Pantheon Report

Generated at 2019-10-03 05:16:34 (UTC).

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

Repeated the test of 24 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.
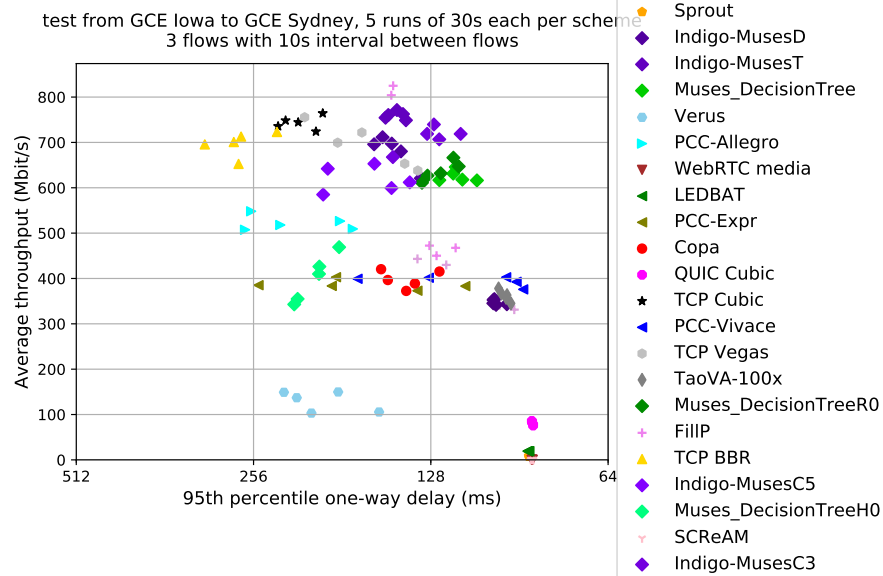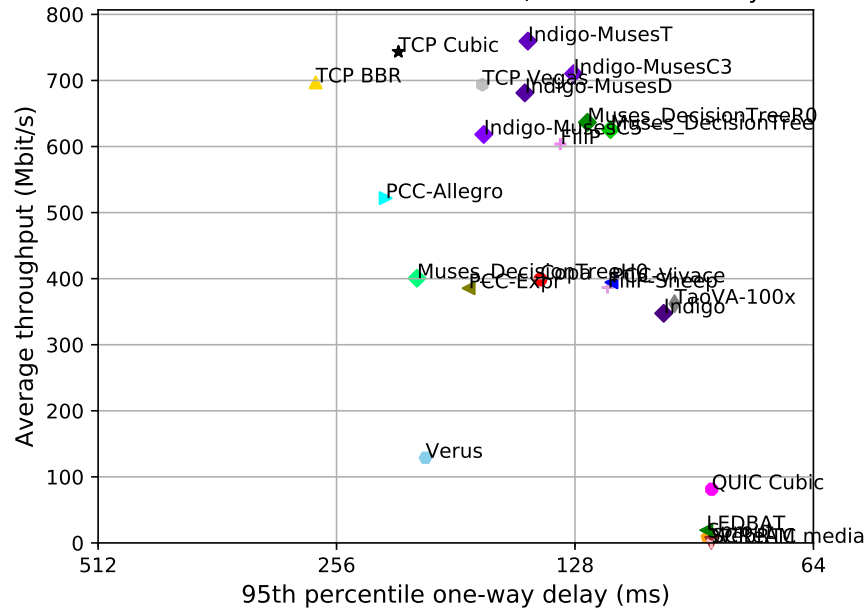
```
System info:
Linux 4.15.0-1044-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ de42328552b3776a75a932a94dfafd722537b0ec
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/muses_dtree @ 387225f7b5f61ddbe92d708a8869ffbb84eb3200
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
```

```
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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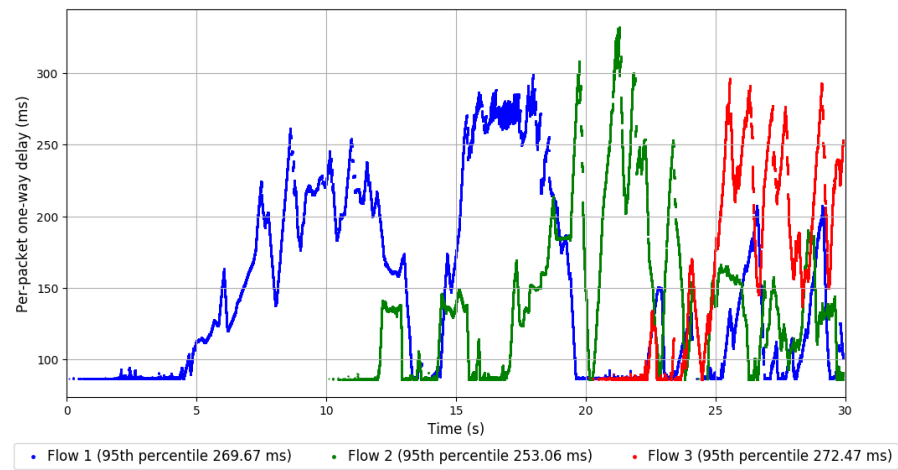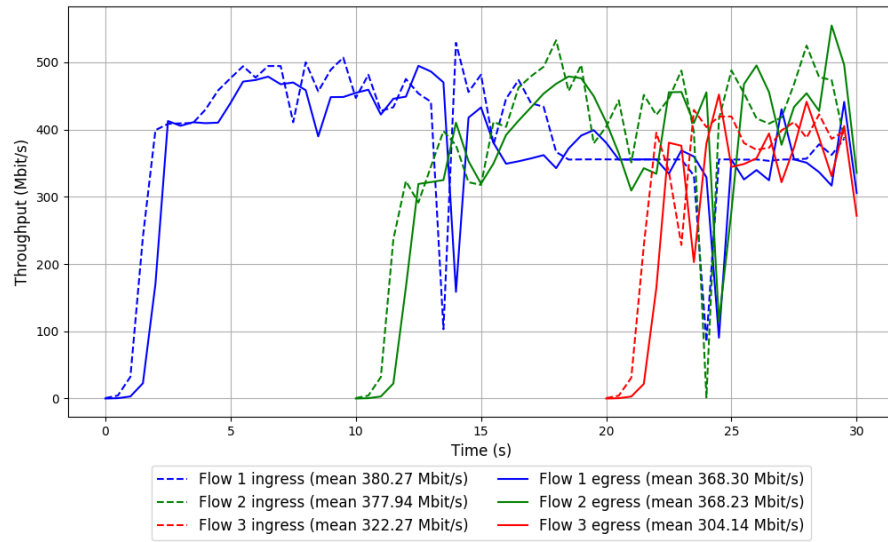3 flows with 10s interval between flows (mean of all runs by scheme)

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

3

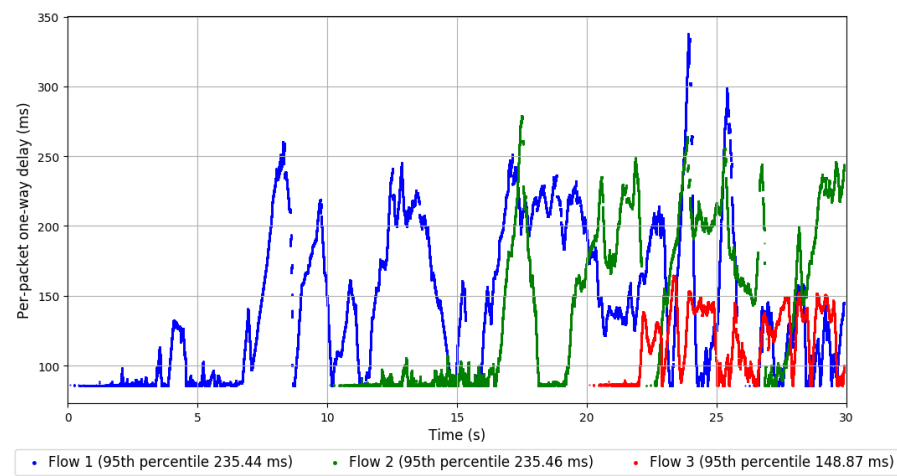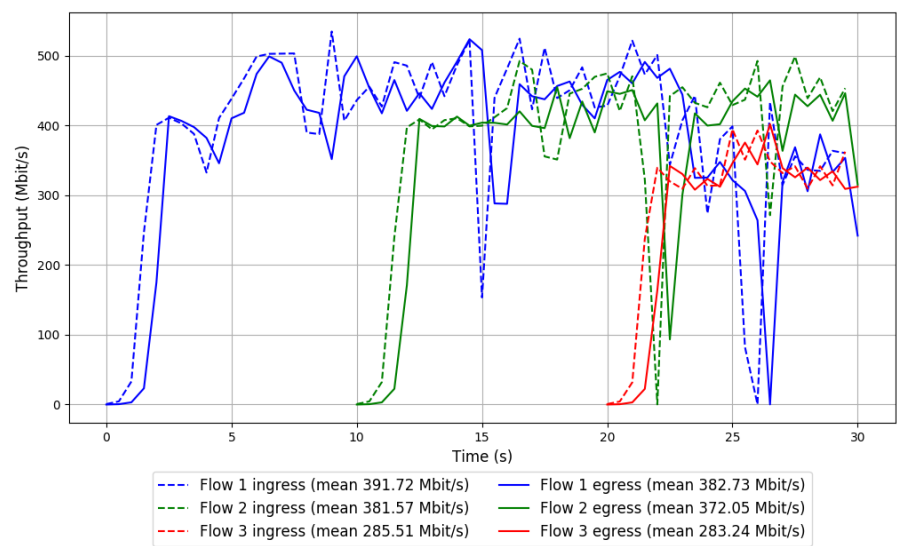| scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	362.30	356.28	298.30	270.91	259.17	224.11	4.46	4.71	5.60
Copa	5	204.06	207.59	173.02	152.00	123.32	136.11	0.55	0.97	2.09
TCP Cubic	5	408.12	358.03	296.31	209.08	200.08	222.78	0.92	1.22	3.98
FillP	5	282.46	363.57	245.81	137.40	105.07	92.51	1.66	0.73	1.84
FillP-Sheep	5	103.90	308.10	238.75	126.24	92.59	93.21	0.54	0.81	2.00
Indigo	5	182.33	176.17	148.72	97.80	99.83	99.72	0.57	0.95	2.04
Indigo-MusesC3	5	413.09	354.95	271.73	129.04	128.42	107.37	0.50	0.83	2.97
Indigo-MusesC5	5	366.40	324.11	175.30	169.91	156.77	104.05	0.63	0.69	5.83
Indigo-MusesD	5	407.39	329.51	245.74	151.49	135.34	112.30	0.51	0.96	3.13
Indigo-MusesT	5	445.84	384.73	266.58	149.77	139.61	127.19	0.54	0.84	3.11
LEDBAT	5	12.49	8.28	3.99	87.53	87.10	87.07	1.15	1.74	3.52
Muses_DecisionTree	5	360.12	310.42	193.65	121.94	105.06	100.50	0.47	0.81	2.90
Muses_DecisionTreeH0	5	220.23	187.11	180.13	193.14	216.04	154.21	4.56	3.54	4.05
Muses_DecisionTreeR0	5	389.28	300.11	157.52	123.76	132.38	96.53	0.50	0.81	3.67
PCC-Allegro	5	290.52	238.19	226.00	217.85	147.23	260.42	2.92	2.65	7.57
PCC-Expr	5	211.19	190.88	146.56	174.13	160.88	176.55	1.80	1.46	3.52
QUIC Cubic	5	46.93	40.85	21.04	85.87	85.88	85.94	0.88	1.53	2.01
SCReAM	5	0.22	0.22	0.22	86.11	85.94	85.99	0.51	0.82	1.69
Sprout	5	4.40	4.23	3.15	87.16	87.11	87.01	0.73	1.13	2.69
TaoVA-100x	5	188.49	180.96	162.79	95.54	94.79	97.23	0.56	0.98	1.85
TCP Vegas	5	370.63	336.27	303.94	153.14	137.75	206.87	0.68	1.00	2.41
Verus	5	64.53	75.12	48.76	188.23	168.89	151.01	1.84	1.62	0.79
PCC-Vivace	5	220.10	191.09	146.01	122.13	97.77	146.01	0.63	1.05	2.40
WebRTC media	5	0.06	0.06	0.06	86.05	86.05	85.89	0.01	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-10-02 23:15:56
End at: 2019-10-02 23:16:26
Local clock offset: 0.4 ms
Remote clock offset: -0.011 ms


# Below is generated by plot.py at 2019-10-03 02:35:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 712.86 Mbit/s
95th percentile per-packet one-way delay: 268.764 ms
Loss rate: 4.12%
-- Flow 1:
Average throughput: 368.30 Mbit/s
95th percentile per-packet one-way delay: 269.674 ms
Loss rate: 3.71%
-- Flow 2:
Average throughput: 368.23 Mbit/s
95th percentile per-packet one-way delay: 253.055 ms
Loss rate: 3.41%
-- Flow 3:
Average throughput: 304.14 Mbit/s
95th percentile per-packet one-way delay: 272.471 ms
Loss rate: 7.26%
```

Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-10-02 23:56:32
End at: 2019-10-02 23:57:02
Local clock offset: -0.101 ms
Remote clock offset: -0.046 ms


# Below is generated by plot.py at 2019-10-03 02:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 723.06 Mbit/s
95th percentile per-packet one-way delay: 233.598 ms
Loss rate: 2.98%
-- Flow 1:
Average throughput: 382.73 Mbit/s
95th percentile per-packet one-way delay: 235.437 ms
Loss rate: 2.86%
-- Flow 2:
Average throughput: 372.05 Mbit/s
95th percentile per-packet one-way delay: 235.459 ms
Loss rate: 3.34%
-- Flow 3:
Average throughput: 283.24 Mbit/s
95th percentile per-packet one-way delay: 148.871 ms
Loss rate: 2.50%
```
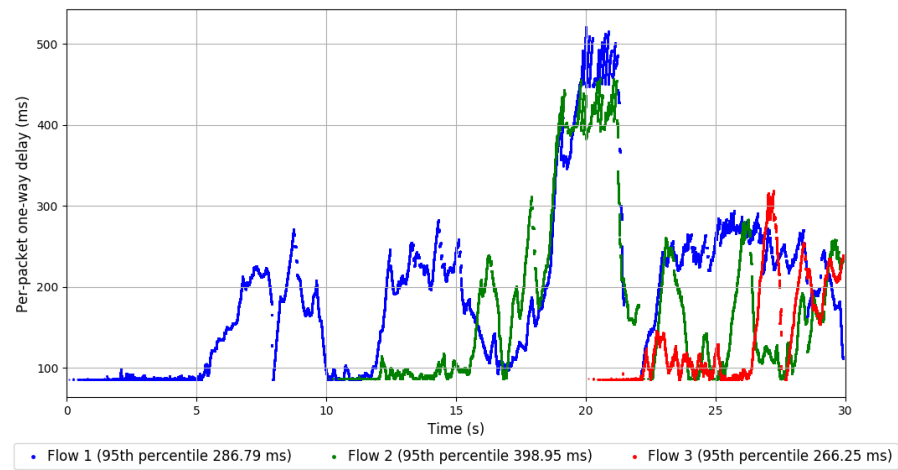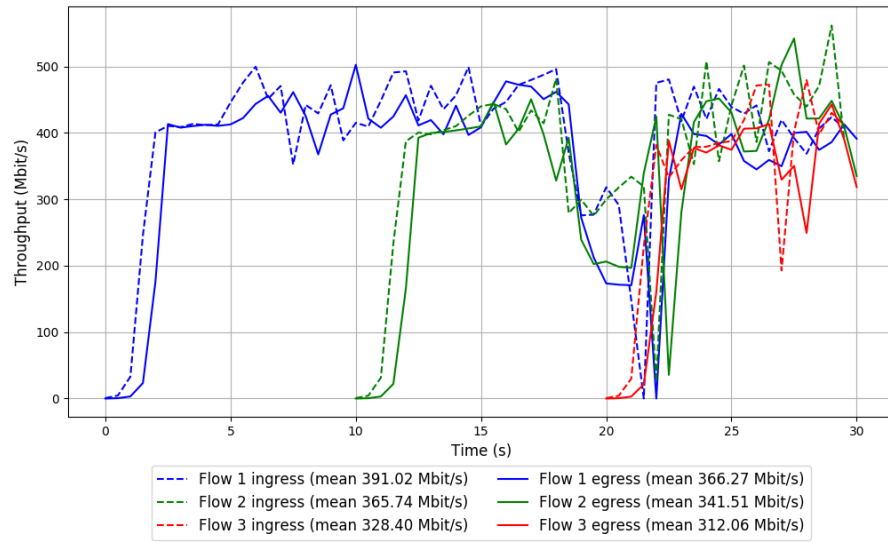
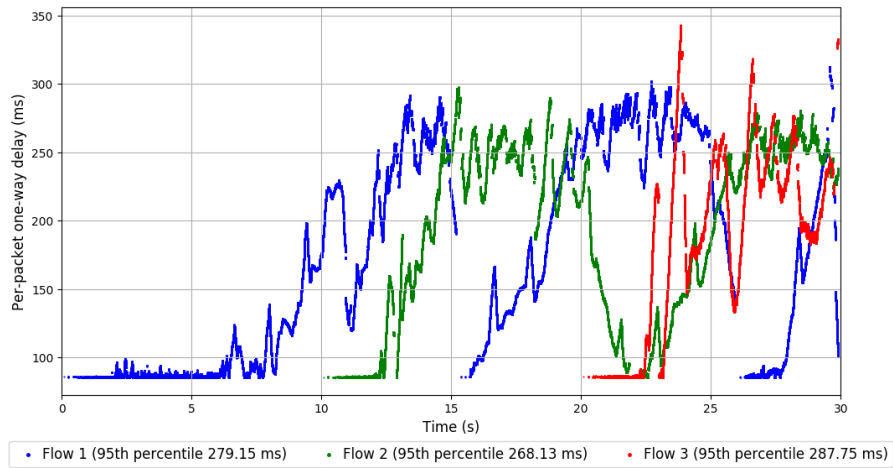Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-10-03 00:37:10
End at: 2019-10-03 00:37:40
Local clock offset: -0.01 ms
Remote clock offset: 0.046 ms


# Below is generated by plot.py at 2019-10-03 02:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 695.65 Mbit/s
95th percentile per-packet one-way delay: 309.763 ms
Loss rate: 7.02%
-- Flow 1:
Average throughput: 366.27 Mbit/s
95th percentile per-packet one-way delay: 286.786 ms
Loss rate: 6.87%
-- Flow 2:
Average throughput: 341.51 Mbit/s
95th percentile per-packet one-way delay: 398.953 ms
Loss rate: 7.43%
-- Flow 3:
Average throughput: 312.06 Mbit/s
95th percentile per-packet one-way delay: 266.250 ms
Loss rate: 6.62%
```
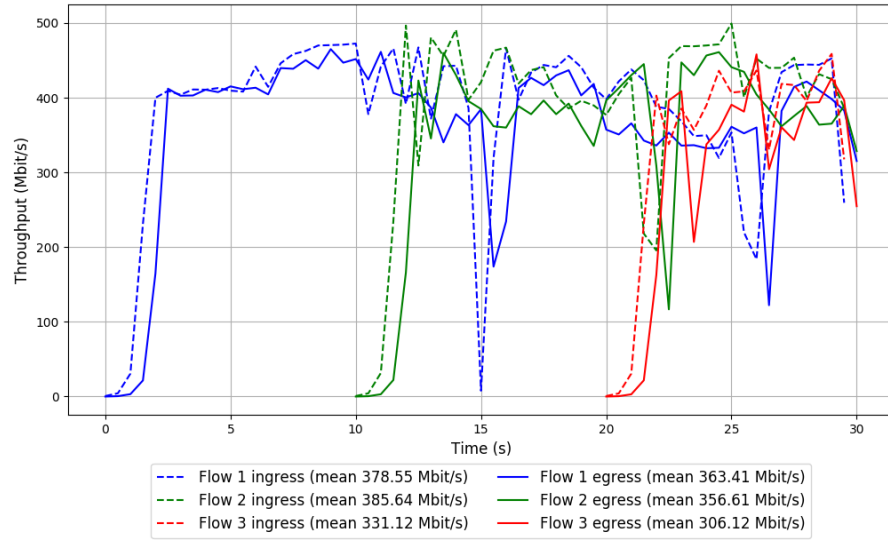
Run 3: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 391.02 Mbit/s) —— Flow 1 egress (mean 366.27 Mbit/s)
- - - Flow 2 ingress (mean 365.74 Mbit/s) —— Flow 2 egress (mean 341.51 Mbit/s)
- - - Flow 3 ingress (mean 328.40 Mbit/s) —— Flow 3 egress (mean 312.06 Mbit/s)

• Flow 1 (95th percentile 286.79 ms)　　• Flow 2 (95th percentile 398.95 ms)　　• Flow 3 (95th percentile 266.25 ms)
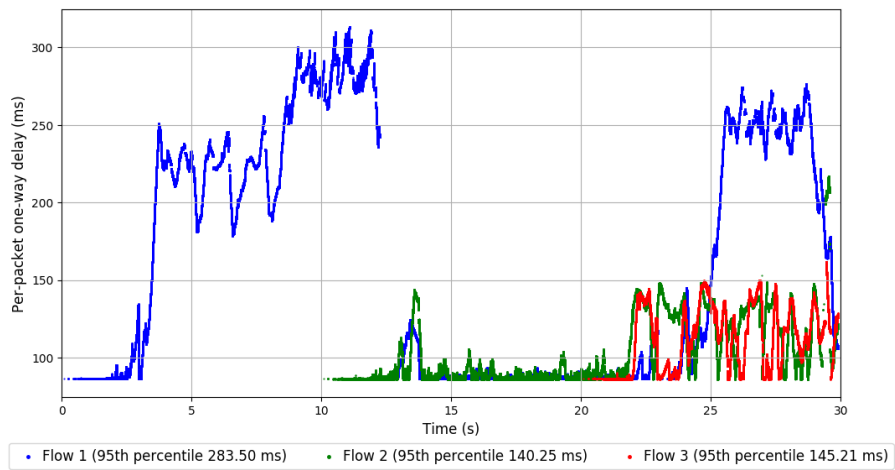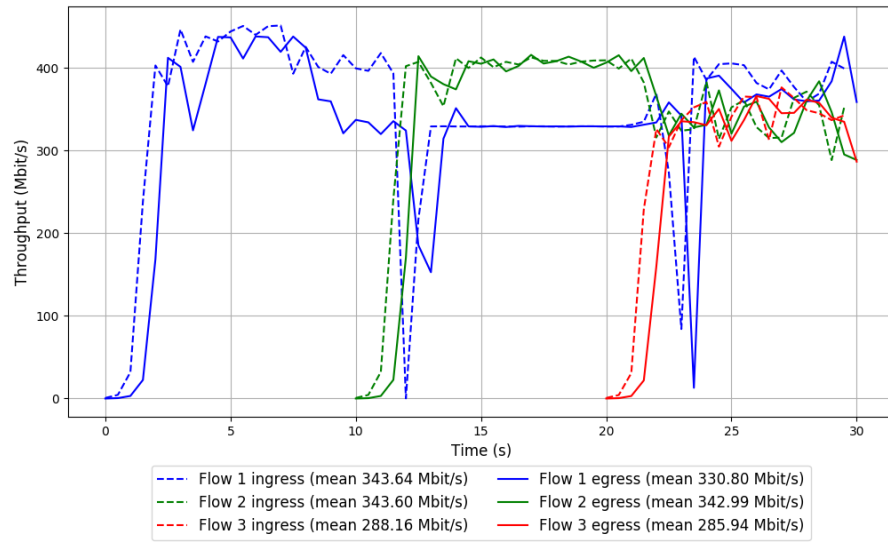
```
Run 4: Statistics of TCP BBR

Start at: 2019-10-03 01:18:04
End at: 2019-10-03 01:18:34
Local clock offset: -0.19 ms
Remote clock offset: -0.069 ms


# Below is generated by plot.py at 2019-10-03 02:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 700.87 Mbit/s
95th percentile per-packet one-way delay: 276.532 ms
Loss rate: 6.53%
-- Flow 1:
Average throughput: 363.41 Mbit/s
95th percentile per-packet one-way delay: 279.146 ms
Loss rate: 4.55%
-- Flow 2:
Average throughput: 356.61 Mbit/s
95th percentile per-packet one-way delay: 268.133 ms
Loss rate: 8.33%
-- Flow 3:
Average throughput: 306.12 Mbit/s
95th percentile per-packet one-way delay: 287.748 ms
Loss rate: 9.15%
```
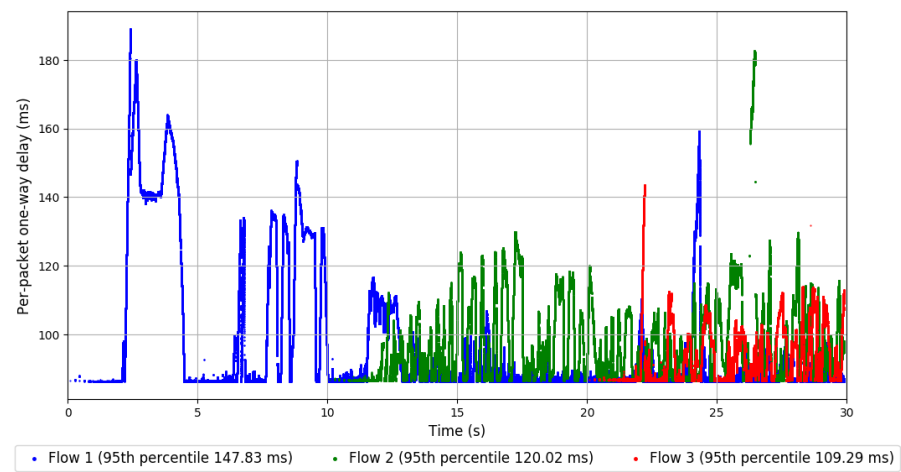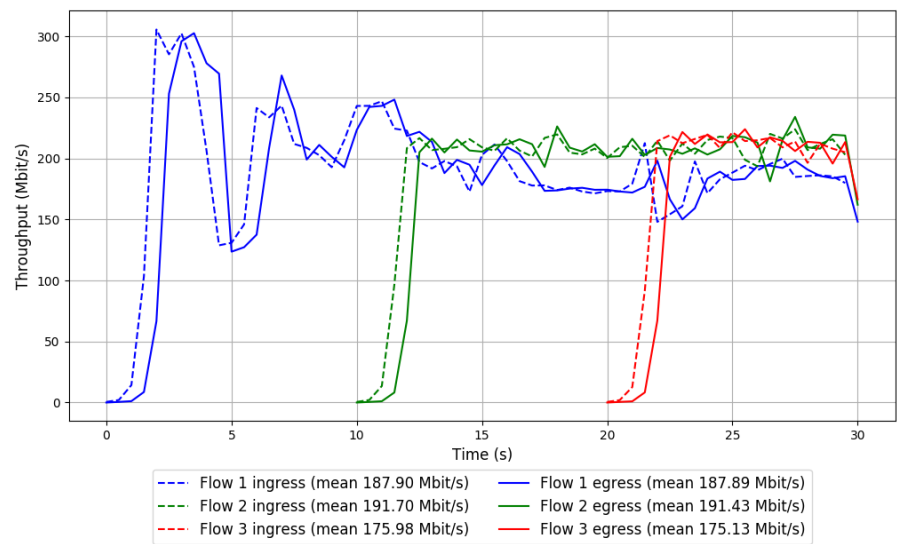
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 378.55 Mbit/s) --- Flow 1 egress (mean 363.41 Mbit/s)
Flow 2 ingress (mean 385.64 Mbit/s) --- Flow 2 egress (mean 356.61 Mbit/s)
Flow 3 ingress (mean 331.12 Mbit/s) --- Flow 3 egress (mean 306.12 Mbit/s)

Flow 1 (95th percentile 279.15 ms)   Flow 2 (95th percentile 268.13 ms)   Flow 3 (95th percentile 287.75 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2019-10-03 01:59:06
End at: 2019-10-03 01:59:36
Local clock offset: 0.159 ms
Remote clock offset: -0.114 ms


# Below is generated by plot.py at 2019-10-03 02:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 652.60 Mbit/s
95th percentile per-packet one-way delay: 271.443 ms
Loss rate: 2.92%
-- Flow 1:
Average throughput: 330.80 Mbit/s
95th percentile per-packet one-way delay: 283.495 ms
Loss rate: 4.29%
-- Flow 2:
Average throughput: 342.99 Mbit/s
95th percentile per-packet one-way delay: 140.252 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 285.94 Mbit/s
95th percentile per-packet one-way delay: 145.209 ms
Loss rate: 2.48%
```
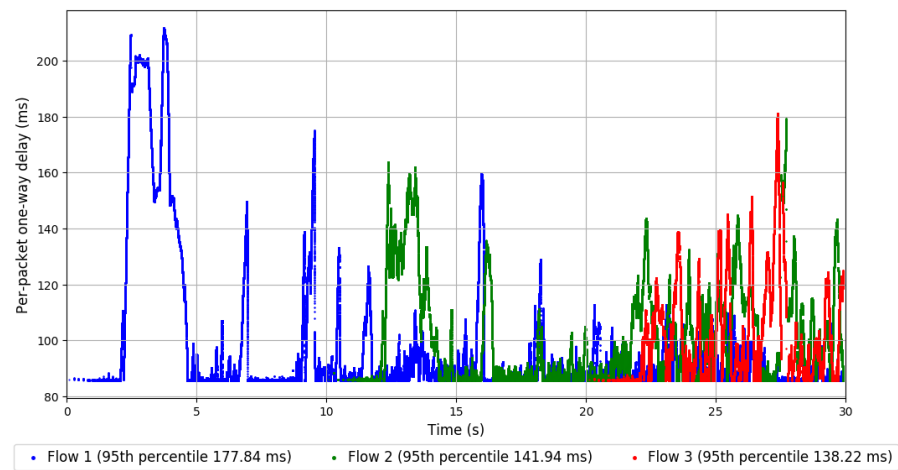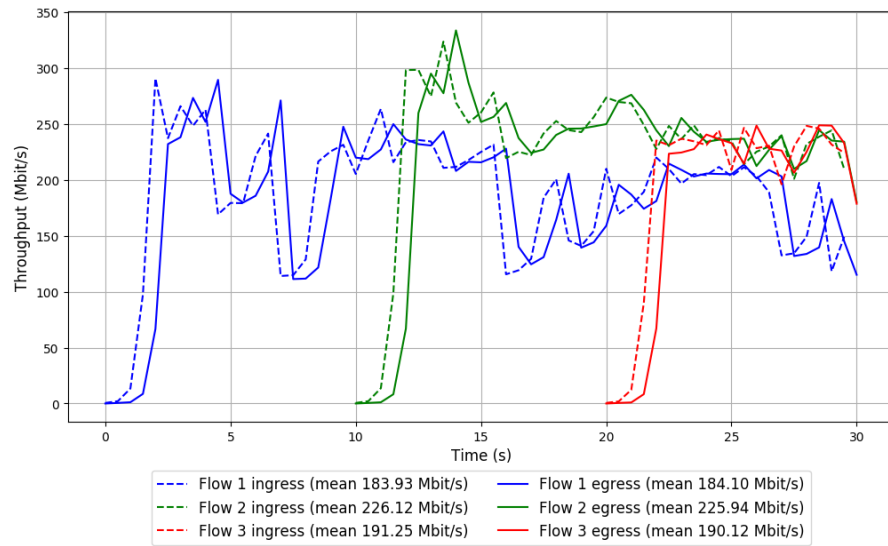
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 343.64 Mbit/s) --- Flow 1 egress (mean 330.80 Mbit/s)
Flow 2 ingress (mean 343.60 Mbit/s) --- Flow 2 egress (mean 342.99 Mbit/s)
Flow 3 ingress (mean 288.16 Mbit/s) --- Flow 3 egress (mean 285.94 Mbit/s)

Flow 1 (95th percentile 283.50 ms)   Flow 2 (95th percentile 140.25 ms)   Flow 3 (95th percentile 145.21 ms)

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```
Run 1: Statistics of Copa

Start at: 2019-10-02 22:50:44
End at: 2019-10-02 22:51:14
Local clock offset: 0.284 ms
Remote clock offset: -0.054 ms


# Below is generated by plot.py at 2019-10-03 02:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 372.59 Mbit/s
95th percentile per-packet one-way delay: 140.930 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 187.89 Mbit/s
95th percentile per-packet one-way delay: 147.830 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 191.43 Mbit/s
95th percentile per-packet one-way delay: 120.022 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 175.13 Mbit/s
95th percentile per-packet one-way delay: 109.292 ms
Loss rate: 2.20%
```
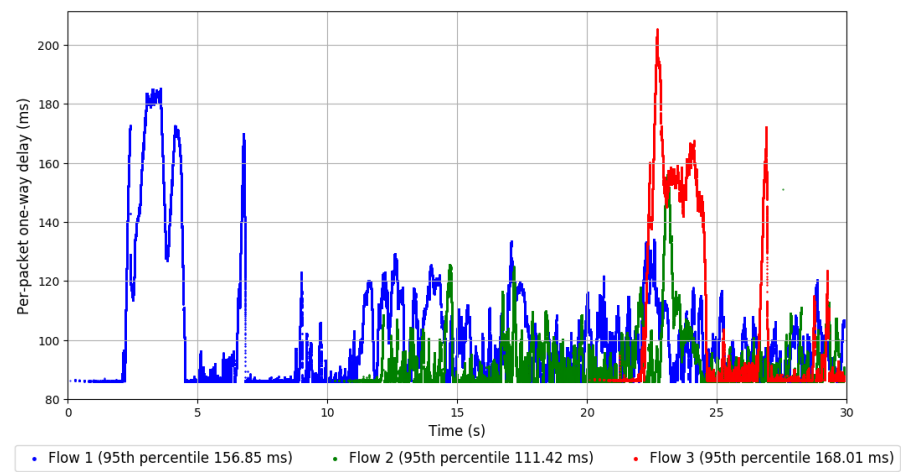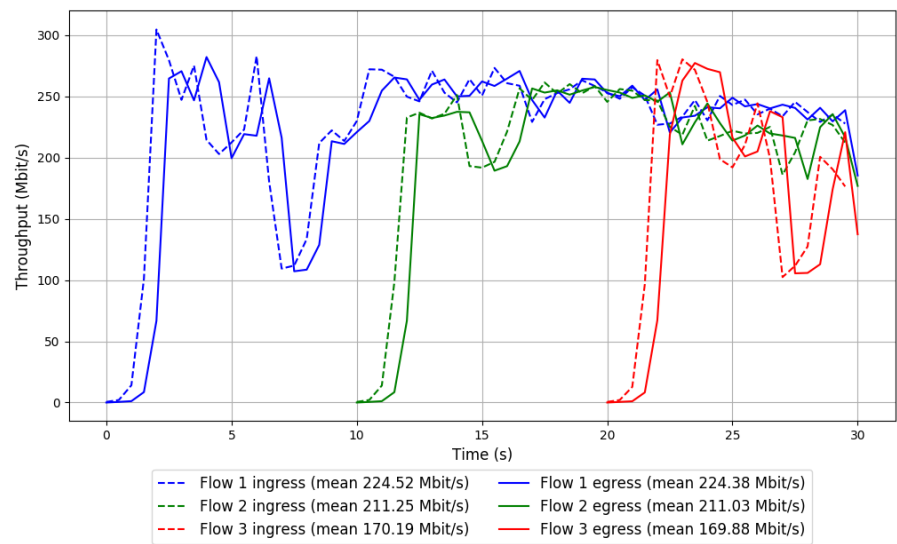
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2019-10-02 23:31:18
End at: 2019-10-02 23:31:48
Local clock offset: -0.075 ms
Remote clock offset: -0.04 ms


# Below is generated by plot.py at 2019-10-03 02:35:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 396.57 Mbit/s
95th percentile per-packet one-way delay: 151.430 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 184.10 Mbit/s
95th percentile per-packet one-way delay: 177.843 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 225.94 Mbit/s
95th percentile per-packet one-way delay: 141.942 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 190.12 Mbit/s
95th percentile per-packet one-way delay: 138.220 ms
Loss rate: 2.31%
```
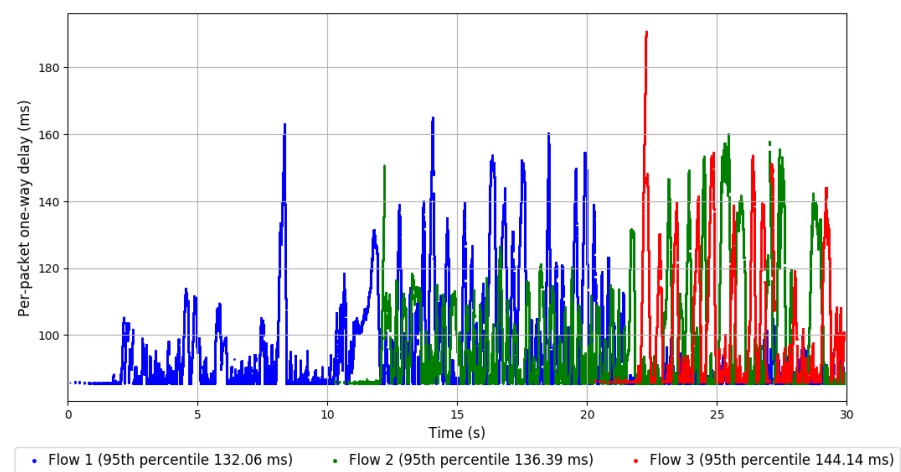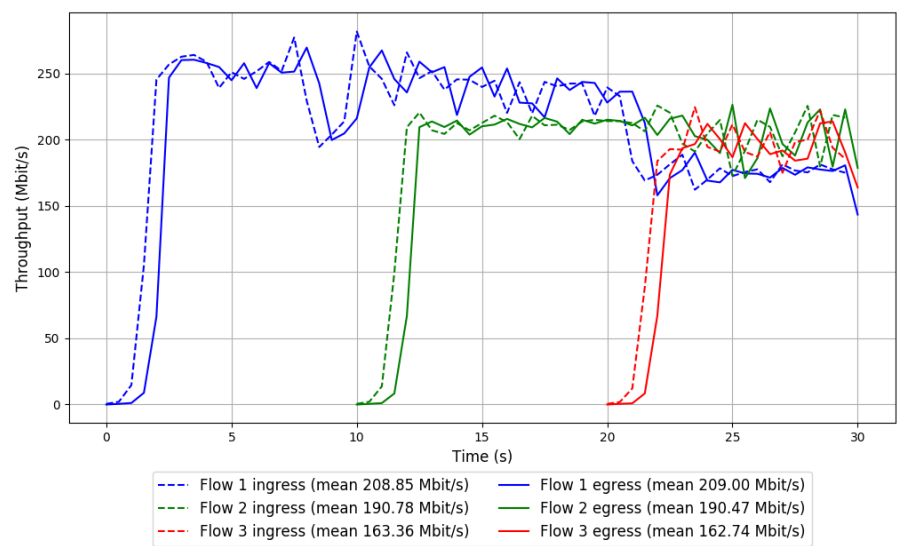
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 183.93 Mbit/s)   Flow 1 egress (mean 184.10 Mbit/s)
Flow 2 ingress (mean 226.12 Mbit/s)   Flow 2 egress (mean 225.94 Mbit/s)
Flow 3 ingress (mean 191.25 Mbit/s)   Flow 3 egress (mean 190.12 Mbit/s)

Flow 1 (95th percentile 177.84 ms)   Flow 2 (95th percentile 141.94 ms)   Flow 3 (95th percentile 138.22 ms)

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```
Run 3: Statistics of Copa

Start at: 2019-10-03 00:11:57
End at: 2019-10-03 00:12:27
Local clock offset: 0.116 ms
Remote clock offset: -0.091 ms


# Below is generated by plot.py at 2019-10-03 02:36:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 420.43 Mbit/s
95th percentile per-packet one-way delay: 155.484 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 224.38 Mbit/s
95th percentile per-packet one-way delay: 156.848 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 211.03 Mbit/s
95th percentile per-packet one-way delay: 111.423 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 169.88 Mbit/s
95th percentile per-packet one-way delay: 168.008 ms
Loss rate: 1.91%
```
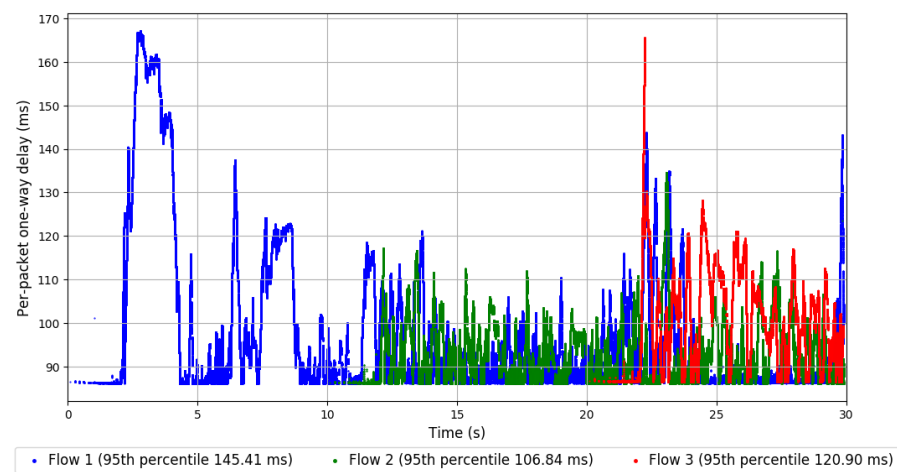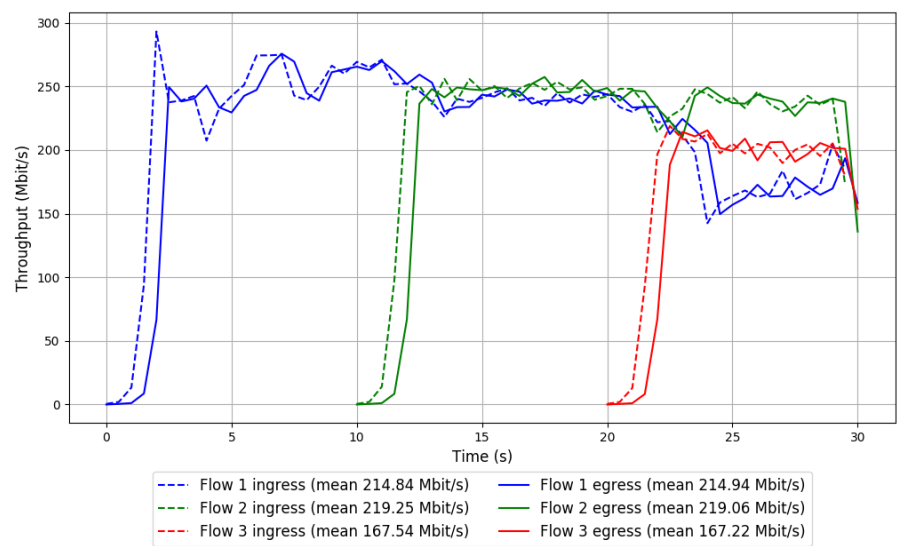
Run 3: Report of Copa — Data Link

- - - - Flow 1 ingress (mean 224.52 Mbit/s) ——— Flow 1 egress (mean 224.38 Mbit/s)
- - - - Flow 2 ingress (mean 211.25 Mbit/s) ——— Flow 2 egress (mean 211.03 Mbit/s)
- - - - Flow 3 ingress (mean 170.19 Mbit/s) ——— Flow 3 egress (mean 169.88 Mbit/s)

- Flow 1 (95th percentile 156.85 ms)   - Flow 2 (95th percentile 111.42 ms)   - Flow 3 (95th percentile 168.01 ms)

```
Run 4: Statistics of Copa

Start at: 2019-10-03 00:52:42
End at: 2019-10-03 00:53:12
Local clock offset: -0.125 ms
Remote clock offset: -0.004 ms


# Below is generated by plot.py at 2019-10-03 02:49:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 388.92 Mbit/s
95th percentile per-packet one-way delay: 136.209 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 209.00 Mbit/s
95th percentile per-packet one-way delay: 132.063 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 190.47 Mbit/s
95th percentile per-packet one-way delay: 136.392 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 162.74 Mbit/s
95th percentile per-packet one-way delay: 144.137 ms
Loss rate: 2.11%
```
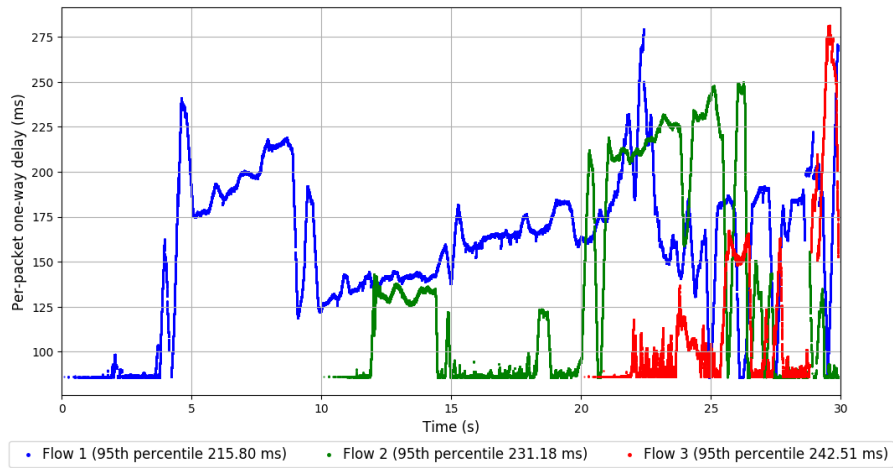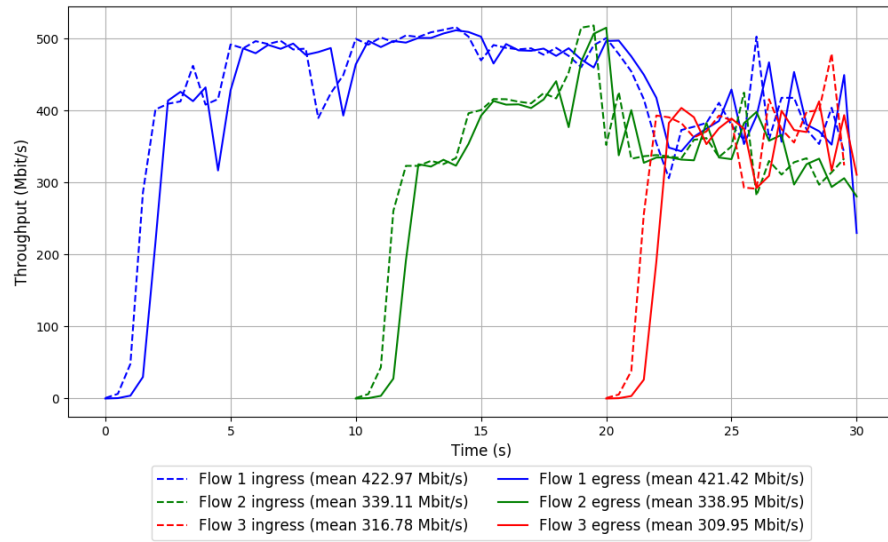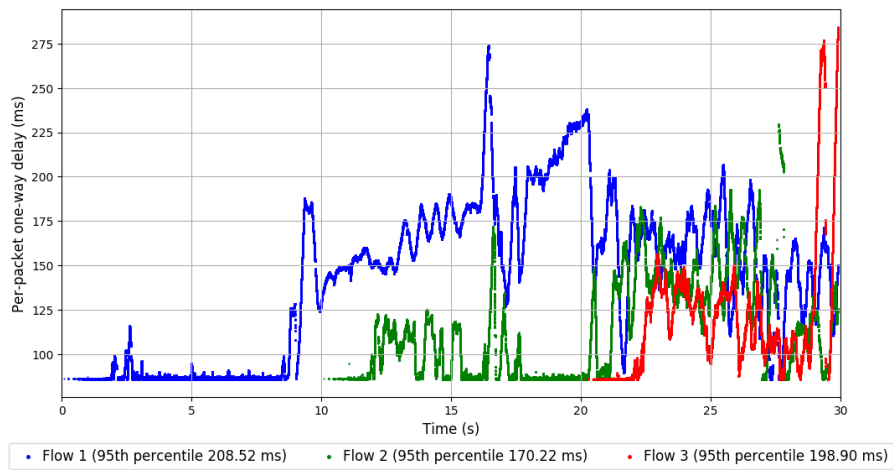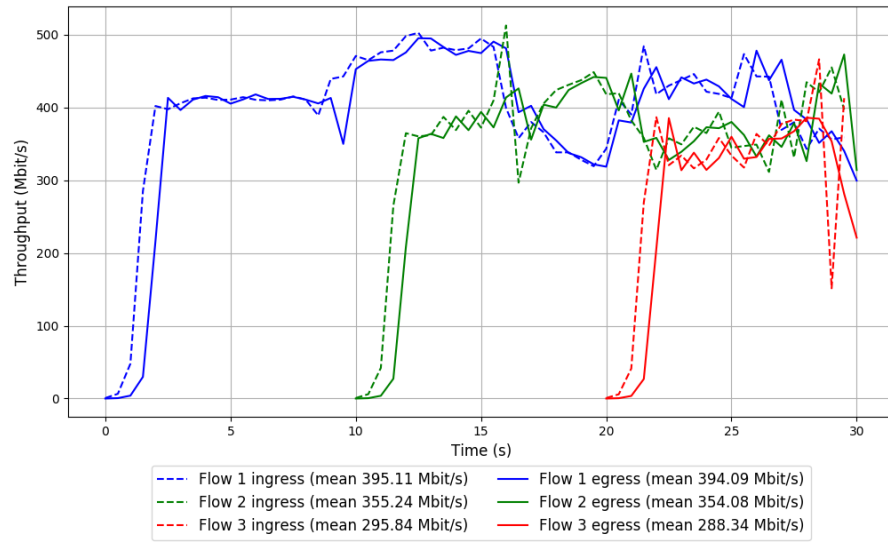
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 208.85 Mbit/s)   Flow 1 egress (mean 209.00 Mbit/s)
Flow 2 ingress (mean 190.78 Mbit/s)   Flow 2 egress (mean 190.47 Mbit/s)
Flow 3 ingress (mean 163.36 Mbit/s)   Flow 3 egress (mean 162.74 Mbit/s)

Flow 1 (95th percentile 132.06 ms)   Flow 2 (95th percentile 136.39 ms)   Flow 3 (95th percentile 144.14 ms)

```
Run 5: Statistics of Copa

Start at: 2019-10-03 01:33:49
End at: 2019-10-03 01:34:19
Local clock offset: 0.37 ms
Remote clock offset: -0.026 ms


# Below is generated by plot.py at 2019-10-03 02:51:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 415.30 Mbit/s
95th percentile per-packet one-way delay: 123.752 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 214.94 Mbit/s
95th percentile per-packet one-way delay: 145.412 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 219.06 Mbit/s
95th percentile per-packet one-way delay: 106.843 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 167.22 Mbit/s
95th percentile per-packet one-way delay: 120.899 ms
Loss rate: 1.92%
```
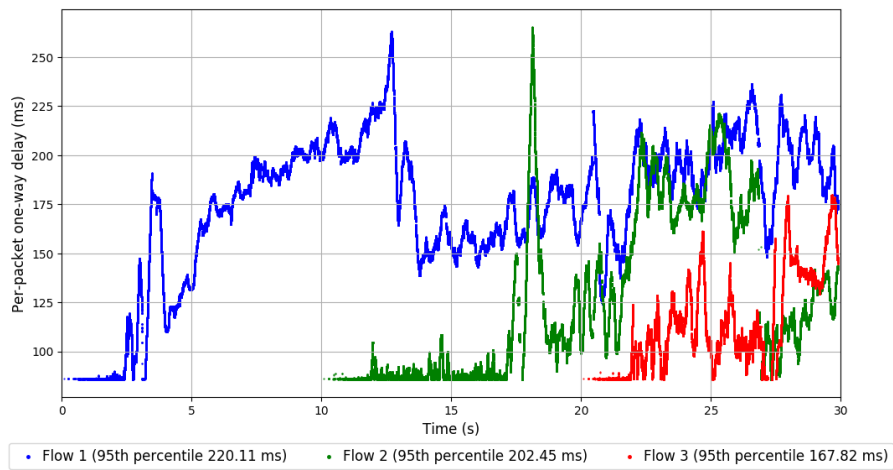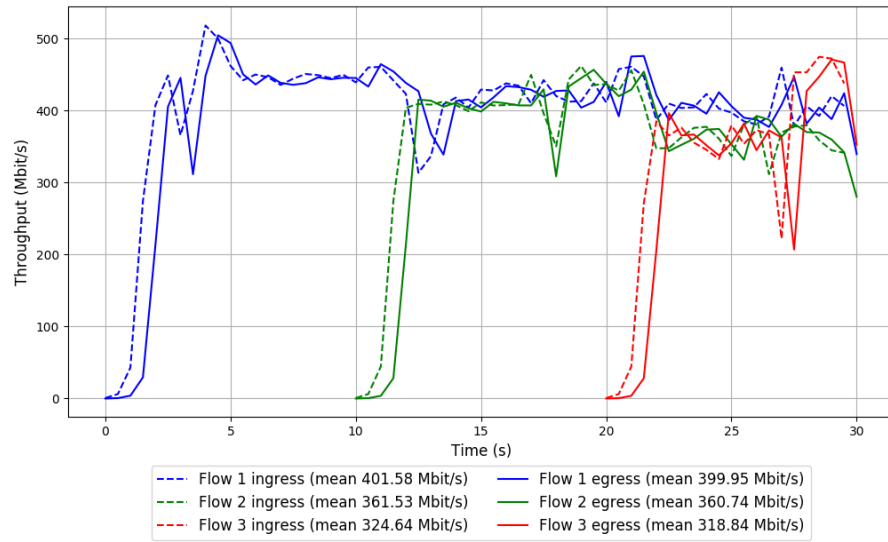
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-10-02 22:42:10
End at: 2019-10-02 22:42:40
Local clock offset: -0.072 ms
Remote clock offset: 0.005 ms


# Below is generated by plot.py at 2019-10-03 02:52:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 748.33 Mbit/s
95th percentile per-packet one-way delay: 225.871 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 421.42 Mbit/s
95th percentile per-packet one-way delay: 215.801 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 338.95 Mbit/s
95th percentile per-packet one-way delay: 231.184 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 309.95 Mbit/s
95th percentile per-packet one-way delay: 242.509 ms
Loss rate: 3.85%
```
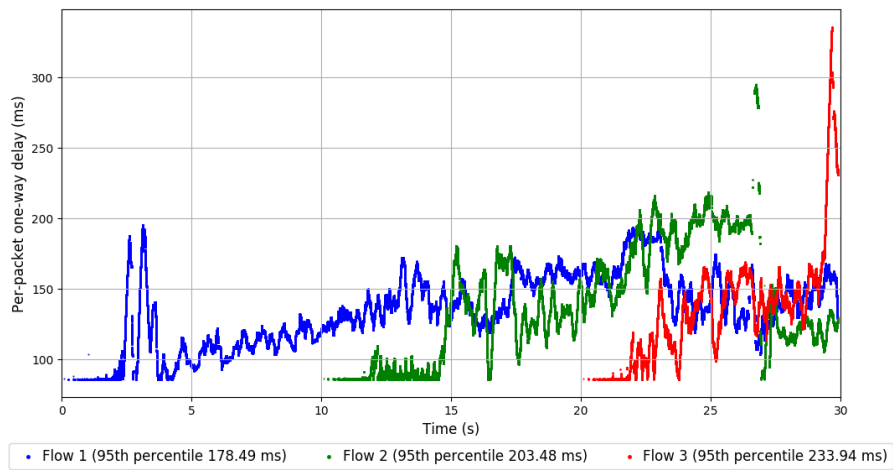
Run 1: Report of TCP Cubic — Data Link

Legend (top plot):
- - - - Flow 1 ingress (mean 422.97 Mbit/s) —— Flow 1 egress (mean 421.42 Mbit/s)
- - - - Flow 2 ingress (mean 339.11 Mbit/s) —— Flow 2 egress (mean 338.95 Mbit/s)
- - - - Flow 3 ingress (mean 316.78 Mbit/s) —— Flow 3 egress (mean 309.95 Mbit/s)

Legend (bottom plot):
- Flow 1 (95th percentile 215.80 ms) • Flow 2 (95th percentile 231.18 ms) • Flow 3 (95th percentile 242.51 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2019-10-02 23:22:58
End at: 2019-10-02 23:23:28
Local clock offset: 0.027 ms
Remote clock offset: -0.016 ms


# Below is generated by plot.py at 2019-10-03 02:52:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 723.95 Mbit/s
95th percentile per-packet one-way delay: 200.565 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 394.09 Mbit/s
95th percentile per-packet one-way delay: 208.522 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 354.08 Mbit/s
95th percentile per-packet one-way delay: 170.225 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 288.34 Mbit/s
95th percentile per-packet one-way delay: 198.899 ms
Loss rate: 4.22%
```
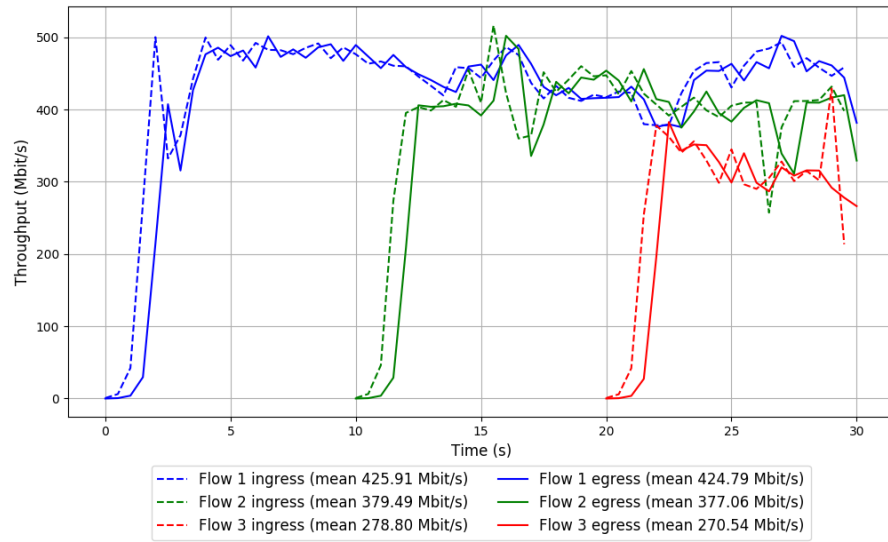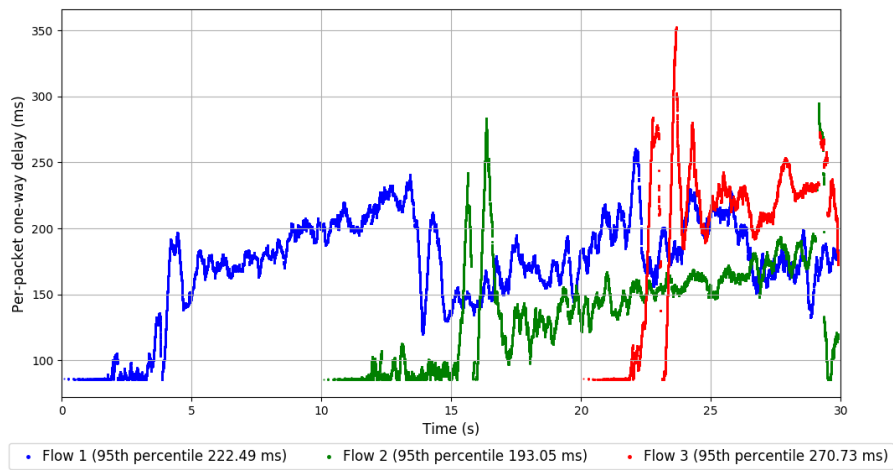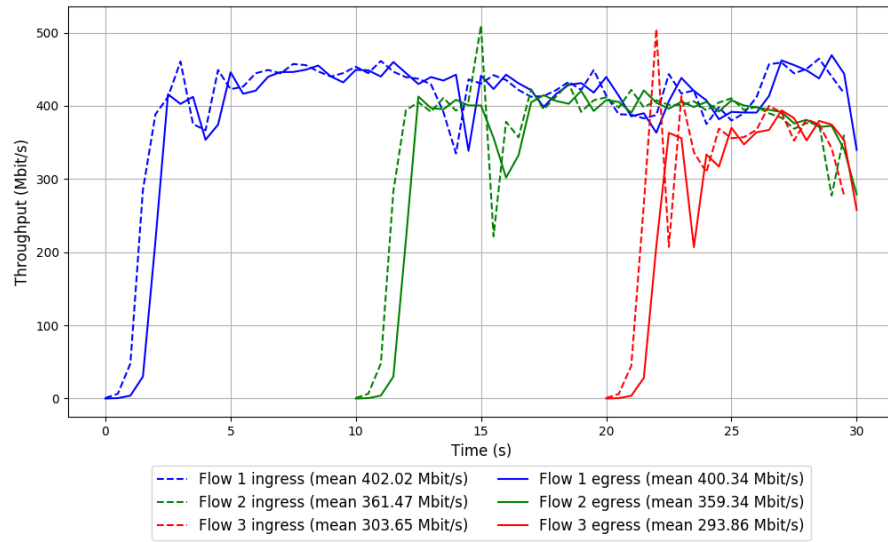
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 395.11 Mbit/s) ---- Flow 1 egress (mean 394.09 Mbit/s)
Flow 2 ingress (mean 355.24 Mbit/s) ---- Flow 2 egress (mean 354.08 Mbit/s)
Flow 3 ingress (mean 295.84 Mbit/s) ---- Flow 3 egress (mean 288.34 Mbit/s)

Flow 1 (95th percentile 208.52 ms)   Flow 2 (95th percentile 170.22 ms)   Flow 3 (95th percentile 198.90 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2019-10-03 00:03:37
End at: 2019-10-03 00:04:07
Local clock offset: -0.11 ms
Remote clock offset: -0.087 ms


# Below is generated by plot.py at 2019-10-03 02:52:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 744.37 Mbit/s
95th percentile per-packet one-way delay: 214.969 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 399.95 Mbit/s
95th percentile per-packet one-way delay: 220.114 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 360.74 Mbit/s
95th percentile per-packet one-way delay: 202.446 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 318.84 Mbit/s
95th percentile per-packet one-way delay: 167.824 ms
Loss rate: 3.48%
```

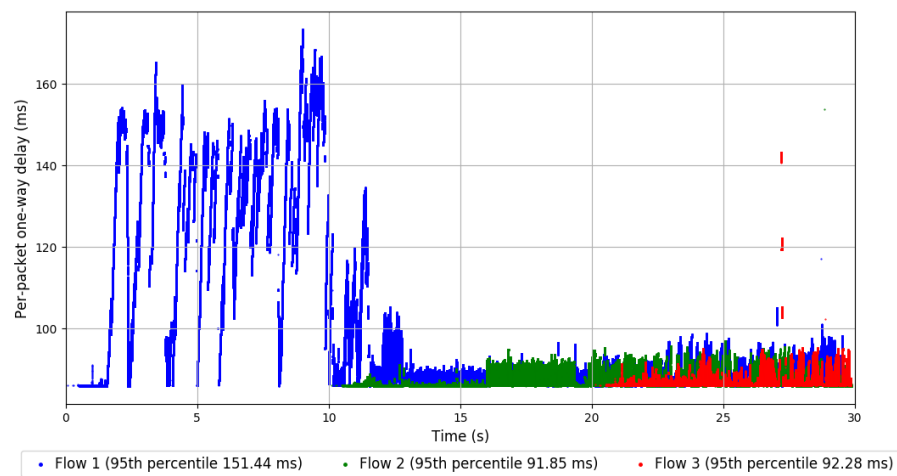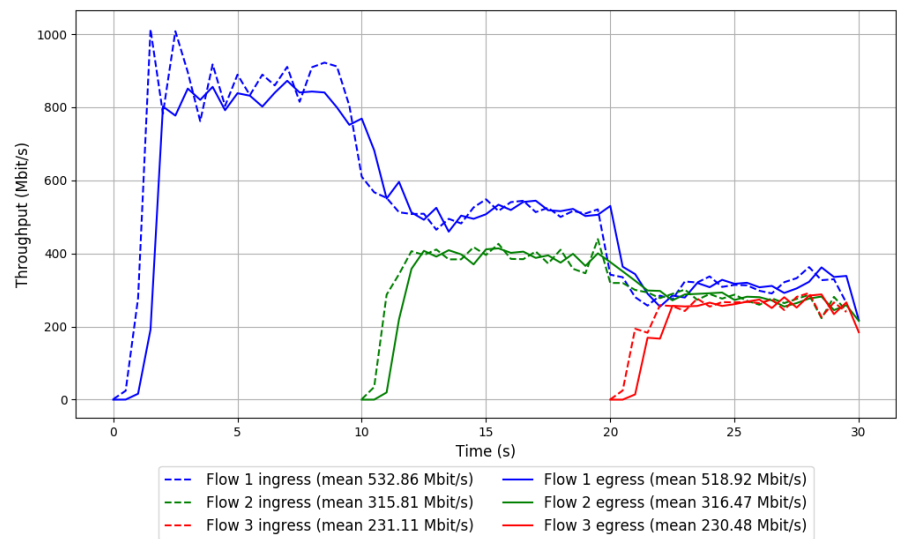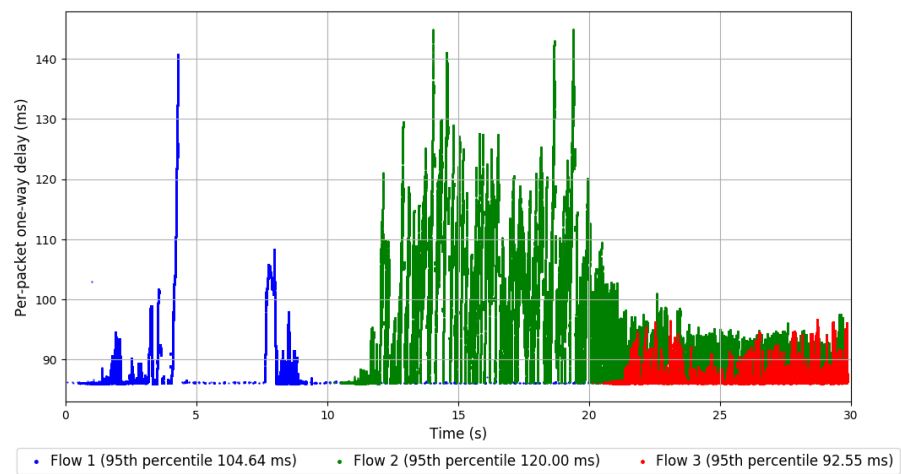Run 3: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 401.58 Mbit/s)   —— Flow 1 egress (mean 399.95 Mbit/s)
- - - Flow 2 ingress (mean 361.53 Mbit/s)   —— Flow 2 egress (mean 360.74 Mbit/s)
- - - Flow 3 ingress (mean 324.64 Mbit/s)   —— Flow 3 egress (mean 318.84 Mbit/s)

• Flow 1 (95th percentile 220.11 ms)   • Flow 2 (95th percentile 202.45 ms)   • Flow 3 (95th percentile 167.82 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-10-03 00:44:17
End at: 2019-10-03 00:44:47
Local clock offset: 0.034 ms
Remote clock offset: 0.054 ms


# Below is generated by plot.py at 2019-10-03 02:52:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 764.18 Mbit/s
95th percentile per-packet one-way delay: 195.329 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 424.79 Mbit/s
95th percentile per-packet one-way delay: 178.494 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 377.06 Mbit/s
95th percentile per-packet one-way delay: 203.481 ms
Loss rate: 1.49%
-- Flow 3:
Average throughput: 270.54 Mbit/s
95th percentile per-packet one-way delay: 233.935 ms
Loss rate: 3.47%
```
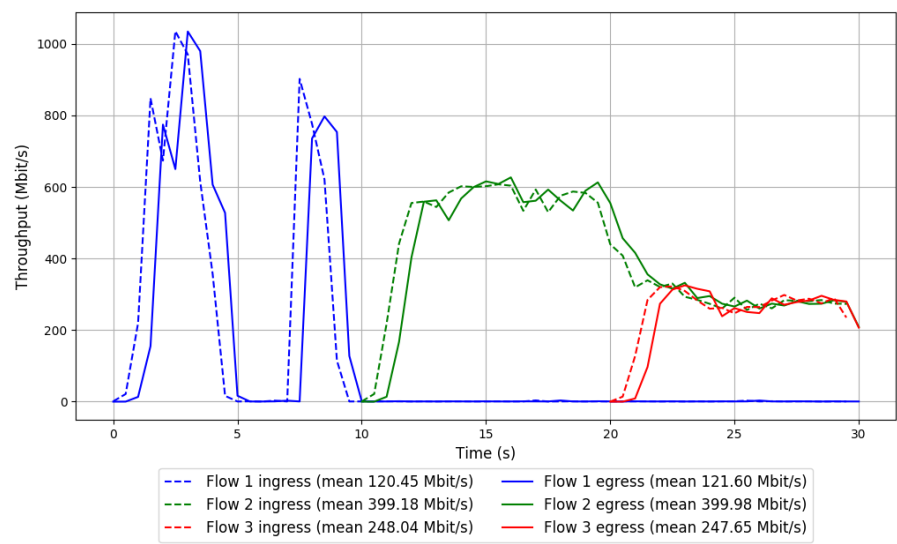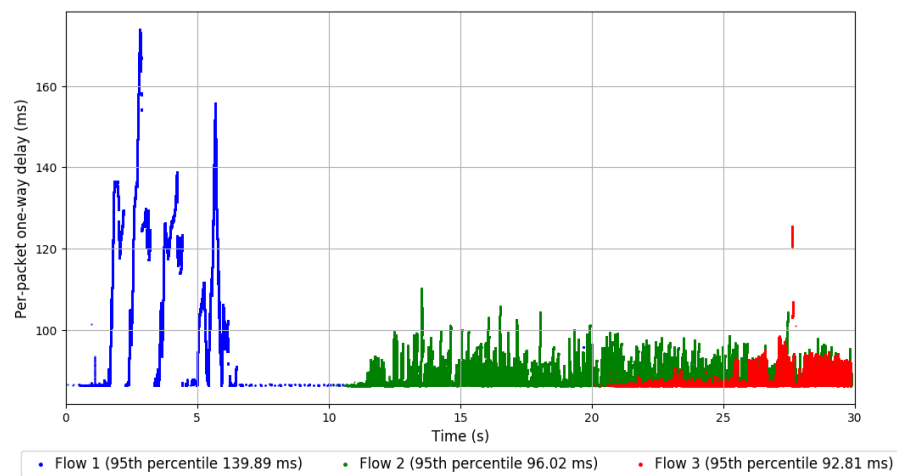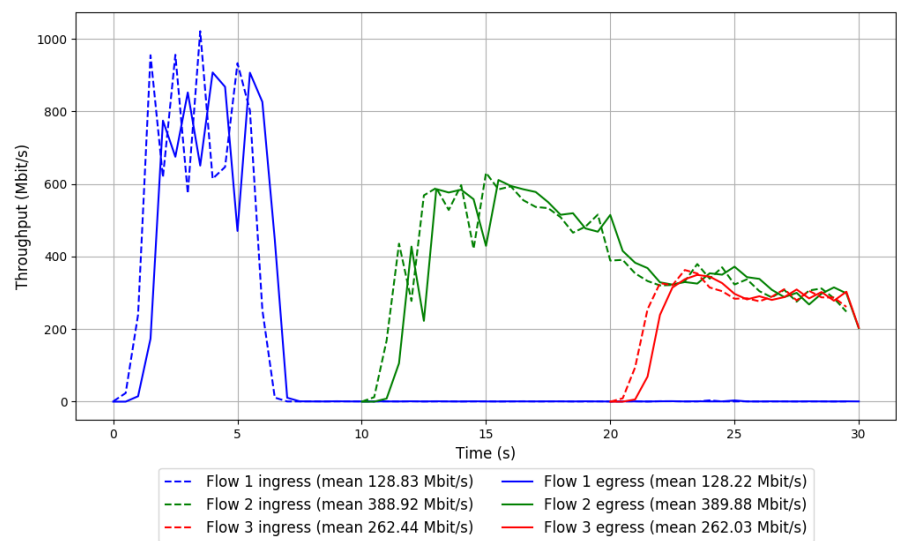
Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 425.91 Mbit/s) --- Flow 1 egress (mean 424.79 Mbit/s)
Flow 2 ingress (mean 379.49 Mbit/s) --- Flow 2 egress (mean 377.06 Mbit/s)
Flow 3 ingress (mean 278.80 Mbit/s) --- Flow 3 egress (mean 270.54 Mbit/s)

Flow 1 (95th percentile 178.49 ms)   Flow 2 (95th percentile 203.48 ms)   Flow 3 (95th percentile 233.94 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2019-10-03 01:25:09
End at: 2019-10-03 01:25:39
Local clock offset: -0.187 ms
Remote clock offset: -0.04 ms


# Below is generated by plot.py at 2019-10-03 02:52:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 735.72 Mbit/s
95th percentile per-packet one-way delay: 232.565 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 400.34 Mbit/s
95th percentile per-packet one-way delay: 222.490 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 359.34 Mbit/s
95th percentile per-packet one-way delay: 193.047 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 293.86 Mbit/s
95th percentile per-packet one-way delay: 270.728 ms
Loss rate: 4.90%
```
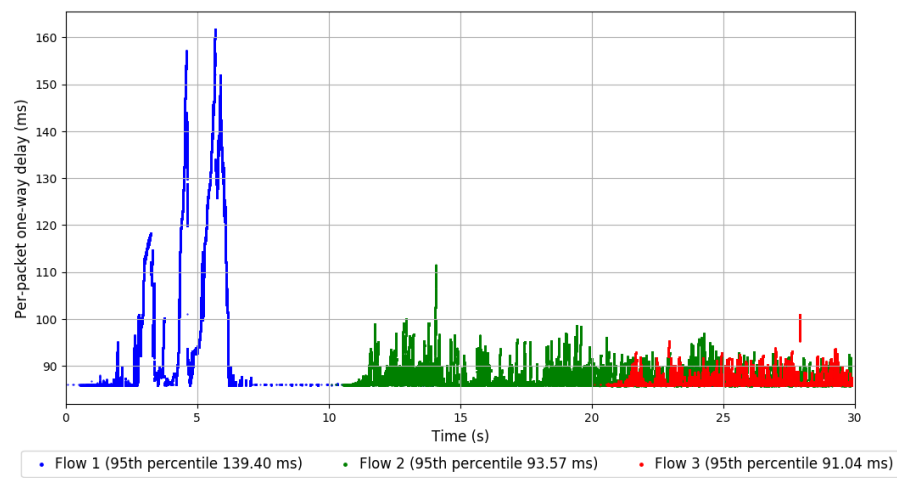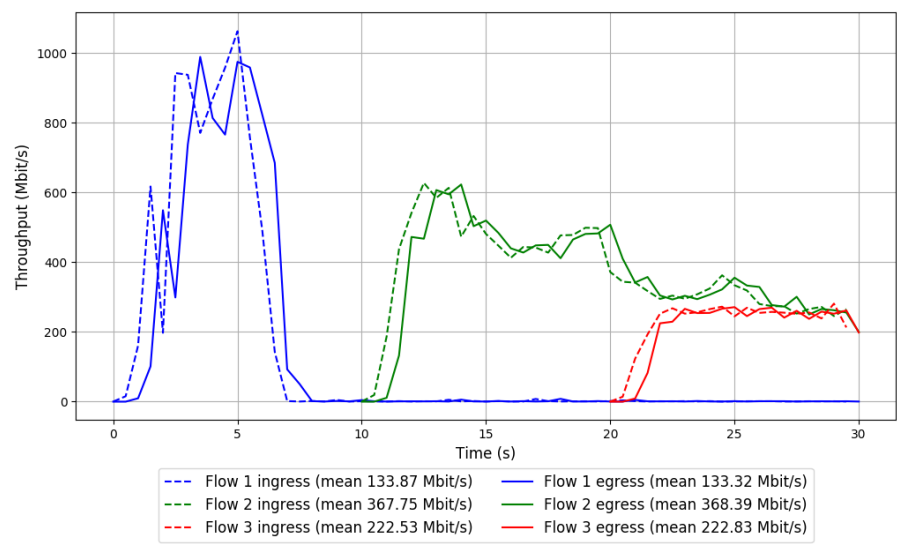
Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2019-10-02 22:44:06
End at: 2019-10-02 22:44:36
Local clock offset: 0.158 ms
Remote clock offset: -0.018 ms


# Below is generated by plot.py at 2019-10-03 02:57:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 804.04 Mbit/s
95th percentile per-packet one-way delay: 149.391 ms
Loss rate: 2.44%
-- Flow 1:
Average throughput: 518.92 Mbit/s
95th percentile per-packet one-way delay: 151.439 ms
Loss rate: 3.19%
-- Flow 2:
Average throughput: 316.47 Mbit/s
95th percentile per-packet one-way delay: 91.851 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 230.48 Mbit/s
95th percentile per-packet one-way delay: 92.283 ms
Loss rate: 2.09%
```
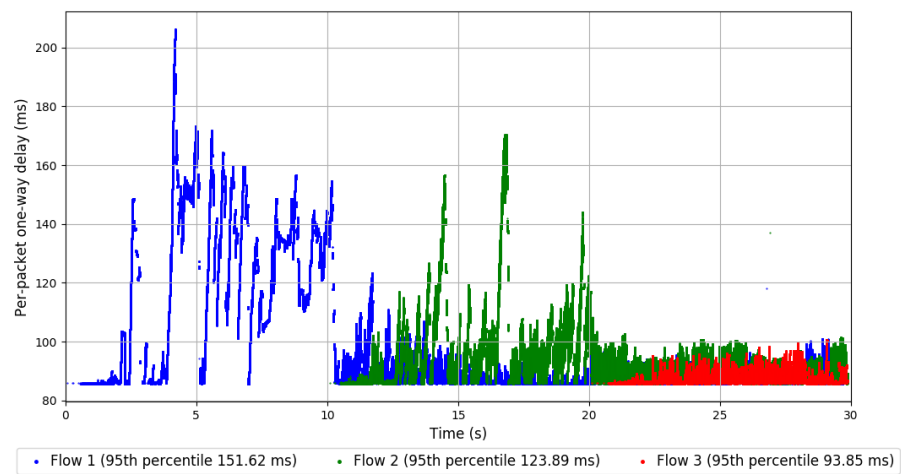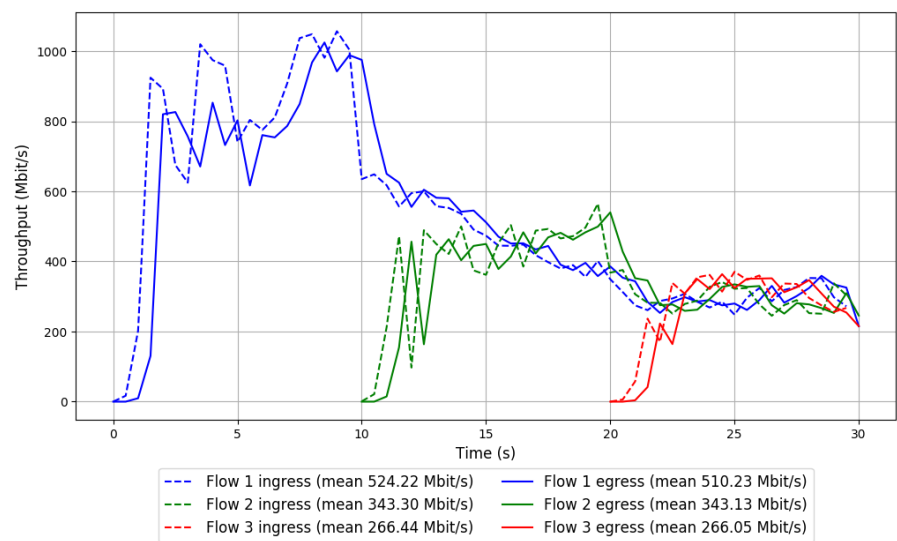
Run 1: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 532.86 Mbit/s)   —— Flow 1 egress (mean 518.92 Mbit/s)
- - - - Flow 2 ingress (mean 315.81 Mbit/s)   —— Flow 2 egress (mean 316.47 Mbit/s)
- - - - Flow 3 ingress (mean 231.11 Mbit/s)   —— Flow 3 egress (mean 230.48 Mbit/s)

• Flow 1 (95th percentile 151.44 ms)   • Flow 2 (95th percentile 91.85 ms)   • Flow 3 (95th percentile 92.28 ms)

```
Run 2: Statistics of FillP

Start at: 2019-10-02 23:24:53
End at: 2019-10-02 23:25:23
Local clock offset: 0.231 ms
Remote clock offset: -0.052 ms

# Below is generated by plot.py at 2019-10-03 03:02:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 467.51 Mbit/s
95th percentile per-packet one-way delay: 116.171 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 121.60 Mbit/s
95th percentile per-packet one-way delay: 104.640 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 399.98 Mbit/s
95th percentile per-packet one-way delay: 120.004 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 247.65 Mbit/s
95th percentile per-packet one-way delay: 92.546 ms
Loss rate: 1.66%
```
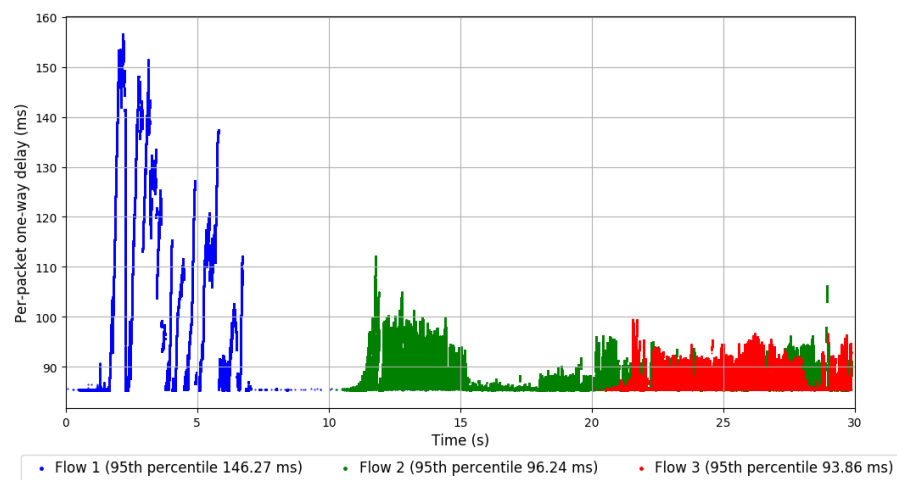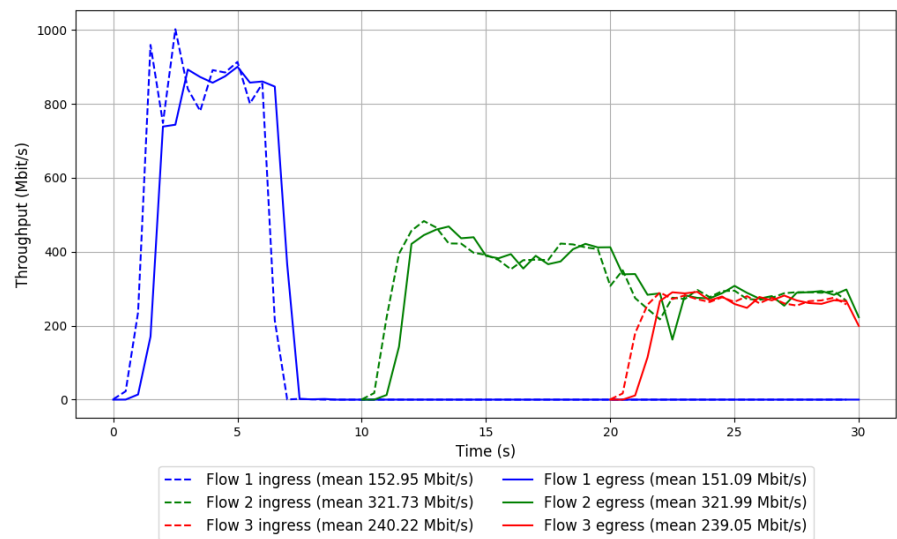
Run 2: Report of FillP — Data Link

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```
Run 3: Statistics of FillP

Start at: 2019-10-03 00:05:34
End at: 2019-10-03 00:06:04
Local clock offset: 0.316 ms
Remote clock offset: -0.083 ms


# Below is generated by plot.py at 2019-10-03 03:04:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 472.46 Mbit/s
95th percentile per-packet one-way delay: 128.701 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 128.22 Mbit/s
95th percentile per-packet one-way delay: 139.894 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 389.88 Mbit/s
95th percentile per-packet one-way delay: 96.021 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 262.03 Mbit/s
95th percentile per-packet one-way delay: 92.815 ms
Loss rate: 1.91%
```
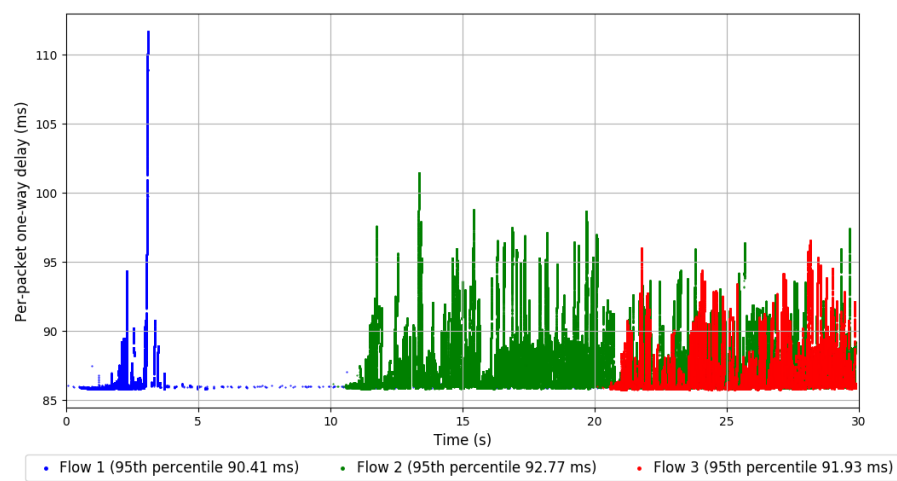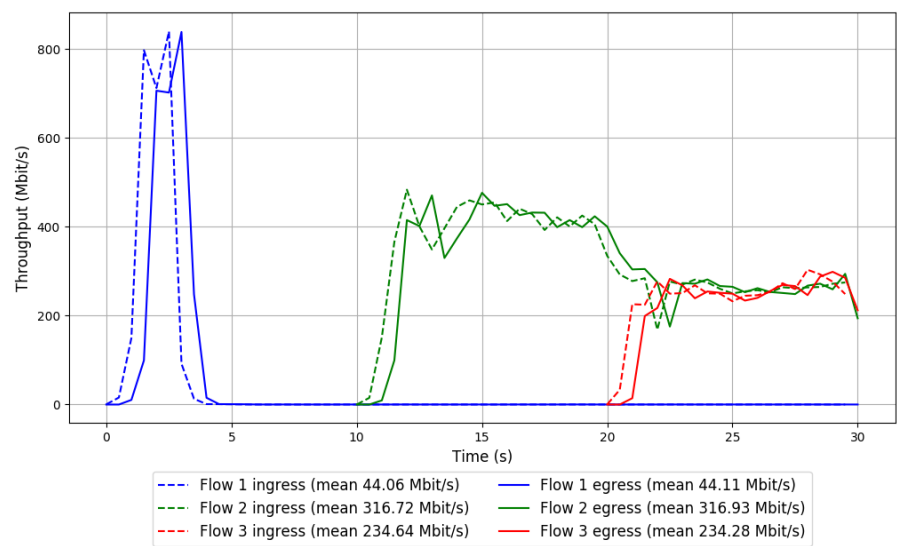
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-10-03 00:46:14
End at: 2019-10-03 00:46:44
Local clock offset: 0.063 ms
Remote clock offset: 0.05 ms


# Below is generated by plot.py at 2019-10-03 03:04:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 450.16 Mbit/s
95th percentile per-packet one-way delay: 125.168 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 133.32 Mbit/s
95th percentile per-packet one-way delay: 139.402 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 368.39 Mbit/s
95th percentile per-packet one-way delay: 93.566 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 222.83 Mbit/s
95th percentile per-packet one-way delay: 91.038 ms
Loss rate: 1.61%
```
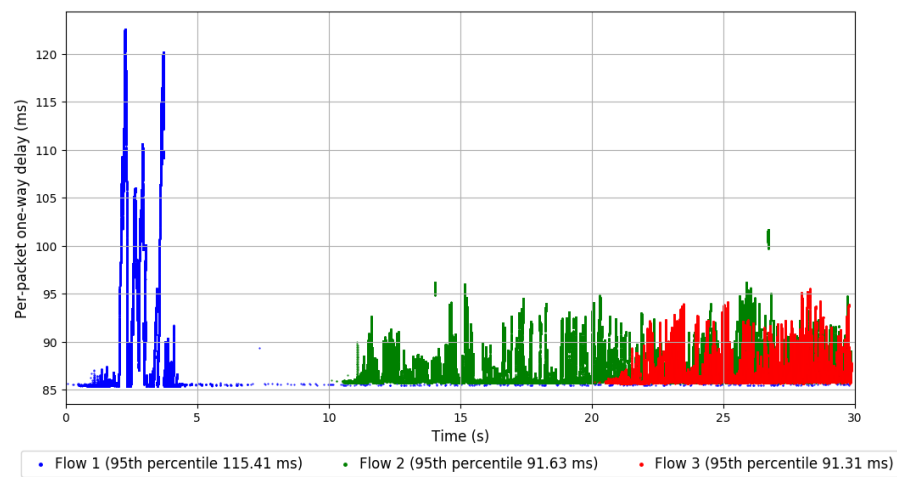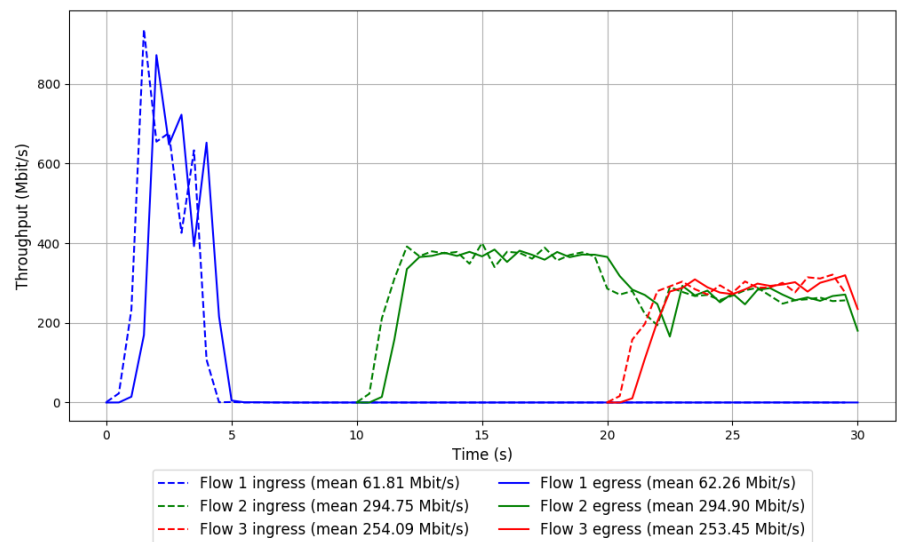
Run 4: Report of FillP — Data Link

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```
Run 5: Statistics of FillP

Start at: 2019-10-03 01:27:06
End at: 2019-10-03 01:27:36
Local clock offset: -0.424 ms
Remote clock offset: -0.053 ms


# Below is generated by plot.py at 2019-10-03 03:15:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 824.89 Mbit/s
95th percentile per-packet one-way delay: 148.321 ms
Loss rate: 2.47%
-- Flow 1:
Average throughput: 510.23 Mbit/s
95th percentile per-packet one-way delay: 151.616 ms
Loss rate: 3.24%
-- Flow 2:
Average throughput: 343.13 Mbit/s
95th percentile per-packet one-way delay: 123.894 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 266.05 Mbit/s
95th percentile per-packet one-way delay: 93.848 ms
Loss rate: 1.93%
```
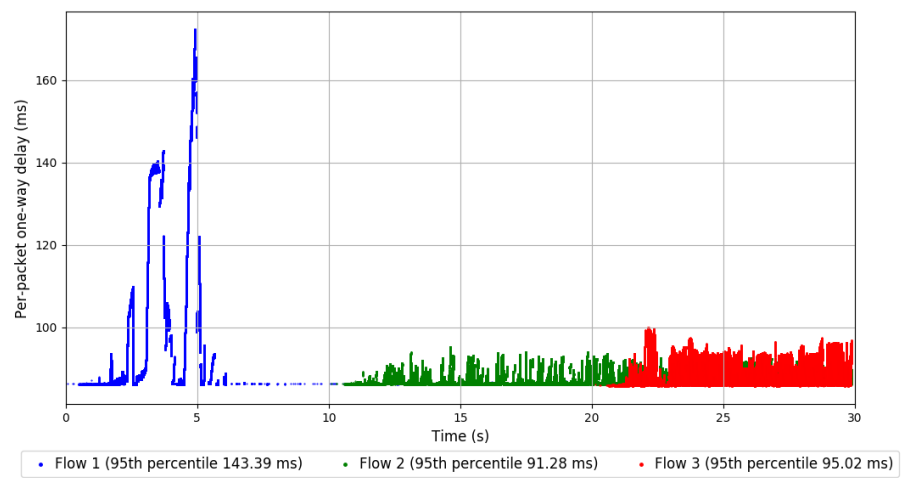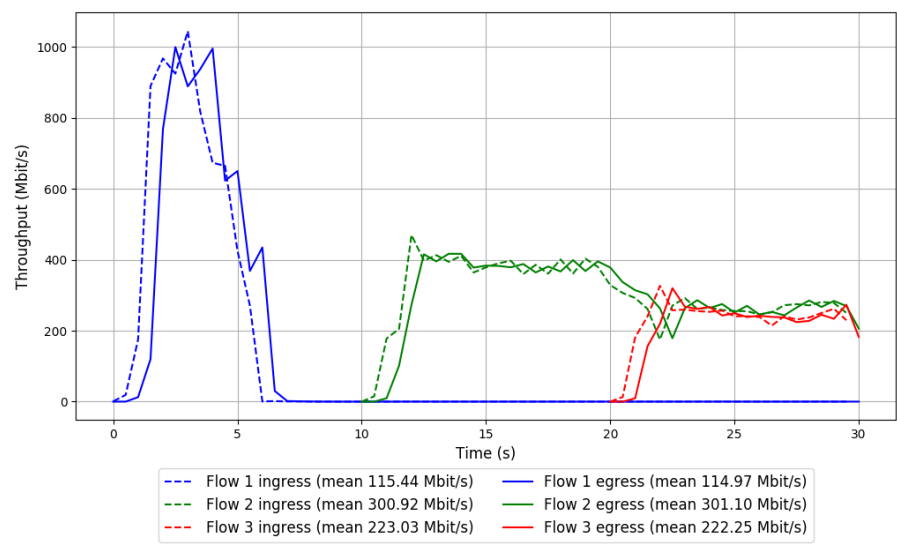
Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-10-02 22:57:23
End at: 2019-10-02 22:57:53
Local clock offset: -0.472 ms
Remote clock offset: -0.041 ms


# Below is generated by plot.py at 2019-10-03 03:15:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 443.17 Mbit/s
95th percentile per-packet one-way delay: 134.868 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 151.09 Mbit/s
95th percentile per-packet one-way delay: 146.267 ms
Loss rate: 1.69%
-- Flow 2:
Average throughput: 321.99 Mbit/s
95th percentile per-packet one-way delay: 96.239 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 239.05 Mbit/s
95th percentile per-packet one-way delay: 93.863 ms
Loss rate: 2.23%
```

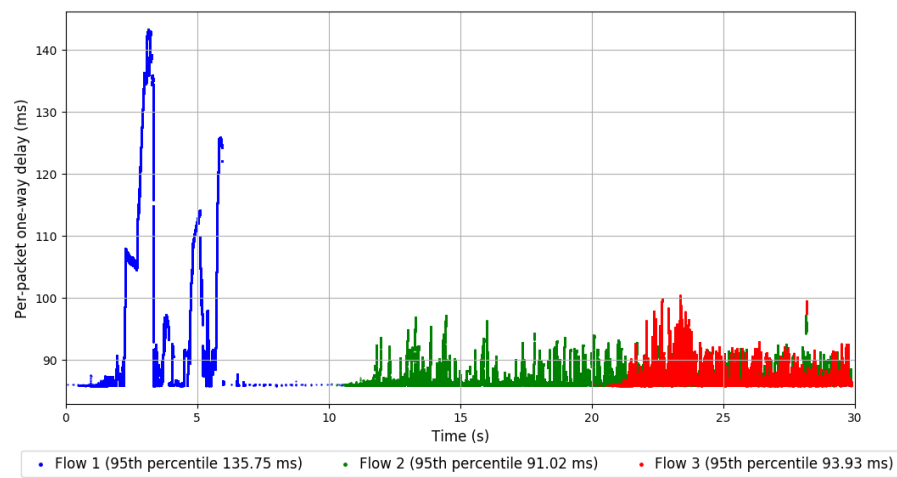Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-10-02 23:37:58
End at: 2019-10-02 23:38:28
Local clock offset: -0.065 ms
Remote clock offset: -0.033 ms


# Below is generated by plot.py at 2019-10-03 03:15:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 331.25 Mbit/s
95th percentile per-packet one-way delay: 92.369 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 44.11 Mbit/s
95th percentile per-packet one-way delay: 90.413 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 316.93 Mbit/s
95th percentile per-packet one-way delay: 92.767 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 234.28 Mbit/s
95th percentile per-packet one-way delay: 91.930 ms
Loss rate: 1.91%
```

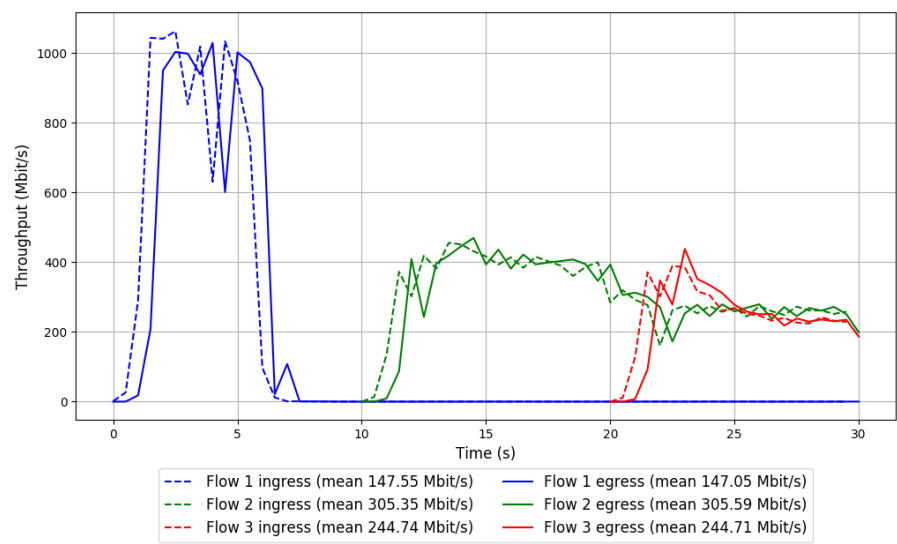Run 2: Report of FillP-Sheep — Data Link

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```
Run 3: Statistics of FillP-Sheep

Start at: 2019-10-03 00:18:38
End at: 2019-10-03 00:19:08
Local clock offset: -0.466 ms
Remote clock offset: -0.061 ms


# Below is generated by plot.py at 2019-10-03 03:15:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 340.99 Mbit/s
95th percentile per-packet one-way delay: 97.811 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 62.26 Mbit/s
95th percentile per-packet one-way delay: 115.412 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 294.90 Mbit/s
95th percentile per-packet one-way delay: 91.634 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 253.45 Mbit/s
95th percentile per-packet one-way delay: 91.314 ms
Loss rate: 1.99%
```

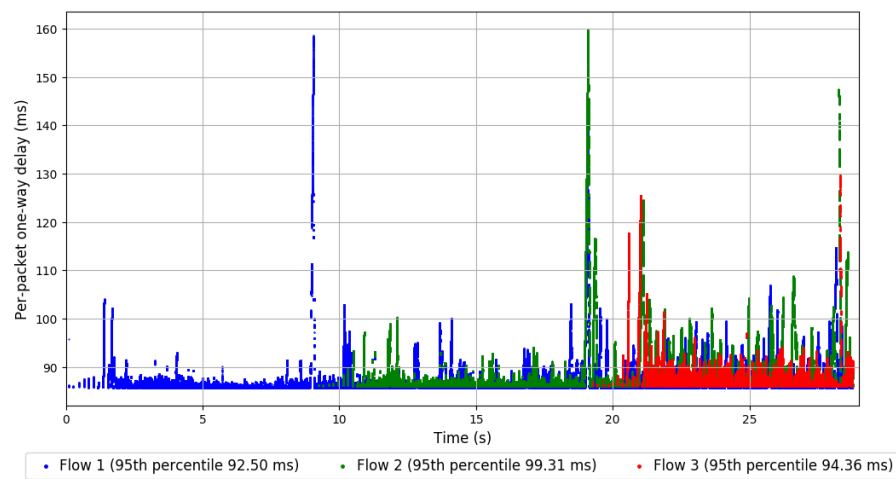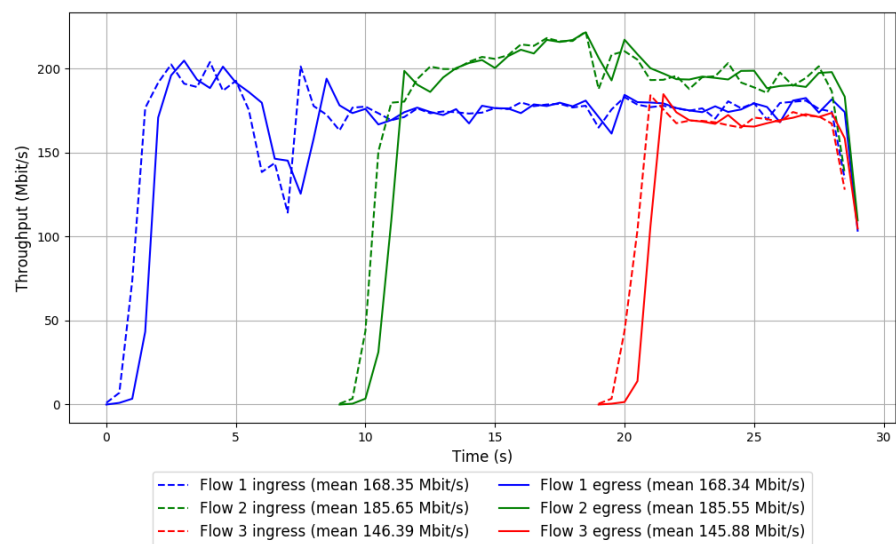Run 3: Report of FillP-Sheep — Data Link

- - - Flow 1 ingress (mean 61.81 Mbit/s)   —— Flow 1 egress (mean 62.26 Mbit/s)
- - - Flow 2 ingress (mean 294.75 Mbit/s)   —— Flow 2 egress (mean 294.90 Mbit/s)
- - - Flow 3 ingress (mean 254.09 Mbit/s)   —— Flow 3 egress (mean 253.45 Mbit/s)

- Flow 1 (95th percentile 115.41 ms)   • Flow 2 (95th percentile 91.63 ms)   • Flow 3 (95th percentile 91.31 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-10-03 00:59:25
End at: 2019-10-03 00:59:55
Local clock offset: 0.058 ms
Remote clock offset: -0.035 ms


# Below is generated by plot.py at 2019-10-03 03:15:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 387.40 Mbit/s
95th percentile per-packet one-way delay: 136.607 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 114.97 Mbit/s
95th percentile per-packet one-way delay: 143.387 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 301.10 Mbit/s
95th percentile per-packet one-way delay: 91.278 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 222.25 Mbit/s
95th percentile per-packet one-way delay: 95.019 ms
Loss rate: 2.09%
```

Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 115.44 Mbit/s) --- Flow 1 egress (mean 114.97 Mbit/s)
Flow 2 ingress (mean 300.92 Mbit/s) --- Flow 2 egress (mean 301.10 Mbit/s)
Flow 3 ingress (mean 223.03 Mbit/s) --- Flow 3 egress (mean 222.25 Mbit/s)

Flow 1 (95th percentile 143.39 ms) • Flow 2 (95th percentile 91.28 ms) • Flow 3 (95th percentile 95.02 ms)
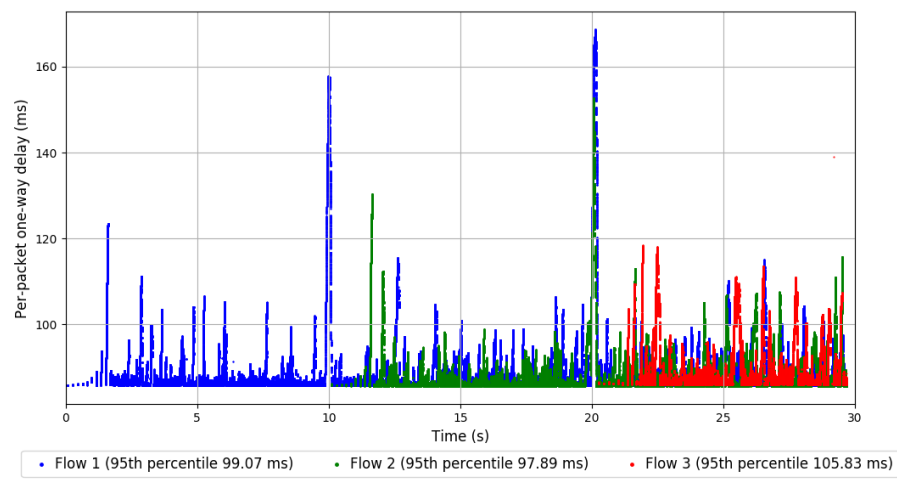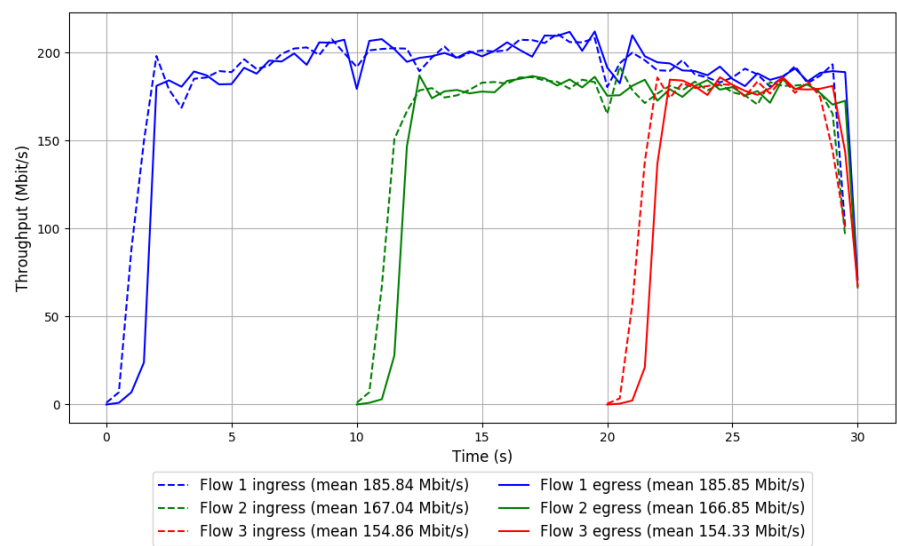
```
Run 5: Statistics of FillP-Sheep

Start at: 2019-10-03 01:40:31
End at: 2019-10-03 01:41:01
Local clock offset: -0.064 ms
Remote clock offset: -0.038 ms


# Below is generated by plot.py at 2019-10-03 03:15:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 429.89 Mbit/s
95th percentile per-packet one-way delay: 120.503 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 147.05 Mbit/s
95th percentile per-packet one-way delay: 135.745 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 305.59 Mbit/s
95th percentile per-packet one-way delay: 91.024 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 244.71 Mbit/s
95th percentile per-packet one-way delay: 93.932 ms
Loss rate: 1.77%
```

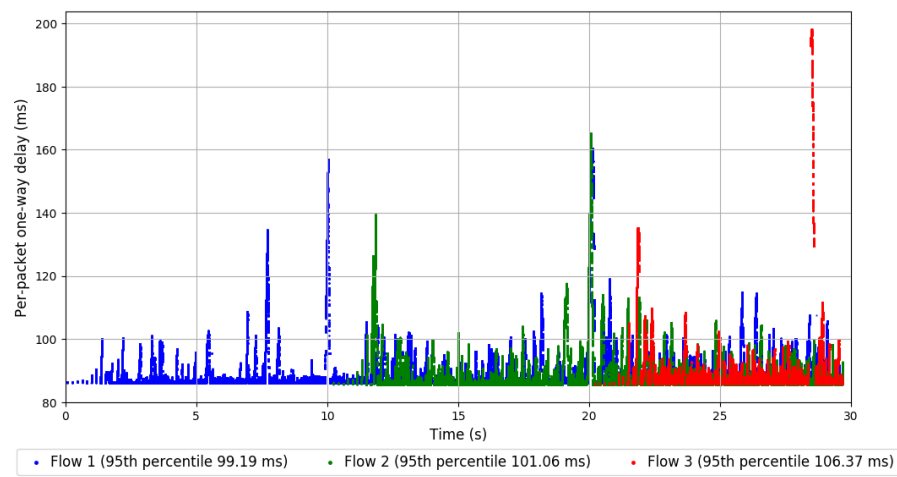Run 5: Report of FillP-Sheep — Data Link

```
Run 1: Statistics of Indigo

Start at: 2019-10-02 23:10:52
End at: 2019-10-02 23:11:22
Local clock offset: -0.029 ms
Remote clock offset: -0.053 ms


# Below is generated by plot.py at 2019-10-03 03:16:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 343.20 Mbit/s
95th percentile per-packet one-way delay: 95.088 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 168.34 Mbit/s
95th percentile per-packet one-way delay: 92.505 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 185.55 Mbit/s
95th percentile per-packet one-way delay: 99.313 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 145.88 Mbit/s
95th percentile per-packet one-way delay: 94.357 ms
Loss rate: 2.12%
```
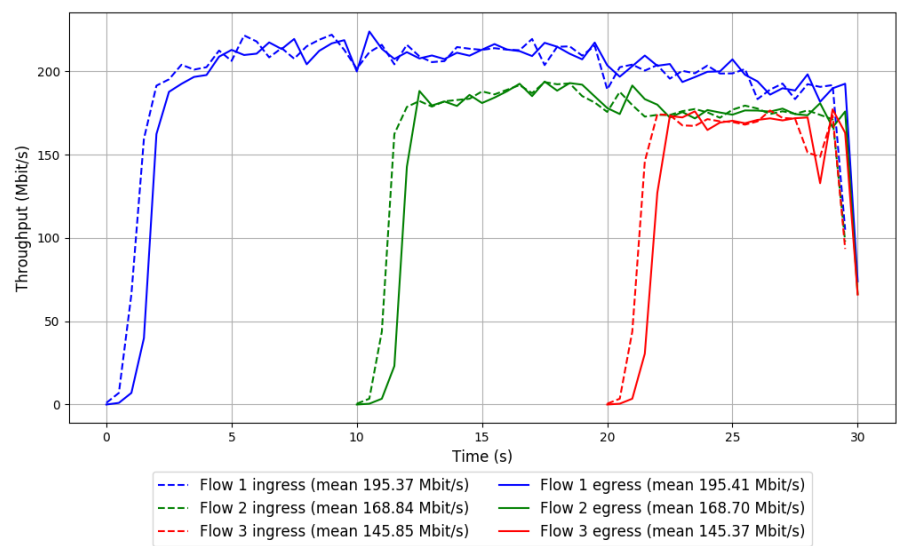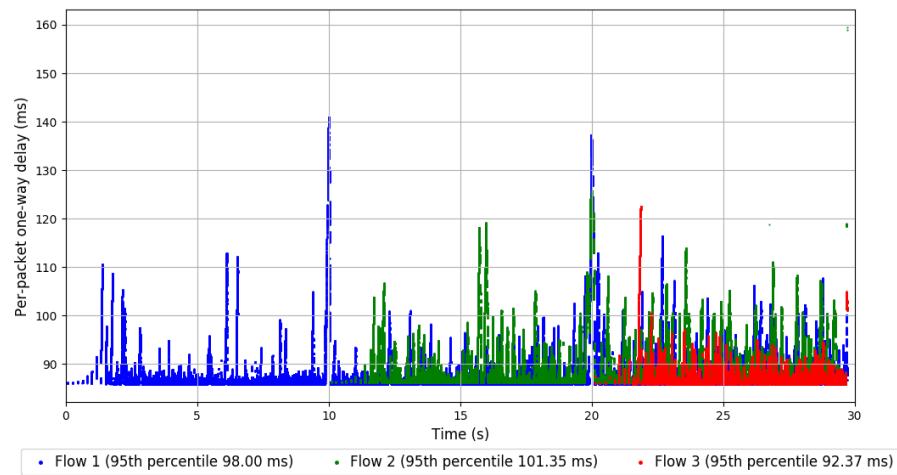
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-10-02 23:51:21
End at: 2019-10-02 23:51:51
Local clock offset: -0.154 ms
Remote clock offset: -0.064 ms

# Below is generated by plot.py at 2019-10-03 03:18:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 354.50 Mbit/s
95th percentile per-packet one-way delay: 99.847 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 190.55 Mbit/s
95th percentile per-packet one-way delay: 100.240 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 174.26 Mbit/s
95th percentile per-packet one-way delay: 99.523 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 150.86 Mbit/s
95th percentile per-packet one-way delay: 99.692 ms
Loss rate: 2.08%
```
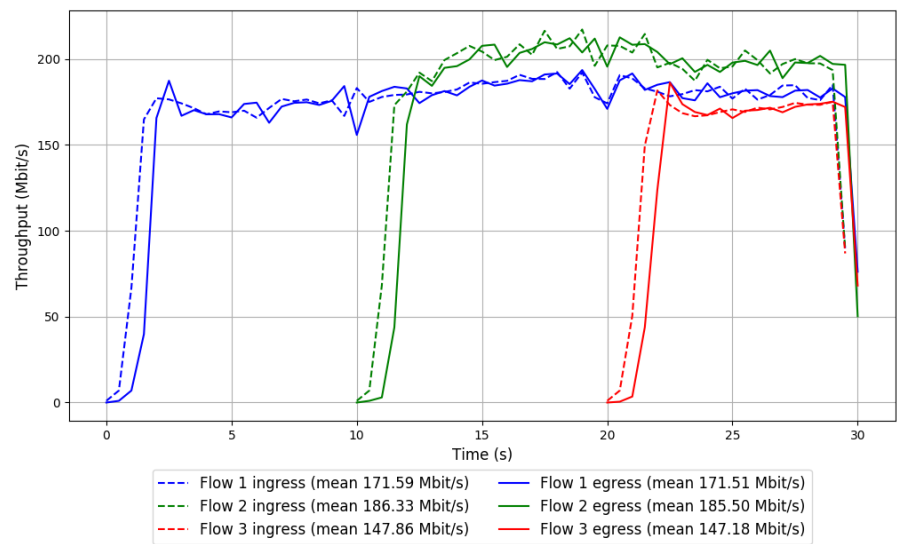
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-10-03 00:31:59
End at: 2019-10-03 00:32:29
Local clock offset: -0.049 ms
Remote clock offset: 0.038 ms


# Below is generated by plot.py at 2019-10-03 03:19:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 345.26 Mbit/s
95th percentile per-packet one-way delay: 100.256 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 185.85 Mbit/s
95th percentile per-packet one-way delay: 99.074 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 166.85 Mbit/s
95th percentile per-packet one-way delay: 97.891 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 154.33 Mbit/s
95th percentile per-packet one-way delay: 105.832 ms
Loss rate: 2.12%
```
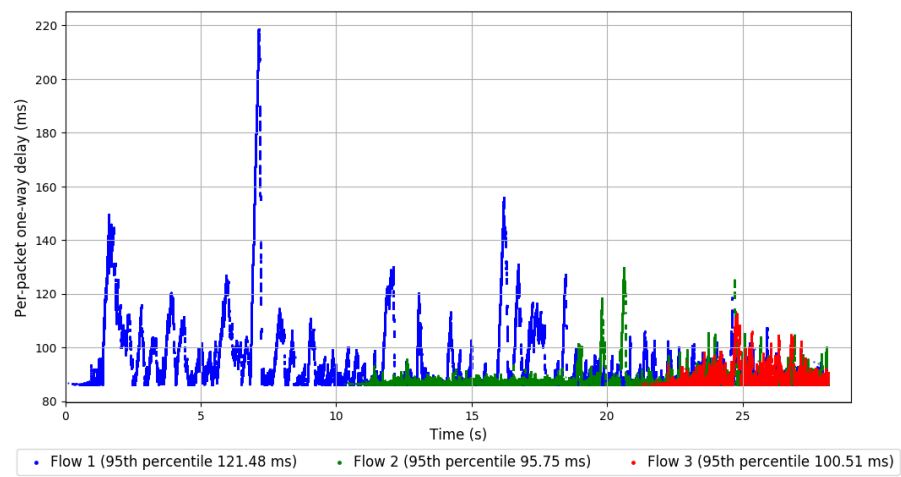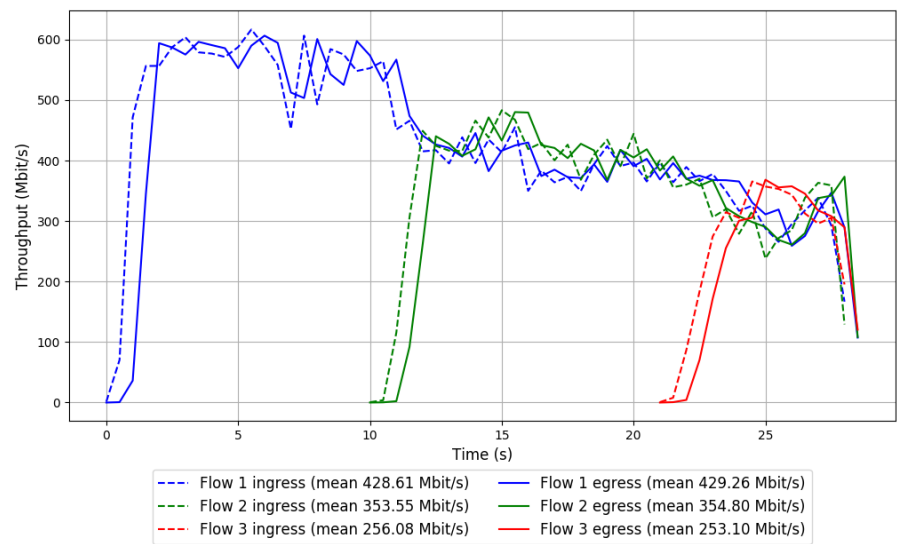
Run 3: Report of Indigo — Data Link

- - - Flow 1 ingress (mean 185.84 Mbit/s) ── Flow 1 egress (mean 185.85 Mbit/s)
- - - Flow 2 ingress (mean 167.04 Mbit/s) ── Flow 2 egress (mean 166.85 Mbit/s)
- - - Flow 3 ingress (mean 154.86 Mbit/s) ── Flow 3 egress (mean 154.33 Mbit/s)

• Flow 1 (95th percentile 99.07 ms)   • Flow 2 (95th percentile 97.89 ms)   • Flow 3 (95th percentile 105.83 ms)

```
Run 4: Statistics of Indigo

Start at: 2019-10-03 01:12:55
End at: 2019-10-03 01:13:25
Local clock offset: -0.087 ms
Remote clock offset: -0.076 ms


# Below is generated by plot.py at 2019-10-03 03:19:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 352.72 Mbit/s
95th percentile per-packet one-way delay: 100.161 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 195.41 Mbit/s
95th percentile per-packet one-way delay: 99.194 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 168.70 Mbit/s
95th percentile per-packet one-way delay: 101.062 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 145.37 Mbit/s
95th percentile per-packet one-way delay: 106.372 ms
Loss rate: 2.12%
```
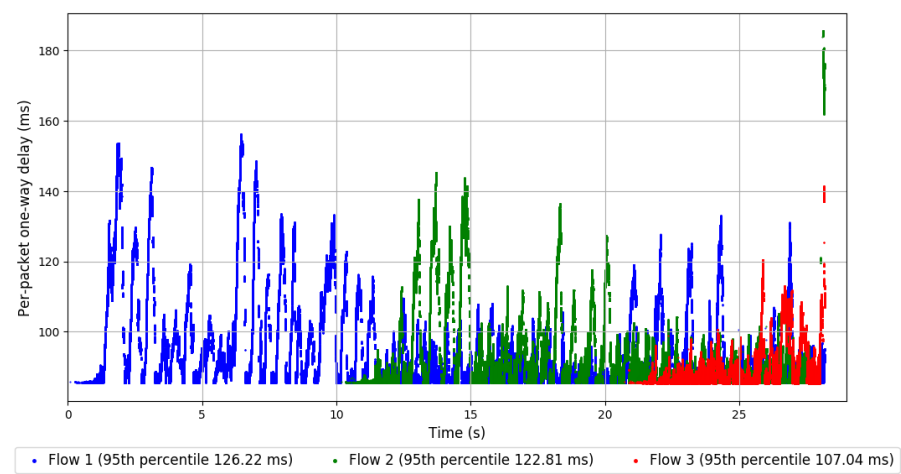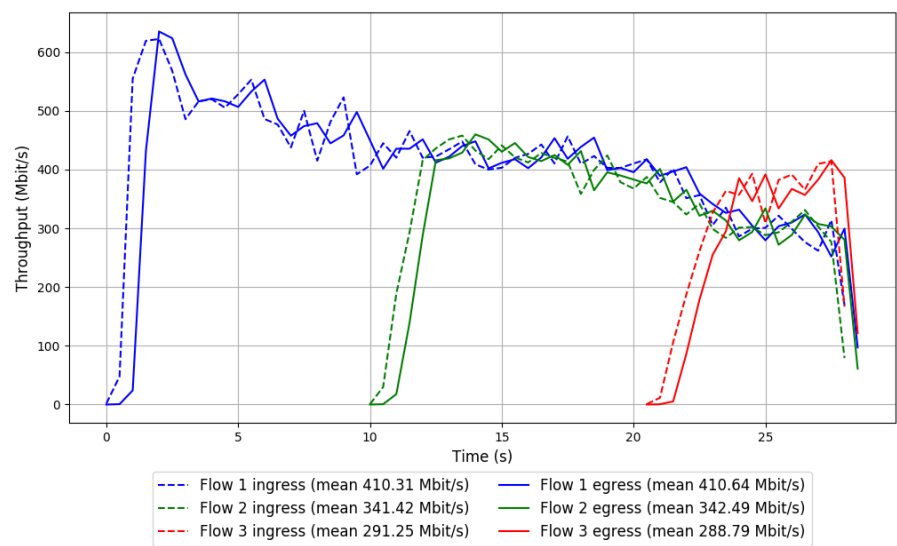
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-10-03 01:53:57
End at: 2019-10-03 01:54:27
Local clock offset: -0.061 ms
Remote clock offset: -0.039 ms


# Below is generated by plot.py at 2019-10-03 03:19:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 341.82 Mbit/s
95th percentile per-packet one-way delay: 99.182 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 171.51 Mbit/s
95th percentile per-packet one-way delay: 98.001 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 185.50 Mbit/s
95th percentile per-packet one-way delay: 101.348 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 147.18 Mbit/s
95th percentile per-packet one-way delay: 92.371 ms
Loss rate: 1.78%
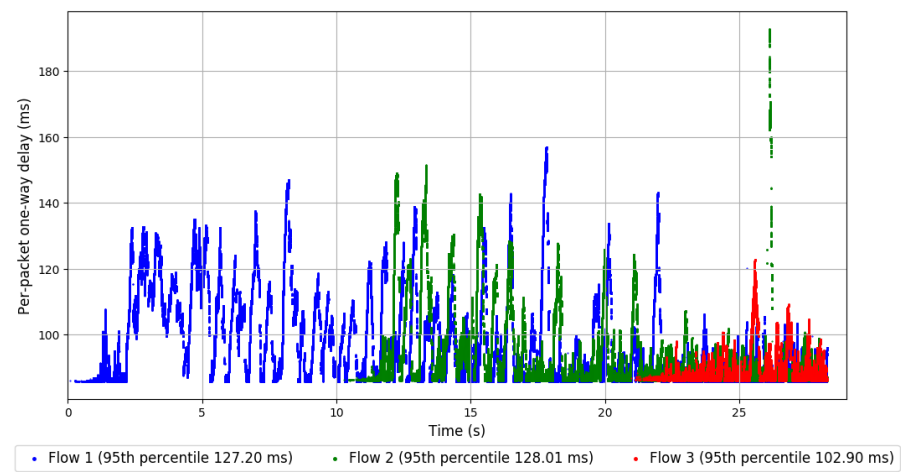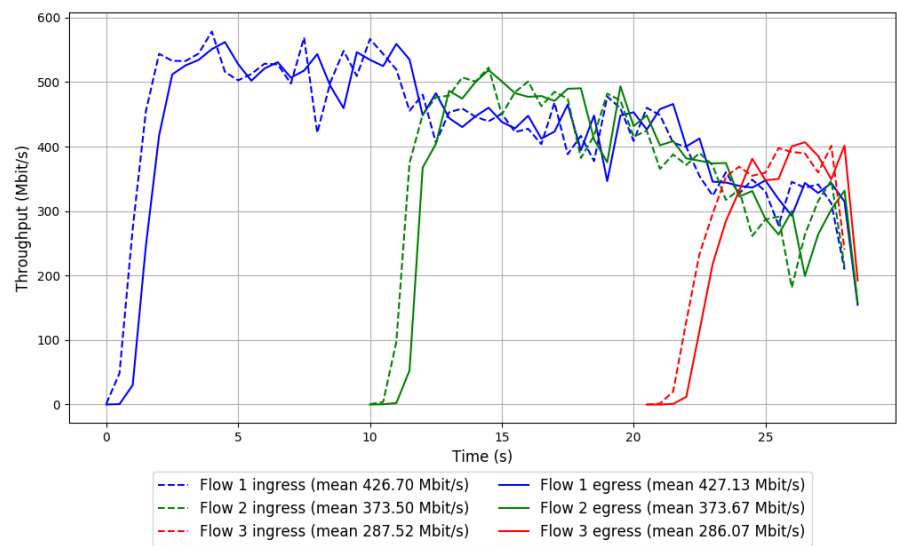```

Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-10-02 23:17:55
End at: 2019-10-02 23:18:25
Local clock offset: 0.427 ms
Remote clock offset: -0.035 ms

# Below is generated by plot.py at 2019-10-03 03:24:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 718.79 Mbit/s
95th percentile per-packet one-way delay: 113.906 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 429.26 Mbit/s
95th percentile per-packet one-way delay: 121.483 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 354.80 Mbit/s
95th percentile per-packet one-way delay: 95.753 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 253.10 Mbit/s
95th percentile per-packet one-way delay: 100.512 ms
Loss rate: 3.53%
```

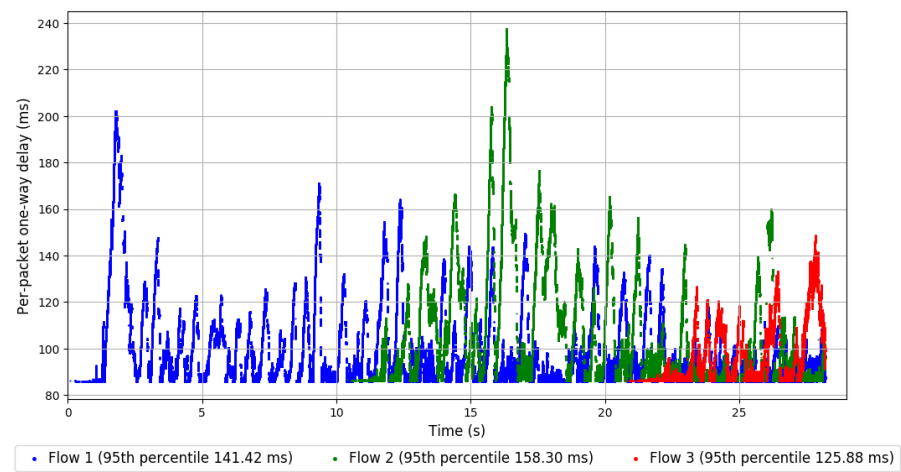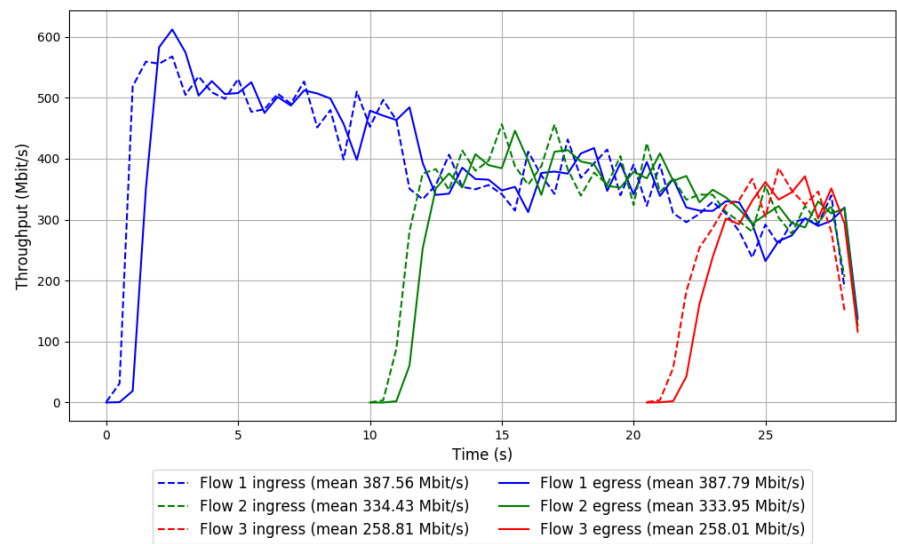Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-10-02 23:58:34
End at: 2019-10-02 23:59:04
Local clock offset: -0.558 ms
Remote clock offset: -0.1 ms


# Below is generated by plot.py at 2019-10-03 03:29:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 706.80 Mbit/s
95th percentile per-packet one-way delay: 123.849 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 410.64 Mbit/s
95th percentile per-packet one-way delay: 126.221 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 342.49 Mbit/s
95th percentile per-packet one-way delay: 122.810 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 288.79 Mbit/s
95th percentile per-packet one-way delay: 107.037 ms
Loss rate: 3.11%
```
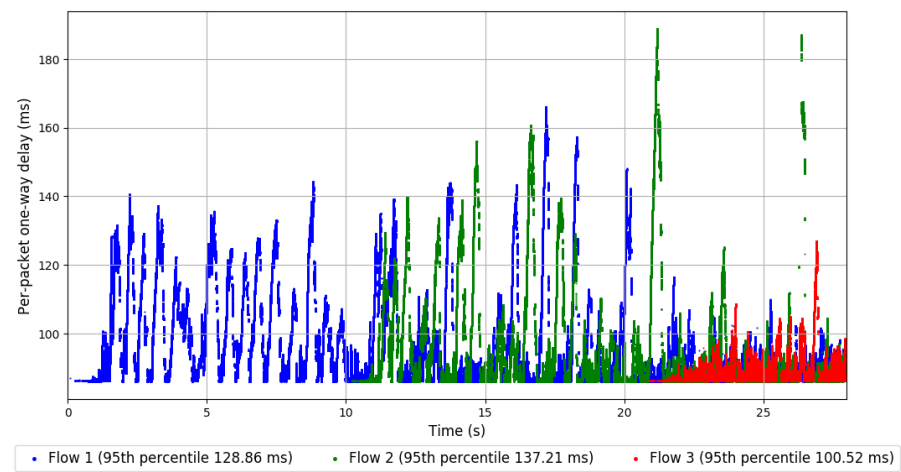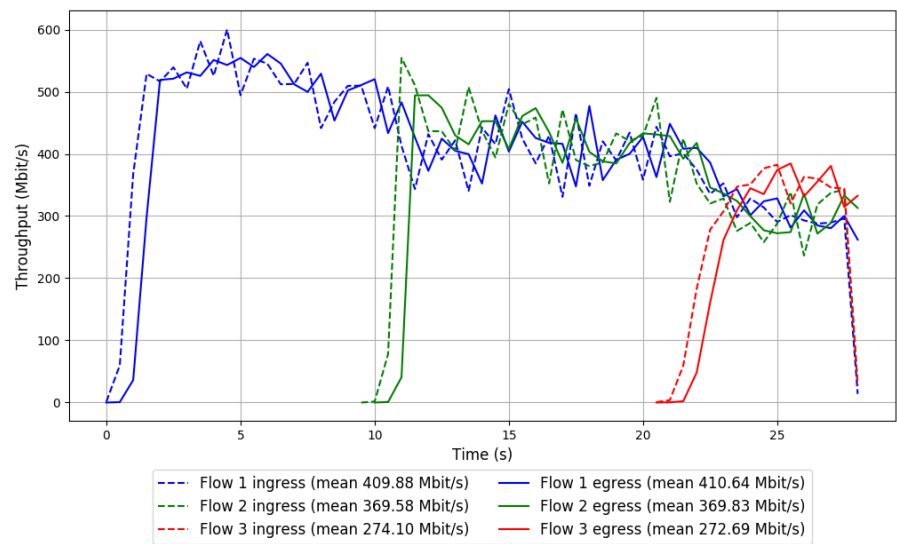
Run 2: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 410.31 Mbit/s) --- Flow 1 egress (mean 410.64 Mbit/s)
Flow 2 ingress (mean 341.42 Mbit/s) --- Flow 2 egress (mean 342.49 Mbit/s)
Flow 3 ingress (mean 291.25 Mbit/s) --- Flow 3 egress (mean 288.79 Mbit/s)

Flow 1 (95th percentile 126.22 ms)   Flow 2 (95th percentile 122.81 ms)   Flow 3 (95th percentile 107.04 ms)

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```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-10-03 00:39:10
End at: 2019-10-03 00:39:40
Local clock offset: 0.04 ms
Remote clock offset: 0.039 ms


# Below is generated by plot.py at 2019-10-03 03:31:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 739.58 Mbit/s
95th percentile per-packet one-way delay: 126.468 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 427.13 Mbit/s
95th percentile per-packet one-way delay: 127.203 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 373.67 Mbit/s
95th percentile per-packet one-way delay: 128.015 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 286.07 Mbit/s
95th percentile per-packet one-way delay: 102.899 ms
Loss rate: 2.81%
```

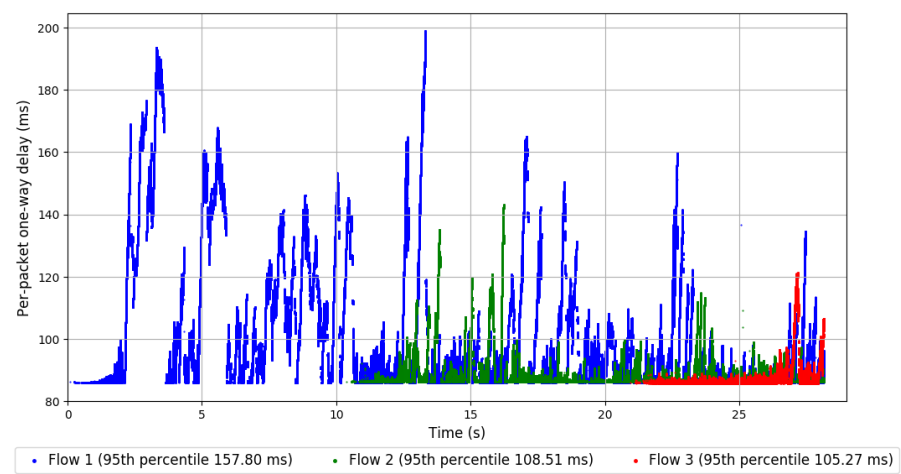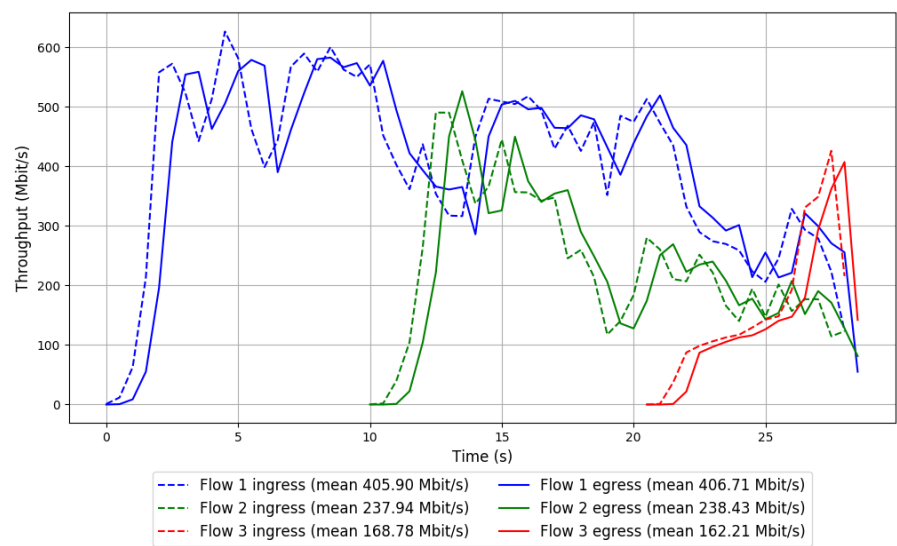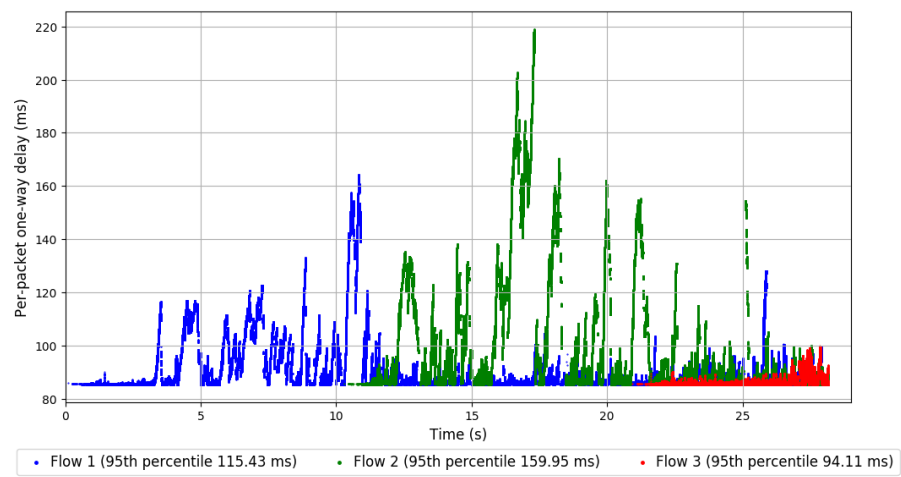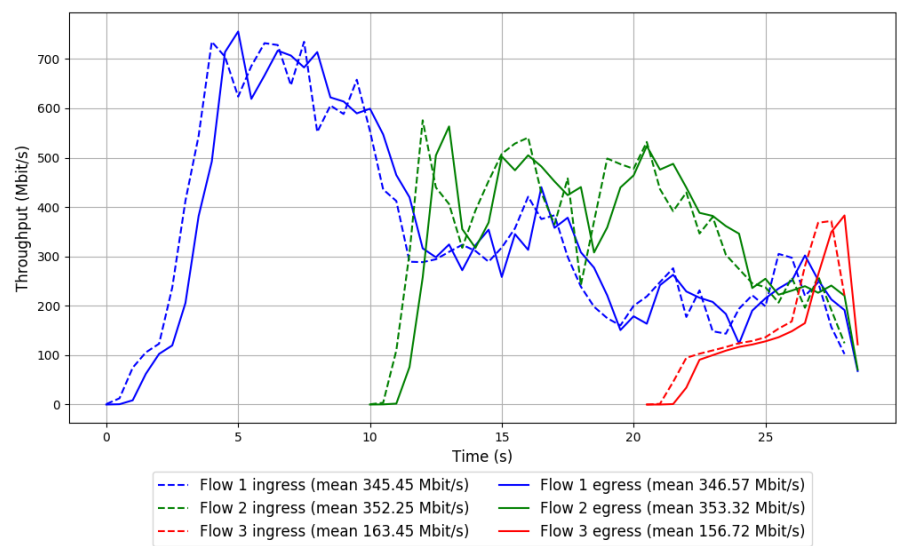Run 3: Report of Indigo-MusesC3 — Data Link

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-10-03 01:20:05
End at: 2019-10-03 01:20:35
Local clock offset: -0.003 ms
Remote clock offset: -0.077 ms


# Below is generated by plot.py at 2019-10-03 03:31:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 667.63 Mbit/s
95th percentile per-packet one-way delay: 148.474 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 387.79 Mbit/s
95th percentile per-packet one-way delay: 141.421 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 333.95 Mbit/s
95th percentile per-packet one-way delay: 158.299 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 258.01 Mbit/s
95th percentile per-packet one-way delay: 125.880 ms
Loss rate: 2.57%
```

Run 4: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 387.56 Mbit/s) --- Flow 1 egress (mean 387.79 Mbit/s)
Flow 2 ingress (mean 334.43 Mbit/s) --- Flow 2 egress (mean 333.95 Mbit/s)
Flow 3 ingress (mean 258.81 Mbit/s) --- Flow 3 egress (mean 258.01 Mbit/s)

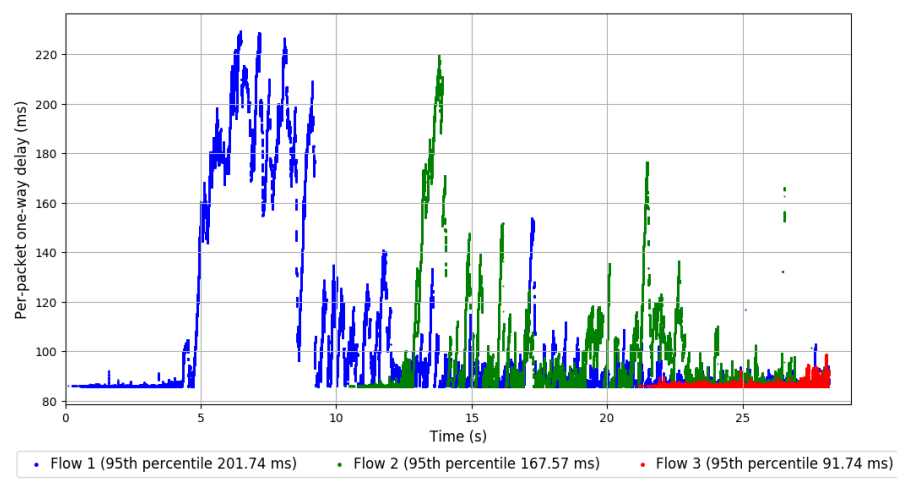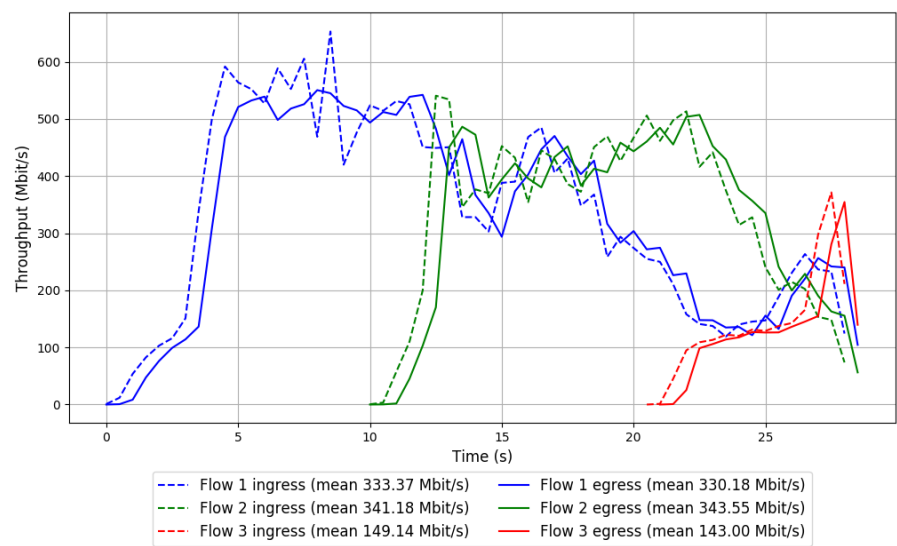Flow 1 (95th percentile 141.42 ms) • Flow 2 (95th percentile 158.30 ms) • Flow 3 (95th percentile 125.88 ms)

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-10-03 02:01:01
End at: 2019-10-03 02:01:31
Local clock offset: 0.324 ms
Remote clock offset: -0.125 ms


# Below is generated by plot.py at 2019-10-03 03:34:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 718.85 Mbit/s
95th percentile per-packet one-way delay: 129.876 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 410.64 Mbit/s
95th percentile per-packet one-way delay: 128.857 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 369.83 Mbit/s
95th percentile per-packet one-way delay: 137.214 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 272.69 Mbit/s
95th percentile per-packet one-way delay: 100.520 ms
Loss rate: 2.84%
```

Run 5: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 409.88 Mbit/s)
Flow 1 egress (mean 410.64 Mbit/s)
Flow 2 ingress (mean 369.58 Mbit/s)
Flow 2 egress (mean 369.83 Mbit/s)
Flow 3 ingress (mean 274.10 Mbit/s)
Flow 3 egress (mean 272.69 Mbit/s)

Flow 1 (95th percentile 128.86 ms)
Flow 2 (95th percentile 137.21 ms)
Flow 3 (95th percentile 100.52 ms)

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-10-02 22:45:57
End at: 2019-10-02 22:46:27
Local clock offset: -0.079 ms
Remote clock offset: -0.001 ms


# Below is generated by plot.py at 2019-10-03 03:34:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 599.43 Mbit/s
95th percentile per-packet one-way delay: 149.264 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 406.71 Mbit/s
95th percentile per-packet one-way delay: 157.803 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 238.43 Mbit/s
95th percentile per-packet one-way delay: 108.507 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 162.21 Mbit/s
95th percentile per-packet one-way delay: 105.271 ms
Loss rate: 6.22%
```
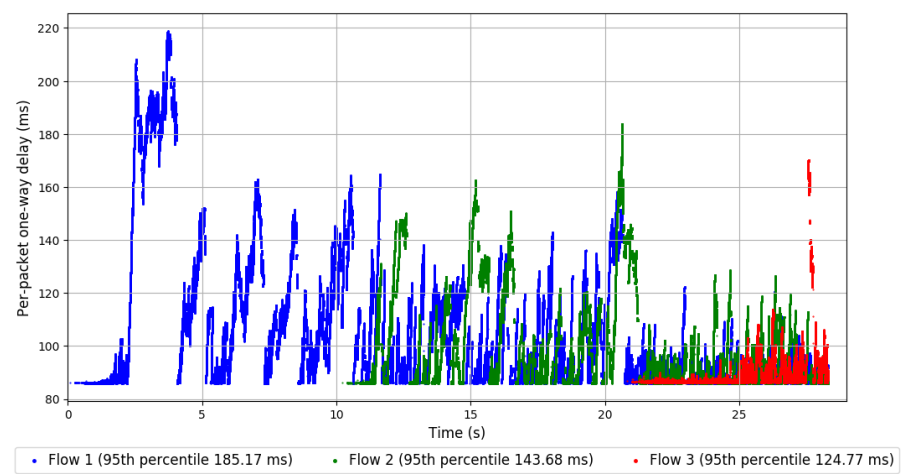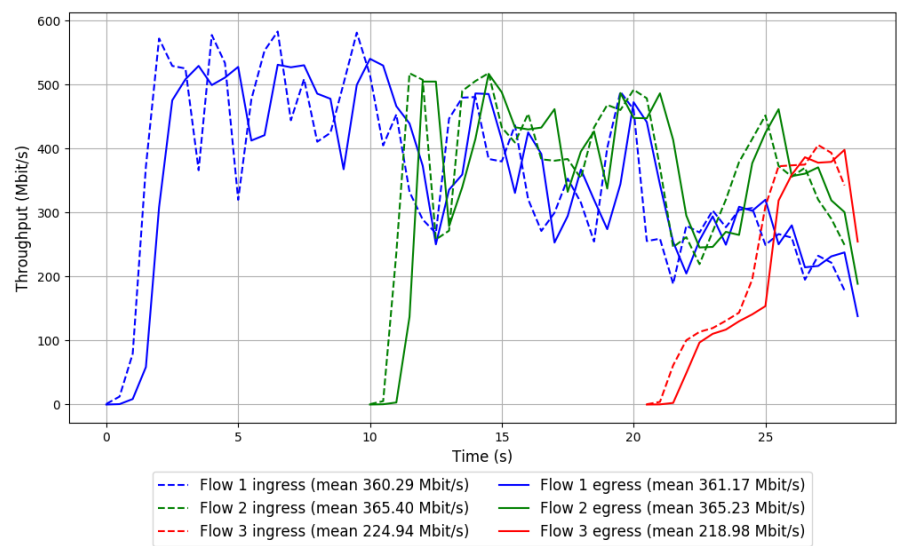
Run 1: Report of Indigo-MusesC5 — Data Link

- - - - Flow 1 ingress (mean 405.90 Mbit/s) ——— Flow 1 egress (mean 406.71 Mbit/s)
- - - - Flow 2 ingress (mean 237.94 Mbit/s) ——— Flow 2 egress (mean 238.43 Mbit/s)
- - - - Flow 3 ingress (mean 168.78 Mbit/s) ——— Flow 3 egress (mean 162.21 Mbit/s)

• Flow 1 (95th percentile 157.80 ms)   • Flow 2 (95th percentile 108.51 ms)   • Flow 3 (95th percentile 105.27 ms)
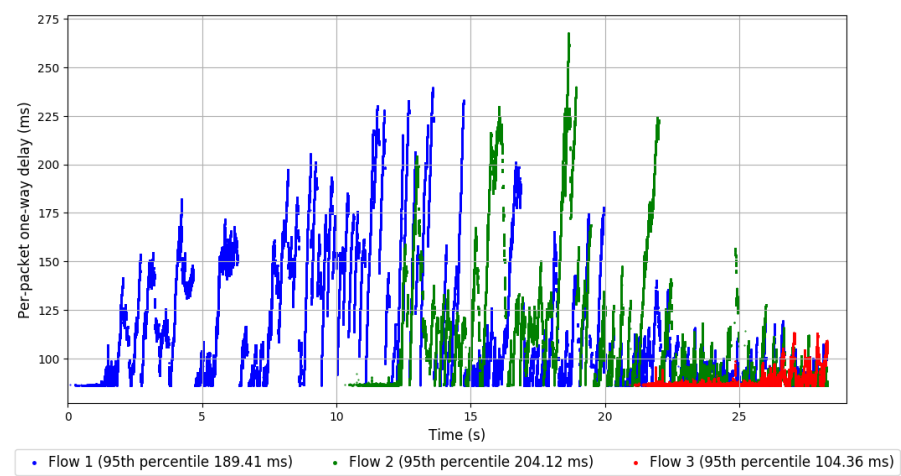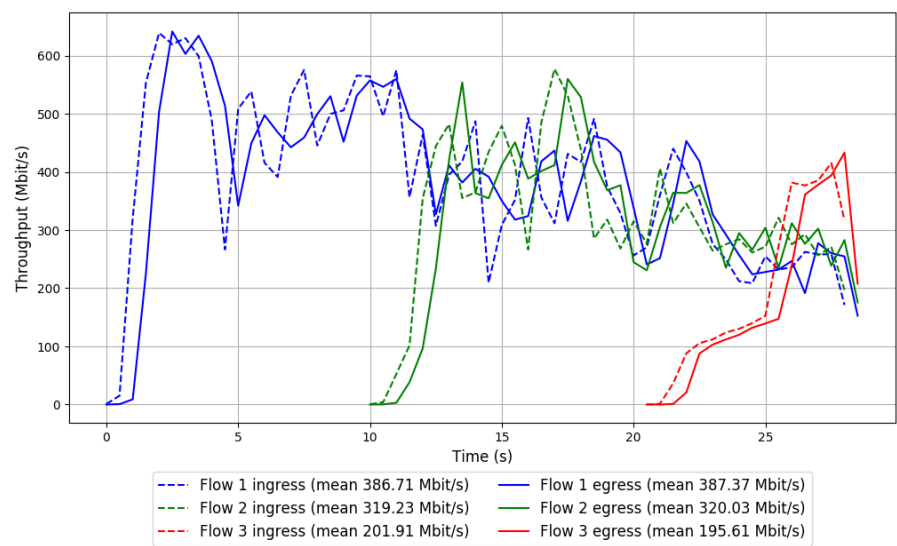
```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-10-02 23:26:30
End at: 2019-10-02 23:27:00
Local clock offset: -0.366 ms
Remote clock offset: -0.016 ms

# Below is generated by plot.py at 2019-10-03 03:34:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 611.98 Mbit/s
95th percentile per-packet one-way delay: 138.994 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 346.57 Mbit/s
95th percentile per-packet one-way delay: 115.434 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 353.32 Mbit/s
95th percentile per-packet one-way delay: 159.954 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 156.72 Mbit/s
95th percentile per-packet one-way delay: 94.107 ms
Loss rate: 6.40%
```
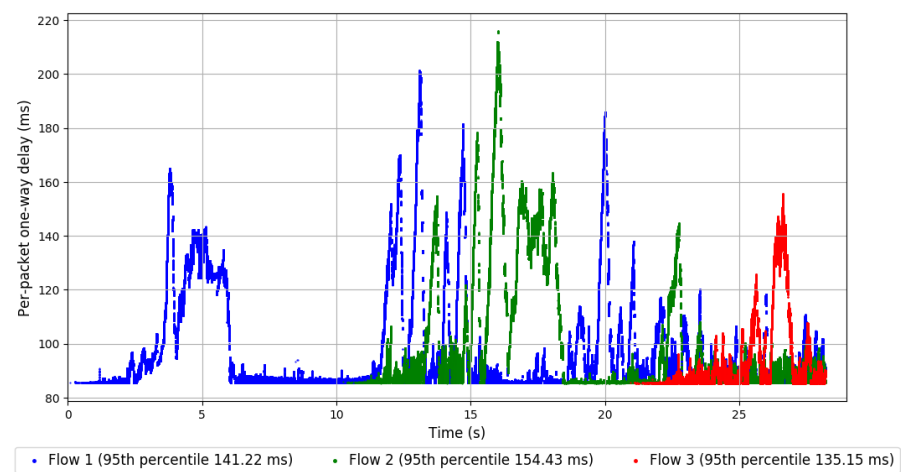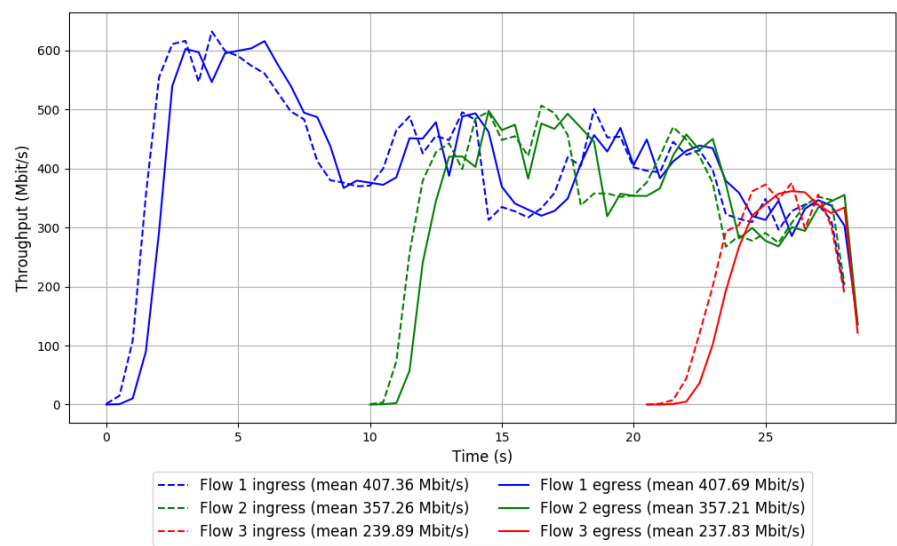
Run 2: Report of Indigo-MusesC5 — Data Link

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-10-03 00:07:11
End at: 2019-10-03 00:07:41
Local clock offset: -0.088 ms
Remote clock offset: -0.092 ms


# Below is generated by plot.py at 2019-10-03 03:34:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 585.00 Mbit/s
95th percentile per-packet one-way delay: 194.991 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 330.18 Mbit/s
95th percentile per-packet one-way delay: 201.738 ms
Loss rate: 1.56%
-- Flow 2:
Average throughput: 343.55 Mbit/s
95th percentile per-packet one-way delay: 167.571 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 143.00 Mbit/s
95th percentile per-packet one-way delay: 91.742 ms
Loss rate: 6.37%
```
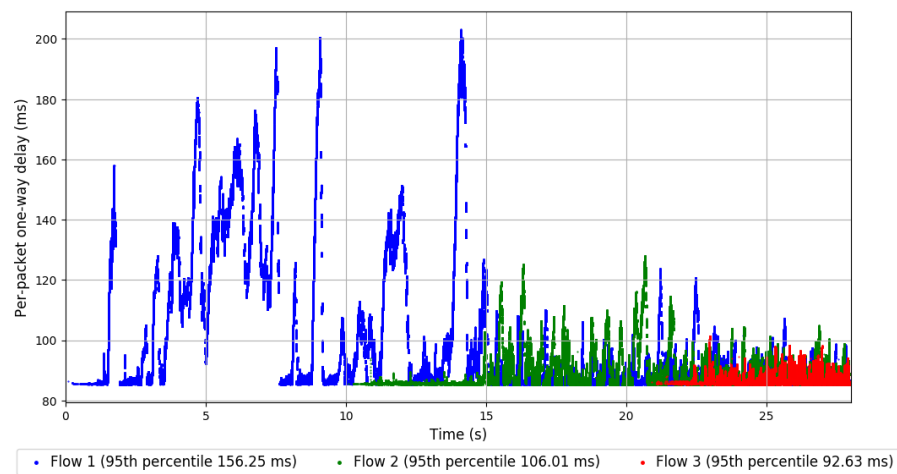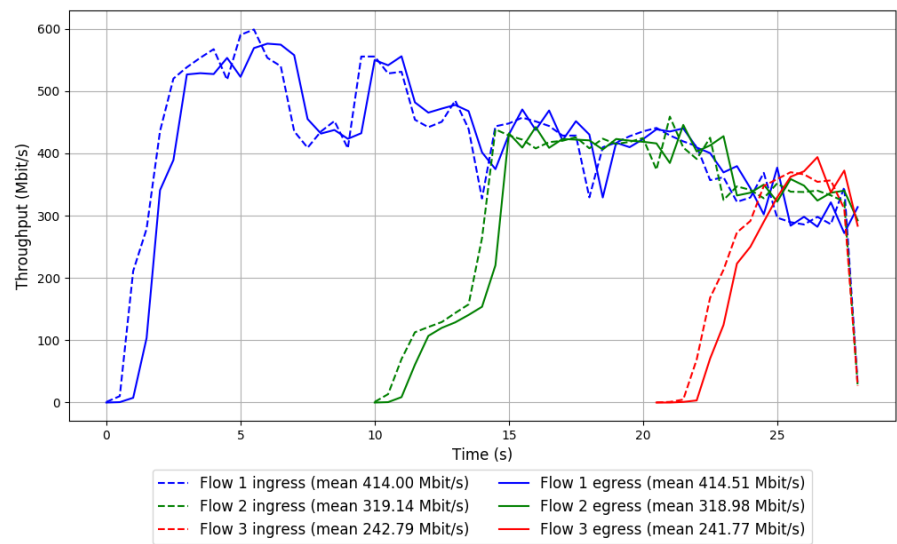
Run 3: Report of Indigo-MusesC5 — Data Link

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-10-03 00:47:51
End at: 2019-10-03 00:48:21
Local clock offset: 0.243 ms
Remote clock offset: 0.042 ms


# Below is generated by plot.py at 2019-10-03 03:39:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 653.02 Mbit/s
95th percentile per-packet one-way delay: 159.593 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 361.17 Mbit/s
95th percentile per-packet one-way delay: 185.171 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 365.23 Mbit/s
95th percentile per-packet one-way delay: 143.680 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 218.98 Mbit/s
95th percentile per-packet one-way delay: 124.771 ms
Loss rate: 4.84%
```
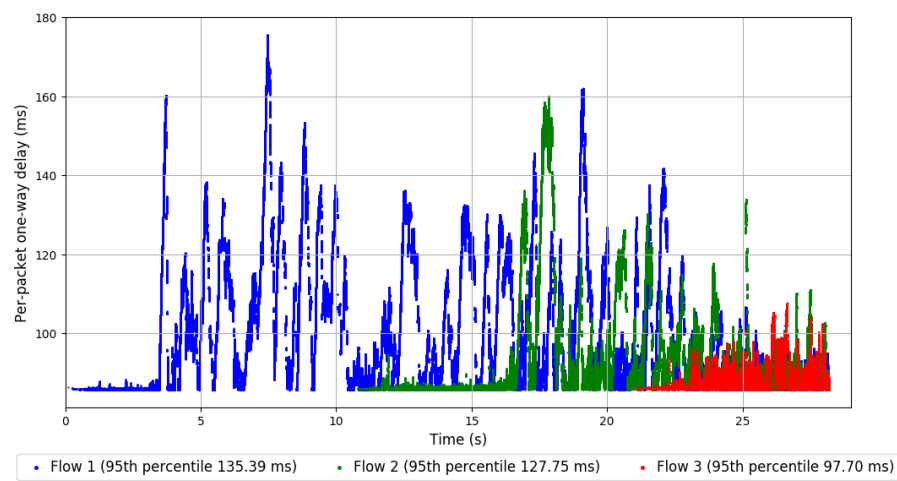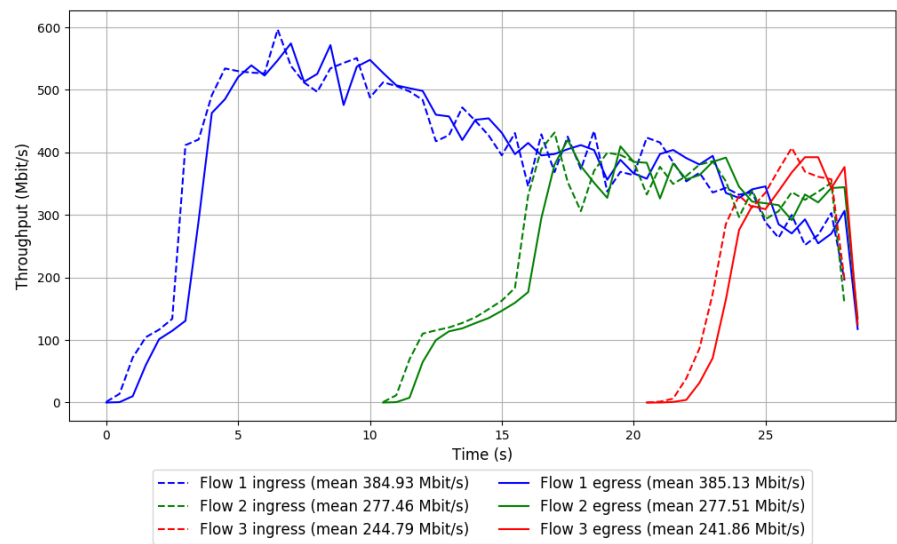
Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-10-03 01:29:00
End at: 2019-10-03 01:29:30
Local clock offset: 0.397 ms
Remote clock offset: -0.038 ms


# Below is generated by plot.py at 2019-10-03 03:43:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 641.99 Mbit/s
95th percentile per-packet one-way delay: 191.509 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 387.37 Mbit/s
95th percentile per-packet one-way delay: 189.410 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 320.03 Mbit/s
95th percentile per-packet one-way delay: 204.118 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 195.61 Mbit/s
95th percentile per-packet one-way delay: 104.359 ms
Loss rate: 5.34%
```

Run 5: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 386.71 Mbit/s) --- Flow 1 egress (mean 387.37 Mbit/s)
Flow 2 ingress (mean 319.23 Mbit/s) --- Flow 2 egress (mean 320.03 Mbit/s)
Flow 3 ingress (mean 201.91 Mbit/s) --- Flow 3 egress (mean 195.61 Mbit/s)

Flow 1 (95th percentile 189.41 ms)   Flow 2 (95th percentile 204.12 ms)   Flow 3 (95th percentile 104.36 ms)
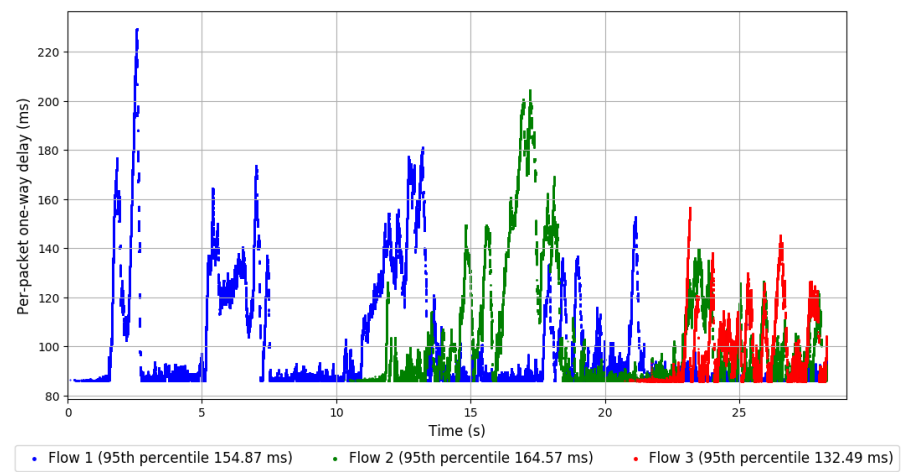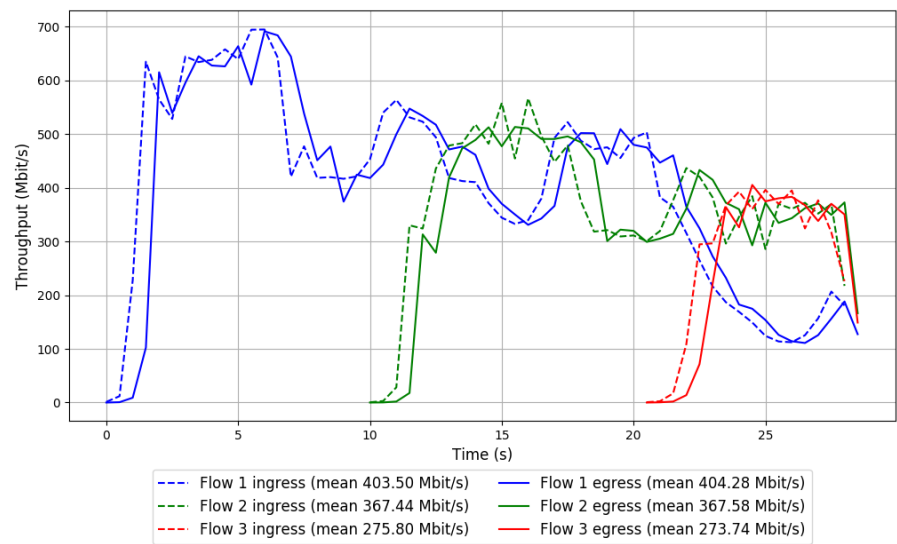
84

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-10-02 23:02:11
End at: 2019-10-02 23:02:41
Local clock offset: -0.444 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2019-10-03 03:47:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 697.42 Mbit/s
95th percentile per-packet one-way delay: 149.124 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 407.69 Mbit/s
95th percentile per-packet one-way delay: 141.221 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 357.21 Mbit/s
95th percentile per-packet one-way delay: 154.428 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 237.83 Mbit/s
95th percentile per-packet one-way delay: 135.152 ms
Loss rate: 3.15%
```

Run 1: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 407.36 Mbit/s) --- Flow 1 egress (mean 407.69 Mbit/s)
Flow 2 ingress (mean 357.26 Mbit/s) --- Flow 2 egress (mean 357.21 Mbit/s)
Flow 3 ingress (mean 239.89 Mbit/s) --- Flow 3 egress (mean 237.83 Mbit/s)

Flow 1 (95th percentile 141.22 ms)   Flow 2 (95th percentile 154.43 ms)   Flow 3 (95th percentile 135.15 ms)

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-10-02 23:42:41
End at: 2019-10-02 23:43:11
Local clock offset: -0.481 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2019-10-03 03:47:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 680.25 Mbit/s
95th percentile per-packet one-way delay: 143.867 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 414.51 Mbit/s
95th percentile per-packet one-way delay: 156.255 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 318.98 Mbit/s
95th percentile per-packet one-way delay: 106.009 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 241.77 Mbit/s
95th percentile per-packet one-way delay: 92.630 ms
Loss rate: 2.81%
```
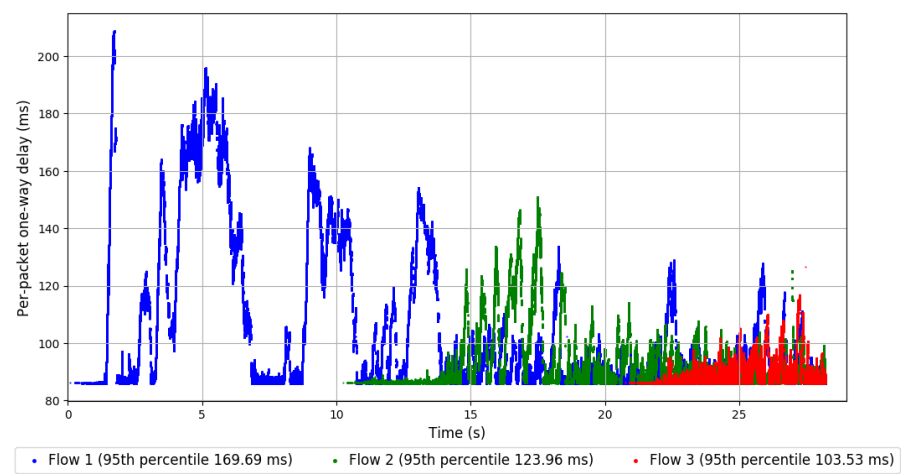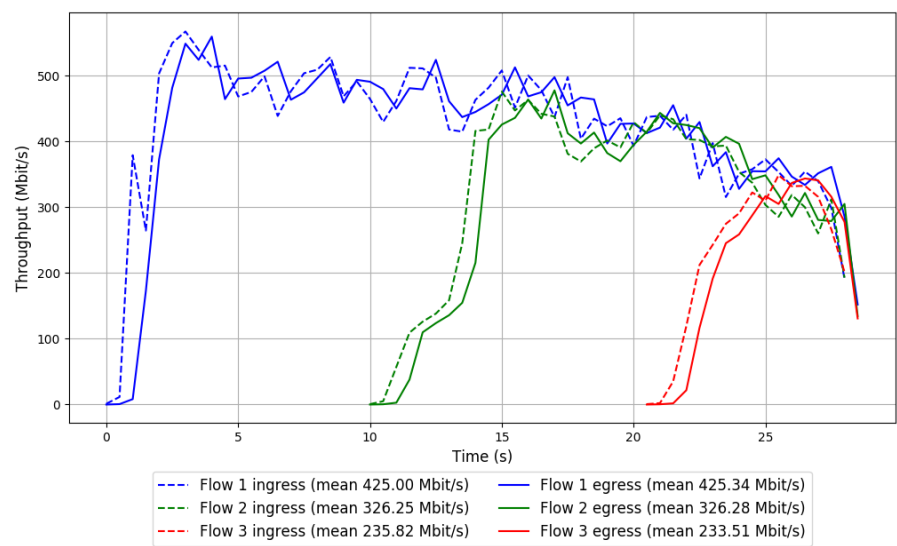
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-10-03 00:23:21
End at: 2019-10-03 00:23:51
Local clock offset: -0.051 ms
Remote clock offset: -0.033 ms


# Below is generated by plot.py at 2019-10-03 03:47:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 621.01 Mbit/s
95th percentile per-packet one-way delay: 133.093 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 385.13 Mbit/s
95th percentile per-packet one-way delay: 135.394 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 277.51 Mbit/s
95th percentile per-packet one-way delay: 127.754 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 241.86 Mbit/s
95th percentile per-packet one-way delay: 97.704 ms
Loss rate: 3.49%
```
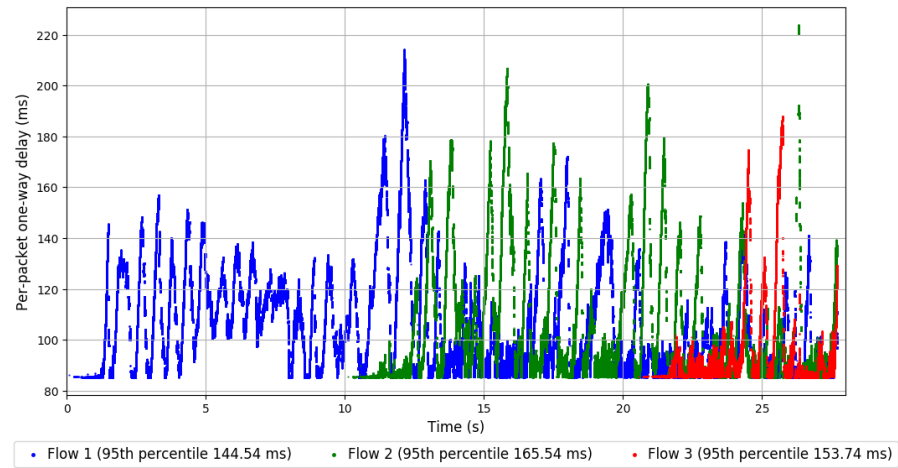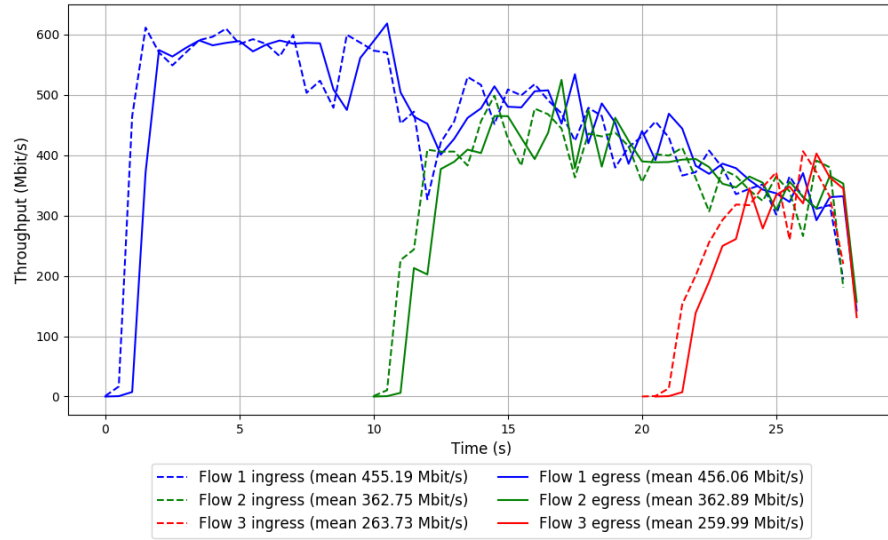
Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-10-03 01:04:11
End at: 2019-10-03 01:04:41
Local clock offset: 0.137 ms
Remote clock offset: -0.052 ms


# Below is generated by plot.py at 2019-10-03 03:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 711.47 Mbit/s
95th percentile per-packet one-way delay: 154.584 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 404.28 Mbit/s
95th percentile per-packet one-way delay: 154.868 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 367.58 Mbit/s
95th percentile per-packet one-way delay: 164.568 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 273.74 Mbit/s
95th percentile per-packet one-way delay: 132.487 ms
Loss rate: 2.98%
```
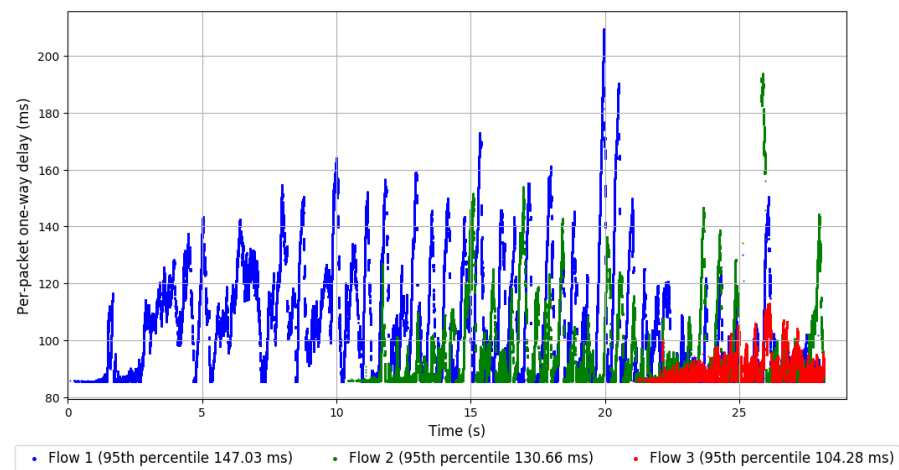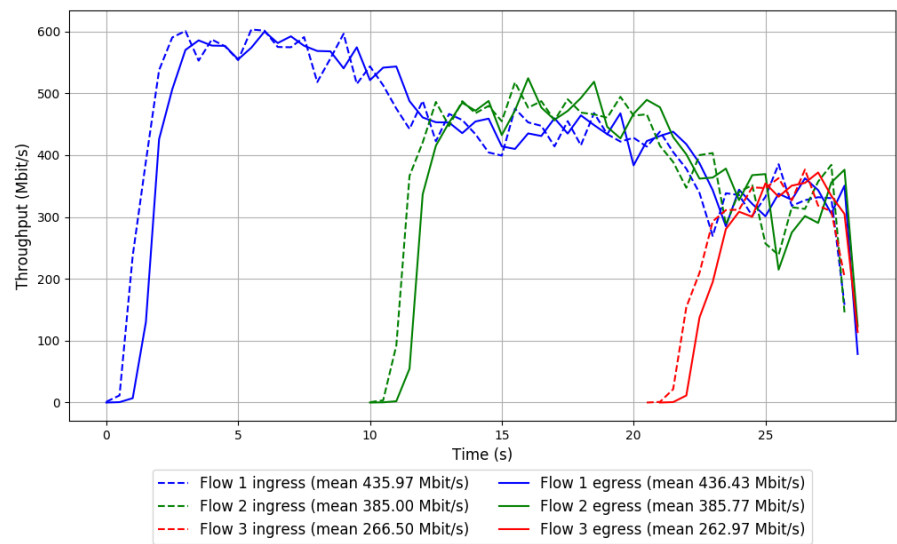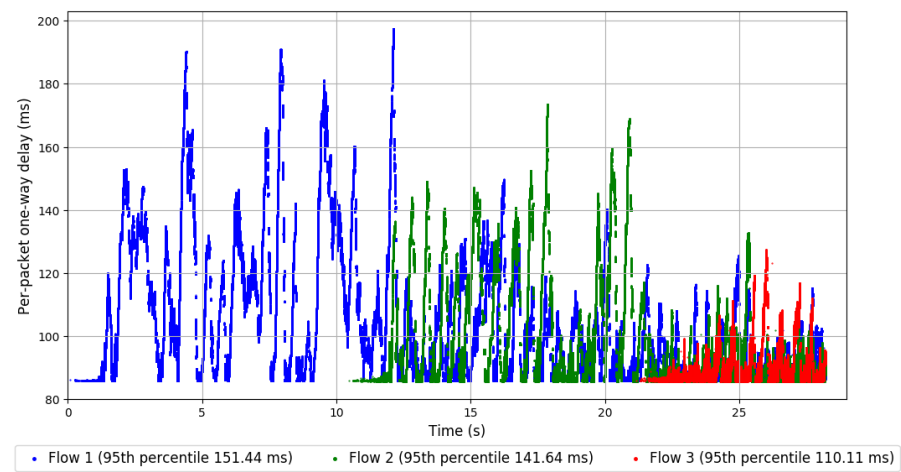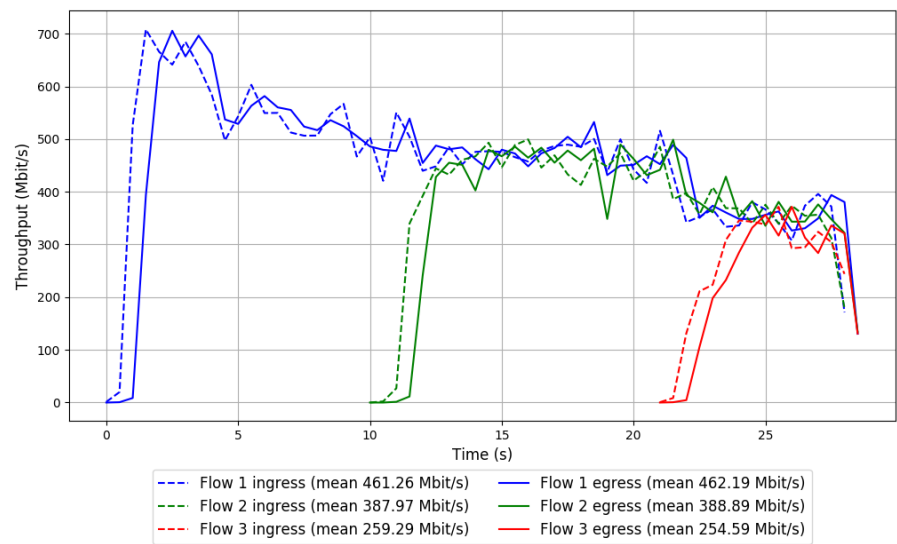
Run 4: Report of Indigo-MusesD — Data Link

Run 5: Statistics of Indigo-MusesD

Start at: 2019-10-03 01:45:18
End at: 2019-10-03 01:45:48
Local clock offset: 0.186 ms
Remote clock offset: -0.06 ms

Below is generated by plot.py at 2019-10-03 03:49:06
Datalink statistics
-- Total of 3 flows:
Average throughput: 695.87 Mbit/s
95th percentile per-packet one-way delay: 159.778 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 425.34 Mbit/s
95th percentile per-packet one-way delay: 169.692 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 326.28 Mbit/s
95th percentile per-packet one-way delay: 123.962 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 233.51 Mbit/s
95th percentile per-packet one-way delay: 103.530 ms
Loss rate: 3.21%

Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-10-02 22:40:16
End at: 2019-10-02 22:40:46
Local clock offset: -0.512 ms
Remote clock offset: 0.005 ms

# Below is generated by plot.py at 2019-10-03 03:50:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 754.47 Mbit/s
95th percentile per-packet one-way delay: 152.803 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 456.06 Mbit/s
95th percentile per-packet one-way delay: 144.543 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 362.89 Mbit/s
95th percentile per-packet one-way delay: 165.536 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 259.99 Mbit/s
95th percentile per-packet one-way delay: 153.740 ms
Loss rate: 3.74%
```
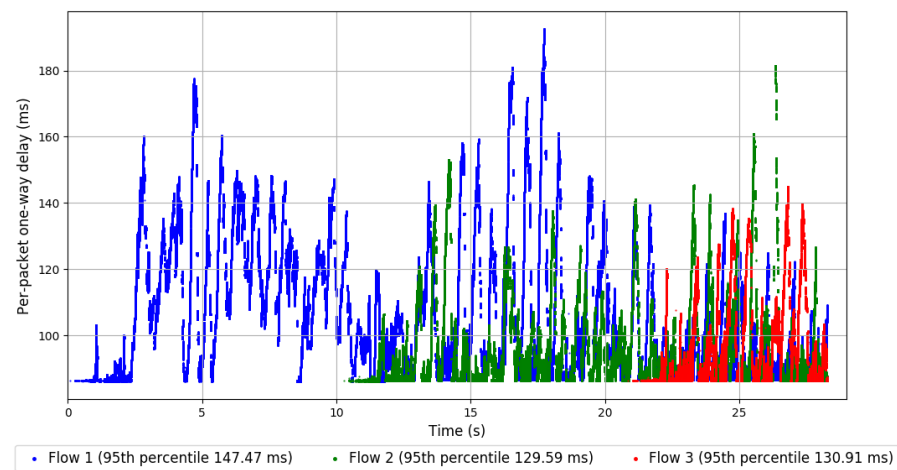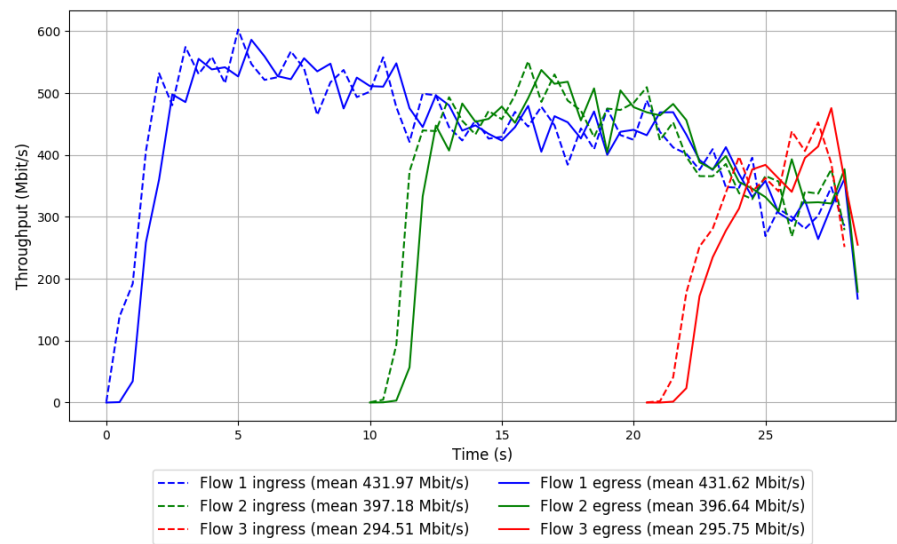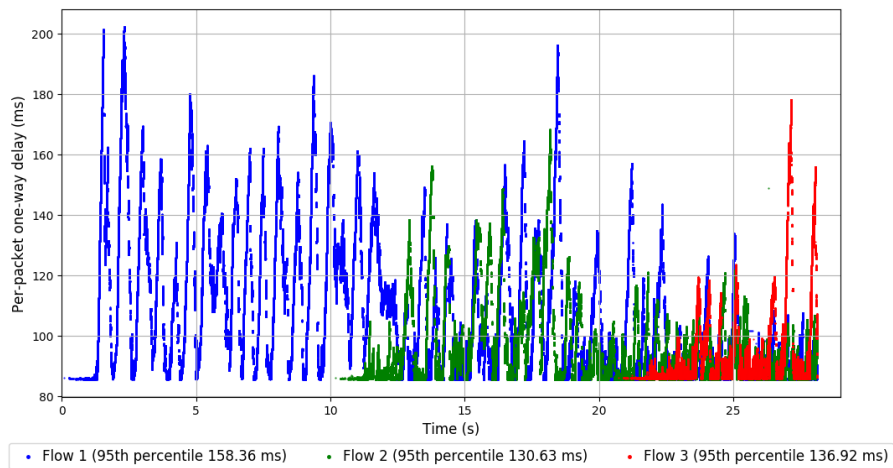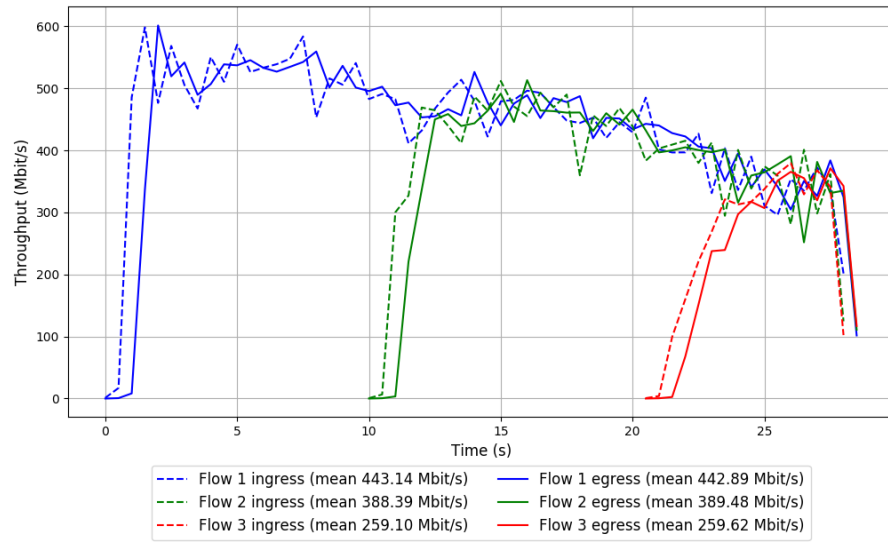
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-10-02 23:21:04
End at: 2019-10-02 23:21:34
Local clock offset: -0.164 ms
Remote clock offset: -0.01 ms


# Below is generated by plot.py at 2019-10-03 03:56:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 748.86 Mbit/s
95th percentile per-packet one-way delay: 141.088 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 436.43 Mbit/s
95th percentile per-packet one-way delay: 147.026 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 385.77 Mbit/s
95th percentile per-packet one-way delay: 130.659 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 262.97 Mbit/s
95th percentile per-packet one-way delay: 104.281 ms
Loss rate: 3.67%
```

Run 2: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 435.97 Mbit/s)   Flow 1 egress (mean 436.43 Mbit/s)
Flow 2 ingress (mean 385.00 Mbit/s)   Flow 2 egress (mean 385.77 Mbit/s)
Flow 3 ingress (mean 266.50 Mbit/s)   Flow 3 egress (mean 262.97 Mbit/s)

Flow 1 (95th percentile 147.03 ms)   Flow 2 (95th percentile 130.66 ms)   Flow 3 (95th percentile 104.28 ms)

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-10-03 00:01:42
End at: 2019-10-03 00:02:12
Local clock offset: -0.169 ms
Remote clock offset: -0.105 ms


# Below is generated by plot.py at 2019-10-03 04:01:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 771.37 Mbit/s
95th percentile per-packet one-way delay: 146.136 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 462.19 Mbit/s
95th percentile per-packet one-way delay: 151.442 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 388.89 Mbit/s
95th percentile per-packet one-way delay: 141.637 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 254.59 Mbit/s
95th percentile per-packet one-way delay: 110.109 ms
Loss rate: 4.15%
```
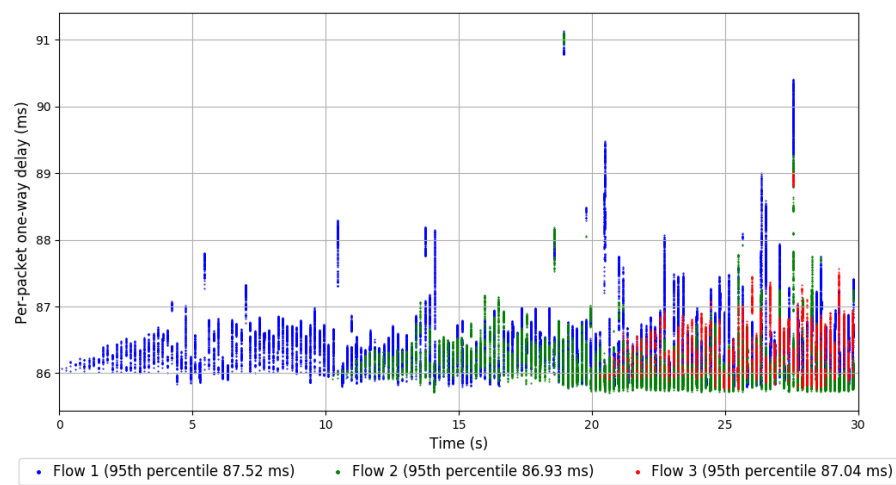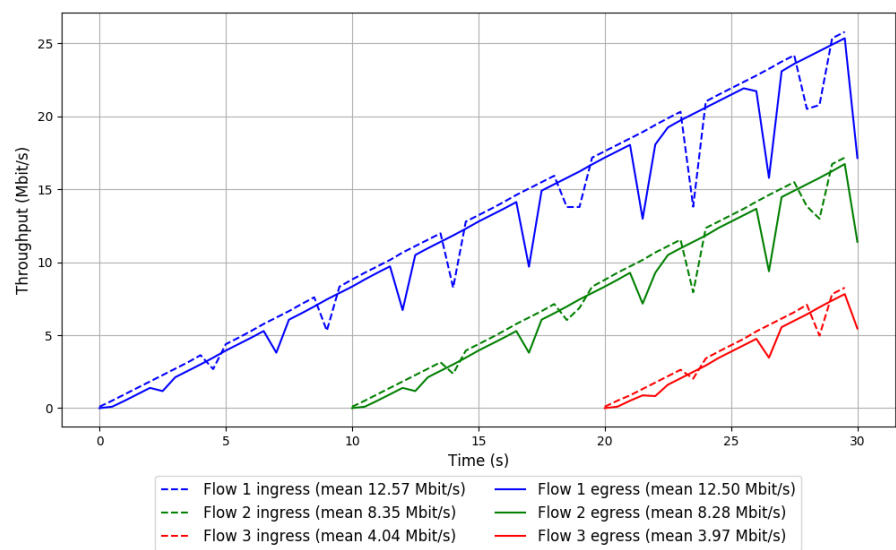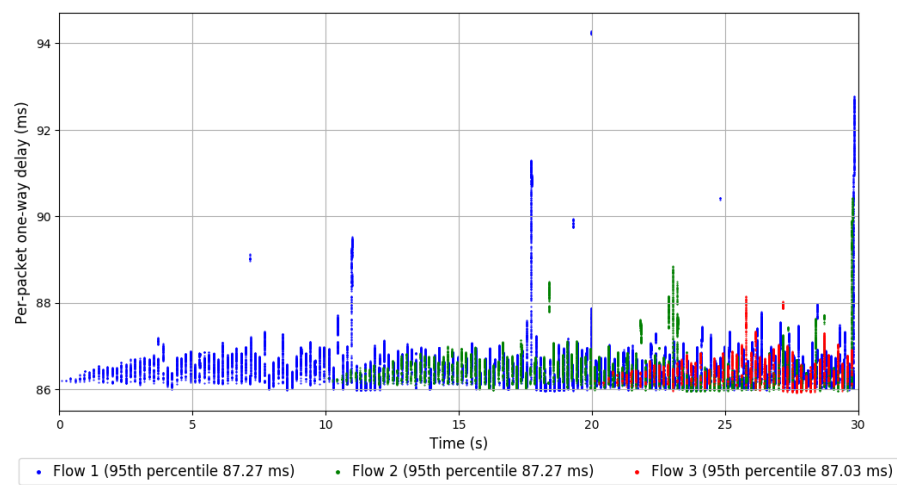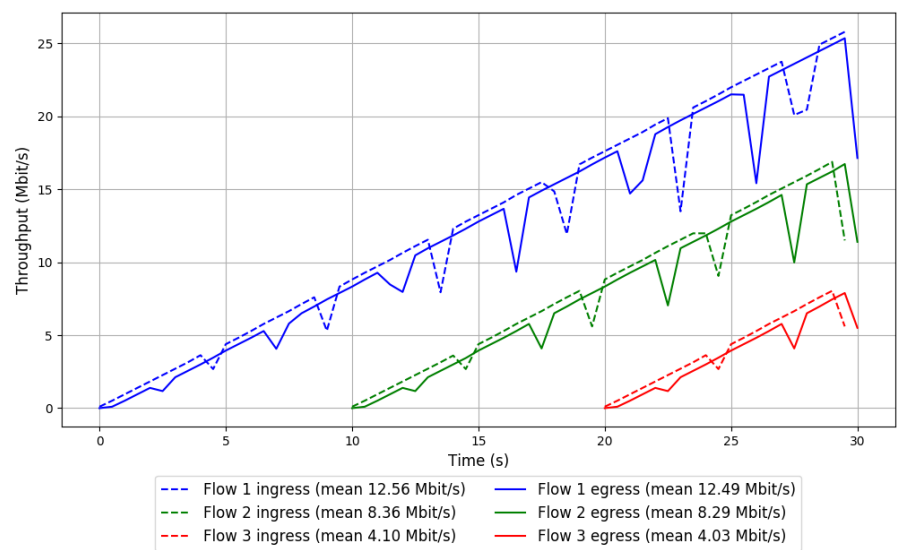
Run 3: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 461.26 Mbit/s) --- Flow 1 egress (mean 462.19 Mbit/s)
Flow 2 ingress (mean 387.97 Mbit/s) --- Flow 2 egress (mean 388.89 Mbit/s)
Flow 3 ingress (mean 259.29 Mbit/s) --- Flow 3 egress (mean 254.59 Mbit/s)

Flow 1 (95th percentile 151.44 ms)   Flow 2 (95th percentile 141.64 ms)   Flow 3 (95th percentile 110.11 ms)

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-10-03 00:42:21
End at: 2019-10-03 00:42:51
Local clock offset: 0.275 ms
Remote clock offset: 0.023 ms


# Below is generated by plot.py at 2019-10-03 04:04:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 762.56 Mbit/s
95th percentile per-packet one-way delay: 142.712 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 431.62 Mbit/s
95th percentile per-packet one-way delay: 147.466 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 396.64 Mbit/s
95th percentile per-packet one-way delay: 129.592 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 295.75 Mbit/s
95th percentile per-packet one-way delay: 130.905 ms
Loss rate: 1.89%
```

Run 4: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 431.97 Mbit/s) --- Flow 1 egress (mean 431.62 Mbit/s)
Flow 2 ingress (mean 397.18 Mbit/s) --- Flow 2 egress (mean 396.64 Mbit/s)
Flow 3 ingress (mean 294.51 Mbit/s) --- Flow 3 egress (mean 295.75 Mbit/s)

Flow 1 (95th percentile 147.47 ms)   Flow 2 (95th percentile 129.59 ms)   Flow 3 (95th percentile 130.91 ms)

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-10-03 01:23:14
End at: 2019-10-03 01:23:44
Local clock offset: -0.255 ms
Remote clock offset: -0.065 ms

# Below is generated by plot.py at 2019-10-03 04:04:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 760.40 Mbit/s
95th percentile per-packet one-way delay: 151.155 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 442.89 Mbit/s
95th percentile per-packet one-way delay: 158.359 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 389.48 Mbit/s
95th percentile per-packet one-way delay: 130.628 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 259.62 Mbit/s
95th percentile per-packet one-way delay: 136.922 ms
Loss rate: 2.10%
```

Run 5: Report of Indigo-MusesT — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2019-10-02 22:38:59
End at: 2019-10-02 22:39:29
Local clock offset: -0.124 ms
Remote clock offset: 0.017 ms


# Below is generated by plot.py at 2019-10-03 04:04:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.27 Mbit/s
95th percentile per-packet one-way delay: 87.293 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 12.50 Mbit/s
95th percentile per-packet one-way delay: 87.517 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 86.930 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.97 Mbit/s
95th percentile per-packet one-way delay: 87.041 ms
Loss rate: 3.52%
```
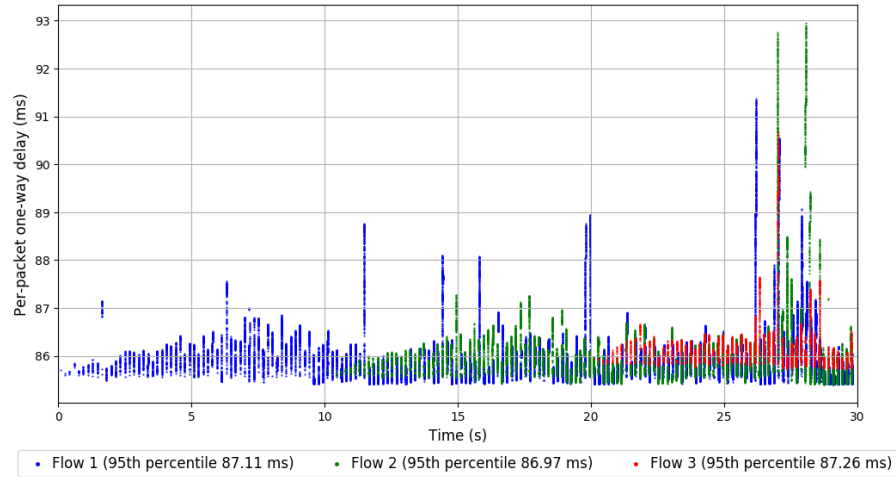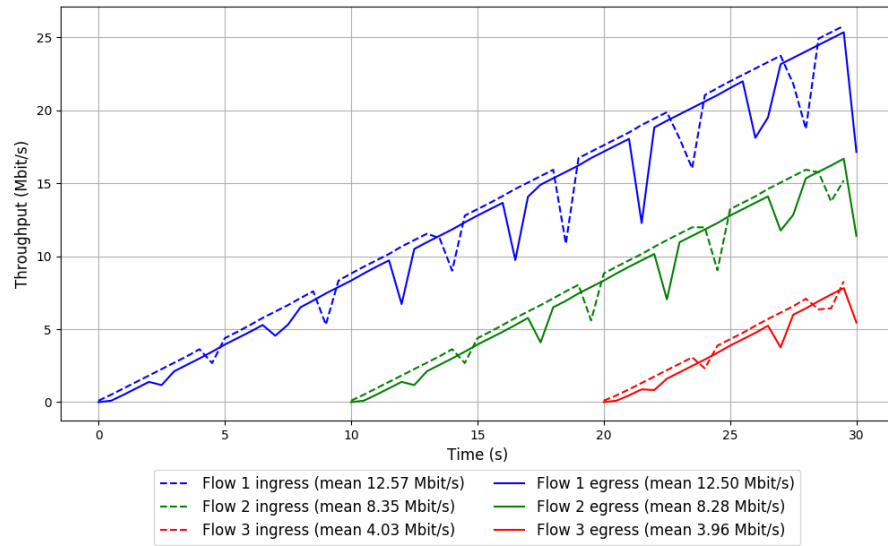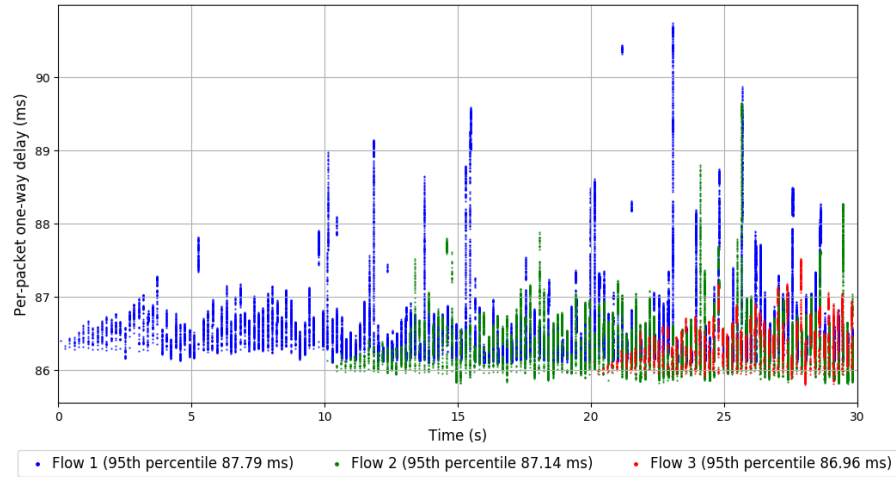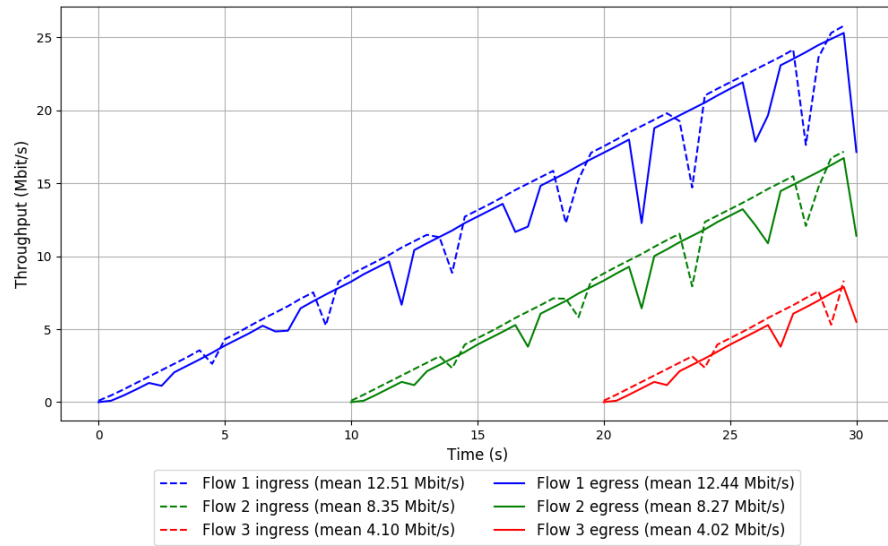
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-10-02 23:19:47
End at: 2019-10-02 23:20:17
Local clock offset: 0.193 ms
Remote clock offset: -0.052 ms


# Below is generated by plot.py at 2019-10-03 04:04:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.28 Mbit/s
95th percentile per-packet one-way delay: 87.259 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 12.49 Mbit/s
95th percentile per-packet one-way delay: 87.269 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 8.29 Mbit/s
95th percentile per-packet one-way delay: 87.267 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 4.03 Mbit/s
95th percentile per-packet one-way delay: 87.032 ms
Loss rate: 3.50%
```

Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-10-03 00:00:25
End at: 2019-10-03 00:00:55
Local clock offset: 0.077 ms
Remote clock offset: -0.114 ms


# Below is generated by plot.py at 2019-10-03 04:04:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.30 Mbit/s
95th percentile per-packet one-way delay: 87.713 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 12.52 Mbit/s
95th percentile per-packet one-way delay: 87.976 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 8.29 Mbit/s
95th percentile per-packet one-way delay: 87.201 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.97 Mbit/s
95th percentile per-packet one-way delay: 87.043 ms
Loss rate: 3.53%
```
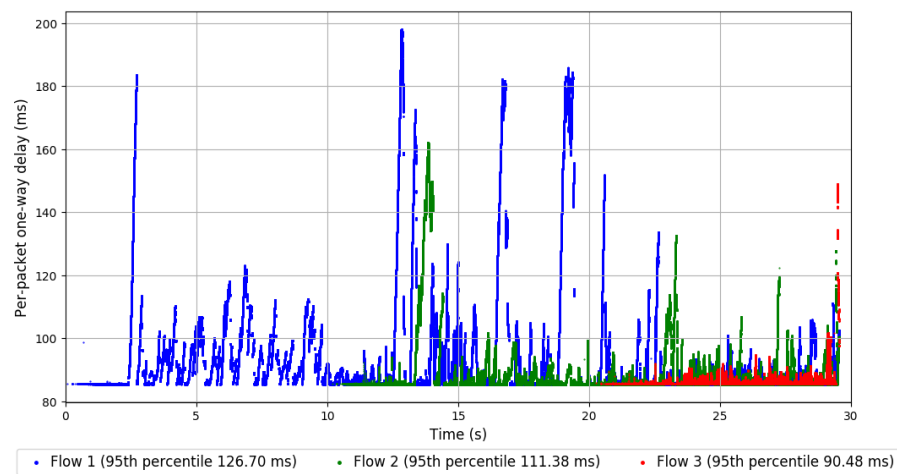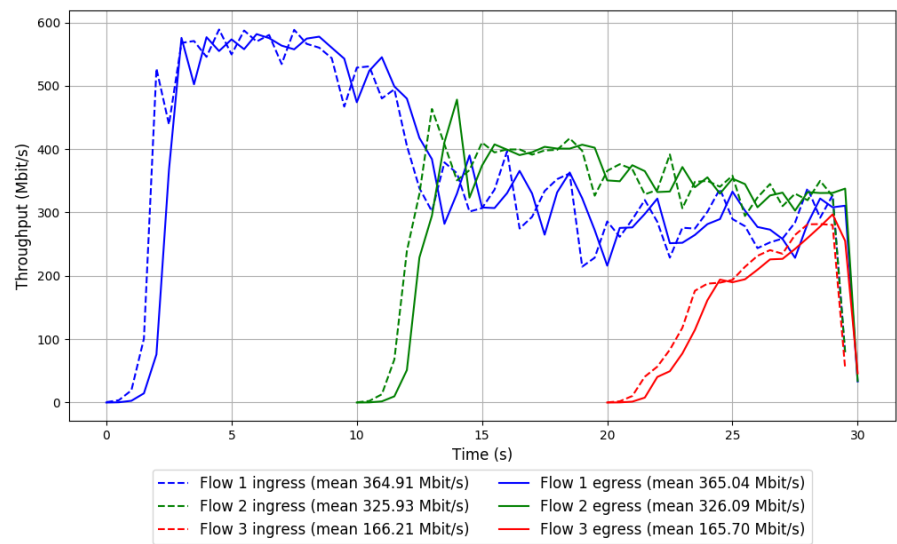
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2019-10-03 00:41:04
End at: 2019-10-03 00:41:34
Local clock offset: -0.337 ms
Remote clock offset: 0.041 ms

# Below is generated by plot.py at 2019-10-03 04:04:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.27 Mbit/s
95th percentile per-packet one-way delay: 87.084 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 12.50 Mbit/s
95th percentile per-packet one-way delay: 87.106 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 86.971 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 3.96 Mbit/s
95th percentile per-packet one-way delay: 87.261 ms
Loss rate: 3.56%
```

Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-10-03 01:21:57
End at: 2019-10-03 01:22:27
Local clock offset: 0.012 ms
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2019-10-03 04:04:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.24 Mbit/s
95th percentile per-packet one-way delay: 87.548 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 12.44 Mbit/s
95th percentile per-packet one-way delay: 87.791 ms
Loss rate: 1.16%
-- Flow 2:
Average throughput: 8.27 Mbit/s
95th percentile per-packet one-way delay: 87.135 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 4.02 Mbit/s
95th percentile per-packet one-way delay: 86.959 ms
Loss rate: 3.50%
```

Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-10-02 23:09:03
End at: 2019-10-02 23:09:33
Local clock offset: -0.401 ms
Remote clock offset: -0.07 ms

# Below is generated by plot.py at 2019-10-03 04:05:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 631.26 Mbit/s
95th percentile per-packet one-way delay: 117.263 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 365.04 Mbit/s
95th percentile per-packet one-way delay: 126.699 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 326.09 Mbit/s
95th percentile per-packet one-way delay: 111.381 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 165.70 Mbit/s
95th percentile per-packet one-way delay: 90.476 ms
Loss rate: 2.21%
```
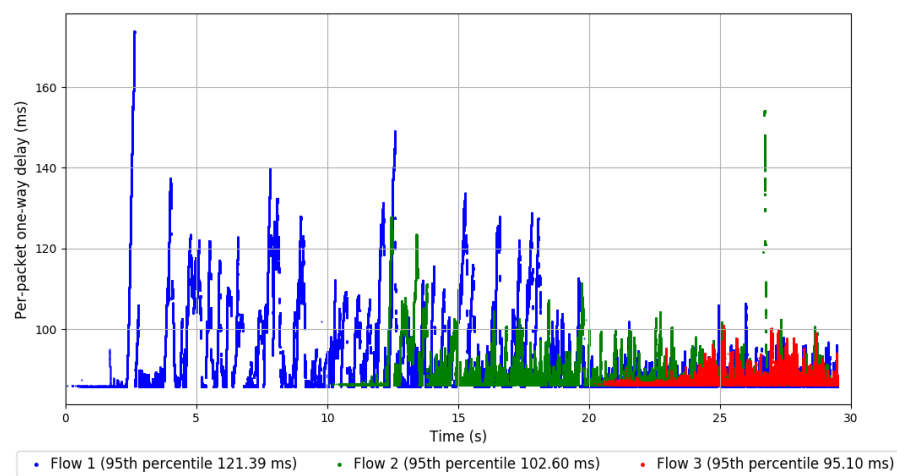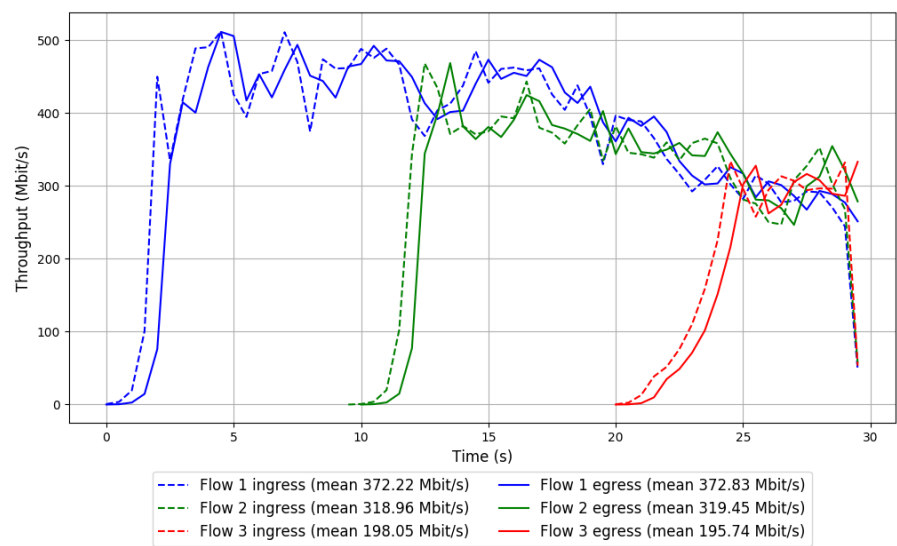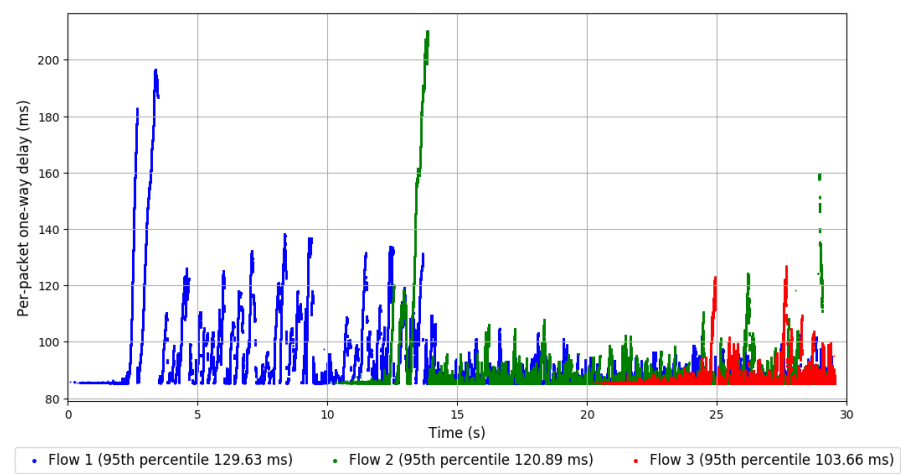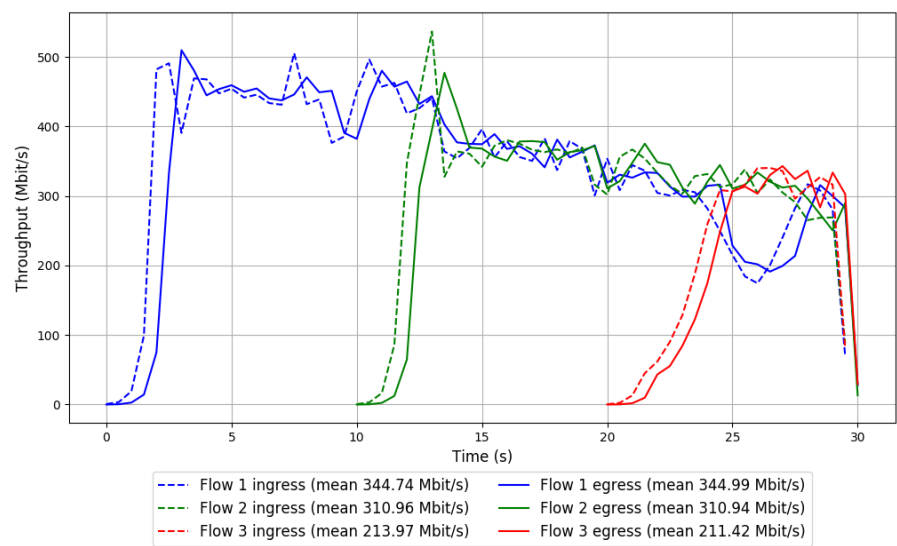
Run 1: Report of Muses_DecisionTree — Data Link

```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-10-02 23:49:32
End at: 2019-10-02 23:50:02
Local clock offset: -0.312 ms
Remote clock offset: -0.062 ms


# Below is generated by plot.py at 2019-10-03 04:05:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 617.97 Mbit/s
95th percentile per-packet one-way delay: 113.150 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 373.34 Mbit/s
95th percentile per-packet one-way delay: 116.205 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 275.03 Mbit/s
95th percentile per-packet one-way delay: 96.342 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 201.67 Mbit/s
95th percentile per-packet one-way delay: 117.752 ms
Loss rate: 3.20%
```
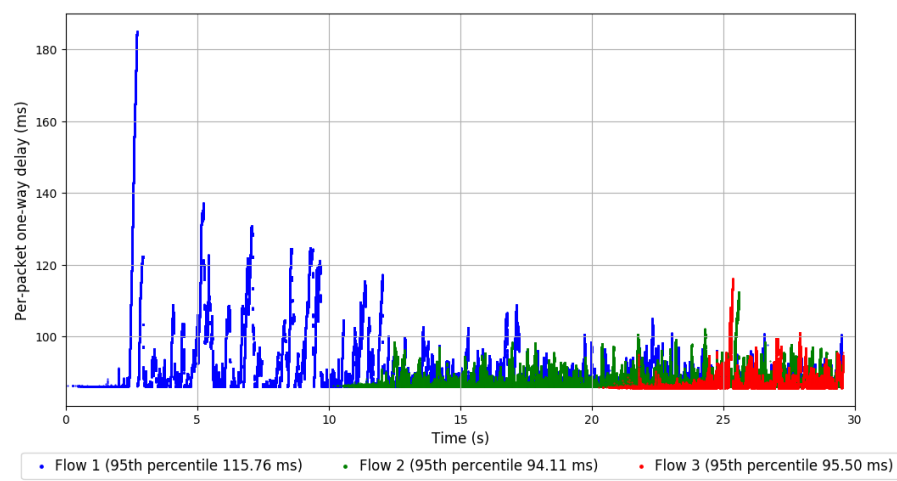
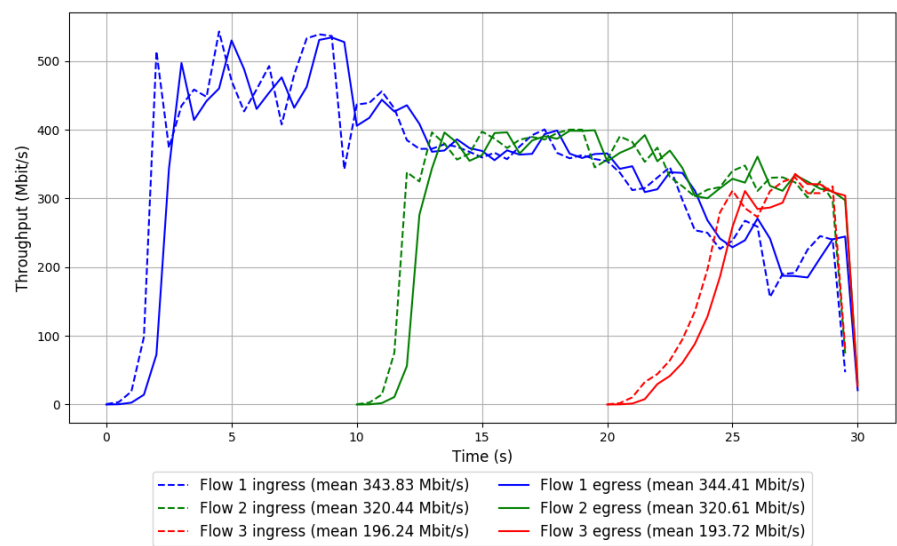Run 2: Report of Muses_DecisionTree — Data Link

Run 3: Statistics of Muses_DecisionTree

Start at: 2019-10-03 00:30:09
End at: 2019-10-03 00:30:39
Local clock offset: -0.061 ms
Remote clock offset: 0.022 ms

Below is generated by plot.py at 2019-10-03 04:05:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 645.73 Mbit/s
95th percentile per-packet one-way delay: 116.110 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 372.83 Mbit/s
95th percentile per-packet one-way delay: 121.387 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 319.45 Mbit/s
95th percentile per-packet one-way delay: 102.598 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 195.74 Mbit/s
95th percentile per-packet one-way delay: 95.104 ms
Loss rate: 2.97%
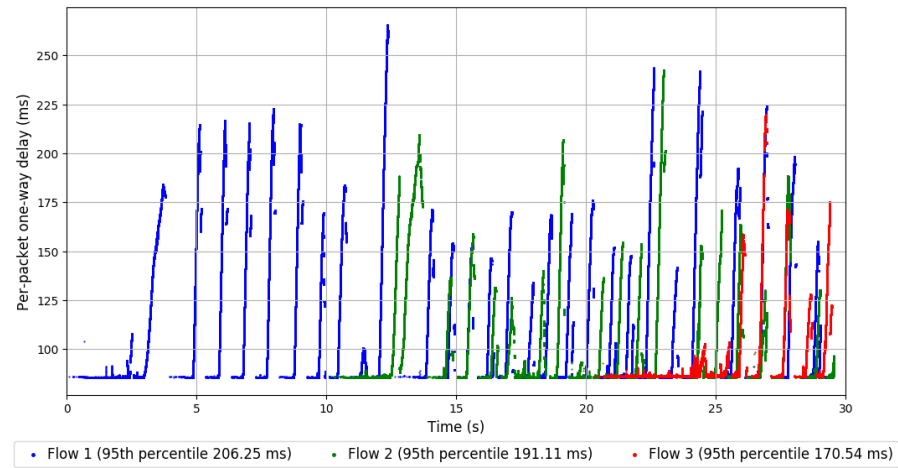
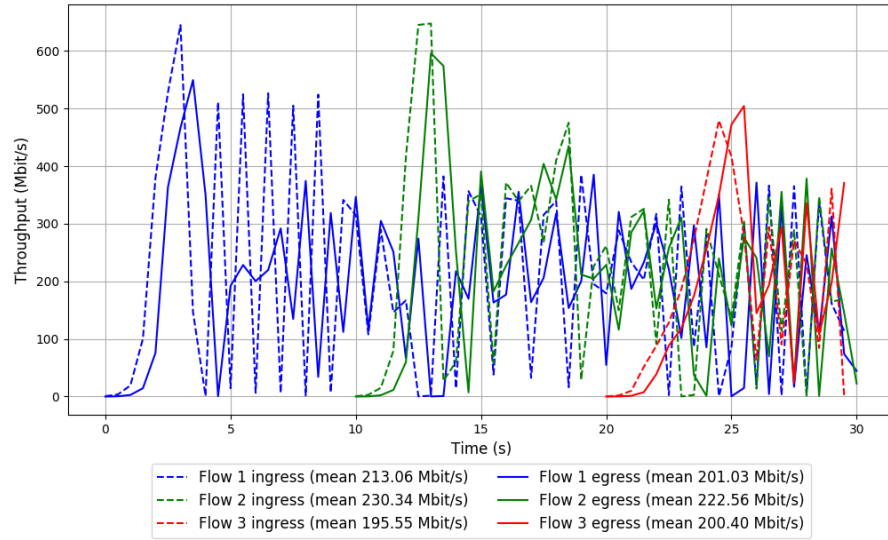Run 3: Report of Muses_DecisionTree — Data Link

Run 4: Statistics of Muses_DecisionTree

Start at: 2019-10-03 01:11:06
End at: 2019-10-03 01:11:36
Local clock offset: -0.329 ms
Remote clock offset: -0.054 ms

Below is generated by plot.py at 2019-10-03 04:05:52
Datalink statistics
-- Total of 3 flows:
Average throughput: 616.85 Mbit/s
95th percentile per-packet one-way delay: 123.811 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 344.99 Mbit/s
95th percentile per-packet one-way delay: 129.627 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 310.94 Mbit/s
95th percentile per-packet one-way delay: 120.888 ms
Loss rate: 0.88%
-- Flow 3:
Average throughput: 211.42 Mbit/s
95th percentile per-packet one-way delay: 103.656 ms
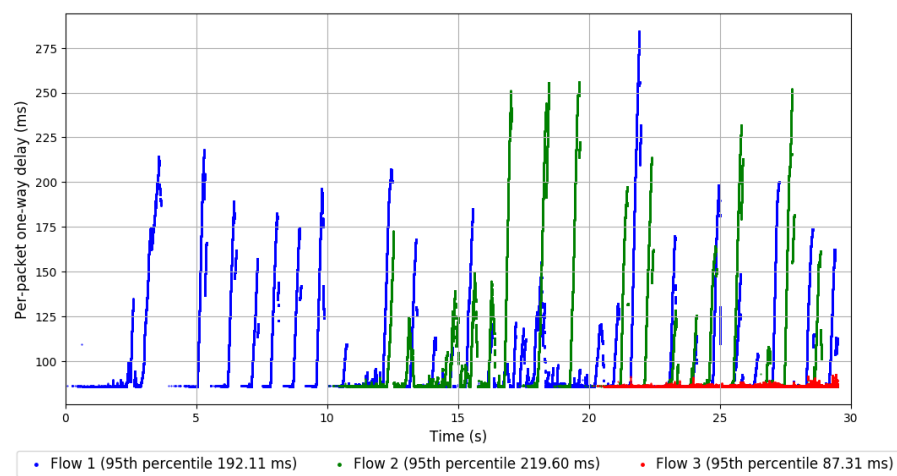Loss rate: 3.00%

Run 4: Report of Muses_DecisionTree — Data Link

```
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-10-03 01:52:08
End at: 2019-10-03 01:52:38
Local clock offset: -0.026 ms
Remote clock offset: -0.022 ms


# Below is generated by plot.py at 2019-10-03 04:11:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 616.23 Mbit/s
95th percentile per-packet one-way delay: 106.881 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 344.41 Mbit/s
95th percentile per-packet one-way delay: 115.763 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 320.61 Mbit/s
95th percentile per-packet one-way delay: 94.108 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 193.72 Mbit/s
95th percentile per-packet one-way delay: 95.500 ms
Loss rate: 3.10%
```
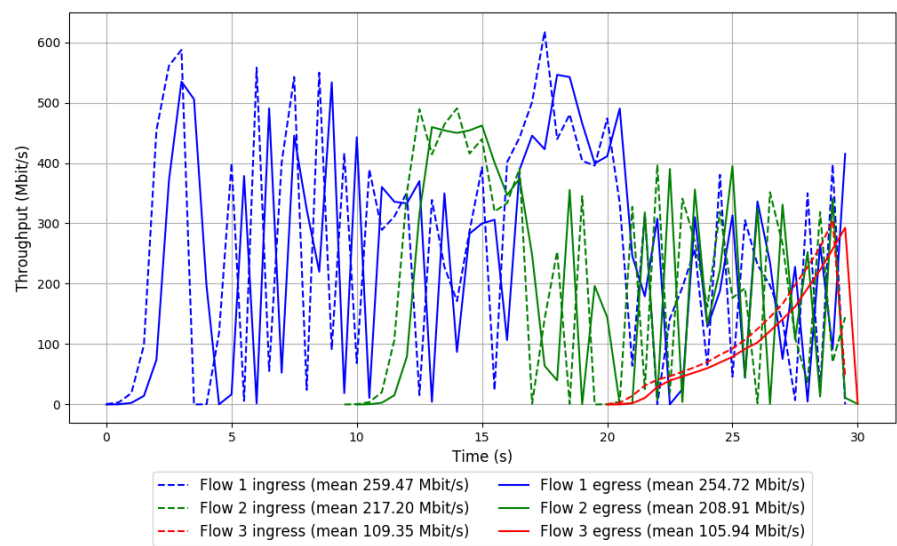
Run 5: Report of Muses_DecisionTree — Data Link

Run 1: Statistics of Muses_DecisionTreeH0

Start at: 2019-10-02 22:52:36
End at: 2019-10-02 22:53:06
Local clock offset: -0.082 ms
Remote clock offset: -0.034 ms

Below is generated by plot.py at 2019-10-03 04:11:40
Datalink statistics
-- Total of 3 flows:
Average throughput: 409.99 Mbit/s
95th percentile per-packet one-way delay: 198.193 ms
Loss rate: 4.51%
-- Flow 1:
Average throughput: 201.03 Mbit/s
95th percentile per-packet one-way delay: 206.253 ms
Loss rate: 6.05%
-- Flow 2:
Average throughput: 222.56 Mbit/s
95th percentile per-packet one-way delay: 191.109 ms
Loss rate: 4.12%
-- Flow 3:
Average throughput: 200.40 Mbit/s
95th percentile per-packet one-way delay: 170.538 ms
Loss rate: 0.21%
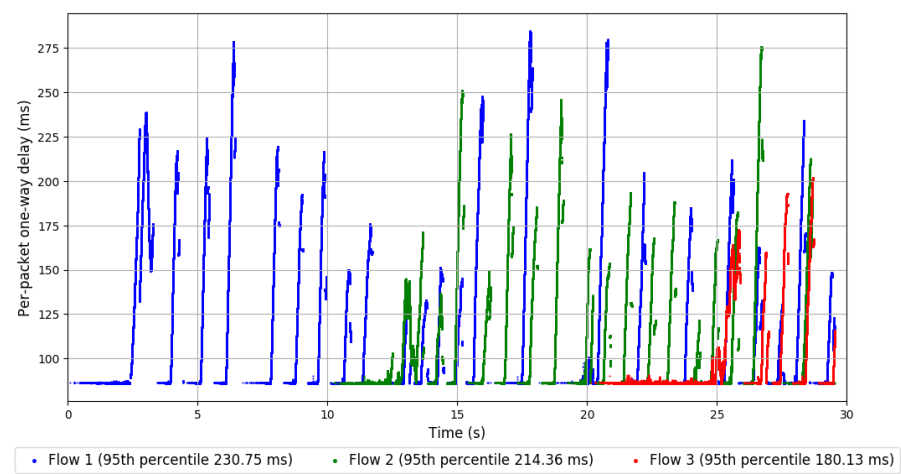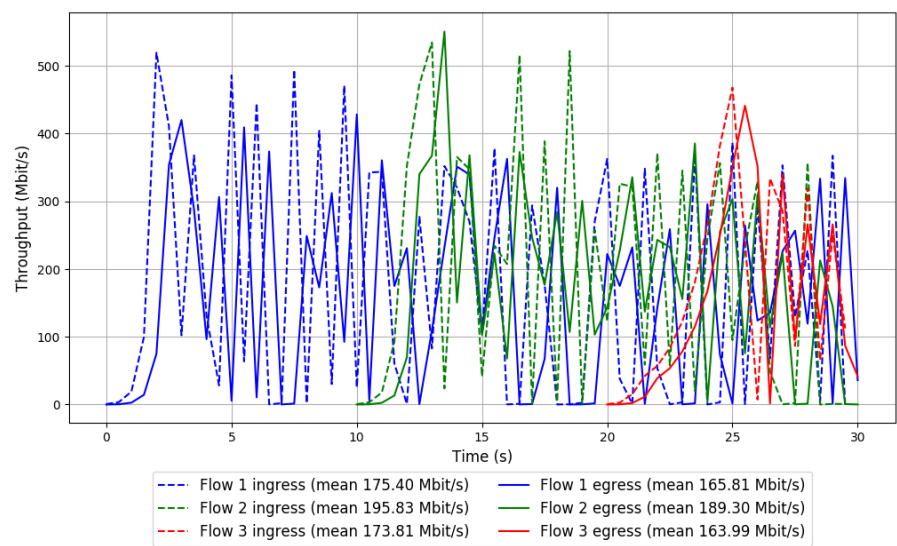
Run 1: Report of Muses_DecisionTreeH0 — Data Link

```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-10-02 23:33:13
End at: 2019-10-02 23:33:43
Local clock offset: -0.002 ms
Remote clock offset: -0.023 ms


# Below is generated by plot.py at 2019-10-03 04:14:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 426.25 Mbit/s
95th percentile per-packet one-way delay: 197.903 ms
Loss rate: 3.37%
-- Flow 1:
Average throughput: 254.72 Mbit/s
95th percentile per-packet one-way delay: 192.109 ms
Loss rate: 2.45%
-- Flow 2:
Average throughput: 208.91 Mbit/s
95th percentile per-packet one-way delay: 219.604 ms
Loss rate: 4.66%
-- Flow 3:
Average throughput: 105.94 Mbit/s
95th percentile per-packet one-way delay: 87.309 ms
Loss rate: 4.89%
```

Run 2: Report of Muses_DecisionTreeH0 — Data Link

```
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2019-10-03 00:13:56
End at: 2019-10-03 00:14:26
Local clock offset: 0.178 ms
Remote clock offset: -0.125 ms


# Below is generated by plot.py at 2019-10-03 04:14:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 342.86 Mbit/s
95th percentile per-packet one-way delay: 218.354 ms
Loss rate: 5.59%
-- Flow 1:
Average throughput: 165.81 Mbit/s
95th percentile per-packet one-way delay: 230.752 ms
Loss rate: 6.05%
-- Flow 2:
Average throughput: 189.30 Mbit/s
95th percentile per-packet one-way delay: 214.363 ms
Loss rate: 4.21%
-- Flow 3:
Average throughput: 163.99 Mbit/s
95th percentile per-packet one-way delay: 180.133 ms
Loss rate: 7.35%
```
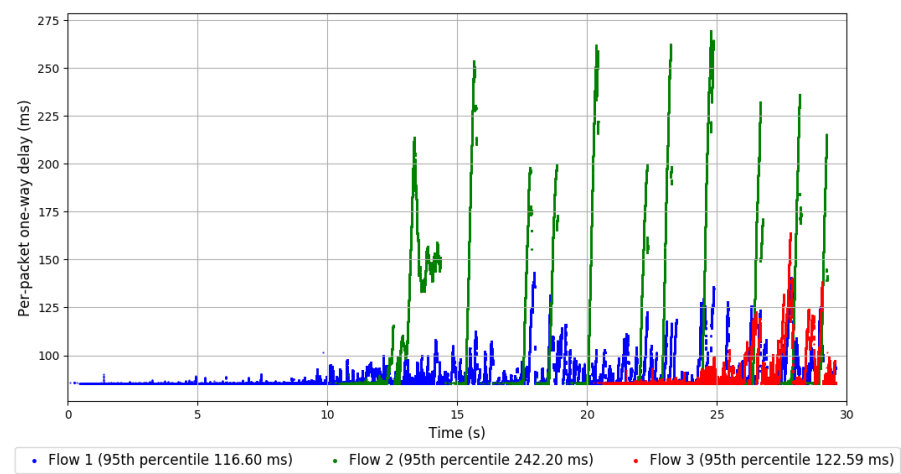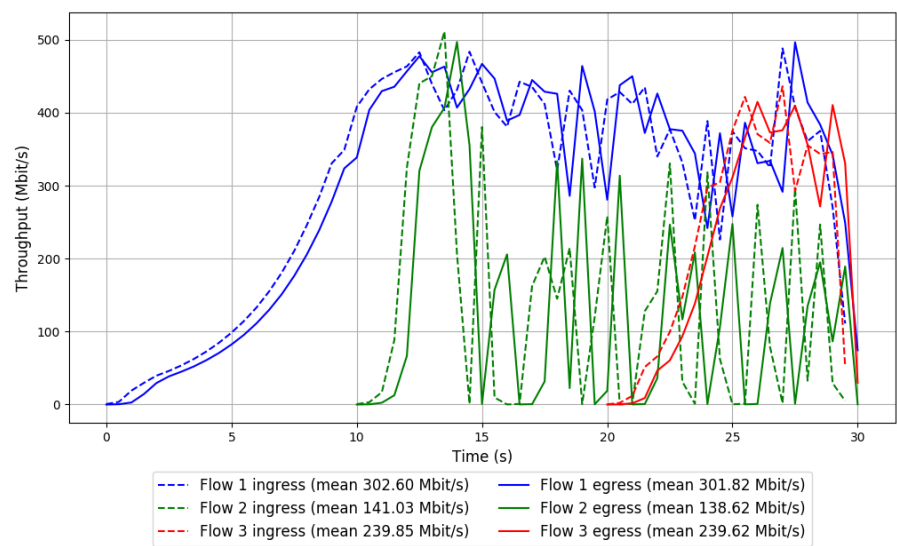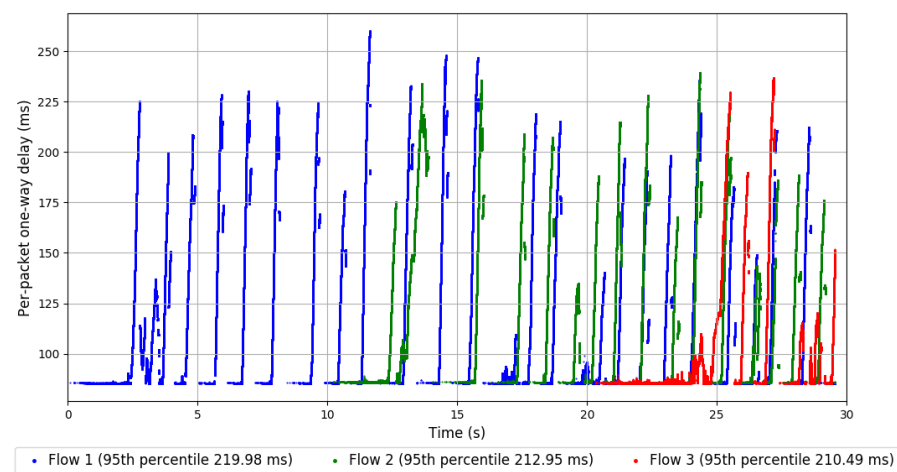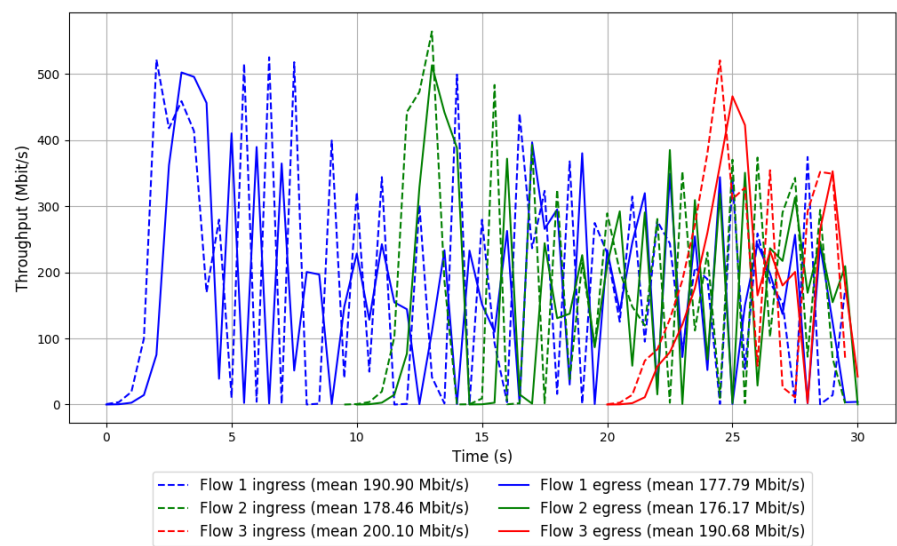
Run 3: Report of Muses_DecisionTreeH0 — Data Link

Flow 1 ingress (mean 175.40 Mbit/s) — Flow 1 egress (mean 165.81 Mbit/s)
Flow 2 ingress (mean 195.83 Mbit/s) — Flow 2 egress (mean 189.30 Mbit/s)
Flow 3 ingress (mean 173.81 Mbit/s) — Flow 3 egress (mean 163.99 Mbit/s)

Flow 1 (95th percentile 230.75 ms) · Flow 2 (95th percentile 214.36 ms) · Flow 3 (95th percentile 180.13 ms)

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```
Run 4: Statistics of Muses\_DecisionTreeH0

Start at: 2019-10-03 00:54:37
End at: 2019-10-03 00:55:07
Local clock offset: -0.312 ms
Remote clock offset: 0.003 ms


# Below is generated by plot.py at 2019-10-03 04:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 469.05 Mbit/s
95th percentile per-packet one-way delay: 183.189 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 301.82 Mbit/s
95th percentile per-packet one-way delay: 116.598 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 138.62 Mbit/s
95th percentile per-packet one-way delay: 242.199 ms
Loss rate: 2.58%
-- Flow 3:
Average throughput: 239.62 Mbit/s
95th percentile per-packet one-way delay: 122.586 ms
Loss rate: 1.73%
```
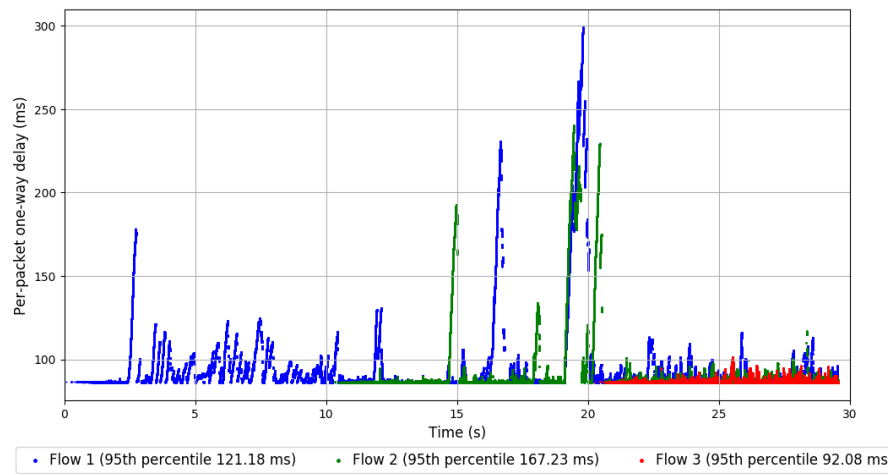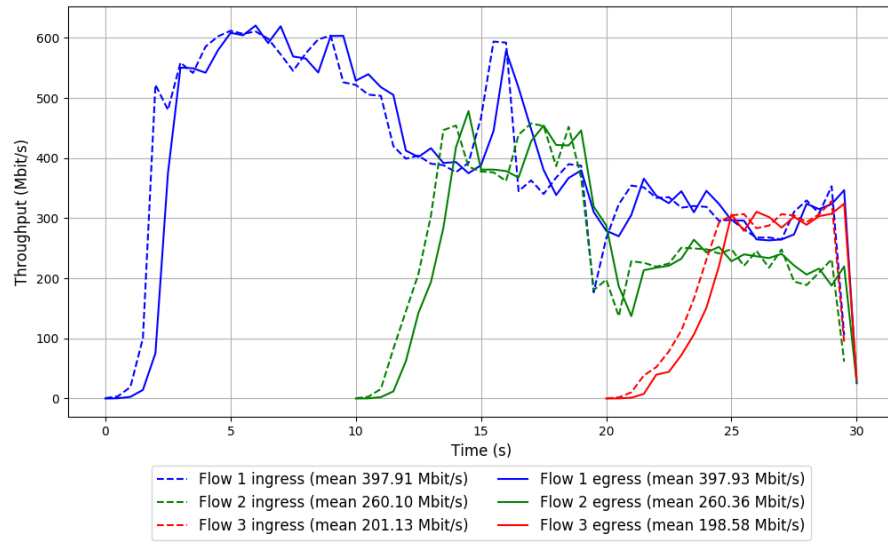
Run 4: Report of Muses_DecisionTreeH0 — Data Link

```
Run 5: Statistics of Muses\_DecisionTreeH0

Start at: 2019-10-03 01:35:46
End at: 2019-10-03 01:36:16
Local clock offset: -0.425 ms
Remote clock offset: -0.026 ms


# Below is generated by plot.py at 2019-10-03 04:15:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 354.95 Mbit/s
95th percentile per-packet one-way delay: 215.469 ms
Loss rate: 5.51%
-- Flow 1:
Average throughput: 177.79 Mbit/s
95th percentile per-packet one-way delay: 219.978 ms
Loss rate: 7.41%
-- Flow 2:
Average throughput: 176.17 Mbit/s
95th percentile per-packet one-way delay: 212.948 ms
Loss rate: 2.15%
-- Flow 3:
Average throughput: 190.68 Mbit/s
95th percentile per-packet one-way delay: 210.489 ms
Loss rate: 6.07%
```

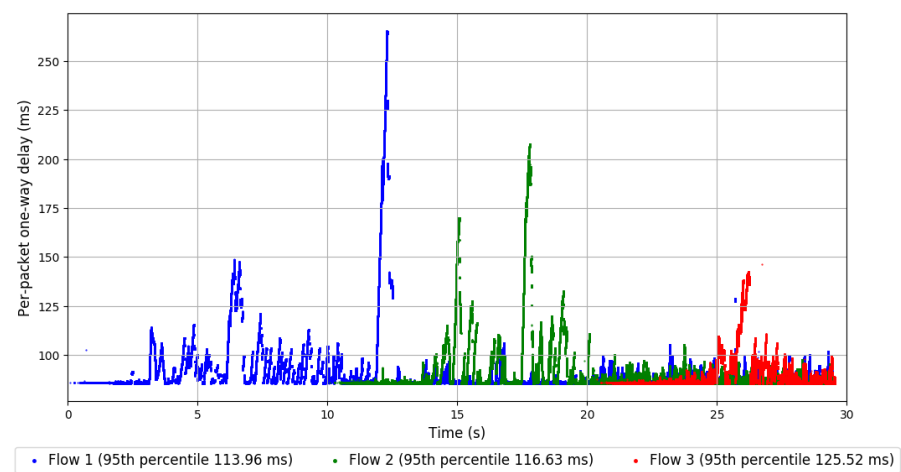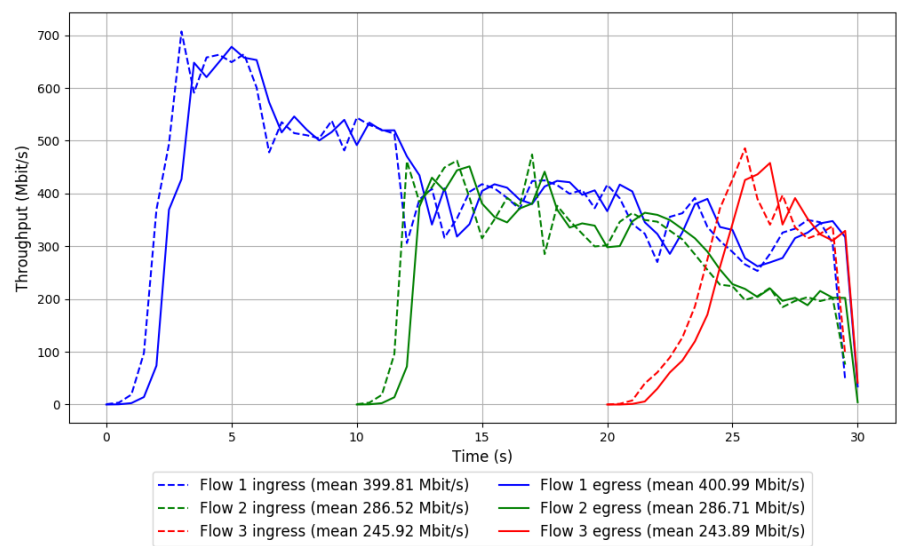Run 5: Report of Muses_DecisionTreeH0 — Data Link

Run 1: Statistics of Muses_DecisionTreeR0

Start at: 2019-10-02 23:12:41
End at: 2019-10-02 23:13:11
Local clock offset: 0.393 ms
Remote clock offset: -0.061 ms

Below is generated by plot.py at 2019-10-03 04:19:32
Datalink statistics
-- Total of 3 flows:
Average throughput: 631.91 Mbit/s
95th percentile per-packet one-way delay: 123.133 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 397.93 Mbit/s
95th percentile per-packet one-way delay: 121.180 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 260.36 Mbit/s
95th percentile per-packet one-way delay: 167.234 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 198.58 Mbit/s
95th percentile per-packet one-way delay: 92.082 ms
Loss rate: 3.07%

Run 1: Report of Muses_DecisionTreeR0 — Data Link

Run 2: Statistics of Muses_DecisionTreeR0

Start at: 2019-10-02 23:53:12
End at: 2019-10-02 23:53:42
Local clock offset: -0.289 ms
Remote clock offset: -0.064 ms

Below is generated by plot.py at 2019-10-03 04:20:37
Datalink statistics
-- Total of 3 flows:
Average throughput: 666.33 Mbit/s
95th percentile per-packet one-way delay: 117.190 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 400.99 Mbit/s
95th percentile per-packet one-way delay: 113.962 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 286.71 Mbit/s
95th percentile per-packet one-way delay: 116.633 ms
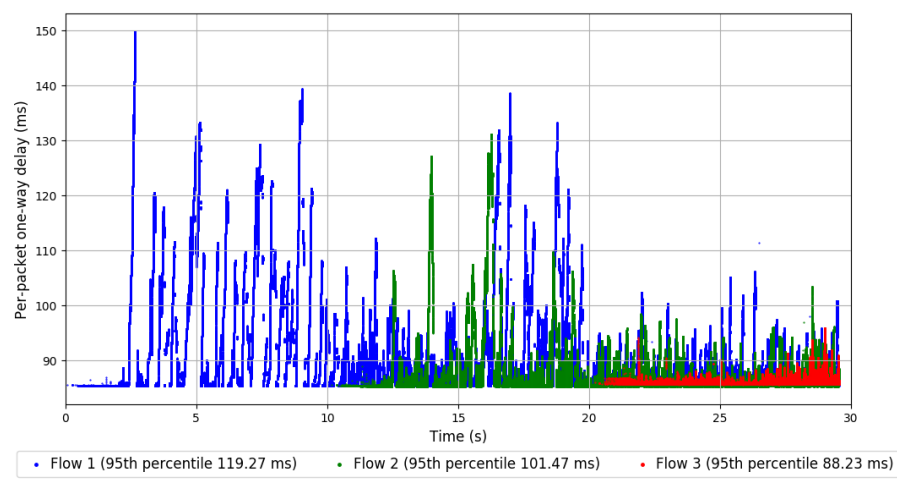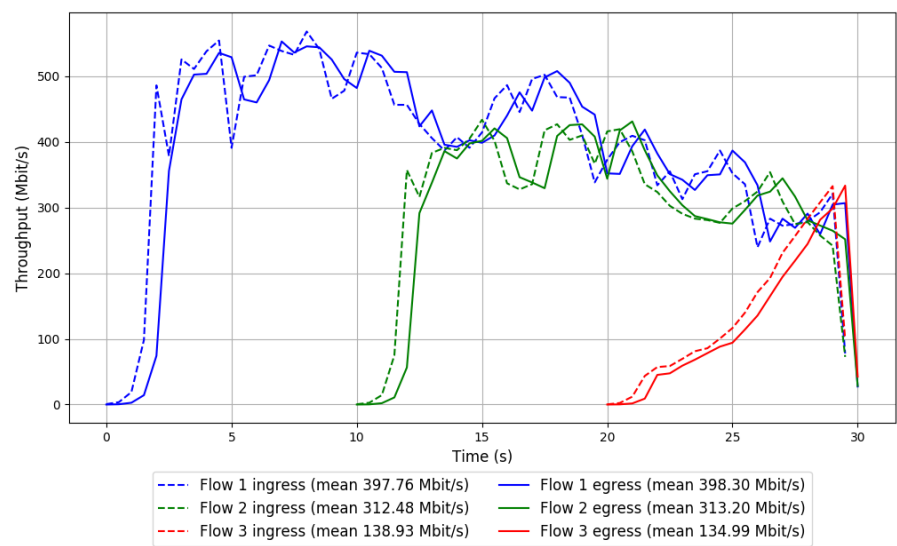Loss rate: 0.81%
-- Flow 3:
Average throughput: 243.89 Mbit/s
95th percentile per-packet one-way delay: 125.523 ms
Loss rate: 2.67%
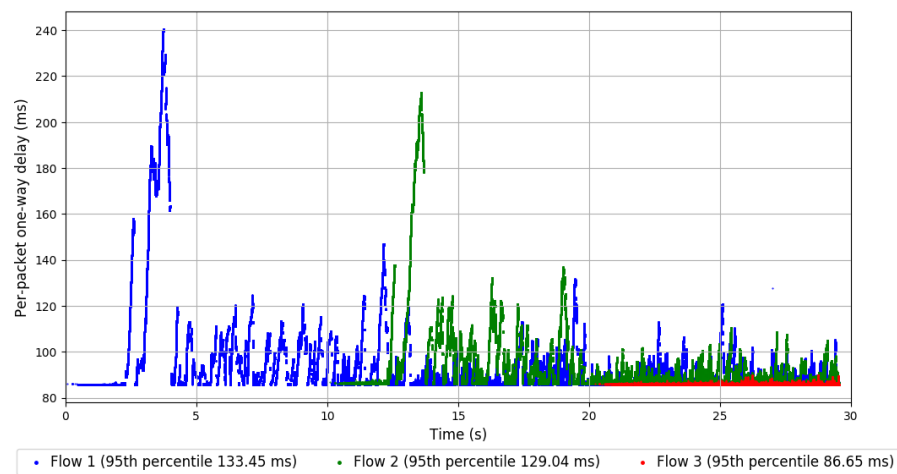
Run 2: Report of Muses_DecisionTreeR0 — Data Link

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```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-10-03 00:33:50
End at: 2019-10-03 00:34:20
Local clock offset: -0.461 ms
Remote clock offset: 0.042 ms


# Below is generated by plot.py at 2019-10-03 04:25:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 647.00 Mbit/s
95th percentile per-packet one-way delay: 114.767 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 398.30 Mbit/s
95th percentile per-packet one-way delay: 119.268 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 313.20 Mbit/s
95th percentile per-packet one-way delay: 101.471 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 134.99 Mbit/s
95th percentile per-packet one-way delay: 88.234 ms
Loss rate: 4.60%
```

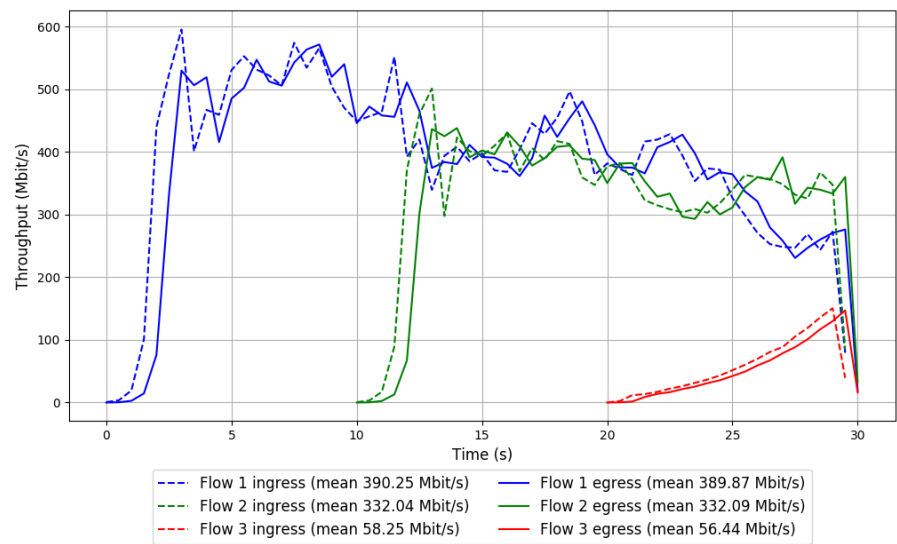Run 3: Report of Muses_DecisionTreeR0 — Data Link

```
Run 4: Statistics of Muses\_DecisionTreeR0

Start at: 2019-10-03 01:14:47
End at: 2019-10-03 01:15:17
Local clock offset: 0.049 ms
Remote clock offset: -0.062 ms


# Below is generated by plot.py at 2019-10-03 04:25:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 626.74 Mbit/s
95th percentile per-packet one-way delay: 129.680 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 389.87 Mbit/s
95th percentile per-packet one-way delay: 133.454 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 332.09 Mbit/s
95th percentile per-packet one-way delay: 129.039 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 56.44 Mbit/s
95th percentile per-packet one-way delay: 86.652 ms
Loss rate: 4.93%
```

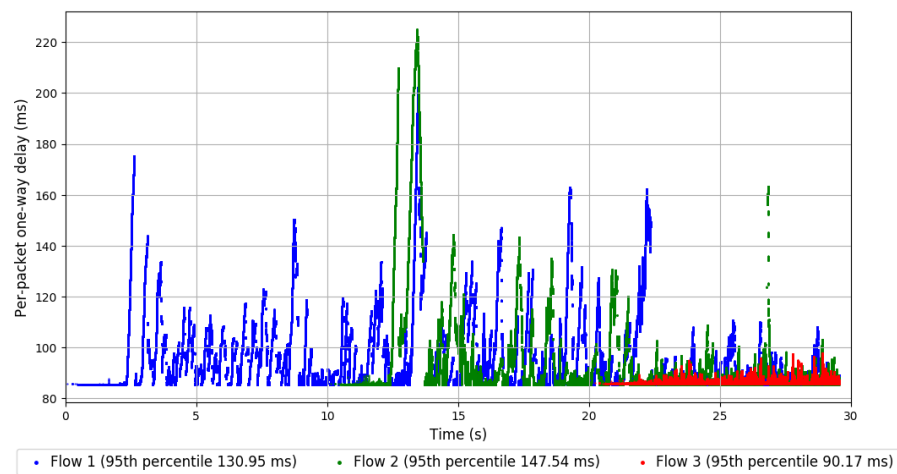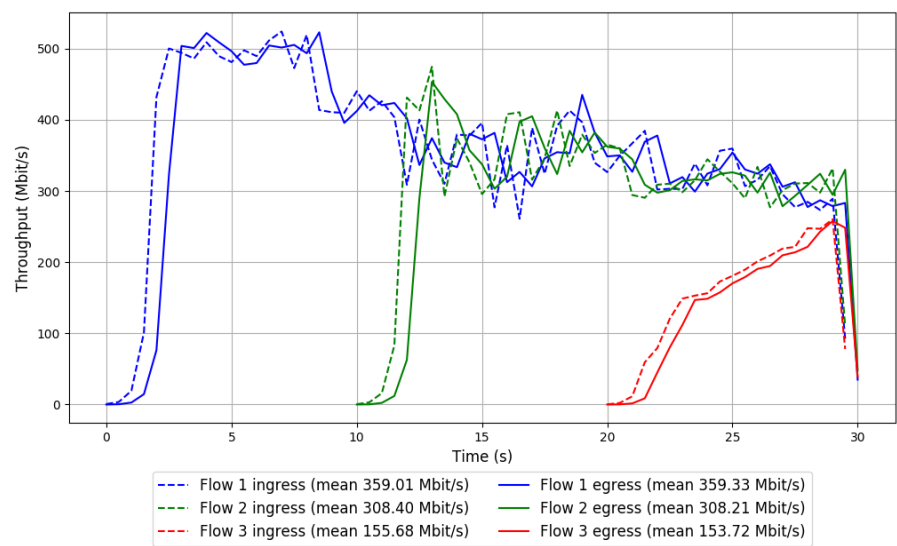# Run 4: Report of Muses_DecisionTreeR0 — Data Link

```
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-10-03 01:55:48
End at: 2019-10-03 01:56:18
Local clock offset: -0.481 ms
Remote clock offset: -0.022 ms


# Below is generated by plot.py at 2019-10-03 04:26:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 611.04 Mbit/s
95th percentile per-packet one-way delay: 132.514 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 359.33 Mbit/s
95th percentile per-packet one-way delay: 130.947 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 308.21 Mbit/s
95th percentile per-packet one-way delay: 147.544 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 153.72 Mbit/s
95th percentile per-packet one-way delay: 90.170 ms
Loss rate: 3.06%
```
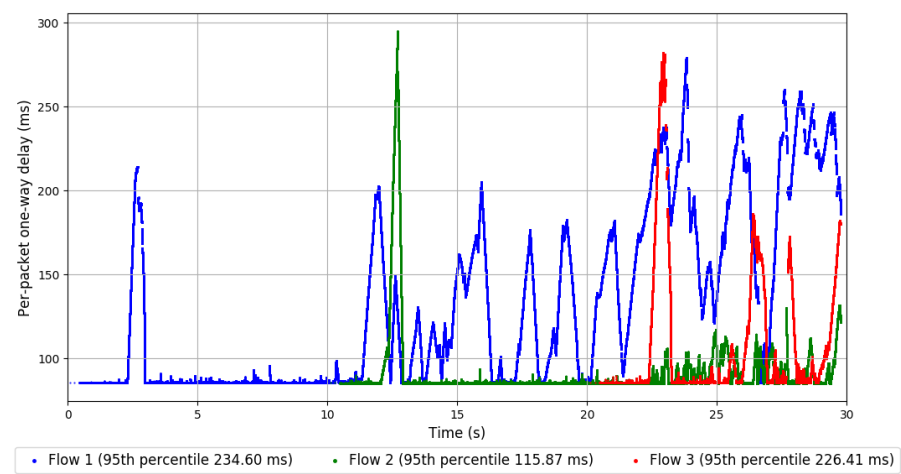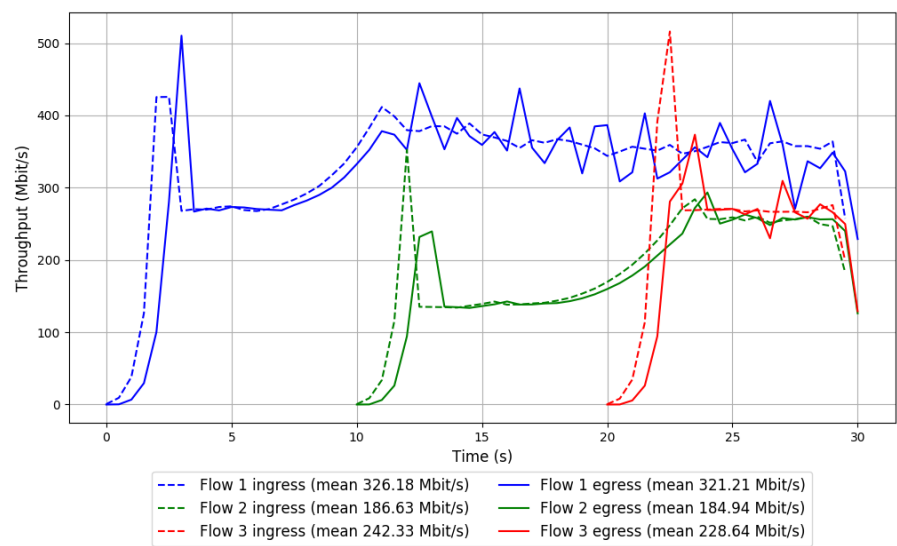
Run 5: Report of Muses_DecisionTreeR0 — Data Link

Flow 1 ingress (mean 359.01 Mbit/s)   Flow 1 egress (mean 359.33 Mbit/s)
Flow 2 ingress (mean 308.40 Mbit/s)   Flow 2 egress (mean 308.21 Mbit/s)
Flow 3 ingress (mean 155.68 Mbit/s)   Flow 3 egress (mean 153.72 Mbit/s)

Flow 1 (95th percentile 130.95 ms)   Flow 2 (95th percentile 147.54 ms)   Flow 3 (95th percentile 90.17 ms)
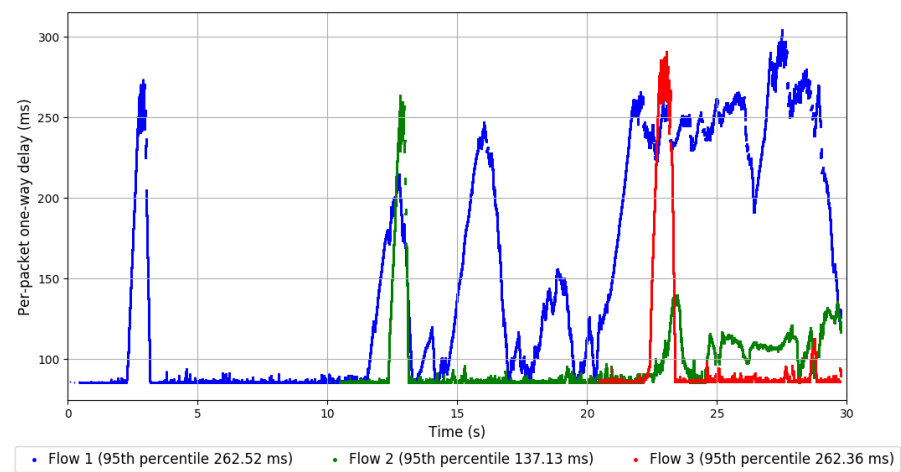
```
Run 1: Statistics of PCC-Allegro

Start at: 2019-10-02 23:07:11
End at: 2019-10-02 23:07:41
Local clock offset: -0.453 ms
Remote clock offset: -0.039 ms


# Below is generated by plot.py at 2019-10-03 04:35:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 517.97 Mbit/s
95th percentile per-packet one-way delay: 230.549 ms
Loss rate: 2.80%
-- Flow 1:
Average throughput: 321.21 Mbit/s
95th percentile per-packet one-way delay: 234.598 ms
Loss rate: 2.09%
-- Flow 2:
Average throughput: 184.94 Mbit/s
95th percentile per-packet one-way delay: 115.869 ms
Loss rate: 1.77%
-- Flow 3:
Average throughput: 228.64 Mbit/s
95th percentile per-packet one-way delay: 226.414 ms
Loss rate: 7.30%
```

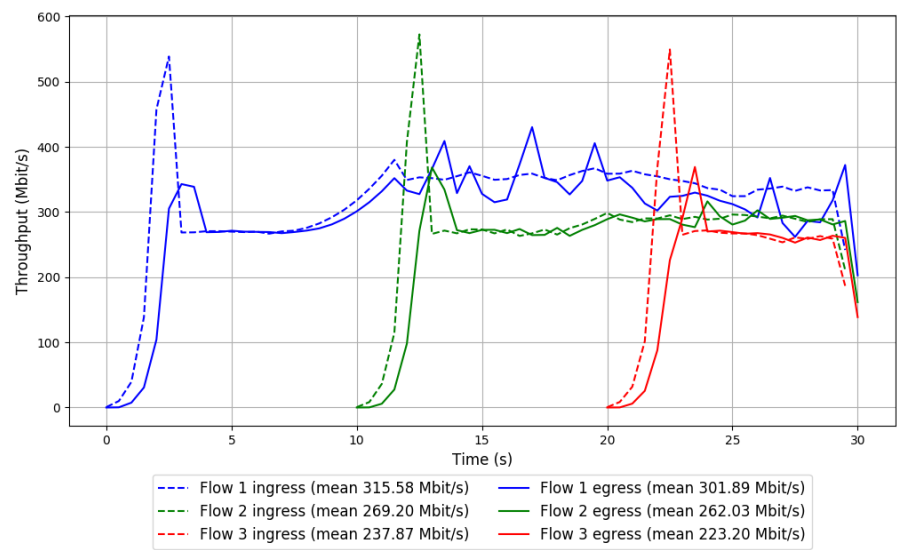Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-10-02 23:47:37
End at: 2019-10-02 23:48:07
Local clock offset: -0.519 ms
Remote clock offset: -0.081 ms


# Below is generated by plot.py at 2019-10-03 04:38:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 548.13 Mbit/s
95th percentile per-packet one-way delay: 258.376 ms
Loss rate: 4.87%
-- Flow 1:
Average throughput: 301.89 Mbit/s
95th percentile per-packet one-way delay: 262.524 ms
Loss rate: 4.89%
-- Flow 2:
Average throughput: 262.03 Mbit/s
95th percentile per-packet one-way delay: 137.130 ms
Loss rate: 3.52%
-- Flow 3:
Average throughput: 223.20 Mbit/s
95th percentile per-packet one-way delay: 262.358 ms
Loss rate: 7.83%
```
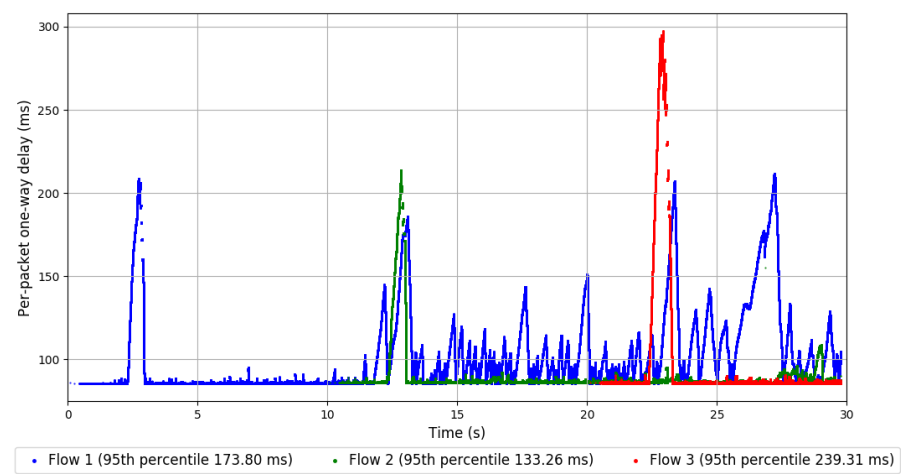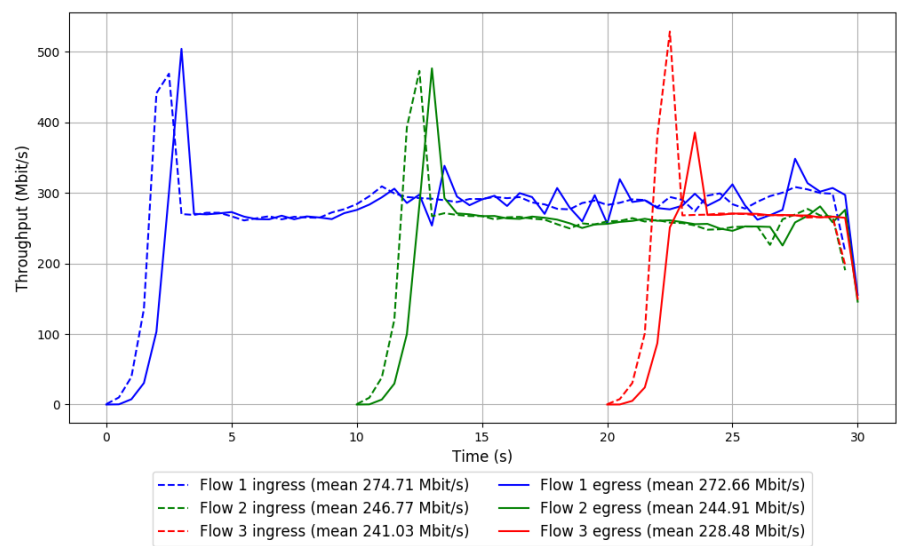
Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-10-03 00:28:16
End at: 2019-10-03 00:28:46
Local clock offset: -0.283 ms
Remote clock offset: 0.012 ms


# Below is generated by plot.py at 2019-10-03 04:38:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 509.24 Mbit/s
95th percentile per-packet one-way delay: 173.613 ms
Loss rate: 2.27%
-- Flow 1:
Average throughput: 272.66 Mbit/s
95th percentile per-packet one-way delay: 173.798 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 244.91 Mbit/s
95th percentile per-packet one-way delay: 133.256 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 228.48 Mbit/s
95th percentile per-packet one-way delay: 239.314 ms
Loss rate: 6.88%
```

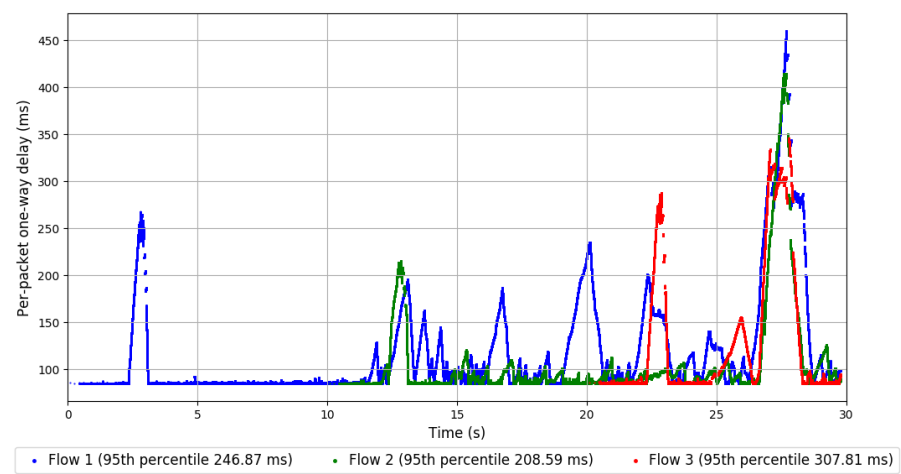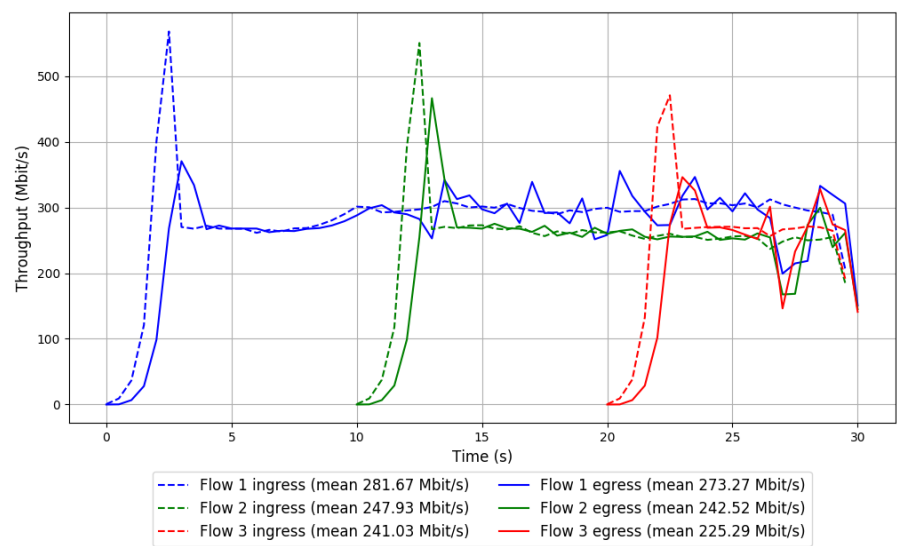## Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 274.71 Mbit/s)   Flow 1 egress (mean 272.66 Mbit/s)
Flow 2 ingress (mean 246.77 Mbit/s)   Flow 2 egress (mean 244.91 Mbit/s)
Flow 3 ingress (mean 241.03 Mbit/s)   Flow 3 egress (mean 228.48 Mbit/s)

Flow 1 (95th percentile 173.80 ms)   Flow 2 (95th percentile 133.26 ms)   Flow 3 (95th percentile 239.31 ms)
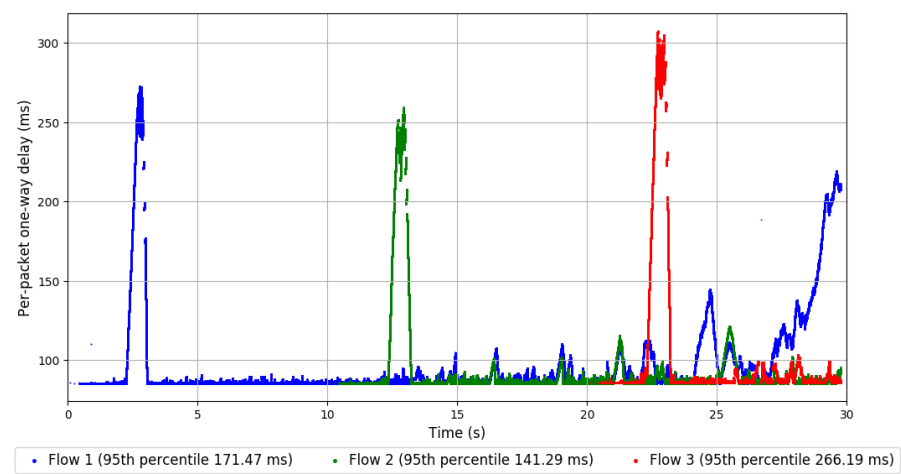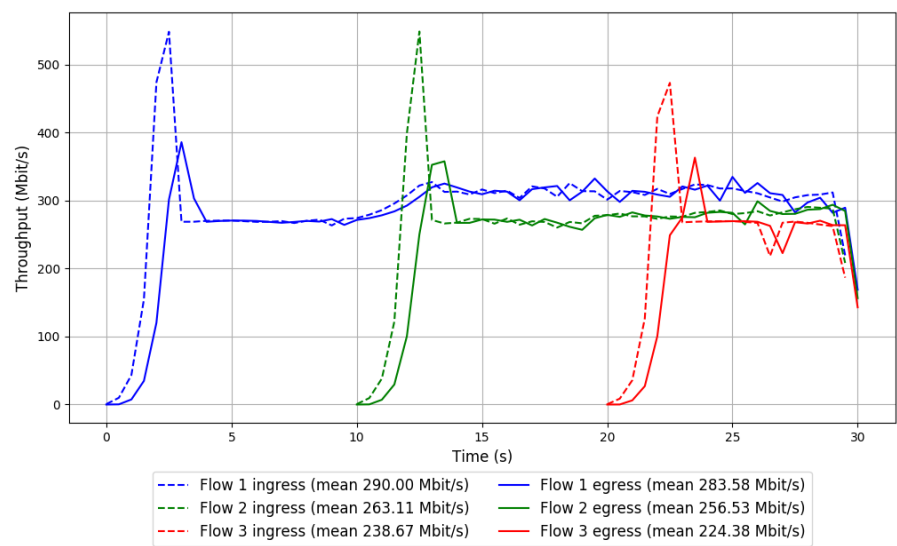
```
Run 4: Statistics of PCC-Allegro

Start at: 2019-10-03 01:09:14
End at: 2019-10-03 01:09:44
Local clock offset: -0.273 ms
Remote clock offset: -0.047 ms


# Below is generated by plot.py at 2019-10-03 04:42:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 507.43 Mbit/s
95th percentile per-packet one-way delay: 264.630 ms
Loss rate: 4.08%
-- Flow 1:
Average throughput: 273.27 Mbit/s
95th percentile per-packet one-way delay: 246.874 ms
Loss rate: 3.54%
-- Flow 2:
Average throughput: 242.52 Mbit/s
95th percentile per-packet one-way delay: 208.595 ms
Loss rate: 3.03%
-- Flow 3:
Average throughput: 225.29 Mbit/s
95th percentile per-packet one-way delay: 307.808 ms
Loss rate: 8.18%
```

Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 281.67 Mbit/s) — Flow 1 egress (mean 273.27 Mbit/s)
Flow 2 ingress (mean 247.93 Mbit/s) — Flow 2 egress (mean 242.52 Mbit/s)
Flow 3 ingress (mean 241.03 Mbit/s) — Flow 3 egress (mean 225.29 Mbit/s)

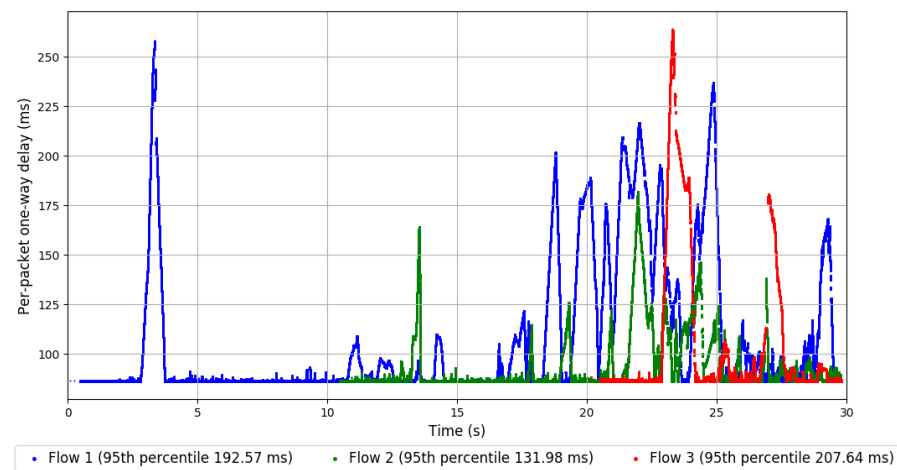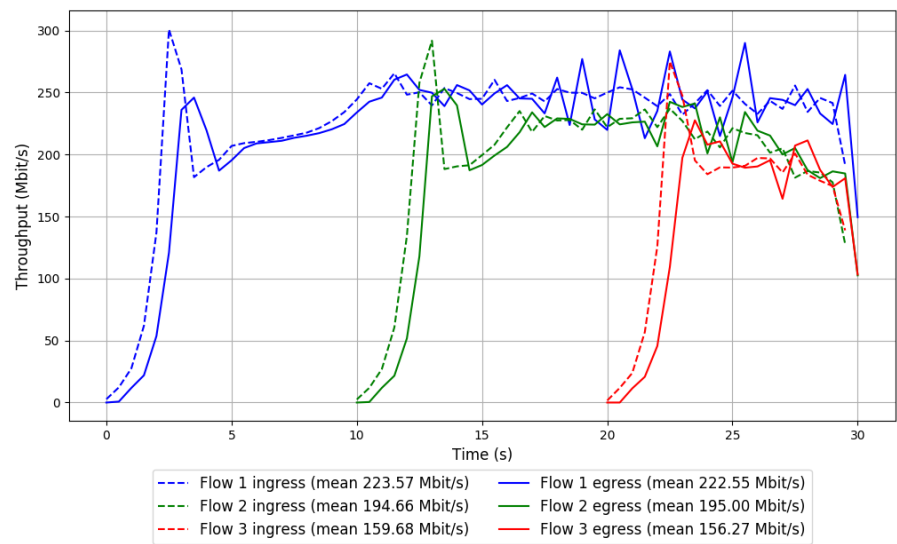Flow 1 (95th percentile 246.87 ms) · Flow 2 (95th percentile 208.59 ms) · Flow 3 (95th percentile 307.81 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-10-03 01:50:14
End at: 2019-10-03 01:50:44
Local clock offset: -0.486 ms
Remote clock offset: -0.041 ms


# Below is generated by plot.py at 2019-10-03 04:45:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 526.51 Mbit/s
95th percentile per-packet one-way delay: 182.563 ms
Loss rate: 3.66%
-- Flow 1:
Average throughput: 283.58 Mbit/s
95th percentile per-packet one-way delay: 171.474 ms
Loss rate: 2.78%
-- Flow 2:
Average throughput: 256.53 Mbit/s
95th percentile per-packet one-way delay: 141.287 ms
Loss rate: 3.34%
-- Flow 3:
Average throughput: 224.38 Mbit/s
95th percentile per-packet one-way delay: 266.192 ms
Loss rate: 7.64%
```

Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2019-10-02 22:54:14
End at: 2019-10-02 22:54:44
Local clock offset: 0.068 ms
Remote clock offset: -0.065 ms

# Below is generated by plot.py at 2019-10-03 04:45:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 402.81 Mbit/s
95th percentile per-packet one-way delay: 185.466 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 222.55 Mbit/s
95th percentile per-packet one-way delay: 192.573 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 195.00 Mbit/s
95th percentile per-packet one-way delay: 131.984 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 156.27 Mbit/s
95th percentile per-packet one-way delay: 207.639 ms
Loss rate: 3.85%
```
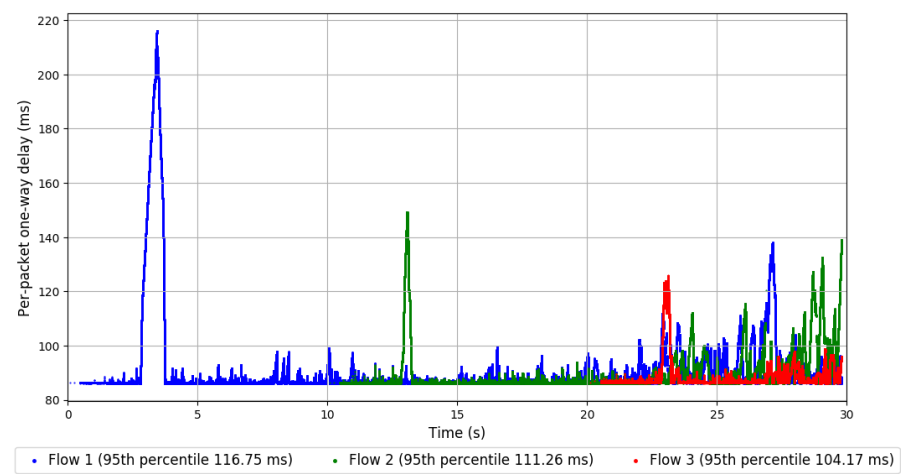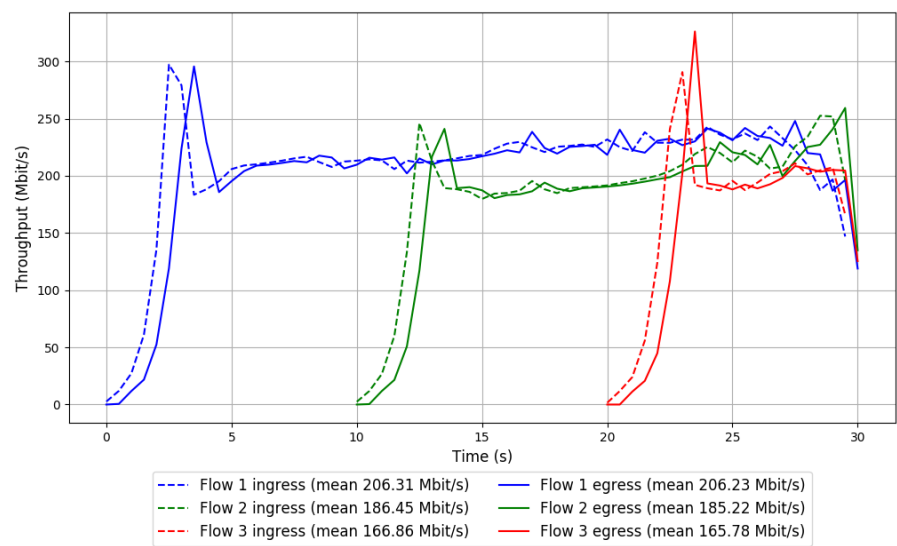
Run 1: Report of PCC-Expr — Data Link

- Flow 1 ingress (mean 223.57 Mbit/s)
- Flow 1 egress (mean 222.55 Mbit/s)
- Flow 2 ingress (mean 194.66 Mbit/s)
- Flow 2 egress (mean 195.00 Mbit/s)
- Flow 3 ingress (mean 159.68 Mbit/s)
- Flow 3 egress (mean 156.27 Mbit/s)

- Flow 1 (95th percentile 192.57 ms)
- Flow 2 (95th percentile 131.98 ms)
- Flow 3 (95th percentile 207.64 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-10-02 23:34:52
End at: 2019-10-02 23:35:22
Local clock offset: 0.369 ms
Remote clock offset: 0.018 ms


# Below is generated by plot.py at 2019-10-03 04:45:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 383.13 Mbit/s
95th percentile per-packet one-way delay: 111.870 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 206.23 Mbit/s
95th percentile per-packet one-way delay: 116.755 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 185.22 Mbit/s
95th percentile per-packet one-way delay: 111.258 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 165.78 Mbit/s
95th percentile per-packet one-way delay: 104.174 ms
Loss rate: 2.39%
```
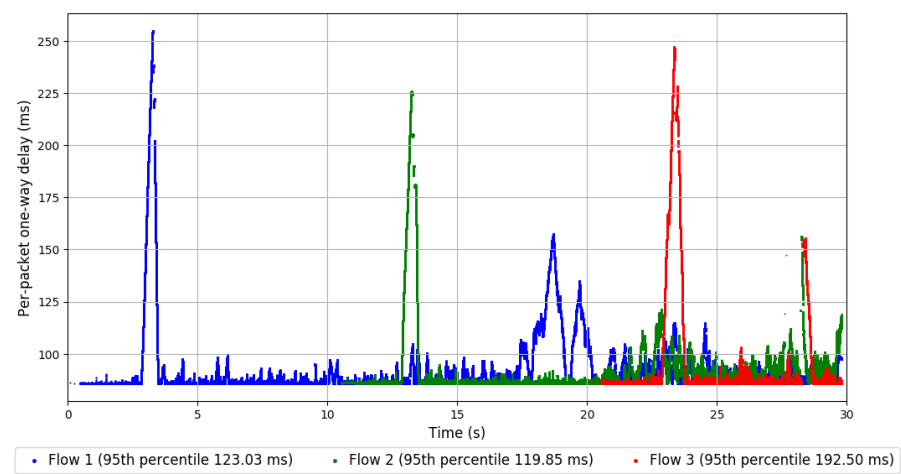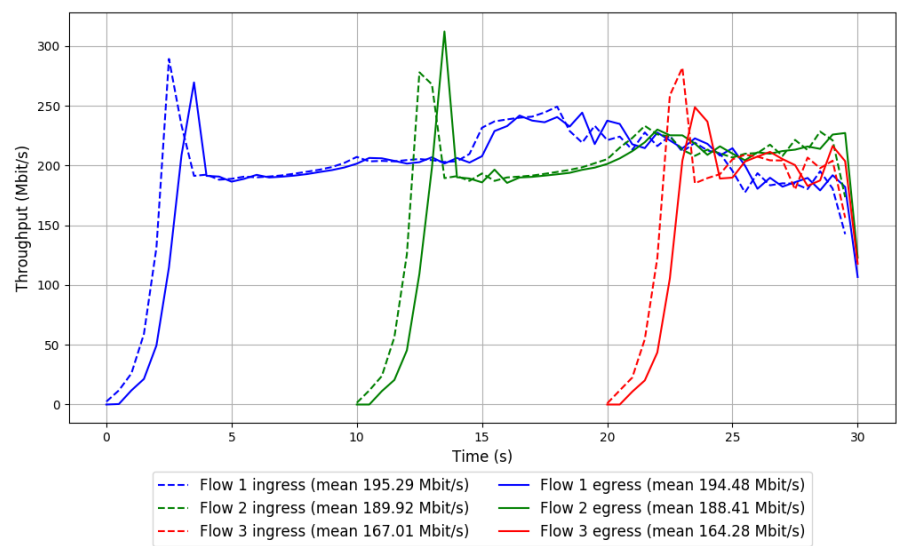
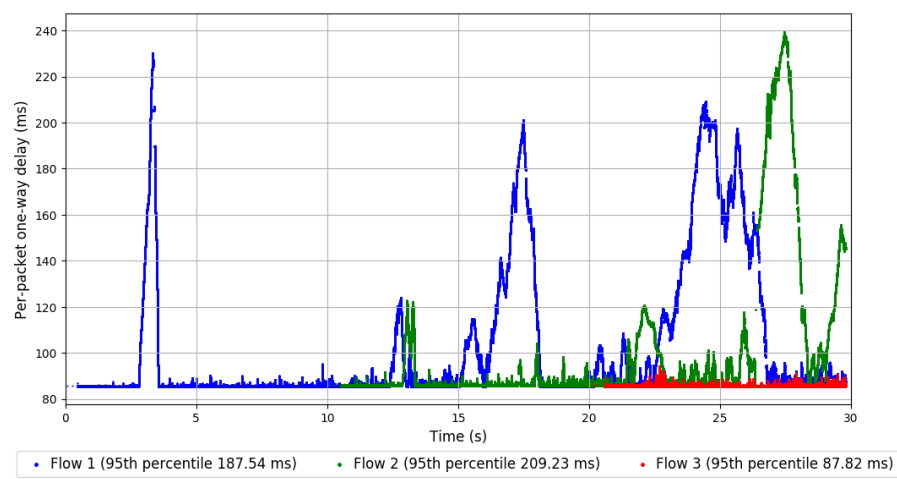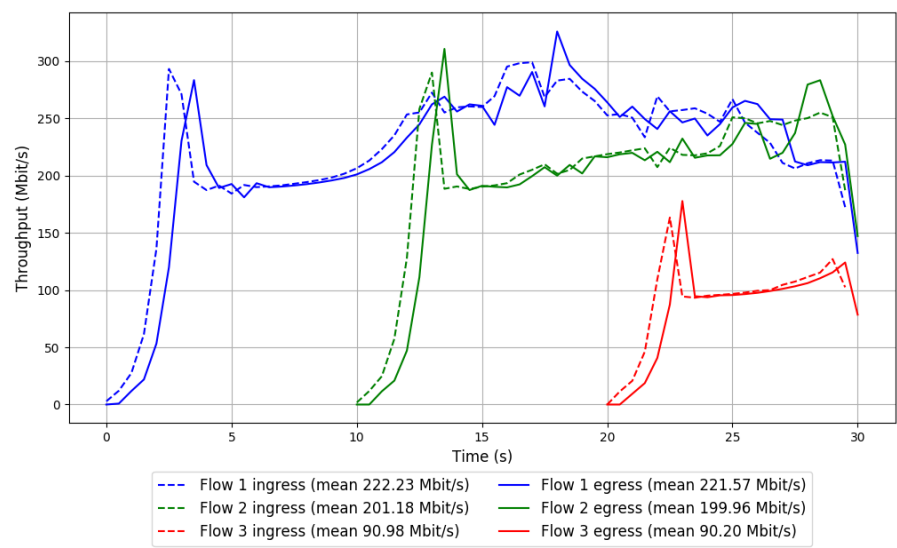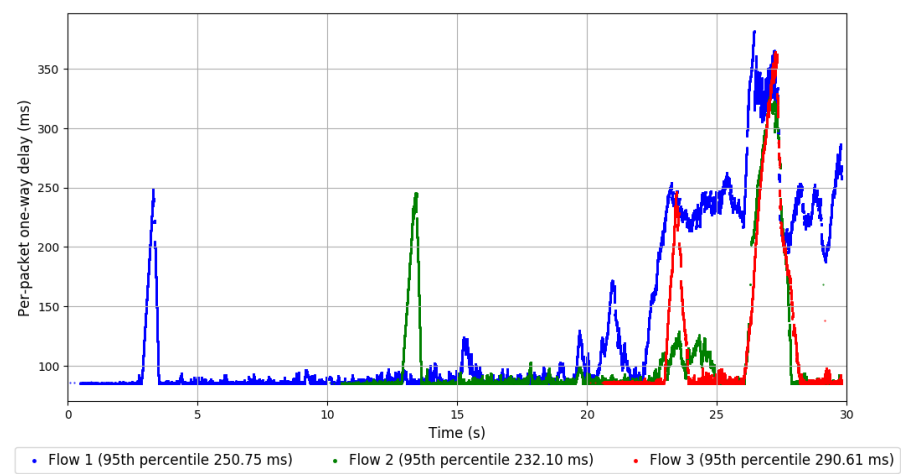## Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-10-03 00:15:31
End at: 2019-10-03 00:16:01
Local clock offset: 0.131 ms
Remote clock offset: -0.05 ms


# Below is generated by plot.py at 2019-10-03 04:45:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 373.01 Mbit/s
95th percentile per-packet one-way delay: 134.895 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 194.48 Mbit/s
95th percentile per-packet one-way delay: 123.035 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 188.41 Mbit/s
95th percentile per-packet one-way delay: 119.846 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 164.28 Mbit/s
95th percentile per-packet one-way delay: 192.499 ms
Loss rate: 3.36%
```

Run 3: Report of PCC-Expr — Data Link

Legend:
- Flow 1 ingress (mean 195.29 Mbit/s) — Flow 1 egress (mean 194.48 Mbit/s)
- Flow 2 ingress (mean 189.92 Mbit/s) — Flow 2 egress (mean 188.41 Mbit/s)
- Flow 3 ingress (mean 167.01 Mbit/s) — Flow 3 egress (mean 164.28 Mbit/s)

Legend:
- Flow 1 (95th percentile 123.03 ms)
- Flow 2 (95th percentile 119.85 ms)
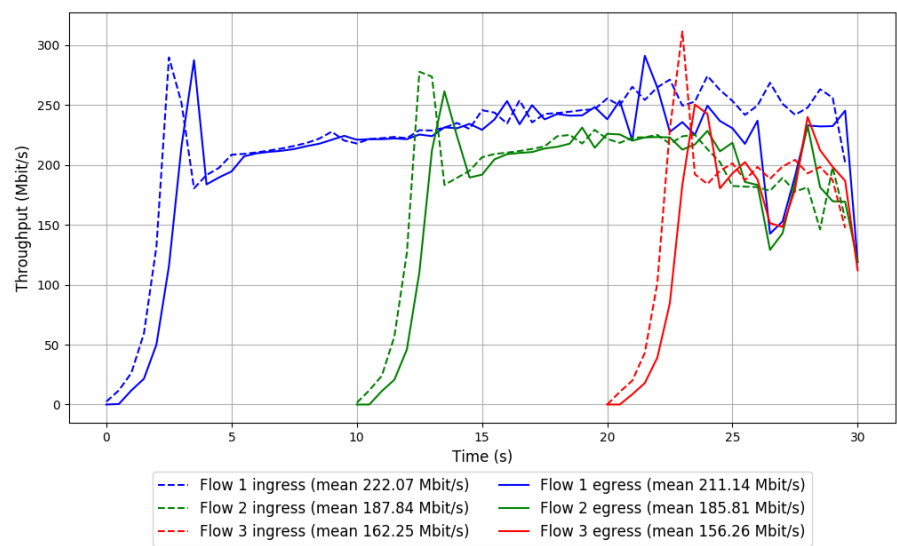- Flow 3 (95th percentile 192.50 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-10-03 00:56:19
End at: 2019-10-03 00:56:49
Local clock offset: -0.273 ms
Remote clock offset: -0.023 ms


# Below is generated by plot.py at 2019-10-03 04:52:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 383.56 Mbit/s
95th percentile per-packet one-way delay: 188.588 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 221.57 Mbit/s
95th percentile per-packet one-way delay: 187.541 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 199.96 Mbit/s
95th percentile per-packet one-way delay: 209.232 ms
Loss rate: 1.47%
-- Flow 3:
Average throughput: 90.20 Mbit/s
95th percentile per-packet one-way delay: 87.822 ms
Loss rate: 2.59%
```

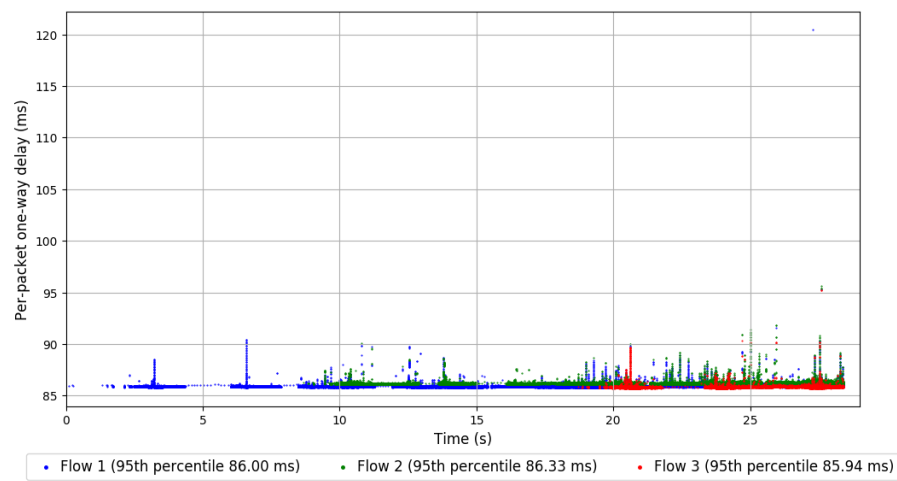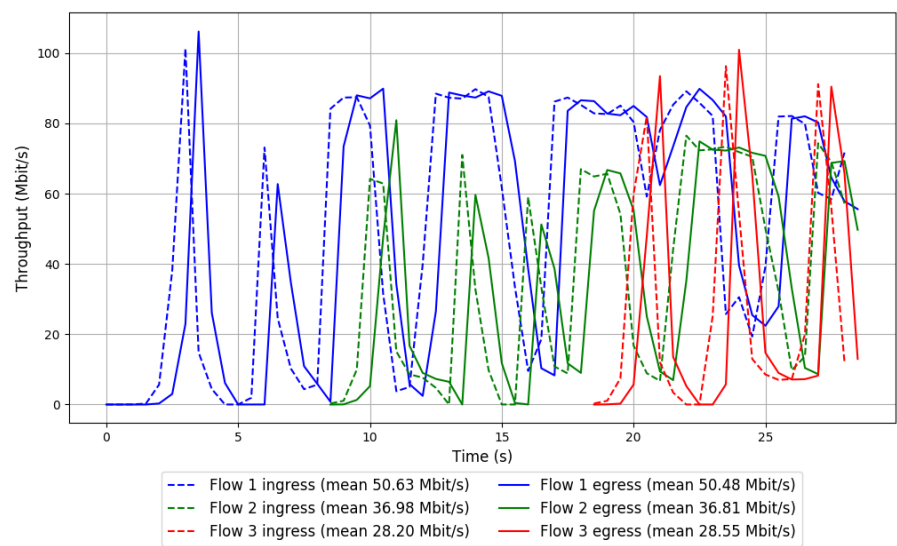Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-10-03 01:37:22
End at: 2019-10-03 01:37:52
Local clock offset: -0.429 ms
Remote clock offset: -0.018 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 385.17 Mbit/s
95th percentile per-packet one-way delay: 251.084 ms
Loss rate: 4.37%
-- Flow 1:
Average throughput: 211.14 Mbit/s
95th percentile per-packet one-way delay: 250.752 ms
Loss rate: 5.48%
-- Flow 2:
Average throughput: 185.81 Mbit/s
95th percentile per-packet one-way delay: 232.099 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 156.26 Mbit/s
95th percentile per-packet one-way delay: 290.611 ms
Loss rate: 5.40%
```

Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-10-02 23:00:51
End at: 2019-10-02 23:01:21
Local clock offset: -0.033 ms
Remote clock offset: -0.029 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.90 Mbit/s
95th percentile per-packet one-way delay: 86.260 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 50.48 Mbit/s
95th percentile per-packet one-way delay: 85.999 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 36.81 Mbit/s
95th percentile per-packet one-way delay: 86.334 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 28.55 Mbit/s
95th percentile per-packet one-way delay: 85.945 ms
Loss rate: 0.54%
```
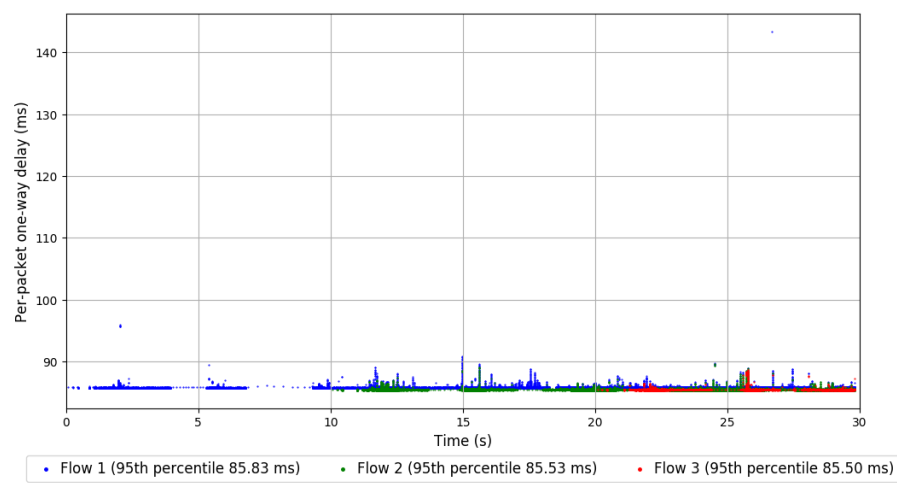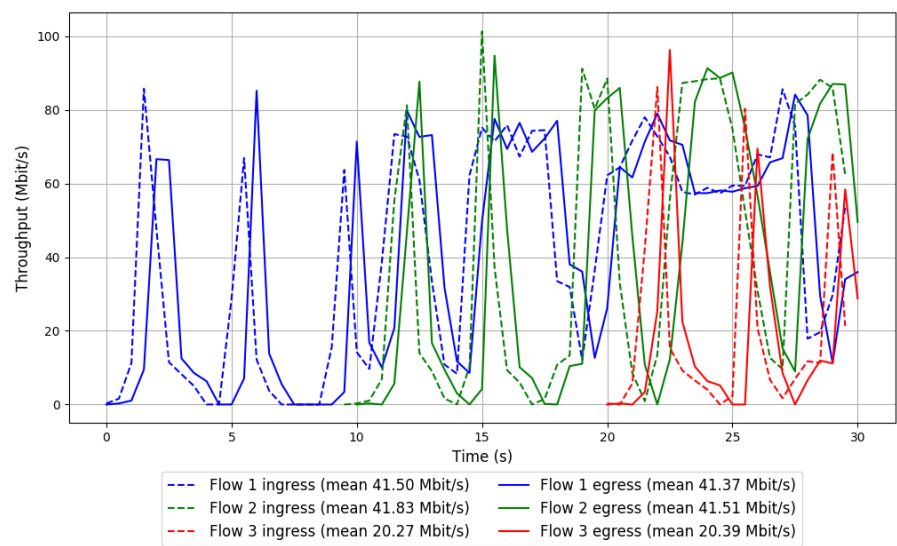
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-10-02 23:41:21
End at: 2019-10-02 23:41:51
Local clock offset: -0.507 ms
Remote clock offset: -0.06 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.59 Mbit/s
95th percentile per-packet one-way delay: 85.816 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 41.37 Mbit/s
95th percentile per-packet one-way delay: 85.833 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 41.51 Mbit/s
95th percentile per-packet one-way delay: 85.525 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 20.39 Mbit/s
95th percentile per-packet one-way delay: 85.500 ms
Loss rate: 1.17%
```
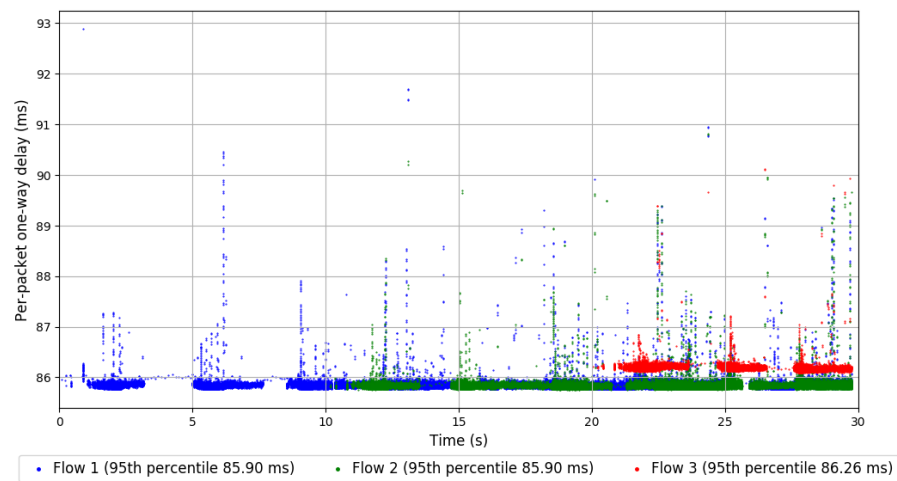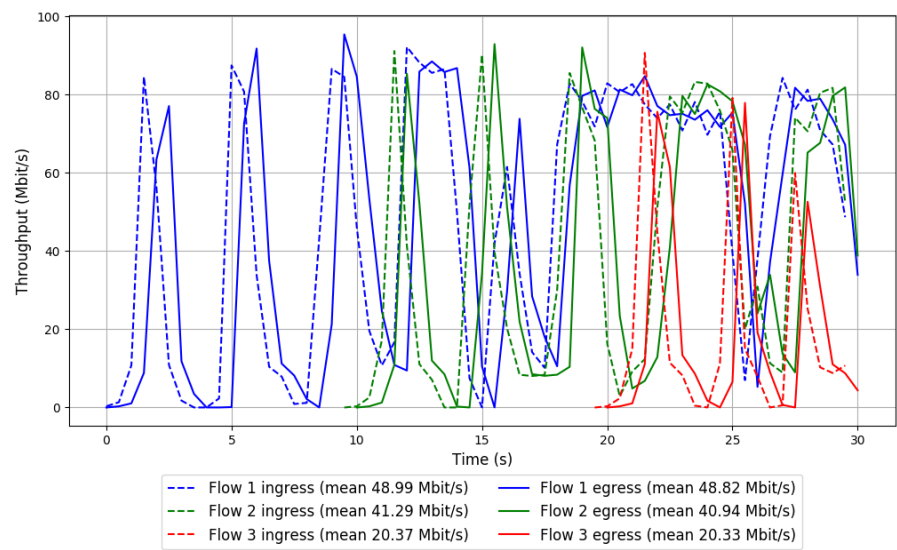
Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 41.50 Mbit/s)   Flow 1 egress (mean 41.37 Mbit/s)
Flow 2 ingress (mean 41.83 Mbit/s)   Flow 2 egress (mean 41.51 Mbit/s)
Flow 3 ingress (mean 20.27 Mbit/s)   Flow 3 egress (mean 20.39 Mbit/s)

Flow 1 (95th percentile 85.83 ms)   Flow 2 (95th percentile 85.53 ms)   Flow 3 (95th percentile 85.50 ms)
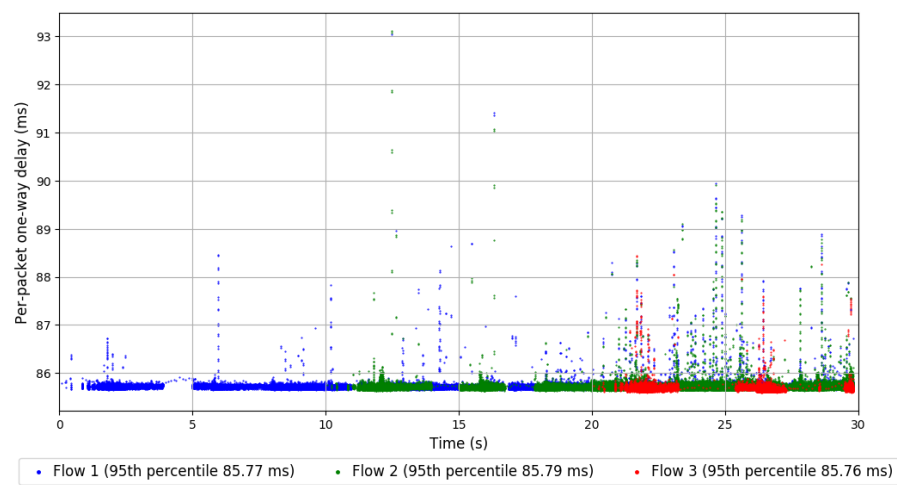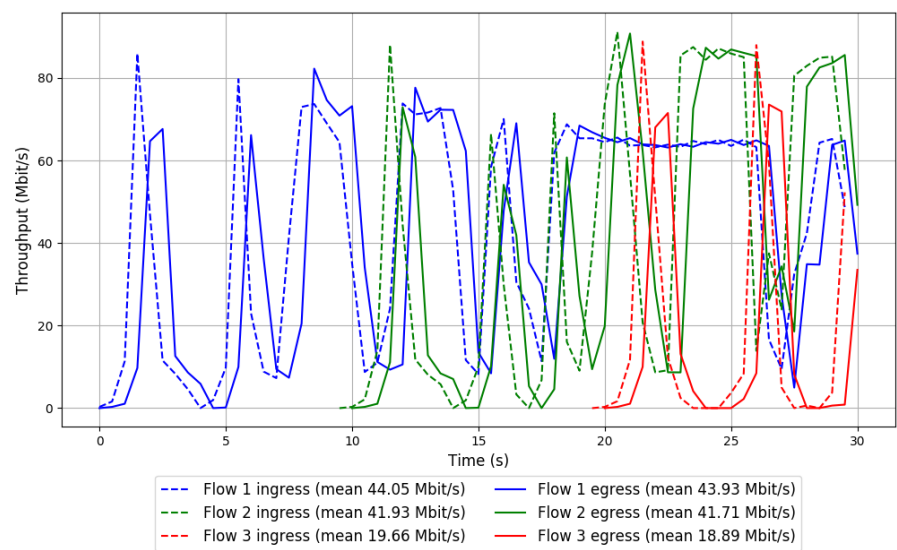
```
Run 3: Statistics of QUIC Cubic

Start at: 2019-10-03 00:22:01
End at: 2019-10-03 00:22:31
Local clock offset: -0.063 ms
Remote clock offset: -0.03 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.70 Mbit/s
95th percentile per-packet one-way delay: 86.181 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 48.82 Mbit/s
95th percentile per-packet one-way delay: 85.904 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 40.94 Mbit/s
95th percentile per-packet one-way delay: 85.900 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 20.33 Mbit/s
95th percentile per-packet one-way delay: 86.263 ms
Loss rate: 1.97%
```

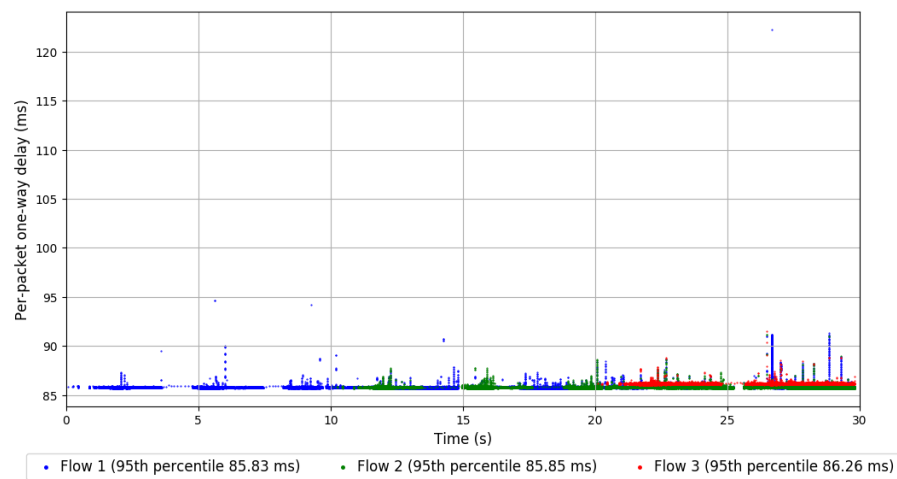Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-10-03 01:02:51
End at: 2019-10-03 01:03:21
Local clock offset: -0.085 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.82 Mbit/s
95th percentile per-packet one-way delay: 85.776 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 43.93 Mbit/s
95th percentile per-packet one-way delay: 85.769 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 41.71 Mbit/s
95th percentile per-packet one-way delay: 85.791 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 18.89 Mbit/s
95th percentile per-packet one-way delay: 85.759 ms
Loss rate: 5.57%
```

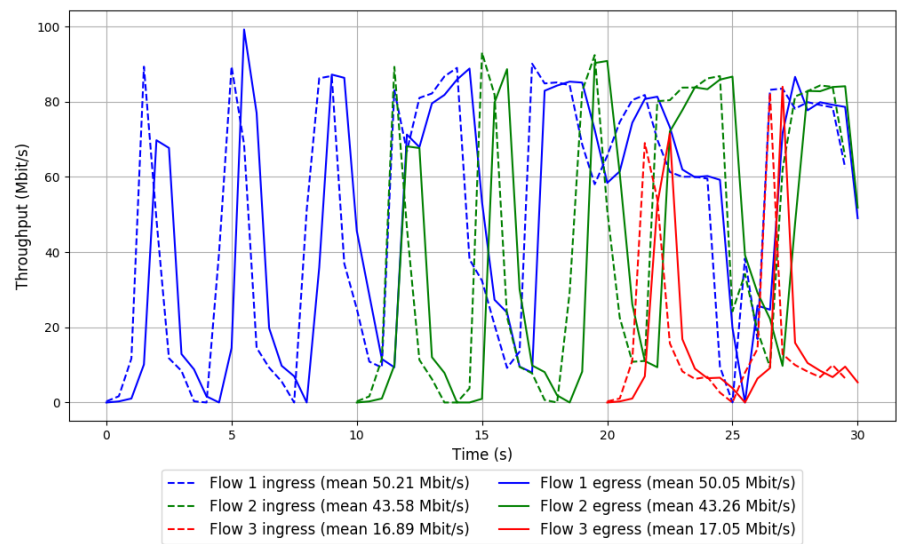Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-10-03 01:43:58
End at: 2019-10-03 01:44:28
Local clock offset: -0.114 ms
Remote clock offset: -0.028 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.32 Mbit/s
95th percentile per-packet one-way delay: 86.118 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 50.05 Mbit/s
95th percentile per-packet one-way delay: 85.833 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 43.26 Mbit/s
95th percentile per-packet one-way delay: 85.849 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 17.05 Mbit/s
95th percentile per-packet one-way delay: 86.258 ms
Loss rate: 0.80%
```
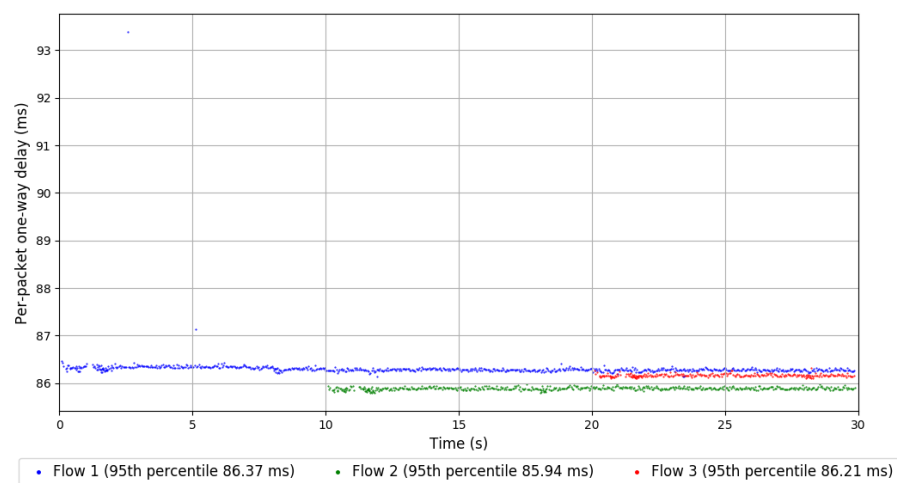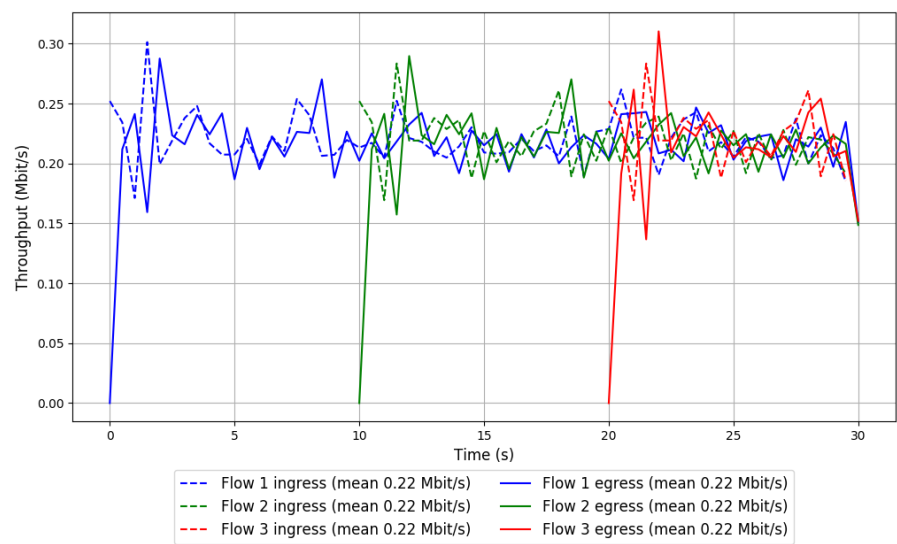
Run 5: Report of QUIC Cubic — Data Link

- Flow 1 ingress (mean 50.21 Mbit/s) — — — Flow 1 egress (mean 50.05 Mbit/s)
- Flow 2 ingress (mean 43.58 Mbit/s) — — — Flow 2 egress (mean 43.26 Mbit/s)
- Flow 3 ingress (mean 16.89 Mbit/s) — — — Flow 3 egress (mean 17.05 Mbit/s)

- Flow 1 (95th percentile 85.83 ms) • Flow 2 (95th percentile 85.85 ms) • Flow 3 (95th percentile 86.26 ms)
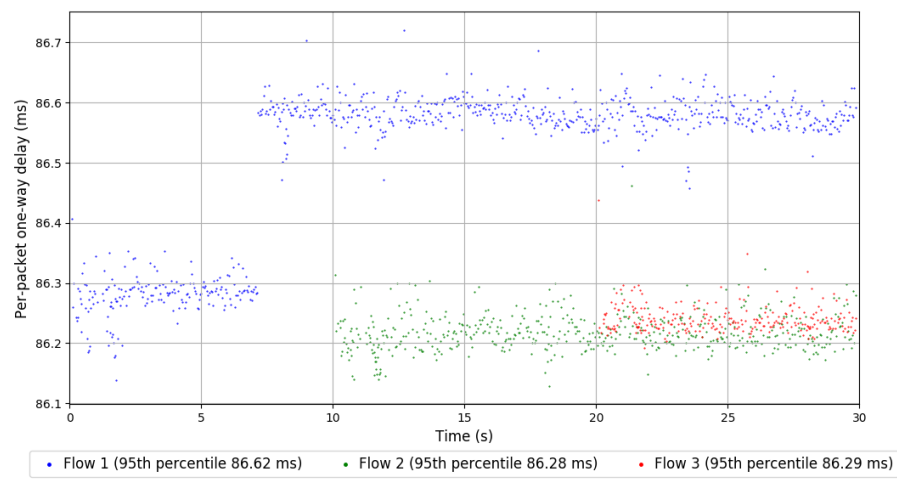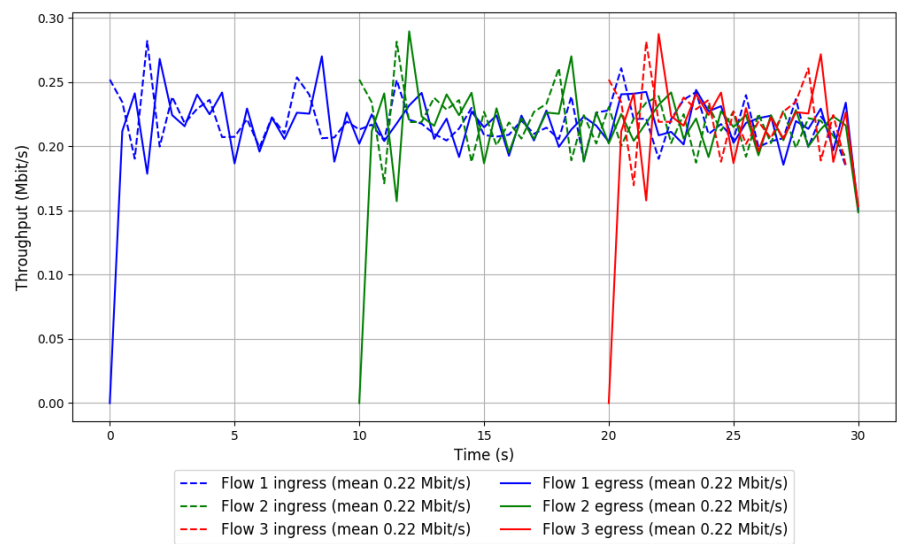
```
Run 1: Statistics of SCReAM

Start at: 2019-10-02 22:56:08
End at: 2019-10-02 22:56:38
Local clock offset: -0.121 ms
Remote clock offset: -0.048 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.348 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.367 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.940 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.212 ms
Loss rate: 1.85%
```

Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-10-02 23:36:44
End at: 2019-10-02 23:37:14
Local clock offset: 0.215 ms
Remote clock offset: -0.046 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.607 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.616 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.276 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.286 ms
Loss rate: 1.46%
```
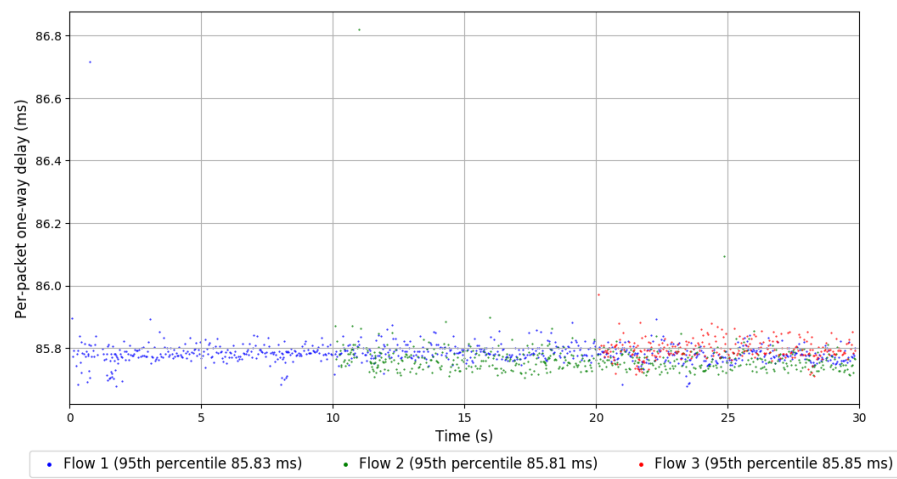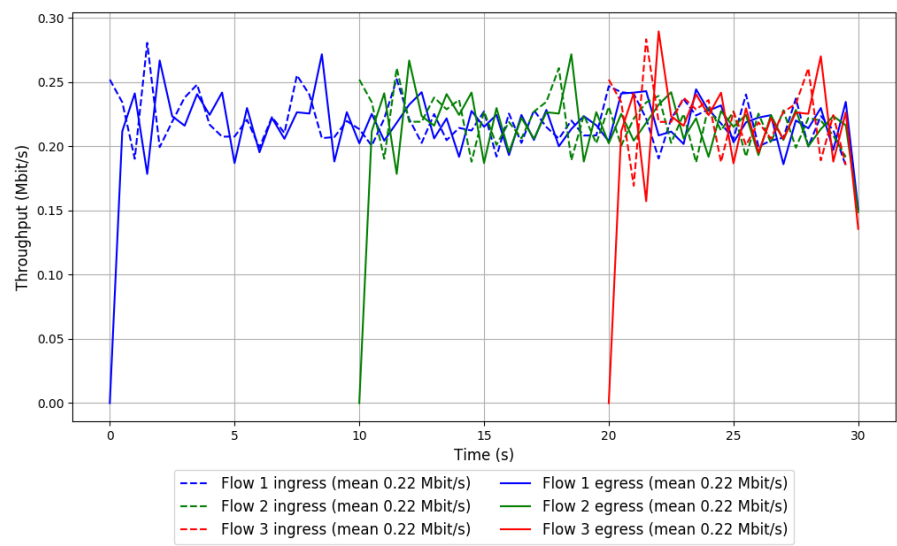
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-10-03 00:17:24
End at: 2019-10-03 00:17:54
Local clock offset: -0.26 ms
Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 85.833 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.829 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.813 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.850 ms
Loss rate: 1.85%
```
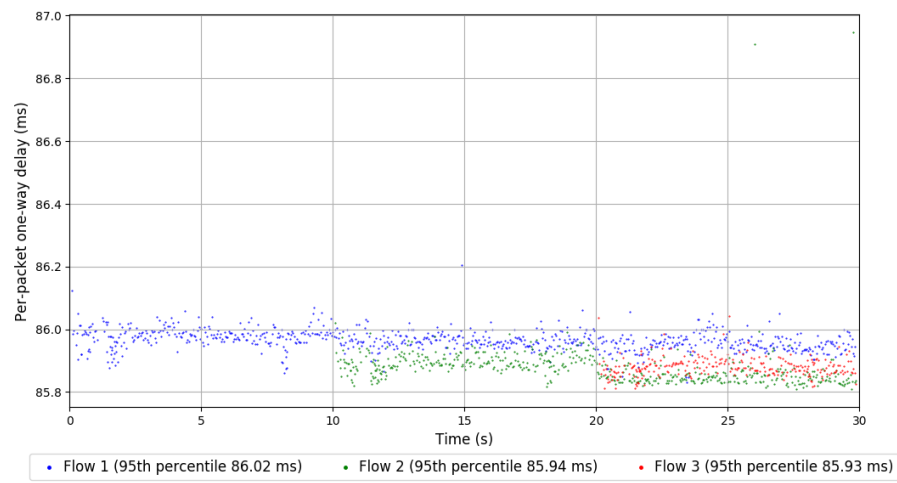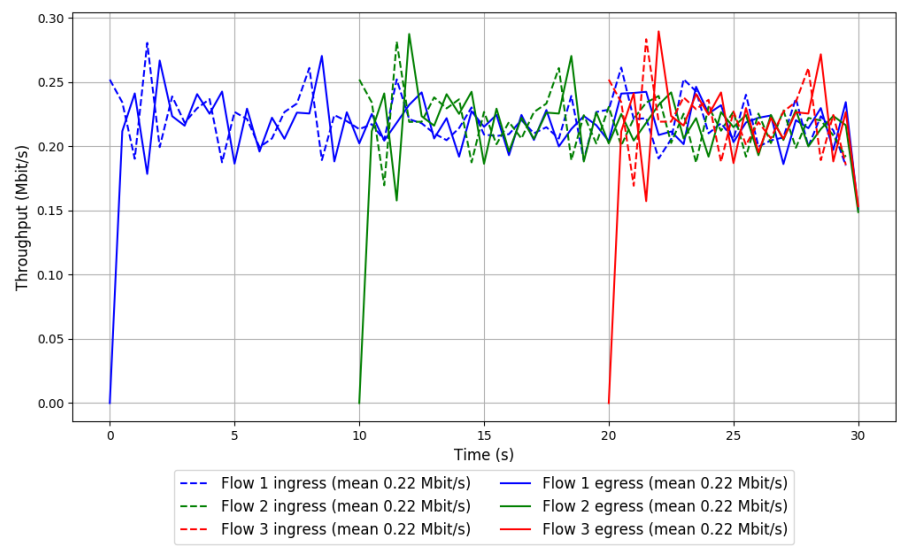
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-10-03 00:58:10
End at: 2019-10-03 00:58:40
Local clock offset: 0.088 ms
Remote clock offset: -0.007 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.006 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.019 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.940 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.930 ms
Loss rate: 1.46%
```
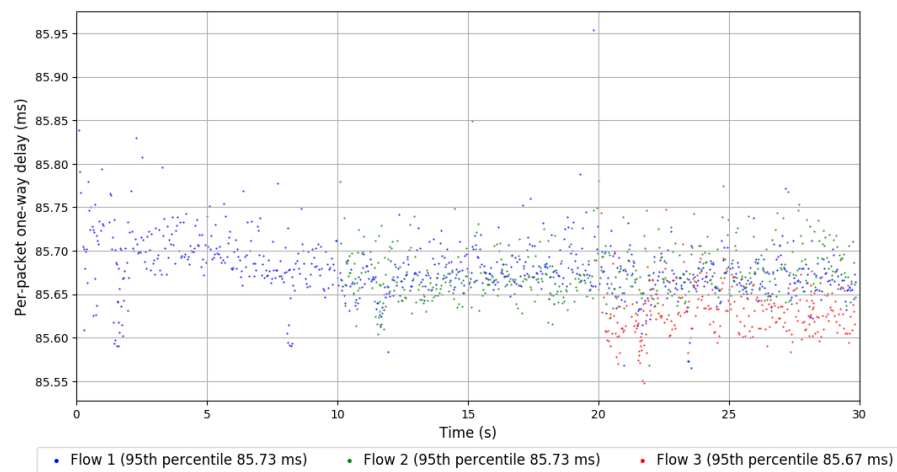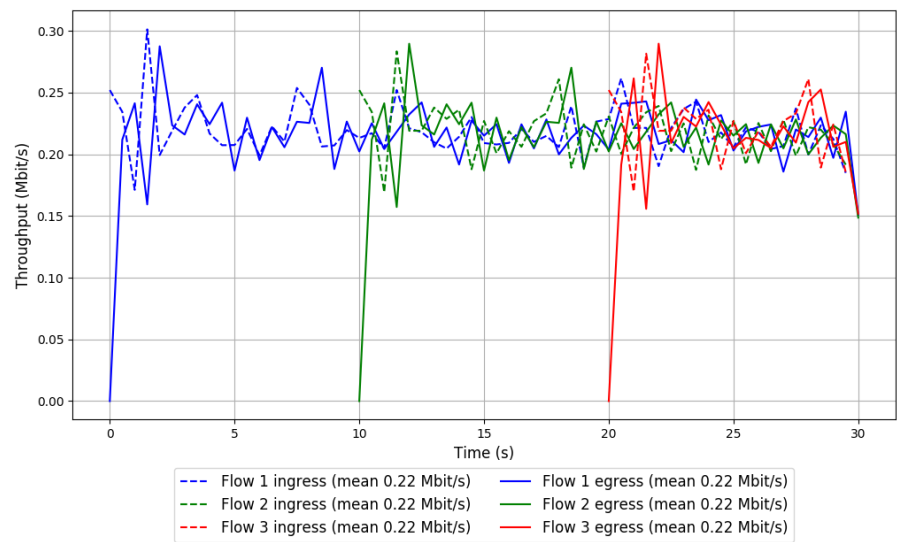
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-10-03 01:39:16
End at: 2019-10-03 01:39:46
Local clock offset: -0.314 ms
Remote clock offset: -0.033 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 85.729 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.734 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.726 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.675 ms
Loss rate: 1.85%
```

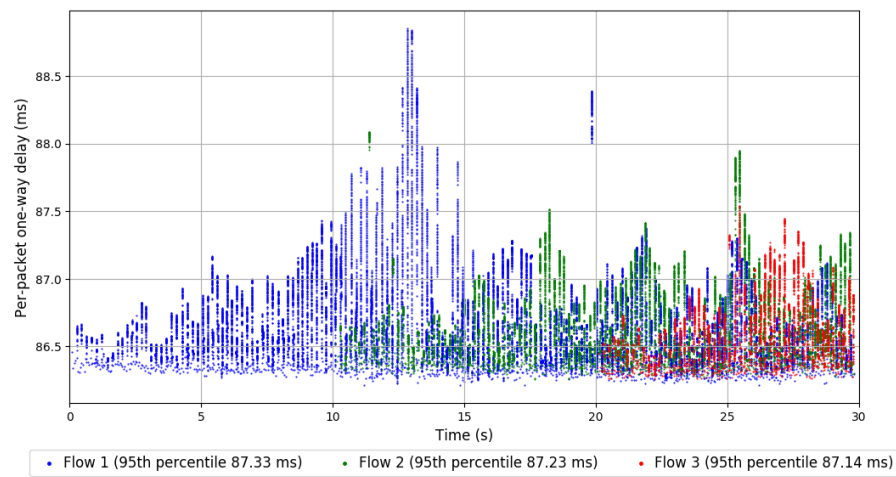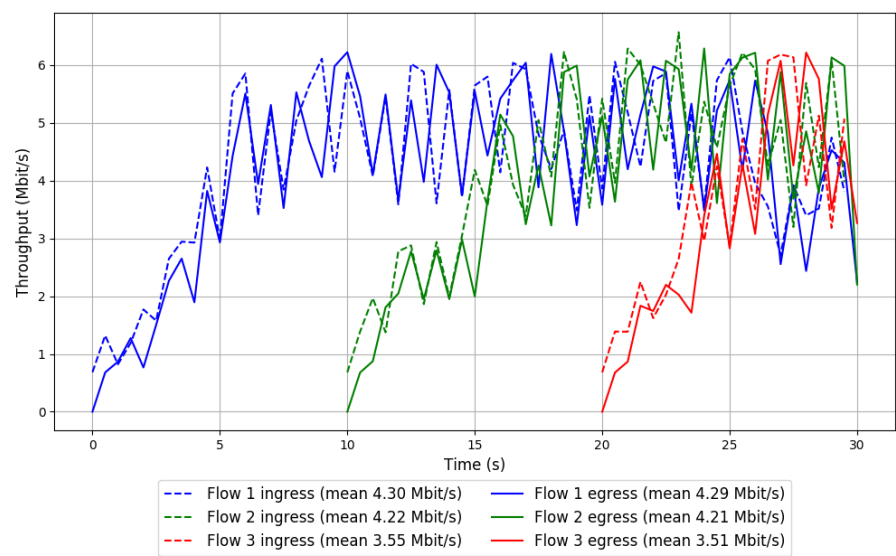## Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-10-02 22:47:43
End at: 2019-10-02 22:48:13
Local clock offset: 0.296 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 87.260 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 4.29 Mbit/s
95th percentile per-packet one-way delay: 87.325 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 87.232 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 3.51 Mbit/s
95th percentile per-packet one-way delay: 87.143 ms
Loss rate: 2.74%
```
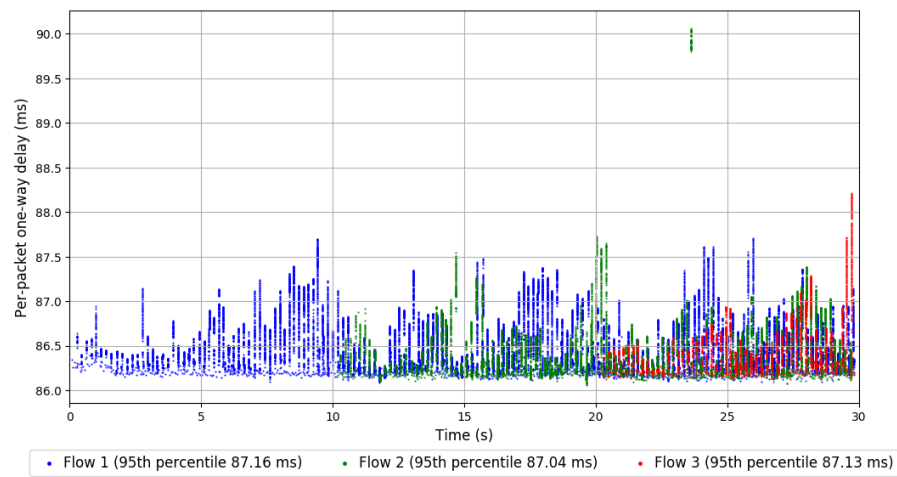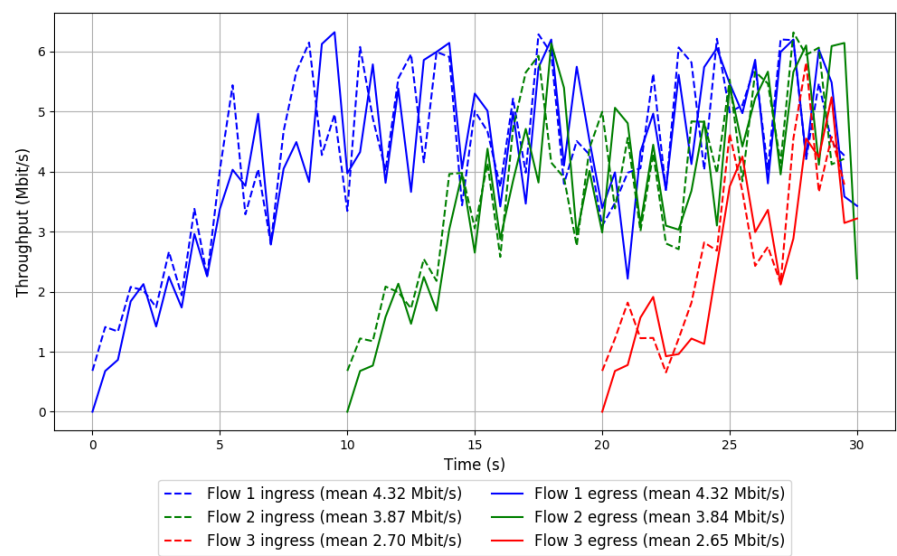
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-10-02 23:28:17
End at: 2019-10-02 23:28:47
Local clock offset: 0.245 ms
Remote clock offset: -0.045 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 87.122 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 4.32 Mbit/s
95th percentile per-packet one-way delay: 87.156 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 3.84 Mbit/s
95th percentile per-packet one-way delay: 87.037 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 2.65 Mbit/s
95th percentile per-packet one-way delay: 87.128 ms
Loss rate: 3.75%
```
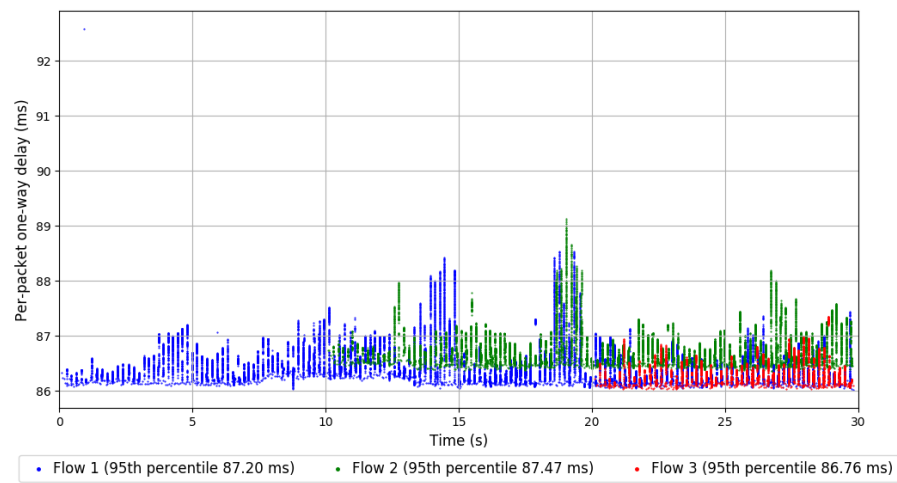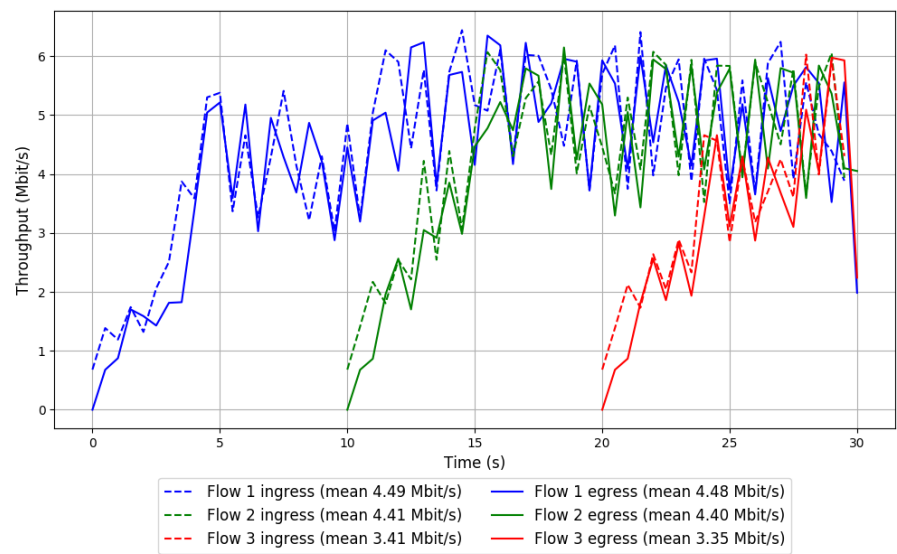
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-10-03 00:08:57
End at: 2019-10-03 00:09:27
Local clock offset: 0.095 ms
Remote clock offset: -0.118 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.50 Mbit/s
95th percentile per-packet one-way delay: 87.275 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 4.48 Mbit/s
95th percentile per-packet one-way delay: 87.200 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 4.40 Mbit/s
95th percentile per-packet one-way delay: 87.468 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 3.35 Mbit/s
95th percentile per-packet one-way delay: 86.758 ms
Loss rate: 3.08%
```
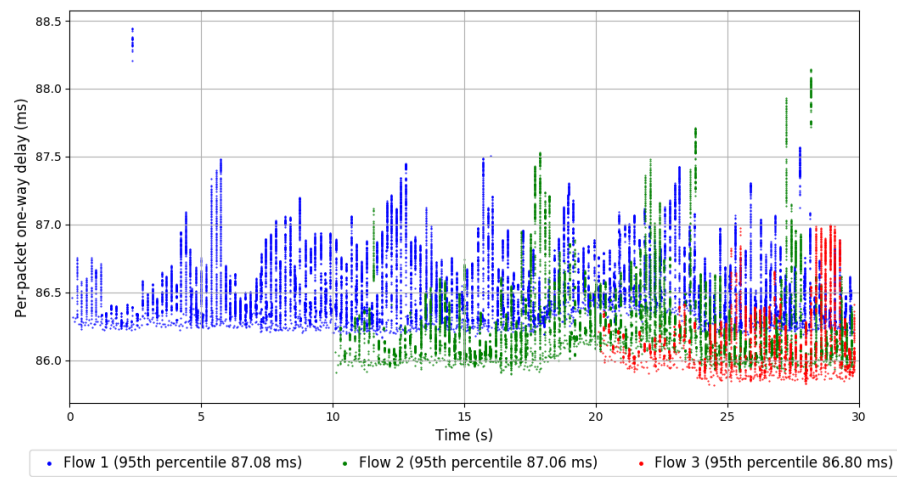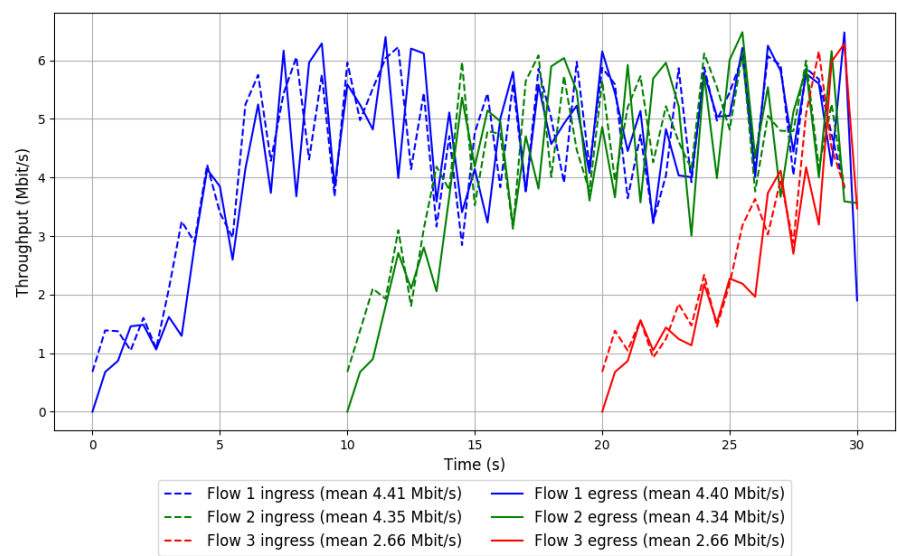
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-10-03 00:49:40
End at: 2019-10-03 00:50:10
Local clock offset: 0.09 ms
Remote clock offset: 0.035 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.14 Mbit/s
95th percentile per-packet one-way delay: 87.051 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 4.40 Mbit/s
95th percentile per-packet one-way delay: 87.080 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 4.34 Mbit/s
95th percentile per-packet one-way delay: 87.055 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 2.66 Mbit/s
95th percentile per-packet one-way delay: 86.799 ms
Loss rate: 1.25%
```
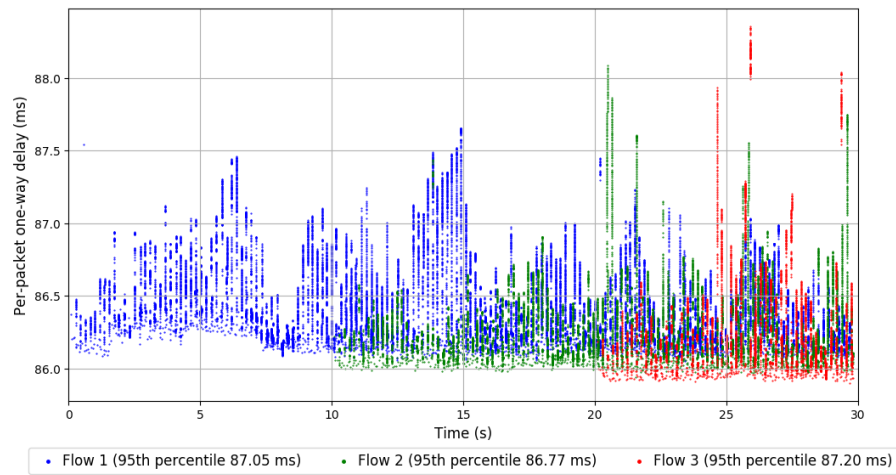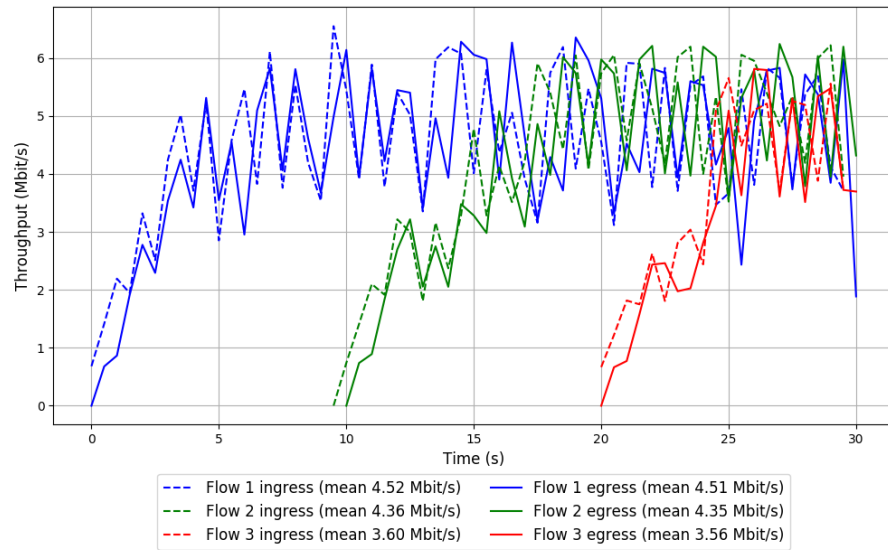
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-10-03 01:30:48
End at: 2019-10-03 01:31:18
Local clock offset: 0.14 ms
Remote clock offset: -0.038 ms


# Below is generated by plot.py at 2019-10-03 04:54:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.56 Mbit/s
95th percentile per-packet one-way delay: 87.015 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 4.51 Mbit/s
95th percentile per-packet one-way delay: 87.048 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: 86.765 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 3.56 Mbit/s
95th percentile per-packet one-way delay: 87.199 ms
Loss rate: 2.63%
```
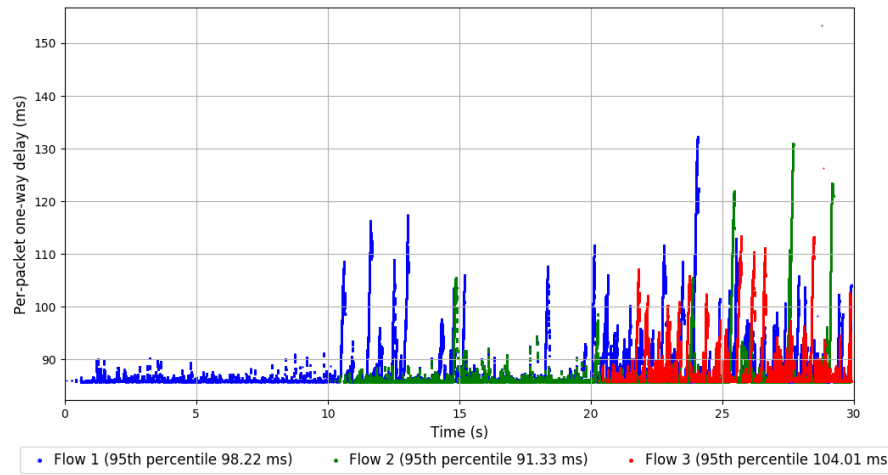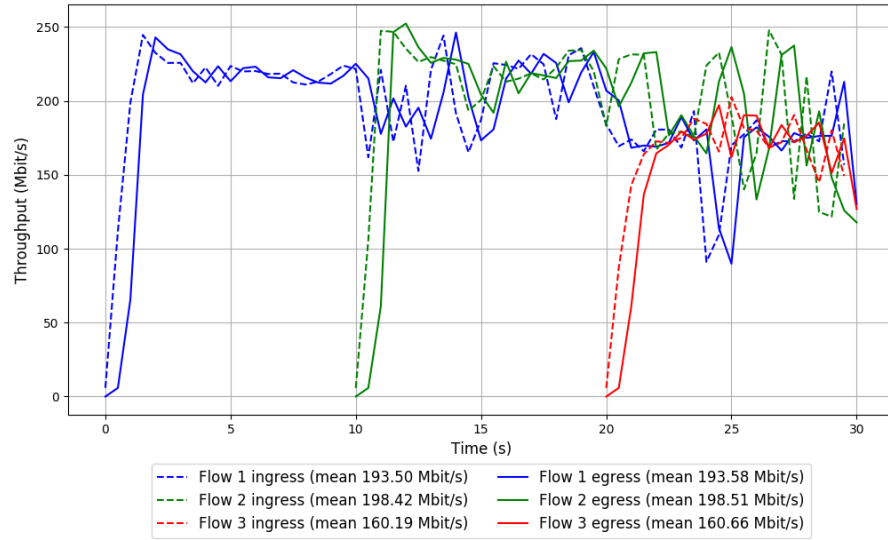
Run 5: Report of Sprout — Data Link

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

Start at: 2019-10-02 22:58:58
End at: 2019-10-02 22:59:28
Local clock offset: -0.055 ms
Remote clock offset: -0.041 ms

# Below is generated by plot.py at 2019-10-03 05:01:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 377.98 Mbit/s
95th percentile per-packet one-way delay: 98.215 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 193.58 Mbit/s
95th percentile per-packet one-way delay: 98.224 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 198.51 Mbit/s
95th percentile per-packet one-way delay: 91.332 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 160.66 Mbit/s
95th percentile per-packet one-way delay: 104.014 ms
Loss rate: 1.46%
```

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

Flow 1 ingress (mean 193.50 Mbit/s) --- Flow 1 egress (mean 193.58 Mbit/s)
Flow 2 ingress (mean 198.42 Mbit/s) --- Flow 2 egress (mean 198.51 Mbit/s)
Flow 3 ingress (mean 160.19 Mbit/s) --- Flow 3 egress (mean 160.66 Mbit/s)

Flow 1 (95th percentile 98.22 ms) · Flow 2 (95th percentile 91.33 ms) · Flow 3 (95th percentile 104.01 ms)
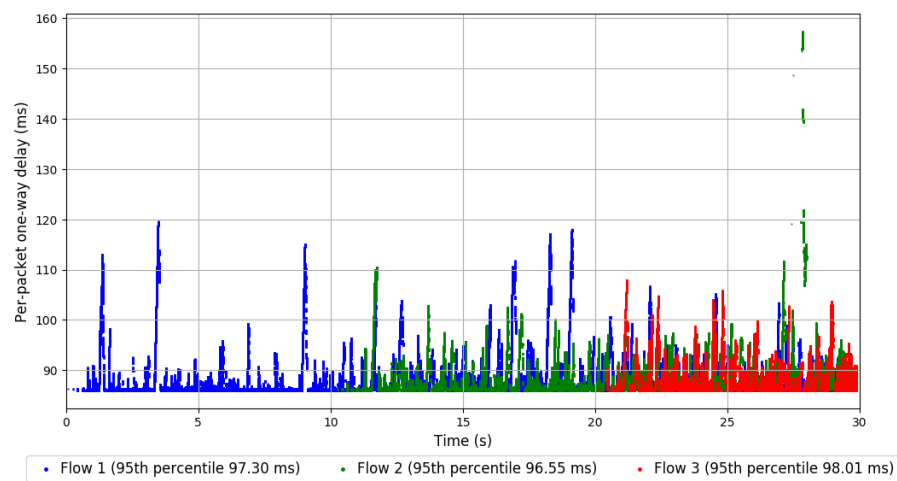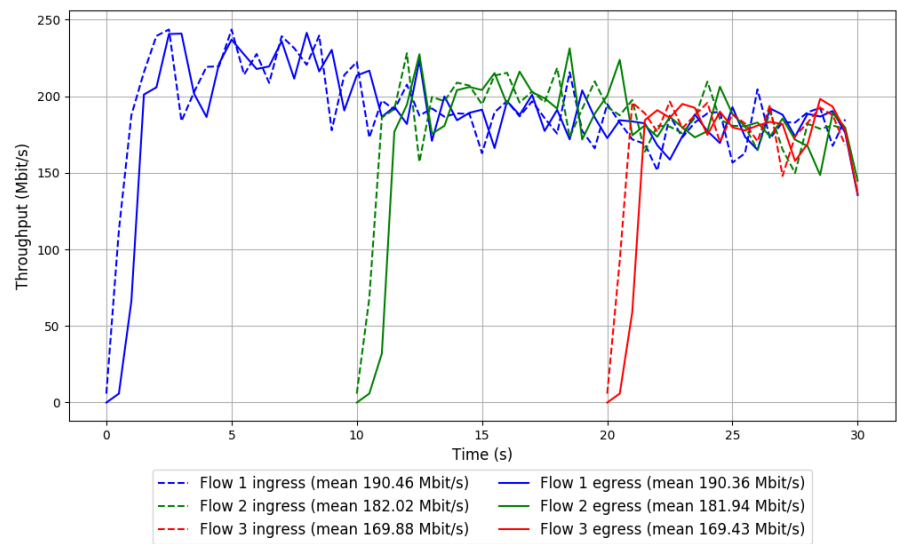
```
Run 2: Statistics of TaoVA-100x

Start at: 2019-10-02 23:39:29
End at: 2019-10-02 23:39:59
Local clock offset: 0.168 ms
Remote clock offset: -0.024 ms

# Below is generated by plot.py at 2019-10-03 05:01:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 366.76 Mbit/s
95th percentile per-packet one-way delay: 97.095 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 190.36 Mbit/s
95th percentile per-packet one-way delay: 97.301 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 181.94 Mbit/s
95th percentile per-packet one-way delay: 96.552 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 169.43 Mbit/s
95th percentile per-packet one-way delay: 98.007 ms
Loss rate: 1.89%
```

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

- - - - Flow 1 ingress (mean 190.46 Mbit/s)   ——— Flow 1 egress (mean 190.36 Mbit/s)
- - - - Flow 2 ingress (mean 182.02 Mbit/s)   ——— Flow 2 egress (mean 181.94 Mbit/s)
- - - - Flow 3 ingress (mean 169.88 Mbit/s)   ——— Flow 3 egress (mean 169.43 Mbit/s)

- Flow 1 (95th percentile 97.30 ms)   • Flow 2 (95th percentile 96.55 ms)   • Flow 3 (95th percentile 98.01 ms)
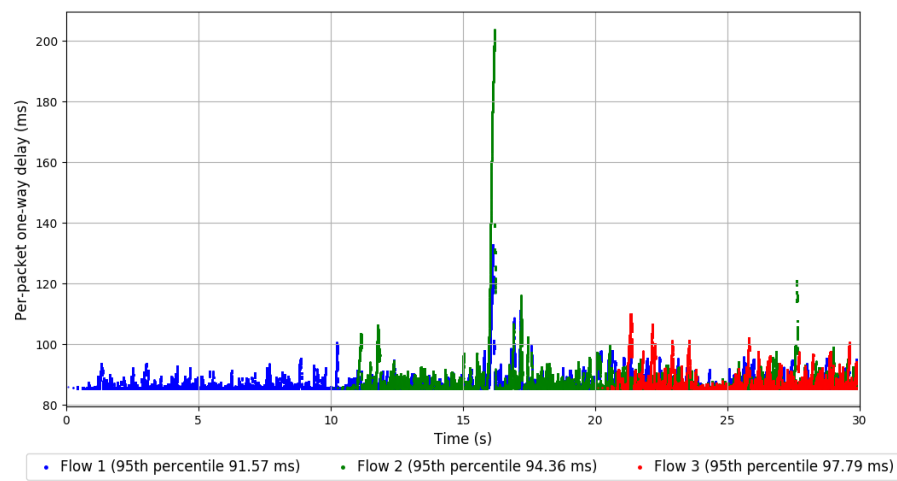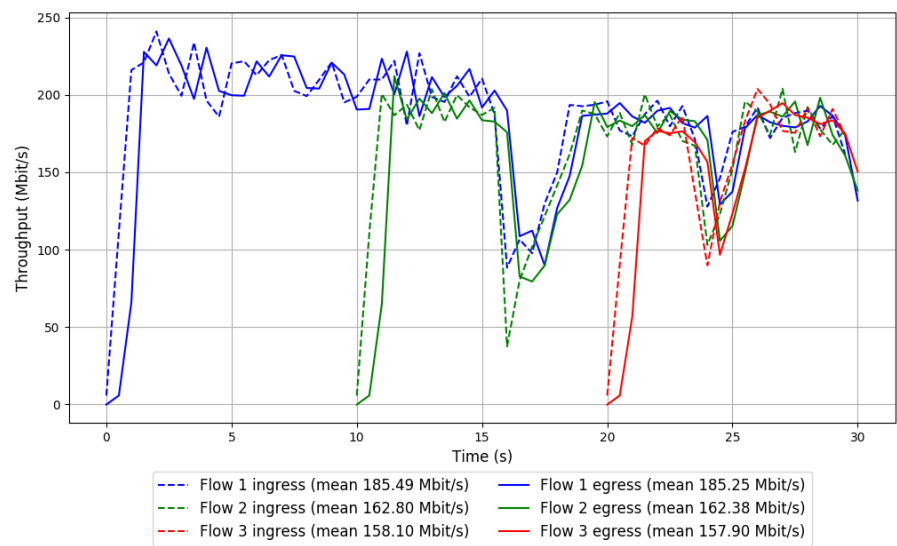
198

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

Start at: 2019-10-03 00:20:10
End at: 2019-10-03 00:20:40
Local clock offset: -0.481 ms
Remote clock offset: -0.037 ms


# Below is generated by plot.py at 2019-10-03 05:01:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 344.97 Mbit/s
95th percentile per-packet one-way delay: 93.567 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 185.25 Mbit/s
95th percentile per-packet one-way delay: 91.573 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 162.38 Mbit/s
95th percentile per-packet one-way delay: 94.357 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 157.90 Mbit/s
95th percentile per-packet one-way delay: 97.793 ms
Loss rate: 1.87%
```

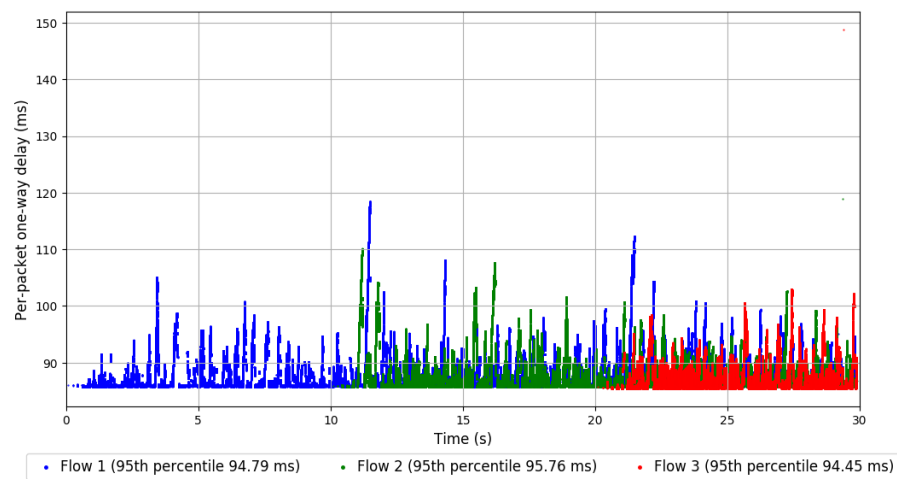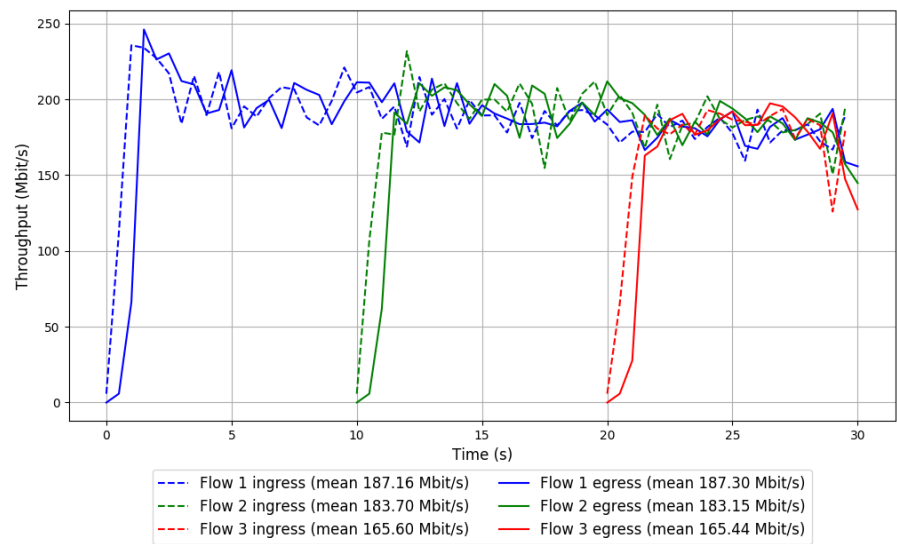Run 3: Report of TaoVA-100x — Data Link

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

Start at: 2019-10-03 01:00:58
End at: 2019-10-03 01:01:28
Local clock offset: -0.248 ms
Remote clock offset: -0.041 ms


# Below is generated by plot.py at 2019-10-03 05:01:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.21 Mbit/s
95th percentile per-packet one-way delay: 95.007 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 187.30 Mbit/s
95th percentile per-packet one-way delay: 94.788 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 183.15 Mbit/s
95th percentile per-packet one-way delay: 95.757 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 165.44 Mbit/s
95th percentile per-packet one-way delay: 94.448 ms
Loss rate: 1.87%
```

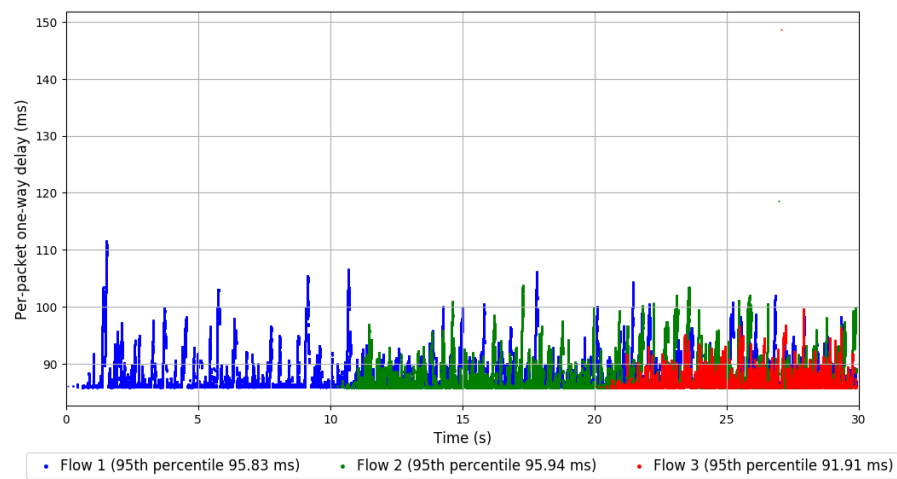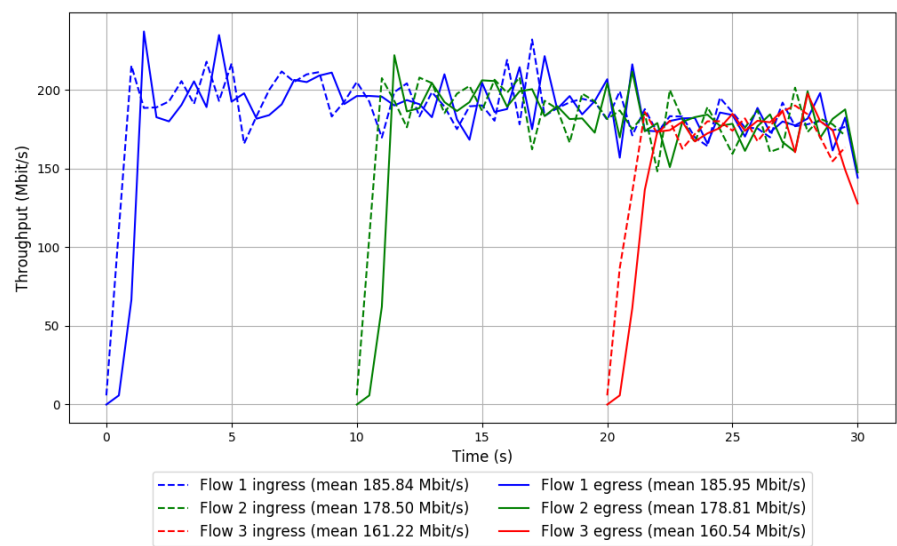# Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2019-10-03 01:42:06
End at: 2019-10-03 01:42:36
Local clock offset: 0.027 ms
Remote clock offset: -0.018 ms


# Below is generated by plot.py at 2019-10-03 05:01:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 357.43 Mbit/s
95th percentile per-packet one-way delay: 95.357 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 185.95 Mbit/s
95th percentile per-packet one-way delay: 95.829 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 178.81 Mbit/s
95th percentile per-packet one-way delay: 95.945 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 160.54 Mbit/s
95th percentile per-packet one-way delay: 91.905 ms
Loss rate: 2.15%
```

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

Flow 1 ingress (mean 185.84 Mbit/s) --- Flow 1 egress (mean 185.95 Mbit/s)
Flow 2 ingress (mean 178.50 Mbit/s) --- Flow 2 egress (mean 178.81 Mbit/s)
Flow 3 ingress (mean 161.22 Mbit/s) --- Flow 3 egress (mean 160.54 Mbit/s)

Flow 1 (95th percentile 95.83 ms) • Flow 2 (95th percentile 95.94 ms) • Flow 3 (95th percentile 91.91 ms)
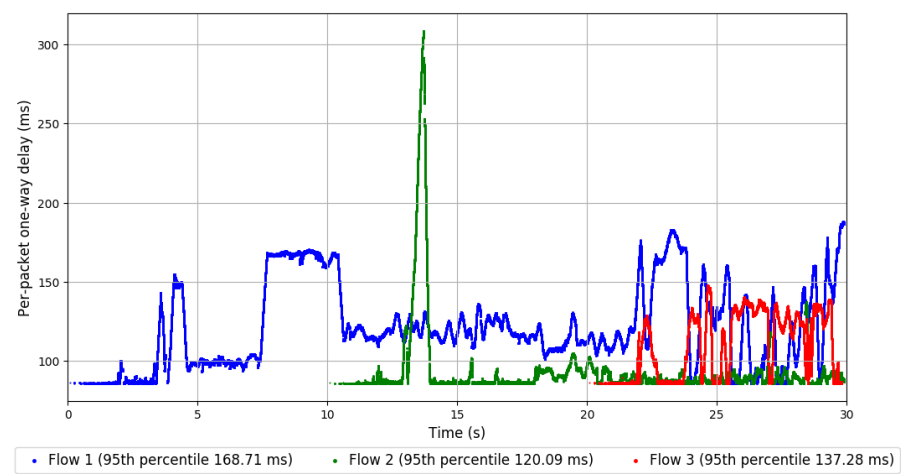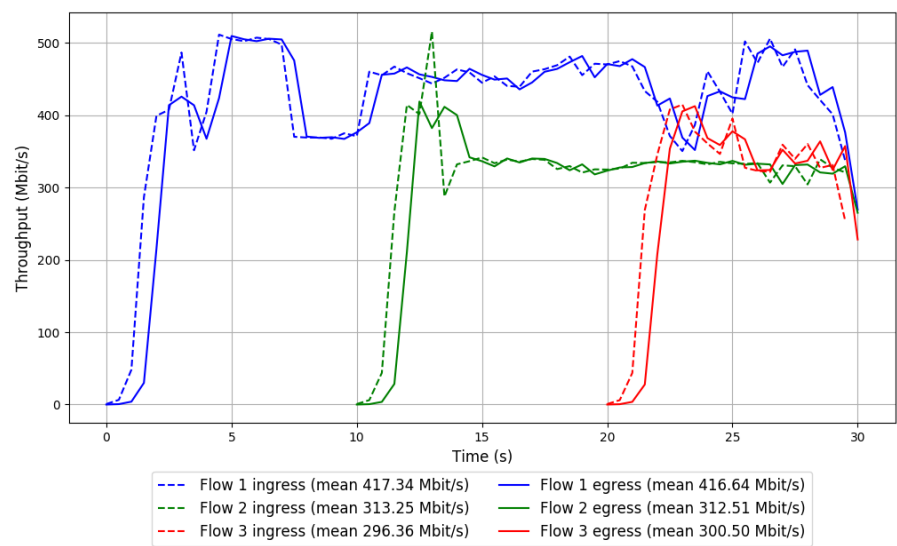
```
Run 1: Statistics of TCP Vegas

Start at: 2019-10-02 23:05:16
End at: 2019-10-02 23:05:46
Local clock offset: 0.14 ms
Remote clock offset: -0.027 ms


# Below is generated by plot.py at 2019-10-03 05:01:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 721.91 Mbit/s
95th percentile per-packet one-way delay: 167.604 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 416.64 Mbit/s
95th percentile per-packet one-way delay: 168.709 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 312.51 Mbit/s
95th percentile per-packet one-way delay: 120.089 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 300.50 Mbit/s
95th percentile per-packet one-way delay: 137.285 ms
Loss rate: 1.43%
```

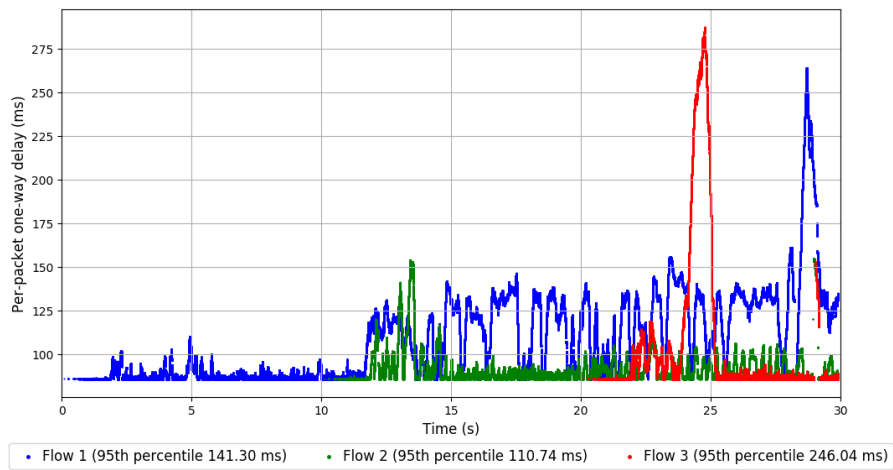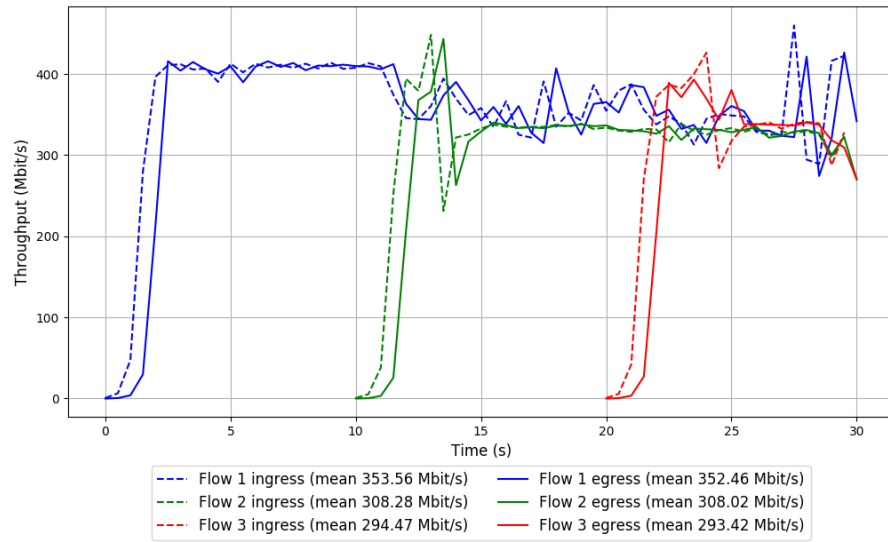# Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-10-02 23:45:45
End at: 2019-10-02 23:46:15
Local clock offset: -0.056 ms
Remote clock offset: -0.063 ms


# Below is generated by plot.py at 2019-10-03 05:07:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 653.13 Mbit/s
95th percentile per-packet one-way delay: 141.758 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 352.46 Mbit/s
95th percentile per-packet one-way delay: 141.304 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 308.02 Mbit/s
95th percentile per-packet one-way delay: 110.737 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 293.42 Mbit/s
95th percentile per-packet one-way delay: 246.040 ms
Loss rate: 2.07%
```

Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 353.56 Mbit/s) --- Flow 1 egress (mean 352.46 Mbit/s)
Flow 2 ingress (mean 308.28 Mbit/s) --- Flow 2 egress (mean 308.02 Mbit/s)
Flow 3 ingress (mean 294.47 Mbit/s) --- Flow 3 egress (mean 293.42 Mbit/s)

Flow 1 (95th percentile 141.30 ms)   Flow 2 (95th percentile 110.74 ms)   Flow 3 (95th percentile 246.04 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2019-10-03 00:26:23
End at: 2019-10-03 00:26:53
Local clock offset: -0.304 ms
Remote clock offset: 0.037 ms


# Below is generated by plot.py at 2019-10-03 05:11:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 699.44 Mbit/s
95th percentile per-packet one-way delay: 184.255 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 350.08 Mbit/s
95th percentile per-packet one-way delay: 107.567 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 358.22 Mbit/s
95th percentile per-packet one-way delay: 190.383 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 338.82 Mbit/s
95th percentile per-packet one-way delay: 187.399 ms
Loss rate: 2.86%
```
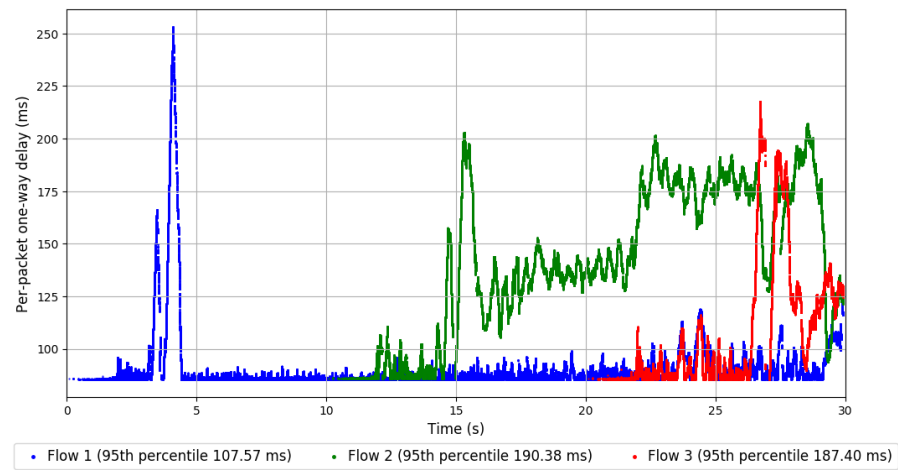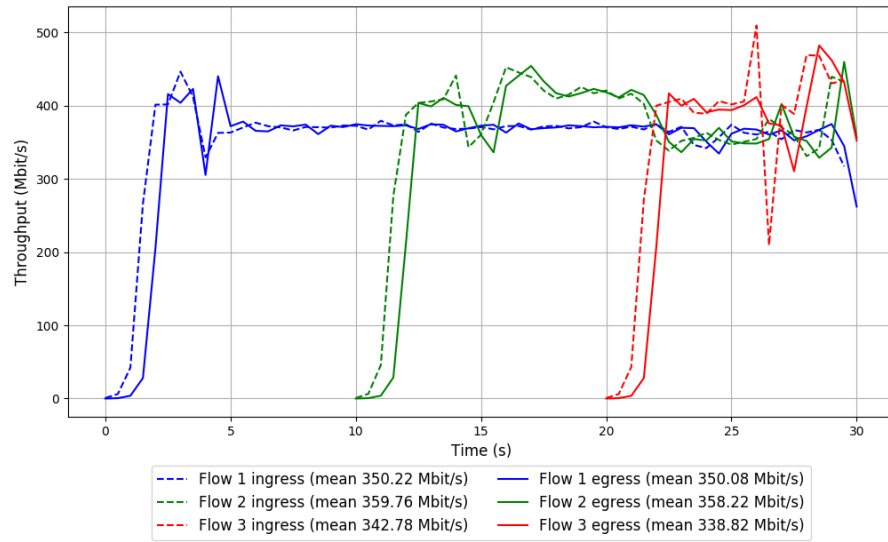
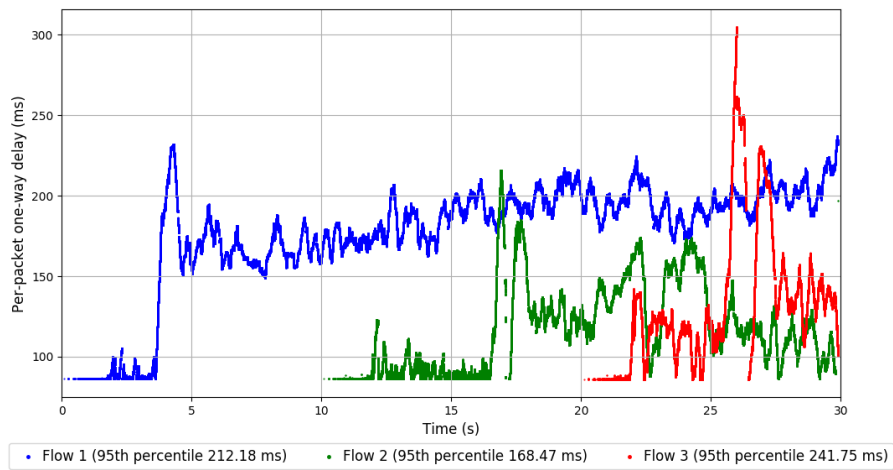Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 350.22 Mbit/s)   Flow 1 egress (mean 350.08 Mbit/s)
Flow 2 ingress (mean 359.76 Mbit/s)   Flow 2 egress (mean 358.22 Mbit/s)
Flow 3 ingress (mean 342.78 Mbit/s)   Flow 3 egress (mean 338.82 Mbit/s)

Flow 1 (95th percentile 107.57 ms)   Flow 2 (95th percentile 190.38 ms)   Flow 3 (95th percentile 187.40 ms)
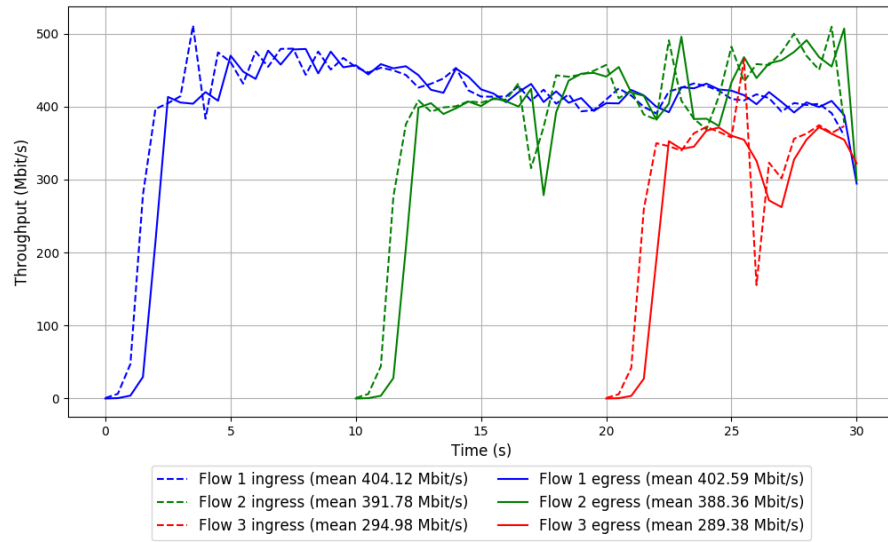
```
Run 4: Statistics of TCP Vegas

Start at: 2019-10-03 01:07:17
End at: 2019-10-03 01:07:47
Local clock offset: 0.09 ms
Remote clock offset: -0.015 ms


# Below is generated by plot.py at 2019-10-03 05:16:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 755.50 Mbit/s
95th percentile per-packet one-way delay: 209.647 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 402.59 Mbit/s
95th percentile per-packet one-way delay: 212.183 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 388.36 Mbit/s
95th percentile per-packet one-way delay: 168.465 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 289.38 Mbit/s
95th percentile per-packet one-way delay: 241.749 ms
Loss rate: 3.59%
```

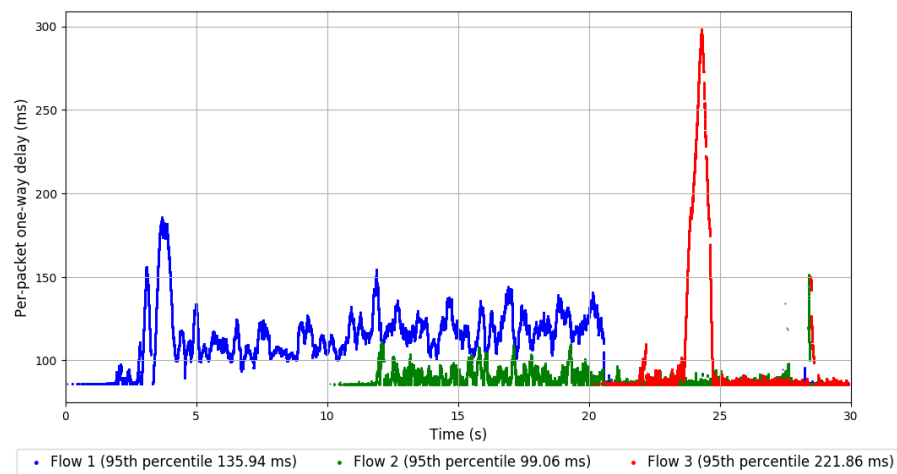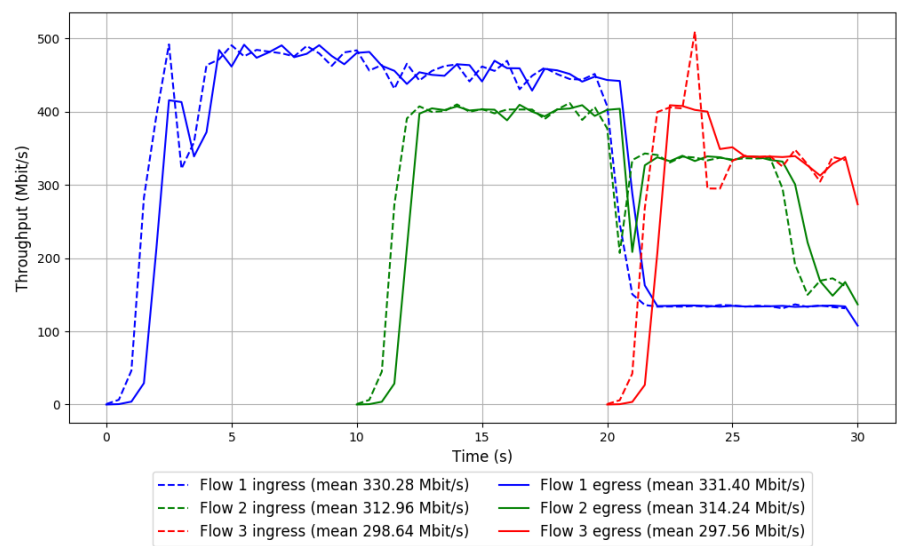# Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-10-03 01:48:23
End at: 2019-10-03 01:48:53
Local clock offset: -0.316 ms
Remote clock offset: -0.041 ms


# Below is generated by plot.py at 2019-10-03 05:16:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 637.90 Mbit/s
95th percentile per-packet one-way delay: 134.696 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 331.40 Mbit/s
95th percentile per-packet one-way delay: 135.945 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 314.24 Mbit/s
95th percentile per-packet one-way delay: 99.057 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 297.56 Mbit/s
95th percentile per-packet one-way delay: 221.863 ms
Loss rate: 2.08%
```

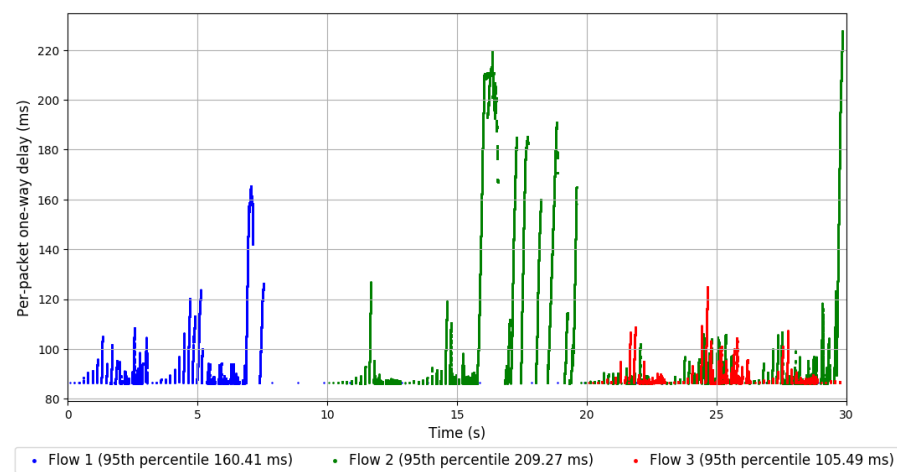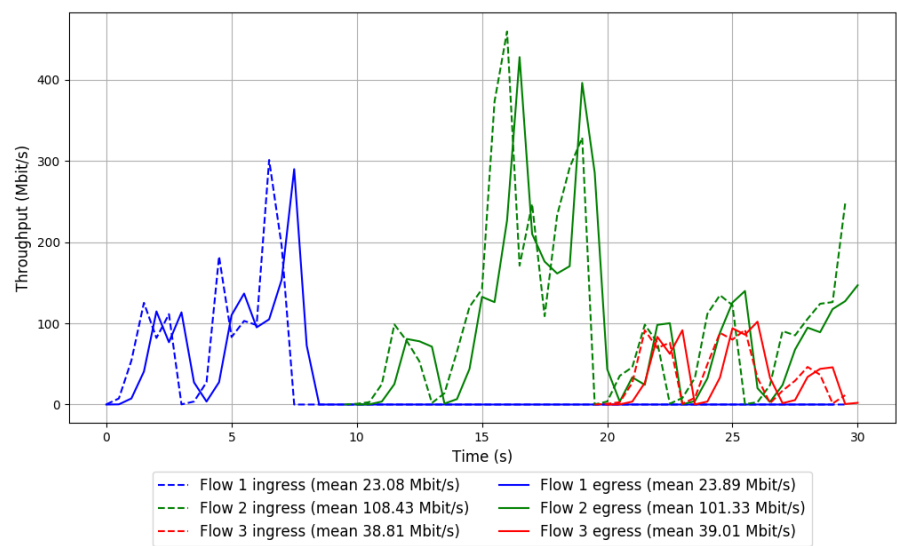Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-10-02 23:14:30
End at: 2019-10-02 23:15:00
Local clock offset: 0.431 ms
Remote clock offset: -0.072 ms


# Below is generated by plot.py at 2019-10-03 05:16:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 103.15 Mbit/s
95th percentile per-packet one-way delay: 204.151 ms
Loss rate: 4.58%
-- Flow 1:
Average throughput: 23.89 Mbit/s
95th percentile per-packet one-way delay: 160.411 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 101.33 Mbit/s
95th percentile per-packet one-way delay: 209.271 ms
Loss rate: 6.63%
-- Flow 3:
Average throughput: 39.01 Mbit/s
95th percentile per-packet one-way delay: 105.493 ms
Loss rate: 1.32%
```

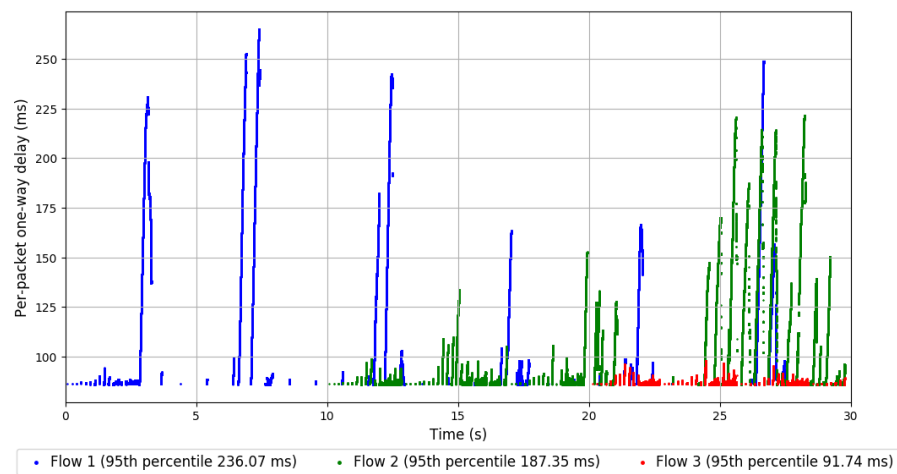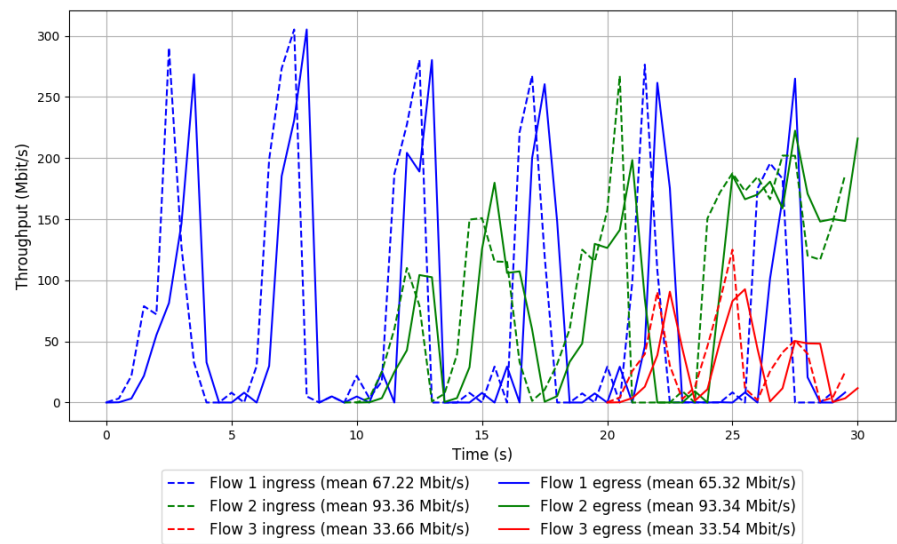Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-10-02 23:55:04
End at: 2019-10-02 23:55:34
Local clock offset: 0.258 ms
Remote clock offset: -0.027 ms


# Below is generated by plot.py at 2019-10-03 05:16:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 137.04 Mbit/s
95th percentile per-packet one-way delay: 216.209 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 65.32 Mbit/s
95th percentile per-packet one-way delay: 236.066 ms
Loss rate: 2.83%
-- Flow 2:
Average throughput: 93.34 Mbit/s
95th percentile per-packet one-way delay: 187.346 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.54 Mbit/s
95th percentile per-packet one-way delay: 91.742 ms
Loss rate: 2.16%
```
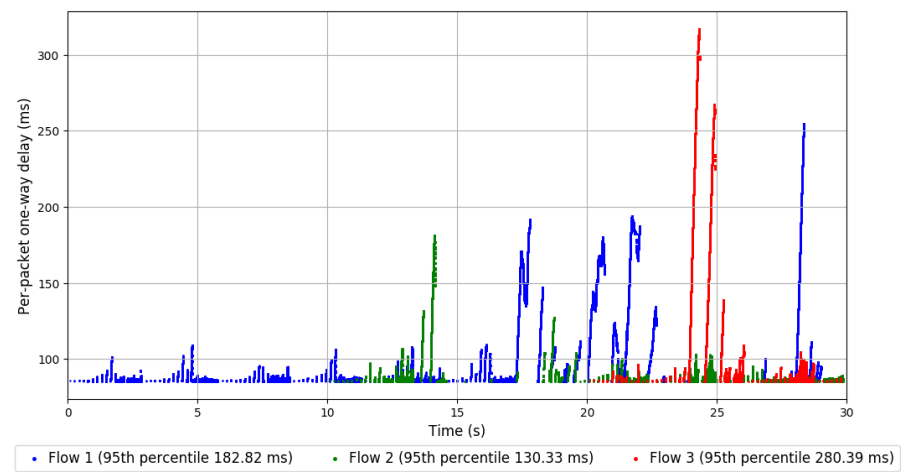
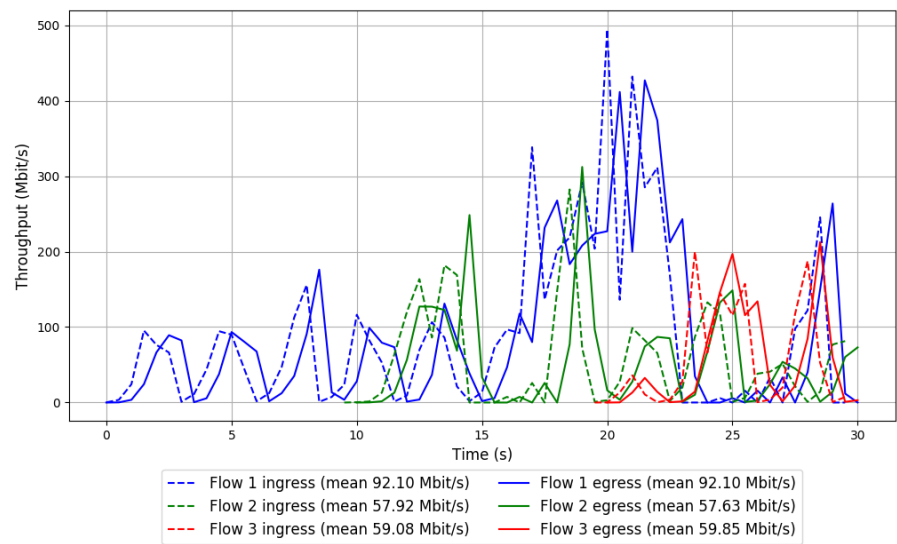## Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-10-03 00:35:40
End at: 2019-10-03 00:36:10
Local clock offset: -0.439 ms
Remote clock offset: 0.009 ms


# Below is generated by plot.py at 2019-10-03 05:16:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 149.75 Mbit/s
95th percentile per-packet one-way delay: 183.889 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 92.10 Mbit/s
95th percentile per-packet one-way delay: 182.818 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 57.63 Mbit/s
95th percentile per-packet one-way delay: 130.332 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 59.85 Mbit/s
95th percentile per-packet one-way delay: 280.394 ms
Loss rate: 0.48%
```
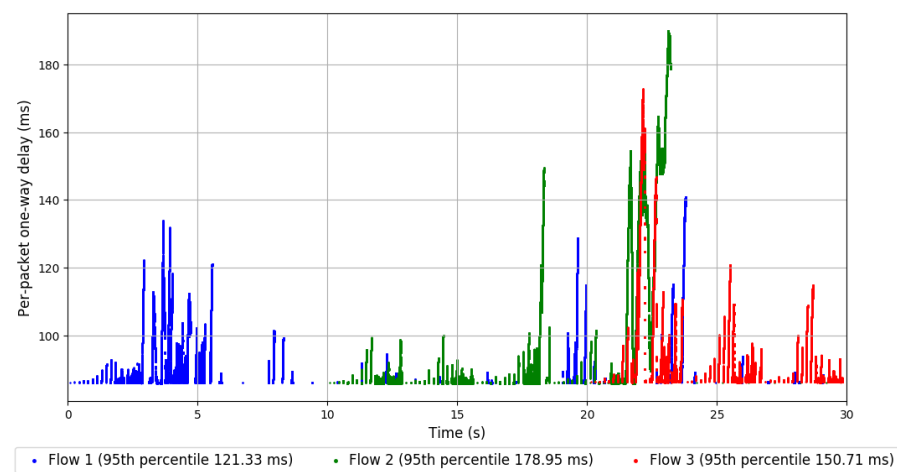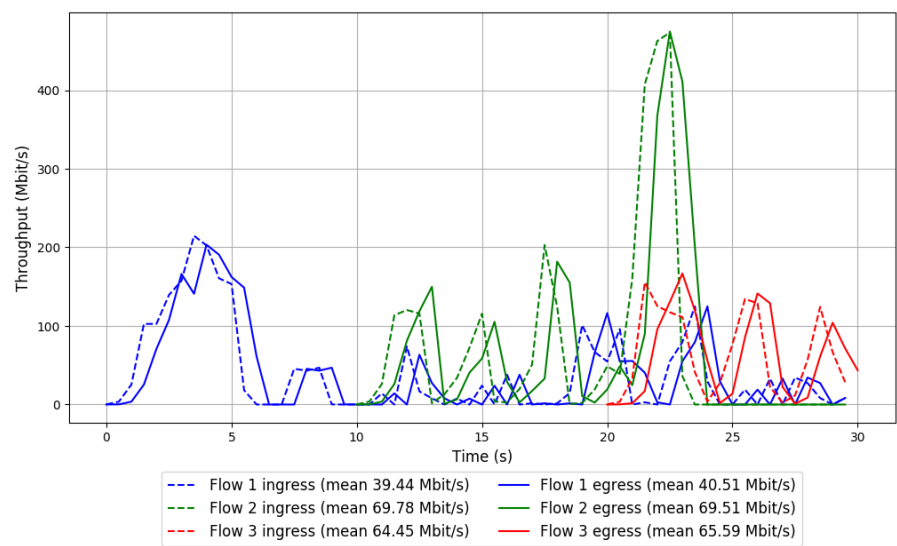
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-10-03 01:16:38
End at: 2019-10-03 01:17:08
Local clock offset: 0.062 ms
Remote clock offset: -0.062 ms


# Below is generated by plot.py at 2019-10-03 05:16:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.57 Mbit/s
95th percentile per-packet one-way delay: 156.692 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 40.51 Mbit/s
95th percentile per-packet one-way delay: 121.327 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 69.51 Mbit/s
95th percentile per-packet one-way delay: 178.950 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 65.59 Mbit/s
95th percentile per-packet one-way delay: 150.705 ms
Loss rate: 0.00%
```

Run 4: Report of Verus — Data Link

Flow 1 ingress (mean 39.44 Mbit/s)   Flow 1 egress (mean 40.51 Mbit/s)
Flow 2 ingress (mean 69.78 Mbit/s)   Flow 2 egress (mean 69.51 Mbit/s)
Flow 3 ingress (mean 64.45 Mbit/s)   Flow 3 egress (mean 65.59 Mbit/s)

Flow 1 (95th percentile 121.33 ms)   Flow 2 (95th percentile 178.95 ms)   Flow 3 (95th percentile 150.71 ms)
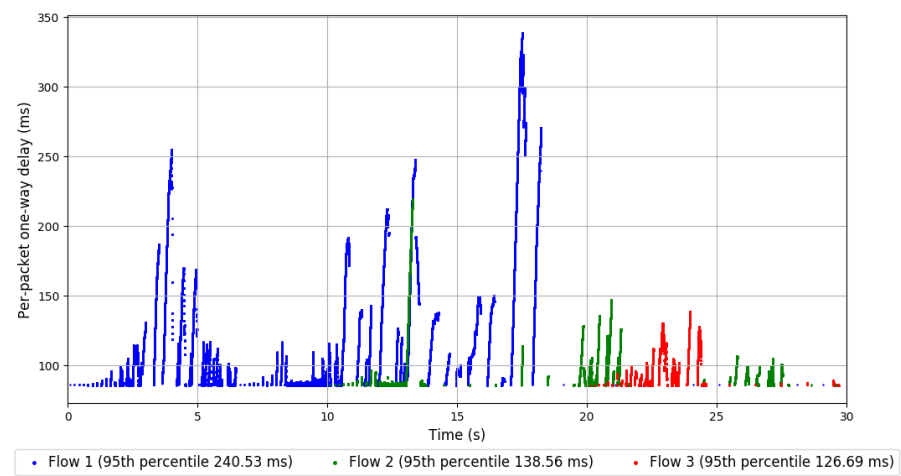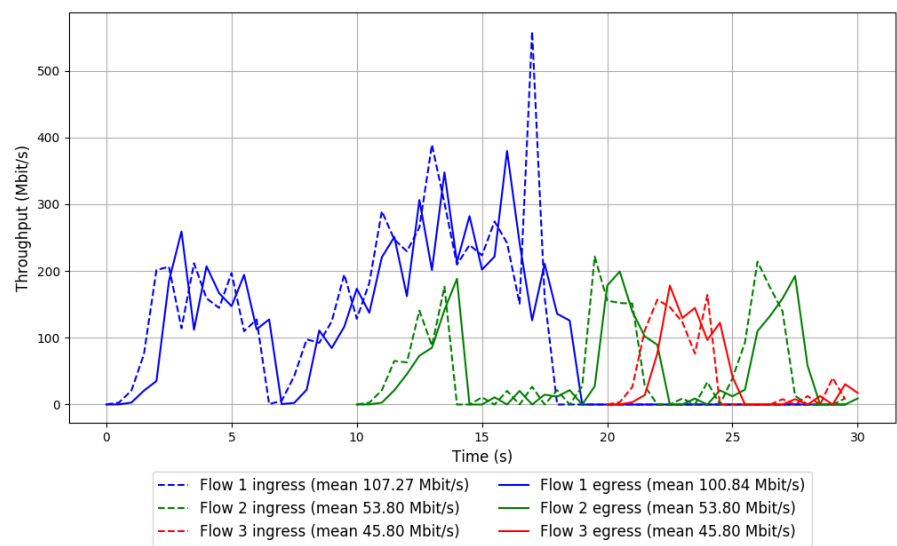
```
Run 5: Statistics of Verus

Start at: 2019-10-03 01:57:37
End at: 2019-10-03 01:58:07
Local clock offset: 0.1 ms
Remote clock offset: -0.082 ms


# Below is generated by plot.py at 2019-10-03 05:16:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 149.06 Mbit/s
95th percentile per-packet one-way delay: 227.319 ms
Loss rate: 4.05%
-- Flow 1:
Average throughput: 100.84 Mbit/s
95th percentile per-packet one-way delay: 240.535 ms
Loss rate: 5.99%
-- Flow 2:
Average throughput: 53.80 Mbit/s
95th percentile per-packet one-way delay: 138.558 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 45.80 Mbit/s
95th percentile per-packet one-way delay: 126.692 ms
Loss rate: 0.00%
```

Run 5: Report of Verus — Data Link

Flow 1 ingress (mean 107.27 Mbit/s) — — — Flow 1 egress (mean 100.84 Mbit/s)
Flow 2 ingress (mean 53.80 Mbit/s) — — — Flow 2 egress (mean 53.80 Mbit/s)
Flow 3 ingress (mean 45.80 Mbit/s) — — — Flow 3 egress (mean 45.80 Mbit/s)

Flow 1 (95th percentile 240.53 ms) • Flow 2 (95th percentile 138.56 ms) • Flow 3 (95th percentile 126.69 ms)
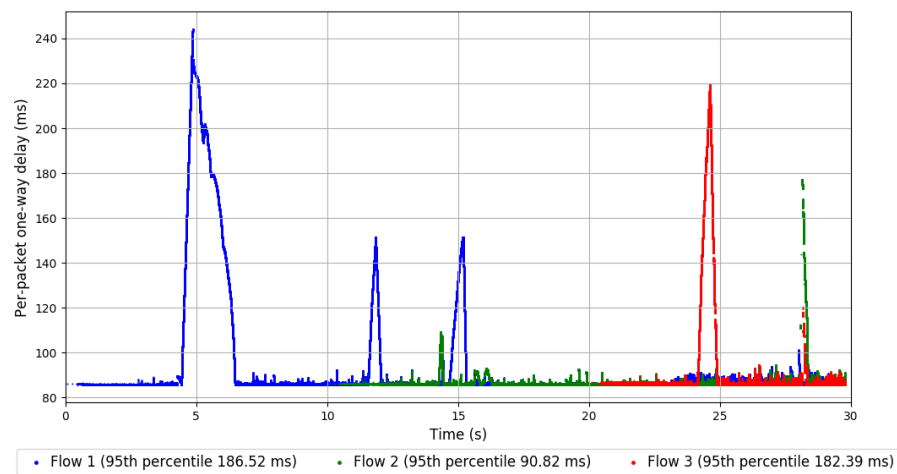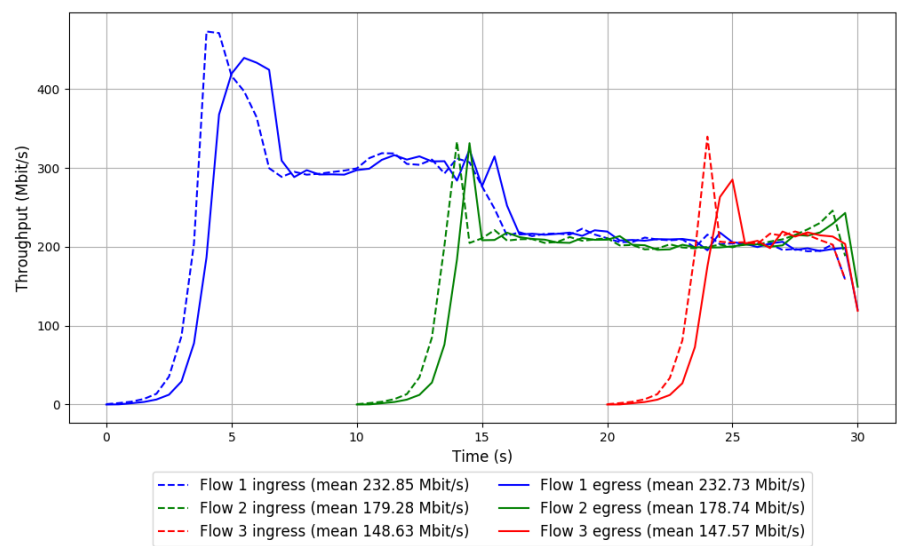
```
Run 1: Statistics of PCC-Vivace

Start at: 2019-10-02 22:48:59
End at: 2019-10-02 22:49:29
Local clock offset: -0.094 ms
Remote clock offset: -0.033 ms


# Below is generated by plot.py at 2019-10-03 05:16:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 399.30 Mbit/s
95th percentile per-packet one-way delay: 170.496 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 232.73 Mbit/s
95th percentile per-packet one-way delay: 186.522 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 178.74 Mbit/s
95th percentile per-packet one-way delay: 90.817 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 147.57 Mbit/s
95th percentile per-packet one-way delay: 182.386 ms
Loss rate: 2.46%
```

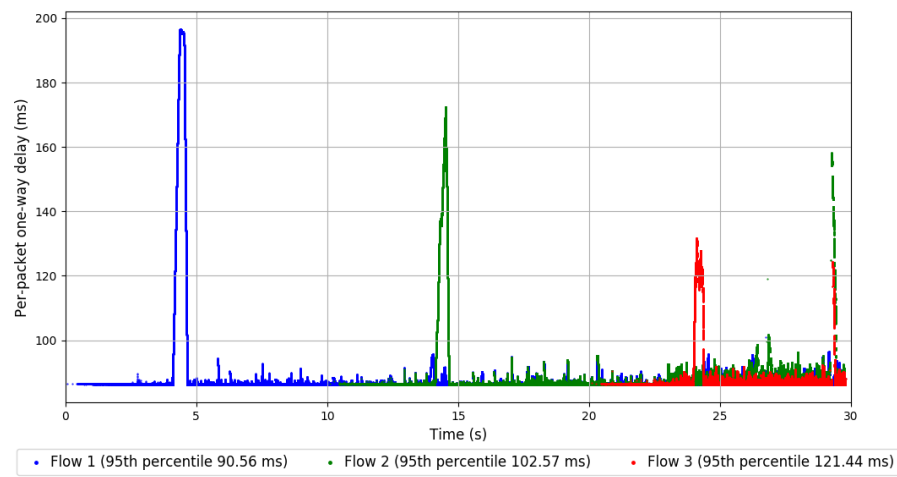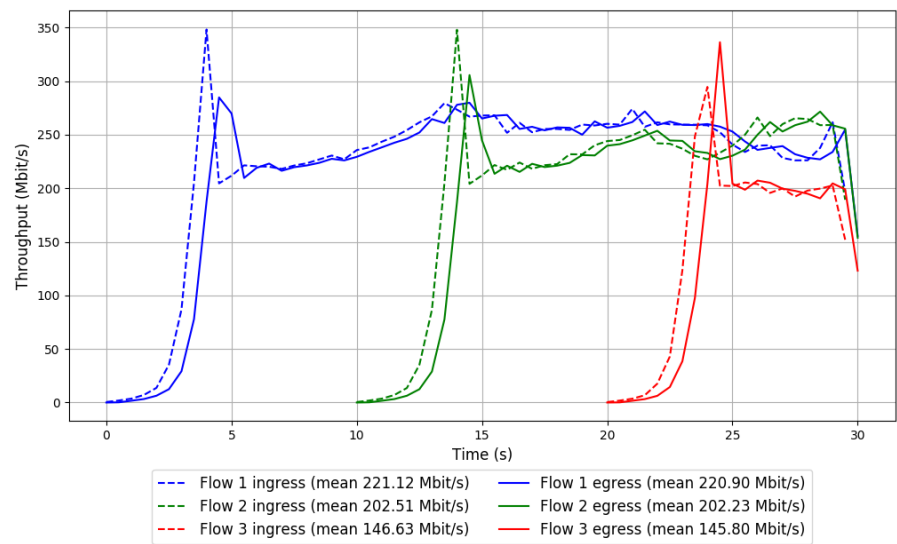# Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-10-02 23:29:33
End at: 2019-10-02 23:30:03
Local clock offset: 0.436 ms
Remote clock offset: -0.046 ms


# Below is generated by plot.py at 2019-10-03 05:16:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 402.62 Mbit/s
95th percentile per-packet one-way delay: 95.352 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 220.90 Mbit/s
95th percentile per-packet one-way delay: 90.562 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 202.23 Mbit/s
95th percentile per-packet one-way delay: 102.571 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 145.80 Mbit/s
95th percentile per-packet one-way delay: 121.435 ms
Loss rate: 2.30%
```

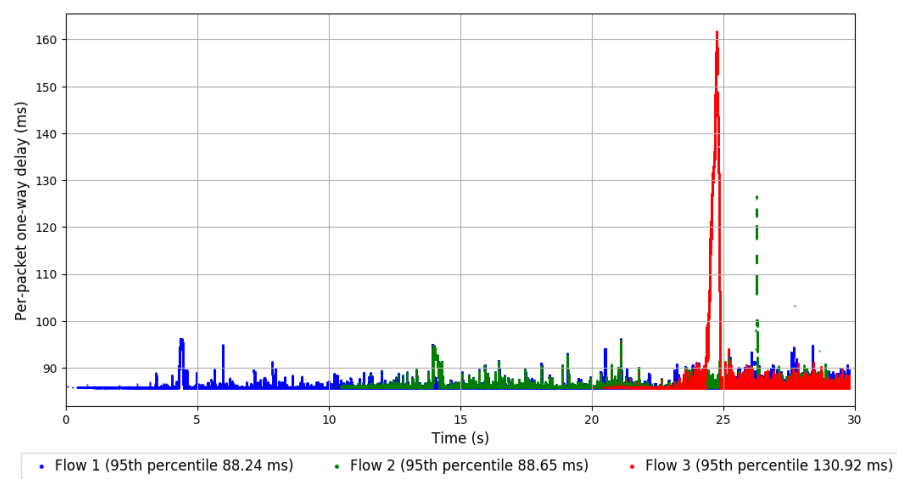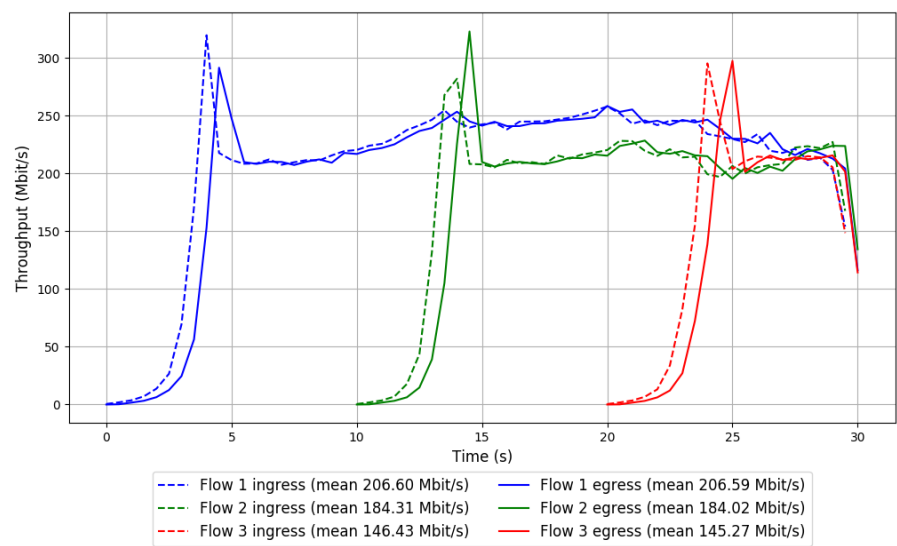Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-10-03 00:10:13
End at: 2019-10-03 00:10:43
Local clock offset: -0.132 ms
Remote clock offset: -0.084 ms


# Below is generated by plot.py at 2019-10-03 05:16:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 375.96 Mbit/s
95th percentile per-packet one-way delay: 89.206 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 206.59 Mbit/s
95th percentile per-packet one-way delay: 88.242 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 184.02 Mbit/s
95th percentile per-packet one-way delay: 88.652 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 145.27 Mbit/s
95th percentile per-packet one-way delay: 130.924 ms
Loss rate: 2.53%
```

Run 3: Report of PCC-Vivace — Data Link

- --- Flow 1 ingress (mean 206.60 Mbit/s)   — Flow 1 egress (mean 206.59 Mbit/s)
- --- Flow 2 ingress (mean 184.31 Mbit/s)   — Flow 2 egress (mean 184.02 Mbit/s)
- --- Flow 3 ingress (mean 146.43 Mbit/s)   — Flow 3 egress (mean 145.27 Mbit/s)

- Flow 1 (95th percentile 88.24 ms)   • Flow 2 (95th percentile 88.65 ms)   • Flow 3 (95th percentile 130.92 ms)

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-10-03 00:50:56
End at: 2019-10-03 00:51:26
Local clock offset: -0.329 ms
Remote clock offset: 0.021 ms


# Below is generated by plot.py at 2019-10-03 05:16:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.58 Mbit/s
95th percentile per-packet one-way delay: 129.044 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 226.35 Mbit/s
95th percentile per-packet one-way delay: 156.548 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 191.89 Mbit/s
95th percentile per-packet one-way delay: 110.989 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 146.99 Mbit/s
95th percentile per-packet one-way delay: 125.427 ms
Loss rate: 2.43%
```
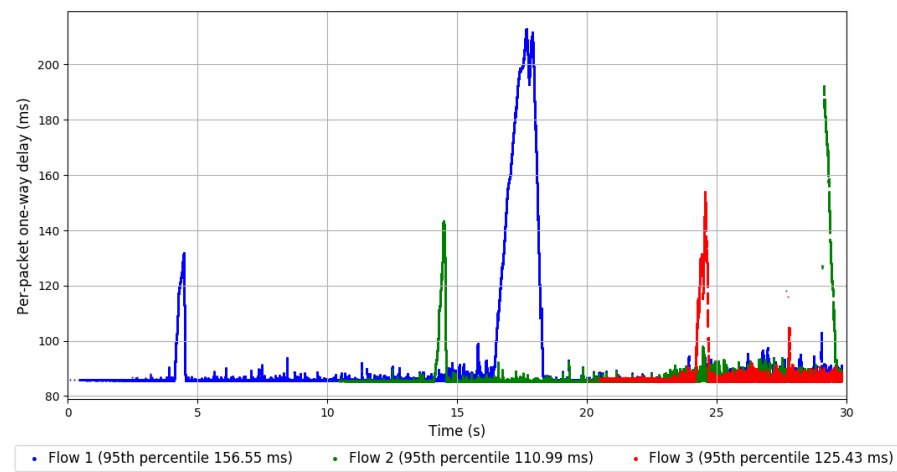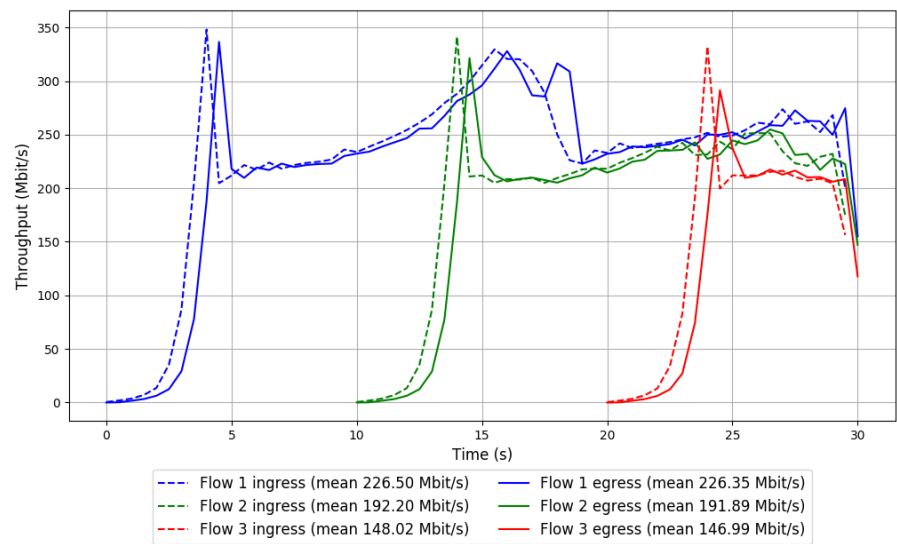
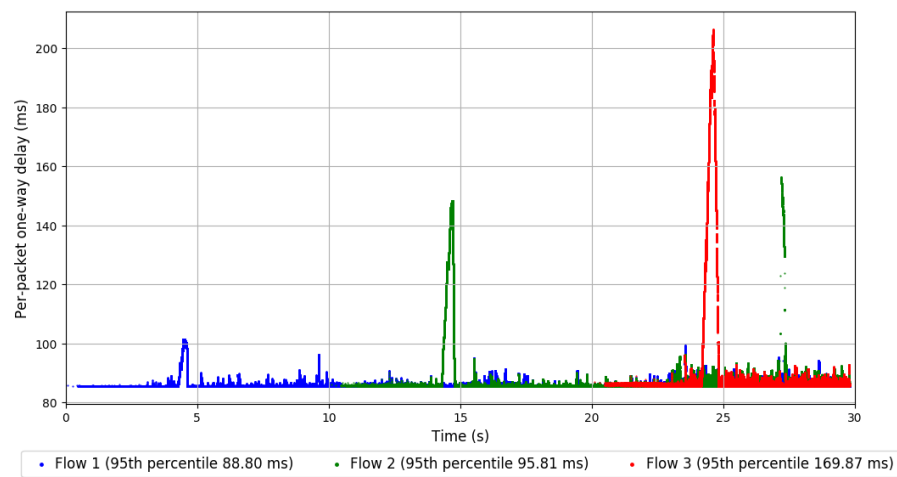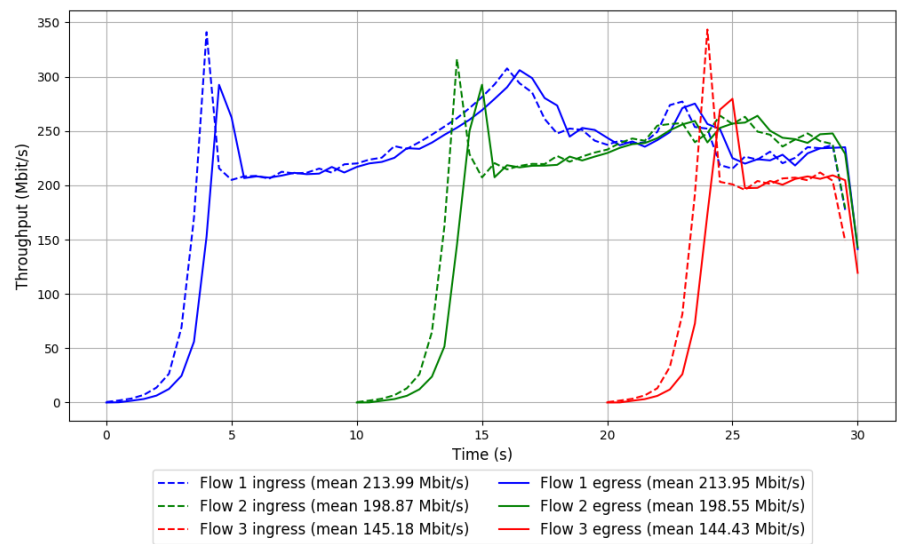Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-10-03 01:32:04
End at: 2019-10-03 01:32:34
Local clock offset: -0.237 ms
Remote clock offset: -0.055 ms

# Below is generated by plot.py at 2019-10-03 05:16:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 392.64 Mbit/s
95th percentile per-packet one-way delay: 91.553 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 213.95 Mbit/s
95th percentile per-packet one-way delay: 88.798 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 198.55 Mbit/s
95th percentile per-packet one-way delay: 95.808 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 144.43 Mbit/s
95th percentile per-packet one-way delay: 169.869 ms
Loss rate: 2.26%
```

Run 5: Report of PCC-Vivace — Data Link

- Flow 1 ingress (mean 213.99 Mbit/s)
- Flow 1 egress (mean 213.95 Mbit/s)
- Flow 2 ingress (mean 198.87 Mbit/s)
- Flow 2 egress (mean 198.55 Mbit/s)
- Flow 3 ingress (mean 145.18 Mbit/s)
- Flow 3 egress (mean 144.43 Mbit/s)

- Flow 1 (95th percentile 88.80 ms)
- Flow 2 (95th percentile 95.81 ms)
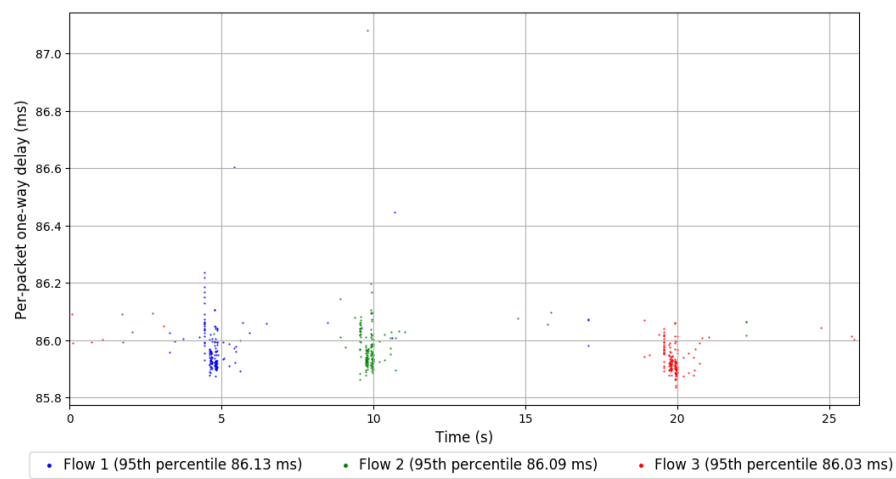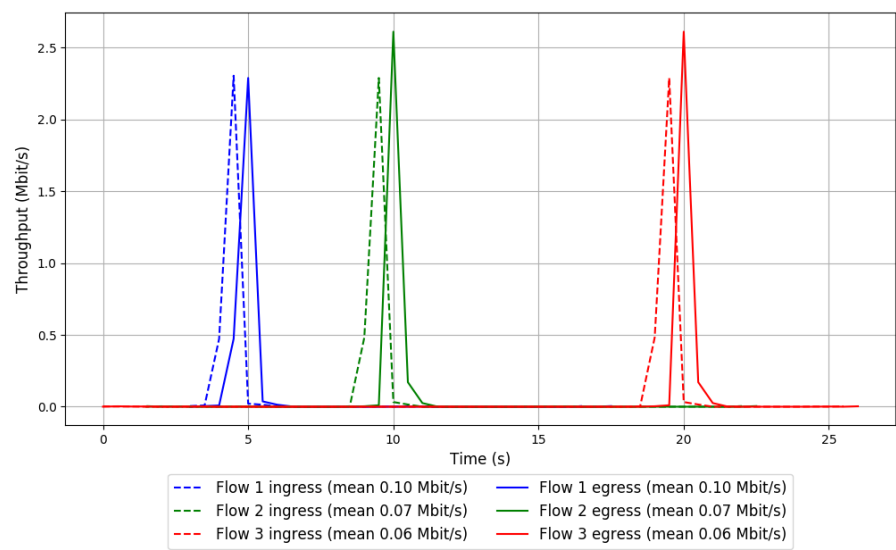- Flow 3 (95th percentile 169.87 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2019-10-02 23:04:02
End at: 2019-10-02 23:04:32
Local clock offset: -0.028 ms
Remote clock offset: -0.082 ms


# Below is generated by plot.py at 2019-10-03 05:16:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 86.090 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 86.130 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 86.095 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 86.029 ms
Loss rate: 0.00%
```

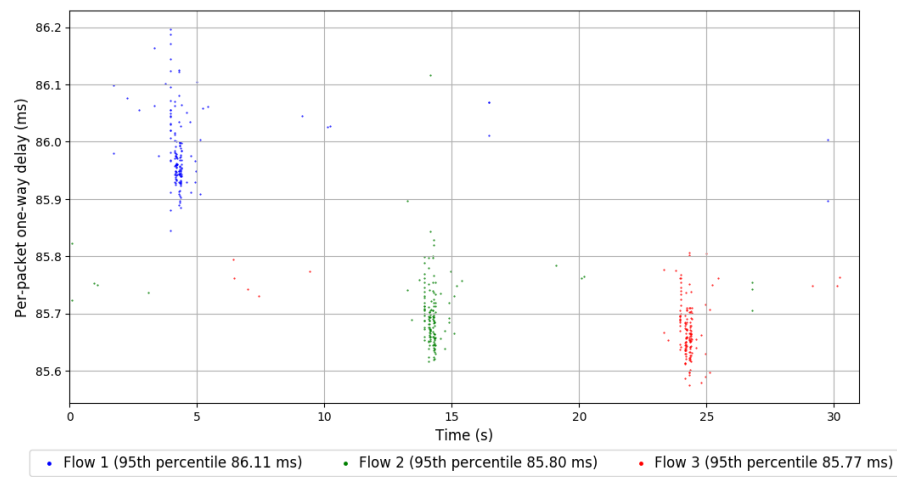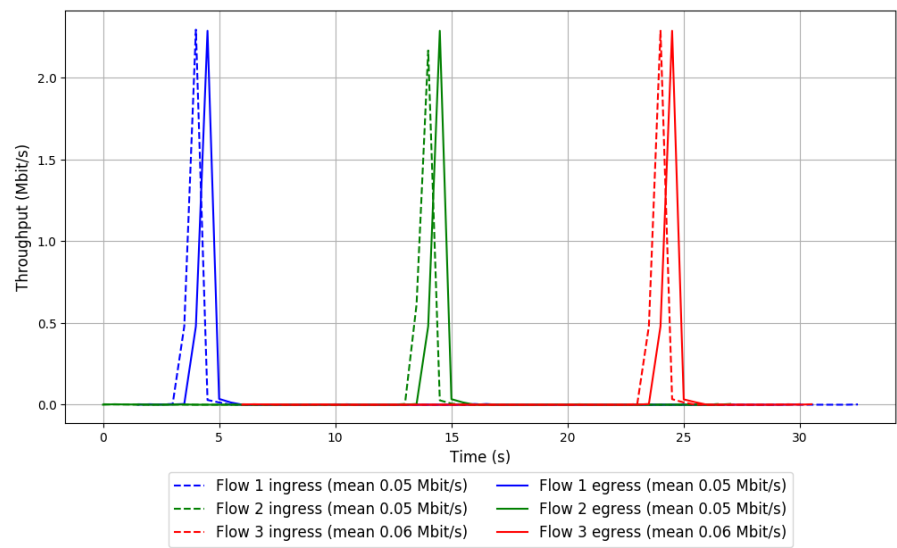Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-10-02 23:44:31
End at: 2019-10-02 23:45:01
Local clock offset: -0.321 ms
Remote clock offset: -0.054 ms


# Below is generated by plot.py at 2019-10-03 05:16:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 86.062 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.105 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 85.799 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 85.767 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-10-03 00:25:09
End at: 2019-10-03 00:25:39
Local clock offset: -0.034 ms
Remote clock offset: 0.005 ms


# Below is generated by plot.py at 2019-10-03 05:16:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 86.301 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.384 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.121 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 86.010 ms
Loss rate: 0.00%
```
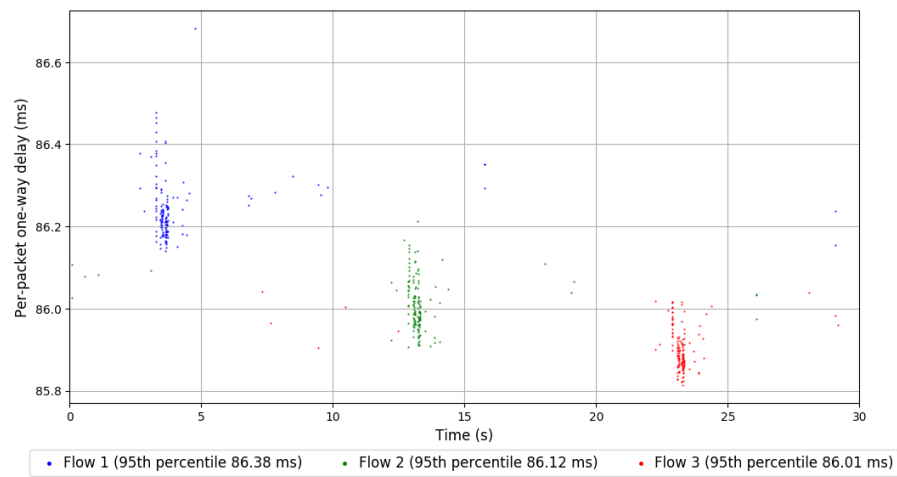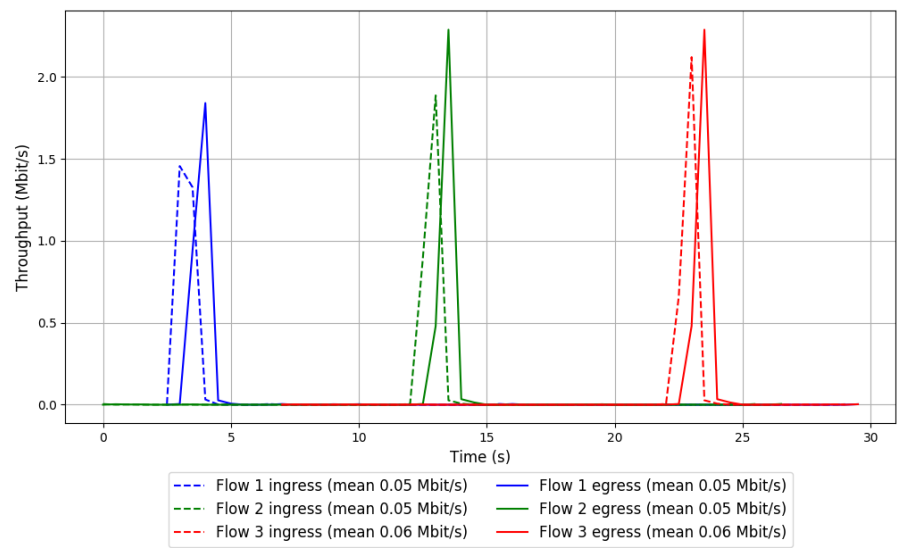
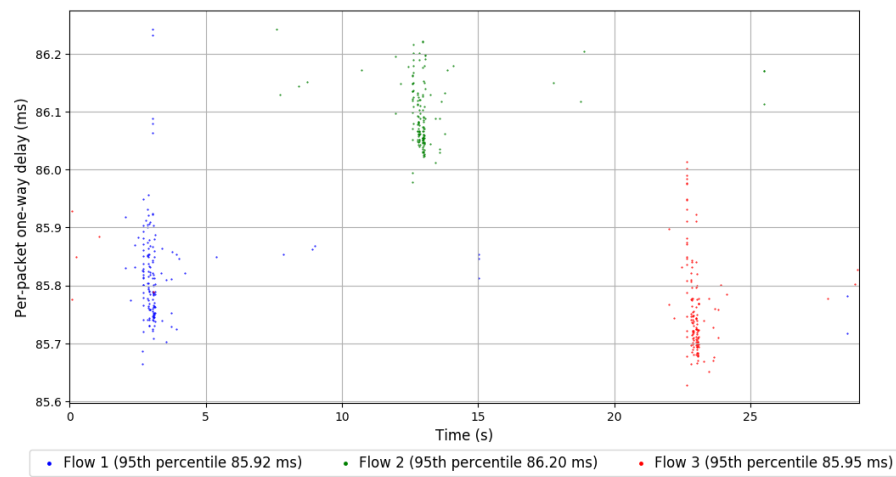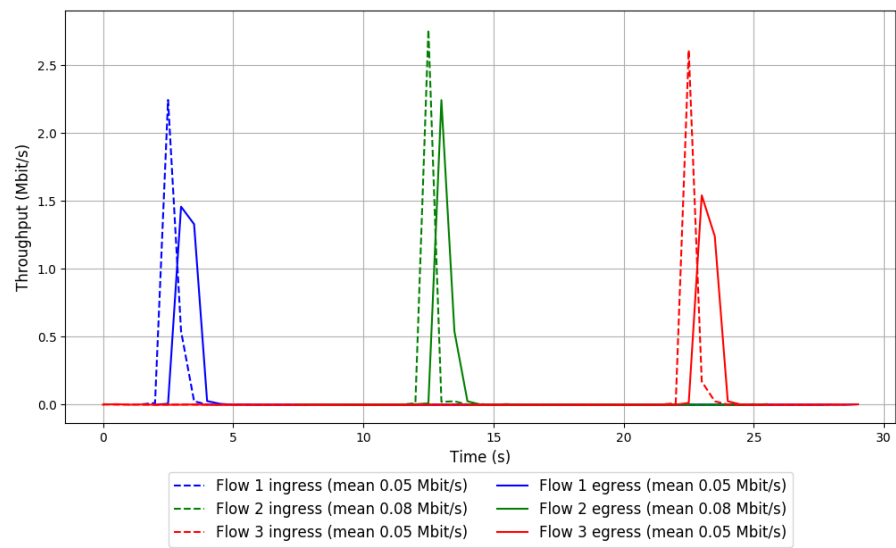Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-10-03 01:06:03
End at: 2019-10-03 01:06:33
Local clock offset: -0.045 ms
Remote clock offset: -0.039 ms


# Below is generated by plot.py at 2019-10-03 05:16:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 86.171 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 85.924 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 86.198 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 85.947 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-10-03 01:47:09
End at: 2019-10-03 01:47:39
Local clock offset: -0.461 ms
Remote clock offset: -0.048 ms


# Below is generated by plot.py at 2019-10-03 05:16:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 86.001 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 85.683 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 86.034 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 85.717 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link