Pantheon Report

Generated at 2019-02-20 06:36:41 (UTC).

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

Repeated the test of 21 congestion control schemes 5 times.

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

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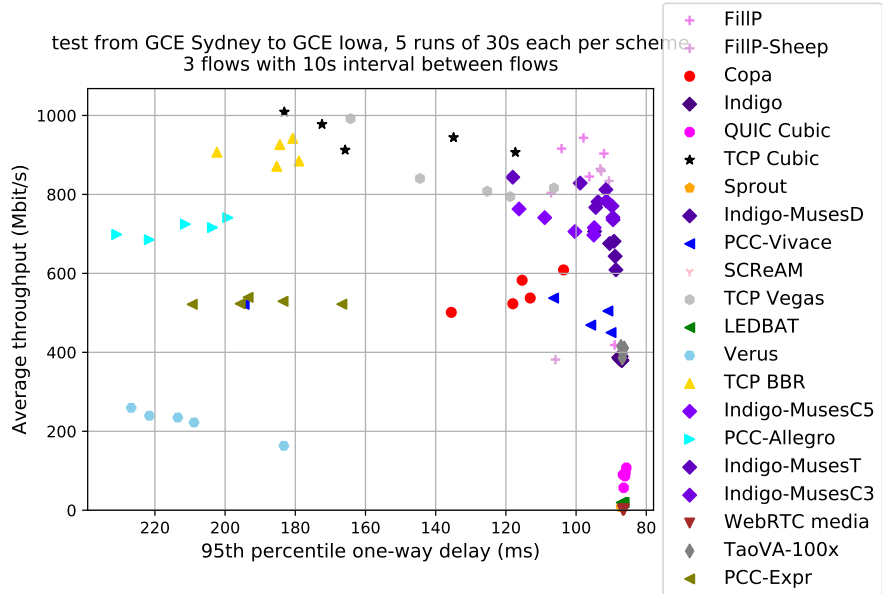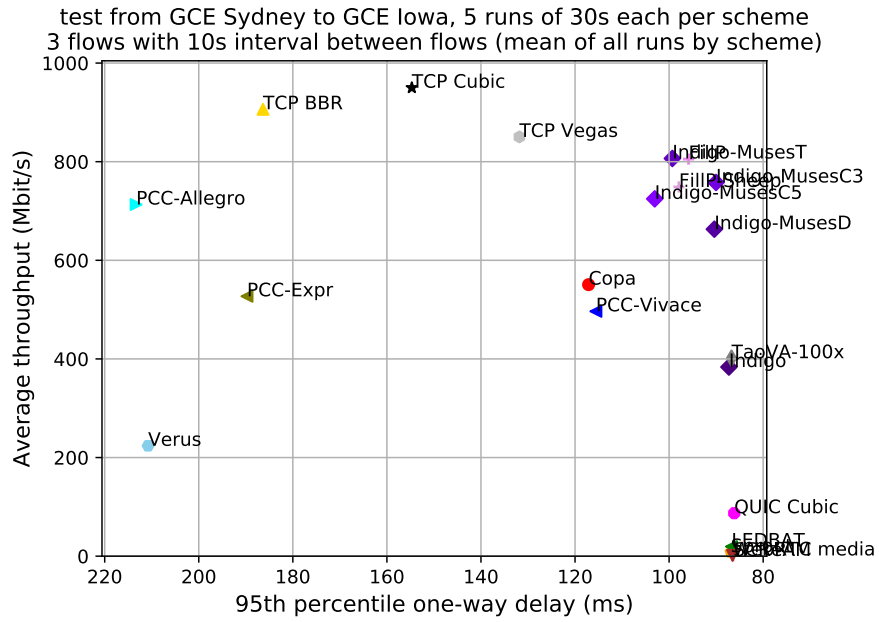
```
System info:
Linux 4.15.0-1026-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

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

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

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

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

3

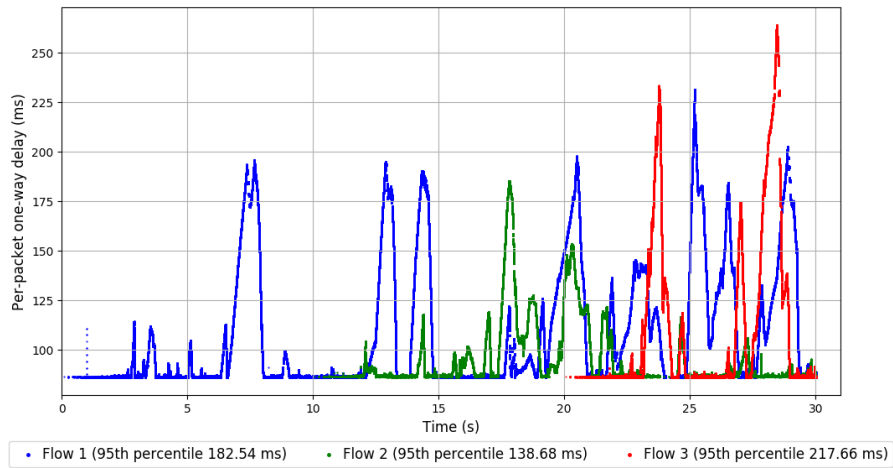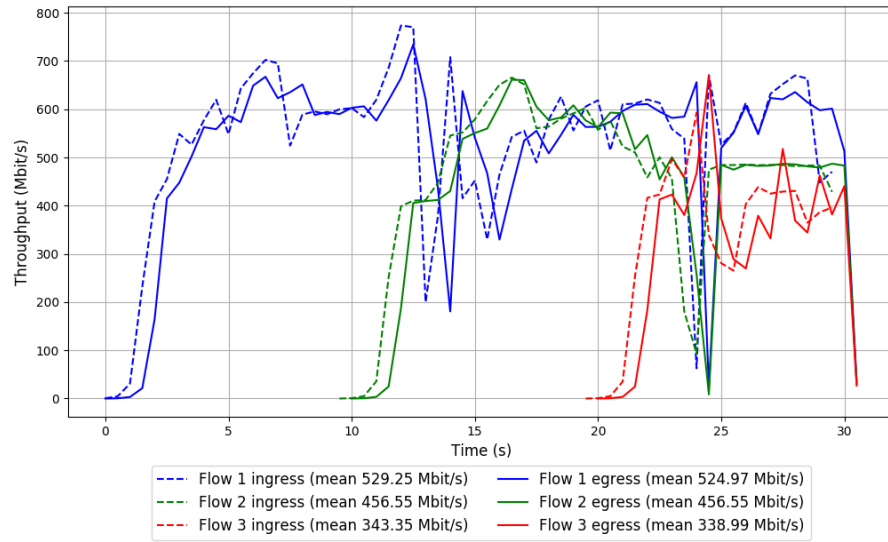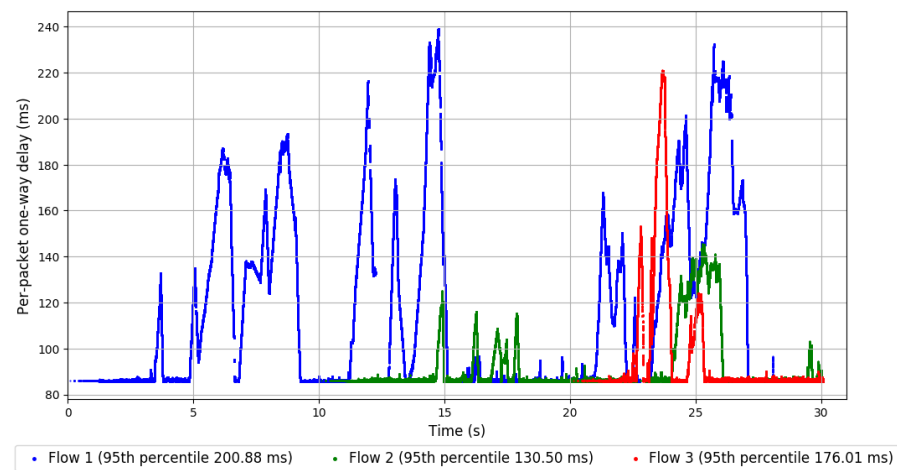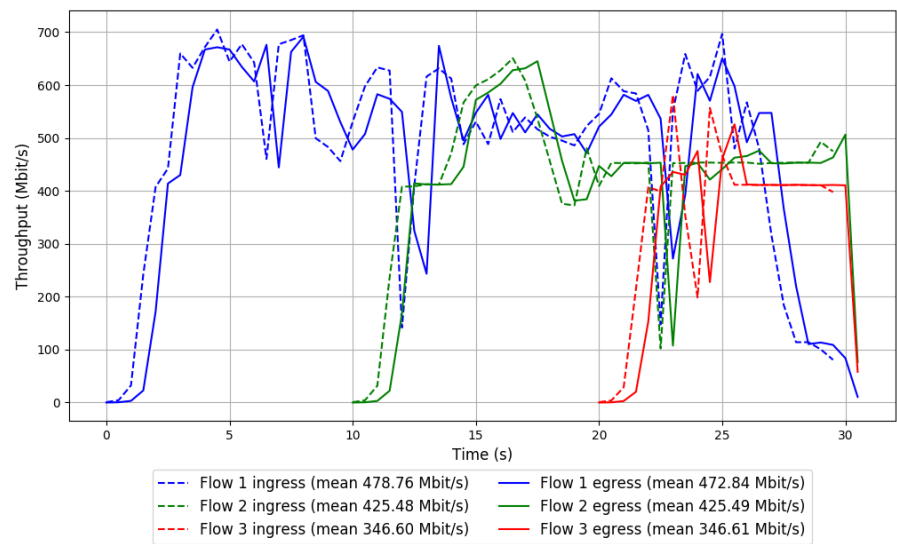| scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	478.31	463.39	358.85	175.22	164.96	193.54	0.67	0.49	0.82
Copa	5	292.24	280.16	215.88	117.94	118.64	103.26	0.02	0.02	0.09
TCP Cubic	5	503.91	459.31	421.36	152.31	126.88	150.44	0.12	0.26	0.84
FillP	5	473.16	373.09	251.96	98.87	91.17	89.38	0.01	0.00	0.00
FillP-Sheep	5	461.08	319.06	227.89	103.89	89.63	90.05	0.08	0.00	0.01
Indigo	5	202.40	193.26	164.36	87.10	87.38	87.48	0.00	0.00	0.00
Indigo-MusesC3	4	449.49	362.80	280.92	90.60	89.63	89.05	0.05	0.01	0.30
Indigo-MusesC5	5	444.88	364.02	178.09	105.91	97.51	89.16	0.00	0.00	0.00
Indigo-MusesD	5	382.29	343.07	226.91	89.87	91.76	88.54	0.00	0.00	0.00
Indigo-MusesT	5	482.36	387.65	273.11	103.73	91.92	88.64	0.00	0.00	0.00
LEDBAT	5	12.59	8.36	4.10	86.82	86.57	86.49	0.00	0.00	0.00
PCC-Allegro	5	394.51	361.23	238.53	210.63	220.31	184.18	3.45	5.07	0.72
PCC-Expr	5	319.52	229.10	167.40	188.72	162.30	131.33	2.21	2.30	0.21
QUIC Cubic	5	45.46	44.19	38.29	86.36	86.07	86.04	0.00	0.00	0.00
SCReAM	5	0.22	0.22	0.22	86.22	86.26	86.33	0.00	0.00	0.00
Sprout	5	4.31	4.04	3.36	86.94	86.62	86.85	0.00	0.00	0.00
TaoVA-100x	5	203.83	198.57	196.70	86.56	86.77	86.88	0.00	0.00	0.00
TCP Vegas	5	458.39	405.09	367.37	113.76	118.81	132.44	0.05	0.04	0.24
Verus	5	132.24	113.53	69.87	152.43	180.39	119.02	0.73	1.69	0.38
PCC-Vivace	5	302.50	223.00	138.37	126.18	91.93	90.33	0.04	0.00	0.00
WebRTC media	5	0.82	0.51	0.21	86.43	86.36	86.21	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-02-19 23:44:42
End at: 2019-02-19 23:45:12
Local clock offset: -0.3 ms
Remote clock offset: -0.065 ms


# Below is generated by plot.py at 2019-02-20 04:11:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 942.13 Mbit/s
95th percentile per-packet one-way delay: 180.724 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 524.97 Mbit/s
95th percentile per-packet one-way delay: 182.538 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 456.55 Mbit/s
95th percentile per-packet one-way delay: 138.678 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 338.99 Mbit/s
95th percentile per-packet one-way delay: 217.656 ms
Loss rate: 1.27%
```

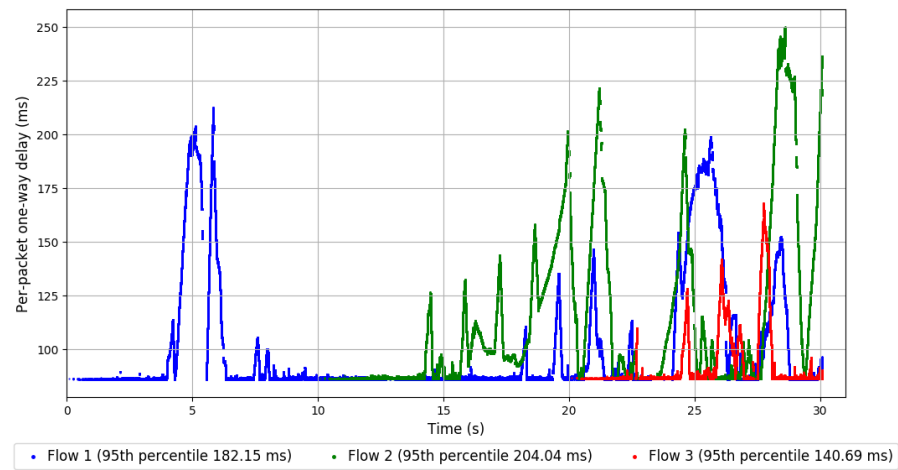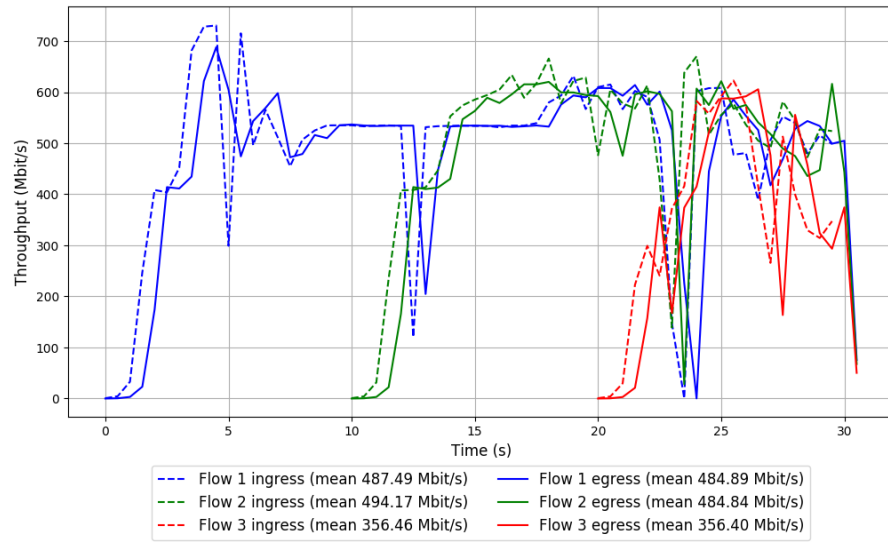Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-02-20 00:29:19
End at: 2019-02-20 00:29:49
Local clock offset: -0.094 ms
Remote clock offset: -0.071 ms


# Below is generated by plot.py at 2019-02-20 04:11:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 871.30 Mbit/s
95th percentile per-packet one-way delay: 185.278 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 472.84 Mbit/s
95th percentile per-packet one-way delay: 200.876 ms
Loss rate: 1.24%
-- Flow 2:
Average throughput: 425.49 Mbit/s
95th percentile per-packet one-way delay: 130.497 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 346.61 Mbit/s
95th percentile per-packet one-way delay: 176.012 ms
Loss rate: 0.00%
```

Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-02-20 01:16:36
End at: 2019-02-20 01:17:06
Local clock offset: -0.019 ms
Remote clock offset: -0.025 ms


# Below is generated by plot.py at 2019-02-20 04:11:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 926.28 Mbit/s
95th percentile per-packet one-way delay: 184.399 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 484.89 Mbit/s
95th percentile per-packet one-way delay: 182.151 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 484.84 Mbit/s
95th percentile per-packet one-way delay: 204.043 ms
Loss rate: 1.88%
-- Flow 3:
Average throughput: 356.40 Mbit/s
95th percentile per-packet one-way delay: 140.689 ms
Loss rate: 0.00%
```
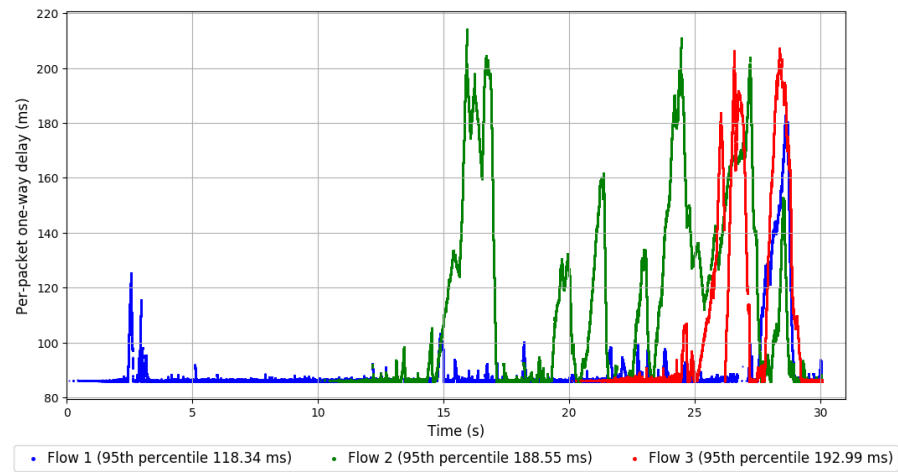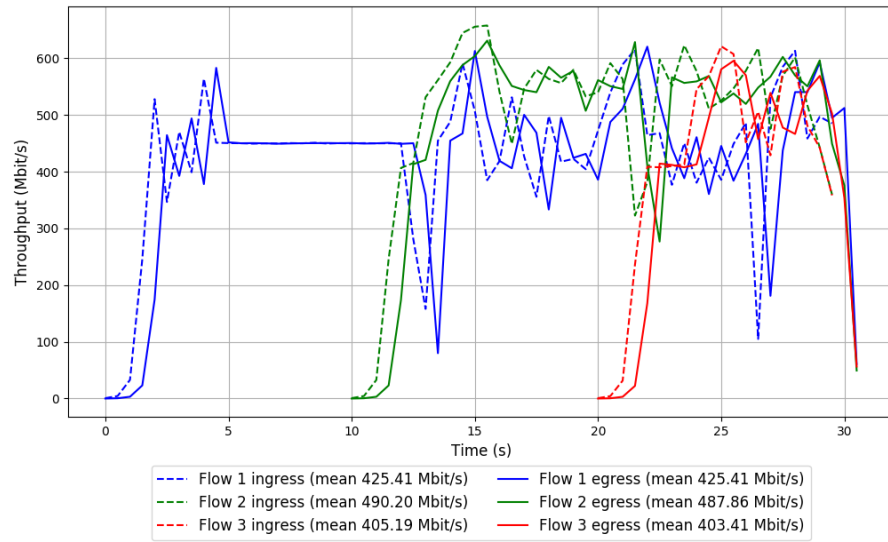
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 487.49 Mbit/s)   Flow 1 egress (mean 484.89 Mbit/s)
Flow 2 ingress (mean 494.17 Mbit/s)   Flow 2 egress (mean 484.84 Mbit/s)
Flow 3 ingress (mean 356.46 Mbit/s)   Flow 3 egress (mean 356.40 Mbit/s)

Flow 1 (95th percentile 182.15 ms)   Flow 2 (95th percentile 204.04 ms)   Flow 3 (95th percentile 140.69 ms)
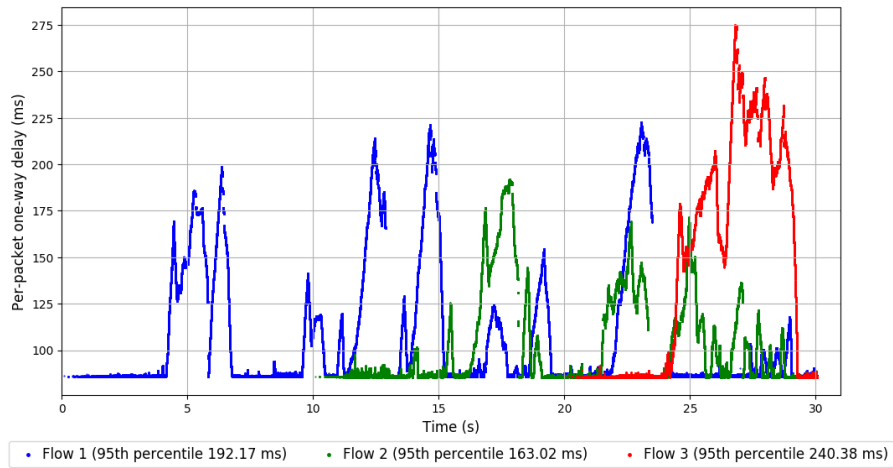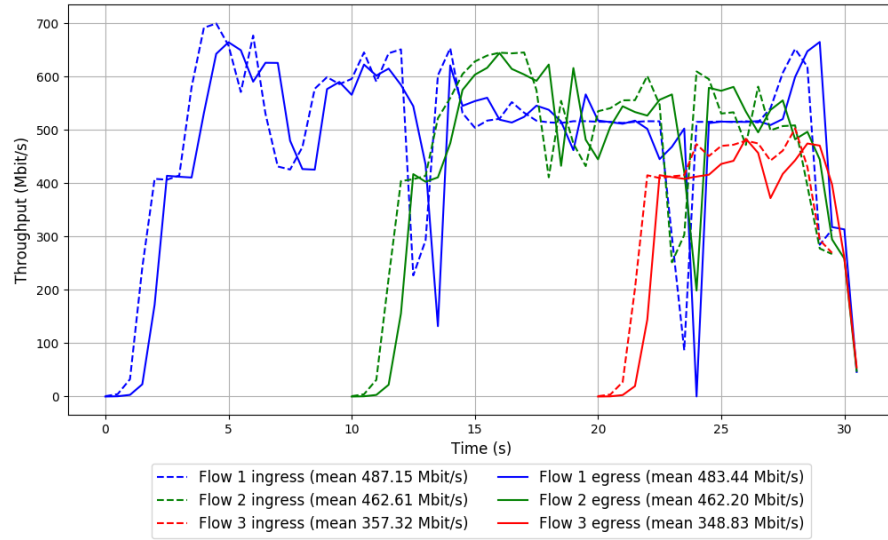
```
Run 4: Statistics of TCP BBR

Start at: 2019-02-20 02:02:43
End at: 2019-02-20 02:03:13
Local clock offset: -0.127 ms
Remote clock offset: 0.213 ms


# Below is generated by plot.py at 2019-02-20 04:11:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 884.69 Mbit/s
95th percentile per-packet one-way delay: 178.976 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 425.41 Mbit/s
95th percentile per-packet one-way delay: 118.341 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 487.86 Mbit/s
95th percentile per-packet one-way delay: 188.547 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 403.41 Mbit/s
95th percentile per-packet one-way delay: 192.990 ms
Loss rate: 0.44%
```
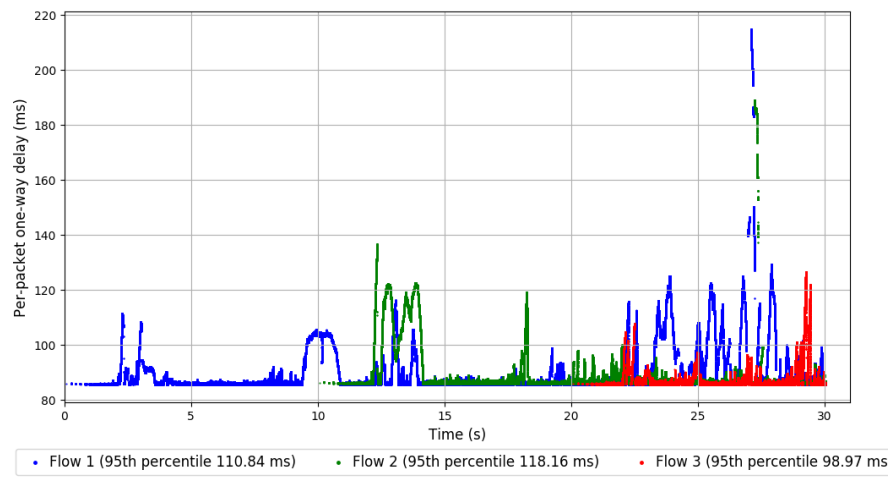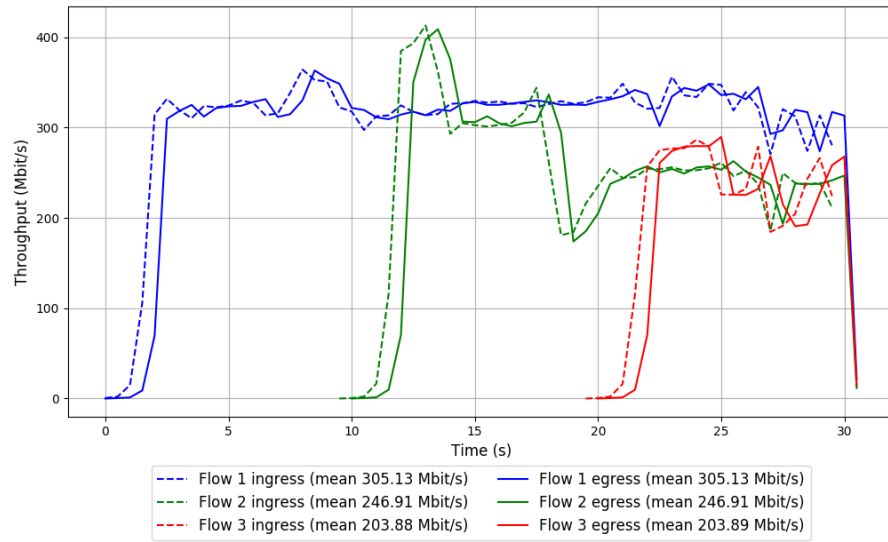
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 425.41 Mbit/s) --- Flow 1 egress (mean 425.41 Mbit/s)
Flow 2 ingress (mean 490.20 Mbit/s) --- Flow 2 egress (mean 487.86 Mbit/s)
Flow 3 ingress (mean 405.19 Mbit/s) --- Flow 3 egress (mean 403.41 Mbit/s)

Flow 1 (95th percentile 118.34 ms) Flow 2 (95th percentile 188.55 ms) Flow 3 (95th percentile 192.99 ms)
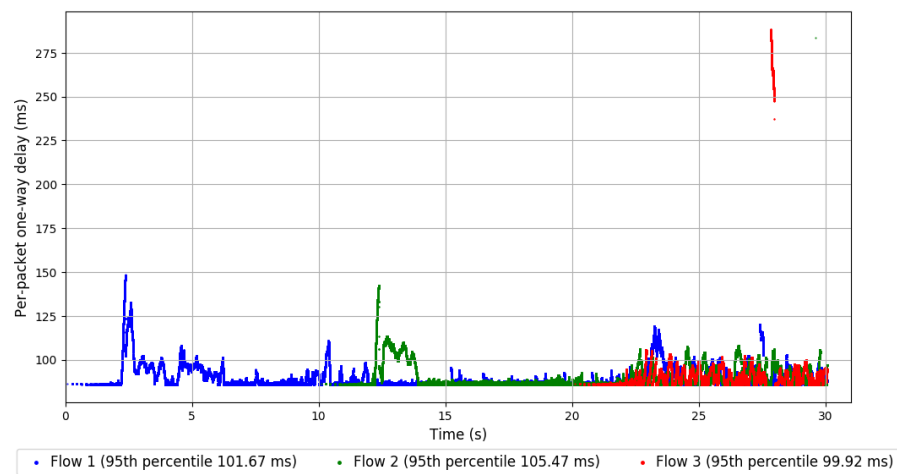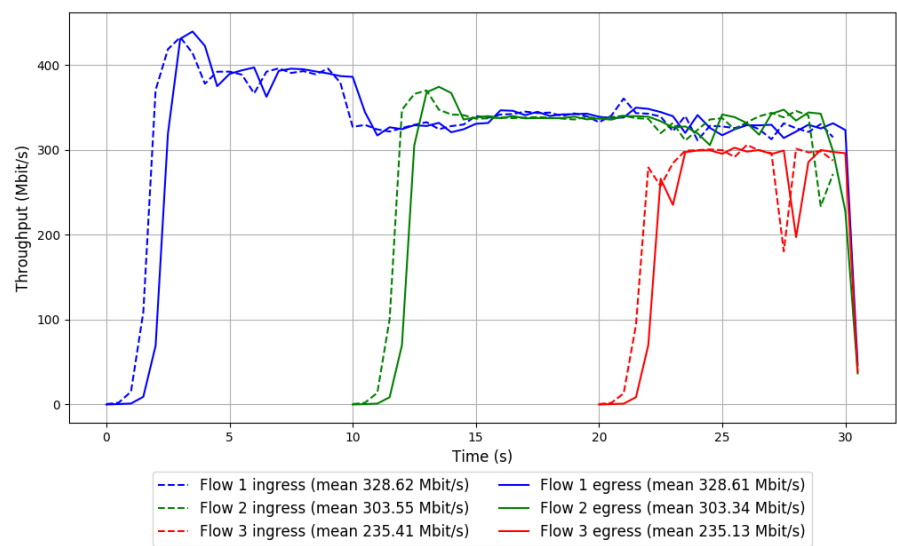
```
Run 5: Statistics of TCP BBR

Start at: 2019-02-20 02:49:51
End at: 2019-02-20 02:50:21
Local clock offset: 0.239 ms
Remote clock offset: -0.105 ms


# Below is generated by plot.py at 2019-02-20 04:11:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 906.93 Mbit/s
95th percentile per-packet one-way delay: 202.333 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 483.44 Mbit/s
95th percentile per-packet one-way delay: 192.169 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 462.20 Mbit/s
95th percentile per-packet one-way delay: 163.016 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 348.83 Mbit/s
95th percentile per-packet one-way delay: 240.377 ms
Loss rate: 2.38%
```

Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 487.15 Mbit/s) --- Flow 1 egress (mean 483.44 Mbit/s)
Flow 2 ingress (mean 462.61 Mbit/s) --- Flow 2 egress (mean 462.20 Mbit/s)
Flow 3 ingress (mean 357.32 Mbit/s) --- Flow 3 egress (mean 348.83 Mbit/s)

Flow 1 (95th percentile 192.17 ms)   Flow 2 (95th percentile 163.02 ms)   Flow 3 (95th percentile 240.38 ms)

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```
Run 1: Statistics of Copa

Start at: 2019-02-20 00:15:49
End at: 2019-02-20 00:16:19
Local clock offset: -0.016 ms
Remote clock offset: -0.042 ms


# Below is generated by plot.py at 2019-02-20 04:12:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 537.57 Mbit/s
95th percentile per-packet one-way delay: 113.069 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 305.13 Mbit/s
95th percentile per-packet one-way delay: 110.842 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 246.91 Mbit/s
95th percentile per-packet one-way delay: 118.164 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 203.89 Mbit/s
95th percentile per-packet one-way delay: 98.966 ms
Loss rate: 0.00%
```
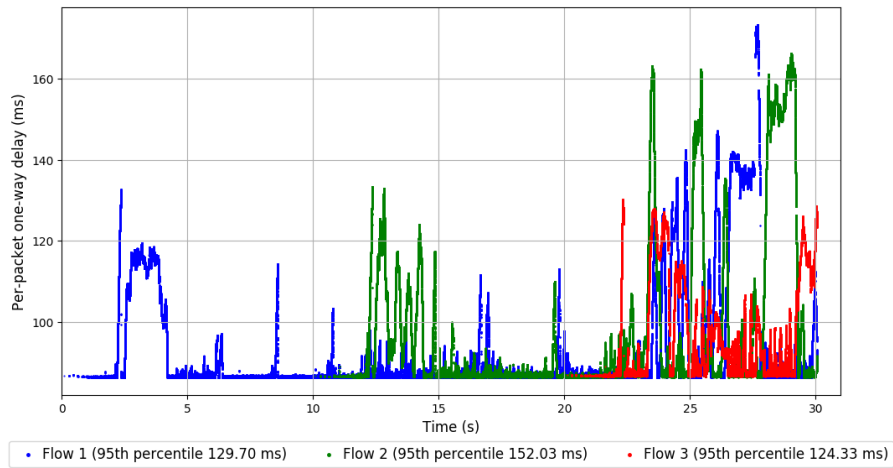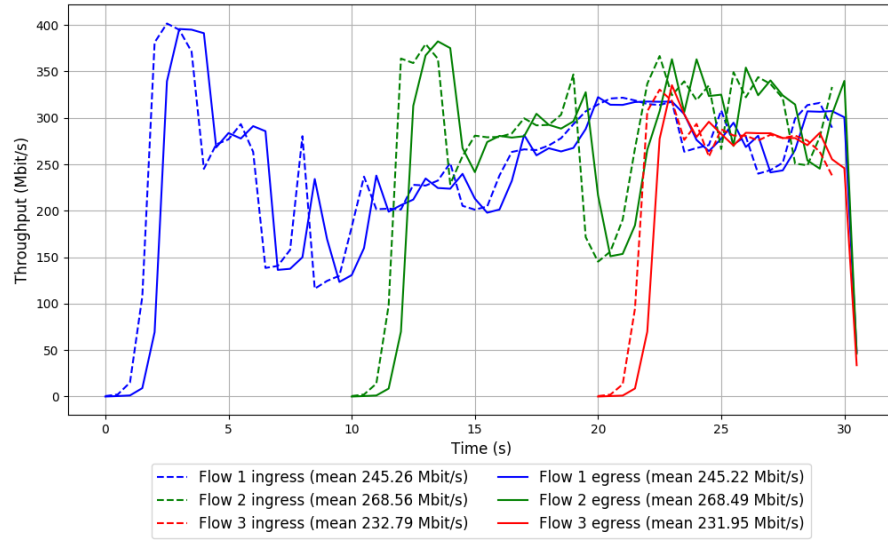
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2019-02-20 01:01:53
End at: 2019-02-20 01:02:23
Local clock offset: -0.041 ms
Remote clock offset: -0.014 ms


# Below is generated by plot.py at 2019-02-20 04:14:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 608.73 Mbit/s
95th percentile per-packet one-way delay: 103.573 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 328.61 Mbit/s
95th percentile per-packet one-way delay: 101.669 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 303.34 Mbit/s
95th percentile per-packet one-way delay: 105.467 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 235.13 Mbit/s
95th percentile per-packet one-way delay: 99.924 ms
Loss rate: 0.10%
```
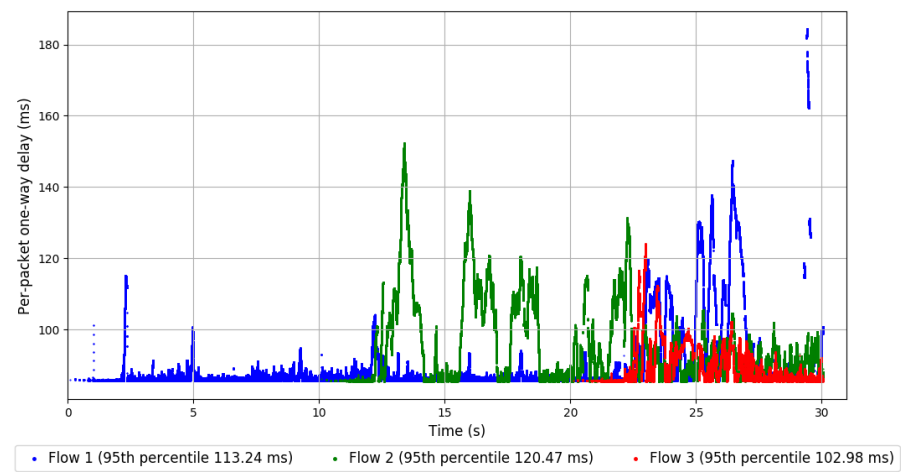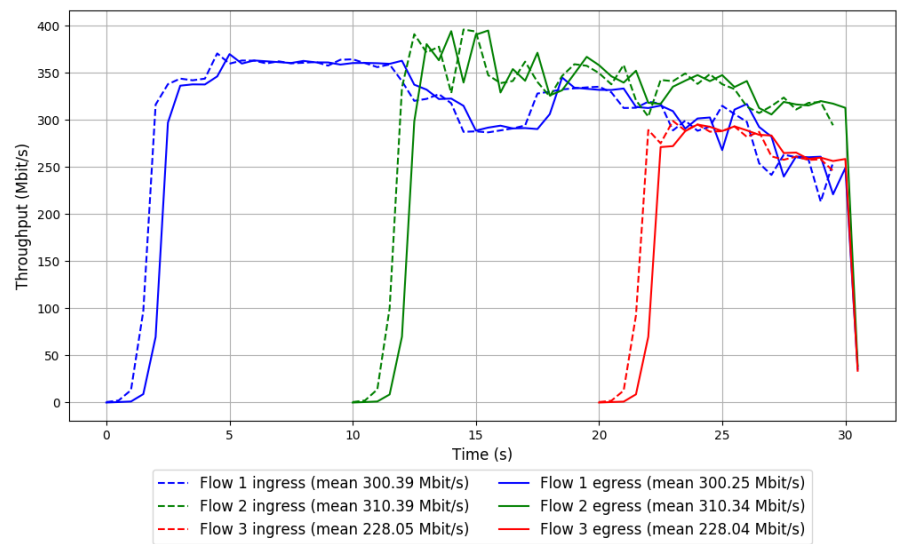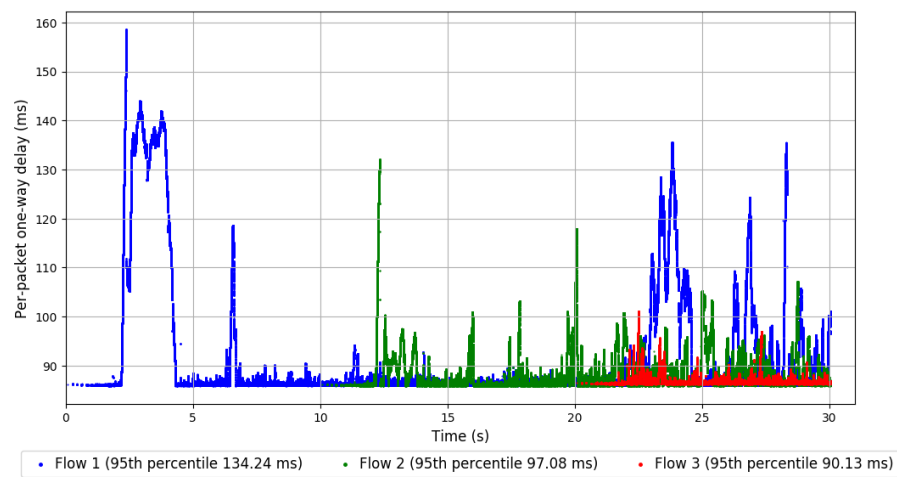
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 328.62 Mbit/s)   Flow 1 egress (mean 328.61 Mbit/s)
Flow 2 ingress (mean 303.55 Mbit/s)   Flow 2 egress (mean 303.34 Mbit/s)
Flow 3 ingress (mean 235.41 Mbit/s)   Flow 3 egress (mean 235.13 Mbit/s)

Flow 1 (95th percentile 101.67 ms)   Flow 2 (95th percentile 105.47 ms)   Flow 3 (95th percentile 99.92 ms)

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```
Run 3: Statistics of Copa

Start at: 2019-02-20 01:48:46
End at: 2019-02-20 01:49:16
Local clock offset: -0.452 ms
Remote clock offset: 0.592 ms


# Below is generated by plot.py at 2019-02-20 04:14:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 501.16 Mbit/s
95th percentile per-packet one-way delay: 135.555 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 245.22 Mbit/s
95th percentile per-packet one-way delay: 129.698 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 268.49 Mbit/s
95th percentile per-packet one-way delay: 152.029 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 231.95 Mbit/s
95th percentile per-packet one-way delay: 124.327 ms
Loss rate: 0.35%
```
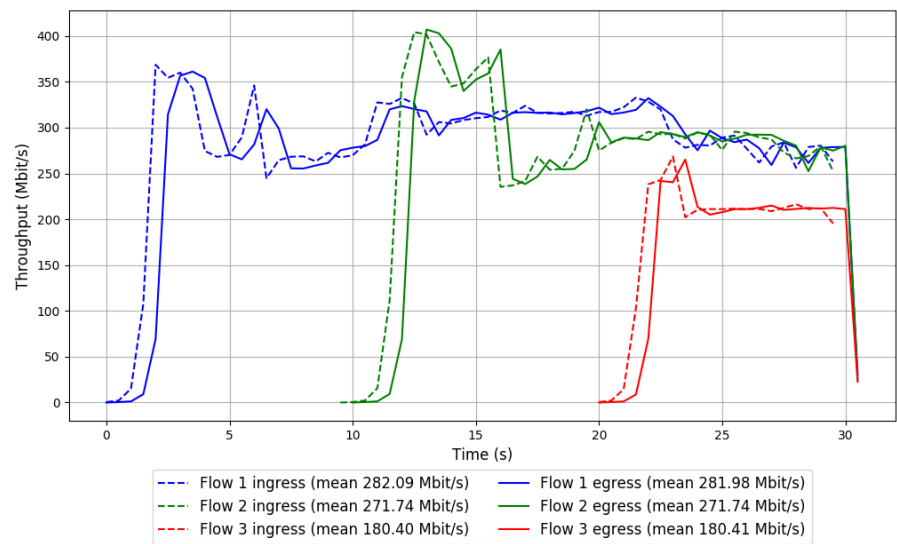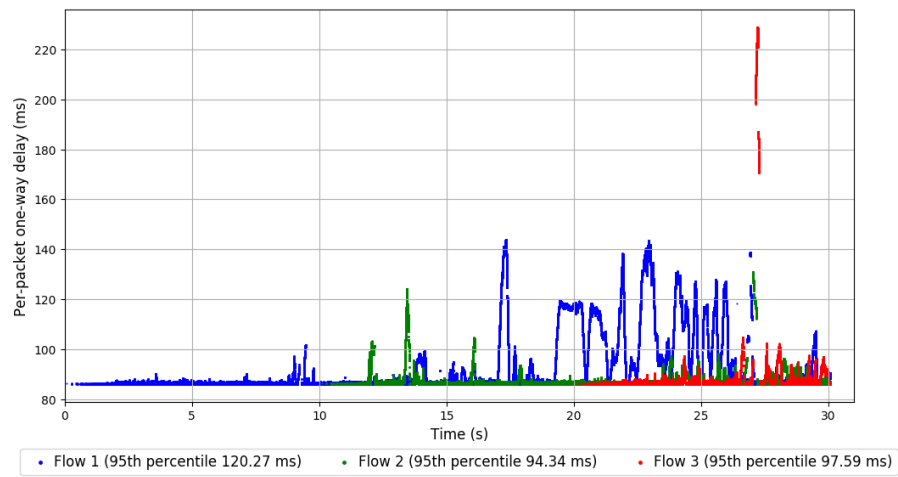
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2019-02-20 02:35:38
End at: 2019-02-20 02:36:08
Local clock offset: 0.217 ms
Remote clock offset: -0.107 ms


# Below is generated by plot.py at 2019-02-20 04:31:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 582.62 Mbit/s
95th percentile per-packet one-way delay: 115.379 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 300.25 Mbit/s
95th percentile per-packet one-way delay: 113.244 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 310.34 Mbit/s
95th percentile per-packet one-way delay: 120.467 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 228.04 Mbit/s
95th percentile per-packet one-way delay: 102.979 ms
Loss rate: 0.00%
```
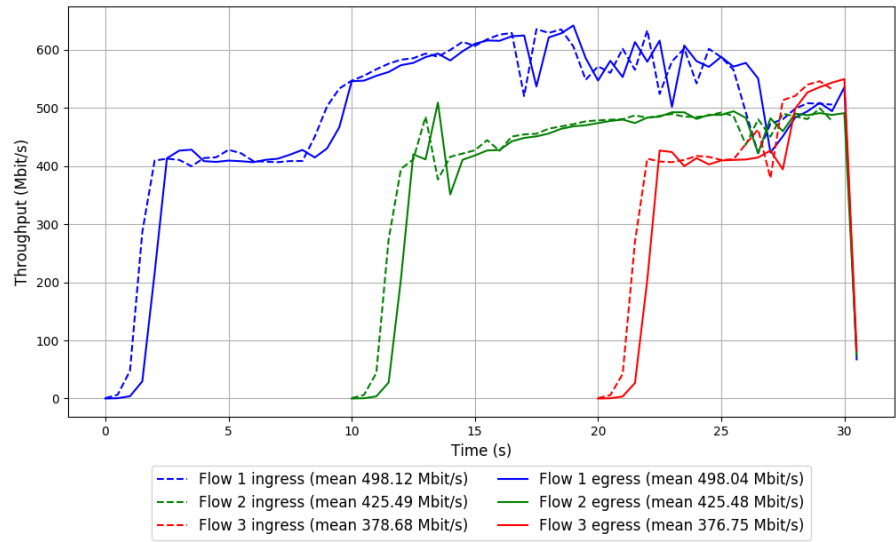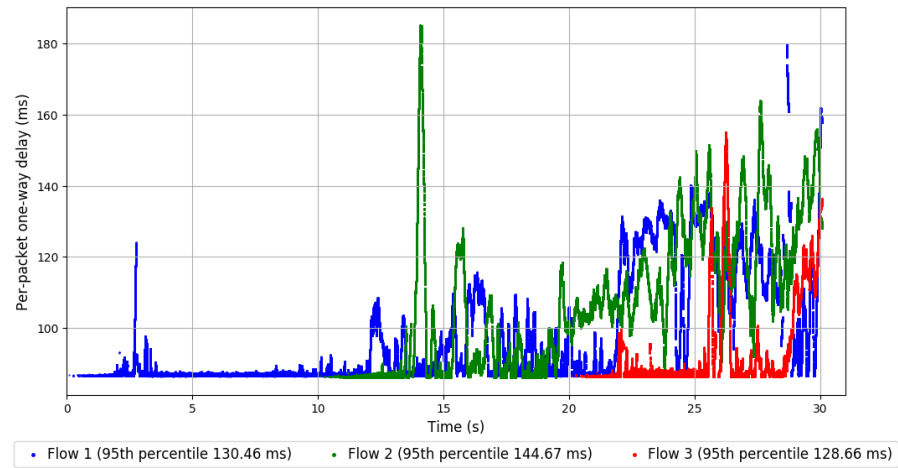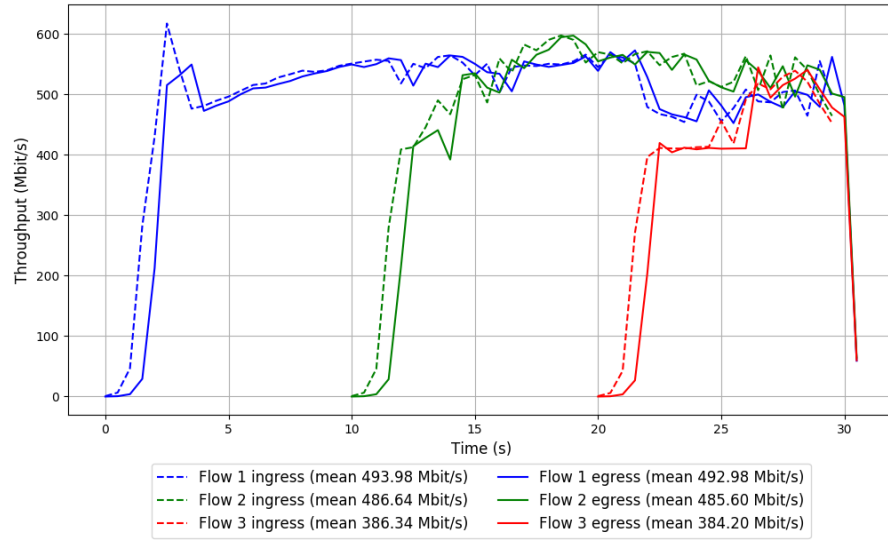
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-02-20 03:22:18
End at: 2019-02-20 03:22:48
Local clock offset: -0.149 ms
Remote clock offset: -0.069 ms


# Below is generated by plot.py at 2019-02-20 04:31:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 523.05 Mbit/s
95th percentile per-packet one-way delay: 118.023 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 281.98 Mbit/s
95th percentile per-packet one-way delay: 134.237 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 271.74 Mbit/s
95th percentile per-packet one-way delay: 97.082 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 180.41 Mbit/s
95th percentile per-packet one-way delay: 90.128 ms
Loss rate: 0.00%
```

Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 282.09 Mbit/s) ---- Flow 1 egress (mean 281.98 Mbit/s) ——
Flow 2 ingress (mean 271.74 Mbit/s) ---- Flow 2 egress (mean 271.74 Mbit/s) ——
Flow 3 ingress (mean 180.40 Mbit/s) ---- Flow 3 egress (mean 180.41 Mbit/s) ——

• Flow 1 (95th percentile 134.24 ms)   • Flow 2 (95th percentile 97.08 ms)   • Flow 3 (95th percentile 90.13 ms)

```
Run 1: Statistics of TCP Cubic

Start at: 2019-02-20 00:03:33
End at: 2019-02-20 00:04:03
Local clock offset: -0.408 ms
Remote clock offset: -0.019 ms


# Below is generated by plot.py at 2019-02-20 04:31:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 906.63 Mbit/s
95th percentile per-packet one-way delay: 117.300 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 498.04 Mbit/s
95th percentile per-packet one-way delay: 120.270 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 425.48 Mbit/s
95th percentile per-packet one-way delay: 94.340 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 376.75 Mbit/s
95th percentile per-packet one-way delay: 97.590 ms
Loss rate: 0.51%
```
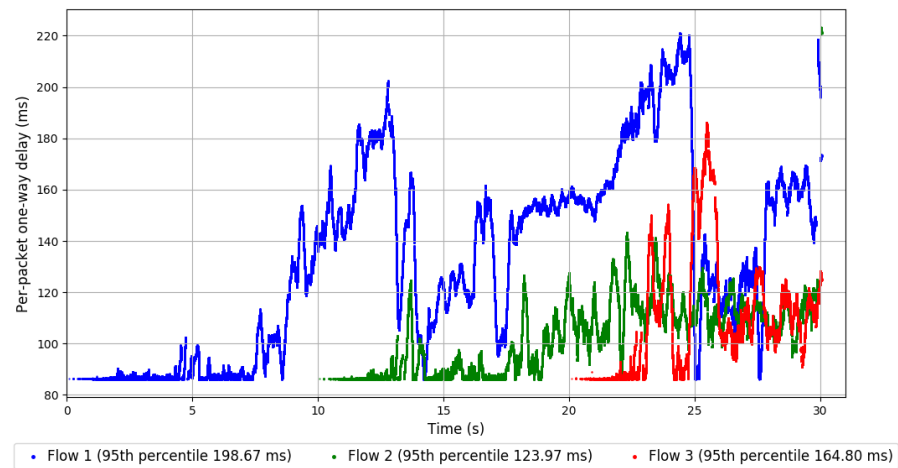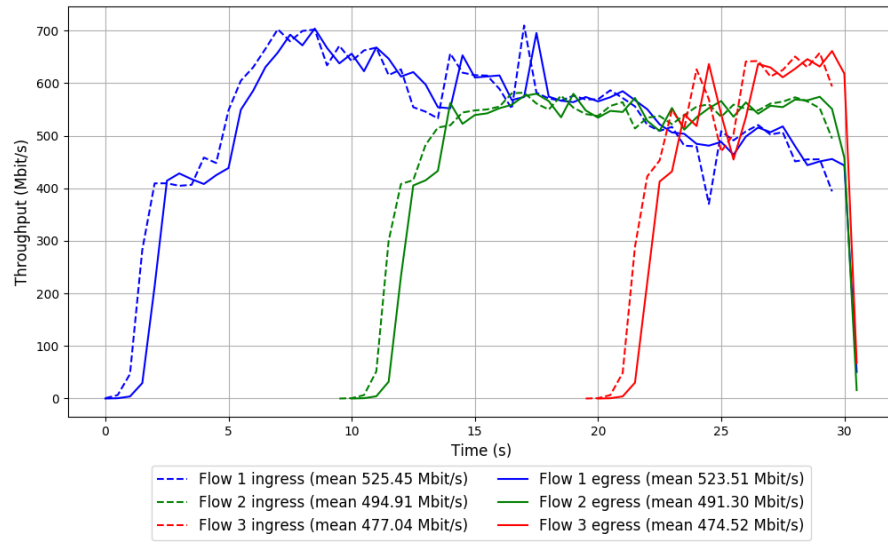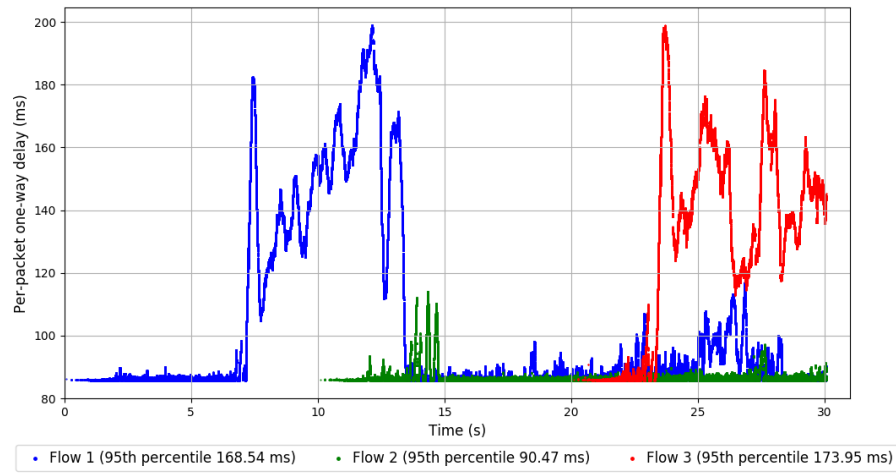
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-02-20 00:49:08
End at: 2019-02-20 00:49:38
Local clock offset: -0.33 ms
Remote clock offset: -0.048 ms


# Below is generated by plot.py at 2019-02-20 04:31:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 944.17 Mbit/s
95th percentile per-packet one-way delay: 134.907 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 492.98 Mbit/s
95th percentile per-packet one-way delay: 130.458 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 485.60 Mbit/s
95th percentile per-packet one-way delay: 144.671 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 384.20 Mbit/s
95th percentile per-packet one-way delay: 128.664 ms
Loss rate: 0.54%
```

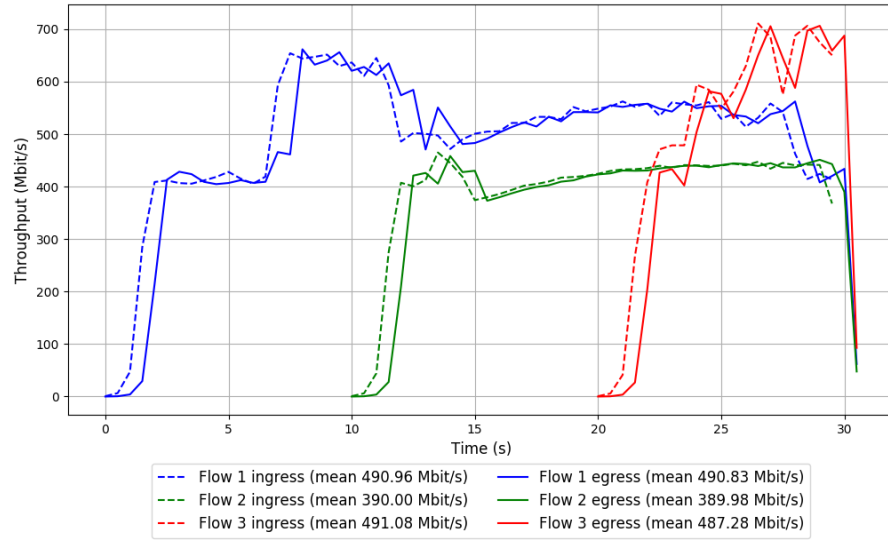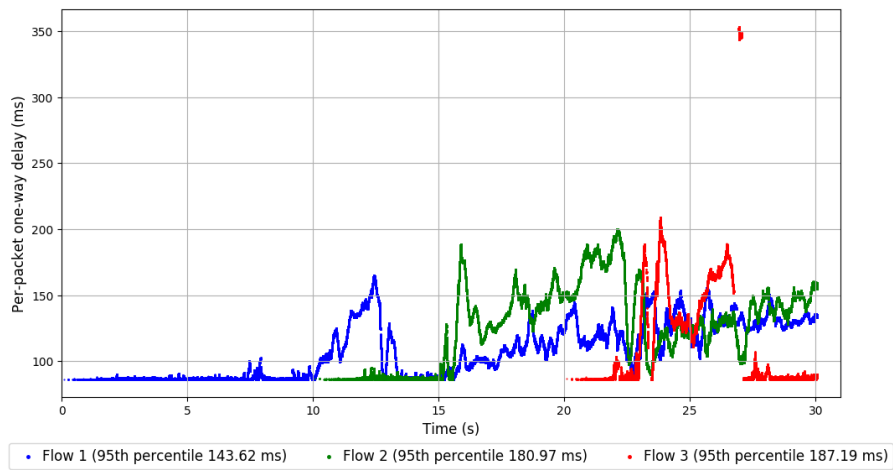Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 493.98 Mbit/s) ---- Flow 1 egress (mean 492.98 Mbit/s) ——
Flow 2 ingress (mean 486.64 Mbit/s) ---- Flow 2 egress (mean 485.60 Mbit/s) ——
Flow 3 ingress (mean 386.34 Mbit/s) ---- Flow 3 egress (mean 384.20 Mbit/s) ——

Flow 1 (95th percentile 130.46 ms)   Flow 2 (95th percentile 144.67 ms)   Flow 3 (95th percentile 128.66 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2019-02-20 01:36:17
End at: 2019-02-20 01:36:47
Local clock offset: -0.055 ms
Remote clock offset: 0.453 ms


# Below is generated by plot.py at 2019-02-20 04:31:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1008.86 Mbit/s
95th percentile per-packet one-way delay: 183.126 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 523.51 Mbit/s
95th percentile per-packet one-way delay: 198.666 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 491.30 Mbit/s
95th percentile per-packet one-way delay: 123.975 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 474.52 Mbit/s
95th percentile per-packet one-way delay: 164.801 ms
Loss rate: 0.52%
```
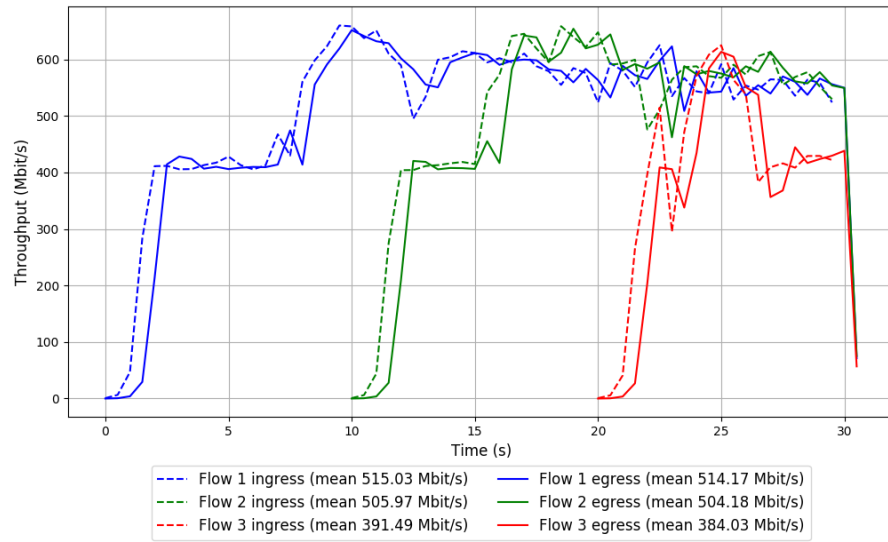
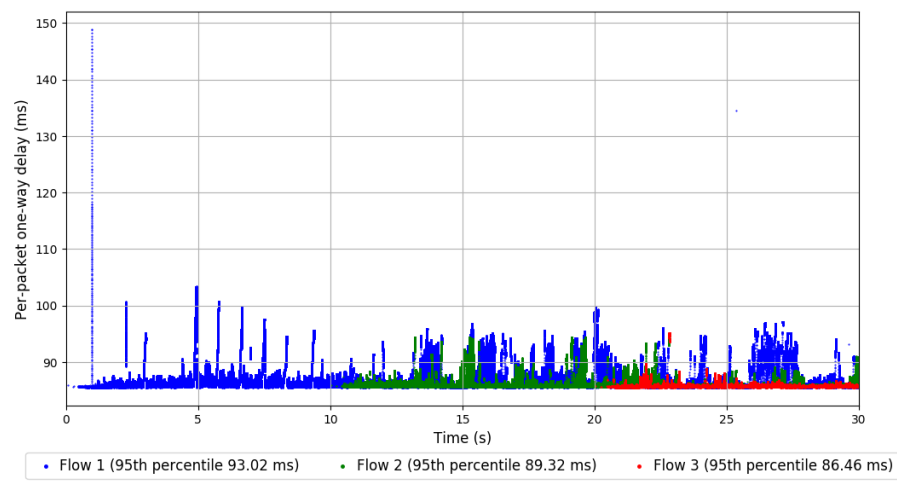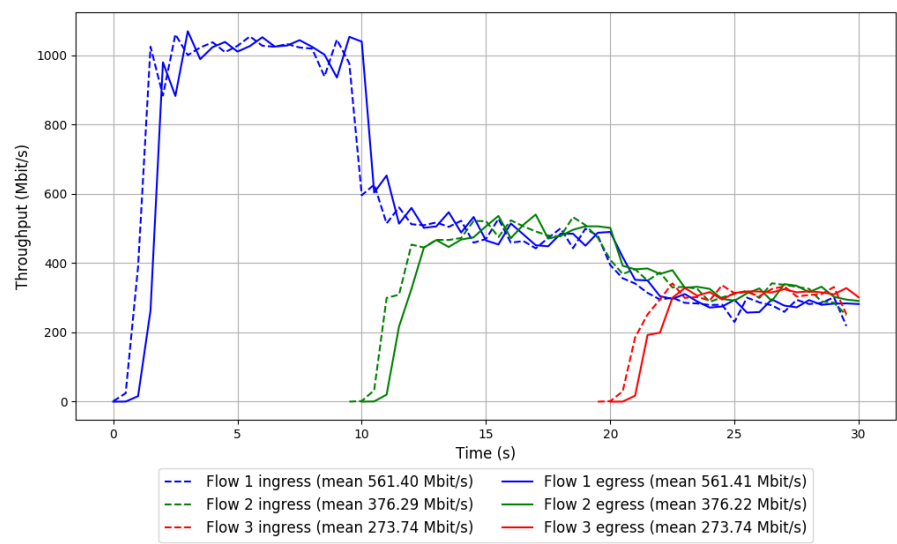Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2019-02-20 02:22:46
End at: 2019-02-20 02:23:16
Local clock offset: 0.031 ms
Remote clock offset: -0.103 ms


# Below is generated by plot.py at 2019-02-20 04:31:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 912.47 Mbit/s
95th percentile per-packet one-way delay: 165.796 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 490.83 Mbit/s
95th percentile per-packet one-way delay: 168.544 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 389.98 Mbit/s
95th percentile per-packet one-way delay: 90.466 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 487.28 Mbit/s
95th percentile per-packet one-way delay: 173.951 ms
Loss rate: 0.75%
```

Run 4: Report of TCP Cubic — Data Link
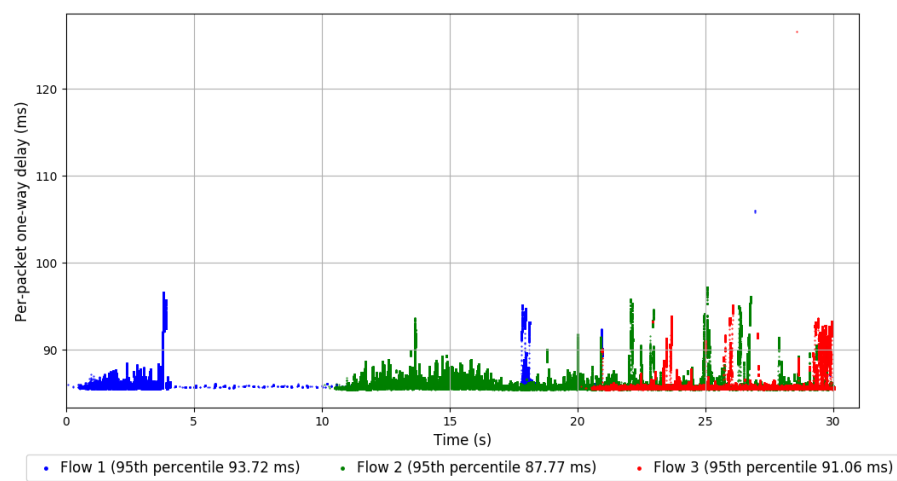
```
Run 5: Statistics of TCP Cubic

Start at: 2019-02-20 03:09:35
End at: 2019-02-20 03:10:05
Local clock offset: -0.302 ms
Remote clock offset: -0.099 ms


# Below is generated by plot.py at 2019-02-20 04:31:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 977.54 Mbit/s
95th percentile per-packet one-way delay: 172.387 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 514.17 Mbit/s
95th percentile per-packet one-way delay: 143.619 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 504.18 Mbit/s
95th percentile per-packet one-way delay: 180.970 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 384.03 Mbit/s
95th percentile per-packet one-way delay: 187.191 ms
Loss rate: 1.90%
```
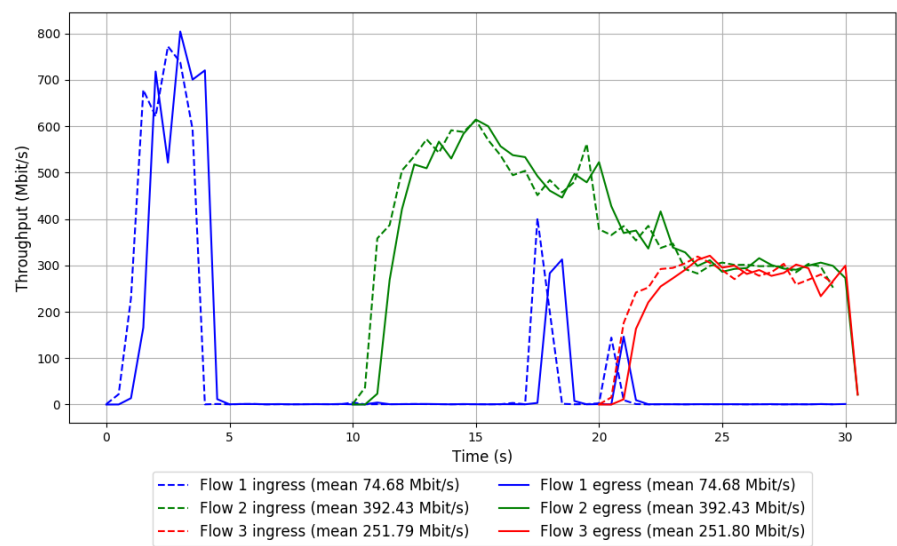
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 515.03 Mbit/s) --- Flow 1 egress (mean 514.17 Mbit/s)
Flow 2 ingress (mean 505.97 Mbit/s) --- Flow 2 egress (mean 504.18 Mbit/s)
Flow 3 ingress (mean 391.49 Mbit/s) --- Flow 3 egress (mean 384.03 Mbit/s)

Flow 1 (95th percentile 143.62 ms)   Flow 2 (95th percentile 180.97 ms)   Flow 3 (95th percentile 187.19 ms)

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```
Run 1: Statistics of FillP

Start at: 2019-02-19 23:56:10
End at: 2019-02-19 23:56:40
Local clock offset: 0.167 ms
Remote clock offset: -0.031 ms


# Below is generated by plot.py at 2019-02-20 04:34:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 903.31 Mbit/s
95th percentile per-packet one-way delay: 92.065 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 561.41 Mbit/s
95th percentile per-packet one-way delay: 93.015 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 376.22 Mbit/s
95th percentile per-packet one-way delay: 89.318 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 273.74 Mbit/s
95th percentile per-packet one-way delay: 86.461 ms
Loss rate: 0.00%
```
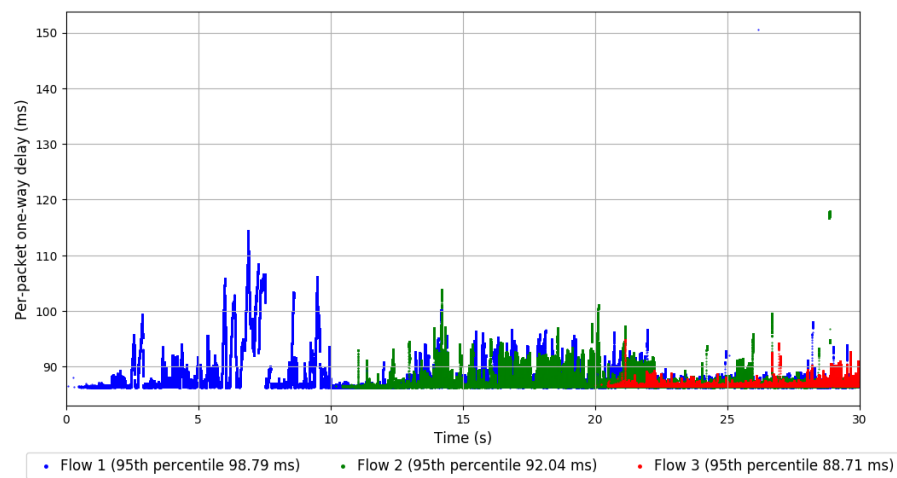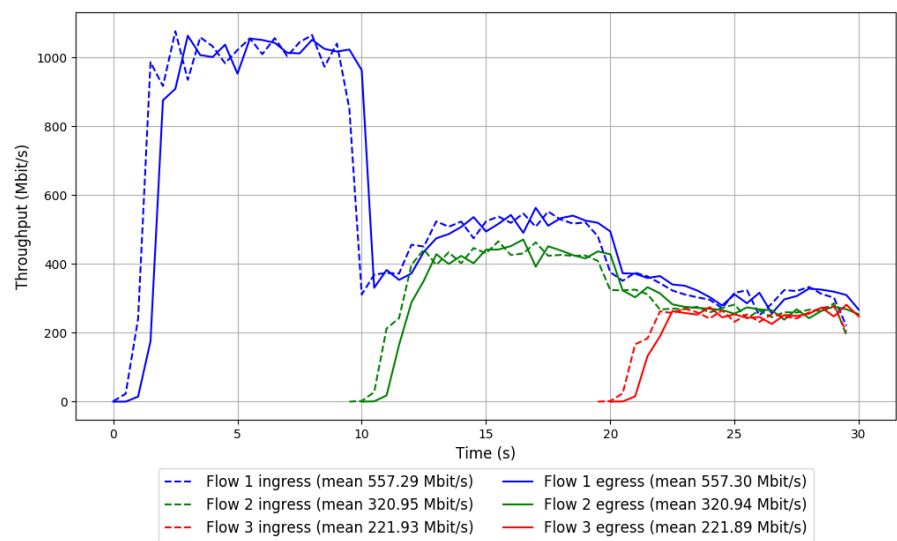
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2019-02-20 00:42:01
End at: 2019-02-20 00:42:31
Local clock offset: 0.27 ms
Remote clock offset: -0.055 ms


# Below is generated by plot.py at 2019-02-20 04:36:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 418.65 Mbit/s
95th percentile per-packet one-way delay: 89.013 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 74.68 Mbit/s
95th percentile per-packet one-way delay: 93.719 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 392.43 Mbit/s
95th percentile per-packet one-way delay: 87.770 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 251.80 Mbit/s
95th percentile per-packet one-way delay: 91.058 ms
Loss rate: 0.00%
```
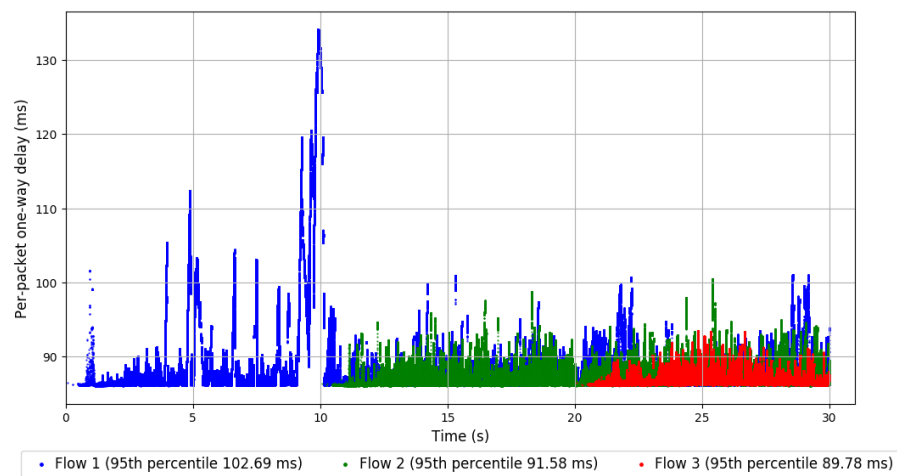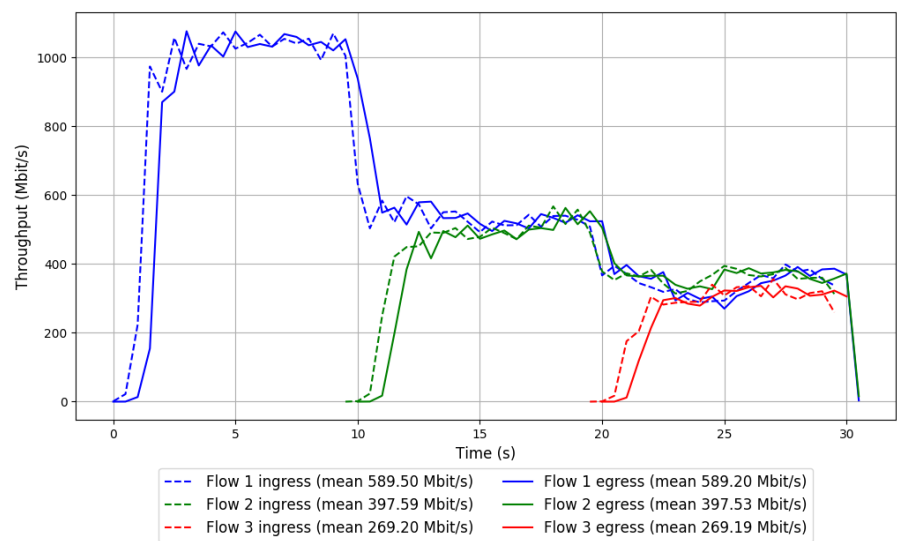
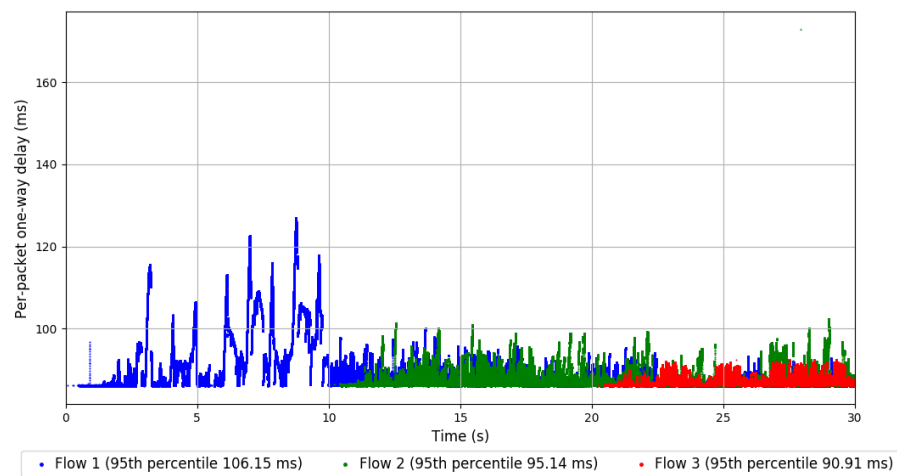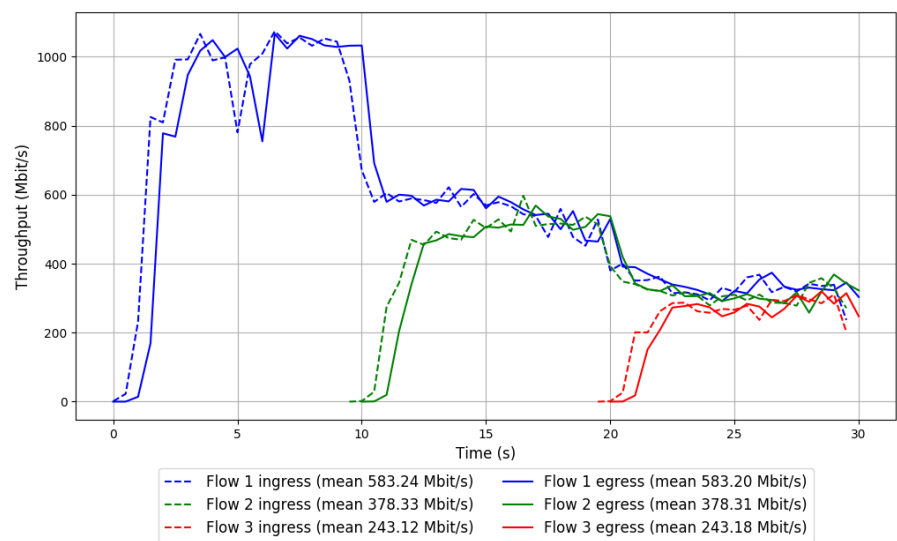Run 2: Report of FillP — Data Link

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```
Run 3: Statistics of FillP

Start at: 2019-02-20 01:28:57
End at: 2019-02-20 01:29:27
Local clock offset: -0.396 ms
Remote clock offset: 0.322 ms


# Below is generated by plot.py at 2019-02-20 04:46:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 845.25 Mbit/s
95th percentile per-packet one-way delay: 96.217 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 557.30 Mbit/s
95th percentile per-packet one-way delay: 98.789 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 320.94 Mbit/s
95th percentile per-packet one-way delay: 92.039 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 221.89 Mbit/s
95th percentile per-packet one-way delay: 88.713 ms
Loss rate: 0.00%
```
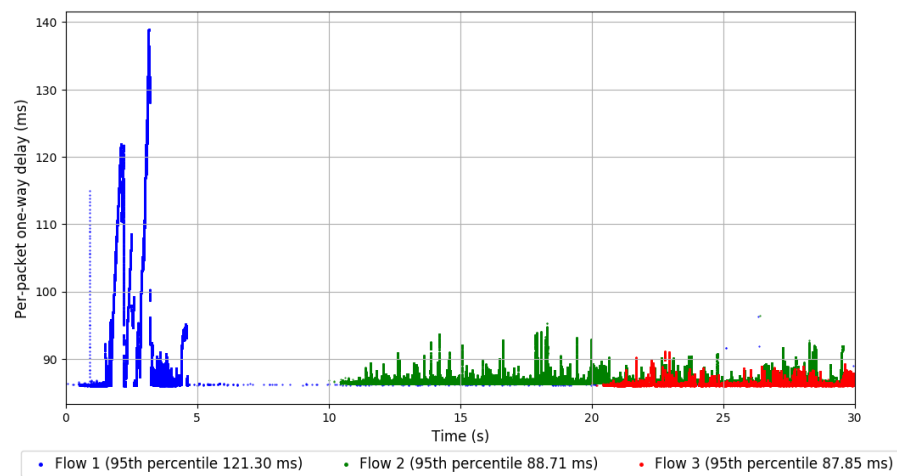
Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 557.29 Mbit/s)   Flow 1 egress (mean 557.30 Mbit/s)
Flow 2 ingress (mean 320.95 Mbit/s)   Flow 2 egress (mean 320.94 Mbit/s)
Flow 3 ingress (mean 221.93 Mbit/s)   Flow 3 egress (mean 221.89 Mbit/s)

Flow 1 (95th percentile 98.79 ms)   Flow 2 (95th percentile 92.04 ms)   Flow 3 (95th percentile 88.71 ms)

```
Run 4: Statistics of FillP

Start at: 2019-02-20 02:14:59
End at: 2019-02-20 02:15:29
Local clock offset: -0.197 ms
Remote clock offset: 0.121 ms


# Below is generated by plot.py at 2019-02-20 04:50:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 943.17 Mbit/s
95th percentile per-packet one-way delay: 97.892 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 589.20 Mbit/s
95th percentile per-packet one-way delay: 102.693 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 397.53 Mbit/s
95th percentile per-packet one-way delay: 91.585 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 269.19 Mbit/s
95th percentile per-packet one-way delay: 89.775 ms
Loss rate: 0.00%
```
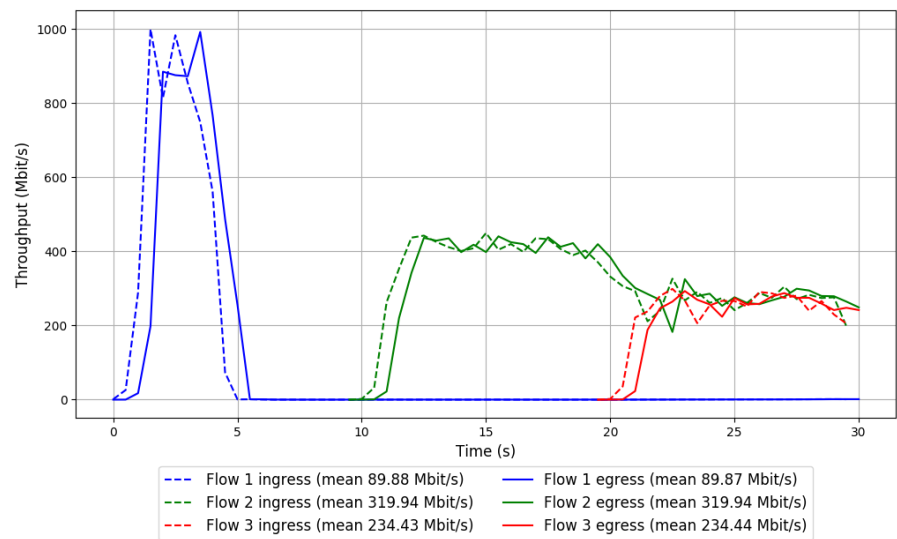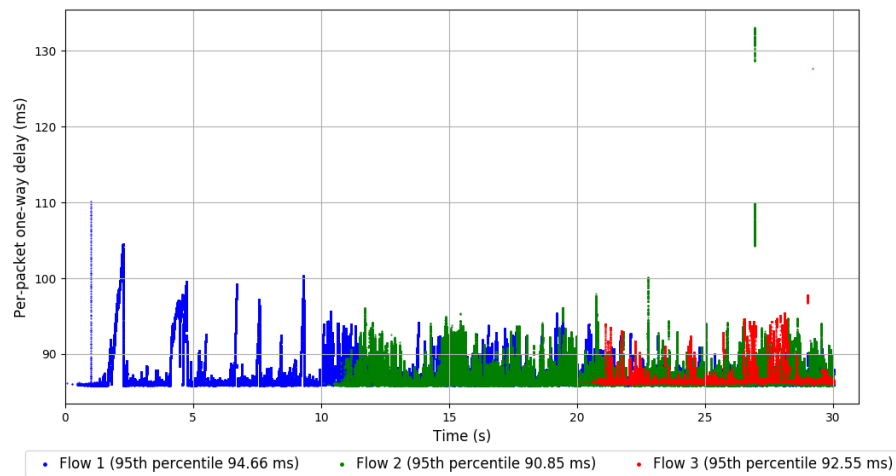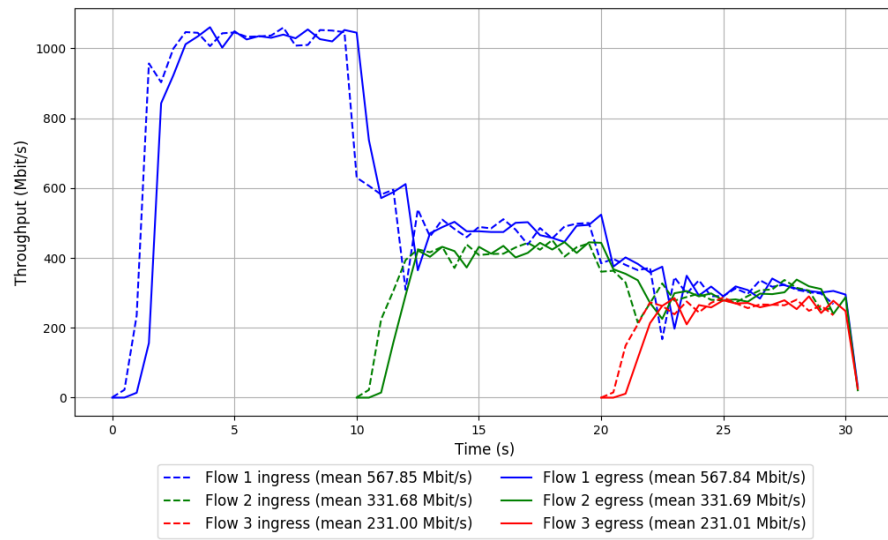
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 589.50 Mbit/s) --- Flow 1 egress (mean 589.20 Mbit/s)
Flow 2 ingress (mean 397.59 Mbit/s) --- Flow 2 egress (mean 397.53 Mbit/s)
Flow 3 ingress (mean 269.20 Mbit/s) --- Flow 3 egress (mean 269.19 Mbit/s)

• Flow 1 (95th percentile 102.69 ms)   • Flow 2 (95th percentile 91.58 ms)   • Flow 3 (95th percentile 89.78 ms)

```
Run 5: Statistics of FillP

Start at: 2019-02-20 03:01:54
End at: 2019-02-20 03:02:24
Local clock offset: -0.41 ms
Remote clock offset: -0.109 ms


# Below is generated by plot.py at 2019-02-20 04:50:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 916.01 Mbit/s
95th percentile per-packet one-way delay: 104.138 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 583.20 Mbit/s
95th percentile per-packet one-way delay: 106.148 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 378.31 Mbit/s
95th percentile per-packet one-way delay: 95.144 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 243.18 Mbit/s
95th percentile per-packet one-way delay: 90.906 ms
Loss rate: 0.00%
```

Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-02-20 00:25:05
End at: 2019-02-20 00:25:35
Local clock offset: -0.277 ms
Remote clock offset: -0.068 ms


# Below is generated by plot.py at 2019-02-20 04:50:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 381.62 Mbit/s
95th percentile per-packet one-way delay: 105.867 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 89.87 Mbit/s
95th percentile per-packet one-way delay: 121.303 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 319.94 Mbit/s
95th percentile per-packet one-way delay: 88.709 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 234.44 Mbit/s
95th percentile per-packet one-way delay: 87.850 ms
Loss rate: 0.00%
```
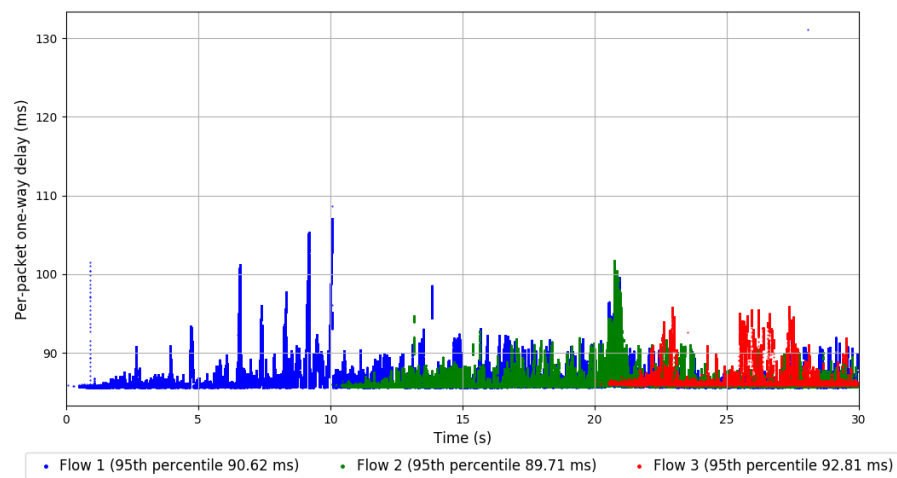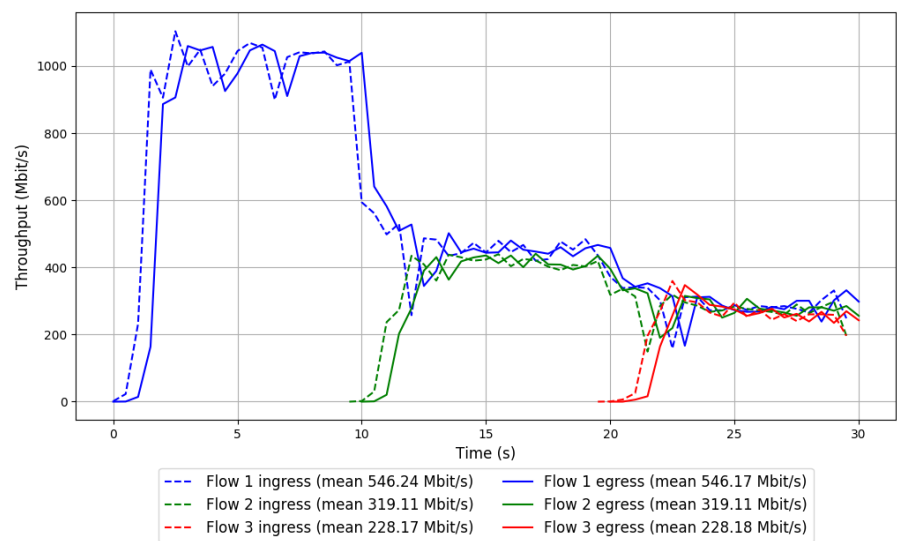
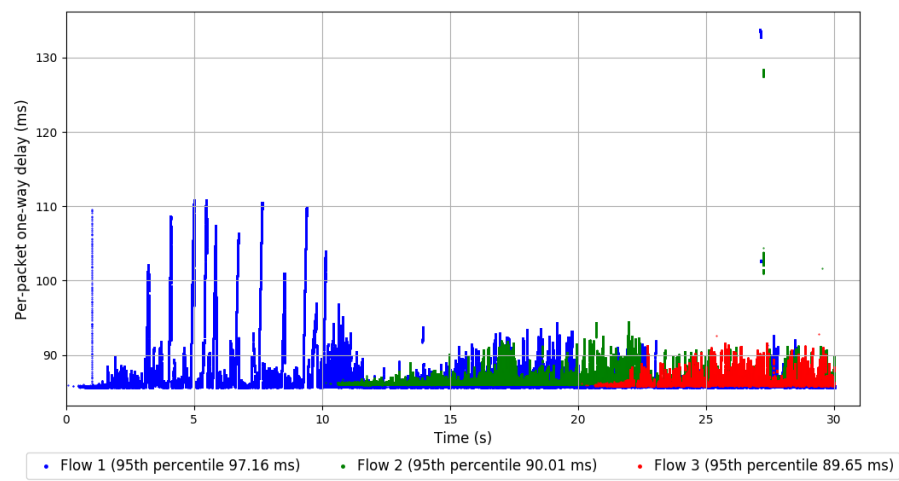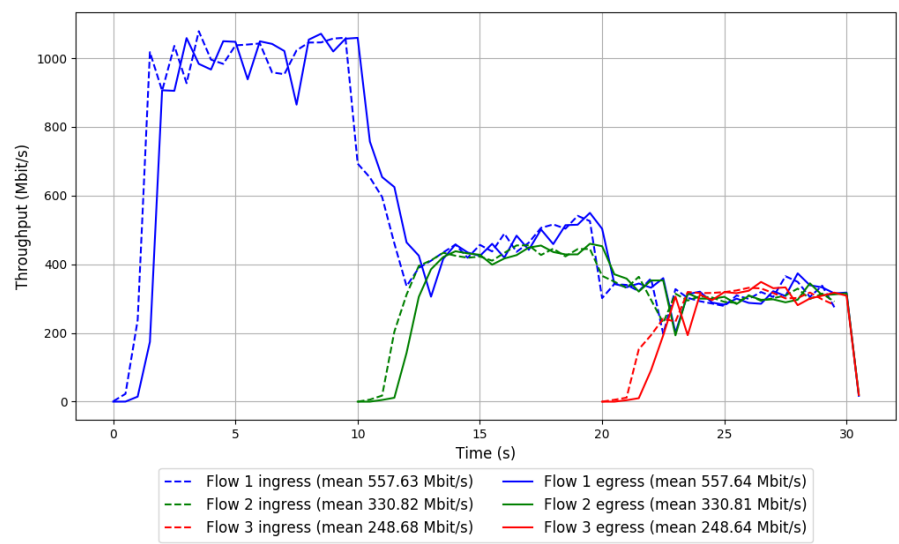Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-02-20 01:11:59
End at: 2019-02-20 01:12:29
Local clock offset: 0.005 ms
Remote clock offset: -0.015 ms


# Below is generated by plot.py at 2019-02-20 04:50:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 864.78 Mbit/s
95th percentile per-packet one-way delay: 93.114 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 567.84 Mbit/s
95th percentile per-packet one-way delay: 94.663 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 331.69 Mbit/s
95th percentile per-packet one-way delay: 90.852 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 231.01 Mbit/s
95th percentile per-packet one-way delay: 92.548 ms
Loss rate: 0.00%
```
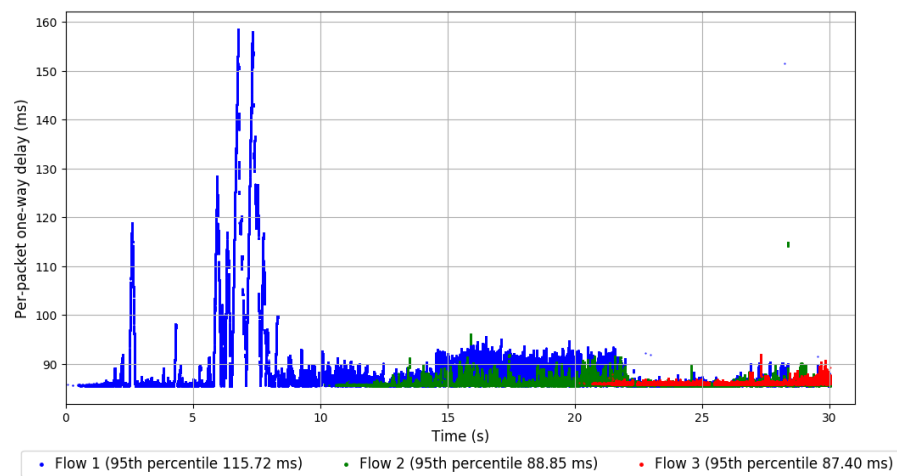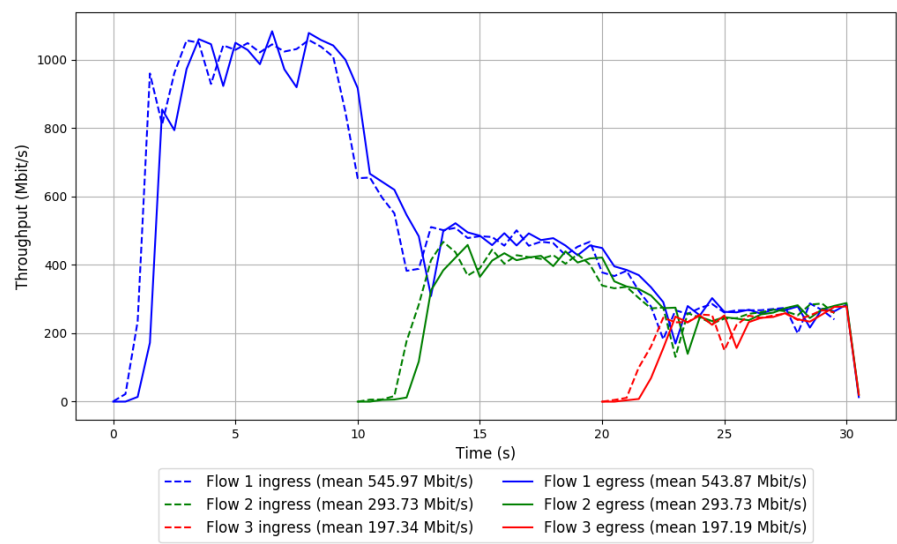
Run 2: Report of FillP-Sheep — Data Link

- - - Flow 1 ingress (mean 567.85 Mbit/s)   —— Flow 1 egress (mean 567.84 Mbit/s)
- - - Flow 2 ingress (mean 331.68 Mbit/s)   —— Flow 2 egress (mean 331.69 Mbit/s)
- - - Flow 3 ingress (mean 231.00 Mbit/s)   —— Flow 3 egress (mean 231.01 Mbit/s)

• Flow 1 (95th percentile 94.66 ms)   • Flow 2 (95th percentile 90.85 ms)   • Flow 3 (95th percentile 92.55 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-02-20 01:58:18
End at: 2019-02-20 01:58:48
Local clock offset: 0.168 ms
Remote clock offset: 0.33 ms


# Below is generated by plot.py at 2019-02-20 04:50:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 834.16 Mbit/s
95th percentile per-packet one-way delay: 90.637 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 546.17 Mbit/s
95th percentile per-packet one-way delay: 90.616 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 319.11 Mbit/s
95th percentile per-packet one-way delay: 89.710 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 228.18 Mbit/s
95th percentile per-packet one-way delay: 92.811 ms
Loss rate: 0.00%
```
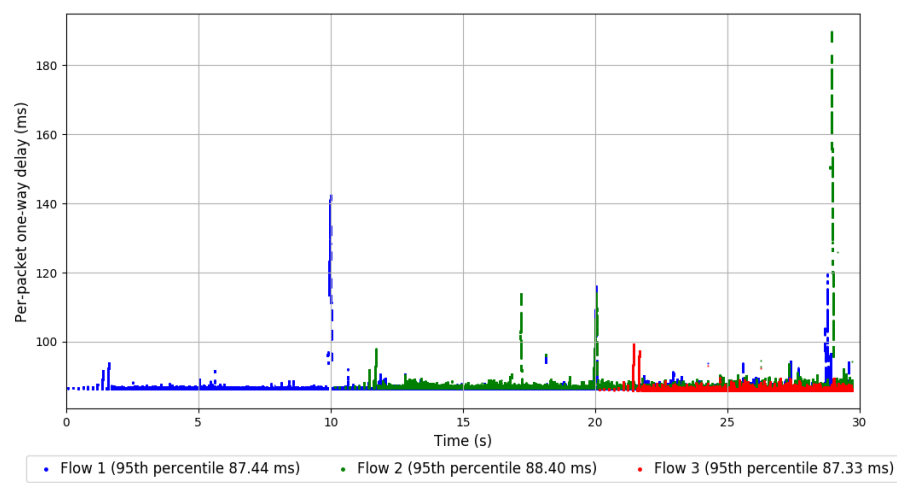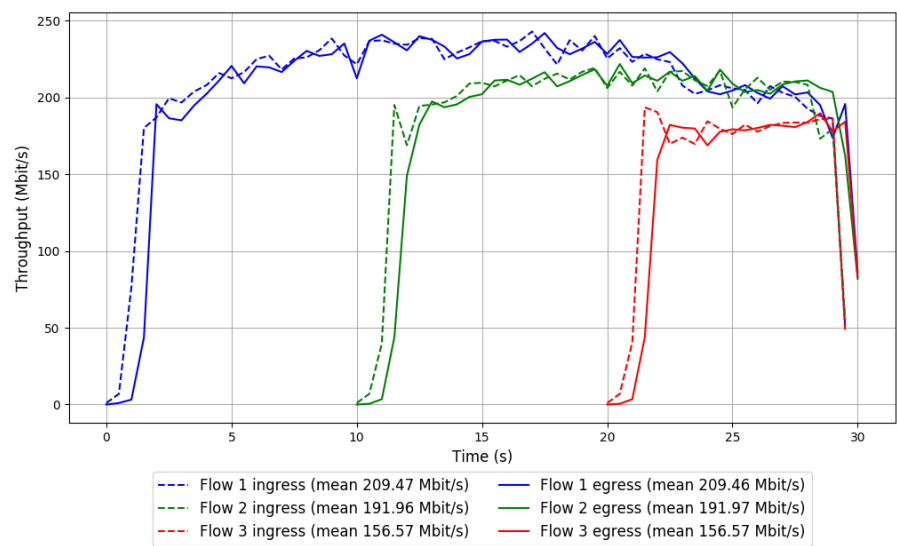
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 546.24 Mbit/s) --- Flow 1 egress (mean 546.17 Mbit/s)
Flow 2 ingress (mean 319.11 Mbit/s) --- Flow 2 egress (mean 319.11 Mbit/s)
Flow 3 ingress (mean 228.17 Mbit/s) --- Flow 3 egress (mean 228.18 Mbit/s)

Flow 1 (95th percentile 90.62 ms)   Flow 2 (95th percentile 89.71 ms)   Flow 3 (95th percentile 92.81 ms)

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```
Run 4: Statistics of FillP-Sheep

Start at: 2019-02-20 02:45:10
End at: 2019-02-20 02:45:40
Local clock offset: 0.023 ms
Remote clock offset: -0.112 ms


# Below is generated by plot.py at 2019-02-20 04:55:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 859.34 Mbit/s
95th percentile per-packet one-way delay: 92.825 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 557.64 Mbit/s
95th percentile per-packet one-way delay: 97.164 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 330.81 Mbit/s
95th percentile per-packet one-way delay: 90.013 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 248.64 Mbit/s
95th percentile per-packet one-way delay: 89.647 ms
Loss rate: 0.00%
```
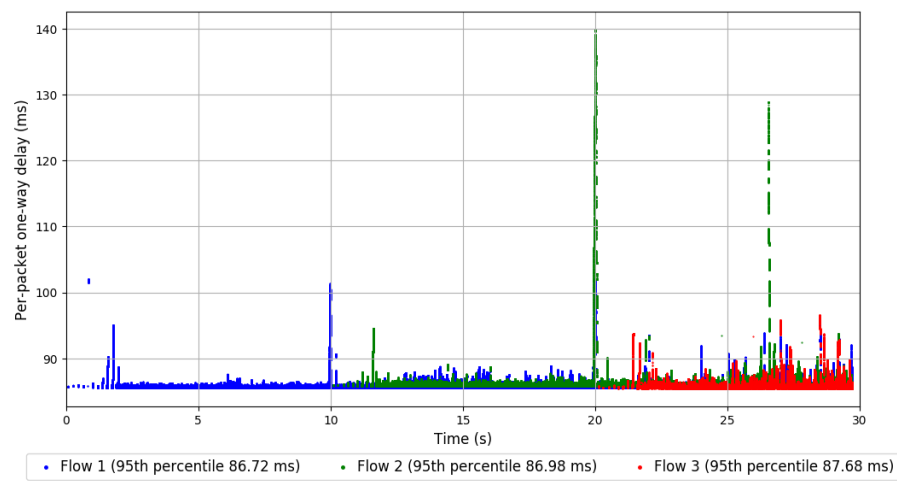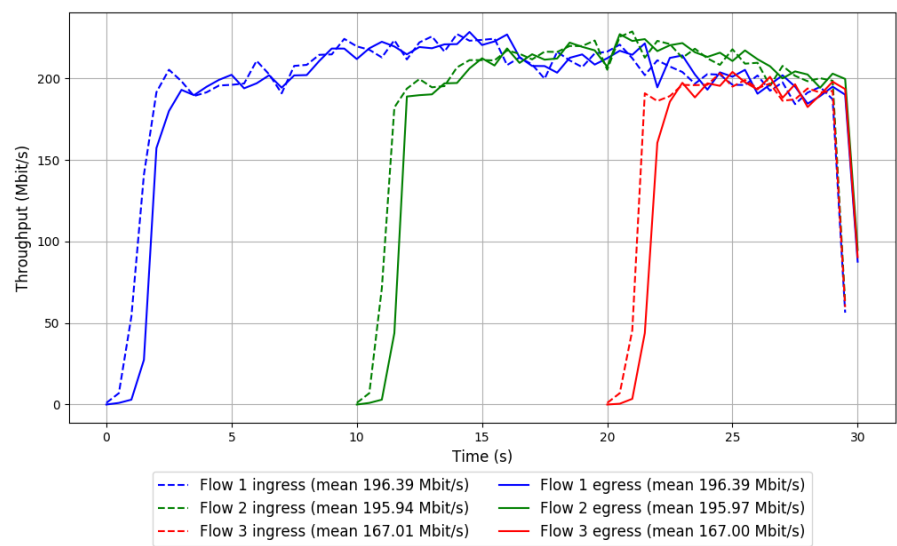
Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 557.63 Mbit/s)   Flow 1 egress (mean 557.64 Mbit/s)
Flow 2 ingress (mean 330.82 Mbit/s)   Flow 2 egress (mean 330.81 Mbit/s)
Flow 3 ingress (mean 248.68 Mbit/s)   Flow 3 egress (mean 248.64 Mbit/s)

Flow 1 (95th percentile 97.16 ms)   Flow 2 (95th percentile 90.01 ms)   Flow 3 (95th percentile 89.65 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-02-20 03:31:33
End at: 2019-02-20 03:32:03
Local clock offset: 0.246 ms
Remote clock offset: -0.097 ms


# Below is generated by plot.py at 2019-02-20 04:55:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 803.98 Mbit/s
95th percentile per-packet one-way delay: 107.107 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 543.87 Mbit/s
95th percentile per-packet one-way delay: 115.724 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 293.73 Mbit/s
95th percentile per-packet one-way delay: 88.849 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 197.19 Mbit/s
95th percentile per-packet one-way delay: 87.404 ms
Loss rate: 0.06%
```
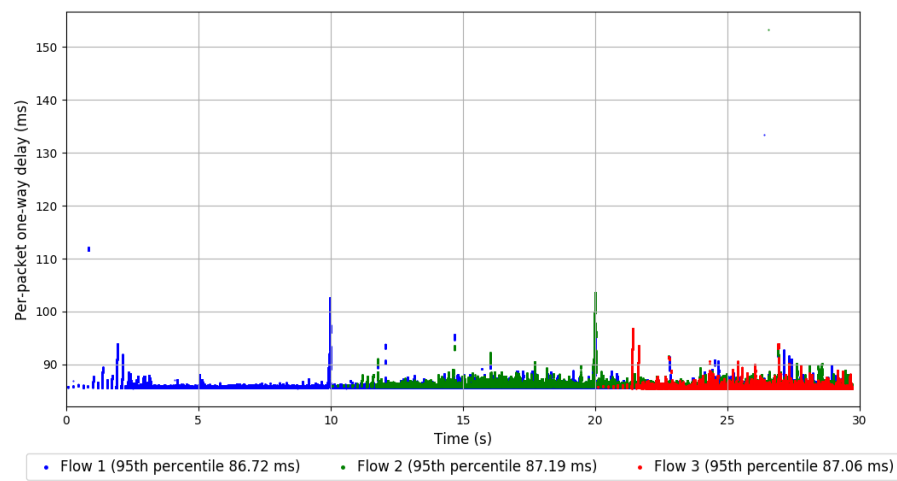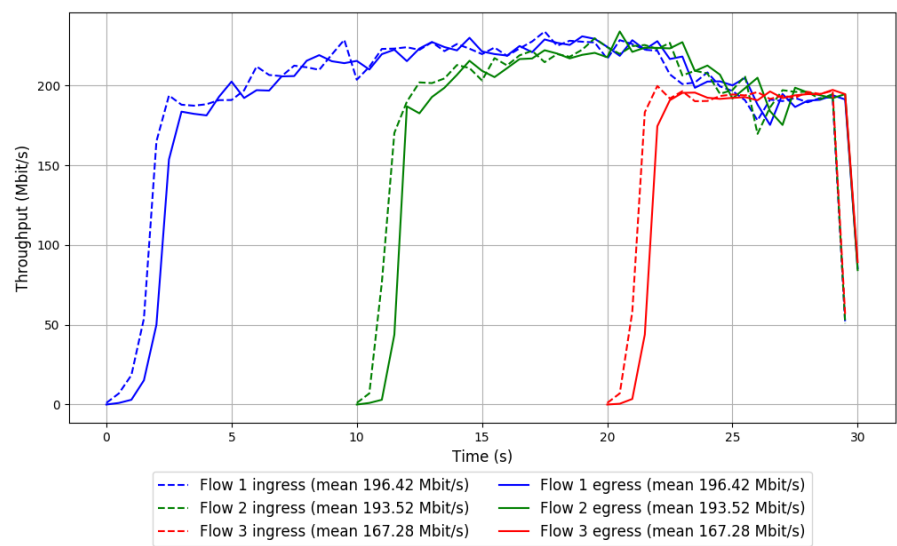
Run 5: Report of FillP-Sheep — Data Link

- - - - Flow 1 ingress (mean 545.97 Mbit/s)   —— Flow 1 egress (mean 543.87 Mbit/s)
- - - - Flow 2 ingress (mean 293.73 Mbit/s)   —— Flow 2 egress (mean 293.73 Mbit/s)
- - - - Flow 3 ingress (mean 197.34 Mbit/s)   —— Flow 3 egress (mean 197.19 Mbit/s)

- Flow 1 (95th percentile 115.72 ms)   • Flow 2 (95th percentile 88.85 ms)   • Flow 3 (95th percentile 87.40 ms)

```
Run 1: Statistics of Indigo

Start at: 2019-02-20 00:22:48
End at: 2019-02-20 00:23:18
Local clock offset: -0.145 ms
Remote clock offset: -0.068 ms


# Below is generated by plot.py at 2019-02-20 04:55:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 386.71 Mbit/s
95th percentile per-packet one-way delay: 87.870 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 209.46 Mbit/s
95th percentile per-packet one-way delay: 87.443 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 191.97 Mbit/s
95th percentile per-packet one-way delay: 88.403 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 156.57 Mbit/s
95th percentile per-packet one-way delay: 87.335 ms
Loss rate: 0.00%
```
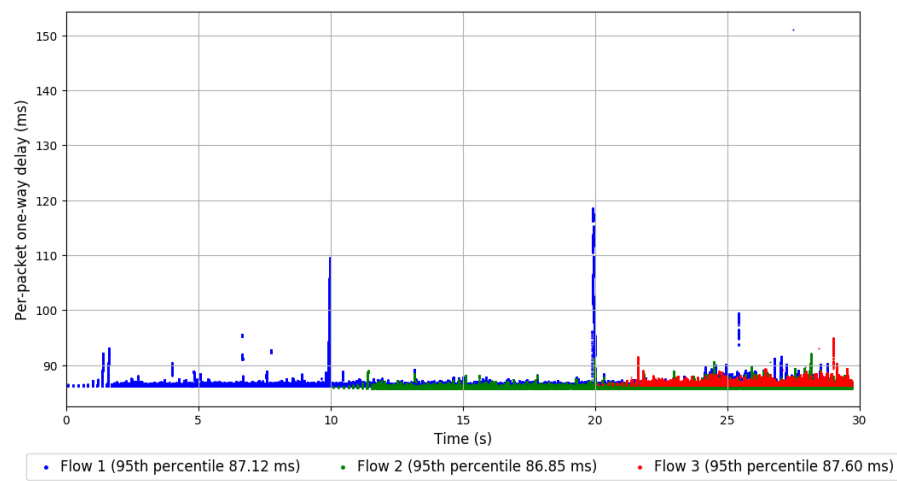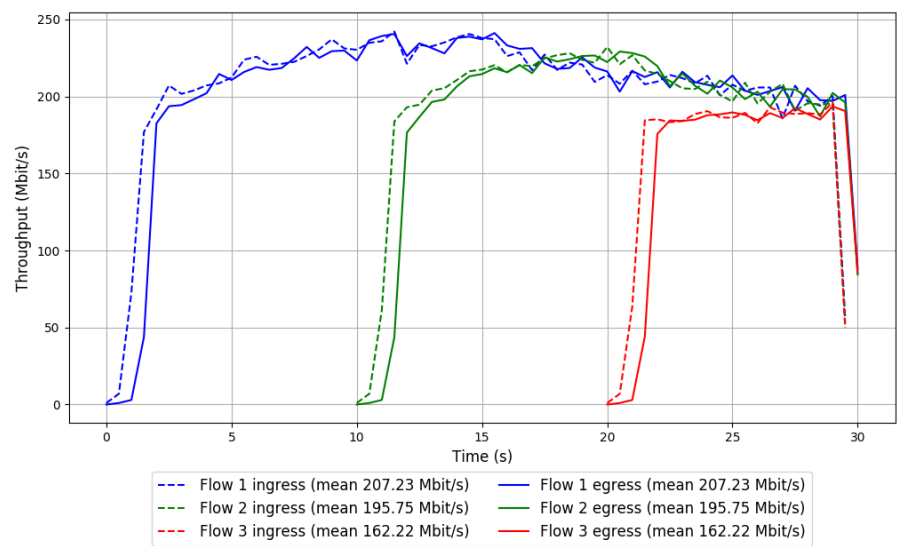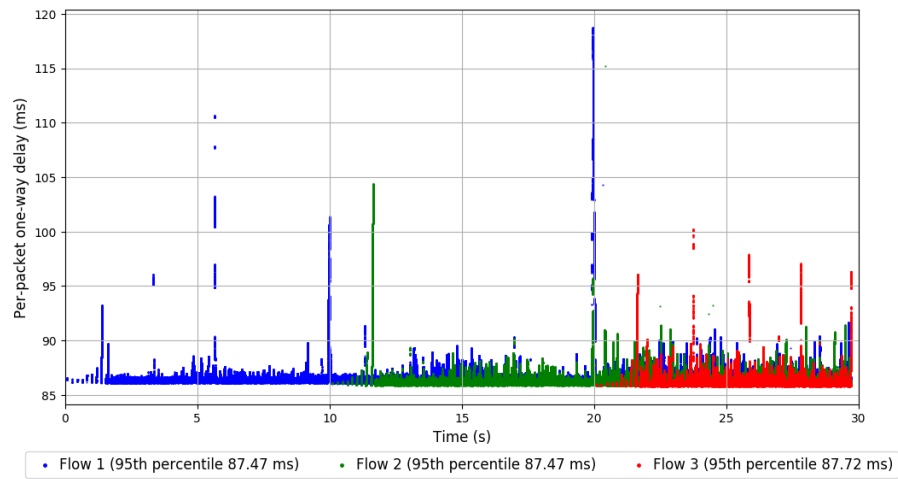
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-02-20 01:09:32
End at: 2019-02-20 01:10:02
Local clock offset: 0.418 ms
Remote clock offset: 0.019 ms


# Below is generated by plot.py at 2019-02-20 05:01:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 380.27 Mbit/s
95th percentile per-packet one-way delay: 86.929 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 196.39 Mbit/s
95th percentile per-packet one-way delay: 86.717 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 195.97 Mbit/s
95th percentile per-packet one-way delay: 86.981 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 167.00 Mbit/s
95th percentile per-packet one-way delay: 87.679 ms
Loss rate: 0.00%
```
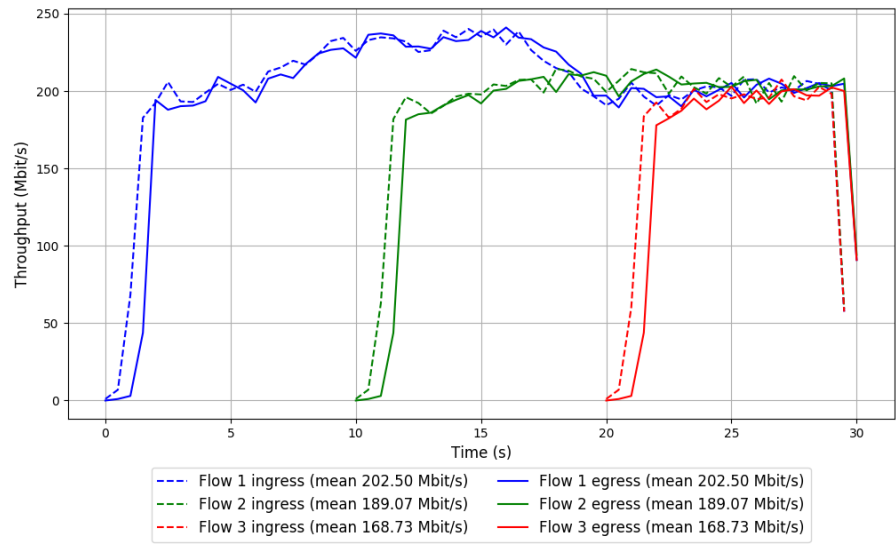
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-02-20 01:55:54
End at: 2019-02-20 01:56:24
Local clock offset: 0.347 ms
Remote clock offset: 0.492 ms


# Below is generated by plot.py at 2019-02-20 05:04:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 378.87 Mbit/s
95th percentile per-packet one-way delay: 86.972 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 196.42 Mbit/s
95th percentile per-packet one-way delay: 86.725 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 193.52 Mbit/s
95th percentile per-packet one-way delay: 87.187 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 167.28 Mbit/s
95th percentile per-packet one-way delay: 87.055 ms
Loss rate: 0.00%
```

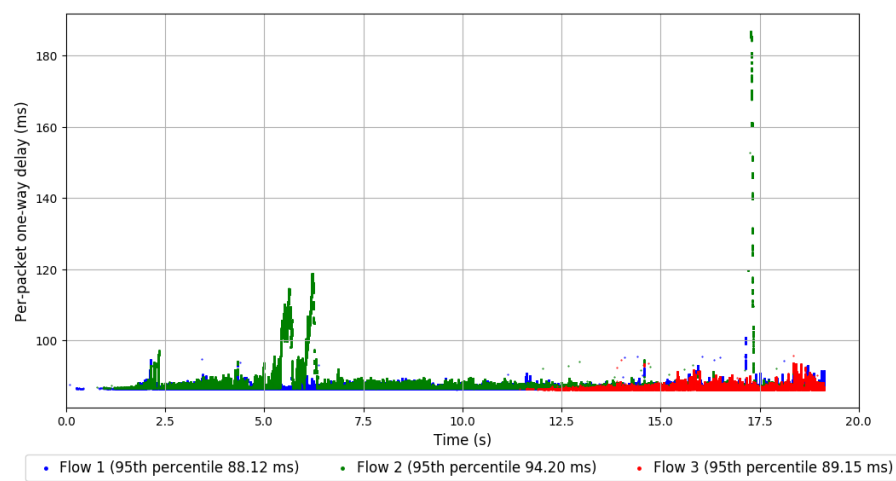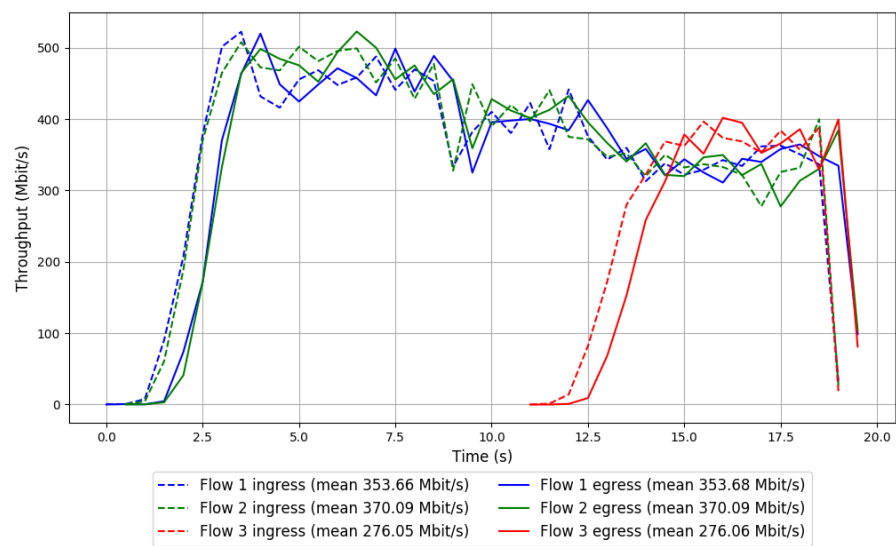Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-02-20 02:42:46
End at: 2019-02-20 02:43:16
Local clock offset: -0.165 ms
Remote clock offset: -0.13 ms


# Below is generated by plot.py at 2019-02-20 05:04:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 389.52 Mbit/s
95th percentile per-packet one-way delay: 87.151 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 207.23 Mbit/s
95th percentile per-packet one-way delay: 87.123 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 195.75 Mbit/s
95th percentile per-packet one-way delay: 86.848 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 162.22 Mbit/s
95th percentile per-packet one-way delay: 87.602 ms
Loss rate: 0.00%
```
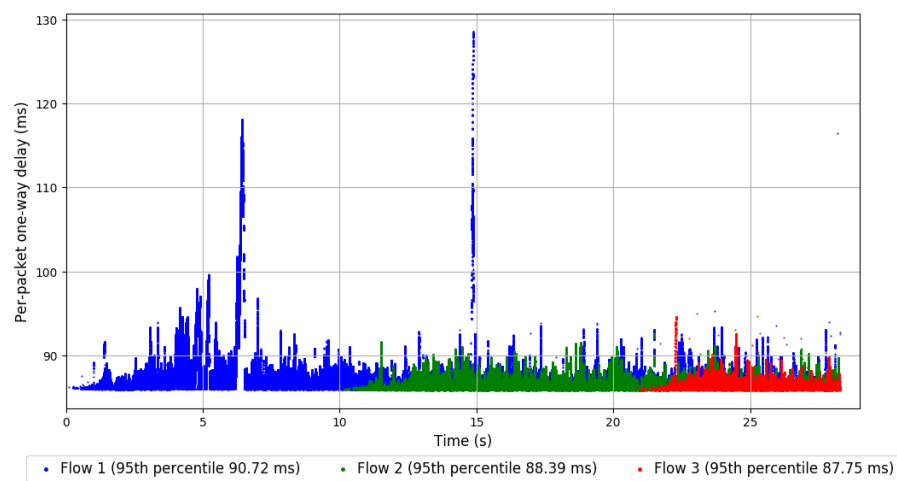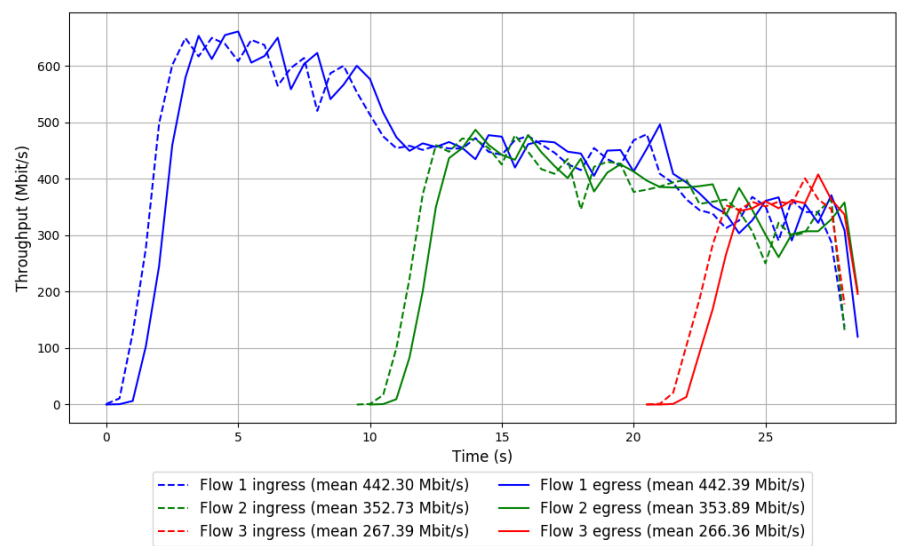
Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 207.23 Mbit/s) --- Flow 1 egress (mean 207.23 Mbit/s)
Flow 2 ingress (mean 195.75 Mbit/s) --- Flow 2 egress (mean 195.75 Mbit/s)
Flow 3 ingress (mean 162.22 Mbit/s) --- Flow 3 egress (mean 162.22 Mbit/s)

Flow 1 (95th percentile 87.12 ms)   Flow 2 (95th percentile 86.85 ms)   Flow 3 (95th percentile 87.60 ms)

```
Run 5: Statistics of Indigo

Start at: 2019-02-20 03:29:11
End at: 2019-02-20 03:29:41
Local clock offset: -0.088 ms
Remote clock offset: -0.112 ms


# Below is generated by plot.py at 2019-02-20 05:04:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 382.42 Mbit/s
95th percentile per-packet one-way delay: 87.499 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 202.50 Mbit/s
95th percentile per-packet one-way delay: 87.468 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 189.07 Mbit/s
95th percentile per-packet one-way delay: 87.468 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 168.73 Mbit/s
95th percentile per-packet one-way delay: 87.716 ms
Loss rate: 0.00%
```
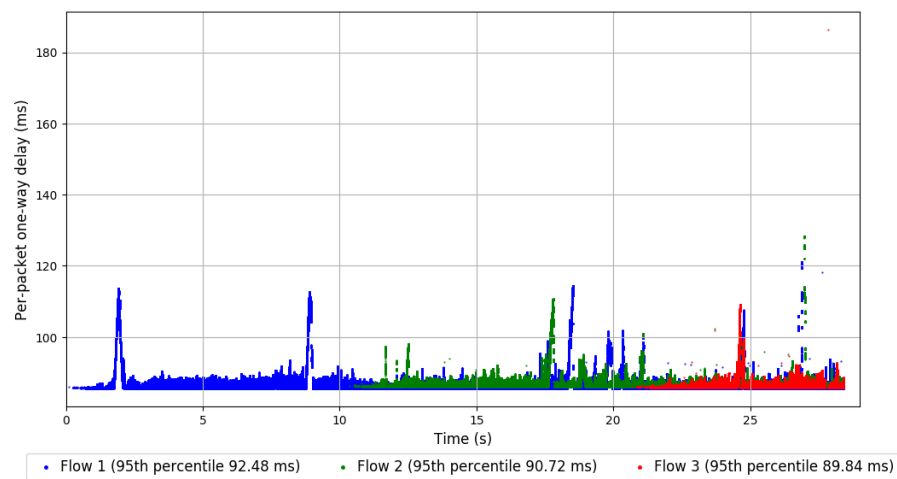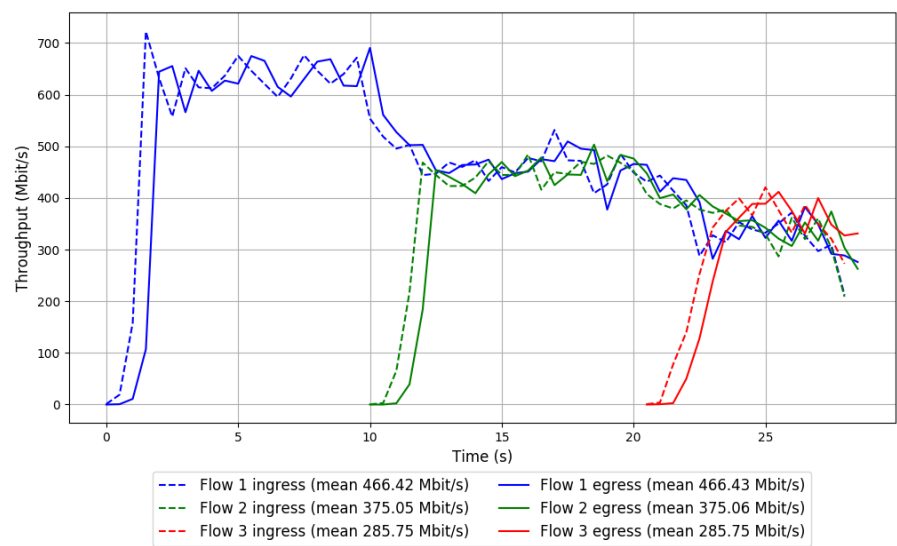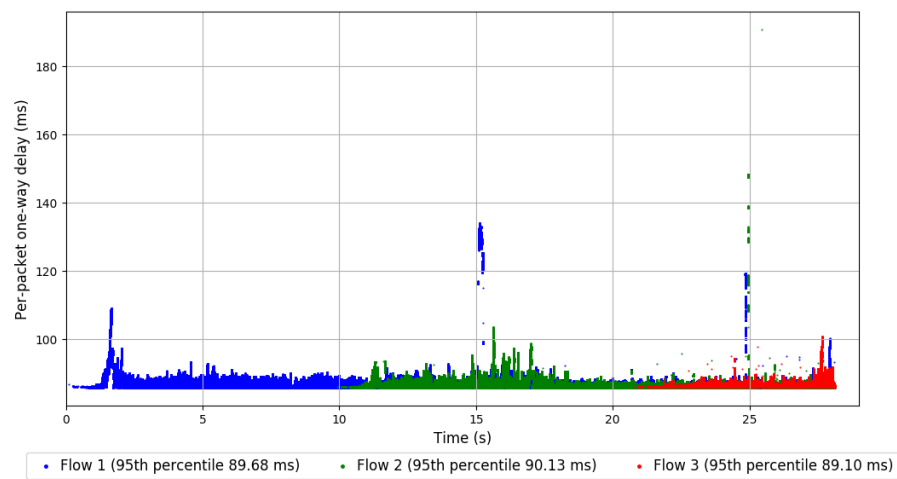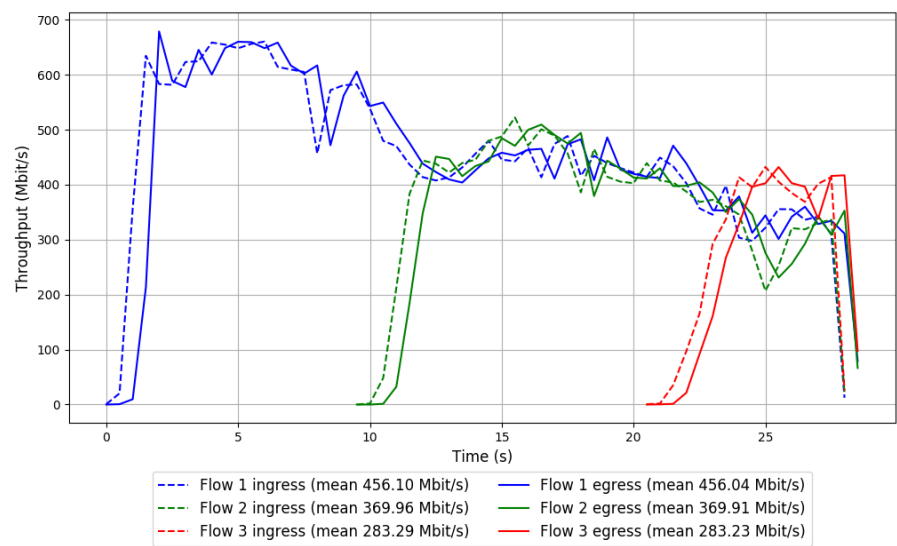
Run 5: Report of Indigo — Data Link

Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-19 23:49:48
End at: 2019-02-19 23:50:18
Local clock offset: -0.632 ms
Remote clock offset: -0.061 ms

Run 1: Report of Indigo-MusesC3 — Data Link

- - - - Flow 1 ingress (mean 353.66 Mbit/s)   —— Flow 1 egress (mean 353.68 Mbit/s)
- - - - Flow 2 ingress (mean 370.09 Mbit/s)   —— Flow 2 egress (mean 370.09 Mbit/s)
- - - - Flow 3 ingress (mean 276.05 Mbit/s)   —— Flow 3 egress (mean 276.06 Mbit/s)

- Flow 1 (95th percentile 88.12 ms)   • Flow 2 (95th percentile 94.20 ms)   • Flow 3 (95th percentile 89.15 ms)
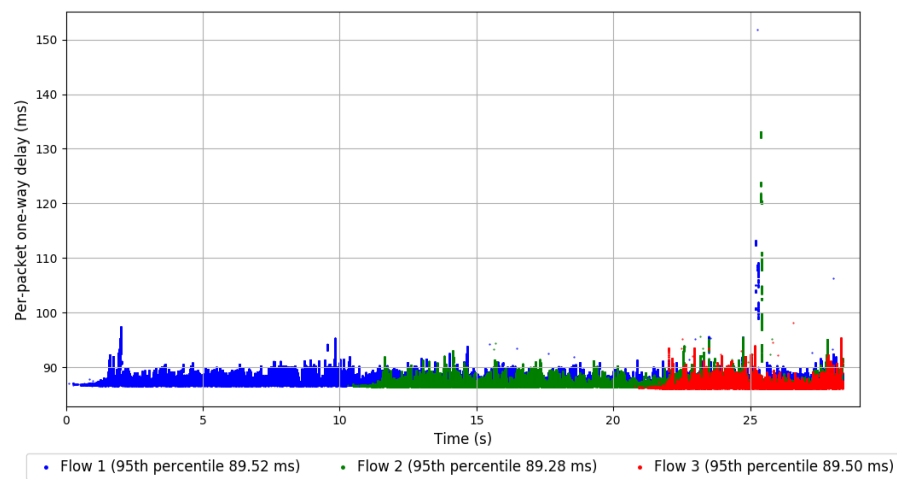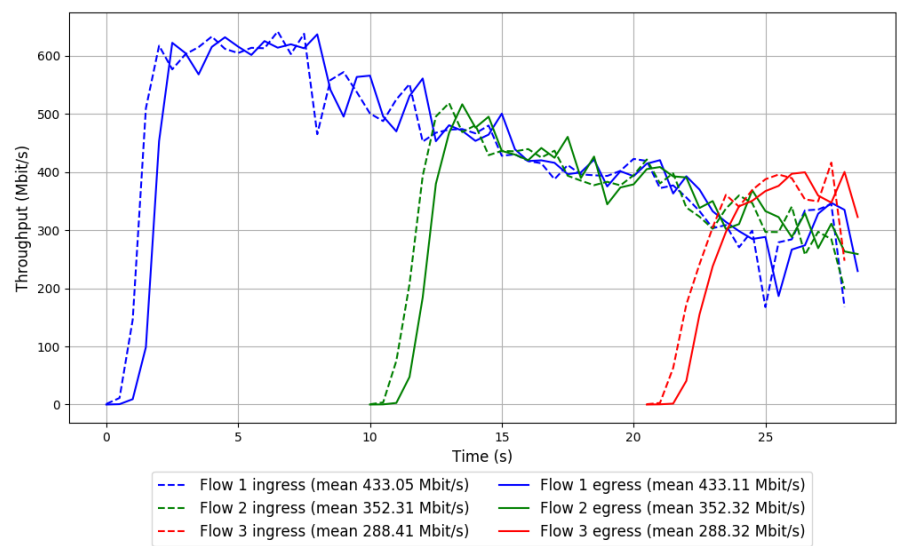
```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-20 00:35:11
End at: 2019-02-20 00:35:41
Local clock offset: -0.132 ms
Remote clock offset: -0.069 ms


# Below is generated by plot.py at 2019-02-20 05:07:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 741.79 Mbit/s
95th percentile per-packet one-way delay: 89.502 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 442.39 Mbit/s
95th percentile per-packet one-way delay: 90.724 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 353.89 Mbit/s
95th percentile per-packet one-way delay: 88.385 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 266.36 Mbit/s
95th percentile per-packet one-way delay: 87.746 ms
Loss rate: 1.17%
```

Run 2: Report of Indigo-MusesC3 — Data Link

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```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-20 01:22:11
End at: 2019-02-20 01:22:41
Local clock offset: 0.378 ms
Remote clock offset: 0.115 ms


# Below is generated by plot.py at 2019-02-20 05:09:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 783.34 Mbit/s
95th percentile per-packet one-way delay: 91.372 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 466.43 Mbit/s
95th percentile per-packet one-way delay: 92.481 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 375.06 Mbit/s
95th percentile per-packet one-way delay: 90.716 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 285.75 Mbit/s
95th percentile per-packet one-way delay: 89.840 ms
Loss rate: 0.00%
```

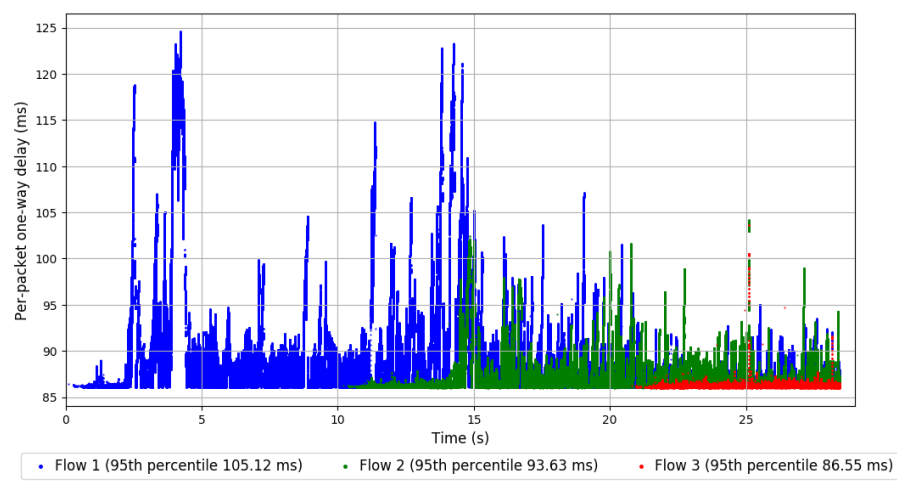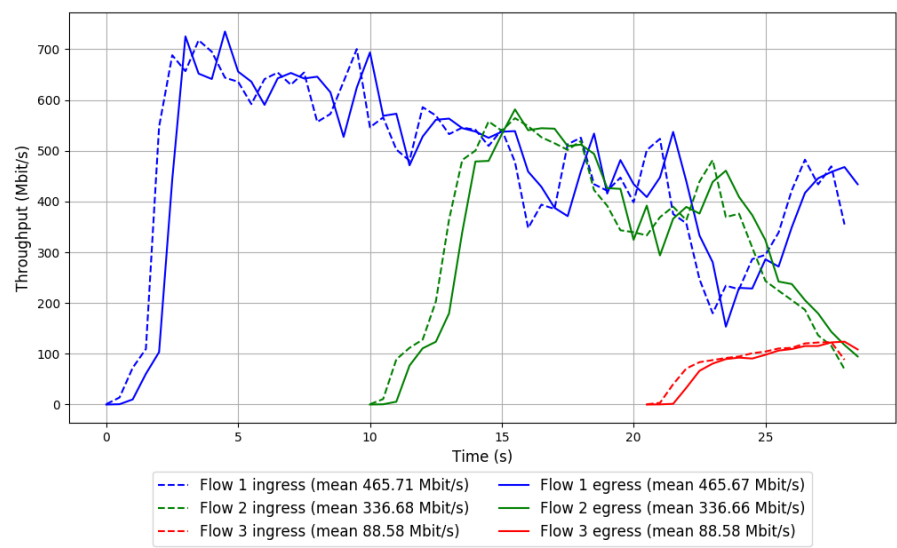Run 3: Report of Indigo-MusesC3 — Data Link

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-20 02:08:10
End at: 2019-02-20 02:08:40
Local clock offset: -0.053 ms
Remote clock offset: 0.061 ms


# Below is generated by plot.py at 2019-02-20 05:10:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 770.54 Mbit/s
95th percentile per-packet one-way delay: 89.763 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 456.04 Mbit/s
95th percentile per-packet one-way delay: 89.681 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 369.91 Mbit/s
95th percentile per-packet one-way delay: 90.128 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 283.23 Mbit/s
95th percentile per-packet one-way delay: 89.098 ms
Loss rate: 0.02%
```
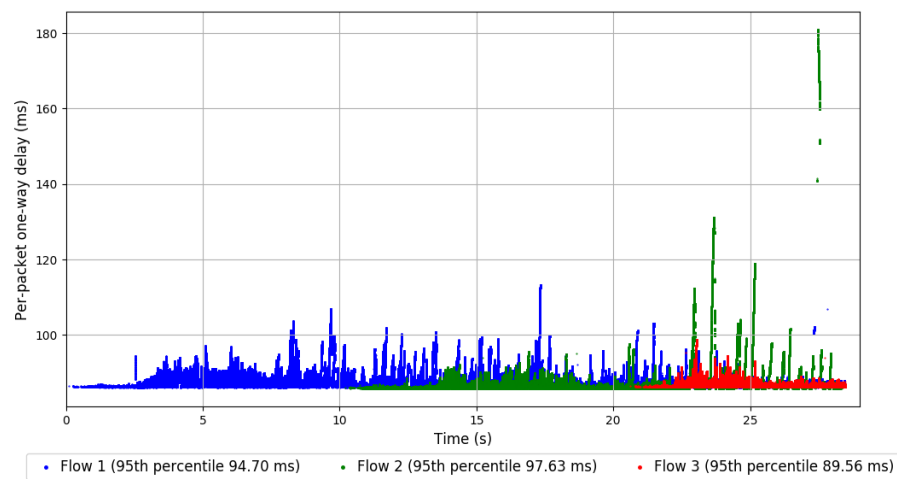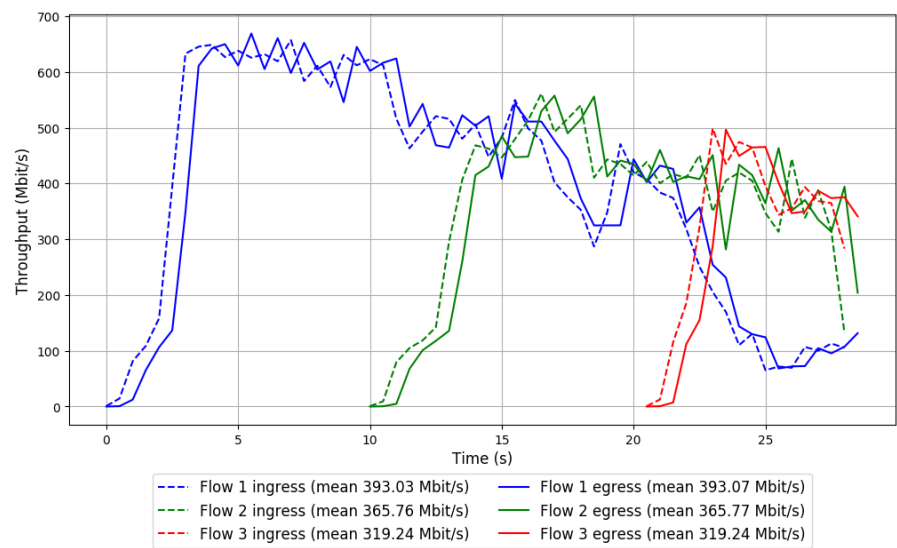
Run 4: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 456.10 Mbit/s)   Flow 1 egress (mean 456.04 Mbit/s)
Flow 2 ingress (mean 369.96 Mbit/s)   Flow 2 egress (mean 369.91 Mbit/s)
Flow 3 ingress (mean 283.29 Mbit/s)   Flow 3 egress (mean 283.23 Mbit/s)

Flow 1 (95th percentile 89.68 ms)   Flow 2 (95th percentile 90.13 ms)   Flow 3 (95th percentile 89.10 ms)

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-20 02:55:02
End at: 2019-02-20 02:55:32
Local clock offset: -0.409 ms
Remote clock offset: -0.119 ms


# Below is generated by plot.py at 2019-02-20 05:15:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 735.76 Mbit/s
95th percentile per-packet one-way delay: 89.467 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 433.11 Mbit/s
95th percentile per-packet one-way delay: 89.521 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 352.32 Mbit/s
95th percentile per-packet one-way delay: 89.282 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 288.32 Mbit/s
95th percentile per-packet one-way delay: 89.500 ms
Loss rate: 0.01%
```
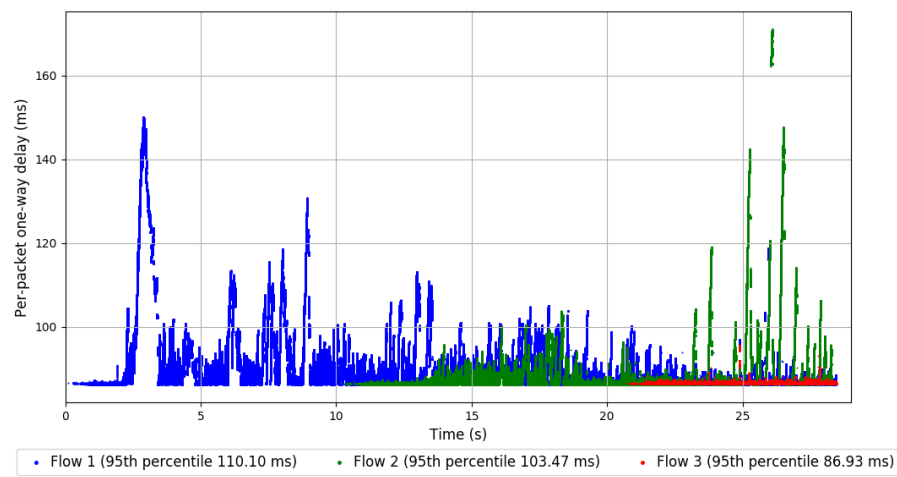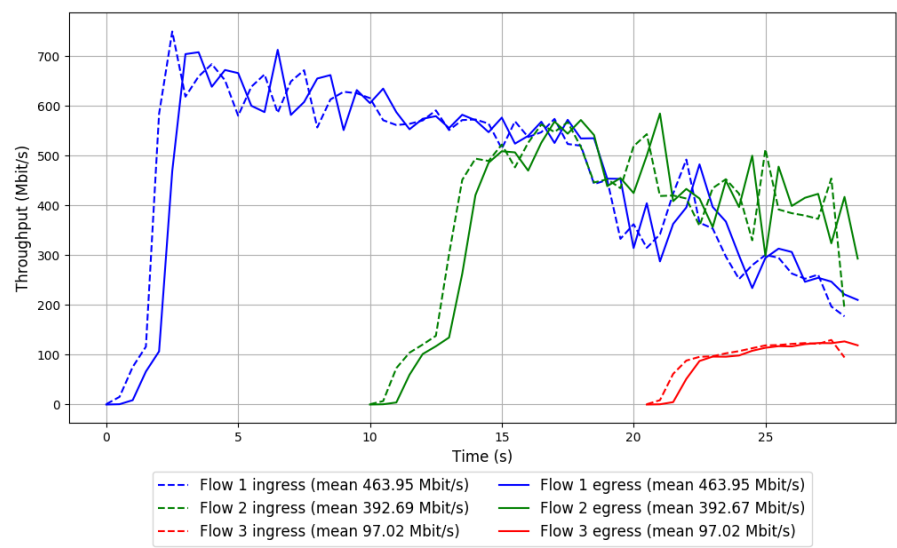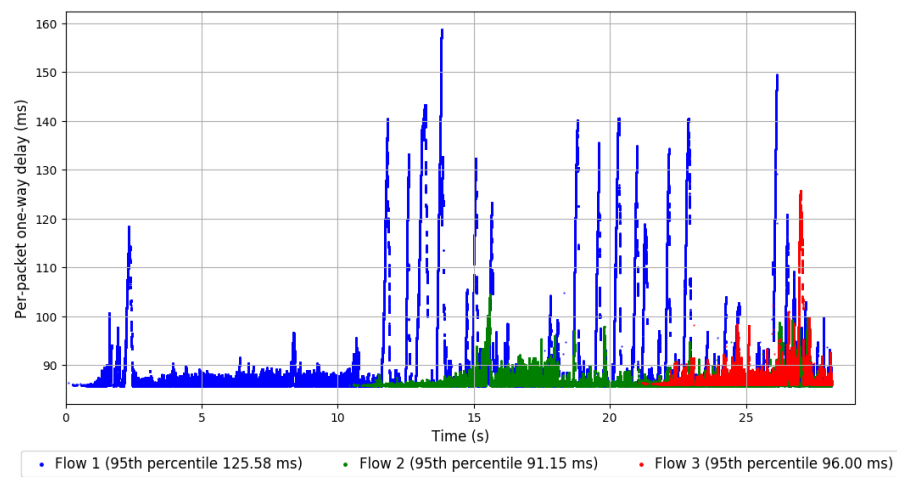
Run 5: Report of Indigo-MusesC3 — Data Link

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-20 00:20:36
End at: 2019-02-20 00:21:06
Local clock offset: -0.301 ms
Remote clock offset: -0.071 ms

# Below is generated by plot.py at 2019-02-20 05:15:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 705.93 Mbit/s
95th percentile per-packet one-way delay: 100.342 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 465.67 Mbit/s
95th percentile per-packet one-way delay: 105.121 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 336.66 Mbit/s
95th percentile per-packet one-way delay: 93.629 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 88.58 Mbit/s
95th percentile per-packet one-way delay: 86.554 ms
Loss rate: 0.00%
```
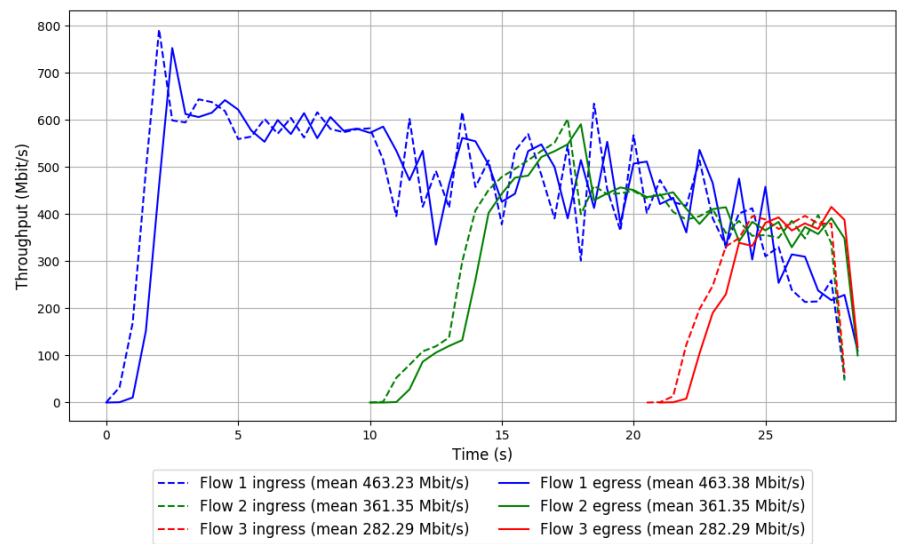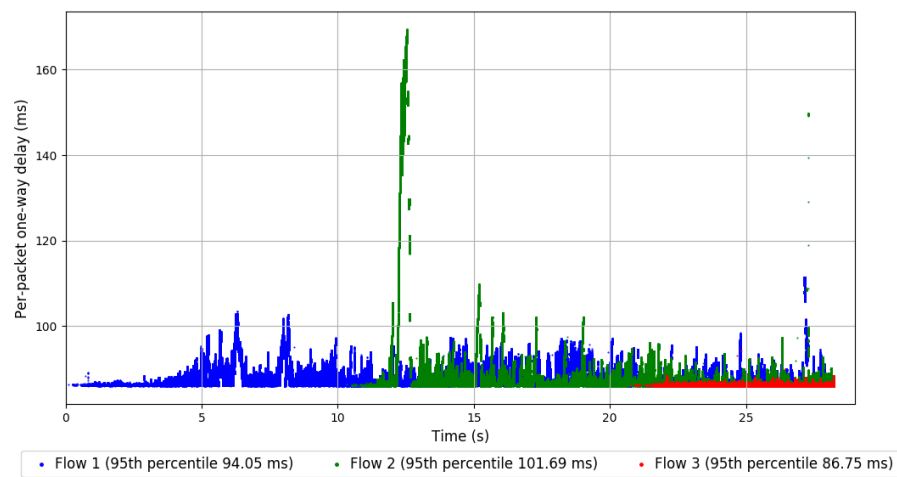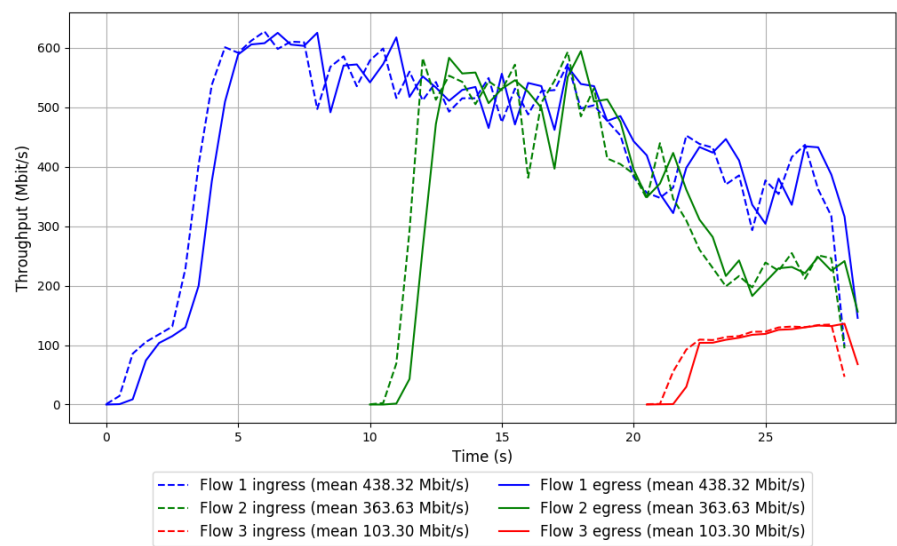
Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-20 01:07:03
End at: 2019-02-20 01:07:34
Local clock offset: -0.015 ms
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2019-02-20 05:18:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 715.86 Mbit/s
95th percentile per-packet one-way delay: 94.819 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 393.07 Mbit/s
95th percentile per-packet one-way delay: 94.702 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 365.77 Mbit/s
95th percentile per-packet one-way delay: 97.628 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 319.24 Mbit/s
95th percentile per-packet one-way delay: 89.558 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 393.03 Mbit/s)   Flow 1 egress (mean 393.07 Mbit/s)
Flow 2 ingress (mean 365.76 Mbit/s)   Flow 2 egress (mean 365.77 Mbit/s)
Flow 3 ingress (mean 319.24 Mbit/s)   Flow 3 egress (mean 319.24 Mbit/s)

Flow 1 (95th percentile 94.70 ms)   Flow 2 (95th percentile 97.63 ms)   Flow 3 (95th percentile 89.56 ms)

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-20 01:53:34
End at: 2019-02-20 01:54:04
Local clock offset: -0.299 ms
Remote clock offset: 0.641 ms


# Below is generated by plot.py at 2019-02-20 05:19:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 741.18 Mbit/s
95th percentile per-packet one-way delay: 108.936 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 463.95 Mbit/s
95th percentile per-packet one-way delay: 110.100 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 392.67 Mbit/s
95th percentile per-packet one-way delay: 103.474 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 97.02 Mbit/s
95th percentile per-packet one-way delay: 86.928 ms
Loss rate: 0.00%
```

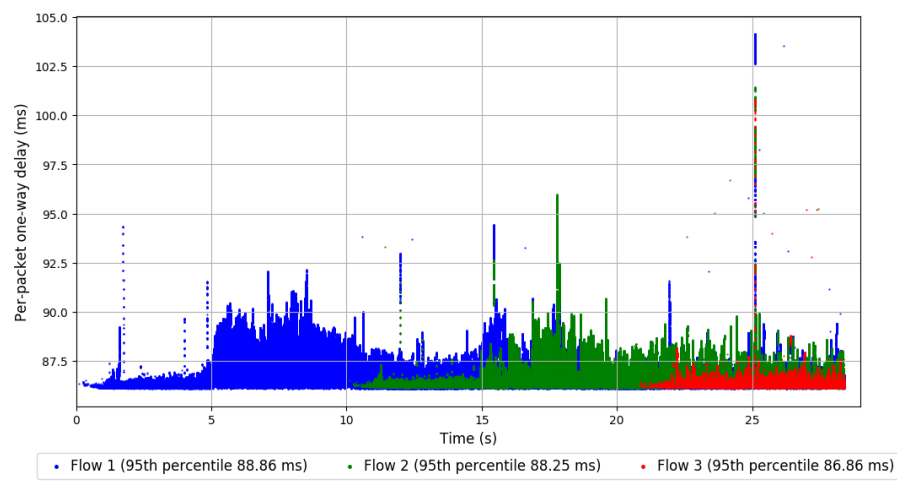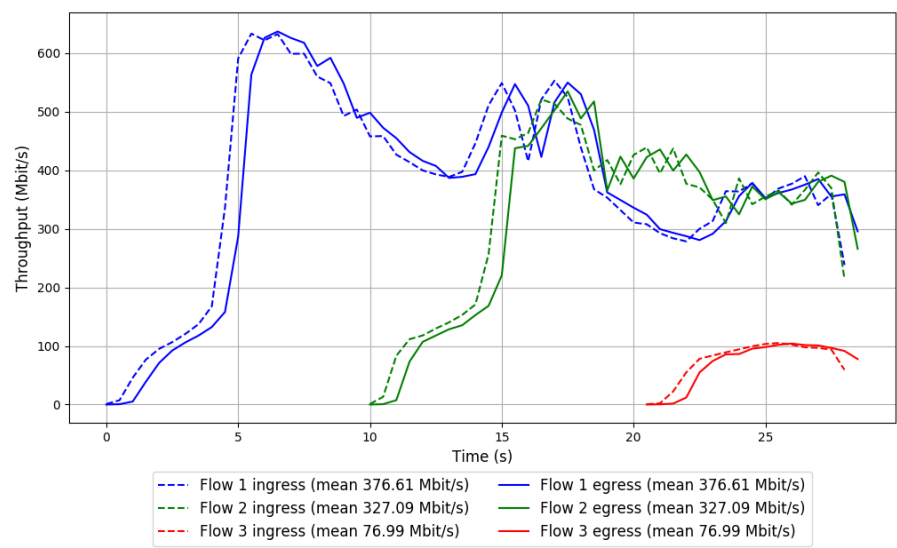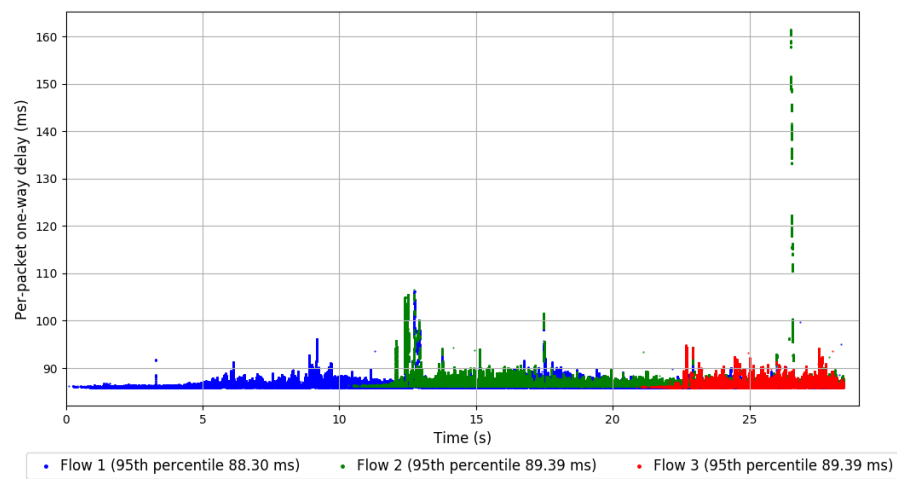Run 3: Report of Indigo-MusesC5 — Data Link

- - - Flow 1 ingress (mean 463.95 Mbit/s) —— Flow 1 egress (mean 463.95 Mbit/s)
- - - Flow 2 ingress (mean 392.69 Mbit/s) —— Flow 2 egress (mean 392.67 Mbit/s)
- - - Flow 3 ingress (mean 97.02 Mbit/s) —— Flow 3 egress (mean 97.02 Mbit/s)

• Flow 1 (95th percentile 110.10 ms)   • Flow 2 (95th percentile 103.47 ms)   • Flow 3 (95th percentile 86.93 ms)
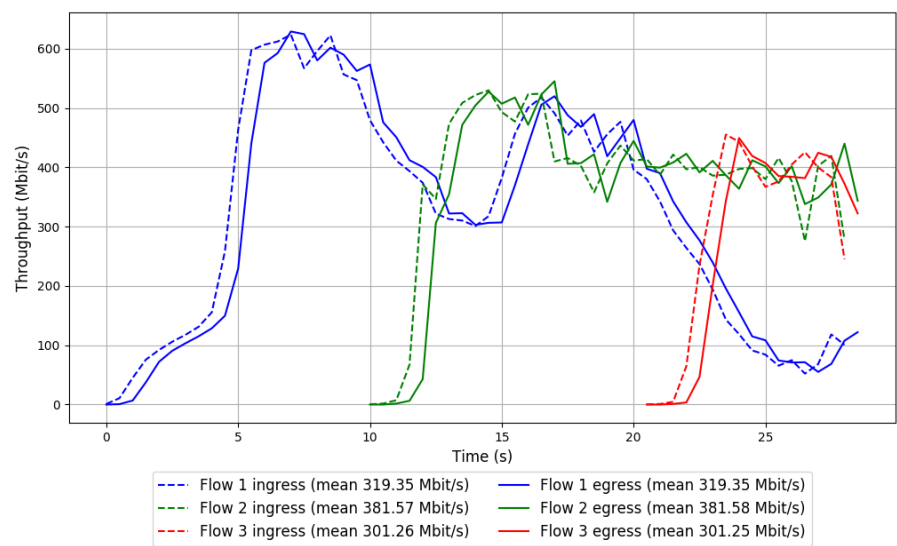
```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-20 02:40:16
End at: 2019-02-20 02:40:46
Local clock offset: -0.014 ms
Remote clock offset: -0.086 ms


# Below is generated by plot.py at 2019-02-20 05:19:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 763.18 Mbit/s
95th percentile per-packet one-way delay: 116.254 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 463.38 Mbit/s
95th percentile per-packet one-way delay: 125.584 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 361.35 Mbit/s
95th percentile per-packet one-way delay: 91.152 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 282.29 Mbit/s
95th percentile per-packet one-way delay: 96.002 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-20 03:26:47
End at: 2019-02-20 03:27:17
Local clock offset: -0.31 ms
Remote clock offset: -0.081 ms


# Below is generated by plot.py at 2019-02-20 05:20:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 696.93 Mbit/s
95th percentile per-packet one-way delay: 94.958 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 438.32 Mbit/s
95th percentile per-packet one-way delay: 94.049 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 363.63 Mbit/s
95th percentile per-packet one-way delay: 101.685 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 103.30 Mbit/s
95th percentile per-packet one-way delay: 86.753 ms
Loss rate: 0.00%
```
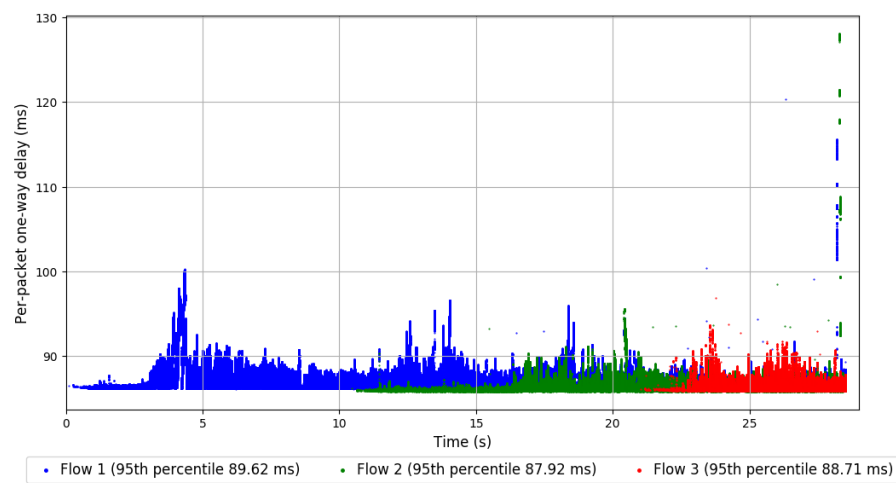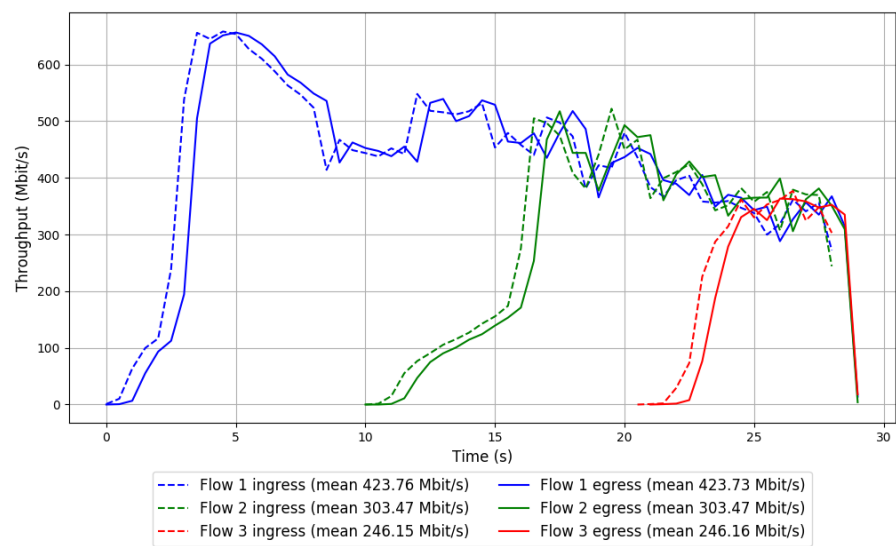
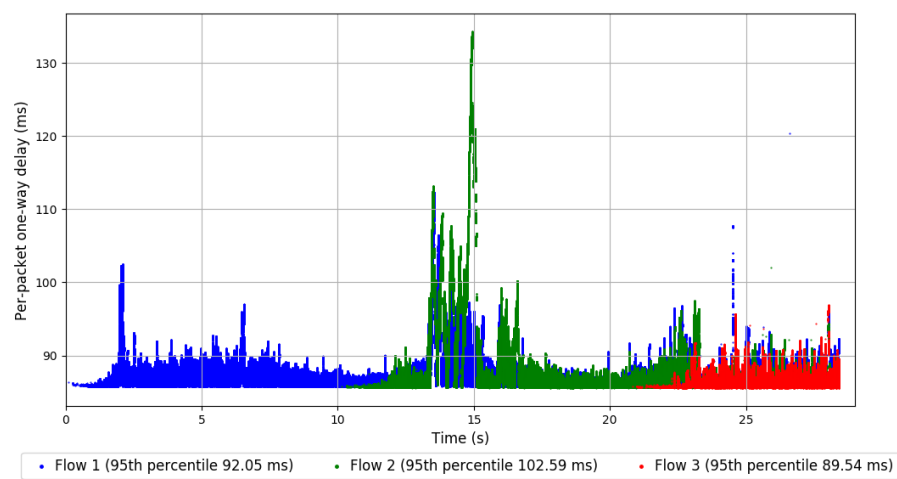Run 5: Report of Indigo-MusesC5 — Data Link

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-20 00:13:46
End at: 2019-02-20 00:14:16
Local clock offset: -0.427 ms
Remote clock offset: -0.046 ms


# Below is generated by plot.py at 2019-02-20 05:22:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 609.01 Mbit/s
95th percentile per-packet one-way delay: 88.654 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 376.61 Mbit/s
95th percentile per-packet one-way delay: 88.858 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 327.09 Mbit/s
95th percentile per-packet one-way delay: 88.246 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 76.99 Mbit/s
95th percentile per-packet one-way delay: 86.856 ms
Loss rate: 0.00%
```

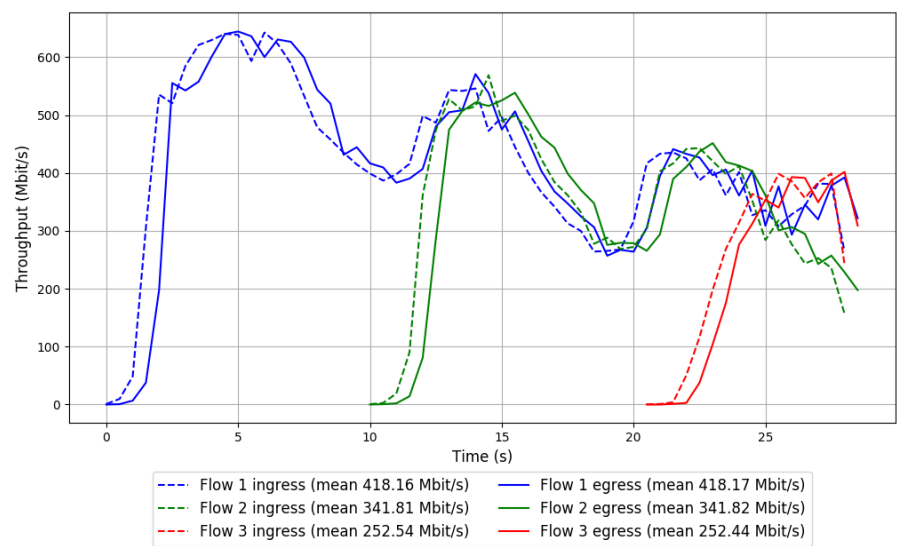Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-20 00:59:45
End at: 2019-02-20 01:00:15
Local clock offset: -0.024 ms
Remote clock offset: -0.004 ms


# Below is generated by plot.py at 2019-02-20 05:22:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 643.38 Mbit/s
95th percentile per-packet one-way delay: 88.879 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 319.35 Mbit/s
95th percentile per-packet one-way delay: 88.296 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 381.58 Mbit/s
95th percentile per-packet one-way delay: 89.392 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 301.25 Mbit/s
95th percentile per-packet one-way delay: 89.386 ms
Loss rate: 0.00%
```

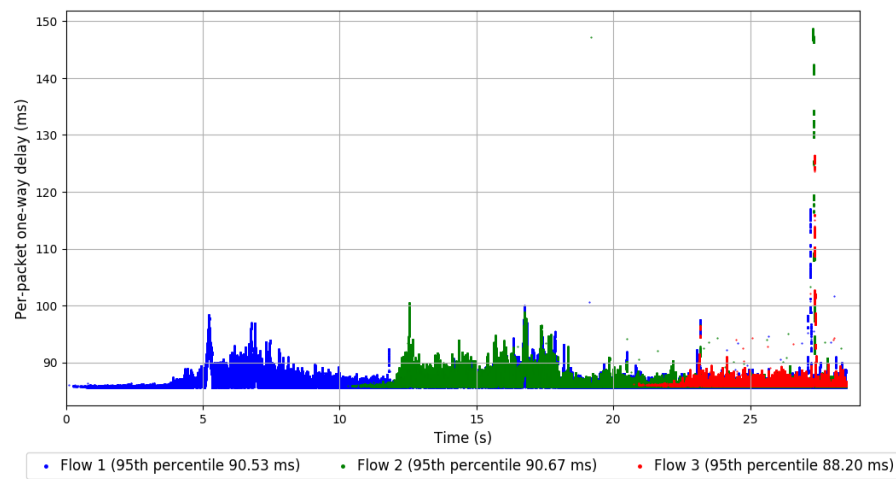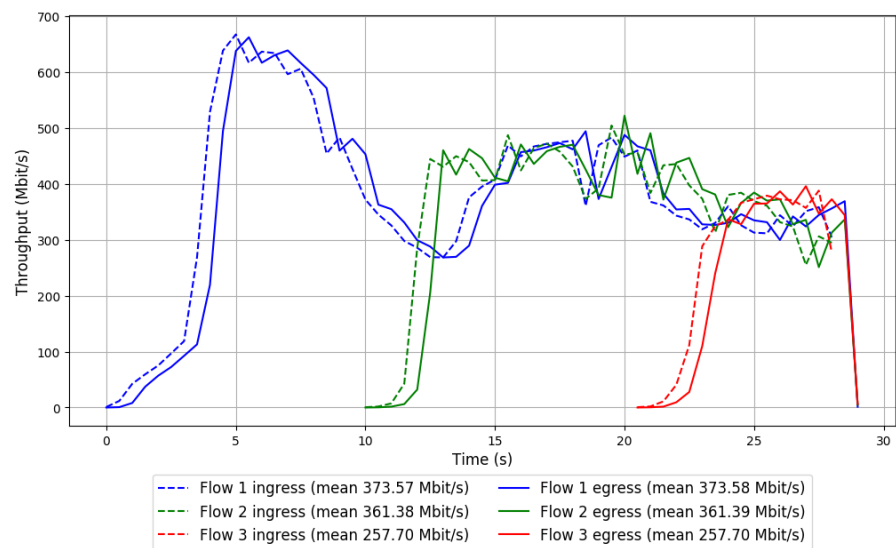Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-20 01:46:34
End at: 2019-02-20 01:47:04
Local clock offset: 0.017 ms
Remote clock offset: 0.551 ms


# Below is generated by plot.py at 2019-02-20 05:27:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 681.21 Mbit/s
95th percentile per-packet one-way delay: 89.190 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 423.73 Mbit/s
95th percentile per-packet one-way delay: 89.624 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 303.47 Mbit/s
95th percentile per-packet one-way delay: 87.921 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 246.16 Mbit/s
95th percentile per-packet one-way delay: 88.706 ms
Loss rate: 0.00%
```

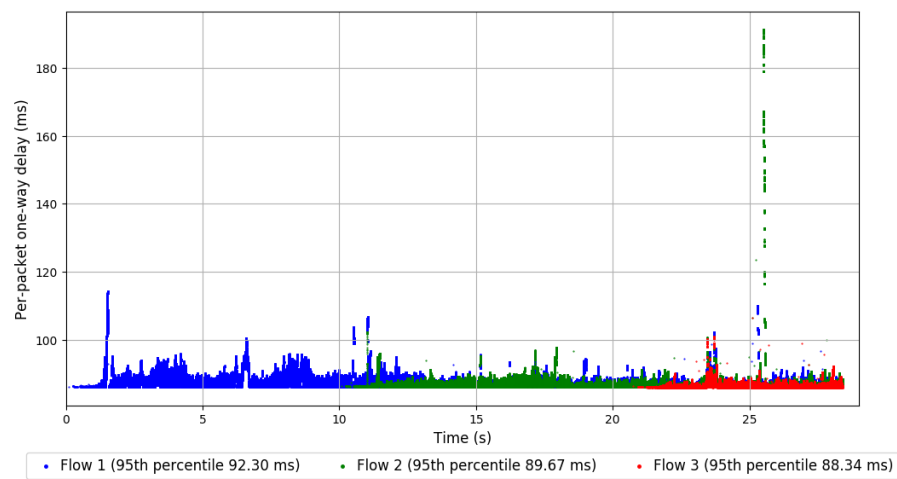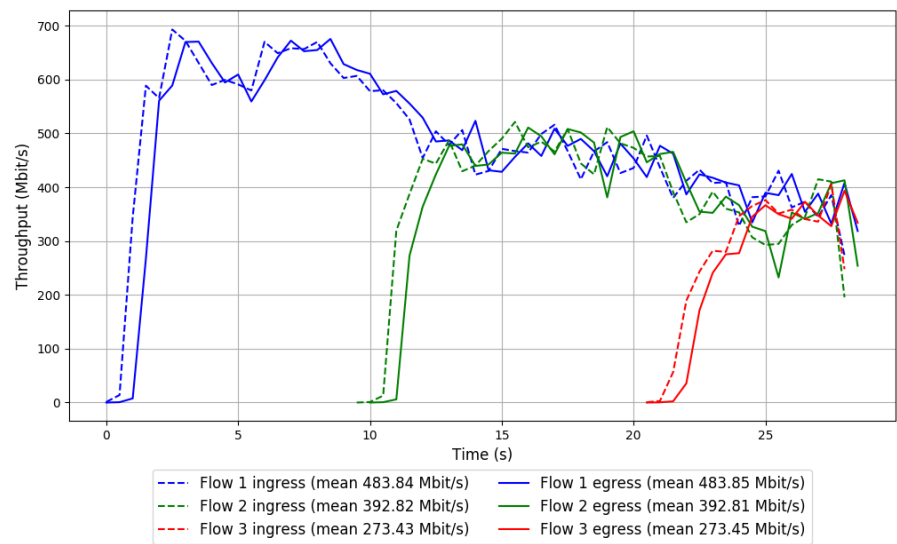# Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-20 02:33:23
End at: 2019-02-20 02:33:53
Local clock offset: 0.083 ms
Remote clock offset: -0.116 ms


# Below is generated by plot.py at 2019-02-20 05:28:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 706.25 Mbit/s
95th percentile per-packet one-way delay: 94.732 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 418.17 Mbit/s
95th percentile per-packet one-way delay: 92.050 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 341.82 Mbit/s
95th percentile per-packet one-way delay: 102.594 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 252.44 Mbit/s
95th percentile per-packet one-way delay: 89.538 ms
Loss rate: 0.01%
```

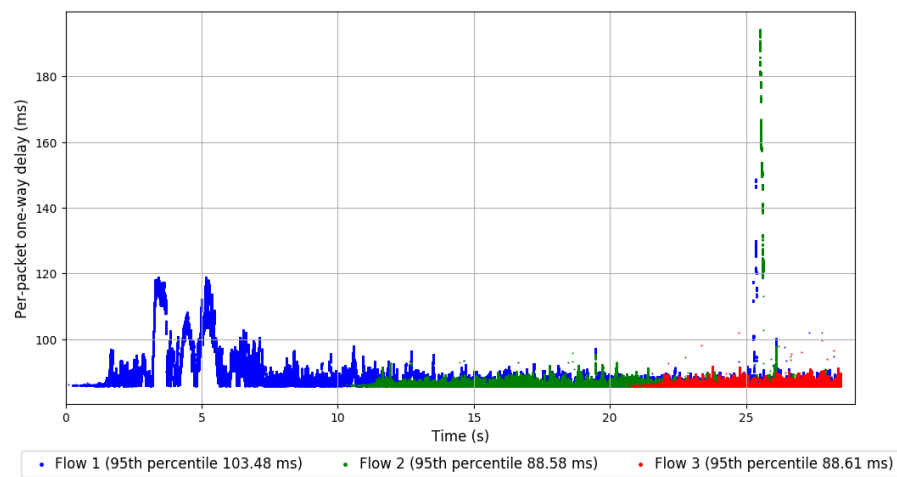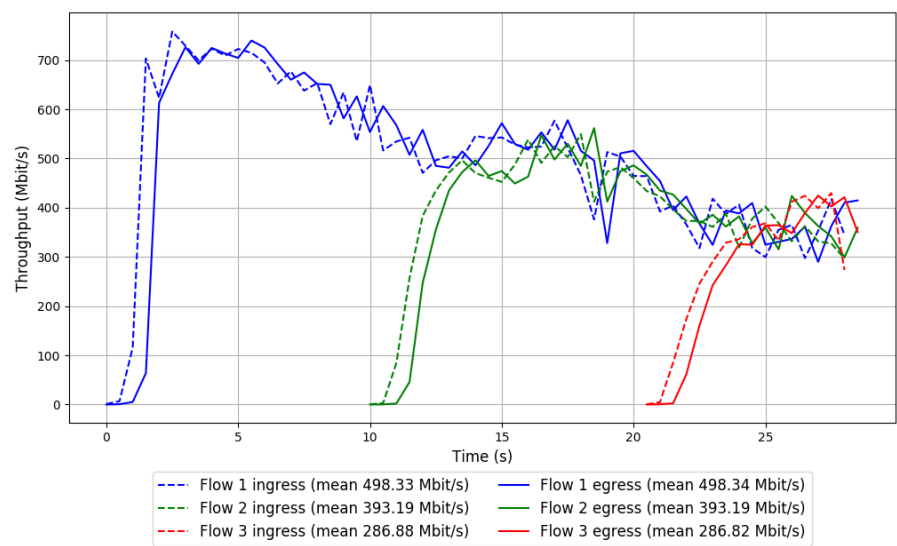Run 4: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 418.16 Mbit/s)   Flow 1 egress (mean 418.17 Mbit/s)
Flow 2 ingress (mean 341.81 Mbit/s)   Flow 2 egress (mean 341.82 Mbit/s)
Flow 3 ingress (mean 252.54 Mbit/s)   Flow 3 egress (mean 252.44 Mbit/s)

Flow 1 (95th percentile 92.05 ms)   Flow 2 (95th percentile 102.59 ms)   Flow 3 (95th percentile 89.54 ms)

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-20 03:20:06
End at: 2019-02-20 03:20:36
Local clock offset: 0.104 ms
Remote clock offset: -0.097 ms


# Below is generated by plot.py at 2019-02-20 05:30:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 675.62 Mbit/s
95th percentile per-packet one-way delay: 90.440 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 373.58 Mbit/s
95th percentile per-packet one-way delay: 90.534 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 361.39 Mbit/s
95th percentile per-packet one-way delay: 90.669 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 257.70 Mbit/s
95th percentile per-packet one-way delay: 88.196 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-19 23:59:35
End at: 2019-02-20 00:00:05
Local clock offset: -0.226 ms
Remote clock offset: -0.024 ms


# Below is generated by plot.py at 2019-02-20 05:35:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 812.07 Mbit/s
95th percentile per-packet one-way delay: 91.508 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 483.85 Mbit/s
95th percentile per-packet one-way delay: 92.298 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 392.81 Mbit/s
95th percentile per-packet one-way delay: 89.670 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 273.45 Mbit/s
95th percentile per-packet one-way delay: 88.339 ms
Loss rate: 0.00%
```
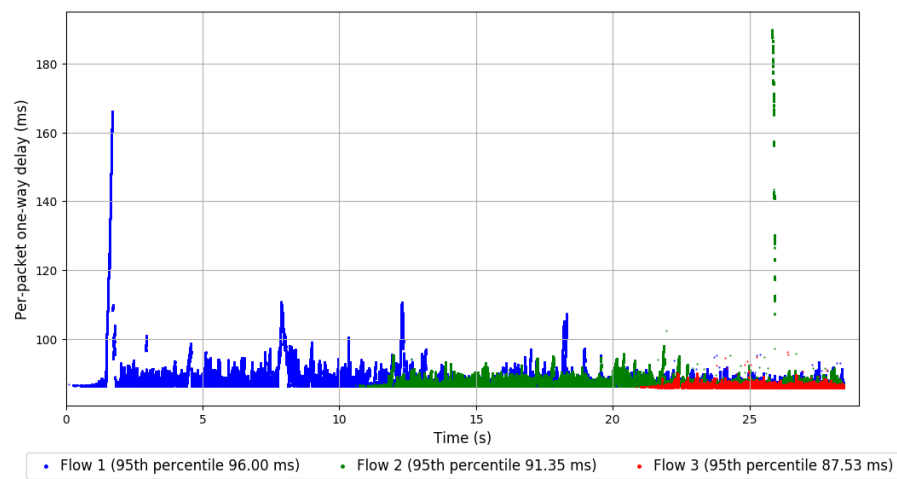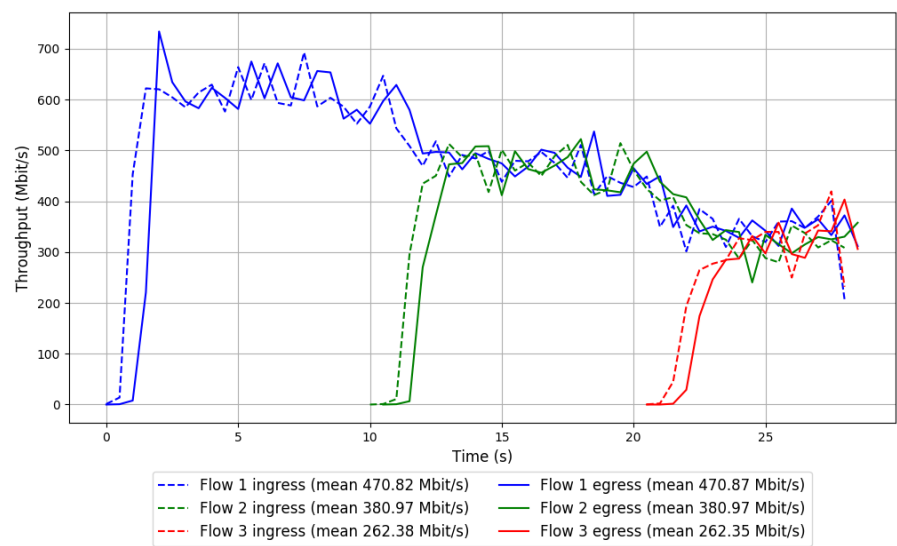
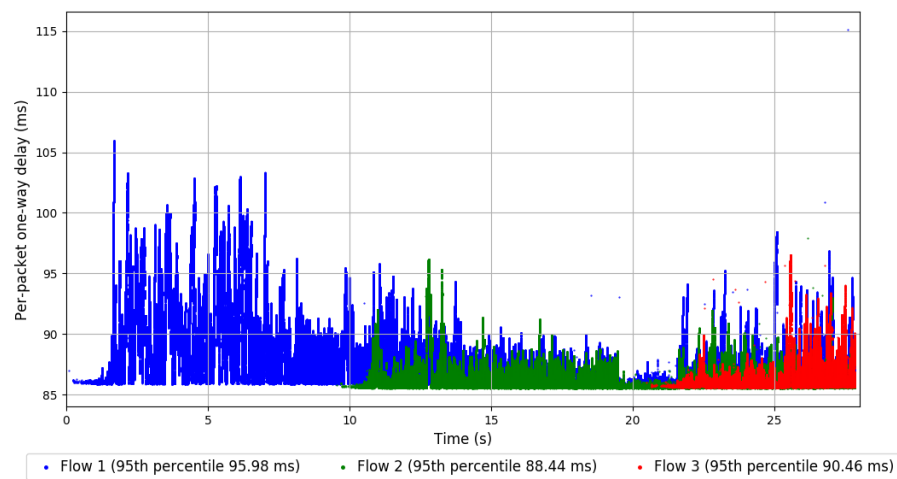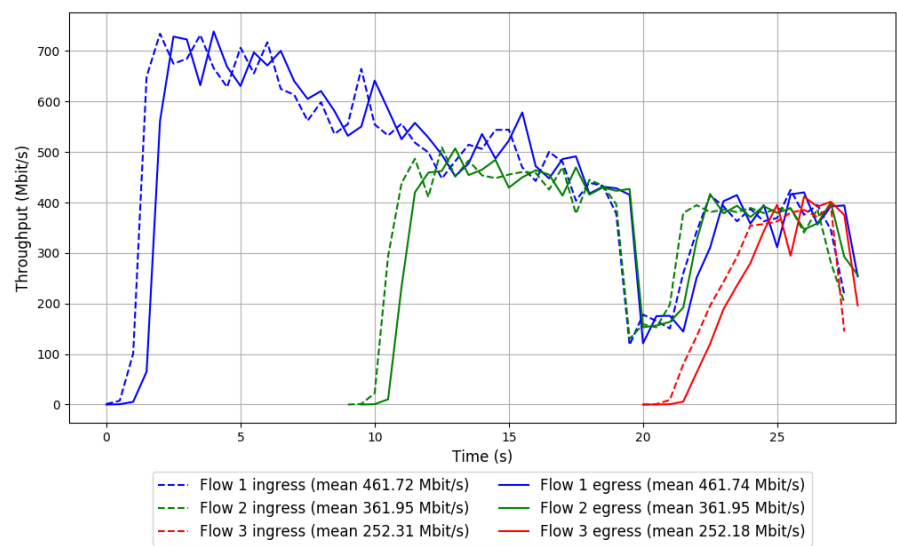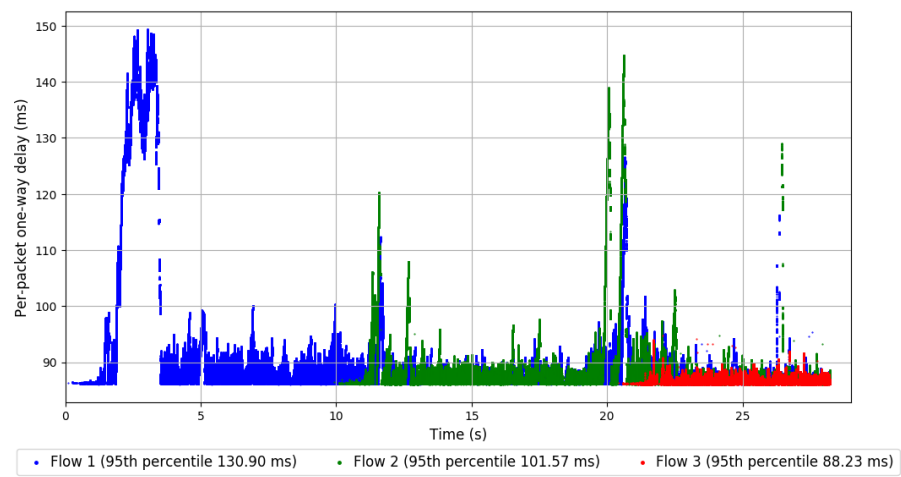Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-20 00:45:07
End at: 2019-02-20 00:45:37
Local clock offset: -0.041 ms
Remote clock offset: -0.054 ms


# Below is generated by plot.py at 2019-02-20 05:36:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 828.70 Mbit/s
95th percentile per-packet one-way delay: 98.829 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 498.34 Mbit/s
95th percentile per-packet one-way delay: 103.484 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 393.19 Mbit/s
95th percentile per-packet one-way delay: 88.576 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 286.82 Mbit/s
95th percentile per-packet one-way delay: 88.609 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 498.33 Mbit/s) — — — Flow 1 egress (mean 498.34 Mbit/s)
Flow 2 ingress (mean 393.19 Mbit/s) — — — Flow 2 egress (mean 393.19 Mbit/s)
Flow 3 ingress (mean 286.88 Mbit/s) — — — Flow 3 egress (mean 286.82 Mbit/s)

Flow 1 (95th percentile 103.48 ms)   •   Flow 2 (95th percentile 88.58 ms)   •   Flow 3 (95th percentile 88.61 ms)

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-20 01:32:39
End at: 2019-02-20 01:33:09
Local clock offset: -0.164 ms
Remote clock offset: 0.373 ms


# Below is generated by plot.py at 2019-02-20 05:36:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 781.30 Mbit/s
95th percentile per-packet one-way delay: 93.755 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 470.87 Mbit/s
95th percentile per-packet one-way delay: 96.000 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 380.97 Mbit/s
95th percentile per-packet one-way delay: 91.351 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 262.35 Mbit/s
95th percentile per-packet one-way delay: 87.532 ms
Loss rate: 0.00%
```
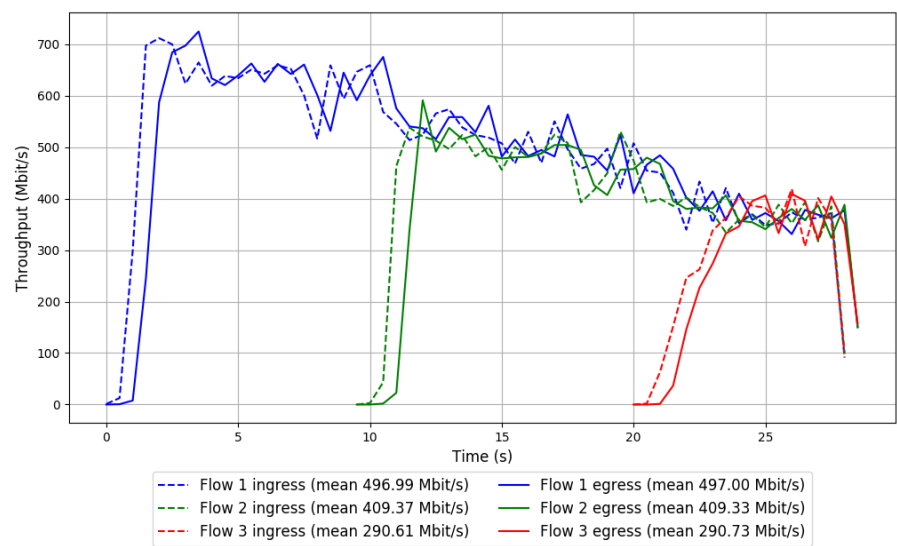
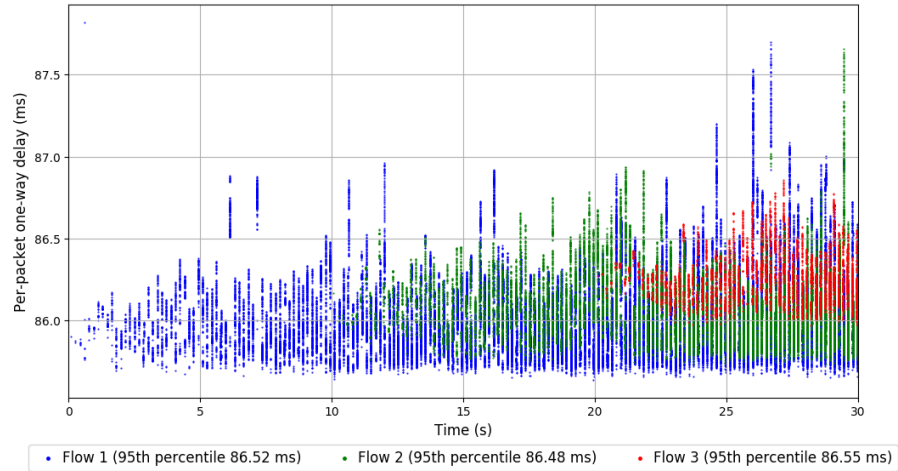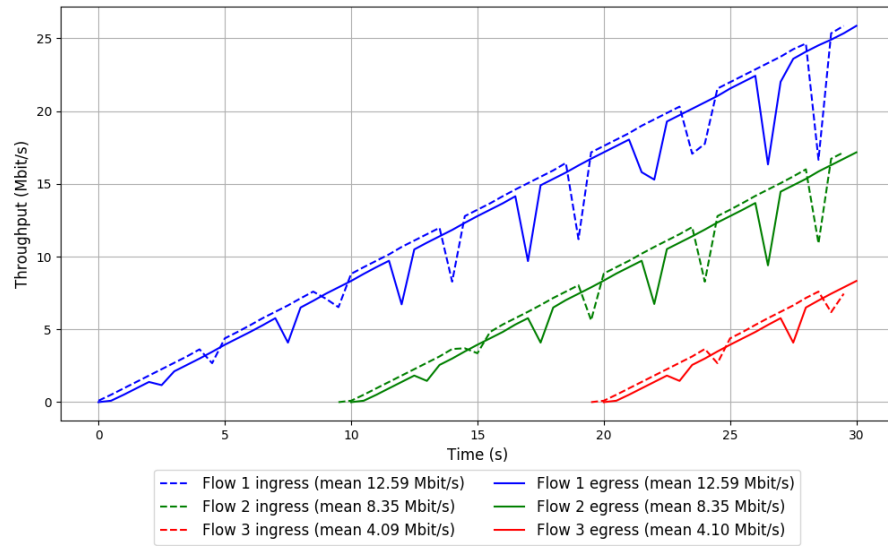Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-20 02:19:03
End at: 2019-02-20 02:19:33
Local clock offset: 0.147 ms
Remote clock offset: -0.066 ms


# Below is generated by plot.py at 2019-02-20 05:36:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 767.06 Mbit/s
95th percentile per-packet one-way delay: 94.402 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 461.74 Mbit/s
95th percentile per-packet one-way delay: 95.981 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 361.95 Mbit/s
95th percentile per-packet one-way delay: 88.437 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 252.18 Mbit/s
95th percentile per-packet one-way delay: 90.463 ms
Loss rate: 0.01%
```
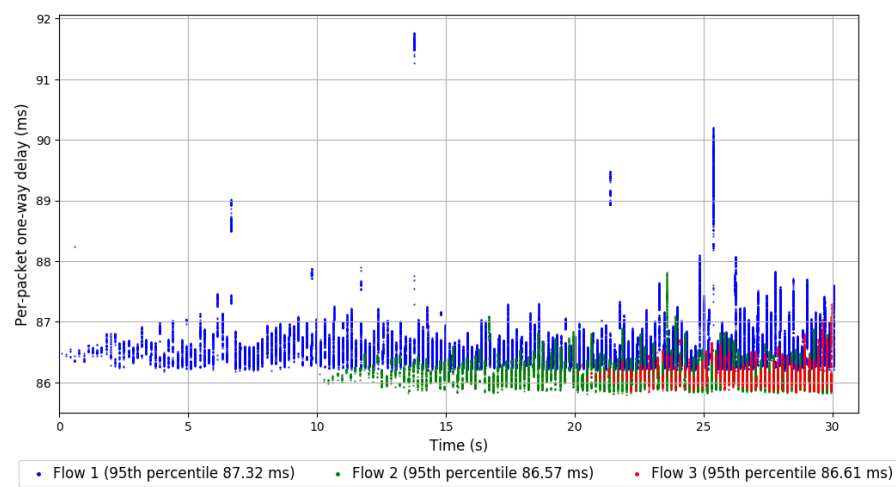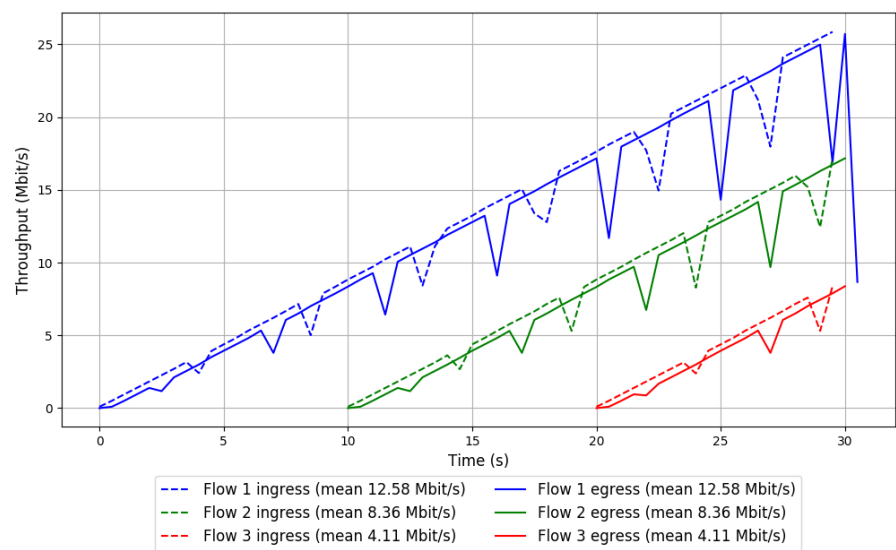
Run 4: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 461.72 Mbit/s)   Flow 1 egress (mean 461.74 Mbit/s)
Flow 2 ingress (mean 361.95 Mbit/s)   Flow 2 egress (mean 361.95 Mbit/s)
Flow 3 ingress (mean 252.31 Mbit/s)   Flow 3 egress (mean 252.18 Mbit/s)

Flow 1 (95th percentile 95.98 ms)   Flow 2 (95th percentile 88.44 ms)   Flow 3 (95th percentile 90.46 ms)

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-20 03:05:43
End at: 2019-02-20 03:06:13
Local clock offset: -0.318 ms
Remote clock offset: -0.089 ms


# Below is generated by plot.py at 2019-02-20 05:38:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 843.60 Mbit/s
95th percentile per-packet one-way delay: 118.042 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 497.00 Mbit/s
95th percentile per-packet one-way delay: 130.901 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 409.33 Mbit/s
95th percentile per-packet one-way delay: 101.567 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 290.73 Mbit/s
95th percentile per-packet one-way delay: 88.234 ms
Loss rate: 0.00%
```
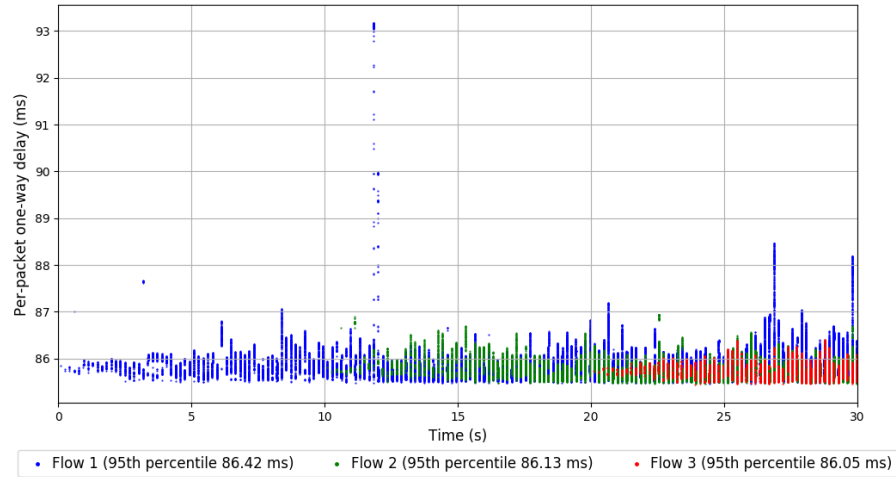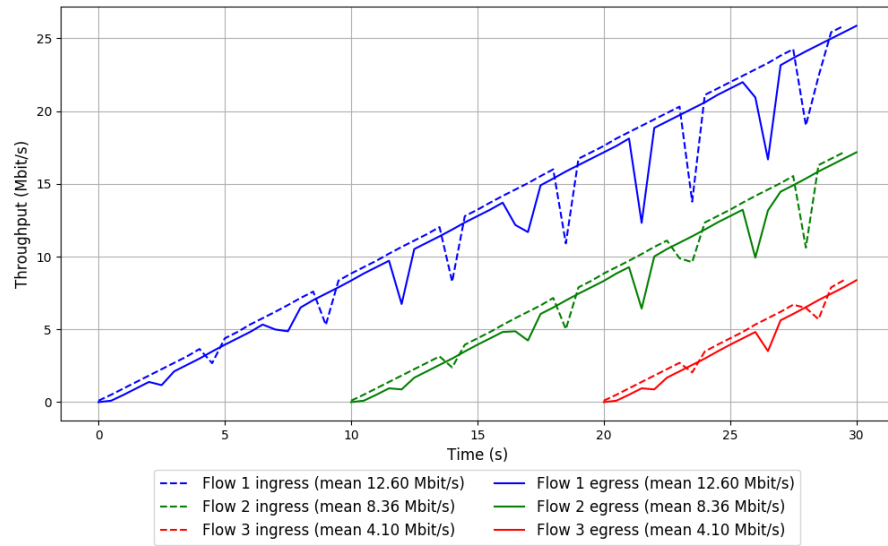
Run 5: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 496.99 Mbit/s) --- Flow 1 egress (mean 497.00 Mbit/s)
Flow 2 ingress (mean 409.37 Mbit/s) --- Flow 2 egress (mean 409.33 Mbit/s)
Flow 3 ingress (mean 290.61 Mbit/s) --- Flow 3 egress (mean 290.73 Mbit/s)

Flow 1 (95th percentile 130.90 ms)   Flow 2 (95th percentile 101.57 ms)   Flow 3 (95th percentile 88.23 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2019-02-20 00:08:41
End at: 2019-02-20 00:09:11
Local clock offset: -0.044 ms
Remote clock offset: -0.031 ms

# Below is generated by plot.py at 2019-02-20 05:38:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.50 Mbit/s
95th percentile per-packet one-way delay: 86.513 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 86.523 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.35 Mbit/s
95th percentile per-packet one-way delay: 86.481 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 86.549 ms
Loss rate: 0.00%
```
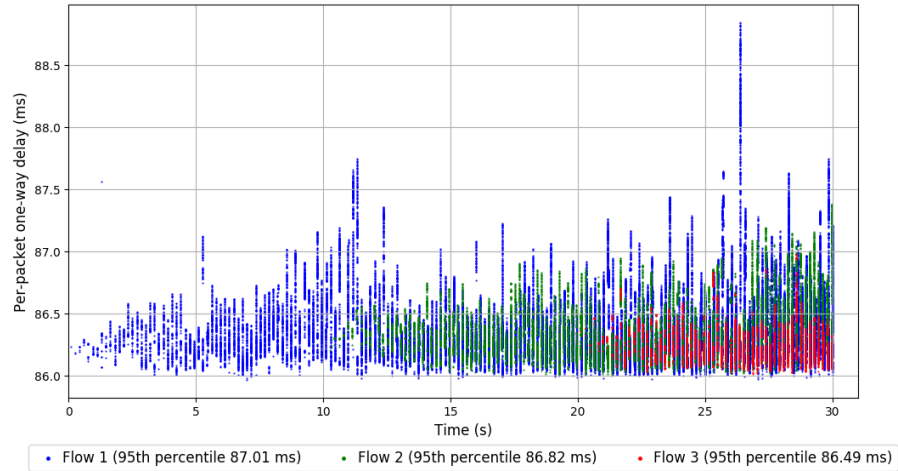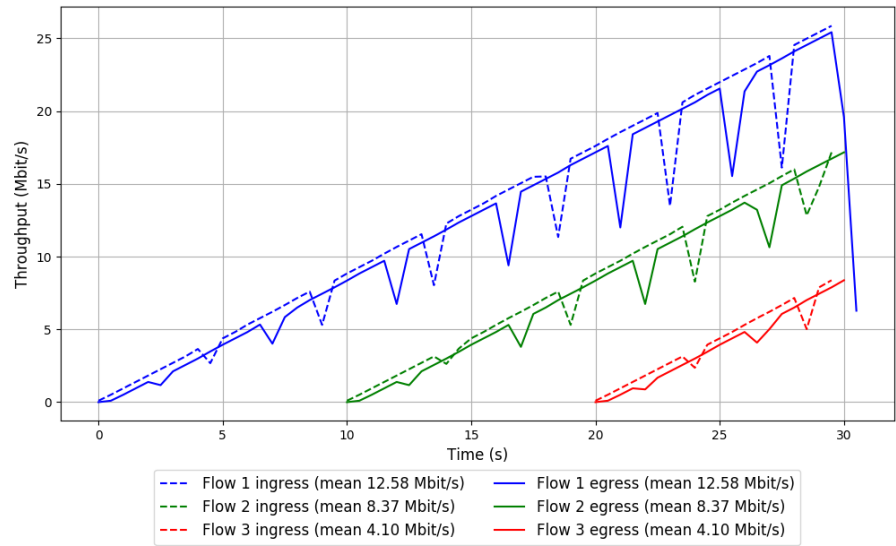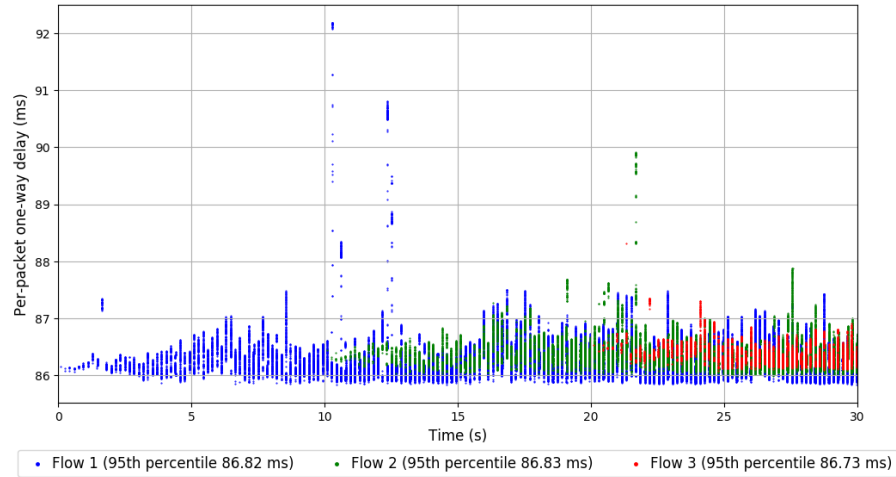
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-02-20 00:54:17
End at: 2019-02-20 00:54:47
Local clock offset: -0.047 ms
Remote clock offset: -0.03 ms


# Below is generated by plot.py at 2019-02-20 05:38:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.48 Mbit/s
95th percentile per-packet one-way delay: 87.145 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.58 Mbit/s
95th percentile per-packet one-way delay: 87.324 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.36 Mbit/s
95th percentile per-packet one-way delay: 86.568 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 86.612 ms
Loss rate: 0.00%
```
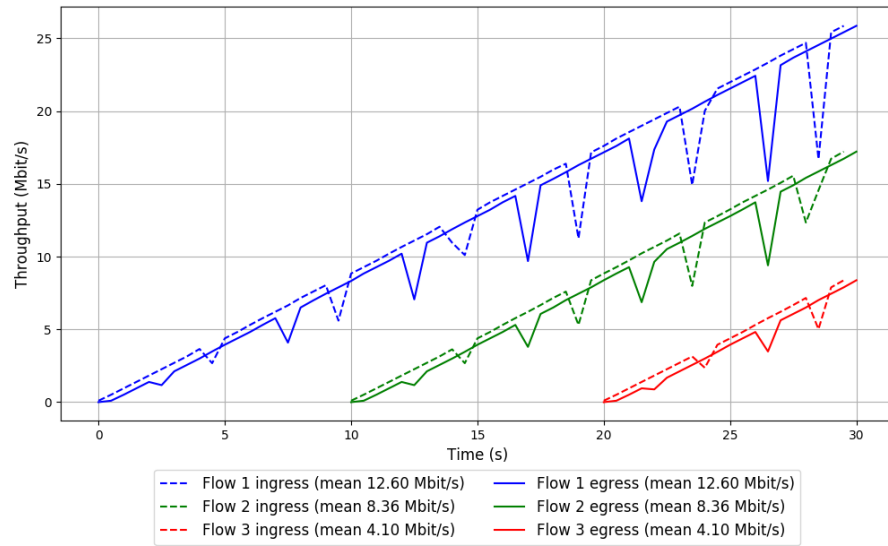
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-02-20 01:41:17
End at: 2019-02-20 01:41:47
Local clock offset: 0.413 ms
Remote clock offset: 0.523 ms


# Below is generated by plot.py at 2019-02-20 05:38:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.51 Mbit/s
95th percentile per-packet one-way delay: 86.330 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 86.423 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.36 Mbit/s
95th percentile per-packet one-way delay: 86.130 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 86.051 ms
Loss rate: 0.00%
```
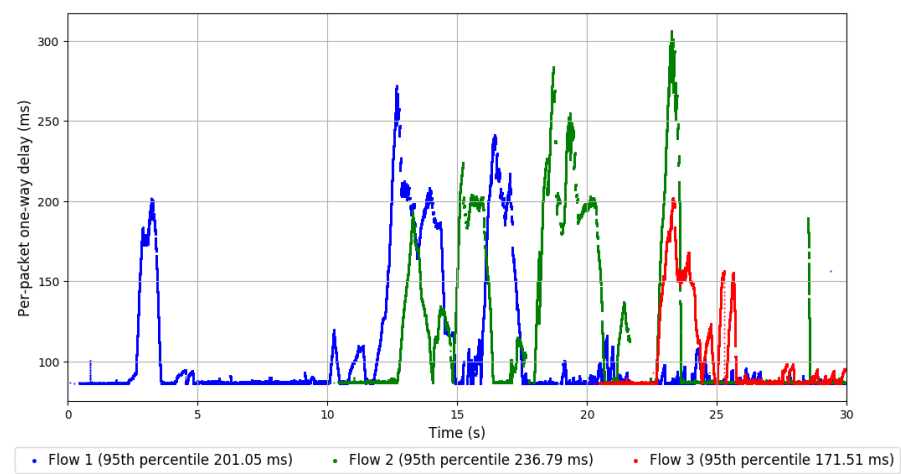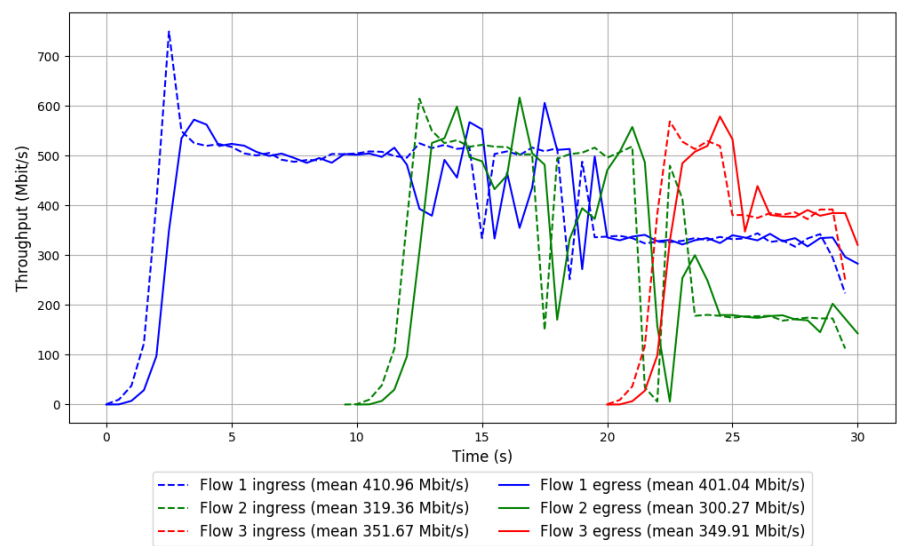
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2019-02-20 02:27:48
End at: 2019-02-20 02:28:18
Local clock offset: -0.382 ms
Remote clock offset: -0.121 ms


# Below is generated by plot.py at 2019-02-20 05:38:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.48 Mbit/s
95th percentile per-packet one-way delay: 86.923 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.58 Mbit/s
95th percentile per-packet one-way delay: 87.006 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.37 Mbit/s
95th percentile per-packet one-way delay: 86.821 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 86.492 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-02-20 03:14:55
End at: 2019-02-20 03:15:25
Local clock offset: -0.149 ms
Remote clock offset: -0.092 ms


# Below is generated by plot.py at 2019-02-20 05:38:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.51 Mbit/s
95th percentile per-packet one-way delay: 86.815 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 86.819 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.36 Mbit/s
95th percentile per-packet one-way delay: 86.833 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 86.727 ms
Loss rate: 0.00%
```
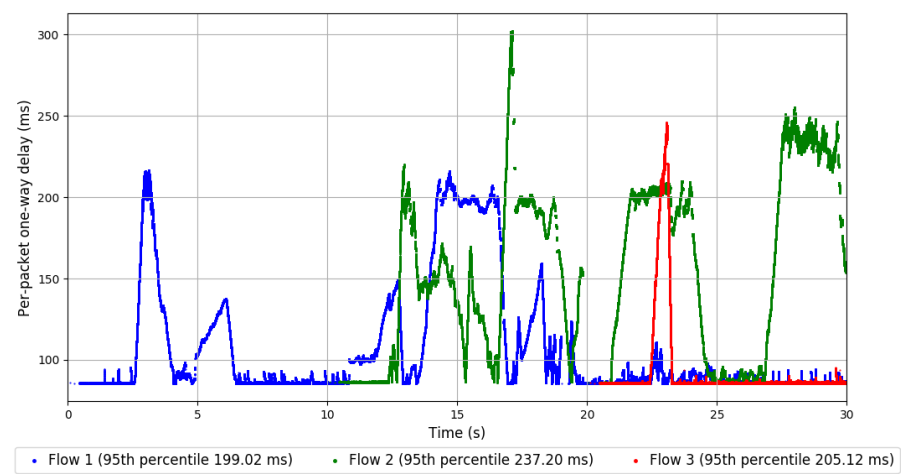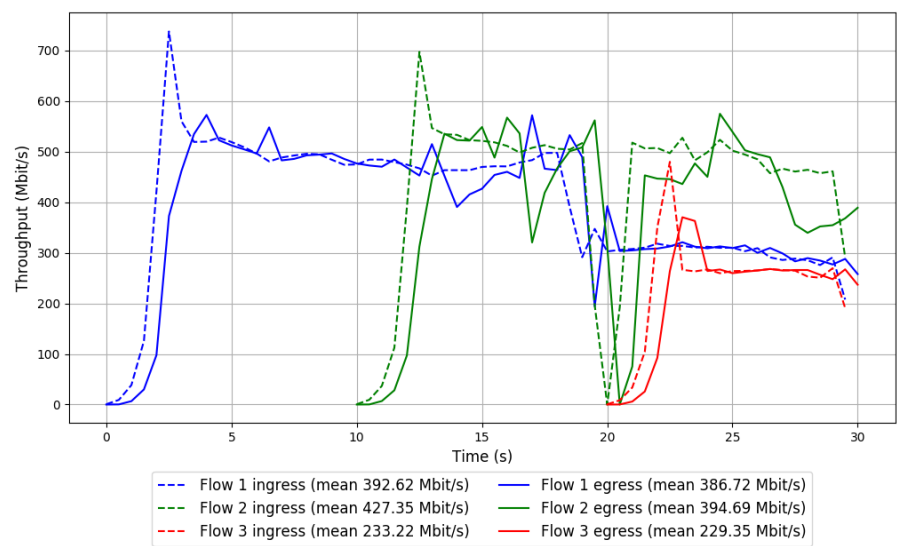
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-20 00:11:13
End at: 2019-02-20 00:11:43
Local clock offset: -0.659 ms
Remote clock offset: -0.03 ms


# Below is generated by plot.py at 2019-02-20 05:58:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 715.96 Mbit/s
95th percentile per-packet one-way delay: 203.606 ms
Loss rate: 3.14%
-- Flow 1:
Average throughput: 401.04 Mbit/s
95th percentile per-packet one-way delay: 201.051 ms
Loss rate: 2.42%
-- Flow 2:
Average throughput: 300.27 Mbit/s
95th percentile per-packet one-way delay: 236.794 ms
Loss rate: 5.98%
-- Flow 3:
Average throughput: 349.91 Mbit/s
95th percentile per-packet one-way delay: 171.506 ms
Loss rate: 0.49%
```
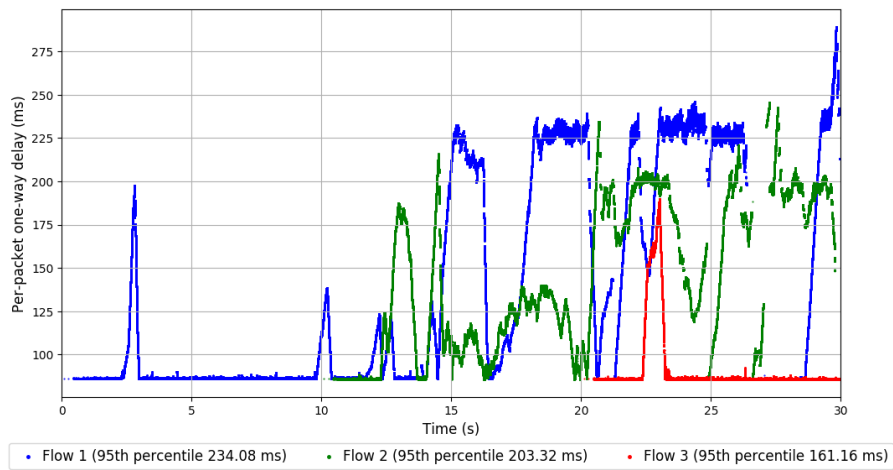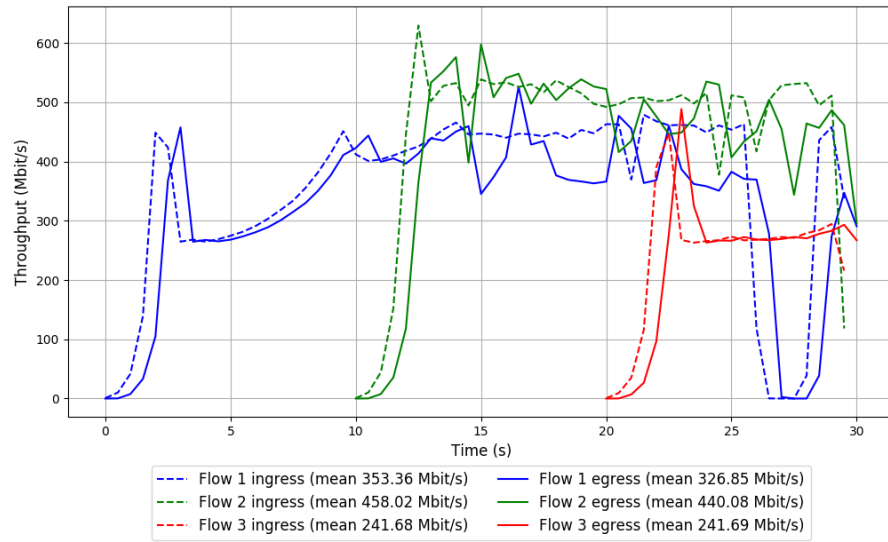
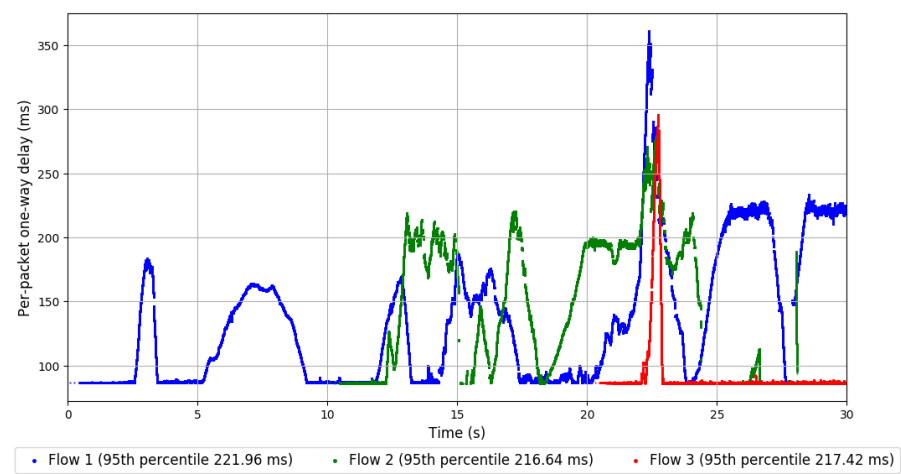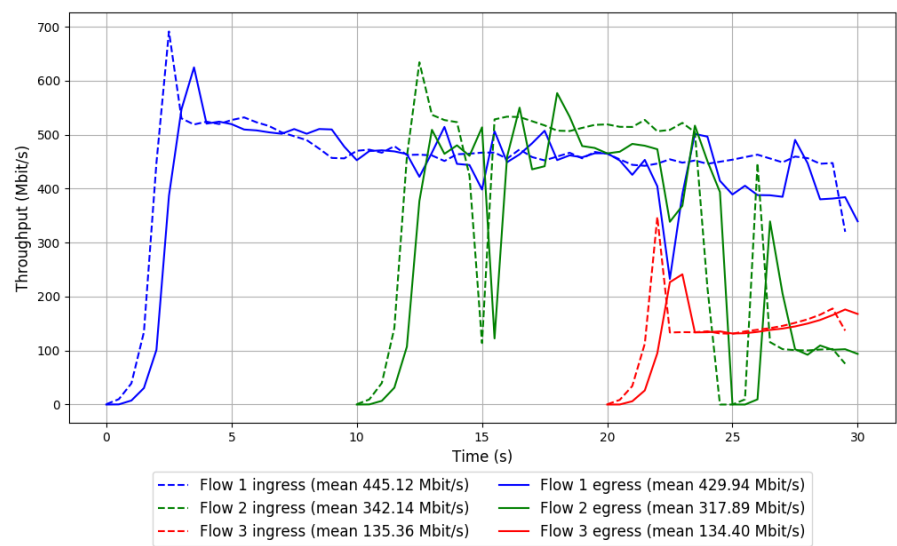## Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-02-20 00:56:50
End at: 2019-02-20 00:57:20
Local clock offset: 0.393 ms
Remote clock offset: 0.023 ms


# Below is generated by plot.py at 2019-02-20 05:58:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 724.65 Mbit/s
95th percentile per-packet one-way delay: 211.297 ms
Loss rate: 3.83%
-- Flow 1:
Average throughput: 386.72 Mbit/s
95th percentile per-packet one-way delay: 199.022 ms
Loss rate: 1.50%
-- Flow 2:
Average throughput: 394.69 Mbit/s
95th percentile per-packet one-way delay: 237.204 ms
Loss rate: 7.64%
-- Flow 3:
Average throughput: 229.35 Mbit/s
95th percentile per-packet one-way delay: 205.121 ms
Loss rate: 1.66%
```

Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 392.62 Mbit/s) Flow 1 egress (mean 386.72 Mbit/s)
Flow 2 ingress (mean 427.35 Mbit/s) Flow 2 egress (mean 394.69 Mbit/s)
Flow 3 ingress (mean 233.22 Mbit/s) Flow 3 egress (mean 229.35 Mbit/s)

Flow 1 (95th percentile 199.02 ms)   Flow 2 (95th percentile 237.20 ms)   Flow 3 (95th percentile 205.12 ms)
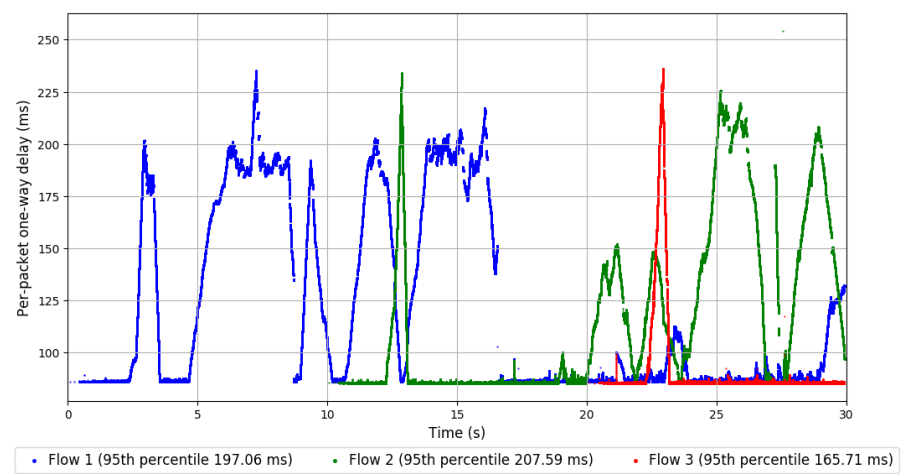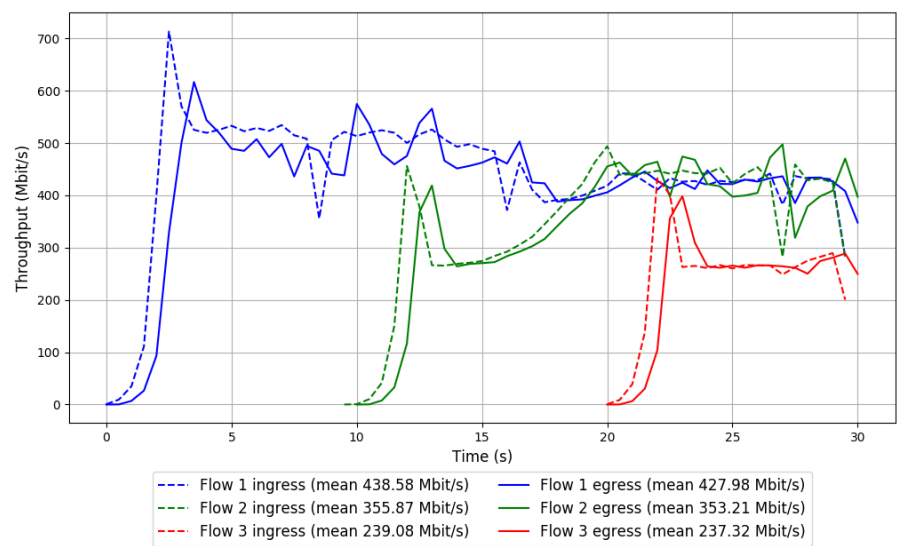
```
Run 3: Statistics of PCC-Allegro

Start at: 2019-02-20 01:43:49
End at: 2019-02-20 01:44:19
Local clock offset: 0.167 ms
Remote clock offset: 0.541 ms


# Below is generated by plot.py at 2019-02-20 05:58:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 698.55 Mbit/s
95th percentile per-packet one-way delay: 230.875 ms
Loss rate: 5.21%
-- Flow 1:
Average throughput: 326.85 Mbit/s
95th percentile per-packet one-way delay: 234.080 ms
Loss rate: 7.50%
-- Flow 2:
Average throughput: 440.08 Mbit/s
95th percentile per-packet one-way delay: 203.324 ms
Loss rate: 3.92%
-- Flow 3:
Average throughput: 241.69 Mbit/s
95th percentile per-packet one-way delay: 161.159 ms
Loss rate: 0.00%
```

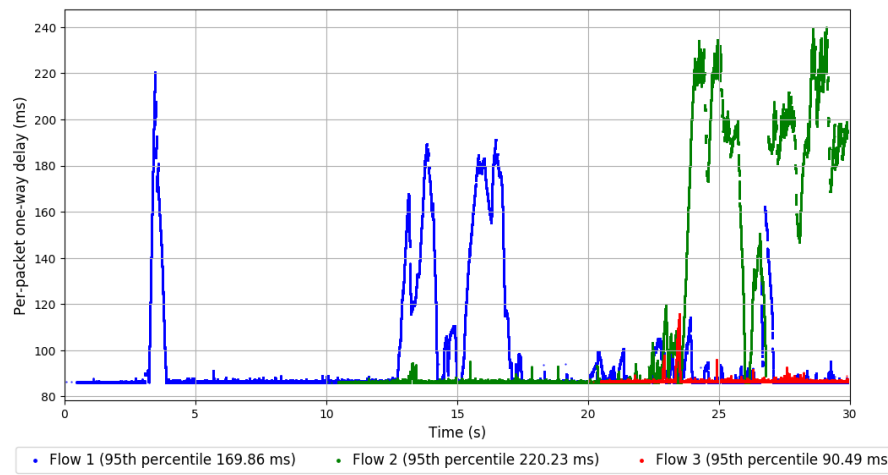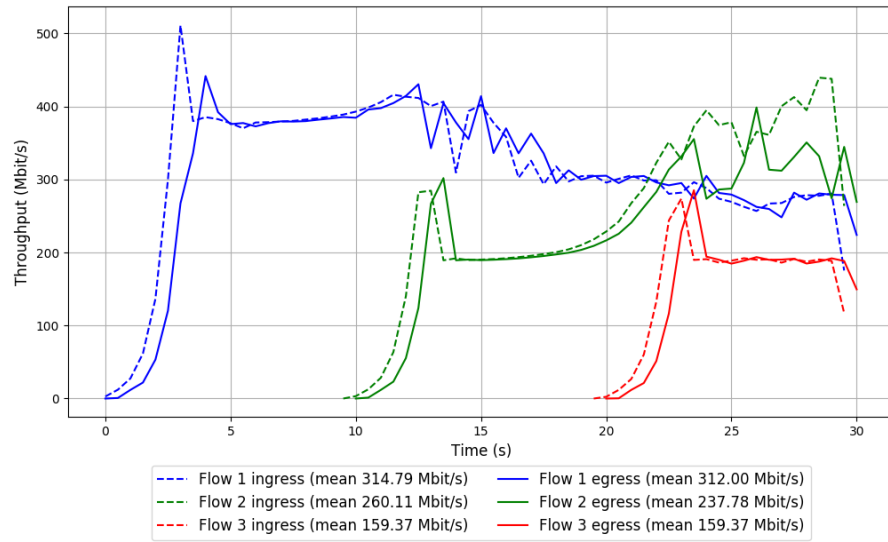Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 353.36 Mbit/s)   Flow 1 egress (mean 326.85 Mbit/s)
Flow 2 ingress (mean 458.02 Mbit/s)   Flow 2 egress (mean 440.08 Mbit/s)
Flow 3 ingress (mean 241.68 Mbit/s)   Flow 3 egress (mean 241.69 Mbit/s)

Flow 1 (95th percentile 234.08 ms)   Flow 2 (95th percentile 203.32 ms)   Flow 3 (95th percentile 161.16 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-02-20 02:30:21
End at: 2019-02-20 02:30:51
Local clock offset: -0.631 ms
Remote clock offset: -0.122 ms


# Below is generated by plot.py at 2019-02-20 06:01:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 685.38 Mbit/s
95th percentile per-packet one-way delay: 221.585 ms
Loss rate: 4.41%
-- Flow 1:
Average throughput: 429.94 Mbit/s
95th percentile per-packet one-way delay: 221.956 ms
Loss rate: 3.41%
-- Flow 2:
Average throughput: 317.89 Mbit/s
95th percentile per-packet one-way delay: 216.636 ms
Loss rate: 7.09%
-- Flow 3:
Average throughput: 134.40 Mbit/s
95th percentile per-packet one-way delay: 217.424 ms
Loss rate: 0.71%
```

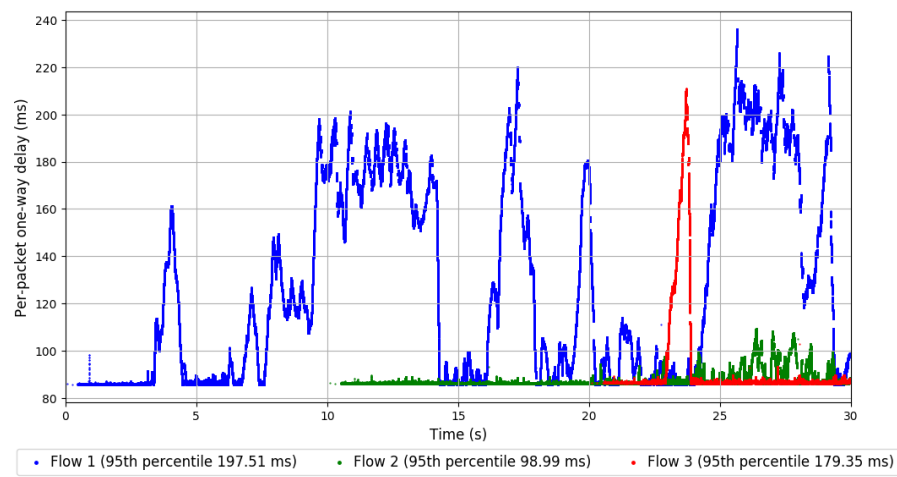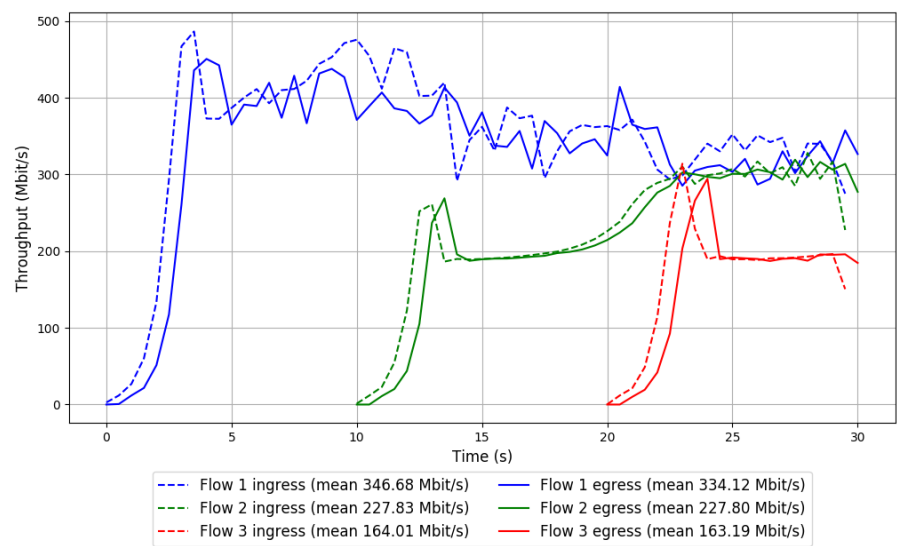Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 445.12 Mbit/s)   Flow 1 egress (mean 429.94 Mbit/s)
Flow 2 ingress (mean 342.14 Mbit/s)   Flow 2 egress (mean 317.89 Mbit/s)
Flow 3 ingress (mean 135.36 Mbit/s)   Flow 3 egress (mean 134.40 Mbit/s)

Flow 1 (95th percentile 221.96 ms)   Flow 2 (95th percentile 216.64 ms)   Flow 3 (95th percentile 217.42 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-02-20 03:17:29
End at: 2019-02-20 03:17:59
Local clock offset: 0.295 ms
Remote clock offset: -0.103 ms


# Below is generated by plot.py at 2019-02-20 06:03:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 741.01 Mbit/s
95th percentile per-packet one-way delay: 199.239 ms
Loss rate: 1.71%
-- Flow 1:
Average throughput: 427.98 Mbit/s
95th percentile per-packet one-way delay: 197.057 ms
Loss rate: 2.42%
-- Flow 2:
Average throughput: 353.21 Mbit/s
95th percentile per-packet one-way delay: 207.587 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 237.32 Mbit/s
95th percentile per-packet one-way delay: 165.712 ms
Loss rate: 0.74%
```
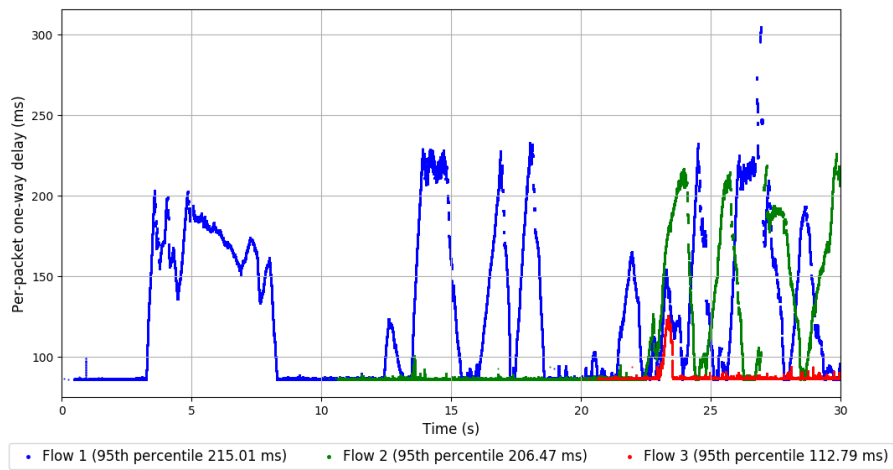
Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2019-02-19 23:51:53
End at: 2019-02-19 23:52:23
Local clock offset: -0.486 ms
Remote clock offset: -0.041 ms


# Below is generated by plot.py at 2019-02-20 06:03:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 523.15 Mbit/s
95th percentile per-packet one-way delay: 195.698 ms
Loss rate: 3.26%
-- Flow 1:
Average throughput: 312.00 Mbit/s
95th percentile per-packet one-way delay: 169.862 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 237.78 Mbit/s
95th percentile per-packet one-way delay: 220.232 ms
Loss rate: 8.58%
-- Flow 3:
Average throughput: 159.37 Mbit/s
95th percentile per-packet one-way delay: 90.491 ms
Loss rate: 0.00%
```
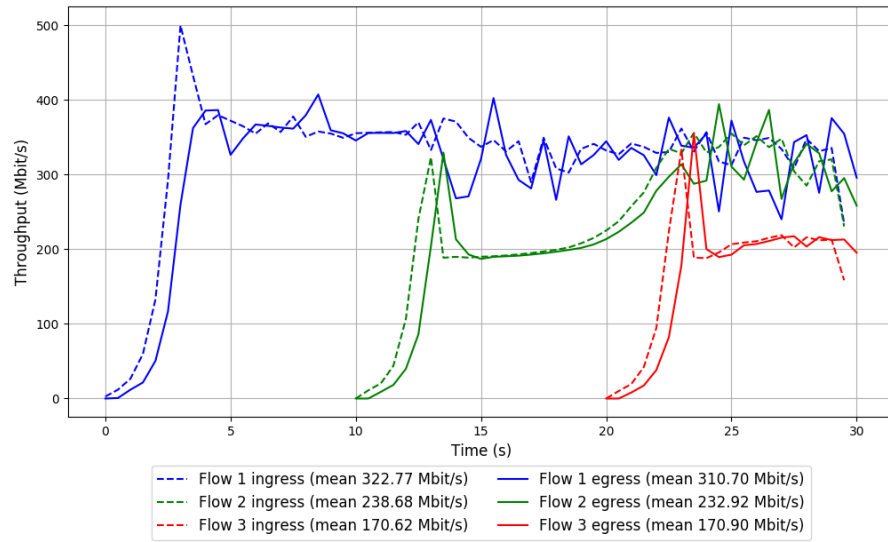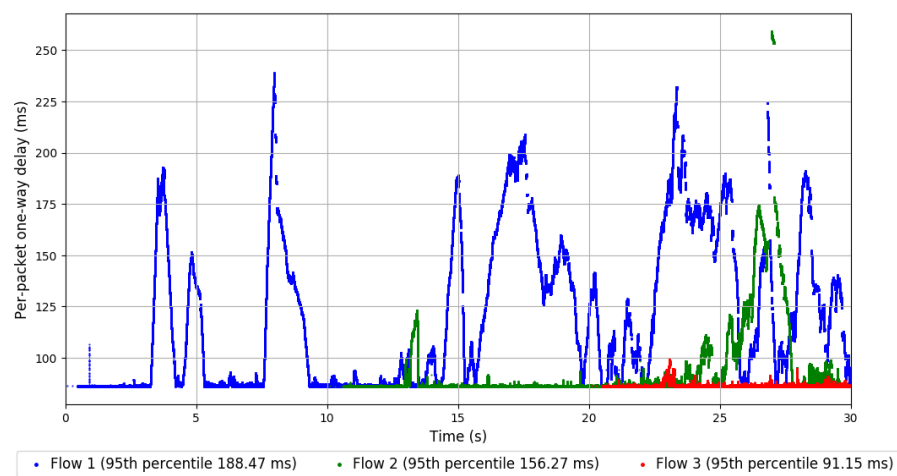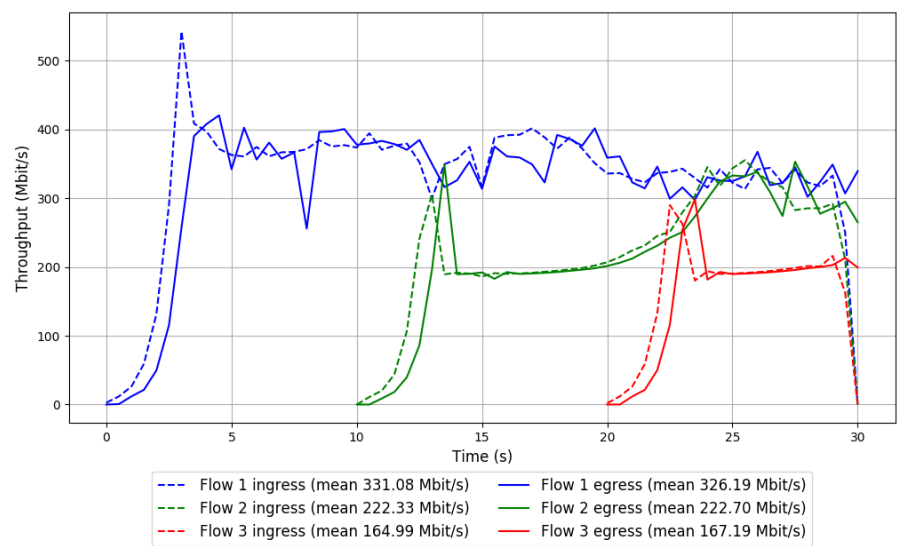
Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2019-02-20 00:37:38
End at: 2019-02-20 00:38:08
Local clock offset: 0.063 ms
Remote clock offset: -0.043 ms


# Below is generated by plot.py at 2019-02-20 06:03:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 539.28 Mbit/s
95th percentile per-packet one-way delay: 193.452 ms
Loss rate: 2.33%
-- Flow 1:
Average throughput: 334.12 Mbit/s
95th percentile per-packet one-way delay: 197.514 ms
Loss rate: 3.62%
-- Flow 2:
Average throughput: 227.80 Mbit/s
95th percentile per-packet one-way delay: 98.988 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 163.19 Mbit/s
95th percentile per-packet one-way delay: 179.349 ms
Loss rate: 0.56%
```
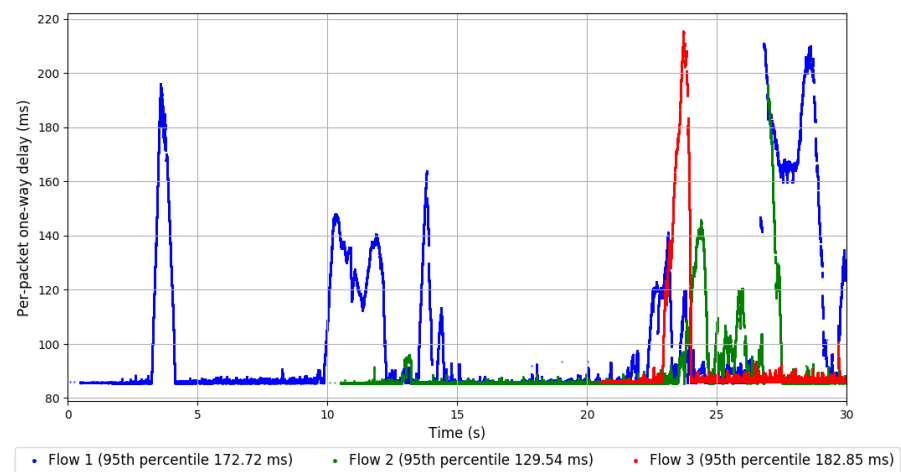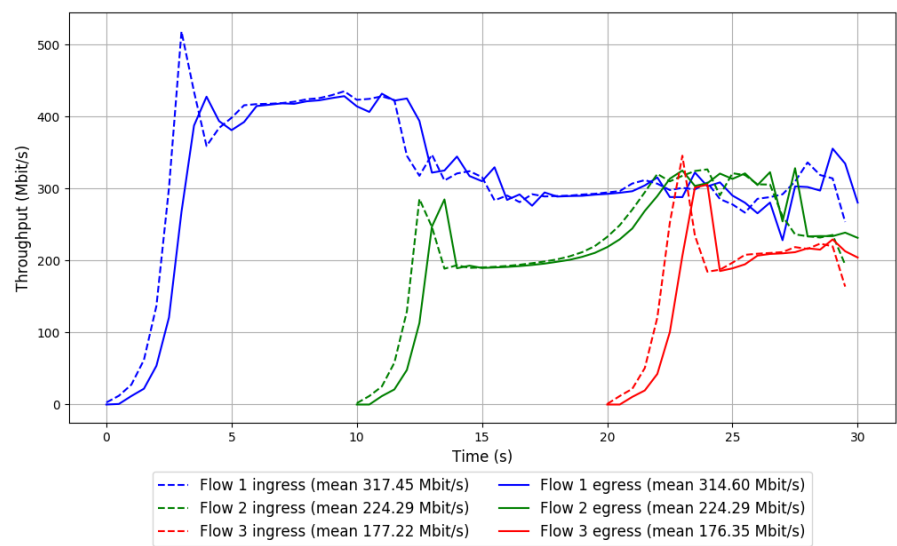
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-02-20 01:24:40
End at: 2019-02-20 01:25:10
Local clock offset: -0.041 ms
Remote clock offset: 0.21 ms


# Below is generated by plot.py at 2019-02-20 06:03:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 521.60 Mbit/s
95th percentile per-packet one-way delay: 209.369 ms
Loss rate: 2.96%
-- Flow 1:
Average throughput: 310.70 Mbit/s
95th percentile per-packet one-way delay: 215.013 ms
Loss rate: 3.74%
-- Flow 2:
Average throughput: 232.92 Mbit/s
95th percentile per-packet one-way delay: 206.467 ms
Loss rate: 2.42%
-- Flow 3:
Average throughput: 170.90 Mbit/s
95th percentile per-packet one-way delay: 112.787 ms
Loss rate: 0.00%
```
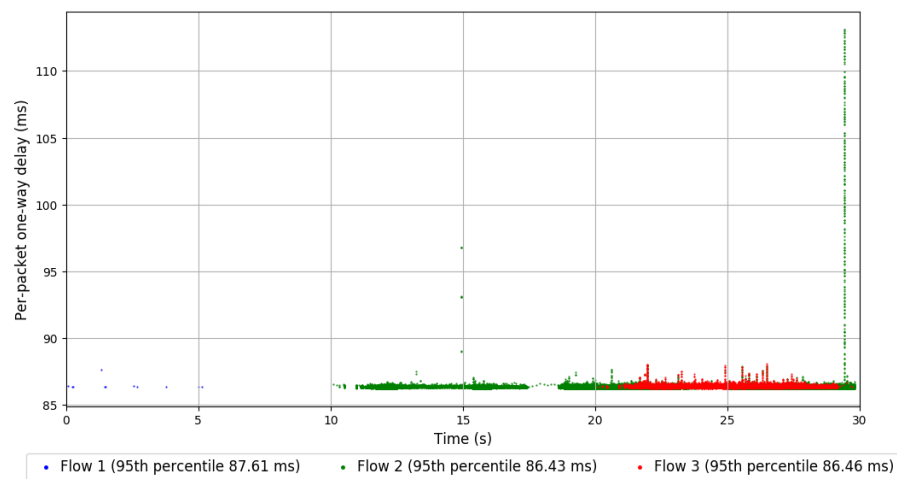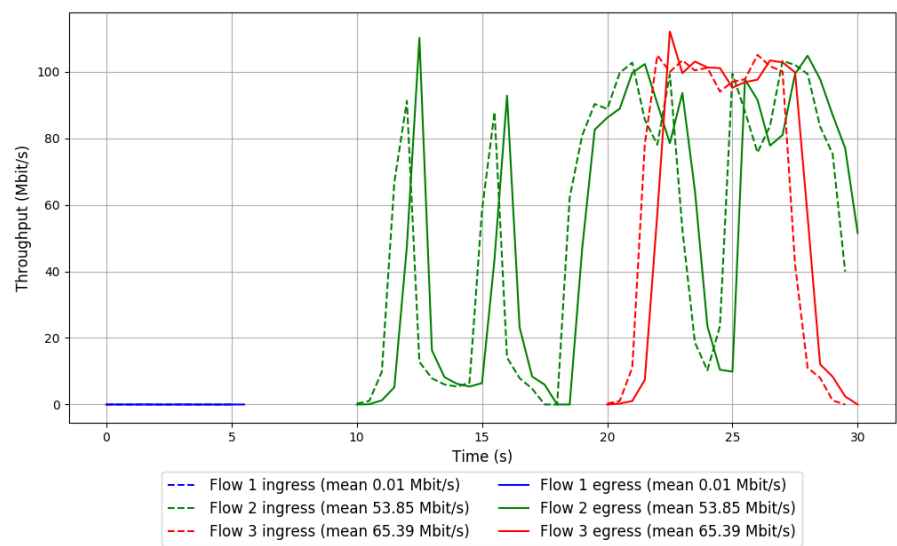
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 322.77 Mbit/s) --- Flow 1 egress (mean 310.70 Mbit/s)
Flow 2 ingress (mean 238.68 Mbit/s) --- Flow 2 egress (mean 232.92 Mbit/s)
Flow 3 ingress (mean 170.62 Mbit/s) --- Flow 3 egress (mean 170.90 Mbit/s)

Flow 1 (95th percentile 215.01 ms)   Flow 2 (95th percentile 206.47 ms)   Flow 3 (95th percentile 112.79 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-02-20 02:10:32
End at: 2019-02-20 02:11:02
Local clock offset: -0.347 ms
Remote clock offset: 0.003 ms


# Below is generated by plot.py at 2019-02-20 06:13:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 529.25 Mbit/s
95th percentile per-packet one-way delay: 183.500 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 326.19 Mbit/s
95th percentile per-packet one-way delay: 188.466 ms
Loss rate: 1.91%
-- Flow 2:
Average throughput: 222.70 Mbit/s
95th percentile per-packet one-way delay: 156.266 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 167.19 Mbit/s
95th percentile per-packet one-way delay: 91.153 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-02-20 02:57:22
End at: 2019-02-20 02:57:52
Local clock offset: 0.206 ms
Remote clock offset: -0.116 ms


# Below is generated by plot.py at 2019-02-20 06:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 521.84 Mbit/s
95th percentile per-packet one-way delay: 166.751 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 314.60 Mbit/s
95th percentile per-packet one-way delay: 172.724 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 224.29 Mbit/s
95th percentile per-packet one-way delay: 129.542 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 176.35 Mbit/s
95th percentile per-packet one-way delay: 182.849 ms
Loss rate: 0.49%
```
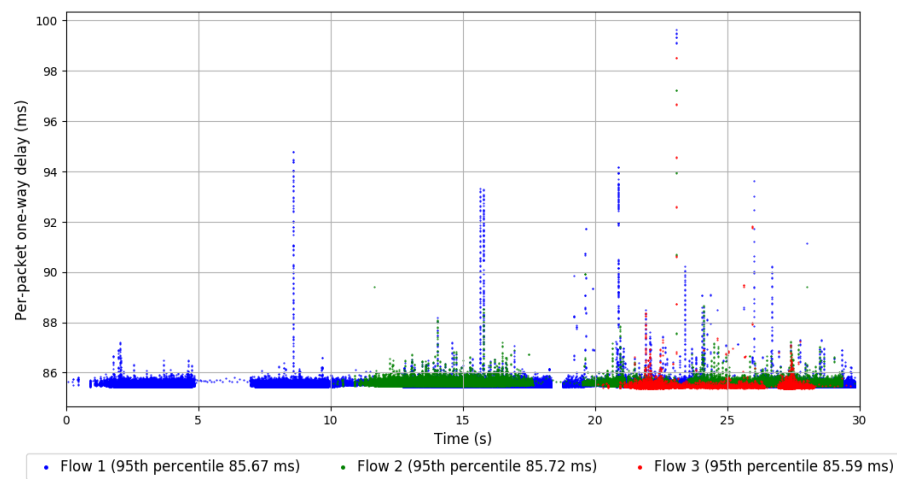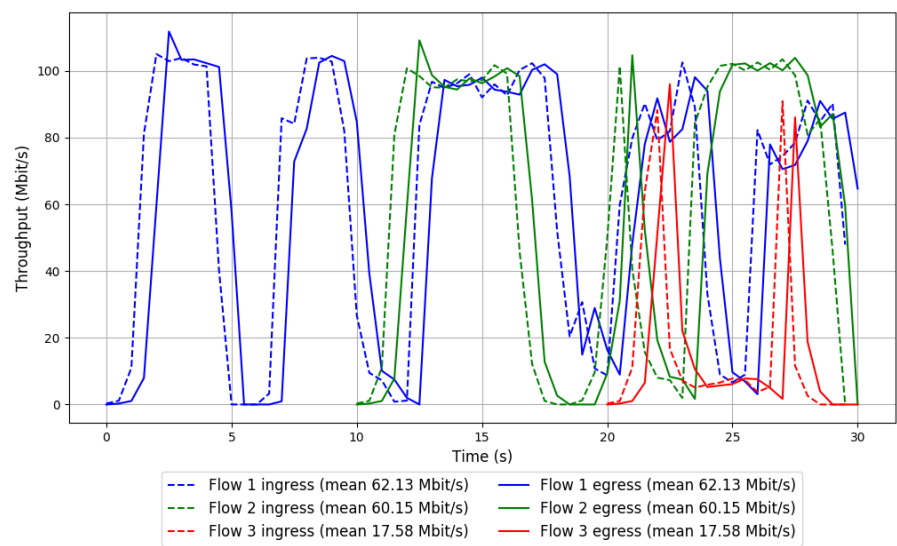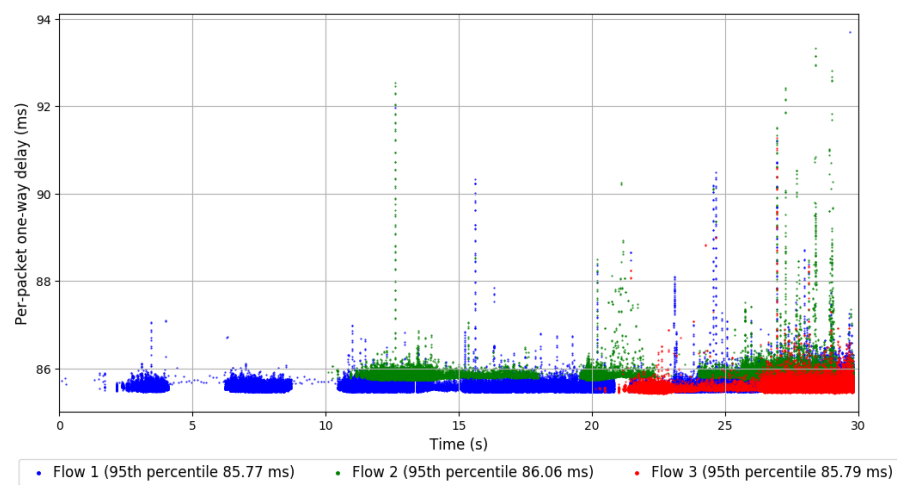
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 317.45 Mbit/s)   Flow 1 egress (mean 314.60 Mbit/s)
Flow 2 ingress (mean 224.29 Mbit/s)   Flow 2 egress (mean 224.29 Mbit/s)
Flow 3 ingress (mean 177.22 Mbit/s)   Flow 3 egress (mean 176.35 Mbit/s)

Flow 1 (95th percentile 172.72 ms)   Flow 2 (95th percentile 129.54 ms)   Flow 3 (95th percentile 182.85 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-02-19 23:54:51
End at: 2019-02-19 23:55:21
Local clock offset: -0.646 ms
Remote clock offset: -0.034 ms


# Below is generated by plot.py at 2019-02-20 06:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.85 Mbit/s
95th percentile per-packet one-way delay: 86.446 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 87.613 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 53.85 Mbit/s
95th percentile per-packet one-way delay: 86.433 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 65.39 Mbit/s
95th percentile per-packet one-way delay: 86.463 ms
Loss rate: 0.00%
```
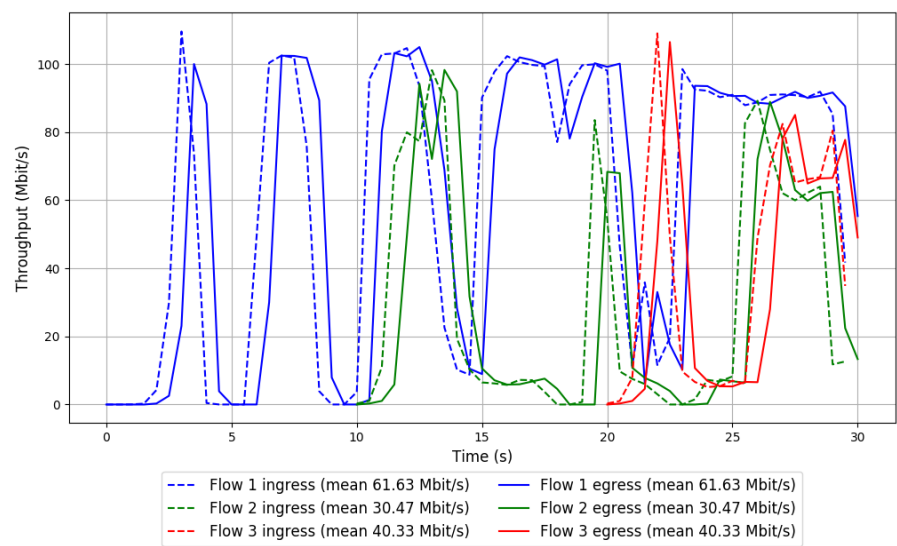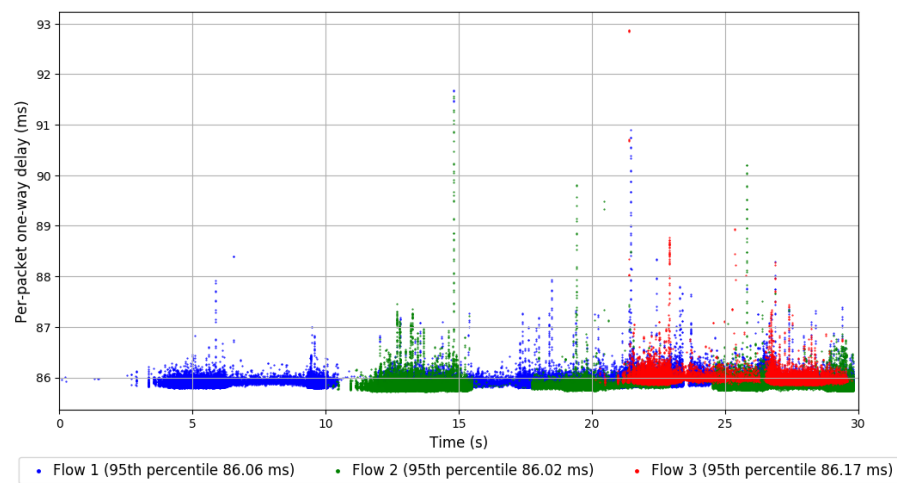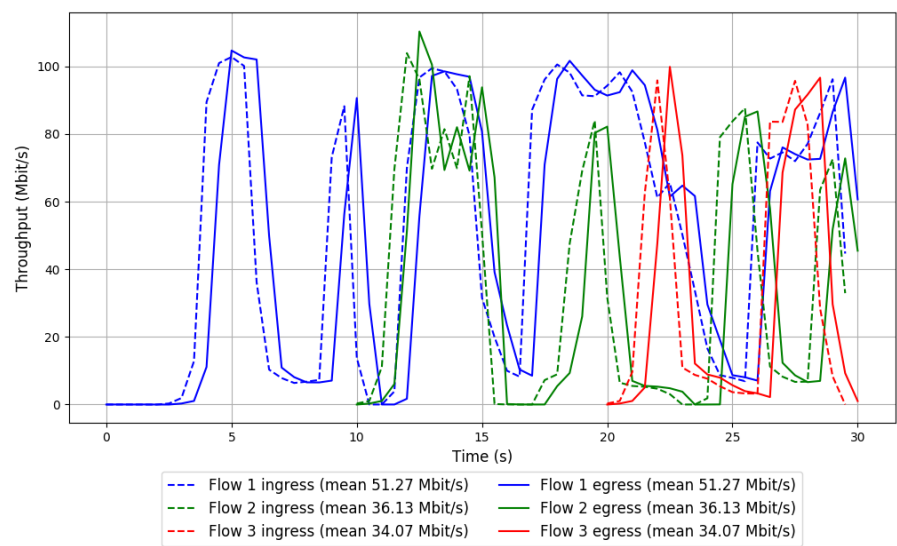
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-02-20 00:40:34
End at: 2019-02-20 00:41:04
Local clock offset: 0.297 ms
Remote clock offset: -0.08 ms


# Below is generated by plot.py at 2019-02-20 06:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 107.63 Mbit/s
95th percentile per-packet one-way delay: 85.690 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.13 Mbit/s
95th percentile per-packet one-way delay: 85.669 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 60.15 Mbit/s
95th percentile per-packet one-way delay: 85.717 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 17.58 Mbit/s
95th percentile per-packet one-way delay: 85.590 ms
Loss rate: 0.00%
```
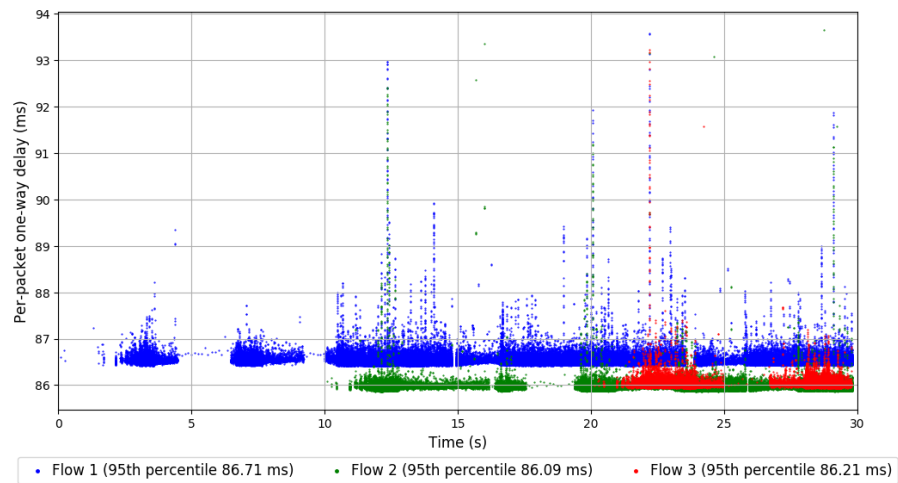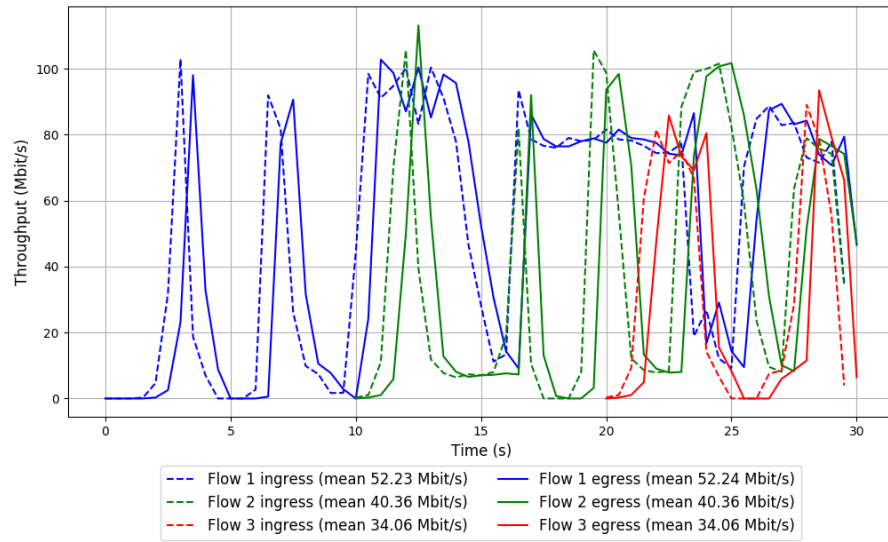
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-02-20 01:27:31
End at: 2019-02-20 01:28:01
Local clock offset: 0.399 ms
Remote clock offset: 0.295 ms


# Below is generated by plot.py at 2019-02-20 06:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.01 Mbit/s
95th percentile per-packet one-way delay: 85.923 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.63 Mbit/s
95th percentile per-packet one-way delay: 85.767 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.47 Mbit/s
95th percentile per-packet one-way delay: 86.063 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 40.33 Mbit/s
95th percentile per-packet one-way delay: 85.793 ms
Loss rate: 0.00%
```
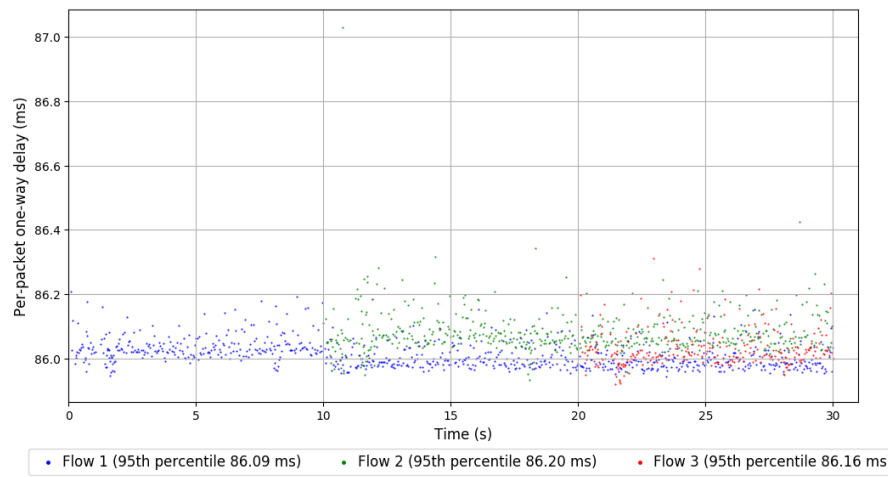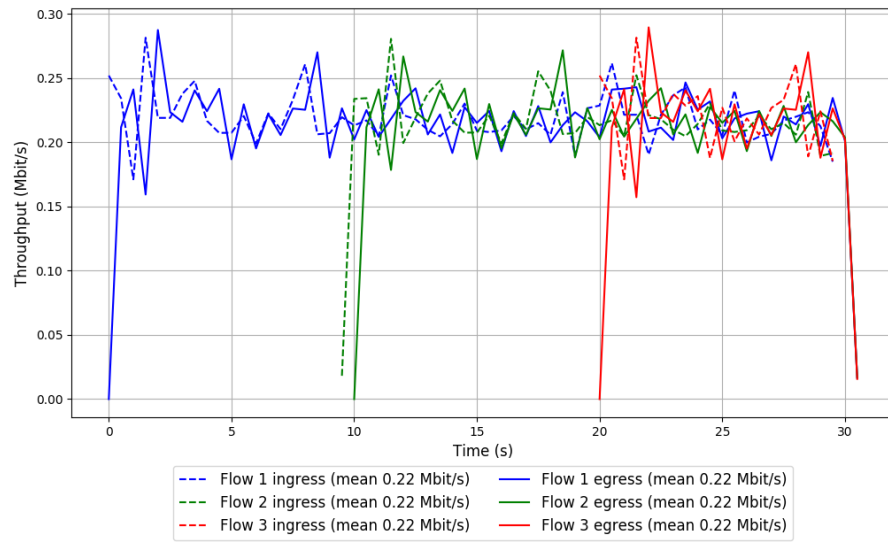
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-02-20 02:13:32
End at: 2019-02-20 02:14:02
Local clock offset: -0.145 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2019-02-20 06:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.26 Mbit/s
95th percentile per-packet one-way delay: 86.073 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.27 Mbit/s
95th percentile per-packet one-way delay: 86.057 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.13 Mbit/s
95th percentile per-packet one-way delay: 86.023 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.07 Mbit/s
95th percentile per-packet one-way delay: 86.165 ms
Loss rate: 0.00%
```
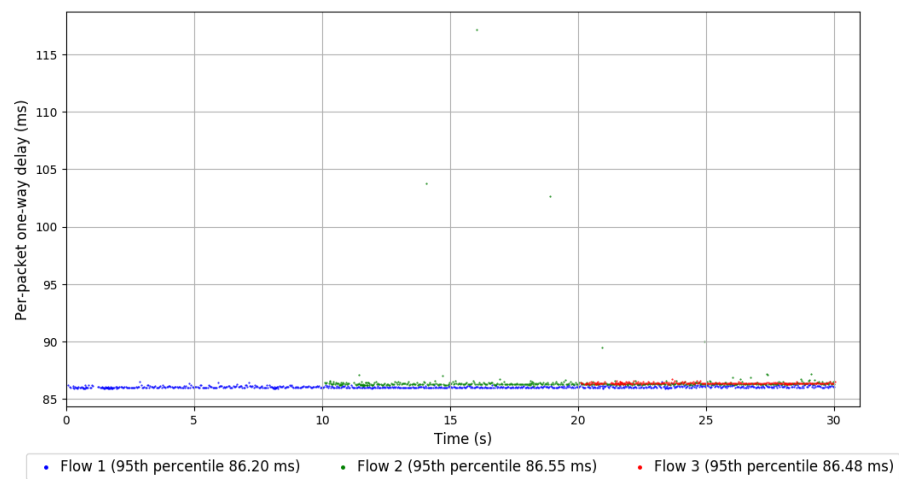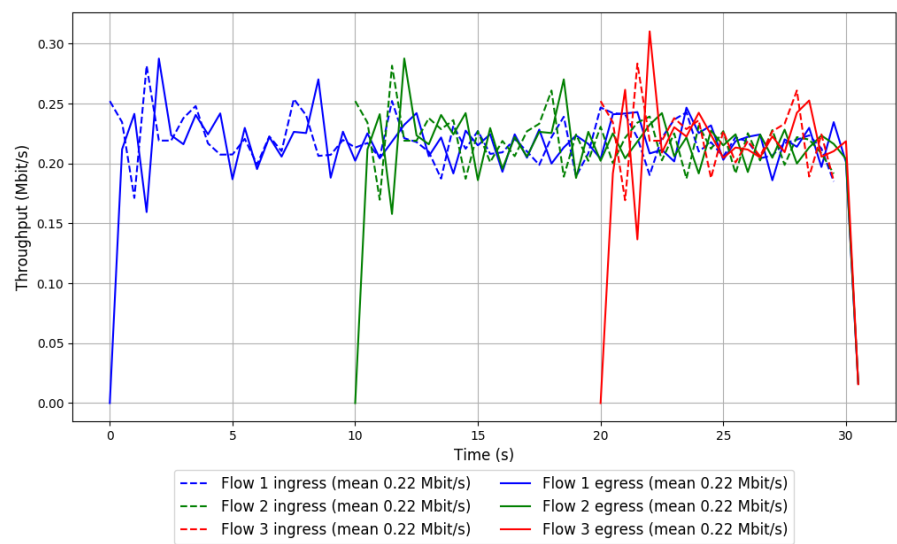
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-02-20 03:00:27
End at: 2019-02-20 03:00:57
Local clock offset: -0.157 ms
Remote clock offset: -0.131 ms


# Below is generated by plot.py at 2019-02-20 06:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.08 Mbit/s
95th percentile per-packet one-way delay: 86.654 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.24 Mbit/s
95th percentile per-packet one-way delay: 86.711 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.36 Mbit/s
95th percentile per-packet one-way delay: 86.090 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.06 Mbit/s
95th percentile per-packet one-way delay: 86.206 ms
Loss rate: 0.00%
```
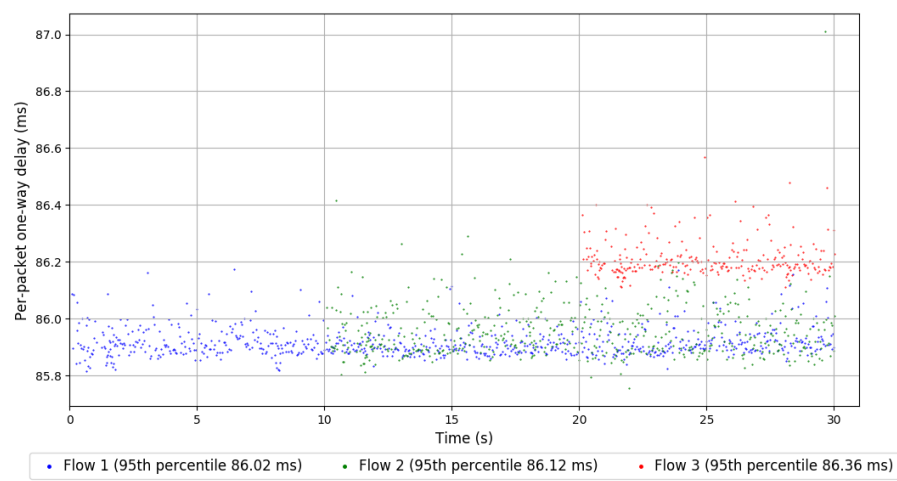
Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2019-02-20 00:09:59
End at: 2019-02-20 00:10:29
Local clock offset: -0.275 ms
Remote clock offset: -0.067 ms


# Below is generated by plot.py at 2019-02-20 06:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.154 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.091 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.196 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.155 ms
Loss rate: 0.00%
```
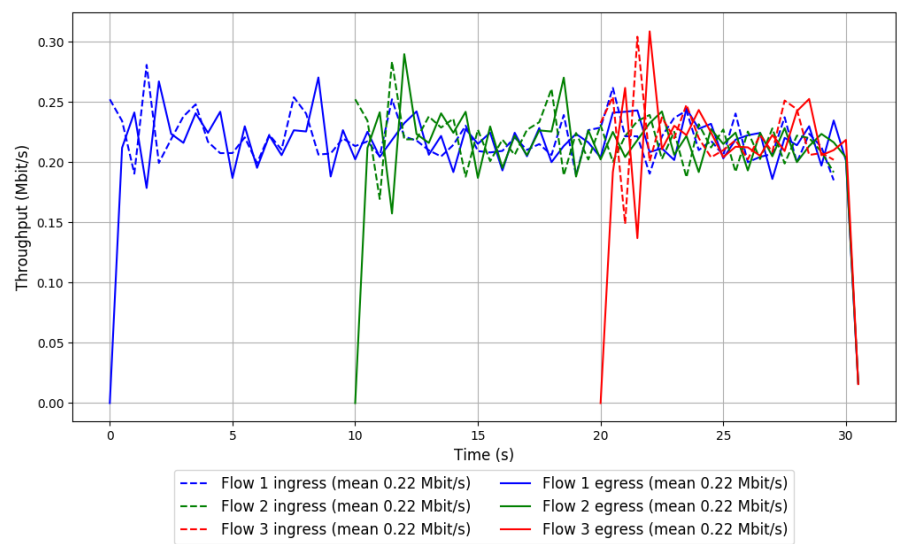
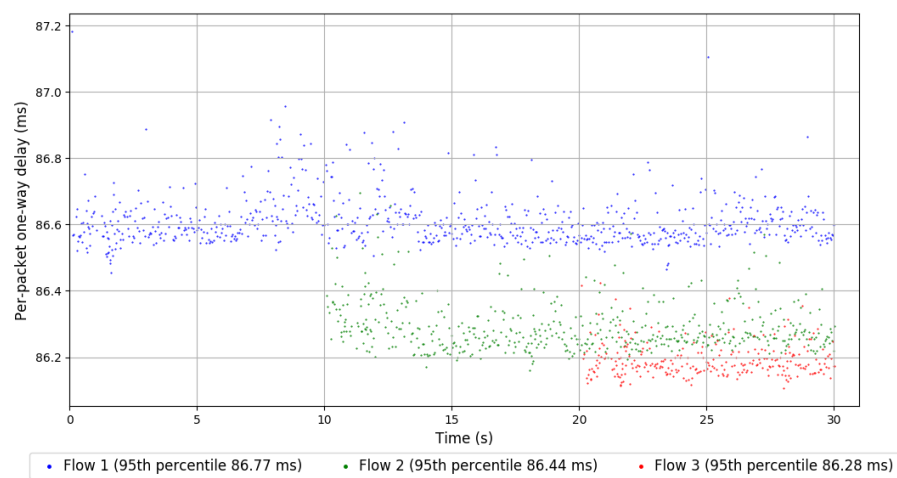# Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-02-20 00:55:36
End at: 2019-02-20 00:56:06
Local clock offset: -0.022 ms
Remote clock offset: -0.016 ms


# Below is generated by plot.py at 2019-02-20 06:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.457 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.201 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.545 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.480 ms
Loss rate: 0.00%
```
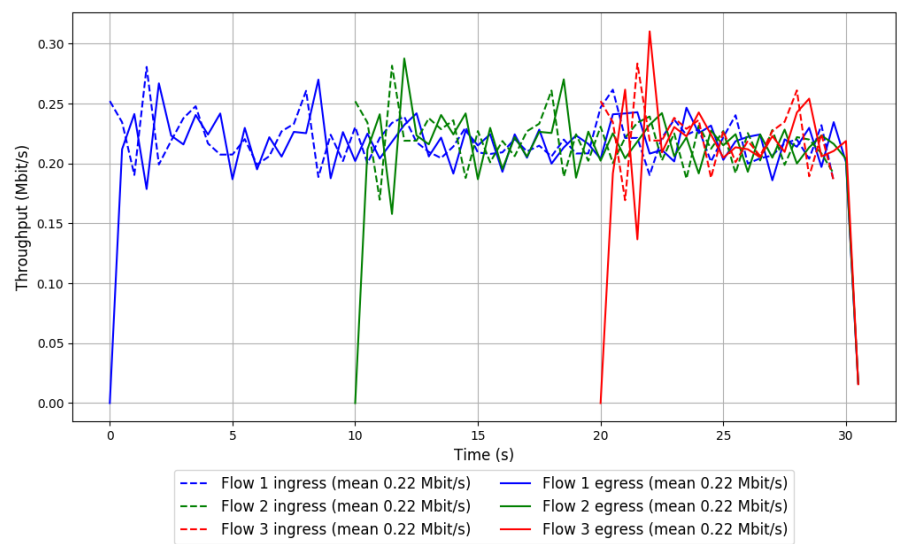
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-02-20 01:42:35
End at: 2019-02-20 01:43:05
Local clock offset: 0.162 ms
Remote clock offset: 0.522 ms

# Below is generated by plot.py at 2019-02-20 06:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.220 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.016 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.124 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.357 ms
Loss rate: 0.00%
```
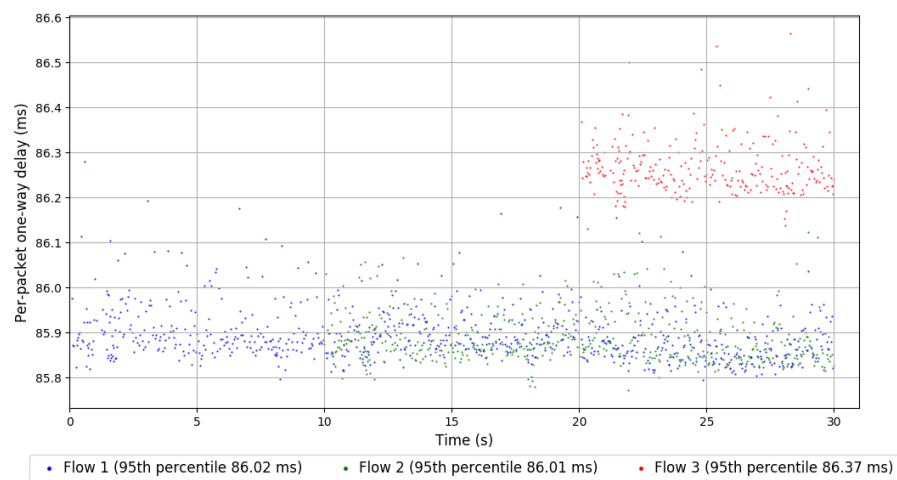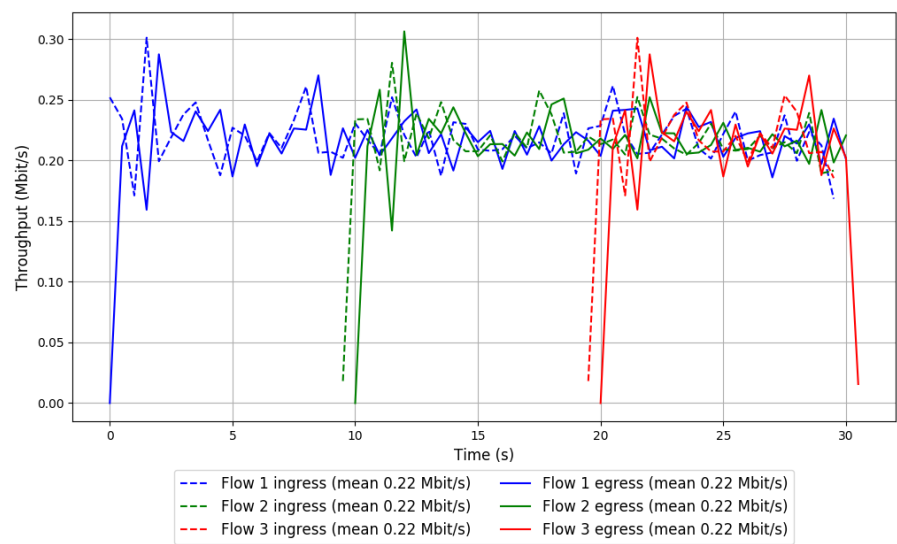
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-02-20 02:29:07
End at: 2019-02-20 02:29:37
Local clock offset: -0.357 ms
Remote clock offset: -0.13 ms

# Below is generated by plot.py at 2019-02-20 06:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.697 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.765 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.443 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.284 ms
Loss rate: 0.00%
```
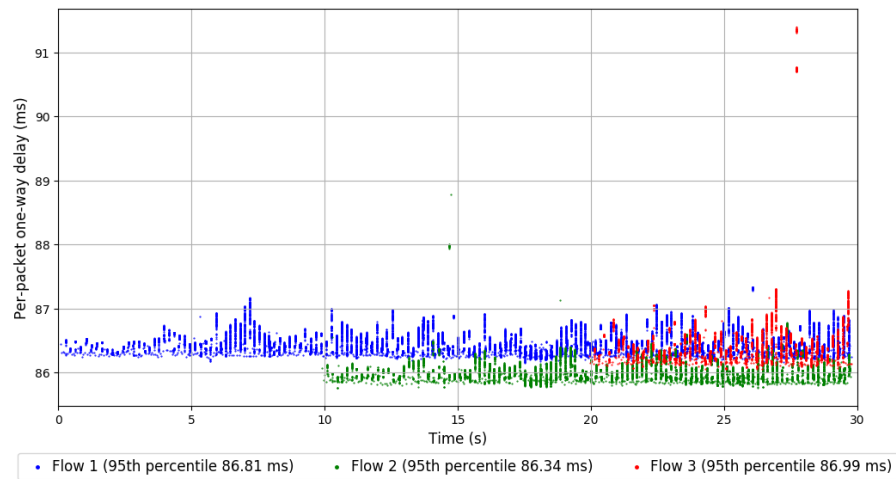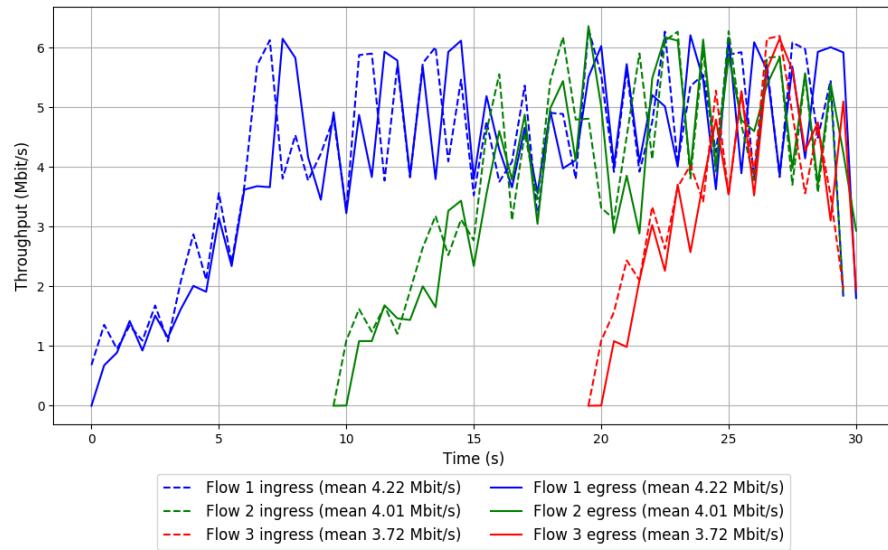
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-02-20 03:16:14
End at: 2019-02-20 03:16:44
Local clock offset: 0.06 ms
Remote clock offset: -0.076 ms


# Below is generated by plot.py at 2019-02-20 06:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.286 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.015 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.011 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.368 ms
Loss rate: 0.00%
```
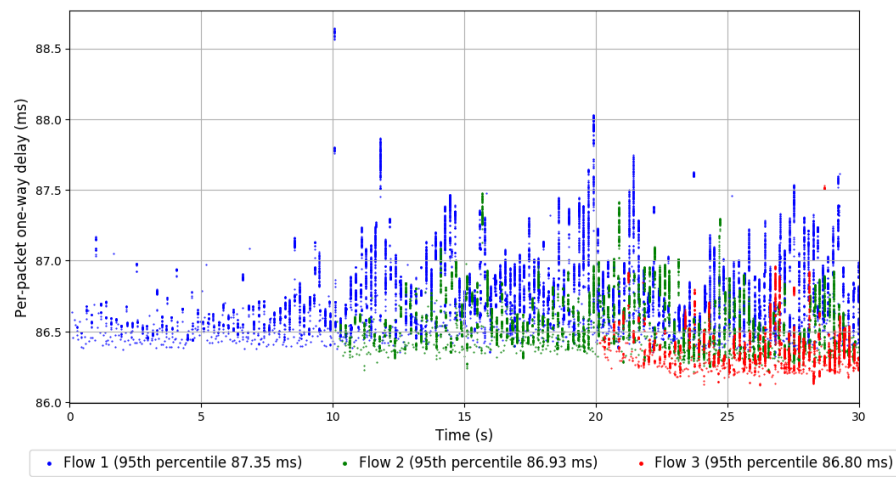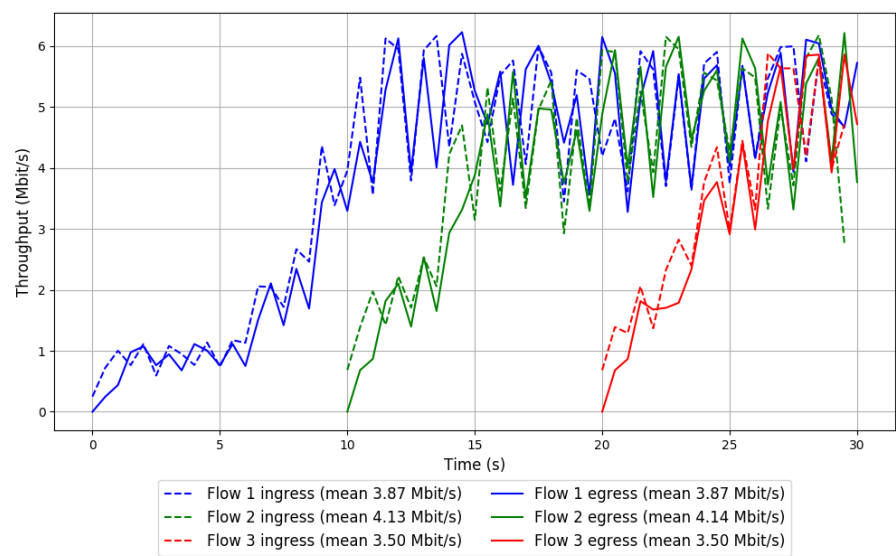
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-02-20 00:02:17
End at: 2019-02-20 00:02:47
Local clock offset: -0.187 ms
Remote clock offset: -0.064 ms


# Below is generated by plot.py at 2019-02-20 06:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.13 Mbit/s
95th percentile per-packet one-way delay: 86.779 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.22 Mbit/s
95th percentile per-packet one-way delay: 86.814 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.01 Mbit/s
95th percentile per-packet one-way delay: 86.342 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.72 Mbit/s
95th percentile per-packet one-way delay: 86.992 ms
Loss rate: 0.00%
```
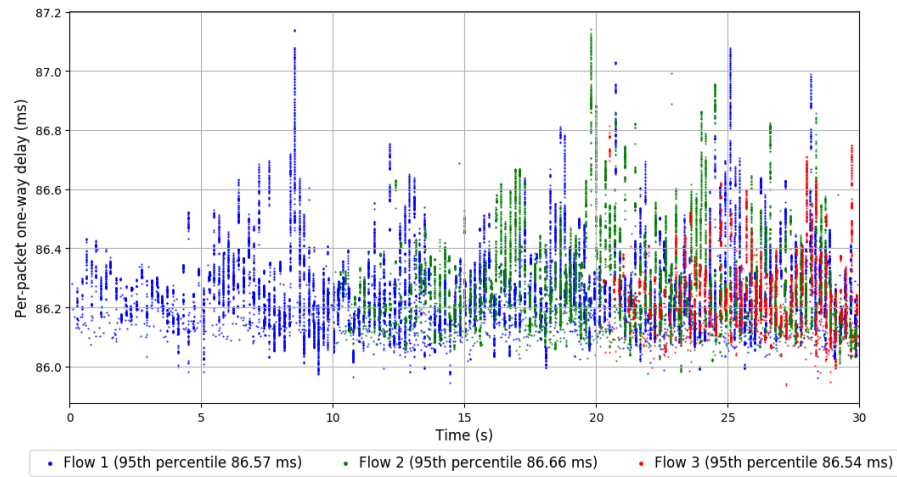
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-02-20 00:47:52
End at: 2019-02-20 00:48:22
Local clock offset: -0.358 ms
Remote clock offset: -0.055 ms


# Below is generated by plot.py at 2019-02-20 06:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.77 Mbit/s
95th percentile per-packet one-way delay: 87.234 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 87.348 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.14 Mbit/s
95th percentile per-packet one-way delay: 86.931 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.50 Mbit/s
95th percentile per-packet one-way delay: 86.798 ms
Loss rate: 0.00%
```
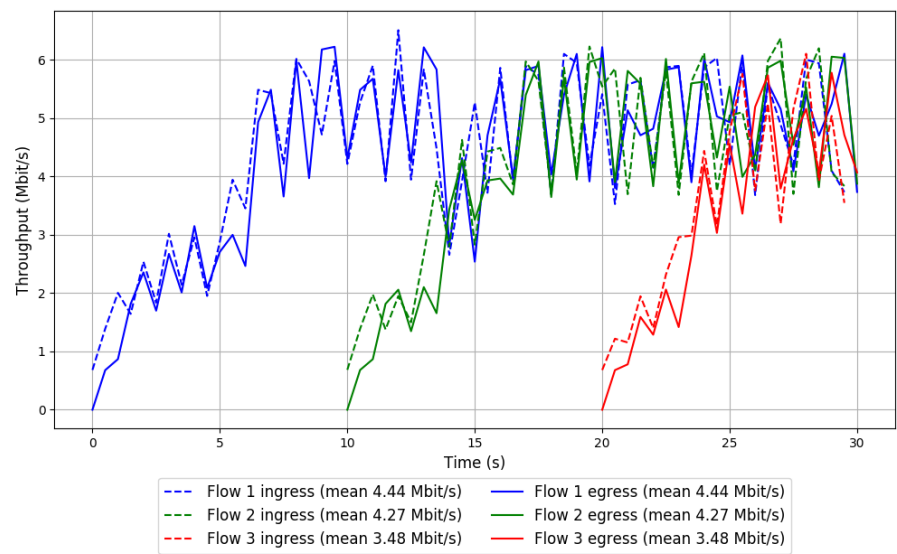
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-02-20 01:35:00
End at: 2019-02-20 01:35:30
Local clock offset: -0.102 ms
Remote clock offset: 0.441 ms


# Below is generated by plot.py at 2019-02-20 06:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.43 Mbit/s
95th percentile per-packet one-way delay: 86.599 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.44 Mbit/s
95th percentile per-packet one-way delay: 86.568 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.27 Mbit/s
95th percentile per-packet one-way delay: 86.658 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.48 Mbit/s
95th percentile per-packet one-way delay: 86.541 ms
Loss rate: 0.00%
```
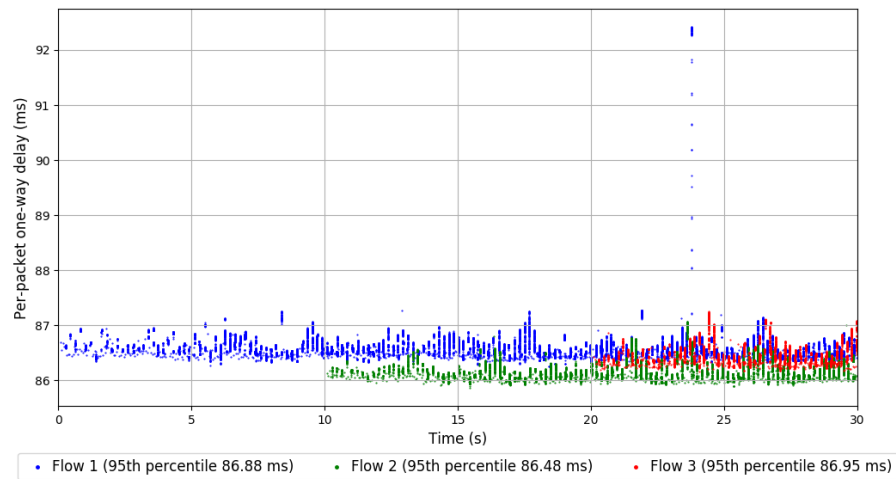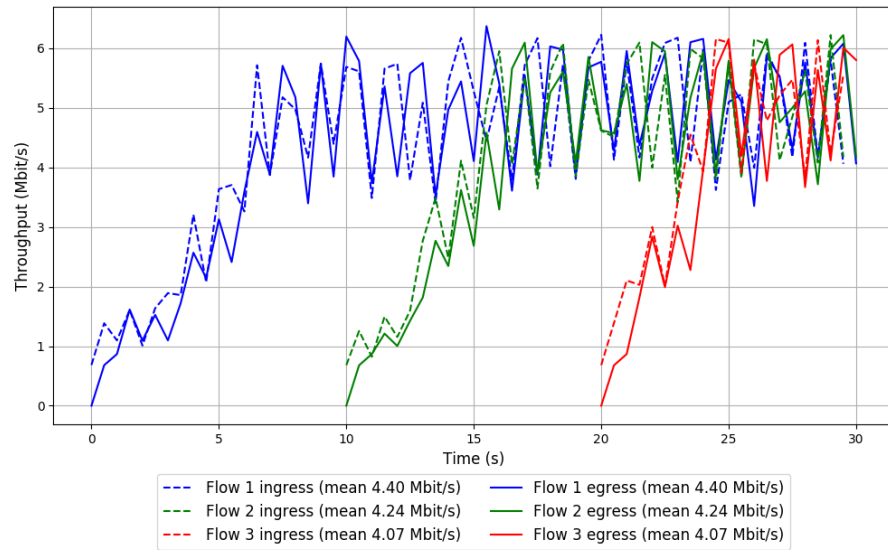
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-02-20 02:21:30
End at: 2019-02-20 02:22:00
Local clock offset: -0.211 ms
Remote clock offset: -0.095 ms


# Below is generated by plot.py at 2019-02-20 06:15:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.56 Mbit/s
95th percentile per-packet one-way delay: 86.836 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.40 Mbit/s
95th percentile per-packet one-way delay: 86.884 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.24 Mbit/s
95th percentile per-packet one-way delay: 86.482 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.07 Mbit/s
95th percentile per-packet one-way delay: 86.951 ms
Loss rate: 0.00%
```
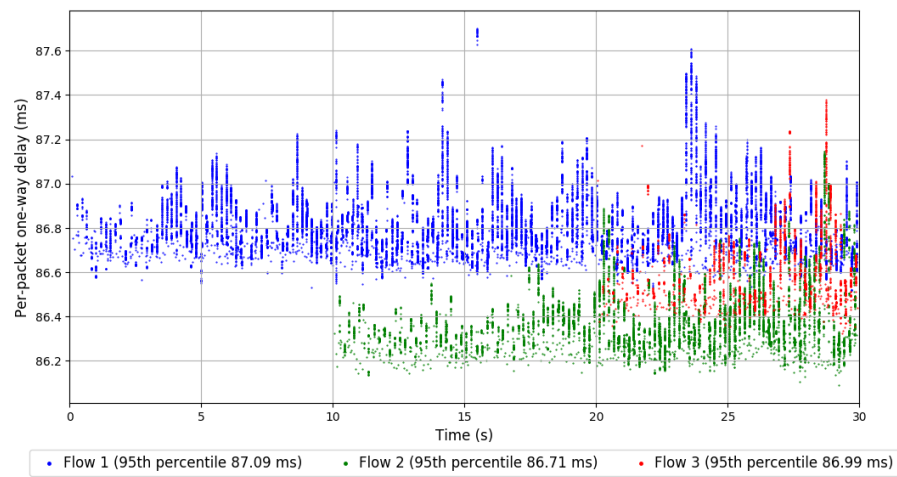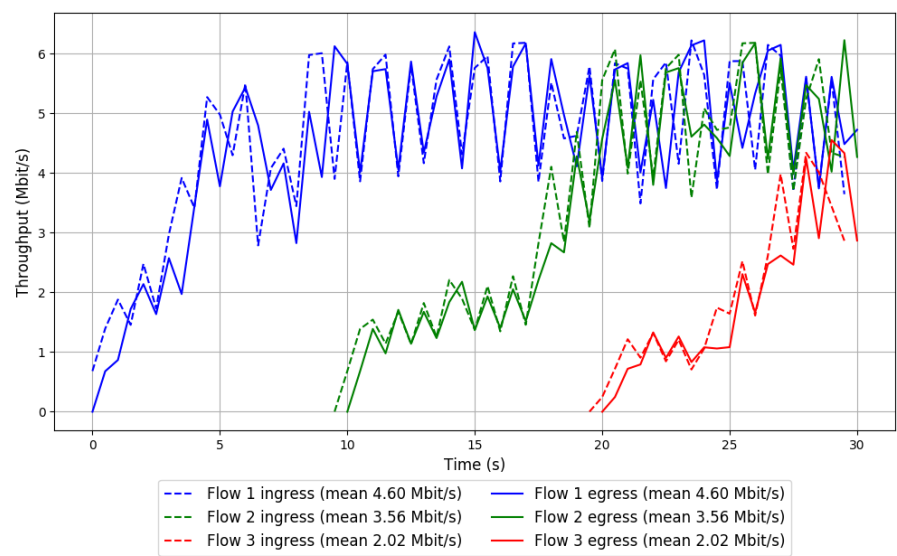
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-02-20 03:08:19
End at: 2019-02-20 03:08:49
Local clock offset: -0.405 ms
Remote clock offset: -0.101 ms


# Below is generated by plot.py at 2019-02-20 06:15:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.64 Mbit/s
95th percentile per-packet one-way delay: 87.031 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.60 Mbit/s
95th percentile per-packet one-way delay: 87.086 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.56 Mbit/s
95th percentile per-packet one-way delay: 86.710 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 86.988 ms
Loss rate: 0.00%
```
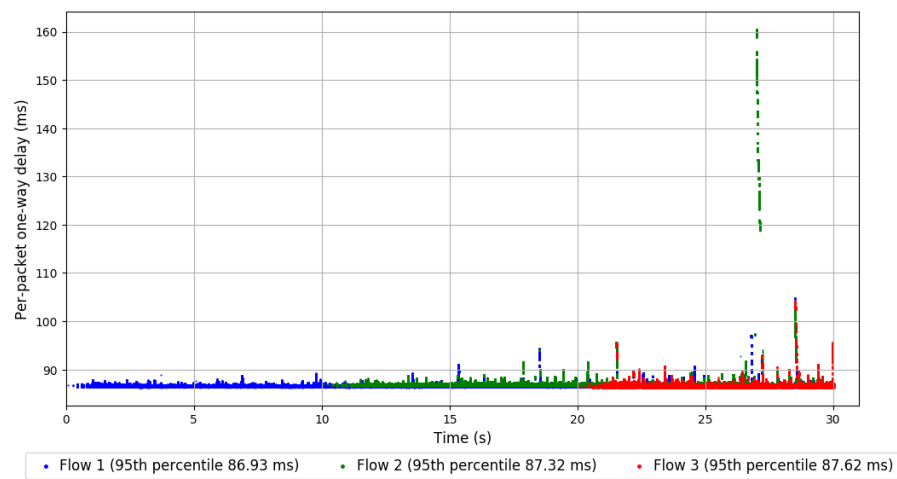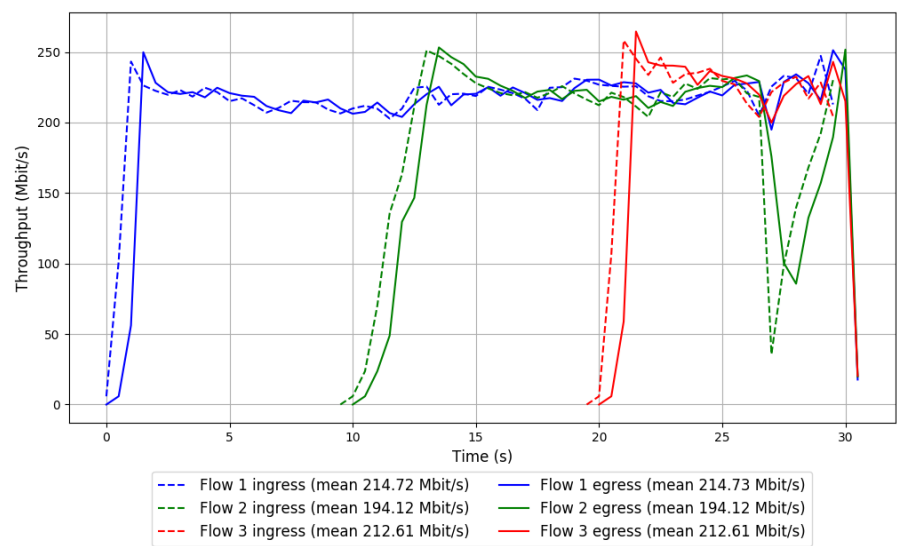
Run 5: Report of Sprout — Data Link

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

Start at: 2019-02-20 00:26:44
End at: 2019-02-20 00:27:14
Local clock offset: -0.547 ms
Remote clock offset: -0.072 ms


# Below is generated by plot.py at 2019-02-20 06:16:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 414.87 Mbit/s
95th percentile per-packet one-way delay: 87.211 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 214.73 Mbit/s
95th percentile per-packet one-way delay: 86.930 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 194.12 Mbit/s
95th percentile per-packet one-way delay: 87.322 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 212.61 Mbit/s
95th percentile per-packet one-way delay: 87.619 ms
Loss rate: 0.00%
```

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

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

Start at: 2019-02-20 01:14:17
End at: 2019-02-20 01:14:47
Local clock offset: -0.009 ms
Remote clock offset: 0.01 ms


# Below is generated by plot.py at 2019-02-20 06:16:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 398.86 Mbit/s
95th percentile per-packet one-way delay: 86.684 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 203.35 Mbit/s
95th percentile per-packet one-way delay: 86.349 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 202.90 Mbit/s
95th percentile per-packet one-way delay: 86.594 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 181.95 Mbit/s
95th percentile per-packet one-way delay: 87.245 ms
Loss rate: 0.00%
```
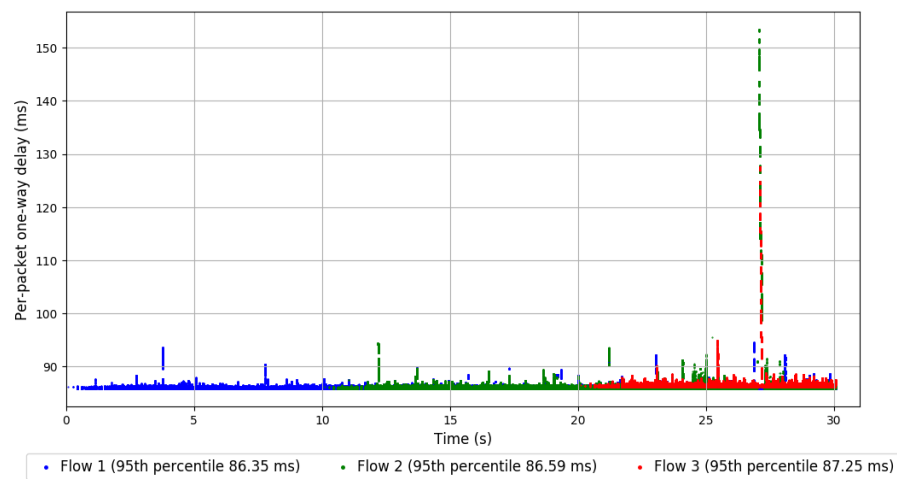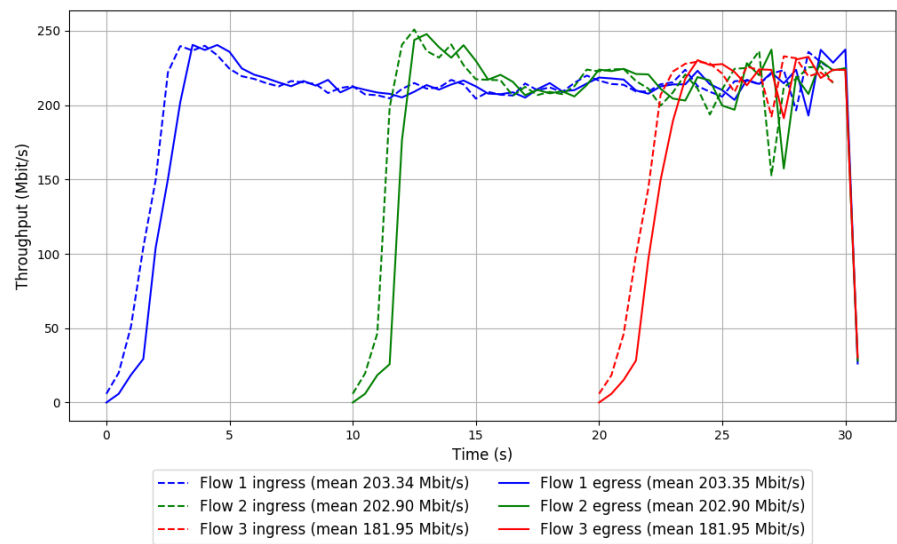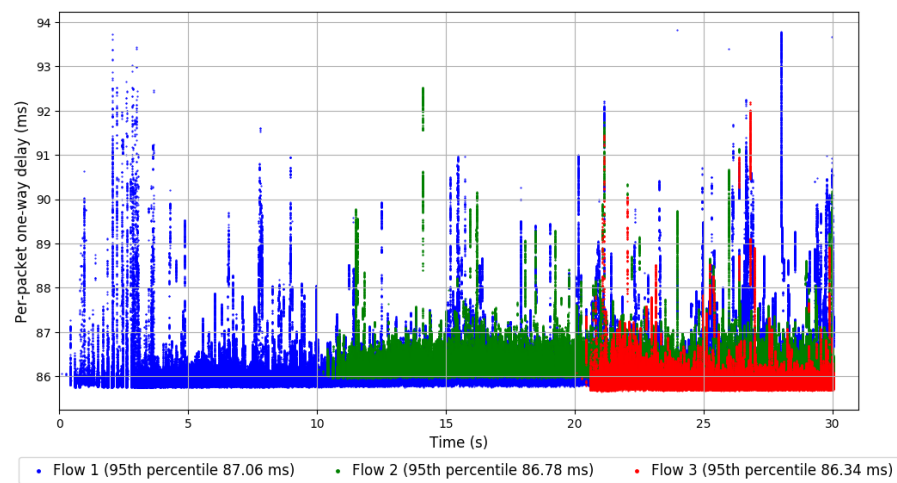
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 203.34 Mbit/s)   Flow 1 egress (mean 203.35 Mbit/s)
Flow 2 ingress (mean 202.90 Mbit/s)   Flow 2 egress (mean 202.90 Mbit/s)
Flow 3 ingress (mean 181.95 Mbit/s)   Flow 3 egress (mean 181.95 Mbit/s)

Flow 1 (95th percentile 86.35 ms)   Flow 2 (95th percentile 86.59 ms)   Flow 3 (95th percentile 87.25 ms)

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

Start at: 2019-02-20 02:00:29
End at: 2019-02-20 02:00:59
Local clock offset: 0.029 ms
Remote clock offset: 0.258 ms


# Below is generated by plot.py at 2019-02-20 06:16:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 385.50 Mbit/s
95th percentile per-packet one-way delay: 86.835 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 188.27 Mbit/s
95th percentile per-packet one-way delay: 87.065 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 198.66 Mbit/s
95th percentile per-packet one-way delay: 86.779 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 195.03 Mbit/s
95th percentile per-packet one-way delay: 86.344 ms
Loss rate: 0.00%
```
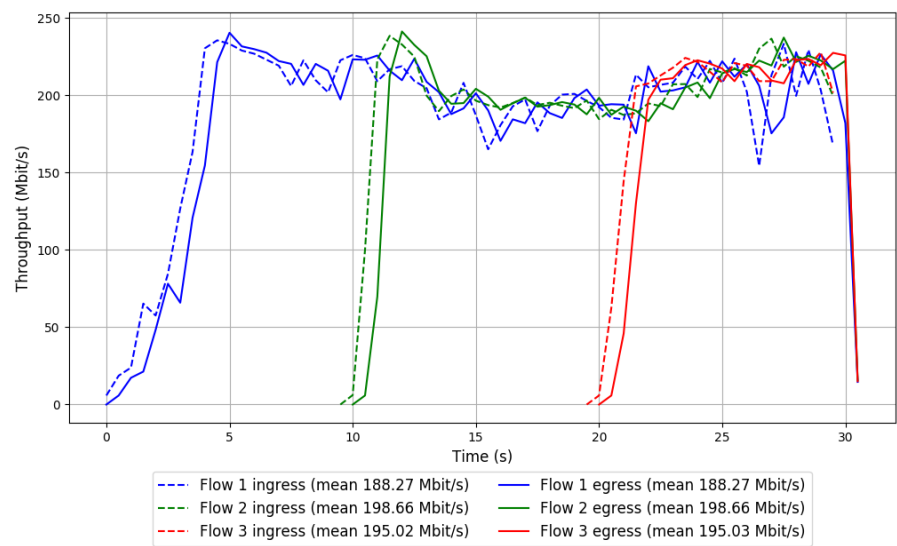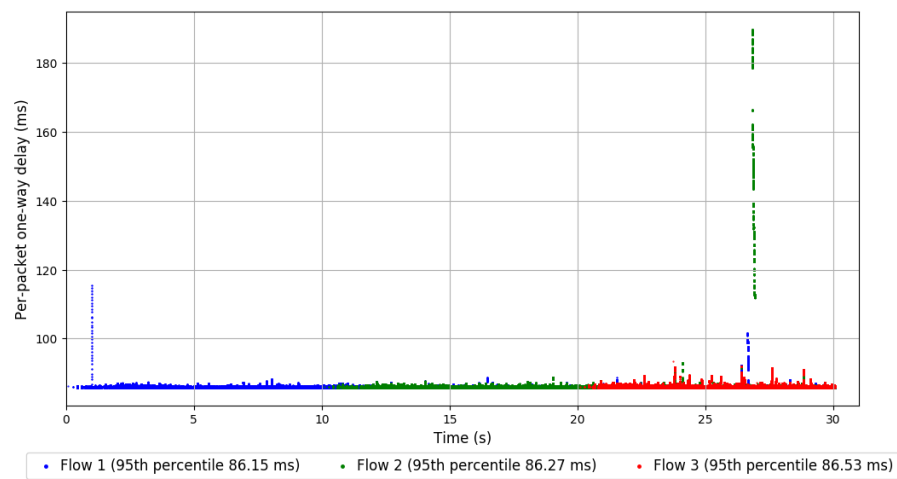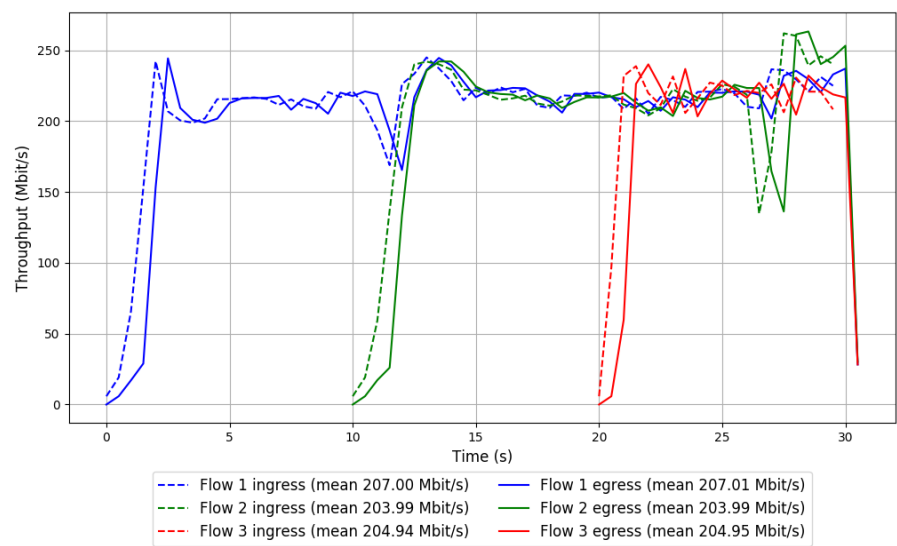
Run 3: Report of TaoVA-100x — Data Link

- - - Flow 1 ingress (mean 188.27 Mbit/s) —— Flow 1 egress (mean 188.27 Mbit/s)
- - - Flow 2 ingress (mean 198.66 Mbit/s) —— Flow 2 egress (mean 198.66 Mbit/s)
- - - Flow 3 ingress (mean 195.02 Mbit/s) —— Flow 3 egress (mean 195.03 Mbit/s)

• Flow 1 (95th percentile 87.06 ms)   • Flow 2 (95th percentile 86.78 ms)   • Flow 3 (95th percentile 86.34 ms)

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

Start at: 2019-02-20 02:47:29
End at: 2019-02-20 02:47:59
Local clock offset: -0.139 ms
Remote clock offset: -0.109 ms


# Below is generated by plot.py at 2019-02-20 06:16:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 410.93 Mbit/s
95th percentile per-packet one-way delay: 86.256 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 207.01 Mbit/s
95th percentile per-packet one-way delay: 86.148 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 203.99 Mbit/s
95th percentile per-packet one-way delay: 86.274 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 204.95 Mbit/s
95th percentile per-packet one-way delay: 86.535 ms
Loss rate: 0.00%
```

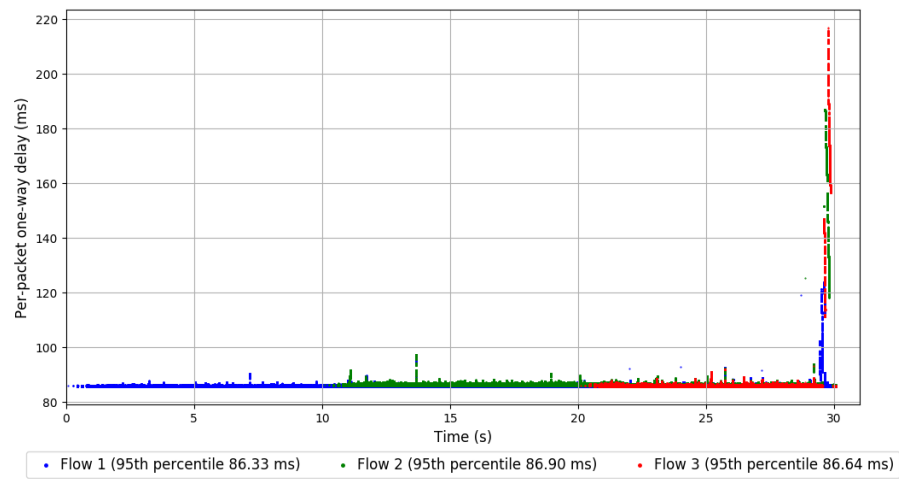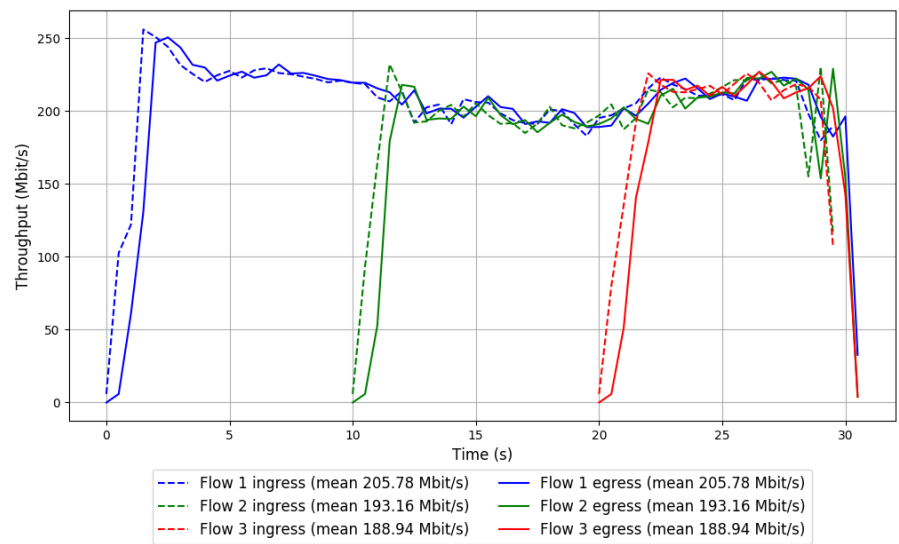# Run 4: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 207.00 Mbit/s) ——— Flow 1 egress (mean 207.01 Mbit/s)
- - - - Flow 2 ingress (mean 203.99 Mbit/s) ——— Flow 2 egress (mean 203.99 Mbit/s)
- - - - Flow 3 ingress (mean 204.94 Mbit/s) ——— Flow 3 egress (mean 204.95 Mbit/s)

- Flow 1 (95th percentile 86.15 ms)   - Flow 2 (95th percentile 86.27 ms)   - Flow 3 (95th percentile 86.53 ms)

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

Start at: 2019-02-20 03:33:52
End at: 2019-02-20 03:34:22
Local clock offset: 0.11 ms
Remote clock offset: -0.068 ms


# Below is generated by plot.py at 2019-02-20 06:16:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 397.17 Mbit/s
95th percentile per-packet one-way delay: 86.655 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 205.78 Mbit/s
95th percentile per-packet one-way delay: 86.326 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 193.16 Mbit/s
95th percentile per-packet one-way delay: 86.900 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 188.94 Mbit/s
95th percentile per-packet one-way delay: 86.639 ms
Loss rate: 0.00%
```
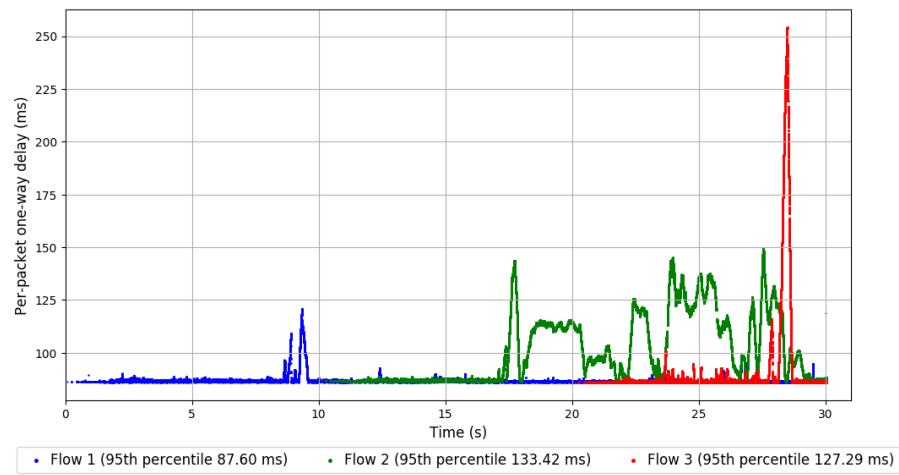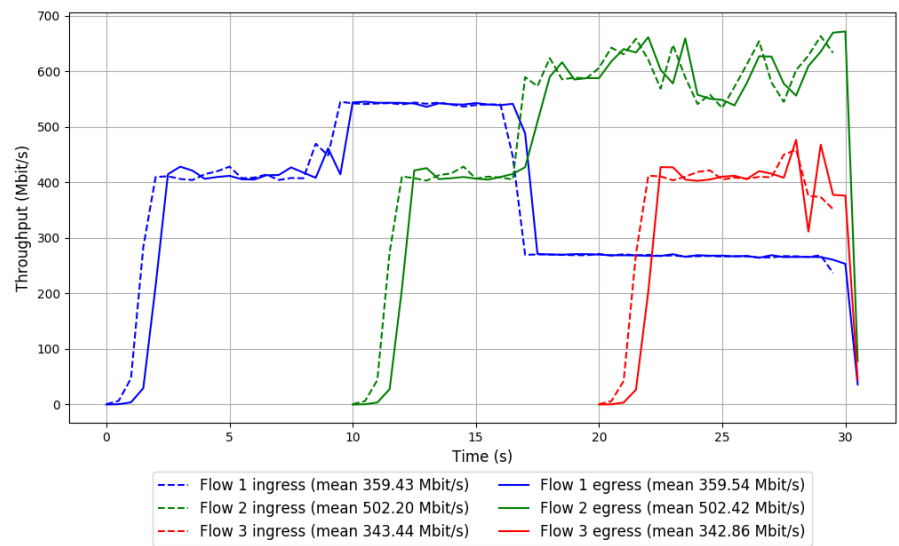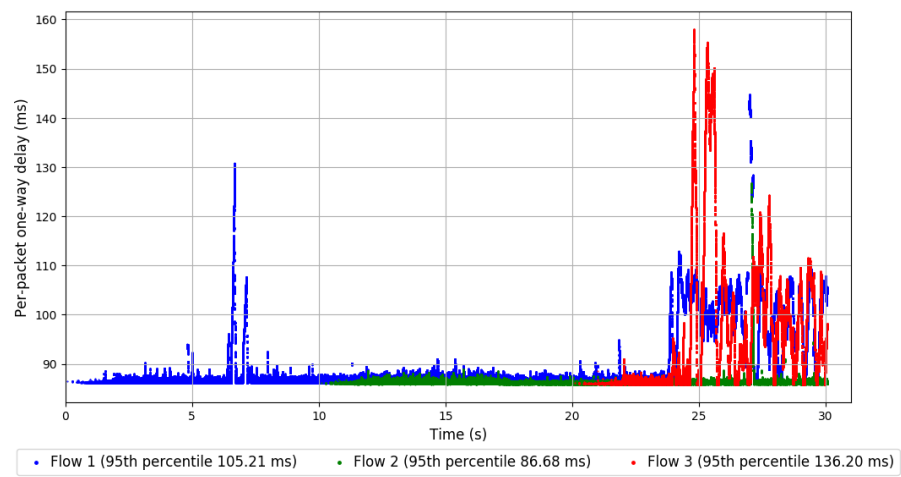
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 205.78 Mbit/s) --- Flow 1 egress (mean 205.78 Mbit/s)
Flow 2 ingress (mean 193.16 Mbit/s) --- Flow 2 egress (mean 193.16 Mbit/s)
Flow 3 ingress (mean 188.94 Mbit/s) --- Flow 3 egress (mean 188.94 Mbit/s)

Flow 1 (95th percentile 86.33 ms) • Flow 2 (95th percentile 86.90 ms) • Flow 3 (95th percentile 86.64 ms)
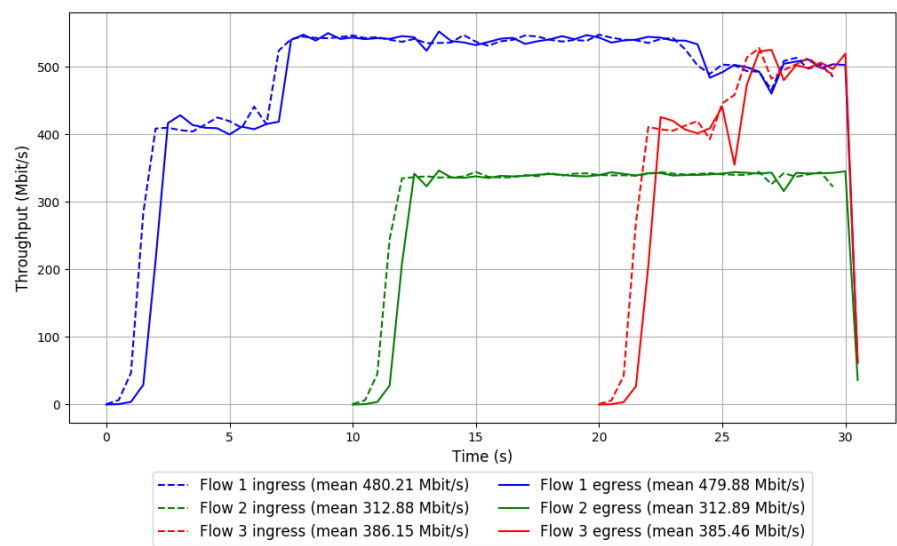
```
Run 1: Statistics of TCP Vegas

Start at: 2019-02-19 23:47:13
End at: 2019-02-19 23:47:43
Local clock offset: -0.223 ms
Remote clock offset: -0.06 ms


# Below is generated by plot.py at 2019-02-20 06:19:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 808.03 Mbit/s
95th percentile per-packet one-way delay: 125.316 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 359.54 Mbit/s
95th percentile per-packet one-way delay: 87.598 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 502.42 Mbit/s
95th percentile per-packet one-way delay: 133.423 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 342.86 Mbit/s
95th percentile per-packet one-way delay: 127.290 ms
Loss rate: 0.27%
```

Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-02-20 00:32:24
End at: 2019-02-20 00:32:54
Local clock offset: -0.126 ms
Remote clock offset: -0.082 ms


# Below is generated by plot.py at 2019-02-20 06:30:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 816.41 Mbit/s
95th percentile per-packet one-way delay: 106.317 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 479.88 Mbit/s
95th percentile per-packet one-way delay: 105.209 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 312.89 Mbit/s
95th percentile per-packet one-way delay: 86.683 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 385.46 Mbit/s
95th percentile per-packet one-way delay: 136.202 ms
Loss rate: 0.18%
```
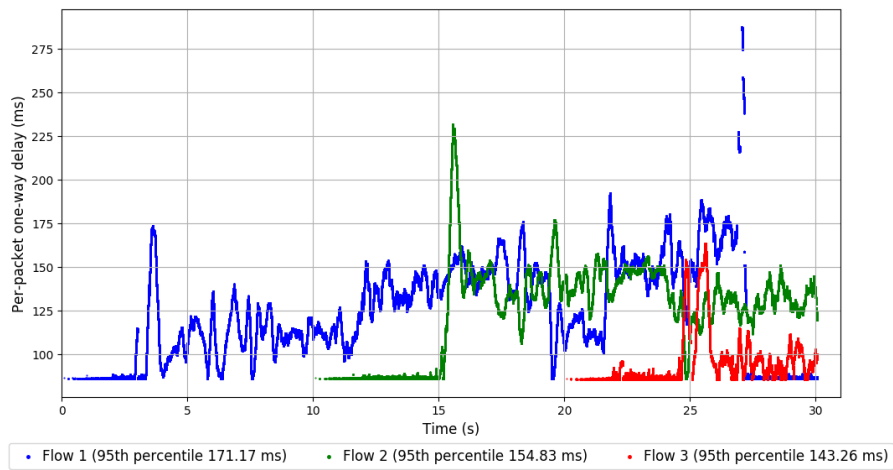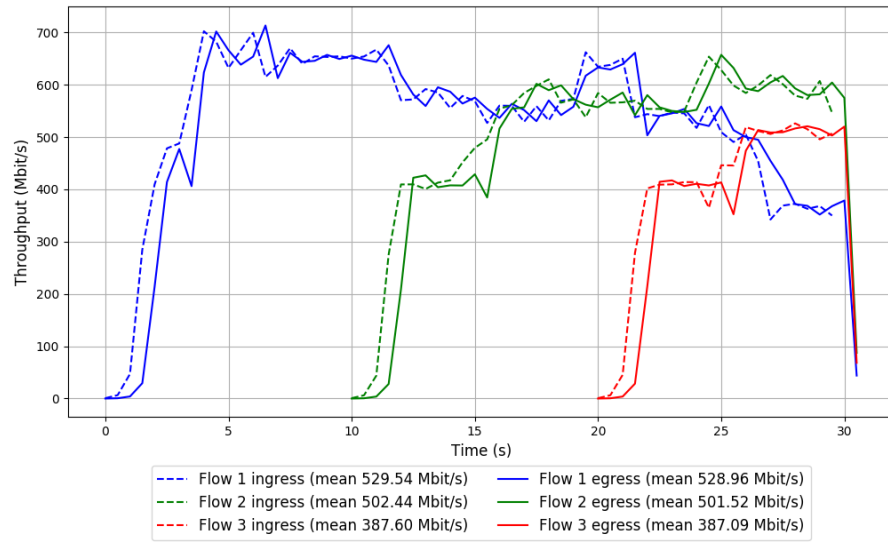
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-02-20 01:19:23
End at: 2019-02-20 01:19:53
Local clock offset: 0.175 ms
Remote clock offset: 0.005 ms


# Below is generated by plot.py at 2019-02-20 06:35:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 991.77 Mbit/s
95th percentile per-packet one-way delay: 164.266 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 528.96 Mbit/s
95th percentile per-packet one-way delay: 171.174 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 501.52 Mbit/s
95th percentile per-packet one-way delay: 154.830 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 387.09 Mbit/s
95th percentile per-packet one-way delay: 143.264 ms
Loss rate: 0.14%
```
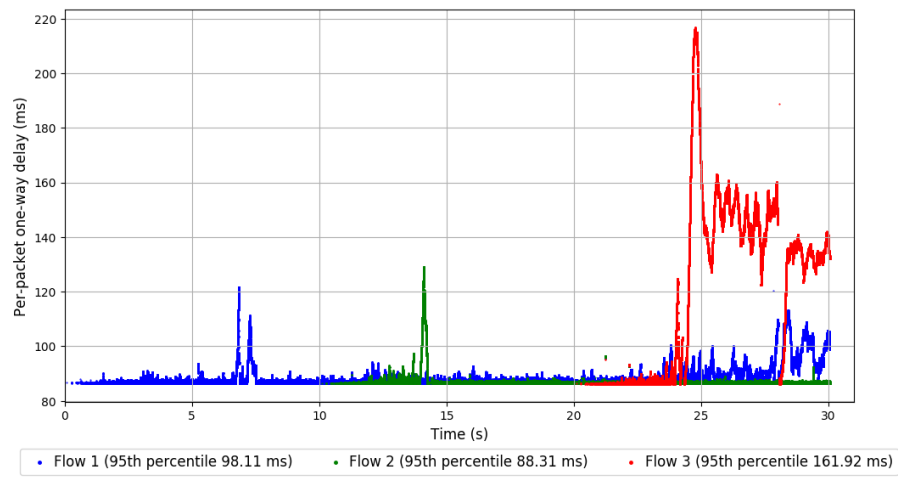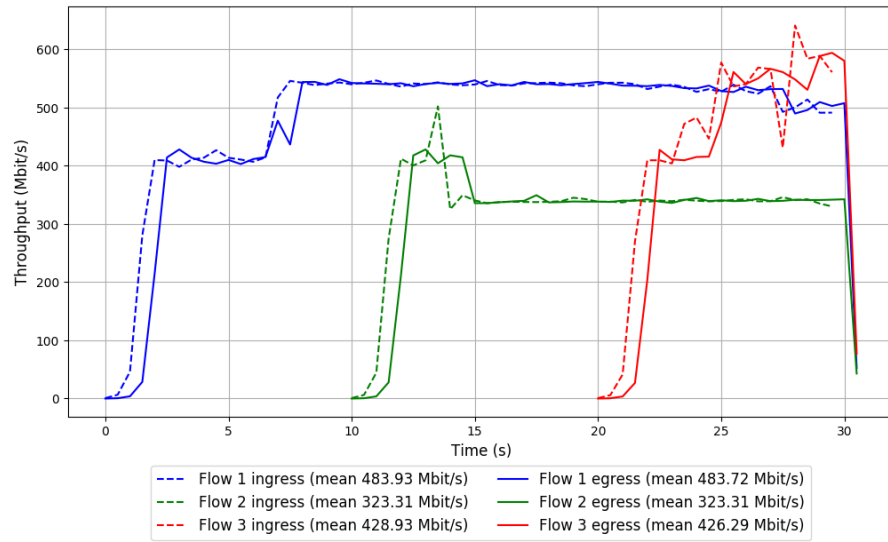
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 529.54 Mbit/s)   Flow 1 egress (mean 528.96 Mbit/s)
Flow 2 ingress (mean 502.44 Mbit/s)   Flow 2 egress (mean 501.52 Mbit/s)
Flow 3 ingress (mean 387.60 Mbit/s)   Flow 3 egress (mean 387.09 Mbit/s)

Flow 1 (95th percentile 171.17 ms)   Flow 2 (95th percentile 154.83 ms)   Flow 3 (95th percentile 143.26 ms)
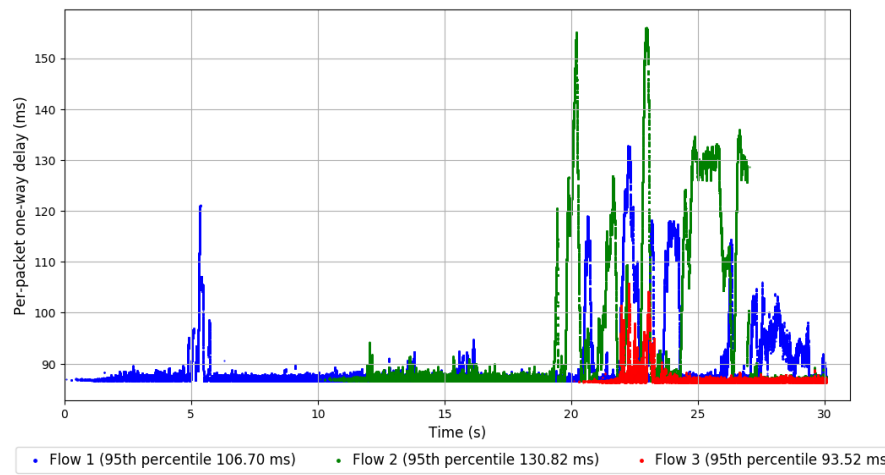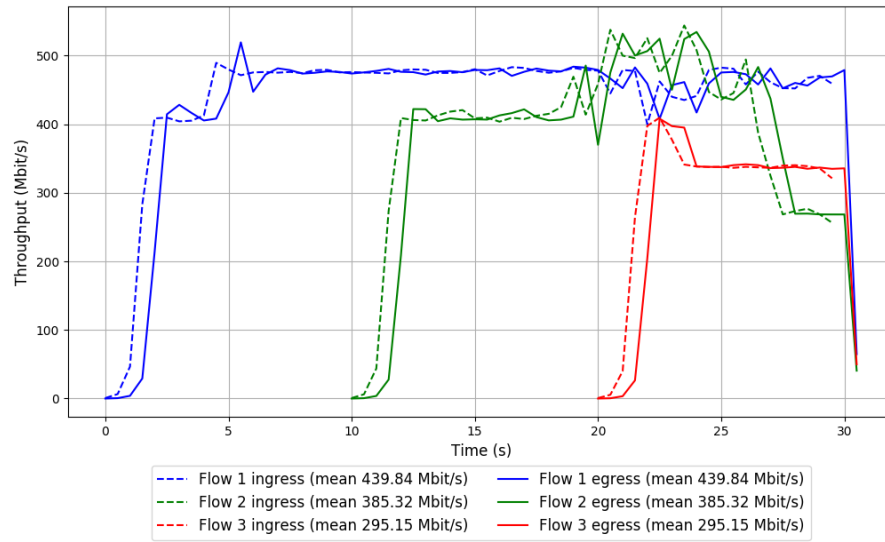
```
Run 4: Statistics of TCP Vegas

Start at: 2019-02-20 02:05:23
End at: 2019-02-20 02:05:53
Local clock offset: -0.356 ms
Remote clock offset: 0.081 ms


# Below is generated by plot.py at 2019-02-20 06:35:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 840.44 Mbit/s
95th percentile per-packet one-way delay: 144.482 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 483.72 Mbit/s
95th percentile per-packet one-way delay: 98.114 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 323.31 Mbit/s
95th percentile per-packet one-way delay: 88.314 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 426.29 Mbit/s
95th percentile per-packet one-way delay: 161.919 ms
Loss rate: 0.61%
```

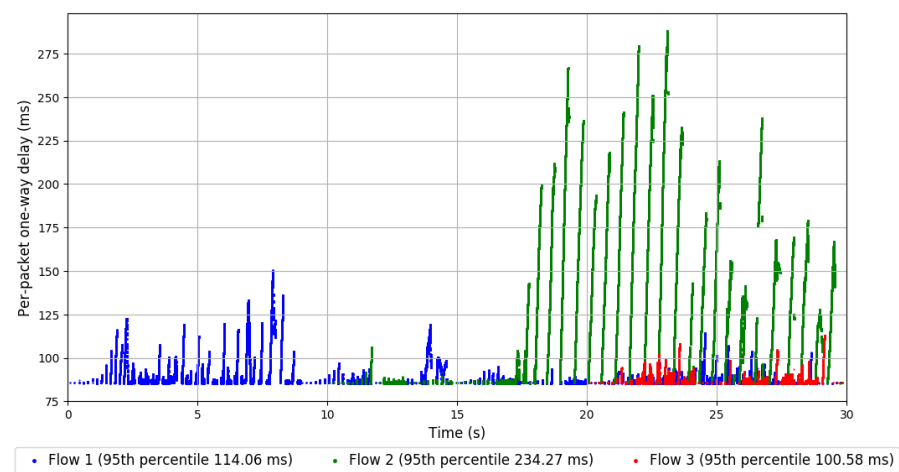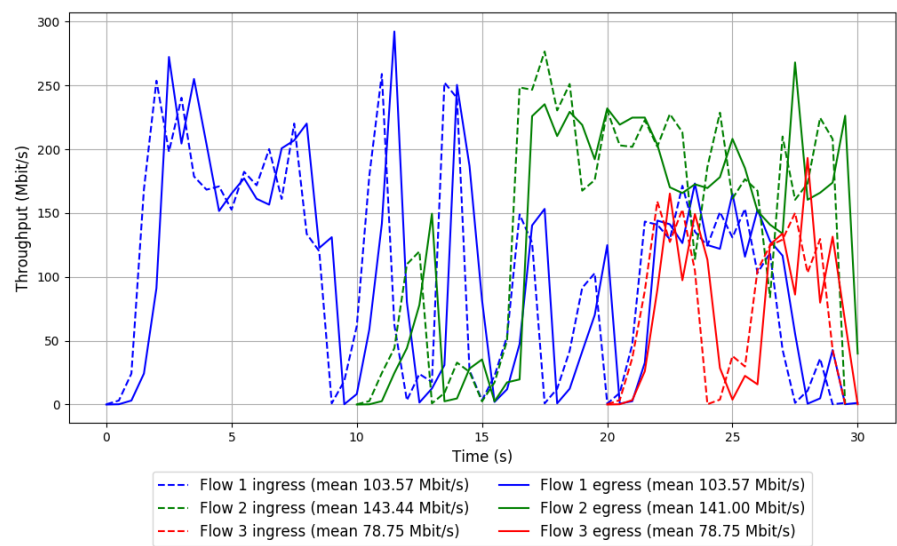Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-02-20 02:52:32
End at: 2019-02-20 02:53:02
Local clock offset: -0.607 ms
Remote clock offset: -0.097 ms


# Below is generated by plot.py at 2019-02-20 06:35:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 794.48 Mbit/s
95th percentile per-packet one-way delay: 118.773 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 439.84 Mbit/s
95th percentile per-packet one-way delay: 106.703 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 385.32 Mbit/s
95th percentile per-packet one-way delay: 130.822 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 295.15 Mbit/s
95th percentile per-packet one-way delay: 93.522 ms
Loss rate: 0.00%
```

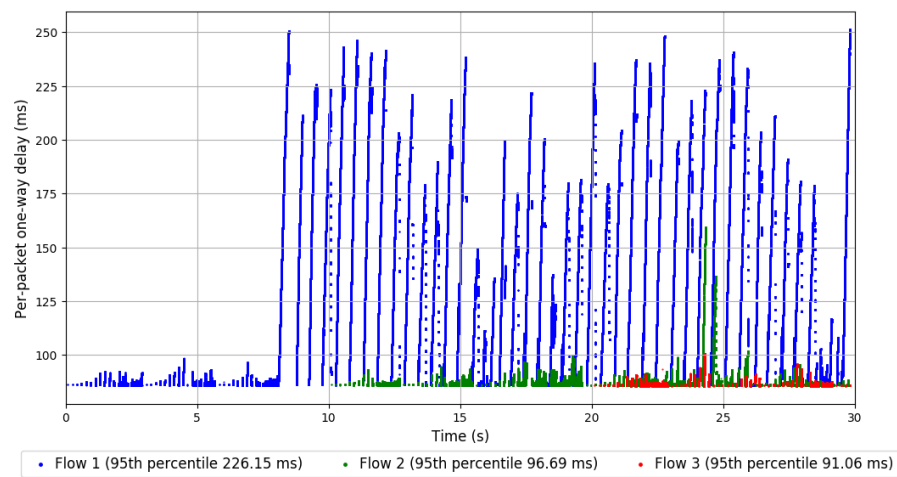Run 5: Report of TCP Vegas — Data Link

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```
Run 1: Statistics of Verus

Start at: 2019-02-20 00:18:43
End at: 2019-02-20 00:19:13
Local clock offset: 0.267 ms
Remote clock offset: -0.067 ms


# Below is generated by plot.py at 2019-02-20 06:35:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 222.30 Mbit/s
95th percentile per-packet one-way delay: 208.856 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 103.57 Mbit/s
95th percentile per-packet one-way delay: 114.064 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 141.00 Mbit/s
95th percentile per-packet one-way delay: 234.267 ms
Loss rate: 1.71%
-- Flow 3:
Average throughput: 78.75 Mbit/s
95th percentile per-packet one-way delay: 100.584 ms
Loss rate: 0.00%
```

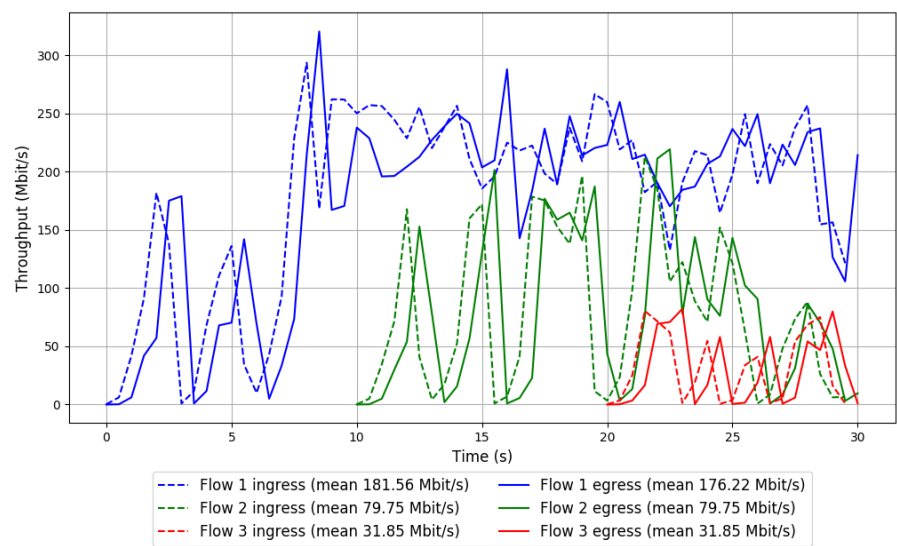Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-02-20 01:05:07
End at: 2019-02-20 01:05:37
Local clock offset: 0.205 ms
Remote clock offset: -0.014 ms


# Below is generated by plot.py at 2019-02-20 06:35:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 239.31 Mbit/s
95th percentile per-packet one-way delay: 221.556 ms
Loss rate: 1.81%
-- Flow 1:
Average throughput: 176.22 Mbit/s
95th percentile per-packet one-way delay: 226.153 ms
Loss rate: 2.44%
-- Flow 2:
Average throughput: 79.75 Mbit/s
95th percentile per-packet one-way delay: 96.688 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.85 Mbit/s
95th percentile per-packet one-way delay: 91.064 ms
Loss rate: 0.00%
```

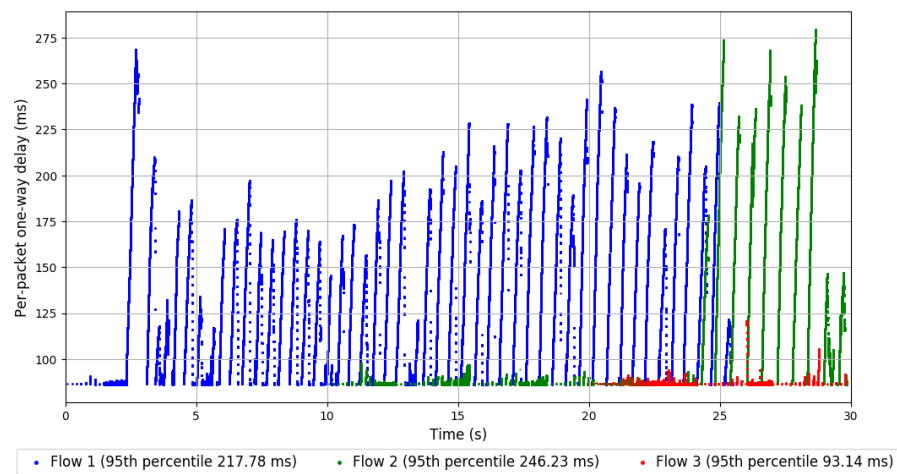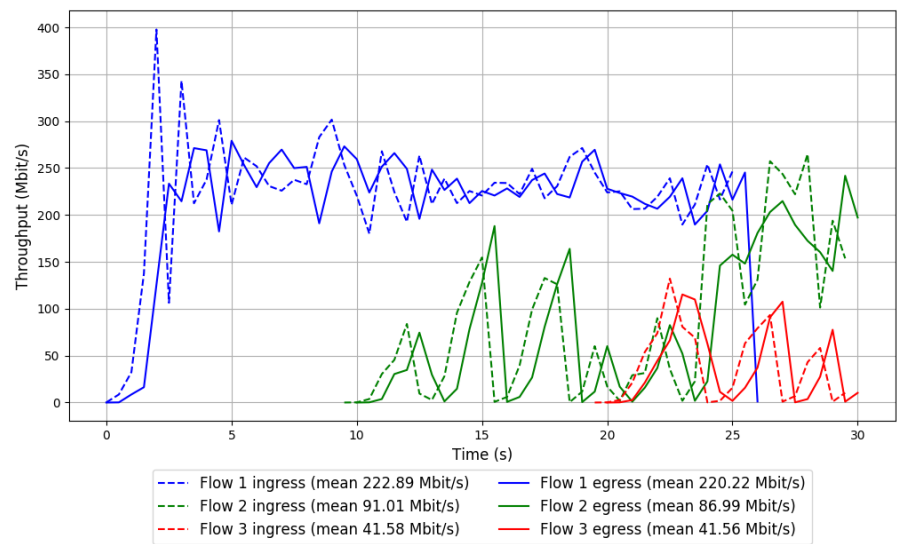Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-02-20 01:51:32
End at: 2019-02-20 01:52:02
Local clock offset: -0.239 ms
Remote clock offset: 0.63 ms

# Below is generated by plot.py at 2019-02-20 06:35:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 259.40 Mbit/s
95th percentile per-packet one-way delay: 226.752 ms
Loss rate: 1.88%
-- Flow 1:
Average throughput: 220.22 Mbit/s
95th percentile per-packet one-way delay: 217.777 ms
Loss rate: 1.20%
-- Flow 2:
Average throughput: 86.99 Mbit/s
95th percentile per-packet one-way delay: 246.234 ms
Loss rate: 4.42%
-- Flow 3:
Average throughput: 41.56 Mbit/s
95th percentile per-packet one-way delay: 93.135 ms
Loss rate: 0.00%
```

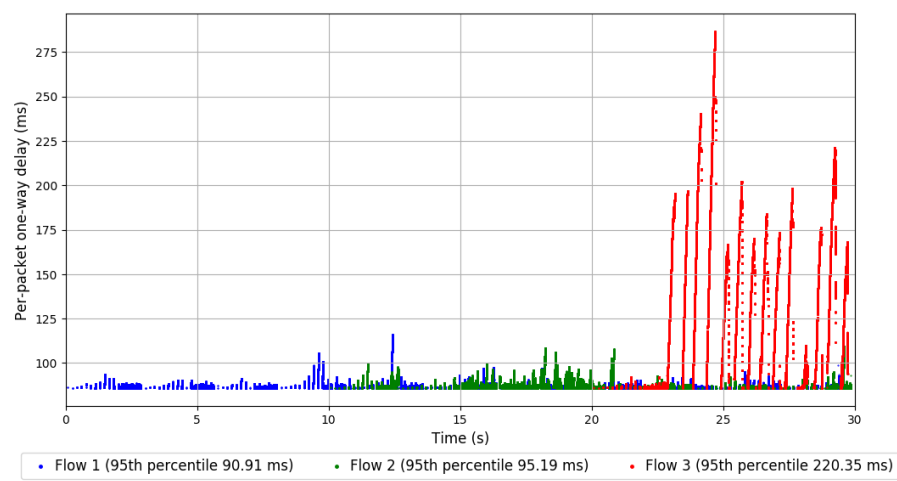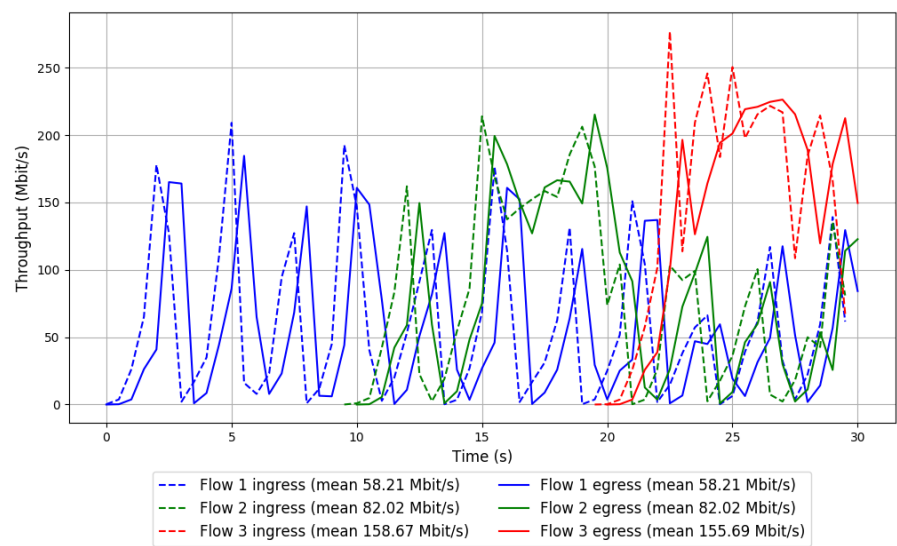Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-02-20 02:38:32
End at: 2019-02-20 02:39:02
Local clock offset: -0.202 ms
Remote clock offset: -0.11 ms


# Below is generated by plot.py at 2019-02-20 06:35:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 163.21 Mbit/s
95th percentile per-packet one-way delay: 183.254 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 58.21 Mbit/s
95th percentile per-packet one-way delay: 90.911 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 82.02 Mbit/s
95th percentile per-packet one-way delay: 95.189 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 155.69 Mbit/s
95th percentile per-packet one-way delay: 220.353 ms
Loss rate: 1.80%
```

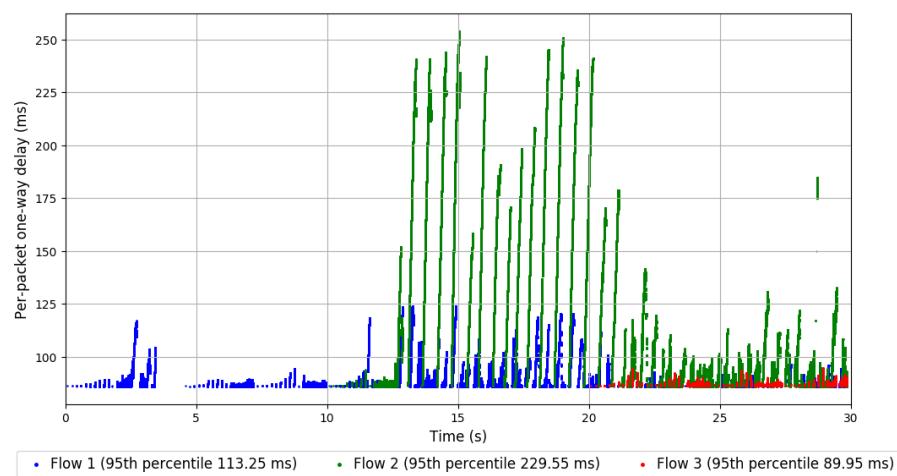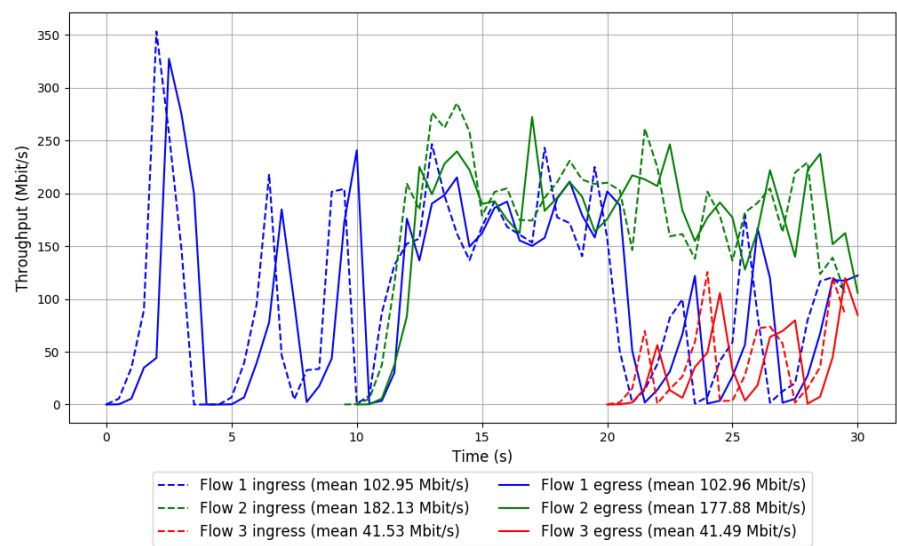Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-02-20 03:24:48
End at: 2019-02-20 03:25:18
Local clock offset: -0.13 ms
Remote clock offset: -0.096 ms


# Below is generated by plot.py at 2019-02-20 06:35:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 234.77 Mbit/s
95th percentile per-packet one-way delay: 213.488 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 102.96 Mbit/s
95th percentile per-packet one-way delay: 113.250 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 177.88 Mbit/s
95th percentile per-packet one-way delay: 229.554 ms
Loss rate: 2.34%
-- Flow 3:
Average throughput: 41.49 Mbit/s
95th percentile per-packet one-way delay: 89.952 ms
Loss rate: 0.08%
```

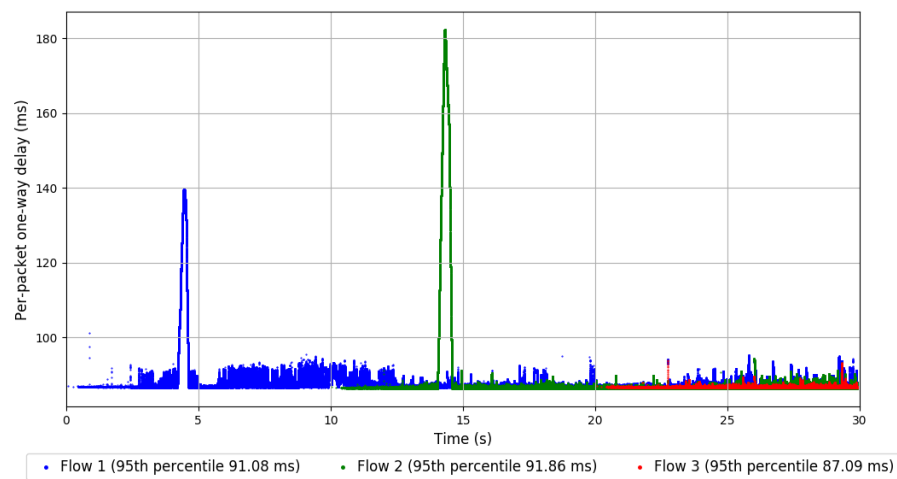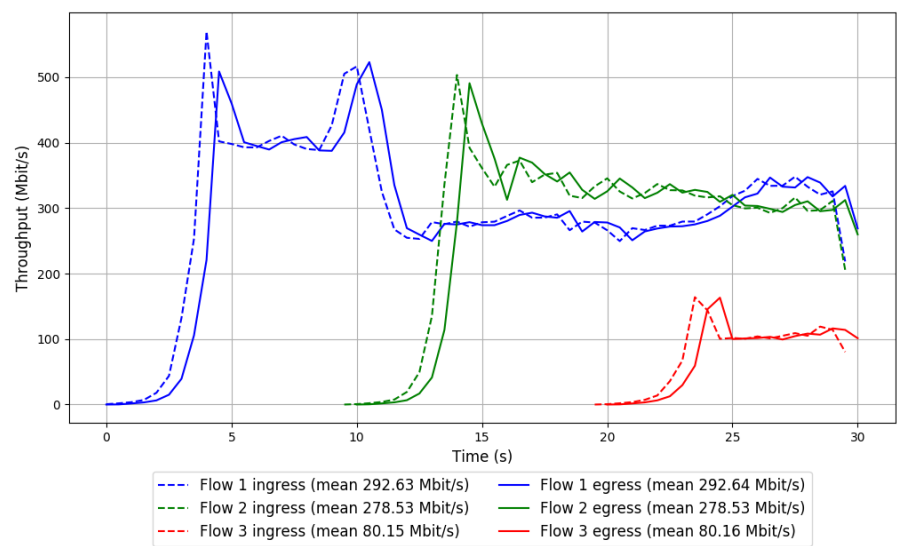## Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-02-20 00:06:24
End at: 2019-02-20 00:06:54
Local clock offset: -0.664 ms
Remote clock offset: -0.036 ms


# Below is generated by plot.py at 2019-02-20 06:35:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 504.64 Mbit/s
95th percentile per-packet one-way delay: 90.950 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 292.64 Mbit/s
95th percentile per-packet one-way delay: 91.076 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 278.53 Mbit/s
95th percentile per-packet one-way delay: 91.863 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 80.16 Mbit/s
95th percentile per-packet one-way delay: 87.086 ms
Loss rate: 0.00%
```

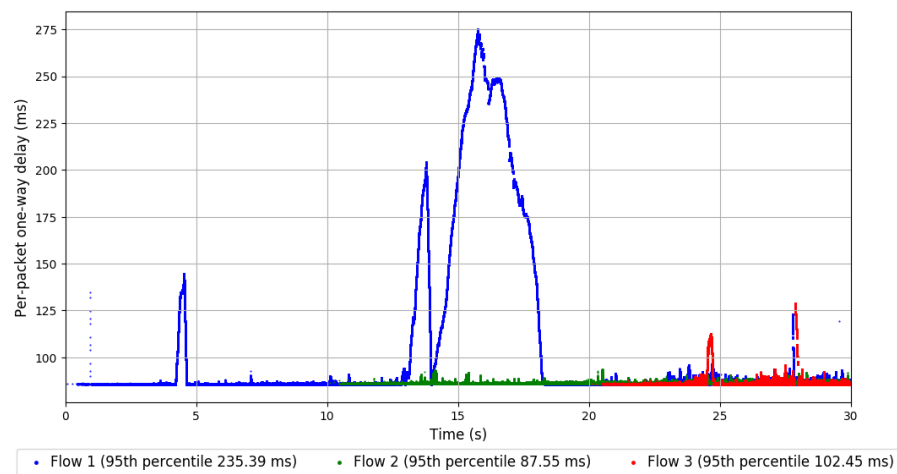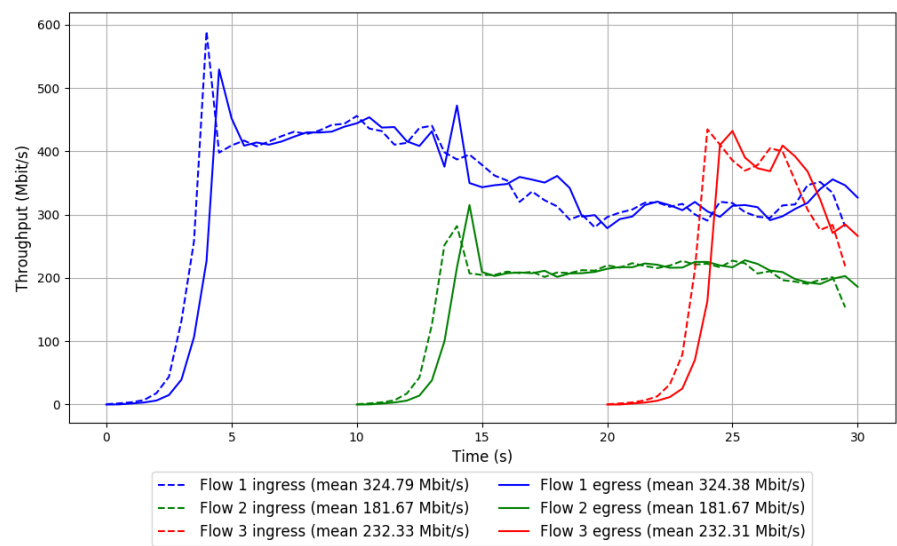# Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-02-20 00:51:53
End at: 2019-02-20 00:52:23
Local clock offset: 0.269 ms
Remote clock offset: -0.025 ms


# Below is generated by plot.py at 2019-02-20 06:35:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 521.67 Mbit/s
95th percentile per-packet one-way delay: 194.582 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 324.38 Mbit/s
95th percentile per-packet one-way delay: 235.392 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 181.67 Mbit/s
95th percentile per-packet one-way delay: 87.545 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 232.31 Mbit/s
95th percentile per-packet one-way delay: 102.446 ms
Loss rate: 0.00%
```

Run 2: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 324.79 Mbit/s) --- Flow 1 egress (mean 324.38 Mbit/s)
Flow 2 ingress (mean 181.67 Mbit/s) --- Flow 2 egress (mean 181.67 Mbit/s)
Flow 3 ingress (mean 232.33 Mbit/s) --- Flow 3 egress (mean 232.31 Mbit/s)

Flow 1 (95th percentile 235.39 ms) • Flow 2 (95th percentile 87.55 ms) • Flow 3 (95th percentile 102.45 ms)

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-02-20 01:39:05
End at: 2019-02-20 01:39:35
Local clock offset: 0.368 ms
Remote clock offset: 0.503 ms


# Below is generated by plot.py at 2019-02-20 06:35:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 449.96 Mbit/s
95th percentile per-packet one-way delay: 90.056 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 276.95 Mbit/s
95th percentile per-packet one-way delay: 91.687 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 188.68 Mbit/s
95th percentile per-packet one-way delay: 86.679 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 144.33 Mbit/s
95th percentile per-packet one-way delay: 87.287 ms
Loss rate: 0.00%
```
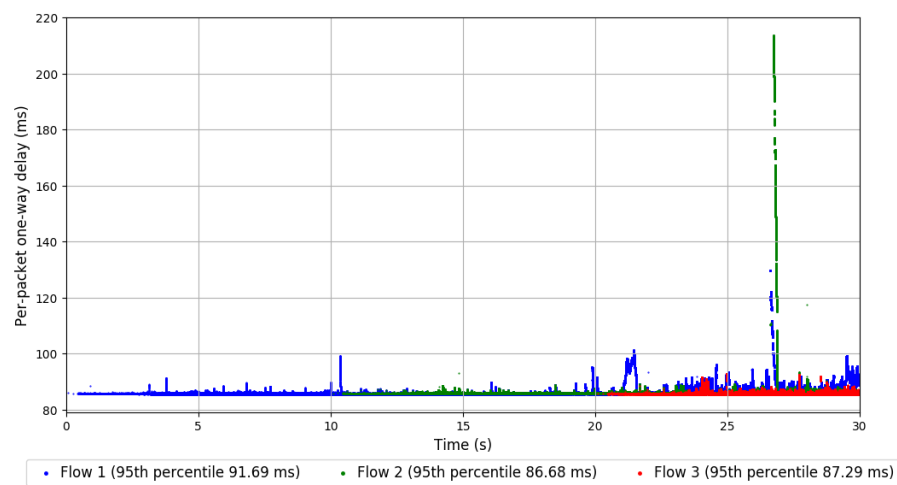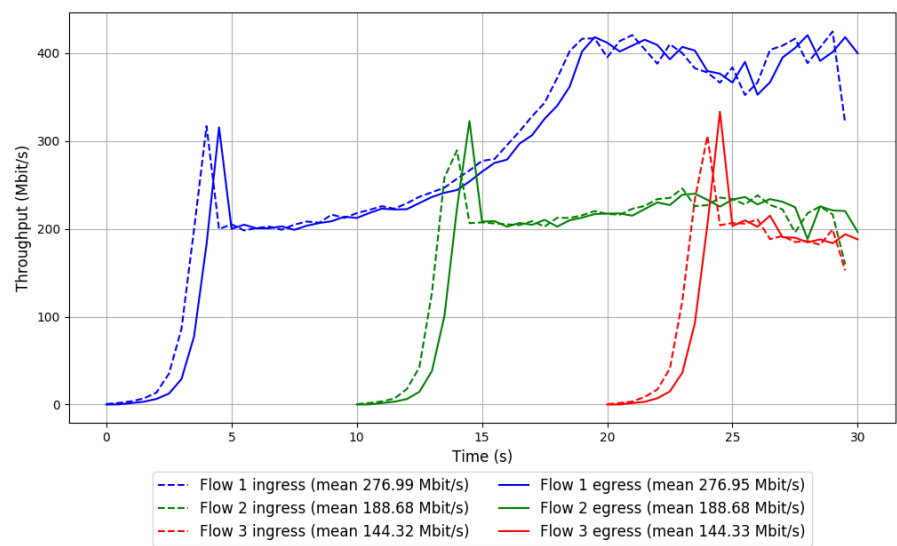
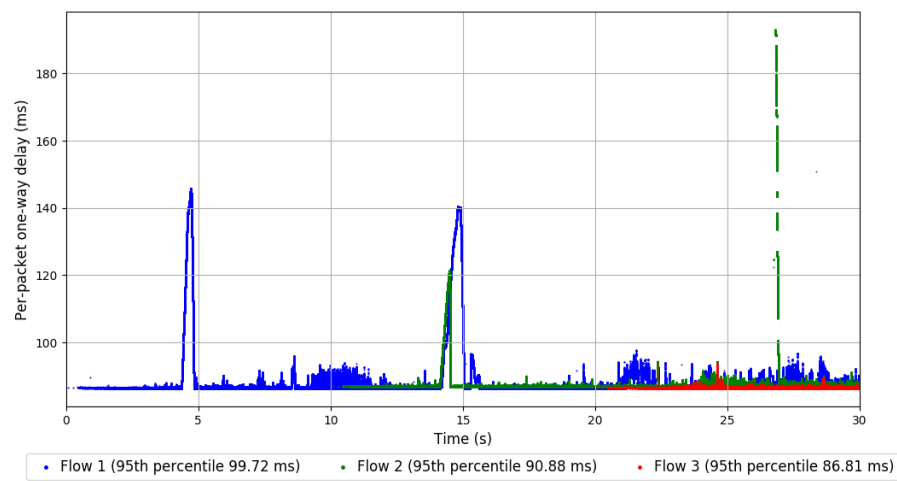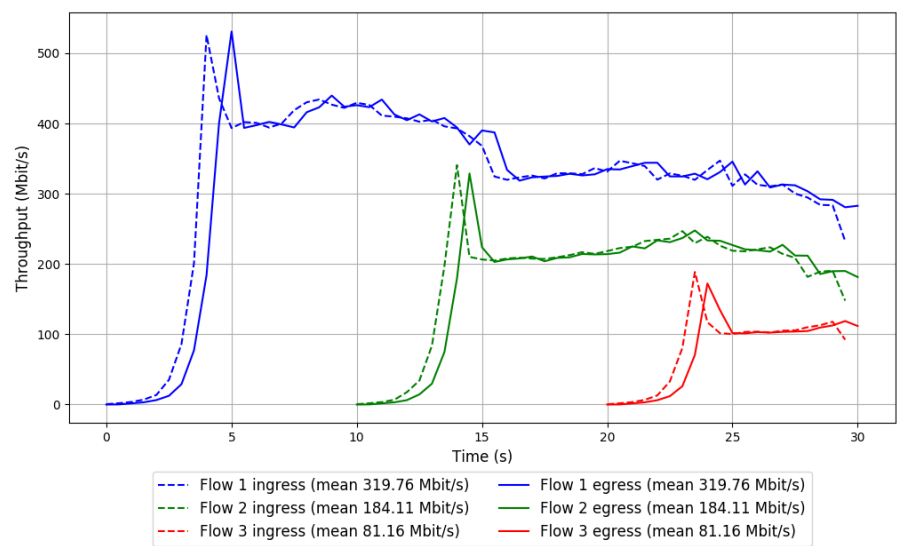# Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-02-20 02:25:33
End at: 2019-02-20 02:26:03
Local clock offset: -0.601 ms
Remote clock offset: -0.114 ms


# Below is generated by plot.py at 2019-02-20 06:36:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 468.95 Mbit/s
95th percentile per-packet one-way delay: 95.832 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 319.76 Mbit/s
95th percentile per-packet one-way delay: 99.719 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 184.11 Mbit/s
95th percentile per-packet one-way delay: 90.878 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 81.16 Mbit/s
95th percentile per-packet one-way delay: 86.810 ms
Loss rate: 0.00%
```

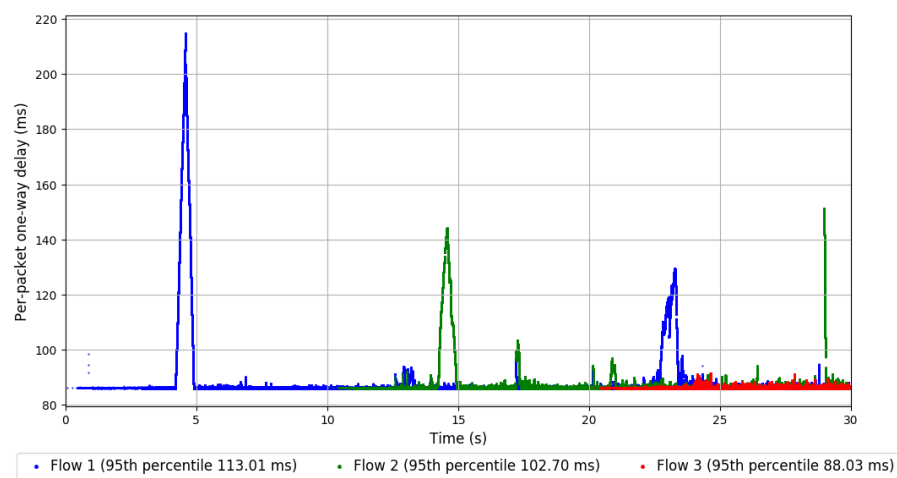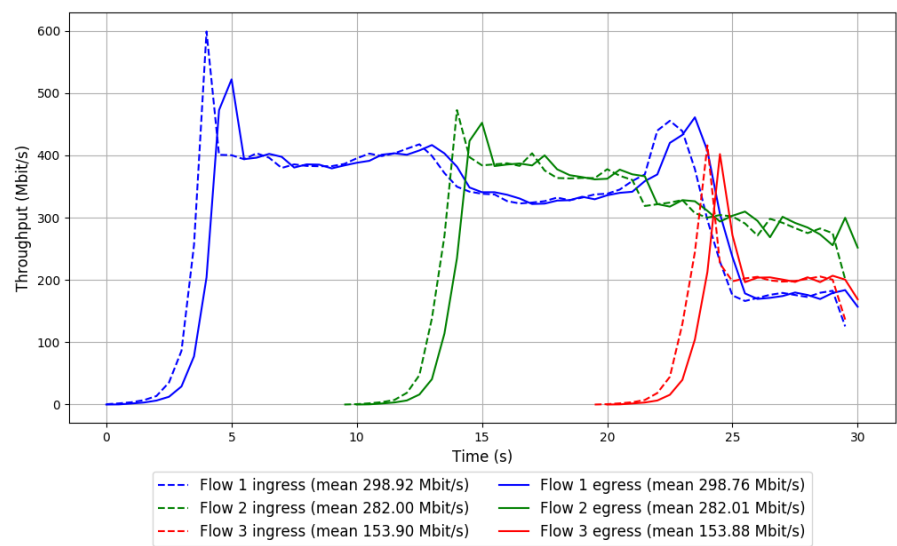## Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-02-20 03:12:31
End at: 2019-02-20 03:13:01
Local clock offset: -0.346 ms
Remote clock offset: -0.082 ms


# Below is generated by plot.py at 2019-02-20 06:36:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 537.41 Mbit/s
95th percentile per-packet one-way delay: 106.423 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 298.76 Mbit/s
95th percentile per-packet one-way delay: 113.014 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 282.01 Mbit/s
95th percentile per-packet one-way delay: 102.697 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 153.88 Mbit/s
95th percentile per-packet one-way delay: 88.035 ms
Loss rate: 0.02%
```

Run 5: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 298.92 Mbit/s) --- Flow 1 egress (mean 298.76 Mbit/s)
Flow 2 ingress (mean 282.00 Mbit/s) --- Flow 2 egress (mean 282.01 Mbit/s)
Flow 3 ingress (mean 153.90 Mbit/s) --- Flow 3 egress (mean 153.88 Mbit/s)

Flow 1 (95th percentile 113.01 ms)   Flow 2 (95th percentile 102.70 ms)   Flow 3 (95th percentile 88.03 ms)
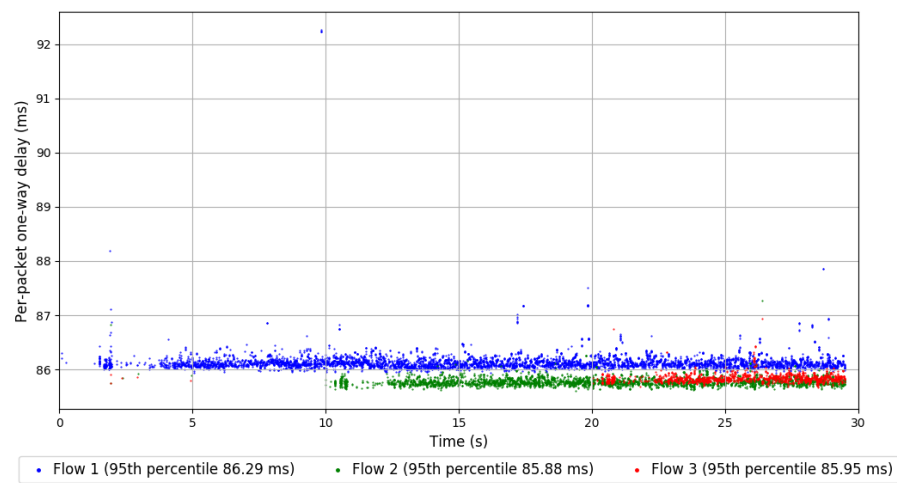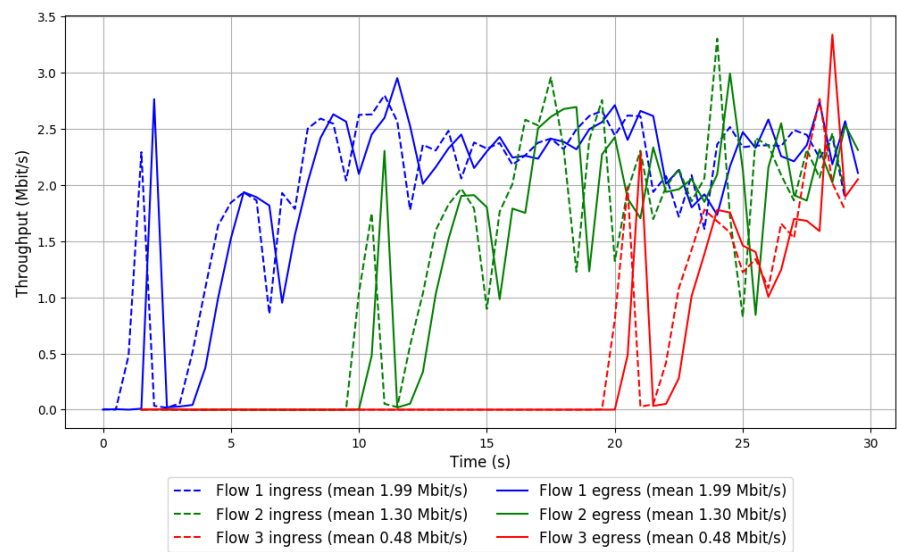
204

```
Run 1: Statistics of WebRTC media

Start at: 2019-02-19 23:58:20
End at: 2019-02-19 23:58:50
Local clock offset: -0.072 ms
Remote clock offset: -0.069 ms


# Below is generated by plot.py at 2019-02-20 06:36:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 86.240 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 86.288 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 85.884 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 85.947 ms
Loss rate: 0.00%
```

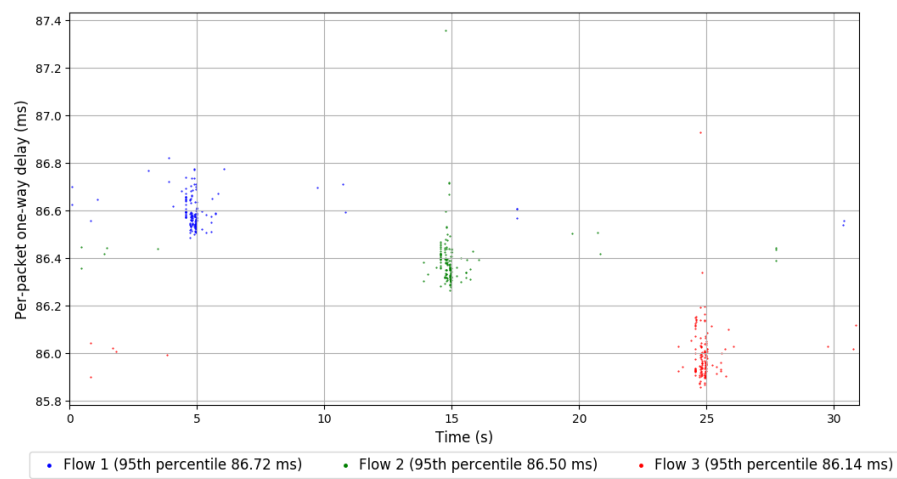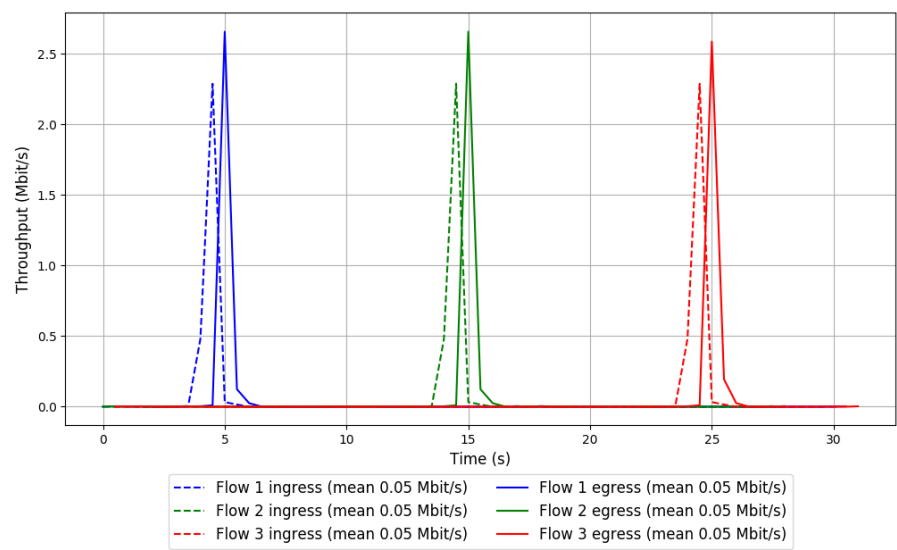Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-02-20 00:43:53
End at: 2019-02-20 00:44:23
Local clock offset: -0.102 ms
Remote clock offset: -0.084 ms


# Below is generated by plot.py at 2019-02-20 06:36:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 86.687 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.721 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.505 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.144 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-02-20 01:31:25
End at: 2019-02-20 01:31:55
Local clock offset: 0.057 ms
Remote clock offset: 0.397 ms


# Below is generated by plot.py at 2019-02-20 06:36:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 86.425 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.108 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.428 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.472 ms
Loss rate: 0.00%
```
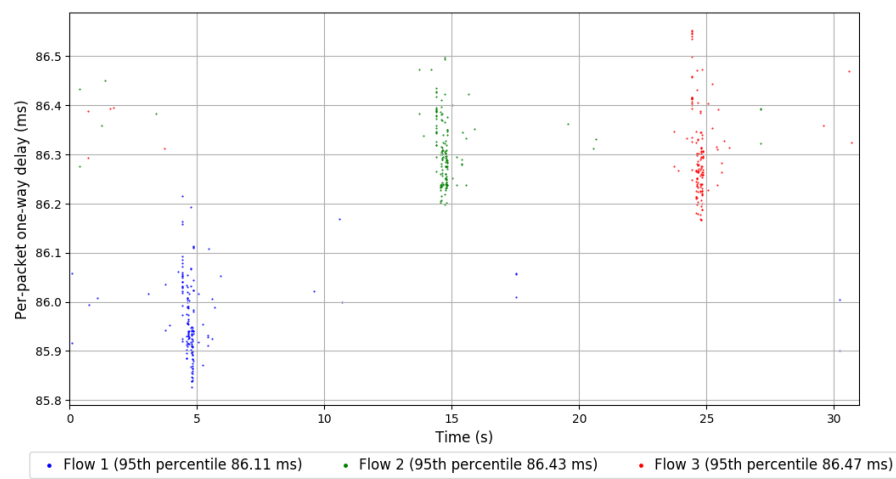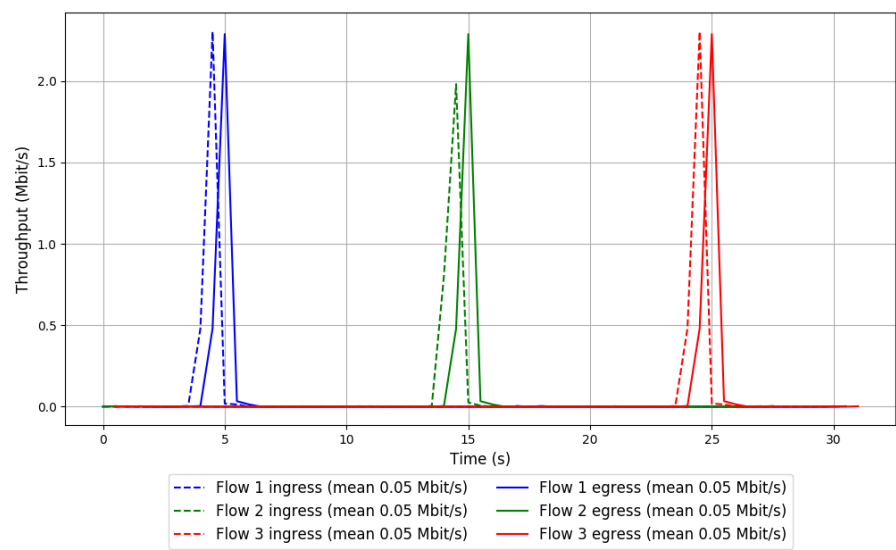
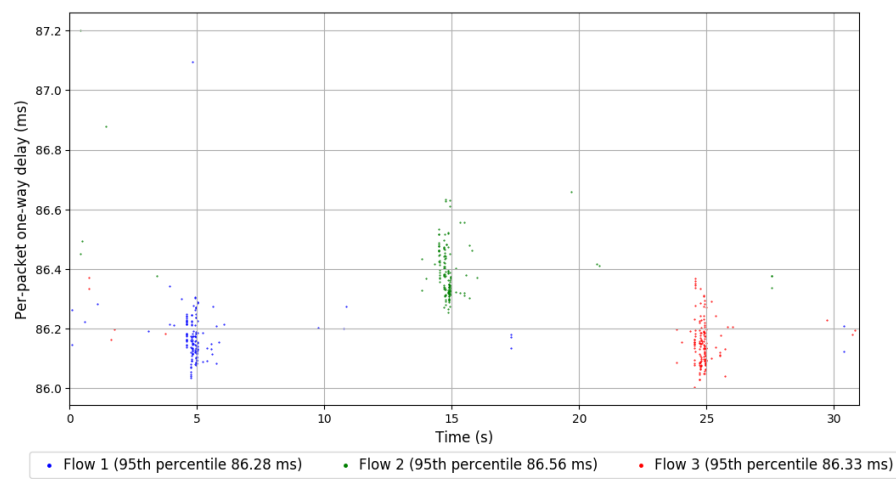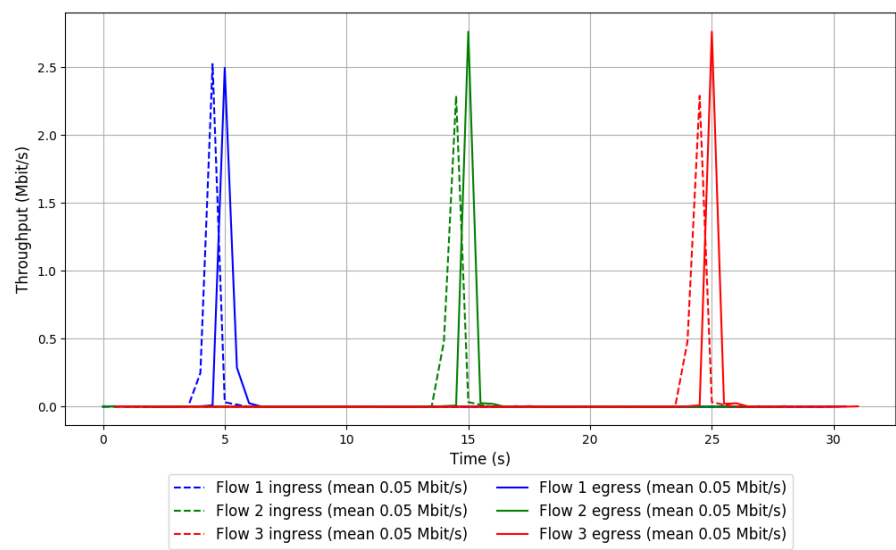## Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-02-20 02:17:49
End at: 2019-02-20 02:18:19
Local clock offset: -0.29 ms
Remote clock offset: -0.047 ms


# Below is generated by plot.py at 2019-02-20 06:36:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 86.480 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.282 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.557 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.334 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-02-20 03:04:27
End at: 2019-02-20 03:04:57
Local clock offset: -0.133 ms
Remote clock offset: -0.137 ms


# Below is generated by plot.py at 2019-02-20 06:36:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.49 Mbit/s
95th percentile per-packet one-way delay: 86.731 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 86.773 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 86.421 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 86.168 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link