Pantheon Report

Generated at 2019-02-12 10:54:34 (UTC).

Data path: GCE Iowa 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.
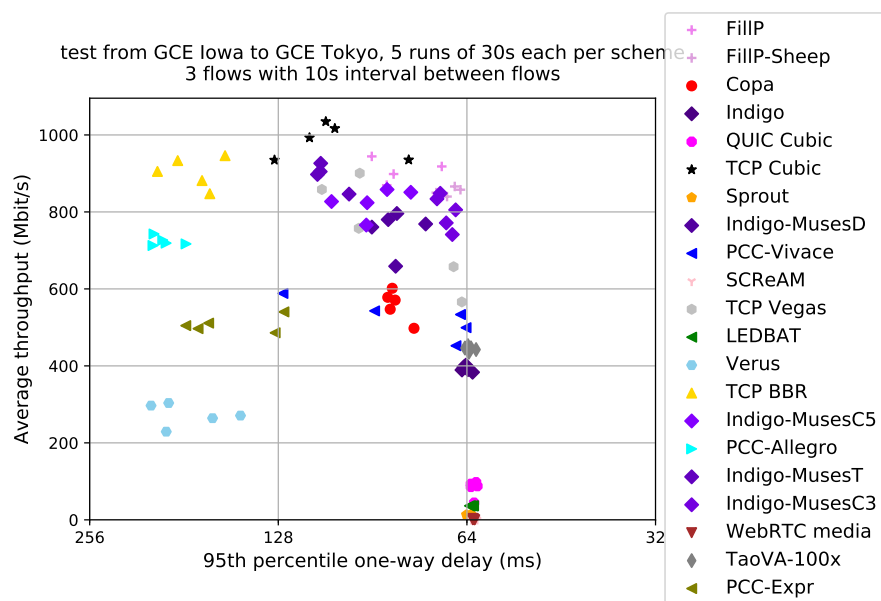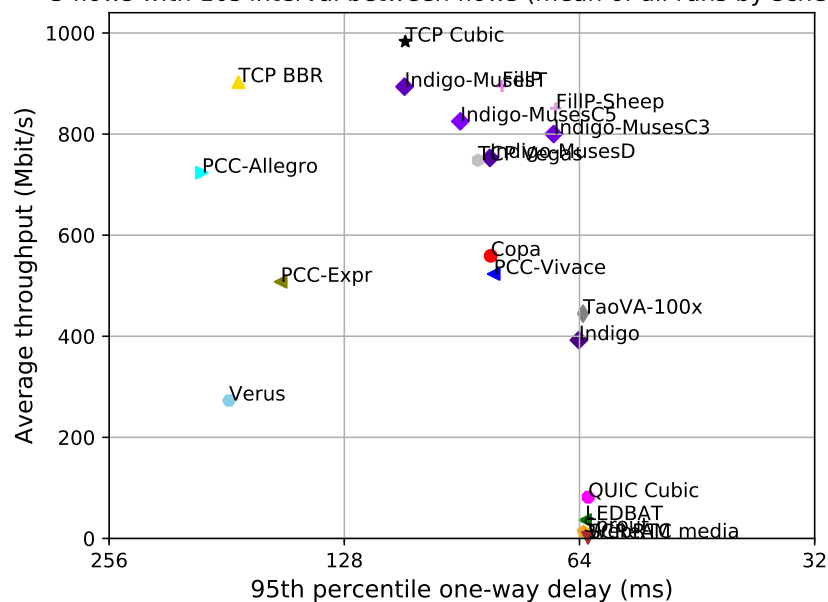
```
System info:
Linux 4.15.0-1026-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

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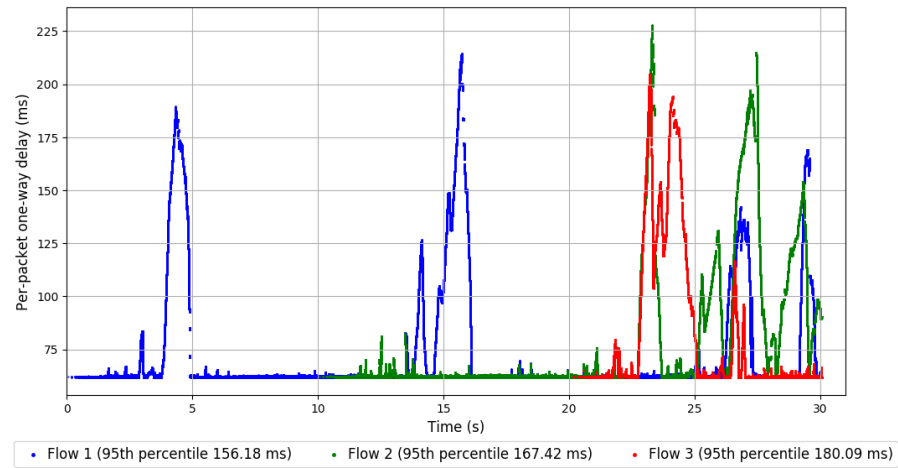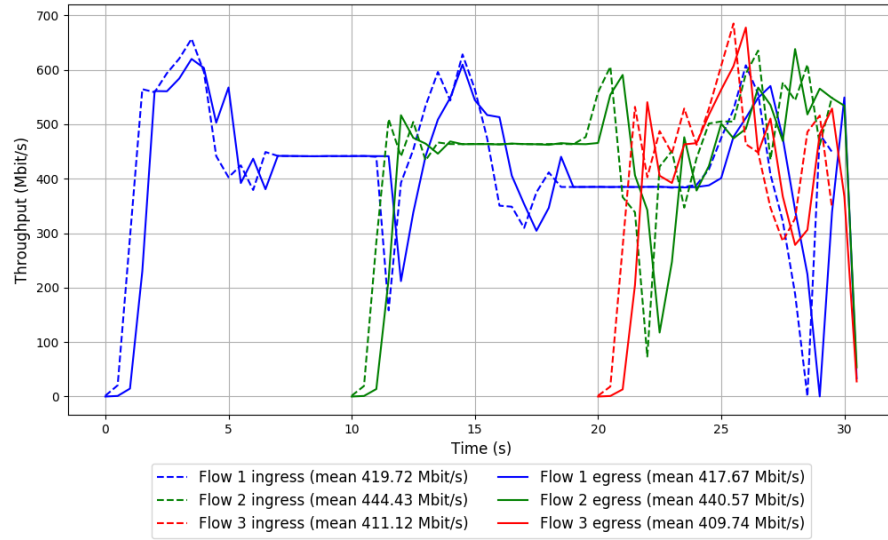3 flows with 10s interval between flows (mean of all runs by scheme)

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

3

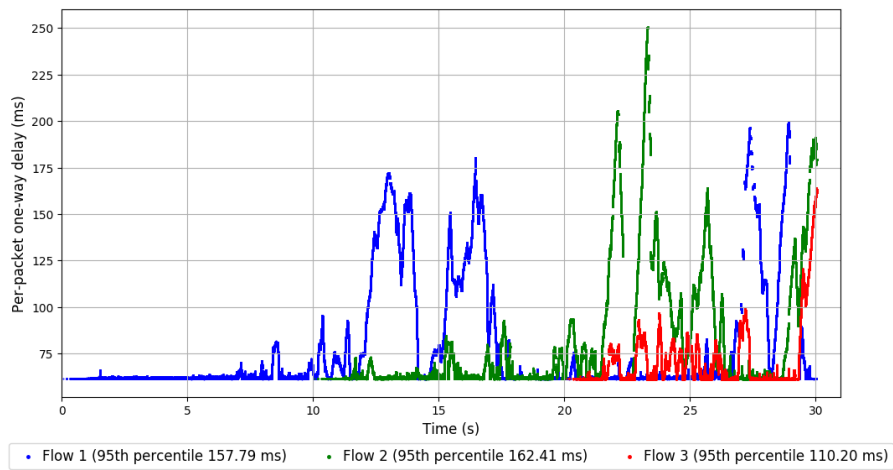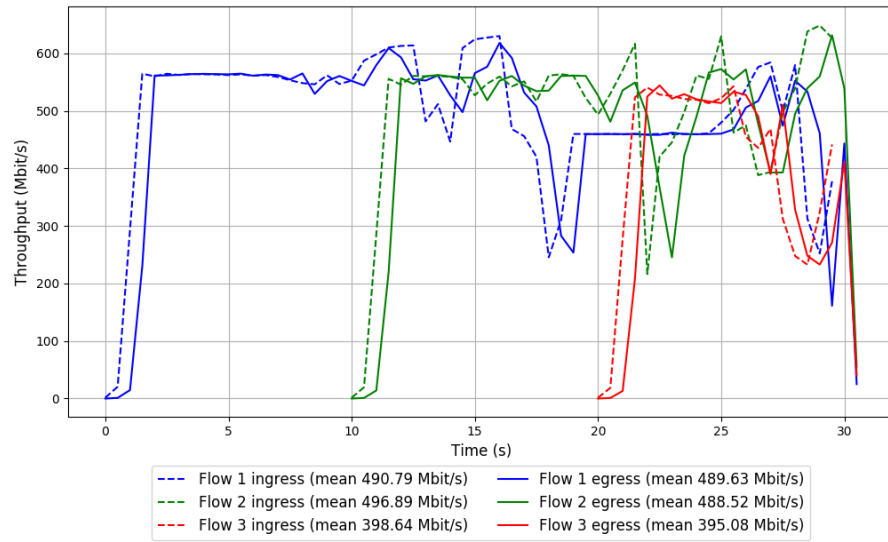| scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	466.44	450.35	409.89	172.25	160.58	174.28	0.85	1.35	0.90
Copa	5	294.41	280.51	234.48	82.30	80.81	90.59	0.02	0.05	0.00
TCP Cubic	5	525.82	478.68	415.36	103.81	99.95	107.71	0.04	0.06	0.26
FillP	5	576.03	348.39	262.70	83.51	68.09	67.65	0.07	0.01	0.00
FillP-Sheep	5	543.89	336.12	251.46	70.30	65.69	66.09	0.00	0.00	0.00
Indigo	5	209.02	191.75	174.47	63.74	64.22	65.01	0.00	0.00	0.06
Indigo-MusesC3	5	477.11	385.46	273.40	70.81	68.22	65.37	0.01	0.00	0.01
Indigo-MusesC5	5	519.26	432.76	103.05	95.97	77.44	62.70	0.01	0.07	0.00
Indigo-MusesD	5	436.93	369.17	296.63	86.46	76.21	65.44	0.00	0.00	0.02
Indigo-MusesT	4	544.25	425.19	303.51	112.07	84.82	67.38	0.01	0.01	0.00
LEDBAT	5	23.39	15.61	7.71	63.03	62.80	62.61	0.02	0.00	0.00
PCC-Allegro	5	410.99	347.70	249.63	196.40	169.44	155.49	4.74	2.95	1.17
PCC-Expr	5	295.60	247.90	142.93	141.69	156.02	88.65	1.06	0.97	0.03
QUIC Cubic	5	41.04	47.86	27.52	62.34	62.33	62.31	0.00	0.00	0.00
SCReAM	5	0.22	0.22	0.22	62.42	62.29	62.33	0.00	0.00	0.00
Sprout	5	6.76	6.63	6.27	63.30	63.21	63.11	0.00	0.00	0.00
TaoVA-100x	5	228.37	217.33	214.85	63.01	63.47	64.23	0.00	0.00	0.00
TCP Vegas	5	362.11	384.67	390.31	71.03	92.14	110.49	0.00	0.01	0.06
Verus	5	167.03	107.12	106.33	174.21	118.55	141.72	1.13	0.54	0.03
PCC-Vivace	5	306.30	252.17	147.77	78.57	90.72	78.92	0.16	0.16	0.01
WebRTC media	5	0.45	0.64	0.27	63.02	62.43	62.35	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-02-12 04:28:10
End at: 2019-02-12 04:28:40
Local clock offset: -0.098 ms
Remote clock offset: -0.948 ms


# Below is generated by plot.py at 2019-02-12 07:46:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 847.34 Mbit/s
95th percentile per-packet one-way delay: 164.632 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 417.67 Mbit/s
95th percentile per-packet one-way delay: 156.179 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 440.57 Mbit/s
95th percentile per-packet one-way delay: 167.424 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 409.74 Mbit/s
95th percentile per-packet one-way delay: 180.087 ms
Loss rate: 0.34%
```
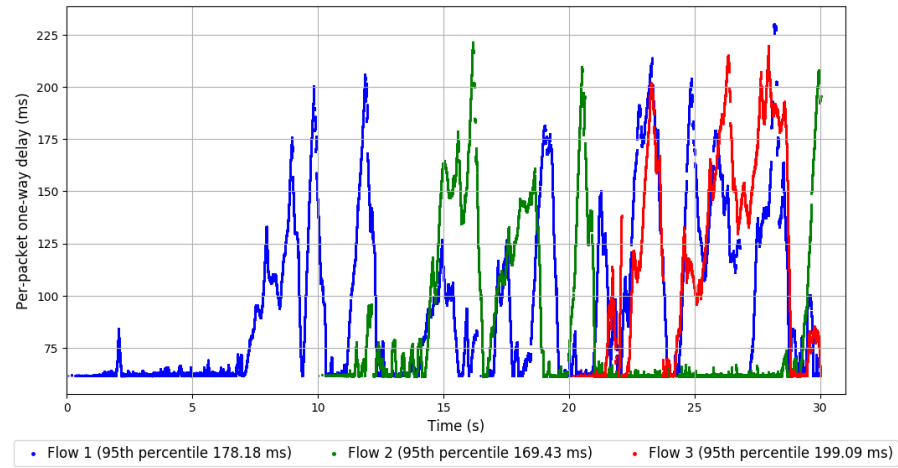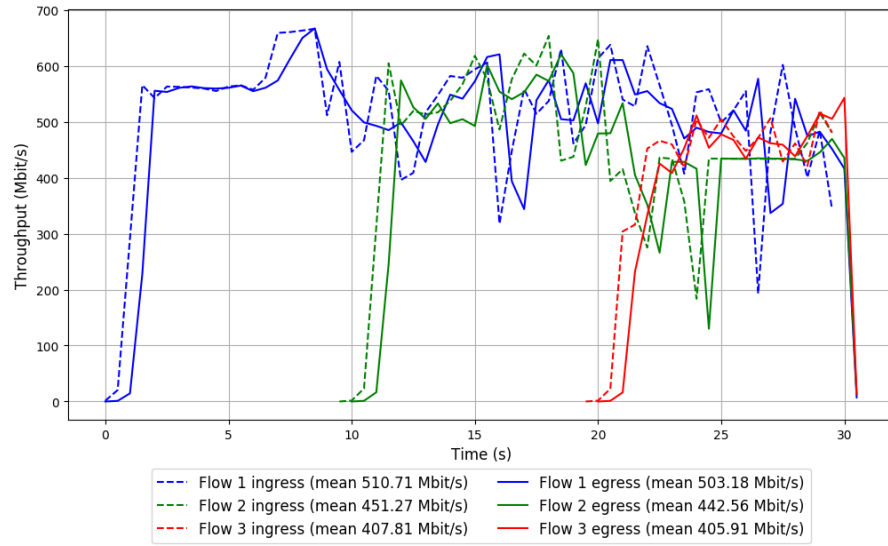
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-02-12 05:05:19
End at: 2019-02-12 05:05:49
Local clock offset: -0.039 ms
Remote clock offset: -1.388 ms


# Below is generated by plot.py at 2019-02-12 07:48:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 946.19 Mbit/s
95th percentile per-packet one-way delay: 155.655 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 489.63 Mbit/s
95th percentile per-packet one-way delay: 157.789 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 488.52 Mbit/s
95th percentile per-packet one-way delay: 162.408 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 395.08 Mbit/s
95th percentile per-packet one-way delay: 110.205 ms
Loss rate: 0.94%
```
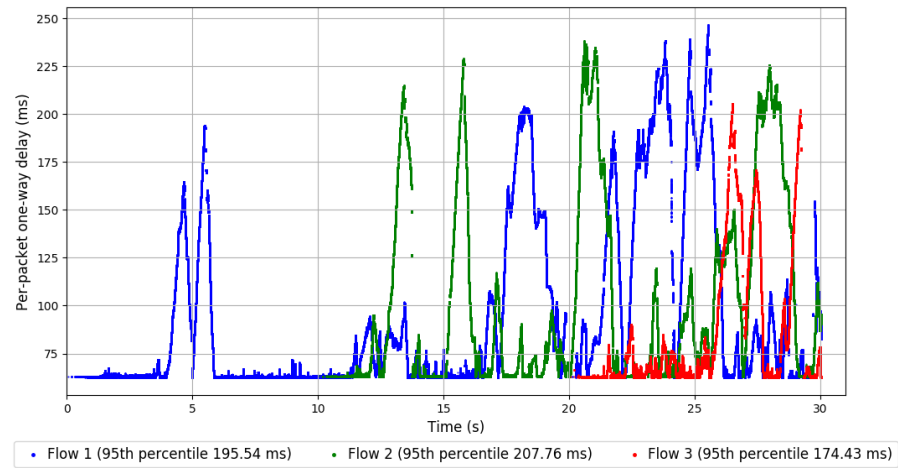
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-02-12 05:42:08
End at: 2019-02-12 05:42:38
Local clock offset: 0.019 ms
Remote clock offset: -1.248 ms


# Below is generated by plot.py at 2019-02-12 07:48:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 933.42 Mbit/s
95th percentile per-packet one-way delay: 185.252 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 503.18 Mbit/s
95th percentile per-packet one-way delay: 178.177 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 442.56 Mbit/s
95th percentile per-packet one-way delay: 169.431 ms
Loss rate: 1.93%
-- Flow 3:
Average throughput: 405.91 Mbit/s
95th percentile per-packet one-way delay: 199.085 ms
Loss rate: 0.47%
```
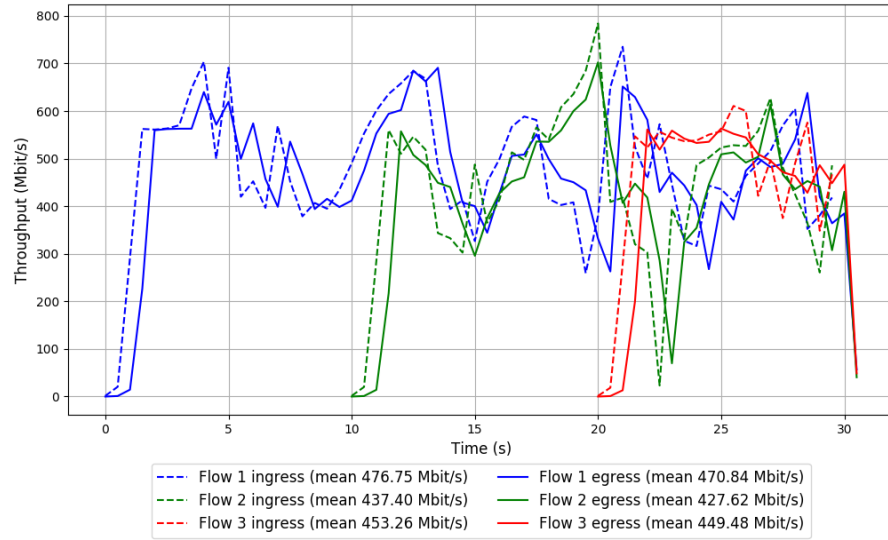
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2019-02-12 06:19:11
End at: 2019-02-12 06:19:41
Local clock offset: -0.177 ms
Remote clock offset: -0.26 ms

# Below is generated by plot.py at 2019-02-12 07:48:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 905.27 Mbit/s
95th percentile per-packet one-way delay: 199.555 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 470.84 Mbit/s
95th percentile per-packet one-way delay: 195.544 ms
Loss rate: 1.24%
-- Flow 2:
Average throughput: 427.62 Mbit/s
95th percentile per-packet one-way delay: 207.763 ms
Loss rate: 2.24%
-- Flow 3:
Average throughput: 449.48 Mbit/s
95th percentile per-packet one-way delay: 174.426 ms
Loss rate: 0.84%
```
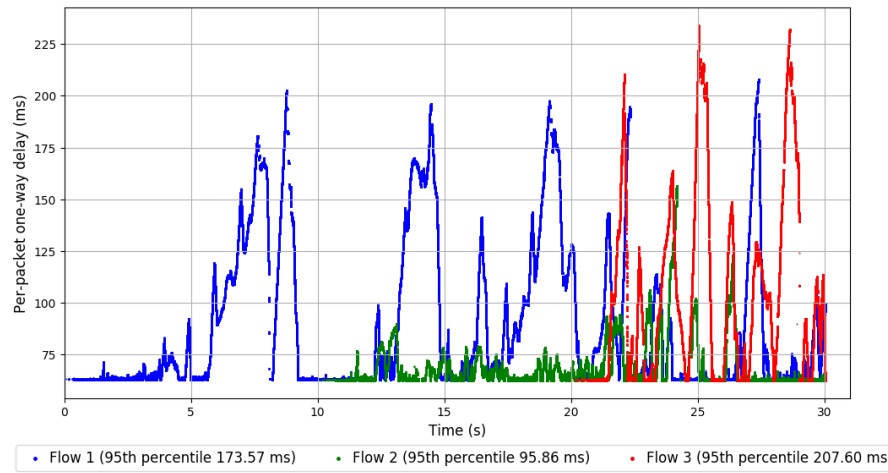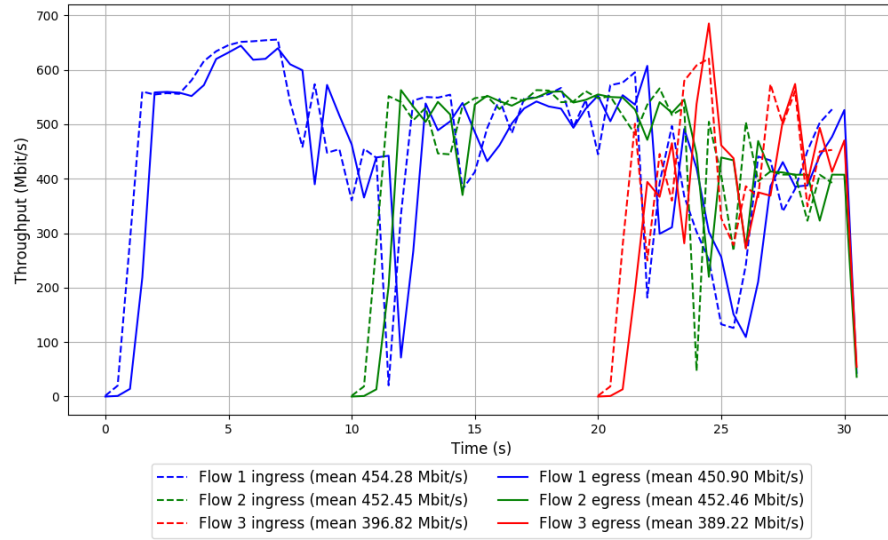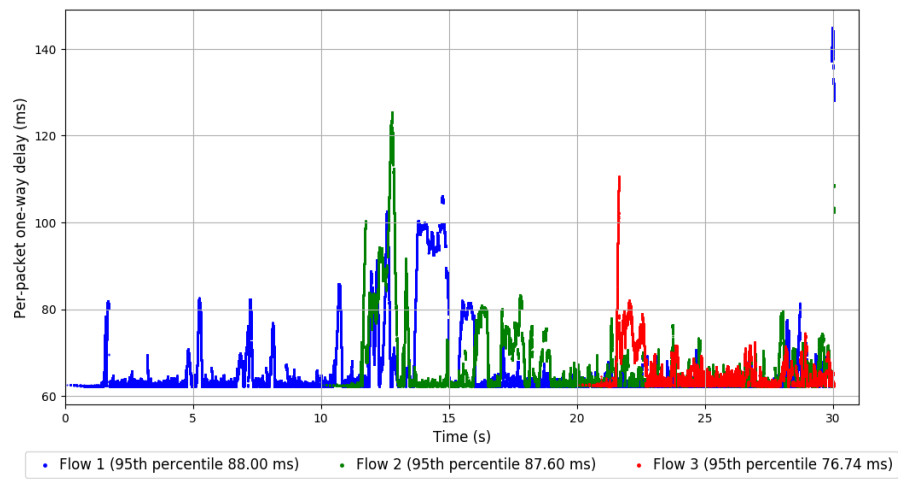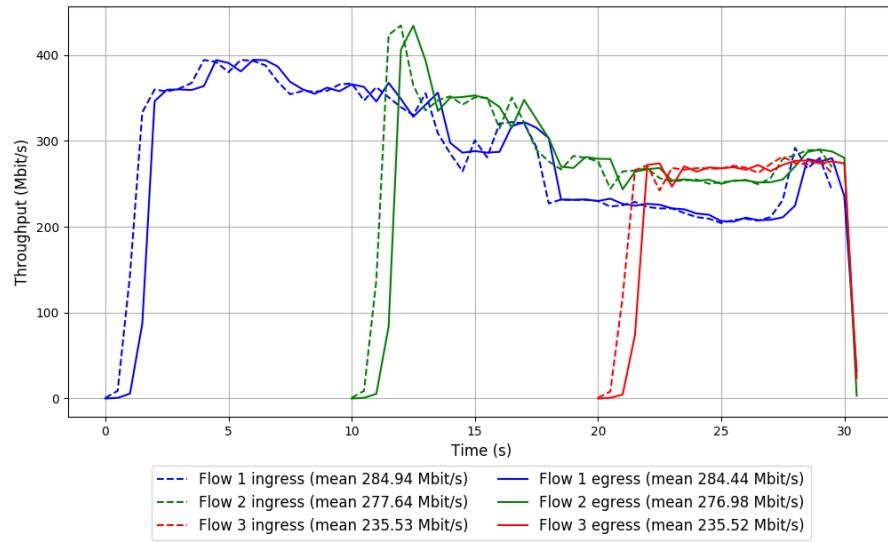
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2019-02-12 06:56:01
End at: 2019-02-12 06:56:31
Local clock offset: -0.089 ms
Remote clock offset: -0.28 ms


# Below is generated by plot.py at 2019-02-12 07:48:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 881.53 Mbit/s
95th percentile per-packet one-way delay: 169.406 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 450.90 Mbit/s
95th percentile per-packet one-way delay: 173.571 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 452.46 Mbit/s
95th percentile per-packet one-way delay: 95.857 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 389.22 Mbit/s
95th percentile per-packet one-way delay: 207.605 ms
Loss rate: 1.91%
```

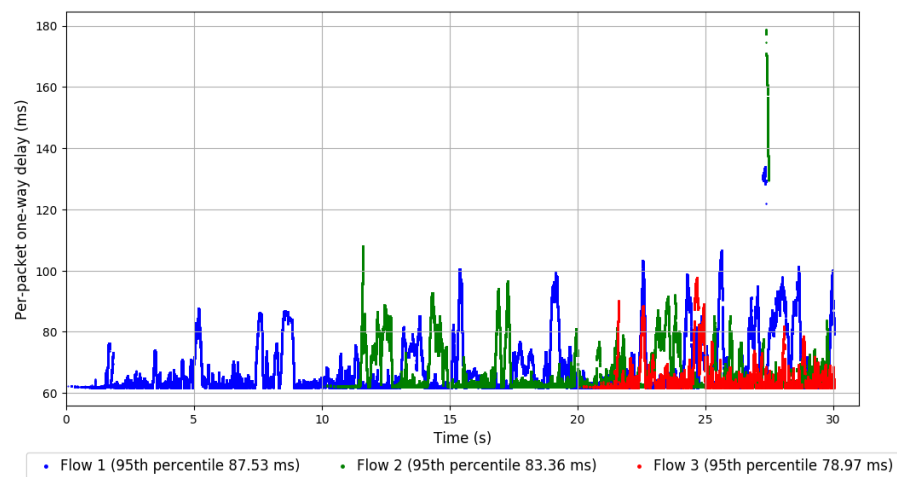Run 5: Report of TCP BBR — Data Link

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```
Run 1: Statistics of Copa

Start at: 2019-02-12 04:37:28
End at: 2019-02-12 04:37:58
Local clock offset: -0.047 ms
Remote clock offset: -0.746 ms


# Below is generated by plot.py at 2019-02-12 07:50:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 547.19 Mbit/s
95th percentile per-packet one-way delay: 84.840 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 284.44 Mbit/s
95th percentile per-packet one-way delay: 87.997 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 276.98 Mbit/s
95th percentile per-packet one-way delay: 87.601 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 235.52 Mbit/s
95th percentile per-packet one-way delay: 76.736 ms
Loss rate: 0.00%
```

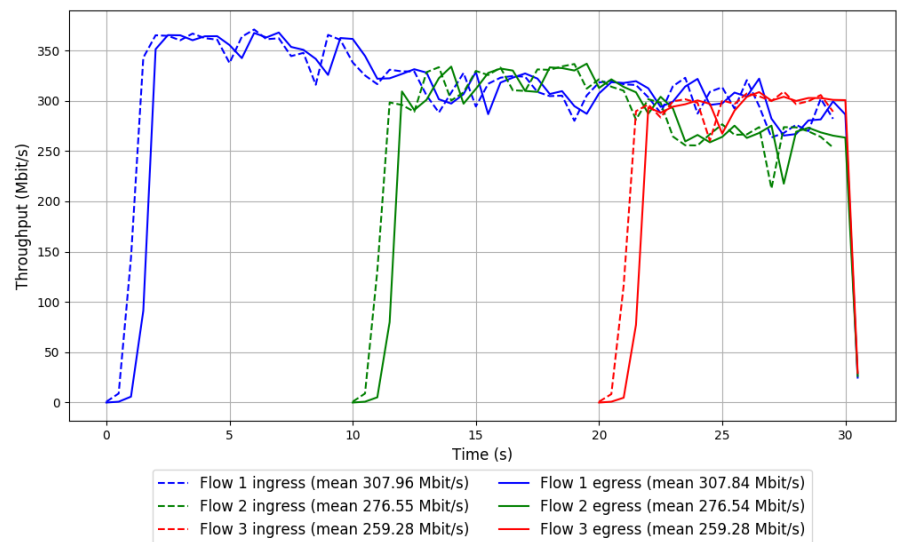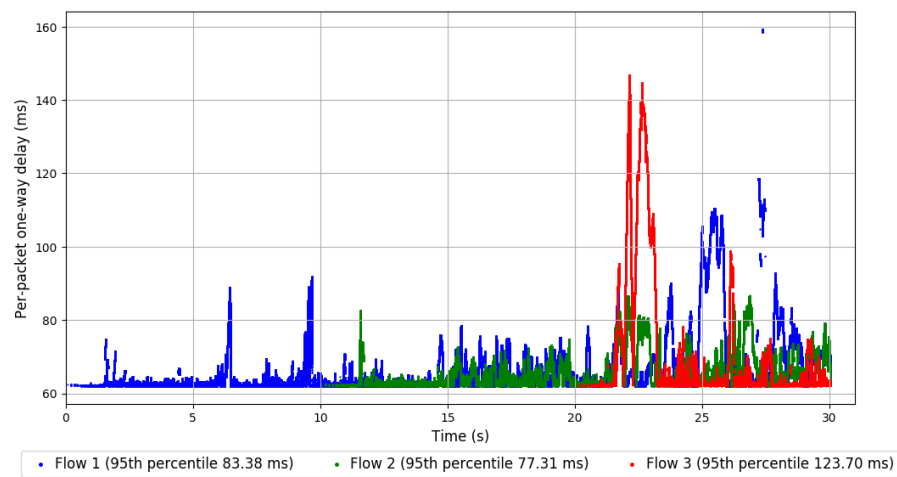Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2019-02-12 05:14:41
End at: 2019-02-12 05:15:11
Local clock offset: -0.069 ms
Remote clock offset: -0.805 ms


# Below is generated by plot.py at 2019-02-12 07:51:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 578.13 Mbit/s
95th percentile per-packet one-way delay: 85.611 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 307.84 Mbit/s
95th percentile per-packet one-way delay: 87.526 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 276.54 Mbit/s
95th percentile per-packet one-way delay: 83.358 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 259.28 Mbit/s
95th percentile per-packet one-way delay: 78.969 ms
Loss rate: 0.00%
```

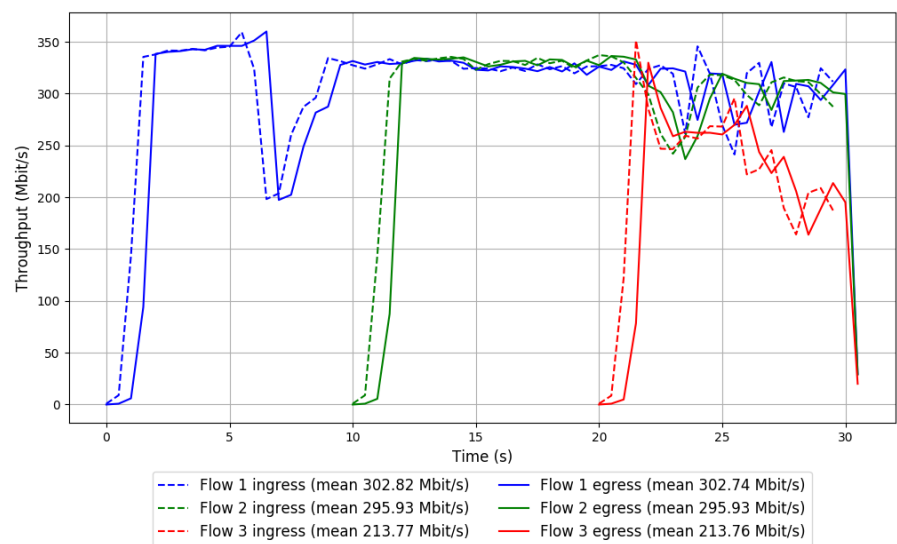Run 2: Report of Copa — Data Link

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```
Run 3: Statistics of Copa

Start at: 2019-02-12 05:51:28
End at: 2019-02-12 05:51:58
Local clock offset: 0.008 ms
Remote clock offset: -0.647 ms


# Below is generated by plot.py at 2019-02-12 07:51:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 570.90 Mbit/s
95th percentile per-packet one-way delay: 83.313 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 302.74 Mbit/s
95th percentile per-packet one-way delay: 83.384 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 295.93 Mbit/s
95th percentile per-packet one-way delay: 77.306 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 213.76 Mbit/s
95th percentile per-packet one-way delay: 123.704 ms
Loss rate: 0.00%
```

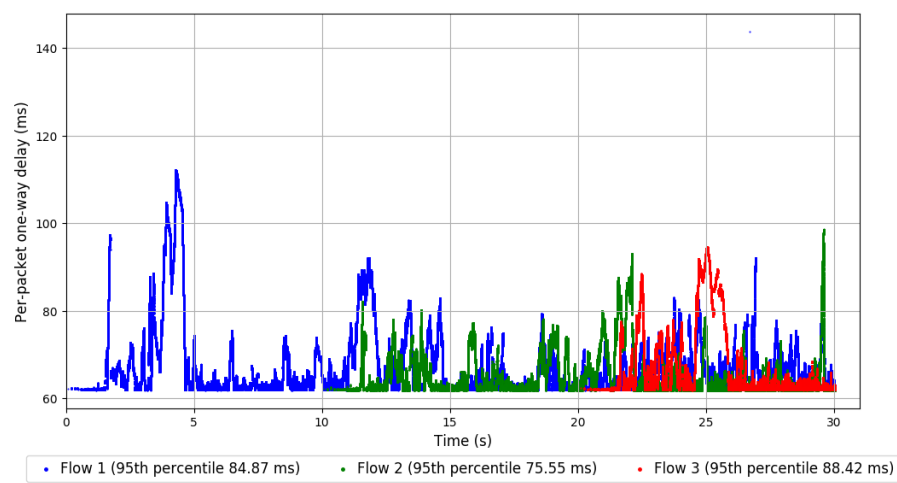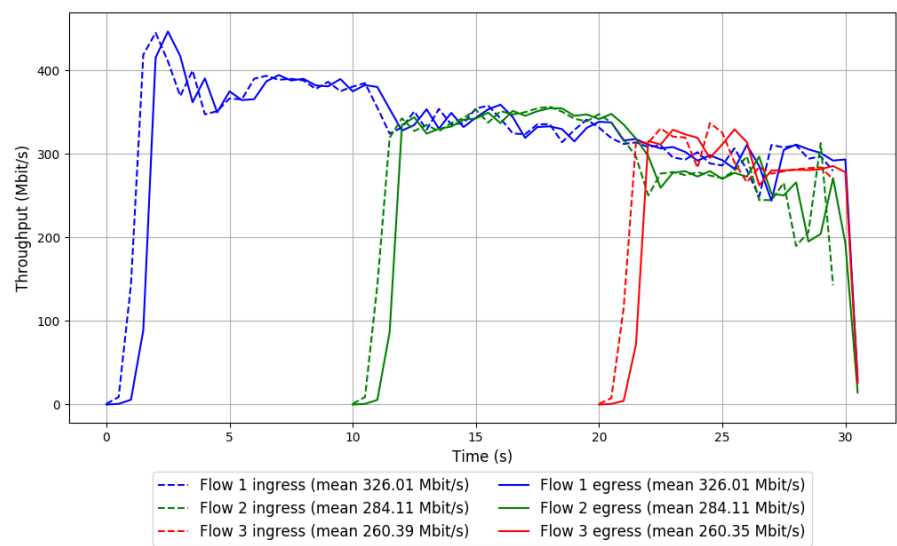Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2019-02-12 06:28:36
End at: 2019-02-12 06:29:06
Local clock offset: -0.173 ms
Remote clock offset: -0.978 ms


# Below is generated by plot.py at 2019-02-12 08:13:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 601.64 Mbit/s
95th percentile per-packet one-way delay: 84.201 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 326.01 Mbit/s
95th percentile per-packet one-way delay: 84.871 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 284.11 Mbit/s
95th percentile per-packet one-way delay: 75.549 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 260.35 Mbit/s
95th percentile per-packet one-way delay: 88.419 ms
Loss rate: 0.02%
```
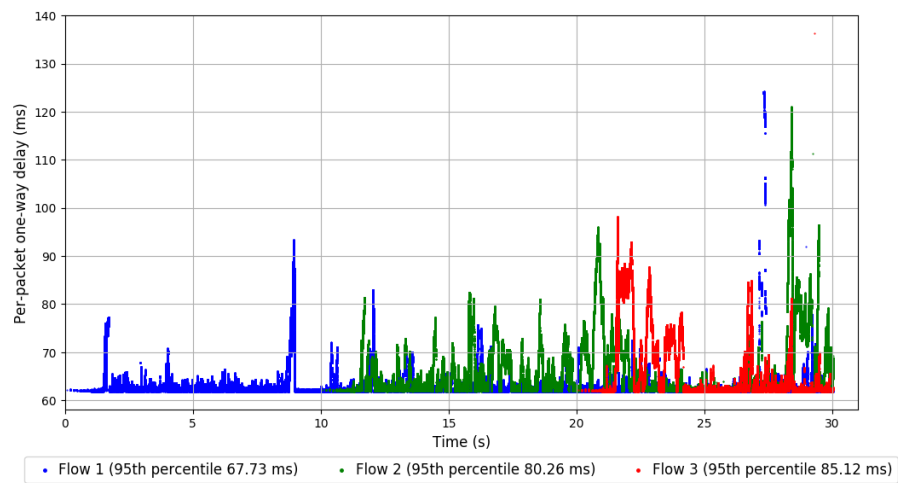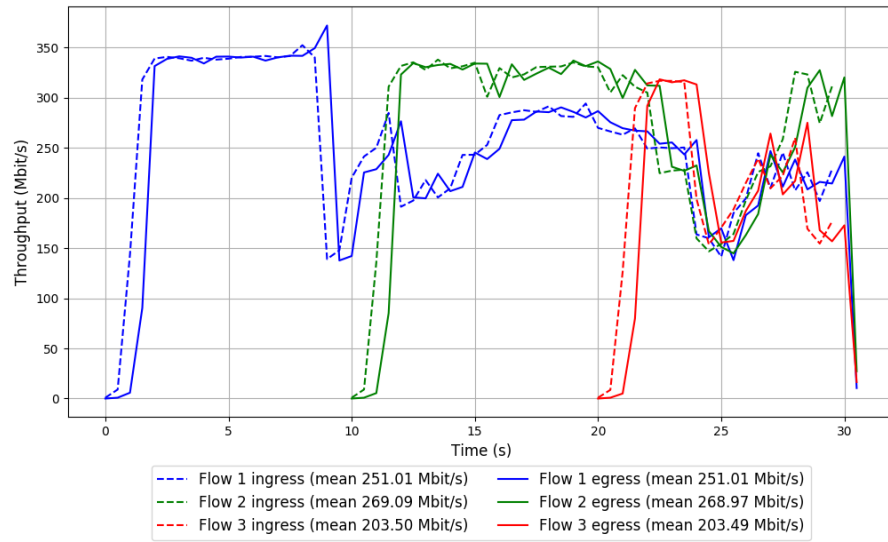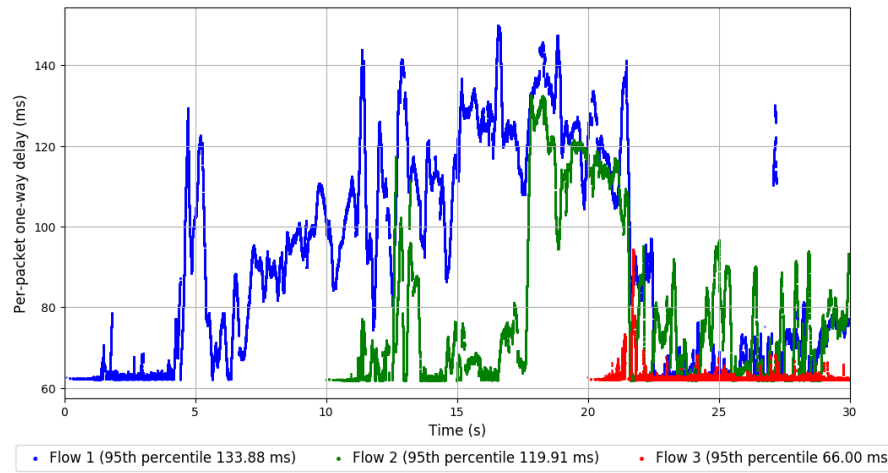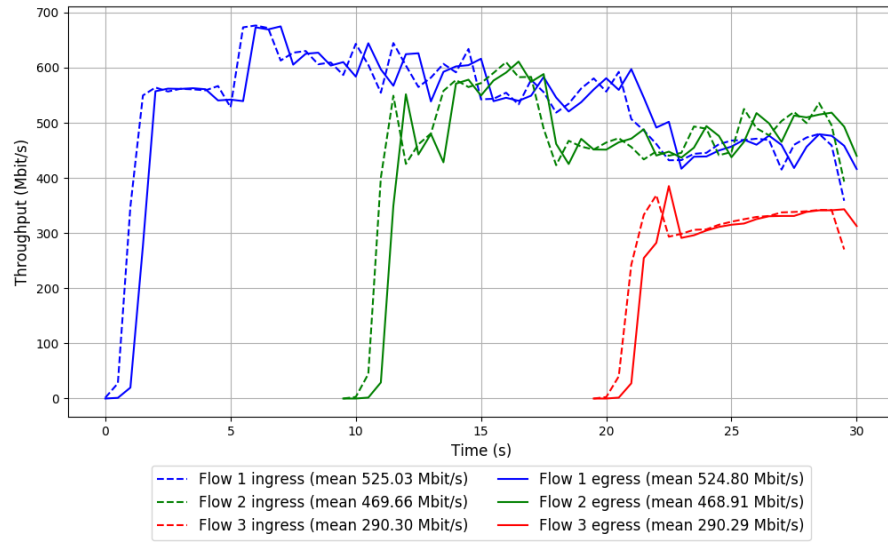
Run 4: Report of Copa — Data Link

- - - Flow 1 ingress (mean 326.01 Mbit/s) —— Flow 1 egress (mean 326.01 Mbit/s)
- - - Flow 2 ingress (mean 284.11 Mbit/s) —— Flow 2 egress (mean 284.11 Mbit/s)
- - - Flow 3 ingress (mean 260.39 Mbit/s) —— Flow 3 egress (mean 260.35 Mbit/s)

- Flow 1 (95th percentile 84.87 ms)   - Flow 2 (95th percentile 75.55 ms)   - Flow 3 (95th percentile 88.42 ms)

```
Run 5: Statistics of Copa

Start at: 2019-02-12 07:05:22
End at: 2019-02-12 07:05:52
Local clock offset: -0.106 ms
Remote clock offset: -1.049 ms


# Below is generated by plot.py at 2019-02-12 08:13:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 497.69 Mbit/s
95th percentile per-packet one-way delay: 77.741 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 251.01 Mbit/s
95th percentile per-packet one-way delay: 67.726 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 268.97 Mbit/s
95th percentile per-packet one-way delay: 80.257 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 203.49 Mbit/s
95th percentile per-packet one-way delay: 85.117 ms
Loss rate: 0.00%
```
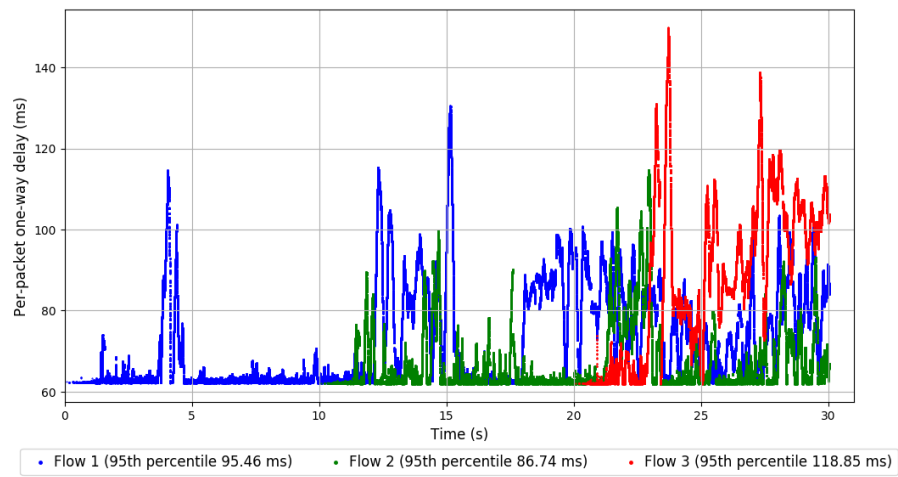
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-02-12 04:16:46
End at: 2019-02-12 04:17:16
Local clock offset: -0.12 ms
Remote clock offset: -0.767 ms


# Below is generated by plot.py at 2019-02-12 08:13:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 934.80 Mbit/s
95th percentile per-packet one-way delay: 129.796 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 524.80 Mbit/s
95th percentile per-packet one-way delay: 133.882 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 468.91 Mbit/s
95th percentile per-packet one-way delay: 119.913 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 290.29 Mbit/s
95th percentile per-packet one-way delay: 65.995 ms
Loss rate: 0.01%
```

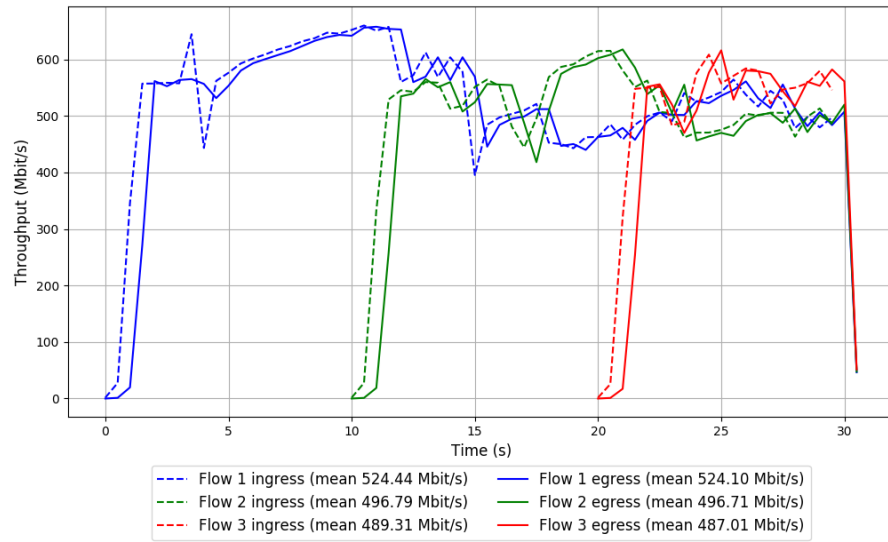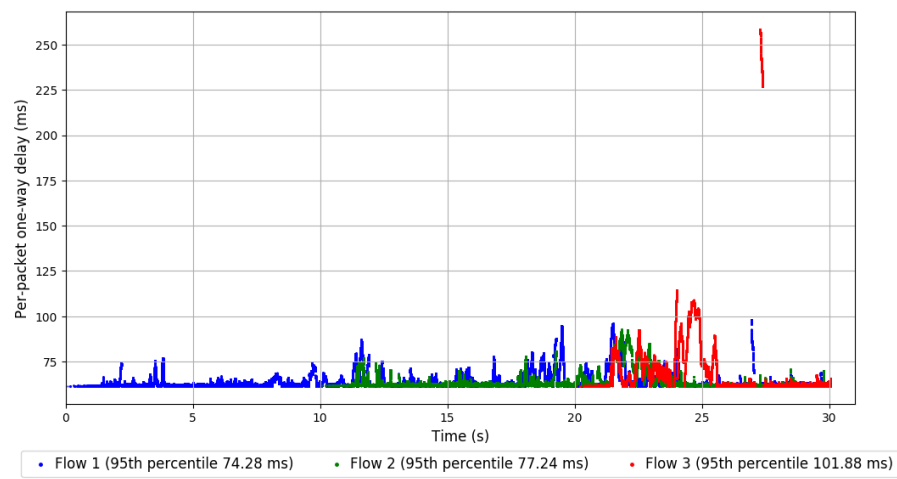Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-02-12 04:53:32
End at: 2019-02-12 04:54:02
Local clock offset: -0.056 ms
Remote clock offset: -0.898 ms


# Below is generated by plot.py at 2019-02-12 08:13:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1016.82 Mbit/s
95th percentile per-packet one-way delay: 103.990 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 524.10 Mbit/s
95th percentile per-packet one-way delay: 95.460 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 496.71 Mbit/s
95th percentile per-packet one-way delay: 86.742 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 487.01 Mbit/s
95th percentile per-packet one-way delay: 118.848 ms
Loss rate: 0.46%
```

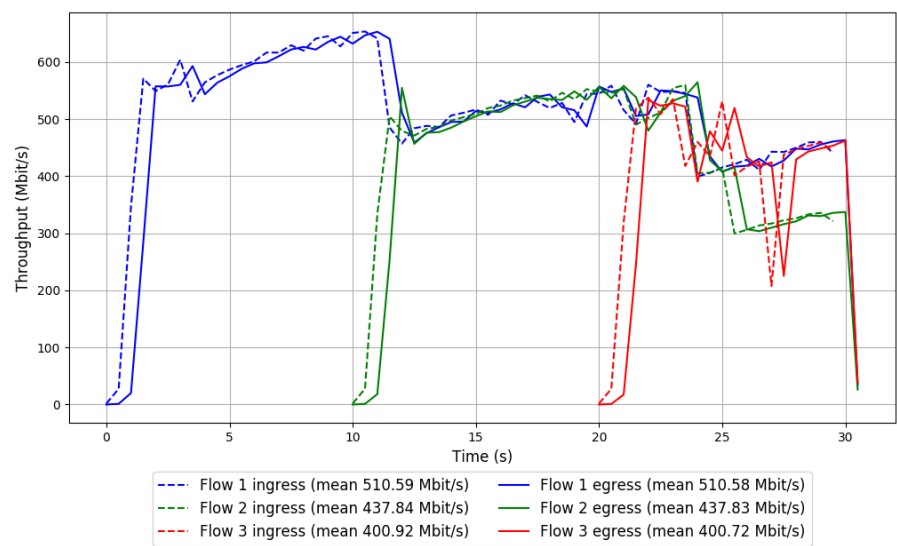Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2019-02-12 05:30:39
End at: 2019-02-12 05:31:09
Local clock offset: -0.056 ms
Remote clock offset: -1.379 ms


# Below is generated by plot.py at 2019-02-12 08:13:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 935.31 Mbit/s
95th percentile per-packet one-way delay: 79.272 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 510.58 Mbit/s
95th percentile per-packet one-way delay: 74.276 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 437.83 Mbit/s
95th percentile per-packet one-way delay: 77.242 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 400.72 Mbit/s
95th percentile per-packet one-way delay: 101.884 ms
Loss rate: 0.05%
```

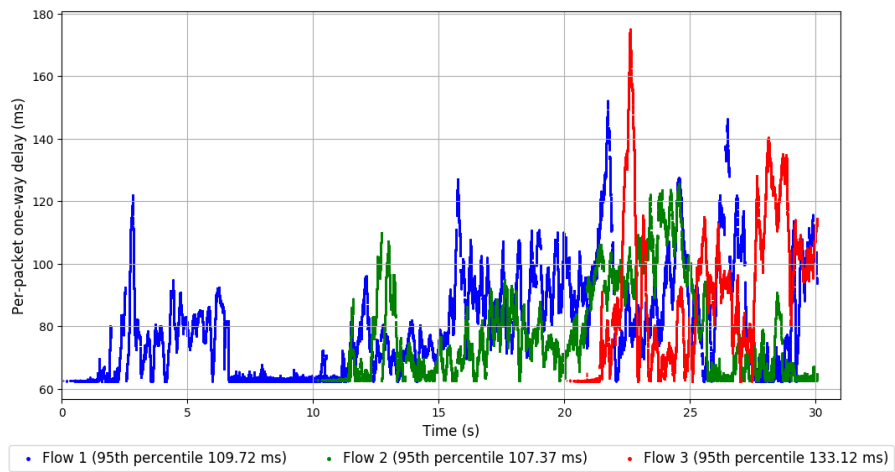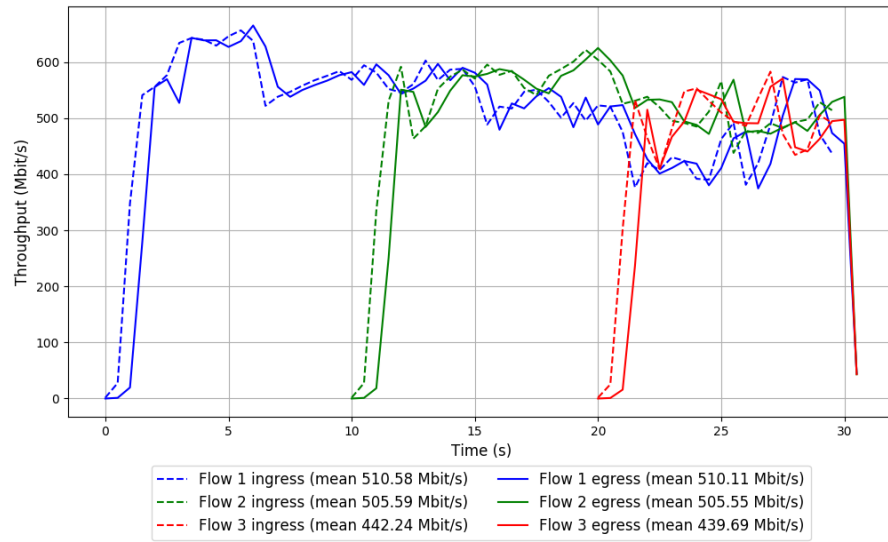Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2019-02-12 06:07:27
End at: 2019-02-12 06:07:57
Local clock offset: -0.061 ms
Remote clock offset: -0.387 ms


# Below is generated by plot.py at 2019-02-12 08:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 992.84 Mbit/s
95th percentile per-packet one-way delay: 114.134 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 510.11 Mbit/s
95th percentile per-packet one-way delay: 109.721 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 505.55 Mbit/s
95th percentile per-packet one-way delay: 107.371 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 439.69 Mbit/s
95th percentile per-packet one-way delay: 133.124 ms
Loss rate: 0.57%
```

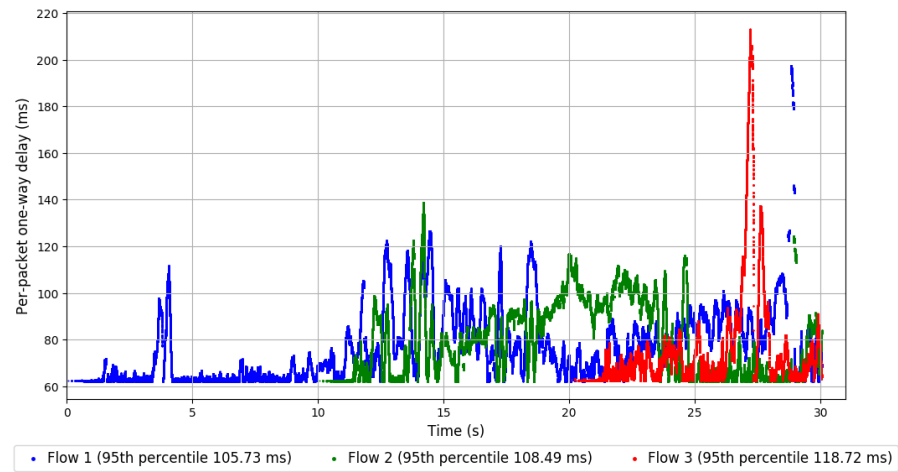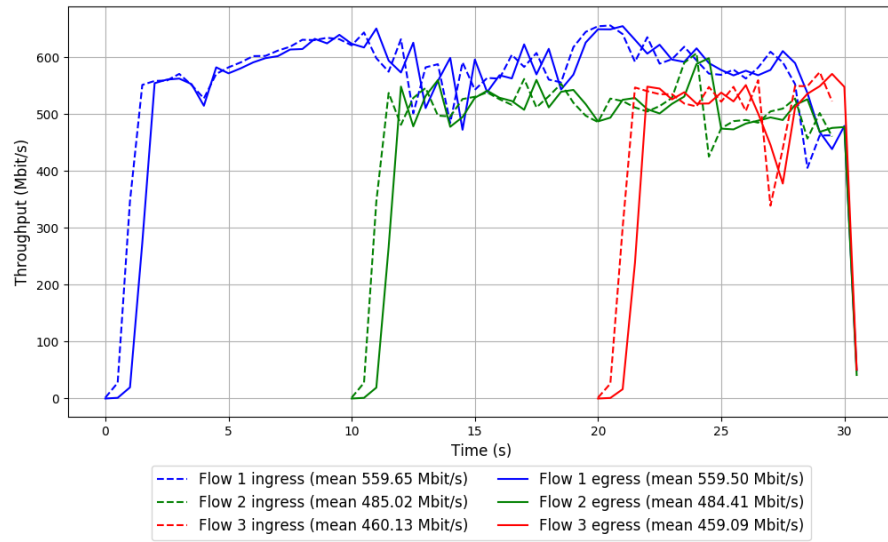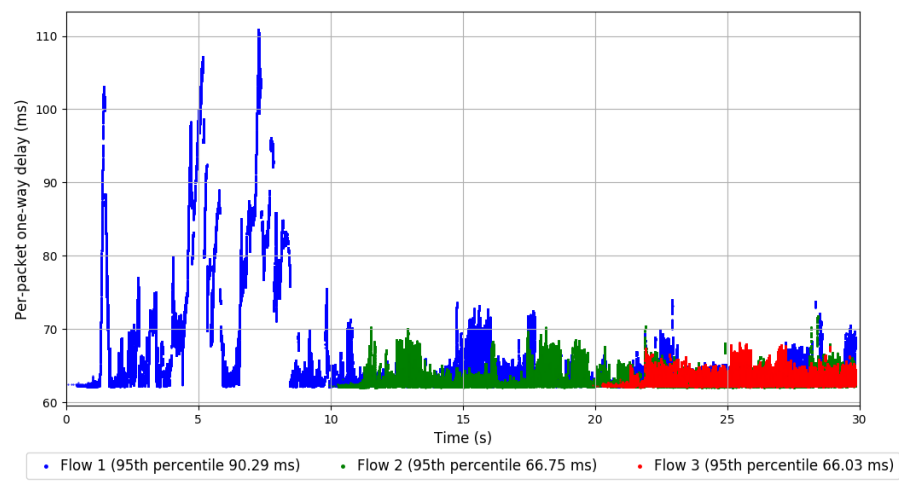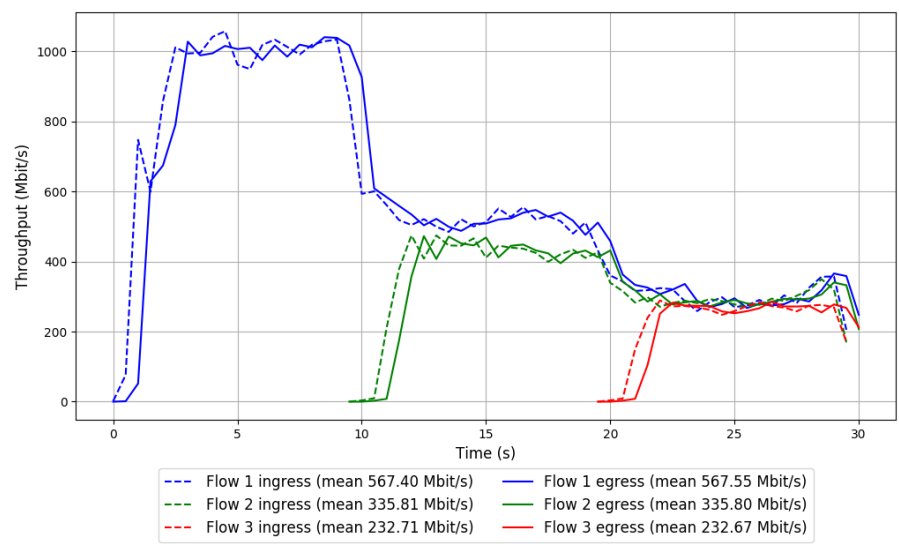# Run 4: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 510.58 Mbit/s) —— Flow 1 egress (mean 510.11 Mbit/s)
- - - Flow 2 ingress (mean 505.59 Mbit/s) —— Flow 2 egress (mean 505.55 Mbit/s)
- - - Flow 3 ingress (mean 442.24 Mbit/s) —— Flow 3 egress (mean 439.69 Mbit/s)

- Flow 1 (95th percentile 109.72 ms)   • Flow 2 (95th percentile 107.37 ms)   • Flow 3 (95th percentile 133.12 ms)
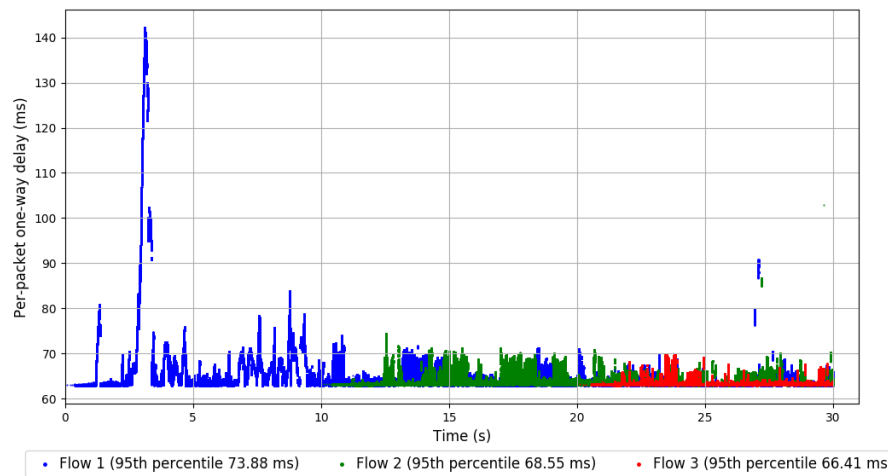
```
Run 5: Statistics of TCP Cubic

Start at: 2019-02-12 06:44:26
End at: 2019-02-12 06:44:56
Local clock offset: -0.112 ms
Remote clock offset: -0.716 ms


# Below is generated by plot.py at 2019-02-12 08:15:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1034.79 Mbit/s
95th percentile per-packet one-way delay: 107.499 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 559.50 Mbit/s
95th percentile per-packet one-way delay: 105.735 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 484.41 Mbit/s
95th percentile per-packet one-way delay: 108.491 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 459.09 Mbit/s
95th percentile per-packet one-way delay: 118.722 ms
Loss rate: 0.23%
```

Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 559.65 Mbit/s)   Flow 1 egress (mean 559.50 Mbit/s)
Flow 2 ingress (mean 485.02 Mbit/s)   Flow 2 egress (mean 484.41 Mbit/s)
Flow 3 ingress (mean 460.13 Mbit/s)   Flow 3 egress (mean 459.09 Mbit/s)

Flow 1 (95th percentile 105.73 ms)   Flow 2 (95th percentile 108.49 ms)   Flow 3 (95th percentile 118.72 ms)
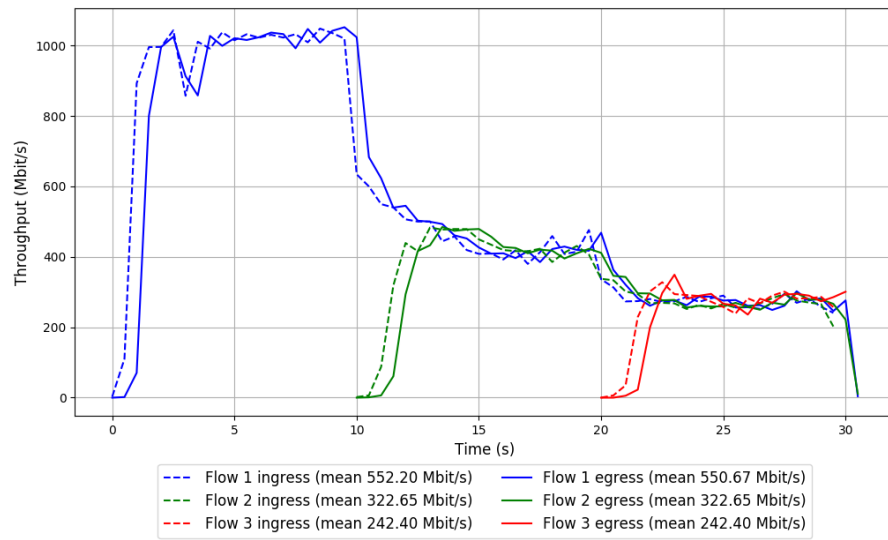
```
Run 1: Statistics of FillP

Start at: 2019-02-12 04:11:52
End at: 2019-02-12 04:12:22
Local clock offset: -0.14 ms
Remote clock offset: -0.805 ms


# Below is generated by plot.py at 2019-02-12 08:16:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 869.54 Mbit/s
95th percentile per-packet one-way delay: 85.936 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 567.55 Mbit/s
95th percentile per-packet one-way delay: 90.289 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 335.80 Mbit/s
95th percentile per-packet one-way delay: 66.751 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 232.67 Mbit/s
95th percentile per-packet one-way delay: 66.030 ms
Loss rate: 0.00%
```
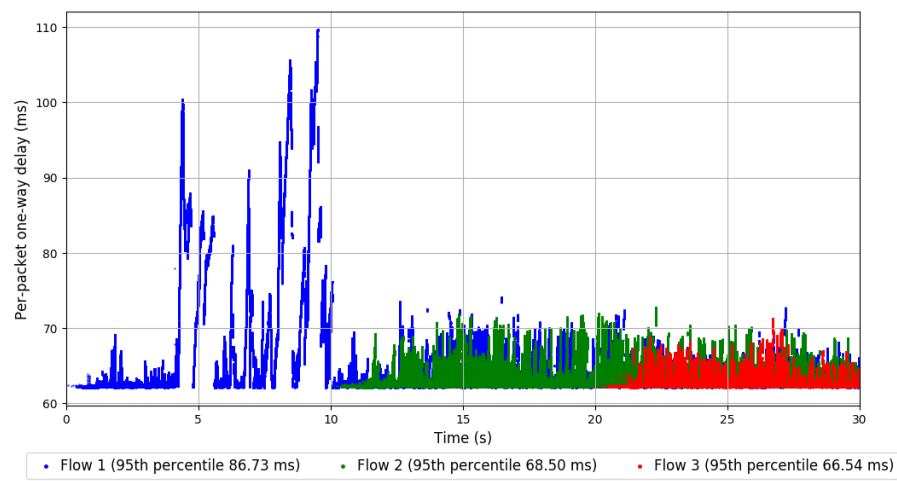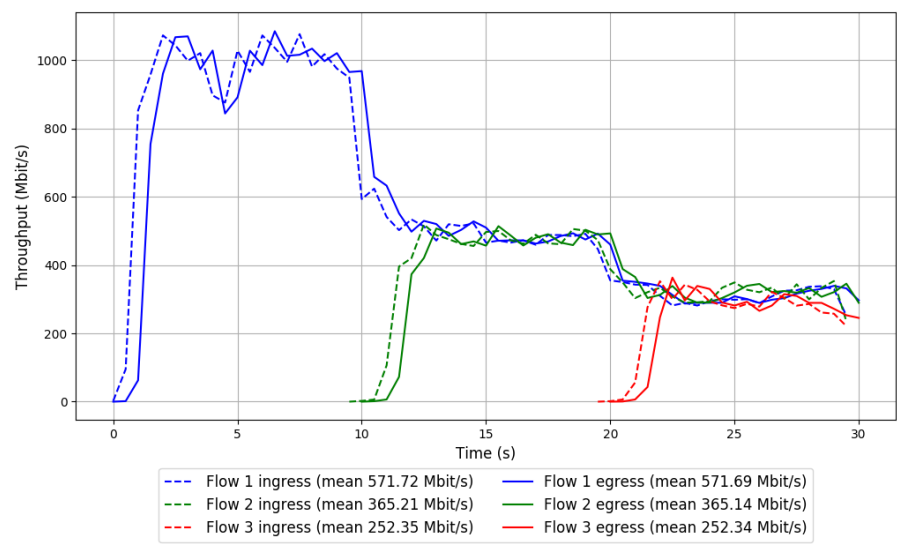
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2019-02-12 04:48:23
End at: 2019-02-12 04:48:53
Local clock offset: -0.069 ms
Remote clock offset: -0.045 ms


# Below is generated by plot.py at 2019-02-12 08:31:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 845.05 Mbit/s
95th percentile per-packet one-way delay: 71.318 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 550.67 Mbit/s
95th percentile per-packet one-way delay: 73.875 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 322.65 Mbit/s
95th percentile per-packet one-way delay: 68.550 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 242.40 Mbit/s
95th percentile per-packet one-way delay: 66.409 ms
Loss rate: 0.00%
```
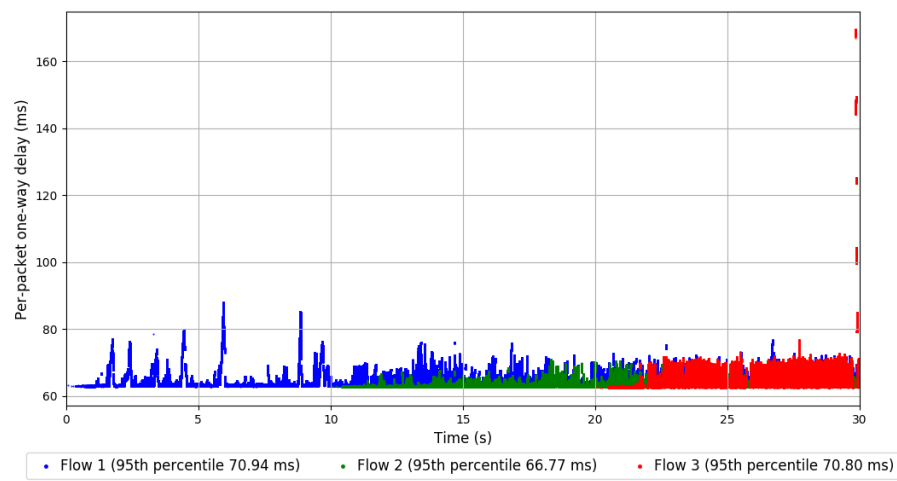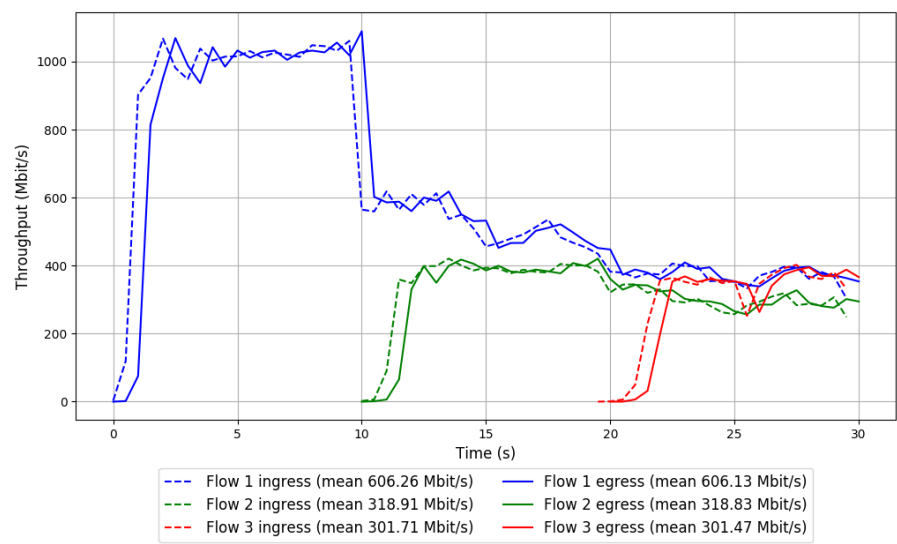
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-02-12 05:25:46
End at: 2019-02-12 05:26:16
Local clock offset: -0.086 ms
Remote clock offset: -0.674 ms


# Below is generated by plot.py at 2019-02-12 08:35:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 898.47 Mbit/s
95th percentile per-packet one-way delay: 83.787 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 571.69 Mbit/s
95th percentile per-packet one-way delay: 86.728 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 365.14 Mbit/s
95th percentile per-packet one-way delay: 68.496 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 252.34 Mbit/s
95th percentile per-packet one-way delay: 66.536 ms
Loss rate: 0.00%
```

Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-02-12 06:02:28
End at: 2019-02-12 06:02:58
Local clock offset: -0.04 ms
Remote clock offset: -0.221 ms


# Below is generated by plot.py at 2019-02-12 08:36:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 918.13 Mbit/s
95th percentile per-packet one-way delay: 70.197 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 606.13 Mbit/s
95th percentile per-packet one-way delay: 70.936 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 318.83 Mbit/s
95th percentile per-packet one-way delay: 66.773 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 301.47 Mbit/s
95th percentile per-packet one-way delay: 70.795 ms
Loss rate: 0.00%
```
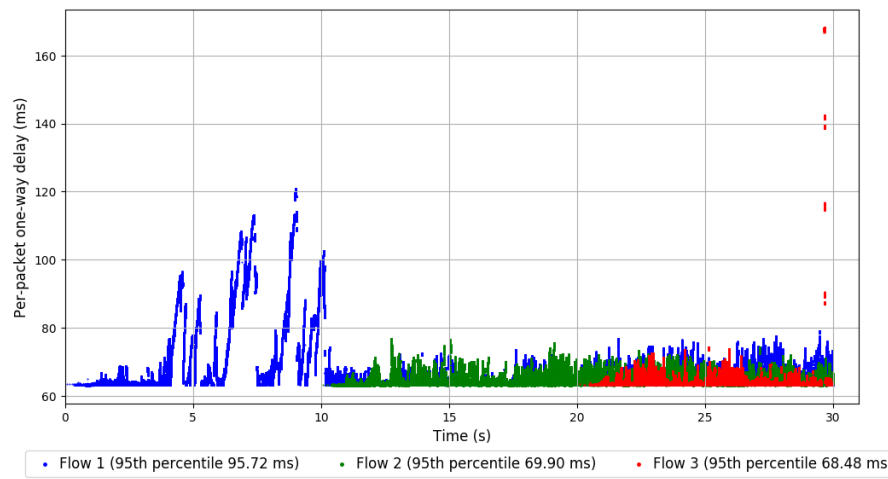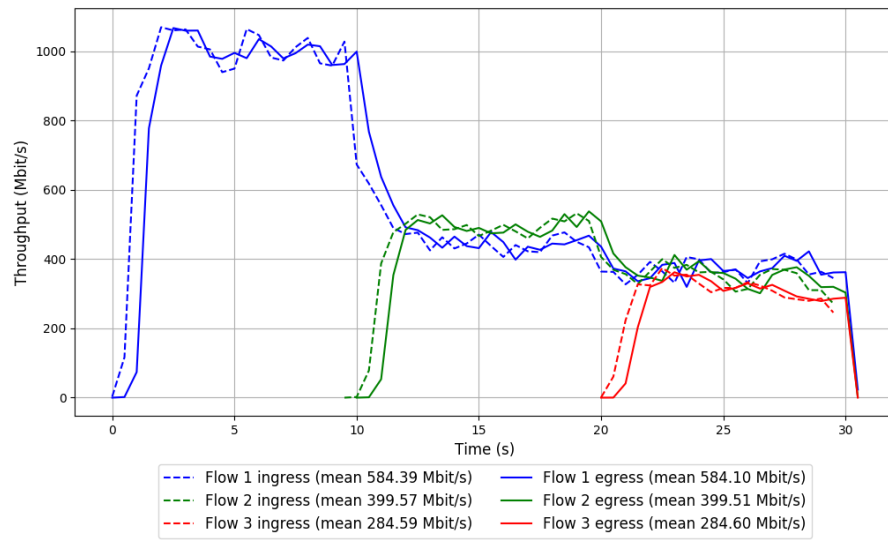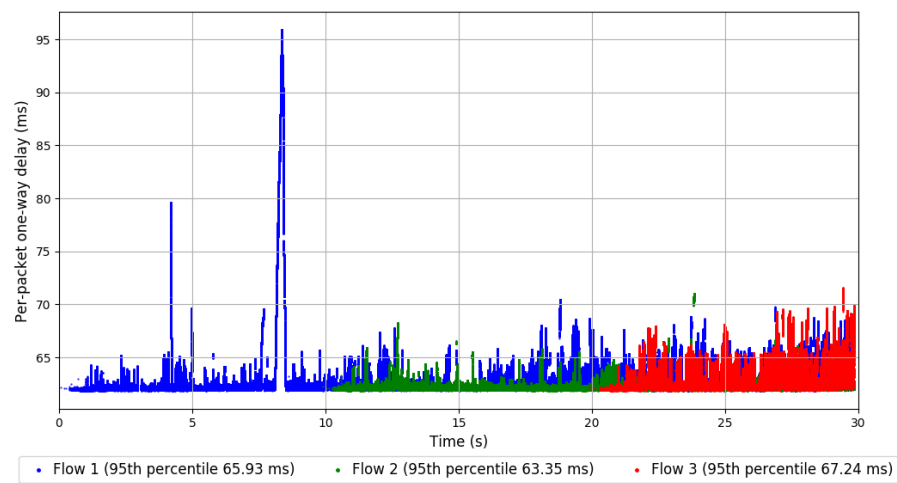
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 606.26 Mbit/s) --- Flow 1 egress (mean 606.13 Mbit/s)
Flow 2 ingress (mean 318.91 Mbit/s) --- Flow 2 egress (mean 318.83 Mbit/s)
Flow 3 ingress (mean 301.71 Mbit/s) --- Flow 3 egress (mean 301.47 Mbit/s)

Flow 1 (95th percentile 70.94 ms)   Flow 2 (95th percentile 66.77 ms)   Flow 3 (95th percentile 70.80 ms)

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```
Run 5: Statistics of FillP

Start at: 2019-02-12 06:39:32
End at: 2019-02-12 06:40:02
Local clock offset: -0.152 ms
Remote clock offset: 0.19 ms


# Below is generated by plot.py at 2019-02-12 08:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 944.27 Mbit/s
95th percentile per-packet one-way delay: 90.786 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 584.10 Mbit/s
95th percentile per-packet one-way delay: 95.723 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 399.51 Mbit/s
95th percentile per-packet one-way delay: 69.896 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 284.60 Mbit/s
95th percentile per-packet one-way delay: 68.477 ms
Loss rate: 0.00%
```
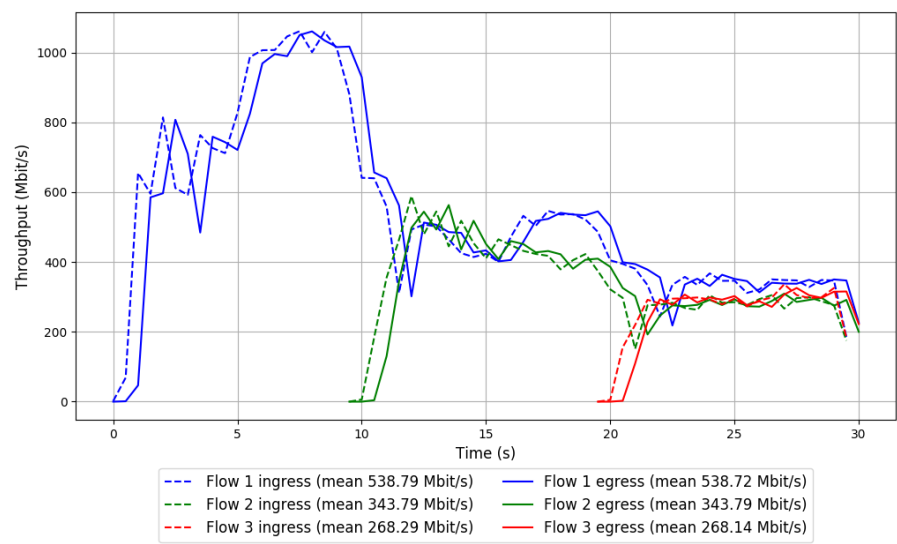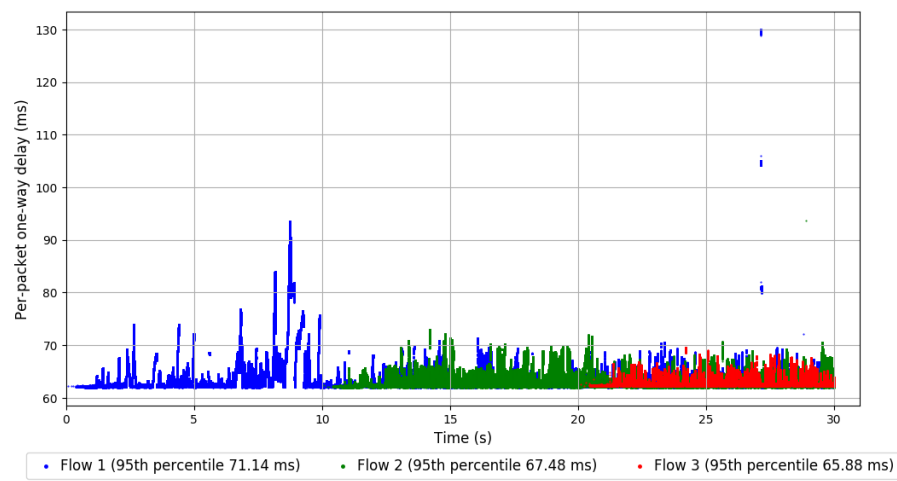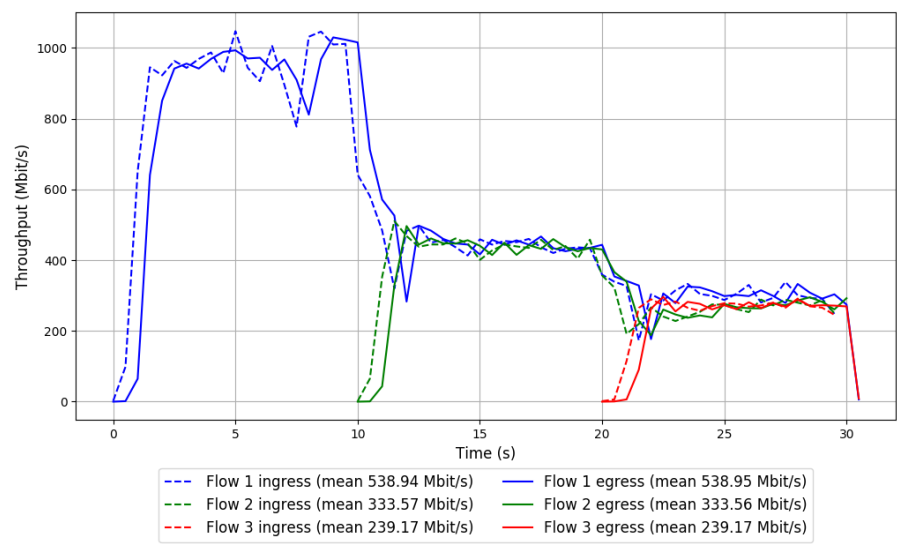
Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-02-12 04:32:05
End at: 2019-02-12 04:32:35
Local clock offset: -0.09 ms
Remote clock offset: -0.95 ms


# Below is generated by plot.py at 2019-02-12 08:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 857.68 Mbit/s
95th percentile per-packet one-way delay: 65.536 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 538.72 Mbit/s
95th percentile per-packet one-way delay: 65.927 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 343.79 Mbit/s
95th percentile per-packet one-way delay: 63.350 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 268.14 Mbit/s
95th percentile per-packet one-way delay: 67.239 ms
Loss rate: 0.00%
```

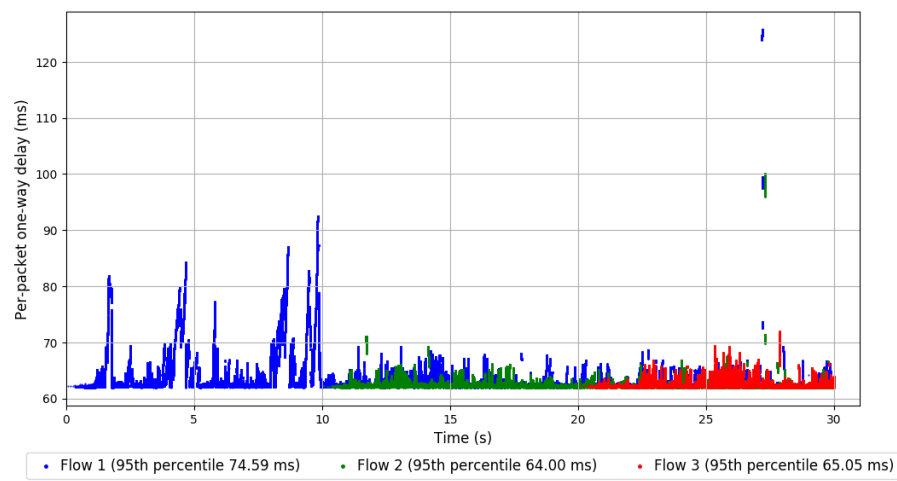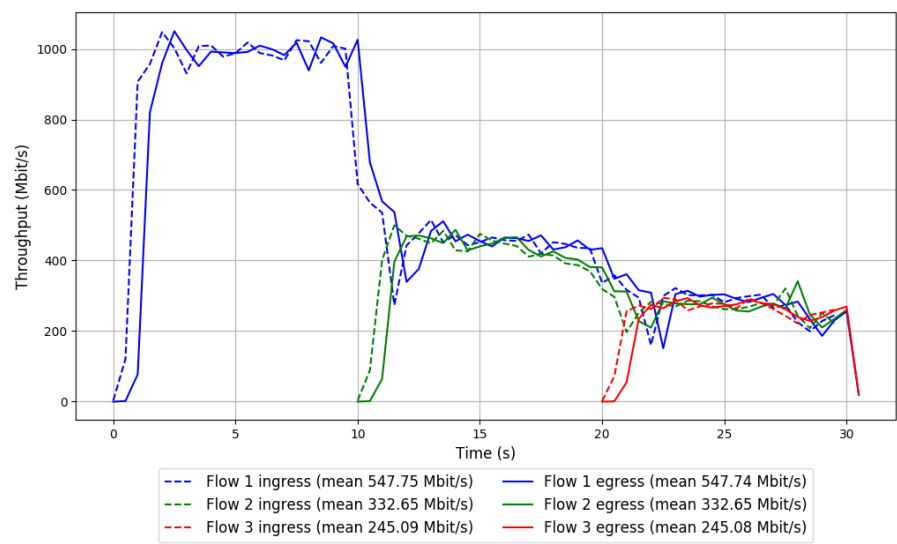Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-02-12 05:09:15
End at: 2019-02-12 05:09:45
Local clock offset: -0.086 ms
Remote clock offset: -0.815 ms


# Below is generated by plot.py at 2019-02-12 08:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 839.92 Mbit/s
95th percentile per-packet one-way delay: 68.847 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 538.95 Mbit/s
95th percentile per-packet one-way delay: 71.135 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 333.56 Mbit/s
95th percentile per-packet one-way delay: 67.484 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 239.17 Mbit/s
95th percentile per-packet one-way delay: 65.875 ms
Loss rate: 0.00%
```

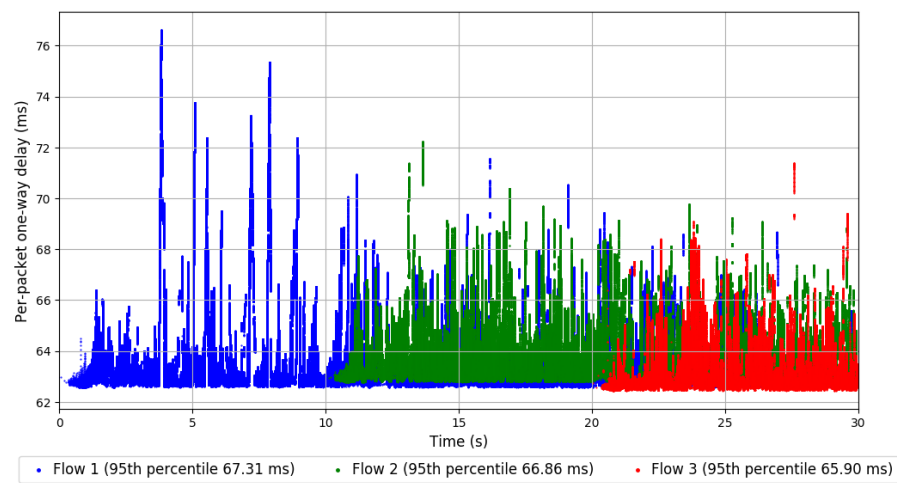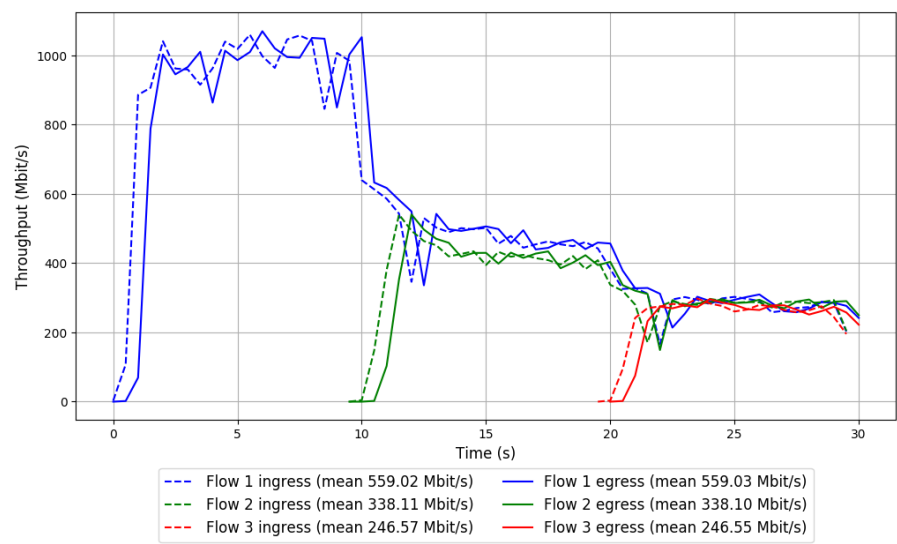## Run 2: Report of FillP-Sheep — Data Link

- - - - Flow 1 ingress (mean 538.94 Mbit/s)   —— Flow 1 egress (mean 538.95 Mbit/s)
- - - - Flow 2 ingress (mean 333.57 Mbit/s)   —— Flow 2 egress (mean 333.56 Mbit/s)
- - - - Flow 3 ingress (mean 239.17 Mbit/s)   —— Flow 3 egress (mean 239.17 Mbit/s)

- Flow 1 (95th percentile 71.14 ms)   • Flow 2 (95th percentile 67.48 ms)   • Flow 3 (95th percentile 65.88 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-02-12 05:46:08
End at: 2019-02-12 05:46:38
Local clock offset: 0.042 ms
Remote clock offset: -0.858 ms


# Below is generated by plot.py at 2019-02-12 08:39:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 850.08 Mbit/s
95th percentile per-packet one-way delay: 71.632 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 547.74 Mbit/s
95th percentile per-packet one-way delay: 74.595 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 332.65 Mbit/s
95th percentile per-packet one-way delay: 64.002 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 245.08 Mbit/s
95th percentile per-packet one-way delay: 65.047 ms
Loss rate: 0.00%
```

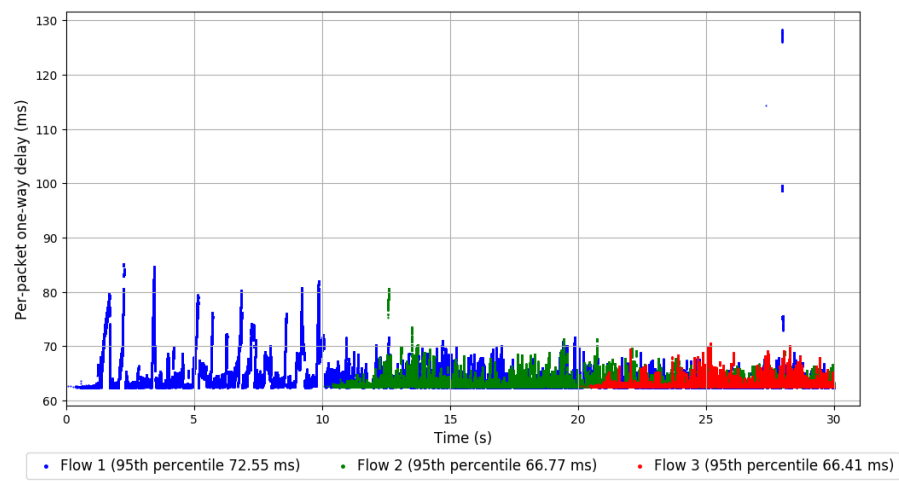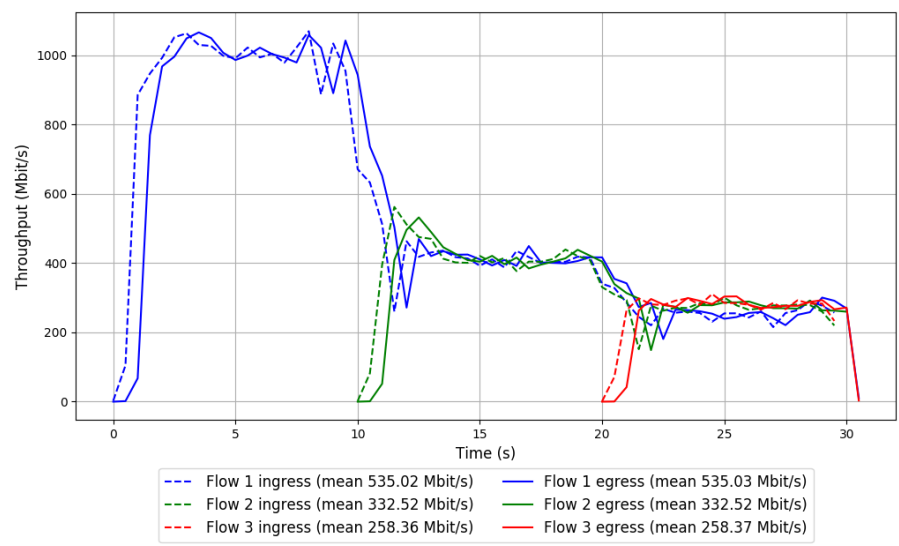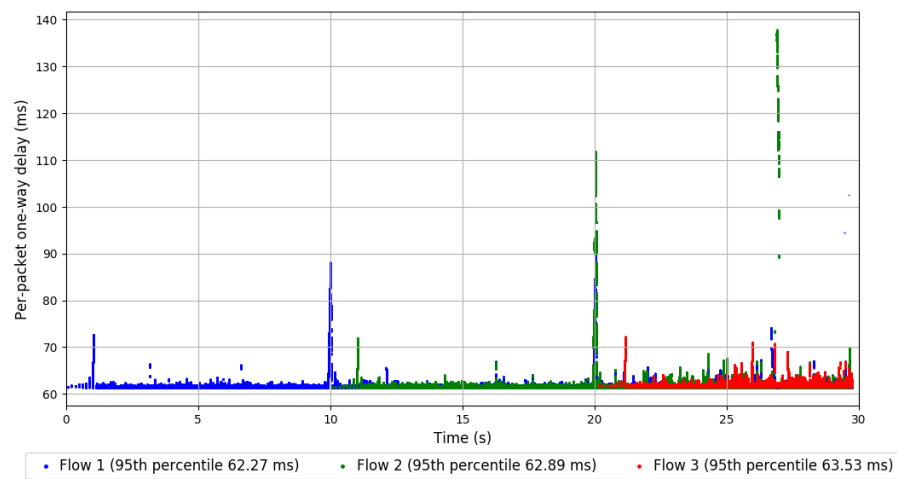Run 3: Report of FillP-Sheep — Data Link

---- Flow 1 ingress (mean 547.75 Mbit/s) —— Flow 1 egress (mean 547.74 Mbit/s)
---- Flow 2 ingress (mean 332.65 Mbit/s) —— Flow 2 egress (mean 332.65 Mbit/s)
---- Flow 3 ingress (mean 245.09 Mbit/s) —— Flow 3 egress (mean 245.08 Mbit/s)

• Flow 1 (95th percentile 74.59 ms)   • Flow 2 (95th percentile 64.00 ms)   • Flow 3 (95th percentile 65.05 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-02-12 06:23:08
End at: 2019-02-12 06:23:38
Local clock offset: -0.165 ms
Remote clock offset: -0.306 ms


# Below is generated by plot.py at 2019-02-12 08:40:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 866.12 Mbit/s
95th percentile per-packet one-way delay: 66.927 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 559.03 Mbit/s
95th percentile per-packet one-way delay: 67.306 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 338.10 Mbit/s
95th percentile per-packet one-way delay: 66.859 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 246.55 Mbit/s
95th percentile per-packet one-way delay: 65.901 ms
Loss rate: 0.00%
```

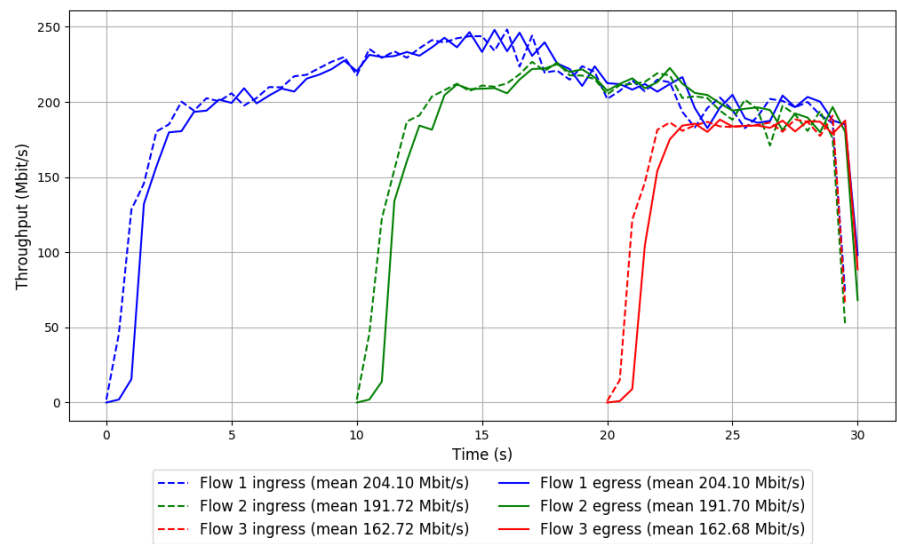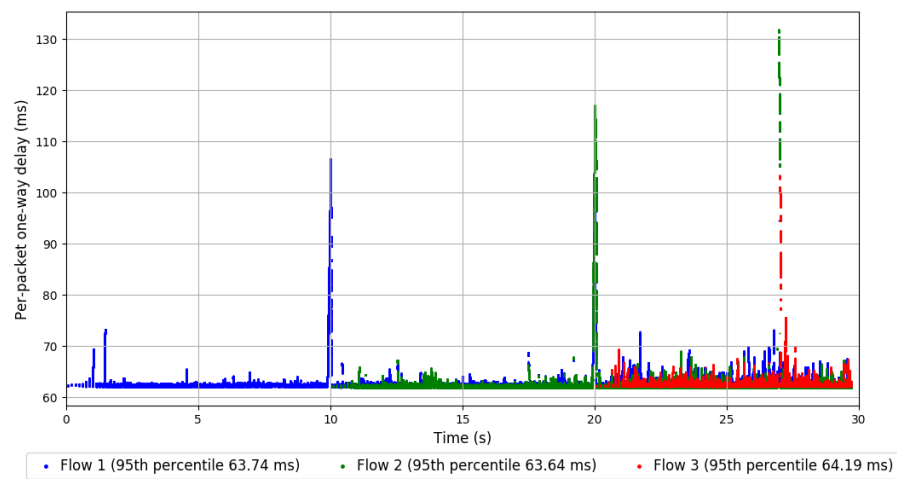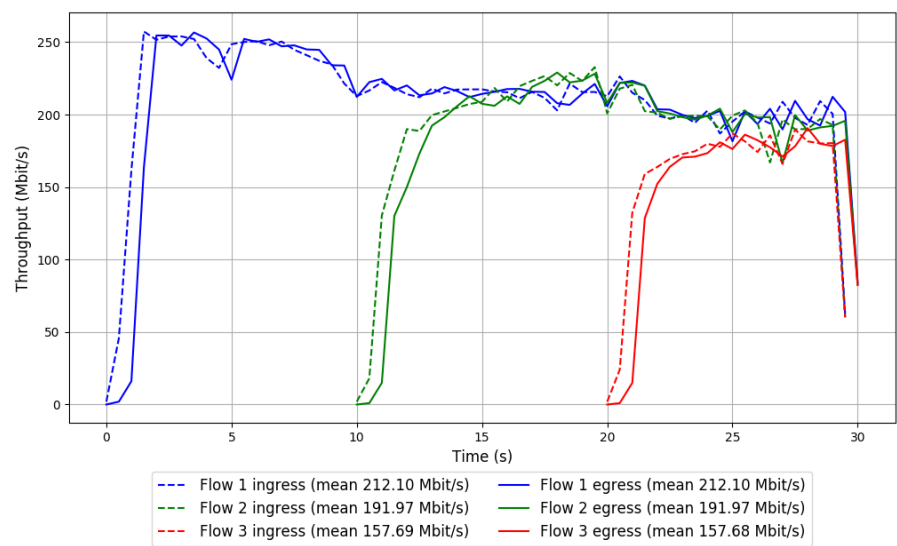Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 559.02 Mbit/s)
Flow 1 egress (mean 559.03 Mbit/s)
Flow 2 ingress (mean 338.11 Mbit/s)
Flow 2 egress (mean 338.10 Mbit/s)
Flow 3 ingress (mean 246.57 Mbit/s)
Flow 3 egress (mean 246.55 Mbit/s)

Flow 1 (95th percentile 67.31 ms)
Flow 2 (95th percentile 66.86 ms)
Flow 3 (95th percentile 65.90 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-02-12 06:59:57
End at: 2019-02-12 07:00:27
Local clock offset: -0.112 ms
Remote clock offset: -0.454 ms


# Below is generated by plot.py at 2019-02-12 08:57:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 841.81 Mbit/s
95th percentile per-packet one-way delay: 70.273 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 535.03 Mbit/s
95th percentile per-packet one-way delay: 72.554 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 332.52 Mbit/s
95th percentile per-packet one-way delay: 66.772 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 258.37 Mbit/s
95th percentile per-packet one-way delay: 66.412 ms
Loss rate: 0.00%
```

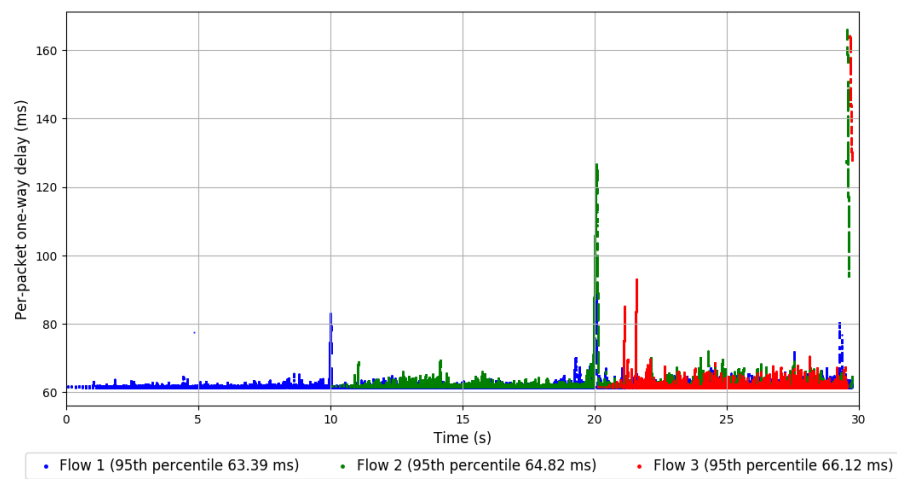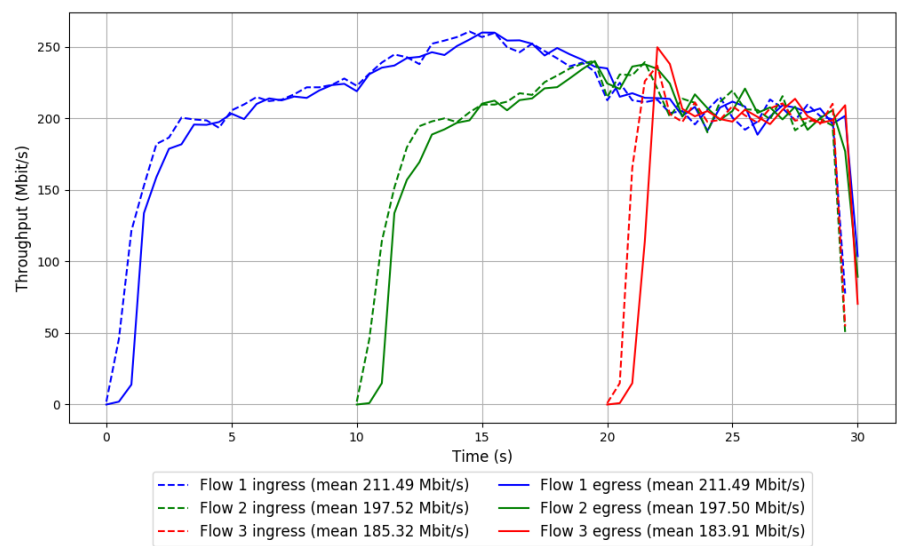Run 5: Report of FillP-Sheep — Data Link

```
Run 1: Statistics of Indigo

Start at: 2019-02-12 04:10:02
End at: 2019-02-12 04:10:32
Local clock offset: -0.098 ms
Remote clock offset: -1.394 ms


# Below is generated by plot.py at 2019-02-12 08:57:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 383.52 Mbit/s
95th percentile per-packet one-way delay: 62.688 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 204.10 Mbit/s
95th percentile per-packet one-way delay: 62.270 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 191.70 Mbit/s
95th percentile per-packet one-way delay: 62.887 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 162.68 Mbit/s
95th percentile per-packet one-way delay: 63.534 ms
Loss rate: 0.02%
```
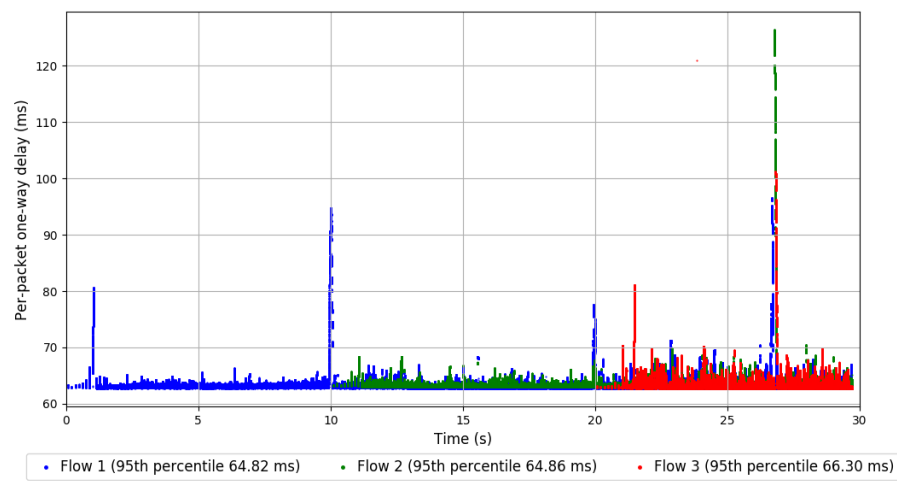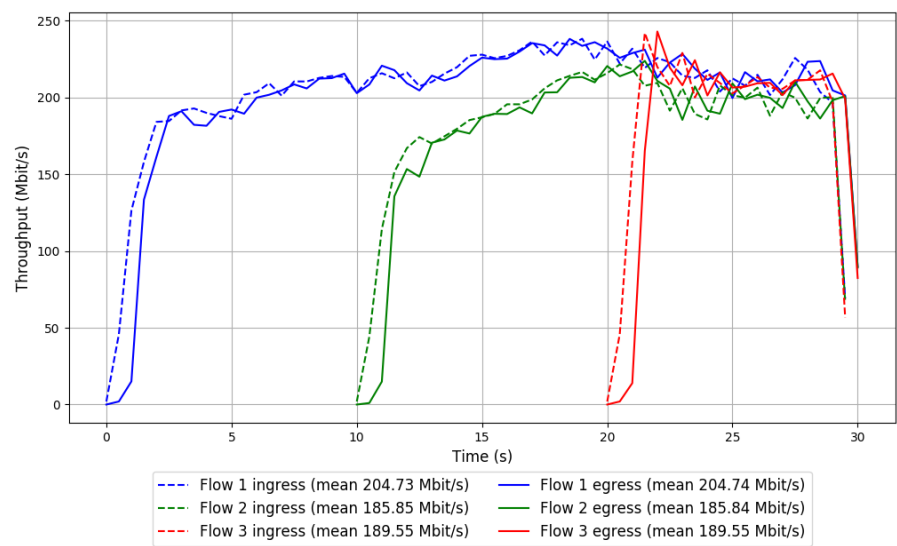
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-02-12 04:46:31
End at: 2019-02-12 04:47:01
Local clock offset: -0.063 ms
Remote clock offset: -1.002 ms


# Below is generated by plot.py at 2019-02-12 08:57:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 390.25 Mbit/s
95th percentile per-packet one-way delay: 63.768 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 212.10 Mbit/s
95th percentile per-packet one-way delay: 63.745 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 191.97 Mbit/s
95th percentile per-packet one-way delay: 63.641 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 157.68 Mbit/s
95th percentile per-packet one-way delay: 64.194 ms
Loss rate: 0.00%
```
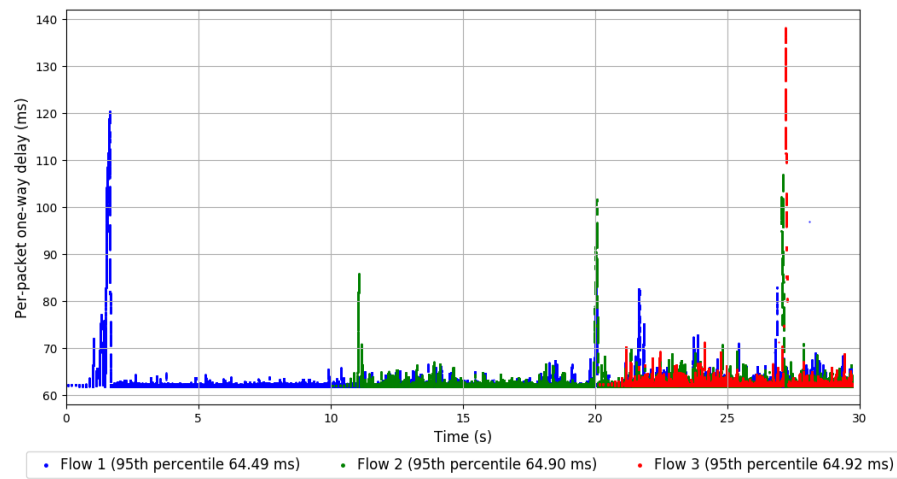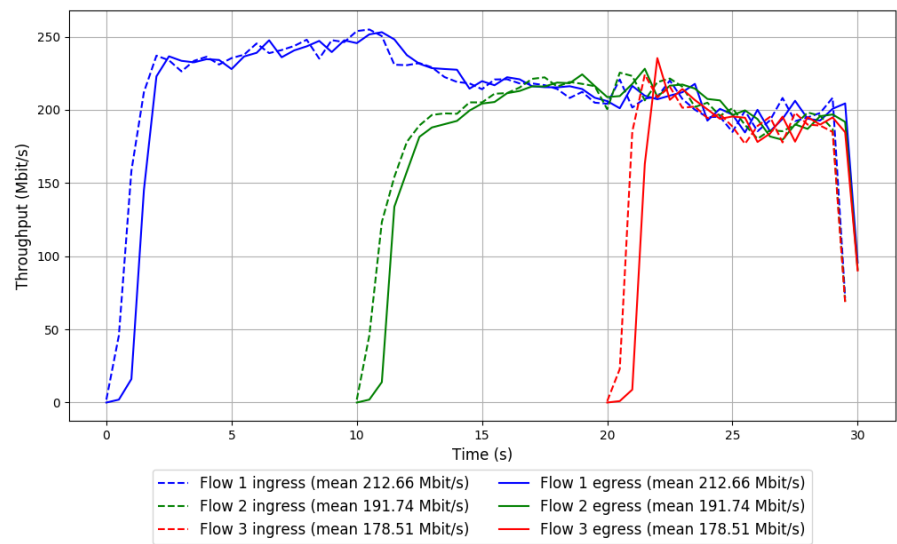
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-02-12 05:23:55
End at: 2019-02-12 05:24:25
Local clock offset: -0.097 ms
Remote clock offset: -1.353 ms


# Below is generated by plot.py at 2019-02-12 08:57:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.73 Mbit/s
95th percentile per-packet one-way delay: 64.262 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 211.49 Mbit/s
95th percentile per-packet one-way delay: 63.389 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 197.50 Mbit/s
95th percentile per-packet one-way delay: 64.819 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 183.91 Mbit/s
95th percentile per-packet one-way delay: 66.117 ms
Loss rate: 0.26%
```
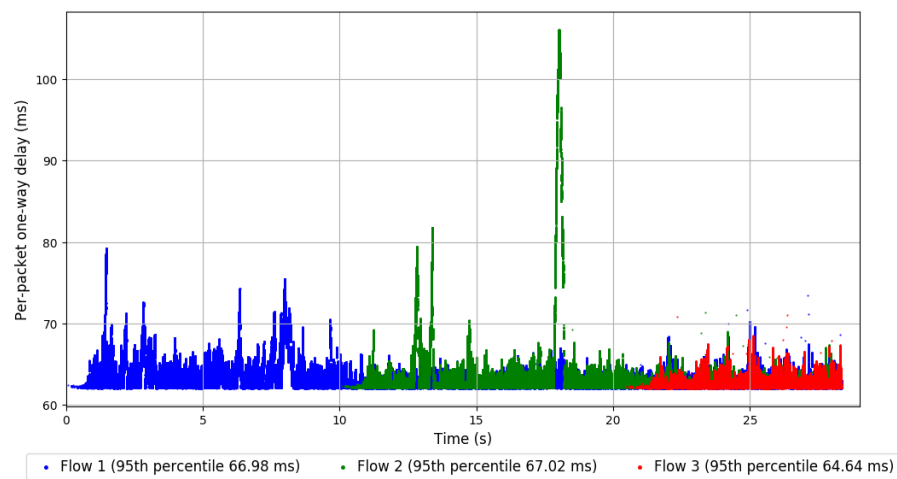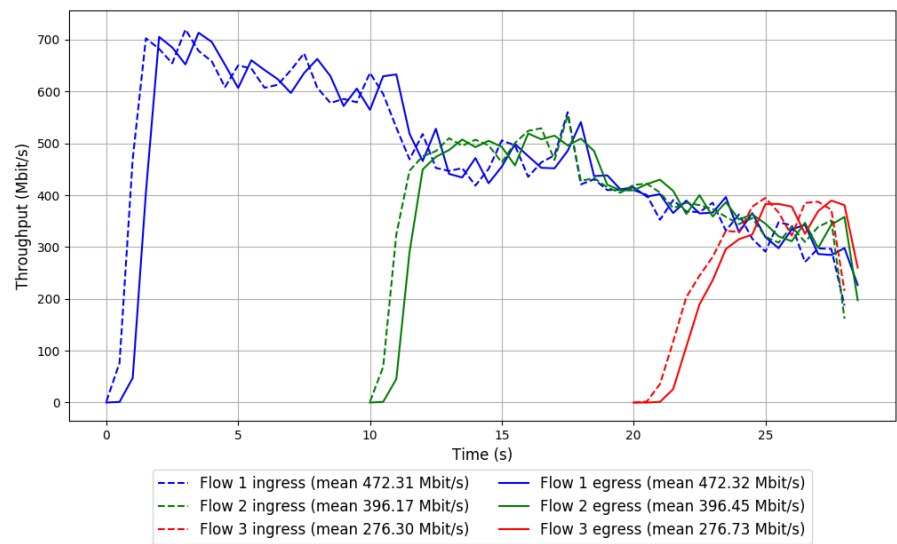
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-02-12 06:00:39
End at: 2019-02-12 06:01:09
Local clock offset: -0.018 ms
Remote clock offset: -0.064 ms


# Below is generated by plot.py at 2019-02-12 08:57:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 389.38 Mbit/s
95th percentile per-packet one-way delay: 65.176 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 204.74 Mbit/s
95th percentile per-packet one-way delay: 64.823 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 185.84 Mbit/s
95th percentile per-packet one-way delay: 64.858 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 189.55 Mbit/s
95th percentile per-packet one-way delay: 66.304 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-02-12 06:37:41
End at: 2019-02-12 06:38:11
Local clock offset: -0.156 ms
Remote clock offset: -0.872 ms


# Below is generated by plot.py at 2019-02-12 08:57:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 397.19 Mbit/s
95th percentile per-packet one-way delay: 64.708 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 212.66 Mbit/s
95th percentile per-packet one-way delay: 64.492 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 191.74 Mbit/s
95th percentile per-packet one-way delay: 64.902 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 178.51 Mbit/s
95th percentile per-packet one-way delay: 64.921 ms
Loss rate: 0.00%
```
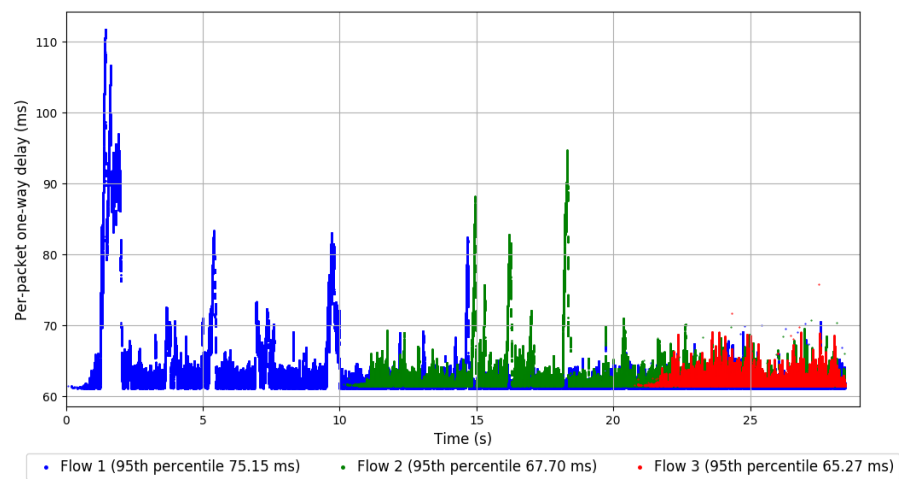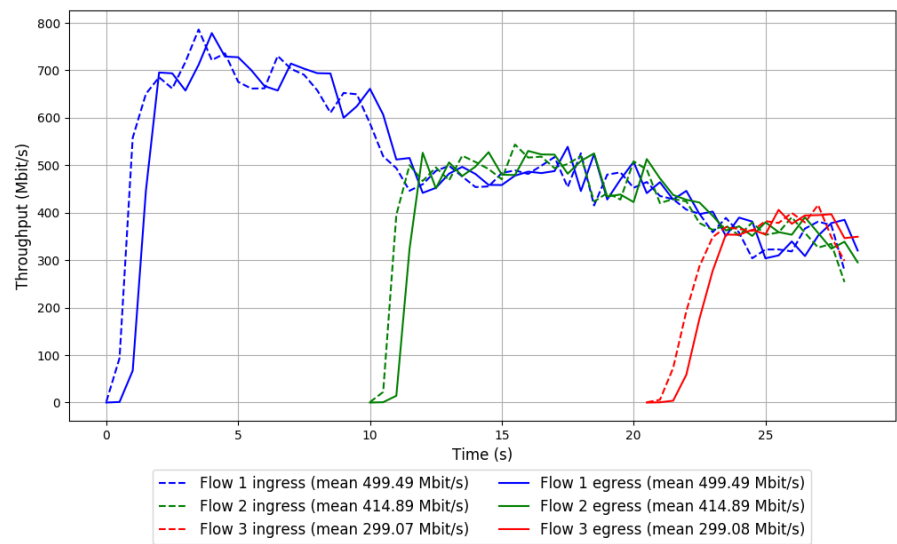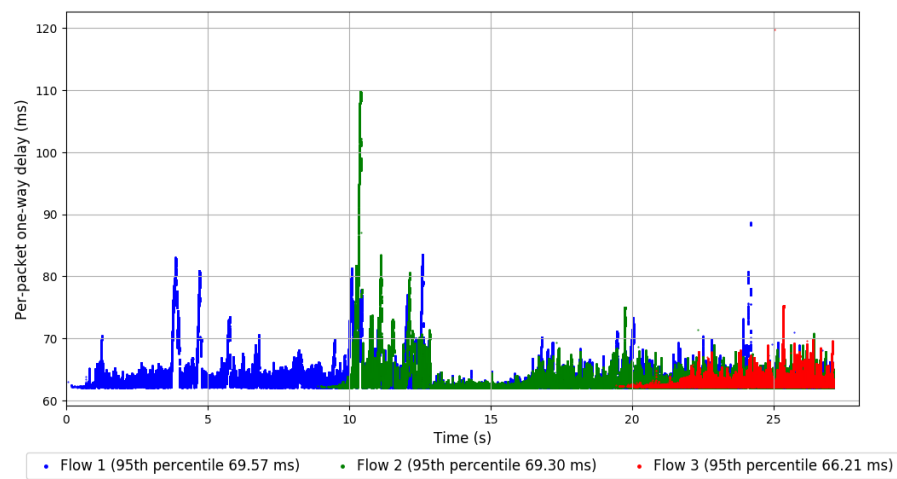
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-12 04:13:41
End at: 2019-02-12 04:14:11
Local clock offset: -0.111 ms
Remote clock offset: -0.802 ms


# Below is generated by plot.py at 2019-02-12 08:58:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 805.34 Mbit/s
95th percentile per-packet one-way delay: 66.707 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 472.32 Mbit/s
95th percentile per-packet one-way delay: 66.981 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 396.45 Mbit/s
95th percentile per-packet one-way delay: 67.024 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 276.73 Mbit/s
95th percentile per-packet one-way delay: 64.642 ms
Loss rate: 0.00%
```

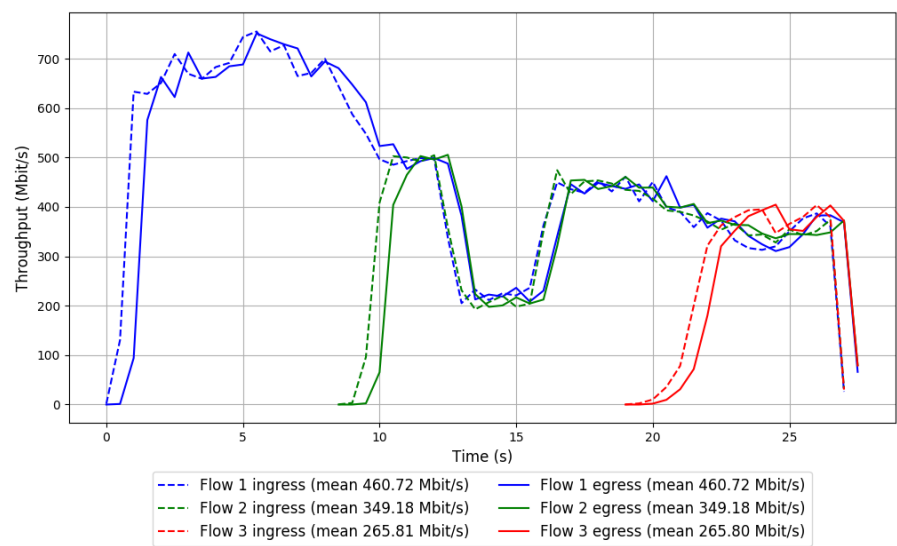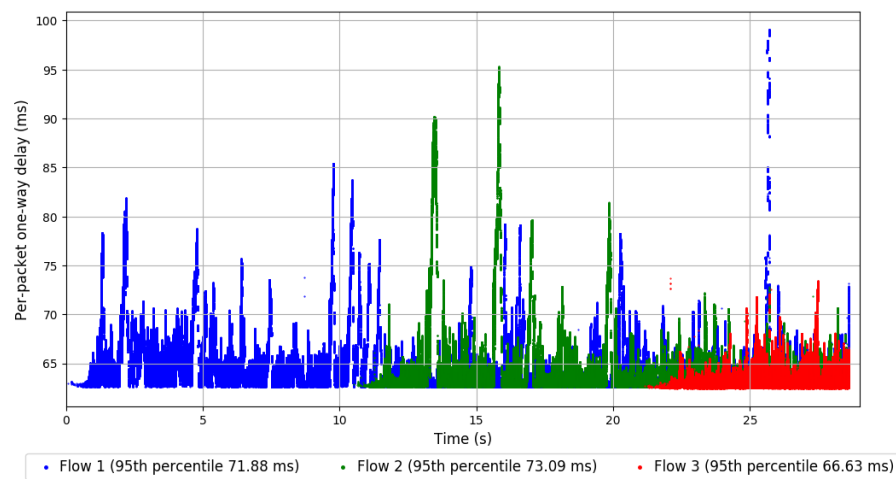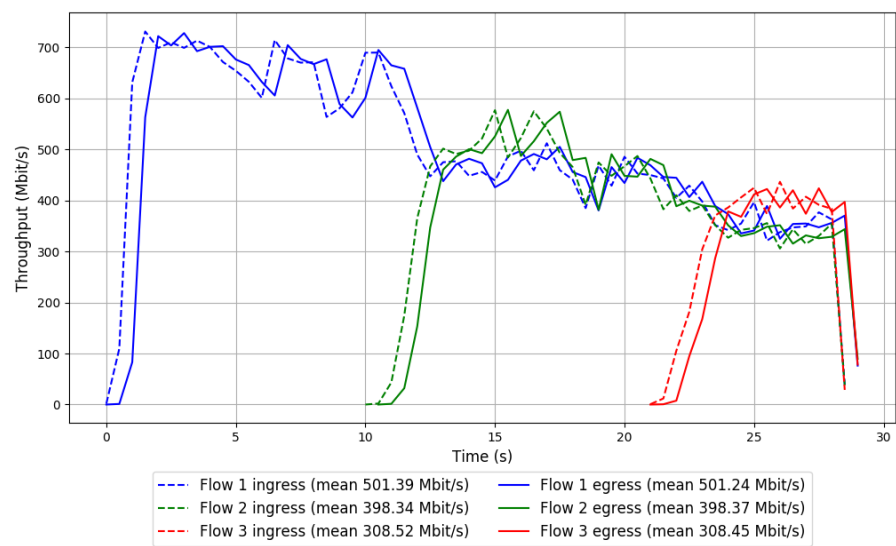Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-12 04:50:11
End at: 2019-02-12 04:50:41
Local clock offset: -0.037 ms
Remote clock offset: -1.517 ms


# Below is generated by plot.py at 2019-02-12 09:00:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 848.42 Mbit/s
95th percentile per-packet one-way delay: 70.583 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 499.49 Mbit/s
95th percentile per-packet one-way delay: 75.153 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 414.89 Mbit/s
95th percentile per-packet one-way delay: 67.698 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 299.08 Mbit/s
95th percentile per-packet one-way delay: 65.267 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-12 05:27:38
End at: 2019-02-12 05:28:08
Local clock offset: -0.086 ms
Remote clock offset: -0.716 ms


# Below is generated by plot.py at 2019-02-12 09:07:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 771.46 Mbit/s
95th percentile per-packet one-way delay: 69.046 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 460.72 Mbit/s
95th percentile per-packet one-way delay: 69.573 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 349.18 Mbit/s
95th percentile per-packet one-way delay: 69.300 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 265.80 Mbit/s
95th percentile per-packet one-way delay: 66.211 ms
Loss rate: 0.00%
```
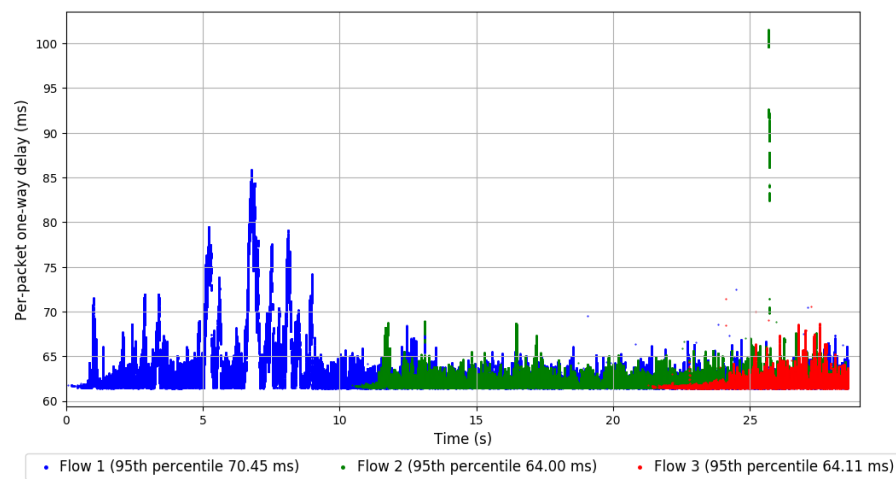
Run 3: Report of Indigo-MusesC3 — Data Link

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-12 06:04:20
End at: 2019-02-12 06:04:50
Local clock offset: -0.07 ms
Remote clock offset: -0.218 ms


# Below is generated by plot.py at 2019-02-12 09:13:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 833.95 Mbit/s
95th percentile per-packet one-way delay: 71.444 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 501.24 Mbit/s
95th percentile per-packet one-way delay: 71.879 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 398.37 Mbit/s
95th percentile per-packet one-way delay: 73.089 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 308.45 Mbit/s
95th percentile per-packet one-way delay: 66.626 ms
Loss rate: 0.04%
```
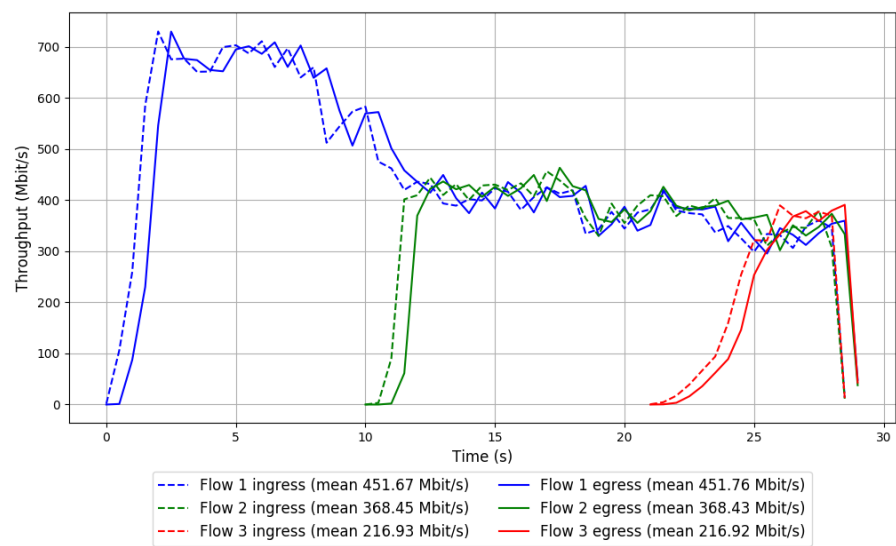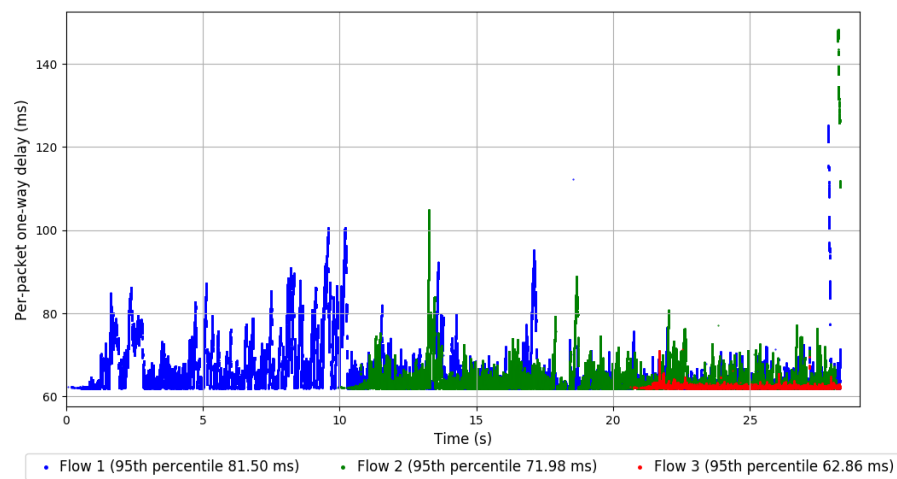
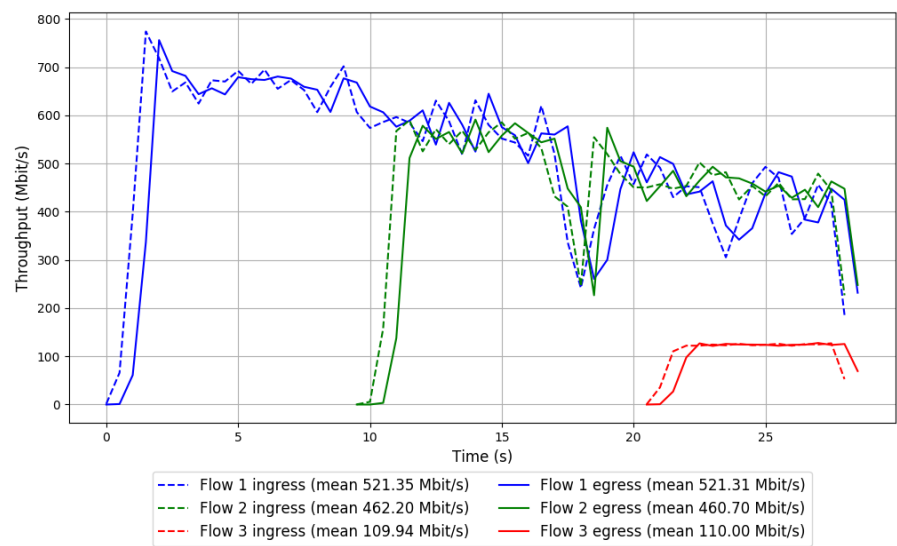Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-12 06:41:25
End at: 2019-02-12 06:41:55
Local clock offset: -0.145 ms
Remote clock offset: -1.48 ms


# Below is generated by plot.py at 2019-02-12 09:13:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 741.28 Mbit/s
95th percentile per-packet one-way delay: 67.528 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 451.76 Mbit/s
95th percentile per-packet one-way delay: 70.454 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 368.43 Mbit/s
95th percentile per-packet one-way delay: 64.002 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 216.92 Mbit/s
95th percentile per-packet one-way delay: 64.107 ms
Loss rate: 0.03%
```
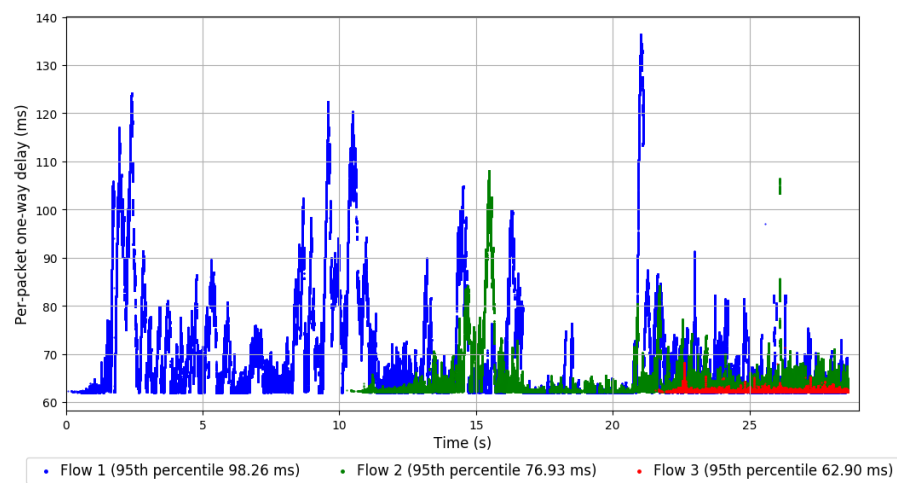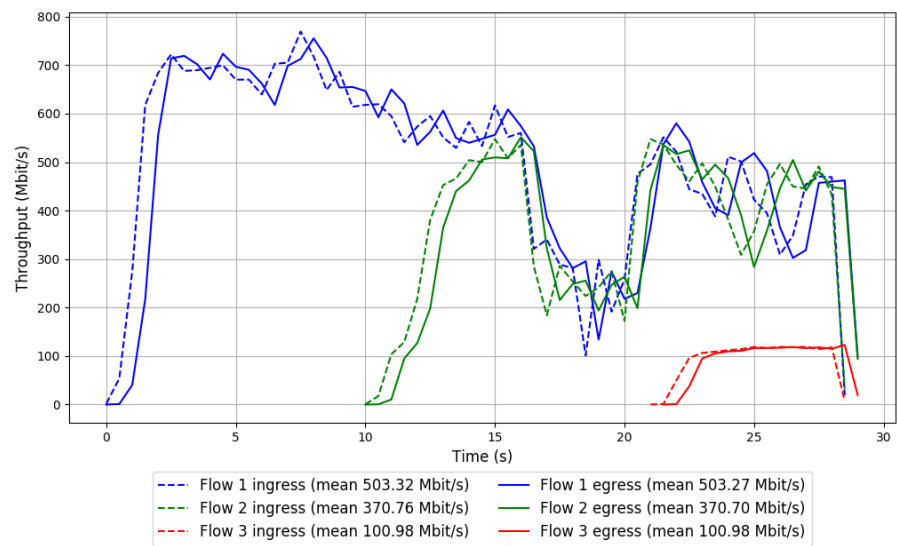
Run 5: Report of Indigo-MusesC3 — Data Link

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-12 04:30:11
End at: 2019-02-12 04:30:41
Local clock offset: -0.077 ms
Remote clock offset: -0.842 ms


# Below is generated by plot.py at 2019-02-12 09:14:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 851.03 Mbit/s
95th percentile per-packet one-way delay: 78.656 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 521.31 Mbit/s
95th percentile per-packet one-way delay: 81.504 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 460.70 Mbit/s
95th percentile per-packet one-way delay: 71.981 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 110.00 Mbit/s
95th percentile per-packet one-way delay: 62.860 ms
Loss rate: 0.00%
```

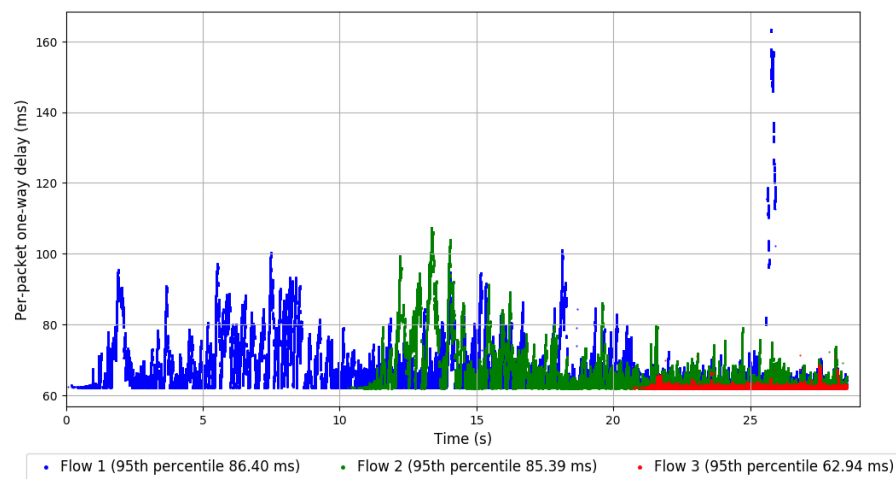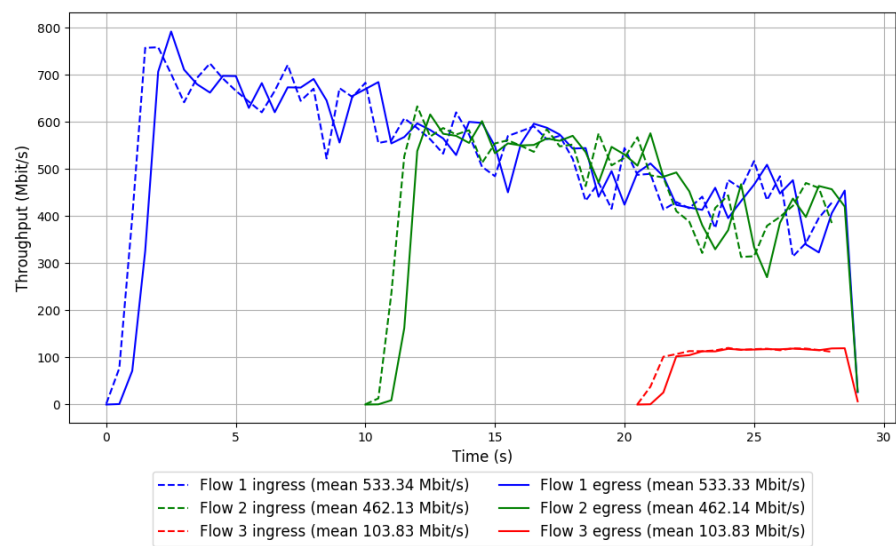Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-12 05:07:22
End at: 2019-02-12 05:07:52
Local clock offset: -0.042 ms
Remote clock offset: -0.668 ms


# Below is generated by plot.py at 2019-02-12 09:15:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 765.88 Mbit/s
95th percentile per-packet one-way delay: 92.626 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 503.27 Mbit/s
95th percentile per-packet one-way delay: 98.261 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 370.70 Mbit/s
95th percentile per-packet one-way delay: 76.927 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 100.98 Mbit/s
95th percentile per-packet one-way delay: 62.902 ms
Loss rate: 0.00%
```

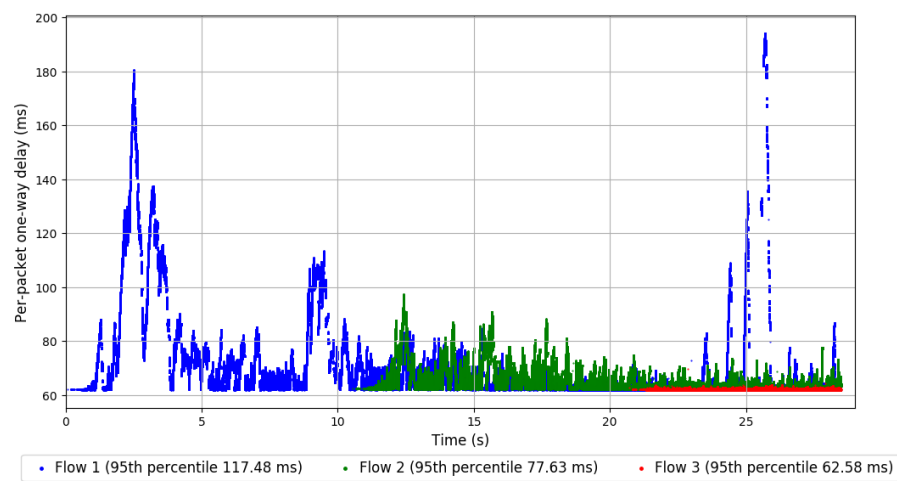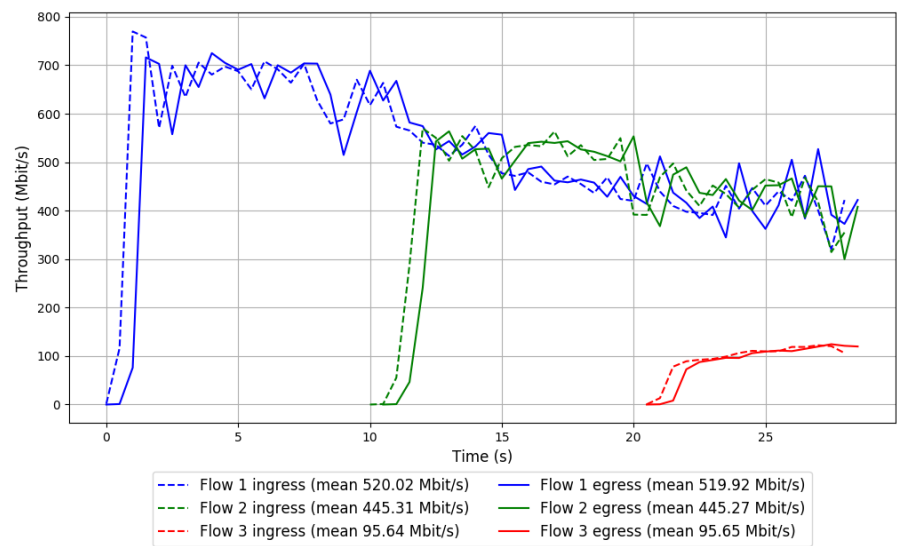Run 2: Report of Indigo-MusesC5 — Data Link

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-12 05:44:14
End at: 2019-02-12 05:44:44
Local clock offset: 0.015 ms
Remote clock offset: -0.748 ms


# Below is generated by plot.py at 2019-02-12 09:17:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 858.20 Mbit/s
95th percentile per-packet one-way delay: 85.824 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 533.33 Mbit/s
95th percentile per-packet one-way delay: 86.401 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 462.14 Mbit/s
95th percentile per-packet one-way delay: 85.392 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 103.83 Mbit/s
95th percentile per-packet one-way delay: 62.939 ms
Loss rate: 0.00%
```
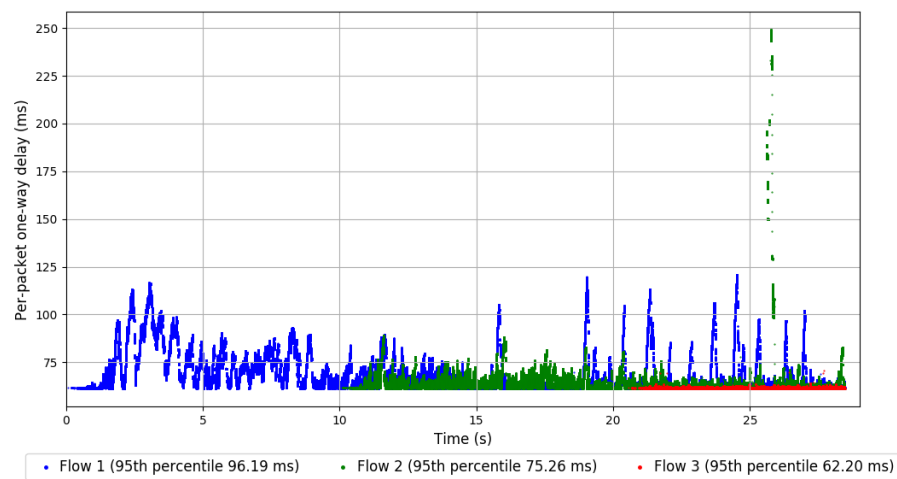
Run 3: Report of Indigo-MusesC5 — Data Link

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-12 06:21:16
End at: 2019-02-12 06:21:46
Local clock offset: -0.109 ms
Remote clock offset: -0.884 ms


# Below is generated by plot.py at 2019-02-12 09:17:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 827.04 Mbit/s
95th percentile per-packet one-way delay: 105.259 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 519.92 Mbit/s
95th percentile per-packet one-way delay: 117.477 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 445.27 Mbit/s
95th percentile per-packet one-way delay: 77.628 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 95.65 Mbit/s
95th percentile per-packet one-way delay: 62.583 ms
Loss rate: 0.00%
```
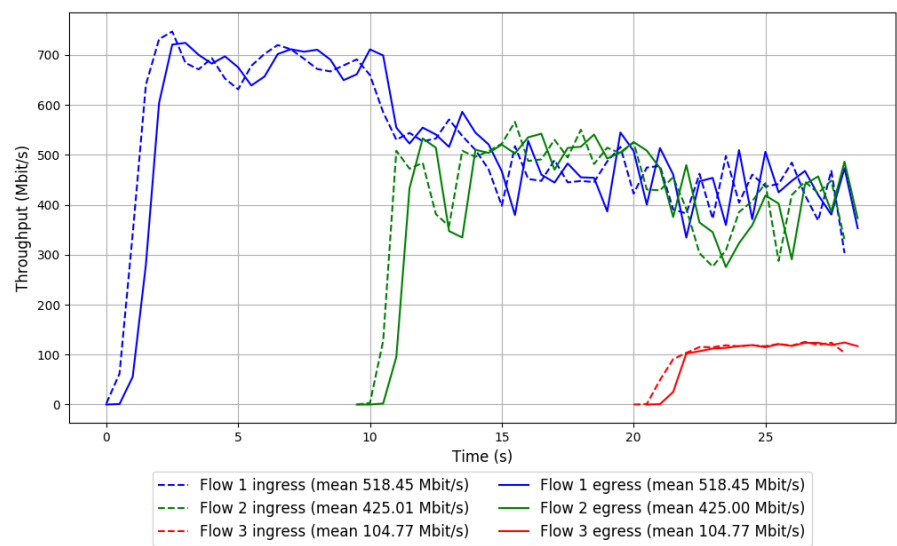
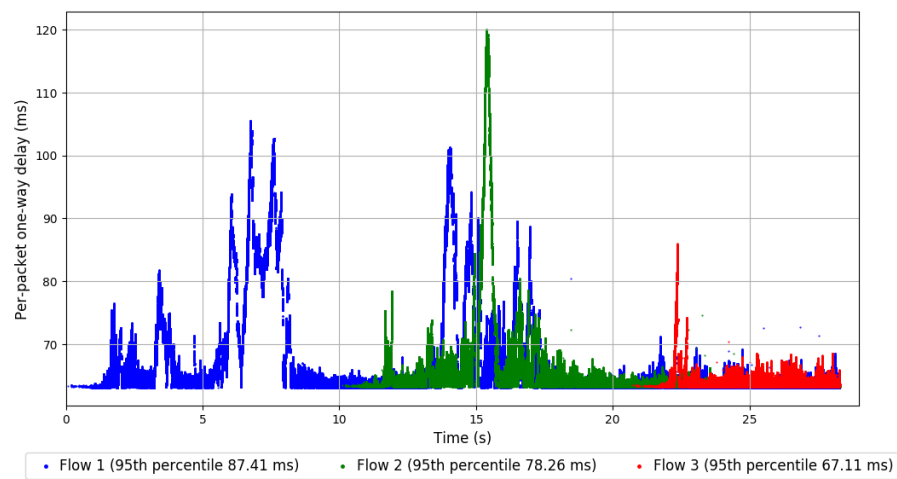Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-12 06:58:04
End at: 2019-02-12 06:58:34
Local clock offset: -0.103 ms
Remote clock offset: -1.458 ms


# Below is generated by plot.py at 2019-02-12 09:19:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 823.94 Mbit/s
95th percentile per-packet one-way delay: 92.350 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 518.45 Mbit/s
95th percentile per-packet one-way delay: 96.186 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 425.00 Mbit/s
95th percentile per-packet one-way delay: 75.257 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 104.77 Mbit/s
95th percentile per-packet one-way delay: 62.203 ms
Loss rate: 0.00%
```

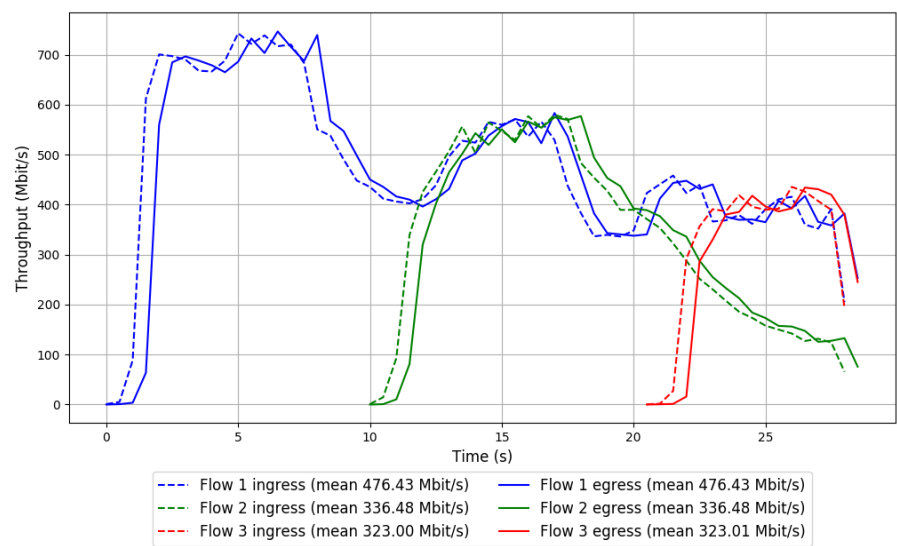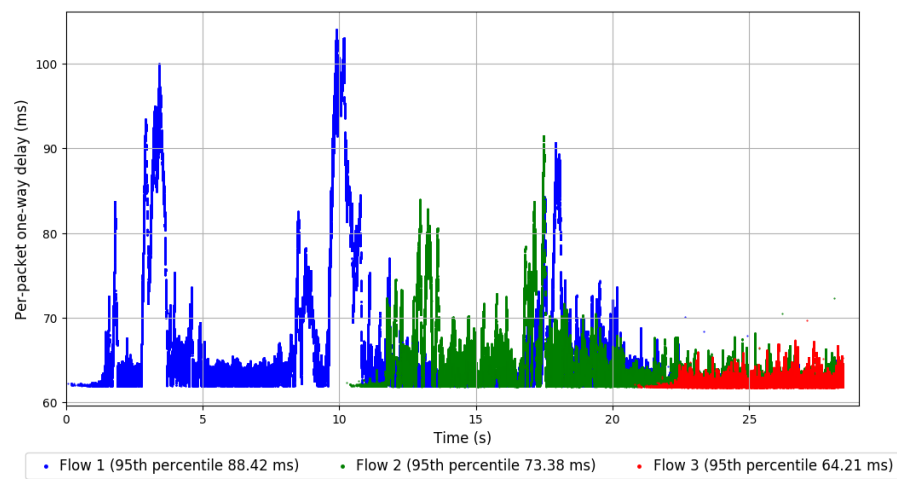Run 5: Report of Indigo-MusesC5 — Data Link

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-12 04:20:01
End at: 2019-02-12 04:20:31
Local clock offset: -0.095 ms
Remote clock offset: 0.38 ms


# Below is generated by plot.py at 2019-02-12 09:26:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 780.08 Mbit/s
95th percentile per-packet one-way delay: 85.463 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 476.43 Mbit/s
95th percentile per-packet one-way delay: 87.412 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 336.48 Mbit/s
95th percentile per-packet one-way delay: 78.258 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 323.01 Mbit/s
95th percentile per-packet one-way delay: 67.111 ms
Loss rate: 0.00%
```

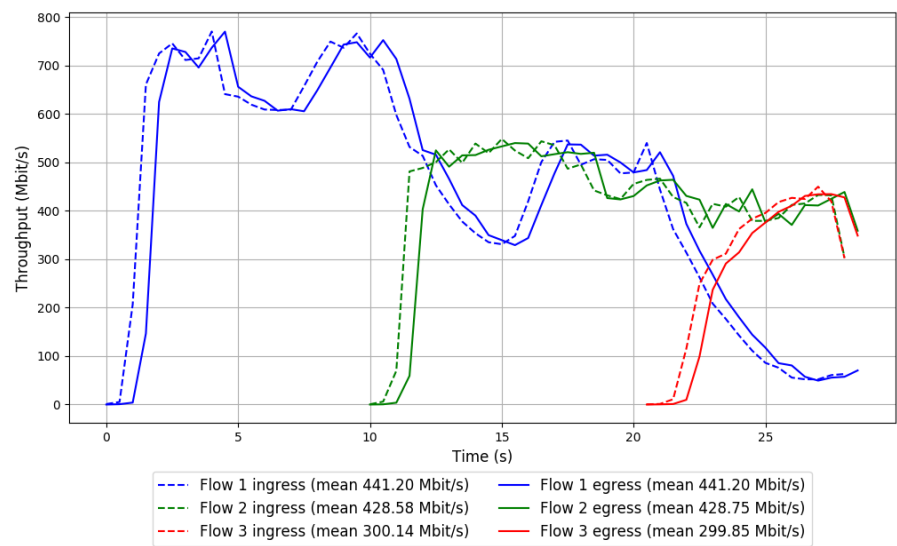Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-12 04:56:55
End at: 2019-02-12 04:57:25
Local clock offset: -0.072 ms
Remote clock offset: -0.904 ms


# Below is generated by plot.py at 2019-02-12 09:29:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 795.95 Mbit/s
95th percentile per-packet one-way delay: 82.788 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 441.20 Mbit/s
95th percentile per-packet one-way delay: 88.422 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 428.75 Mbit/s
95th percentile per-packet one-way delay: 73.381 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 299.85 Mbit/s
95th percentile per-packet one-way delay: 64.211 ms
Loss rate: 0.08%
```

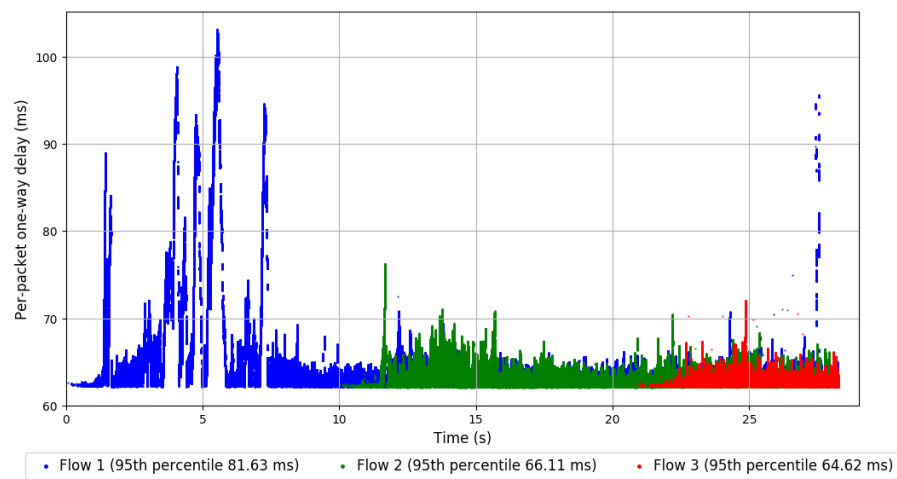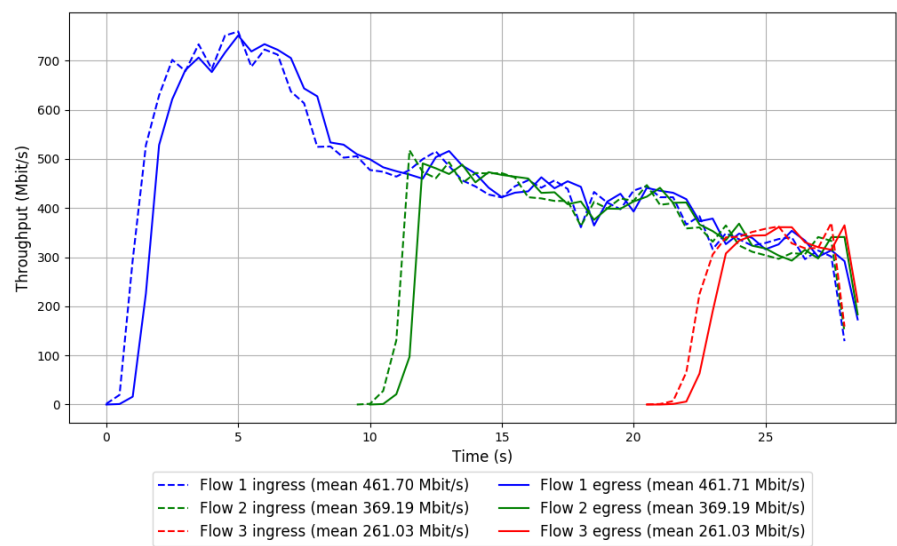Run 2: Report of Indigo-MusesD — Data Link

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```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-12 05:33:57
End at: 2019-02-12 05:34:27
Local clock offset: -0.023 ms
Remote clock offset: -0.702 ms

# Below is generated by plot.py at 2019-02-12 09:30:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 768.62 Mbit/s
95th percentile per-packet one-way delay: 74.480 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 461.71 Mbit/s
95th percentile per-packet one-way delay: 81.630 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 369.19 Mbit/s
95th percentile per-packet one-way delay: 66.115 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 261.03 Mbit/s
95th percentile per-packet one-way delay: 64.621 ms
Loss rate: 0.00%
```

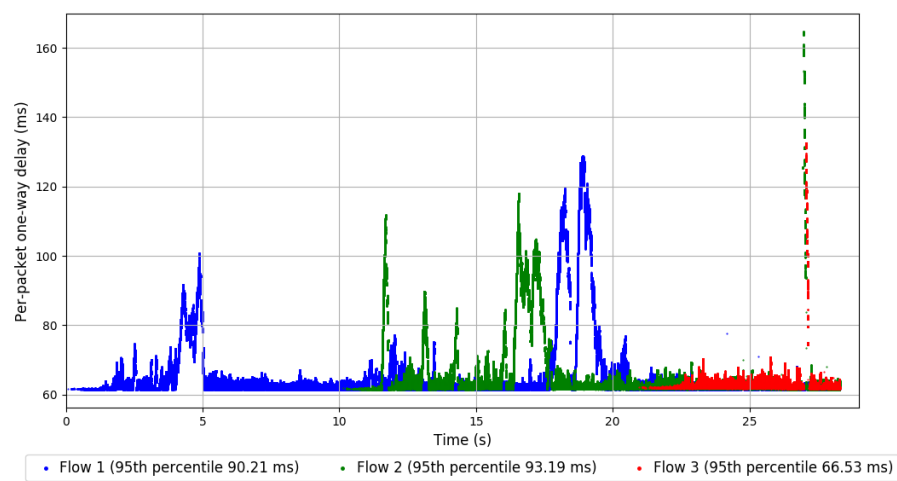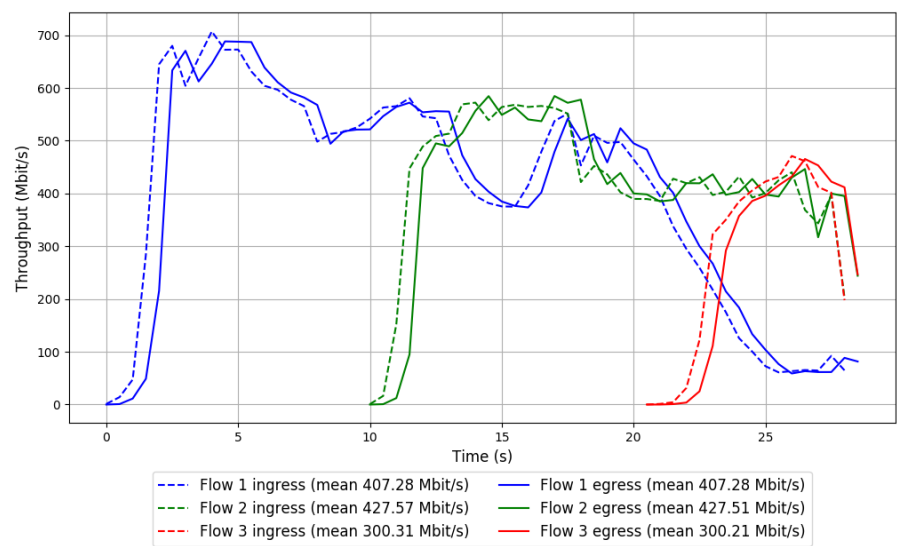Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-12 06:10:46
End at: 2019-02-12 06:11:16
Local clock offset: -0.096 ms
Remote clock offset: -1.345 ms


# Below is generated by plot.py at 2019-02-12 09:31:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 760.57 Mbit/s
95th percentile per-packet one-way delay: 90.764 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 407.28 Mbit/s
95th percentile per-packet one-way delay: 90.209 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 427.51 Mbit/s
95th percentile per-packet one-way delay: 93.194 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 300.21 Mbit/s
95th percentile per-packet one-way delay: 66.535 ms
Loss rate: 0.04%
```

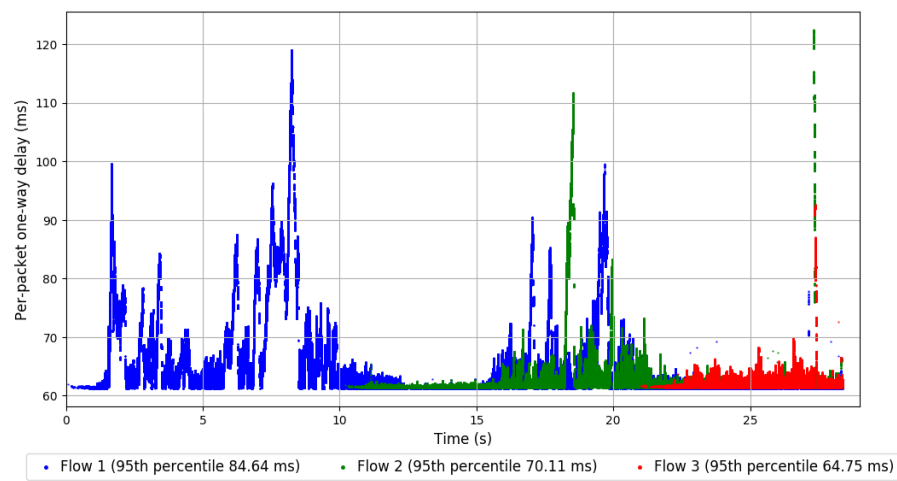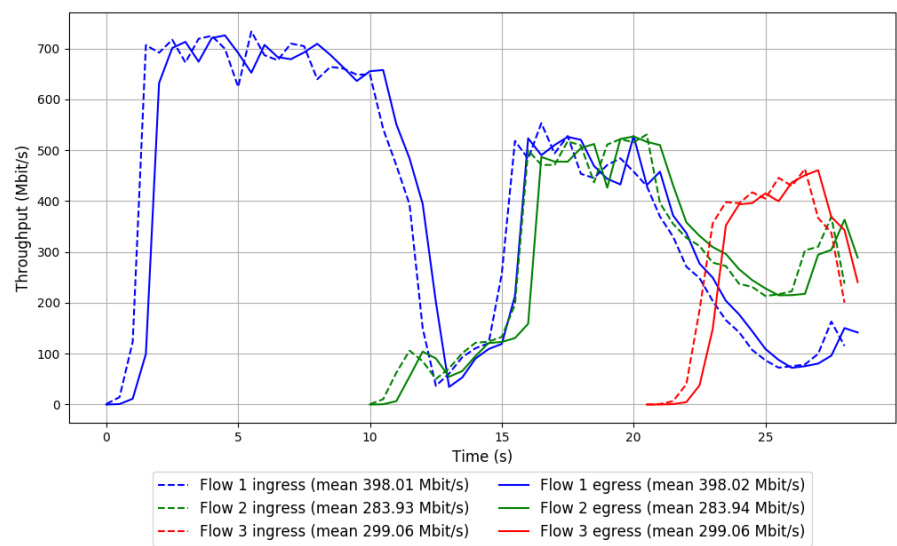Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-12 06:47:46
End at: 2019-02-12 06:48:16
Local clock offset: -0.103 ms
Remote clock offset: -1.561 ms


# Below is generated by plot.py at 2019-02-12 09:31:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 658.87 Mbit/s
95th percentile per-packet one-way delay: 83.163 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 398.02 Mbit/s
95th percentile per-packet one-way delay: 84.641 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 283.94 Mbit/s
95th percentile per-packet one-way delay: 70.106 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 299.06 Mbit/s
95th percentile per-packet one-way delay: 64.747 ms
Loss rate: 0.00%
```

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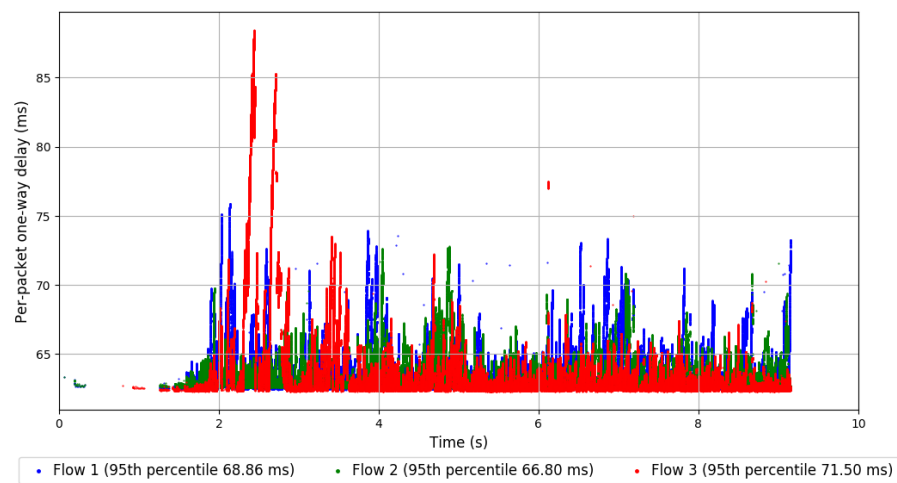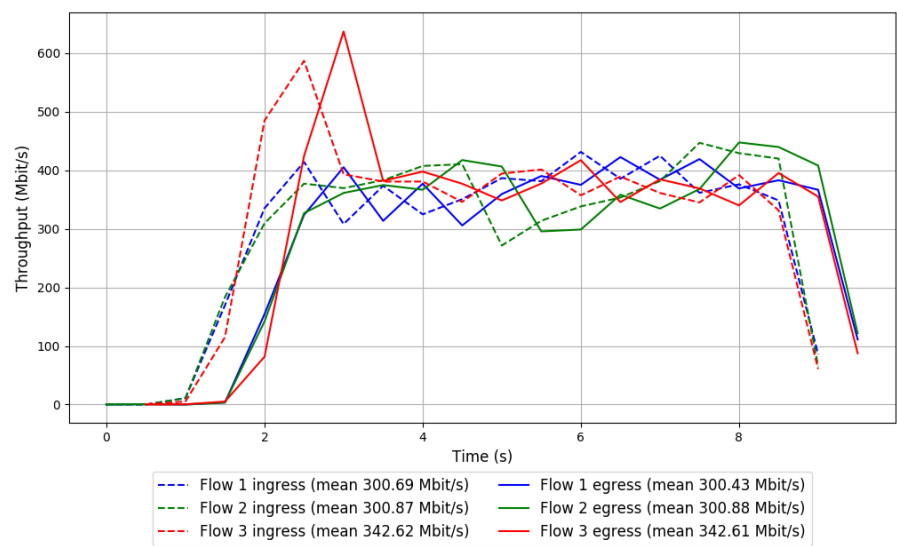
```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-12 04:08:34
End at: 2019-02-12 04:09:04
Local clock offset: -0.106 ms
Remote clock offset: -0.361 ms
```

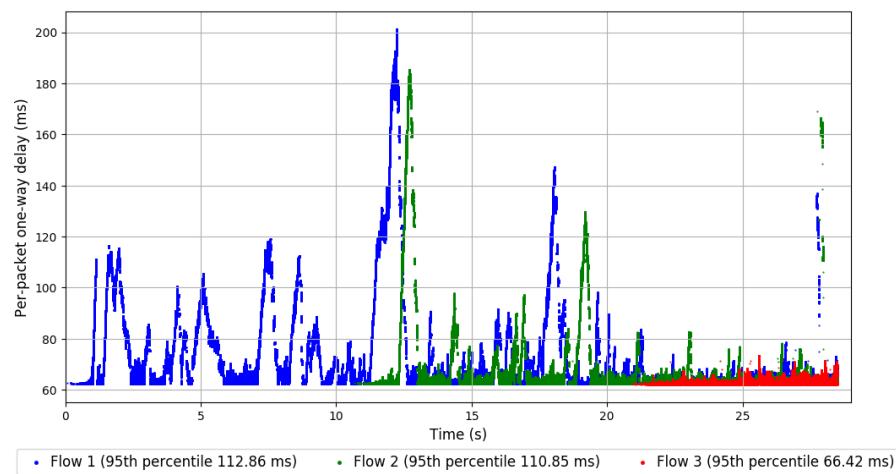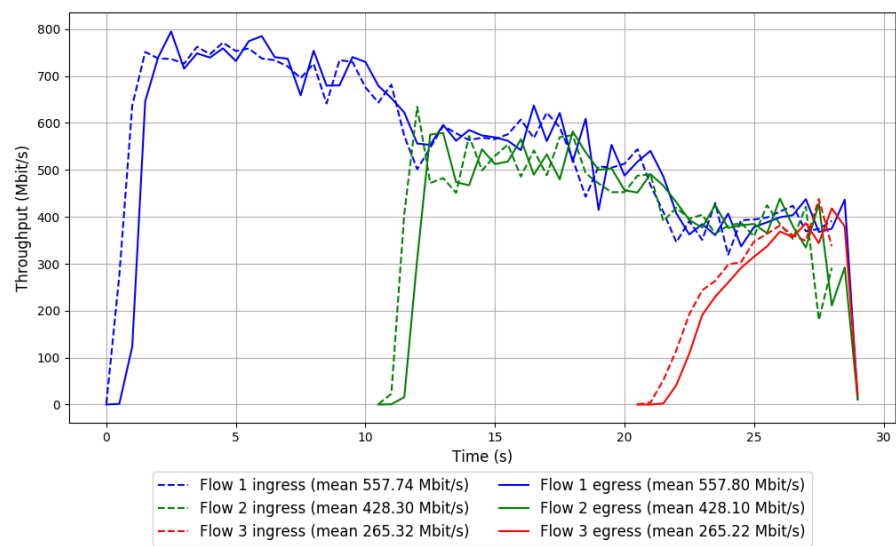Run 1: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 300.69 Mbit/s)   Flow 1 egress (mean 300.43 Mbit/s)
Flow 2 ingress (mean 300.87 Mbit/s)   Flow 2 egress (mean 300.88 Mbit/s)
Flow 3 ingress (mean 342.62 Mbit/s)   Flow 3 egress (mean 342.61 Mbit/s)

Flow 1 (95th percentile 68.86 ms)   Flow 2 (95th percentile 66.80 ms)   Flow 3 (95th percentile 71.50 ms)

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-12 04:44:35
End at: 2019-02-12 04:45:05
Local clock offset: -0.044 ms
Remote clock offset: -0.715 ms


# Below is generated by plot.py at 2019-02-12 09:37:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 897.37 Mbit/s
95th percentile per-packet one-way delay: 110.842 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 557.80 Mbit/s
95th percentile per-packet one-way delay: 112.857 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 428.10 Mbit/s
95th percentile per-packet one-way delay: 110.846 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 265.22 Mbit/s
95th percentile per-packet one-way delay: 66.425 ms
Loss rate: 0.00%
```
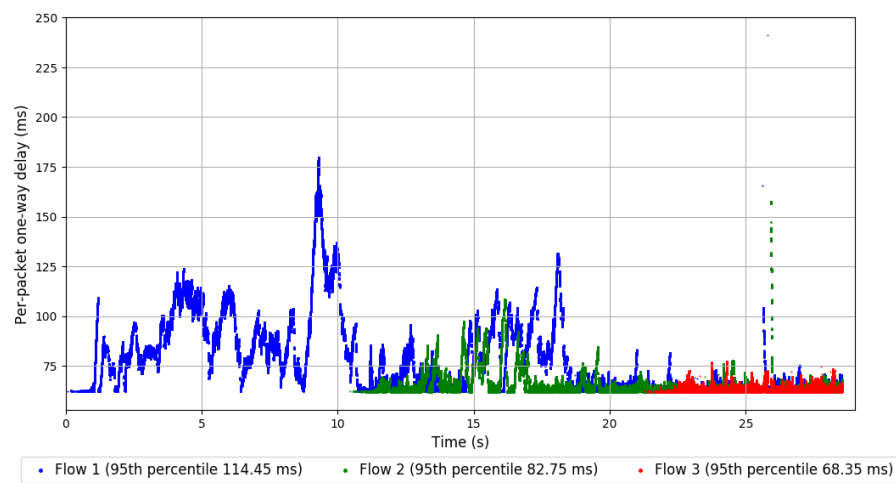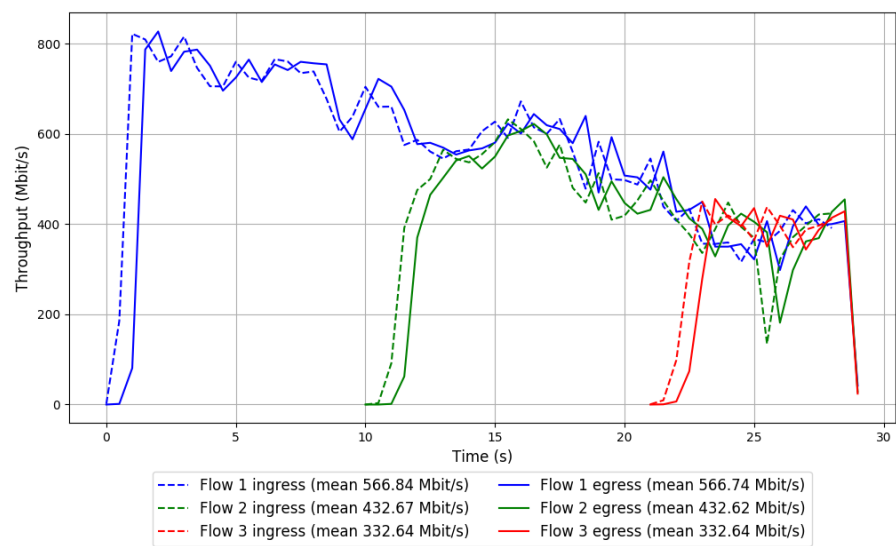
Run 2: Report of Indigo-MusesT — Data Link

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```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-12 05:21:57
End at: 2019-02-12 05:22:27
Local clock offset: -0.065 ms
Remote clock offset: -0.778 ms


# Below is generated by plot.py at 2019-02-12 09:41:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 926.30 Mbit/s
95th percentile per-packet one-way delay: 109.520 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 566.74 Mbit/s
95th percentile per-packet one-way delay: 114.448 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 432.62 Mbit/s
95th percentile per-packet one-way delay: 82.751 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 332.64 Mbit/s
95th percentile per-packet one-way delay: 68.349 ms
Loss rate: 0.00%
```

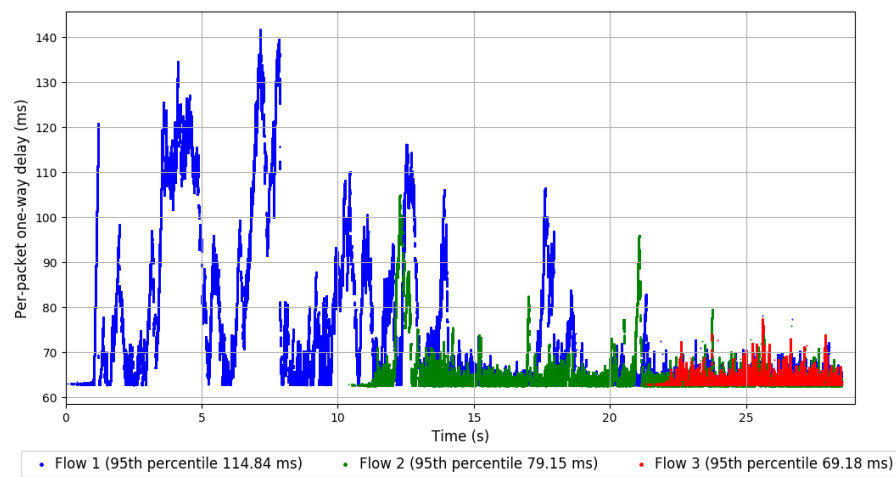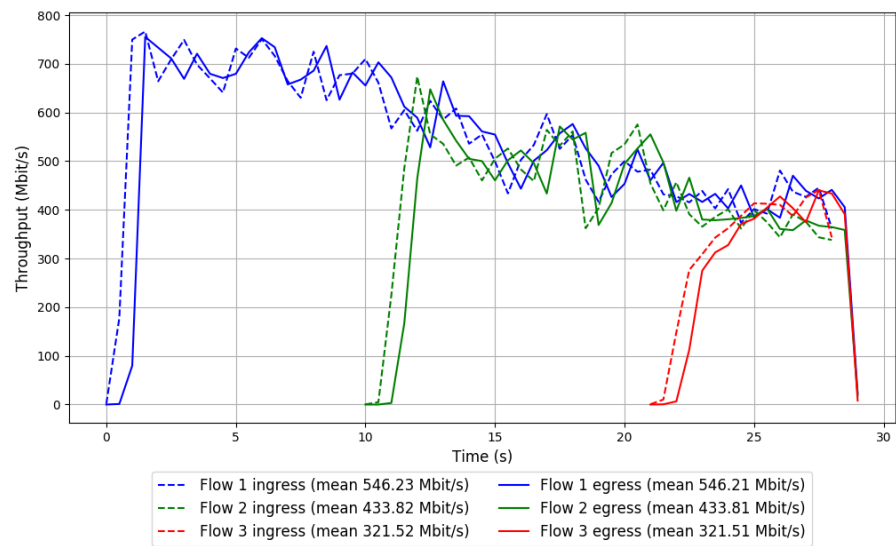Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-12 05:58:42
End at: 2019-02-12 05:59:12
Local clock offset: 0.03 ms
Remote clock offset: -0.161 ms


# Below is generated by plot.py at 2019-02-12 09:43:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 904.82 Mbit/s
95th percentile per-packet one-way delay: 109.718 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 546.21 Mbit/s
95th percentile per-packet one-way delay: 114.837 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 433.81 Mbit/s
95th percentile per-packet one-way delay: 79.152 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 321.51 Mbit/s
95th percentile per-packet one-way delay: 69.184 ms
Loss rate: 0.00%
```

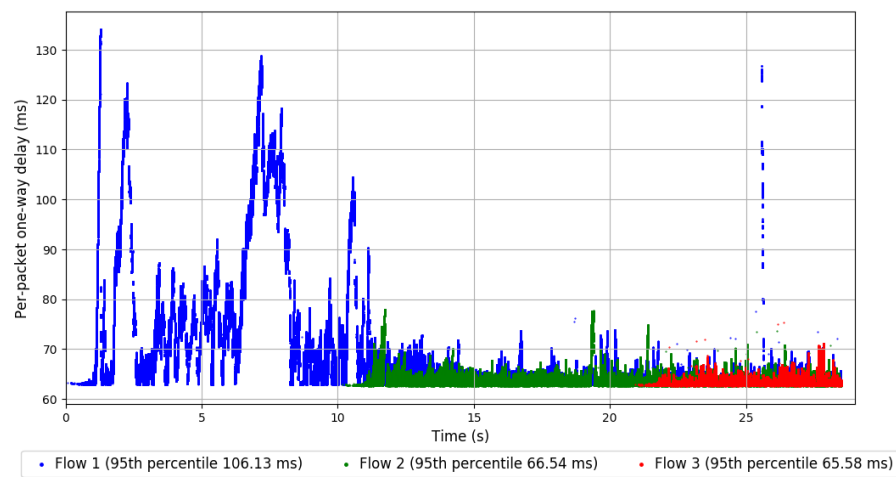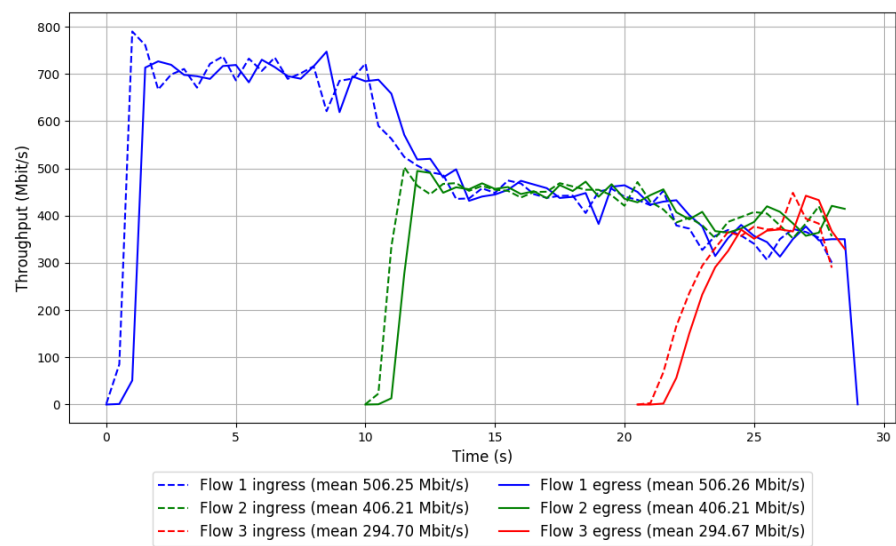Run 4: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 546.23 Mbit/s) — Flow 1 egress (mean 546.21 Mbit/s)
Flow 2 ingress (mean 433.82 Mbit/s) — Flow 2 egress (mean 433.81 Mbit/s)
Flow 3 ingress (mean 321.52 Mbit/s) — Flow 3 egress (mean 321.51 Mbit/s)

Flow 1 (95th percentile 114.84 ms)   Flow 2 (95th percentile 79.15 ms)   Flow 3 (95th percentile 69.18 ms)

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-12 06:35:46
End at: 2019-02-12 06:36:16
Local clock offset: -0.158 ms
Remote clock offset: -0.265 ms


# Below is generated by plot.py at 2019-02-12 09:45:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 846.32 Mbit/s
95th percentile per-packet one-way delay: 98.682 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 506.26 Mbit/s
95th percentile per-packet one-way delay: 106.129 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 406.21 Mbit/s
95th percentile per-packet one-way delay: 66.537 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 294.67 Mbit/s
95th percentile per-packet one-way delay: 65.575 ms
Loss rate: 0.00%
```

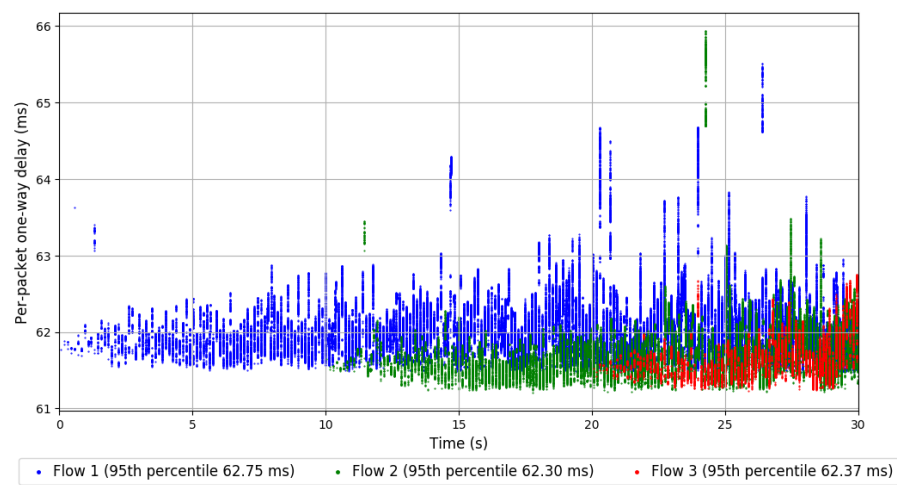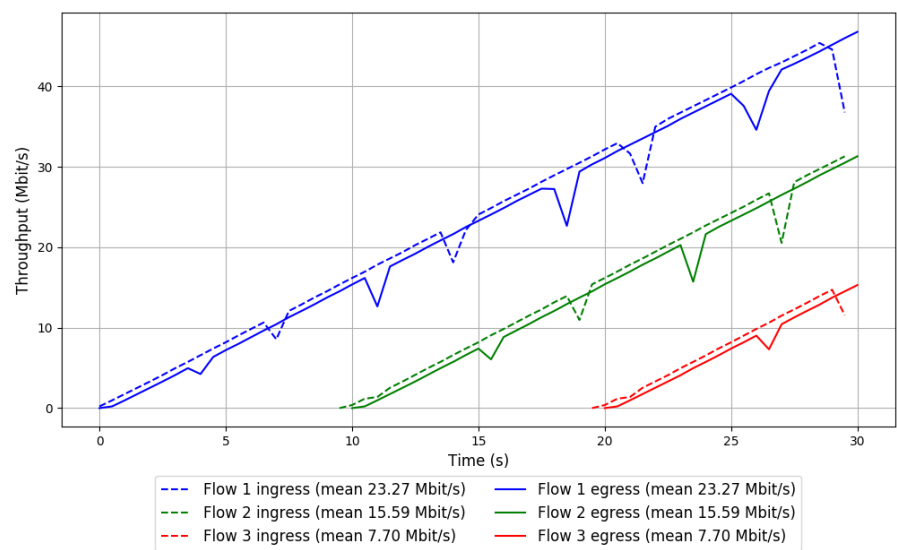Run 5: Report of Indigo-MusesT — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2019-02-12 04:26:54
End at: 2019-02-12 04:27:24
Local clock offset: -0.104 ms
Remote clock offset: -1.48 ms


# Below is generated by plot.py at 2019-02-12 09:45:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.18 Mbit/s
95th percentile per-packet one-way delay: 62.629 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.27 Mbit/s
95th percentile per-packet one-way delay: 62.747 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 15.59 Mbit/s
95th percentile per-packet one-way delay: 62.298 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.70 Mbit/s
95th percentile per-packet one-way delay: 62.367 ms
Loss rate: 0.00%
```
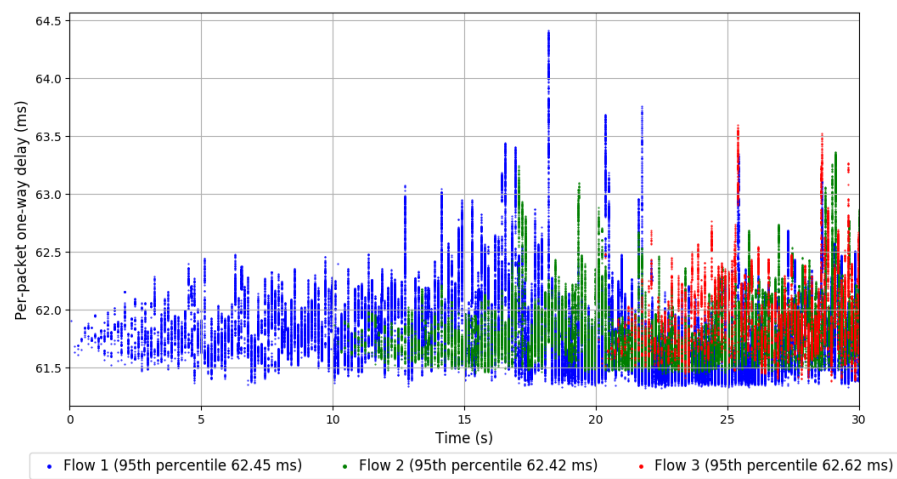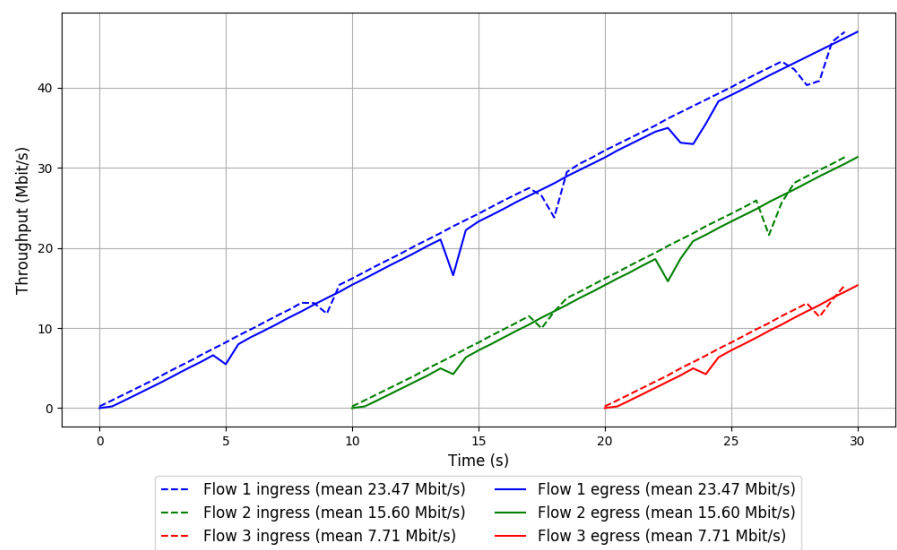
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-02-12 05:04:03
End at: 2019-02-12 05:04:33
Local clock offset: -0.071 ms
Remote clock offset: -1.385 ms


# Below is generated by plot.py at 2019-02-12 09:45:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.37 Mbit/s
95th percentile per-packet one-way delay: 62.460 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.47 Mbit/s
95th percentile per-packet one-way delay: 62.450 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 15.60 Mbit/s
95th percentile per-packet one-way delay: 62.419 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.71 Mbit/s
95th percentile per-packet one-way delay: 62.615 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-02-12 05:40:52
End at: 2019-02-12 05:41:22
Local clock offset: -0.022 ms
Remote clock offset: -0.567 ms


# Below is generated by plot.py at 2019-02-12 09:45:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.37 Mbit/s
95th percentile per-packet one-way delay: 63.405 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.44 Mbit/s
95th percentile per-packet one-way delay: 63.495 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 15.62 Mbit/s
95th percentile per-packet one-way delay: 63.256 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.72 Mbit/s
95th percentile per-packet one-way delay: 62.929 ms
Loss rate: 0.00%
```
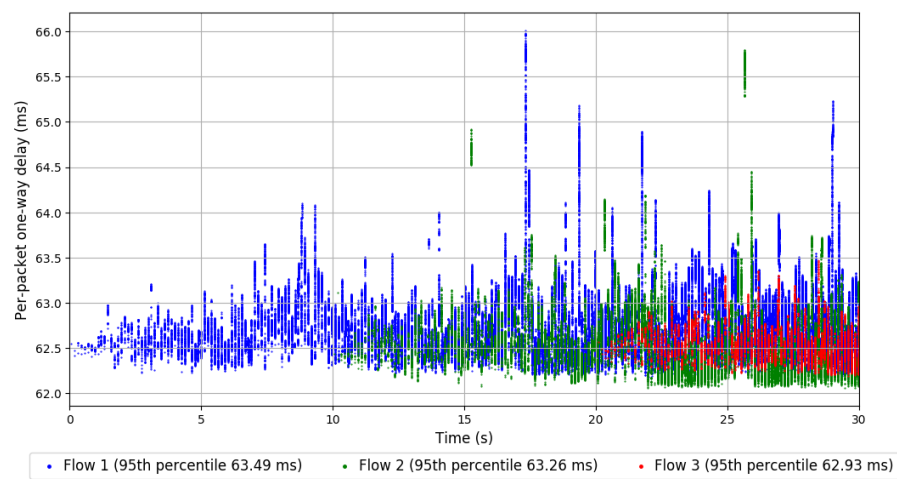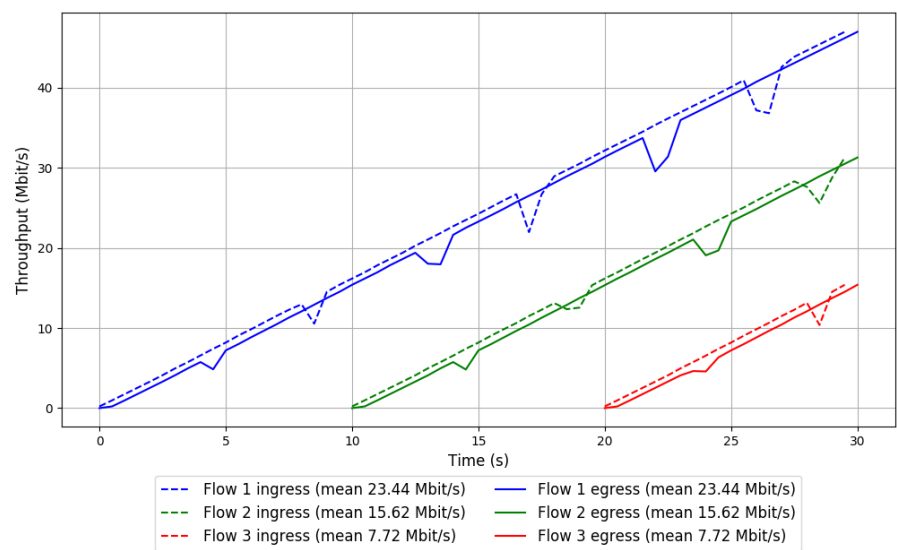
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2019-02-12 06:17:54
End at: 2019-02-12 06:18:24
Local clock offset: -0.129 ms
Remote clock offset: -0.733 ms


# Below is generated by plot.py at 2019-02-12 09:45:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.27 Mbit/s
95th percentile per-packet one-way delay: 63.214 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 23.33 Mbit/s
95th percentile per-packet one-way delay: 63.357 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 15.61 Mbit/s
95th percentile per-packet one-way delay: 62.983 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.71 Mbit/s
95th percentile per-packet one-way delay: 62.908 ms
Loss rate: 0.00%
```
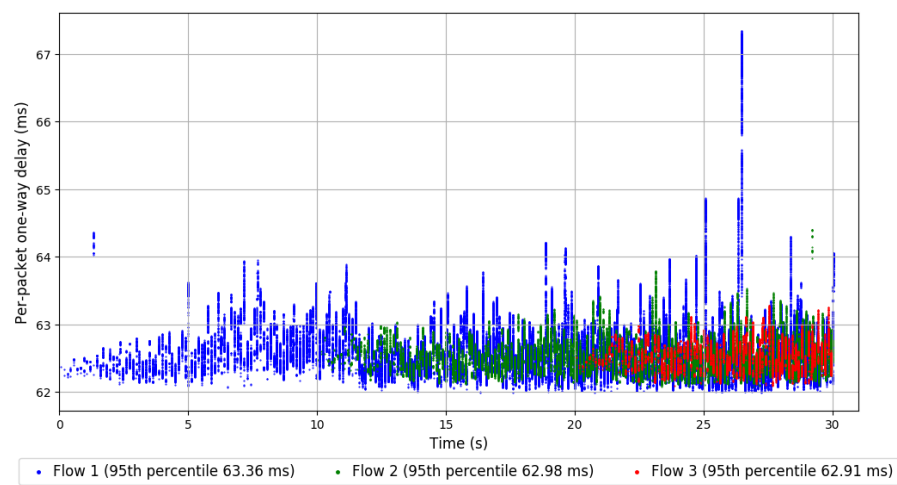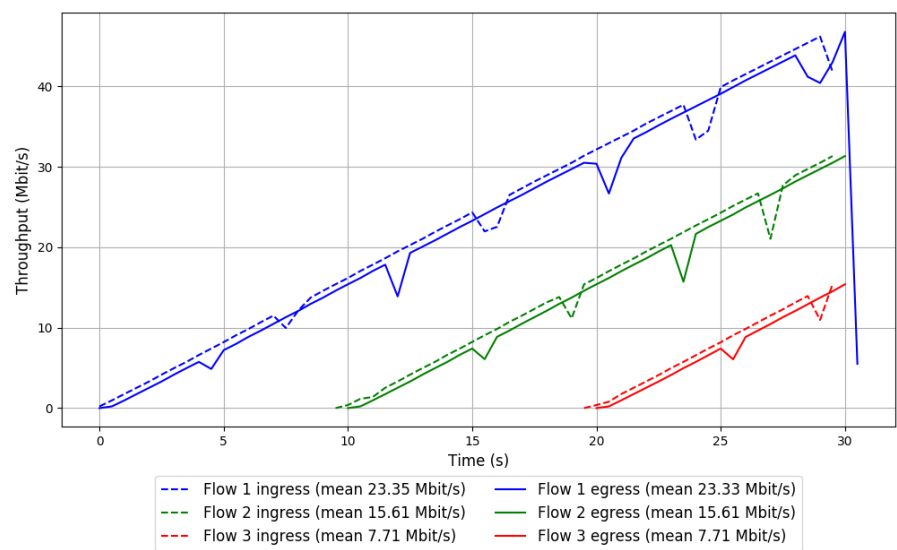
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-02-12 06:54:44
End at: 2019-02-12 06:55:14
Local clock offset: -0.117 ms
Remote clock offset: -1.592 ms


# Below is generated by plot.py at 2019-02-12 09:45:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.39 Mbit/s
95th percentile per-packet one-way delay: 63.010 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.43 Mbit/s
95th percentile per-packet one-way delay: 63.097 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 15.65 Mbit/s
95th percentile per-packet one-way delay: 63.053 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 62.252 ms
Loss rate: 0.00%
```
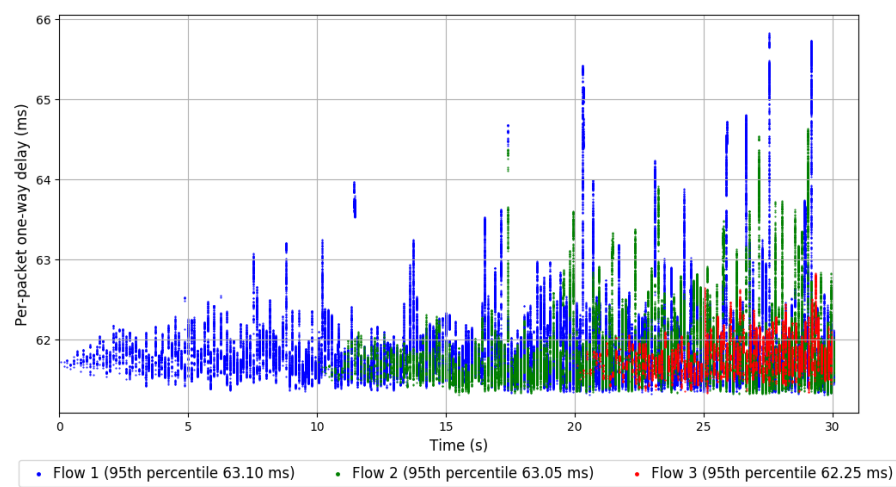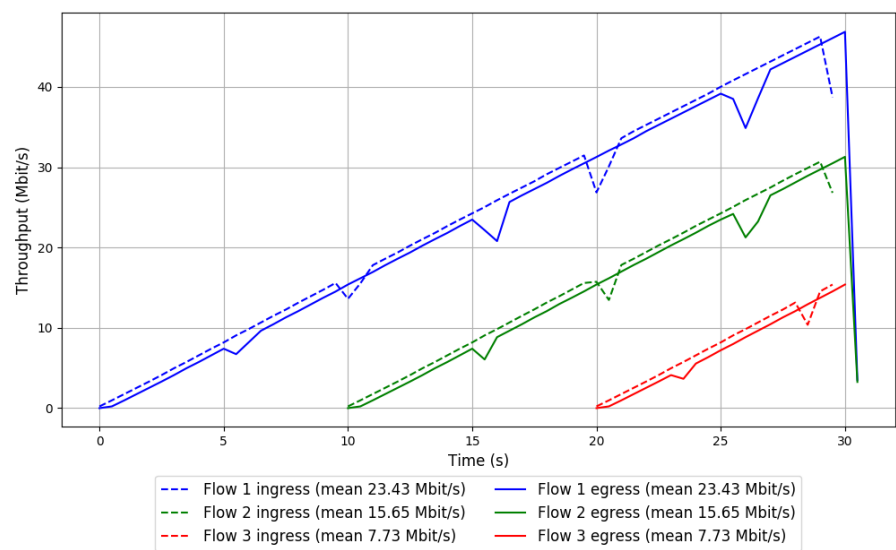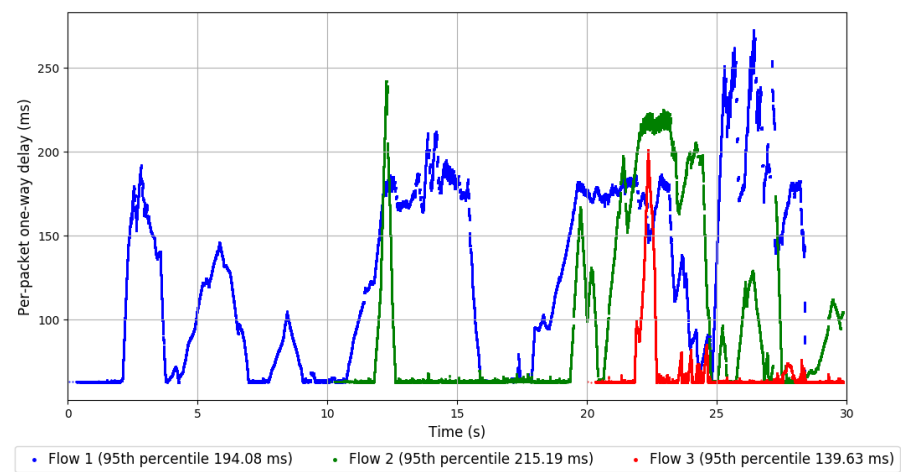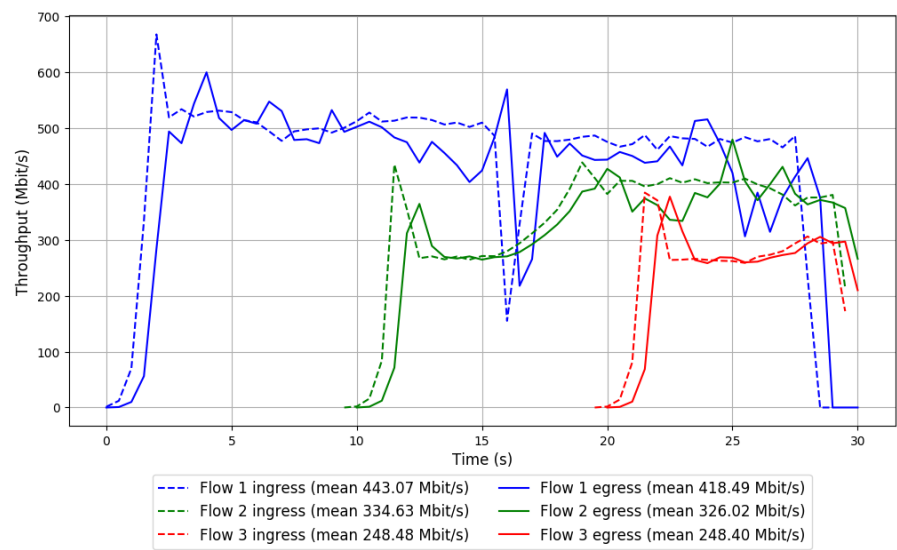
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-12 04:06:31
End at: 2019-02-12 04:07:01
Local clock offset: -0.111 ms
Remote clock offset: -0.17 ms

# Below is generated by plot.py at 2019-02-12 10:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 712.70 Mbit/s
95th percentile per-packet one-way delay: 202.843 ms
Loss rate: 4.05%
-- Flow 1:
Average throughput: 418.49 Mbit/s
95th percentile per-packet one-way delay: 194.079 ms
Loss rate: 5.55%
-- Flow 2:
Average throughput: 326.02 Mbit/s
95th percentile per-packet one-way delay: 215.186 ms
Loss rate: 2.57%
-- Flow 3:
Average throughput: 248.40 Mbit/s
95th percentile per-packet one-way delay: 139.633 ms
Loss rate: 0.03%
```

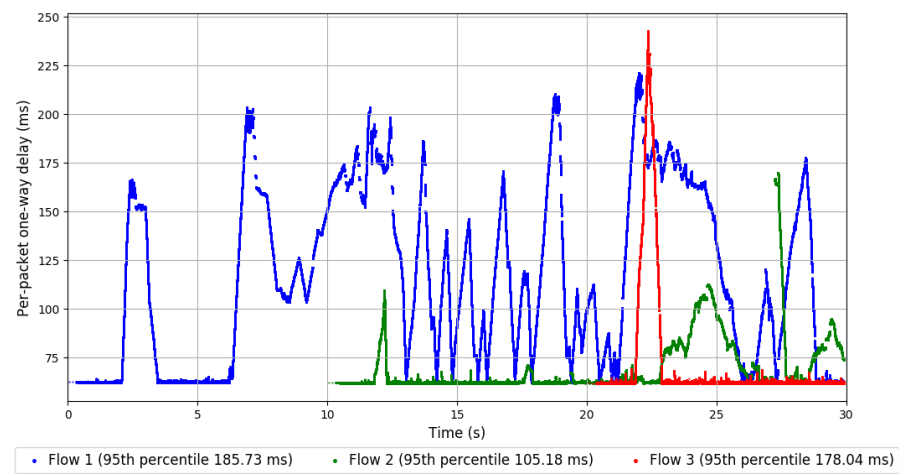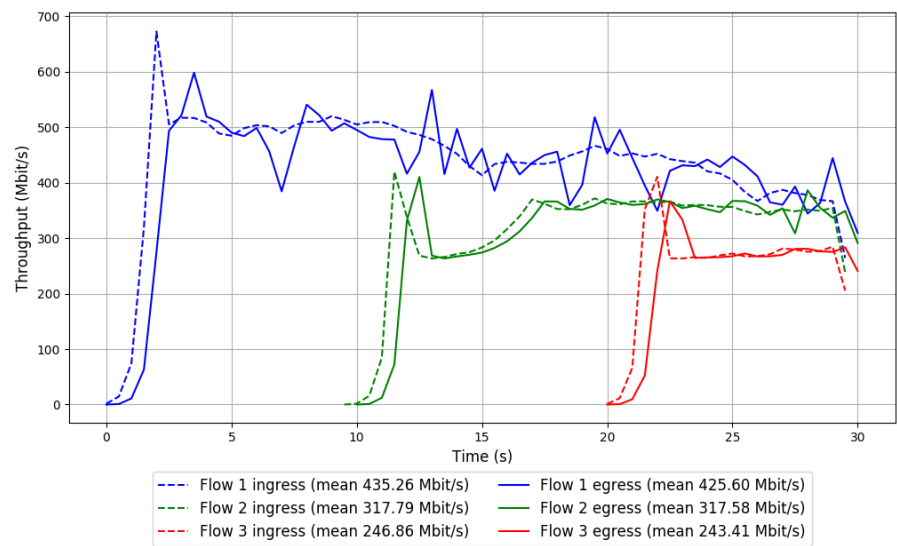Run 1: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 443.07 Mbit/s) — Flow 1 egress (mean 418.49 Mbit/s)
Flow 2 ingress (mean 334.63 Mbit/s) — Flow 2 egress (mean 326.02 Mbit/s)
Flow 3 ingress (mean 248.48 Mbit/s) — Flow 3 egress (mean 248.40 Mbit/s)

Flow 1 (95th percentile 194.08 ms) — Flow 2 (95th percentile 215.19 ms) — Flow 3 (95th percentile 139.63 ms)

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-02-12 04:42:33
End at: 2019-02-12 04:43:03
Local clock offset: -0.07 ms
Remote clock offset: -0.823 ms

# Below is generated by plot.py at 2019-02-12 10:05:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 716.92 Mbit/s
95th percentile per-packet one-way delay: 179.646 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 425.60 Mbit/s
95th percentile per-packet one-way delay: 185.734 ms
Loss rate: 2.23%
-- Flow 2:
Average throughput: 317.58 Mbit/s
95th percentile per-packet one-way delay: 105.179 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 243.41 Mbit/s
95th percentile per-packet one-way delay: 178.040 ms
Loss rate: 1.41%
```
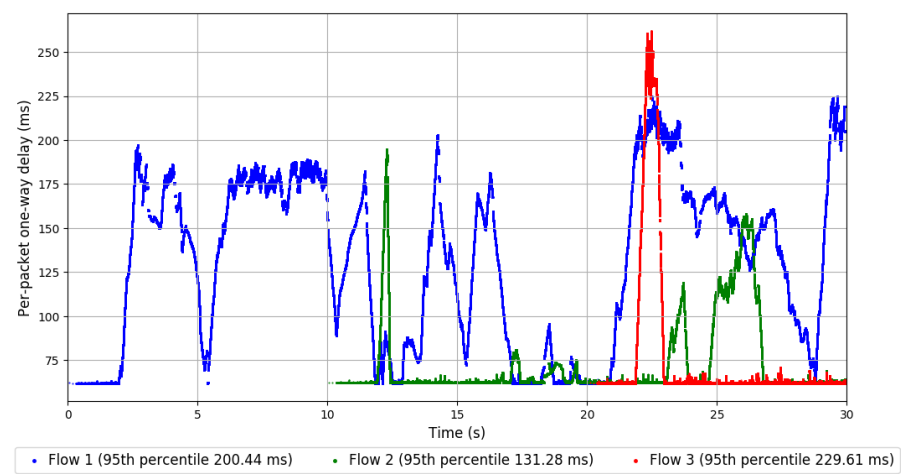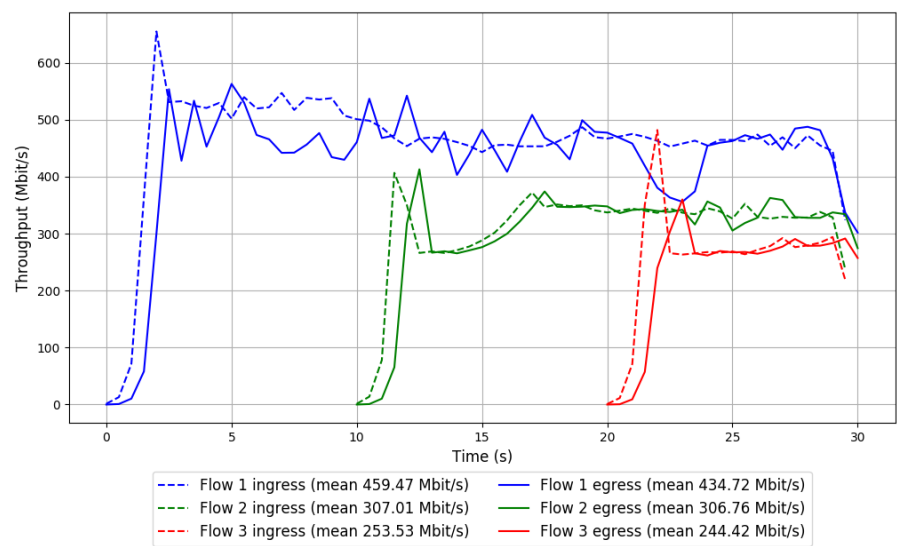
Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 435.26 Mbit/s)   Flow 1 egress (mean 425.60 Mbit/s)
Flow 2 ingress (mean 317.79 Mbit/s)   Flow 2 egress (mean 317.58 Mbit/s)
Flow 3 ingress (mean 246.86 Mbit/s)   Flow 3 egress (mean 243.41 Mbit/s)

Flow 1 (95th percentile 185.73 ms)   Flow 2 (95th percentile 105.18 ms)   Flow 3 (95th percentile 178.04 ms)
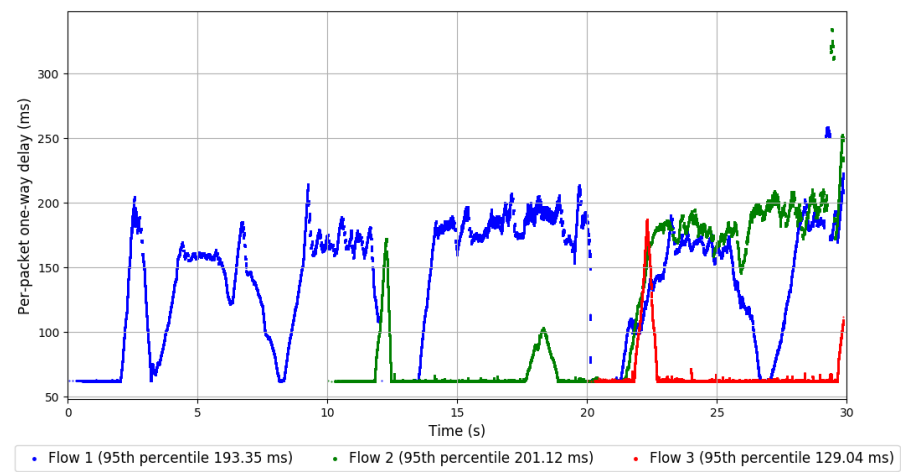
```
Run 3: Statistics of PCC-Allegro

Start at: 2019-02-12 05:19:55
End at: 2019-02-12 05:20:25
Local clock offset: -0.075 ms
Remote clock offset: -0.92 ms


# Below is generated by plot.py at 2019-02-12 10:06:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 718.93 Mbit/s
95th percentile per-packet one-way delay: 193.292 ms
Loss rate: 3.74%
-- Flow 1:
Average throughput: 434.72 Mbit/s
95th percentile per-packet one-way delay: 200.439 ms
Loss rate: 5.39%
-- Flow 2:
Average throughput: 306.76 Mbit/s
95th percentile per-packet one-way delay: 131.285 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 244.42 Mbit/s
95th percentile per-packet one-way delay: 229.608 ms
Loss rate: 3.59%
```

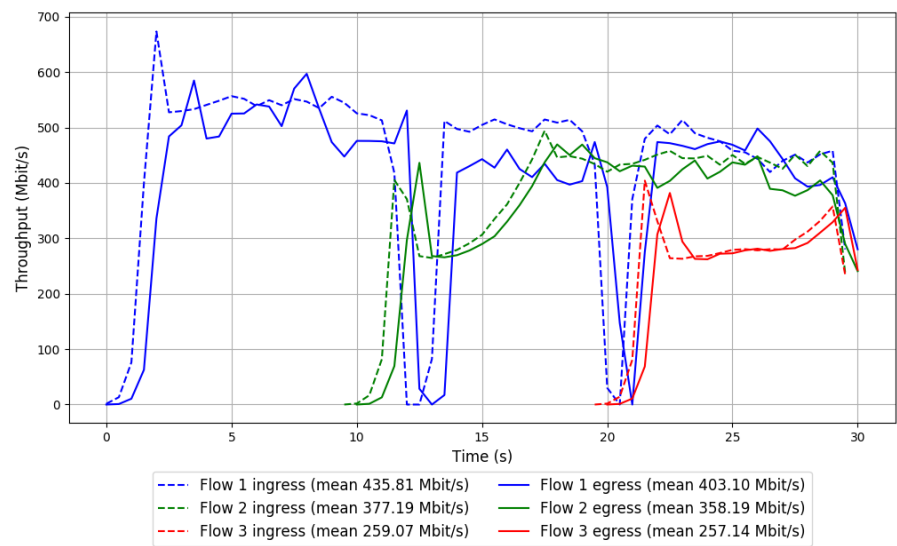# Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-02-12 05:56:40
End at: 2019-02-12 05:57:10
Local clock offset: -0.018 ms
Remote clock offset: -0.747 ms


# Below is generated by plot.py at 2019-02-12 10:07:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 726.54 Mbit/s
95th percentile per-packet one-way delay: 195.676 ms
Loss rate: 5.95%
-- Flow 1:
Average throughput: 403.10 Mbit/s
95th percentile per-packet one-way delay: 193.349 ms
Loss rate: 7.50%
-- Flow 2:
Average throughput: 358.19 Mbit/s
95th percentile per-packet one-way delay: 201.122 ms
Loss rate: 5.03%
-- Flow 3:
Average throughput: 257.14 Mbit/s
95th percentile per-packet one-way delay: 129.045 ms
Loss rate: 0.72%
```

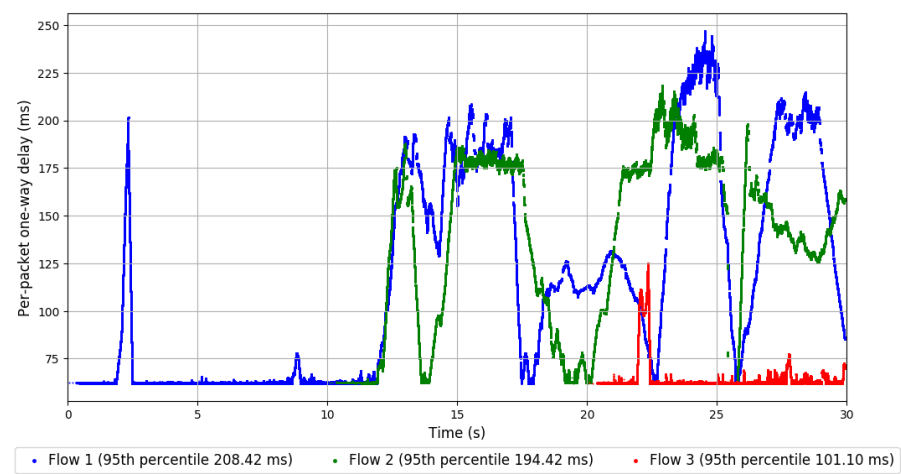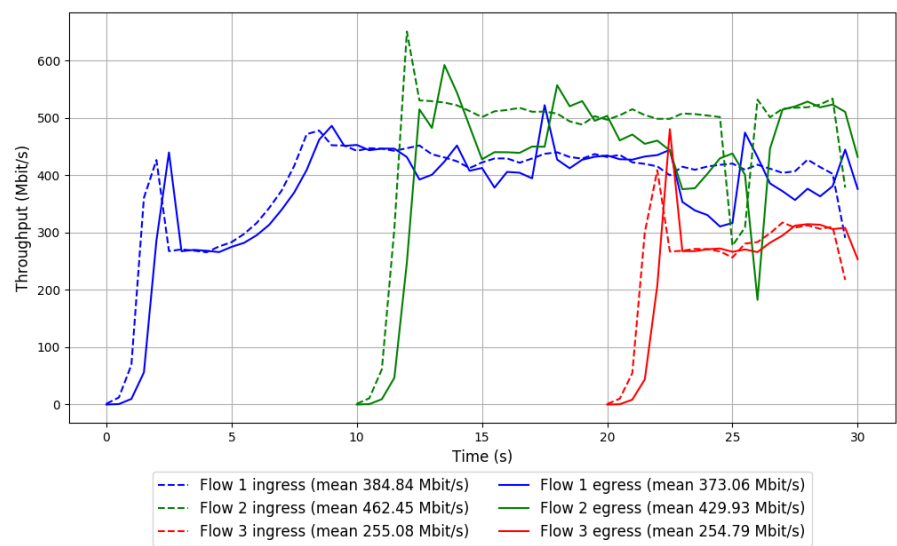Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-02-12 06:33:43
End at: 2019-02-12 06:34:13
Local clock offset: -0.144 ms
Remote clock offset: -0.689 ms


# Below is generated by plot.py at 2019-02-12 10:12:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 742.69 Mbit/s
95th percentile per-packet one-way delay: 202.079 ms
Loss rate: 4.30%
-- Flow 1:
Average throughput: 373.06 Mbit/s
95th percentile per-packet one-way delay: 208.422 ms
Loss rate: 3.05%
-- Flow 2:
Average throughput: 429.93 Mbit/s
95th percentile per-packet one-way delay: 194.420 ms
Loss rate: 7.02%
-- Flow 3:
Average throughput: 254.79 Mbit/s
95th percentile per-packet one-way delay: 101.103 ms
Loss rate: 0.08%
```

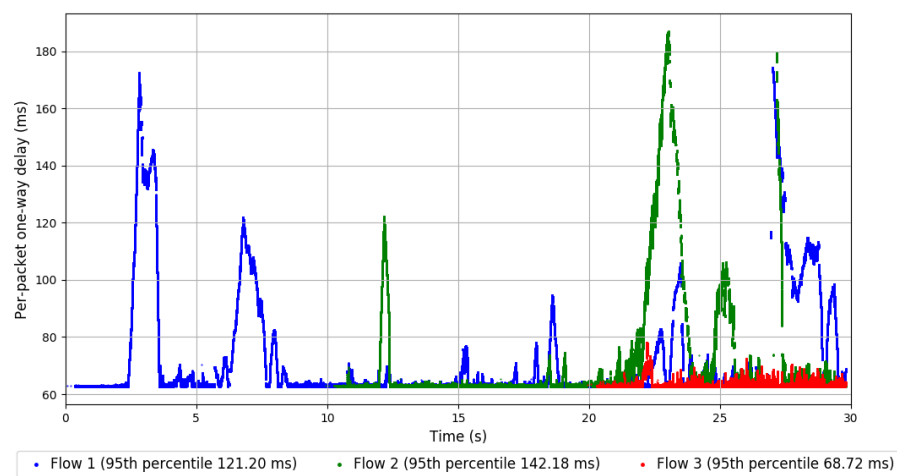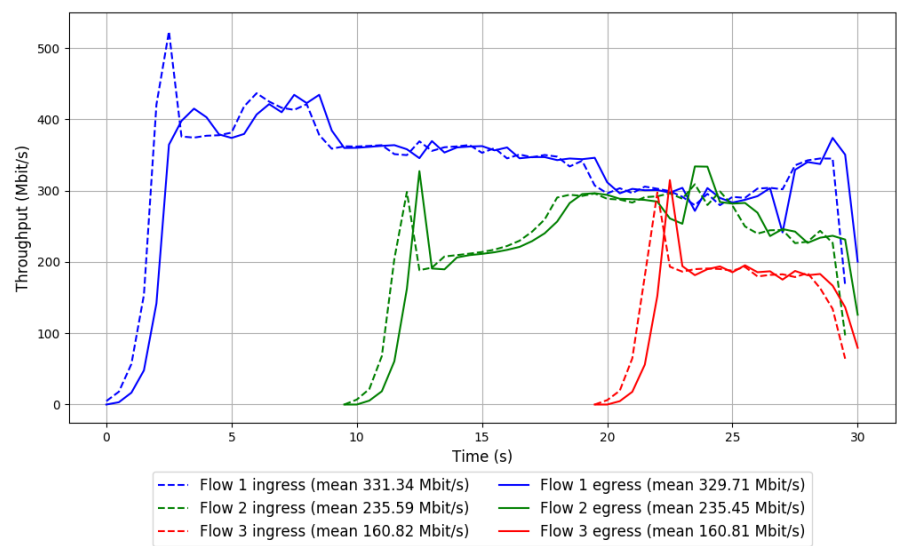Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2019-02-12 04:23:35
End at: 2019-02-12 04:24:05
Local clock offset: -0.104 ms
Remote clock offset: -0.162 ms


# Below is generated by plot.py at 2019-02-12 10:12:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 540.29 Mbit/s
95th percentile per-packet one-way delay: 125.389 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 329.71 Mbit/s
95th percentile per-packet one-way delay: 121.201 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 235.45 Mbit/s
95th percentile per-packet one-way delay: 142.182 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 160.81 Mbit/s
95th percentile per-packet one-way delay: 68.723 ms
Loss rate: 0.02%
```
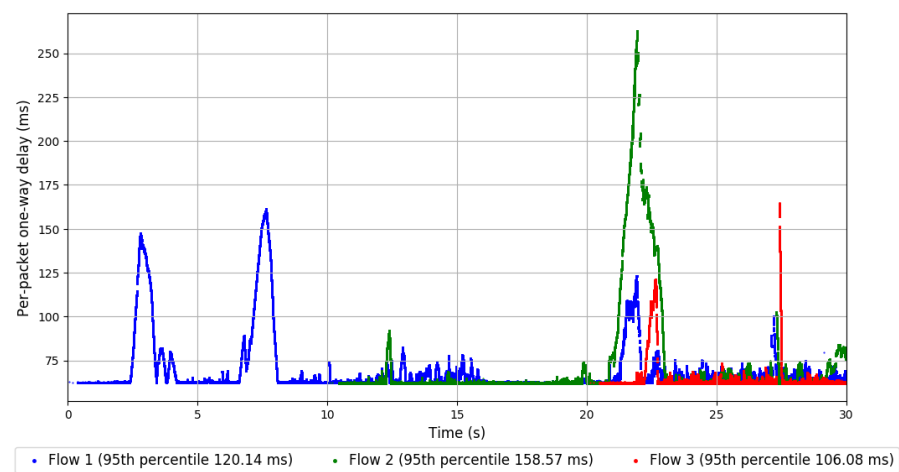
Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2019-02-12 05:00:46
End at: 2019-02-12 05:01:16
Local clock offset: -0.082 ms
Remote clock offset: -0.66 ms


# Below is generated by plot.py at 2019-02-12 10:12:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 485.97 Mbit/s
95th percentile per-packet one-way delay: 129.513 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 272.56 Mbit/s
95th percentile per-packet one-way delay: 120.138 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 235.85 Mbit/s
95th percentile per-packet one-way delay: 158.572 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 172.11 Mbit/s
95th percentile per-packet one-way delay: 106.084 ms
Loss rate: 0.00%
```
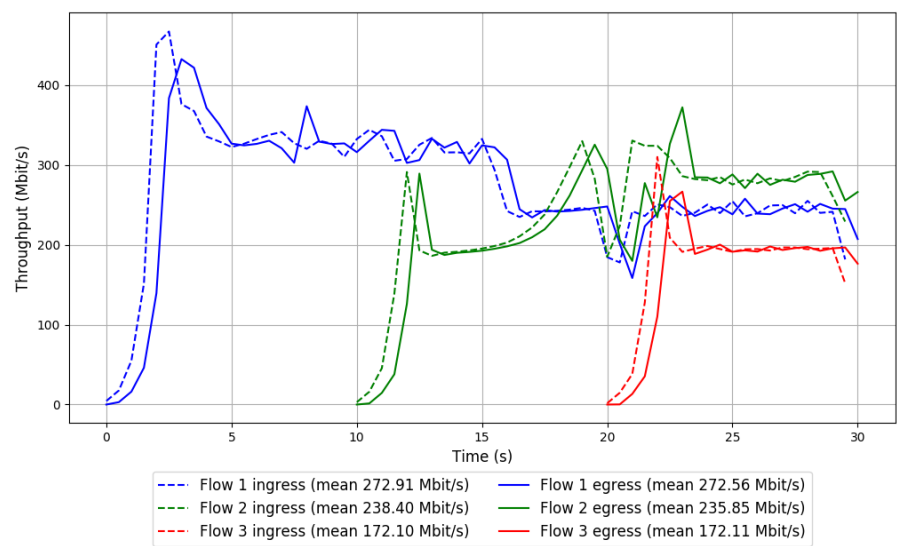
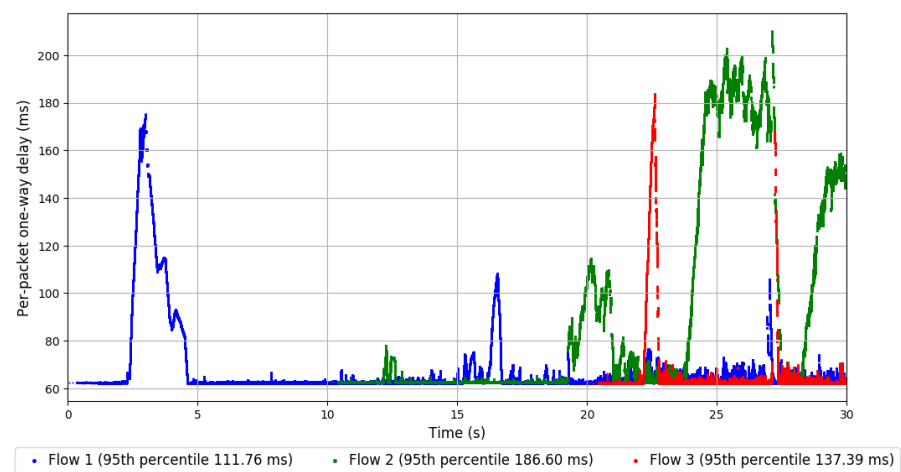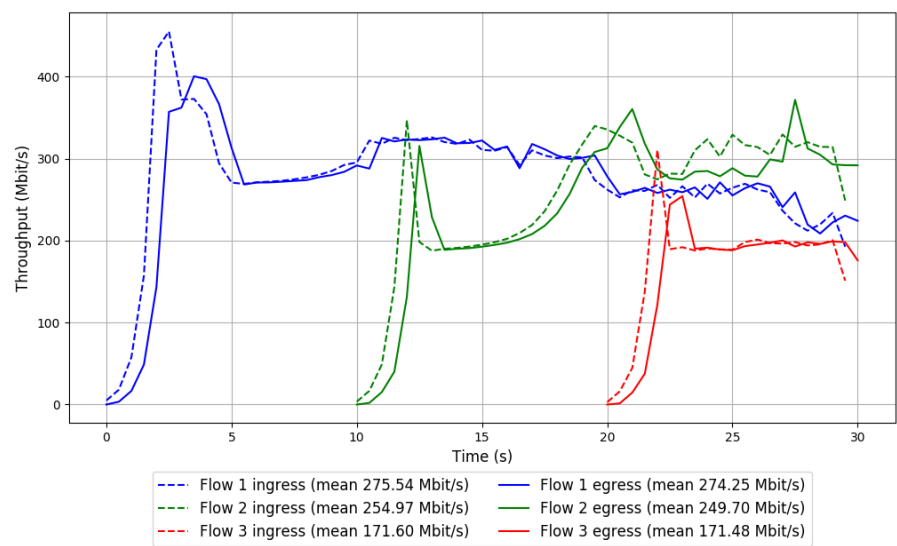Run 2: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 272.91 Mbit/s) --- Flow 1 egress (mean 272.56 Mbit/s)
Flow 2 ingress (mean 238.40 Mbit/s) --- Flow 2 egress (mean 235.85 Mbit/s)
Flow 3 ingress (mean 172.10 Mbit/s) --- Flow 3 egress (mean 172.11 Mbit/s)

Flow 1 (95th percentile 120.14 ms)   Flow 2 (95th percentile 158.57 ms)   Flow 3 (95th percentile 106.08 ms)

```
Run 3: Statistics of PCC-Expr

Start at: 2019-02-12 05:37:34
End at: 2019-02-12 05:38:04
Local clock offset: -0.023 ms
Remote clock offset: -0.696 ms


# Below is generated by plot.py at 2019-02-12 10:12:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 496.75 Mbit/s
95th percentile per-packet one-way delay: 171.926 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 274.25 Mbit/s
95th percentile per-packet one-way delay: 111.762 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 249.70 Mbit/s
95th percentile per-packet one-way delay: 186.602 ms
Loss rate: 2.07%
-- Flow 3:
Average throughput: 171.48 Mbit/s
95th percentile per-packet one-way delay: 137.393 ms
Loss rate: 0.12%
```
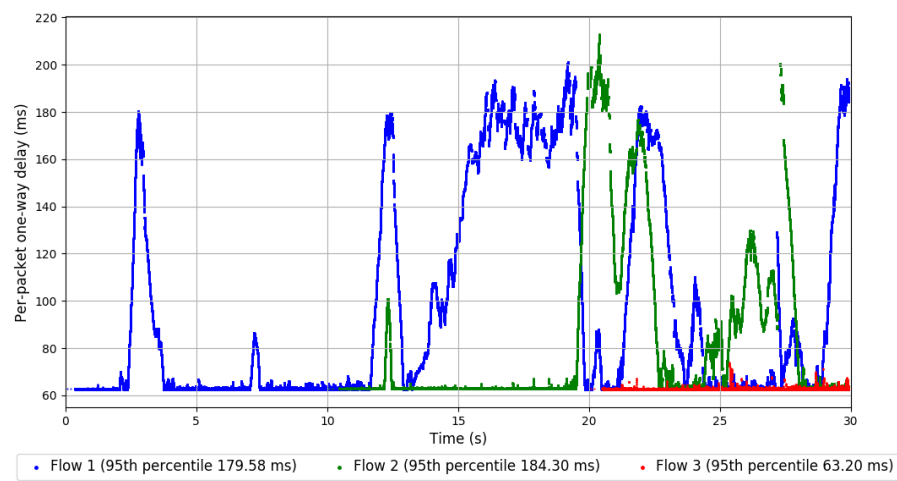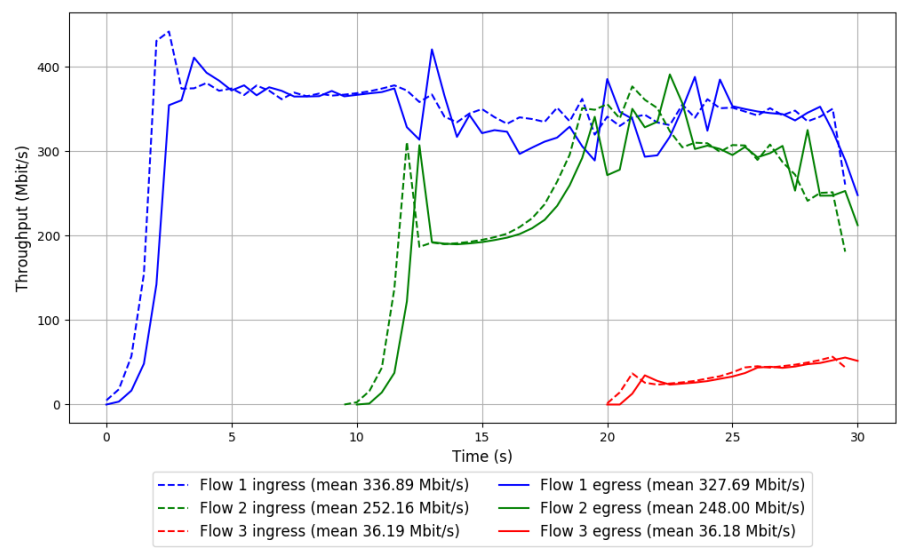
Run 3: Report of PCC-Expr — Data Link

- - - Flow 1 ingress (mean 275.54 Mbit/s) —— Flow 1 egress (mean 274.25 Mbit/s)
- - - Flow 2 ingress (mean 254.97 Mbit/s) —— Flow 2 egress (mean 249.70 Mbit/s)
- - - Flow 3 ingress (mean 171.60 Mbit/s) —— Flow 3 egress (mean 171.48 Mbit/s)

• Flow 1 (95th percentile 111.76 ms)   • Flow 2 (95th percentile 186.60 ms)   • Flow 3 (95th percentile 137.39 ms)

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```
Run 4: Statistics of PCC-Expr

Start at: 2019-02-12 06:14:33
End at: 2019-02-12 06:15:03
Local clock offset: -0.102 ms
Remote clock offset: -0.15 ms


# Below is generated by plot.py at 2019-02-12 10:27:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 504.61 Mbit/s
95th percentile per-packet one-way delay: 179.862 ms
Loss rate: 2.32%
-- Flow 1:
Average throughput: 327.69 Mbit/s
95th percentile per-packet one-way delay: 179.576 ms
Loss rate: 2.73%
-- Flow 2:
Average throughput: 248.00 Mbit/s
95th percentile per-packet one-way delay: 184.304 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 36.18 Mbit/s
95th percentile per-packet one-way delay: 63.196 ms
Loss rate: 0.02%
```
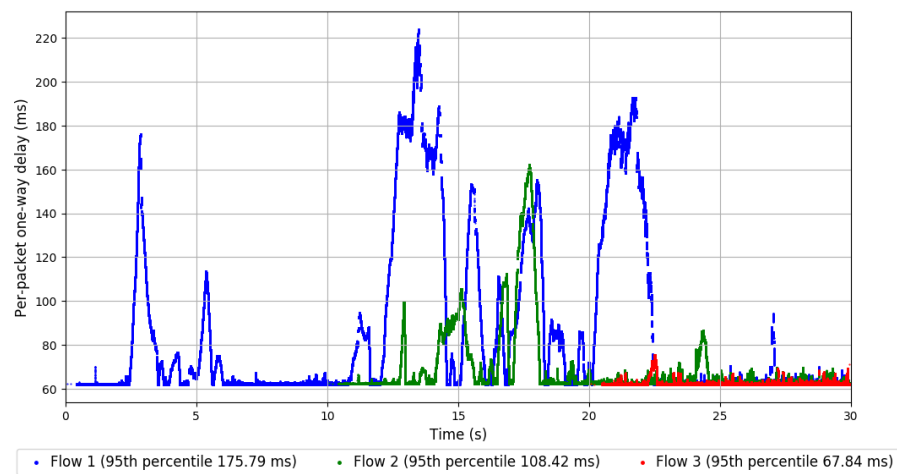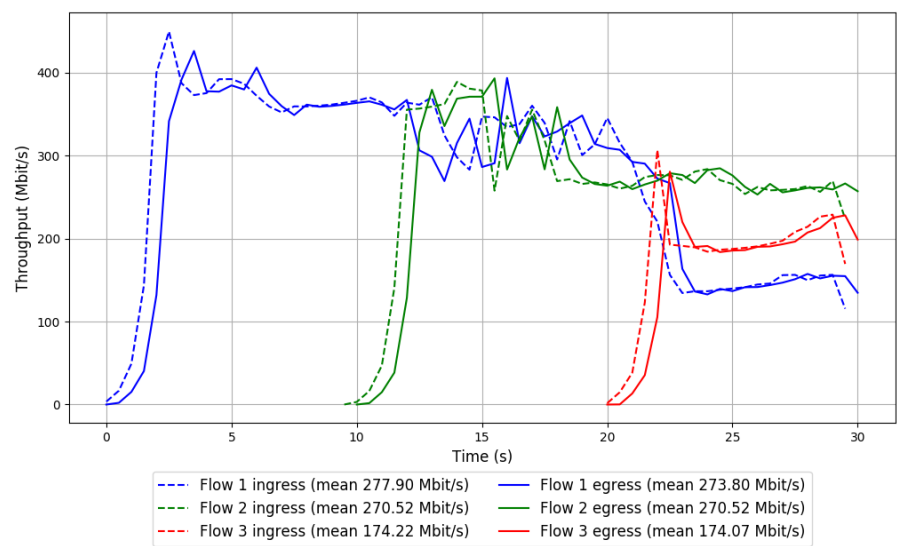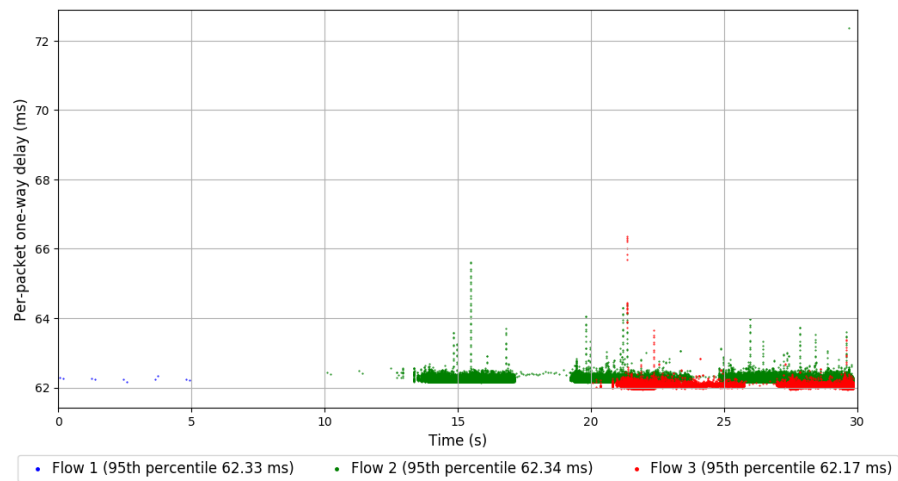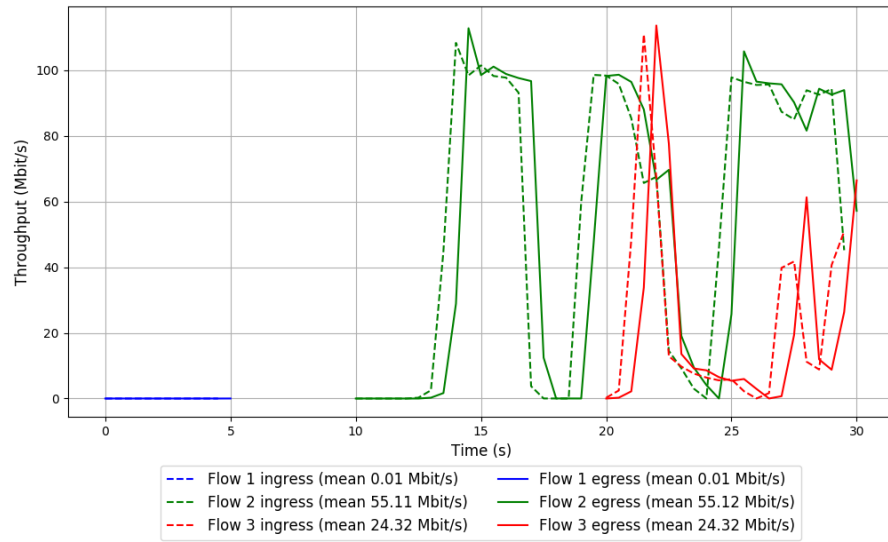
Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-02-12 06:51:24
End at: 2019-02-12 06:51:54
Local clock offset: -0.121 ms
Remote clock offset: -0.909 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 511.08 Mbit/s
95th percentile per-packet one-way delay: 165.367 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 273.80 Mbit/s
95th percentile per-packet one-way delay: 175.793 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 270.52 Mbit/s
95th percentile per-packet one-way delay: 108.419 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 174.07 Mbit/s
95th percentile per-packet one-way delay: 67.839 ms
Loss rate: 0.01%
```

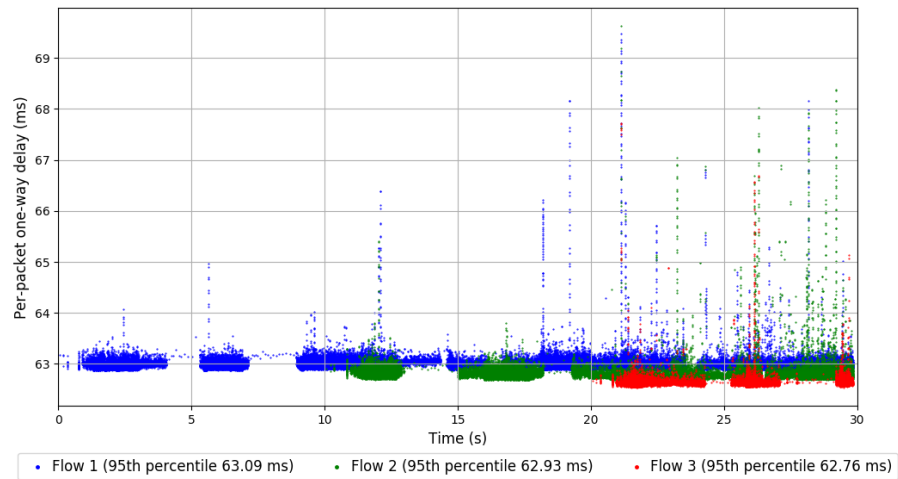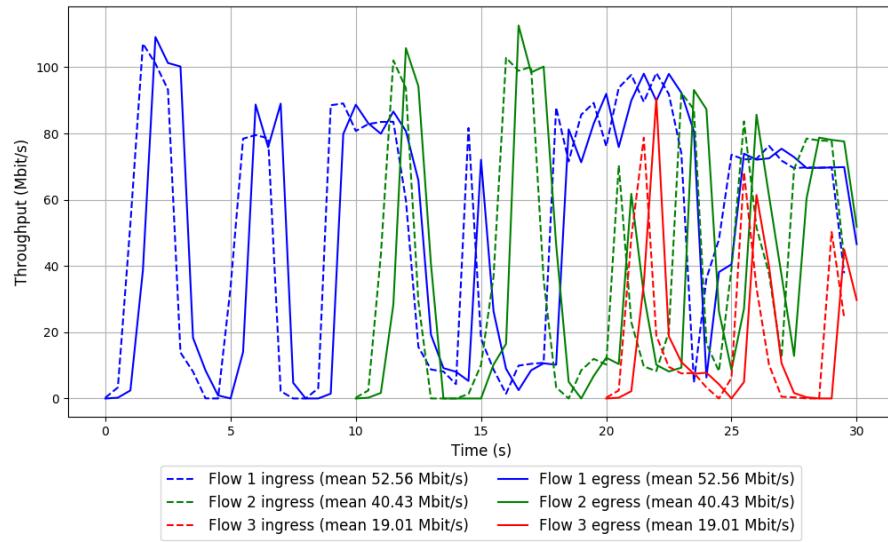Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-02-12 04:25:38
End at: 2019-02-12 04:26:08
Local clock offset: -0.093 ms
Remote clock offset: -0.729 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.53 Mbit/s
95th percentile per-packet one-way delay: 62.330 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 62.334 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 55.12 Mbit/s
95th percentile per-packet one-way delay: 62.340 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.32 Mbit/s
95th percentile per-packet one-way delay: 62.170 ms
Loss rate: 0.00%
```
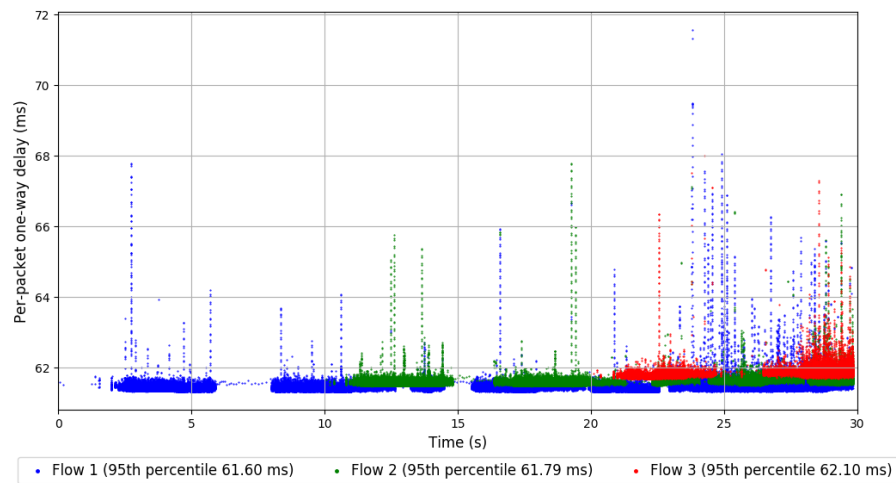
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-02-12 05:02:45
End at: 2019-02-12 05:03:15
Local clock offset: -0.13 ms
Remote clock offset: -0.162 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.61 Mbit/s
95th percentile per-packet one-way delay: 63.069 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.56 Mbit/s
95th percentile per-packet one-way delay: 63.091 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.43 Mbit/s
95th percentile per-packet one-way delay: 62.927 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.01 Mbit/s
95th percentile per-packet one-way delay: 62.761 ms
Loss rate: 0.00%
```

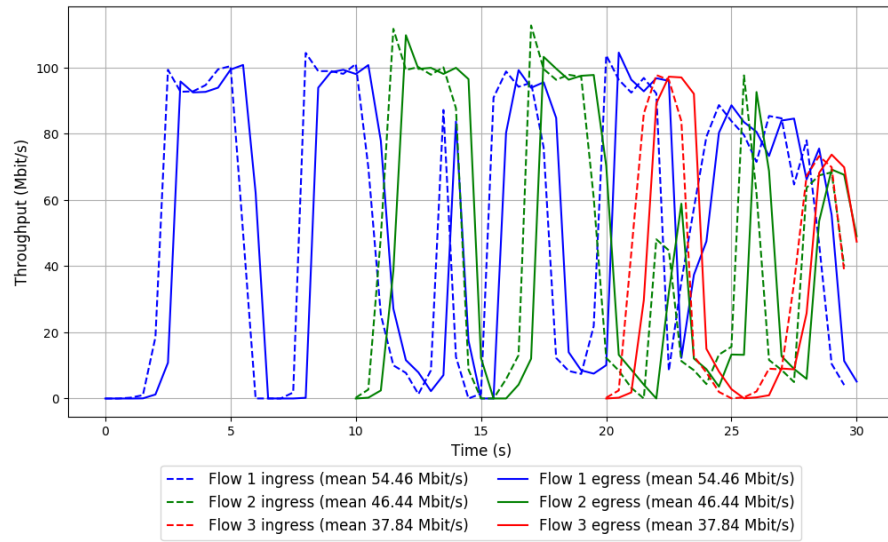Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-02-12 05:39:33
End at: 2019-02-12 05:40:03
Local clock offset: -0.016 ms
Remote clock offset: -1.285 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.67 Mbit/s
95th percentile per-packet one-way delay: 61.878 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 54.46 Mbit/s
95th percentile per-packet one-way delay: 61.601 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 46.44 Mbit/s
95th percentile per-packet one-way delay: 61.793 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.84 Mbit/s
95th percentile per-packet one-way delay: 62.103 ms
Loss rate: 0.00%
```

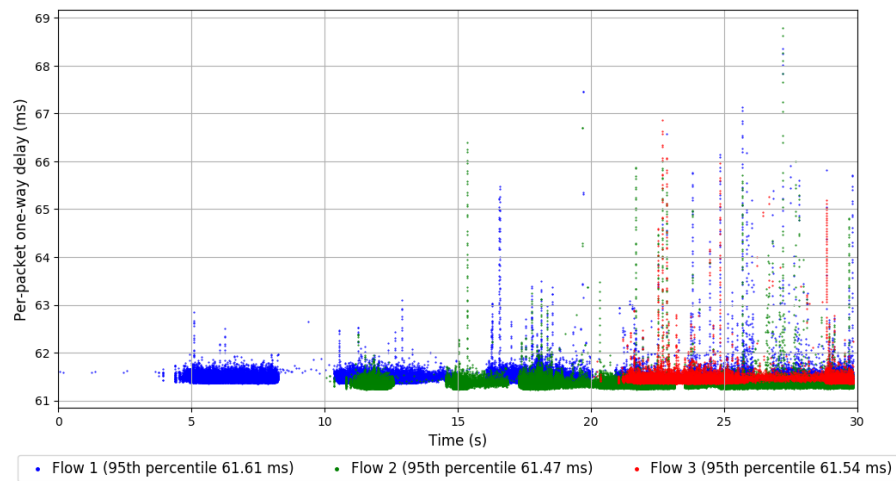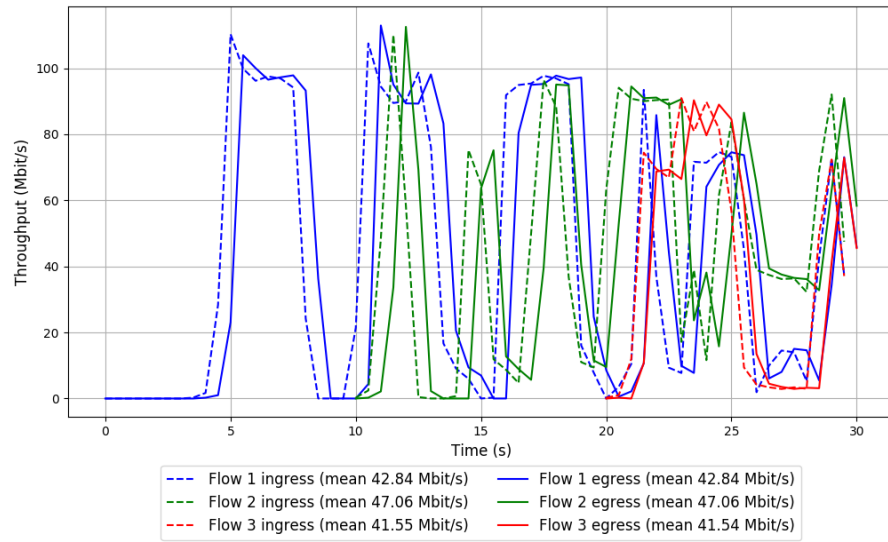Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-02-12 06:16:35
End at: 2019-02-12 06:17:05
Local clock offset: -0.136 ms
Remote clock offset: -1.471 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.67 Mbit/s
95th percentile per-packet one-way delay: 61.571 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.84 Mbit/s
95th percentile per-packet one-way delay: 61.606 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.06 Mbit/s
95th percentile per-packet one-way delay: 61.469 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 41.54 Mbit/s
95th percentile per-packet one-way delay: 61.542 ms
Loss rate: 0.00%
```

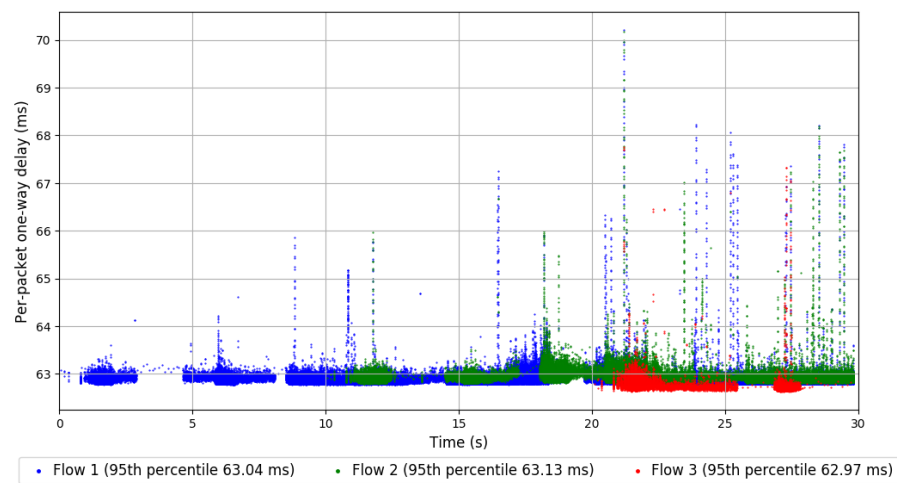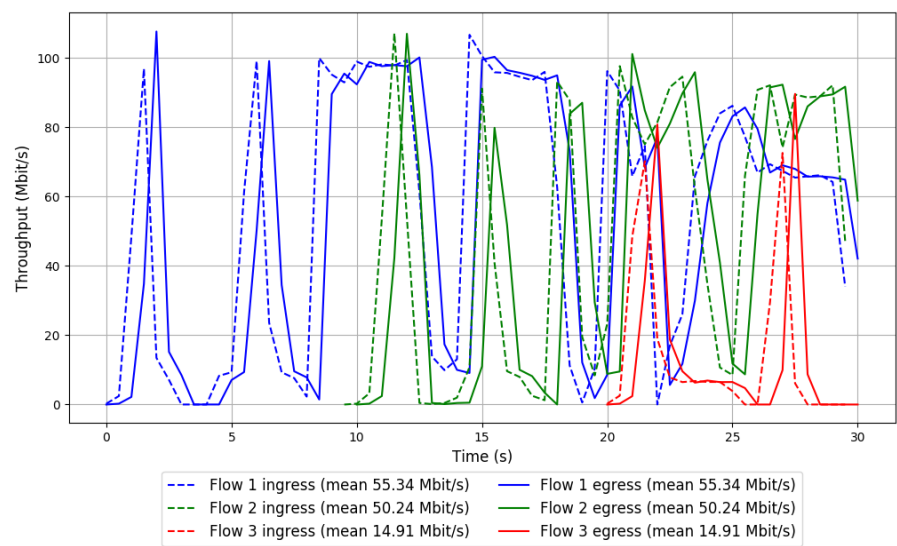Run 4: Report of QUIC Cubic — Data Link

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```
Run 5: Statistics of QUIC Cubic

Start at: 2019-02-12 06:53:25
End at: 2019-02-12 06:53:55
Local clock offset: -0.144 ms
Remote clock offset: -0.161 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.52 Mbit/s
95th percentile per-packet one-way delay: 63.080 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.34 Mbit/s
95th percentile per-packet one-way delay: 63.043 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.24 Mbit/s
95th percentile per-packet one-way delay: 63.133 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 14.91 Mbit/s
95th percentile per-packet one-way delay: 62.970 ms
Loss rate: 0.00%
```

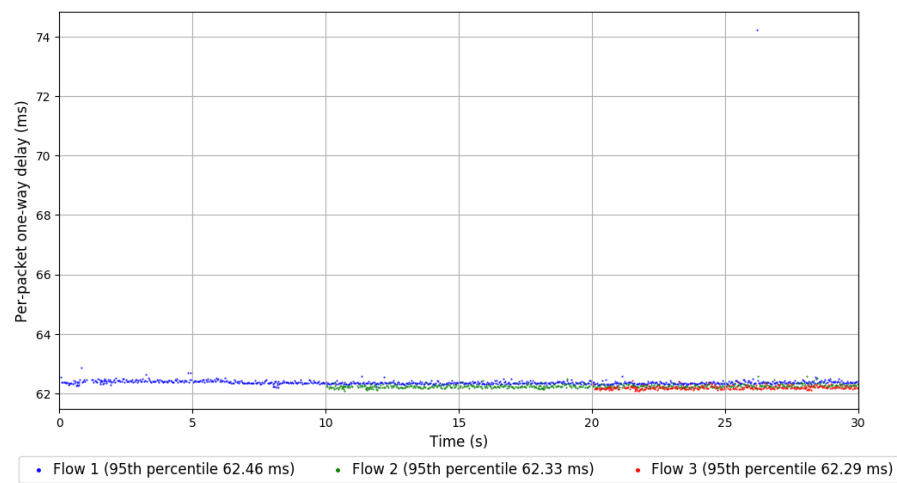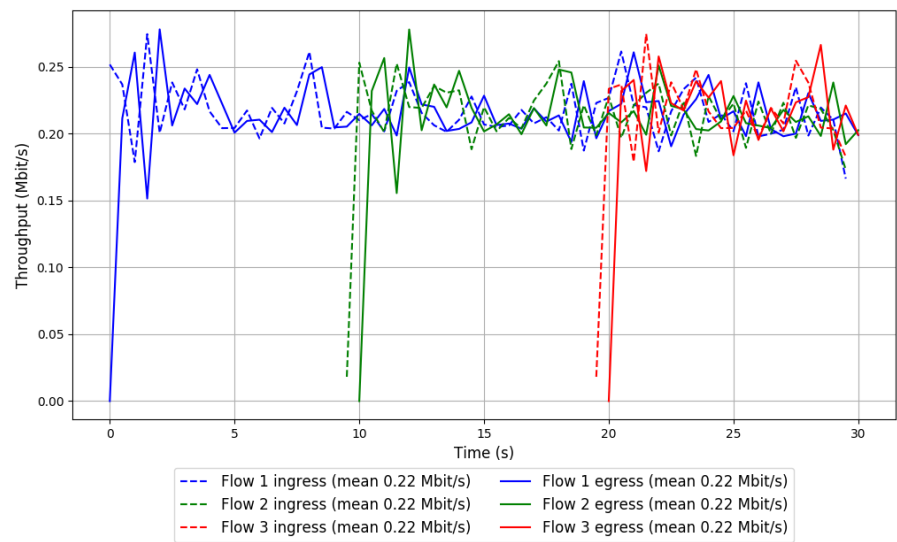Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2019-02-12 04:15:33
End at: 2019-02-12 04:16:03
Local clock offset: -0.093 ms
Remote clock offset: -0.681 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 62.443 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.461 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.334 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.291 ms
Loss rate: 0.00%
```
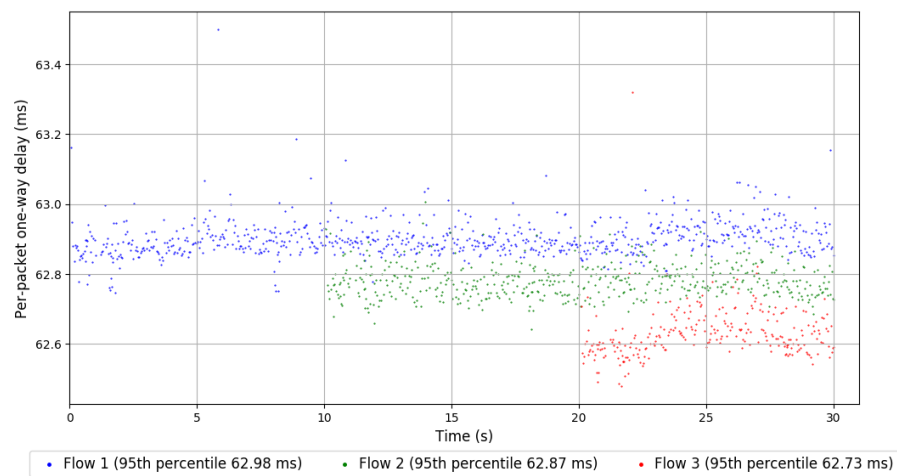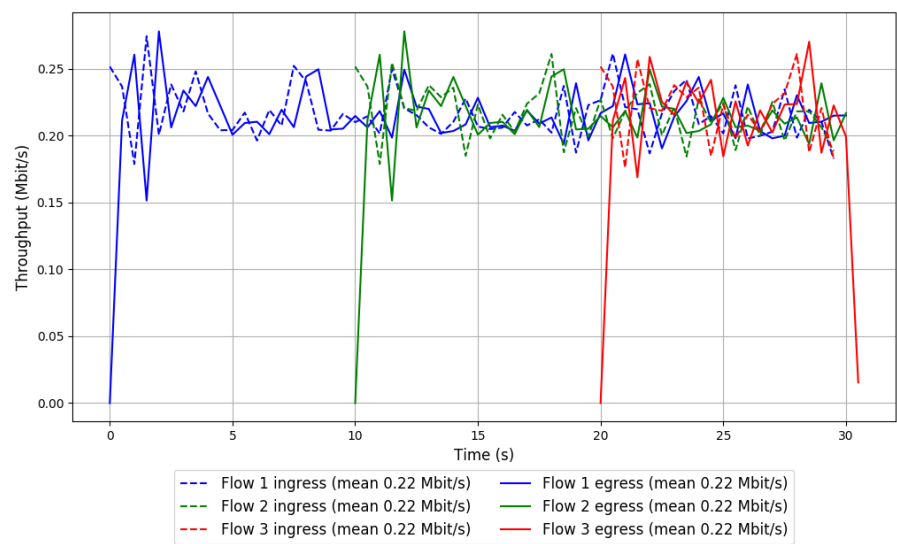
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-02-12 04:52:19
End at: 2019-02-12 04:52:49
Local clock offset: -0.043 ms
Remote clock offset: -0.368 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 62.958 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.983 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.865 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.731 ms
Loss rate: 0.00%
```
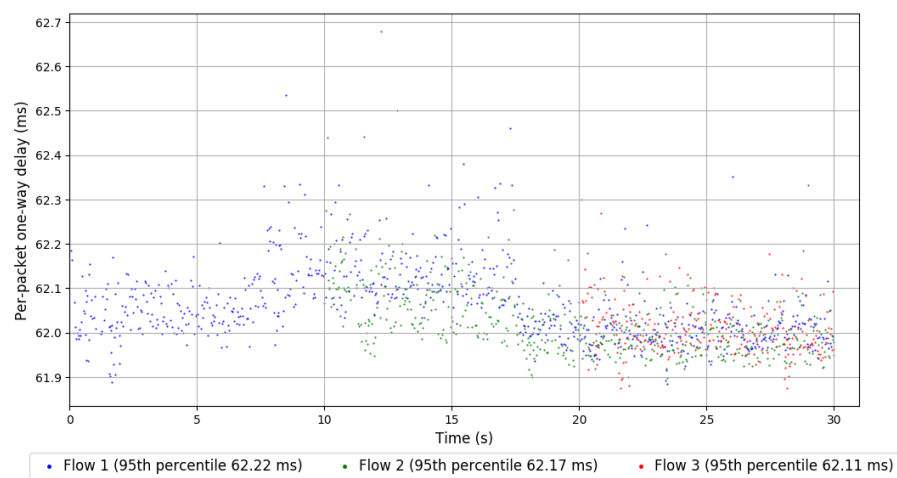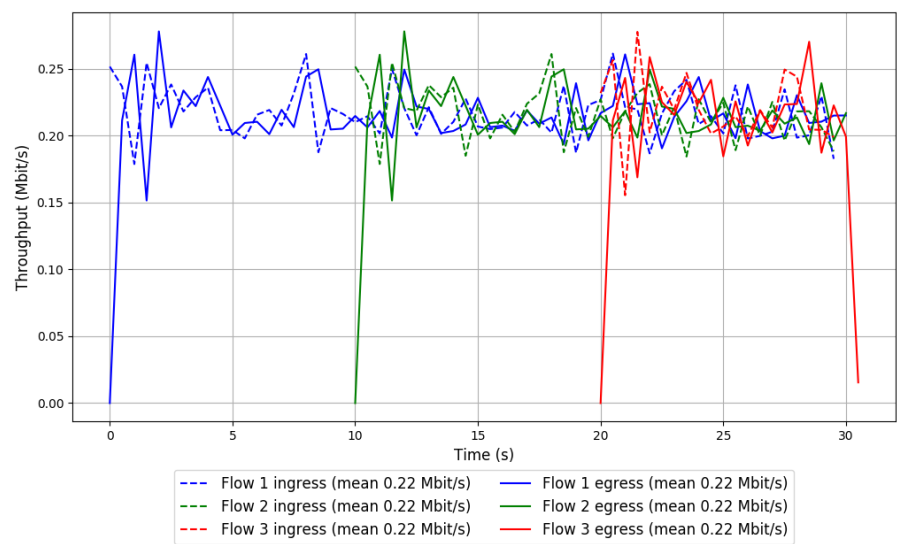
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-02-12 05:29:27
End at: 2019-02-12 05:29:57
Local clock offset: 0.005 ms
Remote clock offset: -0.929 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 62.189 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.223 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.170 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.108 ms
Loss rate: 0.00%
```
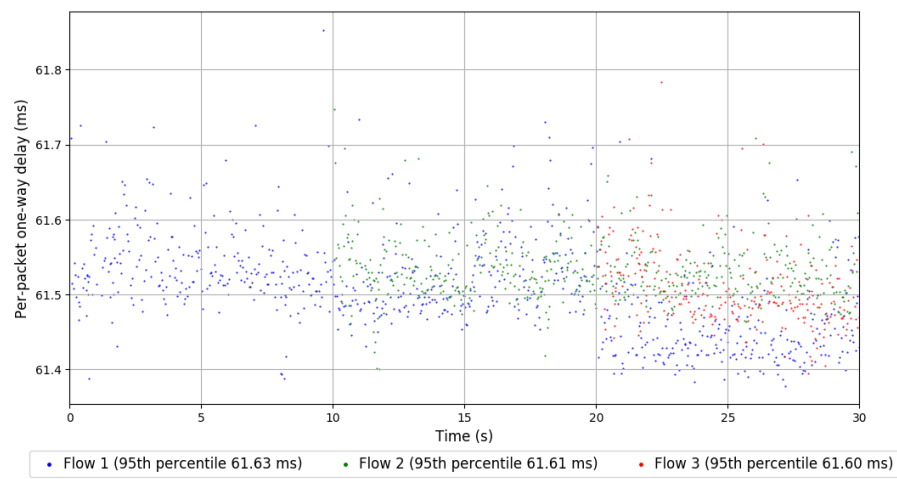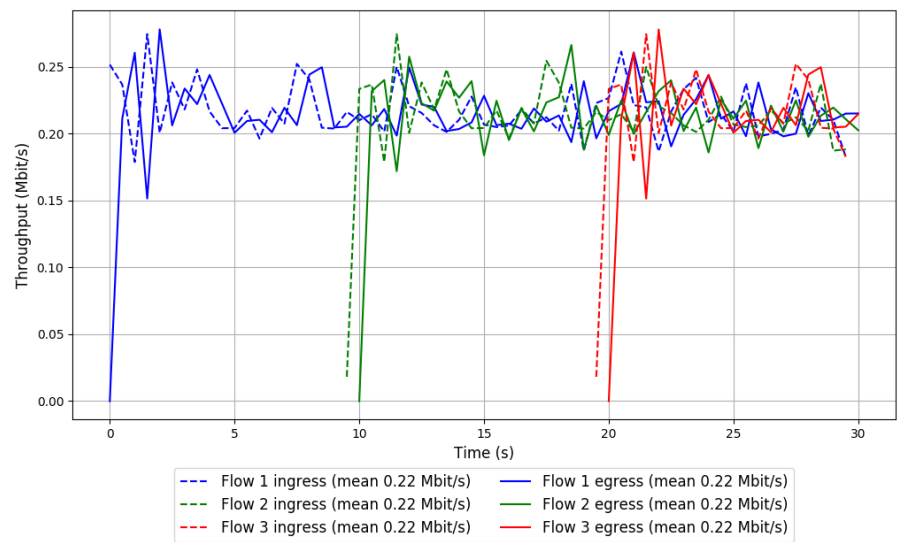
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-02-12 06:06:15
End at: 2019-02-12 06:06:45
Local clock offset: -0.068 ms
Remote clock offset: -1.491 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 61.613 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.626 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.608 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.604 ms
Loss rate: 0.00%
```
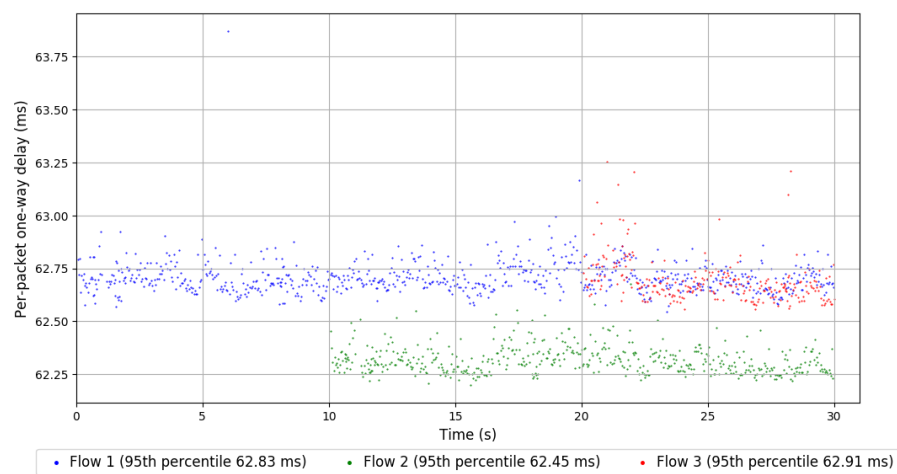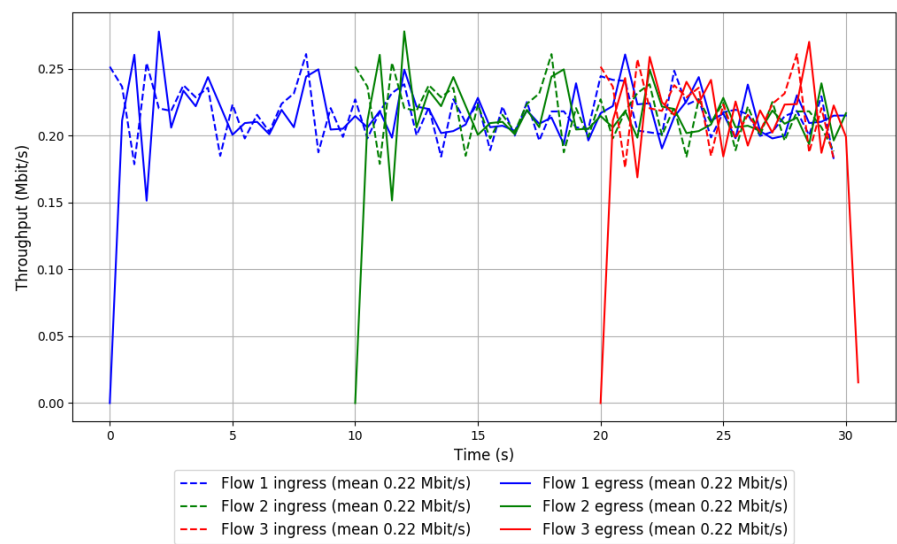
Run 4: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 61.63 ms)   •   Flow 2 (95th percentile 61.61 ms)   •   Flow 3 (95th percentile 61.60 ms)

```
Run 5: Statistics of SCReAM

Start at: 2019-02-12 06:43:14
End at: 2019-02-12 06:43:44
Local clock offset: -0.124 ms
Remote clock offset: -0.706 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 62.814 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.831 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.448 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.912 ms
Loss rate: 0.00%
```
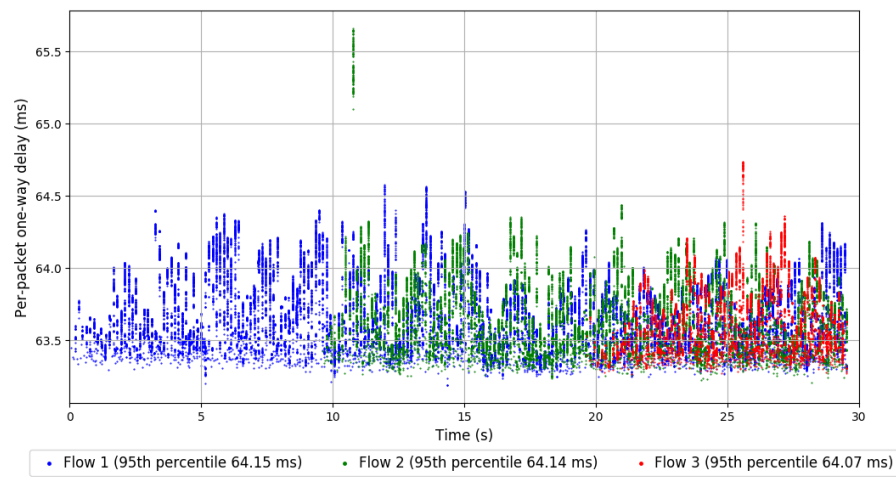
Run 5: Report of SCReAM — Data Link

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```
Run 1: Statistics of Sprout

Start at: 2019-02-12 04:18:47
End at: 2019-02-12 04:19:17
Local clock offset: -0.1 ms
Remote clock offset: 0.367 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.18 Mbit/s
95th percentile per-packet one-way delay: 64.138 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.71 Mbit/s
95th percentile per-packet one-way delay: 64.151 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.70 Mbit/s
95th percentile per-packet one-way delay: 64.138 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.81 Mbit/s
95th percentile per-packet one-way delay: 64.068 ms
Loss rate: 0.00%
```
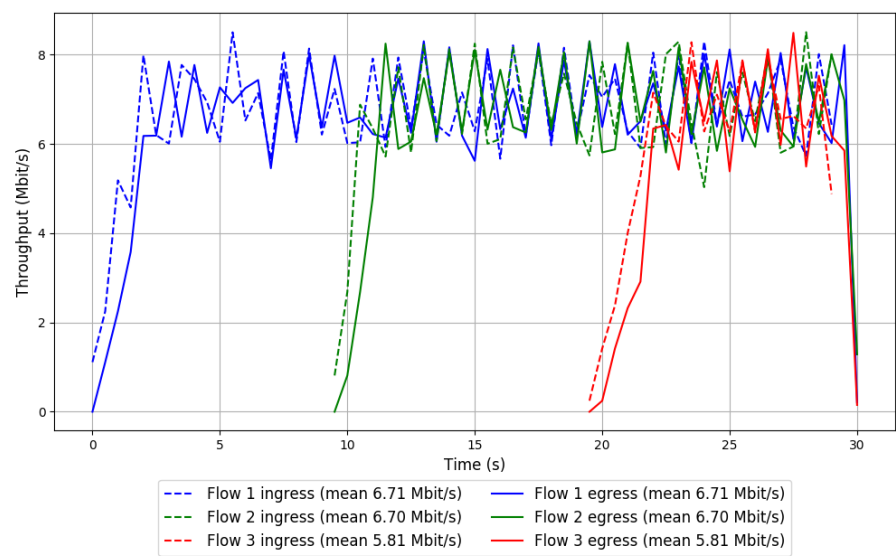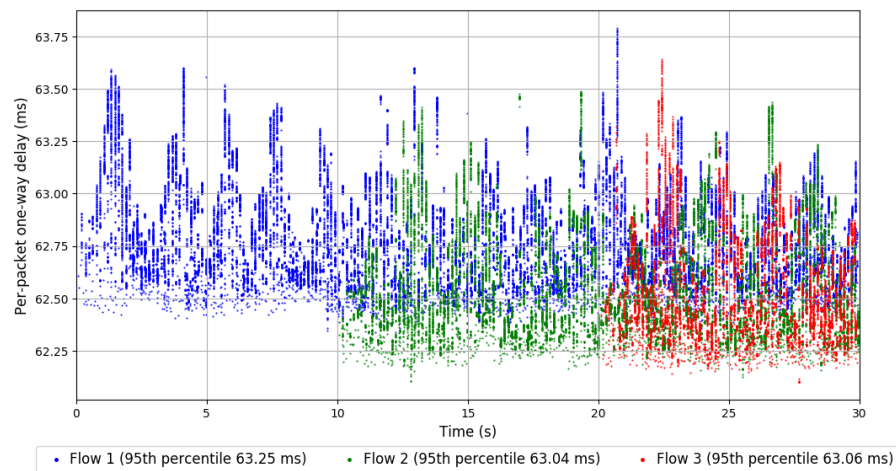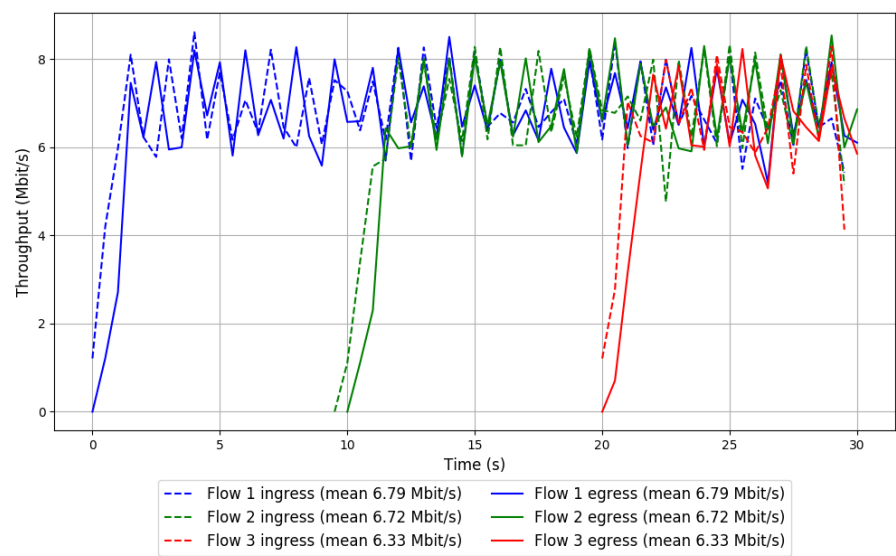
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-02-12 04:55:41
End at: 2019-02-12 04:56:11
Local clock offset: -0.083 ms
Remote clock offset: -0.735 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.33 Mbit/s
95th percentile per-packet one-way delay: 63.181 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.79 Mbit/s
95th percentile per-packet one-way delay: 63.254 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.72 Mbit/s
95th percentile per-packet one-way delay: 63.039 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.33 Mbit/s
95th percentile per-packet one-way delay: 63.060 ms
Loss rate: 0.00%
```
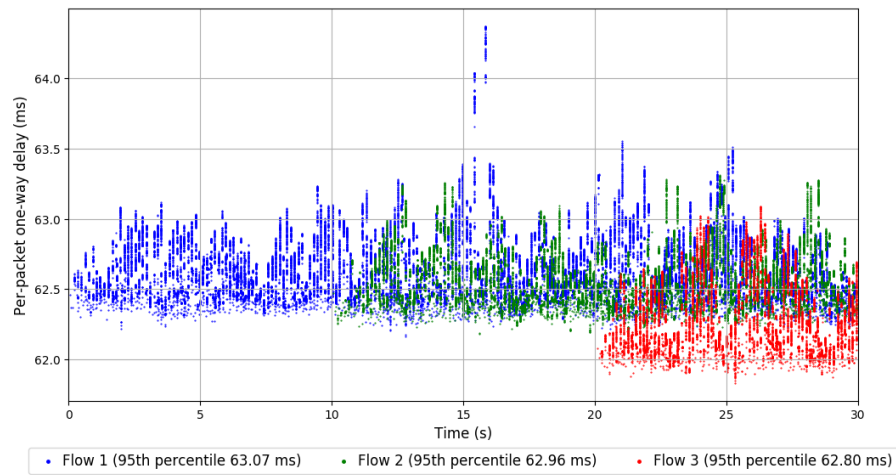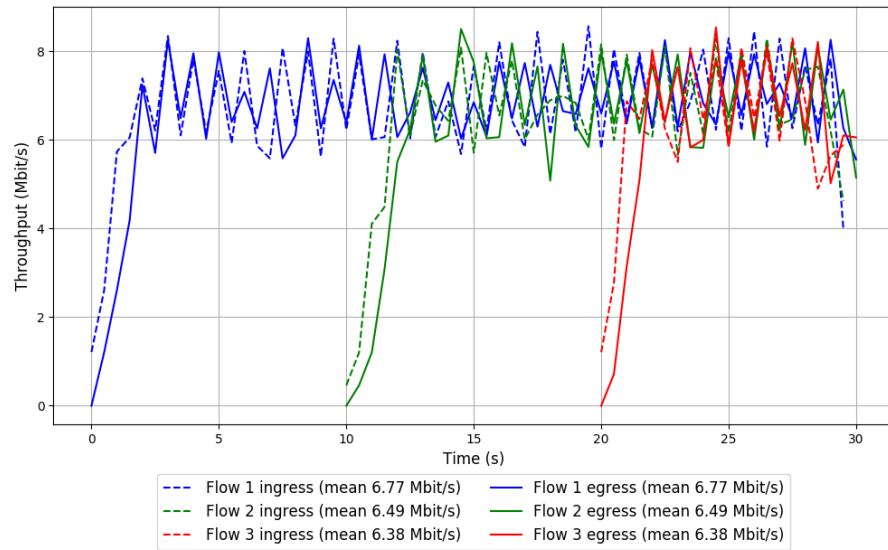
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-02-12 05:32:44
End at: 2019-02-12 05:33:14
Local clock offset: 0.085 ms
Remote clock offset: -0.749 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.18 Mbit/s
95th percentile per-packet one-way delay: 63.006 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.77 Mbit/s
95th percentile per-packet one-way delay: 63.068 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.49 Mbit/s
95th percentile per-packet one-way delay: 62.956 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.38 Mbit/s
95th percentile per-packet one-way delay: 62.795 ms
Loss rate: 0.00%
```
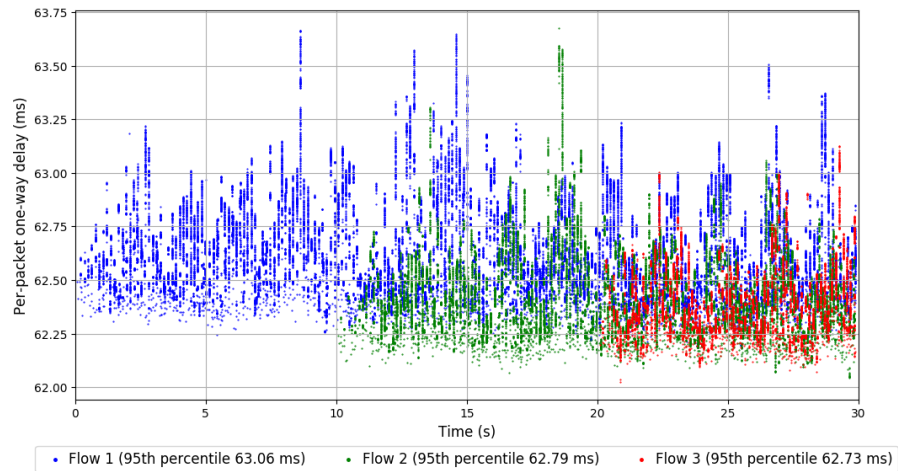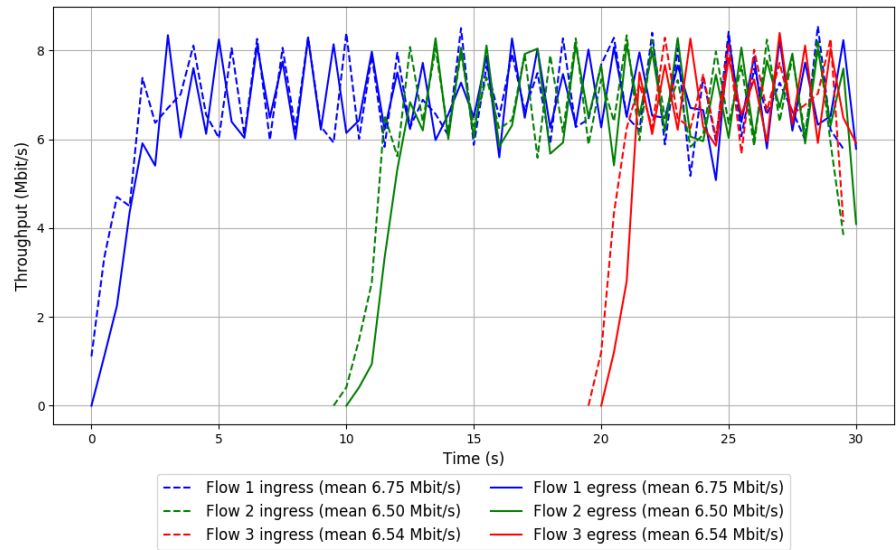
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-02-12 06:09:32
End at: 2019-02-12 06:10:02
Local clock offset: -0.114 ms
Remote clock offset: -0.74 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.24 Mbit/s
95th percentile per-packet one-way delay: 62.980 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.75 Mbit/s
95th percentile per-packet one-way delay: 63.064 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.50 Mbit/s
95th percentile per-packet one-way delay: 62.788 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.54 Mbit/s
95th percentile per-packet one-way delay: 62.729 ms
Loss rate: 0.00%
```
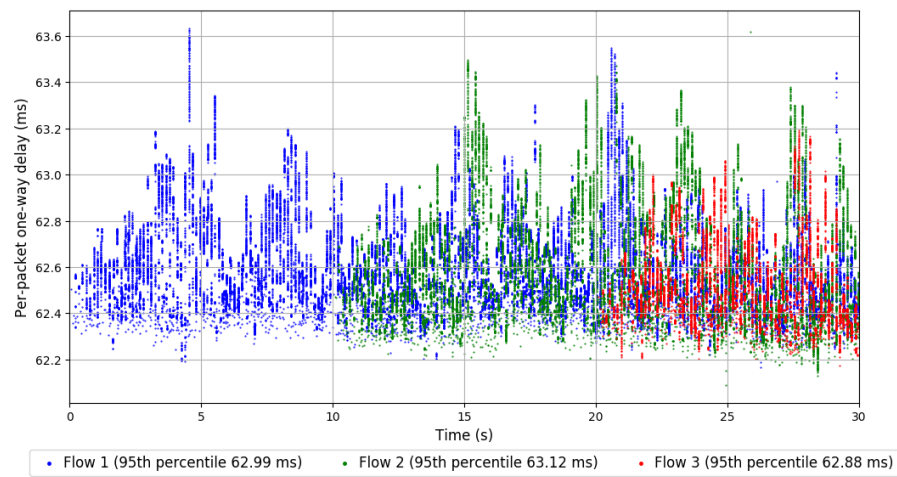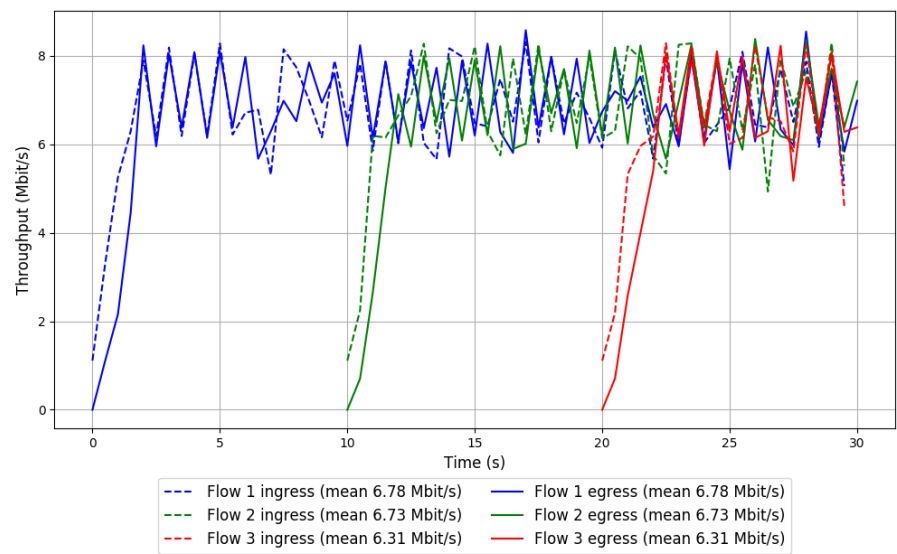
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-02-12 06:46:32
End at: 2019-02-12 06:47:02
Local clock offset: -0.136 ms
Remote clock offset: -0.831 ms


# Below is generated by plot.py at 2019-02-12 10:28:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.32 Mbit/s
95th percentile per-packet one-way delay: 63.026 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.78 Mbit/s
95th percentile per-packet one-way delay: 62.987 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.73 Mbit/s
95th percentile per-packet one-way delay: 63.116 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.31 Mbit/s
95th percentile per-packet one-way delay: 62.884 ms
Loss rate: 0.00%
```
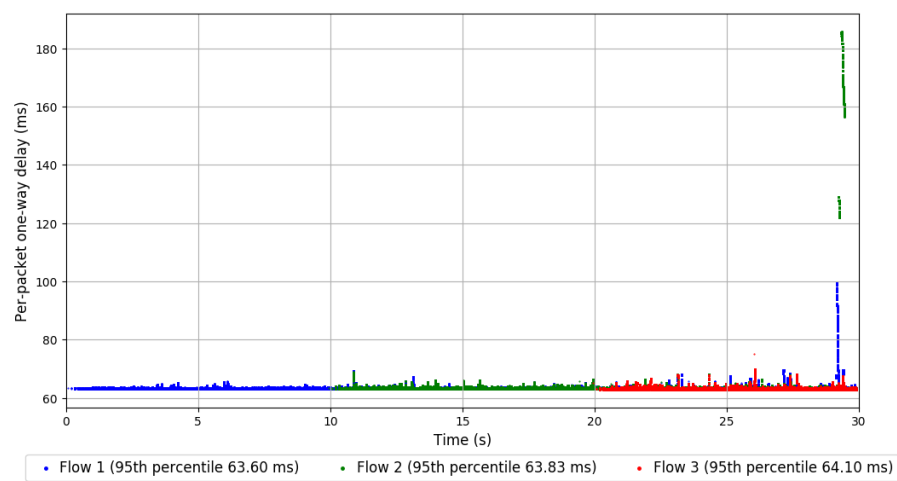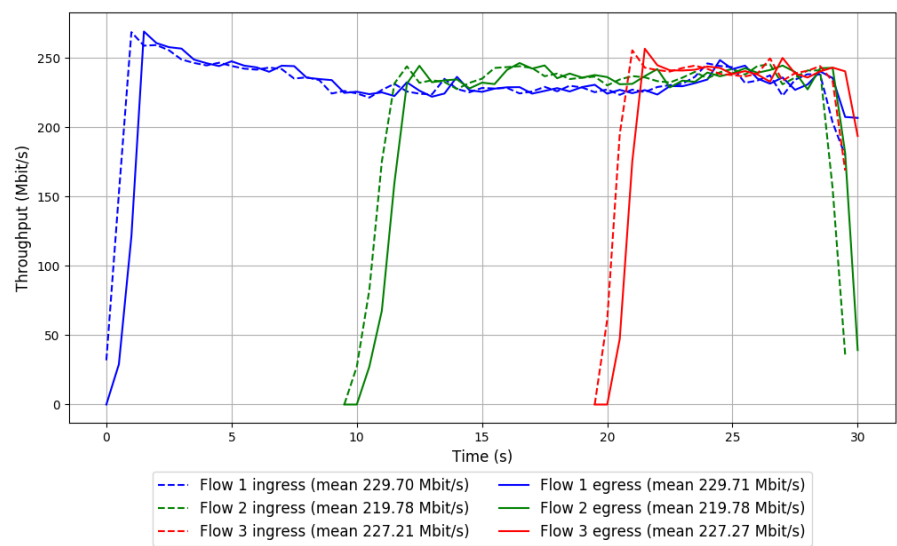
Run 5: Report of Sprout — Data Link

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

Start at: 2019-02-12 04:33:54
End at: 2019-02-12 04:34:24
Local clock offset: -0.044 ms
Remote clock offset: 0.257 ms


# Below is generated by plot.py at 2019-02-12 10:30:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 452.62 Mbit/s
95th percentile per-packet one-way delay: 63.753 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 229.71 Mbit/s
95th percentile per-packet one-way delay: 63.596 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 219.78 Mbit/s
95th percentile per-packet one-way delay: 63.831 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 227.27 Mbit/s
95th percentile per-packet one-way delay: 64.104 ms
Loss rate: 0.00%
```

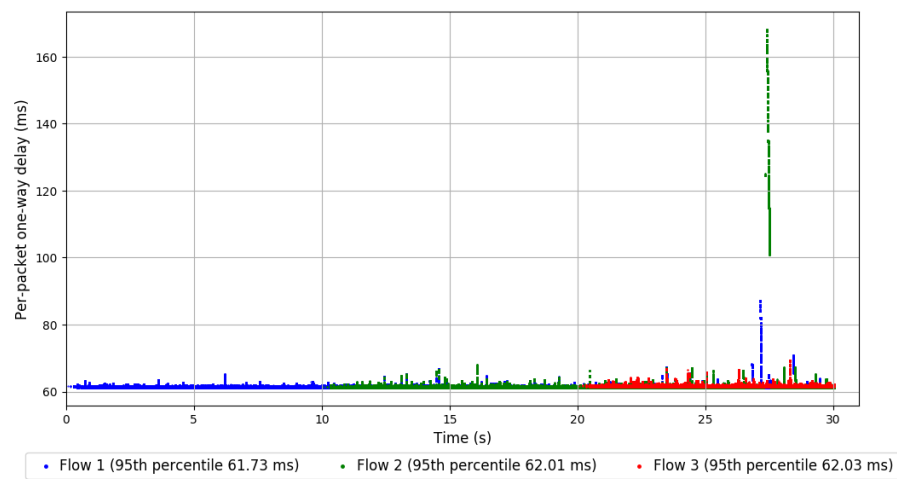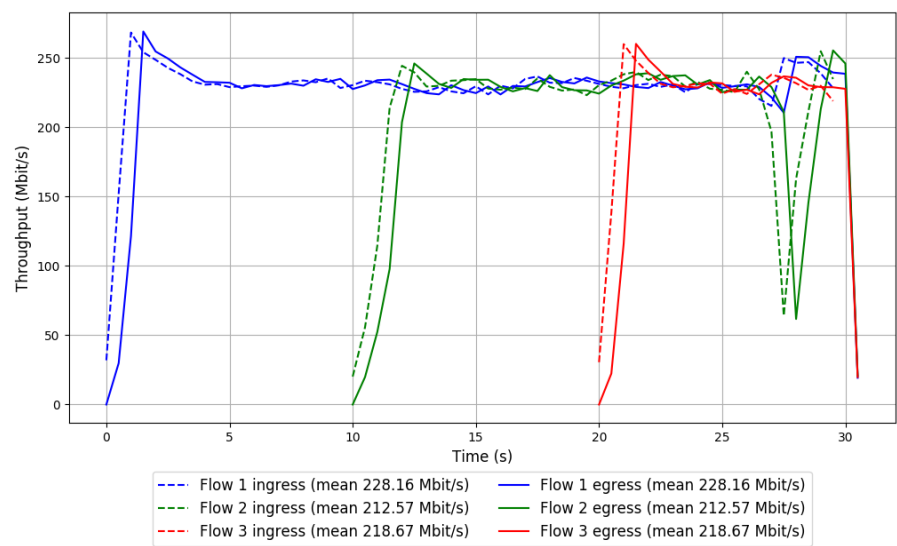Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2019-02-12 05:11:03
End at: 2019-02-12 05:11:33
Local clock offset: -0.075 ms
Remote clock offset: -1.455 ms


# Below is generated by plot.py at 2019-02-12 10:30:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 442.43 Mbit/s
95th percentile per-packet one-way delay: 61.878 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 228.16 Mbit/s
95th percentile per-packet one-way delay: 61.732 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 212.57 Mbit/s
95th percentile per-packet one-way delay: 62.007 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 218.67 Mbit/s
95th percentile per-packet one-way delay: 62.033 ms
Loss rate: 0.00%
```

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

Flow 1 ingress (mean 228.16 Mbit/s) — Flow 1 egress (mean 228.16 Mbit/s)
Flow 2 ingress (mean 212.57 Mbit/s) — Flow 2 egress (mean 212.57 Mbit/s)
Flow 3 ingress (mean 218.67 Mbit/s) — Flow 3 egress (mean 218.67 Mbit/s)

Flow 1 (95th percentile 61.73 ms) Flow 2 (95th percentile 62.01 ms) Flow 3 (95th percentile 62.03 ms)
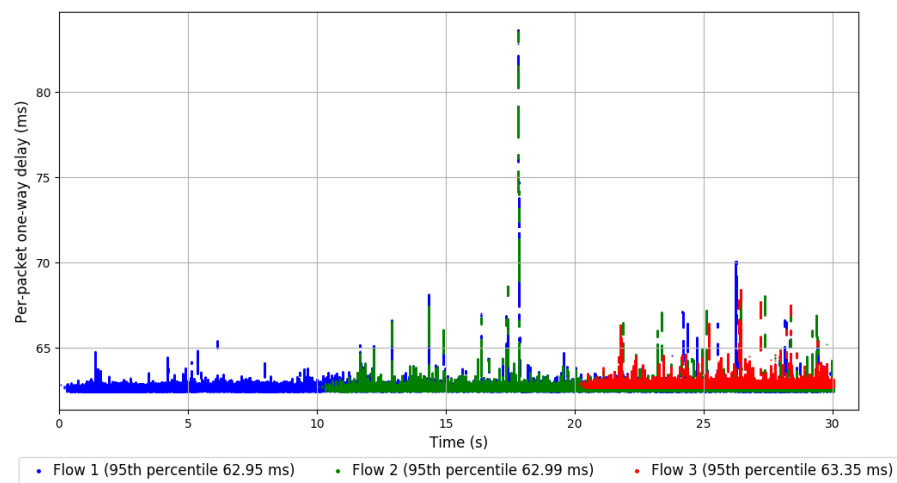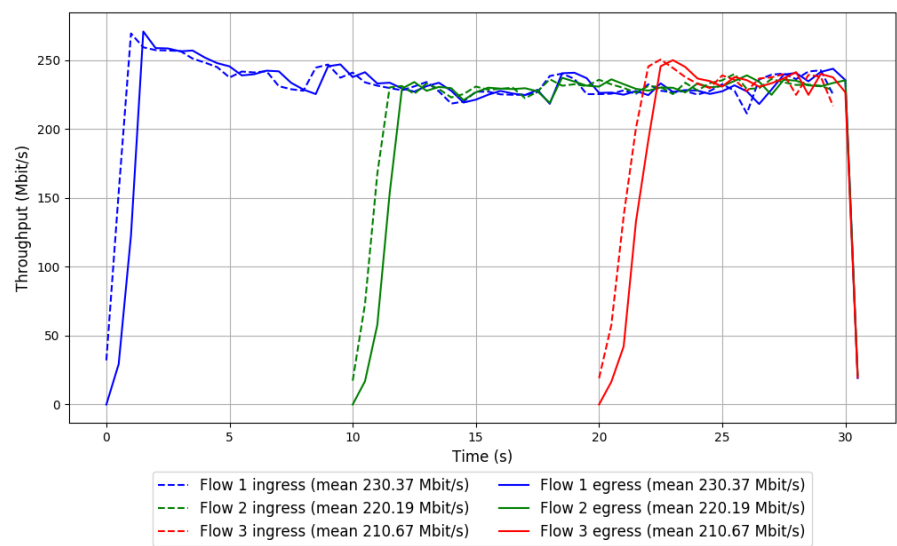
```
Run 3: Statistics of TaoVA-100x

Start at: 2019-02-12 05:47:57
End at: 2019-02-12 05:48:27
Local clock offset: -0.022 ms
Remote clock offset: -0.186 ms


# Below is generated by plot.py at 2019-02-12 10:30:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 446.95 Mbit/s
95th percentile per-packet one-way delay: 63.059 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 230.37 Mbit/s
95th percentile per-packet one-way delay: 62.949 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 220.19 Mbit/s
95th percentile per-packet one-way delay: 62.995 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 210.67 Mbit/s
95th percentile per-packet one-way delay: 63.350 ms
Loss rate: 0.00%
```

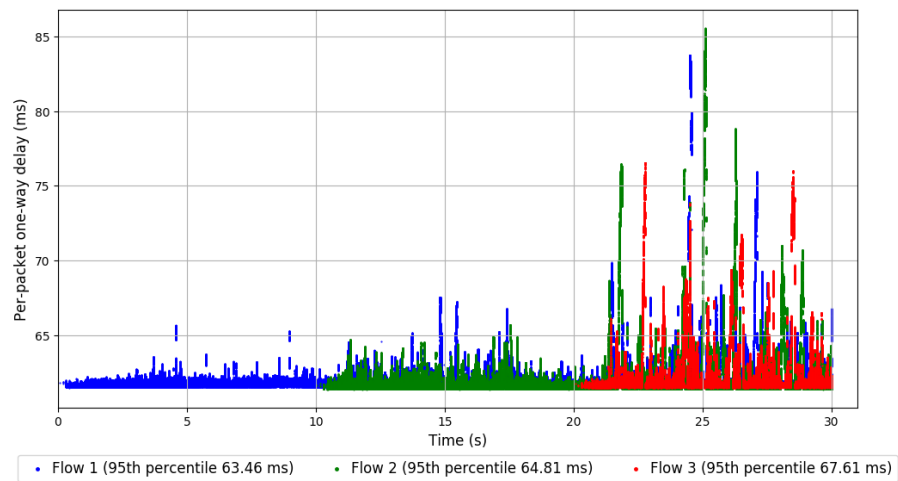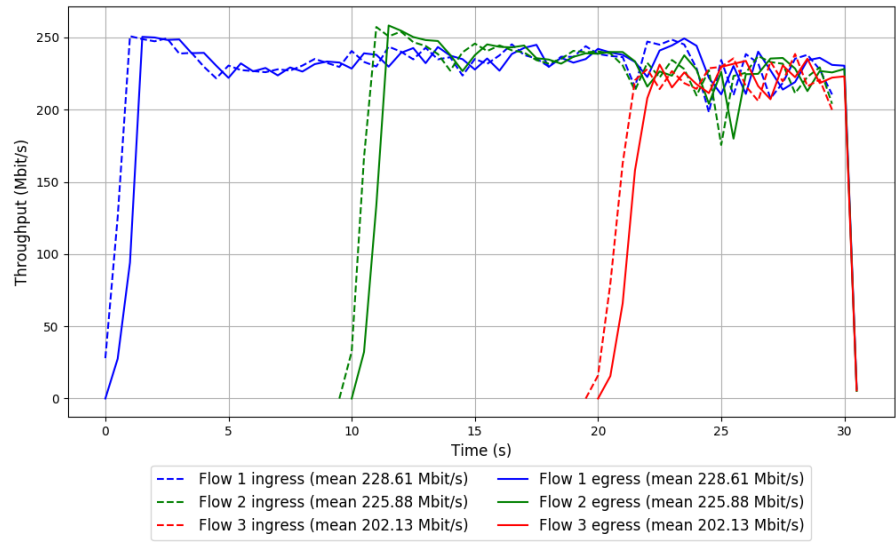# Run 3: Report of TaoVA-100x — Data Link

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

Start at: 2019-02-12 06:24:58
End at: 2019-02-12 06:25:28
Local clock offset: -0.194 ms
Remote clock offset: -1.383 ms


# Below is generated by plot.py at 2019-02-12 10:30:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 446.39 Mbit/s
95th percentile per-packet one-way delay: 64.469 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 228.61 Mbit/s
95th percentile per-packet one-way delay: 63.463 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 225.88 Mbit/s
95th percentile per-packet one-way delay: 64.814 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 202.13 Mbit/s
95th percentile per-packet one-way delay: 67.613 ms
Loss rate: 0.00%
```

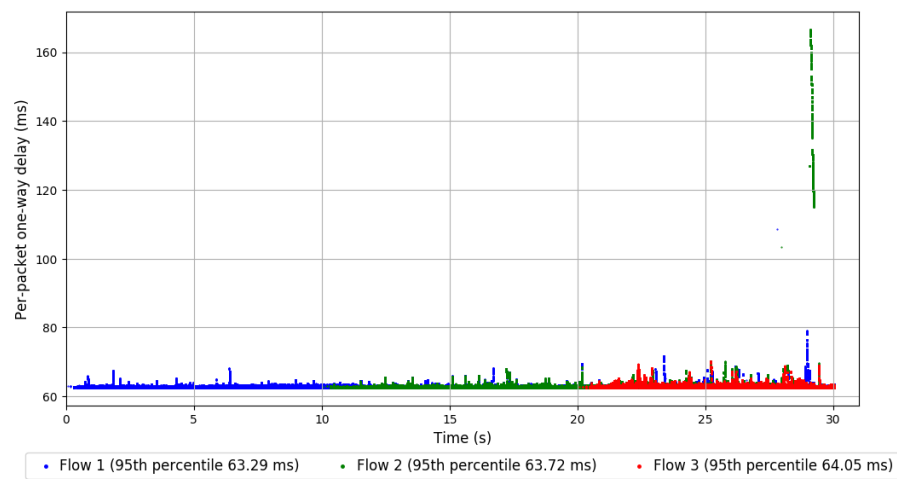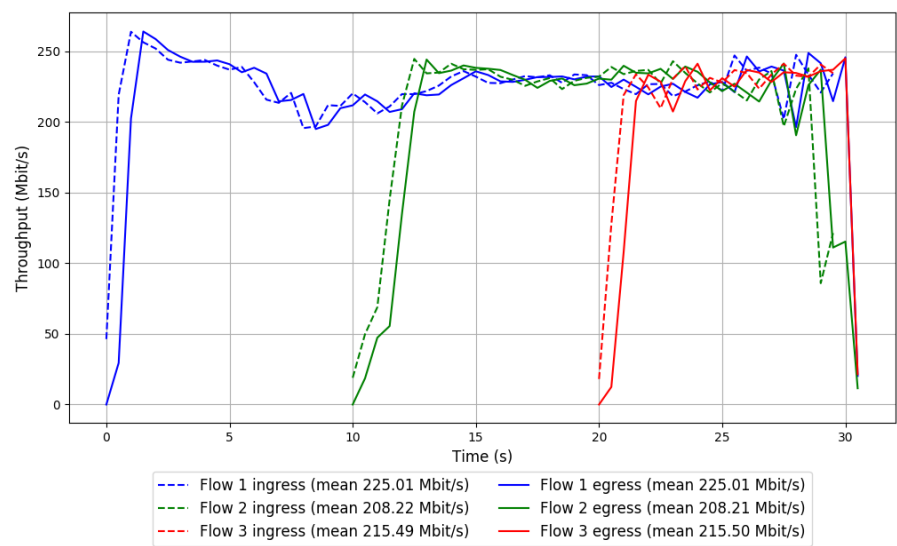# Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2019-02-12 07:01:45
End at: 2019-02-12 07:02:15
Local clock offset: -0.114 ms
Remote clock offset: -0.333 ms


# Below is generated by plot.py at 2019-02-12 10:30:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 435.29 Mbit/s
95th percentile per-packet one-way delay: 63.546 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 225.01 Mbit/s
95th percentile per-packet one-way delay: 63.286 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 208.21 Mbit/s
95th percentile per-packet one-way delay: 63.724 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 215.50 Mbit/s
95th percentile per-packet one-way delay: 64.050 ms
Loss rate: 0.00%
```

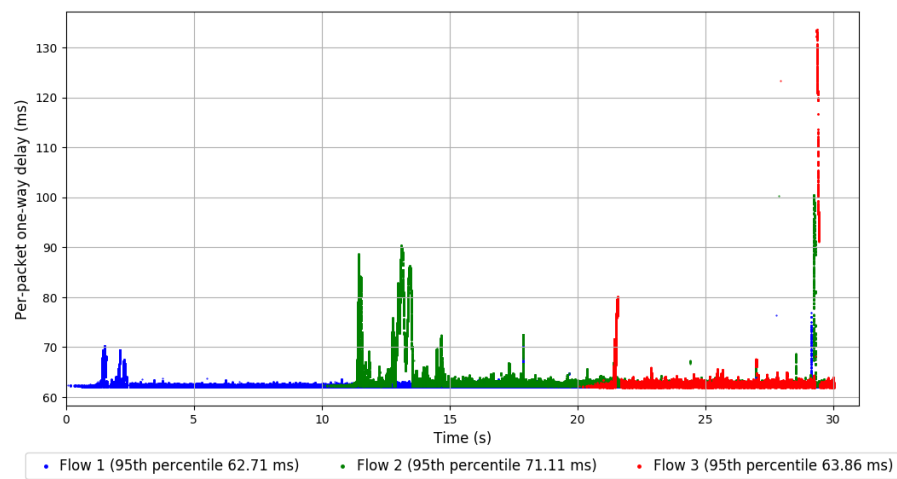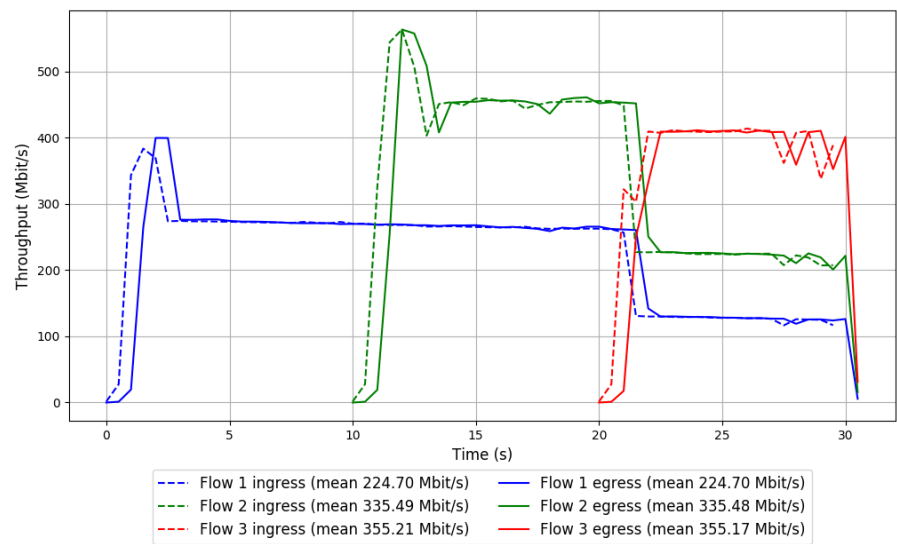Run 5: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2019-02-12 04:21:52
End at: 2019-02-12 04:22:22
Local clock offset: -0.062 ms
Remote clock offset: -0.825 ms


# Below is generated by plot.py at 2019-02-12 10:30:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 566.16 Mbit/s
95th percentile per-packet one-way delay: 65.211 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 224.70 Mbit/s
95th percentile per-packet one-way delay: 62.706 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 335.48 Mbit/s
95th percentile per-packet one-way delay: 71.111 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 355.17 Mbit/s
95th percentile per-packet one-way delay: 63.863 ms
Loss rate: 0.01%
```

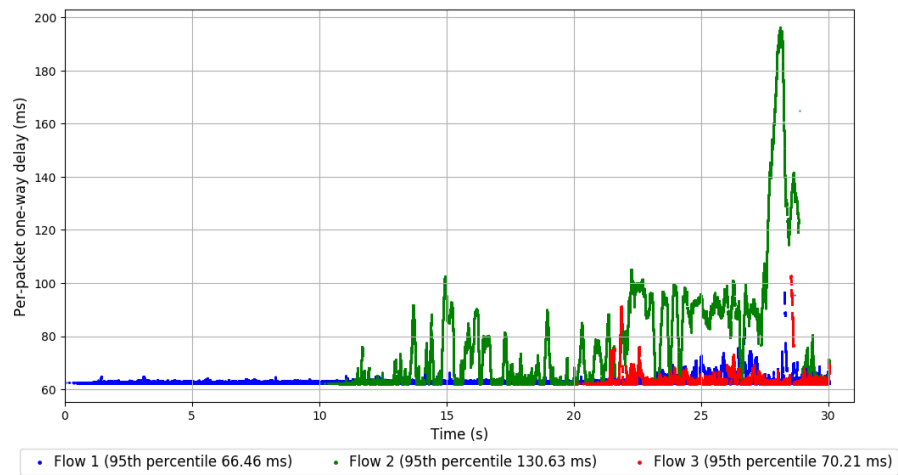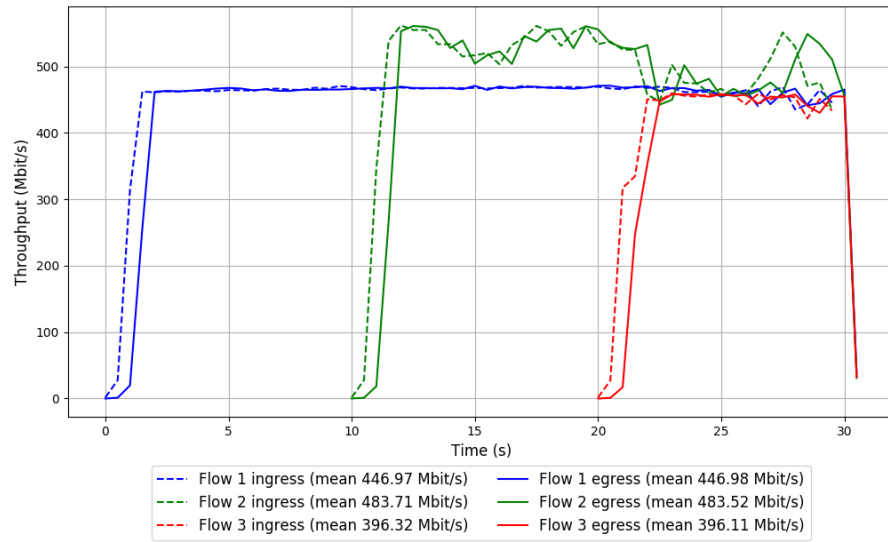Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-02-12 04:58:47
End at: 2019-02-12 04:59:17
Local clock offset: -0.071 ms
Remote clock offset: -0.758 ms


# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 900.58 Mbit/s
95th percentile per-packet one-way delay: 94.887 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 446.98 Mbit/s
95th percentile per-packet one-way delay: 66.457 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 483.52 Mbit/s
95th percentile per-packet one-way delay: 130.634 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 396.11 Mbit/s
95th percentile per-packet one-way delay: 70.206 ms
Loss rate: 0.05%
```
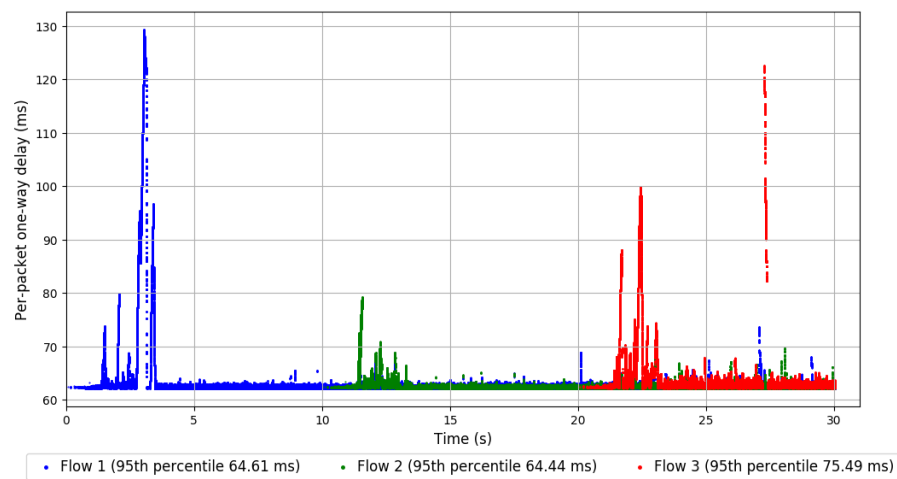
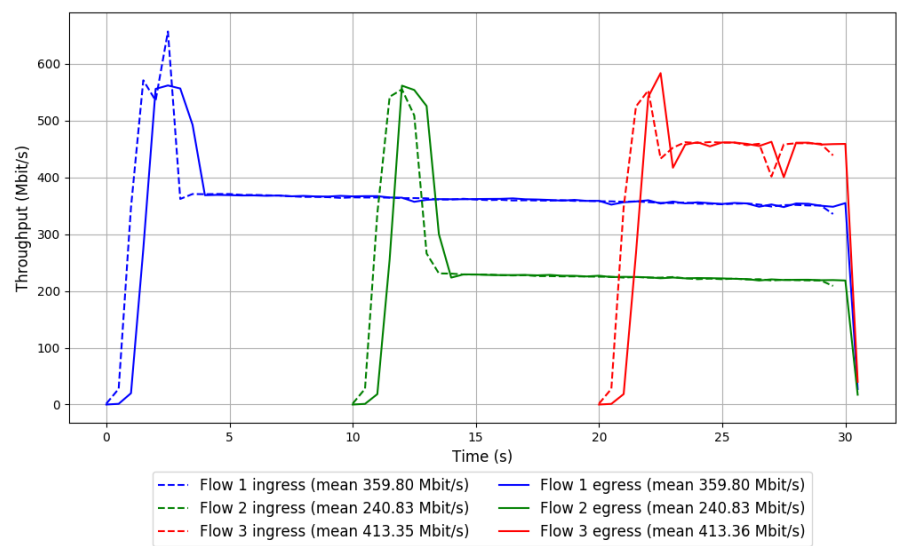Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-02-12 05:35:47
End at: 2019-02-12 05:36:17
Local clock offset: -0.028 ms
Remote clock offset: -0.592 ms


# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 657.64 Mbit/s
95th percentile per-packet one-way delay: 67.209 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 359.80 Mbit/s
95th percentile per-packet one-way delay: 64.611 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 240.83 Mbit/s
95th percentile per-packet one-way delay: 64.438 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 413.36 Mbit/s
95th percentile per-packet one-way delay: 75.486 ms
Loss rate: 0.00%
```

Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 359.80 Mbit/s) --- Flow 1 egress (mean 359.80 Mbit/s)
Flow 2 ingress (mean 240.83 Mbit/s) --- Flow 2 egress (mean 240.83 Mbit/s)
Flow 3 ingress (mean 413.35 Mbit/s) --- Flow 3 egress (mean 413.36 Mbit/s)

Flow 1 (95th percentile 64.61 ms)   Flow 2 (95th percentile 64.44 ms)   Flow 3 (95th percentile 75.49 ms)
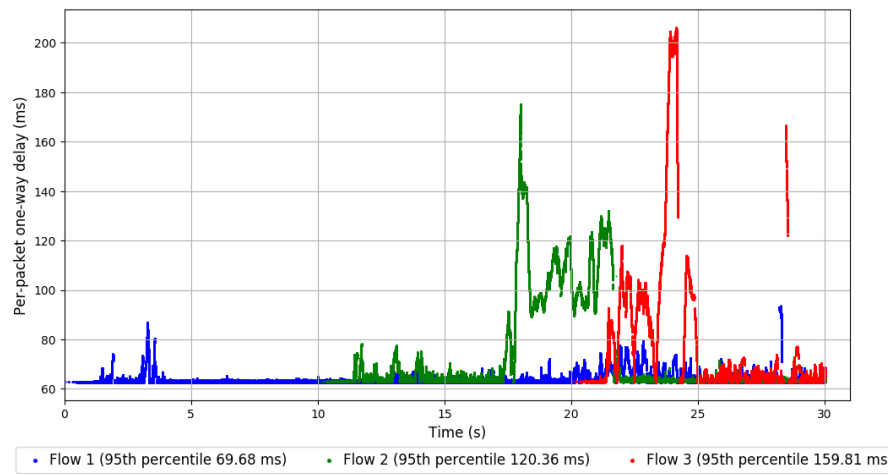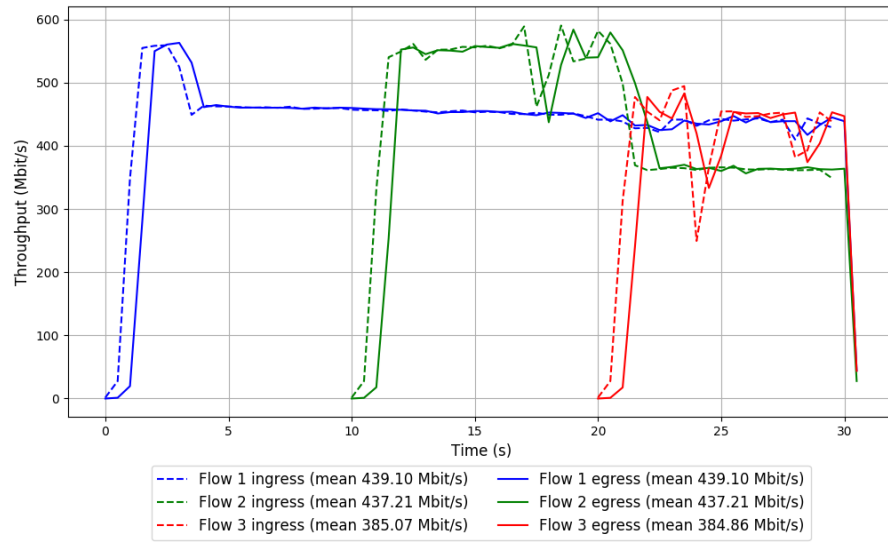
180

Run 4: Statistics of TCP Vegas

Start at: 2019-02-12 06:12:35
End at: 2019-02-12 06:13:05
Local clock offset: -0.113 ms
Remote clock offset: -0.253 ms

Below is generated by plot.py at 2019-02-12 10:48:09
Datalink statistics
-- Total of 3 flows:
Average throughput: 858.35 Mbit/s
95th percentile per-packet one-way delay: 109.059 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 439.10 Mbit/s
95th percentile per-packet one-way delay: 69.681 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 437.21 Mbit/s
95th percentile per-packet one-way delay: 120.363 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 384.86 Mbit/s
95th percentile per-packet one-way delay: 159.807 ms
Loss rate: 0.06%

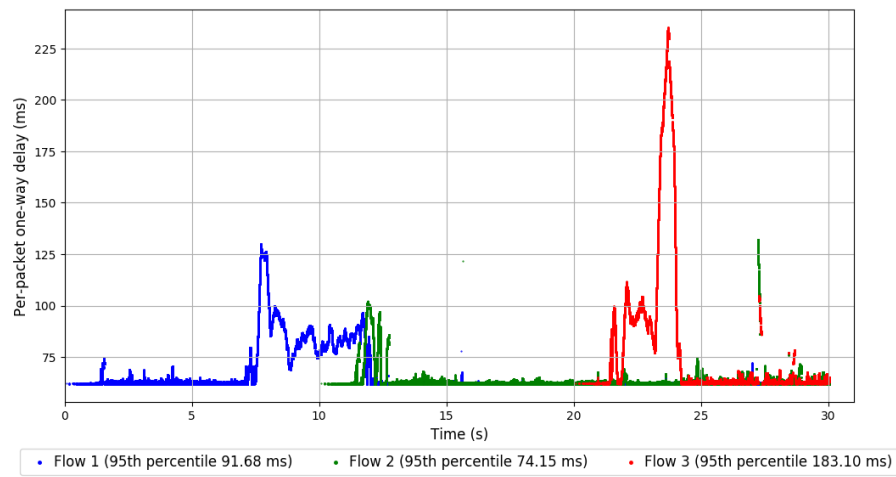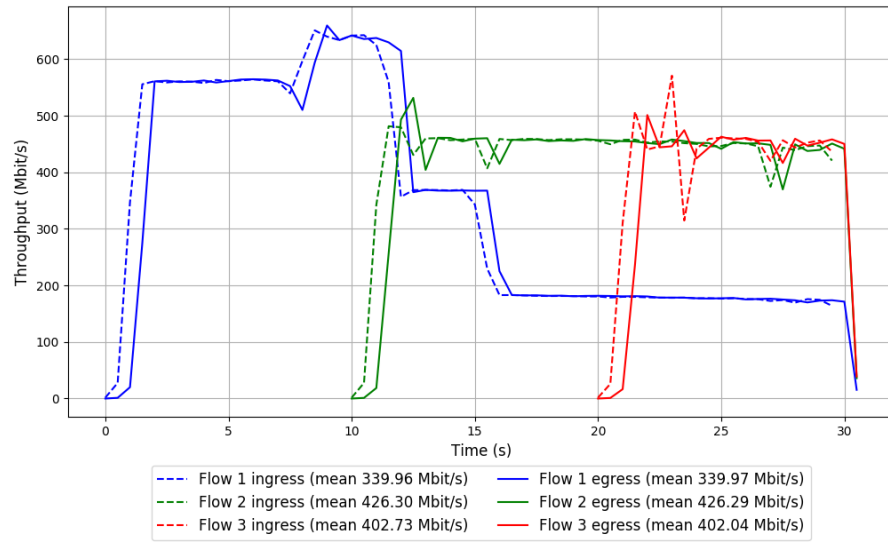Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-02-12 06:49:31
End at: 2019-02-12 06:50:01
Local clock offset: -0.104 ms
Remote clock offset: -0.896 ms


# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 757.39 Mbit/s
95th percentile per-packet one-way delay: 95.236 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 339.97 Mbit/s
95th percentile per-packet one-way delay: 91.682 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 426.29 Mbit/s
95th percentile per-packet one-way delay: 74.147 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 402.04 Mbit/s
95th percentile per-packet one-way delay: 183.096 ms
Loss rate: 0.16%
```

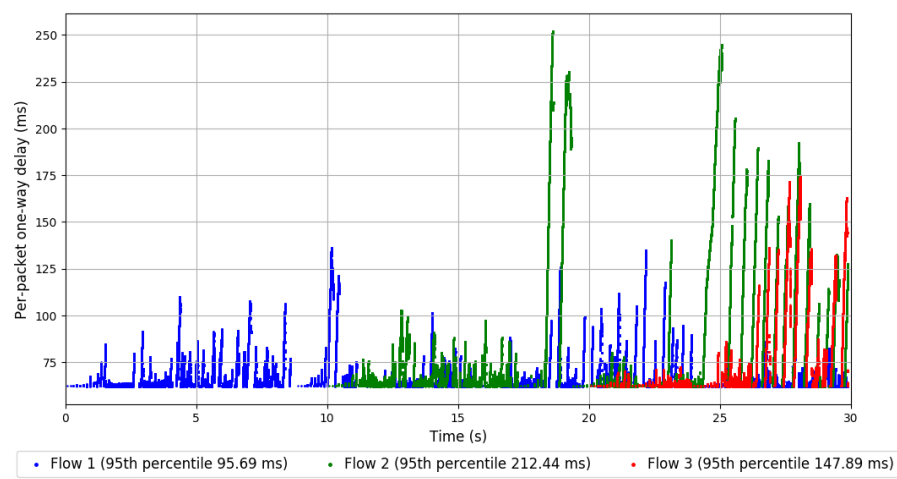# Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 339.96 Mbit/s) --- Flow 1 egress (mean 339.97 Mbit/s)
Flow 2 ingress (mean 426.30 Mbit/s) --- Flow 2 egress (mean 426.29 Mbit/s)
Flow 3 ingress (mean 402.73 Mbit/s) --- Flow 3 egress (mean 402.04 Mbit/s)

Flow 1 (95th percentile 91.68 ms)   Flow 2 (95th percentile 74.15 ms)   Flow 3 (95th percentile 183.10 ms)
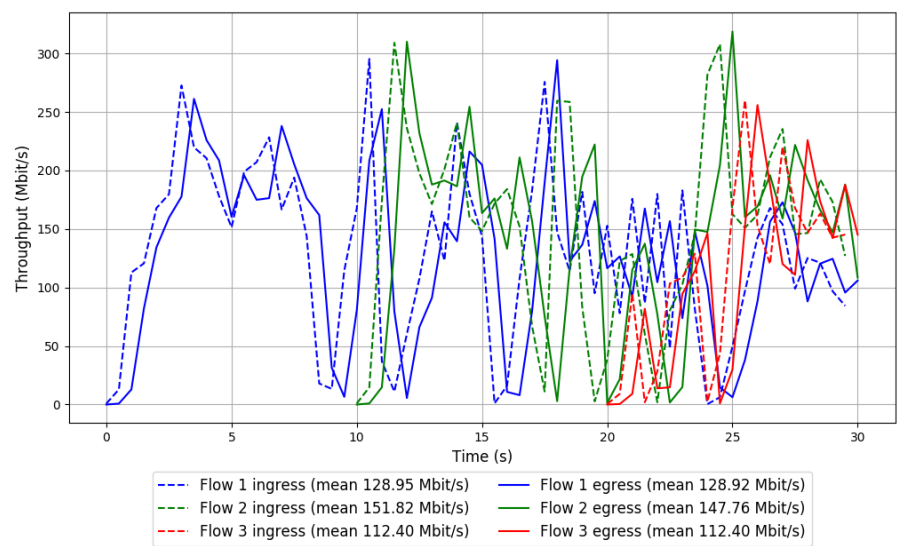
```
Run 1: Statistics of Verus

Start at: 2019-02-12 04:35:49
End at: 2019-02-12 04:36:19
Local clock offset: -0.093 ms
Remote clock offset: -0.871 ms


# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 264.14 Mbit/s
95th percentile per-packet one-way delay: 162.969 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 128.92 Mbit/s
95th percentile per-packet one-way delay: 95.691 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 147.76 Mbit/s
95th percentile per-packet one-way delay: 212.445 ms
Loss rate: 2.68%
-- Flow 3:
Average throughput: 112.40 Mbit/s
95th percentile per-packet one-way delay: 147.887 ms
Loss rate: 0.00%
```

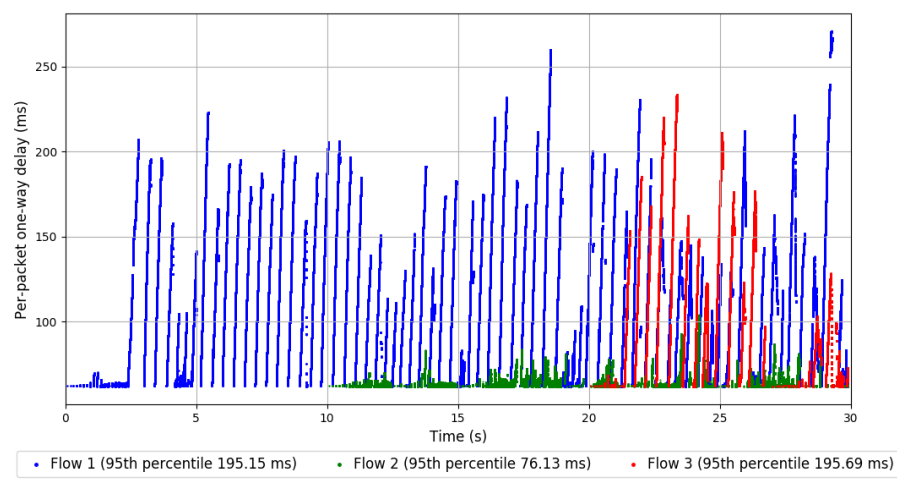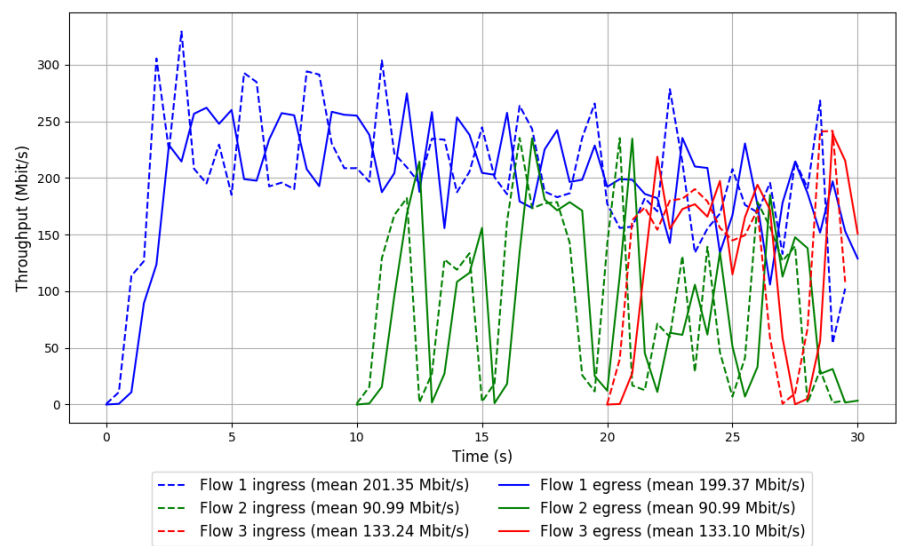Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-02-12 05:12:58
End at: 2019-02-12 05:13:28
Local clock offset: -0.087 ms
Remote clock offset: -0.832 ms


# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 303.55 Mbit/s
95th percentile per-packet one-way delay: 191.496 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 199.37 Mbit/s
95th percentile per-packet one-way delay: 195.148 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 90.99 Mbit/s
95th percentile per-packet one-way delay: 76.129 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 133.10 Mbit/s
95th percentile per-packet one-way delay: 195.694 ms
Loss rate: 0.09%
```

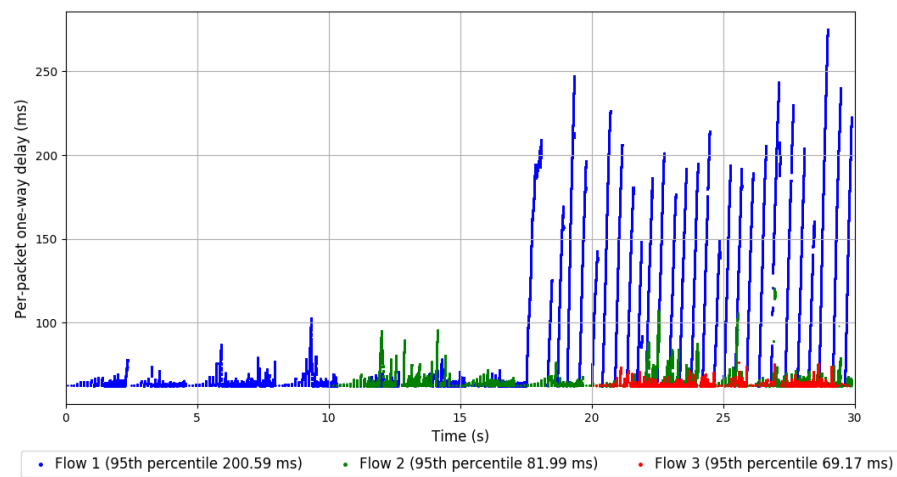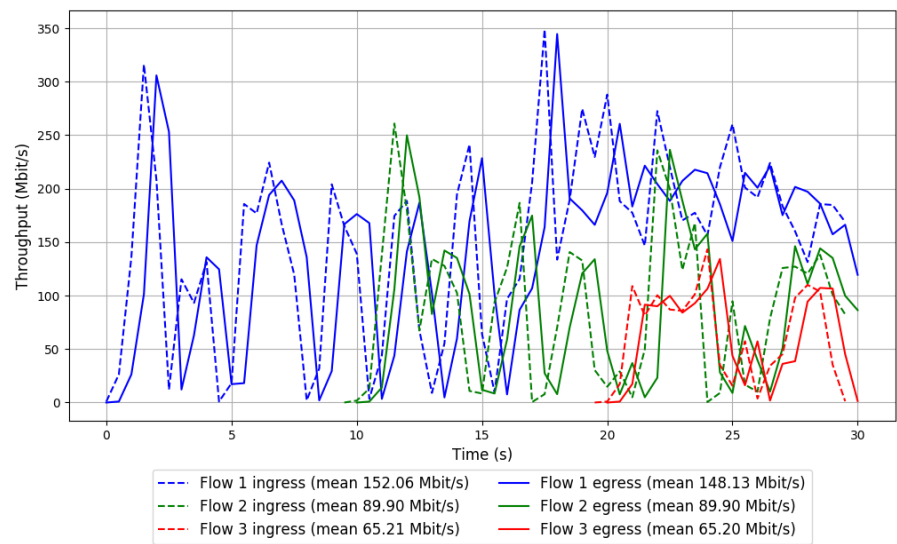Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-02-12 05:49:53
End at: 2019-02-12 05:50:23
Local clock offset: 0.029 ms
Remote clock offset: -0.602 ms


# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 229.12 Mbit/s
95th percentile per-packet one-way delay: 193.203 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 148.13 Mbit/s
95th percentile per-packet one-way delay: 200.589 ms
Loss rate: 2.18%
-- Flow 2:
Average throughput: 89.90 Mbit/s
95th percentile per-packet one-way delay: 81.987 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 65.20 Mbit/s
95th percentile per-packet one-way delay: 69.170 ms
Loss rate: 0.02%
```

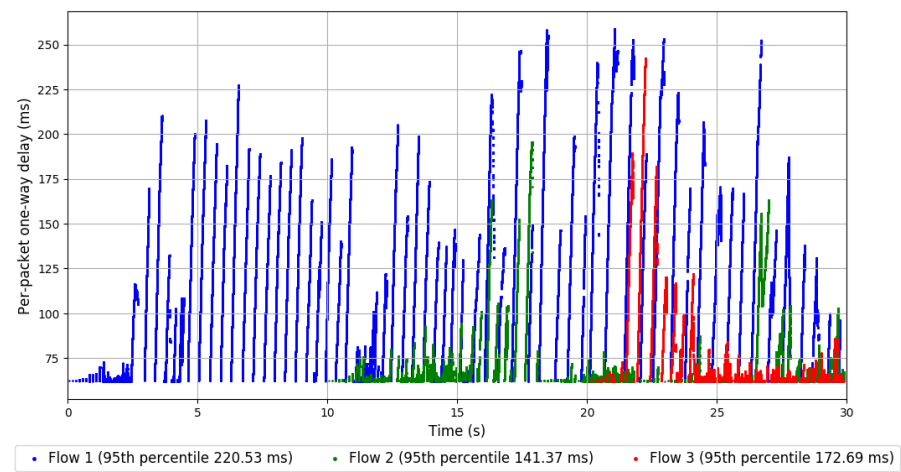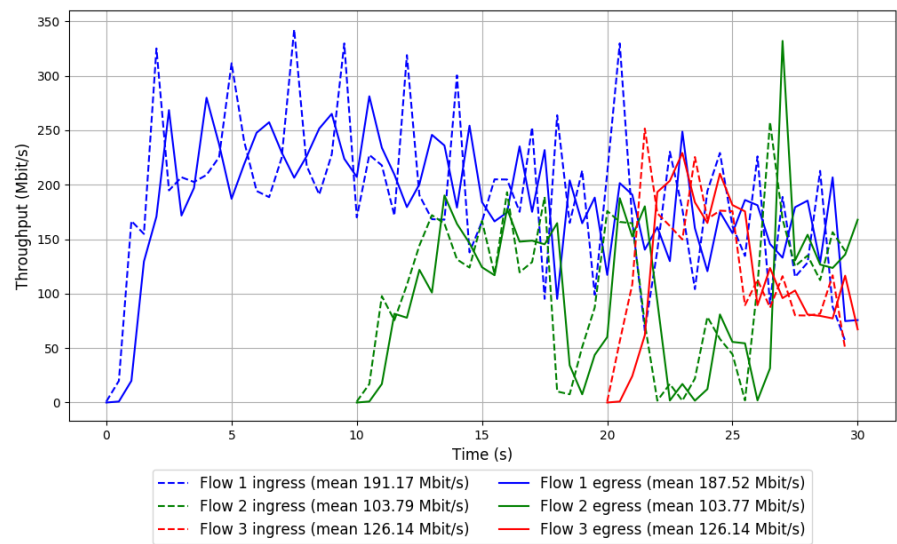Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-02-12 06:26:54
End at: 2019-02-12 06:27:24
Local clock offset: -0.142 ms
Remote clock offset: -0.822 ms


# Below is generated by plot.py at 2019-02-12 10:48:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 296.84 Mbit/s
95th percentile per-packet one-way delay: 204.318 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 187.52 Mbit/s
95th percentile per-packet one-way delay: 220.526 ms
Loss rate: 1.80%
-- Flow 2:
Average throughput: 103.77 Mbit/s
95th percentile per-packet one-way delay: 141.366 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 126.14 Mbit/s
95th percentile per-packet one-way delay: 172.687 ms
Loss rate: 0.00%
```

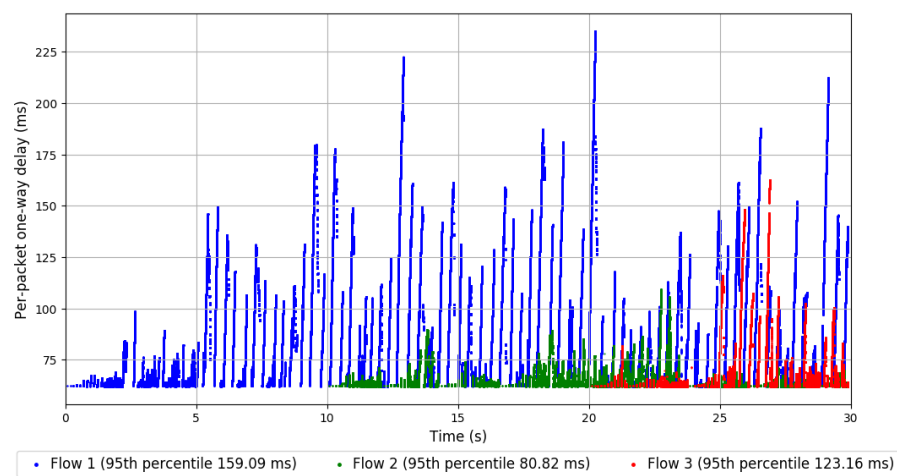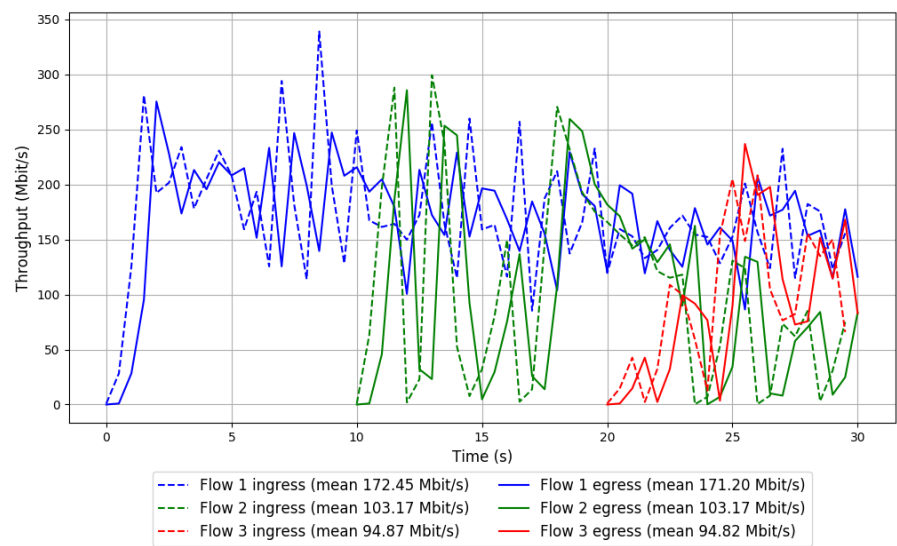Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-02-12 07:03:40
End at: 2019-02-12 07:04:10
Local clock offset: -0.121 ms
Remote clock offset: -0.811 ms


# Below is generated by plot.py at 2019-02-12 10:51:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 270.89 Mbit/s
95th percentile per-packet one-way delay: 147.074 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 171.20 Mbit/s
95th percentile per-packet one-way delay: 159.089 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 103.17 Mbit/s
95th percentile per-packet one-way delay: 80.819 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 94.82 Mbit/s
95th percentile per-packet one-way delay: 123.156 ms
Loss rate: 0.06%
```

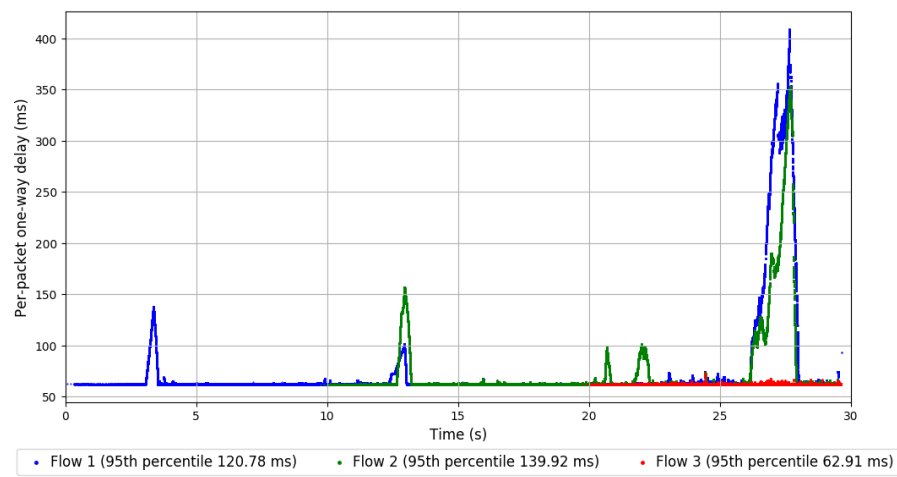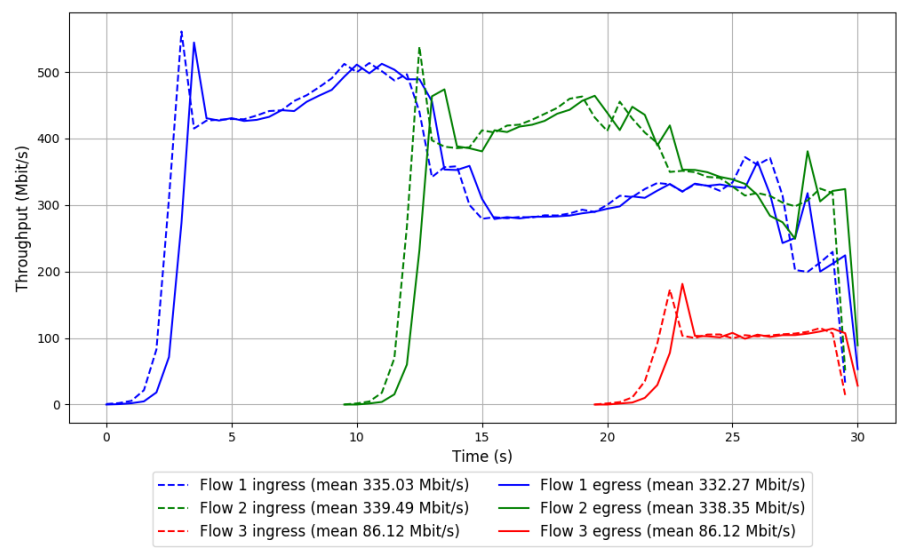Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-02-12 04:04:38
End at: 2019-02-12 04:05:08
Local clock offset: -0.098 ms
Remote clock offset: -0.833 ms


# Below is generated by plot.py at 2019-02-12 10:53:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 588.26 Mbit/s
95th percentile per-packet one-way delay: 125.841 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 332.27 Mbit/s
95th percentile per-packet one-way delay: 120.784 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 338.35 Mbit/s
95th percentile per-packet one-way delay: 139.919 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 86.12 Mbit/s
95th percentile per-packet one-way delay: 62.905 ms
Loss rate: 0.00%
```
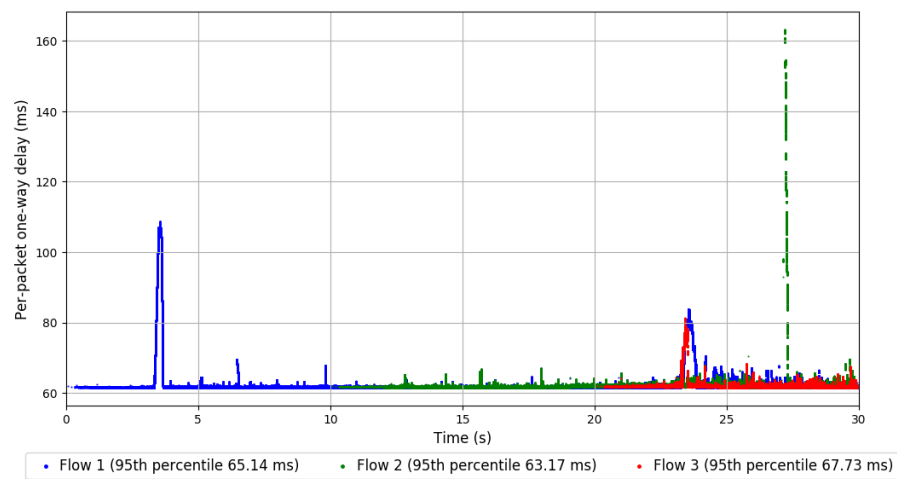
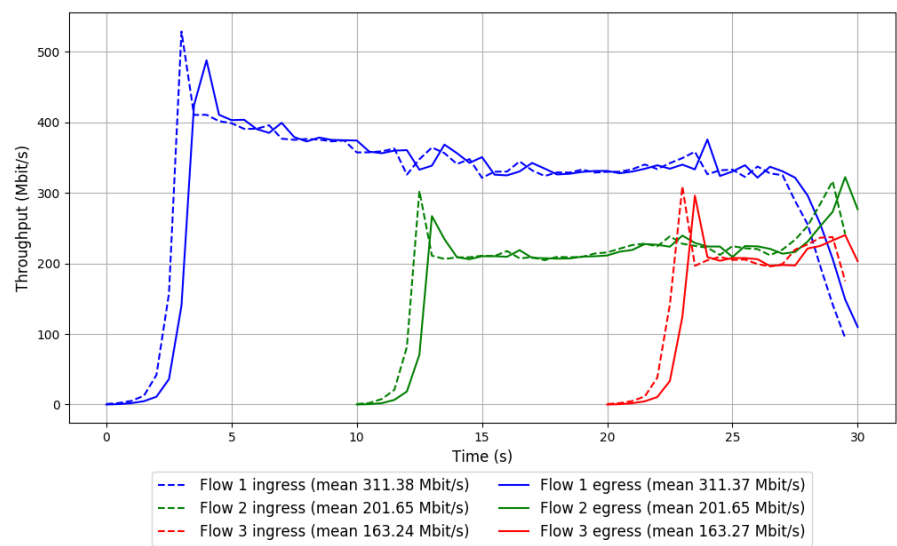# Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-02-12 04:40:45
End at: 2019-02-12 04:41:15
Local clock offset: -0.062 ms
Remote clock offset: -1.316 ms


# Below is generated by plot.py at 2019-02-12 10:53:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 499.29 Mbit/s
95th percentile per-packet one-way delay: 64.211 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 311.37 Mbit/s
95th percentile per-packet one-way delay: 65.136 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 201.65 Mbit/s
95th percentile per-packet one-way delay: 63.172 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 163.27 Mbit/s
95th percentile per-packet one-way delay: 67.733 ms
Loss rate: 0.00%
```

Run 2: Report of PCC-Vivace — Data Link

- - - - Flow 1 ingress (mean 311.38 Mbit/s) ——— Flow 1 egress (mean 311.37 Mbit/s)
- - - - Flow 2 ingress (mean 201.65 Mbit/s) ——— Flow 2 egress (mean 201.65 Mbit/s)
- - - - Flow 3 ingress (mean 163.24 Mbit/s) ——— Flow 3 egress (mean 163.27 Mbit/s)

- Flow 1 (95th percentile 65.14 ms)   • Flow 2 (95th percentile 63.17 ms)   • Flow 3 (95th percentile 67.73 ms)

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-02-12 05:18:04
End at: 2019-02-12 05:18:34
Local clock offset: -0.046 ms
Remote clock offset: 0.108 ms


# Below is generated by plot.py at 2019-02-12 10:54:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 542.85 Mbit/s
95th percentile per-packet one-way delay: 89.860 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 287.62 Mbit/s
95th percentile per-packet one-way delay: 76.971 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 244.51 Mbit/s
95th percentile per-packet one-way delay: 68.813 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 280.96 Mbit/s
95th percentile per-packet one-way delay: 137.644 ms
Loss rate: 0.00%
```
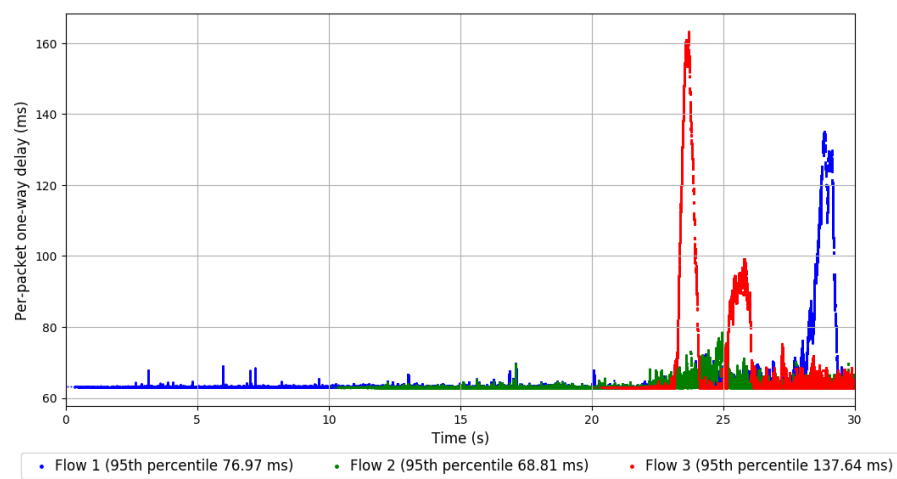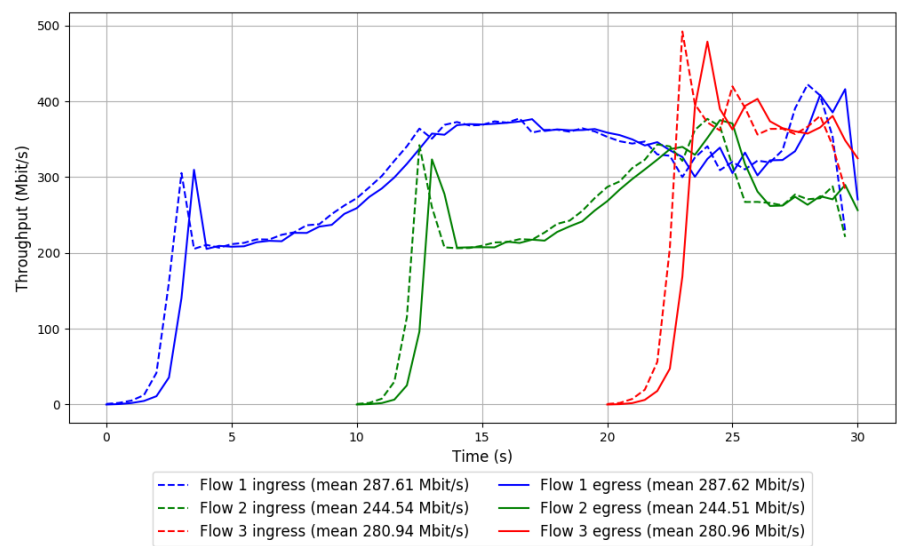
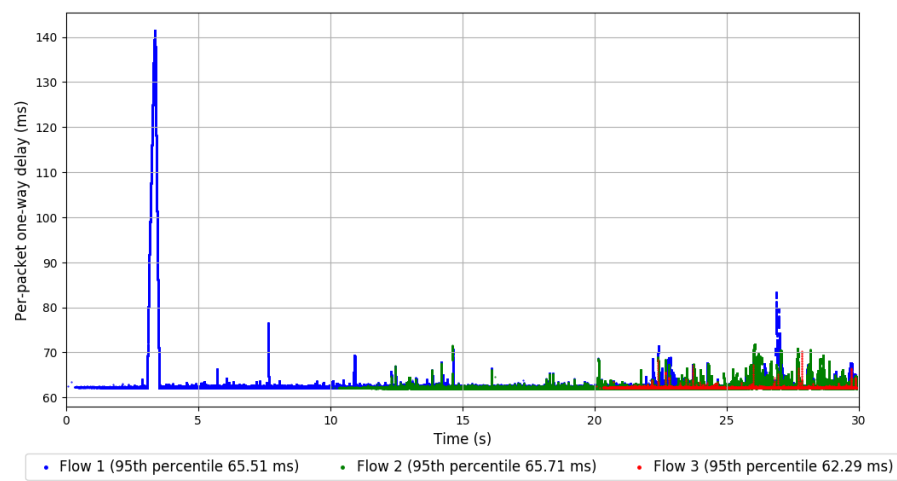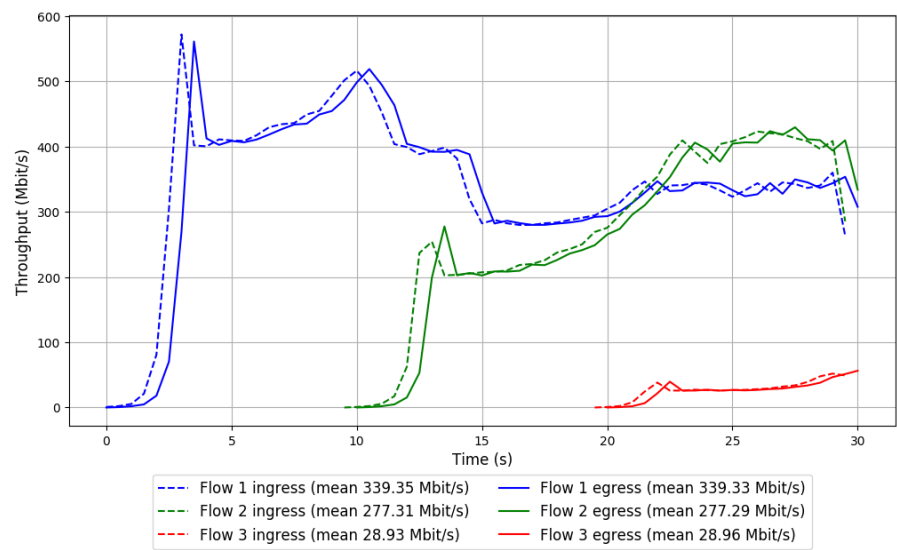# Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-02-12 05:54:49
End at: 2019-02-12 05:55:19
Local clock offset: 0.047 ms
Remote clock offset: -0.605 ms


# Below is generated by plot.py at 2019-02-12 10:54:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 533.44 Mbit/s
95th percentile per-packet one-way delay: 65.540 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 339.33 Mbit/s
95th percentile per-packet one-way delay: 65.509 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 277.29 Mbit/s
95th percentile per-packet one-way delay: 65.709 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 28.96 Mbit/s
95th percentile per-packet one-way delay: 62.294 ms
Loss rate: 0.00%
```

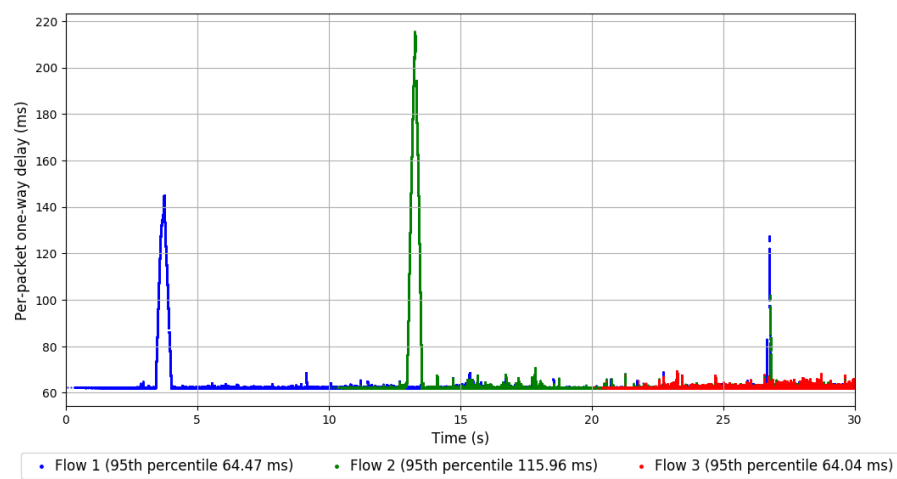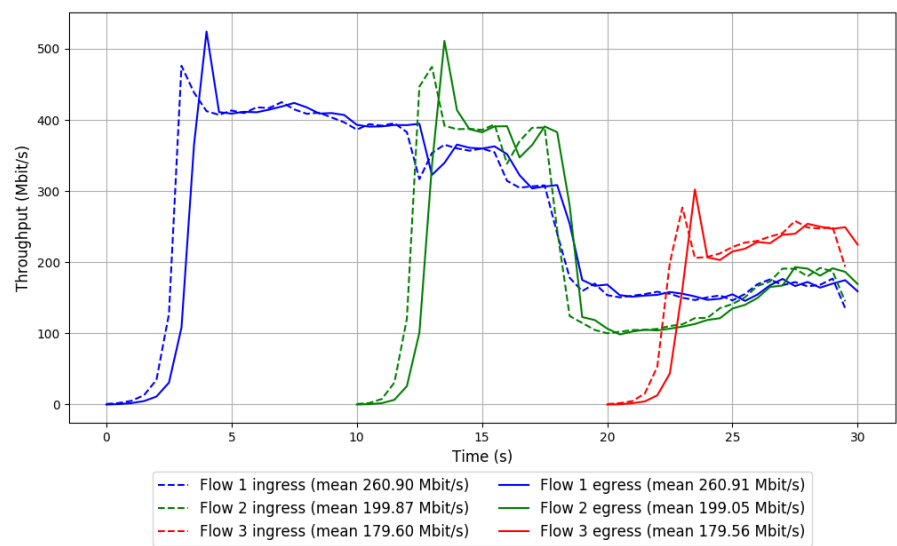Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-02-12 06:31:58
End at: 2019-02-12 06:32:28
Local clock offset: -0.199 ms
Remote clock offset: -0.856 ms


# Below is generated by plot.py at 2019-02-12 10:54:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 452.36 Mbit/s
95th percentile per-packet one-way delay: 66.637 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 260.91 Mbit/s
95th percentile per-packet one-way delay: 64.468 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 199.05 Mbit/s
95th percentile per-packet one-way delay: 115.964 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 179.56 Mbit/s
95th percentile per-packet one-way delay: 64.044 ms
Loss rate: 0.03%
```

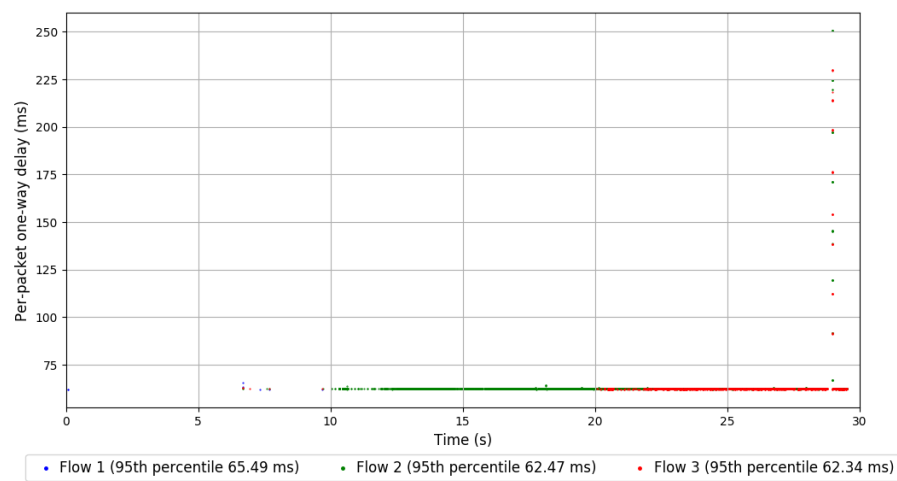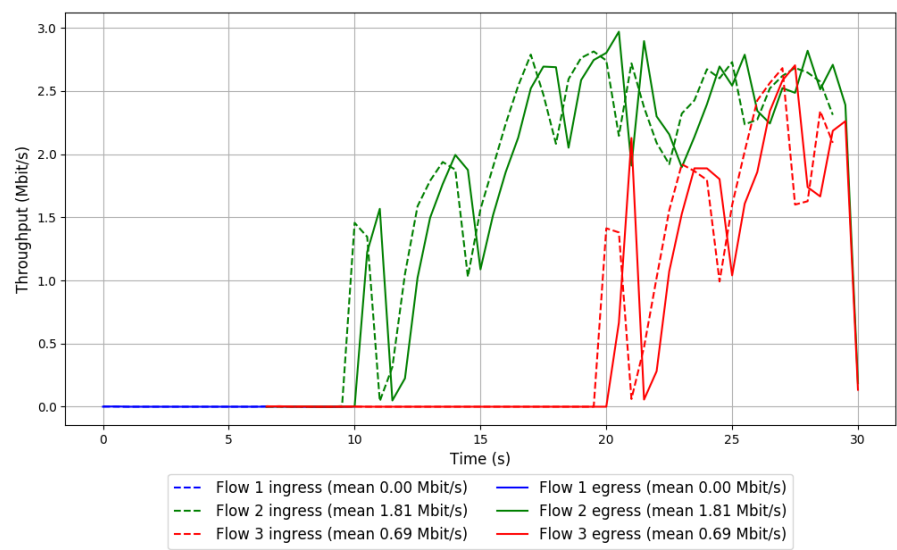Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-02-12 04:03:25
End at: 2019-02-12 04:03:55
Local clock offset: -0.101 ms
Remote clock offset: -0.847 ms


# Below is generated by plot.py at 2019-02-12 10:54:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 62.460 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 65.486 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 62.468 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 62.340 ms
Loss rate: 0.00%
```
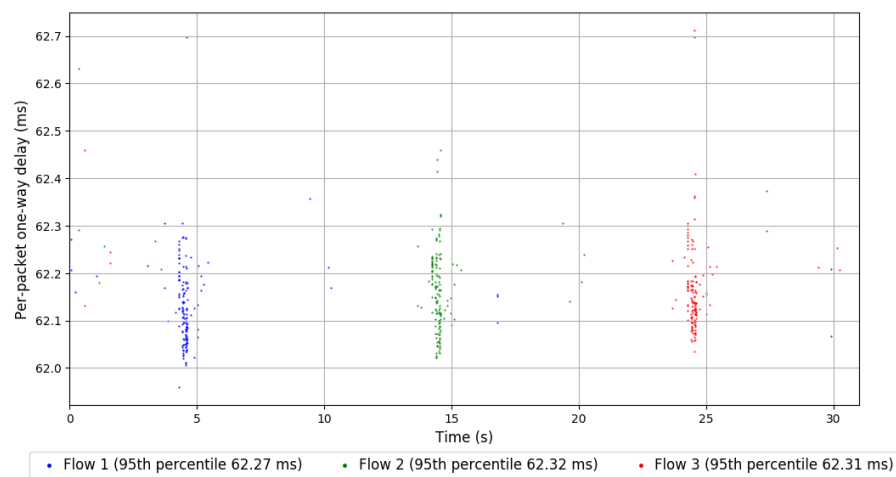
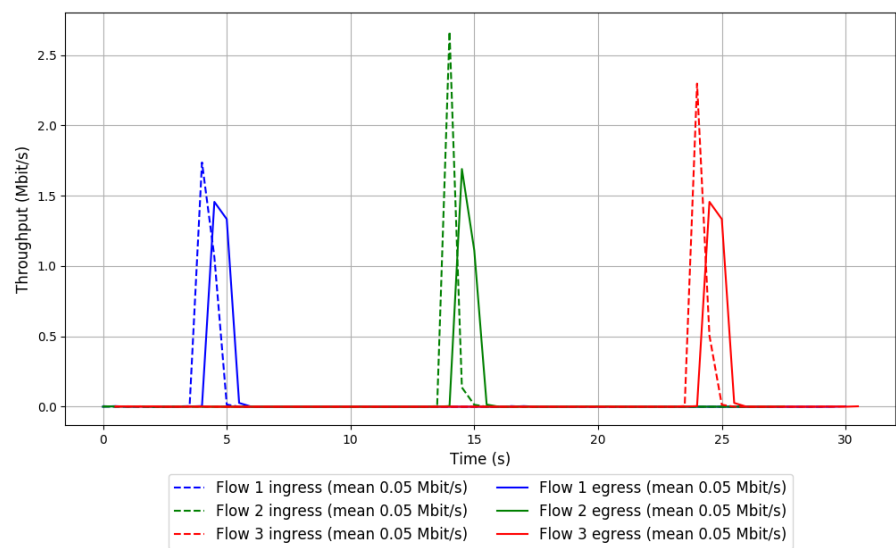Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-02-12 04:39:33
End at: 2019-02-12 04:40:03
Local clock offset: -0.096 ms
Remote clock offset: -0.857 ms


# Below is generated by plot.py at 2019-02-12 10:54:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 62.294 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.272 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.319 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.306 ms
Loss rate: 0.00%
```

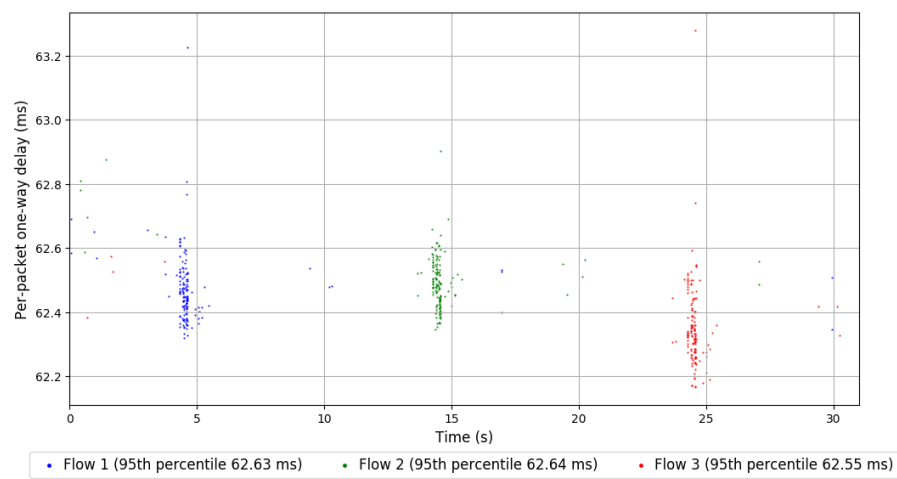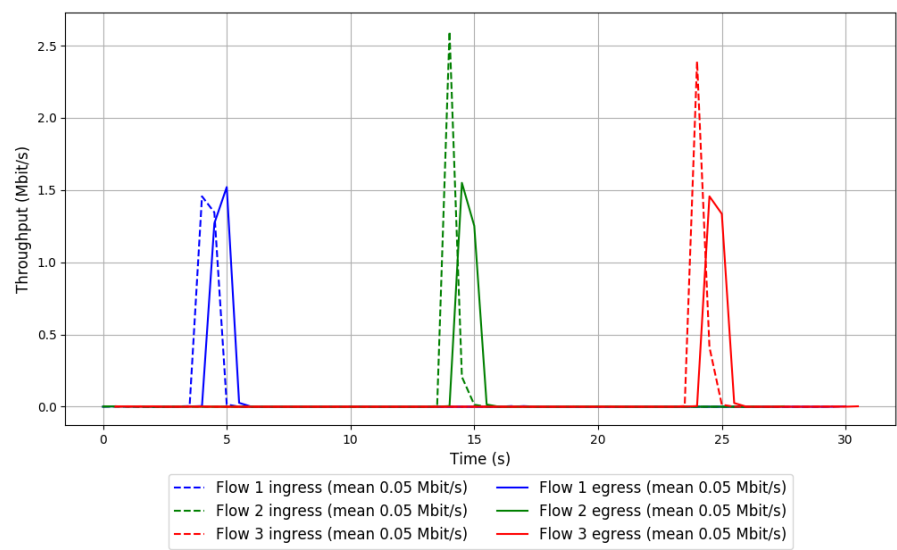Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-02-12 05:16:52
End at: 2019-02-12 05:17:22
Local clock offset: -0.055 ms
Remote clock offset: -0.471 ms


# Below is generated by plot.py at 2019-02-12 10:54:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 62.619 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.629 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.640 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.546 ms
Loss rate: 0.00%
```

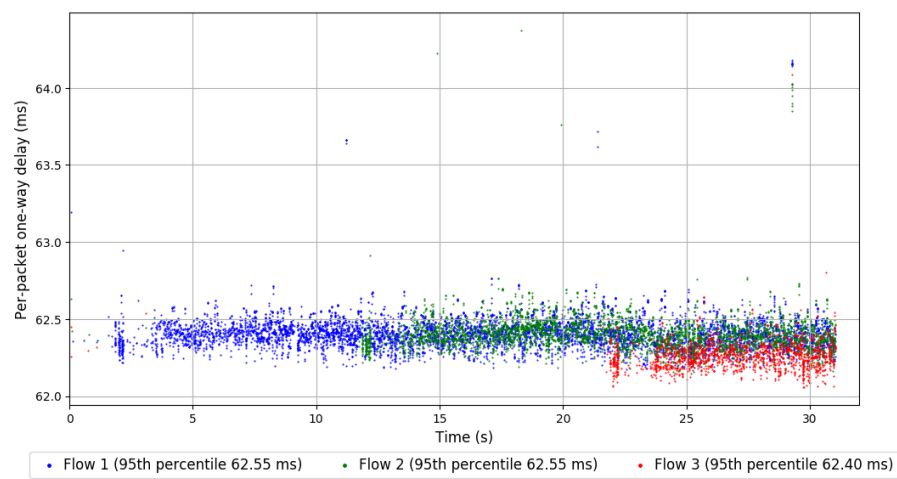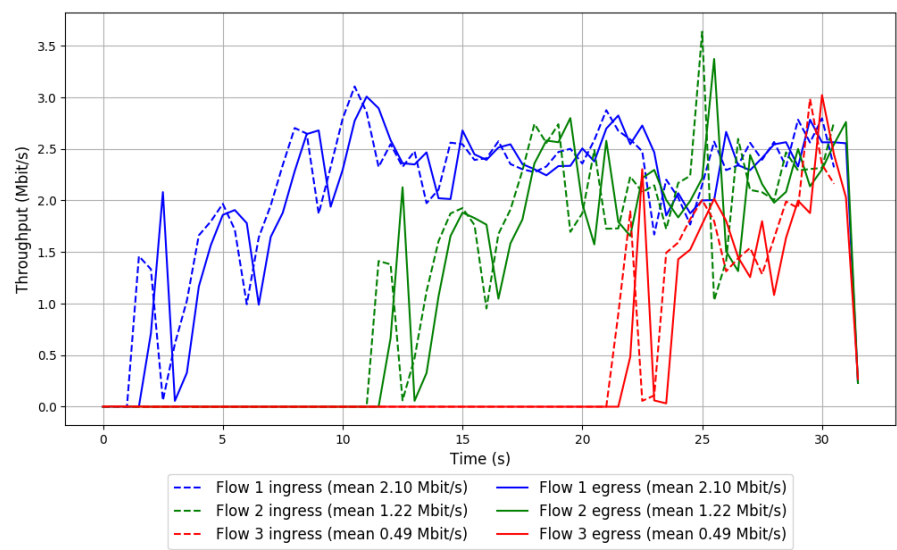Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-02-12 05:53:36
End at: 2019-02-12 05:54:06
Local clock offset: -0.013 ms
Remote clock offset: -0.633 ms


# Below is generated by plot.py at 2019-02-12 10:54:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.81 Mbit/s
95th percentile per-packet one-way delay: 62.542 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 62.547 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 62.554 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 62.395 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-02-12 06:30:46
End at: 2019-02-12 06:31:16
Local clock offset: -0.158 ms
Remote clock offset: -1.026 ms


# Below is generated by plot.py at 2019-02-12 10:54:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 62.185 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.185 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.190 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 62.162 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link