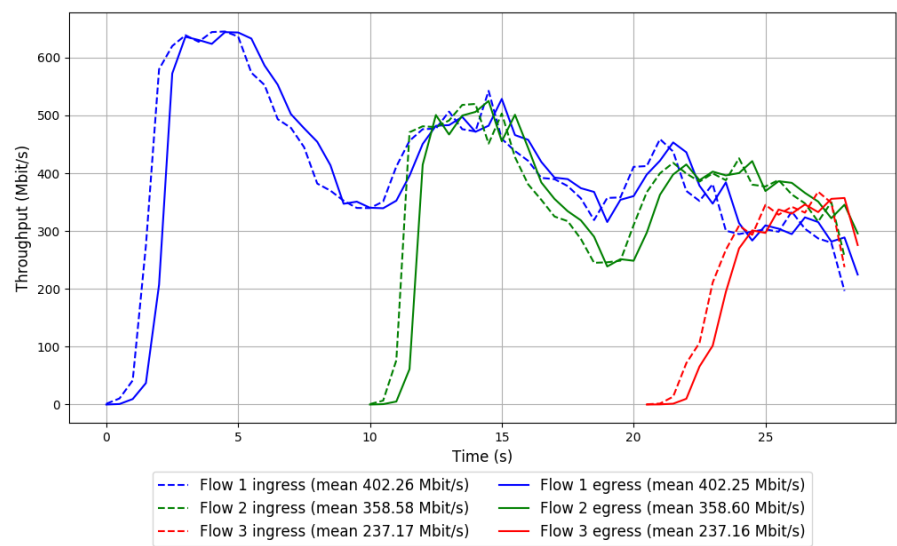Run 3: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 479.92 Mbit/s) — Flow 1 egress (mean 479.64 Mbit/s)
Flow 2 ingress (mean 437.65 Mbit/s) — Flow 2 egress (mean 437.41 Mbit/s)
Flow 3 ingress (mean 267.84 Mbit/s) — Flow 3 egress (mean 267.93 Mbit/s)

Flow 1 (95th percentile 73.10 ms)   Flow 2 (95th percentile 82.24 ms)   Flow 3 (95th percentile 62.55 ms)

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-21 02:34:49
End at: 2019-02-21 02:35:19
Local clock offset: -0.61 ms
Remote clock offset: 0.05 ms


# Below is generated by plot.py at 2019-02-21 05:26:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 766.31 Mbit/s
95th percentile per-packet one-way delay: 66.519 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 466.87 Mbit/s
95th percentile per-packet one-way delay: 64.010 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 436.37 Mbit/s
95th percentile per-packet one-way delay: 71.436 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 87.09 Mbit/s
95th percentile per-packet one-way delay: 58.308 ms
Loss rate: 0.09%
```
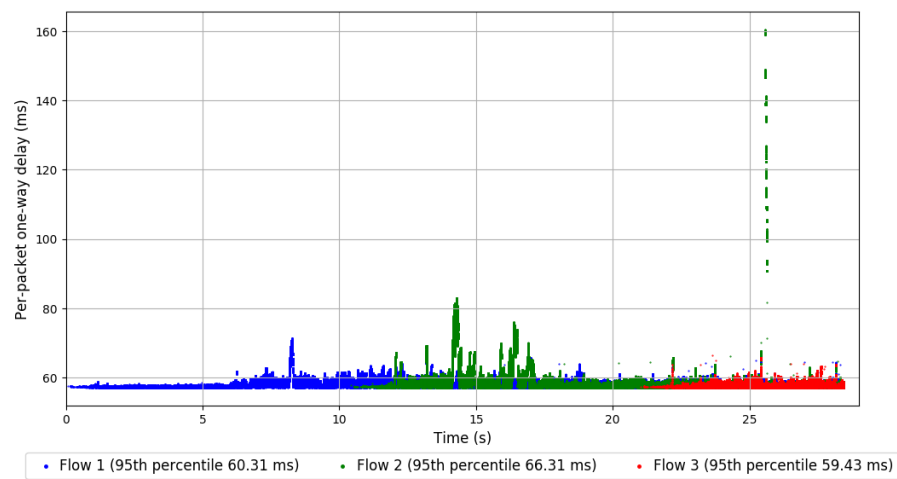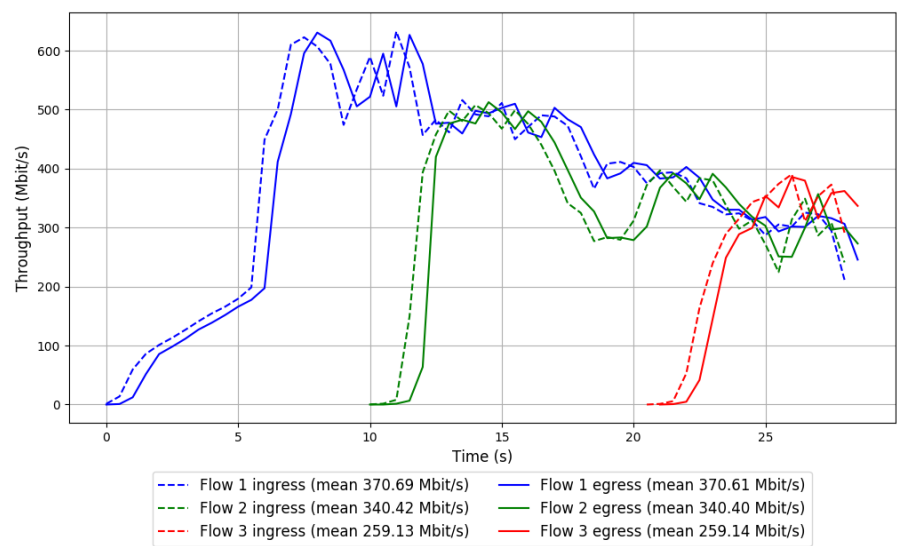
Run 4: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 466.91 Mbit/s) --- Flow 1 egress (mean 466.87 Mbit/s)
Flow 2 ingress (mean 434.98 Mbit/s) --- Flow 2 egress (mean 436.37 Mbit/s)
Flow 3 ingress (mean 87.17 Mbit/s) --- Flow 3 egress (mean 87.09 Mbit/s)

Flow 1 (95th percentile 64.01 ms) • Flow 2 (95th percentile 71.44 ms) • Flow 3 (95th percentile 58.31 ms)

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-21 03:18:58
End at: 2019-02-21 03:19:28
Local clock offset: -0.055 ms
Remote clock offset: -0.362 ms


# Below is generated by plot.py at 2019-02-21 05:26:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 729.49 Mbit/s
95th percentile per-packet one-way delay: 66.135 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 434.69 Mbit/s
95th percentile per-packet one-way delay: 66.493 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 416.39 Mbit/s
95th percentile per-packet one-way delay: 66.203 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 101.97 Mbit/s
95th percentile per-packet one-way delay: 57.661 ms
Loss rate: 0.00%
```
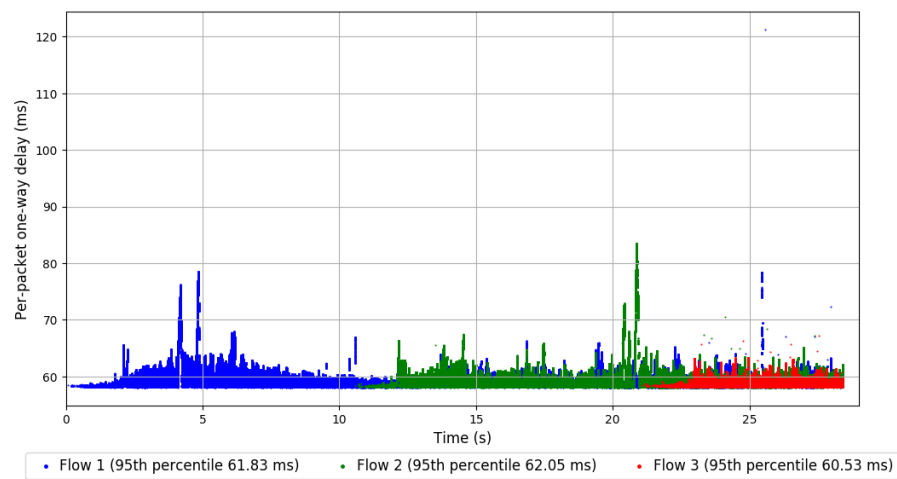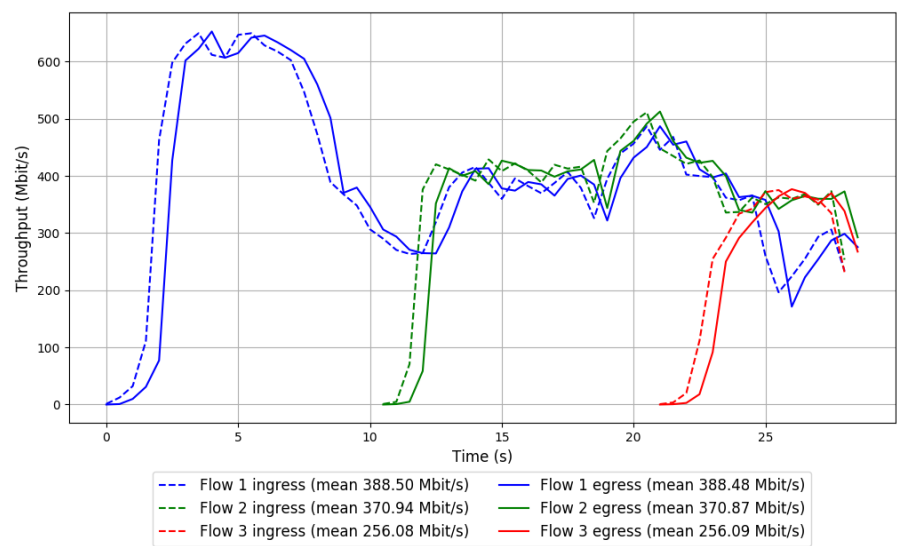
Run 5: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 434.77 Mbit/s)   Flow 1 egress (mean 434.69 Mbit/s)
Flow 2 ingress (mean 416.47 Mbit/s)   Flow 2 egress (mean 416.39 Mbit/s)
Flow 3 ingress (mean 101.96 Mbit/s)   Flow 3 egress (mean 101.97 Mbit/s)

Flow 1 (95th percentile 66.49 ms)   Flow 2 (95th percentile 66.20 ms)   Flow 3 (95th percentile 57.66 ms)
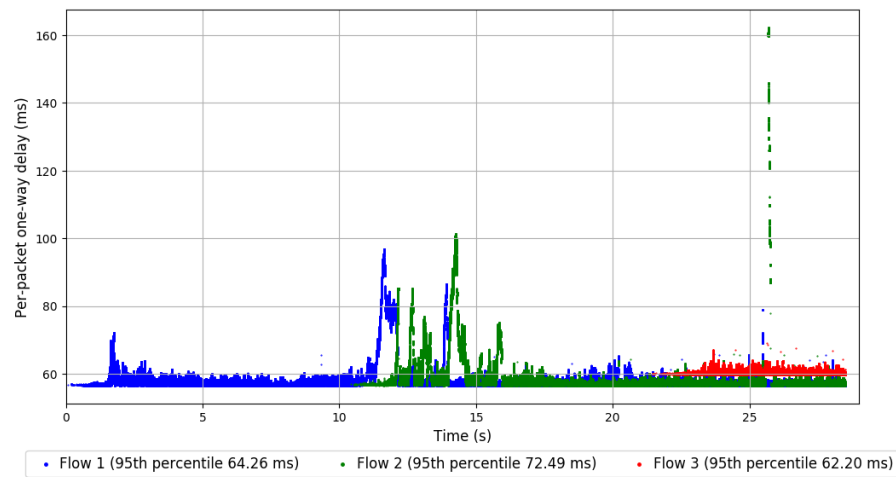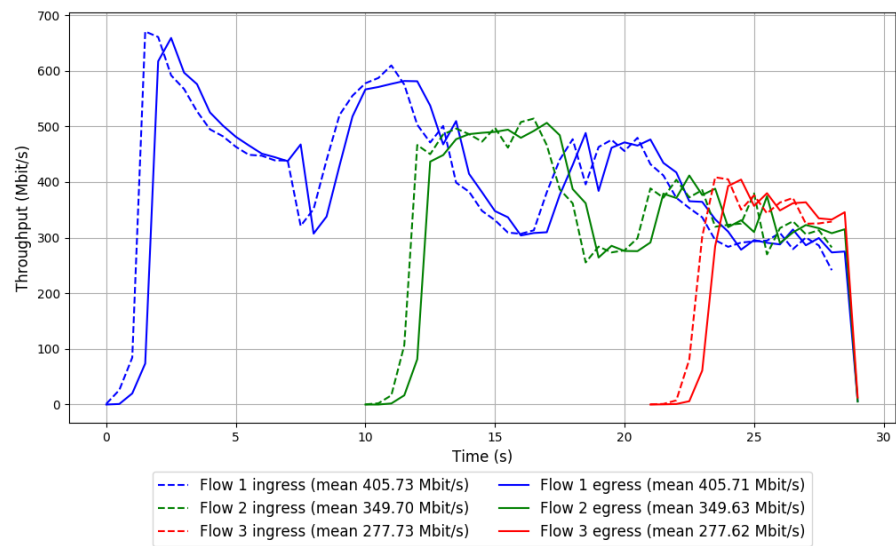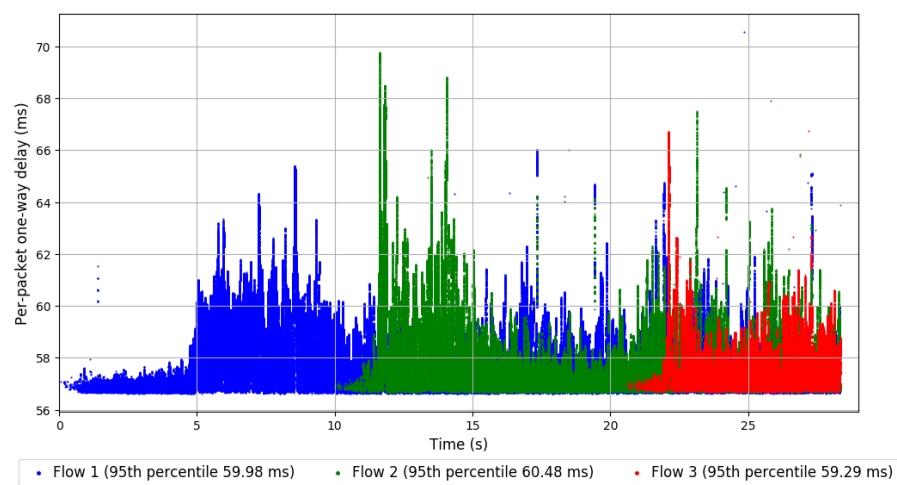
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```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-21 00:18:17
End at: 2019-02-21 00:18:47
Local clock offset: 0.143 ms
Remote clock offset: -0.734 ms


# Below is generated by plot.py at 2019-02-21 05:31:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 696.45 Mbit/s
95th percentile per-packet one-way delay: 62.881 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 402.25 Mbit/s
95th percentile per-packet one-way delay: 62.987 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 358.60 Mbit/s
95th percentile per-packet one-way delay: 62.997 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 237.16 Mbit/s
95th percentile per-packet one-way delay: 59.034 ms
Loss rate: 0.01%
```

Run 1: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 402.26 Mbit/s) — Flow 1 egress (mean 402.25 Mbit/s)
Flow 2 ingress (mean 358.58 Mbit/s) — Flow 2 egress (mean 358.60 Mbit/s)
Flow 3 ingress (mean 237.17 Mbit/s) — Flow 3 egress (mean 237.16 Mbit/s)

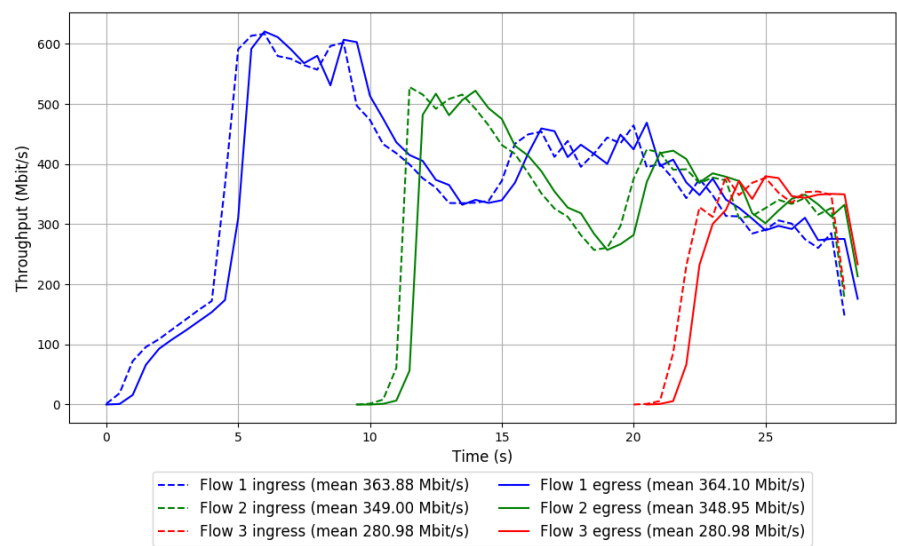Flow 1 (95th percentile 62.99 ms)   Flow 2 (95th percentile 63.00 ms)   Flow 3 (95th percentile 59.03 ms)

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-21 01:02:40
End at: 2019-02-21 01:03:10
Local clock offset: 0.457 ms
Remote clock offset: 0.616 ms


# Below is generated by plot.py at 2019-02-21 05:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 654.60 Mbit/s
95th percentile per-packet one-way delay: 61.186 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 370.61 Mbit/s
95th percentile per-packet one-way delay: 60.311 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 340.40 Mbit/s
95th percentile per-packet one-way delay: 66.315 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 259.14 Mbit/s
95th percentile per-packet one-way delay: 59.432 ms
Loss rate: 0.00%
```

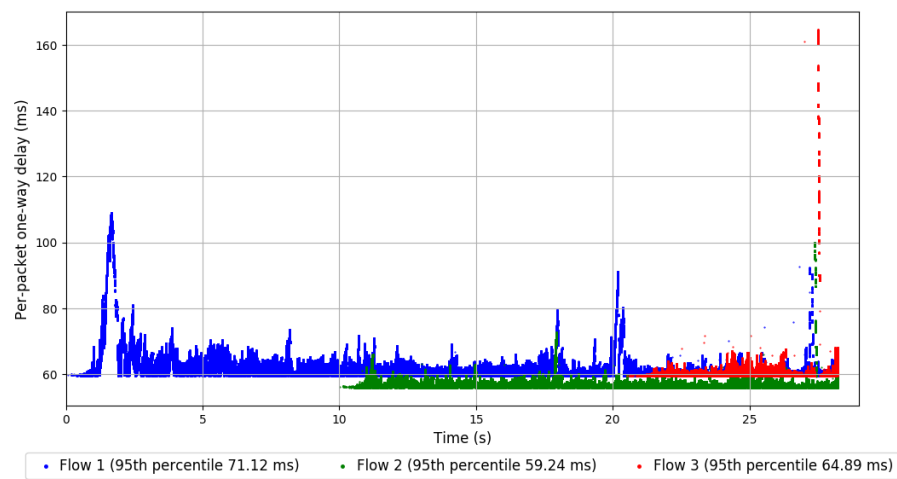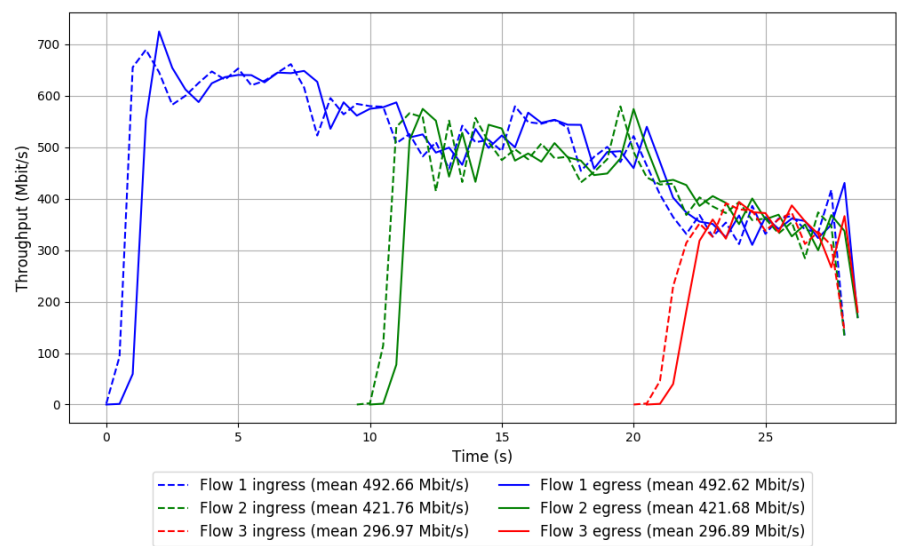# Run 2: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 370.69 Mbit/s)   Flow 1 egress (mean 370.61 Mbit/s)
Flow 2 ingress (mean 340.42 Mbit/s)   Flow 2 egress (mean 340.40 Mbit/s)
Flow 3 ingress (mean 259.13 Mbit/s)   Flow 3 egress (mean 259.14 Mbit/s)

Flow 1 (95th percentile 60.31 ms)   Flow 2 (95th percentile 66.31 ms)   Flow 3 (95th percentile 59.43 ms)

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-21 01:47:06
End at: 2019-02-21 01:47:36
Local clock offset: -0.043 ms
Remote clock offset: 1.009 ms


# Below is generated by plot.py at 2019-02-21 05:36:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 687.83 Mbit/s
95th percentile per-packet one-way delay: 61.757 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 388.48 Mbit/s
95th percentile per-packet one-way delay: 61.827 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 370.87 Mbit/s
95th percentile per-packet one-way delay: 62.045 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 256.09 Mbit/s
95th percentile per-packet one-way delay: 60.526 ms
Loss rate: 0.00%
```

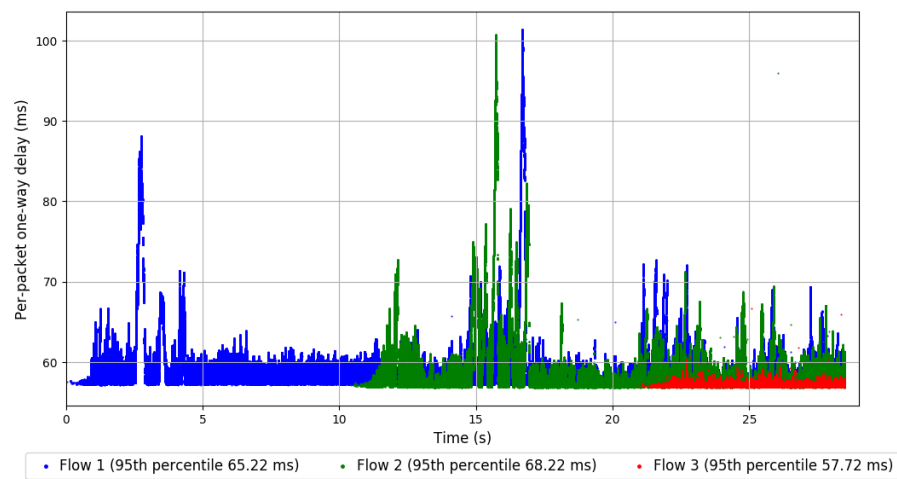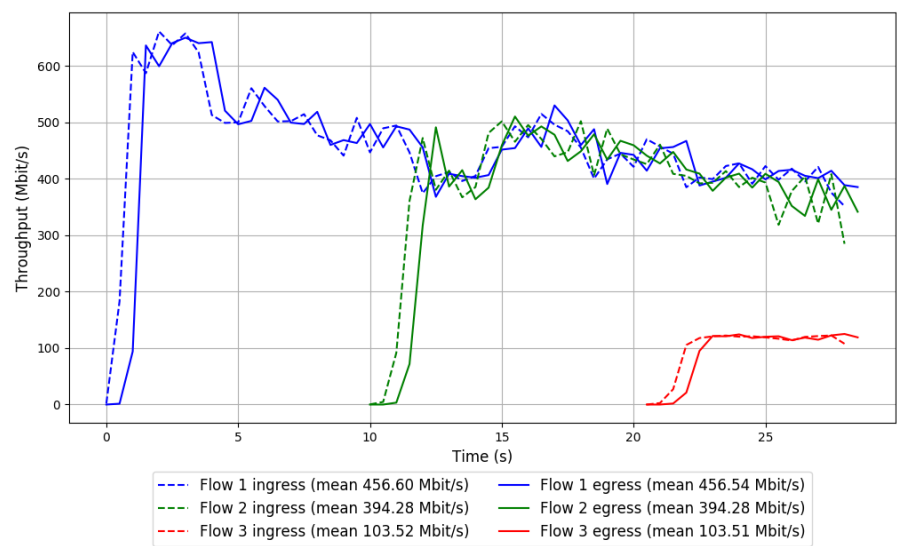Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-21 02:30:33
End at: 2019-02-21 02:31:03
Local clock offset: -0.443 ms
Remote clock offset: -0.903 ms


# Below is generated by plot.py at 2019-02-21 05:38:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 698.03 Mbit/s
95th percentile per-packet one-way delay: 67.705 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 405.71 Mbit/s
95th percentile per-packet one-way delay: 64.261 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 349.63 Mbit/s
95th percentile per-packet one-way delay: 72.494 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 277.62 Mbit/s
95th percentile per-packet one-way delay: 62.200 ms
Loss rate: 0.06%
```

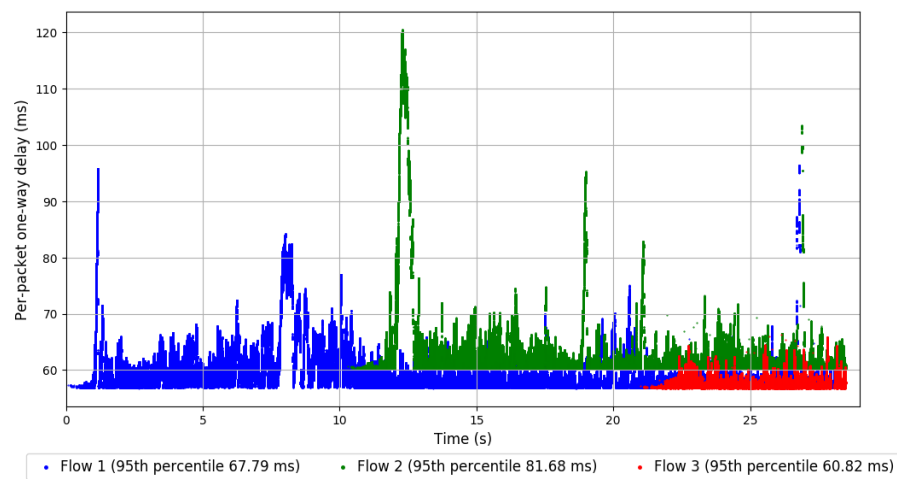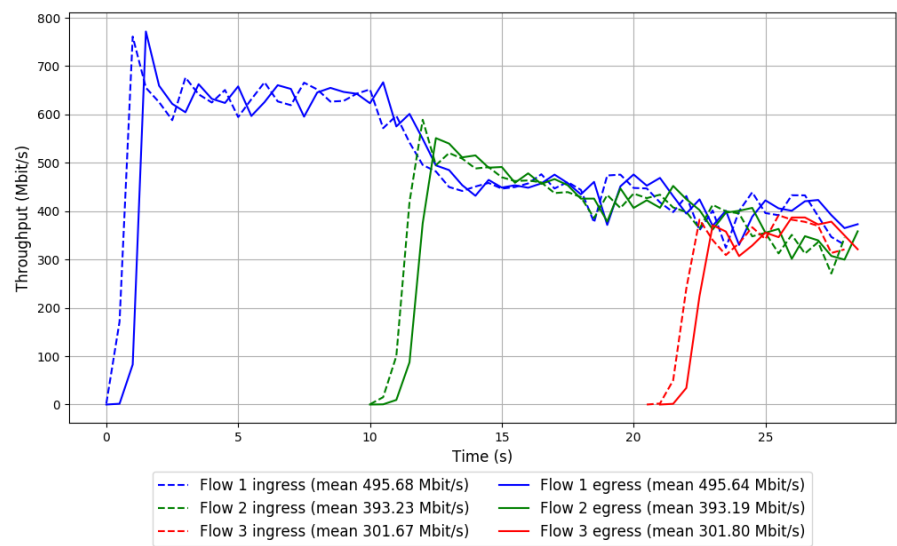Run 4: Report of Indigo-MusesD — Data Link

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```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-21 03:14:23
End at: 2019-02-21 03:14:53
Local clock offset: -0.465 ms
Remote clock offset: -0.832 ms


# Below is generated by plot.py at 2019-02-21 05:38:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 667.79 Mbit/s
95th percentile per-packet one-way delay: 60.043 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 364.10 Mbit/s
95th percentile per-packet one-way delay: 59.983 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 348.95 Mbit/s
95th percentile per-packet one-way delay: 60.484 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 280.98 Mbit/s
95th percentile per-packet one-way delay: 59.287 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-21 00:16:02
End at: 2019-02-21 00:16:32
Local clock offset: 0.2 ms
Remote clock offset: -0.931 ms


# Below is generated by plot.py at 2019-02-21 05:42:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 846.51 Mbit/s
95th percentile per-packet one-way delay: 67.940 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 492.62 Mbit/s
95th percentile per-packet one-way delay: 71.119 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 421.68 Mbit/s
95th percentile per-packet one-way delay: 59.238 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 296.89 Mbit/s
95th percentile per-packet one-way delay: 64.889 ms
Loss rate: 0.05%
```
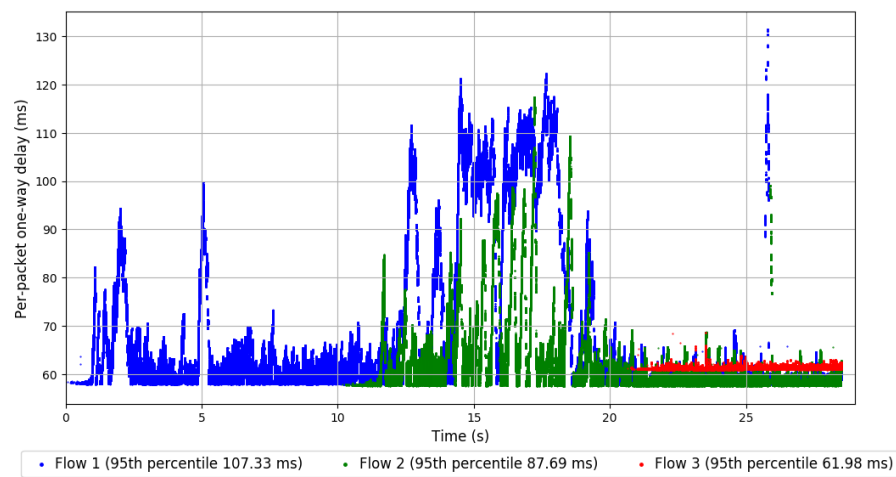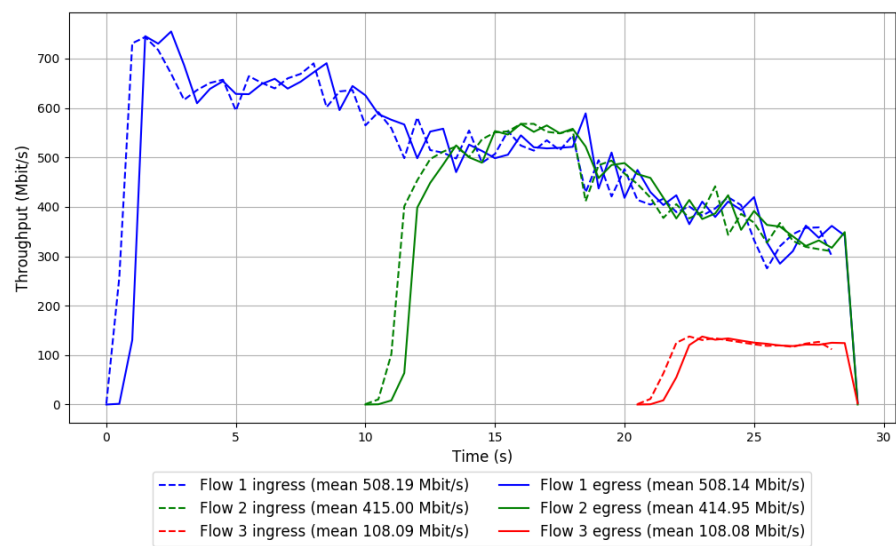
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-21 01:00:30
End at: 2019-02-21 01:01:00
Local clock offset: 0.065 ms
Remote clock offset: -0.059 ms


# Below is generated by plot.py at 2019-02-21 05:42:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 734.38 Mbit/s
95th percentile per-packet one-way delay: 66.026 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 456.54 Mbit/s
95th percentile per-packet one-way delay: 65.225 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 394.28 Mbit/s
95th percentile per-packet one-way delay: 68.221 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 103.51 Mbit/s
95th percentile per-packet one-way delay: 57.720 ms
Loss rate: 0.00%
```
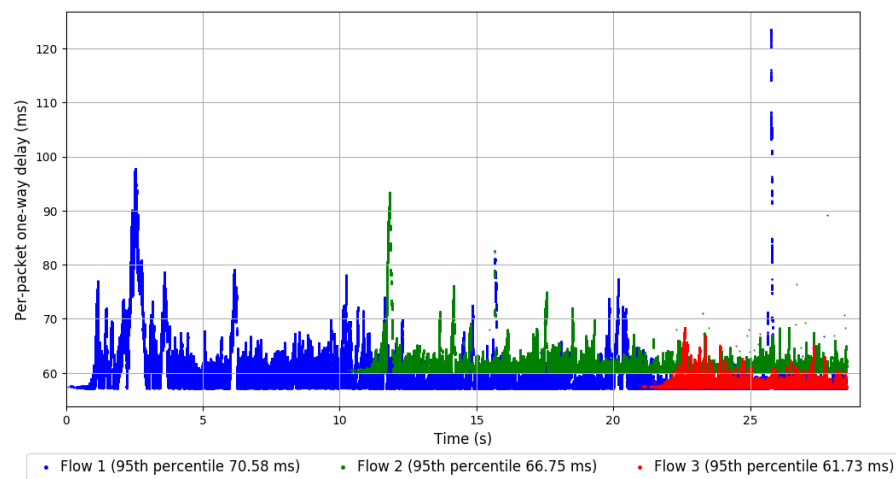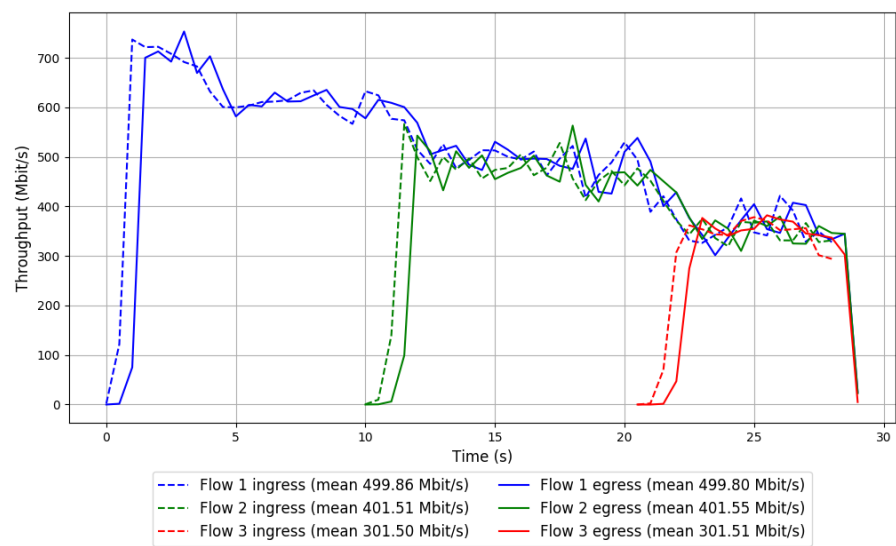
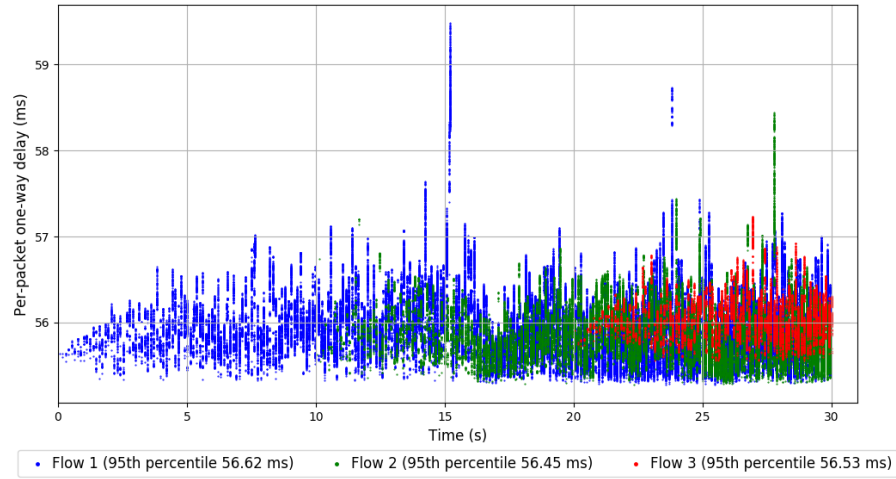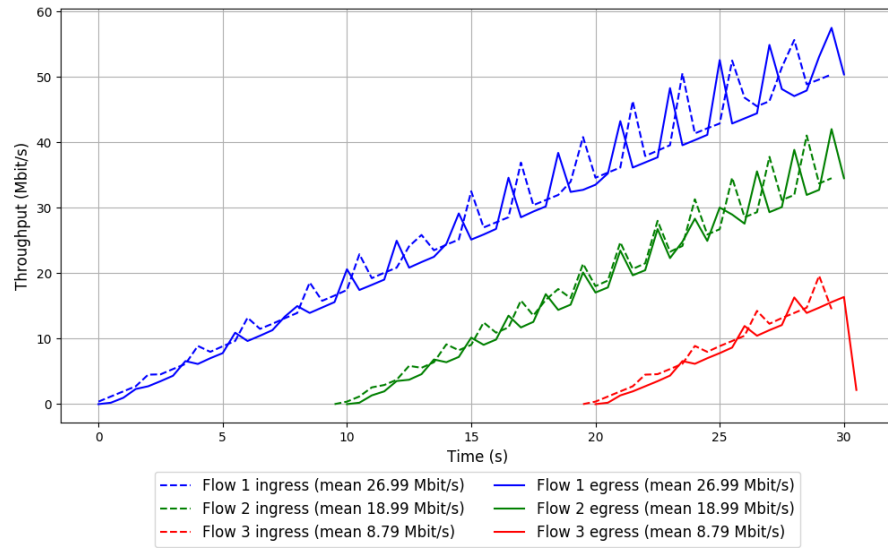## Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-21 01:44:44
End at: 2019-02-21 01:45:14
Local clock offset: -0.015 ms
Remote clock offset: -0.237 ms


# Below is generated by plot.py at 2019-02-21 05:42:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 826.78 Mbit/s
95th percentile per-packet one-way delay: 69.299 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 495.64 Mbit/s
95th percentile per-packet one-way delay: 67.792 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 393.19 Mbit/s
95th percentile per-packet one-way delay: 81.682 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 301.80 Mbit/s
95th percentile per-packet one-way delay: 60.817 ms
Loss rate: 0.00%
```
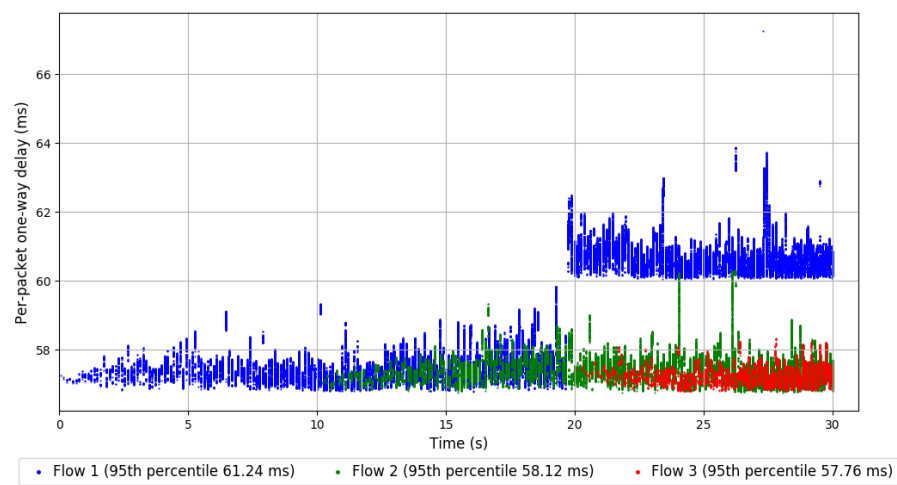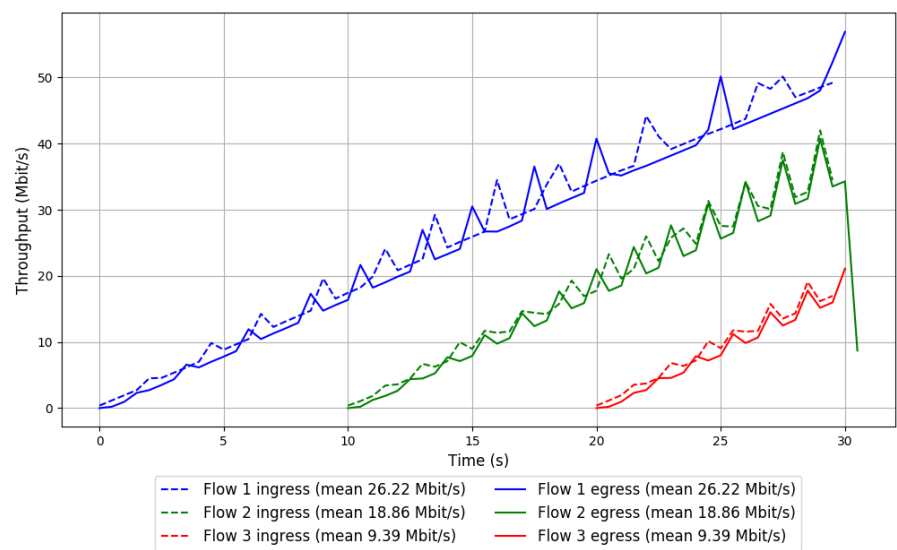
Run 3: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 495.68 Mbit/s) Flow 1 egress (mean 495.64 Mbit/s)
Flow 2 ingress (mean 393.23 Mbit/s) Flow 2 egress (mean 393.19 Mbit/s)
Flow 3 ingress (mean 301.67 Mbit/s) Flow 3 egress (mean 301.80 Mbit/s)

Flow 1 (95th percentile 67.79 ms)   Flow 2 (95th percentile 81.68 ms)   Flow 3 (95th percentile 60.82 ms)

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```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-21 02:28:20
End at: 2019-02-21 02:28:50
Local clock offset: -0.17 ms
Remote clock offset: 0.531 ms


# Below is generated by plot.py at 2019-02-21 05:47:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 805.20 Mbit/s
95th percentile per-packet one-way delay: 104.061 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 508.14 Mbit/s
95th percentile per-packet one-way delay: 107.334 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 414.95 Mbit/s
95th percentile per-packet one-way delay: 87.689 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 108.08 Mbit/s
95th percentile per-packet one-way delay: 61.976 ms
Loss rate: 0.06%
```

Run 4: Report of Indigo-MusesT — Data Link
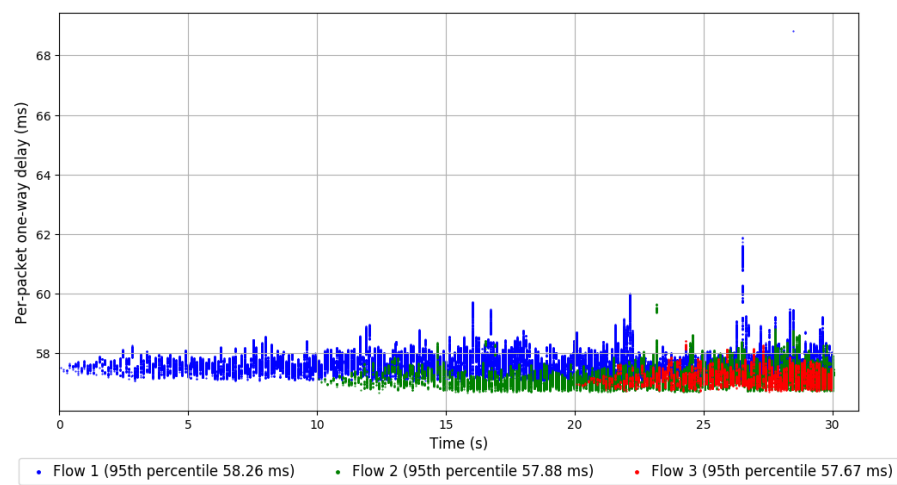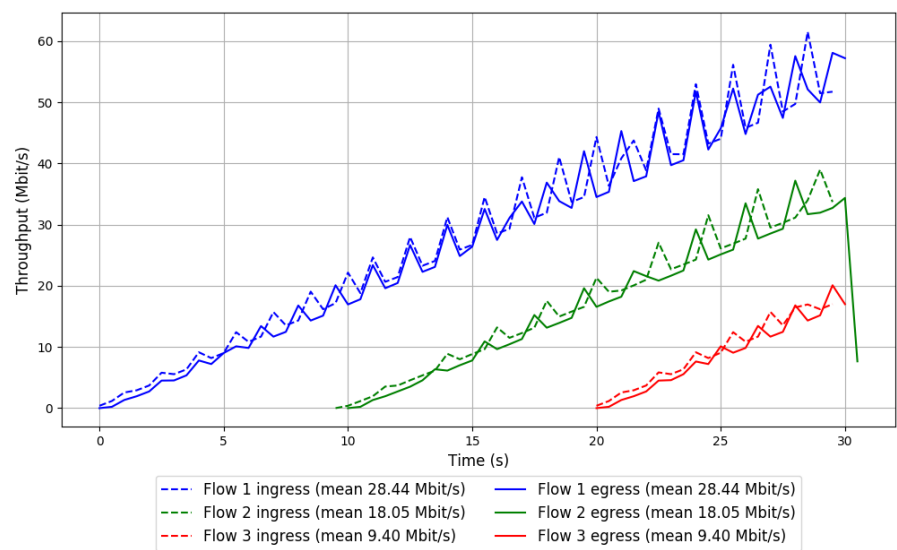

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```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-21 03:11:50
End at: 2019-02-21 03:12:20
Local clock offset: -0.15 ms
Remote clock offset: -0.03 ms


# Below is generated by plot.py at 2019-02-21 05:49:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 836.91 Mbit/s
95th percentile per-packet one-way delay: 68.780 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 499.80 Mbit/s
95th percentile per-packet one-way delay: 70.583 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 401.55 Mbit/s
95th percentile per-packet one-way delay: 66.749 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 301.51 Mbit/s
95th percentile per-packet one-way delay: 61.732 ms
Loss rate: 0.00%
```

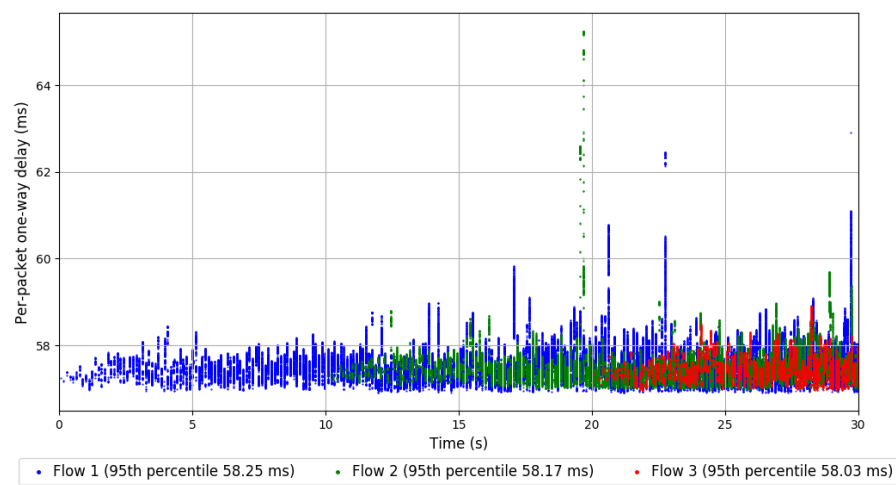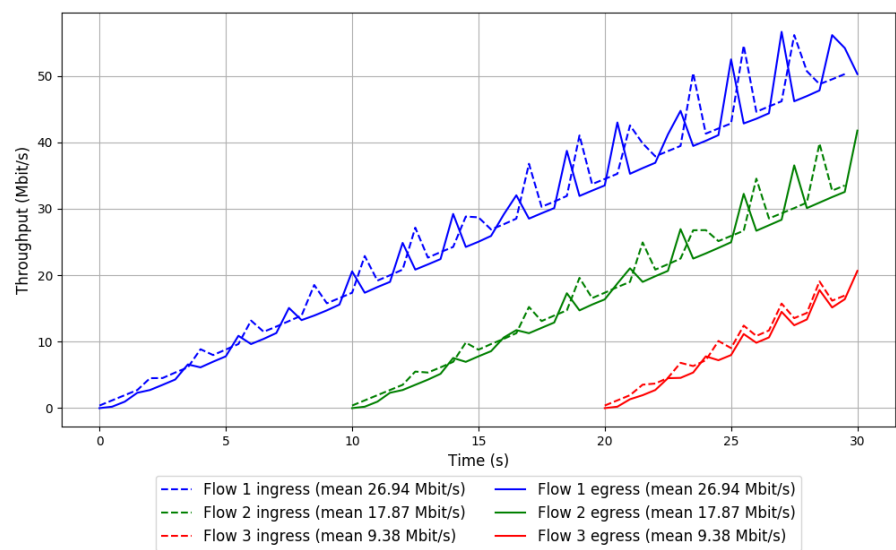Run 5: Report of Indigo-MusesT — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2019-02-21 00:09:18
End at: 2019-02-21 00:09:48
Local clock offset: 0.458 ms
Remote clock offset: -1.553 ms


# Below is generated by plot.py at 2019-02-21 05:49:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.48 Mbit/s
95th percentile per-packet one-way delay: 56.568 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 26.99 Mbit/s
95th percentile per-packet one-way delay: 56.621 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 18.99 Mbit/s
95th percentile per-packet one-way delay: 56.454 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.79 Mbit/s
95th percentile per-packet one-way delay: 56.533 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-02-21 00:53:32
End at: 2019-02-21 00:54:02
Local clock offset: 0.035 ms
Remote clock offset: -0.084 ms

# Below is generated by plot.py at 2019-02-21 05:49:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.87 Mbit/s
95th percentile per-packet one-way delay: 61.073 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 26.22 Mbit/s
95th percentile per-packet one-way delay: 61.245 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 18.86 Mbit/s
95th percentile per-packet one-way delay: 58.124 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.39 Mbit/s
95th percentile per-packet one-way delay: 57.756 ms
Loss rate: 0.00%
```
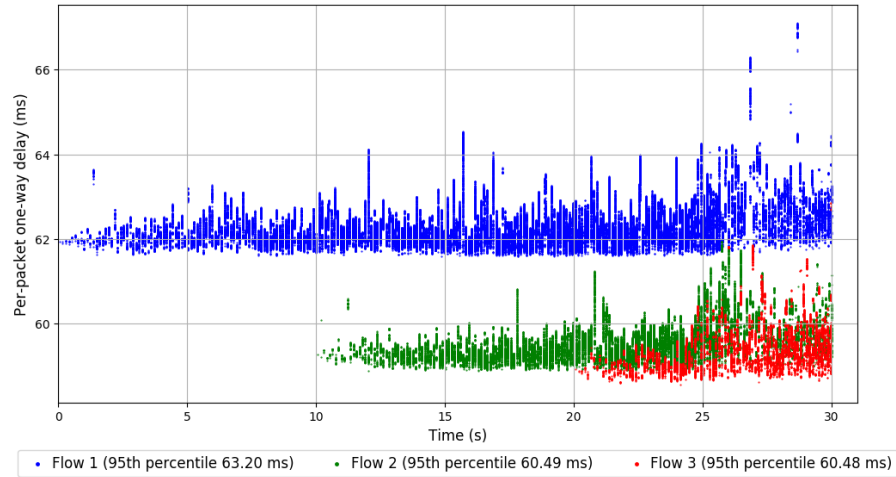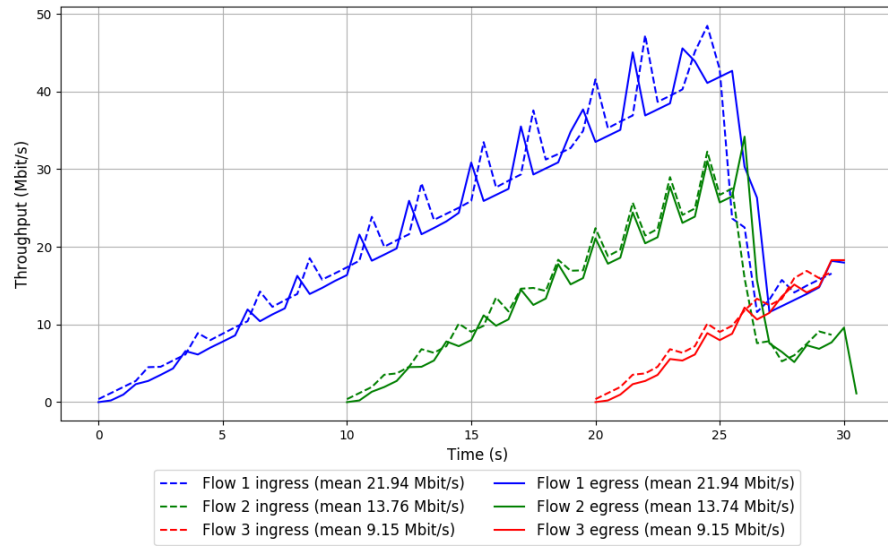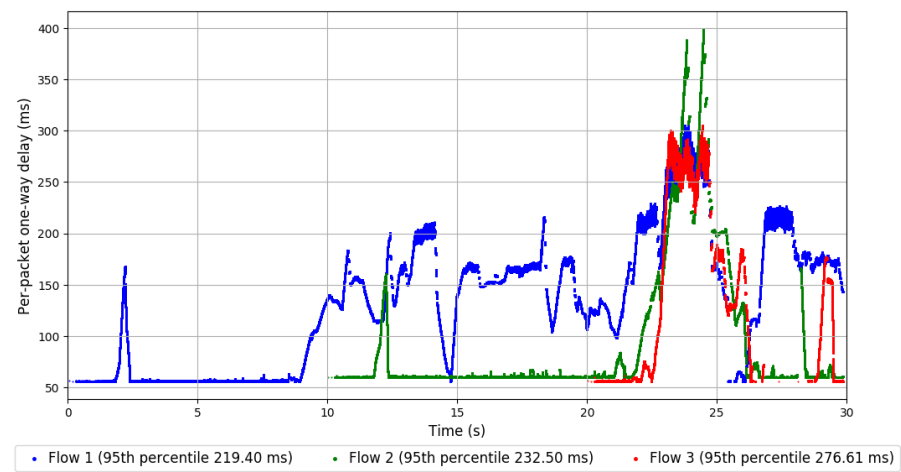
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-02-21 01:37:46
End at: 2019-02-21 01:38:16
Local clock offset: -0.115 ms
Remote clock offset: -0.163 ms


# Below is generated by plot.py at 2019-02-21 05:49:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.54 Mbit/s
95th percentile per-packet one-way delay: 58.158 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 28.44 Mbit/s
95th percentile per-packet one-way delay: 58.262 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 18.05 Mbit/s
95th percentile per-packet one-way delay: 57.878 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.40 Mbit/s
95th percentile per-packet one-way delay: 57.675 ms
Loss rate: 0.00%
```
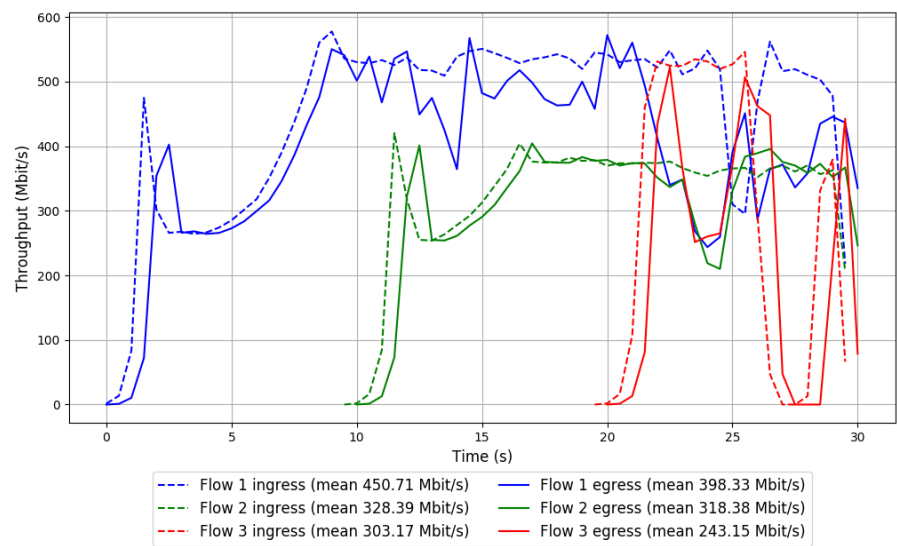
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 28.44 Mbit/s)
Flow 1 egress (mean 28.44 Mbit/s)
Flow 2 ingress (mean 18.05 Mbit/s)
Flow 2 egress (mean 18.05 Mbit/s)
Flow 3 ingress (mean 9.40 Mbit/s)
Flow 3 egress (mean 9.40 Mbit/s)

Flow 1 (95th percentile 58.26 ms)
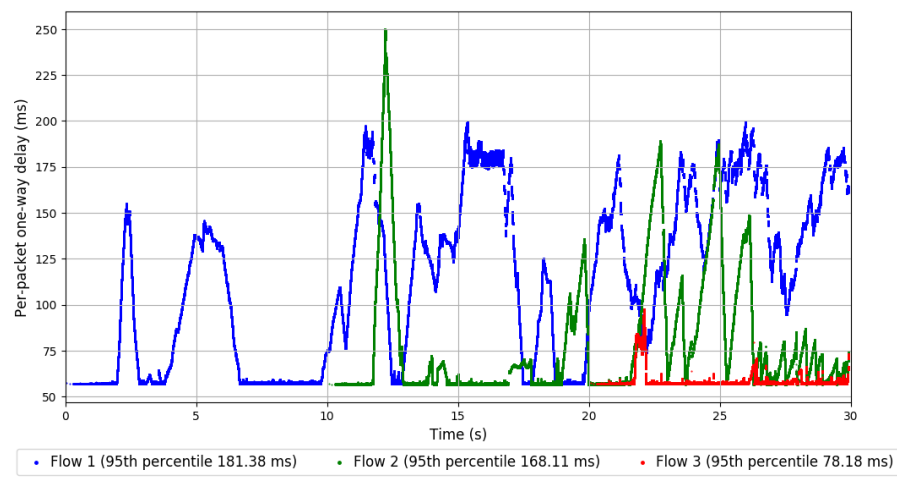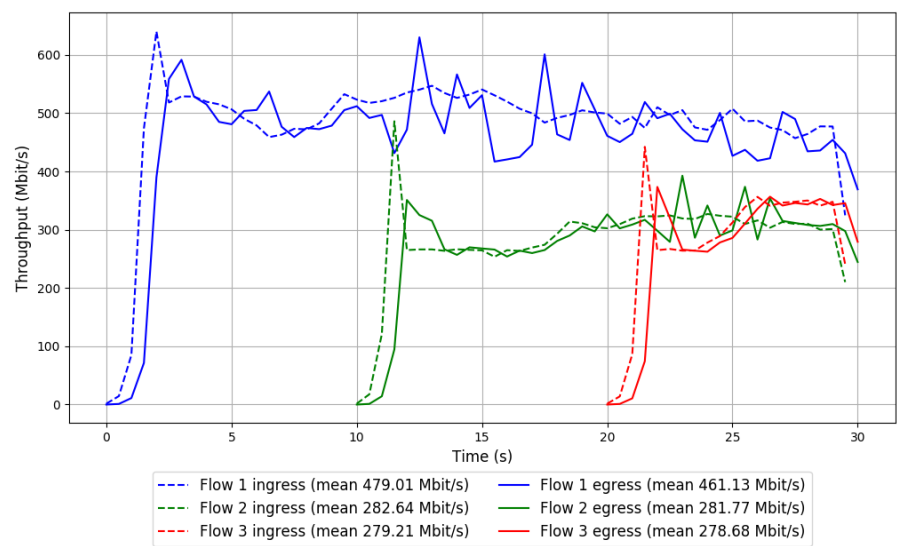Flow 2 (95th percentile 57.88 ms)
Flow 3 (95th percentile 57.67 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2019-02-21 02:21:38
End at: 2019-02-21 02:22:08
Local clock offset: -0.207 ms
Remote clock offset: -0.143 ms


# Below is generated by plot.py at 2019-02-21 05:49:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.90 Mbit/s
95th percentile per-packet one-way delay: 58.214 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 26.94 Mbit/s
95th percentile per-packet one-way delay: 58.248 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 17.87 Mbit/s
95th percentile per-packet one-way delay: 58.166 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.38 Mbit/s
95th percentile per-packet one-way delay: 58.026 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-02-21 03:04:40
End at: 2019-02-21 03:05:10
Local clock offset: -0.393 ms
Remote clock offset: 1.284 ms


# Below is generated by plot.py at 2019-02-21 05:49:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.10 Mbit/s
95th percentile per-packet one-way delay: 62.982 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 21.94 Mbit/s
95th percentile per-packet one-way delay: 63.198 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 13.74 Mbit/s
95th percentile per-packet one-way delay: 60.487 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 9.15 Mbit/s
95th percentile per-packet one-way delay: 60.483 ms
Loss rate: 0.00%
```
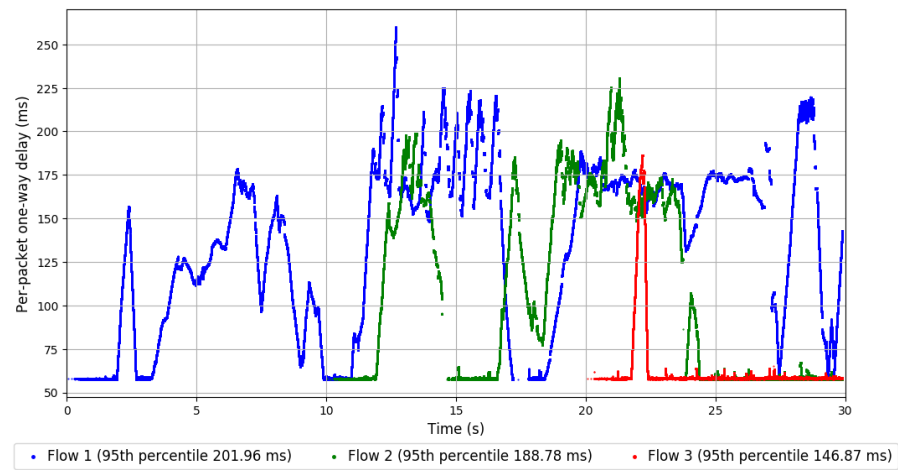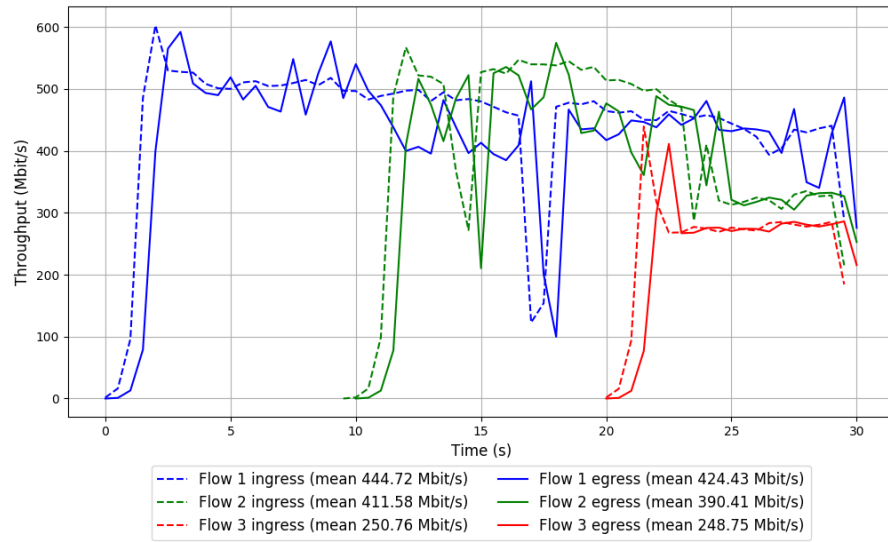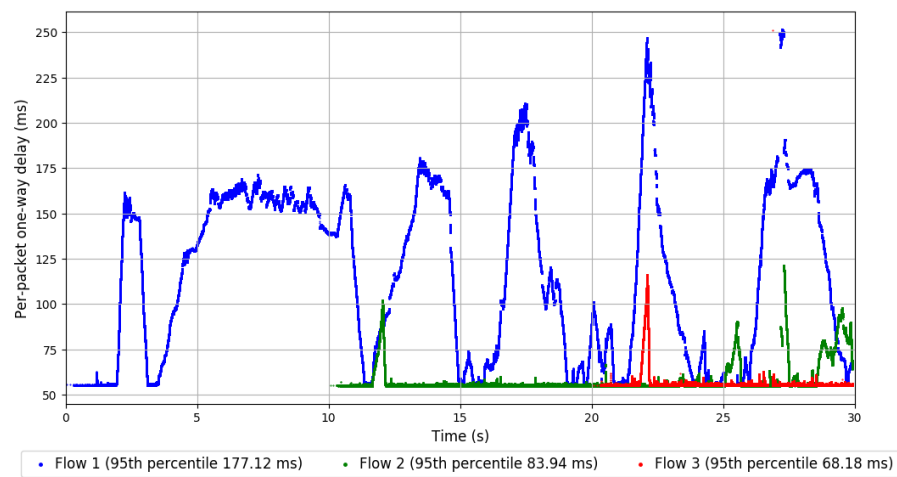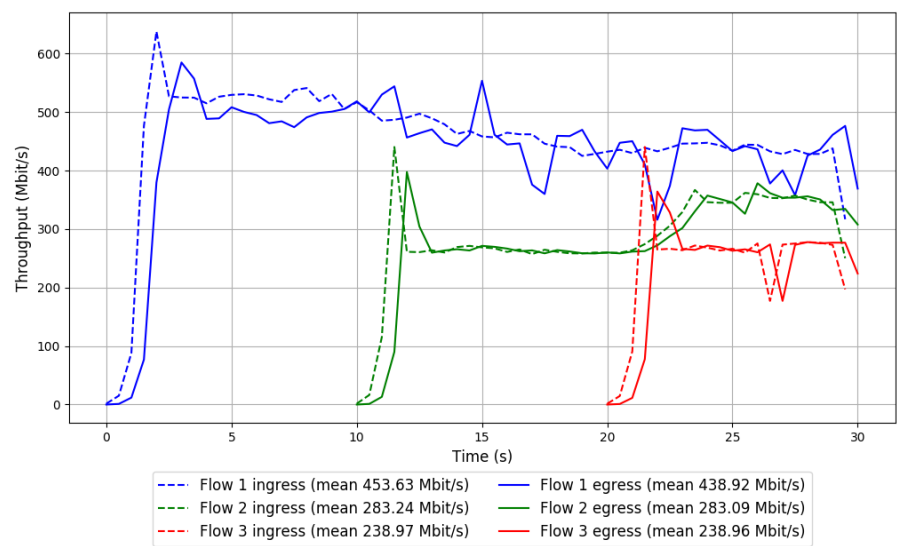
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-21 00:01:06
End at: 2019-02-21 00:01:36
Local clock offset: 0.793 ms
Remote clock offset: -0.894 ms


# Below is generated by plot.py at 2019-02-21 06:06:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 690.30 Mbit/s
95th percentile per-packet one-way delay: 246.660 ms
Loss rate: 10.15%
-- Flow 1:
Average throughput: 398.33 Mbit/s
95th percentile per-packet one-way delay: 219.396 ms
Loss rate: 11.45%
-- Flow 2:
Average throughput: 318.38 Mbit/s
95th percentile per-packet one-way delay: 232.499 ms
Loss rate: 3.07%
-- Flow 3:
Average throughput: 243.15 Mbit/s
95th percentile per-packet one-way delay: 276.608 ms
Loss rate: 19.80%
```
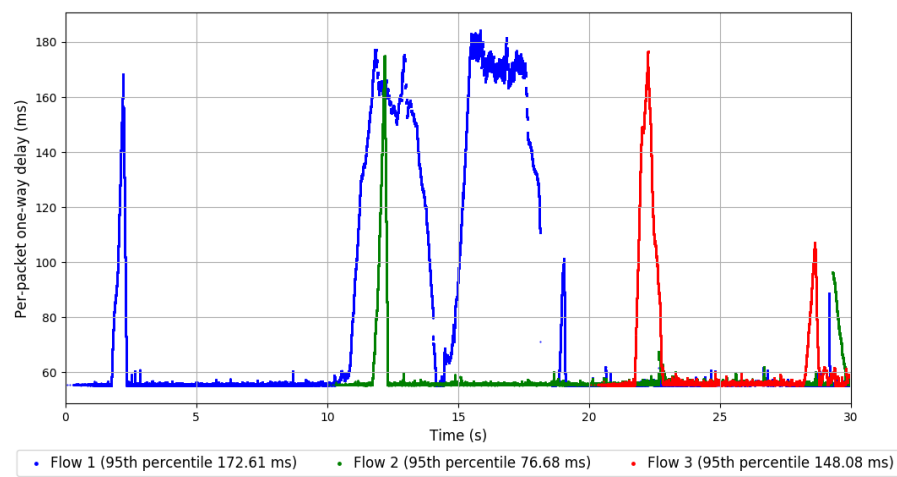
Run 1: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 450.71 Mbit/s) --- Flow 1 egress (mean 398.33 Mbit/s)
Flow 2 ingress (mean 328.39 Mbit/s) --- Flow 2 egress (mean 318.38 Mbit/s)
Flow 3 ingress (mean 303.17 Mbit/s) --- Flow 3 egress (mean 243.15 Mbit/s)

Flow 1 (95th percentile 219.40 ms)   Flow 2 (95th percentile 232.50 ms)   Flow 3 (95th percentile 276.61 ms)

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-02-21 00:44:28
End at: 2019-02-21 00:44:58
Local clock offset: -0.206 ms
Remote clock offset: -0.253 ms


# Below is generated by plot.py at 2019-02-21 06:08:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 740.43 Mbit/s
95th percentile per-packet one-way delay: 179.478 ms
Loss rate: 2.41%
-- Flow 1:
Average throughput: 461.13 Mbit/s
95th percentile per-packet one-way delay: 181.380 ms
Loss rate: 3.70%
-- Flow 2:
Average throughput: 281.77 Mbit/s
95th percentile per-packet one-way delay: 168.113 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 278.68 Mbit/s
95th percentile per-packet one-way delay: 78.178 ms
Loss rate: 0.09%
```

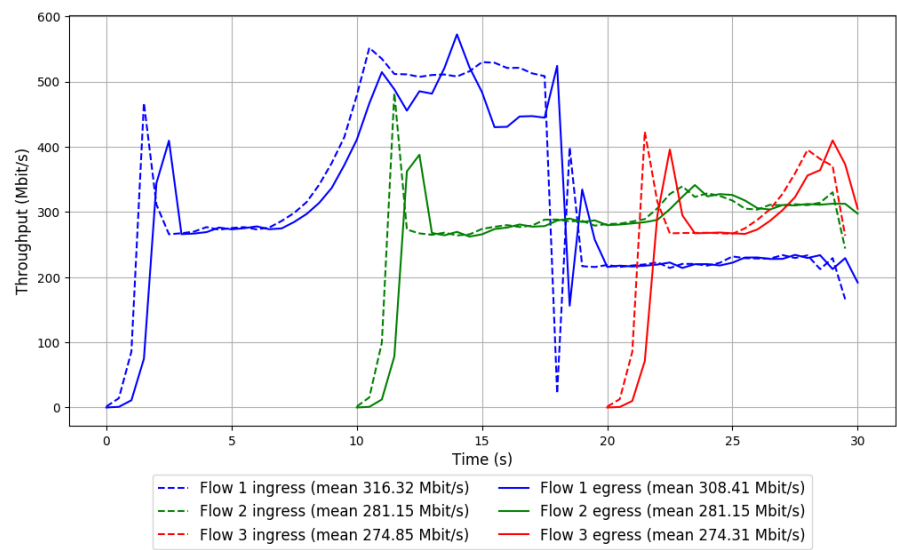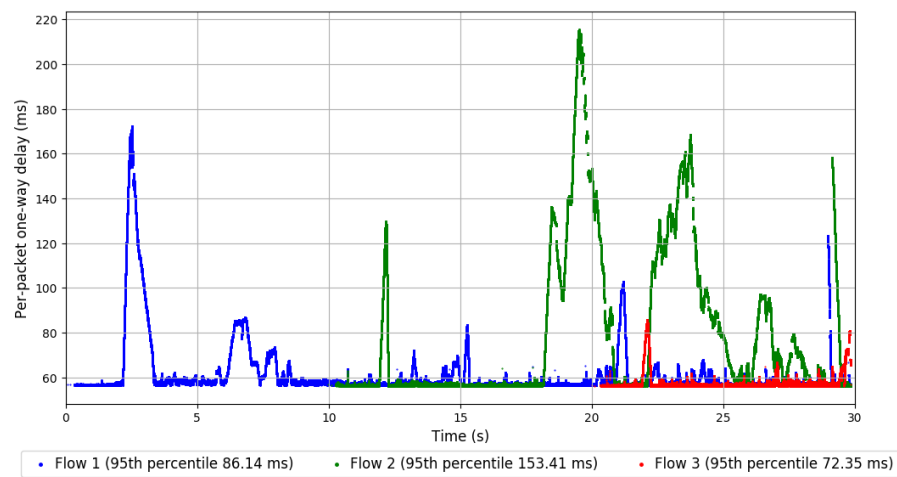Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-02-21 01:28:33
End at: 2019-02-21 01:29:03
Local clock offset: -0.081 ms
Remote clock offset: 0.599 ms


# Below is generated by plot.py at 2019-02-21 06:10:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 766.11 Mbit/s
95th percentile per-packet one-way delay: 192.385 ms
Loss rate: 4.37%
-- Flow 1:
Average throughput: 424.43 Mbit/s
95th percentile per-packet one-way delay: 201.955 ms
Loss rate: 4.56%
-- Flow 2:
Average throughput: 390.41 Mbit/s
95th percentile per-packet one-way delay: 188.781 ms
Loss rate: 5.15%
-- Flow 3:
Average throughput: 248.75 Mbit/s
95th percentile per-packet one-way delay: 146.872 ms
Loss rate: 0.81%
```

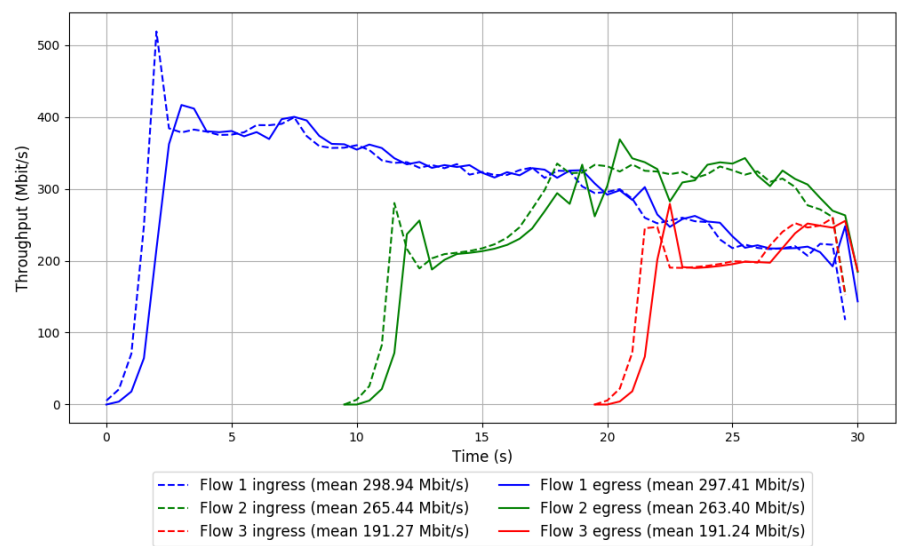# Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 444.72 Mbit/s) --- Flow 1 egress (mean 424.43 Mbit/s)
Flow 2 ingress (mean 411.58 Mbit/s) --- Flow 2 egress (mean 390.41 Mbit/s)
Flow 3 ingress (mean 250.76 Mbit/s) --- Flow 3 egress (mean 248.75 Mbit/s)

Flow 1 (95th percentile 201.96 ms)   Flow 2 (95th percentile 188.78 ms)   Flow 3 (95th percentile 146.87 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-02-21 02:13:02
End at: 2019-02-21 02:13:32
Local clock offset: 0.31 ms
Remote clock offset: -1.516 ms


# Below is generated by plot.py at 2019-02-21 06:10:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 705.75 Mbit/s
95th percentile per-packet one-way delay: 171.941 ms
Loss rate: 2.05%
-- Flow 1:
Average throughput: 438.92 Mbit/s
95th percentile per-packet one-way delay: 177.115 ms
Loss rate: 3.24%
-- Flow 2:
Average throughput: 283.09 Mbit/s
95th percentile per-packet one-way delay: 83.941 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 238.96 Mbit/s
95th percentile per-packet one-way delay: 68.180 ms
Loss rate: 0.00%
```
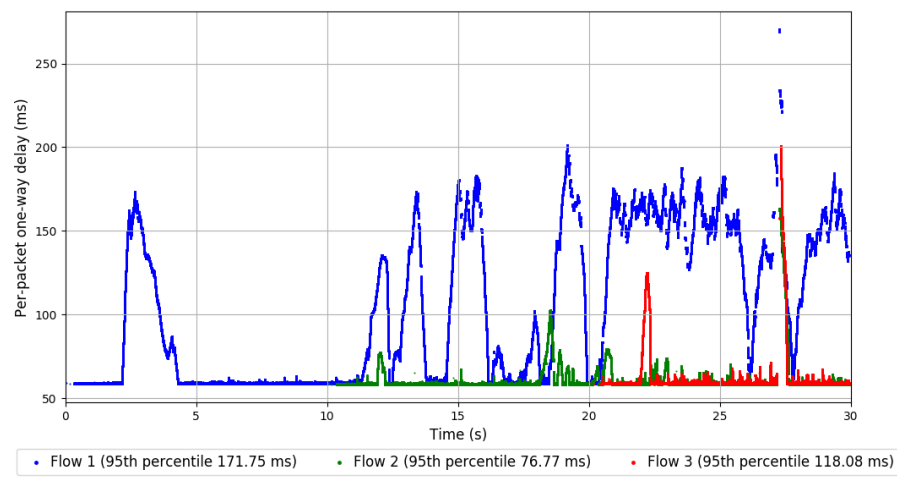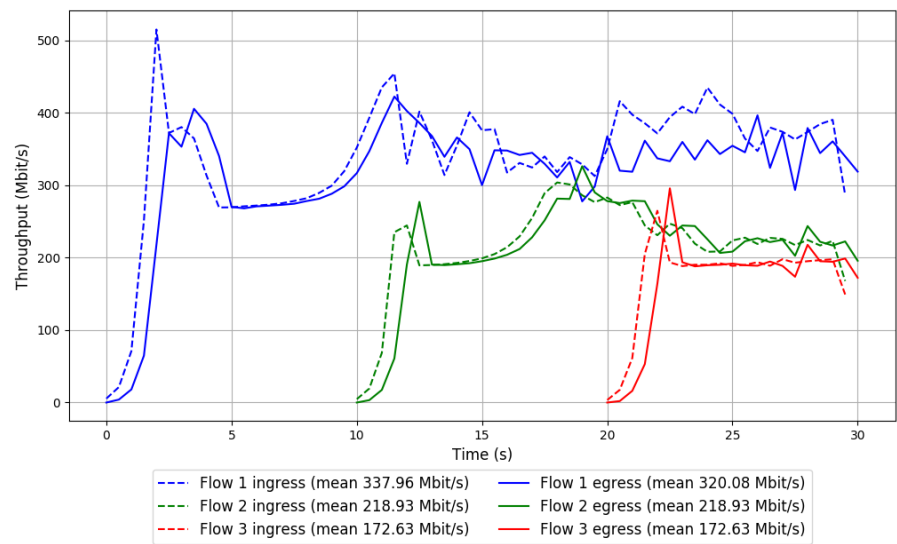
Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-02-21 02:55:53
End at: 2019-02-21 02:56:23
Local clock offset: -0.037 ms
Remote clock offset: -1.504 ms


# Below is generated by plot.py at 2019-02-21 06:10:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 585.63 Mbit/s
95th percentile per-packet one-way delay: 169.096 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 308.41 Mbit/s
95th percentile per-packet one-way delay: 172.612 ms
Loss rate: 2.50%
-- Flow 2:
Average throughput: 281.15 Mbit/s
95th percentile per-packet one-way delay: 76.682 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 274.31 Mbit/s
95th percentile per-packet one-way delay: 148.081 ms
Loss rate: 0.18%
```
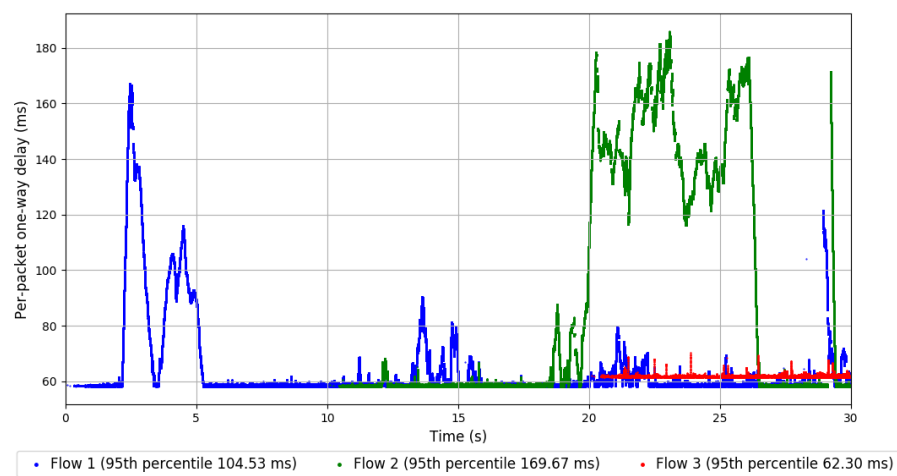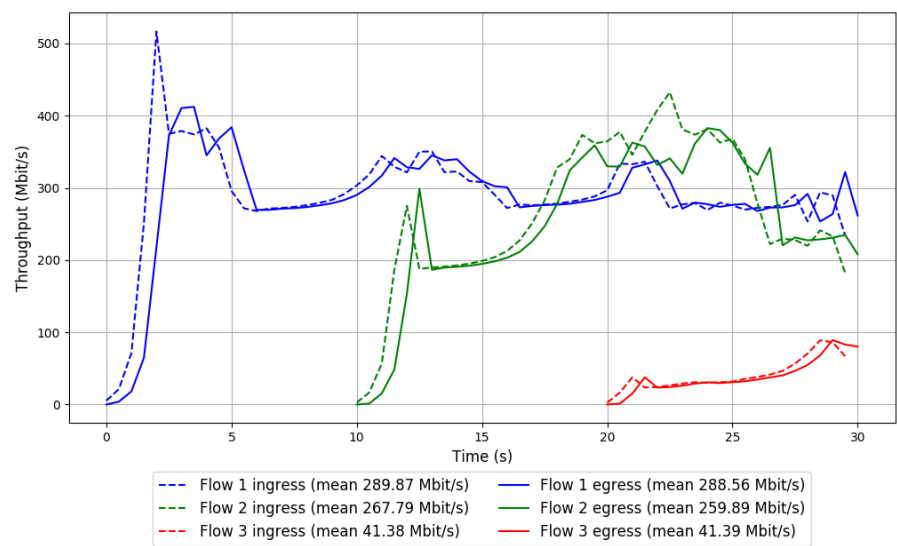
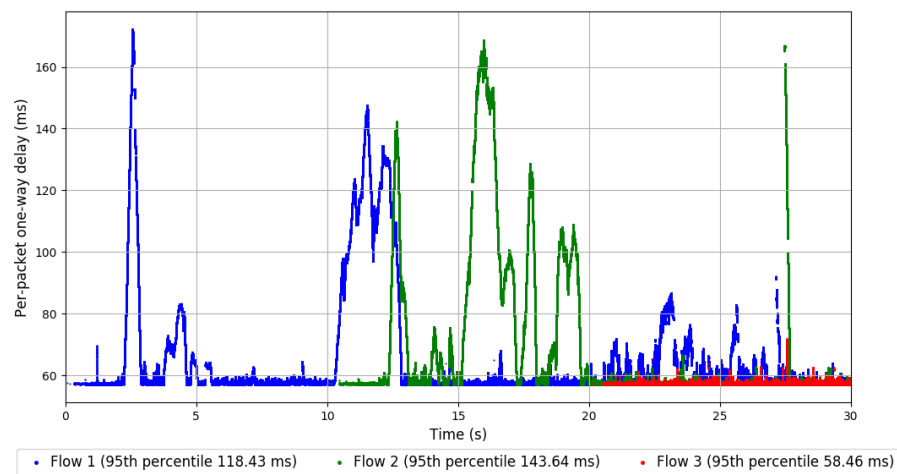Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2019-02-21 00:30:07
End at: 2019-02-21 00:30:37
Local clock offset: -0.362 ms
Remote clock offset: -0.907 ms


# Below is generated by plot.py at 2019-02-21 06:10:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 536.32 Mbit/s
95th percentile per-packet one-way delay: 131.083 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 297.41 Mbit/s
95th percentile per-packet one-way delay: 86.143 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 263.40 Mbit/s
95th percentile per-packet one-way delay: 153.406 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 191.24 Mbit/s
95th percentile per-packet one-way delay: 72.346 ms
Loss rate: 0.01%
```
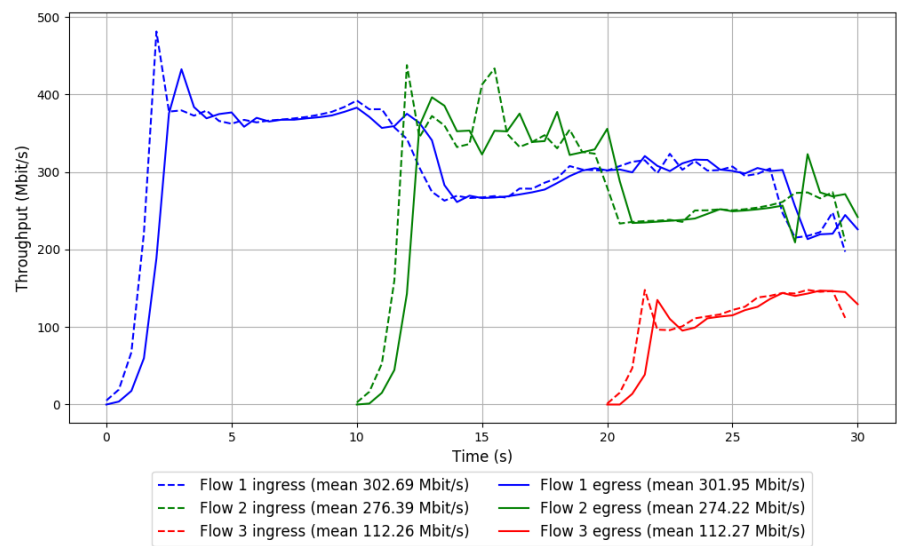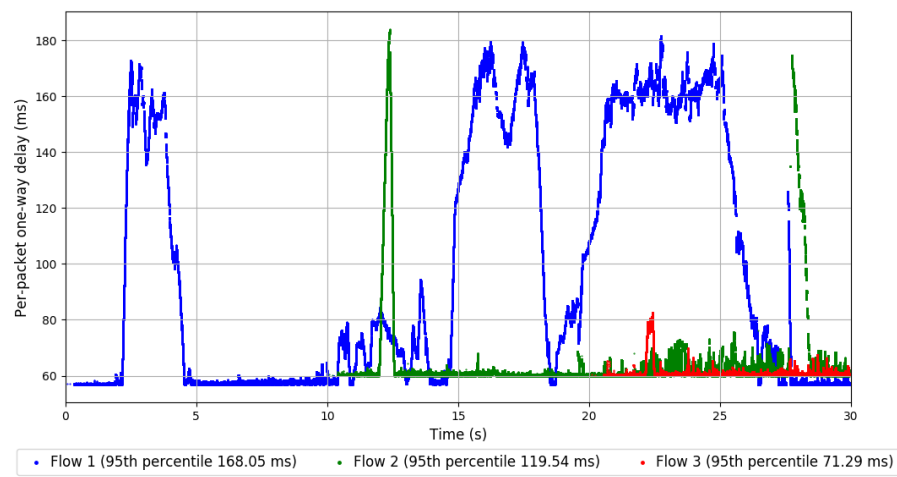
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 298.94 Mbit/s) --- Flow 1 egress (mean 297.41 Mbit/s)
Flow 2 ingress (mean 265.44 Mbit/s) --- Flow 2 egress (mean 263.40 Mbit/s)
Flow 3 ingress (mean 191.27 Mbit/s) --- Flow 3 egress (mean 191.24 Mbit/s)

Flow 1 (95th percentile 86.14 ms) • Flow 2 (95th percentile 153.41 ms) • Flow 3 (95th percentile 72.35 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-02-21 01:14:21
End at: 2019-02-21 01:14:51
Local clock offset: -0.364 ms
Remote clock offset: 1.118 ms


# Below is generated by plot.py at 2019-02-21 06:10:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 522.54 Mbit/s
95th percentile per-packet one-way delay: 167.911 ms
Loss rate: 3.31%
-- Flow 1:
Average throughput: 320.08 Mbit/s
95th percentile per-packet one-way delay: 171.750 ms
Loss rate: 5.29%
-- Flow 2:
Average throughput: 218.93 Mbit/s
95th percentile per-packet one-way delay: 76.772 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 172.63 Mbit/s
95th percentile per-packet one-way delay: 118.082 ms
Loss rate: 0.00%
```
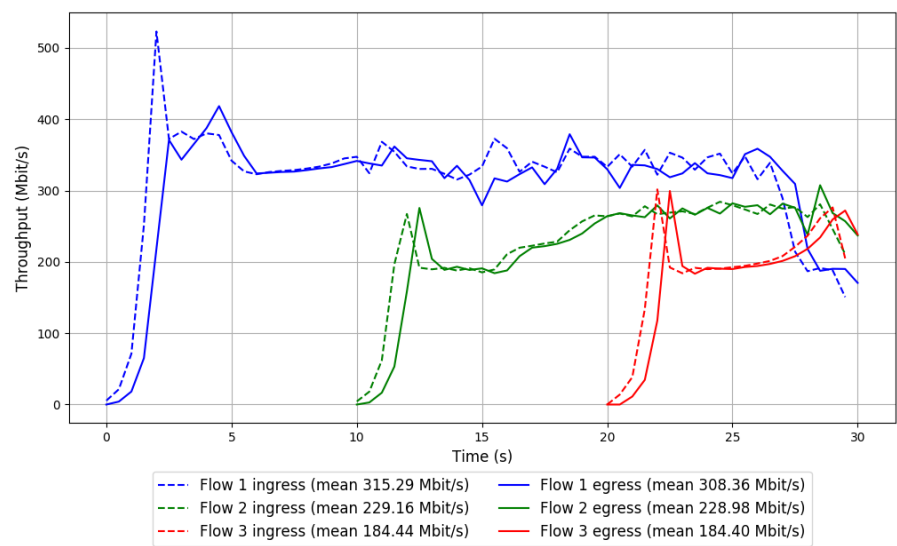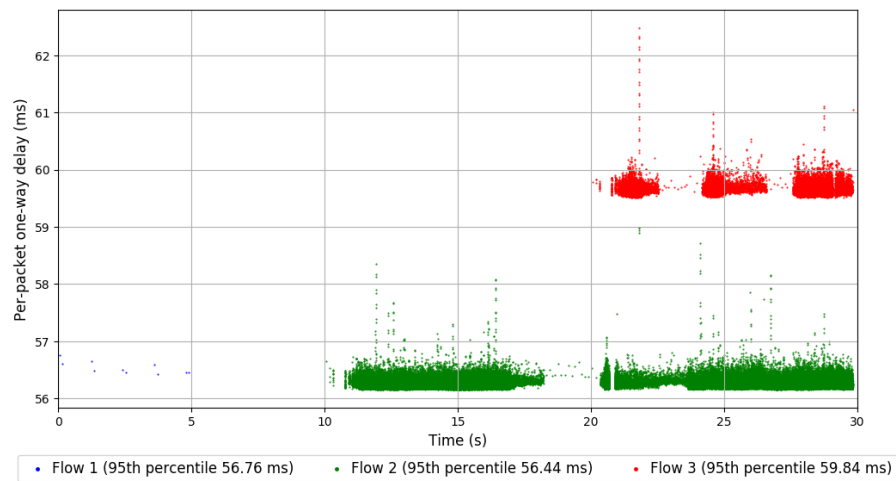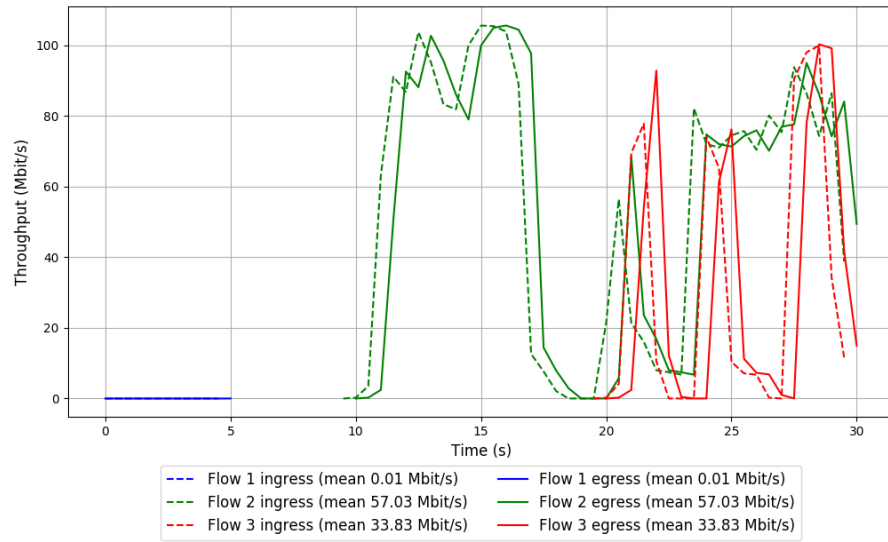
Run 2: Report of PCC-Expr — Data Link

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```
Run 3: Statistics of PCC-Expr

Start at: 2019-02-21 01:58:57
End at: 2019-02-21 01:59:27
Local clock offset: -0.088 ms
Remote clock offset: 1.093 ms


# Below is generated by plot.py at 2019-02-21 06:10:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 474.64 Mbit/s
95th percentile per-packet one-way delay: 159.829 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 288.56 Mbit/s
95th percentile per-packet one-way delay: 104.526 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 259.89 Mbit/s
95th percentile per-packet one-way delay: 169.672 ms
Loss rate: 2.95%
-- Flow 3:
Average throughput: 41.39 Mbit/s
95th percentile per-packet one-way delay: 62.302 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 289.87 Mbit/s) --- Flow 1 egress (mean 288.56 Mbit/s)
Flow 2 ingress (mean 267.79 Mbit/s) --- Flow 2 egress (mean 259.89 Mbit/s)
Flow 3 ingress (mean 41.38 Mbit/s) --- Flow 3 egress (mean 41.39 Mbit/s)

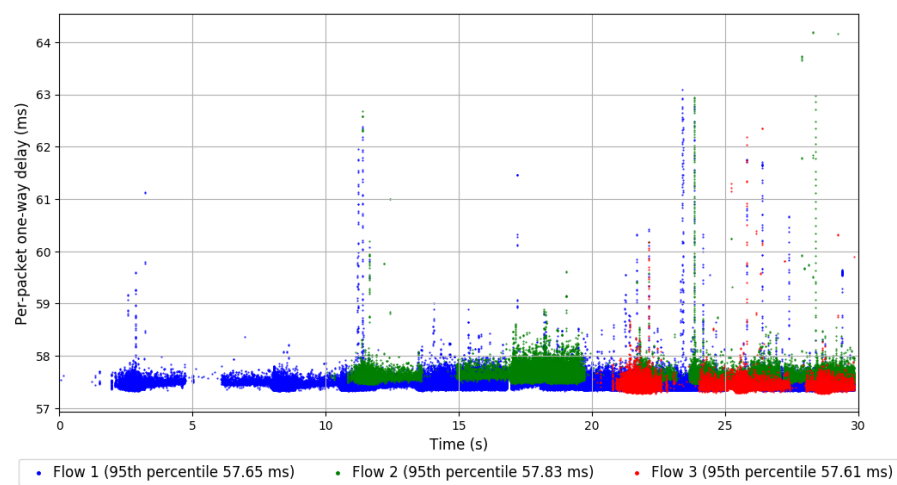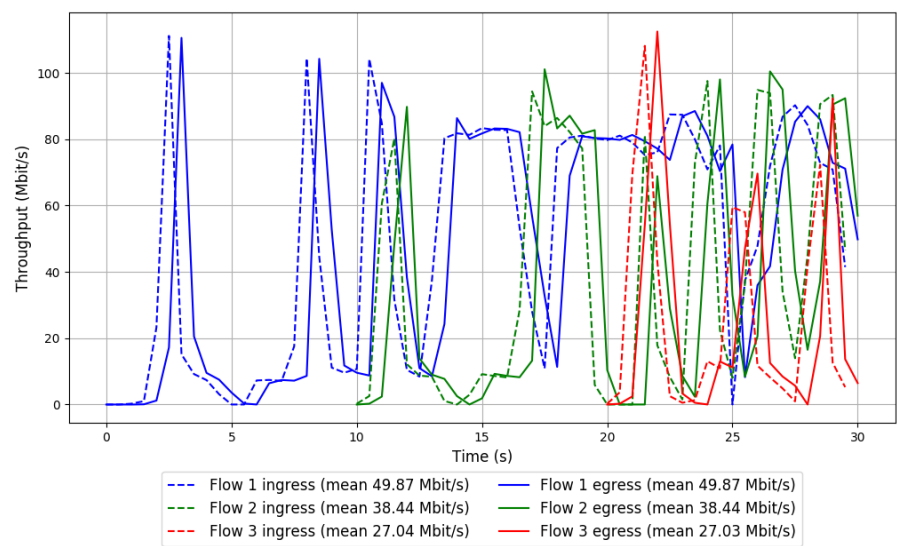Flow 1 (95th percentile 104.53 ms)   Flow 2 (95th percentile 169.67 ms)   Flow 3 (95th percentile 62.30 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-02-21 02:41:56
End at: 2019-02-21 02:42:26
Local clock offset: -0.455 ms
Remote clock offset: -0.237 ms


# Below is generated by plot.py at 2019-02-21 06:18:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 521.33 Mbit/s
95th percentile per-packet one-way delay: 123.904 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 301.95 Mbit/s
95th percentile per-packet one-way delay: 118.428 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 274.22 Mbit/s
95th percentile per-packet one-way delay: 143.643 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 112.27 Mbit/s
95th percentile per-packet one-way delay: 58.457 ms
Loss rate: 0.02%
```

Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-02-21 03:26:15
End at: 2019-02-21 03:26:45
Local clock offset: 0.031 ms
Remote clock offset: -0.383 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 521.31 Mbit/s
95th percentile per-packet one-way delay: 165.512 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 308.36 Mbit/s
95th percentile per-packet one-way delay: 168.048 ms
Loss rate: 2.20%
-- Flow 2:
Average throughput: 228.98 Mbit/s
95th percentile per-packet one-way delay: 119.536 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 184.40 Mbit/s
95th percentile per-packet one-way delay: 71.294 ms
Loss rate: 0.05%
```
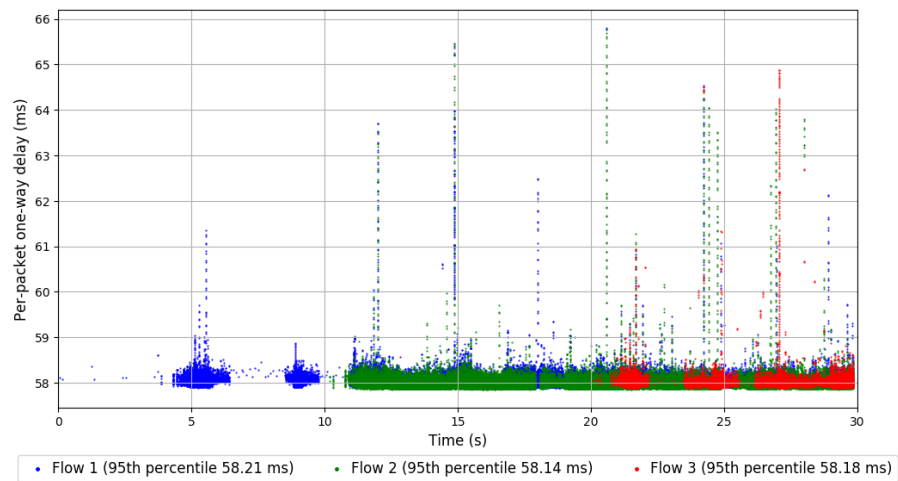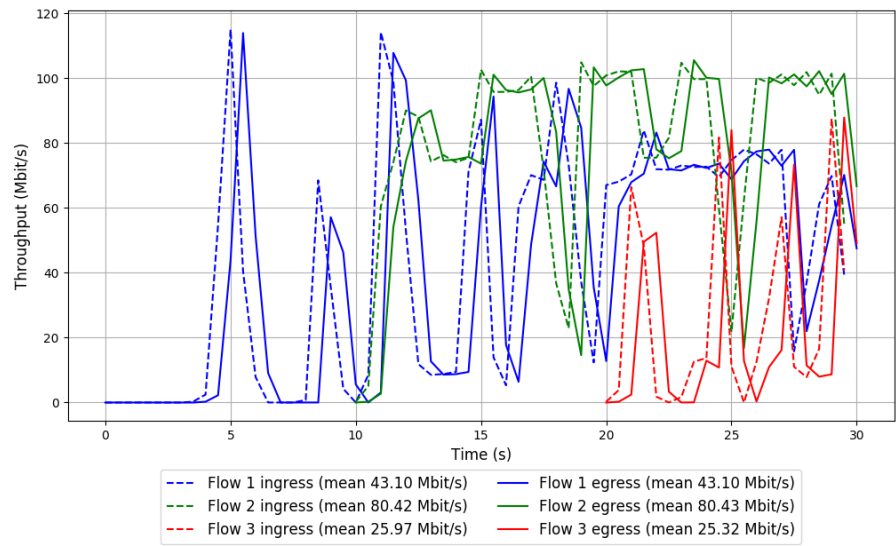
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 315.29 Mbit/s) Flow 1 egress (mean 308.36 Mbit/s)
Flow 2 ingress (mean 229.16 Mbit/s) Flow 2 egress (mean 228.98 Mbit/s)
Flow 3 ingress (mean 184.44 Mbit/s) Flow 3 egress (mean 184.40 Mbit/s)

Flow 1 (95th percentile 168.05 ms)   Flow 2 (95th percentile 119.54 ms)   Flow 3 (95th percentile 71.29 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-02-21 00:38:35
End at: 2019-02-21 00:39:05
Local clock offset: -0.066 ms
Remote clock offset: -0.742 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.98 Mbit/s
95th percentile per-packet one-way delay: 59.717 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 56.756 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 57.03 Mbit/s
95th percentile per-packet one-way delay: 56.440 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.83 Mbit/s
95th percentile per-packet one-way delay: 59.836 ms
Loss rate: 0.01%
```
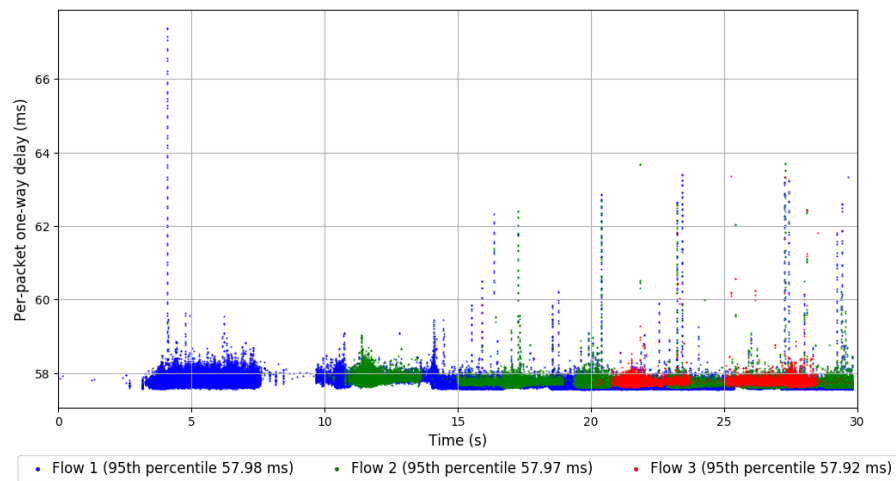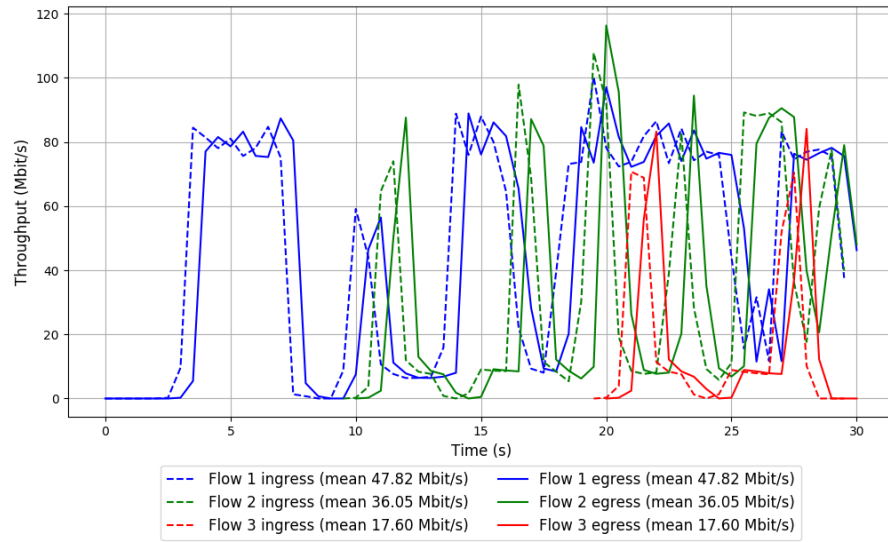
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-02-21 01:22:41
End at: 2019-02-21 01:23:11
Local clock offset: -0.534 ms
Remote clock offset: -0.156 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.26 Mbit/s
95th percentile per-packet one-way delay: 57.743 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.87 Mbit/s
95th percentile per-packet one-way delay: 57.653 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.44 Mbit/s
95th percentile per-packet one-way delay: 57.834 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 27.03 Mbit/s
95th percentile per-packet one-way delay: 57.612 ms
Loss rate: 0.00%
```
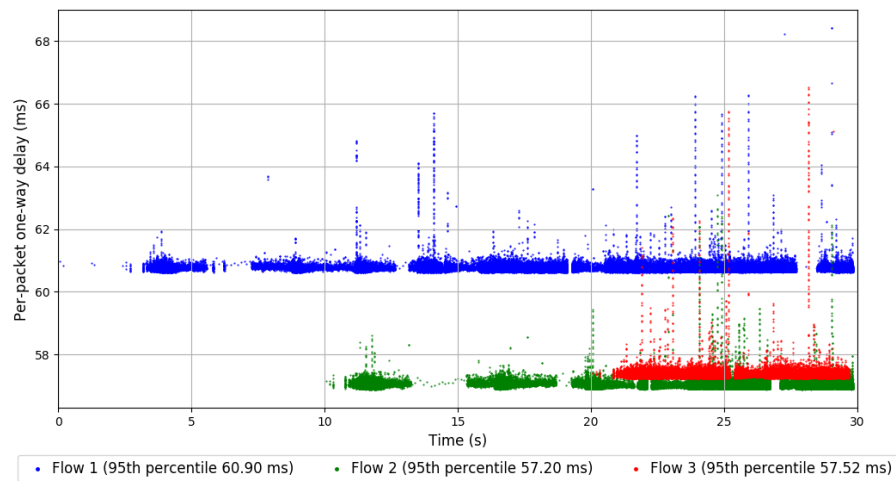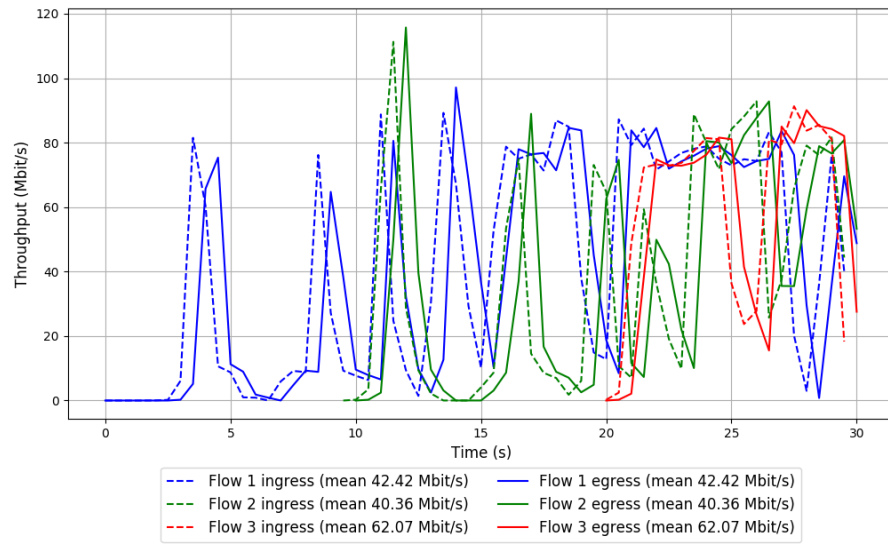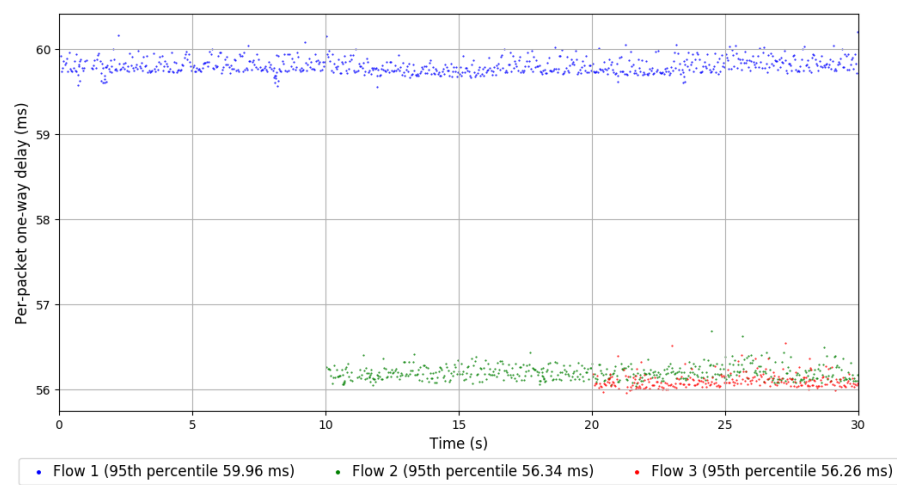
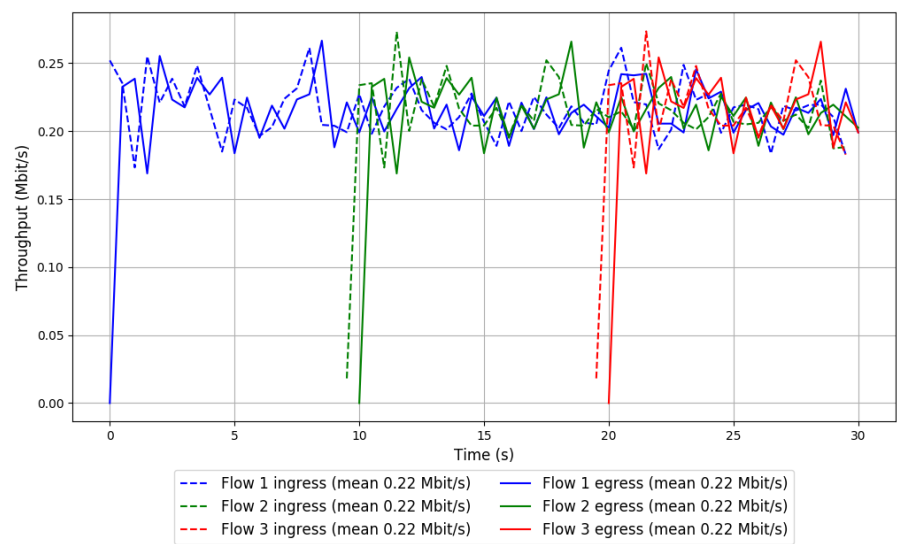Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-02-21 02:06:55
End at: 2019-02-21 02:07:25
Local clock offset: -0.282 ms
Remote clock offset: 0.722 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 104.79 Mbit/s
95th percentile per-packet one-way delay: 58.181 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 43.10 Mbit/s
95th percentile per-packet one-way delay: 58.214 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 80.43 Mbit/s
95th percentile per-packet one-way delay: 58.137 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 25.32 Mbit/s
95th percentile per-packet one-way delay: 58.181 ms
Loss rate: 2.49%
```

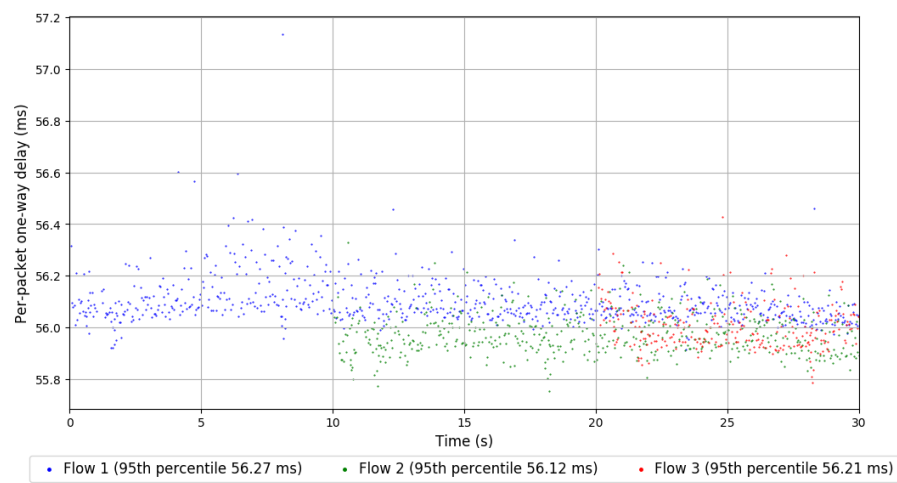Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-02-21 02:50:01
End at: 2019-02-21 02:50:31
Local clock offset: -0.193 ms
Remote clock offset: 0.619 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.46 Mbit/s
95th percentile per-packet one-way delay: 57.972 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.82 Mbit/s
95th percentile per-packet one-way delay: 57.981 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.05 Mbit/s
95th percentile per-packet one-way delay: 57.966 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 17.60 Mbit/s
95th percentile per-packet one-way delay: 57.923 ms
Loss rate: 0.00%
```
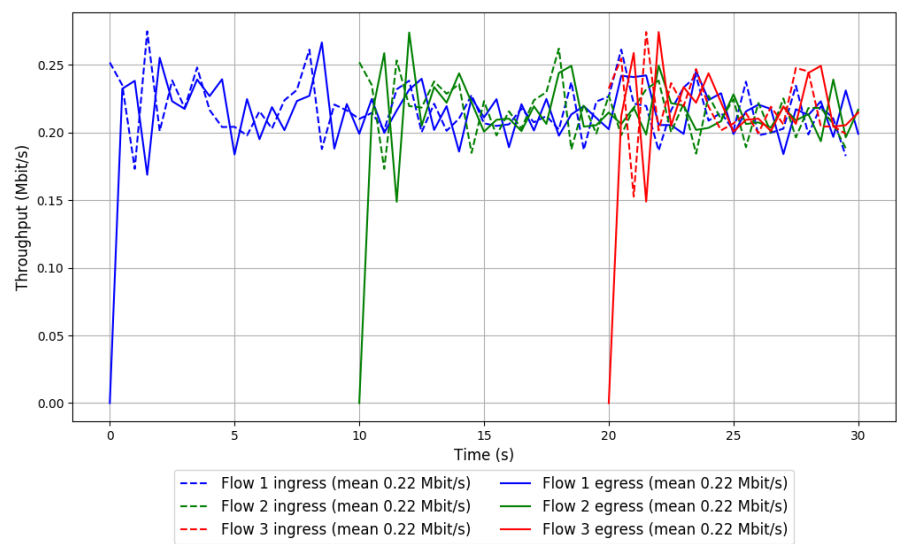
Run 4: Report of QUIC Cubic — Data Link
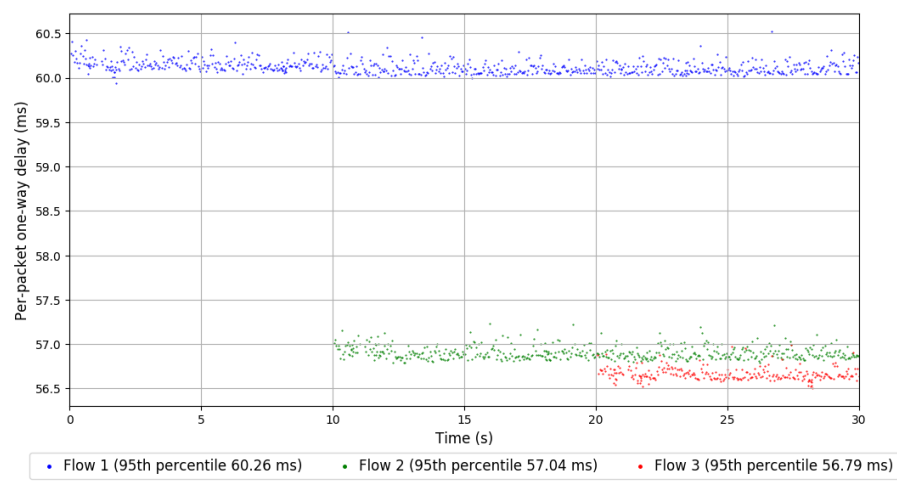
```
Run 5: Statistics of QUIC Cubic

Start at: 2019-02-21 03:34:18
End at: 2019-02-21 03:34:48
Local clock offset: 0.431 ms
Remote clock offset: 0.421 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.24 Mbit/s
95th percentile per-packet one-way delay: 60.846 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 42.42 Mbit/s
95th percentile per-packet one-way delay: 60.903 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 40.36 Mbit/s
95th percentile per-packet one-way delay: 57.205 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.07 Mbit/s
95th percentile per-packet one-way delay: 57.524 ms
Loss rate: 0.00%
```
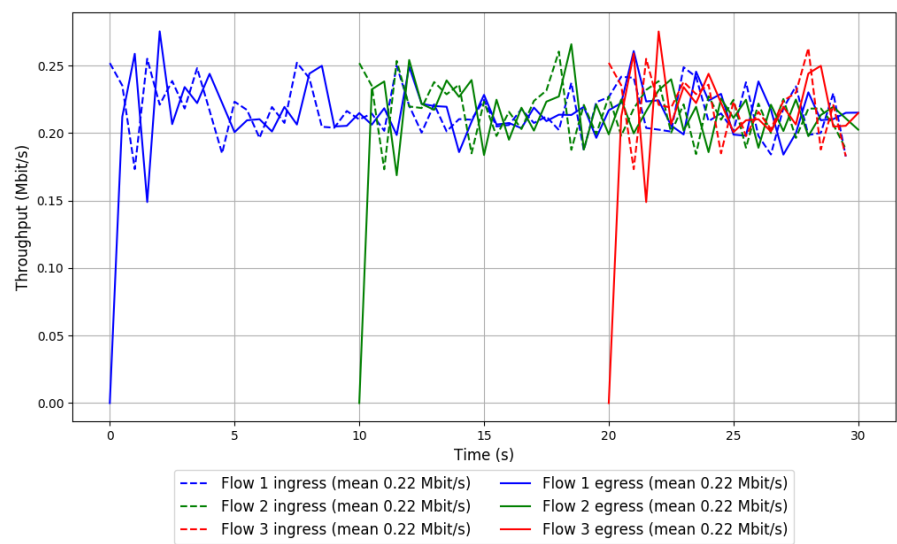
Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2019-02-21 00:03:08
End at: 2019-02-21 00:03:38
Local clock offset: 0.839 ms
Remote clock offset: -0.785 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 59.931 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.962 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.345 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.260 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-02-21 00:47:07
End at: 2019-02-21 00:47:37
Local clock offset: -0.034 ms
Remote clock offset: -1.236 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 56.218 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.267 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.115 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.206 ms
Loss rate: 0.00%
```
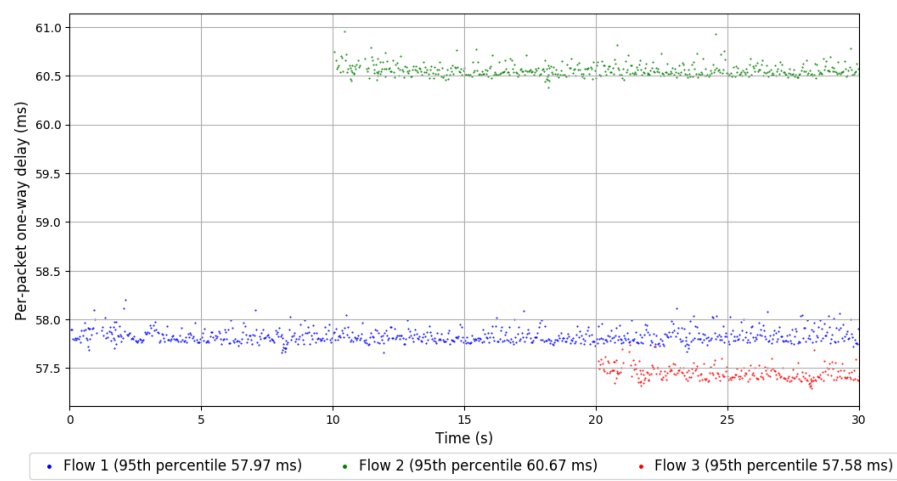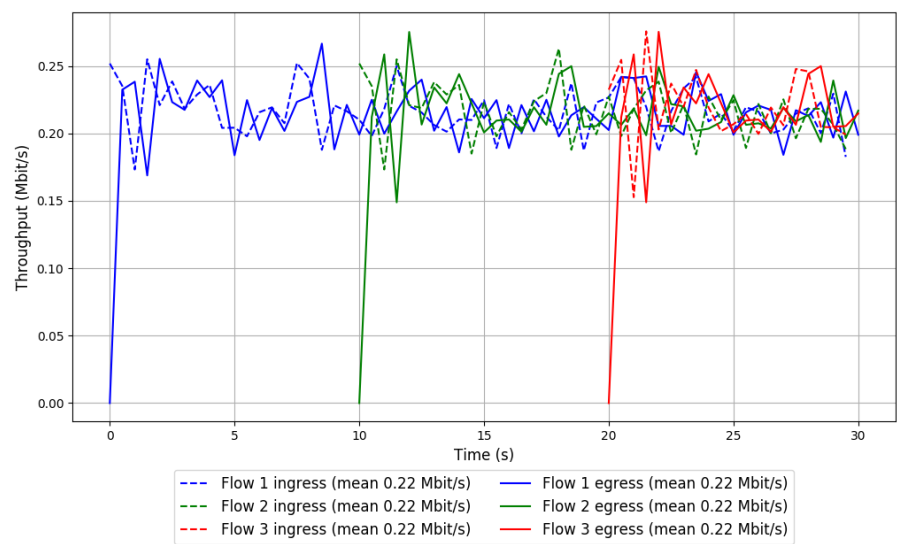
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-02-21 01:31:12
End at: 2019-02-21 01:31:42
Local clock offset: 0.111 ms
Remote clock offset: -0.216 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 60.226 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.262 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.040 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.792 ms
Loss rate: 0.00%
```
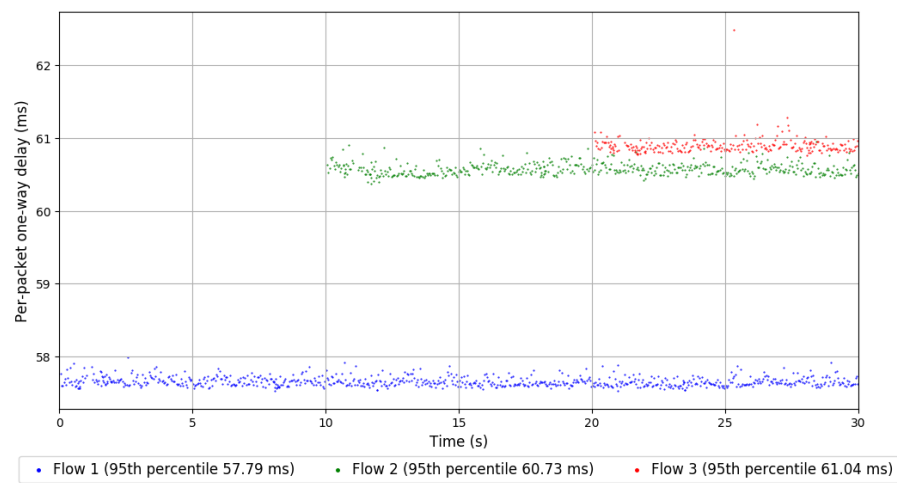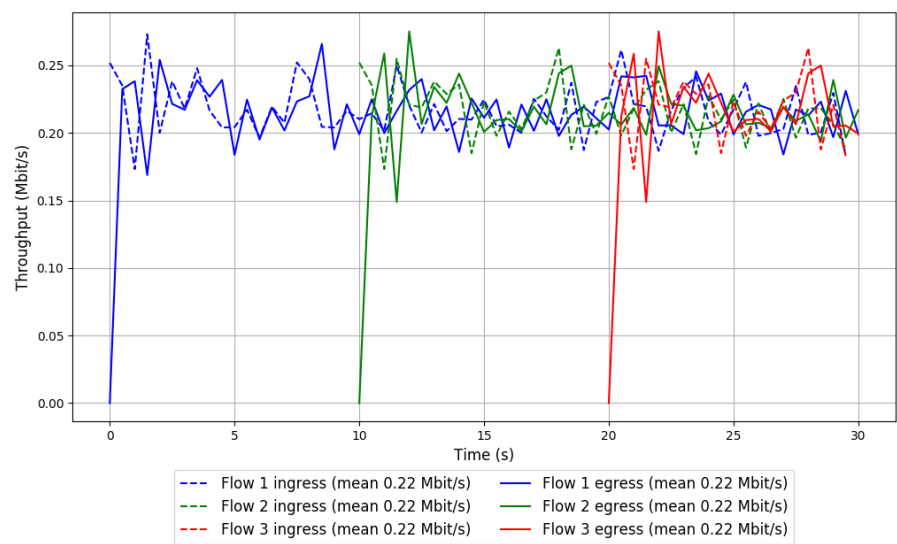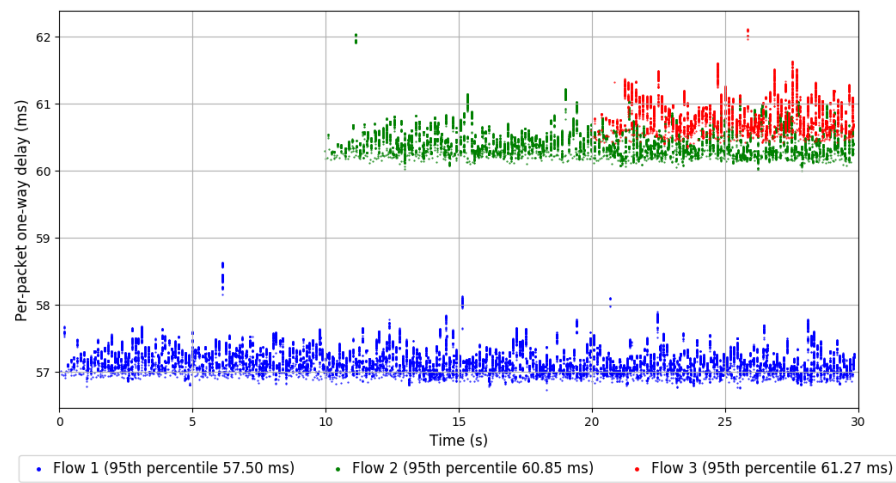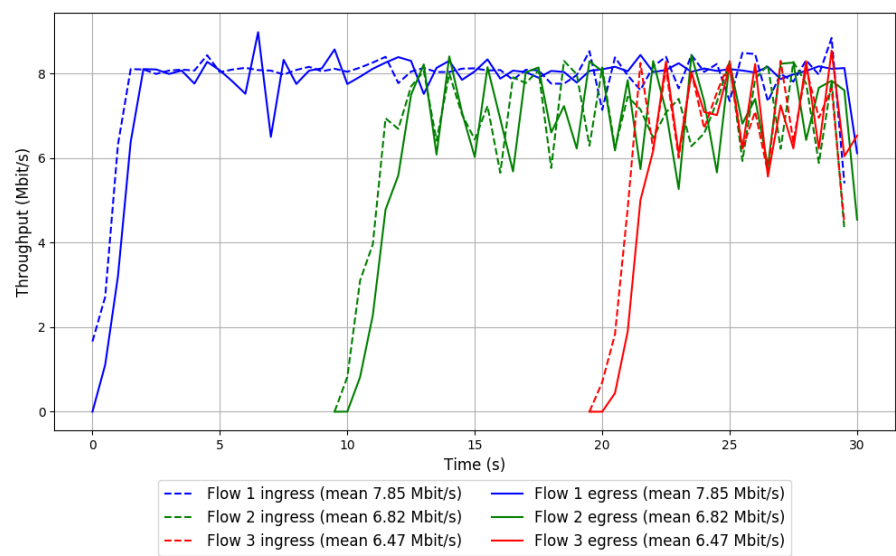
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-02-21 02:15:33
End at: 2019-02-21 02:16:03
Local clock offset: -0.584 ms
Remote clock offset: -0.21 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 60.616 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.970 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.674 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.577 ms
Loss rate: 0.00%
```
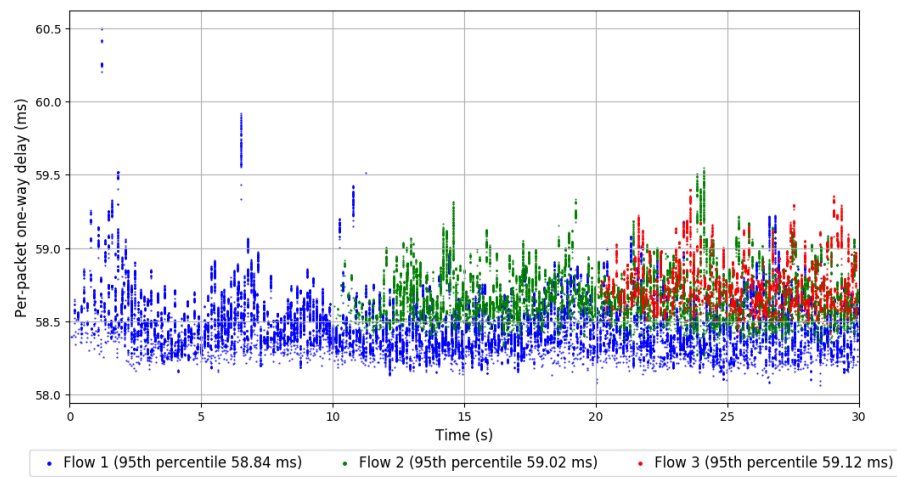
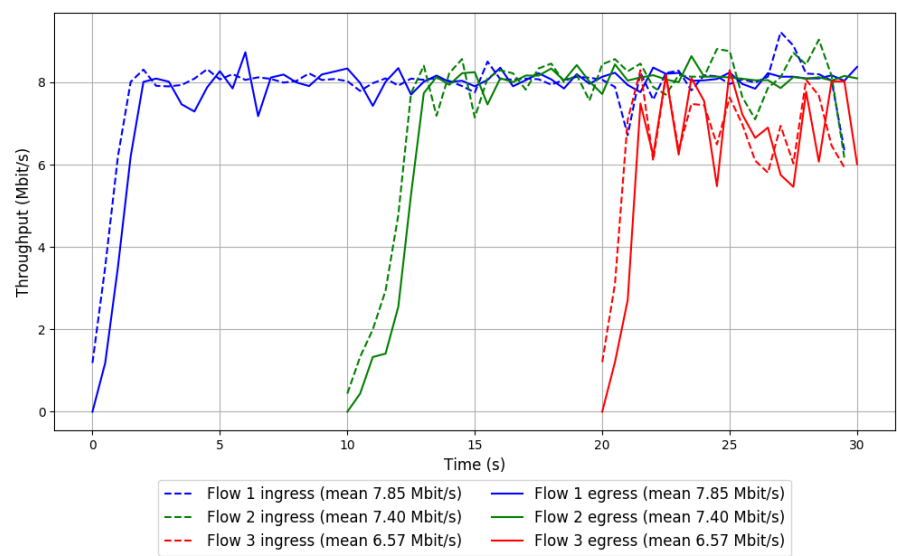## Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-02-21 02:58:10
End at: 2019-02-21 02:58:40
Local clock offset: 0.131 ms
Remote clock offset: 0.589 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 60.923 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.791 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.733 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.037 ms
Loss rate: 0.35%
```

Run 5: Report of SCReAM — Data Link

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```
Run 1: Statistics of Sprout

Start at: 2019-02-21 00:32:50
End at: 2019-02-21 00:33:20
Local clock offset: -0.386 ms
Remote clock offset: -0.619 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.54 Mbit/s
95th percentile per-packet one-way delay: 60.975 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 57.501 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.82 Mbit/s
95th percentile per-packet one-way delay: 60.849 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.47 Mbit/s
95th percentile per-packet one-way delay: 61.270 ms
Loss rate: 0.00%
```
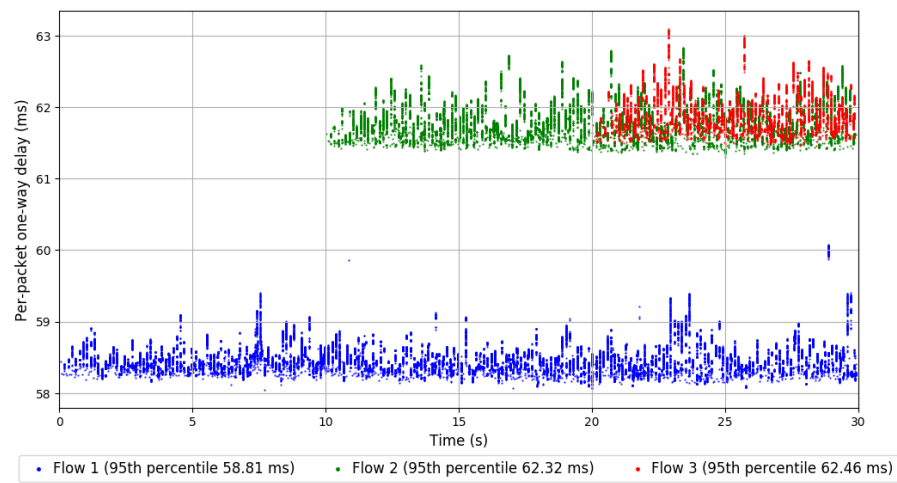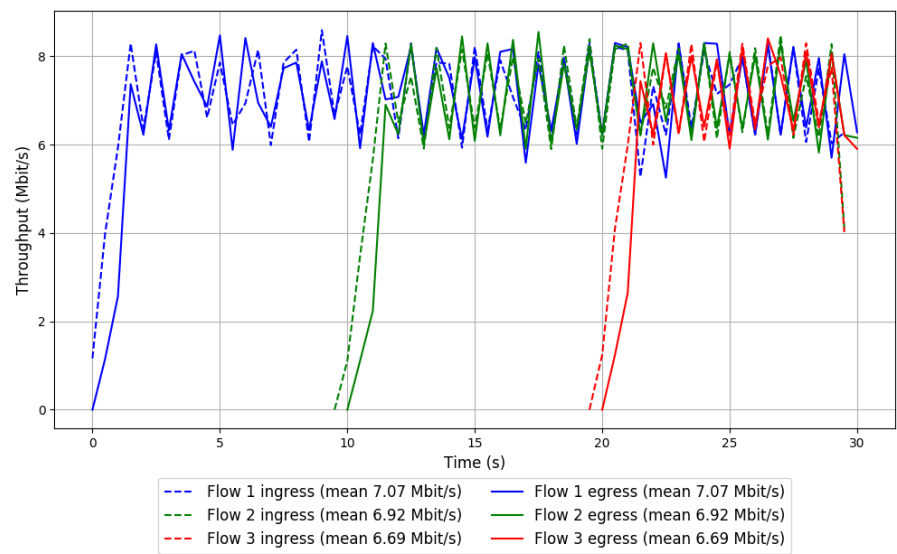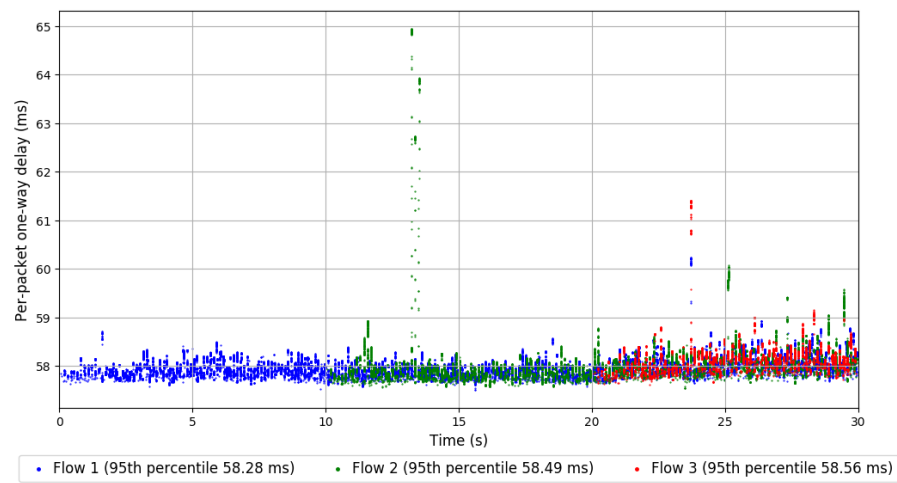
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-02-21 01:16:54
End at: 2019-02-21 01:17:25
Local clock offset: -0.29 ms
Remote clock offset: 1.011 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.94 Mbit/s
95th percentile per-packet one-way delay: 59.002 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 58.839 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.40 Mbit/s
95th percentile per-packet one-way delay: 59.025 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.57 Mbit/s
95th percentile per-packet one-way delay: 59.116 ms
Loss rate: 0.00%
```
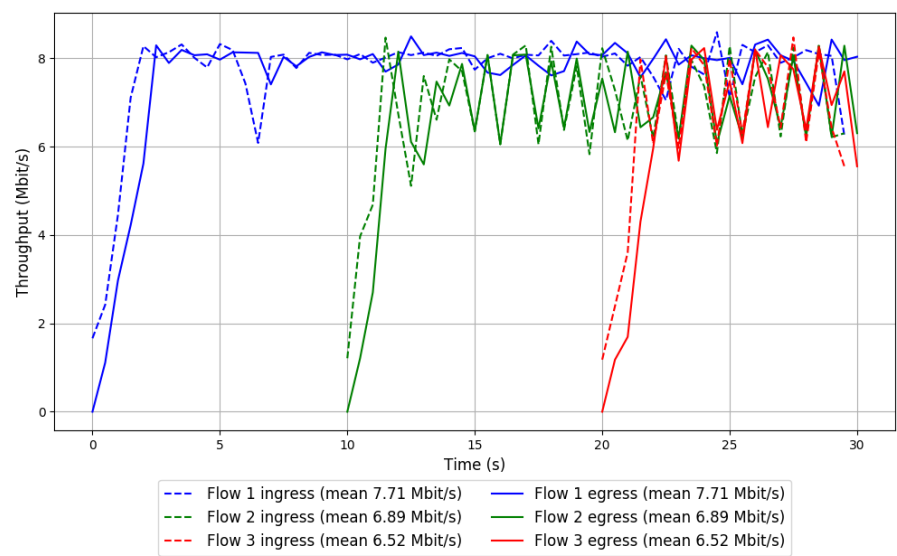
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-02-21 02:01:26
End at: 2019-02-21 02:01:56
Local clock offset: -0.355 ms
Remote clock offset: 0.717 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.87 Mbit/s
95th percentile per-packet one-way delay: 62.232 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 58.807 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.92 Mbit/s
95th percentile per-packet one-way delay: 62.318 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.69 Mbit/s
95th percentile per-packet one-way delay: 62.457 ms
Loss rate: 0.00%
```
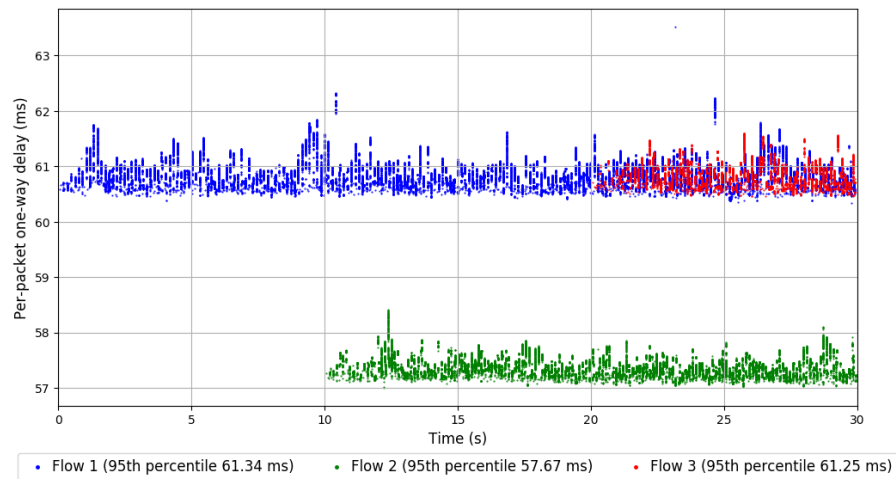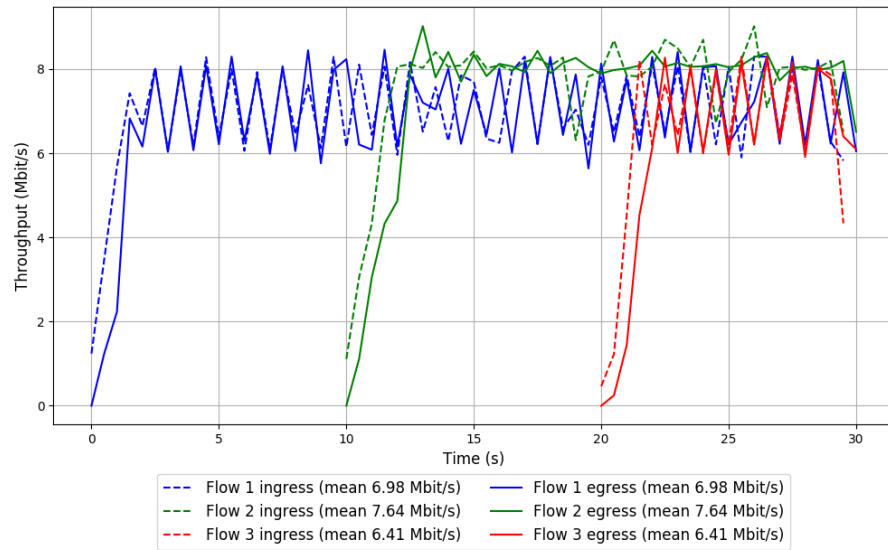
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-02-21 02:44:33
End at: 2019-02-21 02:45:03
Local clock offset: -0.642 ms
Remote clock offset: 0.043 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.44 Mbit/s
95th percentile per-packet one-way delay: 58.410 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.71 Mbit/s
95th percentile per-packet one-way delay: 58.285 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.89 Mbit/s
95th percentile per-packet one-way delay: 58.490 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.52 Mbit/s
95th percentile per-packet one-way delay: 58.563 ms
Loss rate: 0.00%
```
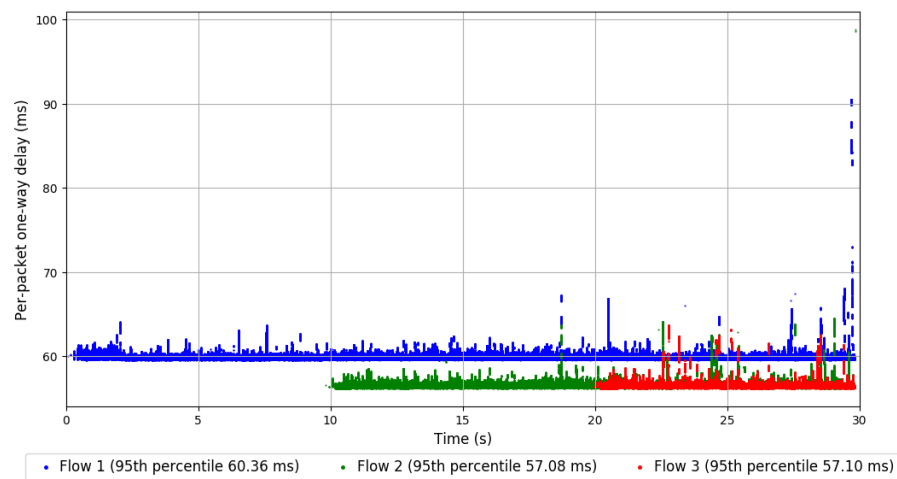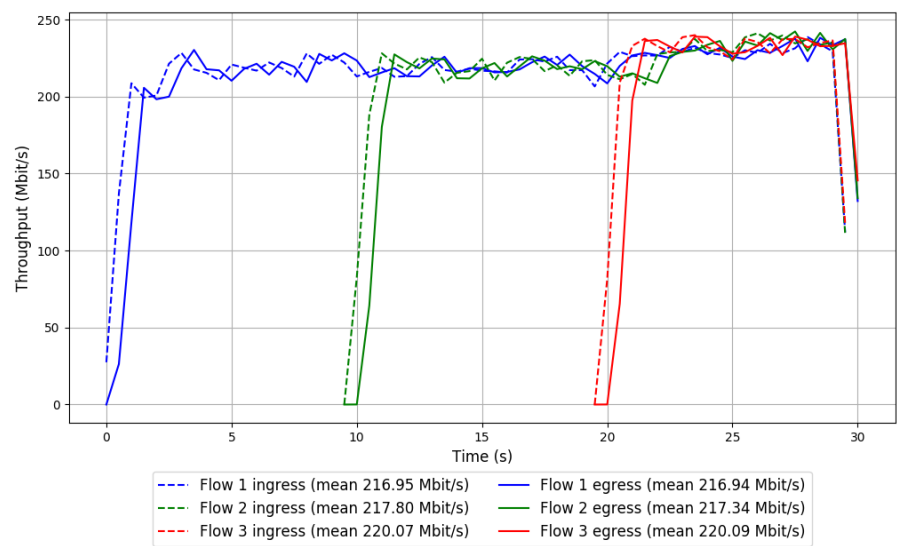
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-02-21 03:28:45
End at: 2019-02-21 03:29:15
Local clock offset: -0.169 ms
Remote clock offset: -0.156 ms


# Below is generated by plot.py at 2019-02-21 06:22:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.17 Mbit/s
95th percentile per-packet one-way delay: 61.227 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.98 Mbit/s
95th percentile per-packet one-way delay: 61.339 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.64 Mbit/s
95th percentile per-packet one-way delay: 57.671 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.41 Mbit/s
95th percentile per-packet one-way delay: 61.250 ms
Loss rate: 0.00%
```
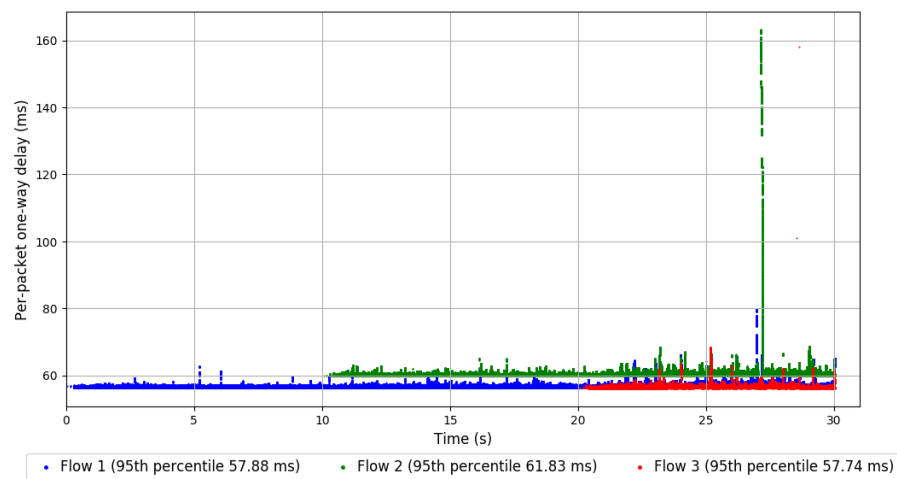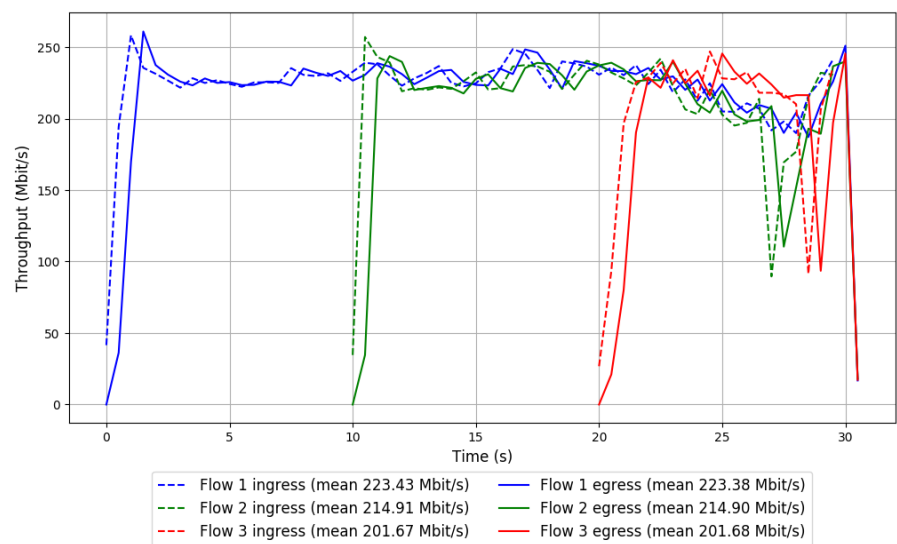
Run 5: Report of Sprout — Data Link

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

Start at: 2019-02-21 00:04:20
End at: 2019-02-21 00:04:51
Local clock offset: 0.419 ms
Remote clock offset: -0.837 ms


# Below is generated by plot.py at 2019-02-21 06:26:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 436.31 Mbit/s
95th percentile per-packet one-way delay: 60.183 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 216.94 Mbit/s
95th percentile per-packet one-way delay: 60.360 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 217.34 Mbit/s
95th percentile per-packet one-way delay: 57.079 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 220.09 Mbit/s
95th percentile per-packet one-way delay: 57.103 ms
Loss rate: 0.00%
```

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

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

Start at: 2019-02-21 00:48:19
End at: 2019-02-21 00:48:49
Local clock offset: -0.197 ms
Remote clock offset: -0.717 ms


# Below is generated by plot.py at 2019-02-21 06:26:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 433.46 Mbit/s
95th percentile per-packet one-way delay: 60.906 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 223.38 Mbit/s
95th percentile per-packet one-way delay: 57.877 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 214.90 Mbit/s
95th percentile per-packet one-way delay: 61.832 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 201.68 Mbit/s
95th percentile per-packet one-way delay: 57.740 ms
Loss rate: 0.00%
```
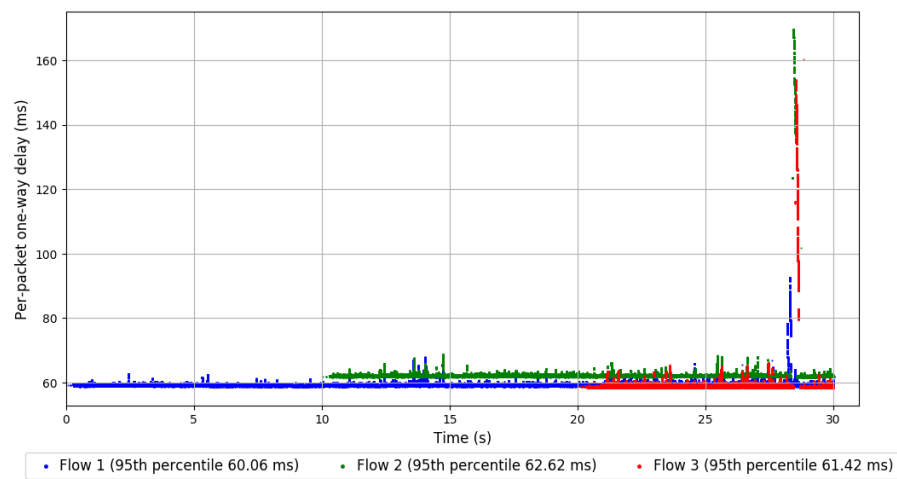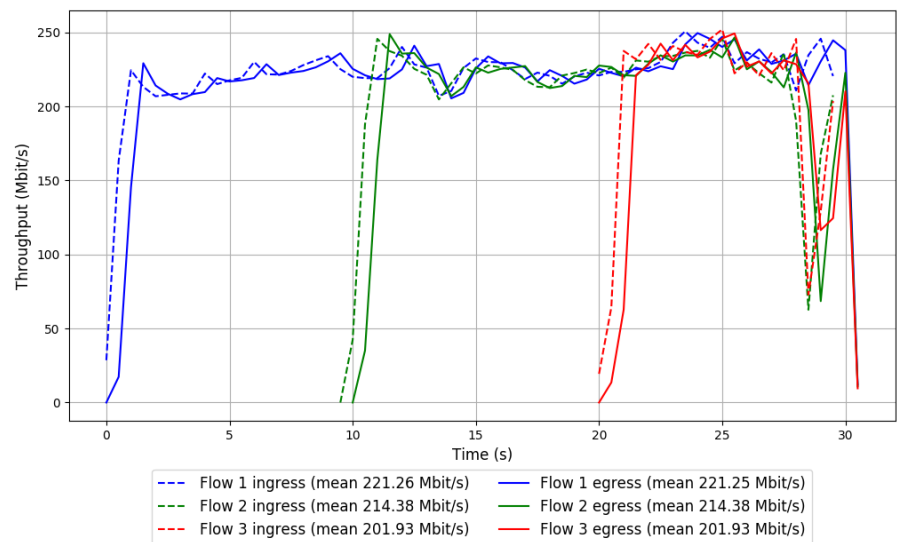
Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2019-02-21 01:32:25
End at: 2019-02-21 01:32:55
Local clock offset: -0.35 ms
Remote clock offset: 1.085 ms


# Below is generated by plot.py at 2019-02-21 06:26:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 431.22 Mbit/s
95th percentile per-packet one-way delay: 62.256 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 221.25 Mbit/s
95th percentile per-packet one-way delay: 60.058 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 214.38 Mbit/s
95th percentile per-packet one-way delay: 62.616 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 201.93 Mbit/s
95th percentile per-packet one-way delay: 61.420 ms
Loss rate: 0.00%
```

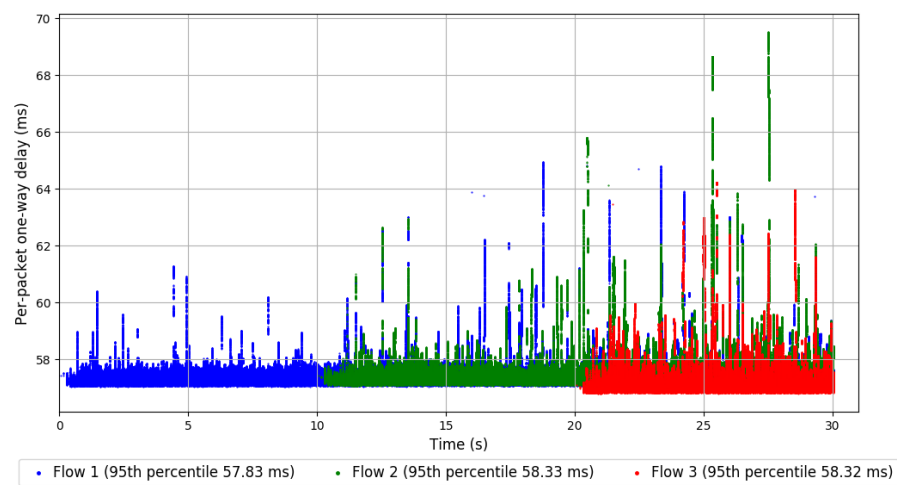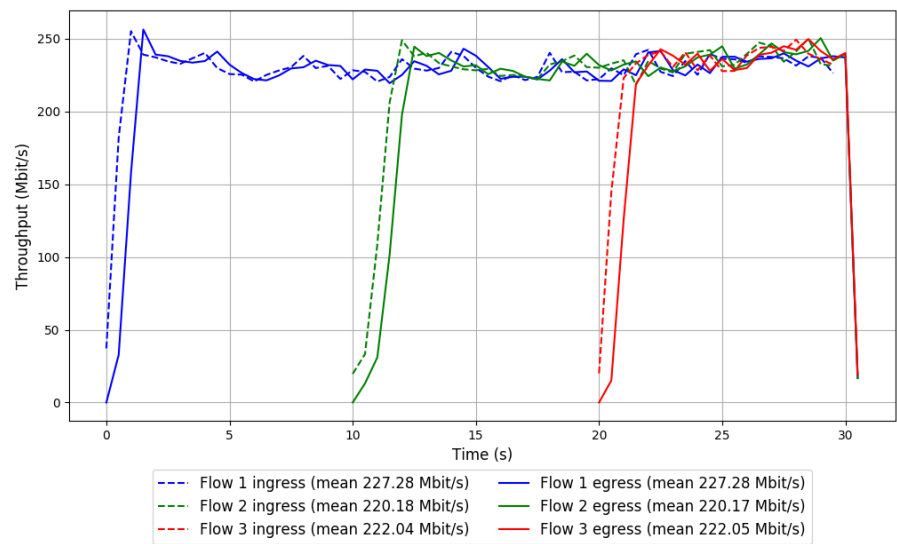# Run 3: Report of TaoVA-100x — Data Link

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

Start at: 2019-02-21 02:16:45
End at: 2019-02-21 02:17:15
Local clock offset: -0.289 ms
Remote clock offset: -0.116 ms


# Below is generated by plot.py at 2019-02-21 06:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 447.68 Mbit/s
95th percentile per-packet one-way delay: 58.083 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 227.28 Mbit/s
95th percentile per-packet one-way delay: 57.832 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 220.17 Mbit/s
95th percentile per-packet one-way delay: 58.330 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 222.05 Mbit/s
95th percentile per-packet one-way delay: 58.324 ms
Loss rate: 0.00%
```

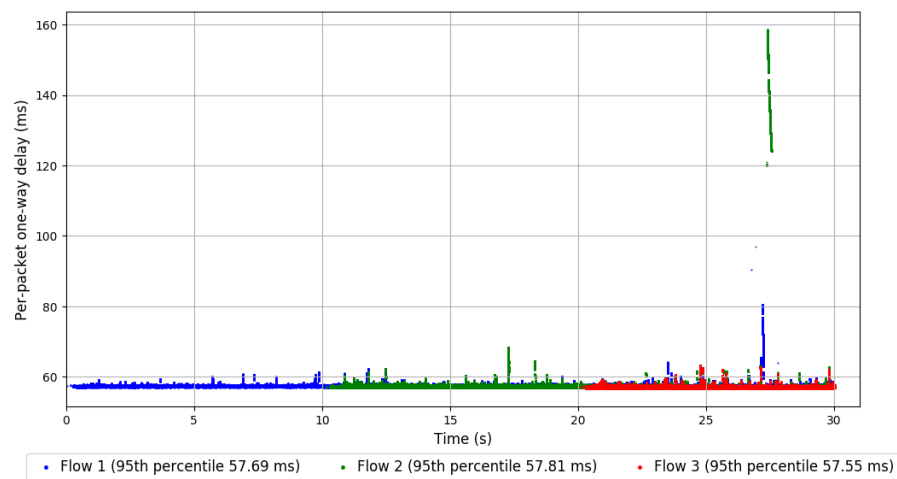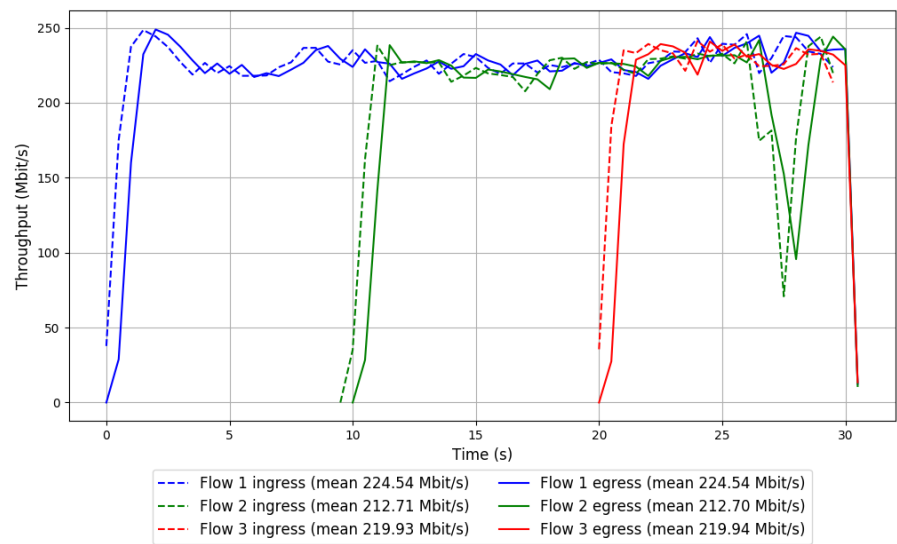# Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2019-02-21 02:59:22
End at: 2019-02-21 02:59:52
Local clock offset: -0.314 ms
Remote clock offset: -0.164 ms

# Below is generated by plot.py at 2019-02-21 06:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 439.38 Mbit/s
95th percentile per-packet one-way delay: 57.707 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 224.54 Mbit/s
95th percentile per-packet one-way delay: 57.693 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 212.70 Mbit/s
95th percentile per-packet one-way delay: 57.810 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 219.94 Mbit/s
95th percentile per-packet one-way delay: 57.550 ms
Loss rate: 0.00%
```

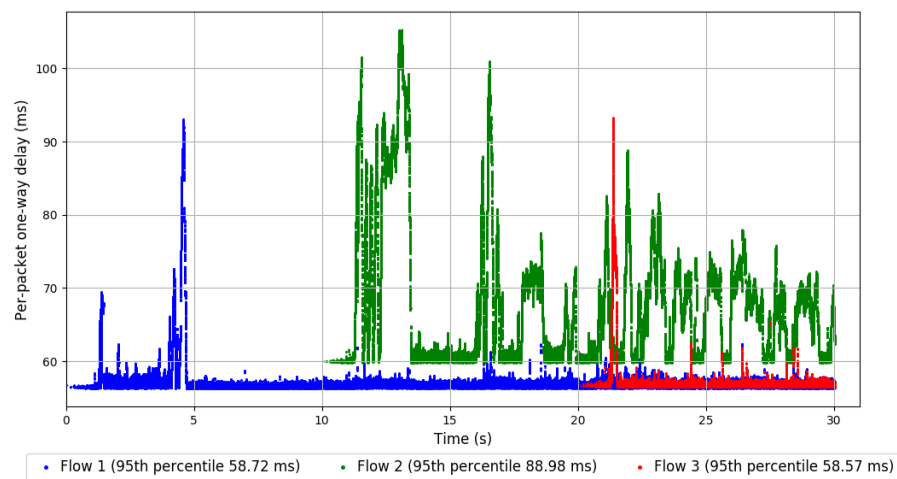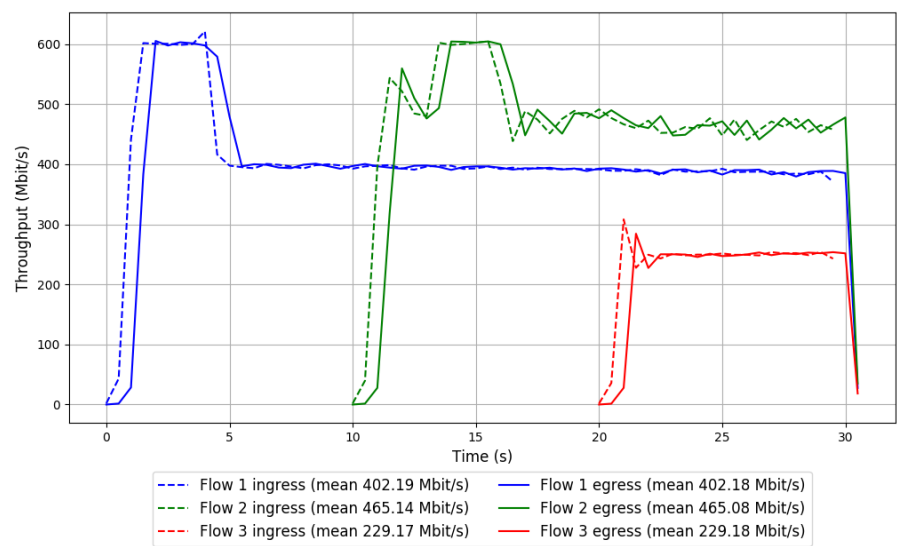Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 224.54 Mbit/s) --- Flow 1 egress (mean 224.54 Mbit/s)
Flow 2 ingress (mean 212.71 Mbit/s) --- Flow 2 egress (mean 212.70 Mbit/s)
Flow 3 ingress (mean 219.93 Mbit/s) --- Flow 3 egress (mean 219.94 Mbit/s)

Flow 1 (95th percentile 57.69 ms) · Flow 2 (95th percentile 57.81 ms) · Flow 3 (95th percentile 57.55 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-02-21 00:34:04
End at: 2019-02-21 00:34:34
Local clock offset: -0.413 ms
Remote clock offset: -0.816 ms


# Below is generated by plot.py at 2019-02-21 06:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 788.02 Mbit/s
95th percentile per-packet one-way delay: 77.816 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 402.18 Mbit/s
95th percentile per-packet one-way delay: 58.722 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 465.08 Mbit/s
95th percentile per-packet one-way delay: 88.977 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 229.18 Mbit/s
95th percentile per-packet one-way delay: 58.566 ms
Loss rate: 0.00%
```
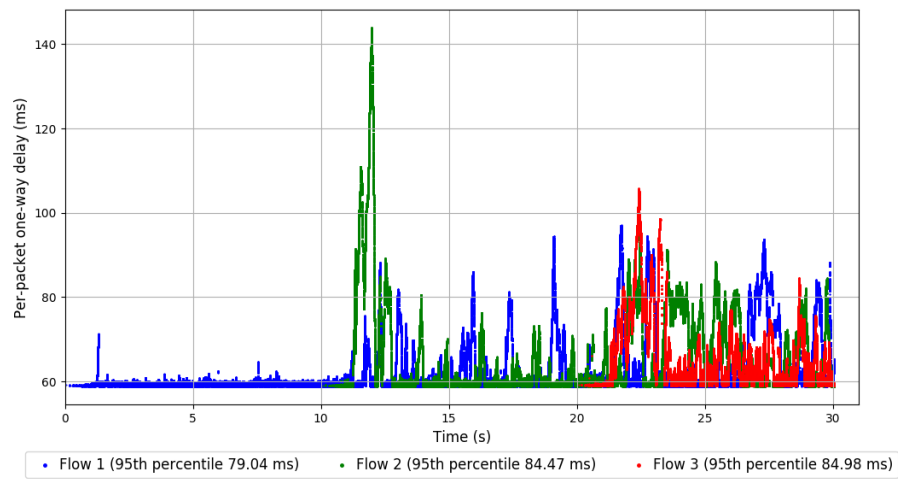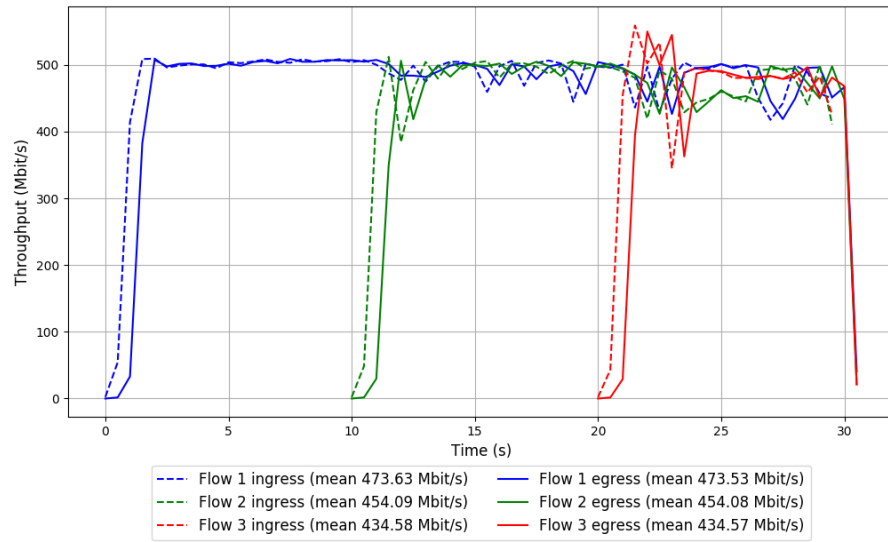
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-02-21 01:18:09
End at: 2019-02-21 01:18:39
Local clock offset: -0.548 ms
Remote clock offset: 1.282 ms


# Below is generated by plot.py at 2019-02-21 06:38:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 920.37 Mbit/s
95th percentile per-packet one-way delay: 82.028 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 473.53 Mbit/s
95th percentile per-packet one-way delay: 79.042 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 454.08 Mbit/s
95th percentile per-packet one-way delay: 84.473 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 434.57 Mbit/s
95th percentile per-packet one-way delay: 84.983 ms
Loss rate: 0.00%
```

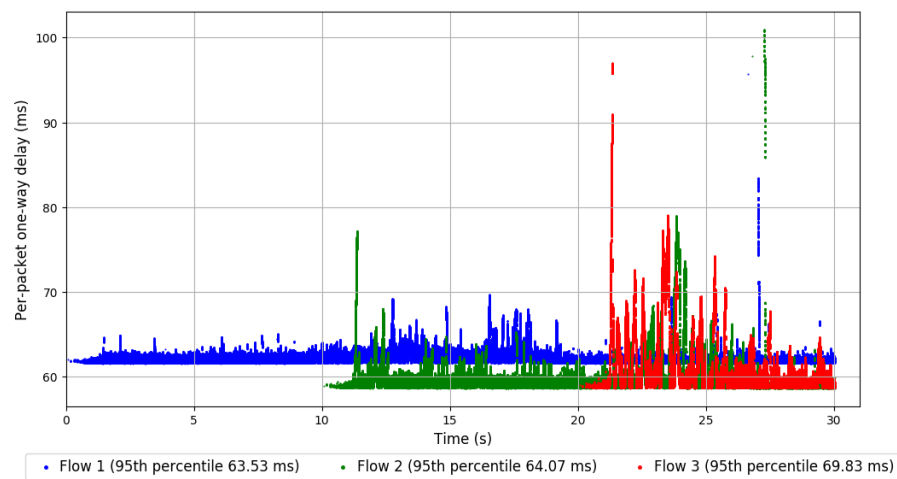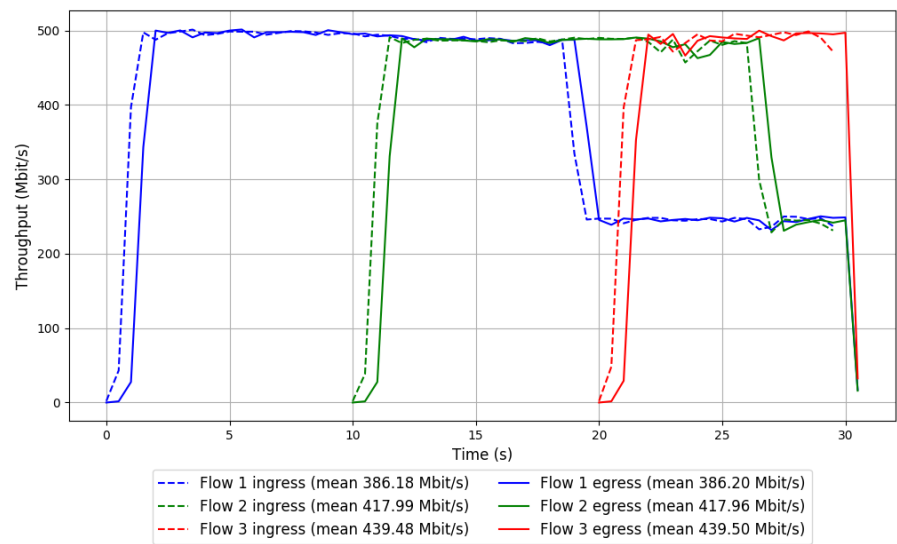Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-02-21 02:02:41
End at: 2019-02-21 02:03:11
Local clock offset: -0.278 ms
Remote clock offset: 1.113 ms


# Below is generated by plot.py at 2019-02-21 06:39:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 810.79 Mbit/s
95th percentile per-packet one-way delay: 64.776 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 386.20 Mbit/s
95th percentile per-packet one-way delay: 63.531 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 417.96 Mbit/s
95th percentile per-packet one-way delay: 64.071 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 439.50 Mbit/s
95th percentile per-packet one-way delay: 69.833 ms
Loss rate: 0.00%
```
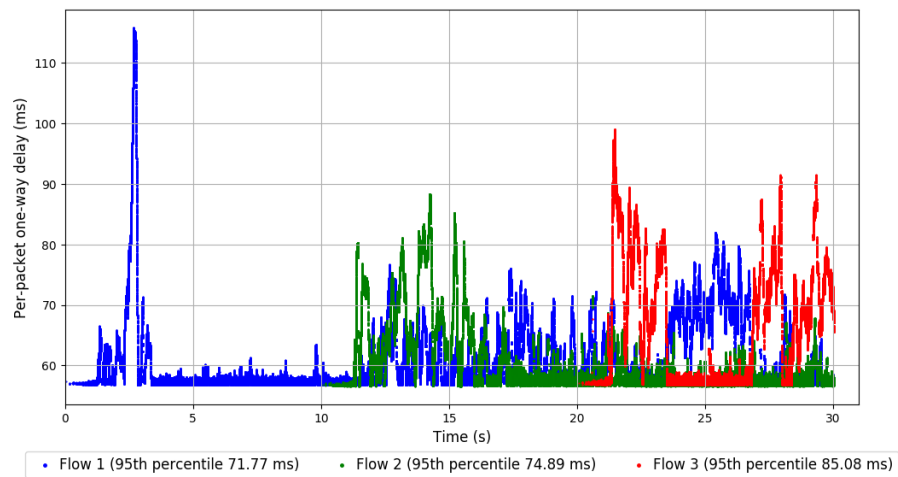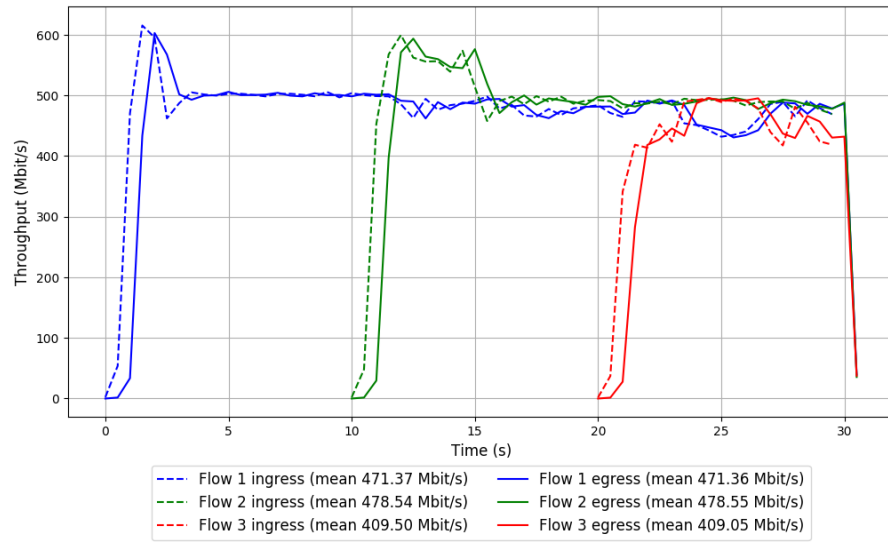
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 386.18 Mbit/s) --- Flow 1 egress (mean 386.20 Mbit/s)
Flow 2 ingress (mean 417.99 Mbit/s) --- Flow 2 egress (mean 417.96 Mbit/s)
Flow 3 ingress (mean 439.48 Mbit/s) --- Flow 3 egress (mean 439.50 Mbit/s)

Flow 1 (95th percentile 63.53 ms)   Flow 2 (95th percentile 64.07 ms)   Flow 3 (95th percentile 69.83 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2019-02-21 02:45:47
End at: 2019-02-21 02:46:17
Local clock offset: -0.214 ms
Remote clock offset: -0.209 ms


# Below is generated by plot.py at 2019-02-21 06:44:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 925.93 Mbit/s
95th percentile per-packet one-way delay: 77.209 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 471.36 Mbit/s
95th percentile per-packet one-way delay: 71.770 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 478.55 Mbit/s
95th percentile per-packet one-way delay: 74.887 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 409.05 Mbit/s
95th percentile per-packet one-way delay: 85.076 ms
Loss rate: 0.09%
```
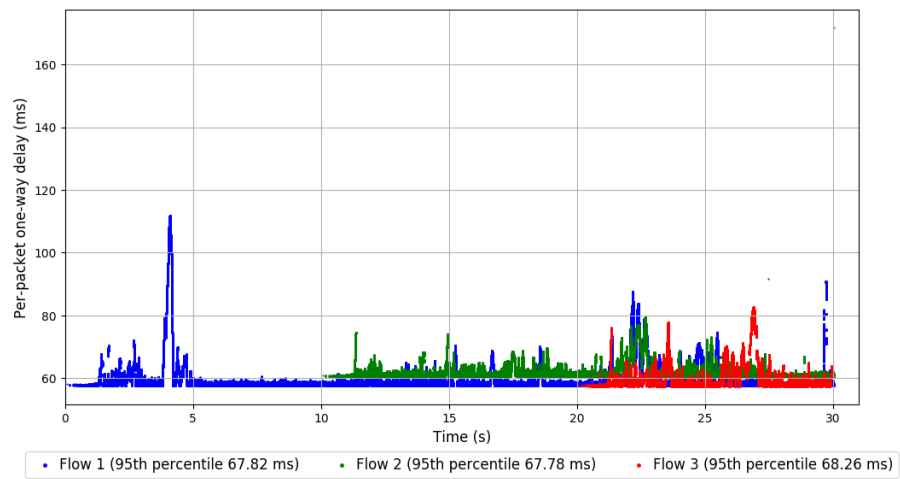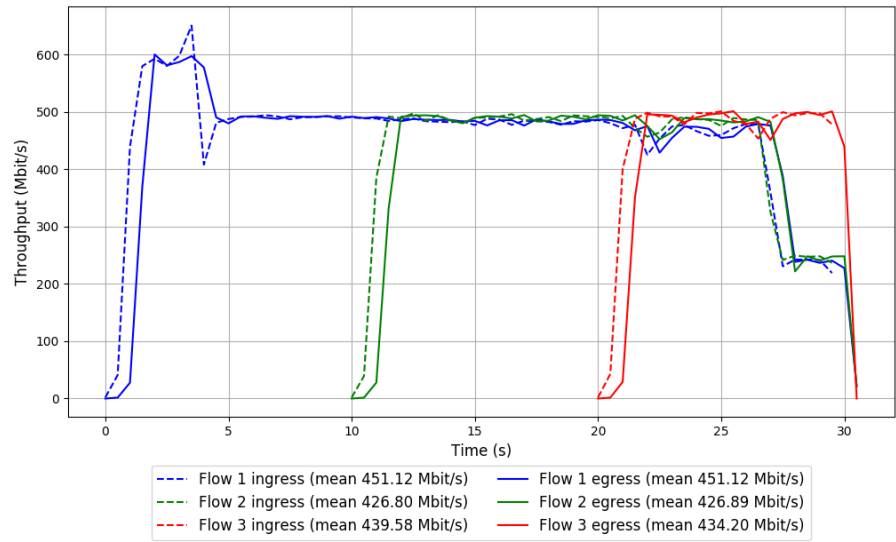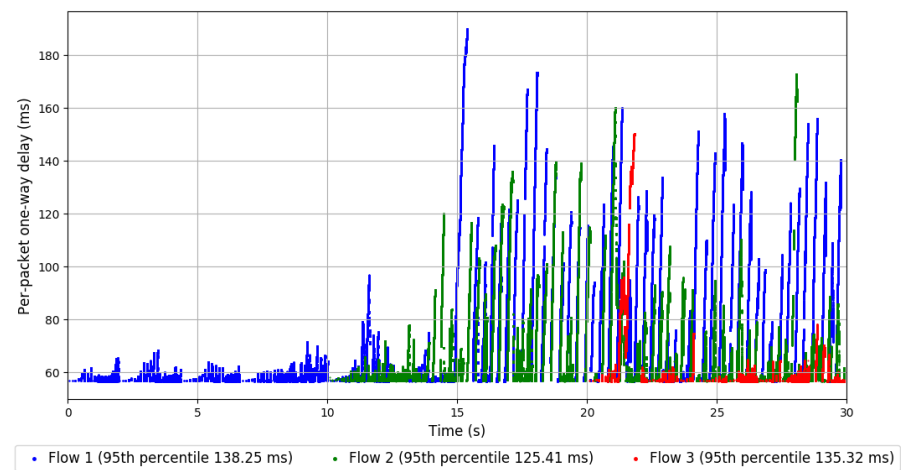
Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 471.37 Mbit/s) — Flow 1 egress (mean 471.36 Mbit/s)
Flow 2 ingress (mean 478.54 Mbit/s) — Flow 2 egress (mean 478.55 Mbit/s)
Flow 3 ingress (mean 409.50 Mbit/s) — Flow 3 egress (mean 409.05 Mbit/s)

Flow 1 (95th percentile 71.77 ms)   Flow 2 (95th percentile 74.89 ms)   Flow 3 (95th percentile 85.08 ms)

```
Run 5: Statistics of TCP Vegas

Start at: 2019-02-21 03:29:59
End at: 2019-02-21 03:30:29
Local clock offset: -0.437 ms
Remote clock offset: -0.38 ms


# Below is generated by plot.py at 2019-02-21 06:44:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 879.51 Mbit/s
95th percentile per-packet one-way delay: 67.898 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 451.12 Mbit/s
95th percentile per-packet one-way delay: 67.821 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 426.89 Mbit/s
95th percentile per-packet one-way delay: 67.780 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 434.20 Mbit/s
95th percentile per-packet one-way delay: 68.264 ms
Loss rate: 1.12%
```
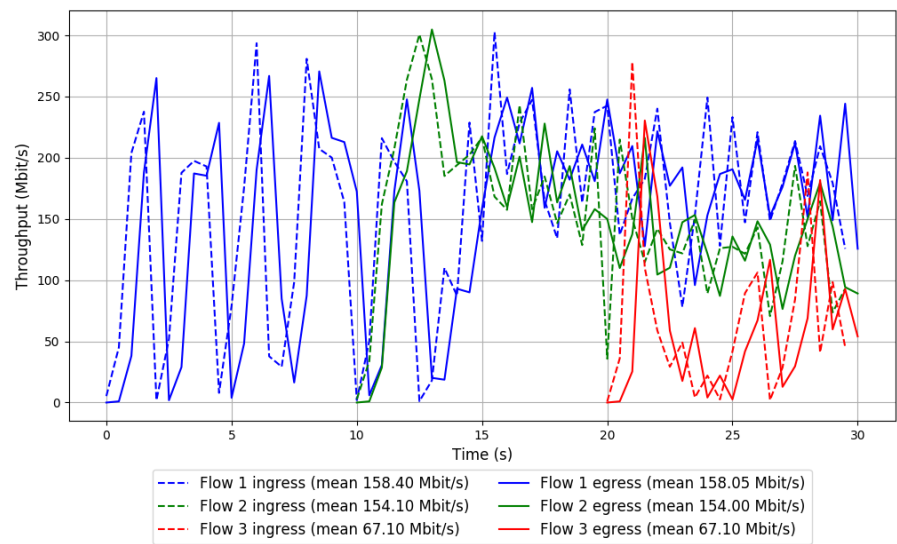
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 451.12 Mbit/s) --- Flow 1 egress (mean 451.12 Mbit/s)
Flow 2 ingress (mean 426.80 Mbit/s) --- Flow 2 egress (mean 426.89 Mbit/s)
Flow 3 ingress (mean 439.58 Mbit/s) --- Flow 3 egress (mean 434.20 Mbit/s)

Flow 1 (95th percentile 67.82 ms) • Flow 2 (95th percentile 67.78 ms) • Flow 3 (95th percentile 68.26 ms)
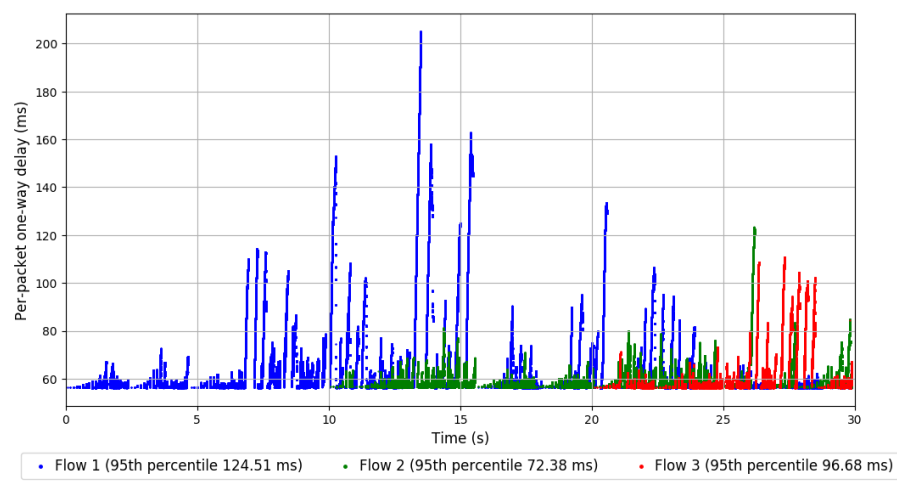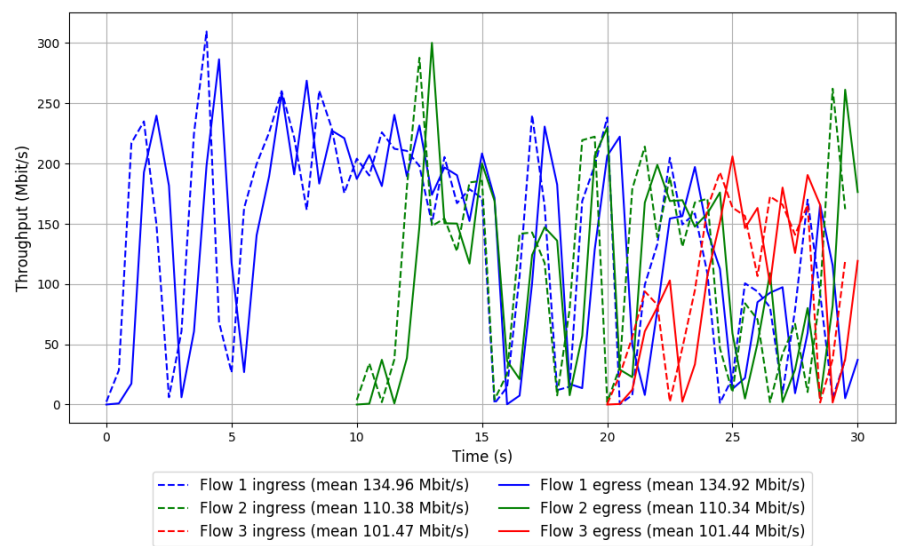
```
Run 1: Statistics of Verus

Start at: 2019-02-21 00:36:36
End at: 2019-02-21 00:37:06
Local clock offset: -0.584 ms
Remote clock offset: -0.855 ms


# Below is generated by plot.py at 2019-02-21 06:44:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 281.75 Mbit/s
95th percentile per-packet one-way delay: 134.499 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 158.05 Mbit/s
95th percentile per-packet one-way delay: 138.248 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 154.00 Mbit/s
95th percentile per-packet one-way delay: 125.413 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 67.10 Mbit/s
95th percentile per-packet one-way delay: 135.316 ms
Loss rate: 0.00%
```
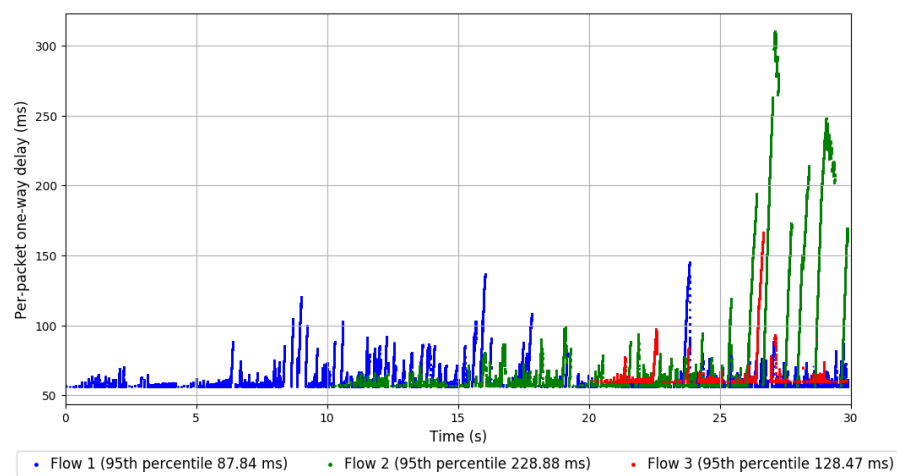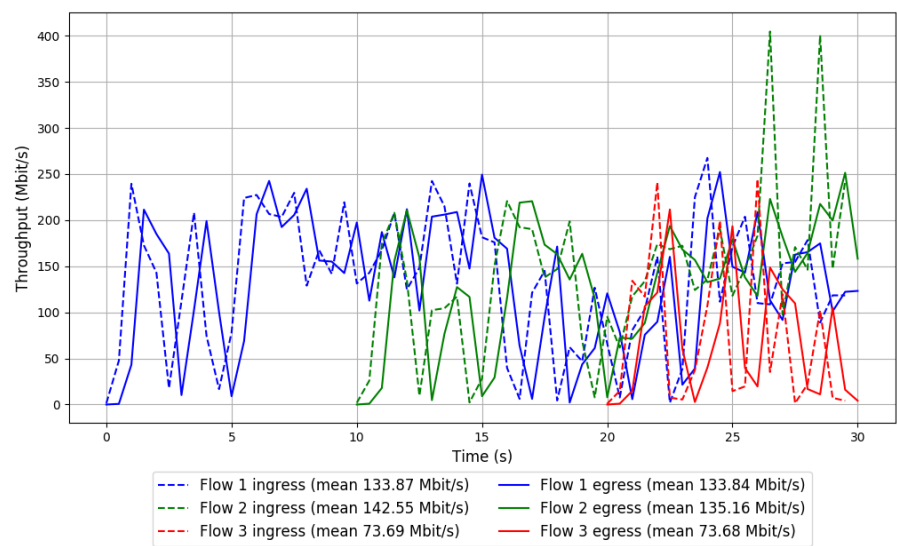
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-02-21 01:20:40
End at: 2019-02-21 01:21:10
Local clock offset: -0.127 ms
Remote clock offset: -0.713 ms


# Below is generated by plot.py at 2019-02-21 06:44:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 241.55 Mbit/s
95th percentile per-packet one-way delay: 104.326 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 134.92 Mbit/s
95th percentile per-packet one-way delay: 124.508 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 110.34 Mbit/s
95th percentile per-packet one-way delay: 72.383 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 101.44 Mbit/s
95th percentile per-packet one-way delay: 96.680 ms
Loss rate: 0.02%
```

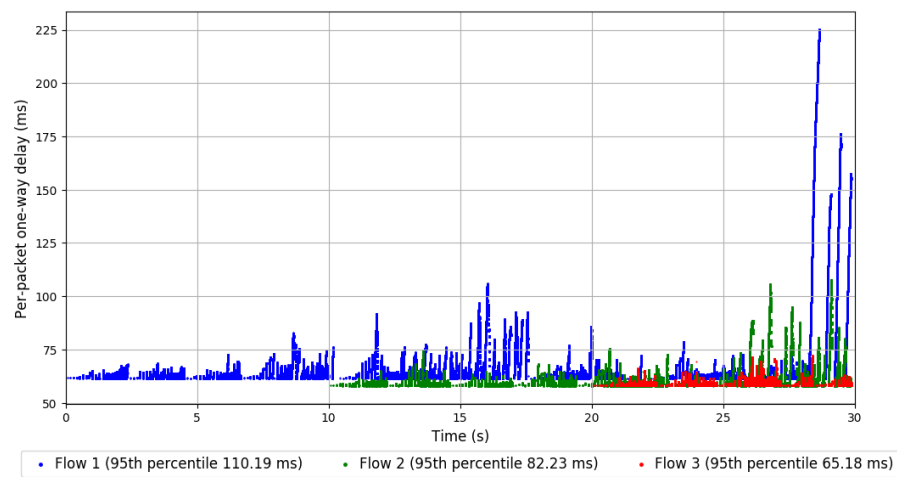Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-02-21 02:04:59
End at: 2019-02-21 02:05:29
Local clock offset: 0.328 ms
Remote clock offset: -0.314 ms


# Below is generated by plot.py at 2019-02-21 06:44:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 247.67 Mbit/s
95th percentile per-packet one-way delay: 166.556 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 133.84 Mbit/s
95th percentile per-packet one-way delay: 87.840 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 135.16 Mbit/s
95th percentile per-packet one-way delay: 228.881 ms
Loss rate: 5.19%
-- Flow 3:
Average throughput: 73.68 Mbit/s
95th percentile per-packet one-way delay: 128.469 ms
Loss rate: 0.00%
```

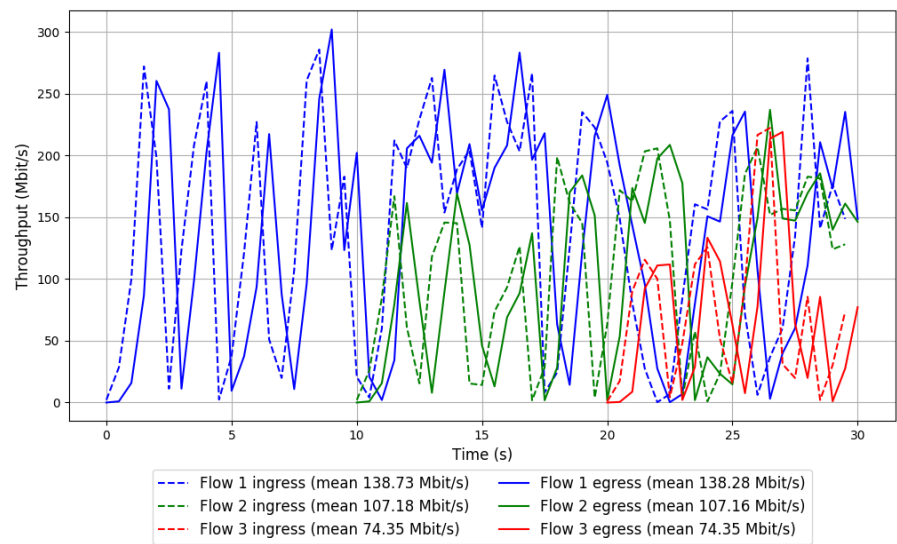# Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-02-21 02:48:12
End at: 2019-02-21 02:48:42
Local clock offset: -0.482 ms
Remote clock offset: 0.627 ms


# Below is generated by plot.py at 2019-02-21 06:44:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 233.67 Mbit/s
95th percentile per-packet one-way delay: 89.107 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 138.28 Mbit/s
95th percentile per-packet one-way delay: 110.190 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 107.16 Mbit/s
95th percentile per-packet one-way delay: 82.226 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 74.35 Mbit/s
95th percentile per-packet one-way delay: 65.177 ms
Loss rate: 0.02%
```

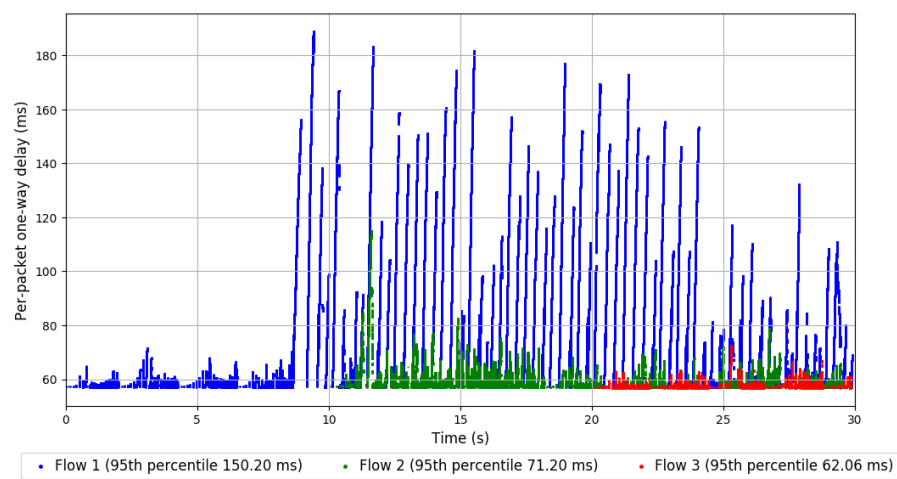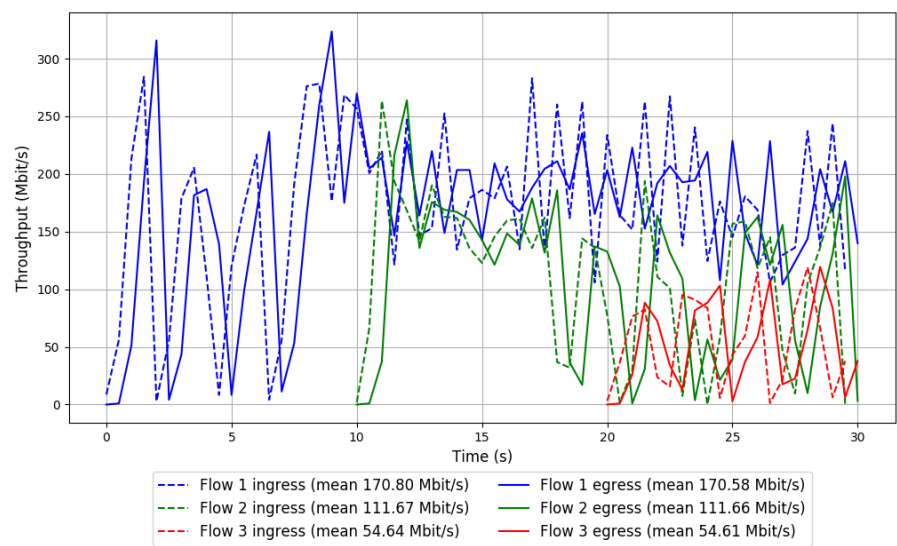## Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-02-21 03:32:26
End at: 2019-02-21 03:32:56
Local clock offset: 0.043 ms
Remote clock offset: -0.228 ms

# Below is generated by plot.py at 2019-02-21 06:45:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 262.63 Mbit/s
95th percentile per-packet one-way delay: 142.412 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 170.58 Mbit/s
95th percentile per-packet one-way delay: 150.202 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 111.66 Mbit/s
95th percentile per-packet one-way delay: 71.203 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 54.61 Mbit/s
95th percentile per-packet one-way delay: 62.060 ms
Loss rate: 0.00%
```

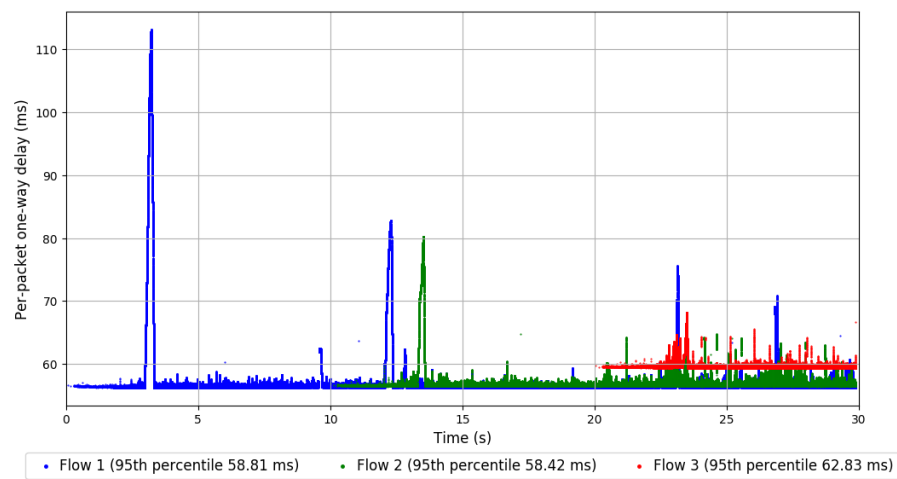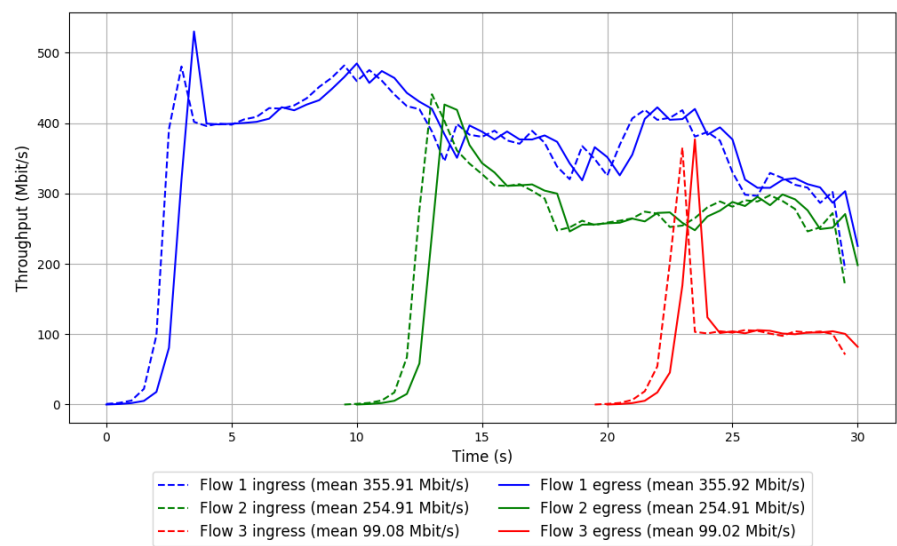## Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-02-21 00:20:30
End at: 2019-02-21 00:21:00
Local clock offset: 0.114 ms
Remote clock offset: -0.865 ms


# Below is generated by plot.py at 2019-02-21 06:46:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 558.24 Mbit/s
95th percentile per-packet one-way delay: 59.831 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 355.92 Mbit/s
95th percentile per-packet one-way delay: 58.813 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 254.91 Mbit/s
95th percentile per-packet one-way delay: 58.425 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 99.02 Mbit/s
95th percentile per-packet one-way delay: 62.828 ms
Loss rate: 0.02%
```
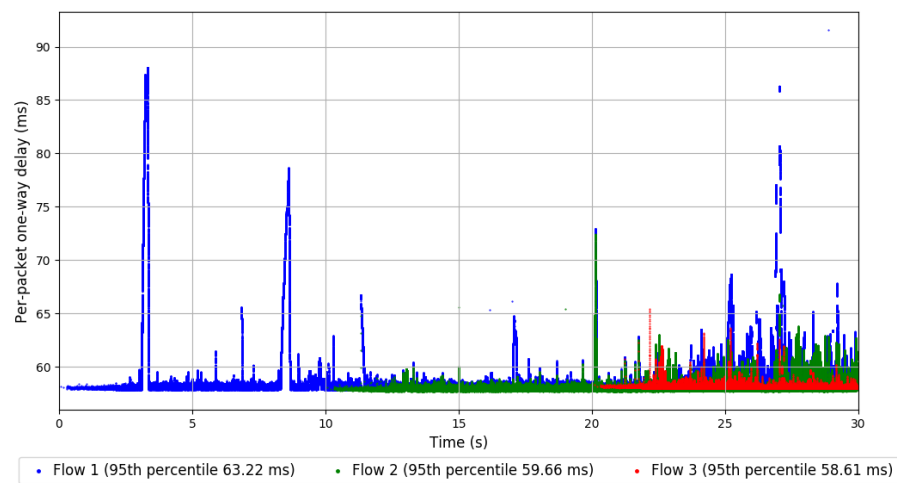
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-02-21 01:04:47
End at: 2019-02-21 01:05:17
Local clock offset: -0.122 ms
Remote clock offset: 0.611 ms


# Below is generated by plot.py at 2019-02-21 06:46:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 520.46 Mbit/s
95th percentile per-packet one-way delay: 61.671 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 345.19 Mbit/s
95th percentile per-packet one-way delay: 63.220 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 218.88 Mbit/s
95th percentile per-packet one-way delay: 59.657 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 90.13 Mbit/s
95th percentile per-packet one-way delay: 58.608 ms
Loss rate: 0.00%
```
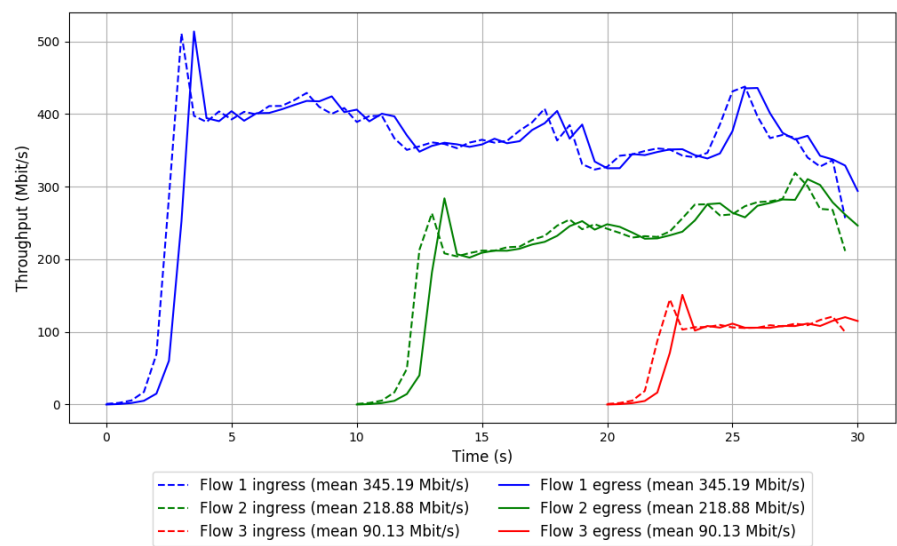
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-02-21 01:49:11
End at: 2019-02-21 01:49:41
Local clock offset: -0.308 ms
Remote clock offset: 1.058 ms

# Below is generated by plot.py at 2019-02-21 06:46:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 559.23 Mbit/s
95th percentile per-packet one-way delay: 74.684 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 323.68 Mbit/s
95th percentile per-packet one-way delay: 77.008 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 240.81 Mbit/s
95th percentile per-packet one-way delay: 60.809 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 228.82 Mbit/s
95th percentile per-packet one-way delay: 86.820 ms
Loss rate: 0.00%
```
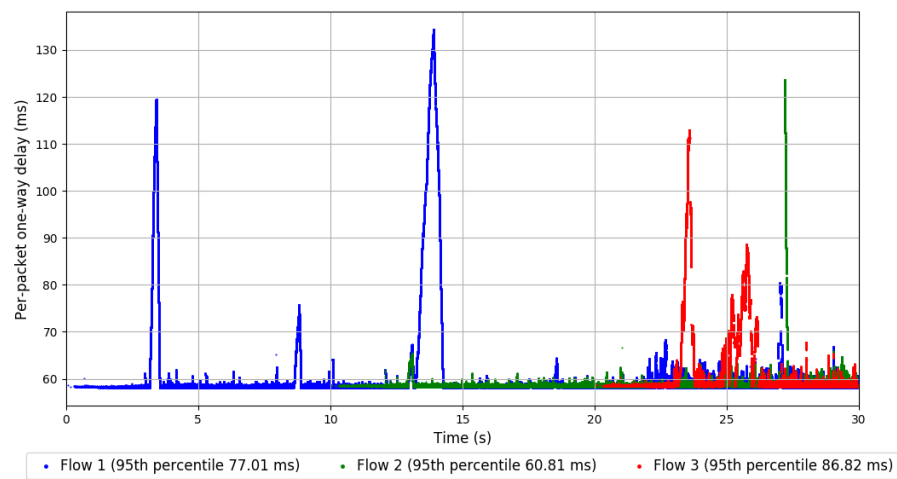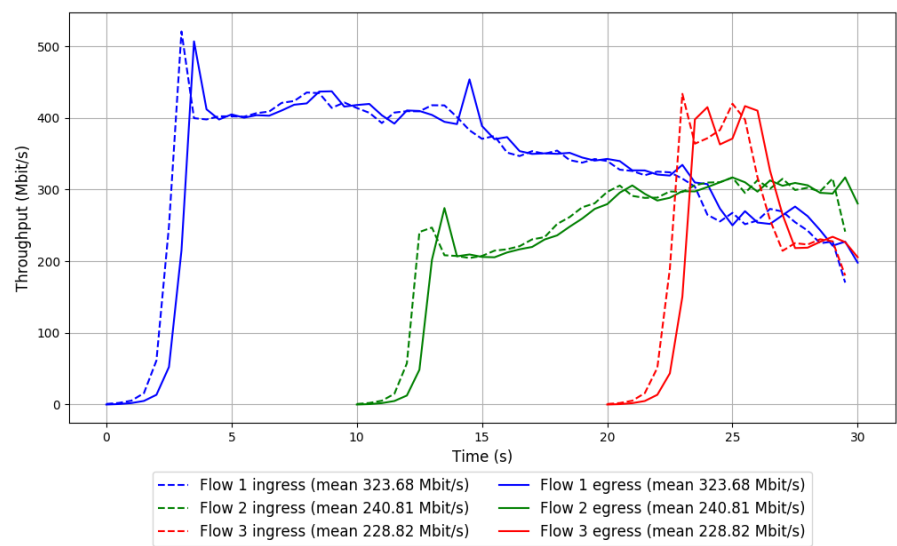
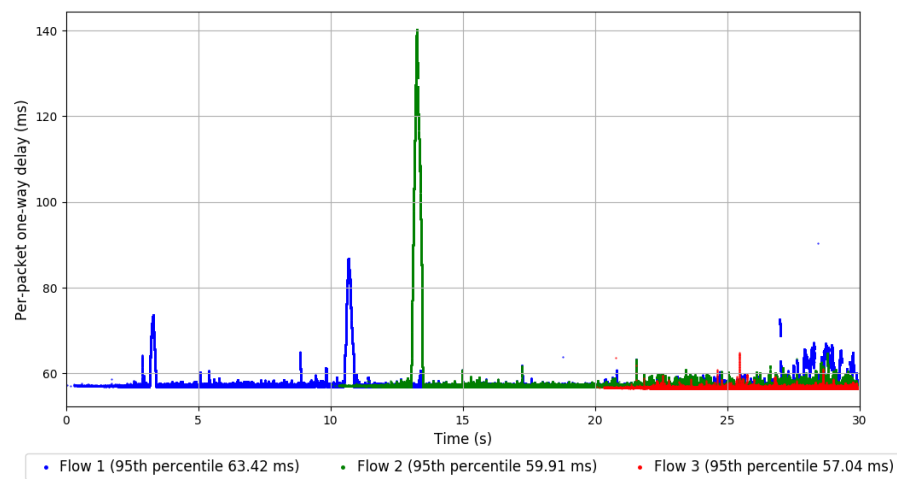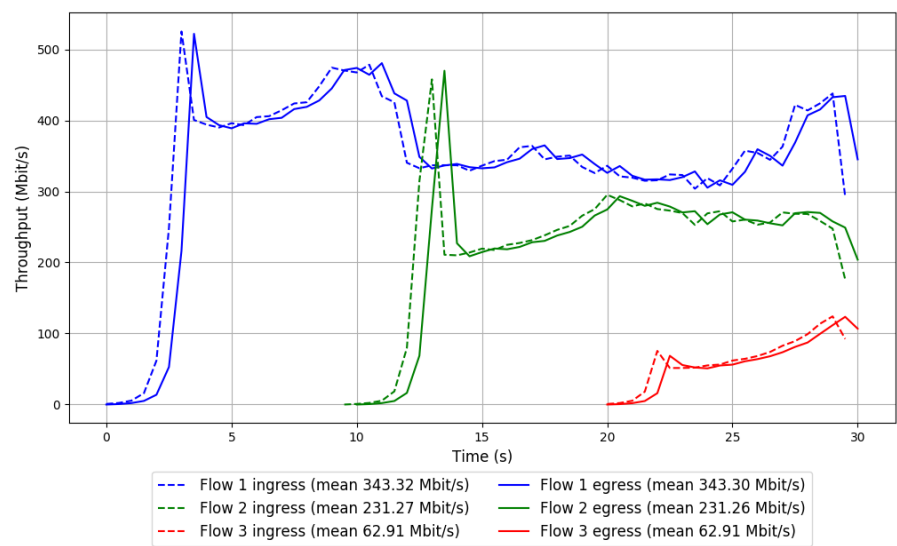# Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-02-21 02:32:35
End at: 2019-02-21 02:33:05
Local clock offset: 0.224 ms
Remote clock offset: -0.051 ms


# Below is generated by plot.py at 2019-02-21 06:47:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 517.84 Mbit/s
95th percentile per-packet one-way delay: 62.898 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 343.30 Mbit/s
95th percentile per-packet one-way delay: 63.420 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 231.26 Mbit/s
95th percentile per-packet one-way delay: 59.906 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.91 Mbit/s
95th percentile per-packet one-way delay: 57.040 ms
Loss rate: 0.00%
```

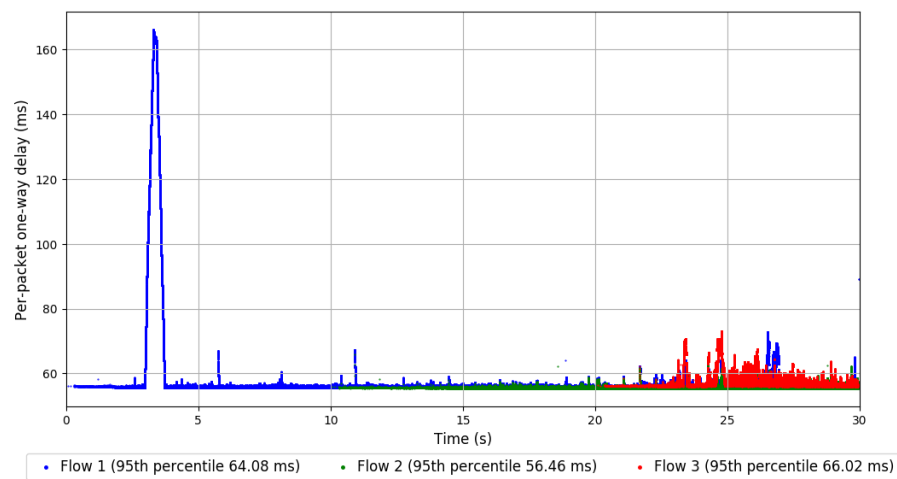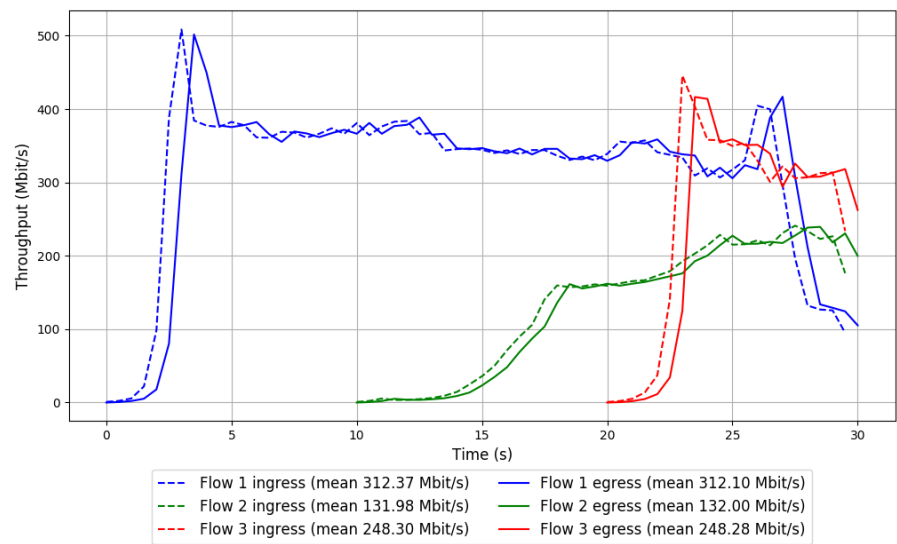Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-02-21 03:16:43
End at: 2019-02-21 03:17:13
Local clock offset: -0.3 ms
Remote clock offset: -1.702 ms


# Below is generated by plot.py at 2019-02-21 06:47:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 481.58 Mbit/s
95th percentile per-packet one-way delay: 62.592 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 312.10 Mbit/s
95th percentile per-packet one-way delay: 64.076 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 132.00 Mbit/s
95th percentile per-packet one-way delay: 56.458 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 248.28 Mbit/s
95th percentile per-packet one-way delay: 66.017 ms
Loss rate: 0.02%
```

Run 5: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 312.37 Mbit/s)   Flow 1 egress (mean 312.10 Mbit/s)
Flow 2 ingress (mean 131.98 Mbit/s)   Flow 2 egress (mean 132.00 Mbit/s)
Flow 3 ingress (mean 248.30 Mbit/s)   Flow 3 egress (mean 248.28 Mbit/s)

Flow 1 (95th percentile 64.08 ms)   Flow 2 (95th percentile 56.46 ms)   Flow 3 (95th percentile 66.02 ms)
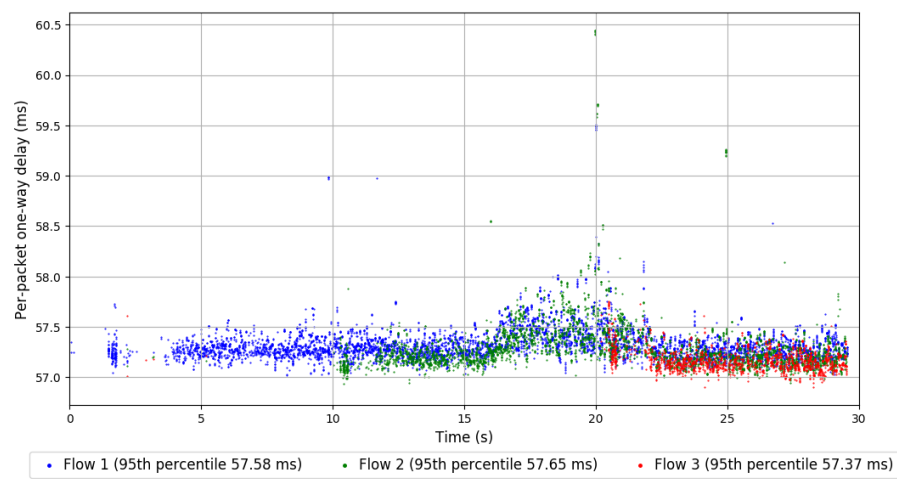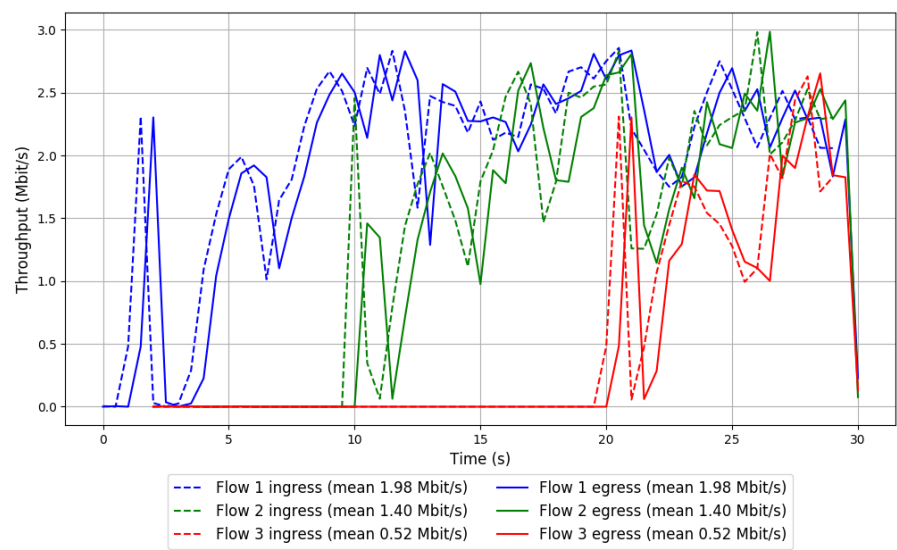
204

```
Run 1: Statistics of WebRTC media

Start at: 2019-02-21 00:12:43
End at: 2019-02-21 00:13:13
Local clock offset: 0.408 ms
Remote clock offset: -0.122 ms


# Below is generated by plot.py at 2019-02-21 06:47:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.76 Mbit/s
95th percentile per-packet one-way delay: 57.588 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 57.583 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 57.652 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 57.370 ms
Loss rate: 0.00%
```

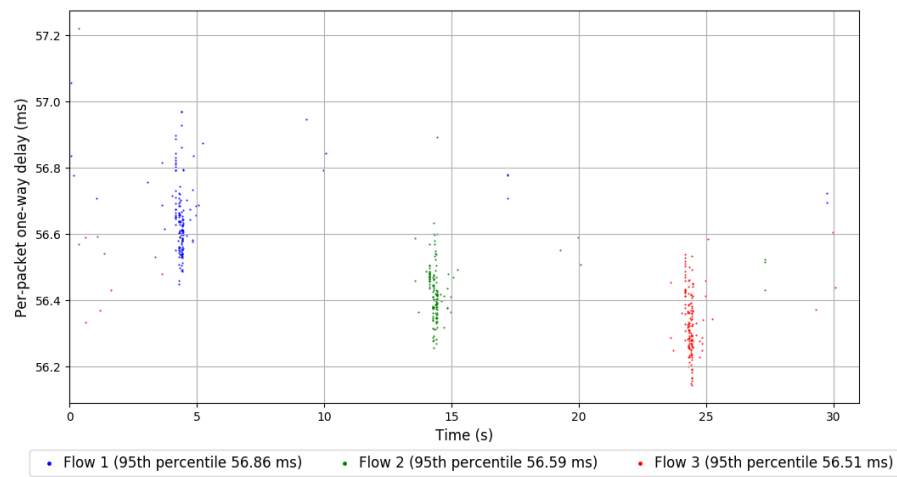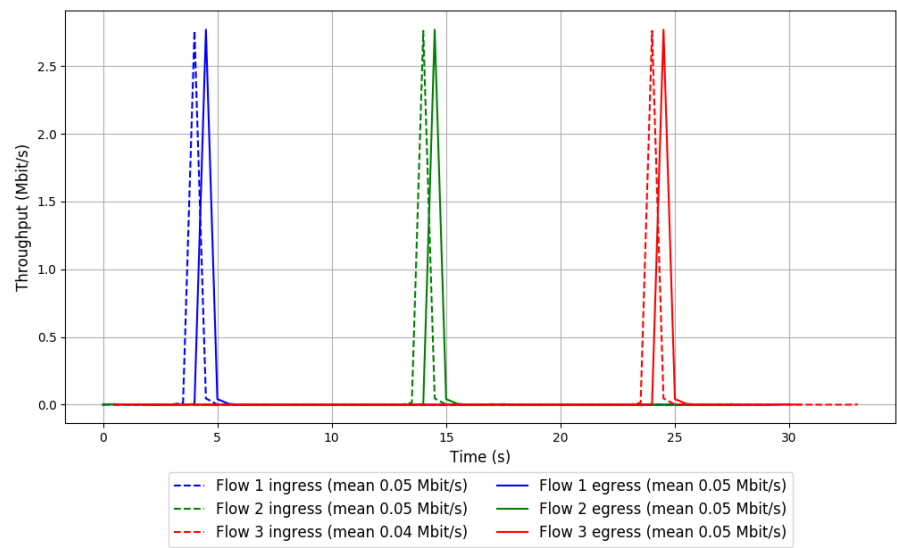Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-02-21 00:57:10
End at: 2019-02-21 00:57:40
Local clock offset: -0.315 ms
Remote clock offset: -1.147 ms


# Below is generated by plot.py at 2019-02-21 06:47:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 56.794 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.862 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.591 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.512 ms
Loss rate: 0.05%
```

Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-02-21 01:41:29
End at: 2019-02-21 01:41:59
Local clock offset: -0.233 ms
Remote clock offset: 1.132 ms


# Below is generated by plot.py at 2019-02-21 06:47:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 58.755 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 58.659 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 58.815 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 58.619 ms
Loss rate: 0.00%
```
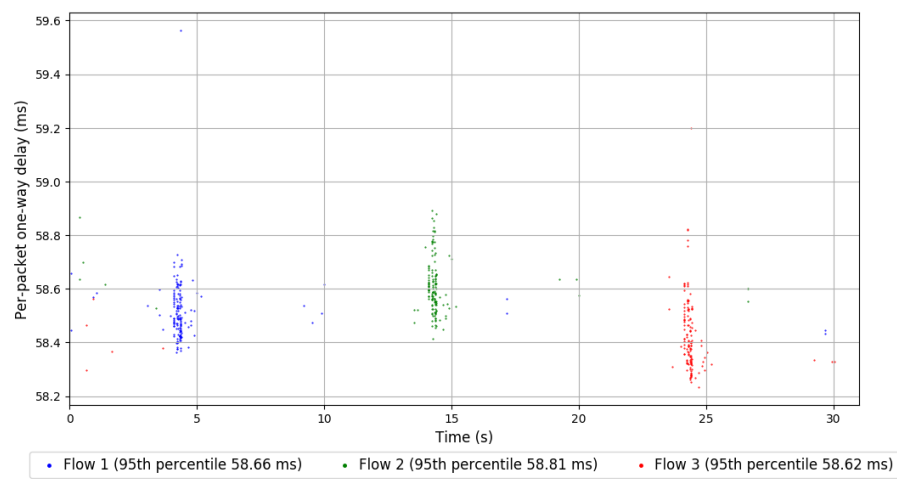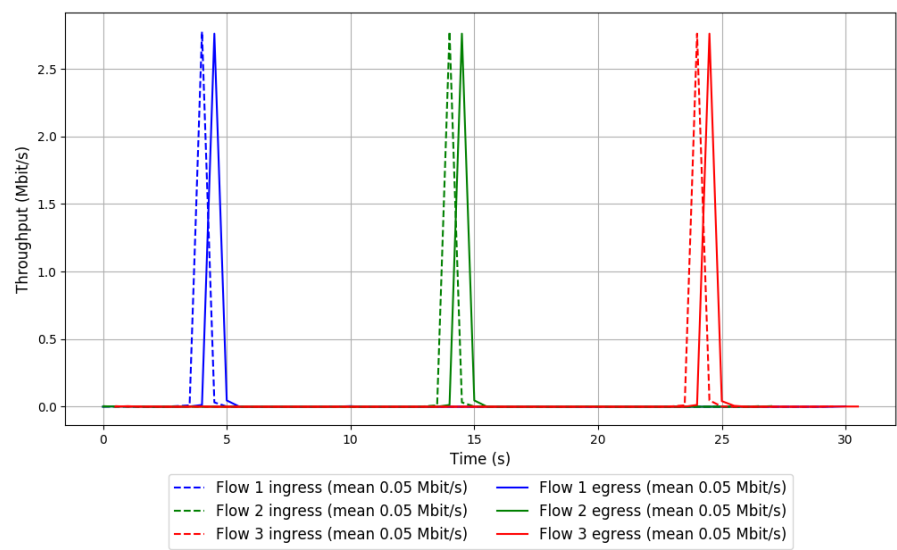
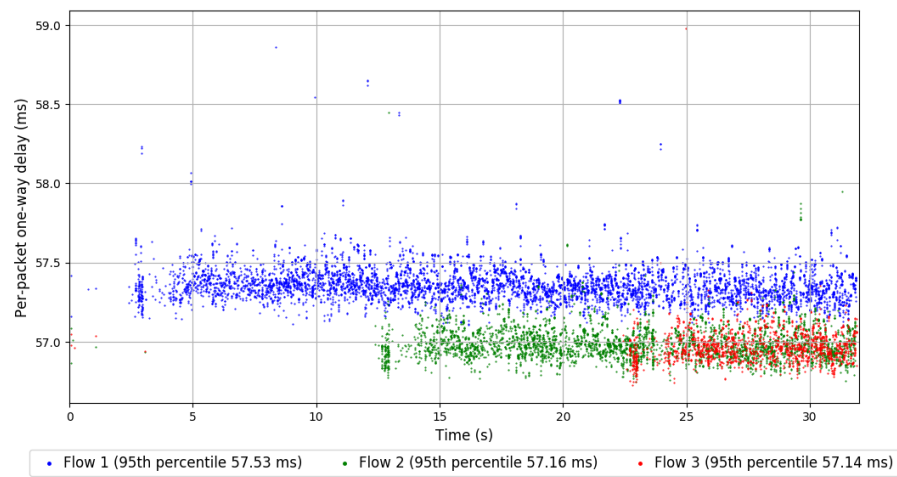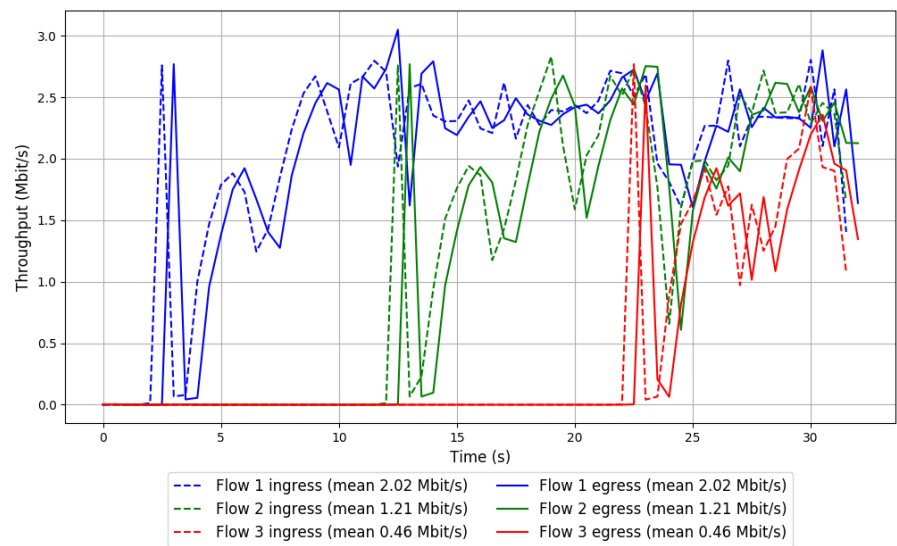Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-02-21 02:25:00
End at: 2019-02-21 02:25:31
Local clock offset: 0.013 ms
Remote clock offset: -0.104 ms


# Below is generated by plot.py at 2019-02-21 06:47:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.68 Mbit/s
95th percentile per-packet one-way delay: 57.488 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 57.533 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 57.163 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 57.138 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-02-21 03:08:16
End at: 2019-02-21 03:08:46
Local clock offset: 0.018 ms
Remote clock offset: -0.892 ms


# Below is generated by plot.py at 2019-02-21 06:47:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 56.565 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 56.565 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.686 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.423 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link