Pantheon Report

Generated at 2019-01-22 06:29:24 (UTC).

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

Repeated the test of 21 congestion control schemes 5 times.

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

NTP offsets were measured against `ntp.nict.jp` and have been applied to correct the timestamps in logs.
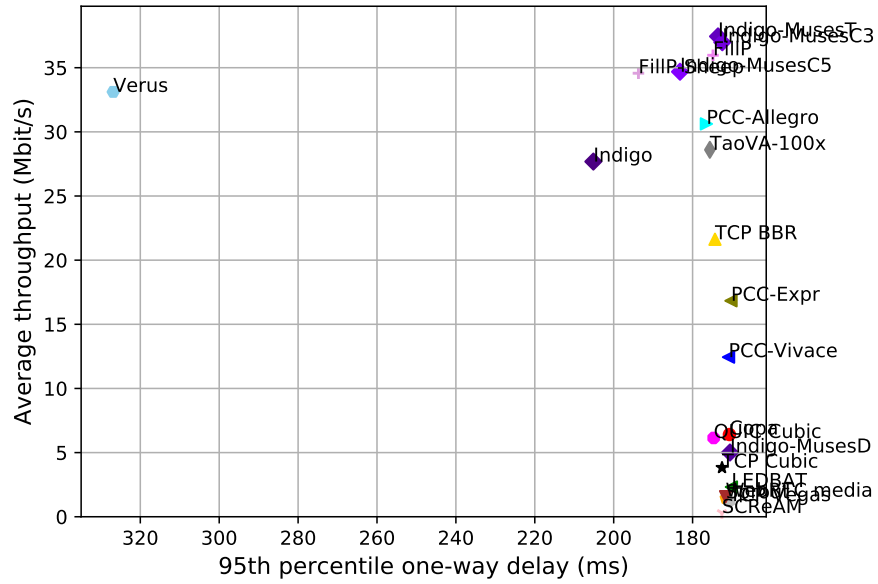
```
System info:
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 89d24e57783e7fbfec537a619071de937b639e38
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 1ddcff131048c6962f123bcd22b4d166a422adde
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
```
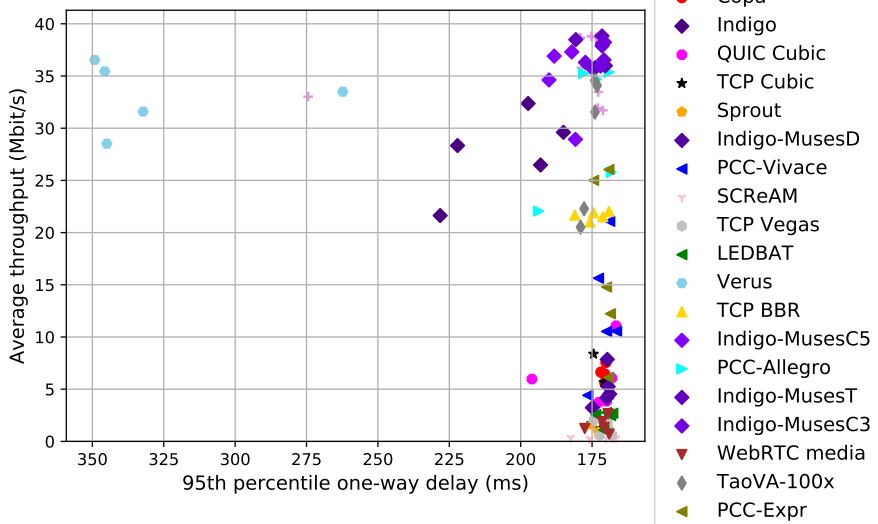
```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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

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

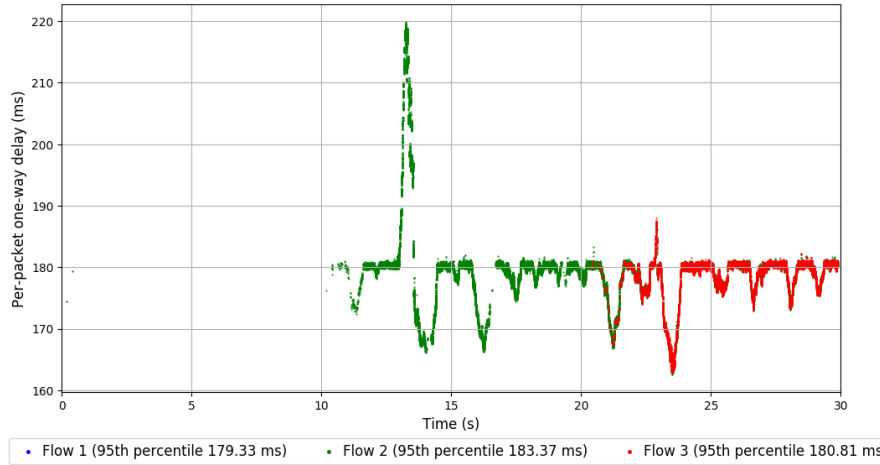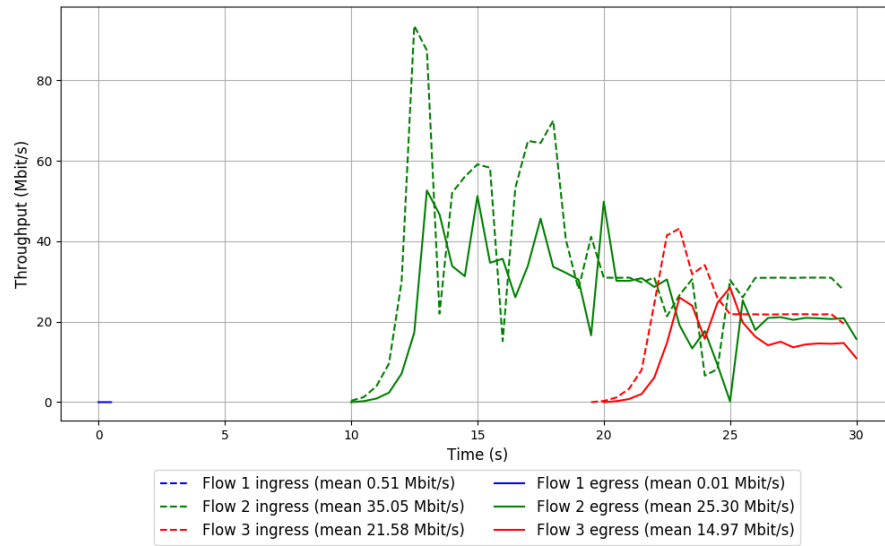| scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	0.01	26.41	12.52	168.26	176.94	171.84	98.79	25.41	33.04
Copa	5	1.97	4.19	5.13	170.36	170.67	170.75	39.09	2.64	3.81
TCP Cubic	5	0.47	1.15	7.92	171.16	171.53	172.87	22.43	2.64	5.18
FillP	5	27.15	9.70	7.29	175.32	172.60	171.59	21.51	24.72	22.83
FillP-Sheep	5	22.64	14.13	7.84	180.57	201.91	170.55	12.69	18.33	13.52
Indigo	5	44.77	12.71	7.28	190.30	195.34	223.80	50.80	56.19	70.08
Indigo-MusesC3	5	20.73	19.95	11.56	171.62	173.14	171.61	8.24	12.26	15.31
Indigo-MusesC5	5	27.58	5.66	13.24	183.57	177.75	181.55	17.66	10.63	17.72
Indigo-MusesD	5	2.13	3.54	2.21	170.35	170.51	170.54	1.58	1.56	4.71
Indigo-MusesT	5	27.30	12.57	8.32	173.90	172.59	172.90	10.94	7.21	7.81
LEDBAT	5	1.20	1.23	0.96	170.01	170.06	170.21	2.07	2.77	4.67
PCC-Allegro	5	17.19	16.85	6.97	171.68	172.15	187.60	26.19	17.65	25.96
PCC-Expr	5	3.81	13.05	13.46	170.17	170.25	170.27	52.28	5.37	8.84
QUIC Cubic	5	2.90	2.12	5.64	170.46	170.31	175.53	1.71	2.05	2.92
SCReAM	5	0.14	0.16	0.16	172.62	172.42	172.34	1.40	1.66	3.23
Sprout	5	0.70	0.88	0.79	171.17	171.54	171.14	4.55	2.78	3.97
TaoVA-100x	5	13.90	12.60	19.68	172.47	173.18	180.68	39.52	7.07	10.79
TCP Vegas	5	0.37	0.81	0.99	169.69	170.69	170.69	41.44	3.20	4.06
Verus	5	22.65	14.69	2.69	317.42	297.84	230.85	33.62	35.82	40.12
PCC-Vivace	5	5.48	7.03	7.07	171.03	170.77	170.61	2.05	2.60	3.54
WebRTC media	5	1.47	0.05	0.05	171.62	171.62	171.20	2.44	2.35	2.00

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```
Run 1: Statistics of TCP BBR

Start at: 2019-01-22 02:32:57
End at: 2019-01-22 02:33:27
Local clock offset: 1.528 ms
Remote clock offset: -3.152 ms


# Below is generated by plot.py at 2019-01-22 06:25:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.67 Mbit/s
95th percentile per-packet one-way delay: 181.072 ms
Loss rate: 29.58%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 179.329 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 25.30 Mbit/s
95th percentile per-packet one-way delay: 183.366 ms
Loss rate: 28.72%
-- Flow 3:
Average throughput: 14.97 Mbit/s
95th percentile per-packet one-way delay: 180.812 ms
Loss rate: 32.34%
```
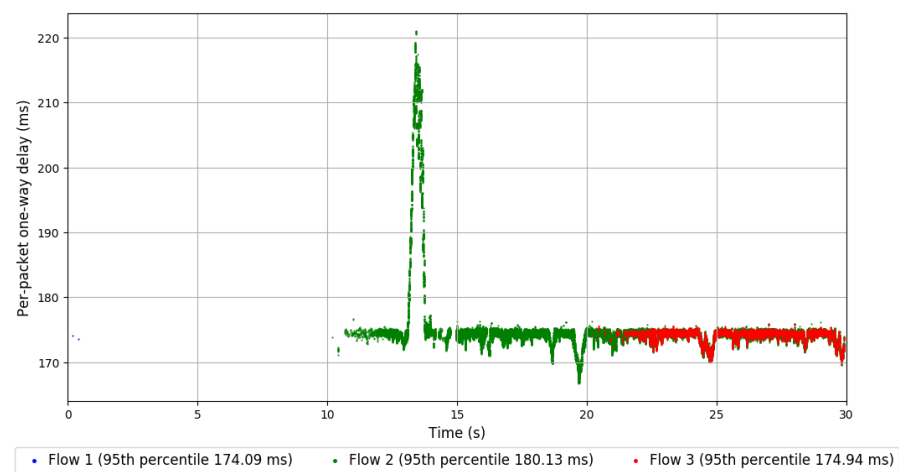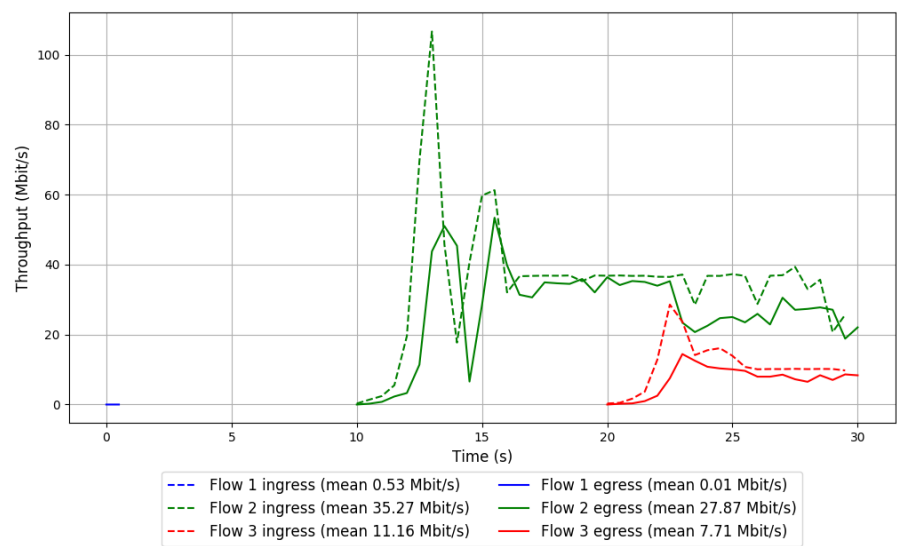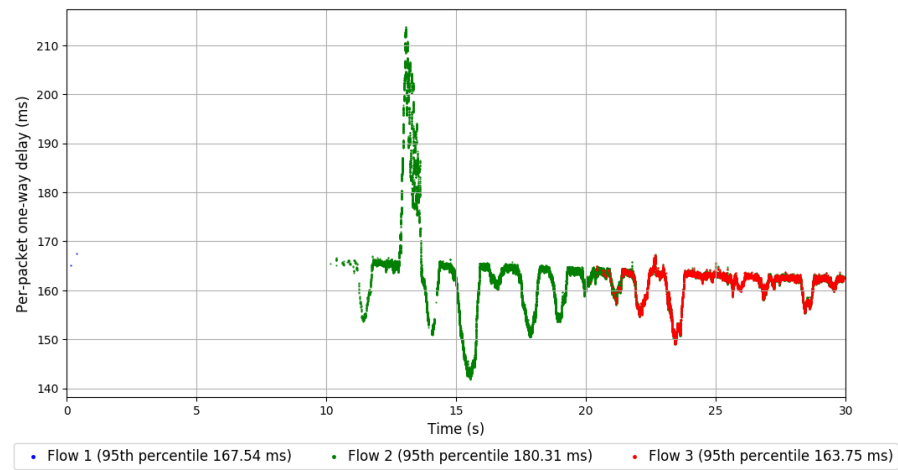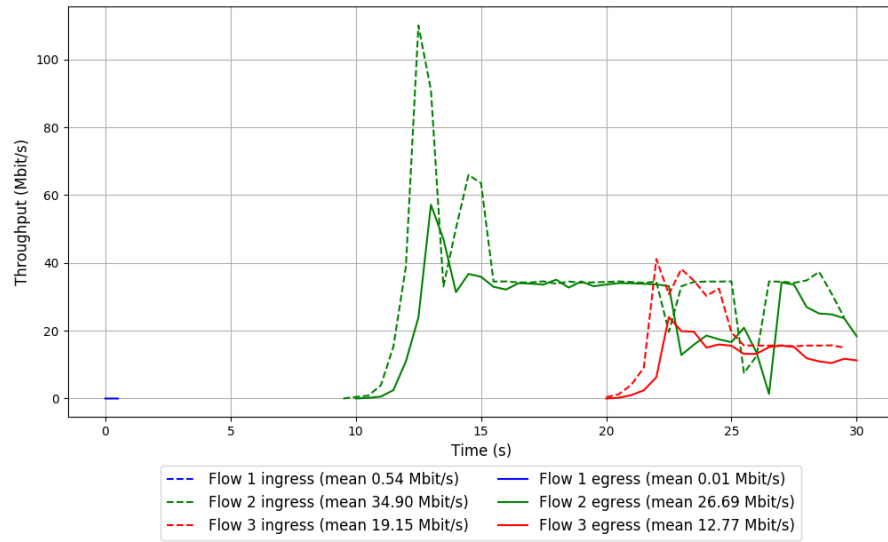
Run 1: Report of TCP BBR — Data Link

- - - - Flow 1 ingress (mean 0.51 Mbit/s)
———— Flow 1 egress (mean 0.01 Mbit/s)
- - - - Flow 2 ingress (mean 35.05 Mbit/s)
———— Flow 2 egress (mean 25.30 Mbit/s)
- - - - Flow 3 ingress (mean 21.58 Mbit/s)
———— Flow 3 egress (mean 14.97 Mbit/s)

- Flow 1 (95th percentile 179.33 ms)
- Flow 2 (95th percentile 183.37 ms)
- Flow 3 (95th percentile 180.81 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2019-01-22 03:27:27
End at: 2019-01-22 03:27:57
Local clock offset: -0.445 ms
Remote clock offset: 3.353 ms


# Below is generated by plot.py at 2019-01-22 06:25:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.01 Mbit/s
95th percentile per-packet one-way delay: 175.723 ms
Loss rate: 23.41%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 174.088 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 27.87 Mbit/s
95th percentile per-packet one-way delay: 180.135 ms
Loss rate: 21.94%
-- Flow 3:
Average throughput: 7.71 Mbit/s
95th percentile per-packet one-way delay: 174.936 ms
Loss rate: 32.61%
```
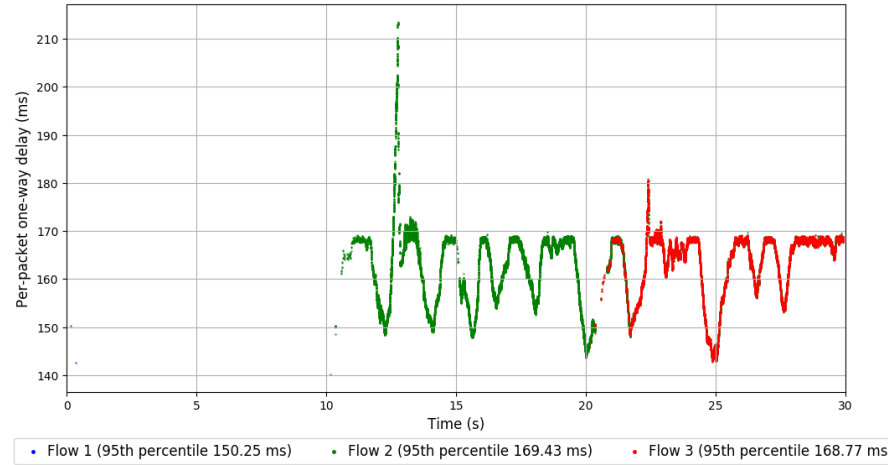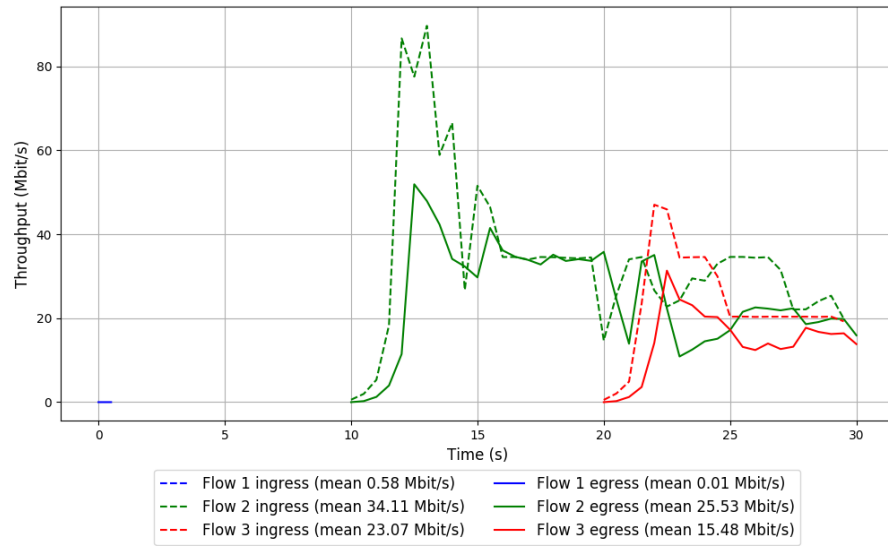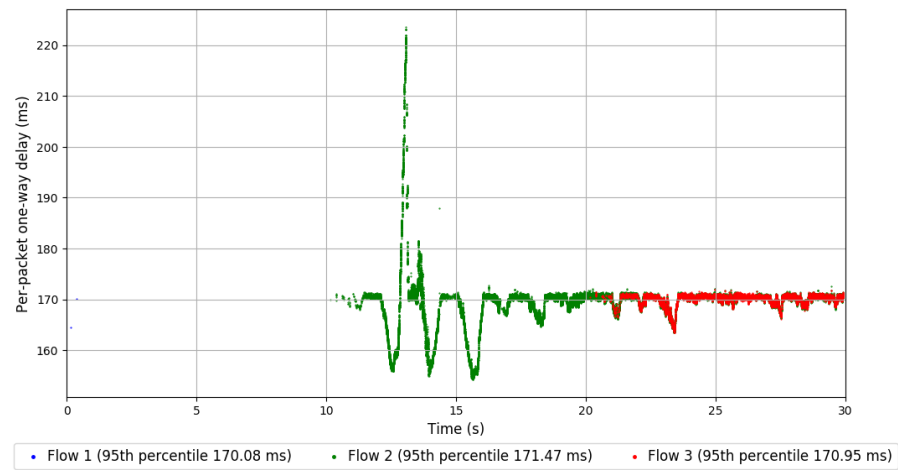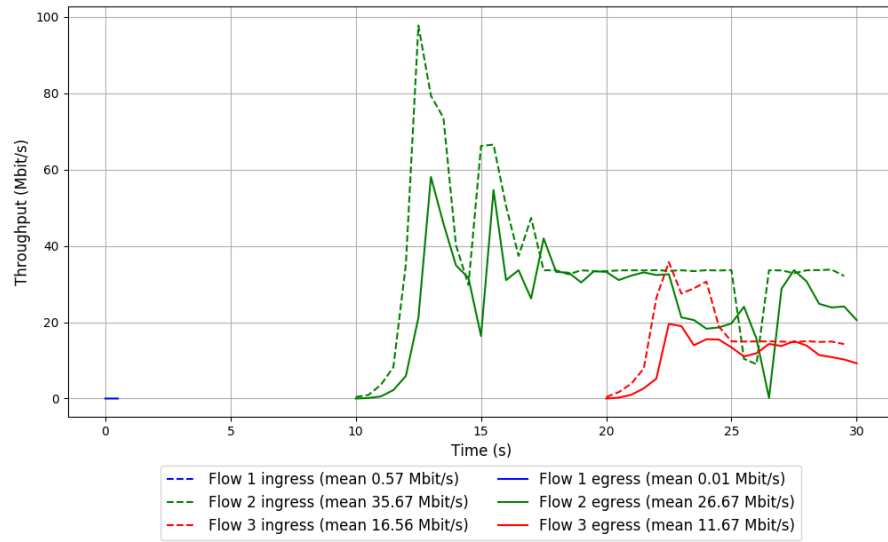
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 0.53 Mbit/s) --- Flow 1 egress (mean 0.01 Mbit/s)
Flow 2 ingress (mean 35.27 Mbit/s) --- Flow 2 egress (mean 27.87 Mbit/s)
Flow 3 ingress (mean 11.16 Mbit/s) --- Flow 3 egress (mean 7.71 Mbit/s)

Flow 1 (95th percentile 174.09 ms) Flow 2 (95th percentile 180.13 ms) Flow 3 (95th percentile 174.94 ms)

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```
Run 3: Statistics of TCP BBR

Start at: 2019-01-22 04:20:06
End at: 2019-01-22 04:20:36
Local clock offset: 5.184 ms
Remote clock offset: 87.495 ms


# Below is generated by plot.py at 2019-01-22 06:25:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.90 Mbit/s
95th percentile per-packet one-way delay: 174.497 ms
Loss rate: 26.65%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 167.545 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 26.69 Mbit/s
95th percentile per-packet one-way delay: 180.307 ms
Loss rate: 24.40%
-- Flow 3:
Average throughput: 12.77 Mbit/s
95th percentile per-packet one-way delay: 163.755 ms
Loss rate: 34.86%
```

Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 0.54 Mbit/s) --- Flow 1 egress (mean 0.01 Mbit/s)
Flow 2 ingress (mean 34.90 Mbit/s) --- Flow 2 egress (mean 26.69 Mbit/s)
Flow 3 ingress (mean 19.15 Mbit/s) --- Flow 3 egress (mean 12.77 Mbit/s)

Flow 1 (95th percentile 167.54 ms) • Flow 2 (95th percentile 180.31 ms) • Flow 3 (95th percentile 163.75 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2019-01-22 05:01:35
End at: 2019-01-22 05:02:05
Local clock offset: 15.572 ms
Remote clock offset: 38.919 ms


# Below is generated by plot.py at 2019-01-22 06:25:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 22.03 Mbit/s
95th percentile per-packet one-way delay: 169.115 ms
Loss rate: 28.01%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 150.255 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 25.53 Mbit/s
95th percentile per-packet one-way delay: 169.429 ms
Loss rate: 25.88%
-- Flow 3:
Average throughput: 15.48 Mbit/s
95th percentile per-packet one-way delay: 168.771 ms
Loss rate: 34.27%
```
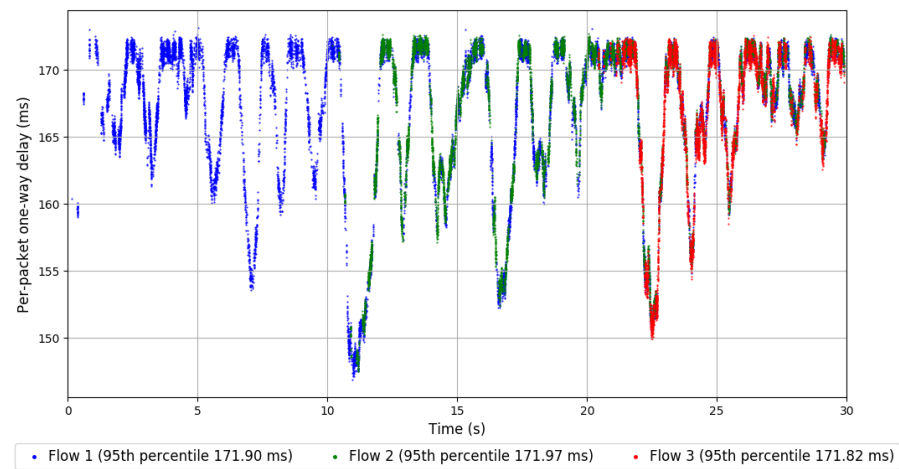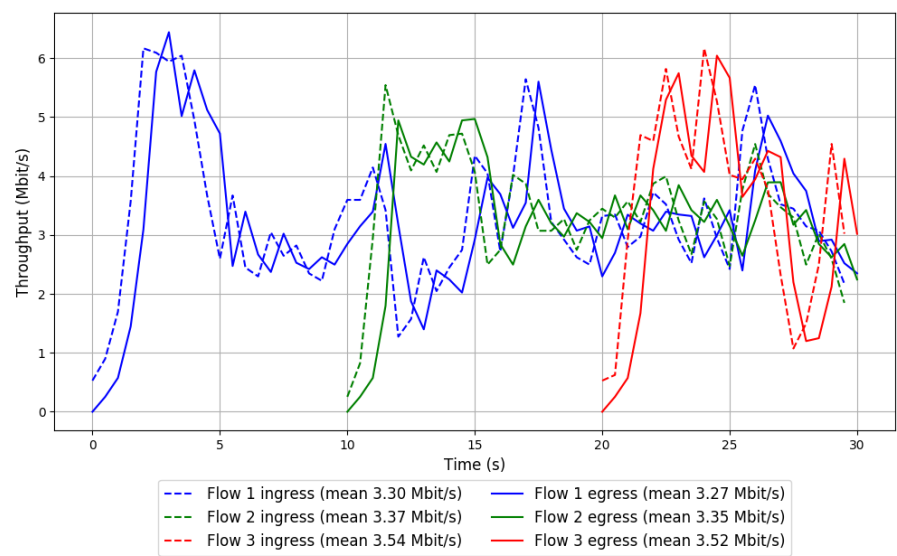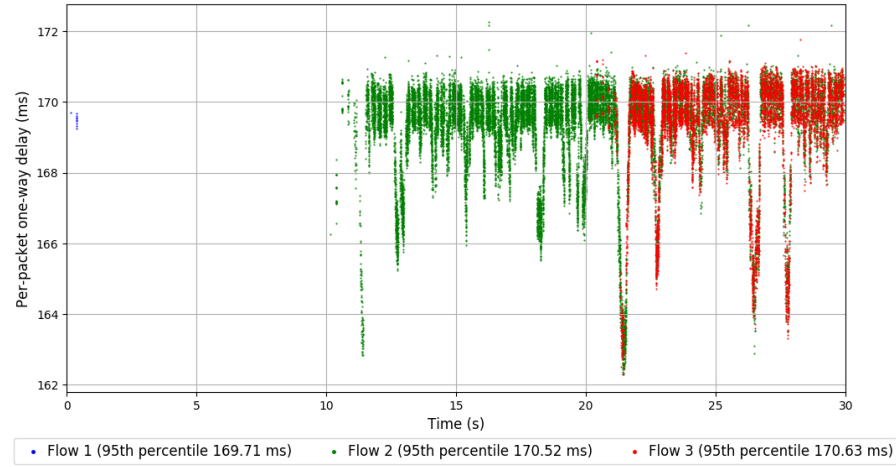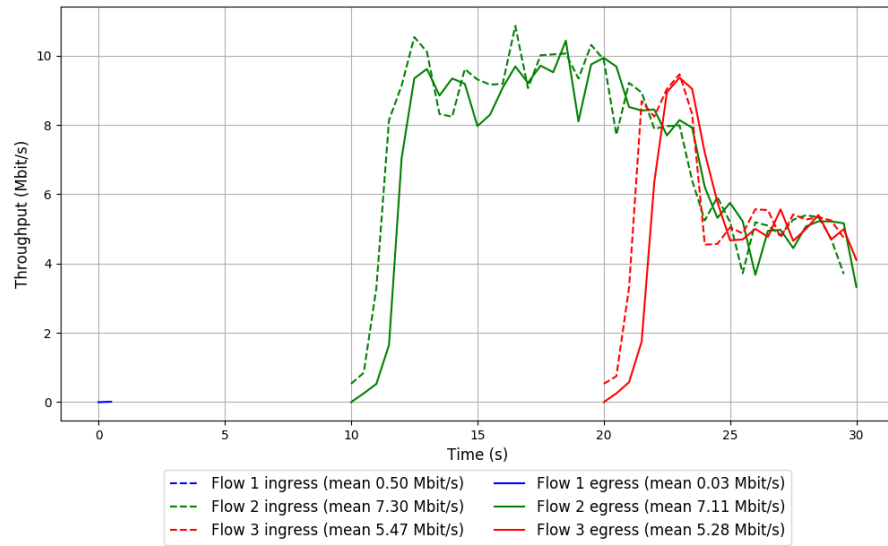
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 0.58 Mbit/s)   Flow 1 egress (mean 0.01 Mbit/s)
Flow 2 ingress (mean 34.11 Mbit/s)   Flow 2 egress (mean 25.53 Mbit/s)
Flow 3 ingress (mean 23.07 Mbit/s)   Flow 3 egress (mean 15.48 Mbit/s)

Flow 1 (95th percentile 150.25 ms)   Flow 2 (95th percentile 169.43 ms)   Flow 3 (95th percentile 168.77 ms)
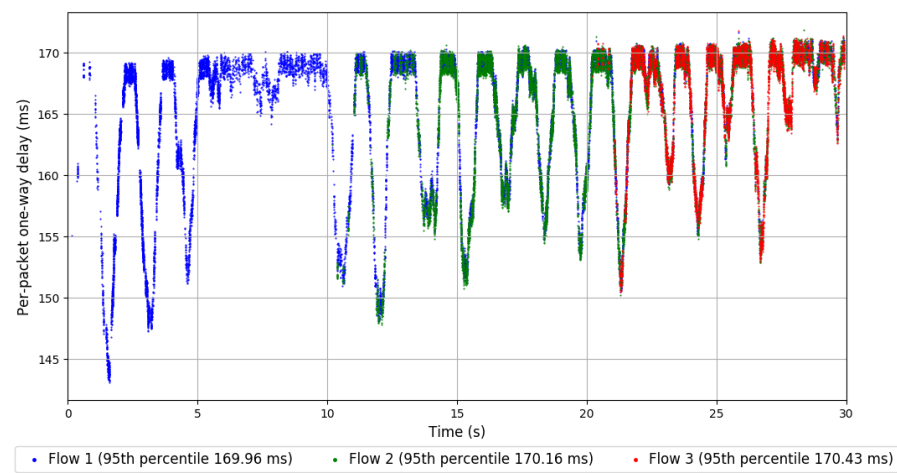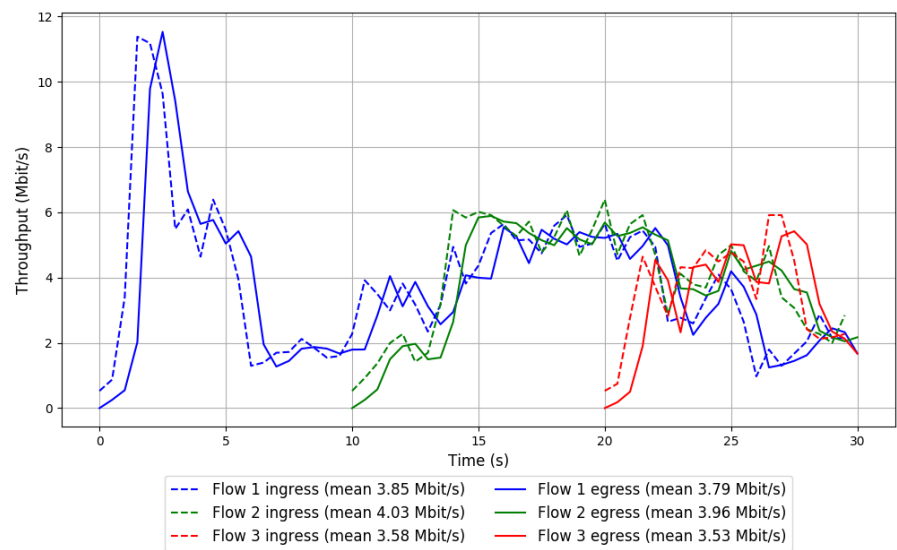
12

```
Run 5: Statistics of TCP BBR

Start at: 2019-01-22 05:43:11
End at: 2019-01-22 05:43:41
Local clock offset: 0.966 ms
Remote clock offset: 42.449 ms


# Below is generated by plot.py at 2019-01-22 06:25:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.52 Mbit/s
95th percentile per-packet one-way delay: 171.215 ms
Loss rate: 27.05%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 170.076 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 26.67 Mbit/s
95th percentile per-packet one-way delay: 171.473 ms
Loss rate: 26.09%
-- Flow 3:
Average throughput: 11.67 Mbit/s
95th percentile per-packet one-way delay: 170.951 ms
Loss rate: 31.13%
```

Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 0.57 Mbit/s) --- Flow 1 egress (mean 0.01 Mbit/s)
Flow 2 ingress (mean 35.67 Mbit/s) --- Flow 2 egress (mean 26.67 Mbit/s)
Flow 3 ingress (mean 16.56 Mbit/s) --- Flow 3 egress (mean 11.67 Mbit/s)

Flow 1 (95th percentile 170.08 ms)   Flow 2 (95th percentile 171.47 ms)   Flow 3 (95th percentile 170.95 ms)
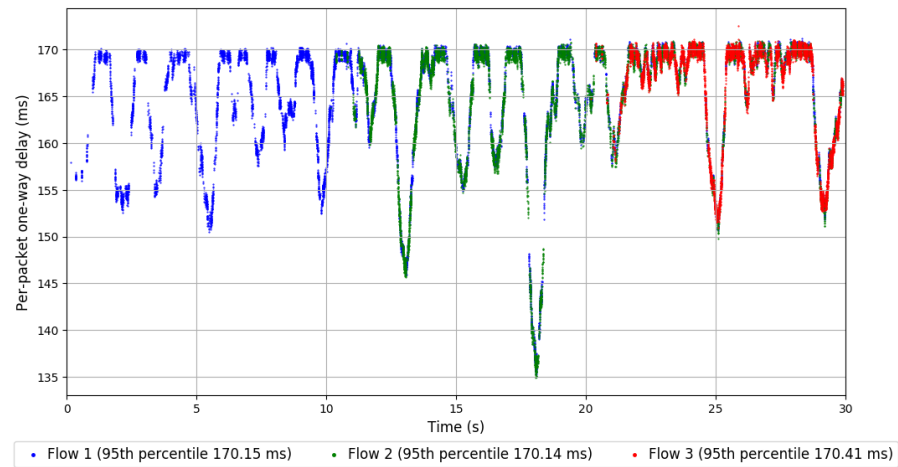
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```
Run 1: Statistics of Copa

Start at: 2019-01-22 02:51:02
End at: 2019-01-22 02:51:32
Local clock offset: -2.058 ms
Remote clock offset: 4.474 ms


# Below is generated by plot.py at 2019-01-22 06:25:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.64 Mbit/s
95th percentile per-packet one-way delay: 171.918 ms
Loss rate: 1.96%
-- Flow 1:
Average throughput: 3.27 Mbit/s
95th percentile per-packet one-way delay: 171.900 ms
Loss rate: 1.66%
-- Flow 2:
Average throughput: 3.35 Mbit/s
95th percentile per-packet one-way delay: 171.973 ms
Loss rate: 1.79%
-- Flow 3:
Average throughput: 3.52 Mbit/s
95th percentile per-packet one-way delay: 171.820 ms
Loss rate: 3.11%
```
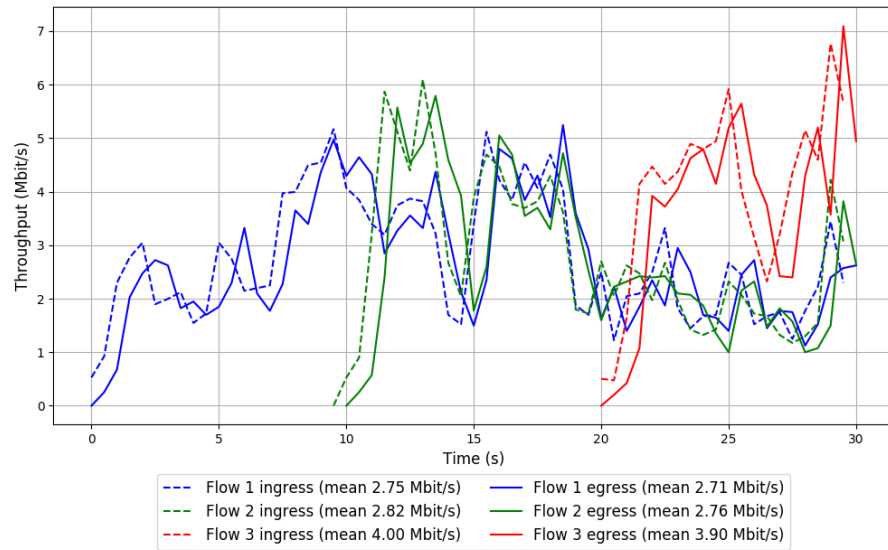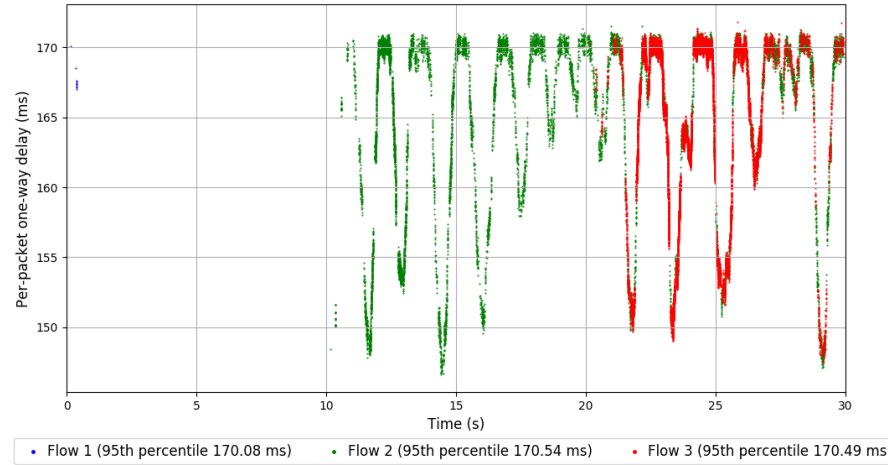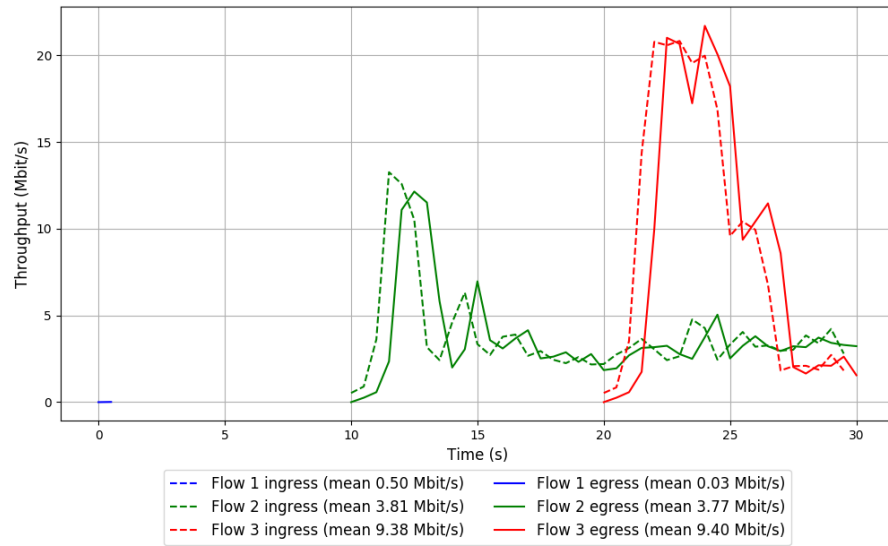
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2019-01-22 03:52:11
End at: 2019-01-22 03:52:41
Local clock offset: 0.9 ms
Remote clock offset: 72.483 ms


# Below is generated by plot.py at 2019-01-22 06:25:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.45 Mbit/s
95th percentile per-packet one-way delay: 170.553 ms
Loss rate: 4.36%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 169.710 ms
Loss rate: 94.60%
-- Flow 2:
Average throughput: 7.11 Mbit/s
95th percentile per-packet one-way delay: 170.517 ms
Loss rate: 3.72%
-- Flow 3:
Average throughput: 5.28 Mbit/s
95th percentile per-packet one-way delay: 170.633 ms
Loss rate: 5.89%
```

Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-01-22 04:36:56
End at: 2019-01-22 04:37:26
Local clock offset: 10.388 ms
Remote clock offset: 26.344 ms


# Below is generated by plot.py at 2019-01-22 06:25:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.56 Mbit/s
95th percentile per-packet one-way delay: 170.140 ms
Loss rate: 2.63%
-- Flow 1:
Average throughput: 3.79 Mbit/s
95th percentile per-packet one-way delay: 169.956 ms
Loss rate: 2.23%
-- Flow 2:
Average throughput: 3.96 Mbit/s
95th percentile per-packet one-way delay: 170.161 ms
Loss rate: 2.86%
-- Flow 3:
Average throughput: 3.53 Mbit/s
95th percentile per-packet one-way delay: 170.427 ms
Loss rate: 3.40%
```
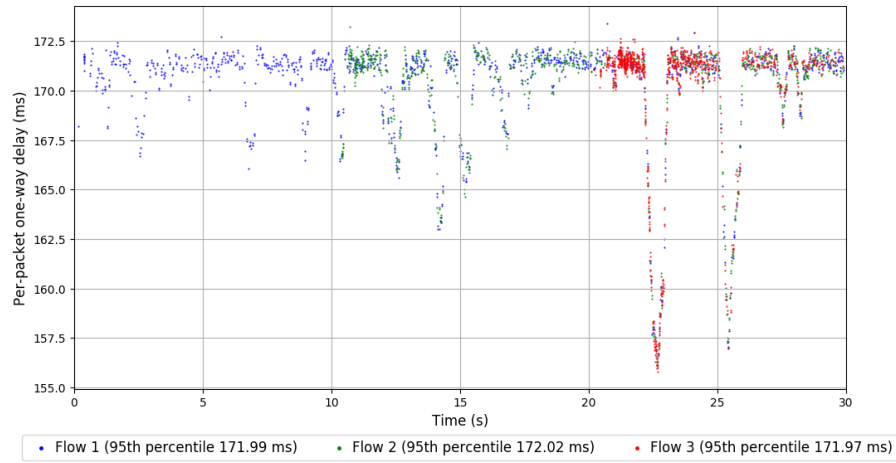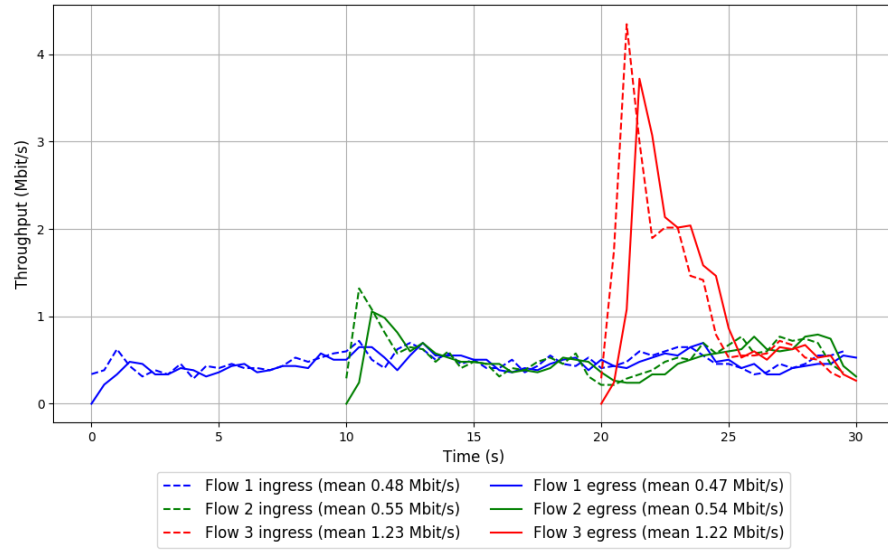
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 3.85 Mbit/s)   Flow 1 egress (mean 3.79 Mbit/s)
Flow 2 ingress (mean 4.03 Mbit/s)   Flow 2 egress (mean 3.96 Mbit/s)
Flow 3 ingress (mean 3.58 Mbit/s)   Flow 3 egress (mean 3.53 Mbit/s)

Flow 1 (95th percentile 169.96 ms)   Flow 2 (95th percentile 170.16 ms)   Flow 3 (95th percentile 170.43 ms)

```
Run 4: Statistics of Copa

Start at: 2019-01-22 05:18:02
End at: 2019-01-22 05:18:32
Local clock offset: 14.36 ms
Remote clock offset: 42.542 ms


# Below is generated by plot.py at 2019-01-22 06:25:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.81 Mbit/s
95th percentile per-packet one-way delay: 170.214 ms
Loss rate: 3.06%
-- Flow 1:
Average throughput: 2.71 Mbit/s
95th percentile per-packet one-way delay: 170.146 ms
Loss rate: 2.37%
-- Flow 2:
Average throughput: 2.76 Mbit/s
95th percentile per-packet one-way delay: 170.139 ms
Loss rate: 2.92%
-- Flow 3:
Average throughput: 3.90 Mbit/s
95th percentile per-packet one-way delay: 170.410 ms
Loss rate: 4.69%
```
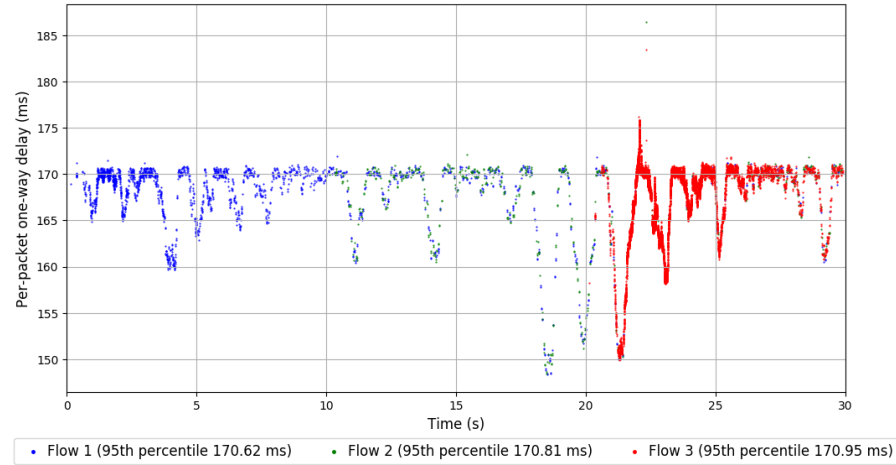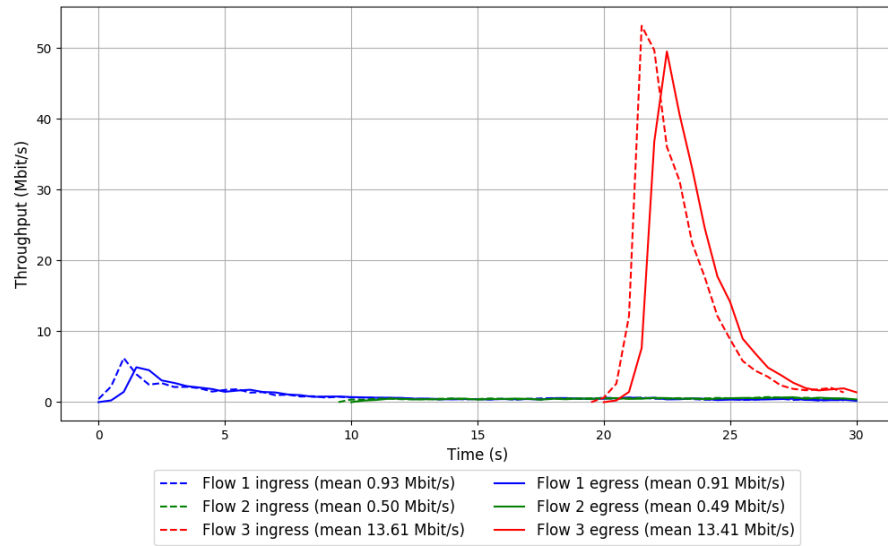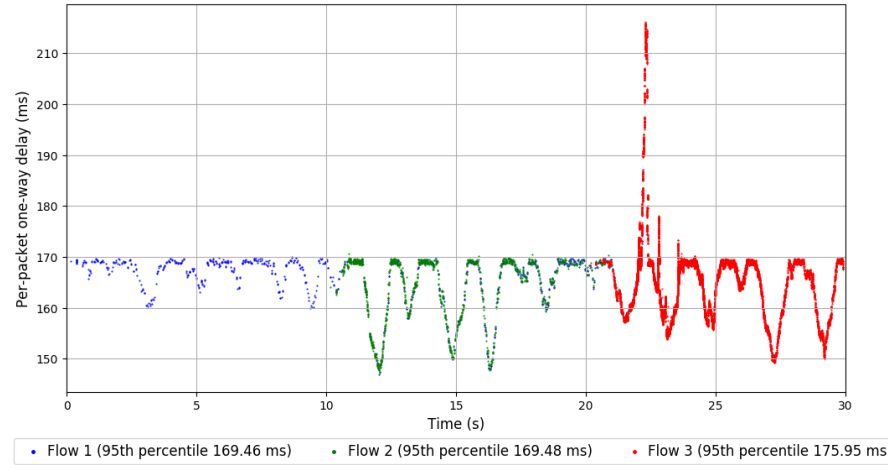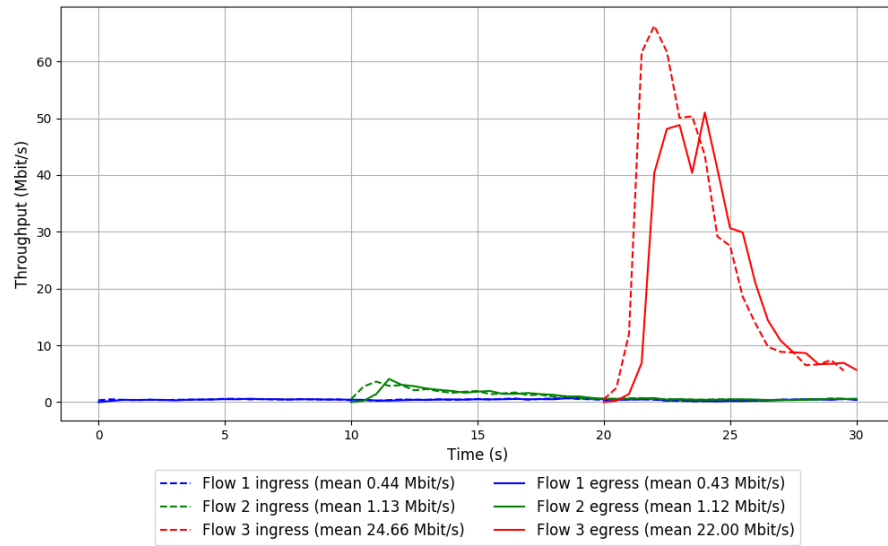
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-01-22 06:05:21
End at: 2019-01-22 06:05:51
Local clock offset: -1.527 ms
Remote clock offset: 32.681 ms


# Below is generated by plot.py at 2019-01-22 06:25:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.59 Mbit/s
95th percentile per-packet one-way delay: 170.509 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 170.084 ms
Loss rate: 94.60%
-- Flow 2:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 170.541 ms
Loss rate: 1.90%
-- Flow 3:
Average throughput: 9.40 Mbit/s
95th percentile per-packet one-way delay: 170.485 ms
Loss rate: 1.94%
```
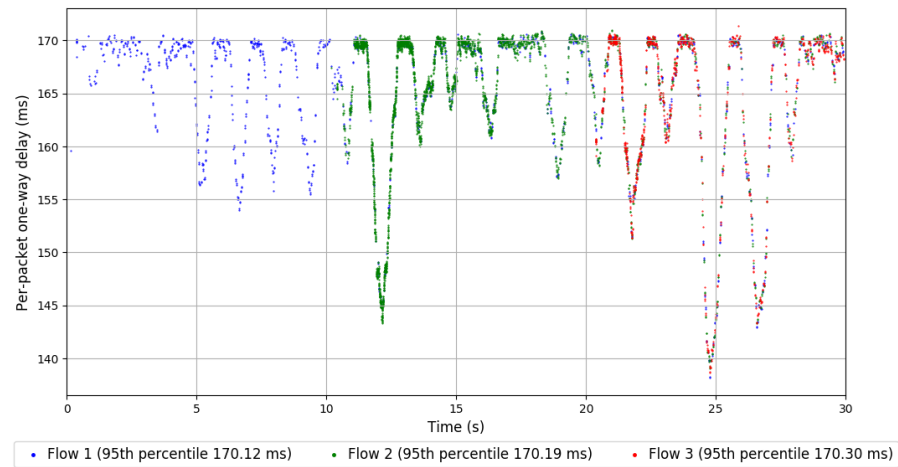
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-01-22 03:03:48
End at: 2019-01-22 03:04:18
Local clock offset: -0.926 ms
Remote clock offset: 5.905 ms


# Below is generated by plot.py at 2019-01-22 06:25:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 171.985 ms
Loss rate: 3.33%
-- Flow 1:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 171.986 ms
Loss rate: 3.58%
-- Flow 2:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 172.016 ms
Loss rate: 3.08%
-- Flow 3:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 171.968 ms
Loss rate: 3.26%
```
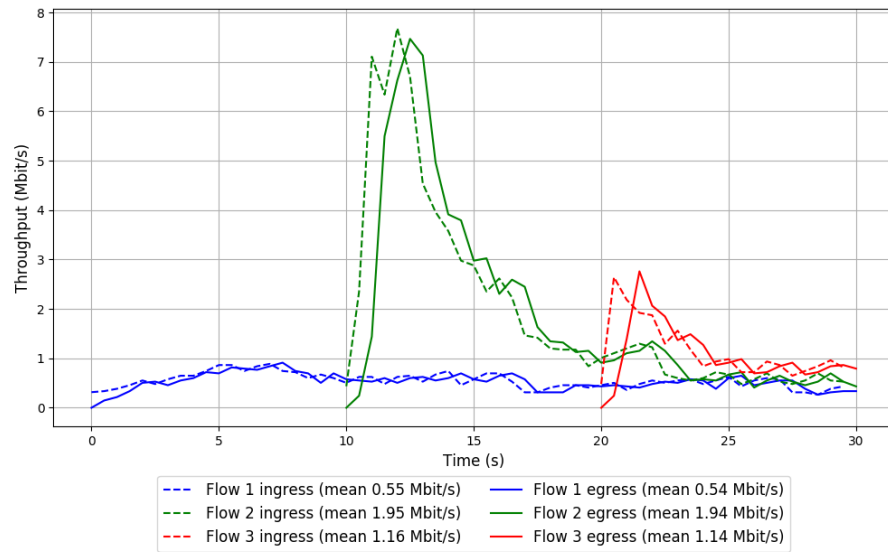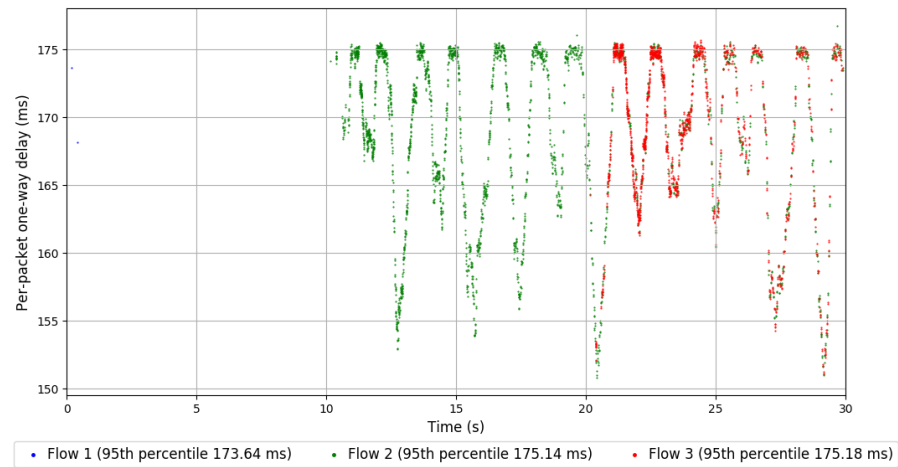
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-01-22 04:05:49
End at: 2019-01-22 04:06:19
Local clock offset: 2.358 ms
Remote clock offset: 86.27 ms


# Below is generated by plot.py at 2019-01-22 06:25:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.64 Mbit/s
95th percentile per-packet one-way delay: 170.859 ms
Loss rate: 3.53%
-- Flow 1:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 170.617 ms
Loss rate: 3.06%
-- Flow 2:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 170.814 ms
Loss rate: 3.34%
-- Flow 3:
Average throughput: 13.41 Mbit/s
95th percentile per-packet one-way delay: 170.950 ms
Loss rate: 3.64%
```
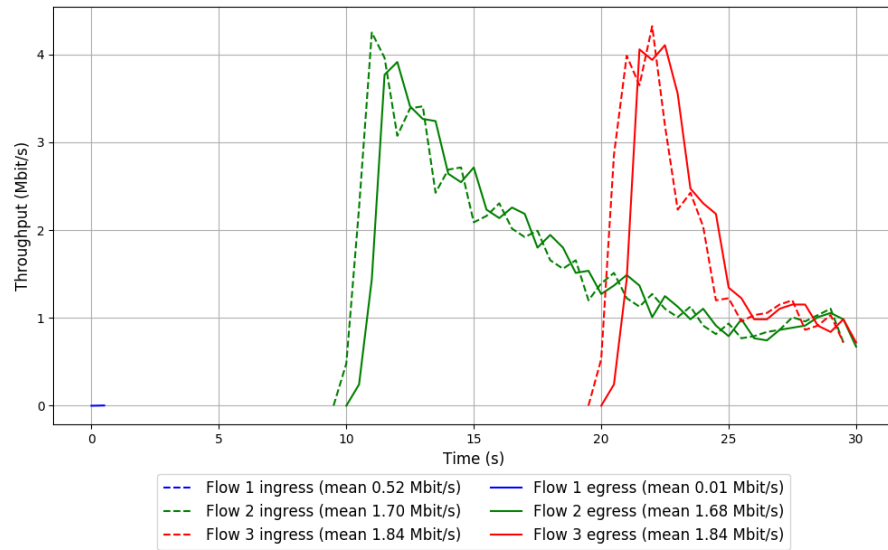
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2019-01-22 04:48:13
End at: 2019-01-22 04:48:43
Local clock offset: 12.152 ms
Remote clock offset: 40.404 ms


# Below is generated by plot.py at 2019-01-22 06:25:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.37 Mbit/s
95th percentile per-packet one-way delay: 174.490 ms
Loss rate: 11.50%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 169.462 ms
Loss rate: 3.64%
-- Flow 2:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 169.482 ms
Loss rate: 2.60%
-- Flow 3:
Average throughput: 22.00 Mbit/s
95th percentile per-packet one-way delay: 175.950 ms
Loss rate: 12.74%
```
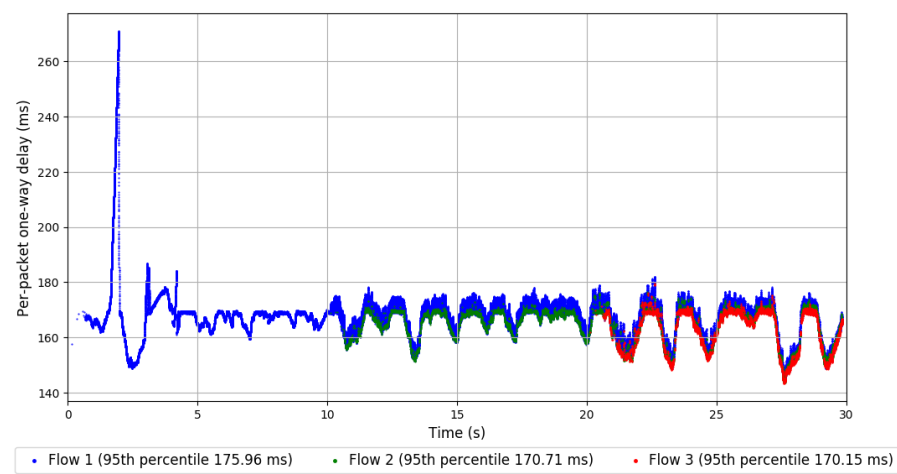
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2019-01-22 05:28:43
End at: 2019-01-22 05:29:13
Local clock offset: 5.467 ms
Remote clock offset: 44.617 ms


# Below is generated by plot.py at 2019-01-22 06:25:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 170.203 ms
Loss rate: 2.48%
-- Flow 1:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 170.115 ms
Loss rate: 3.06%
-- Flow 2:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 170.191 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 170.298 ms
Loss rate: 3.84%
```
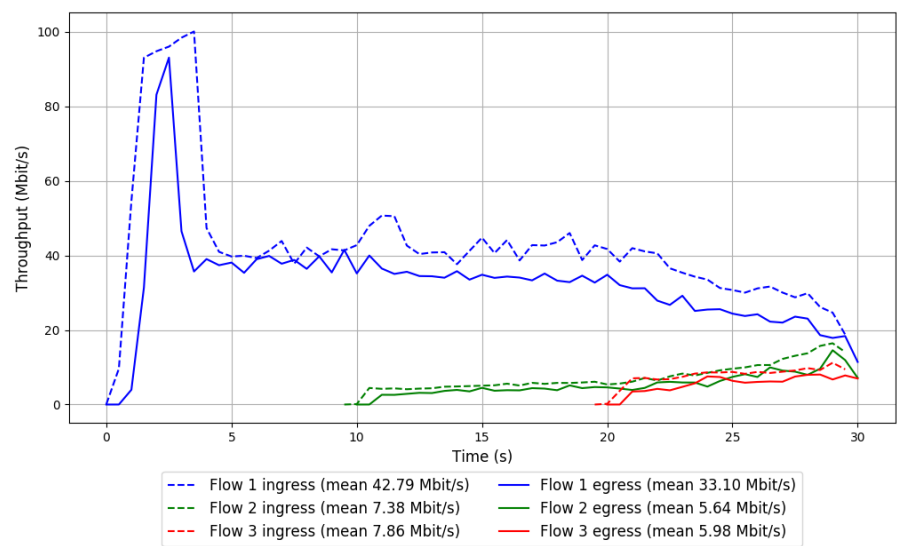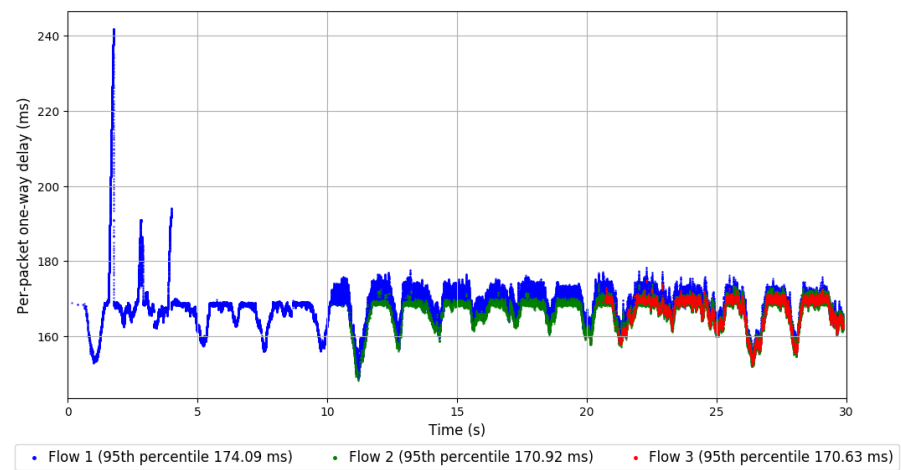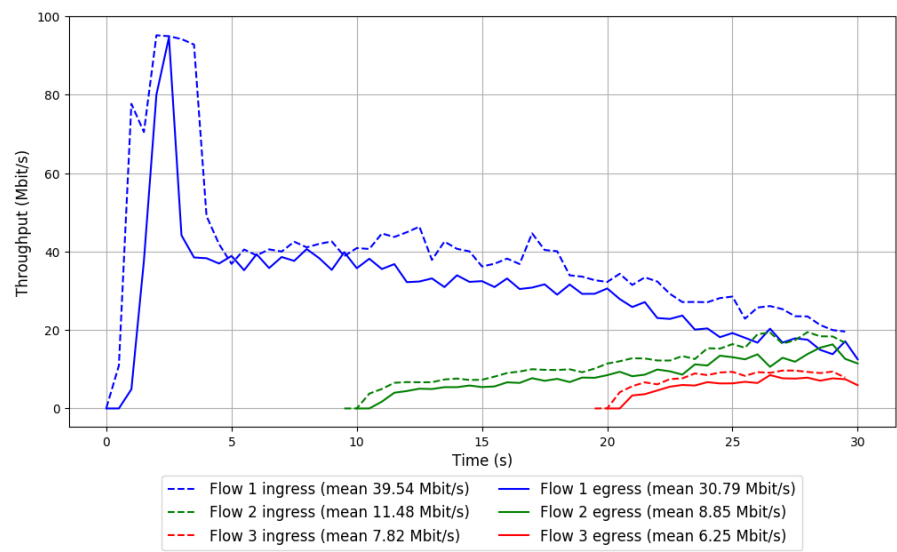
Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 0.55 Mbit/s) Flow 1 egress (mean 0.54 Mbit/s)
Flow 2 ingress (mean 1.95 Mbit/s) Flow 2 egress (mean 1.94 Mbit/s)
Flow 3 ingress (mean 1.16 Mbit/s) Flow 3 egress (mean 1.14 Mbit/s)

Flow 1 (95th percentile 170.12 ms)   Flow 2 (95th percentile 170.19 ms)   Flow 3 (95th percentile 170.30 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2019-01-22 06:17:23
End at: 2019-01-22 06:17:53
Local clock offset: -2.94 ms
Remote clock offset: 24.987 ms


# Below is generated by plot.py at 2019-01-22 06:25:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 175.161 ms
Loss rate: 2.59%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 173.643 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 175.137 ms
Loss rate: 2.34%
-- Flow 3:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 175.182 ms
Loss rate: 2.43%
```
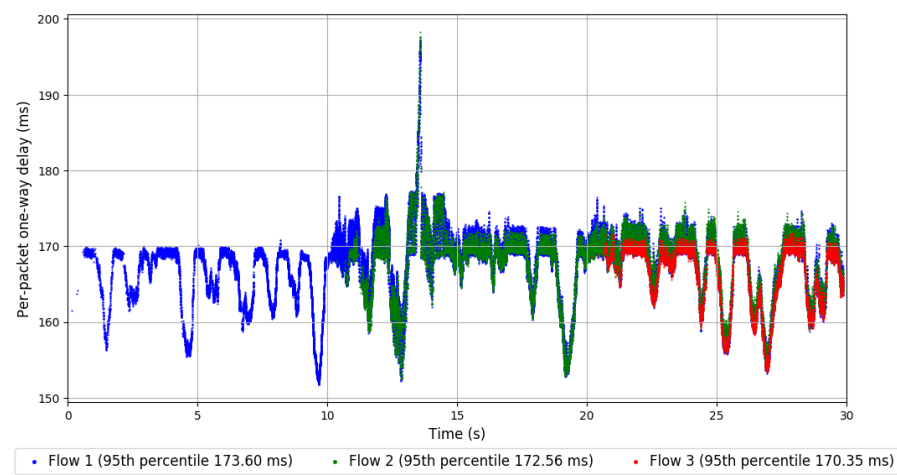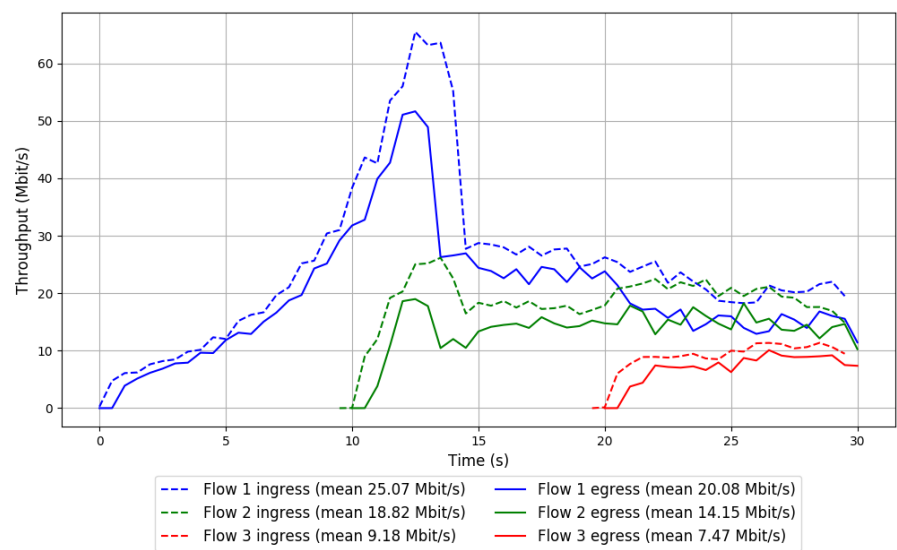
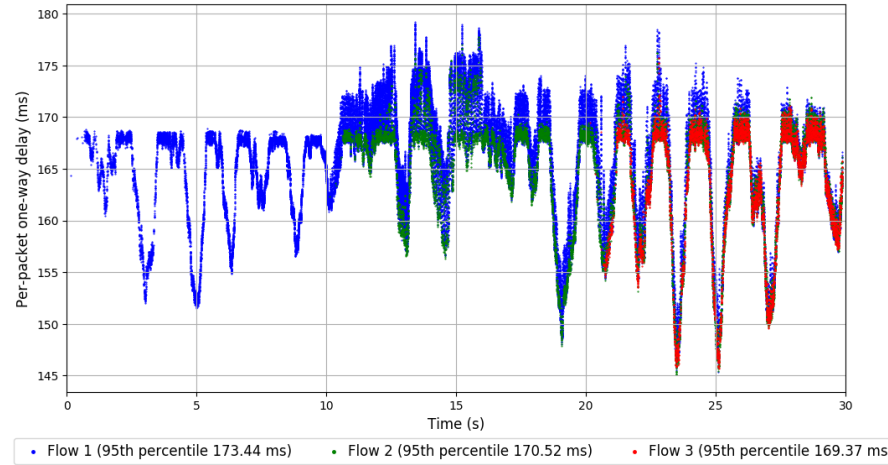Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2019-01-22 02:57:29
End at: 2019-01-22 02:57:59
Local clock offset: -0.876 ms
Remote clock offset: 7.126 ms


# Below is generated by plot.py at 2019-01-22 06:26:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.80 Mbit/s
95th percentile per-packet one-way delay: 175.201 ms
Loss rate: 23.48%
-- Flow 1:
Average throughput: 33.10 Mbit/s
95th percentile per-packet one-way delay: 175.960 ms
Loss rate: 23.22%
-- Flow 2:
Average throughput: 5.64 Mbit/s
95th percentile per-packet one-way delay: 170.714 ms
Loss rate: 24.51%
-- Flow 3:
Average throughput: 5.98 Mbit/s
95th percentile per-packet one-way delay: 170.152 ms
Loss rate: 25.73%
```
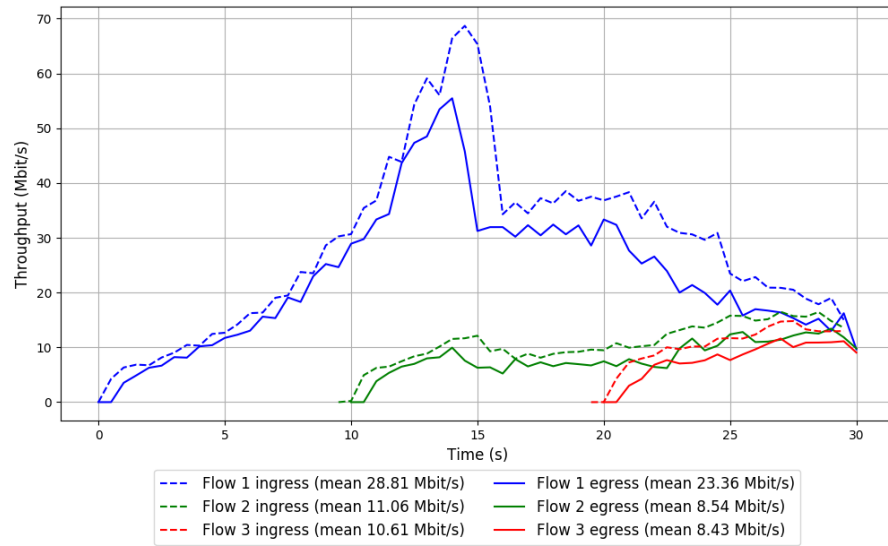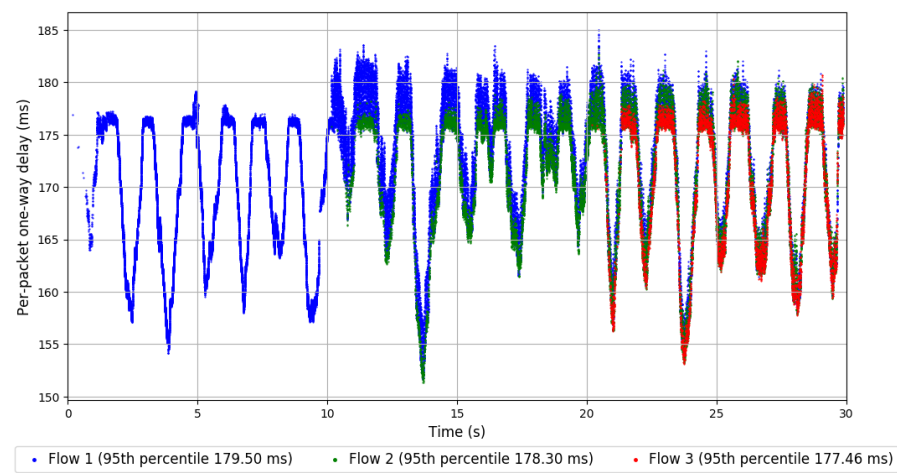
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 42.79 Mbit/s) — — —   Flow 1 egress (mean 33.10 Mbit/s) ————
Flow 2 ingress (mean 7.38 Mbit/s) — — —   Flow 2 egress (mean 5.64 Mbit/s) ————
Flow 3 ingress (mean 7.86 Mbit/s) — — —   Flow 3 egress (mean 5.98 Mbit/s) ————

• Flow 1 (95th percentile 175.96 ms)   • Flow 2 (95th percentile 170.71 ms)   • Flow 3 (95th percentile 170.15 ms)

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```
Run 2: Statistics of FillP

Start at: 2019-01-22 04:00:25
End at: 2019-01-22 04:00:55
Local clock offset: 1.867 ms
Remote clock offset: 82.026 ms


# Below is generated by plot.py at 2019-01-22 06:26:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.71 Mbit/s
95th percentile per-packet one-way delay: 173.663 ms
Loss rate: 22.80%
-- Flow 1:
Average throughput: 30.79 Mbit/s
95th percentile per-packet one-way delay: 174.092 ms
Loss rate: 22.69%
-- Flow 2:
Average throughput: 8.85 Mbit/s
95th percentile per-packet one-way delay: 170.924 ms
Loss rate: 23.76%
-- Flow 3:
Average throughput: 6.25 Mbit/s
95th percentile per-packet one-way delay: 170.627 ms
Loss rate: 21.77%
```
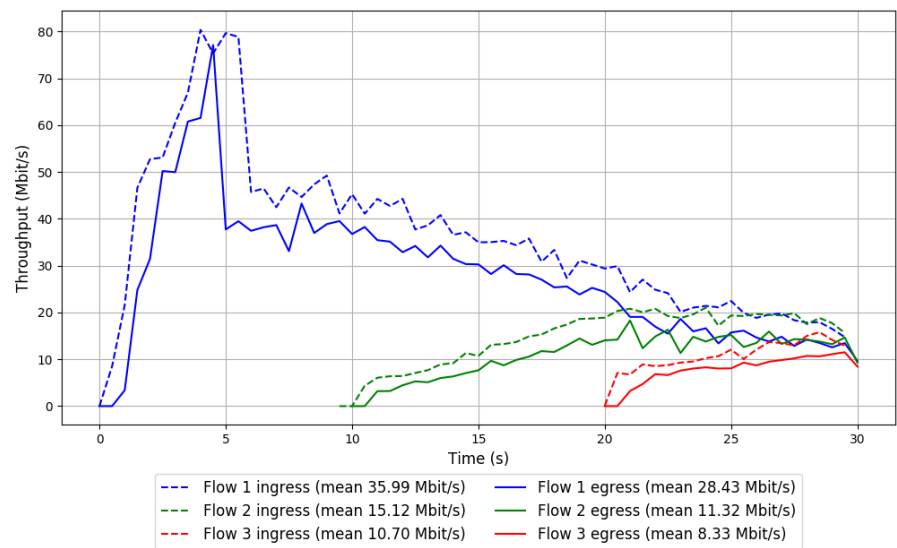
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-01-22 04:44:14
End at: 2019-01-22 04:44:44
Local clock offset: 10.998 ms
Remote clock offset: 38.097 ms

# Below is generated by plot.py at 2019-01-22 06:26:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.91 Mbit/s
95th percentile per-packet one-way delay: 173.076 ms
Loss rate: 22.06%
-- Flow 1:
Average throughput: 20.08 Mbit/s
95th percentile per-packet one-way delay: 173.602 ms
Loss rate: 20.48%
-- Flow 2:
Average throughput: 14.15 Mbit/s
95th percentile per-packet one-way delay: 172.557 ms
Loss rate: 25.63%
-- Flow 3:
Average throughput: 7.47 Mbit/s
95th percentile per-packet one-way delay: 170.351 ms
Loss rate: 20.40%
```
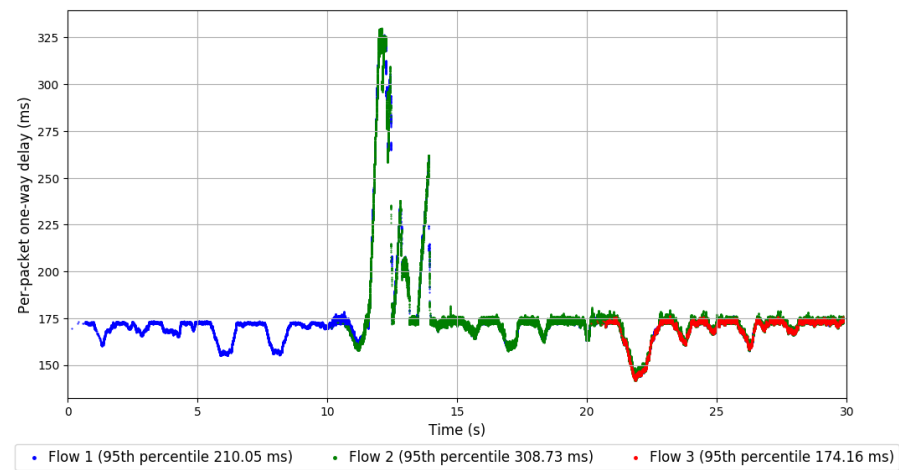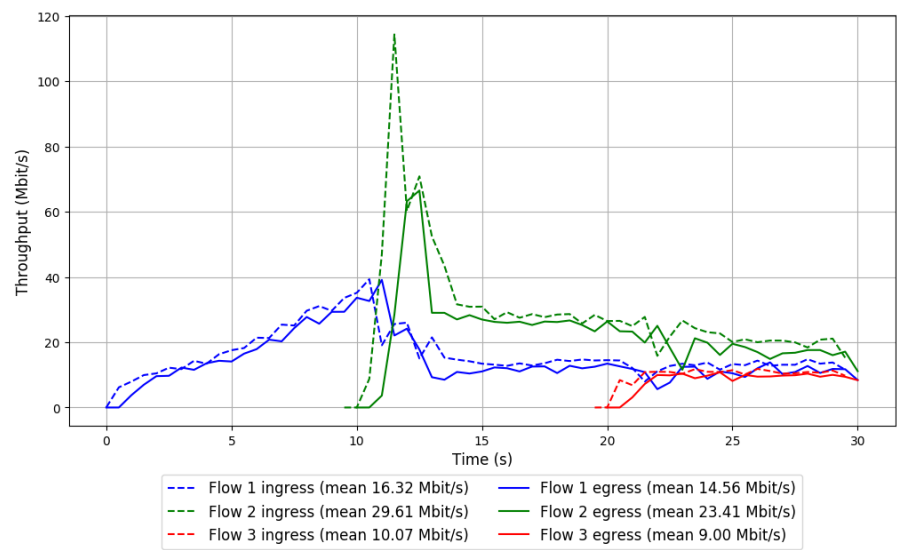
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-01-22 05:24:20
End at: 2019-01-22 05:24:50
Local clock offset: 7.772 ms
Remote clock offset: 45.032 ms


# Below is generated by plot.py at 2019-01-22 06:26:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.77 Mbit/s
95th percentile per-packet one-way delay: 172.996 ms
Loss rate: 20.55%
-- Flow 1:
Average throughput: 23.36 Mbit/s
95th percentile per-packet one-way delay: 173.438 ms
Loss rate: 19.54%
-- Flow 2:
Average throughput: 8.54 Mbit/s
95th percentile per-packet one-way delay: 170.521 ms
Loss rate: 23.63%
-- Flow 3:
Average throughput: 8.43 Mbit/s
95th percentile per-packet one-way delay: 169.374 ms
Loss rate: 22.38%
```
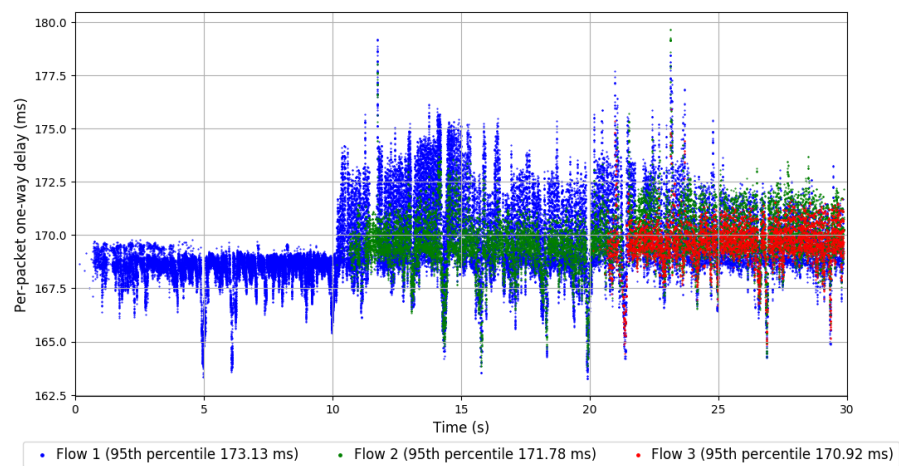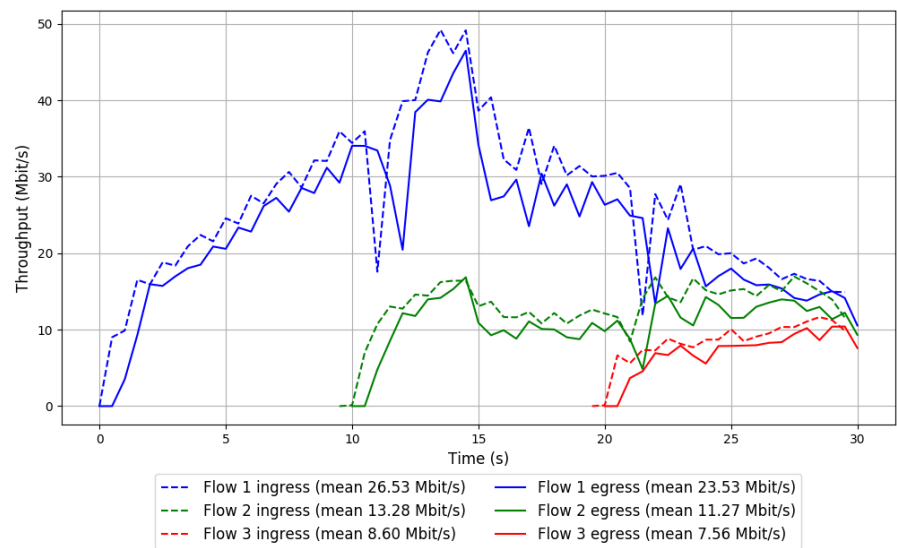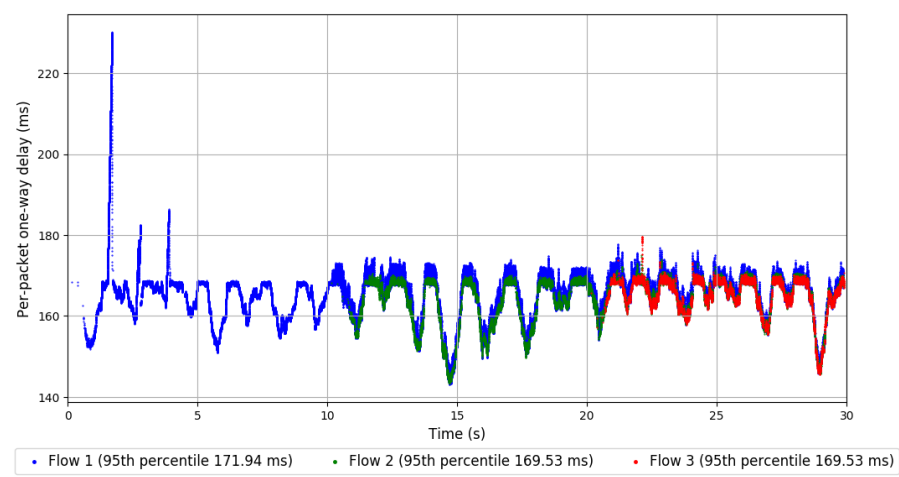
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2019-01-22 06:12:00
End at: 2019-01-22 06:12:30
Local clock offset: -2.319 ms
Remote clock offset: 24.462 ms


# Below is generated by plot.py at 2019-01-22 06:26:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.65 Mbit/s
95th percentile per-packet one-way delay: 179.171 ms
Loss rate: 22.69%
-- Flow 1:
Average throughput: 28.43 Mbit/s
95th percentile per-packet one-way delay: 179.504 ms
Loss rate: 21.63%
-- Flow 2:
Average throughput: 11.32 Mbit/s
95th percentile per-packet one-way delay: 178.296 ms
Loss rate: 26.09%
-- Flow 3:
Average throughput: 8.33 Mbit/s
95th percentile per-packet one-way delay: 177.461 ms
Loss rate: 23.89%
```
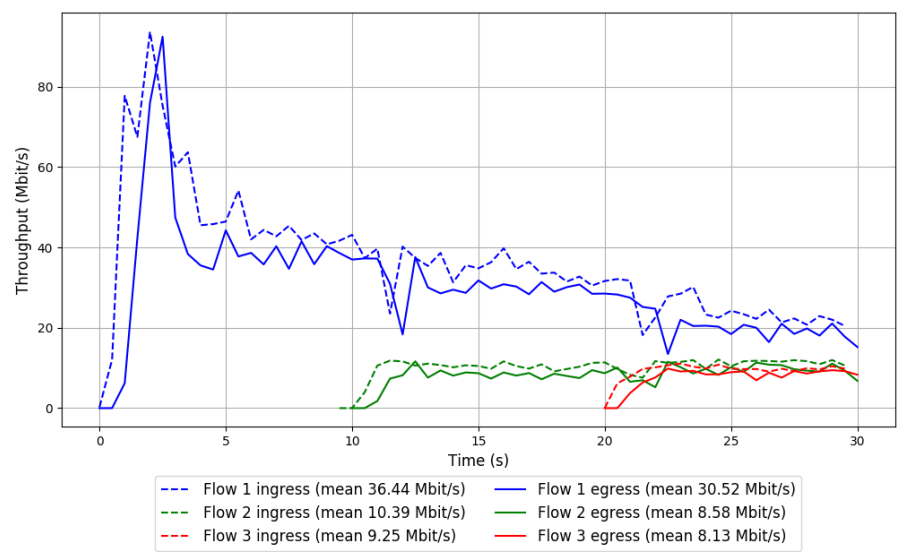
Run 5: Report of FillP — Data Link

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```
Run 1: Statistics of FillP-Sheep

Start at: 2019-01-22 02:28:32
End at: 2019-01-22 02:29:02
Local clock offset: 5.173 ms
Remote clock offset: 3.735 ms

# Below is generated by plot.py at 2019-01-22 06:26:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.02 Mbit/s
95th percentile per-packet one-way delay: 274.424 ms
Loss rate: 16.78%
-- Flow 1:
Average throughput: 14.56 Mbit/s
95th percentile per-packet one-way delay: 210.053 ms
Loss rate: 11.46%
-- Flow 2:
Average throughput: 23.41 Mbit/s
95th percentile per-packet one-way delay: 308.731 ms
Loss rate: 21.87%
-- Flow 3:
Average throughput: 9.00 Mbit/s
95th percentile per-packet one-way delay: 174.163 ms
Loss rate: 12.76%
```
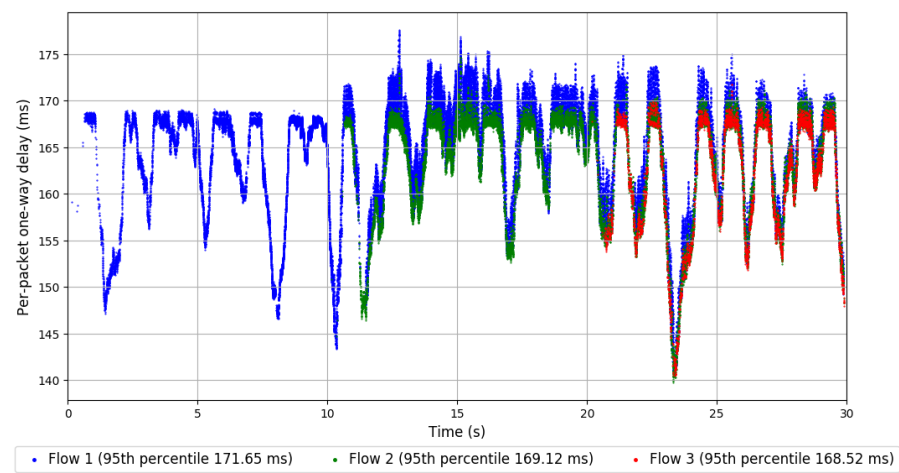
Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-01-22 03:20:38
End at: 2019-01-22 03:21:08
Local clock offset: -1.172 ms
Remote clock offset: 7.49 ms


# Below is generated by plot.py at 2019-01-22 06:26:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.47 Mbit/s
95th percentile per-packet one-way delay: 172.786 ms
Loss rate: 13.10%
-- Flow 1:
Average throughput: 23.53 Mbit/s
95th percentile per-packet one-way delay: 173.126 ms
Loss rate: 12.02%
-- Flow 2:
Average throughput: 11.27 Mbit/s
95th percentile per-packet one-way delay: 171.781 ms
Loss rate: 16.06%
-- Flow 3:
Average throughput: 7.56 Mbit/s
95th percentile per-packet one-way delay: 170.917 ms
Loss rate: 13.99%
```
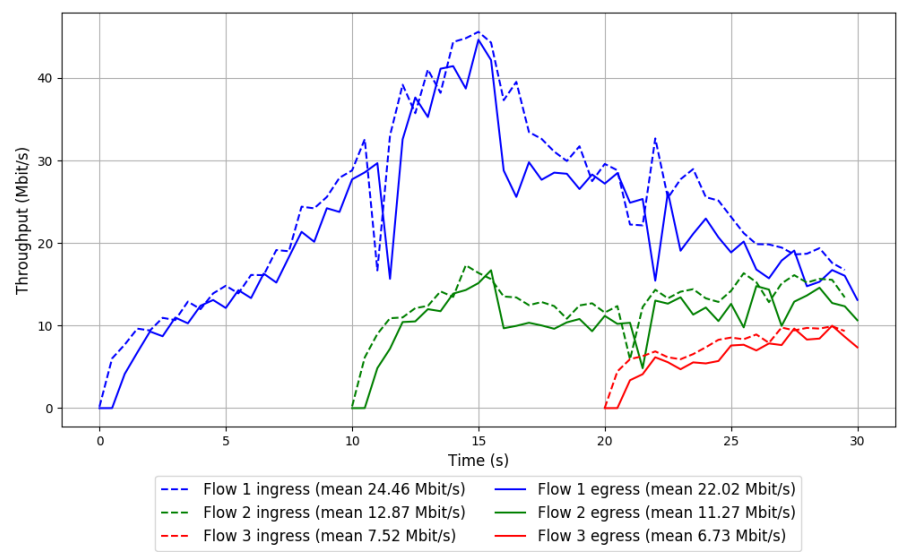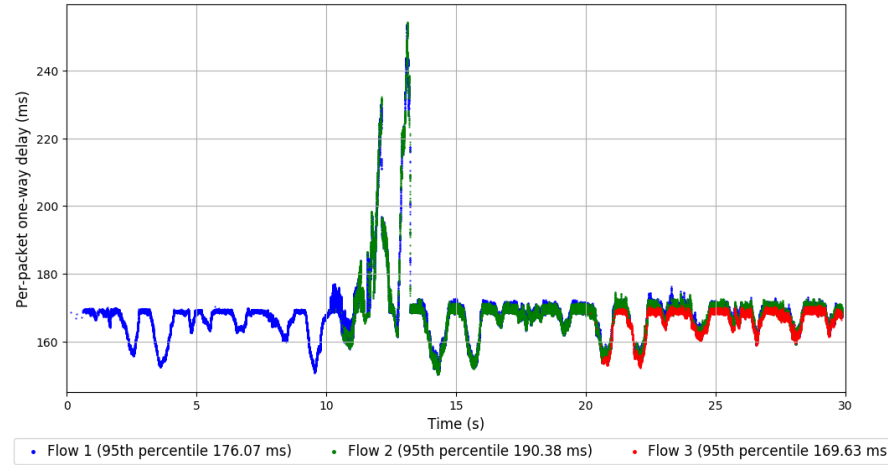
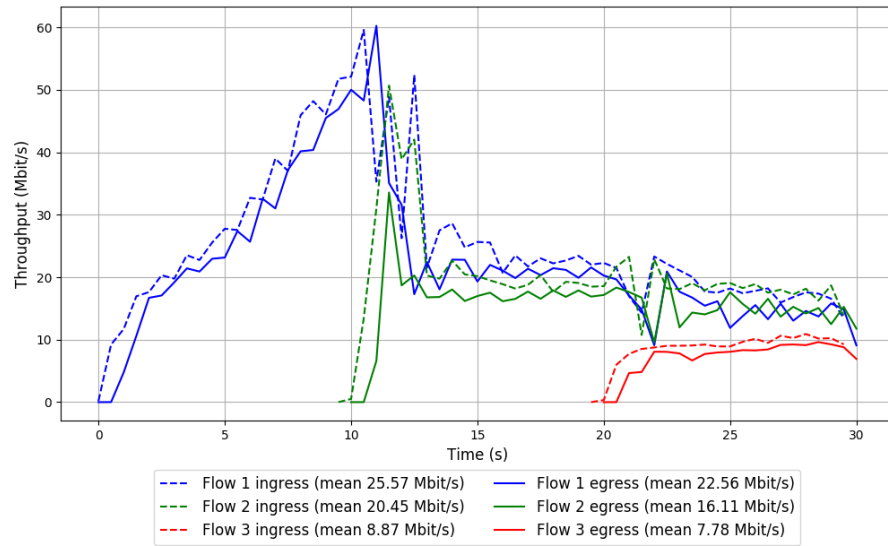# Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-01-22 04:15:39
End at: 2019-01-22 04:16:09
Local clock offset: 1.996 ms
Remote clock offset: 95.412 ms


# Below is generated by plot.py at 2019-01-22 06:26:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.86 Mbit/s
95th percentile per-packet one-way delay: 171.529 ms
Loss rate: 16.92%
-- Flow 1:
Average throughput: 30.52 Mbit/s
95th percentile per-packet one-way delay: 171.938 ms
Loss rate: 16.91%
-- Flow 2:
Average throughput: 8.58 Mbit/s
95th percentile per-packet one-way delay: 169.534 ms
Loss rate: 18.28%
-- Flow 3:
Average throughput: 8.13 Mbit/s
95th percentile per-packet one-way delay: 169.533 ms
Loss rate: 13.97%
```

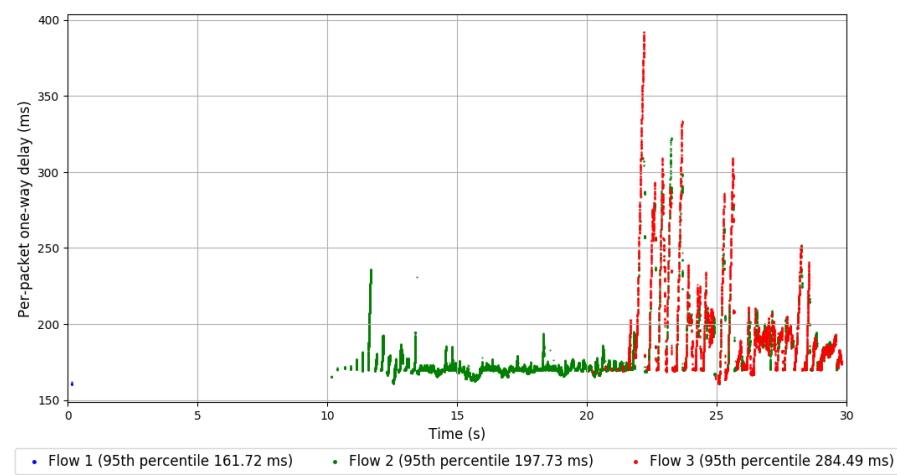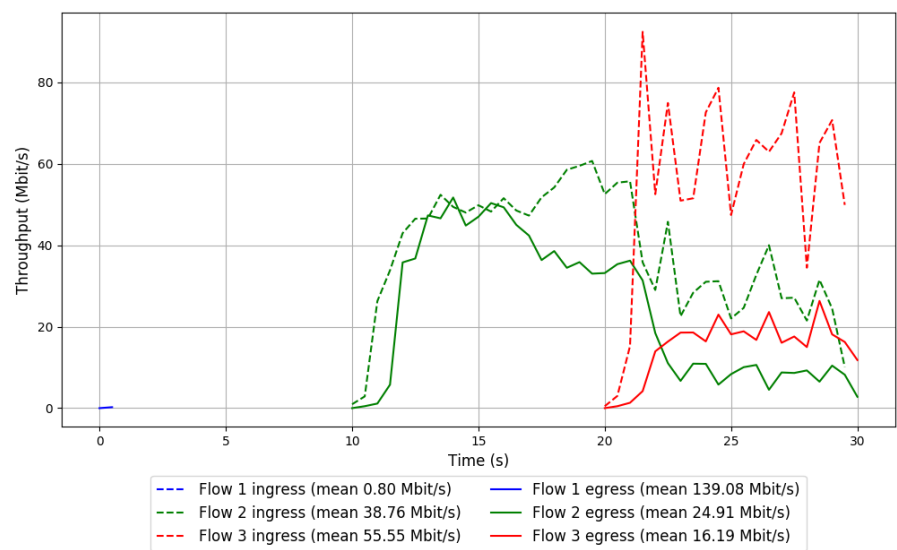Run 3: Report of FillP-Sheep — Data Link

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-01-22 04:57:43
End at: 2019-01-22 04:58:13
Local clock offset: 14.832 ms
Remote clock offset: 40.37 ms


# Below is generated by plot.py at 2019-01-22 06:26:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.70 Mbit/s
95th percentile per-packet one-way delay: 171.192 ms
Loss rate: 11.40%
-- Flow 1:
Average throughput: 22.02 Mbit/s
95th percentile per-packet one-way delay: 171.652 ms
Loss rate: 10.62%
-- Flow 2:
Average throughput: 11.27 Mbit/s
95th percentile per-packet one-way delay: 169.121 ms
Loss rate: 13.32%
-- Flow 3:
Average throughput: 6.73 Mbit/s
95th percentile per-packet one-way delay: 168.524 ms
Loss rate: 12.51%
```

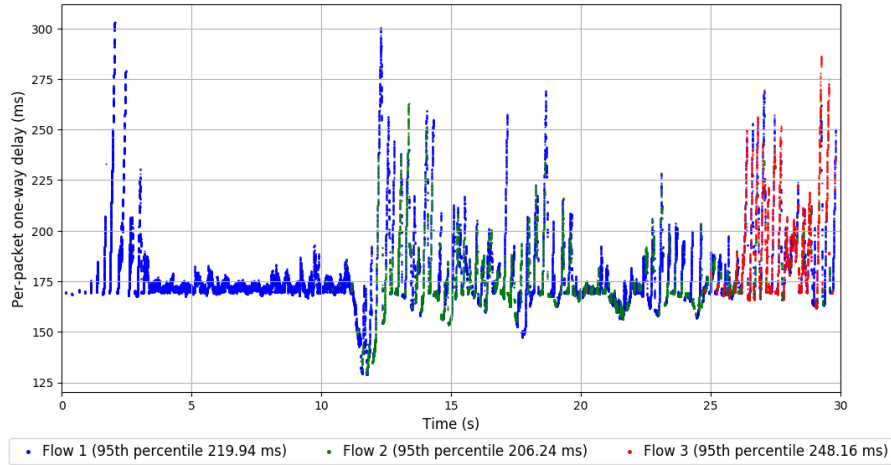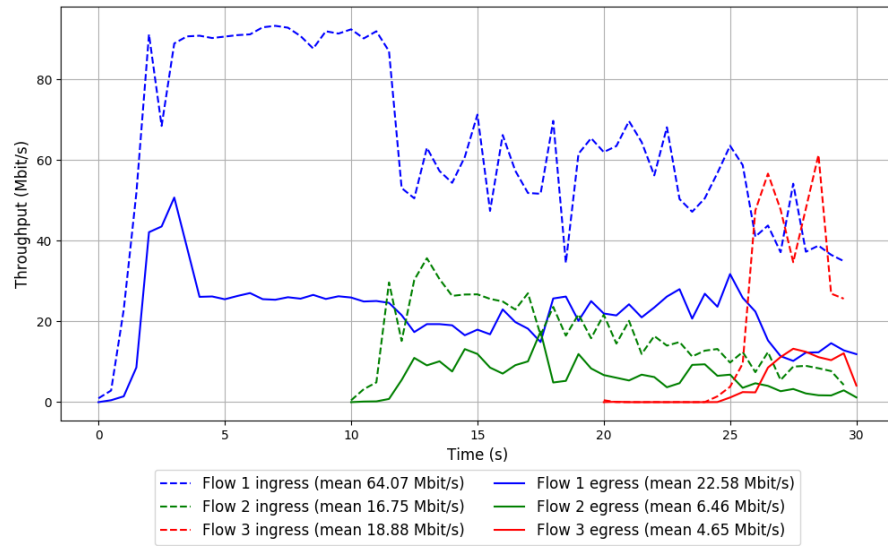Run 4: Report of FillP-Sheep — Data Link

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-01-22 05:38:57
End at: 2019-01-22 05:39:27
Local clock offset: 1.909 ms
Remote clock offset: 43.323 ms


# Below is generated by plot.py at 2019-01-22 06:26:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.79 Mbit/s
95th percentile per-packet one-way delay: 178.707 ms
Loss rate: 15.71%
-- Flow 1:
Average throughput: 22.56 Mbit/s
95th percentile per-packet one-way delay: 176.069 ms
Loss rate: 12.44%
-- Flow 2:
Average throughput: 16.11 Mbit/s
95th percentile per-packet one-way delay: 190.384 ms
Loss rate: 22.13%
-- Flow 3:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 169.627 ms
Loss rate: 14.35%
```
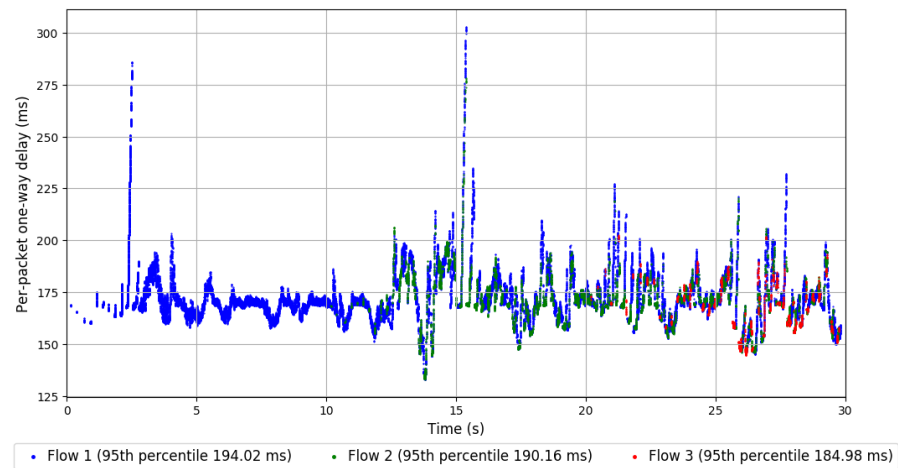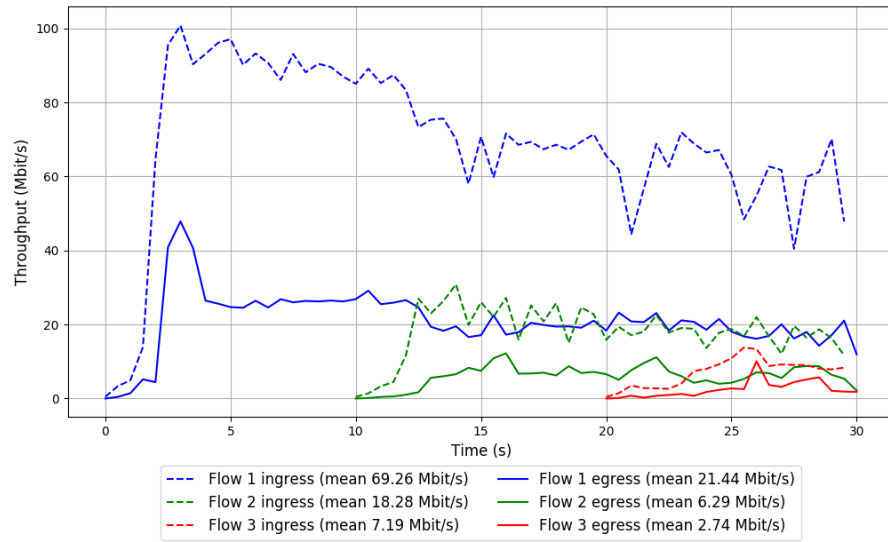
Run 5: Report of FillP-Sheep — Data Link

```
Run 1: Statistics of Indigo

Start at: 2019-01-22 02:54:13
End at: 2019-01-22 02:54:43
Local clock offset: -1.312 ms
Remote clock offset: 6.689 ms


# Below is generated by plot.py at 2019-01-22 06:26:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.63 Mbit/s
95th percentile per-packet one-way delay: 228.190 ms
Loss rate: 51.11%
-- Flow 1:
Average throughput: 139.08 Mbit/s
95th percentile per-packet one-way delay: 161.720 ms
Loss rate: 37.69%
-- Flow 2:
Average throughput: 24.91 Mbit/s
95th percentile per-packet one-way delay: 197.727 ms
Loss rate: 36.49%
-- Flow 3:
Average throughput: 16.19 Mbit/s
95th percentile per-packet one-way delay: 284.489 ms
Loss rate: 71.55%
```
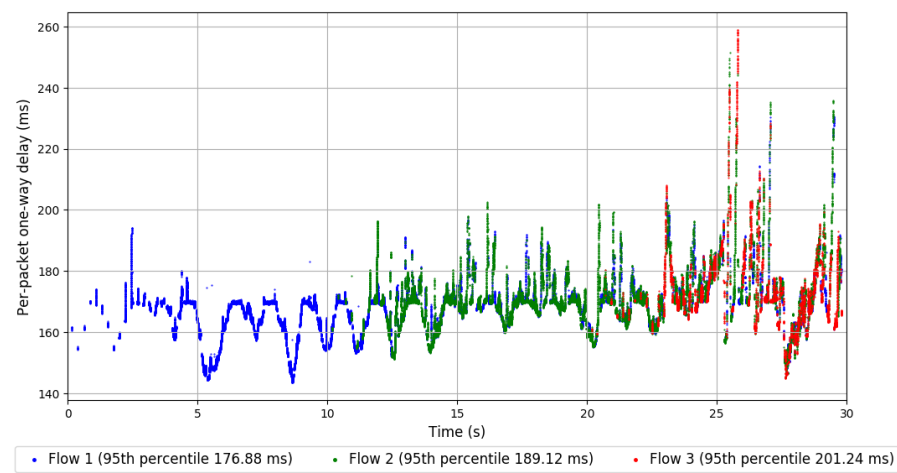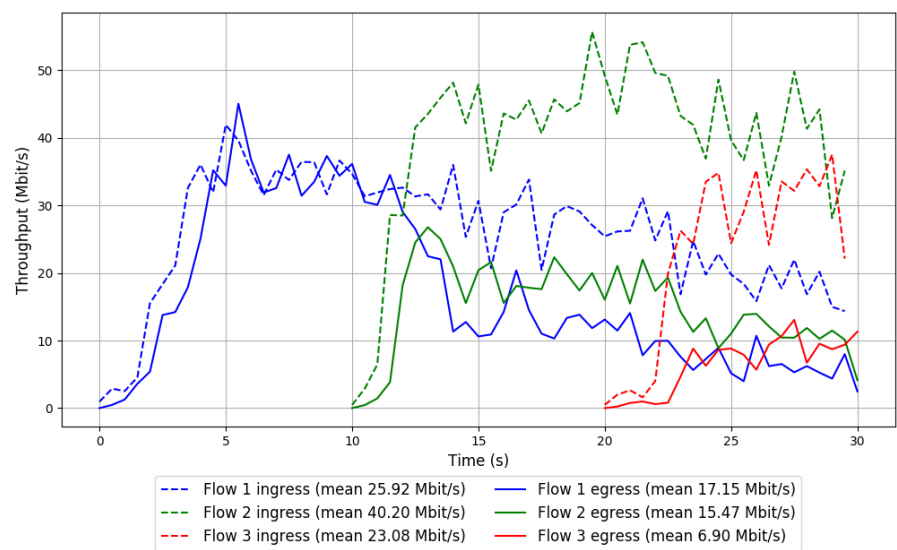
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-01-22 03:56:12
End at: 2019-01-22 03:56:42
Local clock offset: 1.592 ms
Remote clock offset: 77.492 ms


# Below is generated by plot.py at 2019-01-22 06:26:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 28.34 Mbit/s
95th percentile per-packet one-way delay: 222.113 ms
Loss rate: 65.38%
-- Flow 1:
Average throughput: 22.58 Mbit/s
95th percentile per-packet one-way delay: 219.937 ms
Loss rate: 65.03%
-- Flow 2:
Average throughput: 6.46 Mbit/s
95th percentile per-packet one-way delay: 206.241 ms
Loss rate: 61.92%
-- Flow 3:
Average throughput: 4.65 Mbit/s
95th percentile per-packet one-way delay: 248.161 ms
Loss rate: 75.41%
```
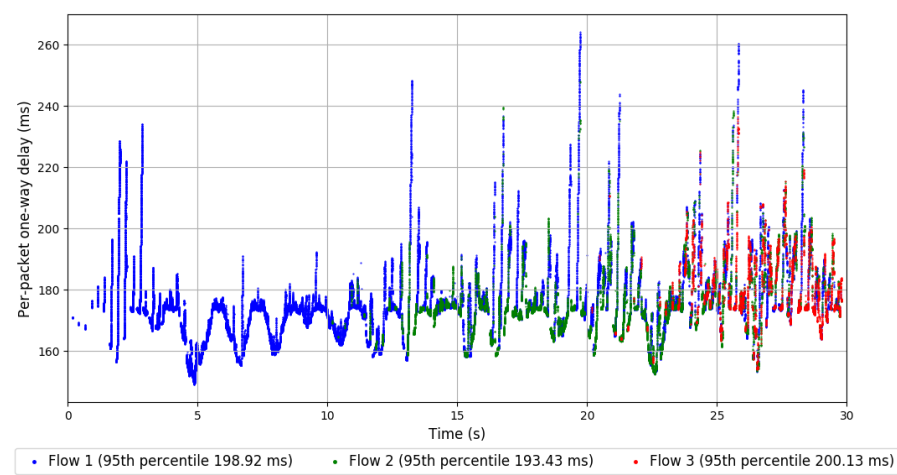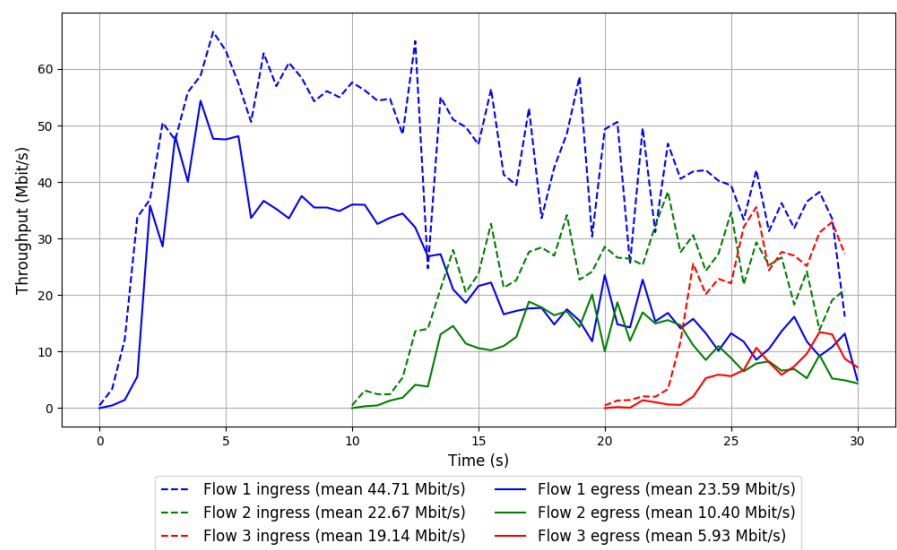
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-01-22 04:40:07
End at: 2019-01-22 04:40:37
Local clock offset: 10.855 ms
Remote clock offset: 33.449 ms


# Below is generated by plot.py at 2019-01-22 06:26:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 26.48 Mbit/s
95th percentile per-packet one-way delay: 193.046 ms
Loss rate: 68.62%
-- Flow 1:
Average throughput: 21.44 Mbit/s
95th percentile per-packet one-way delay: 194.024 ms
Loss rate: 69.27%
-- Flow 2:
Average throughput: 6.29 Mbit/s
95th percentile per-packet one-way delay: 190.155 ms
Loss rate: 65.99%
-- Flow 3:
Average throughput: 2.74 Mbit/s
95th percentile per-packet one-way delay: 184.982 ms
Loss rate: 62.87%
```

Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-01-22 05:20:59
End at: 2019-01-22 05:21:29
Local clock offset: 10.755 ms
Remote clock offset: 43.524 ms


# Below is generated by plot.py at 2019-01-22 06:26:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.61 Mbit/s
95th percentile per-packet one-way delay: 185.030 ms
Loss rate: 51.25%
-- Flow 1:
Average throughput: 17.15 Mbit/s
95th percentile per-packet one-way delay: 176.877 ms
Loss rate: 34.37%
-- Flow 2:
Average throughput: 15.47 Mbit/s
95th percentile per-packet one-way delay: 189.125 ms
Loss rate: 62.03%
-- Flow 3:
Average throughput: 6.90 Mbit/s
95th percentile per-packet one-way delay: 201.240 ms
Loss rate: 70.83%
```
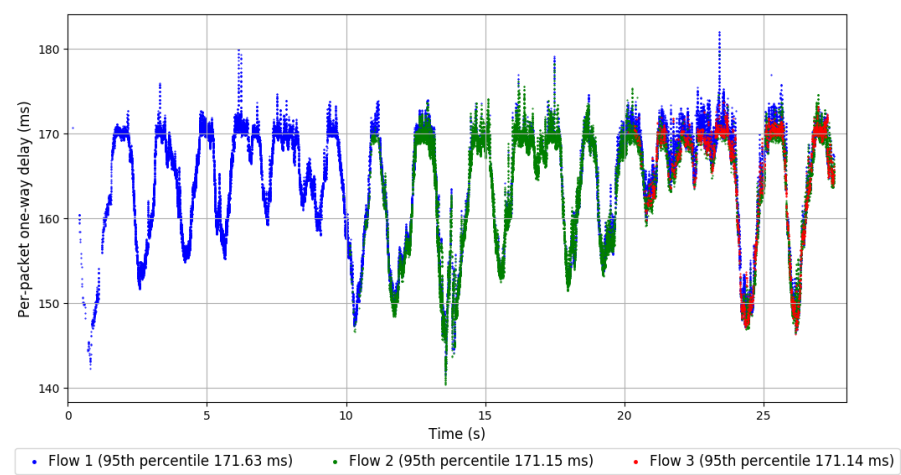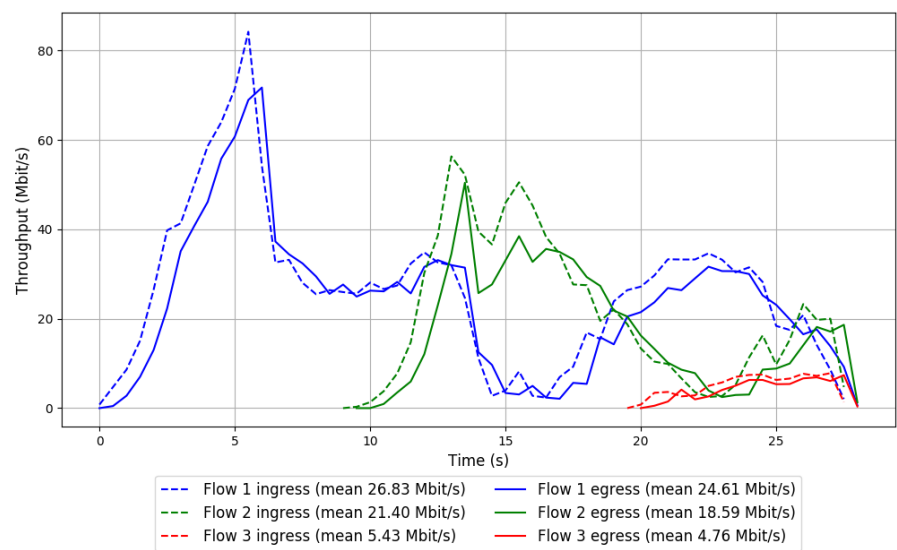
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-01-22 06:08:16
End at: 2019-01-22 06:08:46
Local clock offset: -2.014 ms
Remote clock offset: 28.871 ms


# Below is generated by plot.py at 2019-01-22 06:26:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 32.37 Mbit/s
95th percentile per-packet one-way delay: 197.389 ms
Loss rate: 51.32%
-- Flow 1:
Average throughput: 23.59 Mbit/s
95th percentile per-packet one-way delay: 198.924 ms
Loss rate: 47.64%
-- Flow 2:
Average throughput: 10.40 Mbit/s
95th percentile per-packet one-way delay: 193.431 ms
Loss rate: 54.53%
-- Flow 3:
Average throughput: 5.93 Mbit/s
95th percentile per-packet one-way delay: 200.126 ms
Loss rate: 69.74%
```
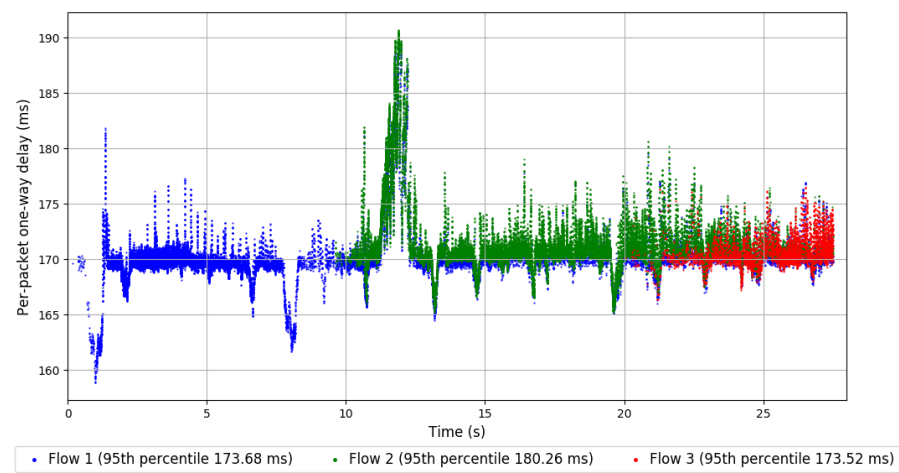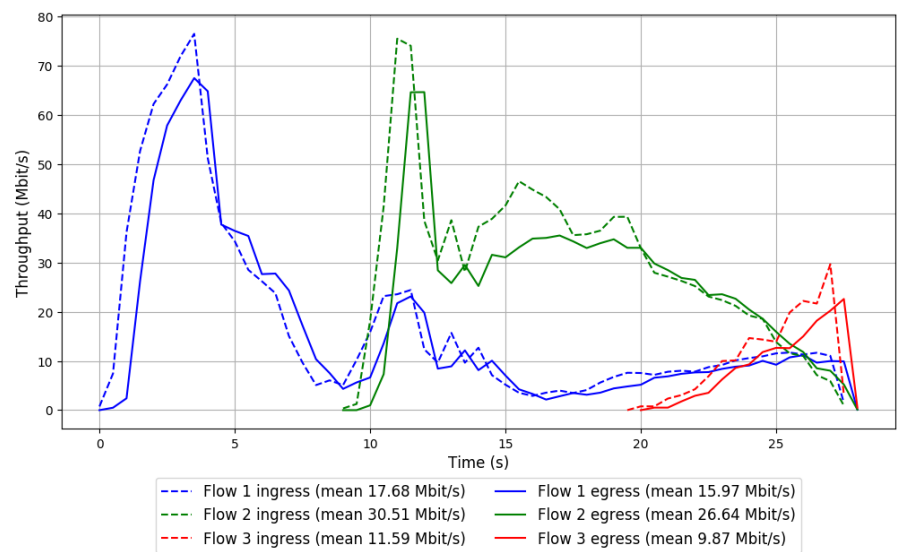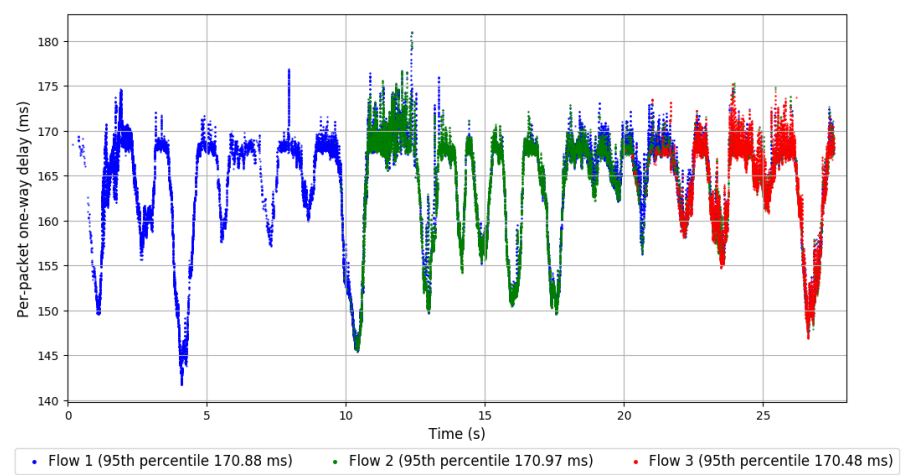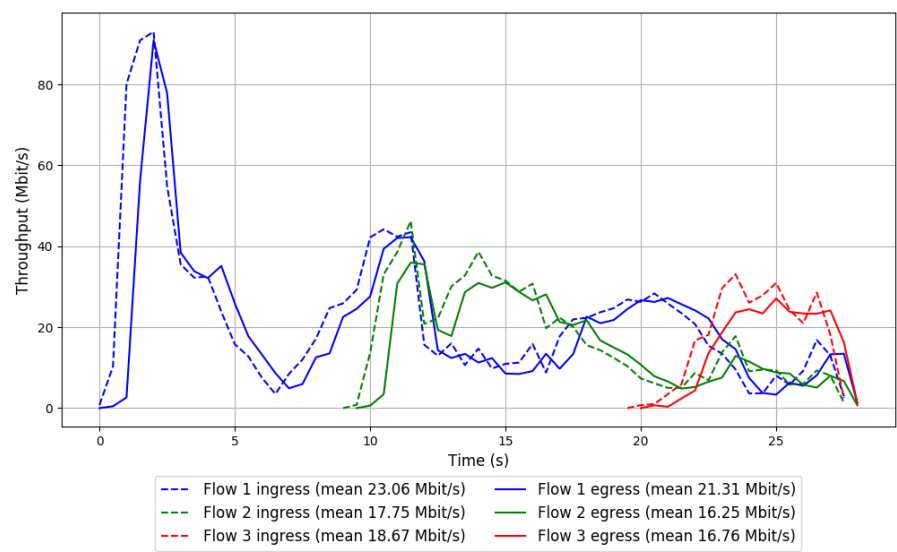
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-22 02:48:27
End at: 2019-01-22 02:48:57
Local clock offset: -3.202 ms
Remote clock offset: 5.592 ms

# Below is generated by plot.py at 2019-01-22 06:26:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 37.88 Mbit/s
95th percentile per-packet one-way delay: 171.488 ms
Loss rate: 11.77%
-- Flow 1:
Average throughput: 24.61 Mbit/s
95th percentile per-packet one-way delay: 171.627 ms
Loss rate: 9.05%
-- Flow 2:
Average throughput: 18.59 Mbit/s
95th percentile per-packet one-way delay: 171.145 ms
Loss rate: 16.56%
-- Flow 3:
Average throughput: 4.76 Mbit/s
95th percentile per-packet one-way delay: 171.142 ms
Loss rate: 14.98%
```
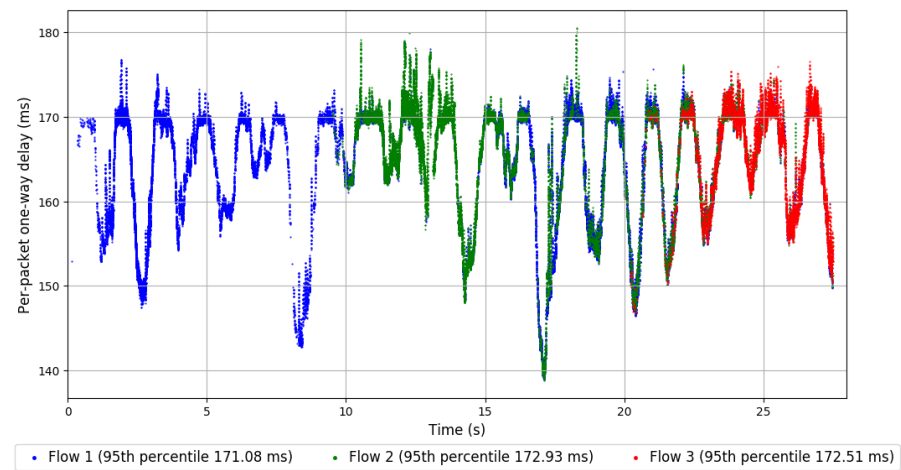
Run 1: Report of Indigo-MusesC3 — Data Link

- - - Flow 1 ingress (mean 26.83 Mbit/s) —— Flow 1 egress (mean 24.61 Mbit/s)
- - - Flow 2 ingress (mean 21.40 Mbit/s) —— Flow 2 egress (mean 18.59 Mbit/s)
- - - Flow 3 ingress (mean 5.43 Mbit/s) —— Flow 3 egress (mean 4.76 Mbit/s)

• Flow 1 (95th percentile 171.63 ms) • Flow 2 (95th percentile 171.15 ms) • Flow 3 (95th percentile 171.14 ms)

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-22 03:47:57
End at: 2019-01-22 03:48:27
Local clock offset: -0.433 ms
Remote clock offset: 67.053 ms


# Below is generated by plot.py at 2019-01-22 06:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.31 Mbit/s
95th percentile per-packet one-way delay: 177.323 ms
Loss rate: 12.61%
-- Flow 1:
Average throughput: 15.97 Mbit/s
95th percentile per-packet one-way delay: 173.682 ms
Loss rate: 10.40%
-- Flow 2:
Average throughput: 26.64 Mbit/s
95th percentile per-packet one-way delay: 180.257 ms
Loss rate: 13.80%
-- Flow 3:
Average throughput: 9.87 Mbit/s
95th percentile per-packet one-way delay: 173.522 ms
Loss rate: 17.26%
```
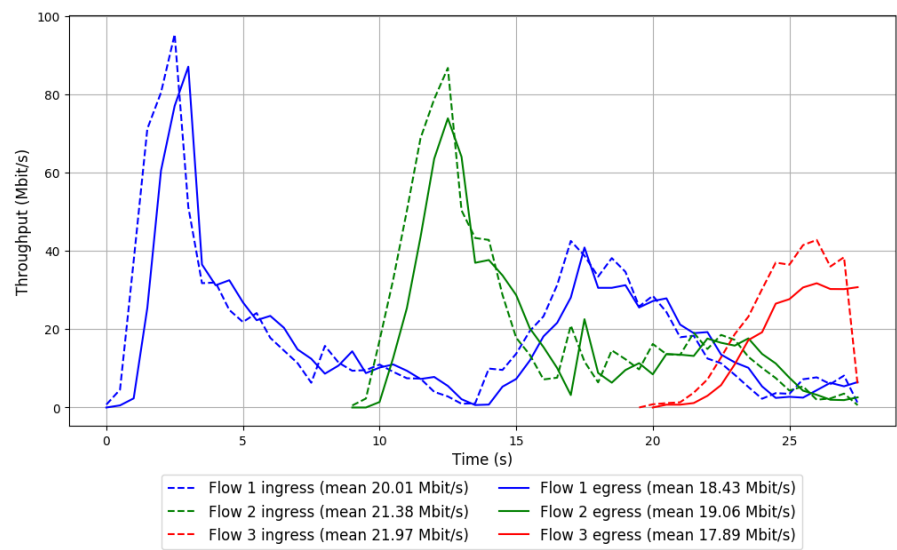
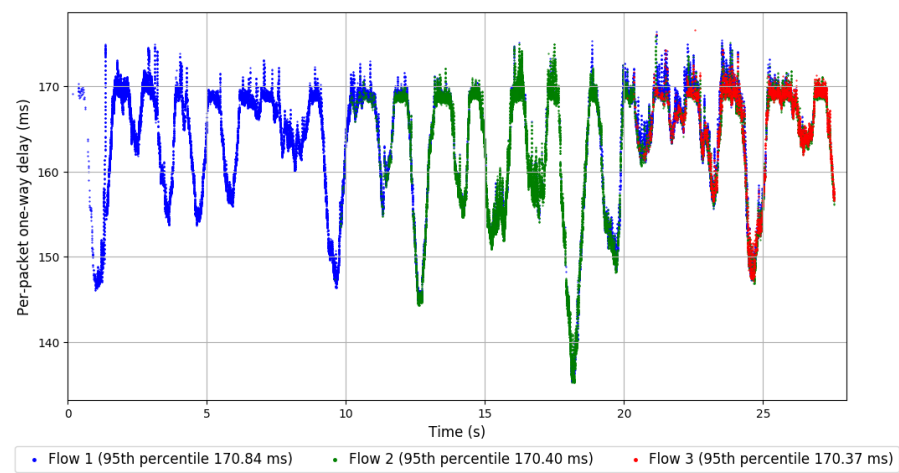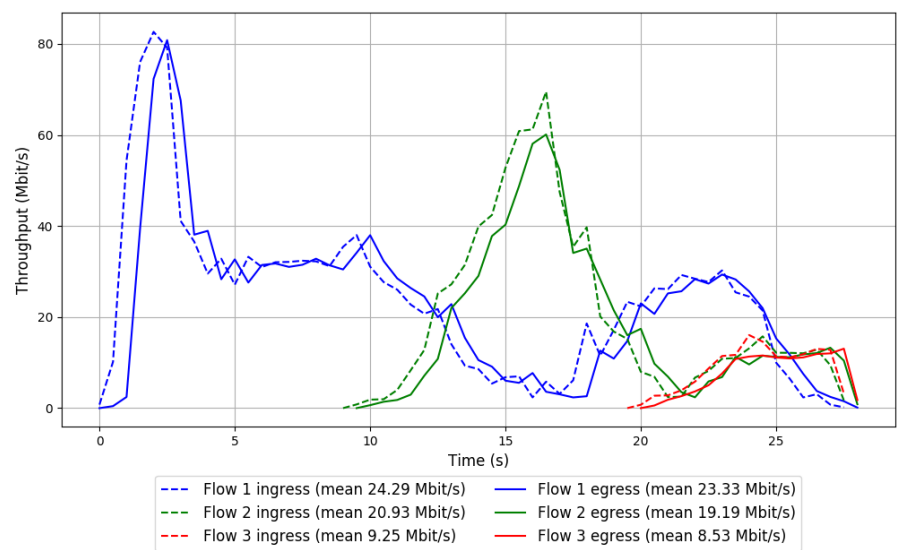Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-22 04:34:37
End at: 2019-01-22 04:35:07
Local clock offset: 9.946 ms
Remote clock offset: 26.719 ms


# Below is generated by plot.py at 2019-01-22 06:26:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.54 Mbit/s
95th percentile per-packet one-way delay: 170.833 ms
Loss rate: 9.30%
-- Flow 1:
Average throughput: 21.31 Mbit/s
95th percentile per-packet one-way delay: 170.881 ms
Loss rate: 8.35%
-- Flow 2:
Average throughput: 16.25 Mbit/s
95th percentile per-packet one-way delay: 170.970 ms
Loss rate: 9.58%
-- Flow 3:
Average throughput: 16.76 Mbit/s
95th percentile per-packet one-way delay: 170.479 ms
Loss rate: 12.87%
```

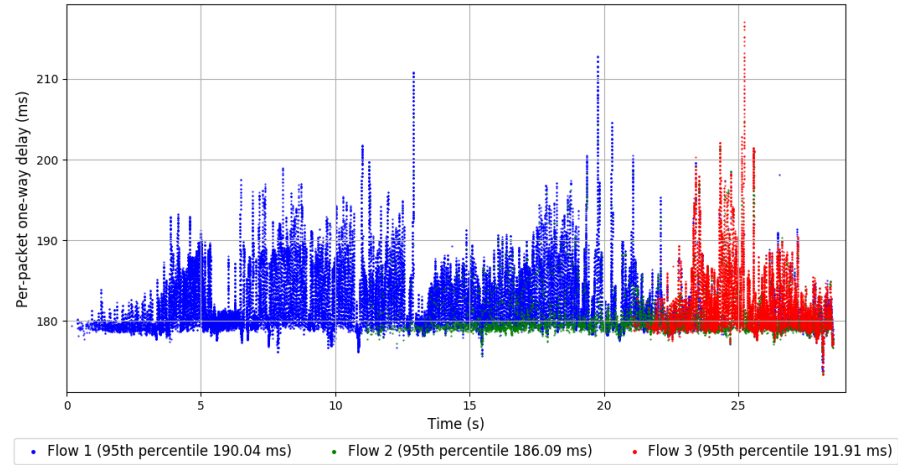Run 3: Report of Indigo-MusesC3 — Data Link

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-22 05:15:54
End at: 2019-01-22 05:16:24
Local clock offset: 17.712 ms
Remote clock offset: 40.542 ms


# Below is generated by plot.py at 2019-01-22 06:27:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.96 Mbit/s
95th percentile per-packet one-way delay: 171.992 ms
Loss rate: 11.66%
-- Flow 1:
Average throughput: 18.43 Mbit/s
95th percentile per-packet one-way delay: 171.078 ms
Loss rate: 8.62%
-- Flow 2:
Average throughput: 19.06 Mbit/s
95th percentile per-packet one-way delay: 172.934 ms
Loss rate: 11.96%
-- Flow 3:
Average throughput: 17.89 Mbit/s
95th percentile per-packet one-way delay: 172.515 ms
Loss rate: 20.90%
```
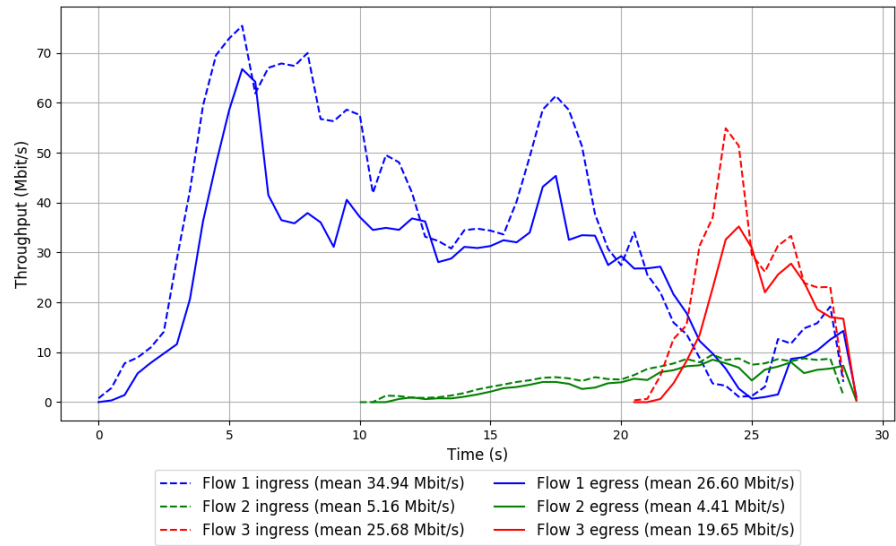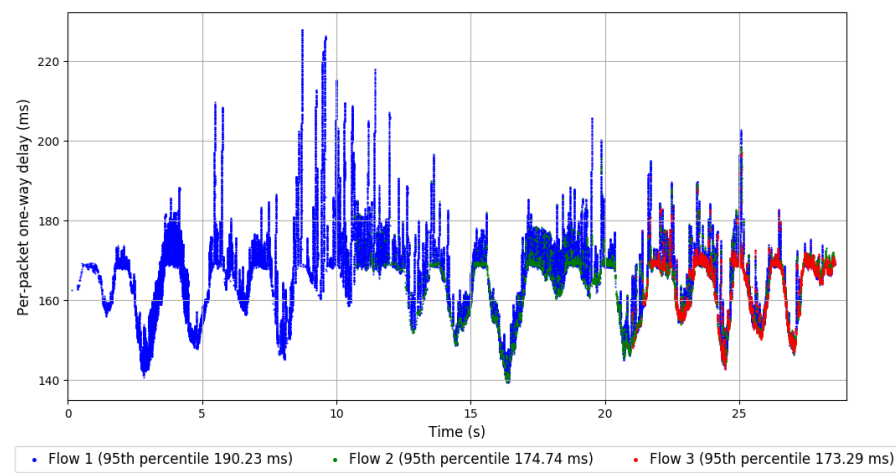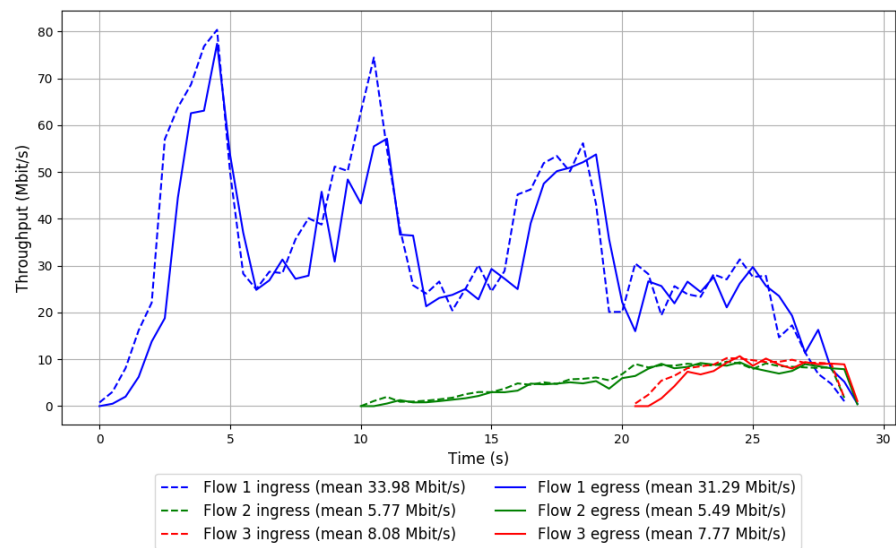
Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-22 06:02:59
End at: 2019-01-22 06:03:29
Local clock offset: -1.411 ms
Remote clock offset: 35.015 ms


# Below is generated by plot.py at 2019-01-22 06:27:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.23 Mbit/s
95th percentile per-packet one-way delay: 170.688 ms
Loss rate: 6.71%
-- Flow 1:
Average throughput: 23.33 Mbit/s
95th percentile per-packet one-way delay: 170.836 ms
Loss rate: 4.77%
-- Flow 2:
Average throughput: 19.19 Mbit/s
95th percentile per-packet one-way delay: 170.400 ms
Loss rate: 9.41%
-- Flow 3:
Average throughput: 8.53 Mbit/s
95th percentile per-packet one-way delay: 170.370 ms
Loss rate: 10.55%
```

Run 5: Report of Indigo-MusesC3 — Data Link

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-22 03:14:49
End at: 2019-01-22 03:15:19
Local clock offset: -2.03 ms
Remote clock offset: -1.886 ms


# Below is generated by plot.py at 2019-01-22 06:27:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.62 Mbit/s
95th percentile per-packet one-way delay: 190.085 ms
Loss rate: 24.23%
-- Flow 1:
Average throughput: 26.60 Mbit/s
95th percentile per-packet one-way delay: 190.042 ms
Loss rate: 24.49%
-- Flow 2:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 186.094 ms
Loss rate: 18.07%
-- Flow 3:
Average throughput: 19.65 Mbit/s
95th percentile per-packet one-way delay: 191.914 ms
Loss rate: 25.83%
```
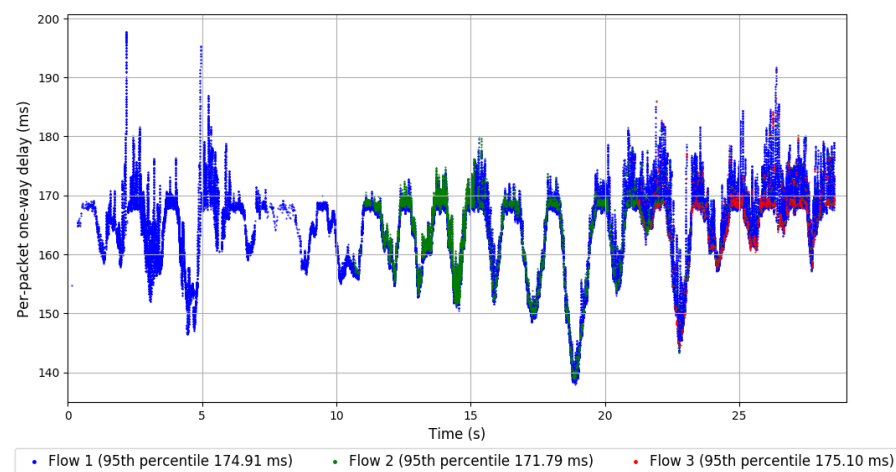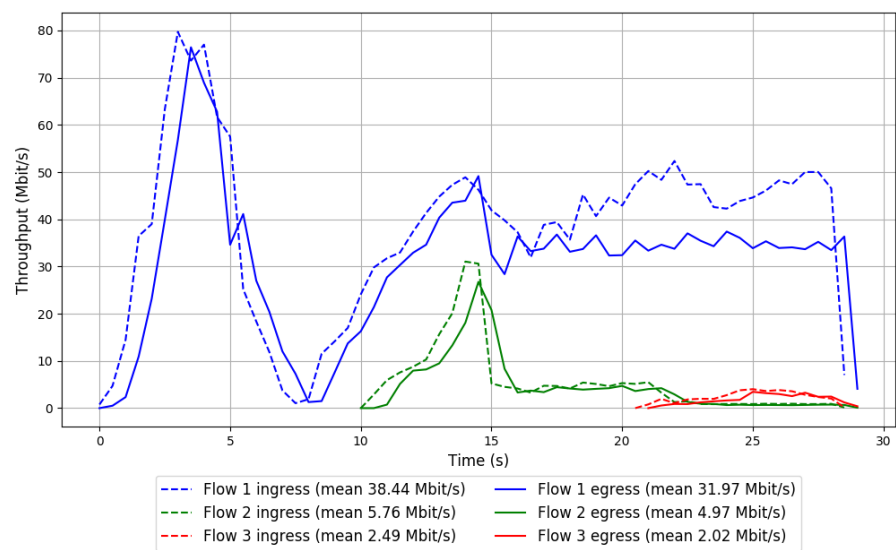
Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-01-22 04:12:56
End at: 2019-01-22 04:13:26
Local clock offset: 2.232 ms
Remote clock offset: 92.984 ms


# Below is generated by plot.py at 2019-01-22 06:27:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.90 Mbit/s
95th percentile per-packet one-way delay: 188.265 ms
Loss rate: 8.27%
-- Flow 1:
Average throughput: 31.29 Mbit/s
95th percentile per-packet one-way delay: 190.234 ms
Loss rate: 8.63%
-- Flow 2:
Average throughput: 5.49 Mbit/s
95th percentile per-packet one-way delay: 174.738 ms
Loss rate: 6.11%
-- Flow 3:
Average throughput: 7.77 Mbit/s
95th percentile per-packet one-way delay: 173.290 ms
Loss rate: 6.36%
```
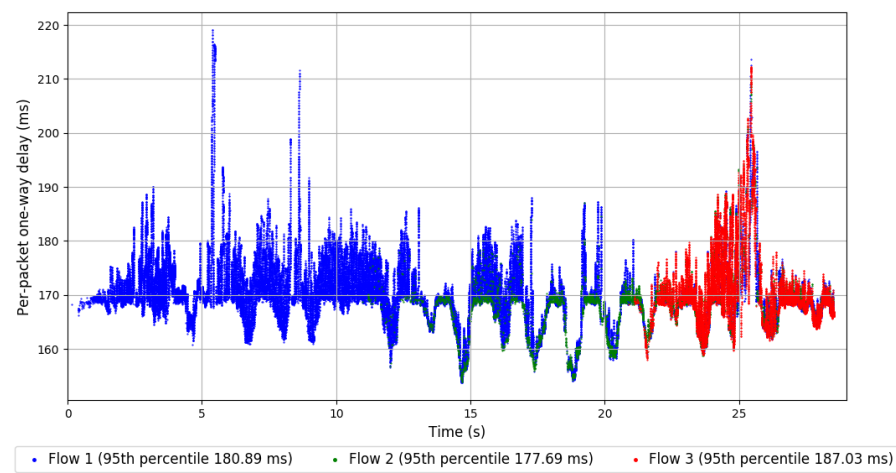
Run 2: Report of Indigo-MusesC5 — Data Link

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-22 04:55:13
End at: 2019-01-22 04:55:43
Local clock offset: 14.318 ms
Remote clock offset: 40.495 ms


# Below is generated by plot.py at 2019-01-22 06:27:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.67 Mbit/s
95th percentile per-packet one-way delay: 174.652 ms
Loss rate: 17.24%
-- Flow 1:
Average throughput: 31.97 Mbit/s
95th percentile per-packet one-way delay: 174.911 ms
Loss rate: 17.40%
-- Flow 2:
Average throughput: 4.97 Mbit/s
95th percentile per-packet one-way delay: 171.791 ms
Loss rate: 14.74%
-- Flow 3:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 175.104 ms
Loss rate: 21.44%
```
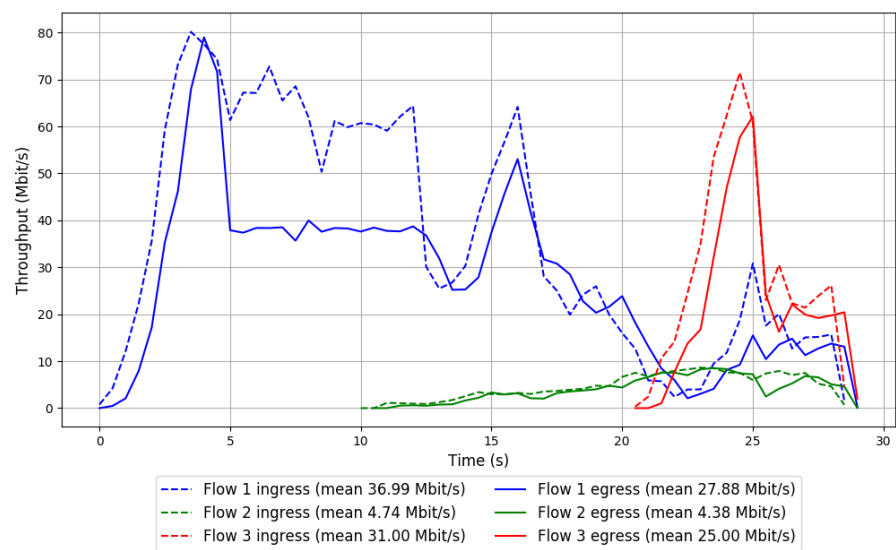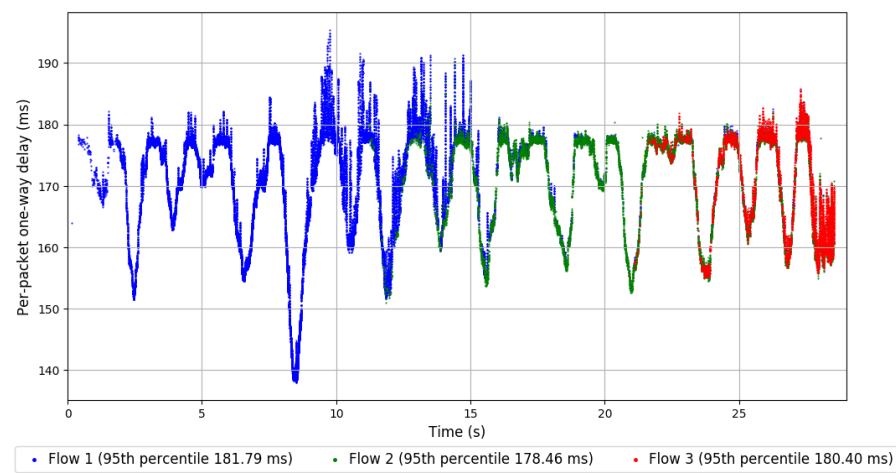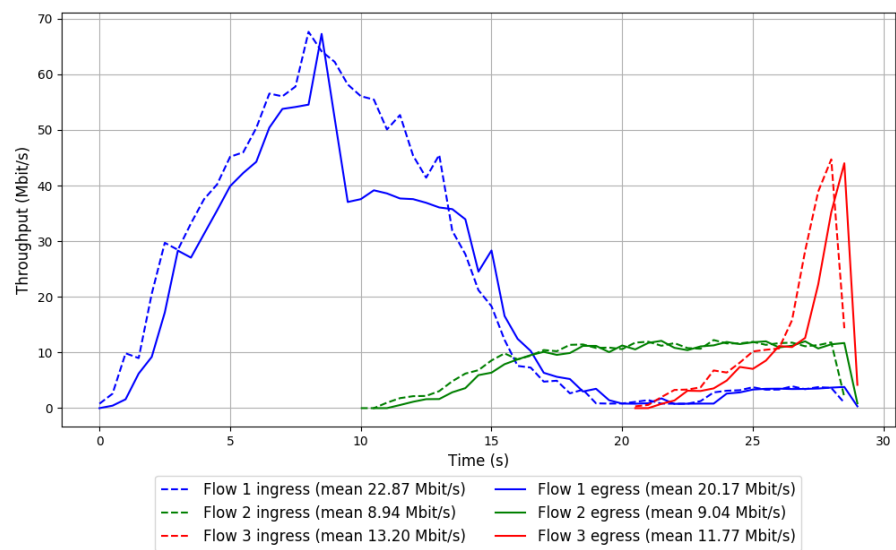
Run 3: Report of Indigo-MusesC5 — Data Link

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-22 05:35:49
End at: 2019-01-22 05:36:19
Local clock offset: 2.625 ms
Remote clock offset: 43.82 ms

# Below is generated by plot.py at 2019-01-22 06:27:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 37.31 Mbit/s
95th percentile per-packet one-way delay: 182.113 ms
Loss rate: 23.74%
-- Flow 1:
Average throughput: 27.88 Mbit/s
95th percentile per-packet one-way delay: 180.889 ms
Loss rate: 25.26%
-- Flow 2:
Average throughput: 4.38 Mbit/s
95th percentile per-packet one-way delay: 177.685 ms
Loss rate: 11.28%
-- Flow 3:
Average throughput: 25.00 Mbit/s
95th percentile per-packet one-way delay: 187.025 ms
Loss rate: 21.59%
```

Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-01-22 06:23:30
End at: 2019-01-22 06:24:00
Local clock offset: -5.536 ms
Remote clock offset: 32.955 ms


# Below is generated by plot.py at 2019-01-22 06:27:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 28.93 Mbit/s
95th percentile per-packet one-way delay: 180.829 ms
Loss rate: 10.93%
-- Flow 1:
Average throughput: 20.17 Mbit/s
95th percentile per-packet one-way delay: 181.791 ms
Loss rate: 12.53%
-- Flow 2:
Average throughput: 9.04 Mbit/s
95th percentile per-packet one-way delay: 178.461 ms
Loss rate: 2.96%
-- Flow 3:
Average throughput: 11.77 Mbit/s
95th percentile per-packet one-way delay: 180.403 ms
Loss rate: 13.37%
```
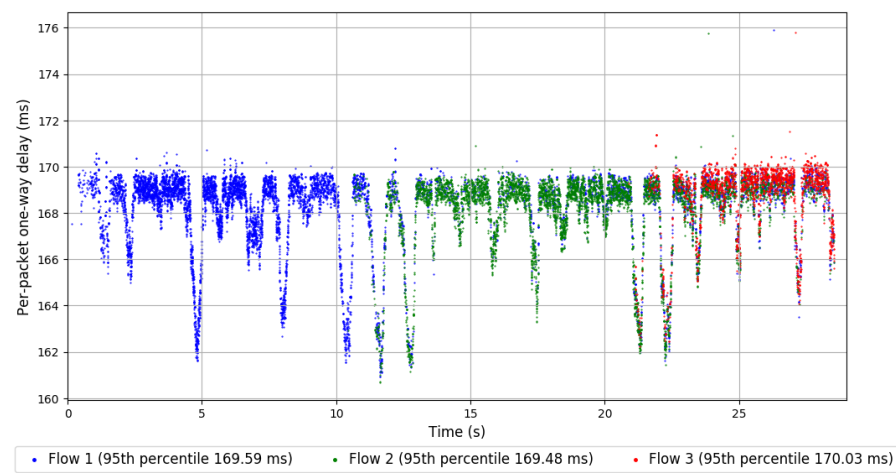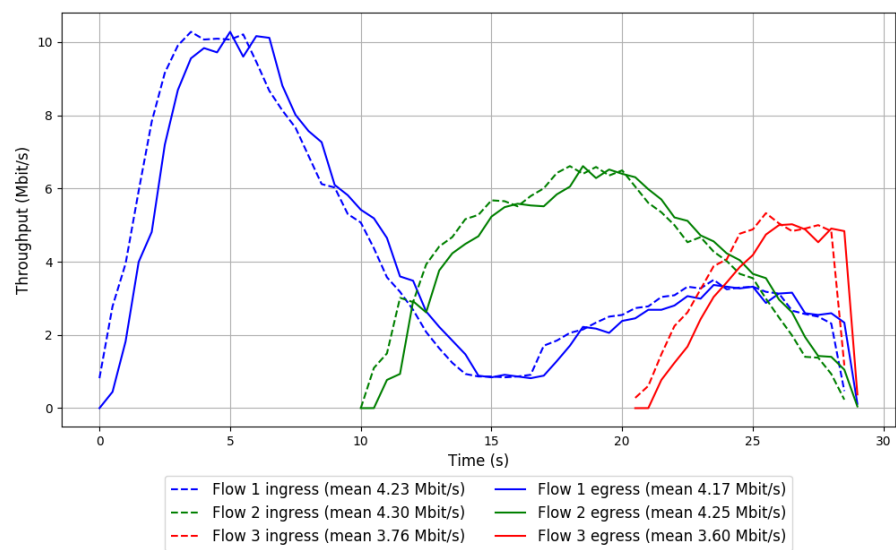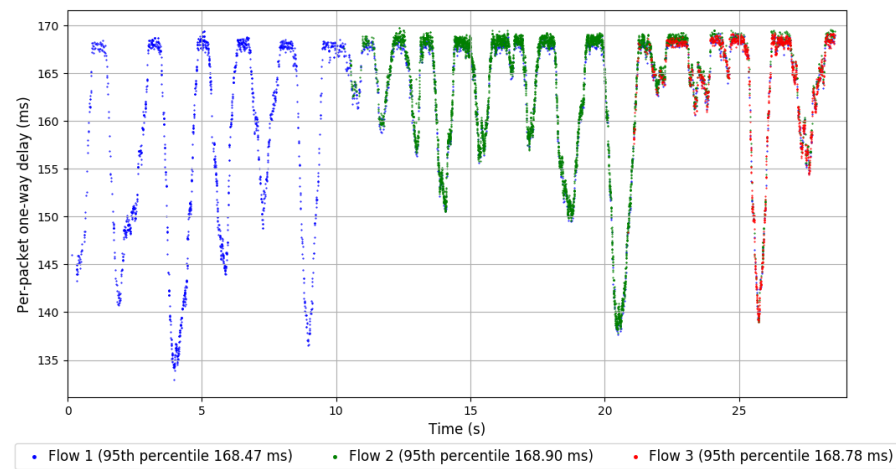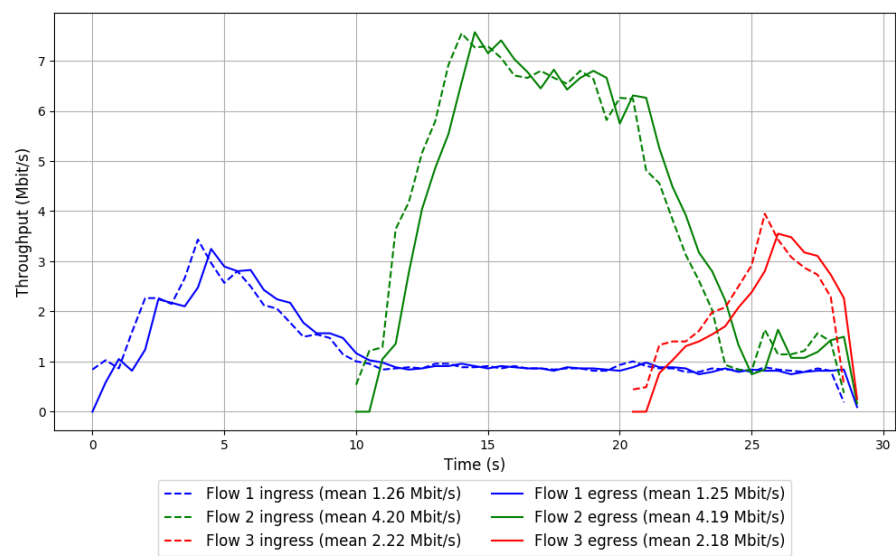
Run 5: Report of Indigo-MusesC5 — Data Link

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```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-22 03:05:11
End at: 2019-01-22 03:05:41
Local clock offset: -1.13 ms
Remote clock offset: 7.723 ms


# Below is generated by plot.py at 2019-01-22 06:27:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 169.672 ms
Loss rate: 2.88%
-- Flow 1:
Average throughput: 4.17 Mbit/s
95th percentile per-packet one-way delay: 169.593 ms
Loss rate: 2.22%
-- Flow 2:
Average throughput: 4.25 Mbit/s
95th percentile per-packet one-way delay: 169.476 ms
Loss rate: 2.28%
-- Flow 3:
Average throughput: 3.60 Mbit/s
95th percentile per-packet one-way delay: 170.027 ms
Loss rate: 7.19%
```
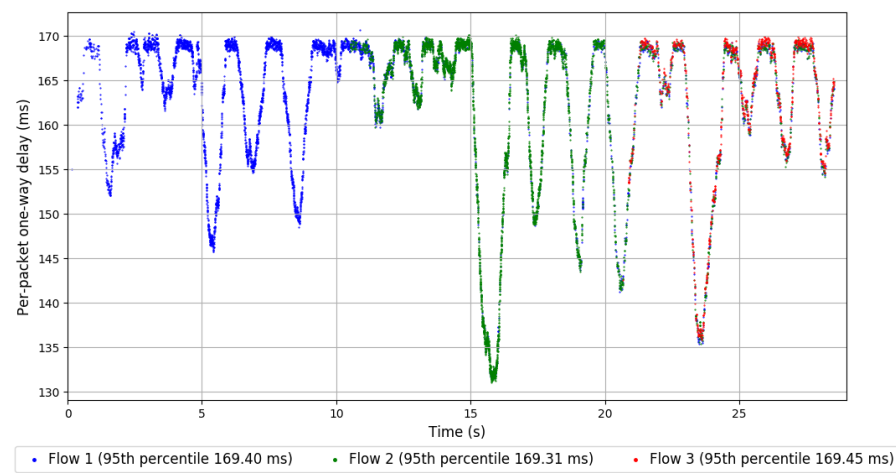
Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-22 04:07:25
End at: 2019-01-22 04:07:55
Local clock offset: 2.239 ms
Remote clock offset: 88.779 ms


# Below is generated by plot.py at 2019-01-22 06:27:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.53 Mbit/s
95th percentile per-packet one-way delay: 168.829 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 168.467 ms
Loss rate: 1.49%
-- Flow 2:
Average throughput: 4.19 Mbit/s
95th percentile per-packet one-way delay: 168.900 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 168.783 ms
Loss rate: 4.20%
```

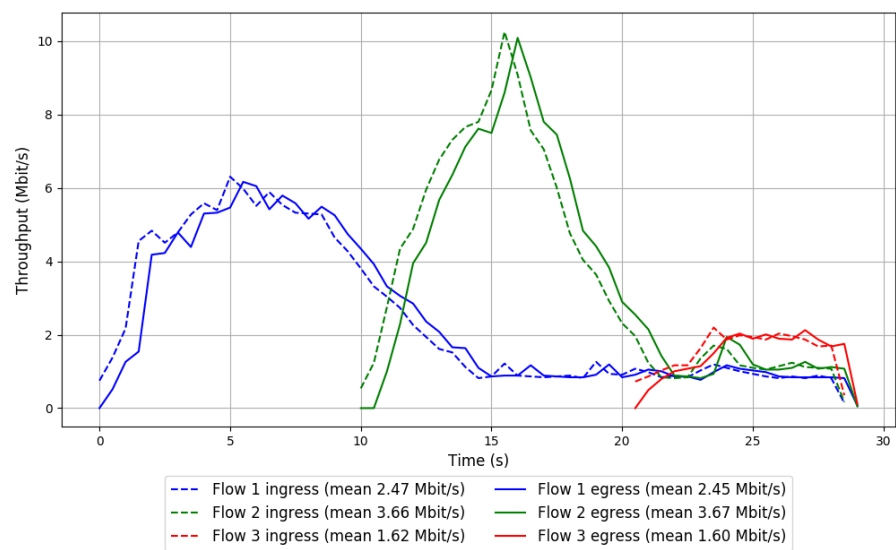Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-22 04:49:57
End at: 2019-01-22 04:50:27
Local clock offset: 12.986 ms
Remote clock offset: 40.488 ms


# Below is generated by plot.py at 2019-01-22 06:27:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.24 Mbit/s
95th percentile per-packet one-way delay: 169.360 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 2.45 Mbit/s
95th percentile per-packet one-way delay: 169.396 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 3.67 Mbit/s
95th percentile per-packet one-way delay: 169.313 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 1.60 Mbit/s
95th percentile per-packet one-way delay: 169.450 ms
Loss rate: 3.41%
```

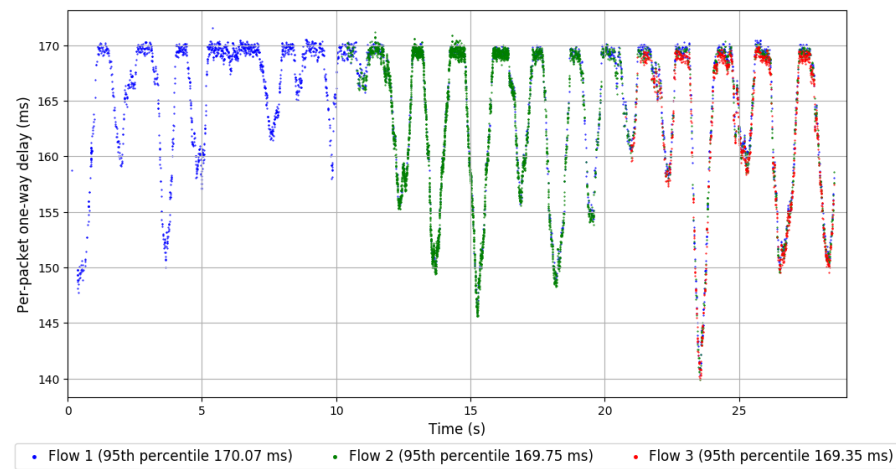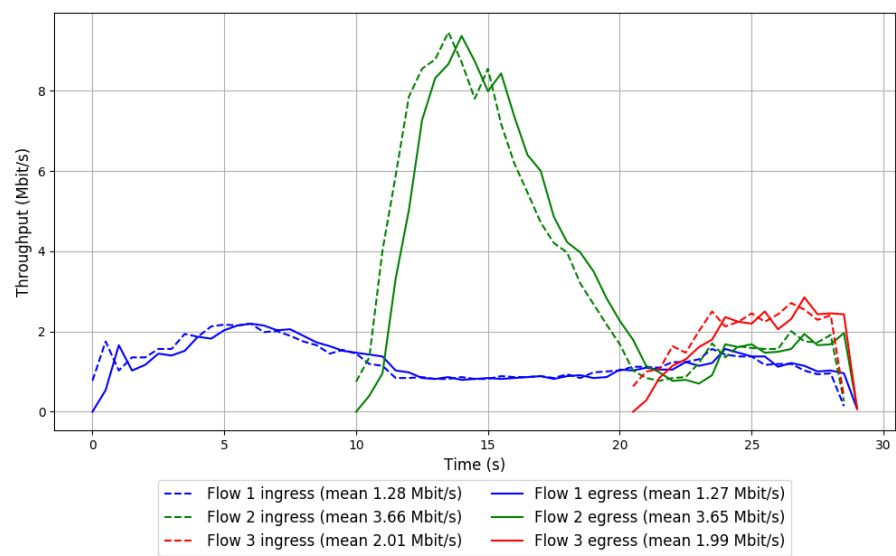Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-22 05:30:10
End at: 2019-01-22 05:30:40
Local clock offset: 4.674 ms
Remote clock offset: 44.484 ms


# Below is generated by plot.py at 2019-01-22 06:27:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.17 Mbit/s
95th percentile per-packet one-way delay: 169.855 ms
Loss rate: 1.82%
-- Flow 1:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 170.067 ms
Loss rate: 1.60%
-- Flow 2:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 169.755 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 169.349 ms
Loss rate: 3.85%
```

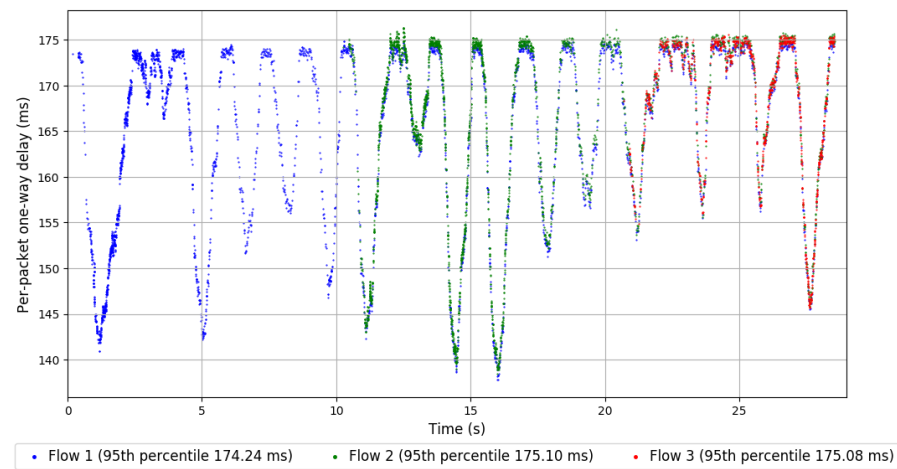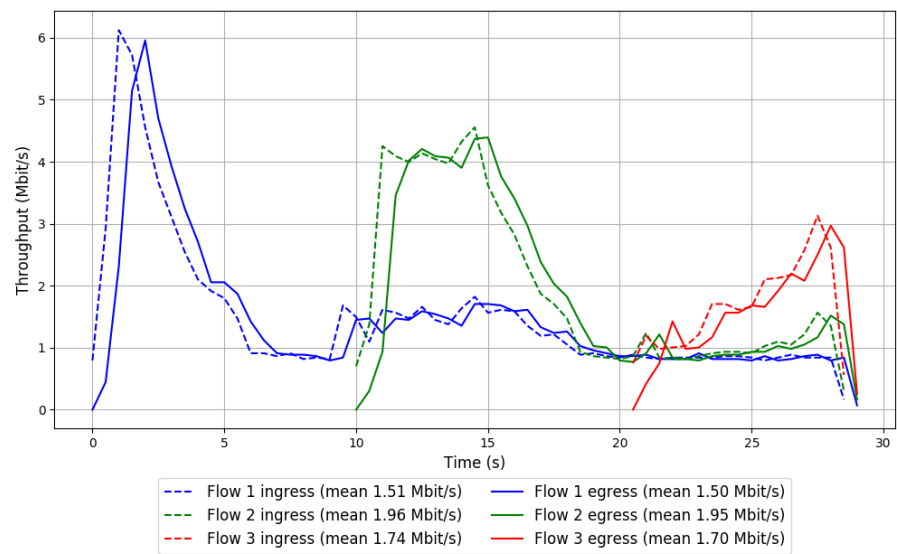Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-22 06:18:50
End at: 2019-01-22 06:19:20
Local clock offset: -2.866 ms
Remote clock offset: 25.752 ms


# Below is generated by plot.py at 2019-01-22 06:27:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.23 Mbit/s
95th percentile per-packet one-way delay: 174.900 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 174.241 ms
Loss rate: 1.24%
-- Flow 2:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 175.104 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 175.079 ms
Loss rate: 4.90%
```
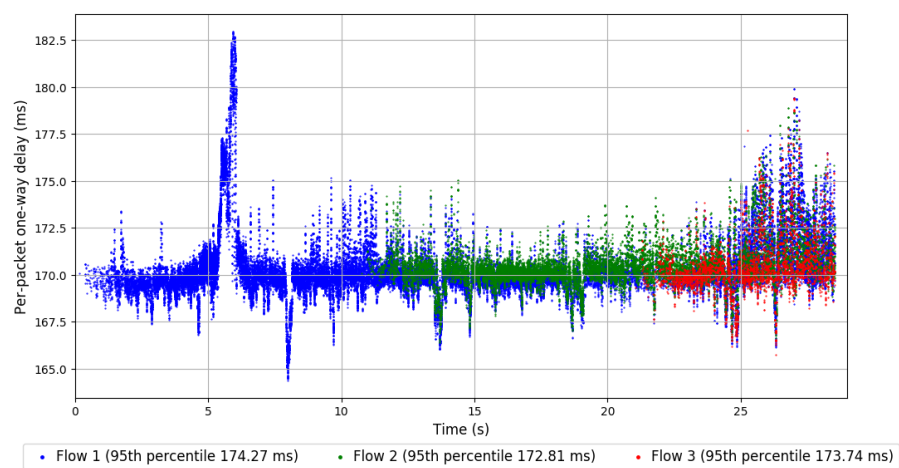
Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-22 03:08:02
End at: 2019-01-22 03:08:32
Local clock offset: -1.414 ms
Remote clock offset: 6.933 ms

# Below is generated by plot.py at 2019-01-22 06:27:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.81 Mbit/s
95th percentile per-packet one-way delay: 173.821 ms
Loss rate: 13.44%
-- Flow 1:
Average throughput: 26.39 Mbit/s
95th percentile per-packet one-way delay: 174.269 ms
Loss rate: 14.89%
-- Flow 2:
Average throughput: 12.16 Mbit/s
95th percentile per-packet one-way delay: 172.807 ms
Loss rate: 8.37%
-- Flow 3:
Average throughput: 6.83 Mbit/s
95th percentile per-packet one-way delay: 173.741 ms
Loss rate: 12.21%
```
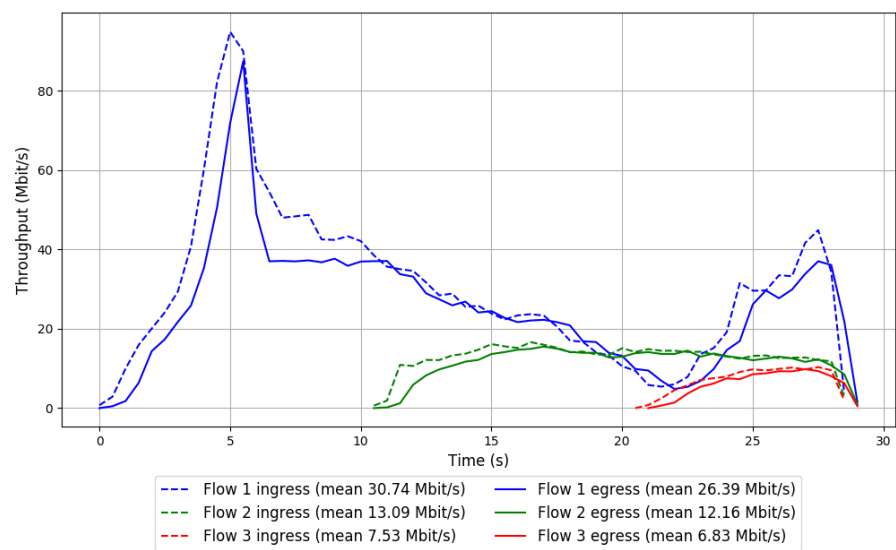
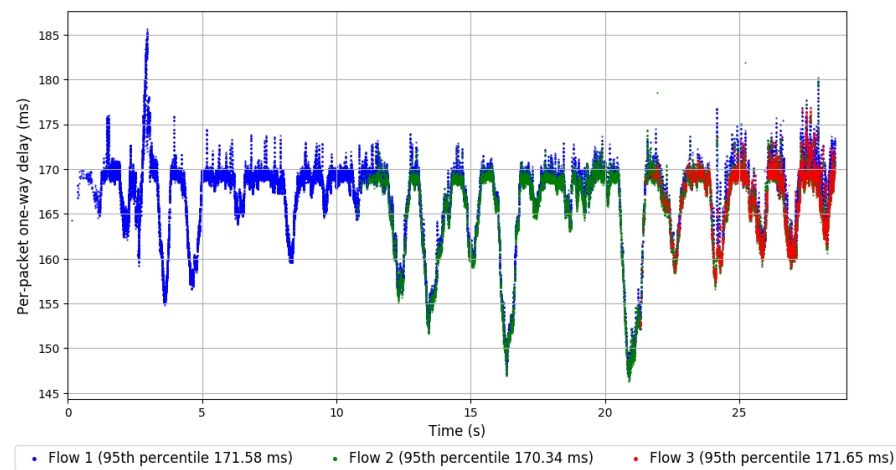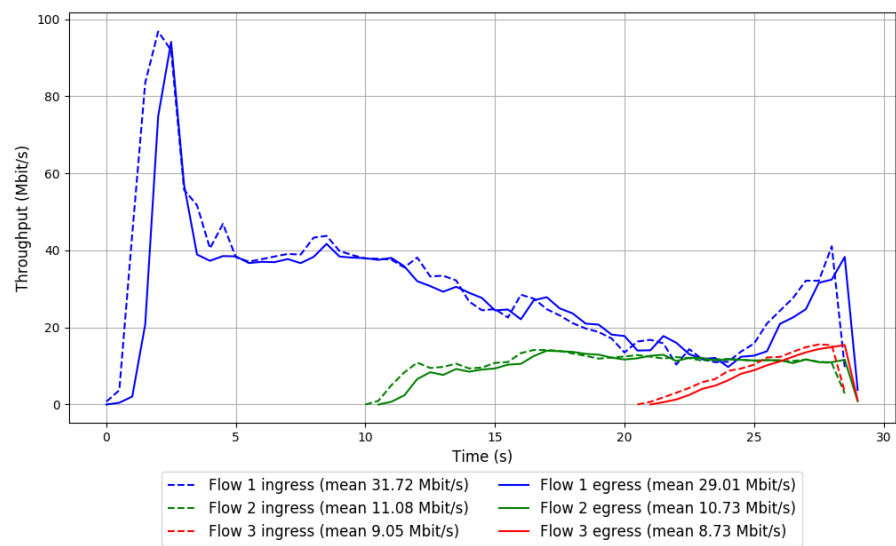Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-22 04:10:22
End at: 2019-01-22 04:10:52
Local clock offset: 2.255 ms
Remote clock offset: 90.734 ms


# Below is generated by plot.py at 2019-01-22 06:27:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.10 Mbit/s
95th percentile per-packet one-way delay: 171.370 ms
Loss rate: 8.23%
-- Flow 1:
Average throughput: 29.01 Mbit/s
95th percentile per-packet one-way delay: 171.577 ms
Loss rate: 9.24%
-- Flow 2:
Average throughput: 10.73 Mbit/s
95th percentile per-packet one-way delay: 170.335 ms
Loss rate: 4.38%
-- Flow 3:
Average throughput: 8.73 Mbit/s
95th percentile per-packet one-way delay: 171.646 ms
Loss rate: 6.17%
```

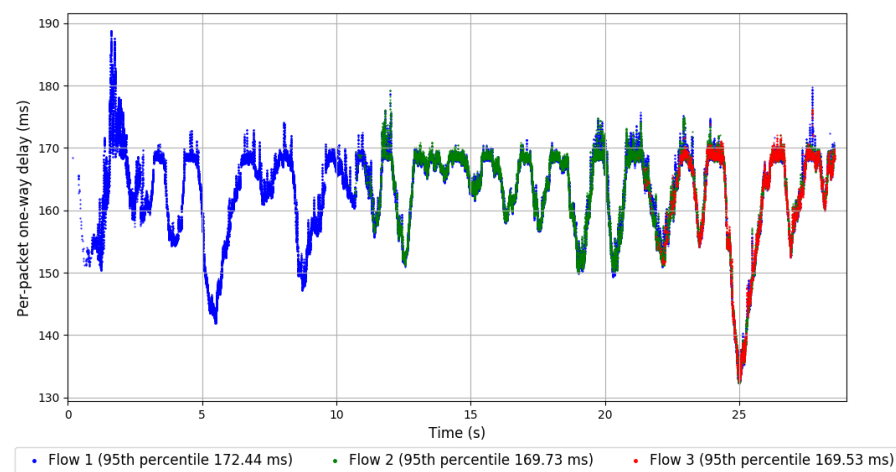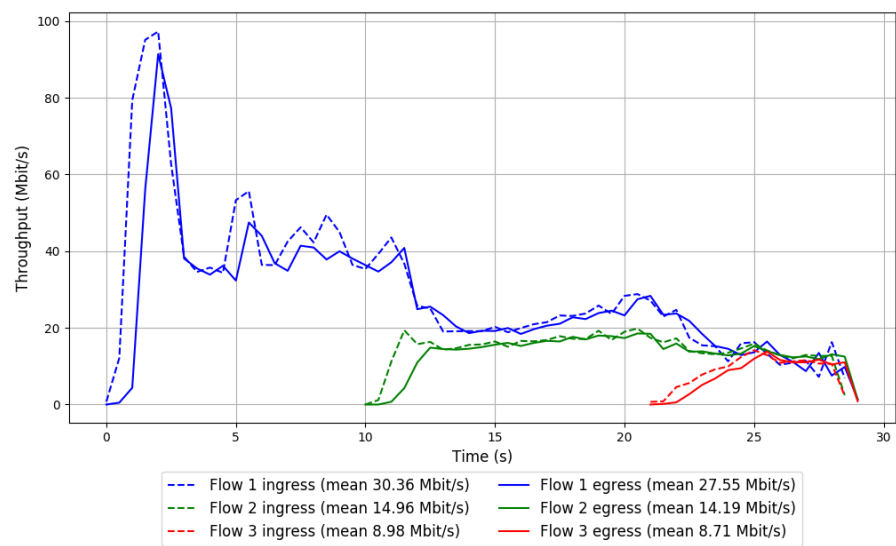# Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-22 04:52:49
End at: 2019-01-22 04:53:19
Local clock offset: 13.925 ms
Remote clock offset: 40.769 ms


# Below is generated by plot.py at 2019-01-22 06:27:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.83 Mbit/s
95th percentile per-packet one-way delay: 171.519 ms
Loss rate: 8.90%
-- Flow 1:
Average throughput: 27.55 Mbit/s
95th percentile per-packet one-way delay: 172.443 ms
Loss rate: 9.96%
-- Flow 2:
Average throughput: 14.19 Mbit/s
95th percentile per-packet one-way delay: 169.733 ms
Loss rate: 6.28%
-- Flow 3:
Average throughput: 8.71 Mbit/s
95th percentile per-packet one-way delay: 169.530 ms
Loss rate: 5.91%
```

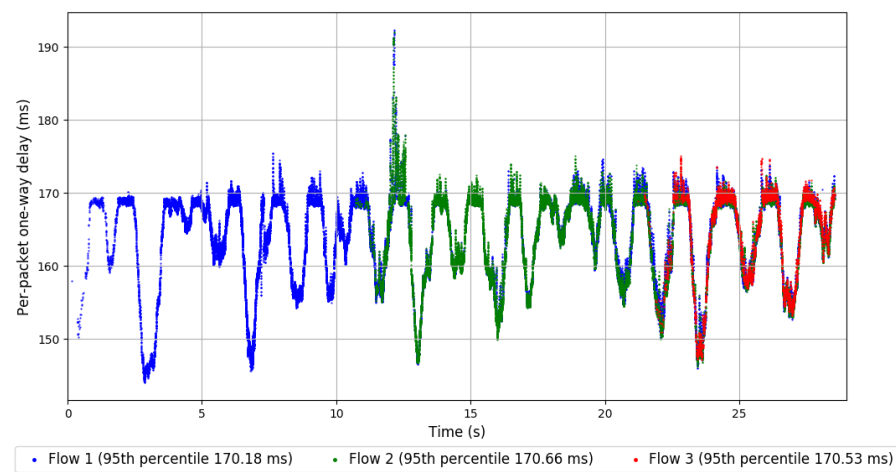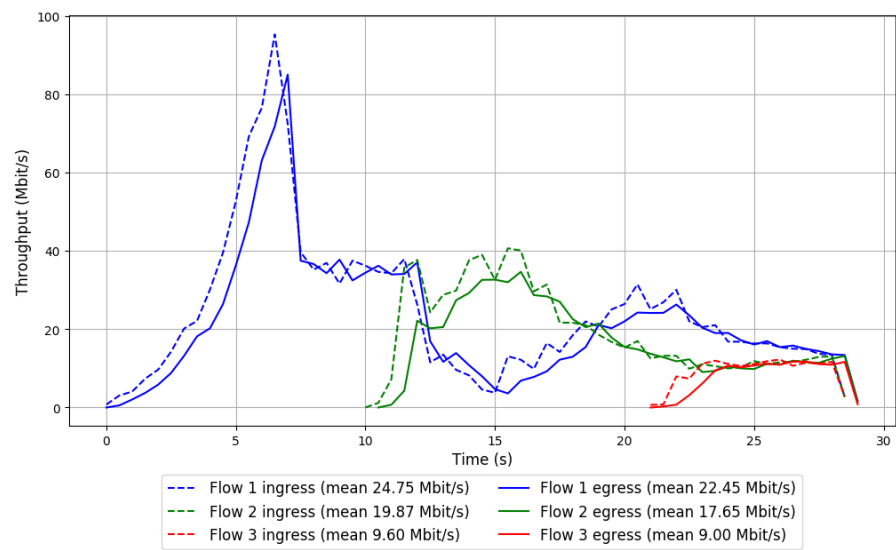# Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-22 05:33:03
End at: 2019-01-22 05:33:33
Local clock offset: 3.429 ms
Remote clock offset: 44.076 ms


# Below is generated by plot.py at 2019-01-22 06:27:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.98 Mbit/s
95th percentile per-packet one-way delay: 170.346 ms
Loss rate: 10.63%
-- Flow 1:
Average throughput: 22.45 Mbit/s
95th percentile per-packet one-way delay: 170.181 ms
Loss rate: 9.98%
-- Flow 2:
Average throughput: 17.65 Mbit/s
95th percentile per-packet one-way delay: 170.660 ms
Loss rate: 12.21%
-- Flow 3:
Average throughput: 9.00 Mbit/s
95th percentile per-packet one-way delay: 170.528 ms
Loss rate: 9.05%
```

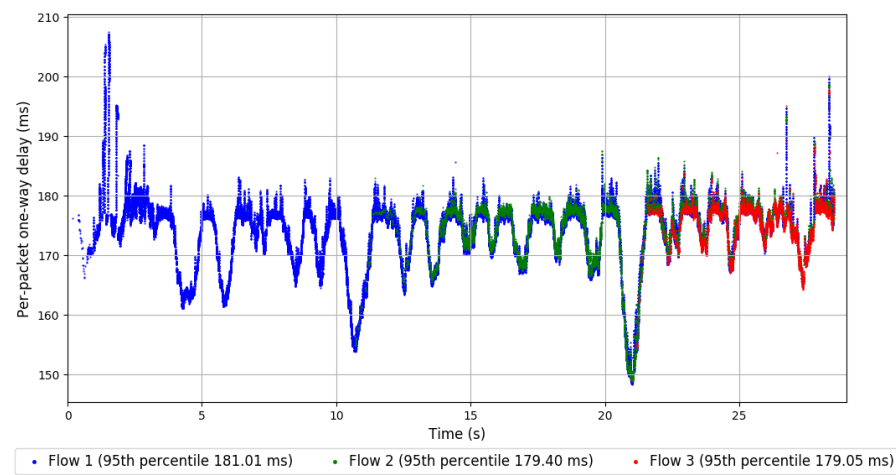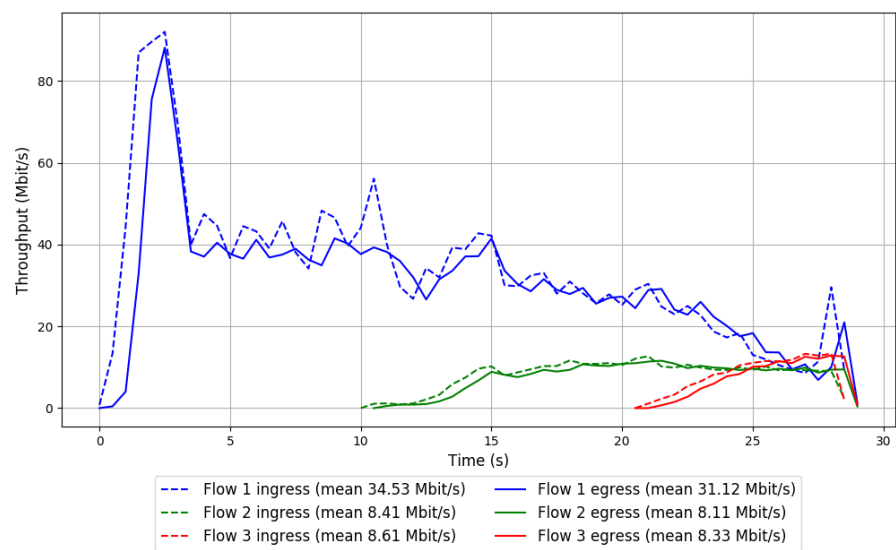Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-22 06:21:39
End at: 2019-01-22 06:22:09
Local clock offset: -4.25 ms
Remote clock offset: 29.832 ms


# Below is generated by plot.py at 2019-01-22 06:27:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.48 Mbit/s
95th percentile per-packet one-way delay: 180.697 ms
Loss rate: 9.61%
-- Flow 1:
Average throughput: 31.12 Mbit/s
95th percentile per-packet one-way delay: 181.009 ms
Loss rate: 10.62%
-- Flow 2:
Average throughput: 8.11 Mbit/s
95th percentile per-packet one-way delay: 179.396 ms
Loss rate: 4.83%
-- Flow 3:
Average throughput: 8.33 Mbit/s
95th percentile per-packet one-way delay: 179.048 ms
Loss rate: 5.73%
```

Run 5: Report of Indigo-MusesT — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2019-01-22 02:47:02
End at: 2019-01-22 02:47:32
Local clock offset: -4.117 ms
Remote clock offset: 1.89 ms


# Below is generated by plot.py at 2019-01-22 06:27:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 173.703 ms
Loss rate: 2.09%
-- Flow 1:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 173.783 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 173.126 ms
Loss rate: 2.63%
-- Flow 3:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 173.746 ms
Loss rate: 3.66%
```
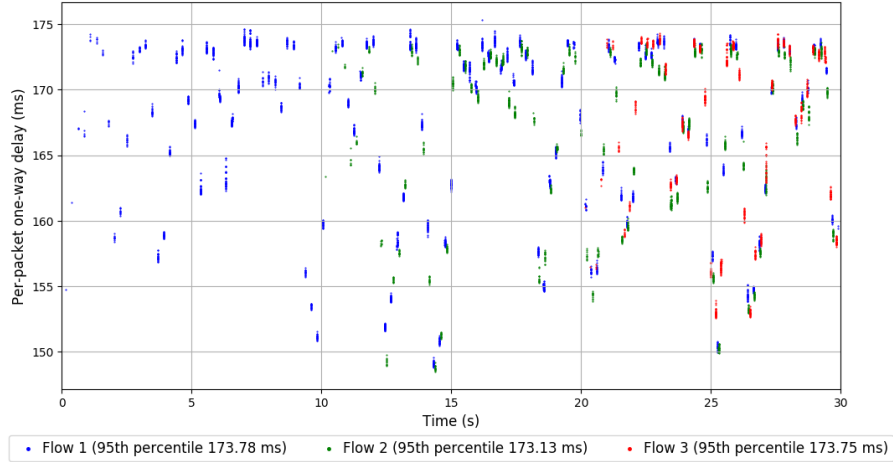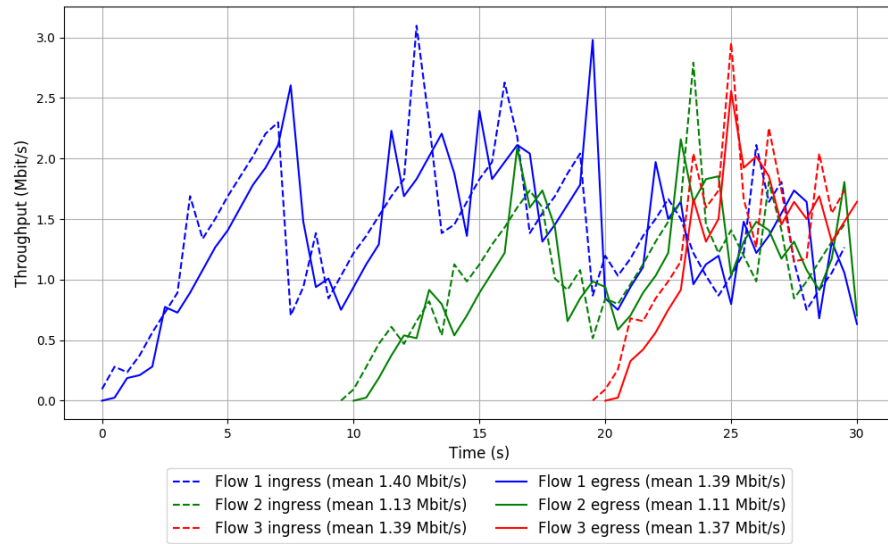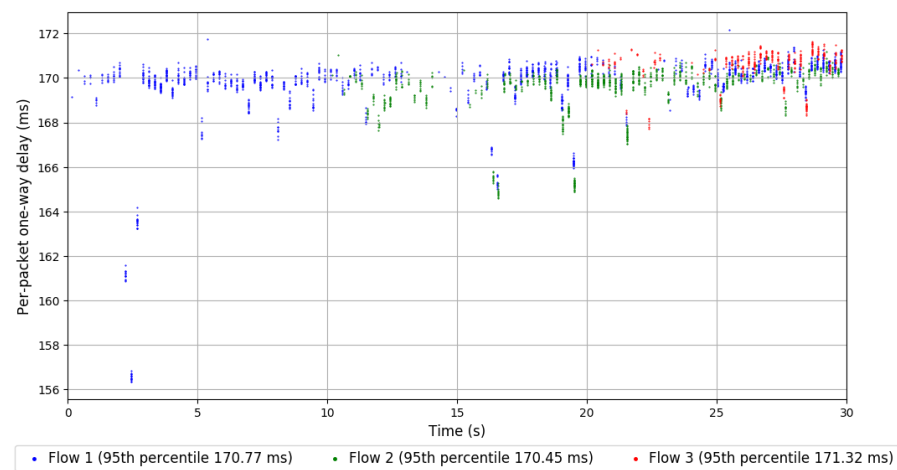
Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 1.40 Mbit/s)   Flow 1 egress (mean 1.39 Mbit/s)
Flow 2 ingress (mean 1.13 Mbit/s)   Flow 2 egress (mean 1.11 Mbit/s)
Flow 3 ingress (mean 1.39 Mbit/s)   Flow 3 egress (mean 1.37 Mbit/s)

Flow 1 (95th percentile 173.78 ms)   Flow 2 (95th percentile 173.13 ms)   Flow 3 (95th percentile 173.75 ms)
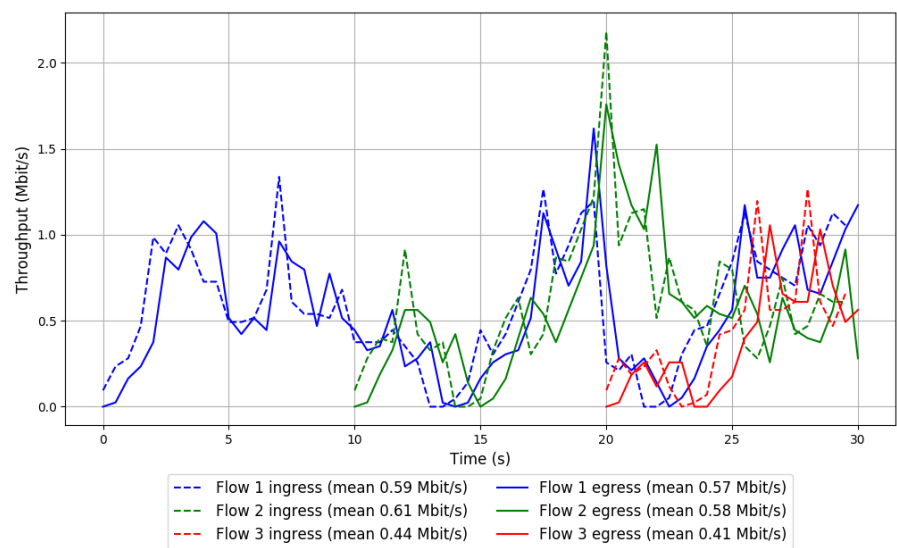
```
Run 2: Statistics of LEDBAT

Start at: 2019-01-22 03:46:33
End at: 2019-01-22 03:47:03
Local clock offset: -1.372 ms
Remote clock offset: 64.603 ms


# Below is generated by plot.py at 2019-01-22 06:27:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 170.949 ms
Loss rate: 4.87%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 170.768 ms
Loss rate: 4.09%
-- Flow 2:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 170.452 ms
Loss rate: 4.79%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 171.321 ms
Loss rate: 8.21%
```
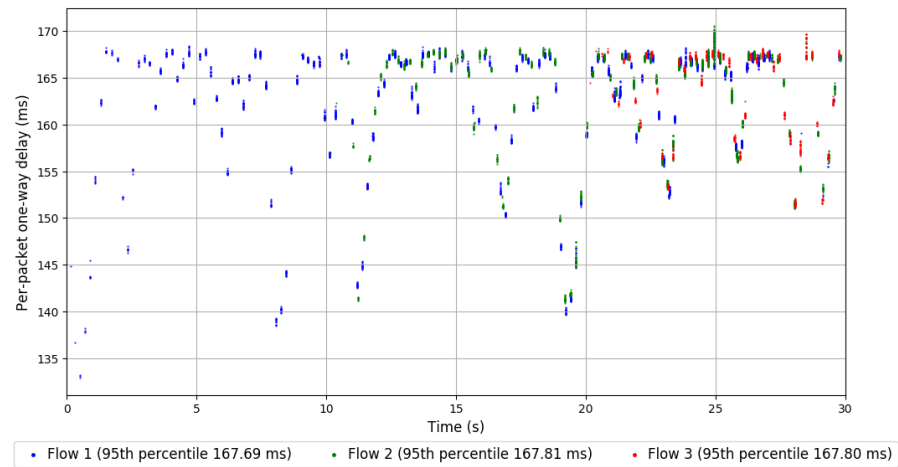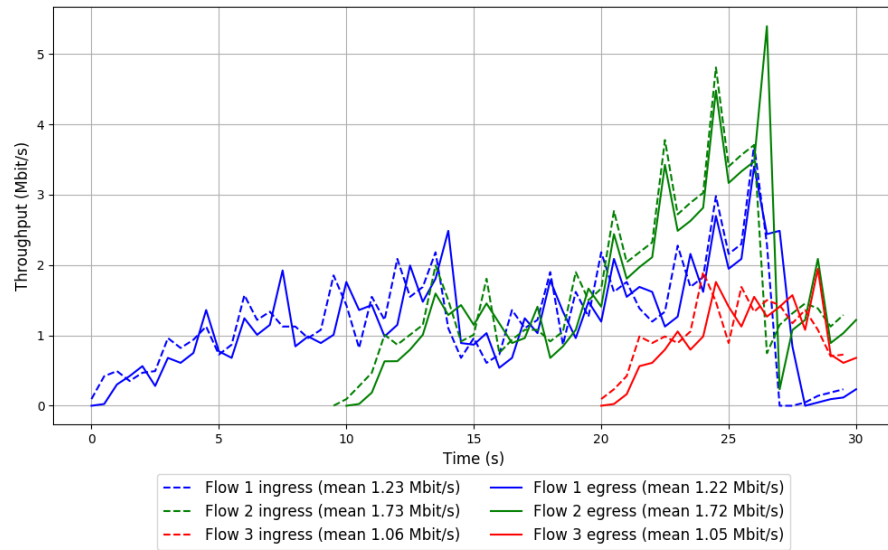
Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 0.59 Mbit/s)   Flow 1 egress (mean 0.57 Mbit/s)
Flow 2 ingress (mean 0.61 Mbit/s)   Flow 2 egress (mean 0.58 Mbit/s)
Flow 3 ingress (mean 0.44 Mbit/s)   Flow 3 egress (mean 0.41 Mbit/s)

Flow 1 (95th percentile 170.77 ms)   Flow 2 (95th percentile 170.45 ms)   Flow 3 (95th percentile 171.32 ms)

```
Run 3: Statistics of LEDBAT

Start at: 2019-01-22 04:33:14
End at: 2019-01-22 04:33:44
Local clock offset: 9.526 ms
Remote clock offset: 28.627 ms

# Below is generated by plot.py at 2019-01-22 06:27:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.70 Mbit/s
95th percentile per-packet one-way delay: 167.759 ms
Loss rate: 1.57%
-- Flow 1:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 167.690 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 167.814 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 167.804 ms
Loss rate: 3.38%
```
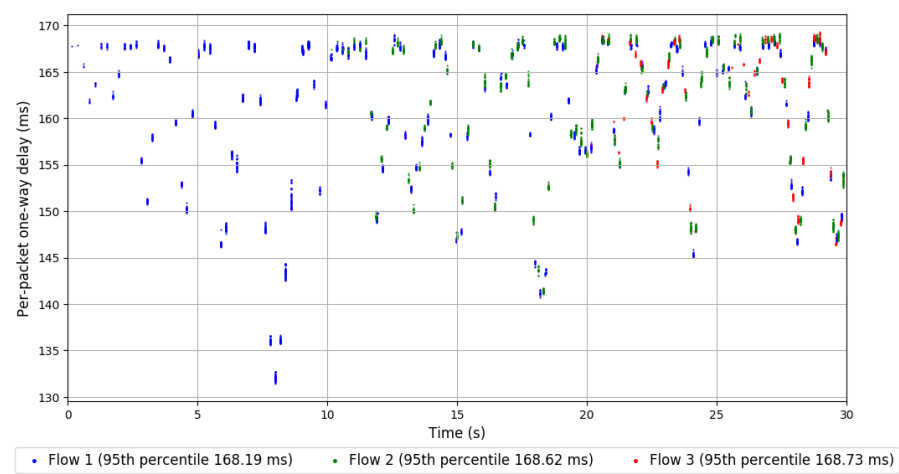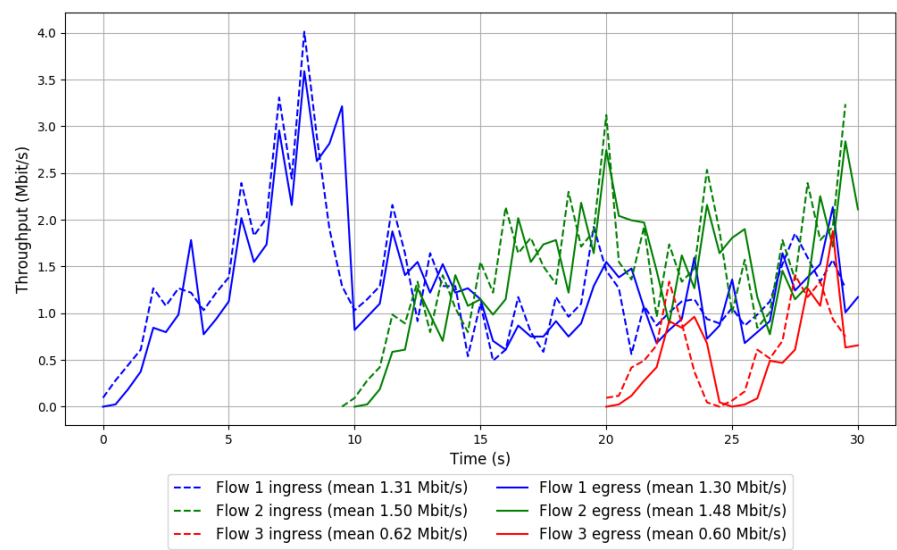
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2019-01-22 05:14:31
End at: 2019-01-22 05:15:01
Local clock offset: 17.258 ms
Remote clock offset: 39.972 ms


# Below is generated by plot.py at 2019-01-22 06:27:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 168.493 ms
Loss rate: 2.20%
-- Flow 1:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 168.188 ms
Loss rate: 1.65%
-- Flow 2:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 168.623 ms
Loss rate: 2.35%
-- Flow 3:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 168.727 ms
Loss rate: 5.04%
```

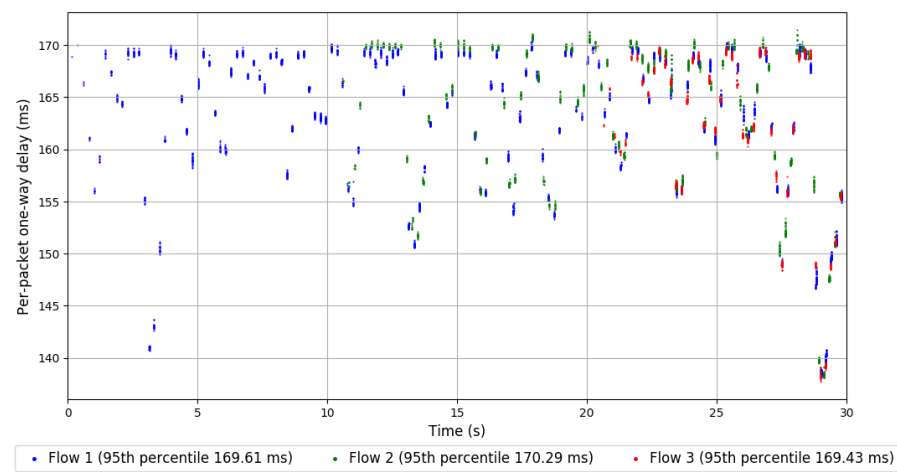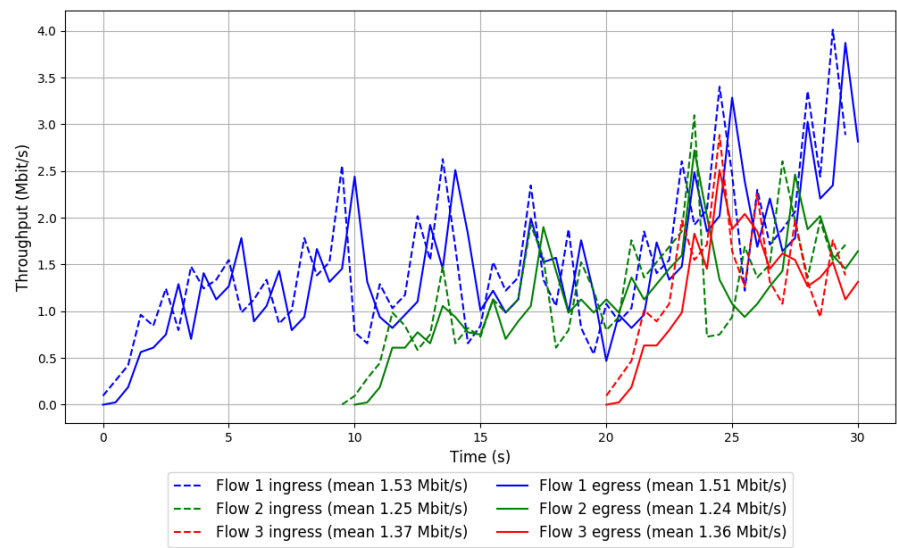# Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-01-22 06:01:38
End at: 2019-01-22 06:02:08
Local clock offset: -1.082 ms
Remote clock offset: 34.543 ms


# Below is generated by plot.py at 2019-01-22 06:27:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.76 Mbit/s
95th percentile per-packet one-way delay: 169.928 ms
Loss rate: 2.46%
-- Flow 1:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 169.609 ms
Loss rate: 2.23%
-- Flow 2:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 170.295 ms
Loss rate: 2.55%
-- Flow 3:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 169.431 ms
Loss rate: 3.06%
```

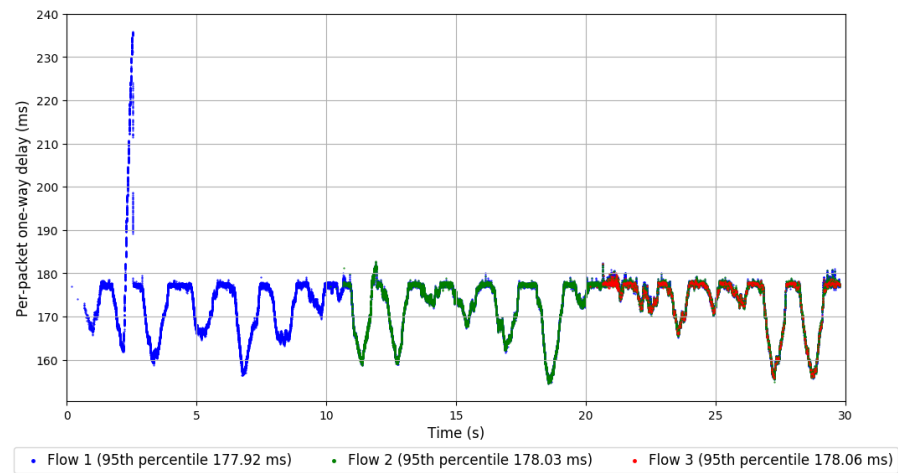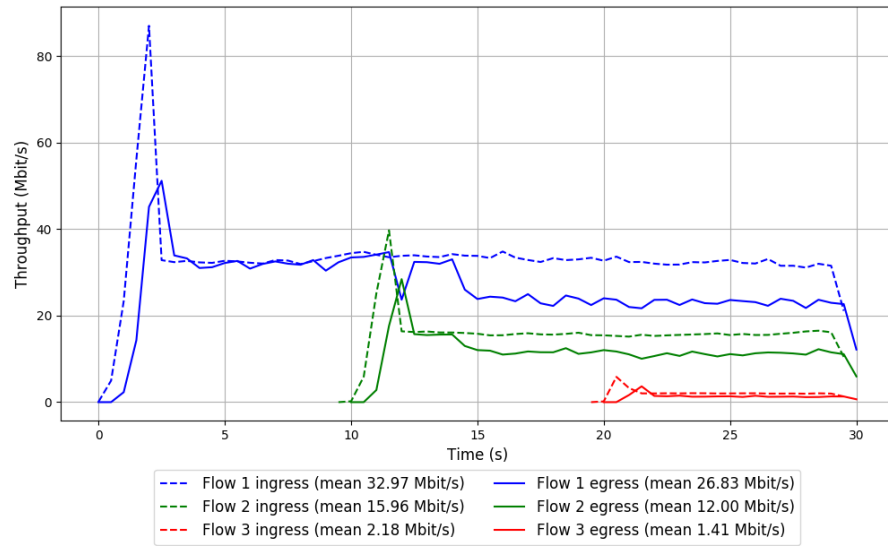## Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-22 02:40:55
End at: 2019-01-22 02:41:25
Local clock offset: -2.483 ms
Remote clock offset: -0.835 ms


# Below is generated by plot.py at 2019-01-22 06:27:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.23 Mbit/s
95th percentile per-packet one-way delay: 177.957 ms
Loss rate: 21.13%
-- Flow 1:
Average throughput: 26.83 Mbit/s
95th percentile per-packet one-way delay: 177.923 ms
Loss rate: 19.28%
-- Flow 2:
Average throughput: 12.00 Mbit/s
95th percentile per-packet one-way delay: 178.028 ms
Loss rate: 25.77%
-- Flow 3:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 178.059 ms
Loss rate: 37.13%
```

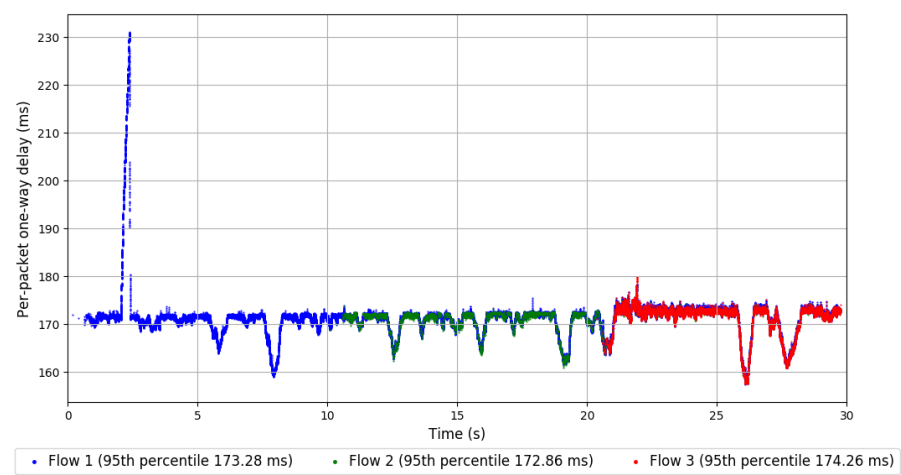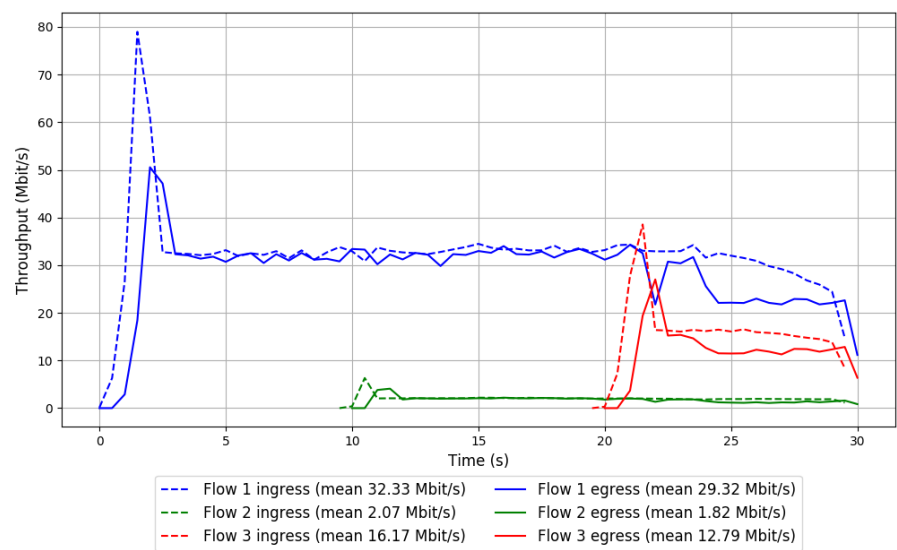Run 1: Report of PCC-Allegro — Data Link

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```
Run 2: Statistics of PCC-Allegro

Start at: 2019-01-22 03:37:30
End at: 2019-01-22 03:38:00
Local clock offset: -0.945 ms
Remote clock offset: 45.871 ms


# Below is generated by plot.py at 2019-01-22 06:27:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.68 Mbit/s
95th percentile per-packet one-way delay: 173.407 ms
Loss rate: 11.86%
-- Flow 1:
Average throughput: 29.32 Mbit/s
95th percentile per-packet one-way delay: 173.278 ms
Loss rate: 10.01%
-- Flow 2:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 172.858 ms
Loss rate: 13.18%
-- Flow 3:
Average throughput: 12.79 Mbit/s
95th percentile per-packet one-way delay: 174.262 ms
Loss rate: 22.70%
```

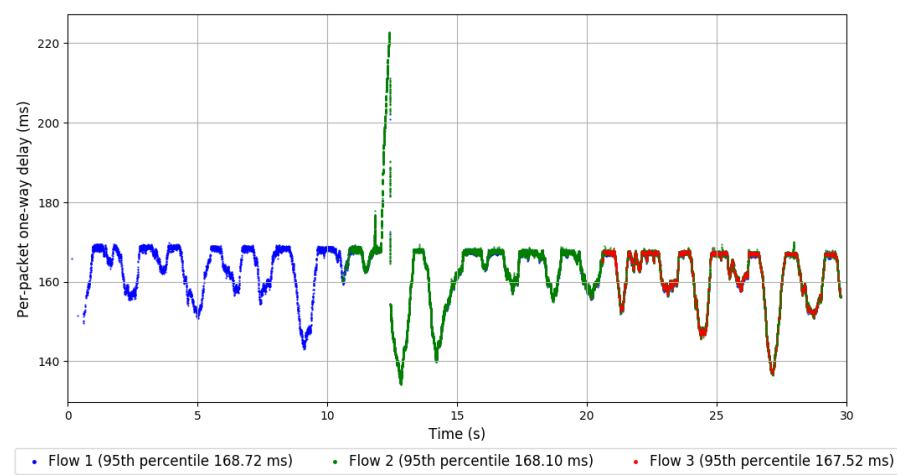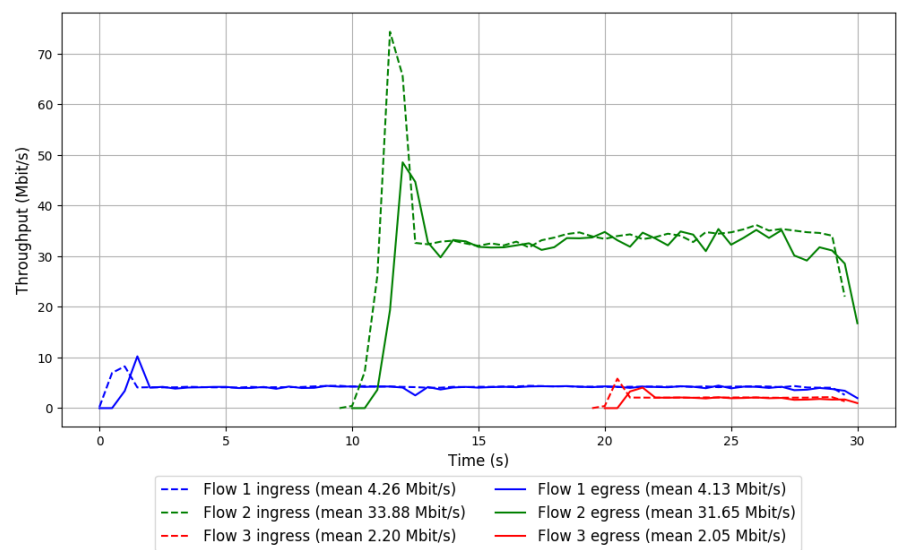## Run 2: Report of PCC-Allegro — Data Link

- - - Flow 1 ingress (mean 32.33 Mbit/s) —— Flow 1 egress (mean 29.32 Mbit/s)
- - - Flow 2 ingress (mean 2.07 Mbit/s) —— Flow 2 egress (mean 1.82 Mbit/s)
- - - Flow 3 ingress (mean 16.17 Mbit/s) —— Flow 3 egress (mean 12.79 Mbit/s)

• Flow 1 (95th percentile 173.28 ms)   • Flow 2 (95th percentile 172.86 ms)   • Flow 3 (95th percentile 174.26 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-01-22 04:27:22
End at: 2019-01-22 04:27:52
Local clock offset: 8.199 ms
Remote clock offset: 41.254 ms


# Below is generated by plot.py at 2019-01-22 06:27:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 25.78 Mbit/s
95th percentile per-packet one-way delay: 168.283 ms
Loss rate: 7.10%
-- Flow 1:
Average throughput: 4.13 Mbit/s
95th percentile per-packet one-way delay: 168.722 ms
Loss rate: 3.82%
-- Flow 2:
Average throughput: 31.65 Mbit/s
95th percentile per-packet one-way delay: 168.100 ms
Loss rate: 7.66%
-- Flow 3:
Average throughput: 2.05 Mbit/s
95th percentile per-packet one-way delay: 167.517 ms
Loss rate: 8.85%
```
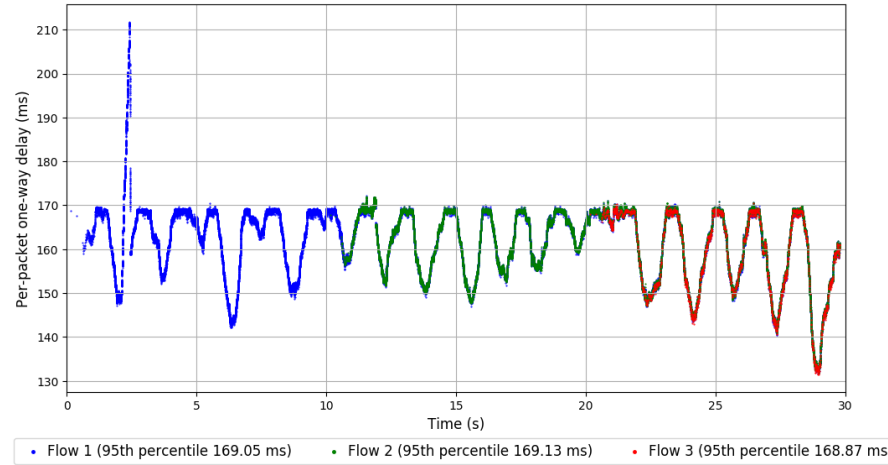
Run 3: Report of PCC-Allegro — Data Link

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```
Run 4: Statistics of PCC-Allegro

Start at: 2019-01-22 05:08:55
End at: 2019-01-22 05:09:25
Local clock offset: 16.795 ms
Remote clock offset: 34.77 ms


# Below is generated by plot.py at 2019-01-22 06:28:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.35 Mbit/s
95th percentile per-packet one-way delay: 169.062 ms
Loss rate: 12.97%
-- Flow 1:
Average throughput: 25.66 Mbit/s
95th percentile per-packet one-way delay: 169.047 ms
Loss rate: 12.43%
-- Flow 2:
Average throughput: 13.64 Mbit/s
95th percentile per-packet one-way delay: 169.126 ms
Loss rate: 14.63%
-- Flow 3:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 168.873 ms
Loss rate: 10.26%
```
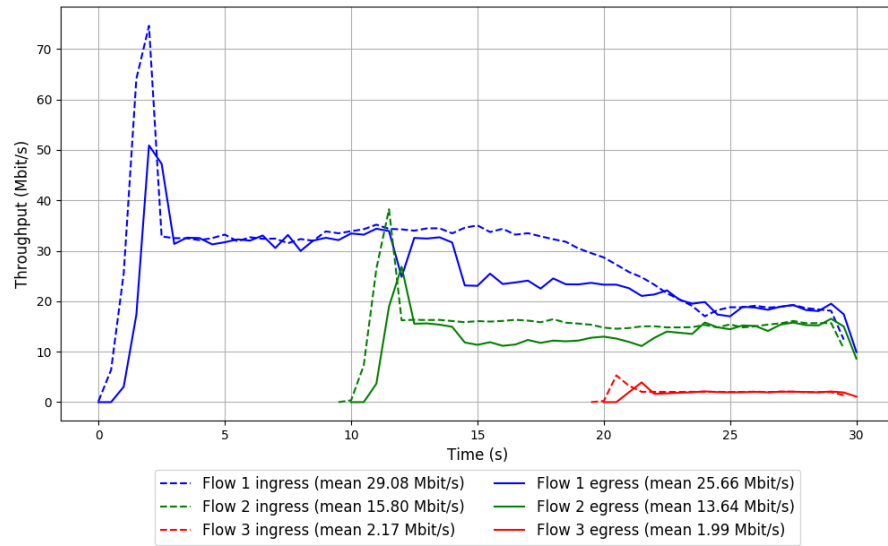
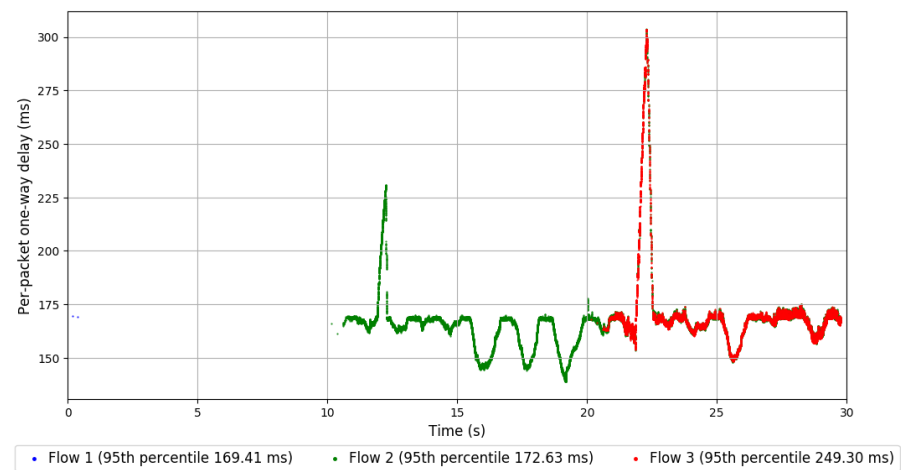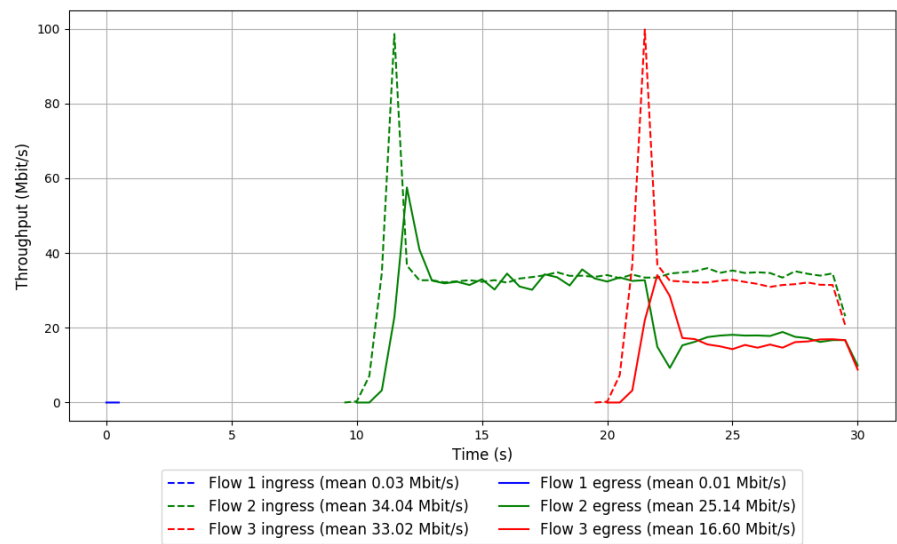## Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-01-22 05:55:07
End at: 2019-01-22 05:55:37
Local clock offset: -0.4 ms
Remote clock offset: 37.732 ms


# Below is generated by plot.py at 2019-01-22 06:28:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 22.06 Mbit/s
95th percentile per-packet one-way delay: 193.774 ms
Loss rate: 34.75%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 169.411 ms
Loss rate: 85.42%
-- Flow 2:
Average throughput: 25.14 Mbit/s
95th percentile per-packet one-way delay: 172.630 ms
Loss rate: 26.99%
-- Flow 3:
Average throughput: 16.60 Mbit/s
95th percentile per-packet one-way delay: 249.304 ms
Loss rate: 50.88%
```

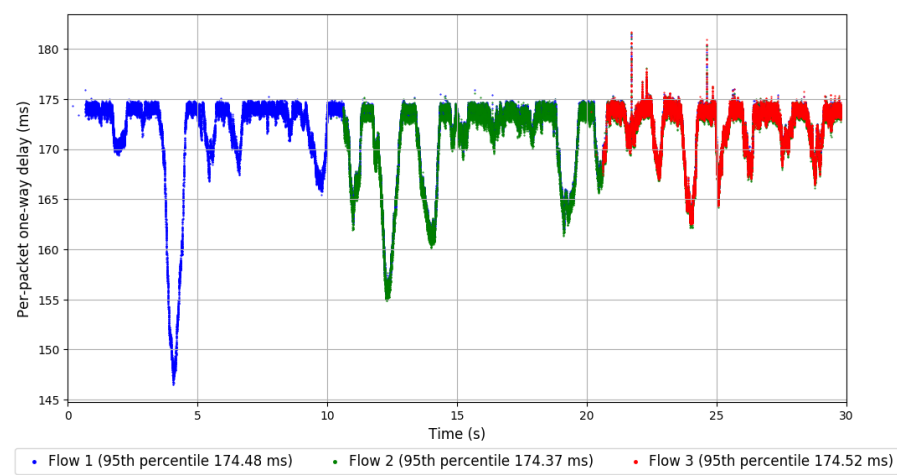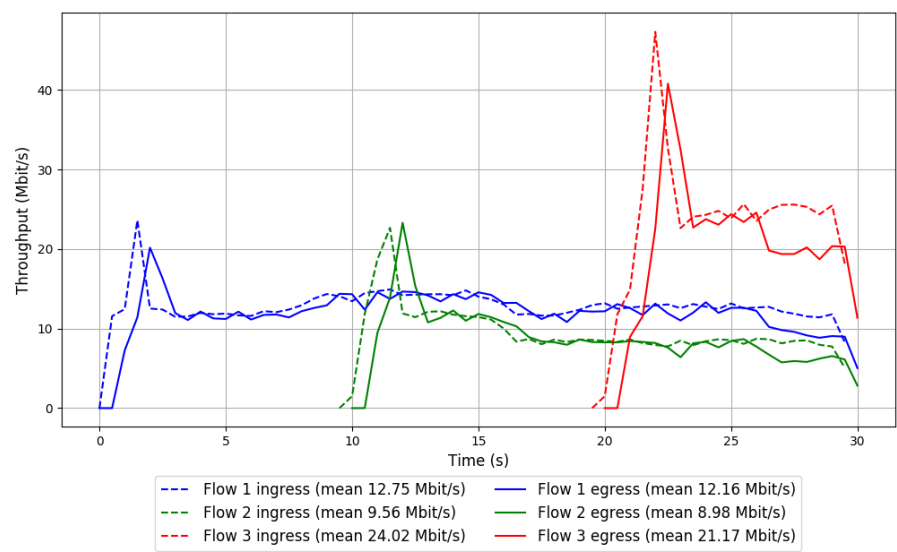## Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 0.03 Mbit/s) — — — — Flow 1 egress (mean 0.01 Mbit/s)
Flow 2 ingress (mean 34.04 Mbit/s) — — — — Flow 2 egress (mean 25.14 Mbit/s)
Flow 3 ingress (mean 33.02 Mbit/s) — — — — Flow 3 egress (mean 16.60 Mbit/s)

Flow 1 (95th percentile 169.41 ms)   Flow 2 (95th percentile 172.63 ms)   Flow 3 (95th percentile 249.30 ms)

```
Run 1: Statistics of PCC-Expr

Start at: 2019-01-22 03:00:41
End at: 2019-01-22 03:01:11
Local clock offset: -0.913 ms
Remote clock offset: 2.733 ms


# Below is generated by plot.py at 2019-01-22 06:28:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 25.00 Mbit/s
95th percentile per-packet one-way delay: 174.466 ms
Loss rate: 8.35%
-- Flow 1:
Average throughput: 12.16 Mbit/s
95th percentile per-packet one-way delay: 174.476 ms
Loss rate: 5.41%
-- Flow 2:
Average throughput: 8.98 Mbit/s
95th percentile per-packet one-way delay: 174.367 ms
Loss rate: 7.21%
-- Flow 3:
Average throughput: 21.17 Mbit/s
95th percentile per-packet one-way delay: 174.517 ms
Loss rate: 13.97%
```
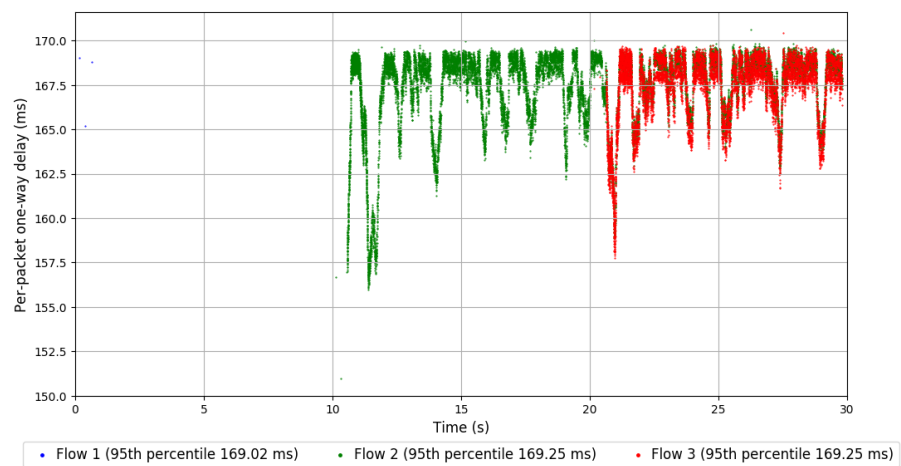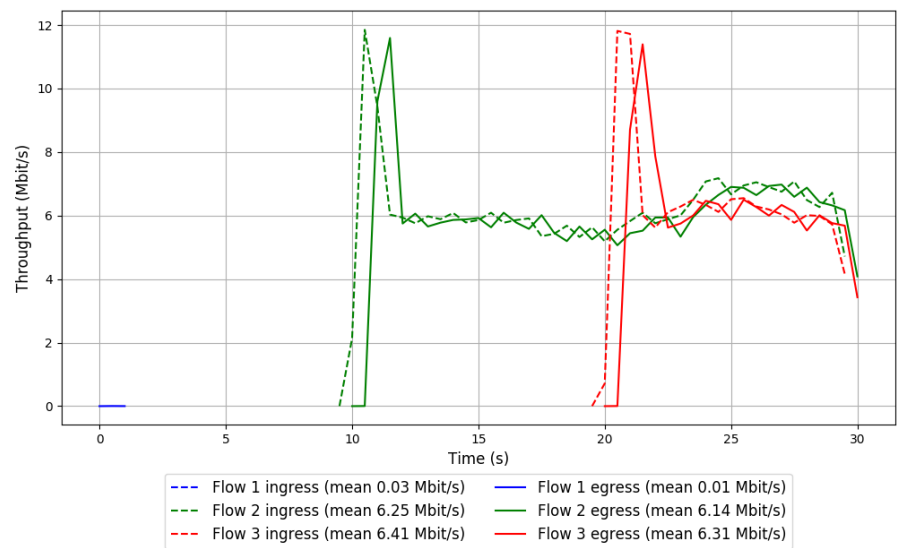
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 12.75 Mbit/s)   Flow 1 egress (mean 12.16 Mbit/s)
Flow 2 ingress (mean 9.56 Mbit/s)   Flow 2 egress (mean 8.98 Mbit/s)
Flow 3 ingress (mean 24.02 Mbit/s)   Flow 3 egress (mean 21.17 Mbit/s)

Flow 1 (95th percentile 174.48 ms)   Flow 2 (95th percentile 174.37 ms)   Flow 3 (95th percentile 174.52 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-01-22 04:04:06
End at: 2019-01-22 04:04:36
Local clock offset: 2.165 ms
Remote clock offset: 85.748 ms


# Below is generated by plot.py at 2019-01-22 06:28:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.12 Mbit/s
95th percentile per-packet one-way delay: 169.252 ms
Loss rate: 3.19%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 169.017 ms
Loss rate: 80.95%
-- Flow 2:
Average throughput: 6.14 Mbit/s
95th percentile per-packet one-way delay: 169.254 ms
Loss rate: 2.87%
-- Flow 3:
Average throughput: 6.31 Mbit/s
95th percentile per-packet one-way delay: 169.248 ms
Loss rate: 3.80%
```
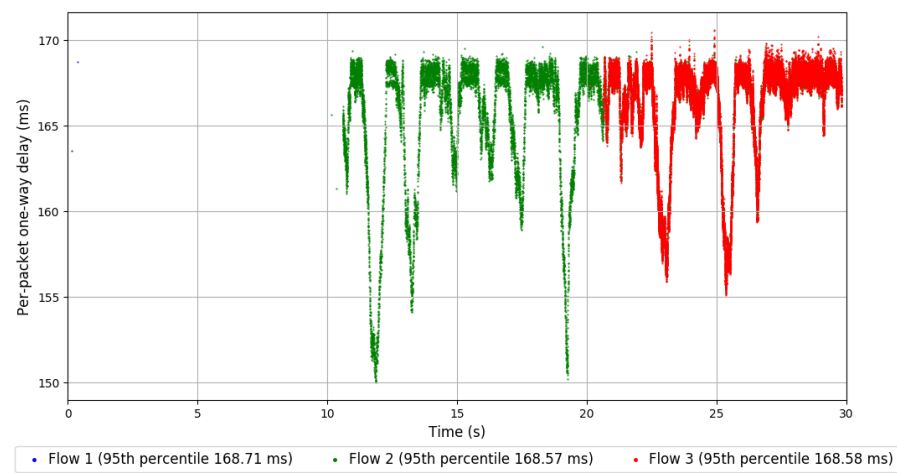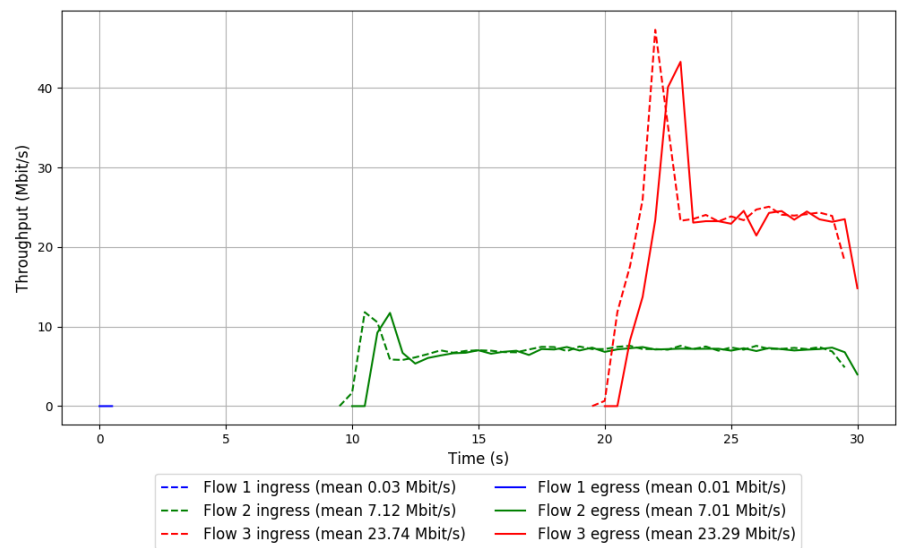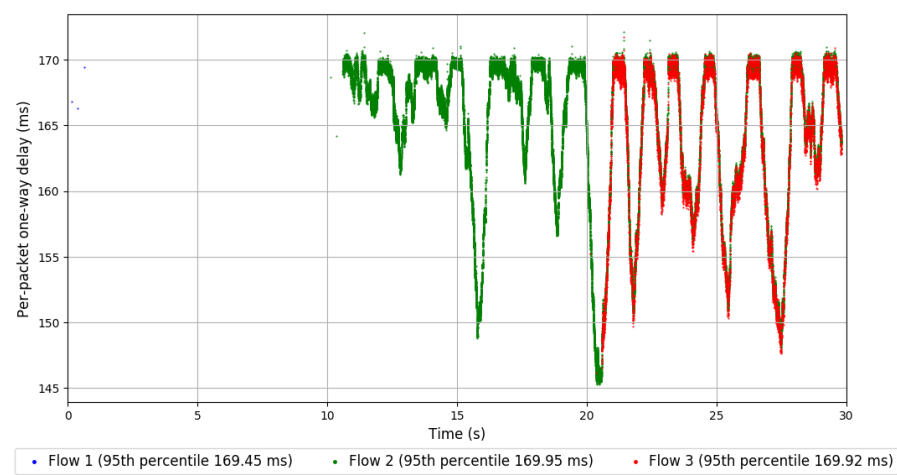
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-01-22 04:46:22
End at: 2019-01-22 04:46:52
Local clock offset: 11.435 ms
Remote clock offset: 40.02 ms


# Below is generated by plot.py at 2019-01-22 06:28:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.22 Mbit/s
95th percentile per-packet one-way delay: 168.574 ms
Loss rate: 3.60%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 168.710 ms
Loss rate: 86.15%
-- Flow 2:
Average throughput: 7.01 Mbit/s
95th percentile per-packet one-way delay: 168.568 ms
Loss rate: 2.71%
-- Flow 3:
Average throughput: 23.29 Mbit/s
95th percentile per-packet one-way delay: 168.578 ms
Loss rate: 4.13%
```
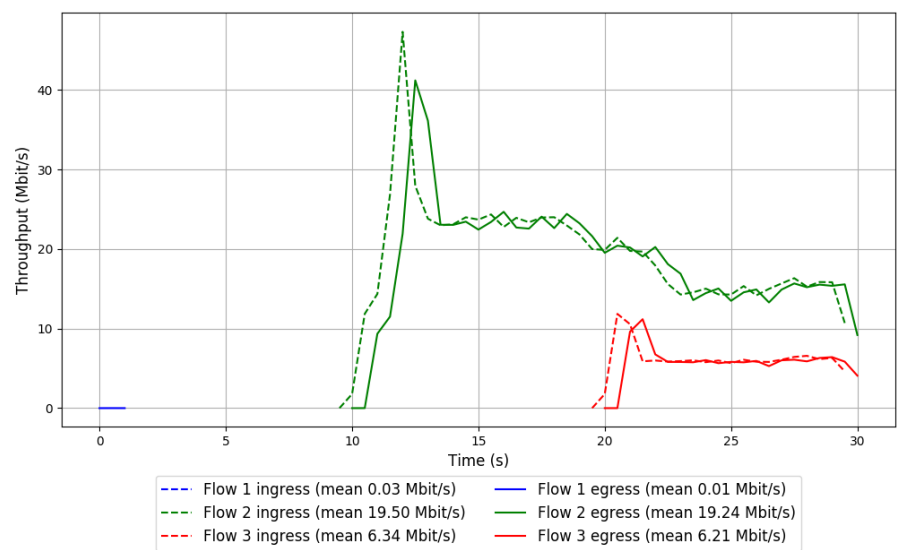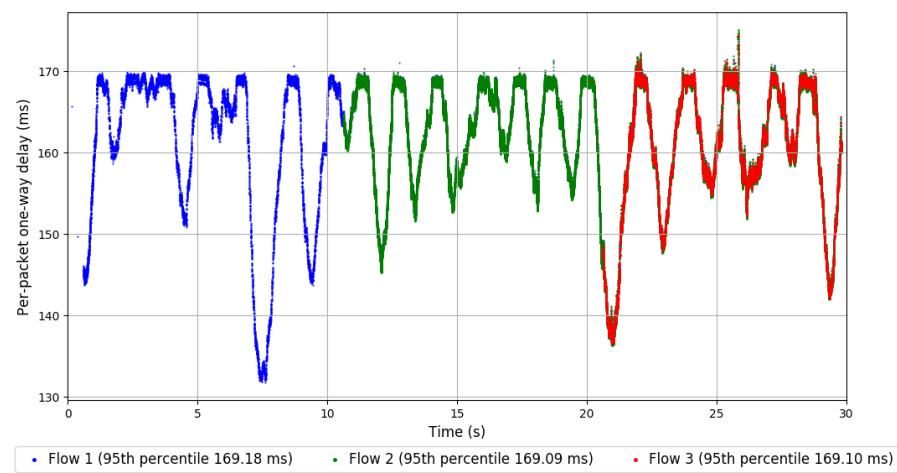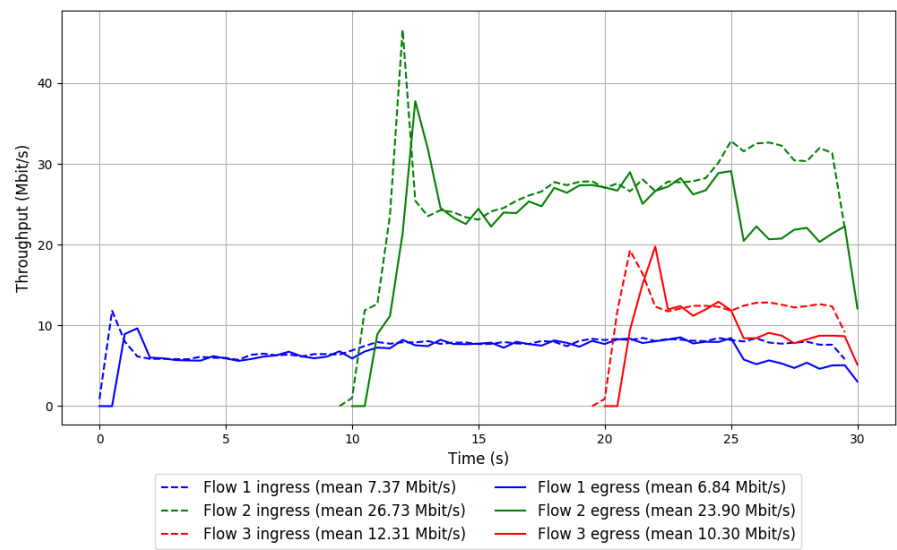
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 0.03 Mbit/s) Flow 1 egress (mean 0.01 Mbit/s)
Flow 2 ingress (mean 7.12 Mbit/s) Flow 2 egress (mean 7.01 Mbit/s)
Flow 3 ingress (mean 23.74 Mbit/s) Flow 3 egress (mean 23.29 Mbit/s)

Flow 1 (95th percentile 168.71 ms)   Flow 2 (95th percentile 168.57 ms)   Flow 3 (95th percentile 168.58 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-01-22 05:26:16
End at: 2019-01-22 05:26:46
Local clock offset: 6.726 ms
Remote clock offset: 44.347 ms


# Below is generated by plot.py at 2019-01-22 06:28:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.79 Mbit/s
95th percentile per-packet one-way delay: 169.946 ms
Loss rate: 2.69%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 169.447 ms
Loss rate: 80.95%
-- Flow 2:
Average throughput: 19.24 Mbit/s
95th percentile per-packet one-way delay: 169.948 ms
Loss rate: 2.46%
-- Flow 3:
Average throughput: 6.21 Mbit/s
95th percentile per-packet one-way delay: 169.924 ms
Loss rate: 4.10%
```

Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-01-22 06:14:29
End at: 2019-01-22 06:14:59
Local clock offset: -2.522 ms
Remote clock offset: 31.315 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 26.04 Mbit/s
95th percentile per-packet one-way delay: 169.120 ms
Loss rate: 11.61%
-- Flow 1:
Average throughput: 6.84 Mbit/s
95th percentile per-packet one-way delay: 169.177 ms
Loss rate: 7.96%
-- Flow 2:
Average throughput: 23.90 Mbit/s
95th percentile per-packet one-way delay: 169.094 ms
Loss rate: 11.61%
-- Flow 3:
Average throughput: 10.30 Mbit/s
95th percentile per-packet one-way delay: 169.103 ms
Loss rate: 18.22%
```
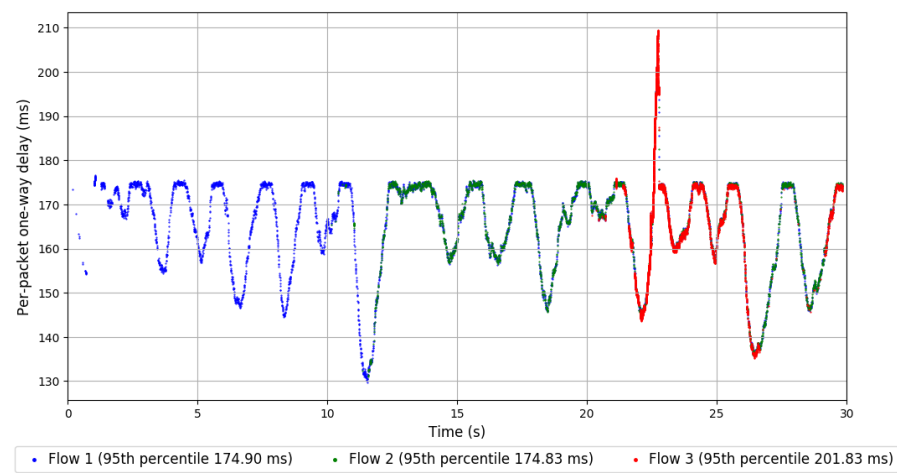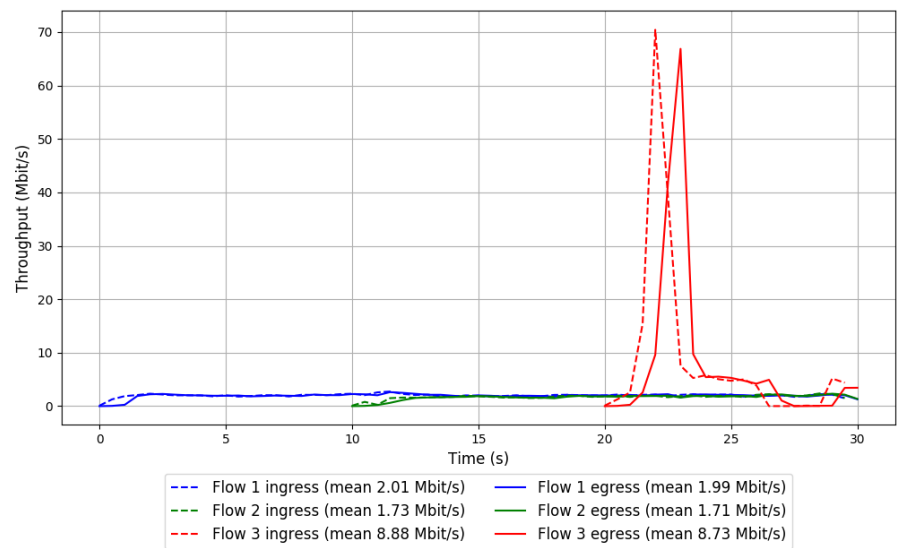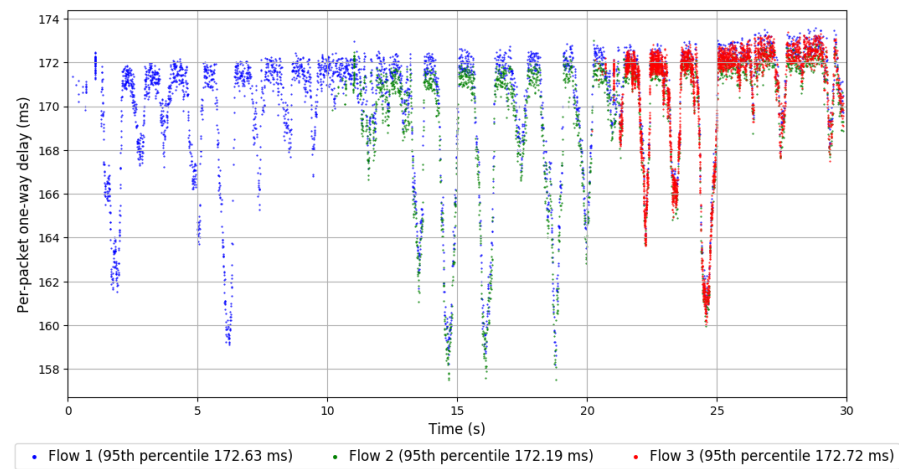
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 7.37 Mbit/s)   Flow 1 egress (mean 6.84 Mbit/s)
Flow 2 ingress (mean 26.73 Mbit/s)   Flow 2 egress (mean 23.90 Mbit/s)
Flow 3 ingress (mean 12.31 Mbit/s)   Flow 3 egress (mean 10.30 Mbit/s)

Flow 1 (95th percentile 169.18 ms)   Flow 2 (95th percentile 169.09 ms)   Flow 3 (95th percentile 169.10 ms)
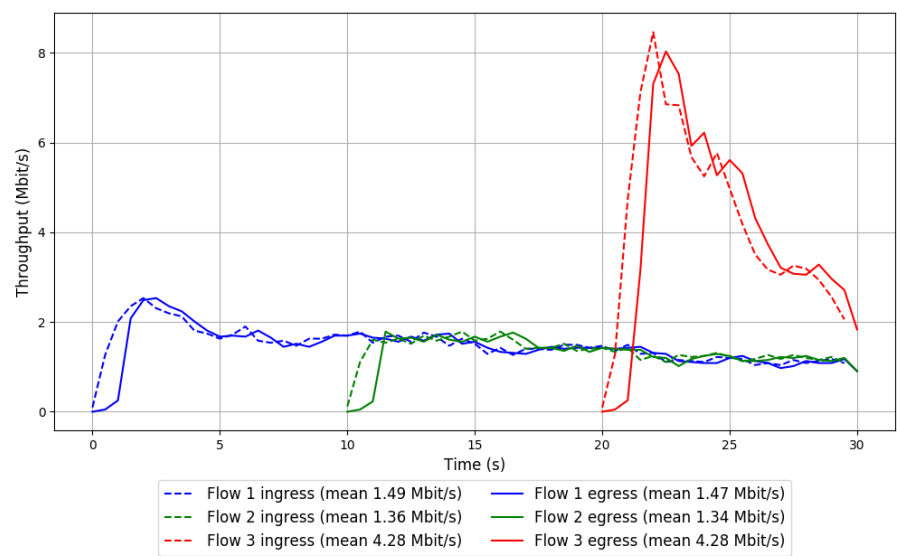
```
Run 1: Statistics of QUIC Cubic

Start at: 2019-01-22 02:39:31
End at: 2019-01-22 02:40:01
Local clock offset: -1.986 ms
Remote clock offset: 1.688 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.97 Mbit/s
95th percentile per-packet one-way delay: 196.080 ms
Loss rate: 2.93%
-- Flow 1:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 174.901 ms
Loss rate: 1.73%
-- Flow 2:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 174.829 ms
Loss rate: 2.01%
-- Flow 3:
Average throughput: 8.73 Mbit/s
95th percentile per-packet one-way delay: 201.830 ms
Loss rate: 4.10%
```
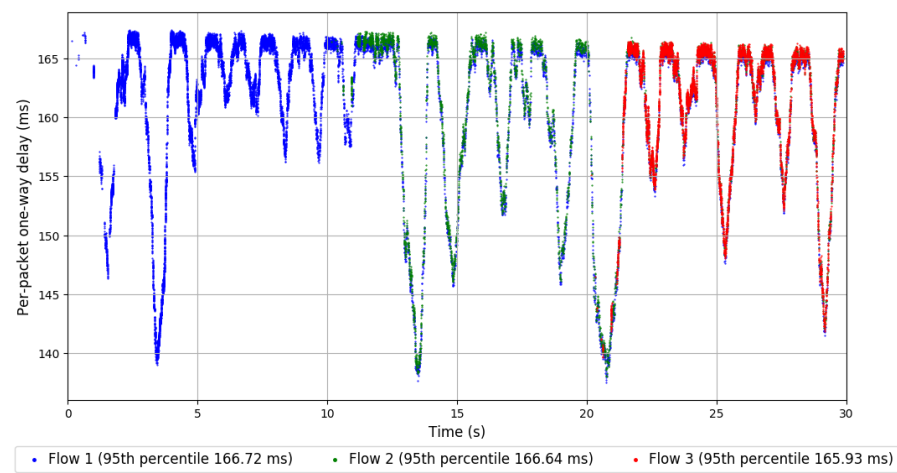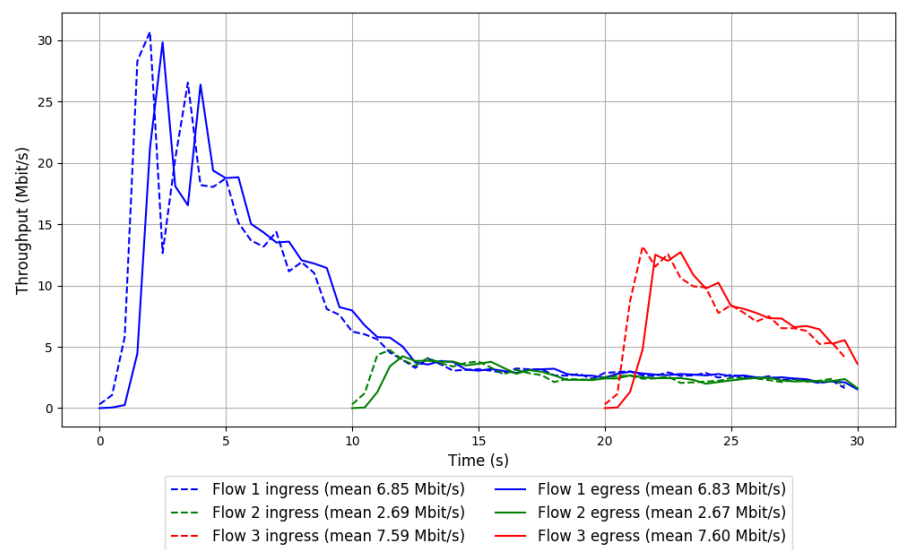
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-01-22 03:35:56
End at: 2019-01-22 03:36:26
Local clock offset: -0.617 ms
Remote clock offset: 41.971 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.75 Mbit/s
95th percentile per-packet one-way delay: 172.617 ms
Loss rate: 2.43%
-- Flow 1:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 172.633 ms
Loss rate: 2.23%
-- Flow 2:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 172.185 ms
Loss rate: 2.72%
-- Flow 3:
Average throughput: 4.28 Mbit/s
95th percentile per-packet one-way delay: 172.725 ms
Loss rate: 2.45%
```
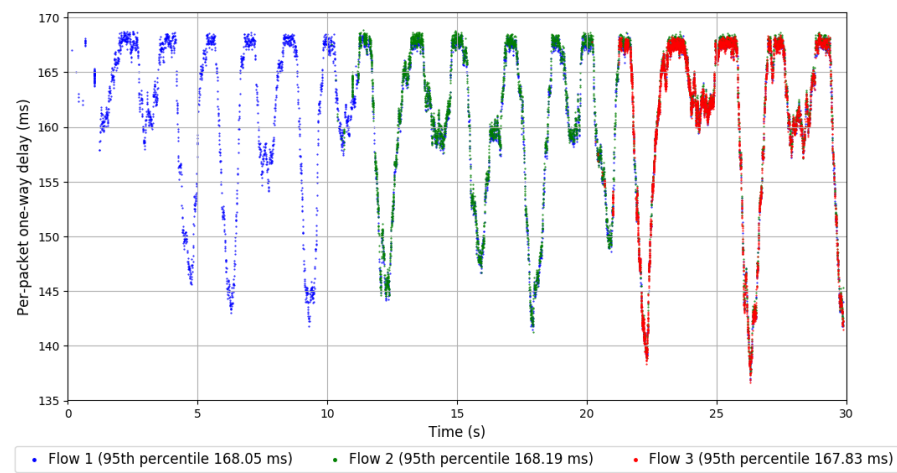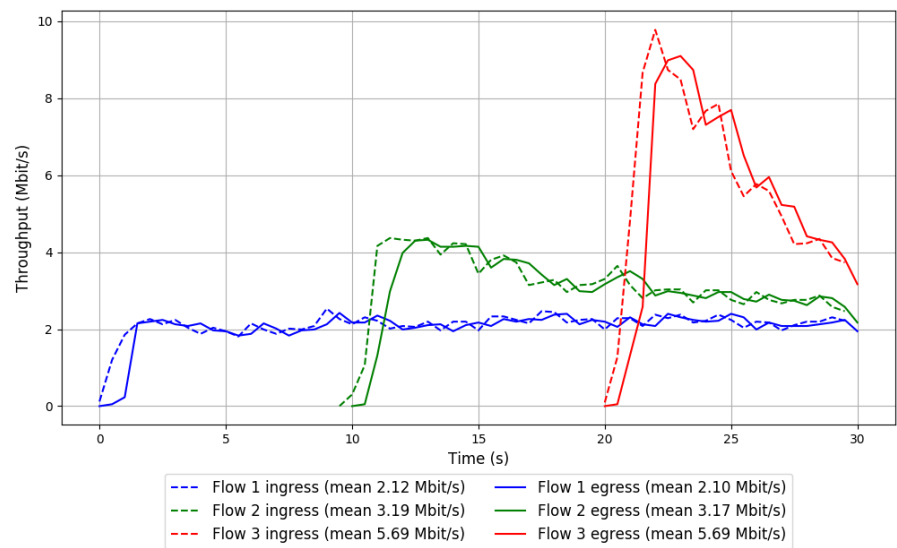
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-01-22 04:25:49
End at: 2019-01-22 04:26:19
Local clock offset: 7.598 ms
Remote clock offset: 47.445 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.08 Mbit/s
95th percentile per-packet one-way delay: 166.644 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 6.83 Mbit/s
95th percentile per-packet one-way delay: 166.723 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 2.67 Mbit/s
95th percentile per-packet one-way delay: 166.639 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 165.927 ms
Loss rate: 2.08%
```
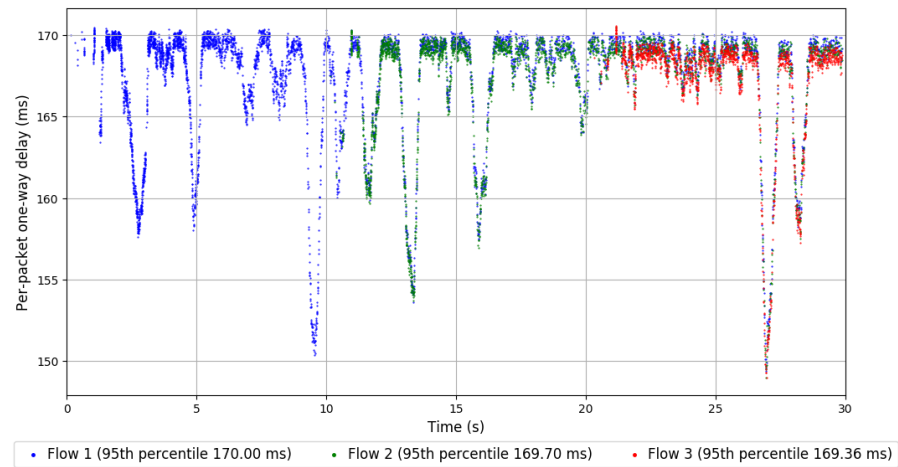
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 6.85 Mbit/s)   Flow 1 egress (mean 6.83 Mbit/s)
Flow 2 ingress (mean 2.69 Mbit/s)   Flow 2 egress (mean 2.67 Mbit/s)
Flow 3 ingress (mean 7.59 Mbit/s)   Flow 3 egress (mean 7.60 Mbit/s)

Flow 1 (95th percentile 166.72 ms)   Flow 2 (95th percentile 166.64 ms)   Flow 3 (95th percentile 165.93 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-01-22 05:07:28
End at: 2019-01-22 05:07:58
Local clock offset: 16.434 ms
Remote clock offset: 35.682 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.06 Mbit/s
95th percentile per-packet one-way delay: 168.049 ms
Loss rate: 1.80%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 168.049 ms
Loss rate: 1.54%
-- Flow 2:
Average throughput: 3.17 Mbit/s
95th percentile per-packet one-way delay: 168.189 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 5.69 Mbit/s
95th percentile per-packet one-way delay: 167.833 ms
Loss rate: 2.31%
```
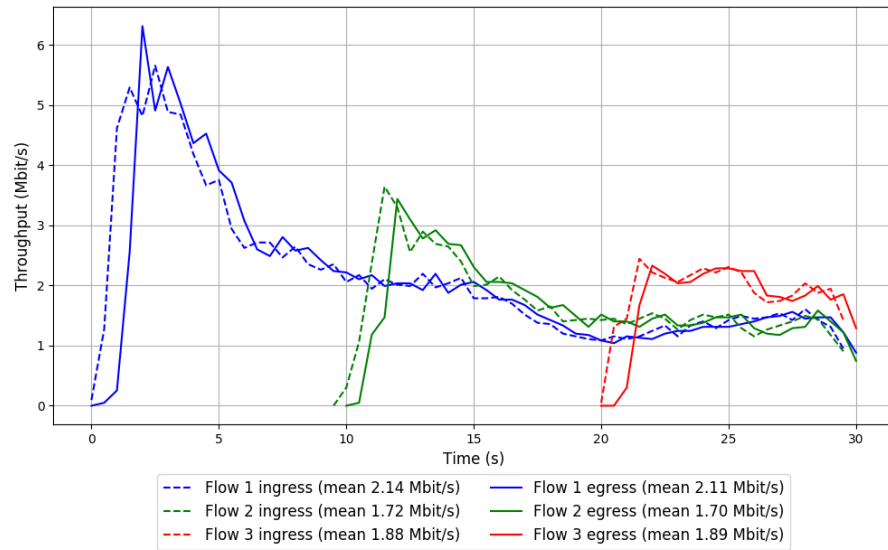
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-01-22 05:53:43
End at: 2019-01-22 05:54:13
Local clock offset: -0.31 ms
Remote clock offset: 38.08 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.85 Mbit/s
95th percentile per-packet one-way delay: 169.898 ms
Loss rate: 2.35%
-- Flow 1:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 169.998 ms
Loss rate: 1.96%
-- Flow 2:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 169.700 ms
Loss rate: 2.38%
-- Flow 3:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 169.356 ms
Loss rate: 3.64%
```
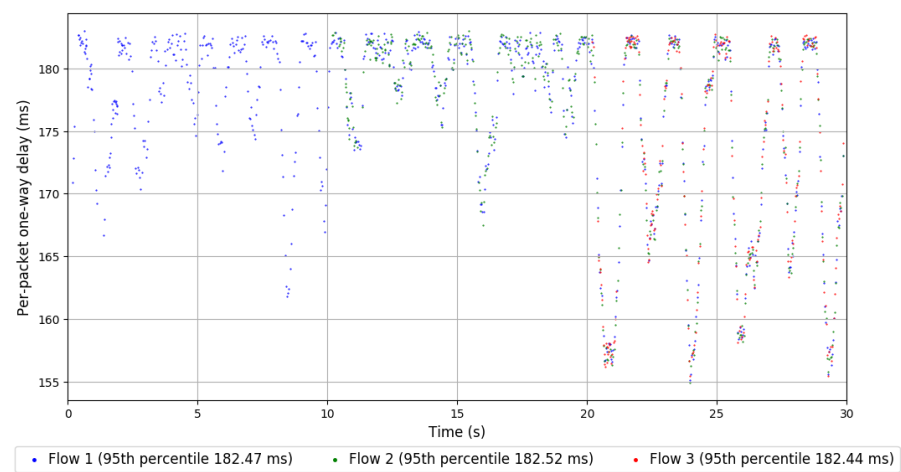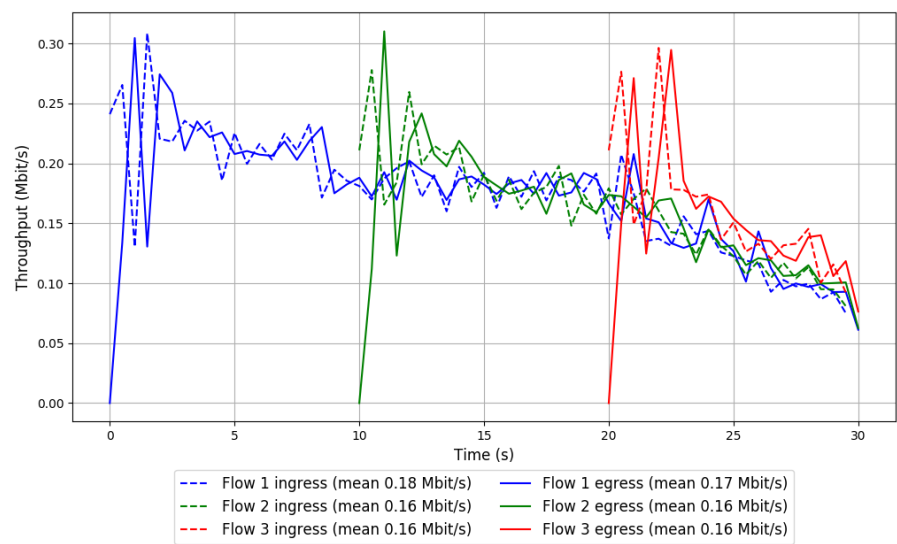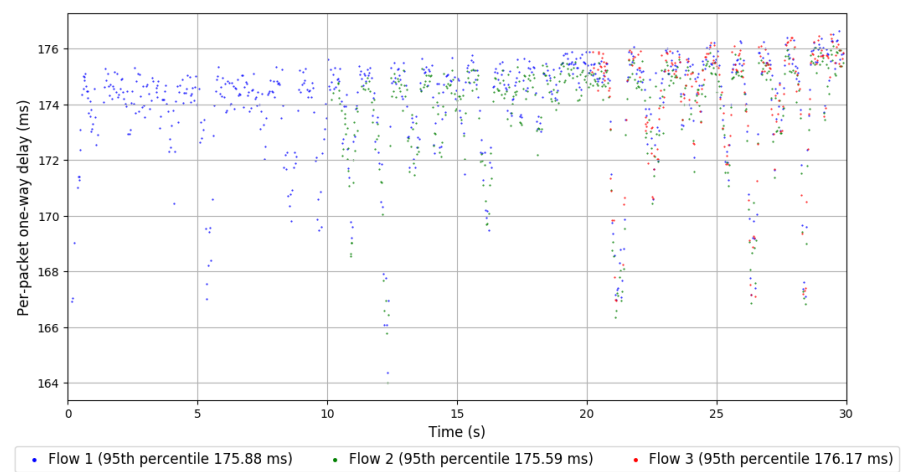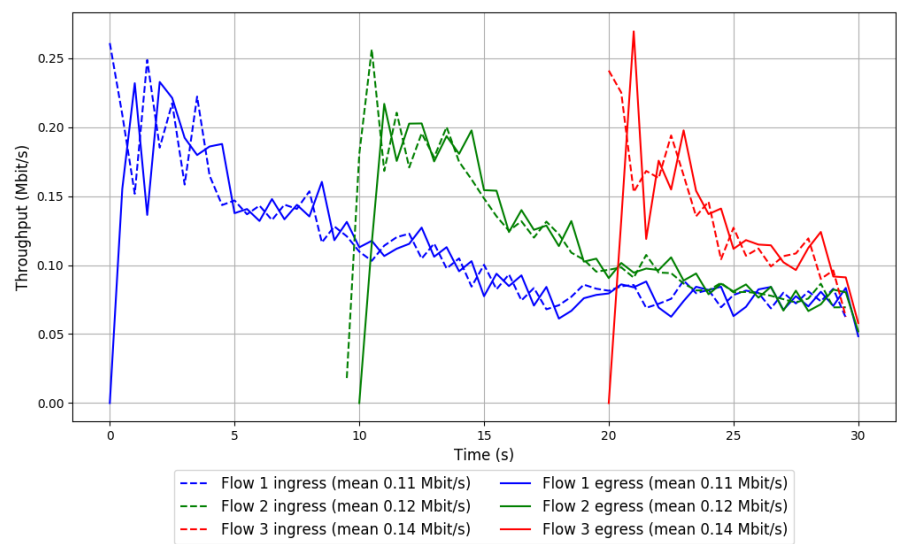
Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2019-01-22 02:38:12
End at: 2019-01-22 02:38:42
Local clock offset: -1.223 ms
Remote clock offset: -5.66 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 182.490 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 182.473 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 182.517 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 182.437 ms
Loss rate: 2.33%
```

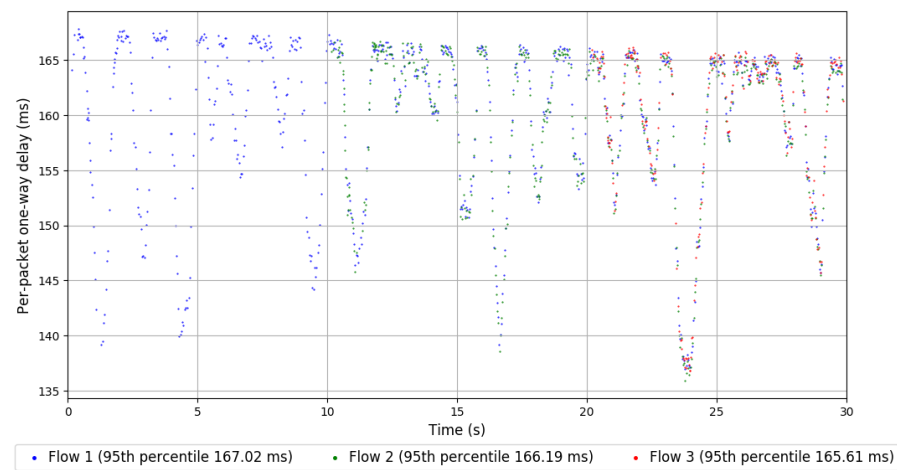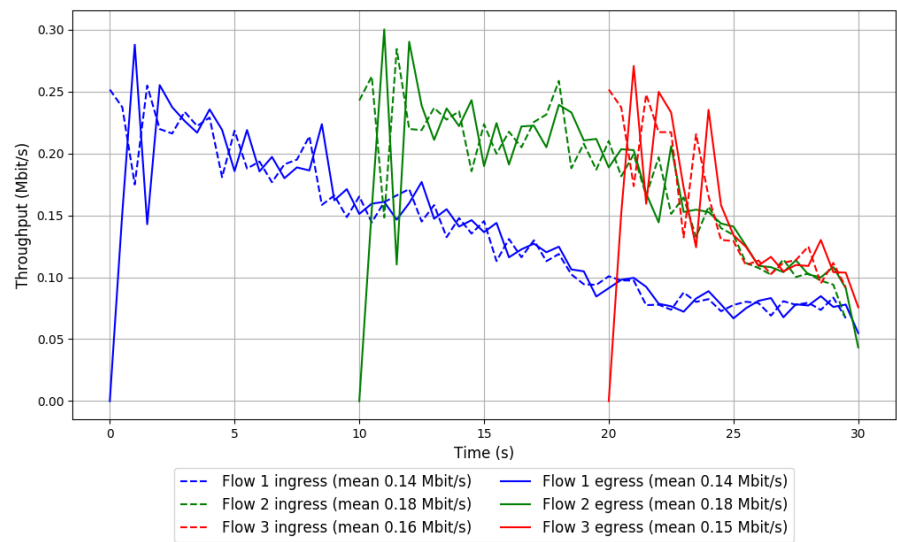## Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-01-22 03:34:35
End at: 2019-01-22 03:35:05
Local clock offset: -0.829 ms
Remote clock offset: 33.991 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 175.883 ms
Loss rate: 2.85%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 175.876 ms
Loss rate: 2.65%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 175.591 ms
Loss rate: 2.52%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 176.170 ms
Loss rate: 3.94%
```
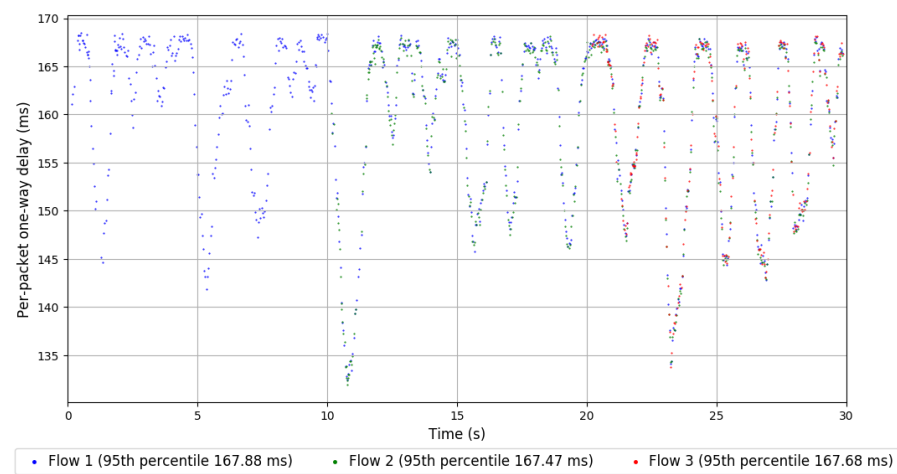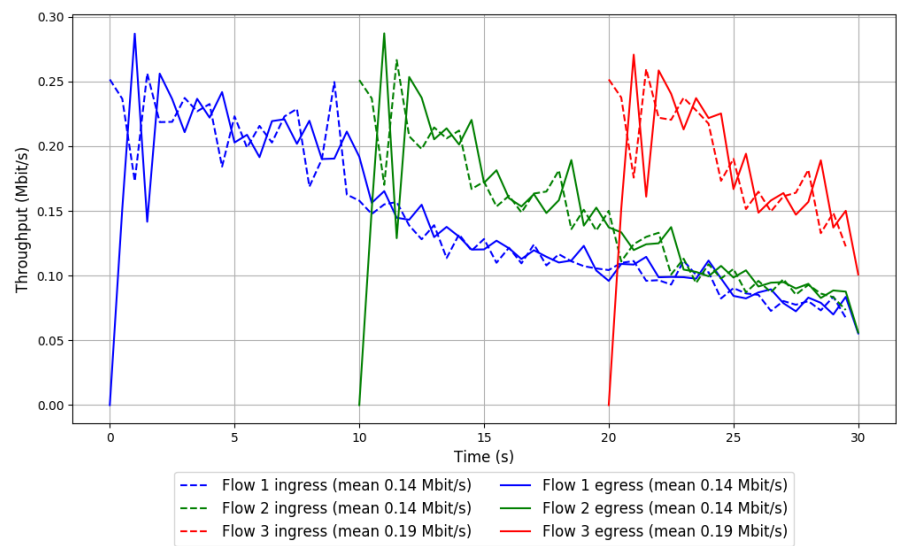
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-01-22 04:24:28
End at: 2019-01-22 04:24:58
Local clock offset: 7.251 ms
Remote clock offset: 53.403 ms

# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 166.589 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 167.017 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 166.186 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 165.606 ms
Loss rate: 3.73%
```

Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-01-22 05:06:09
End at: 2019-01-22 05:06:39
Local clock offset: 16.26 ms
Remote clock offset: 36.795 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 167.775 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 167.877 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 167.469 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 167.677 ms
Loss rate: 2.57%
```
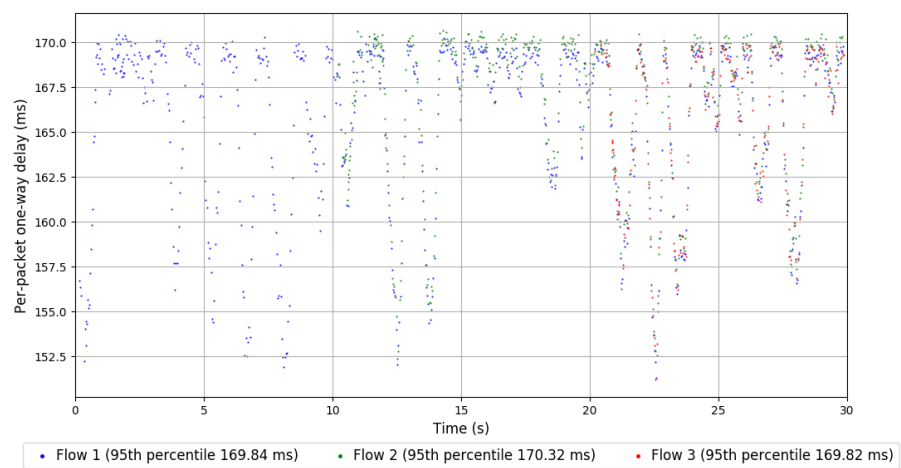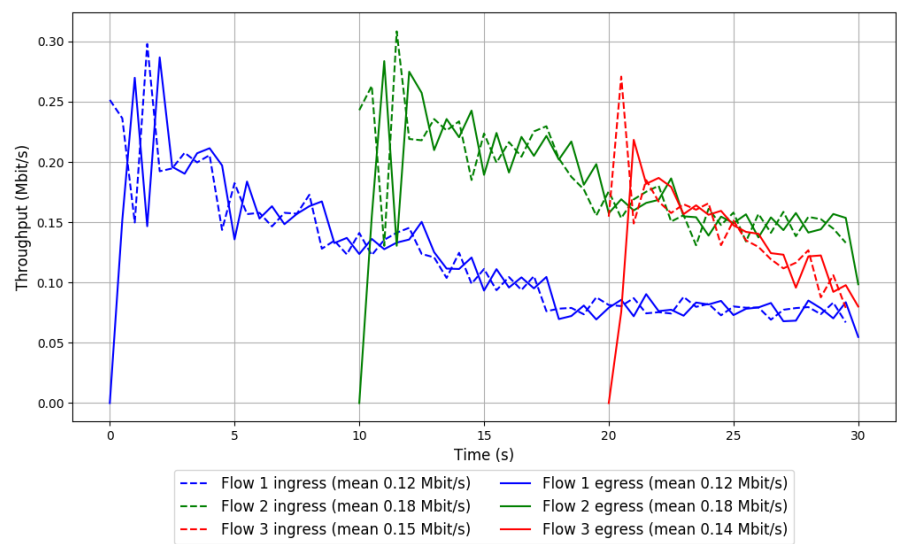
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-01-22 05:52:23
End at: 2019-01-22 05:52:53
Local clock offset: -0.201 ms
Remote clock offset: 38.59 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 170.117 ms
Loss rate: 1.84%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 169.840 ms
Loss rate: 1.71%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 170.322 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 169.820 ms
Loss rate: 3.60%
```
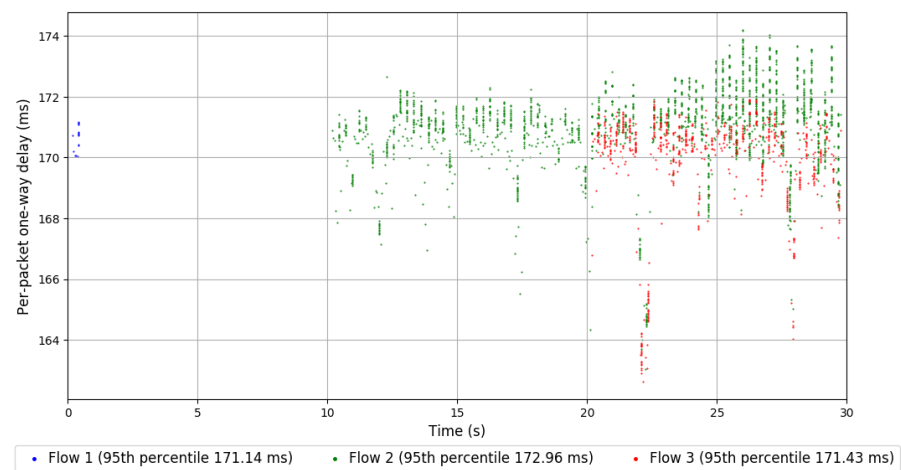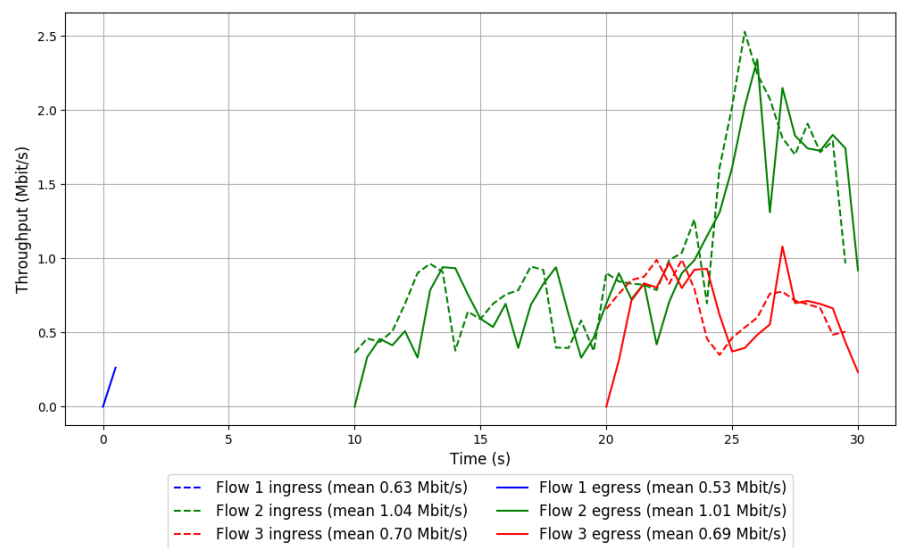
Run 5: Report of SCReAM — Data Link

154

```
Run 1: Statistics of Sprout

Start at: 2019-01-22 03:06:39
End at: 2019-01-22 03:07:09
Local clock offset: -1.282 ms
Remote clock offset: 6.277 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 172.801 ms
Loss rate: 4.36%
-- Flow 1:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 171.142 ms
Loss rate: 15.32%
-- Flow 2:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 172.955 ms
Loss rate: 4.44%
-- Flow 3:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 171.427 ms
Loss rate: 3.84%
```

Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-01-22 04:08:55
End at: 2019-01-22 04:09:25
Local clock offset: 2.13 ms
Remote clock offset: 89.312 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 170.528 ms
Loss rate: 2.41%
-- Flow 1:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 170.716 ms
Loss rate: 1.95%
-- Flow 2:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 170.241 ms
Loss rate: 2.25%
-- Flow 3:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 170.128 ms
Loss rate: 4.38%
```
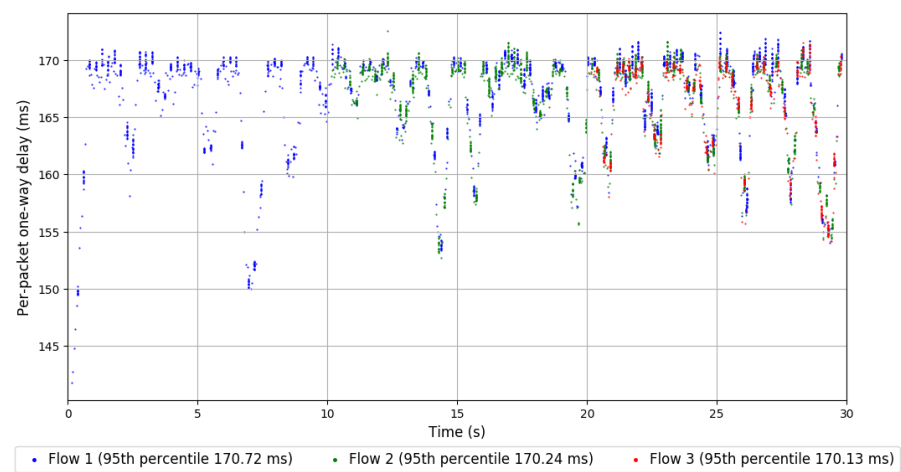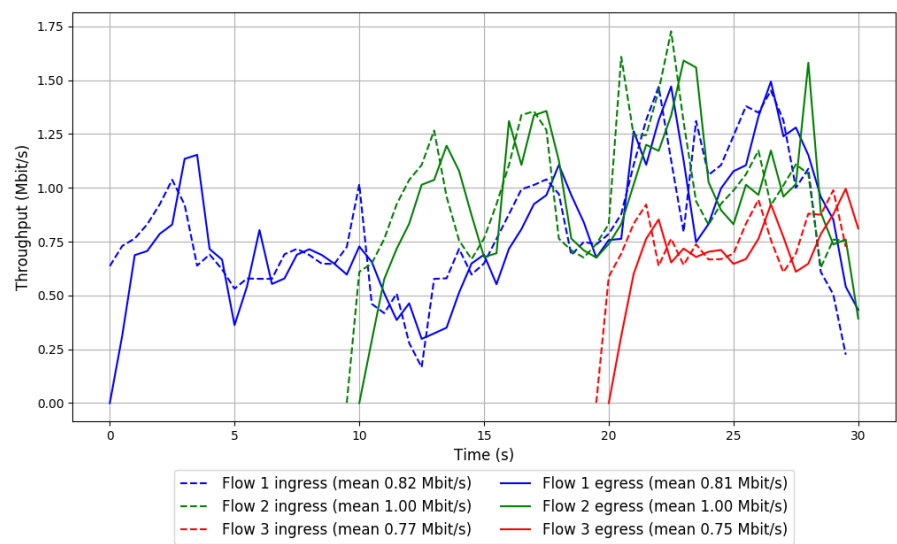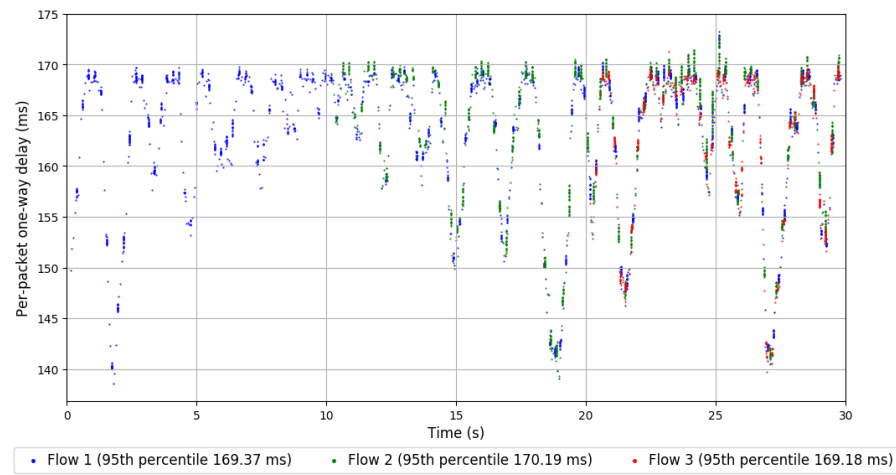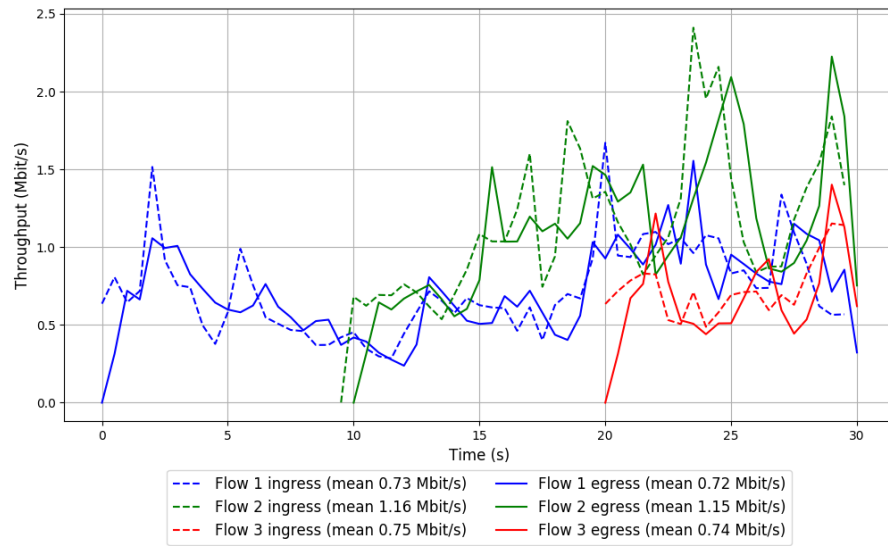
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-01-22 04:51:28
End at: 2019-01-22 04:51:58
Local clock offset: 13.441 ms
Remote clock offset: 40.742 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 169.749 ms
Loss rate: 2.02%
-- Flow 1:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 169.367 ms
Loss rate: 1.41%
-- Flow 2:
Average throughput: 1.15 Mbit/s
95th percentile per-packet one-way delay: 170.195 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 169.182 ms
Loss rate: 4.05%
```
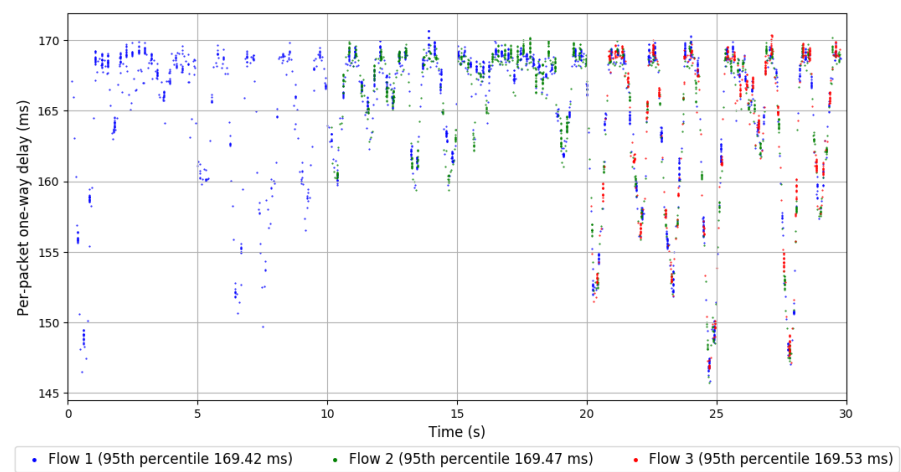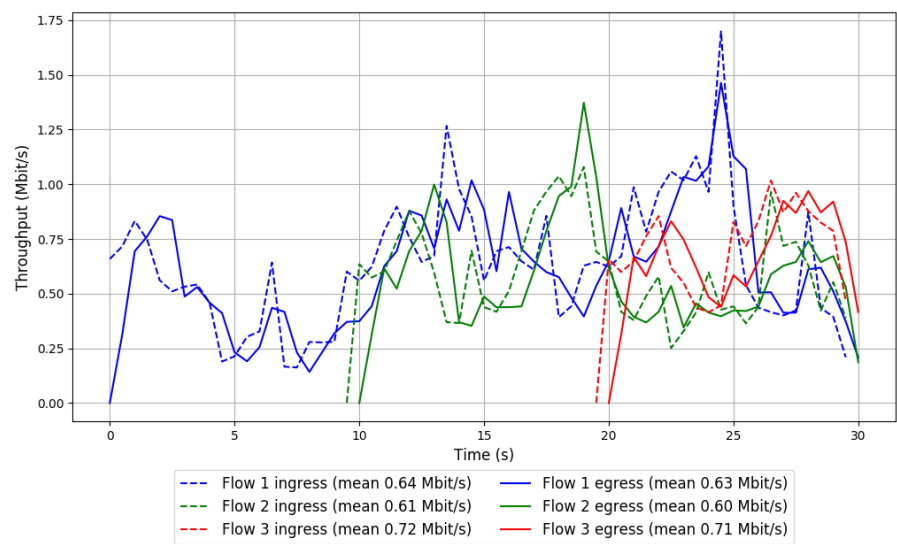
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-01-22 05:31:39
End at: 2019-01-22 05:32:09
Local clock offset: 3.837 ms
Remote clock offset: 44.3 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 169.458 ms
Loss rate: 2.81%
-- Flow 1:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 169.423 ms
Loss rate: 2.29%
-- Flow 2:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 169.466 ms
Loss rate: 3.06%
-- Flow 3:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 169.534 ms
Loss rate: 3.77%
```
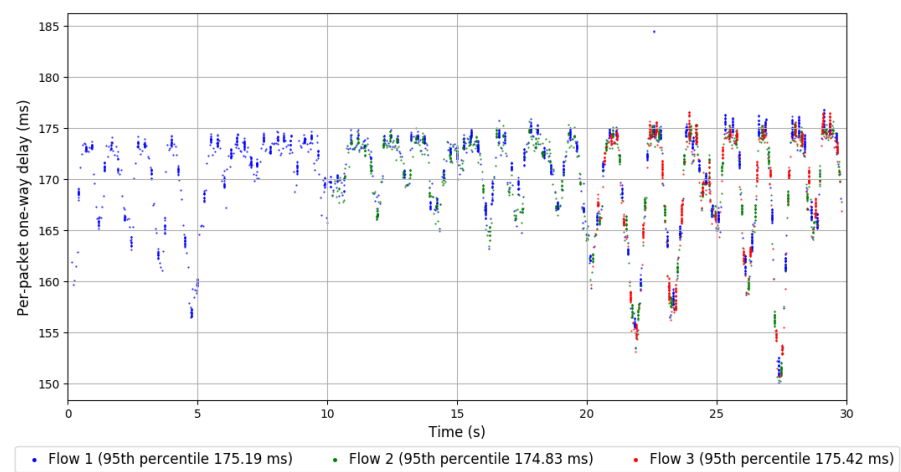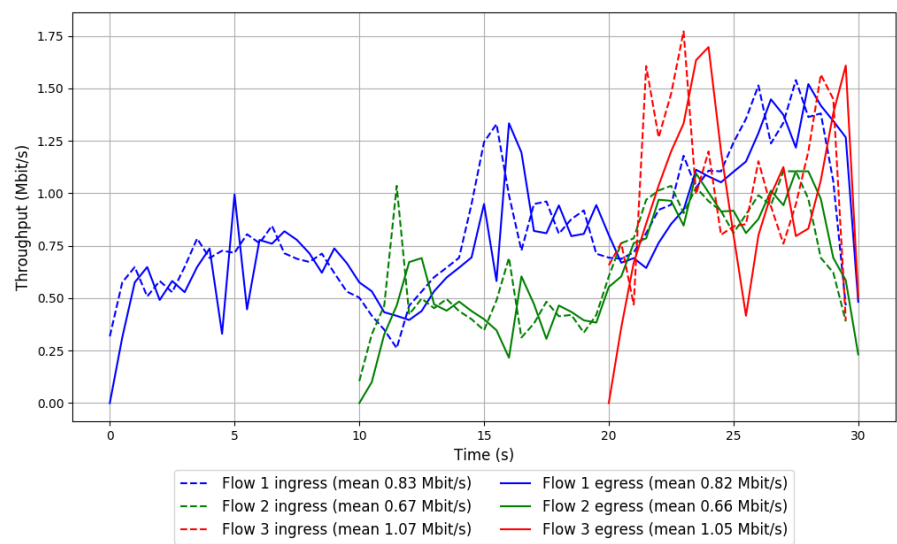
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-01-22 06:20:14
End at: 2019-01-22 06:20:44
Local clock offset: -3.074 ms
Remote clock offset: 30.185 ms


# Below is generated by plot.py at 2019-01-22 06:28:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.60 Mbit/s
95th percentile per-packet one-way delay: 175.142 ms
Loss rate: 2.33%
-- Flow 1:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 175.190 ms
Loss rate: 1.77%
-- Flow 2:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 174.827 ms
Loss rate: 2.20%
-- Flow 3:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 175.422 ms
Loss rate: 3.79%
```
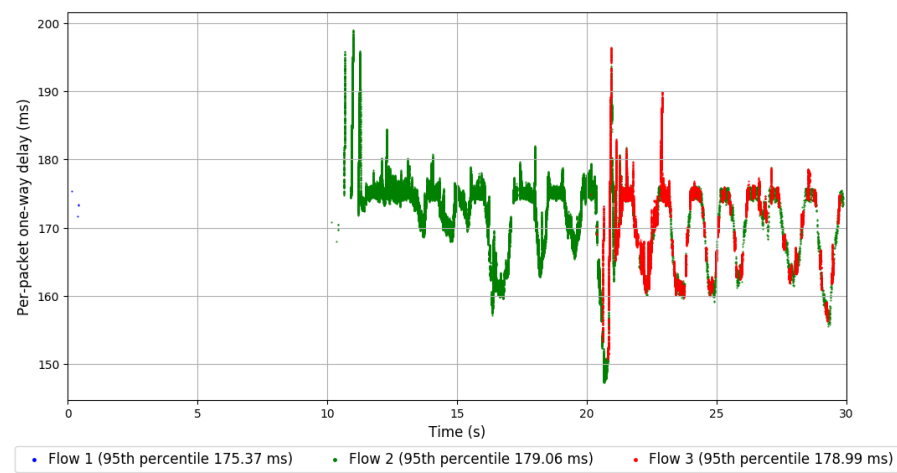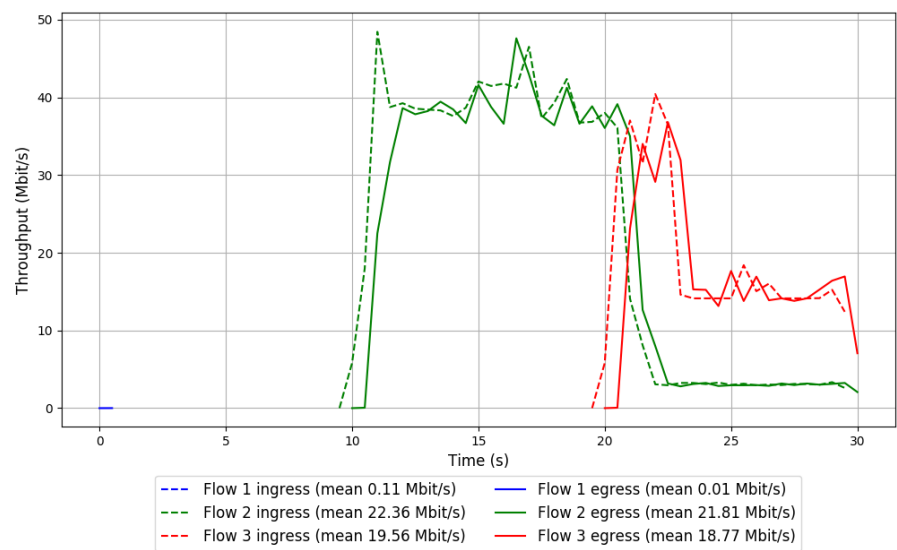
Run 5: Report of Sprout — Data Link

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

Start at: 2019-01-22 02:43:19
End at: 2019-01-22 02:43:49
Local clock offset: -3.43 ms
Remote clock offset: 1.368 ms


# Below is generated by plot.py at 2019-01-22 06:28:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.52 Mbit/s
95th percentile per-packet one-way delay: 179.036 ms
Loss rate: 4.74%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 175.374 ms
Loss rate: 88.63%
-- Flow 2:
Average throughput: 21.81 Mbit/s
95th percentile per-packet one-way delay: 179.058 ms
Loss rate: 3.65%
-- Flow 3:
Average throughput: 18.77 Mbit/s
95th percentile per-packet one-way delay: 178.993 ms
Loss rate: 7.26%
```

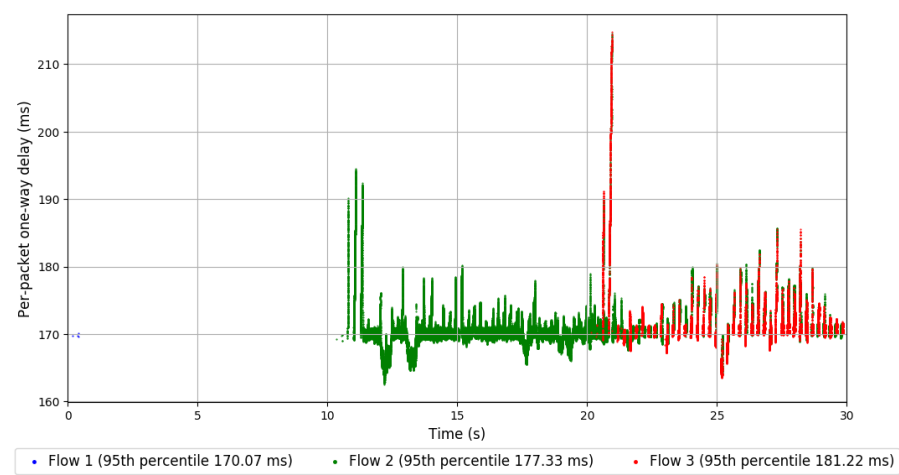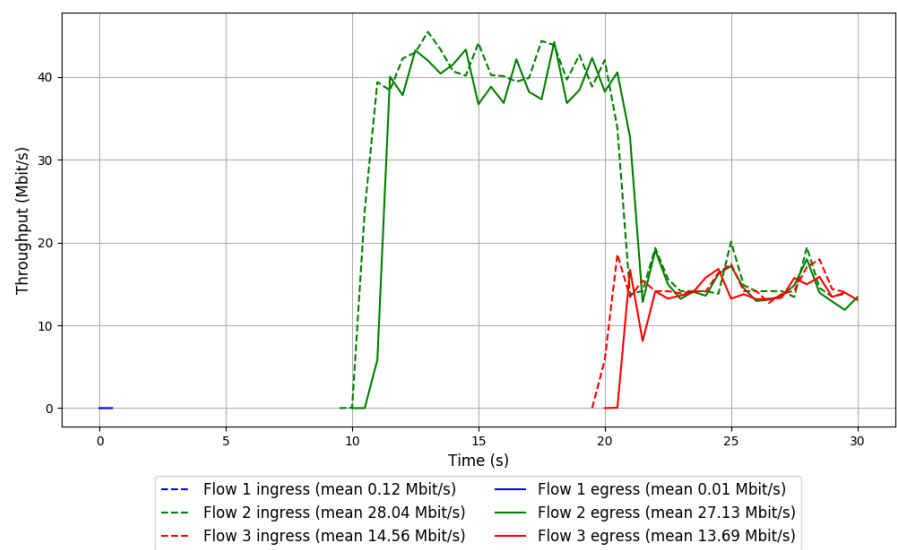# Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 0.11 Mbit/s) --- Flow 1 egress (mean 0.01 Mbit/s)
Flow 2 ingress (mean 22.36 Mbit/s) --- Flow 2 egress (mean 21.81 Mbit/s)
Flow 3 ingress (mean 19.56 Mbit/s) --- Flow 3 egress (mean 18.77 Mbit/s)

Flow 1 (95th percentile 175.37 ms)   Flow 2 (95th percentile 179.06 ms)   Flow 3 (95th percentile 178.99 ms)

166

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

Start at: 2019-01-22 03:40:38
End at: 2019-01-22 03:41:08
Local clock offset: -1.04 ms
Remote clock offset: 55.082 ms


# Below is generated by plot.py at 2019-01-22 06:28:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 22.28 Mbit/s
95th percentile per-packet one-way delay: 177.793 ms
Loss rate: 5.88%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 170.066 ms
Loss rate: 88.63%
-- Flow 2:
Average throughput: 27.13 Mbit/s
95th percentile per-packet one-way delay: 177.332 ms
Loss rate: 5.29%
-- Flow 3:
Average throughput: 13.69 Mbit/s
95th percentile per-packet one-way delay: 181.222 ms
Loss rate: 8.15%
```
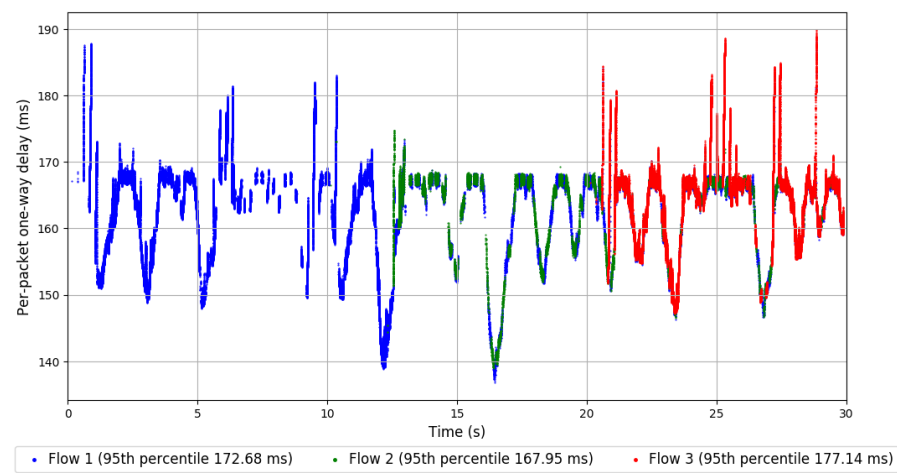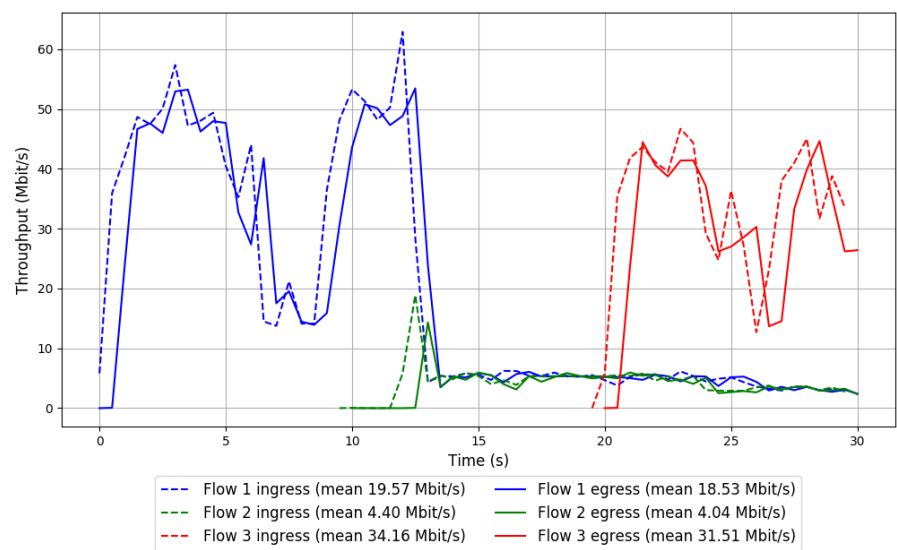
Run 2: Report of TaoVA-100x — Data Link

- - - Flow 1 ingress (mean 0.12 Mbit/s)   —— Flow 1 egress (mean 0.01 Mbit/s)
- - - Flow 2 ingress (mean 28.04 Mbit/s)   —— Flow 2 egress (mean 27.13 Mbit/s)
- - - Flow 3 ingress (mean 14.56 Mbit/s)   —— Flow 3 egress (mean 13.69 Mbit/s)

• Flow 1 (95th percentile 170.07 ms)   • Flow 2 (95th percentile 177.33 ms)   • Flow 3 (95th percentile 181.22 ms)
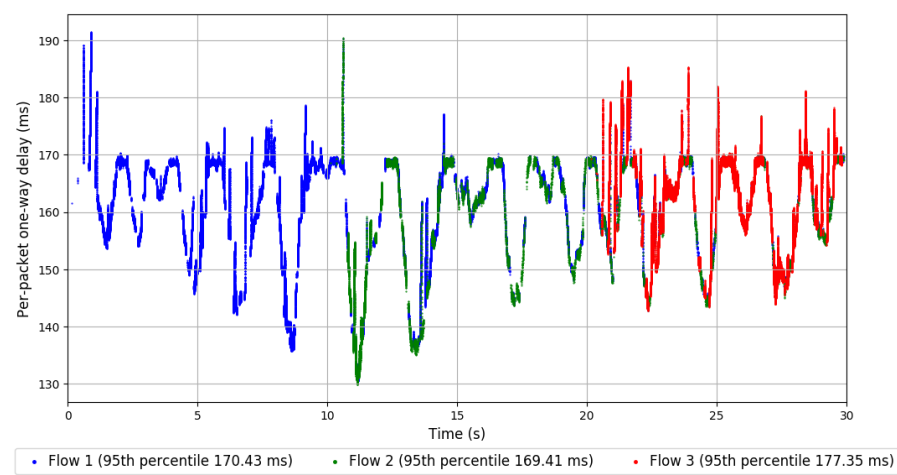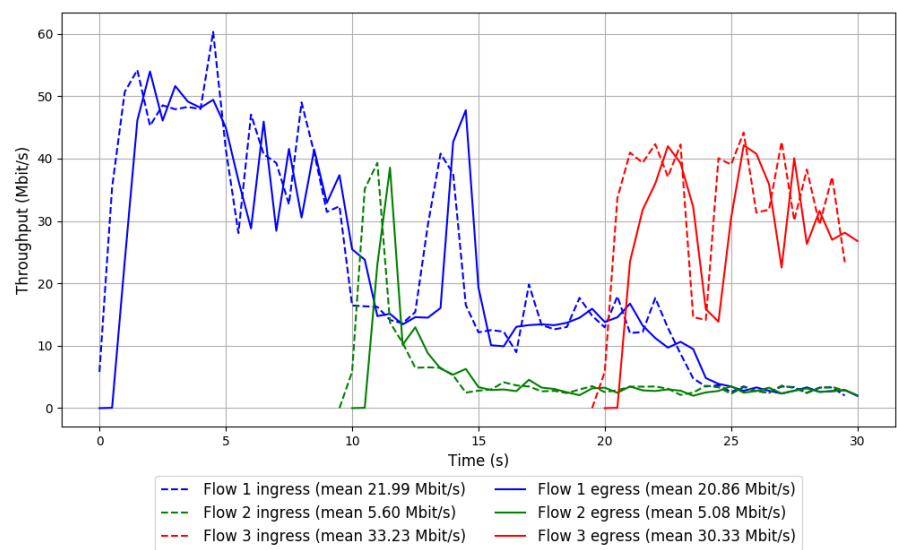
168

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

Start at: 2019-01-22 04:29:11
End at: 2019-01-22 04:29:41
Local clock offset: 8.707 ms
Remote clock offset: 36.575 ms


# Below is generated by plot.py at 2019-01-22 06:29:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.54 Mbit/s
95th percentile per-packet one-way delay: 173.991 ms
Loss rate: 7.54%
-- Flow 1:
Average throughput: 18.53 Mbit/s
95th percentile per-packet one-way delay: 172.675 ms
Loss rate: 5.98%
-- Flow 2:
Average throughput: 4.04 Mbit/s
95th percentile per-packet one-way delay: 167.946 ms
Loss rate: 9.24%
-- Flow 3:
Average throughput: 31.51 Mbit/s
95th percentile per-packet one-way delay: 177.144 ms
Loss rate: 9.79%
```

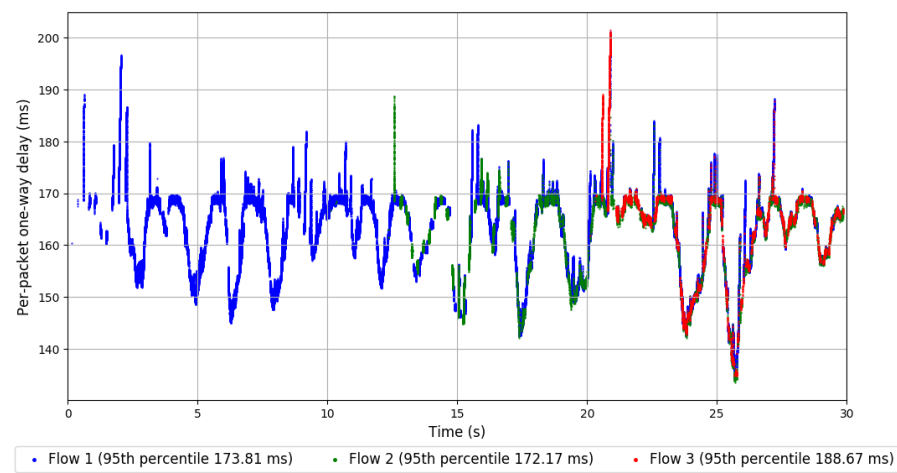# Run 3: Report of TaoVA-100x — Data Link

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

Start at: 2019-01-22 05:10:54
End at: 2019-01-22 05:11:24
Local clock offset: 16.841 ms
Remote clock offset: 34.679 ms


# Below is generated by plot.py at 2019-01-22 06:29:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.10 Mbit/s
95th percentile per-packet one-way delay: 173.252 ms
Loss rate: 7.73%
-- Flow 1:
Average throughput: 20.86 Mbit/s
95th percentile per-packet one-way delay: 170.433 ms
Loss rate: 5.79%
-- Flow 2:
Average throughput: 5.08 Mbit/s
95th percentile per-packet one-way delay: 169.410 ms
Loss rate: 10.02%
-- Flow 3:
Average throughput: 30.33 Mbit/s
95th percentile per-packet one-way delay: 177.353 ms
Loss rate: 10.83%
```

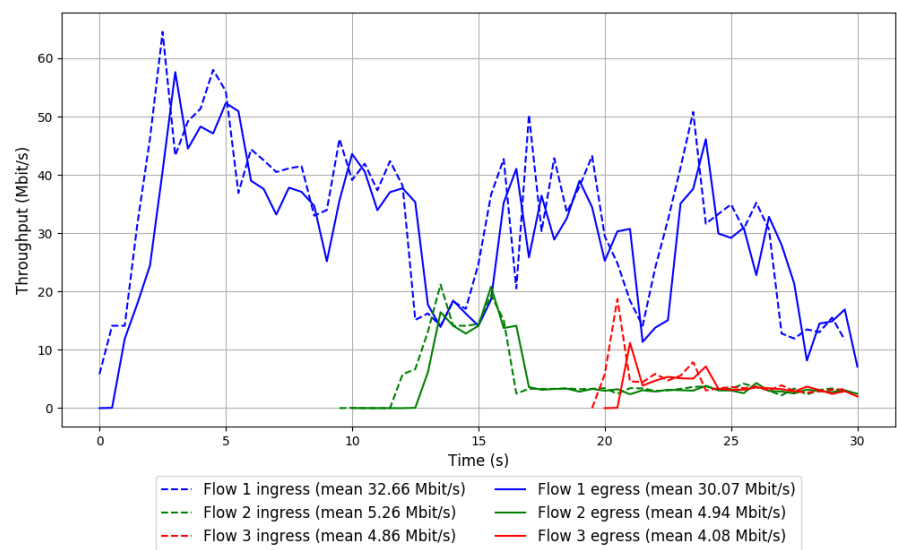Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2019-01-22 05:57:27
End at: 2019-01-22 05:57:57
Local clock offset: -0.674 ms
Remote clock offset: 36.671 ms


# Below is generated by plot.py at 2019-01-22 06:29:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.56 Mbit/s
95th percentile per-packet one-way delay: 174.059 ms
Loss rate: 8.85%
-- Flow 1:
Average throughput: 30.07 Mbit/s
95th percentile per-packet one-way delay: 173.805 ms
Loss rate: 8.58%
-- Flow 2:
Average throughput: 4.94 Mbit/s
95th percentile per-packet one-way delay: 172.169 ms
Loss rate: 7.15%
-- Flow 3:
Average throughput: 4.08 Mbit/s
95th percentile per-packet one-way delay: 188.672 ms
Loss rate: 17.91%
```
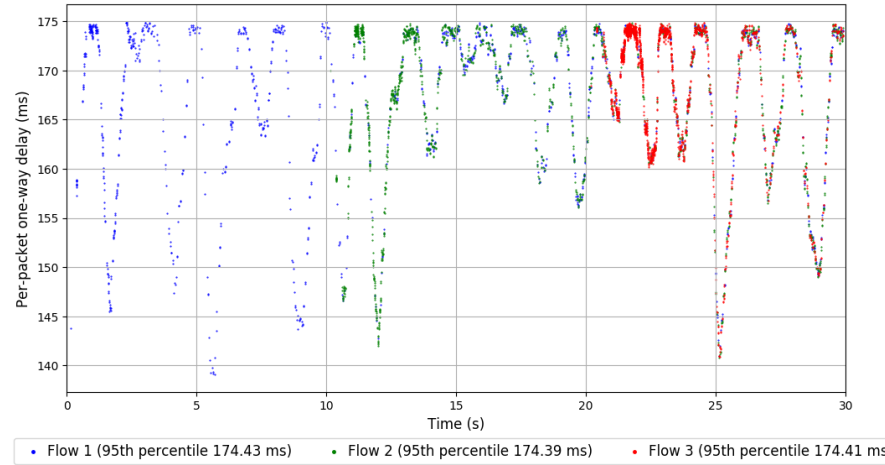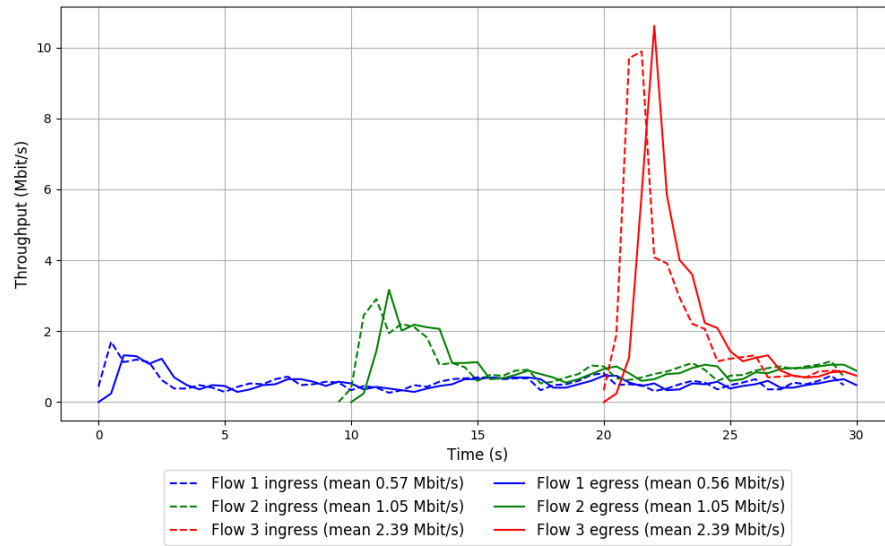
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 32.66 Mbit/s) --- Flow 1 egress (mean 30.07 Mbit/s)
Flow 2 ingress (mean 5.26 Mbit/s) --- Flow 2 egress (mean 4.94 Mbit/s)
Flow 3 ingress (mean 4.86 Mbit/s) --- Flow 3 egress (mean 4.08 Mbit/s)

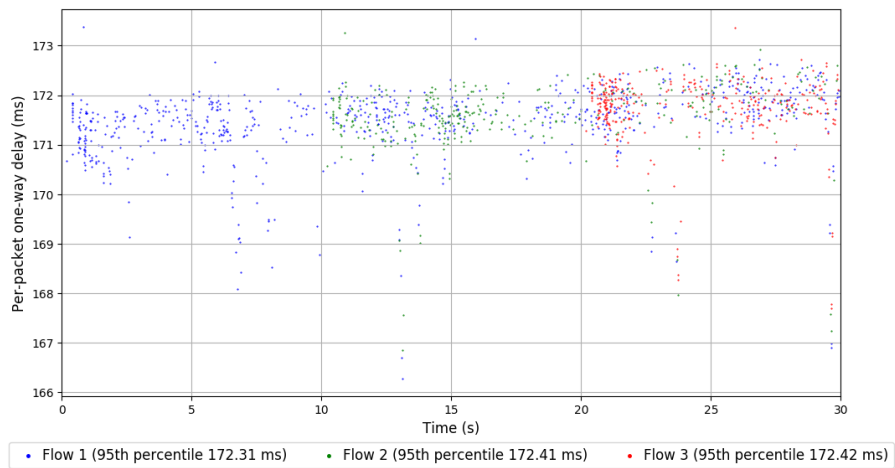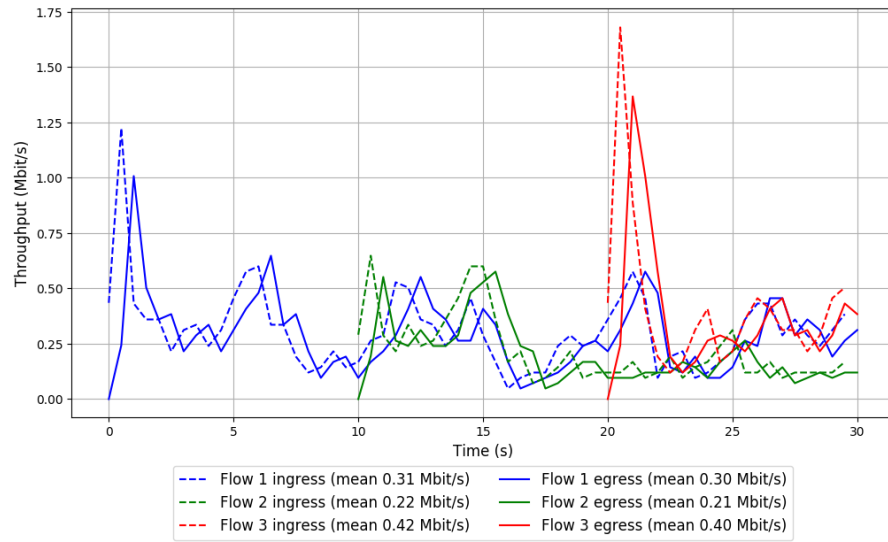Flow 1 (95th percentile 173.81 ms)   Flow 2 (95th percentile 172.17 ms)   Flow 3 (95th percentile 188.67 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-01-22 02:45:39
End at: 2019-01-22 02:46:09
Local clock offset: -4.331 ms
Remote clock offset: 2.137 ms


# Below is generated by plot.py at 2019-01-22 06:29:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 174.412 ms
Loss rate: 1.96%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 174.434 ms
Loss rate: 2.25%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 174.392 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 174.414 ms
Loss rate: 2.27%
```
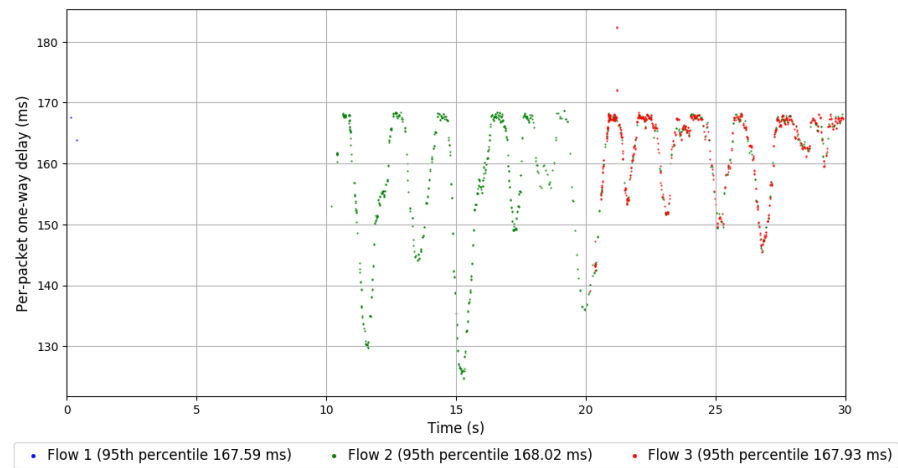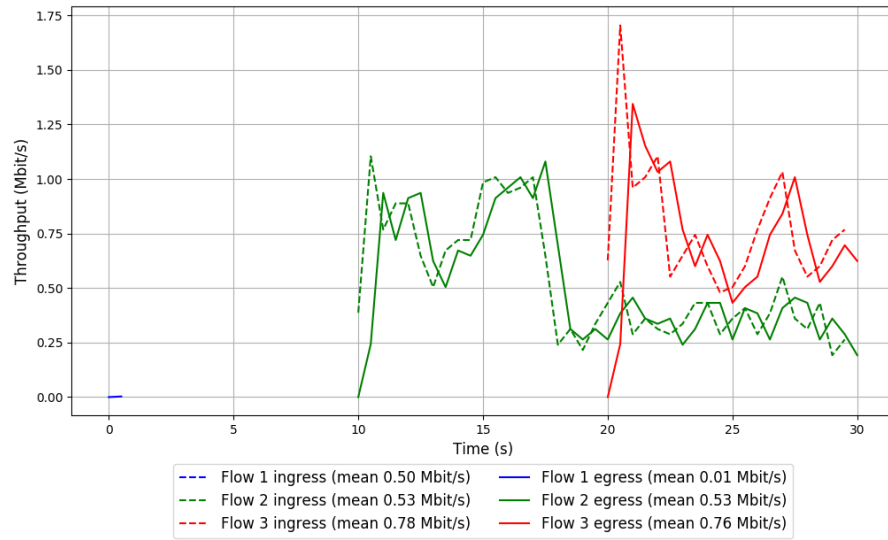
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-01-22 03:45:07
End at: 2019-01-22 03:45:37
Local clock offset: -1.287 ms
Remote clock offset: 62.184 ms


# Below is generated by plot.py at 2019-01-22 06:29:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 172.363 ms
Loss rate: 6.18%
-- Flow 1:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 172.310 ms
Loss rate: 5.51%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 172.406 ms
Loss rate: 7.44%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 172.422 ms
Loss rate: 6.36%
```

Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-01-22 04:31:54
End at: 2019-01-22 04:32:24
Local clock offset: 9.428 ms
Remote clock offset: 31.436 ms


# Below is generated by plot.py at 2019-01-22 06:29:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 167.990 ms
Loss rate: 3.83%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 167.594 ms
Loss rate: 98.66%
-- Flow 2:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 168.018 ms
Loss rate: 2.38%
-- Flow 3:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 167.931 ms
Loss rate: 4.47%
```
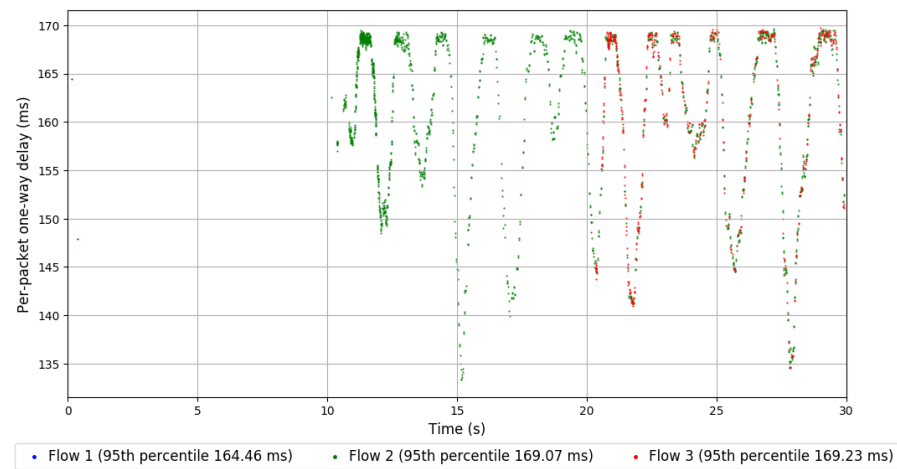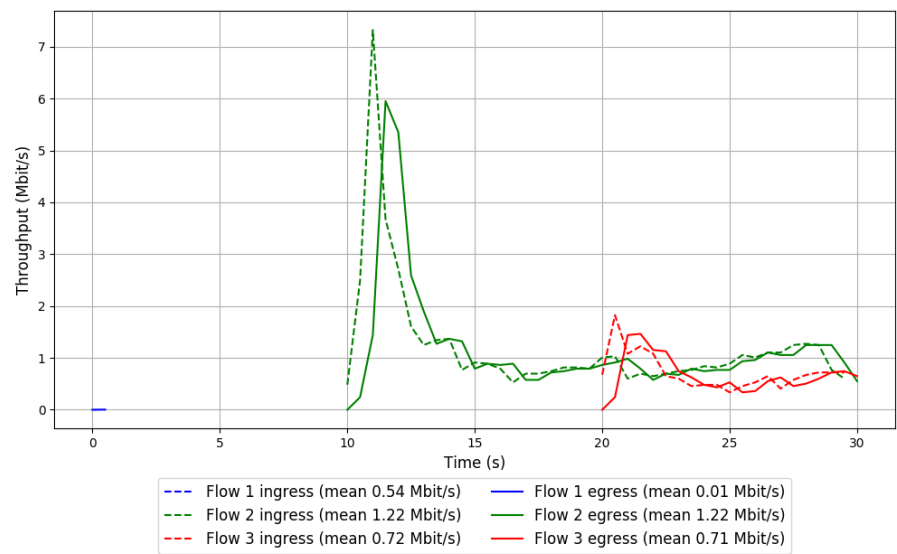
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-01-22 05:13:10
End at: 2019-01-22 05:13:40
Local clock offset: 17.296 ms
Remote clock offset: 38.62 ms


# Below is generated by plot.py at 2019-01-22 06:29:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 169.113 ms
Loss rate: 2.65%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 164.459 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 169.068 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 169.233 ms
Loss rate: 3.85%
```

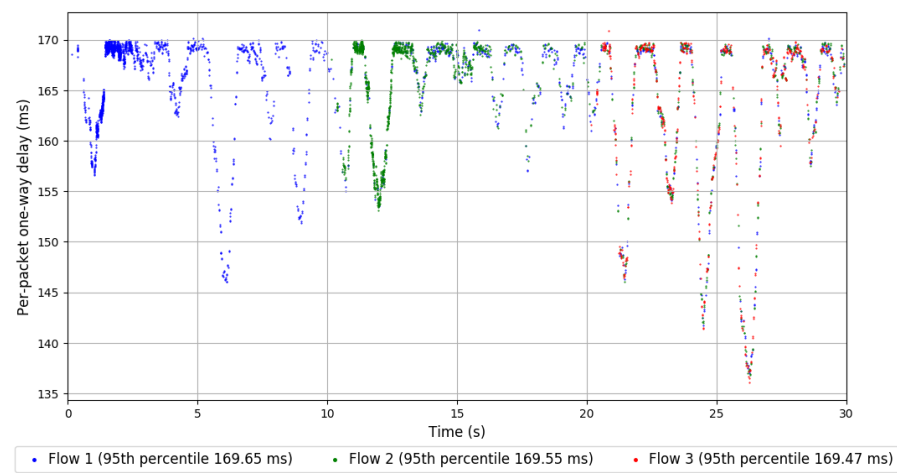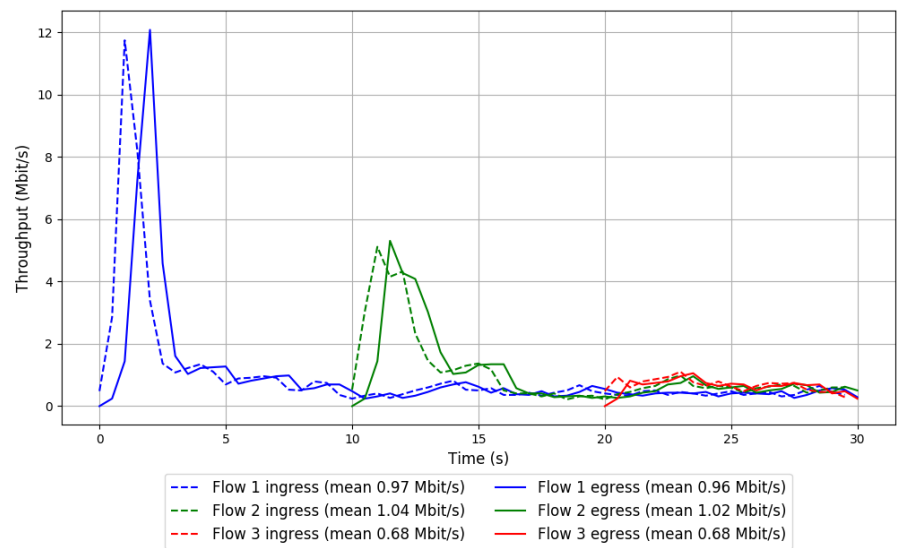Run 4: Report of TCP Vegas — Data Link

Run 5: Statistics of TCP Vegas

Start at: 2019-01-22 06:00:17
End at: 2019-01-22 06:00:47
Local clock offset: -0.942 ms
Remote clock offset: 35.997 ms

Below is generated by plot.py at 2019-01-22 06:29:11
Datalink statistics
-- Total of 3 flows:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 169.589 ms
Loss rate: 2.52%
-- Flow 1:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 169.649 ms
Loss rate: 1.99%
-- Flow 2:
Average throughput: 1.02 Mbit/s
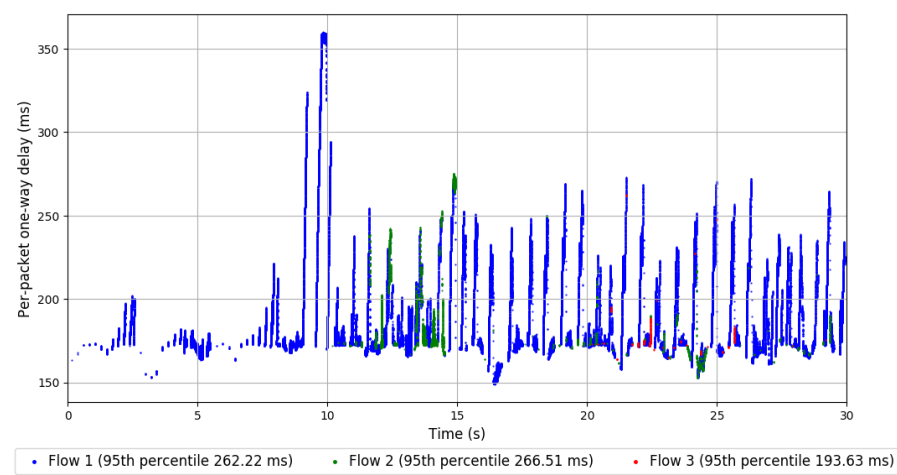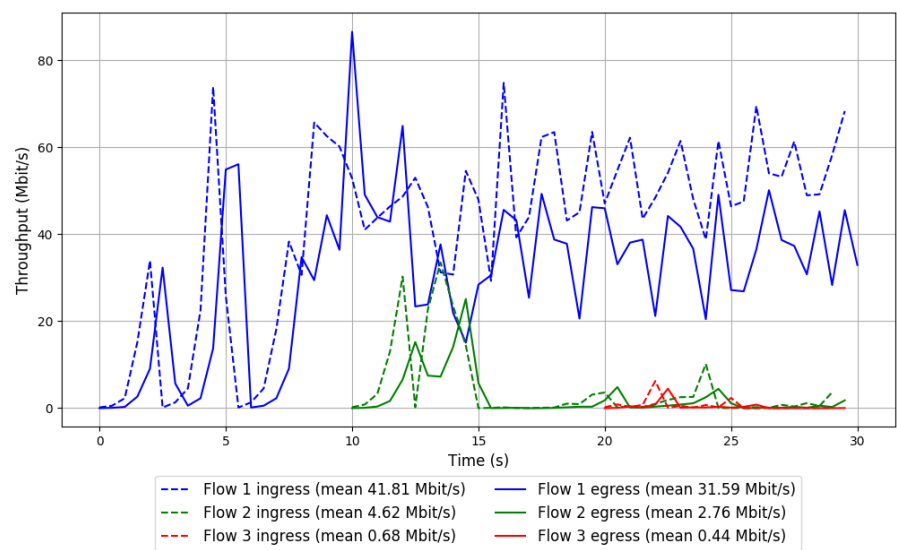95th percentile per-packet one-way delay: 169.551 ms
Loss rate: 3.00%
-- Flow 3:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 169.470 ms
Loss rate: 3.35%

Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-01-22 02:30:34
End at: 2019-01-22 02:31:04
Local clock offset: 3.551 ms
Remote clock offset: 4.135 ms


# Below is generated by plot.py at 2019-01-22 06:29:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 33.50 Mbit/s
95th percentile per-packet one-way delay: 262.304 ms
Loss rate: 25.92%
-- Flow 1:
Average throughput: 31.59 Mbit/s
95th percentile per-packet one-way delay: 262.219 ms
Loss rate: 24.85%
-- Flow 2:
Average throughput: 2.76 Mbit/s
95th percentile per-packet one-way delay: 266.509 ms
Loss rate: 40.34%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 193.627 ms
Loss rate: 36.29%
```
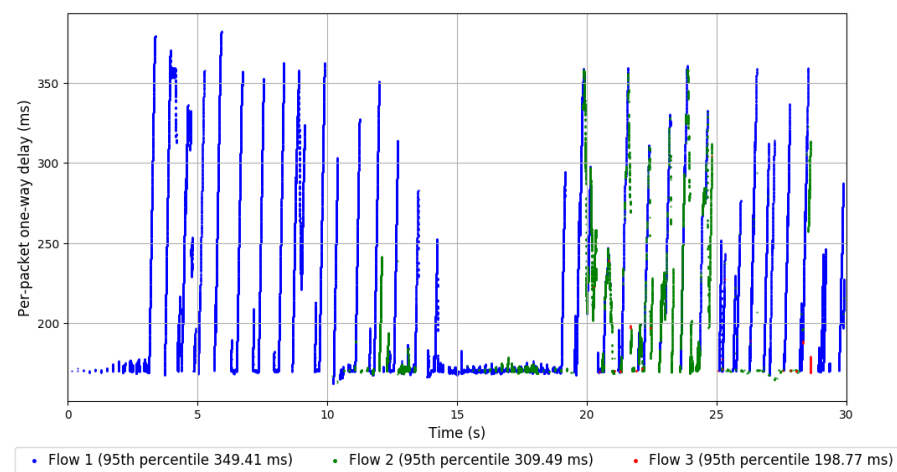
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-01-22 03:23:39
End at: 2019-01-22 03:24:09
Local clock offset: -0.69 ms
Remote clock offset: 7.092 ms

# Below is generated by plot.py at 2019-01-22 06:29:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.44 Mbit/s
95th percentile per-packet one-way delay: 345.679 ms
Loss rate: 35.14%
-- Flow 1:
Average throughput: 28.77 Mbit/s
95th percentile per-packet one-way delay: 349.407 ms
Loss rate: 35.82%
-- Flow 2:
Average throughput: 10.00 Mbit/s
95th percentile per-packet one-way delay: 309.487 ms
Loss rate: 31.84%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 198.773 ms
Loss rate: 50.45%
```
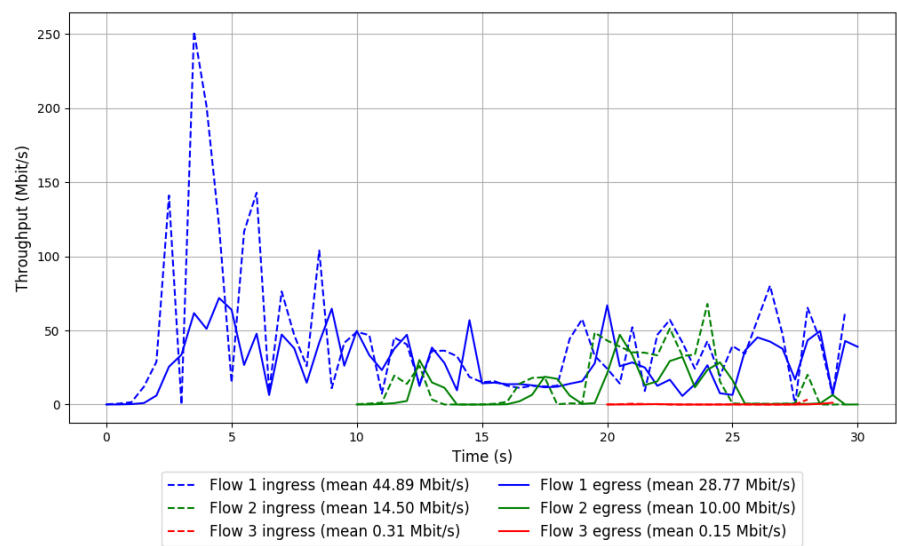
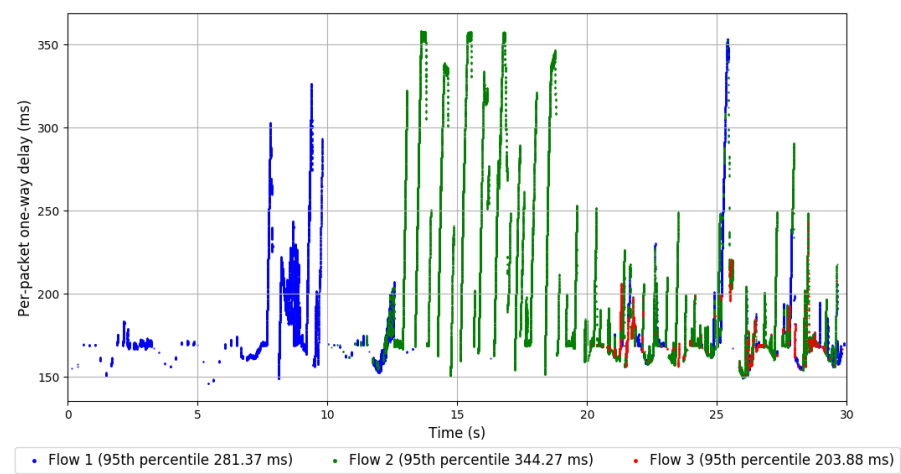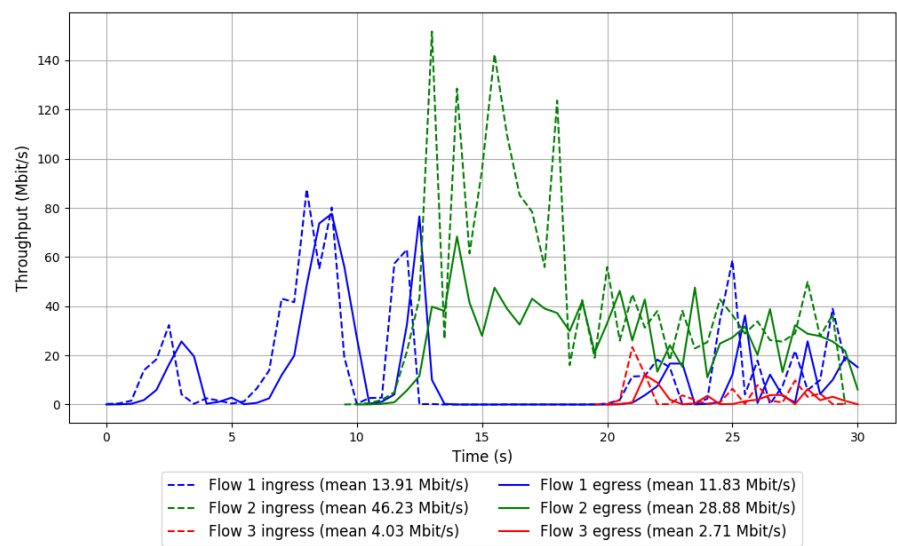## Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-01-22 04:17:52
End at: 2019-01-22 04:18:22
Local clock offset: 3.623 ms
Remote clock offset: 96.971 ms


# Below is generated by plot.py at 2019-01-22 06:29:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.59 Mbit/s
95th percentile per-packet one-way delay: 332.230 ms
Loss rate: 31.77%
-- Flow 1:
Average throughput: 11.83 Mbit/s
95th percentile per-packet one-way delay: 281.371 ms
Loss rate: 15.14%
-- Flow 2:
Average throughput: 28.88 Mbit/s
95th percentile per-packet one-way delay: 344.271 ms
Loss rate: 39.14%
-- Flow 3:
Average throughput: 2.71 Mbit/s
95th percentile per-packet one-way delay: 203.878 ms
Loss rate: 34.16%
```

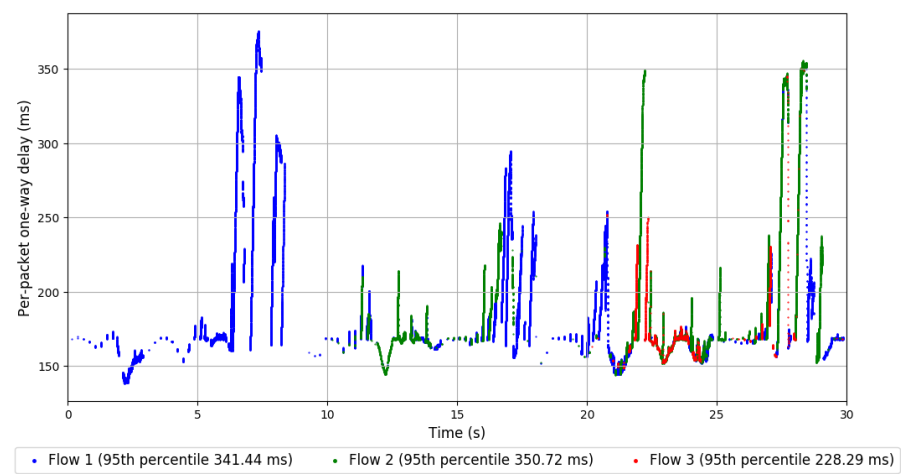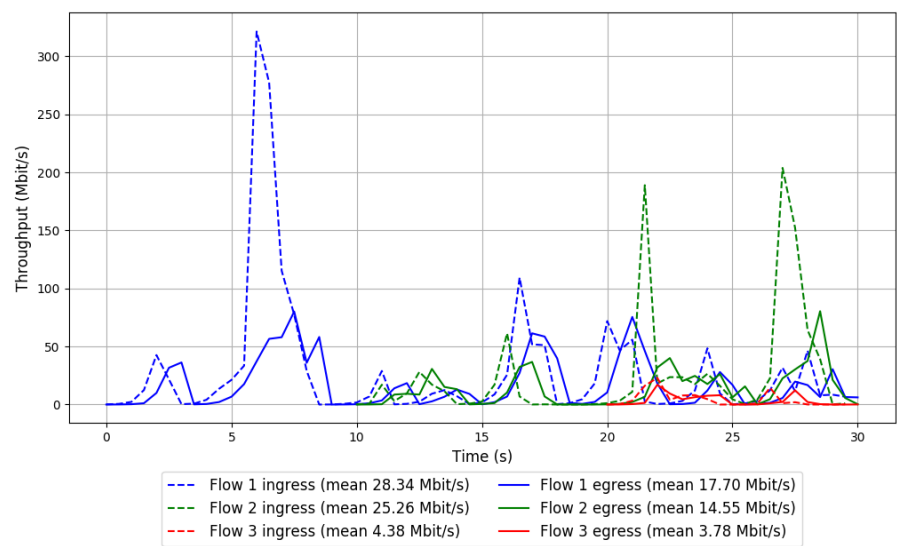## Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-01-22 04:59:33
End at: 2019-01-22 05:00:03
Local clock offset: 15.255 ms
Remote clock offset: 39.307 ms


# Below is generated by plot.py at 2019-01-22 06:29:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 28.52 Mbit/s
95th percentile per-packet one-way delay: 344.937 ms
Loss rate: 39.19%
-- Flow 1:
Average throughput: 17.70 Mbit/s
95th percentile per-packet one-way delay: 341.437 ms
Loss rate: 38.12%
-- Flow 2:
Average throughput: 14.55 Mbit/s
95th percentile per-packet one-way delay: 350.721 ms
Loss rate: 43.06%
-- Flow 3:
Average throughput: 3.78 Mbit/s
95th percentile per-packet one-way delay: 228.286 ms
Loss rate: 15.62%
```

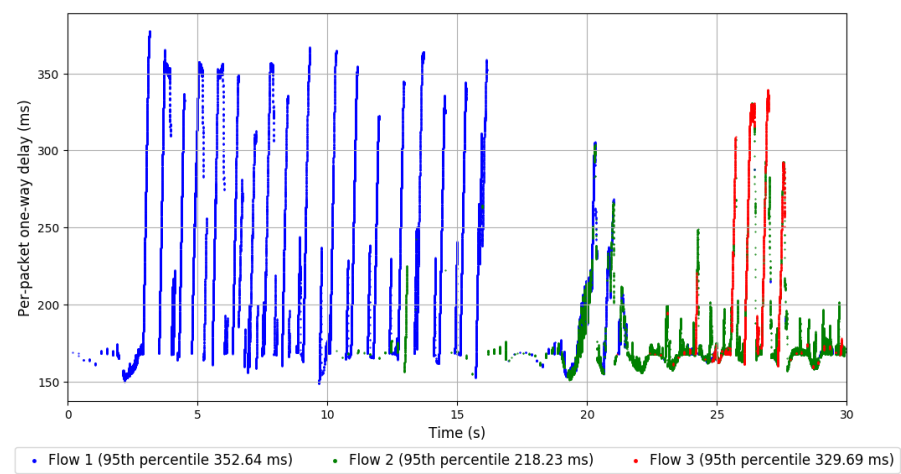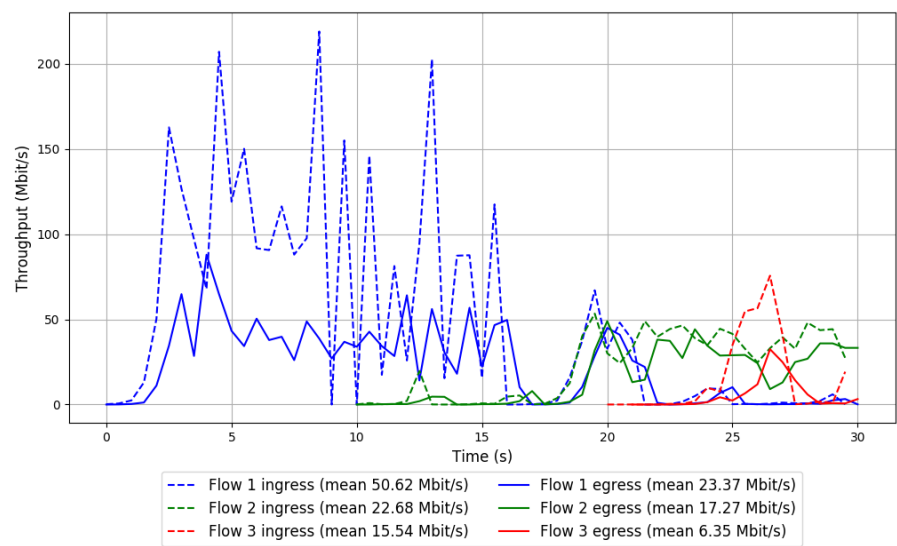# Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-01-22 05:40:52
End at: 2019-01-22 05:41:22
Local clock offset: 1.749 ms
Remote clock offset: 43.647 ms


# Below is generated by plot.py at 2019-01-22 06:29:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.53 Mbit/s
95th percentile per-packet one-way delay: 349.194 ms
Loss rate: 48.64%
-- Flow 1:
Average throughput: 23.37 Mbit/s
95th percentile per-packet one-way delay: 352.644 ms
Loss rate: 54.18%
-- Flow 2:
Average throughput: 17.27 Mbit/s
95th percentile per-packet one-way delay: 218.231 ms
Loss rate: 24.72%
-- Flow 3:
Average throughput: 6.35 Mbit/s
95th percentile per-packet one-way delay: 329.689 ms
Loss rate: 64.09%
```

Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-01-22 02:36:39
End at: 2019-01-22 02:37:09
Local clock offset: -0.438 ms
Remote clock offset: 0.117 ms


# Below is generated by plot.py at 2019-01-22 06:29:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 176.509 ms
Loss rate: 2.31%
-- Flow 1:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 176.563 ms
Loss rate: 1.95%
-- Flow 2:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 176.456 ms
Loss rate: 2.15%
-- Flow 3:
Average throughput: 3.14 Mbit/s
95th percentile per-packet one-way delay: 176.430 ms
Loss rate: 3.28%
```
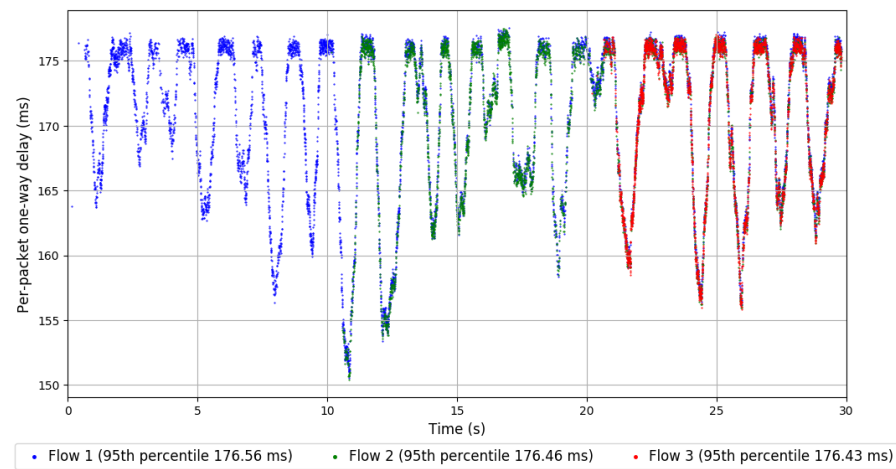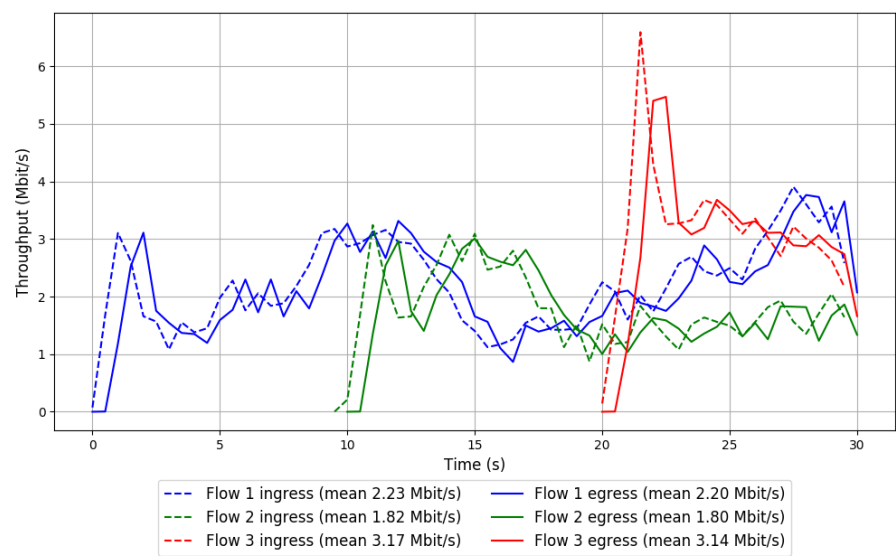
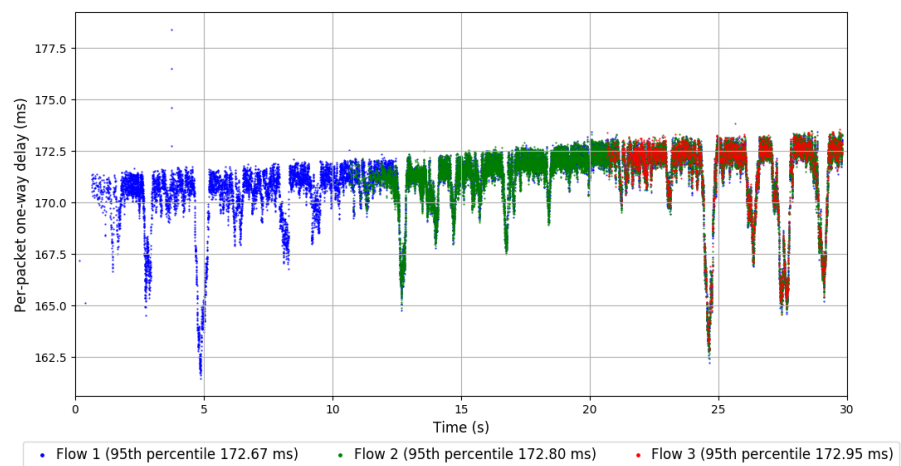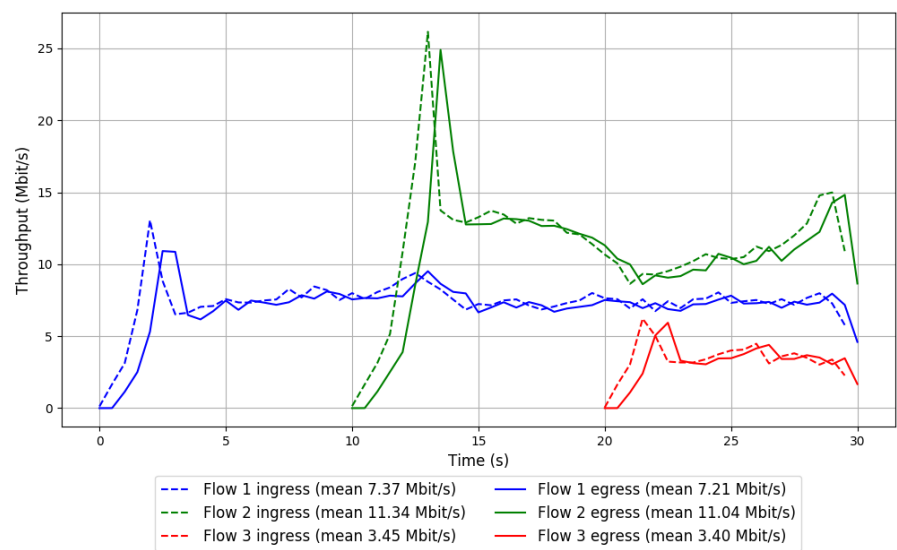Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-01-22 03:31:43
End at: 2019-01-22 03:32:13
Local clock offset: -0.628 ms
Remote clock offset: 26.454 ms


# Below is generated by plot.py at 2019-01-22 06:29:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.63 Mbit/s
95th percentile per-packet one-way delay: 172.768 ms
Loss rate: 3.39%
-- Flow 1:
Average throughput: 7.21 Mbit/s
95th percentile per-packet one-way delay: 172.671 ms
Loss rate: 2.94%
-- Flow 2:
Average throughput: 11.04 Mbit/s
95th percentile per-packet one-way delay: 172.797 ms
Loss rate: 3.77%
-- Flow 3:
Average throughput: 3.40 Mbit/s
95th percentile per-packet one-way delay: 172.948 ms
Loss rate: 3.72%
```

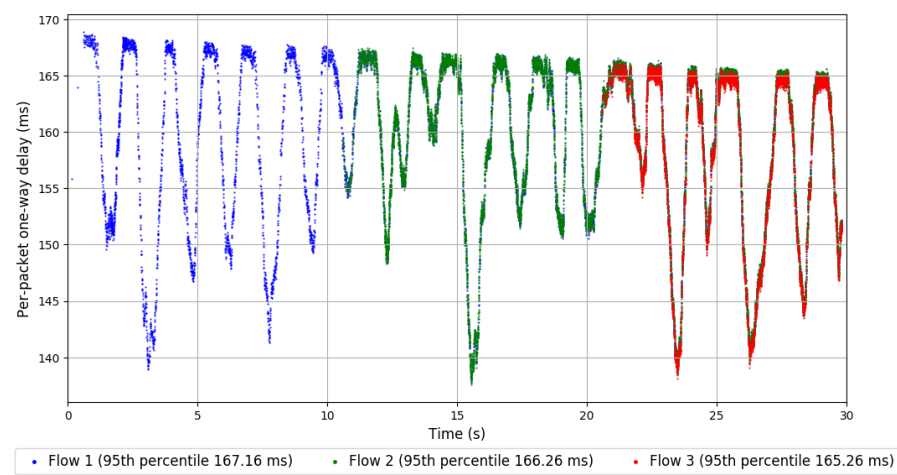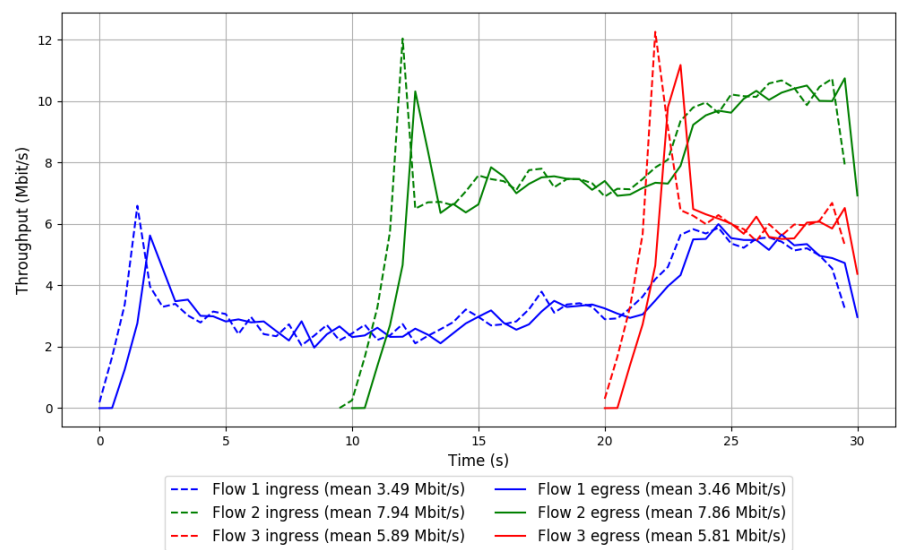Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-01-22 04:22:45
End at: 2019-01-22 04:23:15
Local clock offset: 6.558 ms
Remote clock offset: 63.006 ms


# Below is generated by plot.py at 2019-01-22 06:29:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.55 Mbit/s
95th percentile per-packet one-way delay: 166.434 ms
Loss rate: 2.27%
-- Flow 1:
Average throughput: 3.46 Mbit/s
95th percentile per-packet one-way delay: 167.158 ms
Loss rate: 1.70%
-- Flow 2:
Average throughput: 7.86 Mbit/s
95th percentile per-packet one-way delay: 166.264 ms
Loss rate: 2.19%
-- Flow 3:
Average throughput: 5.81 Mbit/s
95th percentile per-packet one-way delay: 165.260 ms
Loss rate: 3.53%
```

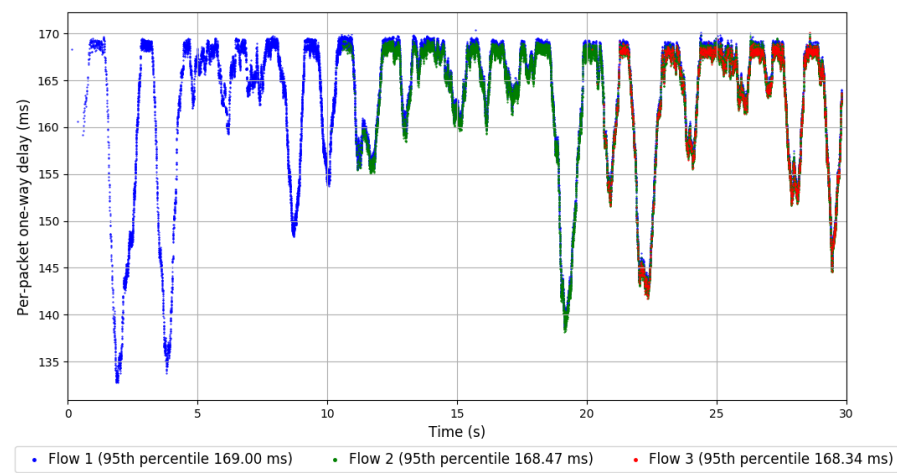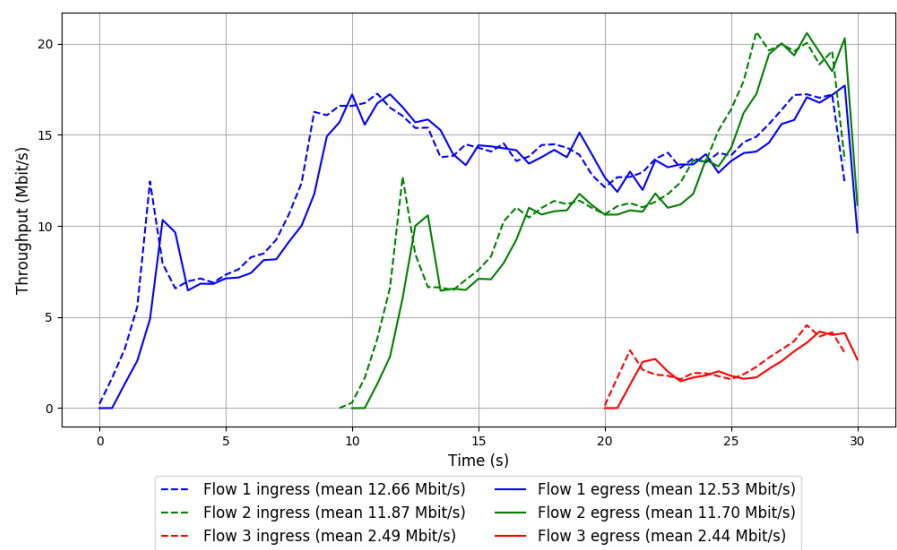# Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-01-22 05:03:53
End at: 2019-01-22 05:04:23
Local clock offset: 15.942 ms
Remote clock offset: 37.351 ms


# Below is generated by plot.py at 2019-01-22 06:29:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.08 Mbit/s
95th percentile per-packet one-way delay: 168.829 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 168.996 ms
Loss rate: 1.79%
-- Flow 2:
Average throughput: 11.70 Mbit/s
95th percentile per-packet one-way delay: 168.474 ms
Loss rate: 2.57%
-- Flow 3:
Average throughput: 2.44 Mbit/s
95th percentile per-packet one-way delay: 168.335 ms
Loss rate: 4.00%
```

Run 4: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 12.66 Mbit/s) --- Flow 1 egress (mean 12.53 Mbit/s) ---
Flow 2 ingress (mean 11.87 Mbit/s) --- Flow 2 egress (mean 11.70 Mbit/s) ---
Flow 3 ingress (mean 2.49 Mbit/s) --- Flow 3 egress (mean 2.44 Mbit/s) ---

Flow 1 (95th percentile 169.00 ms) ・ Flow 2 (95th percentile 168.47 ms) ・ Flow 3 (95th percentile 168.34 ms)
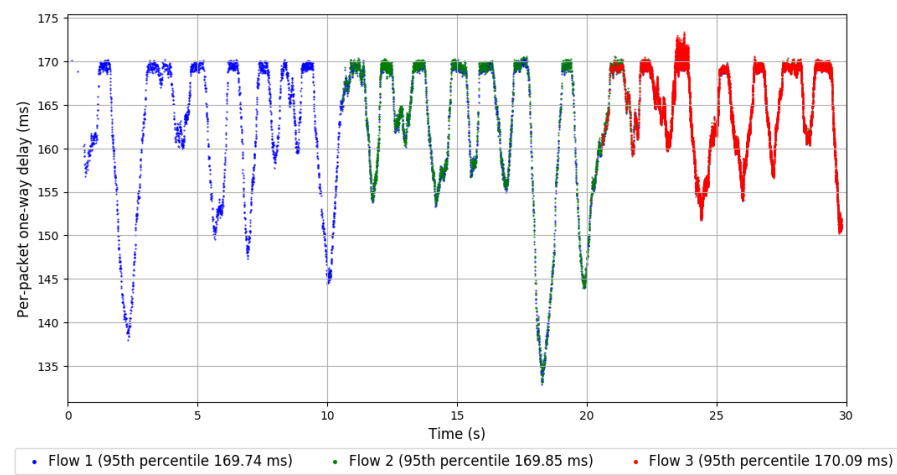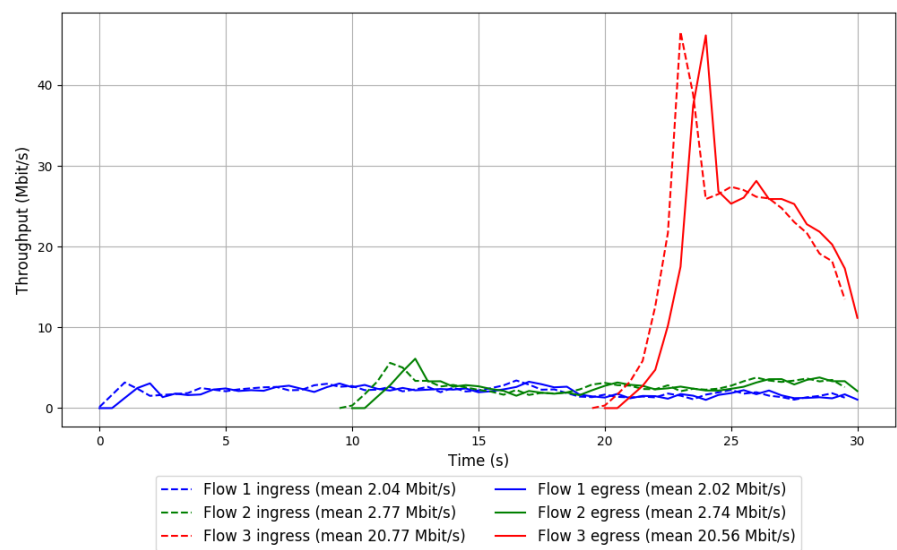
```
Run 5: Statistics of PCC-Vivace

Start at: 2019-01-22 05:50:40
End at: 2019-01-22 05:51:10
Local clock offset: 0.15 ms
Remote clock offset: 39.388 ms


# Below is generated by plot.py at 2019-01-22 06:29:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.53 Mbit/s
95th percentile per-packet one-way delay: 169.910 ms
Loss rate: 2.79%
-- Flow 1:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 169.740 ms
Loss rate: 1.87%
-- Flow 2:
Average throughput: 2.74 Mbit/s
95th percentile per-packet one-way delay: 169.853 ms
Loss rate: 2.33%
-- Flow 3:
Average throughput: 20.56 Mbit/s
95th percentile per-packet one-way delay: 170.088 ms
Loss rate: 3.19%
```

Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-01-22 02:52:49
End at: 2019-01-22 02:53:19
Local clock offset: -1.714 ms
Remote clock offset: 5.184 ms


# Below is generated by plot.py at 2019-01-22 06:29:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 171.452 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 171.442 ms
Loss rate: 1.97%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 171.484 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 171.801 ms
Loss rate: 0.00%
```
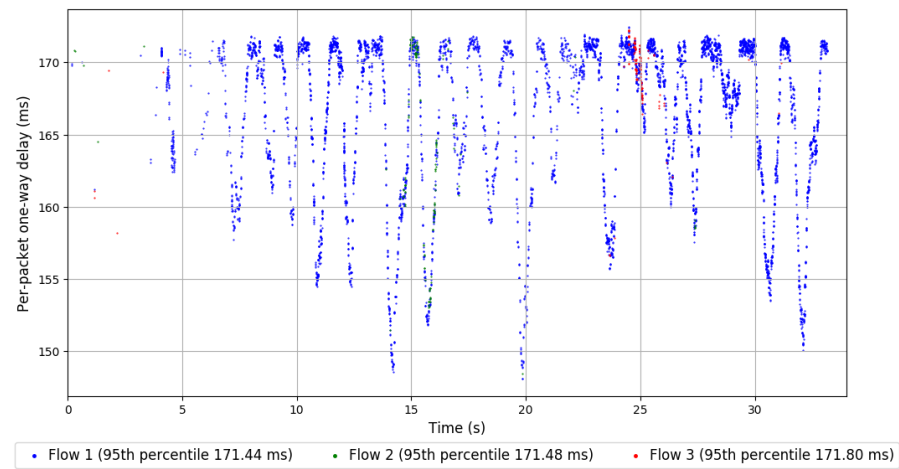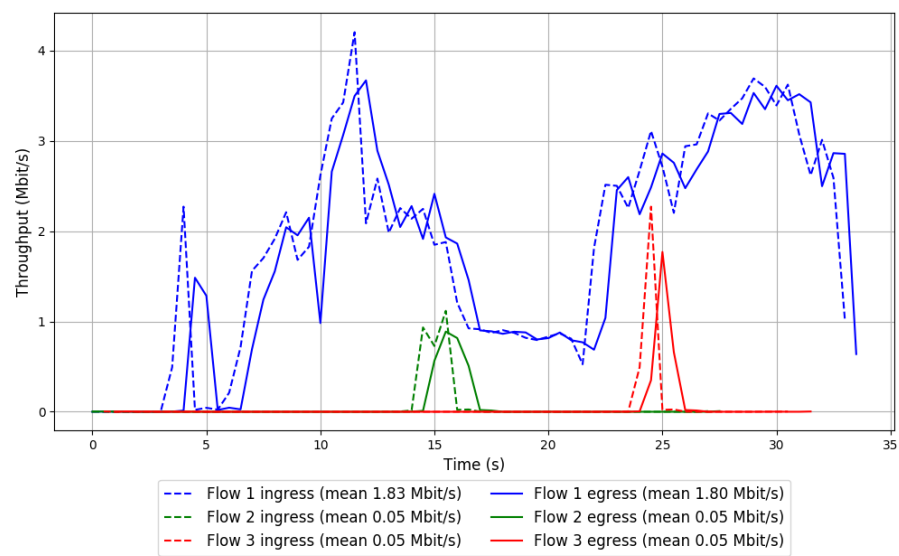
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-01-22 03:54:37
End at: 2019-01-22 03:55:07
Local clock offset: 1.263 ms
Remote clock offset: 76.48 ms


# Below is generated by plot.py at 2019-01-22 06:29:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.65 Mbit/s
95th percentile per-packet one-way delay: 169.387 ms
Loss rate: 4.06%
-- Flow 1:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 169.358 ms
Loss rate: 3.93%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 169.878 ms
Loss rate: 5.80%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 170.033 ms
Loss rate: 9.94%
```
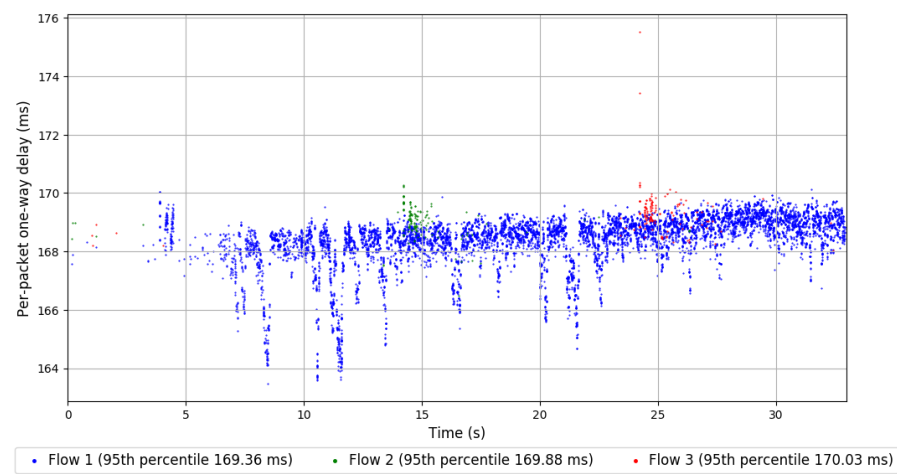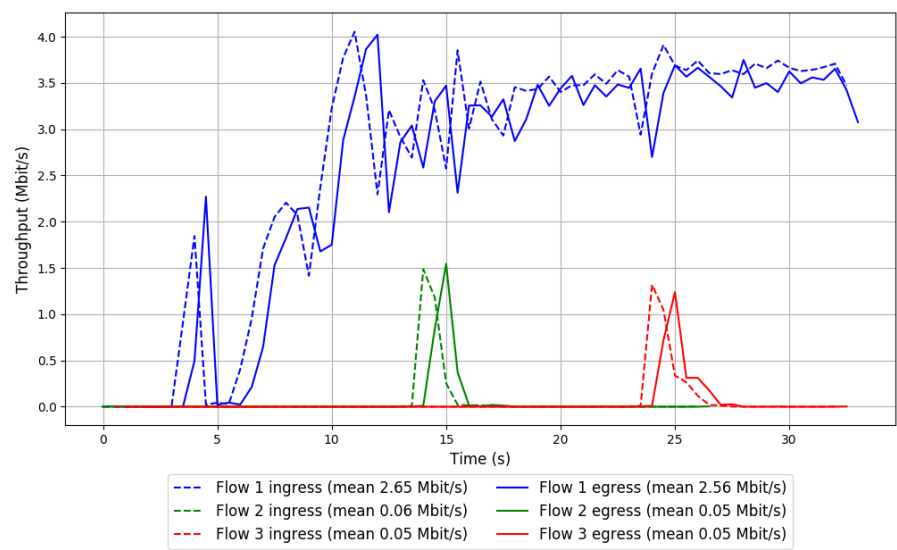
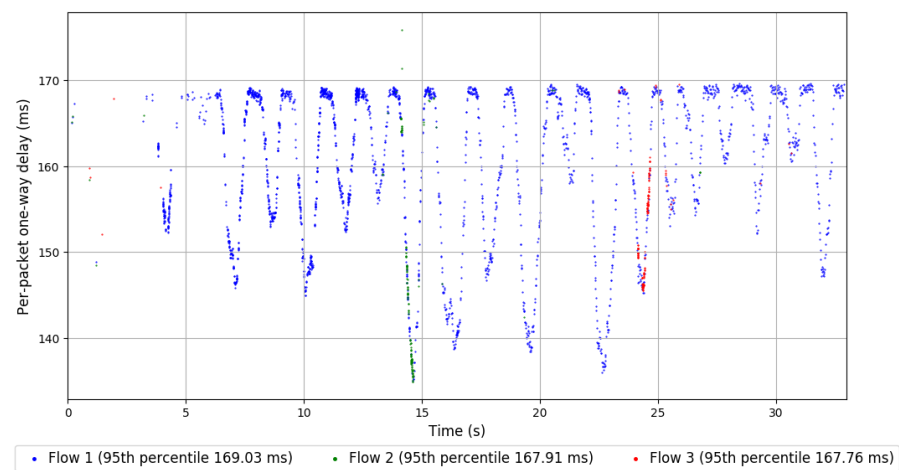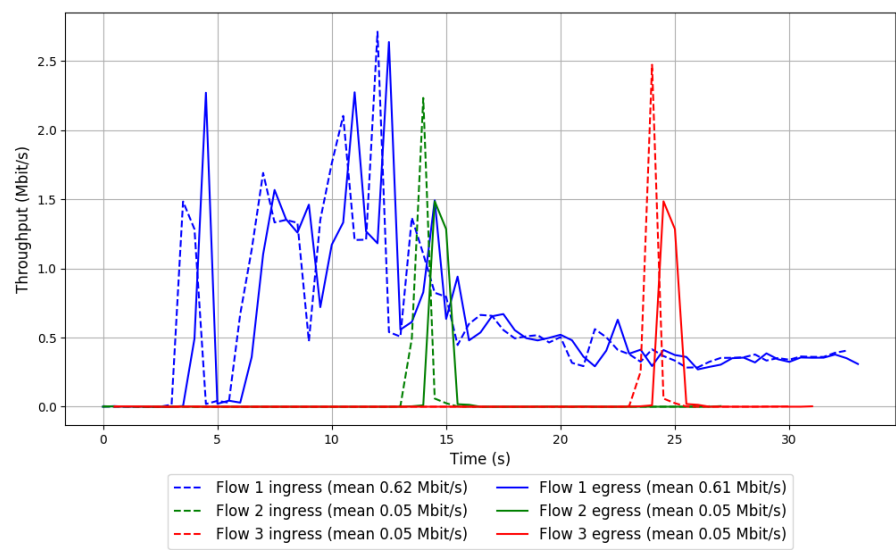Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-01-22 04:38:46
End at: 2019-01-22 04:39:16
Local clock offset: 10.361 ms
Remote clock offset: 30.802 ms


# Below is generated by plot.py at 2019-01-22 06:29:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 169.024 ms
Loss rate: 2.00%
-- Flow 1:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 169.035 ms
Loss rate: 2.28%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 167.915 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 167.763 ms
Loss rate: 0.00%
```

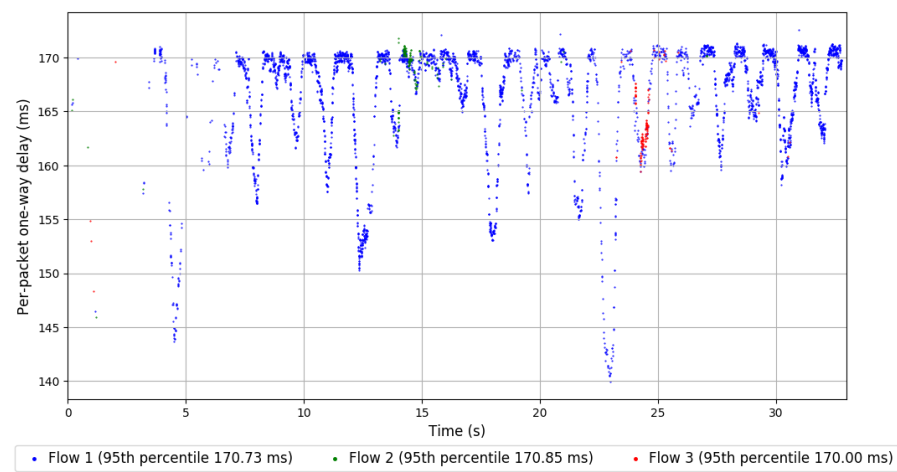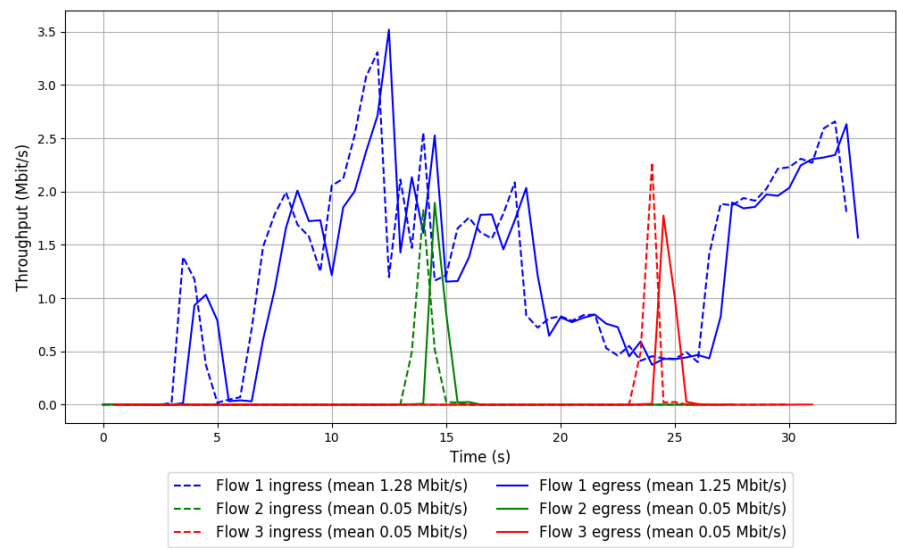Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-01-22 05:19:40
End at: 2019-01-22 05:20:10
Local clock offset: 12.518 ms
Remote clock offset: 42.785 ms


# Below is generated by plot.py at 2019-01-22 06:29:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 170.734 ms
Loss rate: 2.57%
-- Flow 1:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 170.734 ms
Loss rate: 2.66%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 170.851 ms
Loss rate: 2.48%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 170.005 ms
Loss rate: 0.06%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-01-22 06:06:53
End at: 2019-01-22 06:07:23
Local clock offset: -1.764 ms
Remote clock offset: 25.177 ms


# Below is generated by plot.py at 2019-01-22 06:29:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 177.571 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 1.15 Mbit/s
95th percentile per-packet one-way delay: 177.553 ms
Loss rate: 1.36%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 177.959 ms
Loss rate: 2.48%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 176.408 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link