Pantheon Report

Generated at 2018-09-07 16:36:24 (UTC).

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

Repeated the test of 18 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.
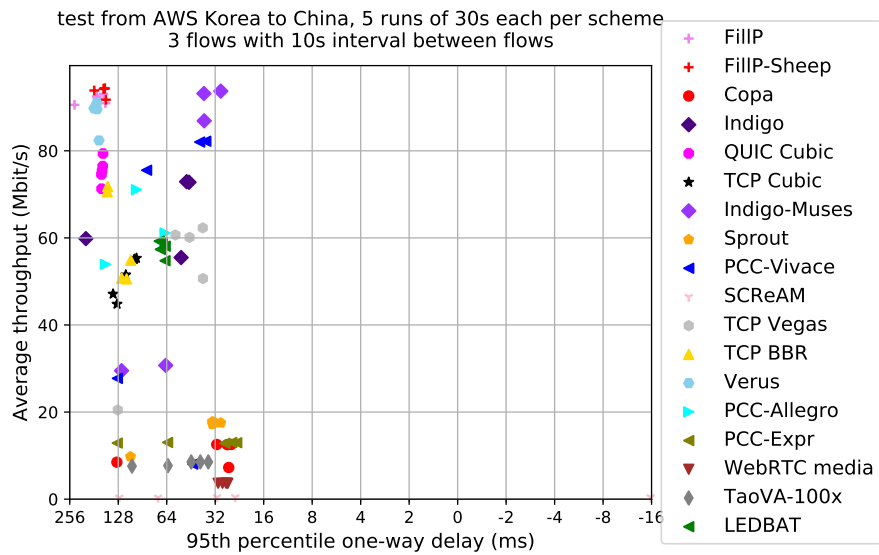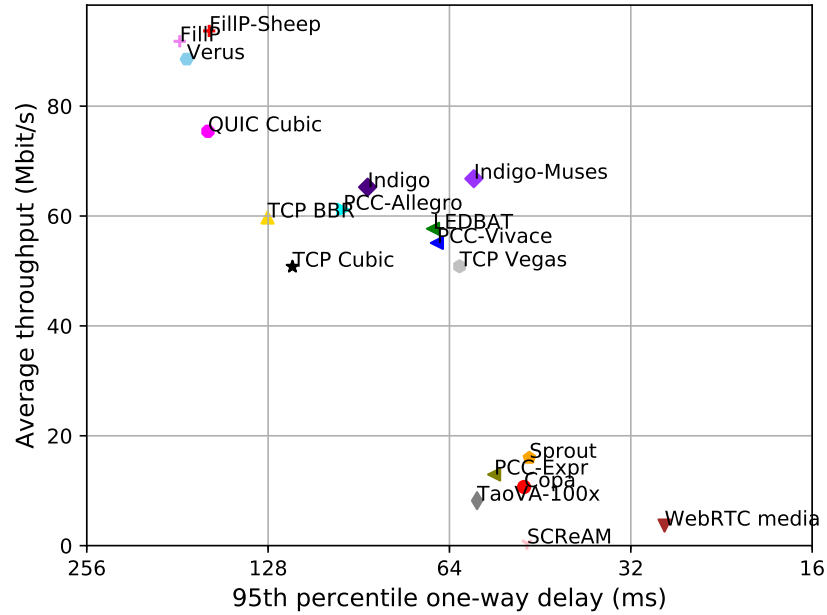
```
System info:
Linux 4.15.0-1020-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 536870912 536870912 536870912

Git summary:
branch: muses @ e0a9b05ad97d268013b7cc9a9c95637b593a1b4c
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 7631aea3923a3598767c87765ae5103aca0678d3
third_party/pantheon-tunnel @ cbfce6db5ff5740dafe1771f813cd646339e1952
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 AWS Korea to China, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from AWS Korea to China, 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	41.34	19.80	15.62	126.68	123.99	102.86	14.59	14.59	14.88
Copa	5	7.12	4.87	1.14	49.22	47.05	46.58	49.31	54.94	58.10
TCP Cubic	5	38.21	14.24	9.27	109.40	141.08	119.20	1.66	1.45	1.18
FillP	5	56.39	40.40	26.10	178.26	179.88	180.63	17.78	26.63	20.95
FillP-Sheep	5	54.72	36.89	43.88	157.52	160.03	162.59	8.47	14.27	28.40
Indigo	4	45.94	22.15	14.58	86.14	88.96	86.51	10.25	18.88	13.09
LEDBAT	5	38.85	24.27	8.08	67.51	68.51	70.12	0.02	0.00	0.00
Indigo-Muses	5	36.98	28.48	33.30	53.24	61.00	43.12	0.00	0.09	0.00
PCC-Allegro	4	57.13	30.62	12.12	87.43	97.93	92.98	16.49	17.05	23.38
PCC-Expr	5	8.06	5.33	4.07	51.57	54.63	54.84	37.15	34.81	29.82
QUIC Cubic	5	46.40	36.34	15.30	160.43	161.58	160.43	0.37	0.31	0.47
SCReAM	5	0.19	0.21	0.22	48.13	47.90	42.94	0.00	0.00	0.00
Sprout	5	8.23	7.99	7.40	47.01	46.72	48.70	0.00	0.00	0.00
TaoVA-100x	5	0.00	9.07	6.85	34.79	54.49	55.92	95.92	21.70	44.86
TCP Vegas	5	26.89	27.84	16.31	59.63	62.56	56.30	0.48	0.68	0.45
Verus	5	61.72	30.03	21.81	174.51	174.87	176.10	12.14	17.13	19.14
PCC-Vivace	5	42.42	14.60	8.97	65.26	68.90	66.28	0.06	0.06	0.06
WebRTC media	5	1.94	1.29	0.43	28.13	28.04	28.23	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2018-09-07 14:42:05
End at: 2018-09-07 14:42:35
Local clock offset: 7.614 ms
Remote clock offset: 39.08 ms


# Below is generated by plot.py at 2018-09-07 16:29:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.80 Mbit/s
95th percentile per-packet one-way delay: 149.027 ms
Loss rate: 18.02%
-- Flow 1:
Average throughput: 48.85 Mbit/s
95th percentile per-packet one-way delay: 144.793 ms
Loss rate: 15.63%
-- Flow 2:
Average throughput: 22.32 Mbit/s
95th percentile per-packet one-way delay: 154.313 ms
Loss rate: 22.95%
-- Flow 3:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 96.137 ms
Loss rate: 22.16%
```
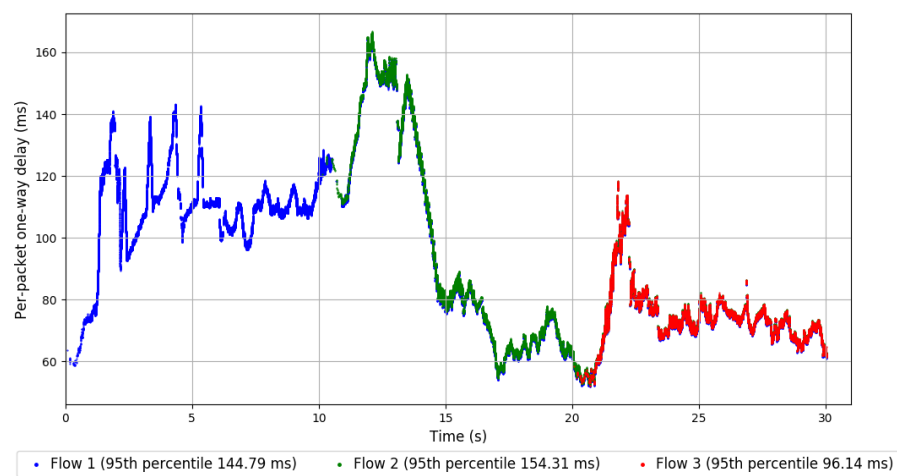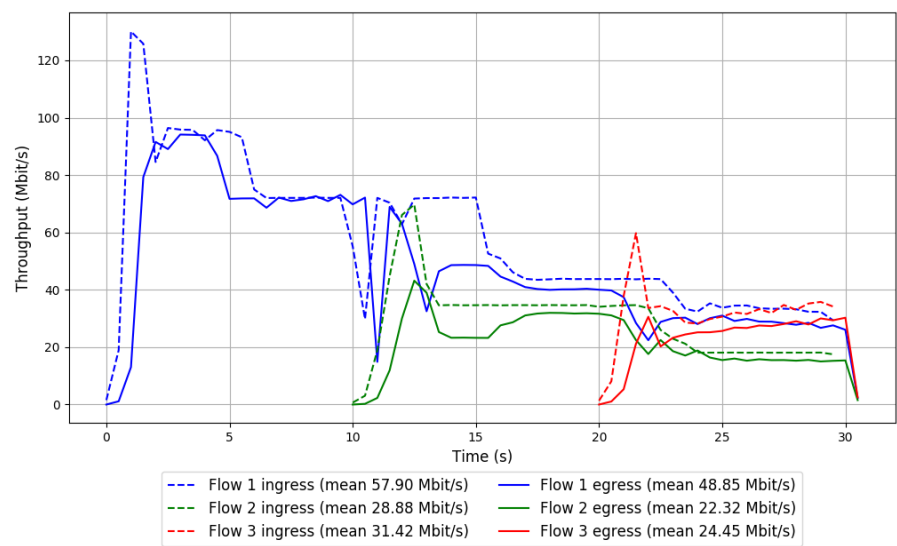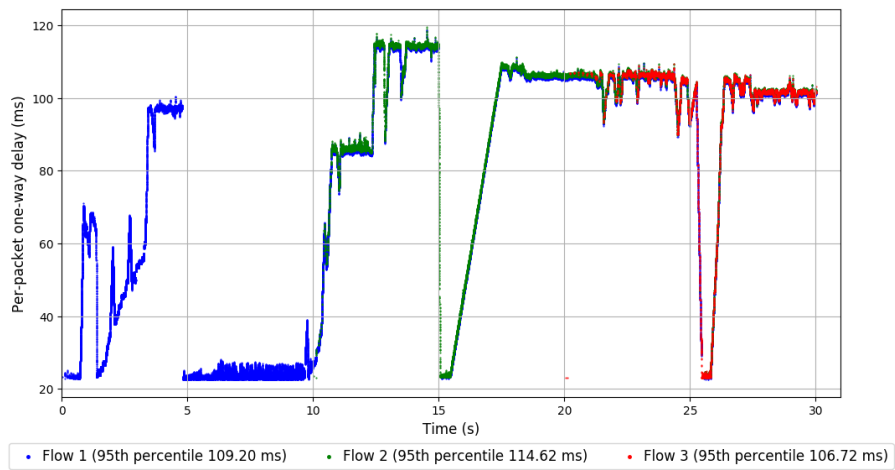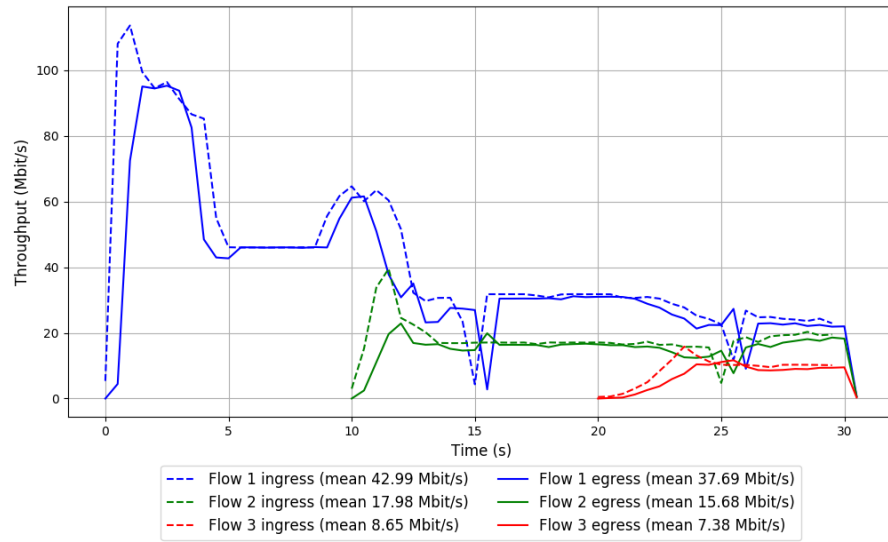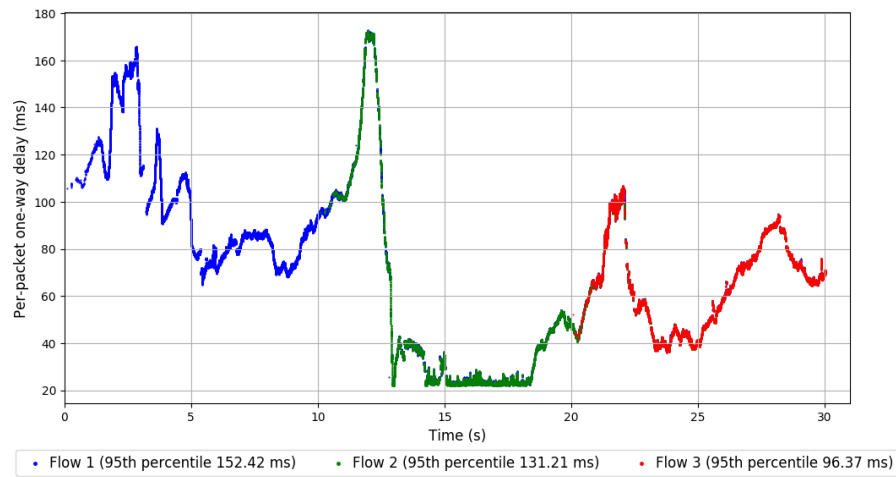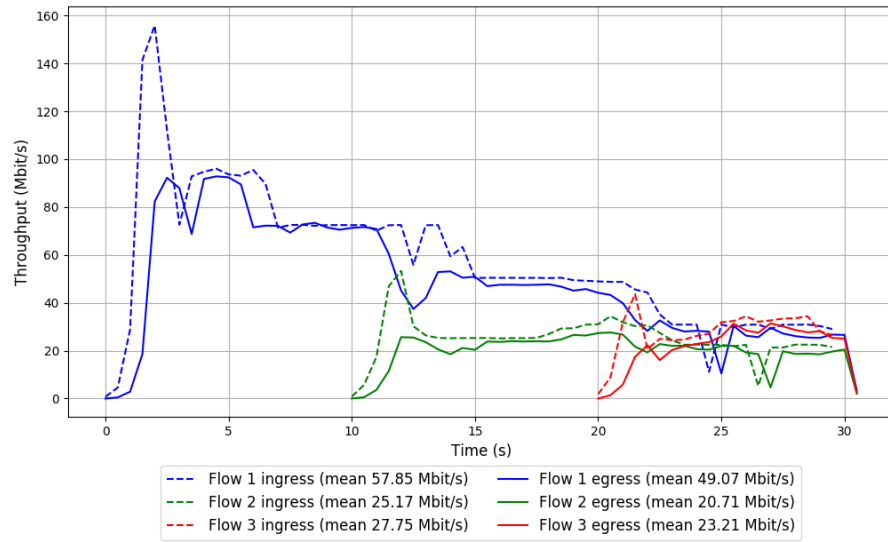
Run 1: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 57.90 Mbit/s)   —— Flow 1 egress (mean 48.85 Mbit/s)
- - - Flow 2 ingress (mean 28.88 Mbit/s)   —— Flow 2 egress (mean 22.32 Mbit/s)
- - - Flow 3 ingress (mean 31.42 Mbit/s)   —— Flow 3 egress (mean 24.45 Mbit/s)

• Flow 1 (95th percentile 144.79 ms)   • Flow 2 (95th percentile 154.31 ms)   • Flow 3 (95th percentile 96.14 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2018-09-07 15:06:01
End at: 2018-09-07 15:06:31
Local clock offset: 6.19 ms
Remote clock offset: 46.479 ms


# Below is generated by plot.py at 2018-09-07 16:29:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.59 Mbit/s
95th percentile per-packet one-way delay: 113.628 ms
Loss rate: 12.55%
-- Flow 1:
Average throughput: 37.69 Mbit/s
95th percentile per-packet one-way delay: 109.198 ms
Loss rate: 12.34%
-- Flow 2:
Average throughput: 15.68 Mbit/s
95th percentile per-packet one-way delay: 114.624 ms
Loss rate: 12.81%
-- Flow 3:
Average throughput: 7.38 Mbit/s
95th percentile per-packet one-way delay: 106.717 ms
Loss rate: 14.67%
```

Run 2: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 42.99 Mbit/s) ——— Flow 1 egress (mean 37.69 Mbit/s)
- - - Flow 2 ingress (mean 17.98 Mbit/s) ——— Flow 2 egress (mean 15.68 Mbit/s)
- - - Flow 3 ingress (mean 8.65 Mbit/s) ——— Flow 3 egress (mean 7.38 Mbit/s)

• Flow 1 (95th percentile 109.20 ms)   • Flow 2 (95th percentile 114.62 ms)   • Flow 3 (95th percentile 106.72 ms)
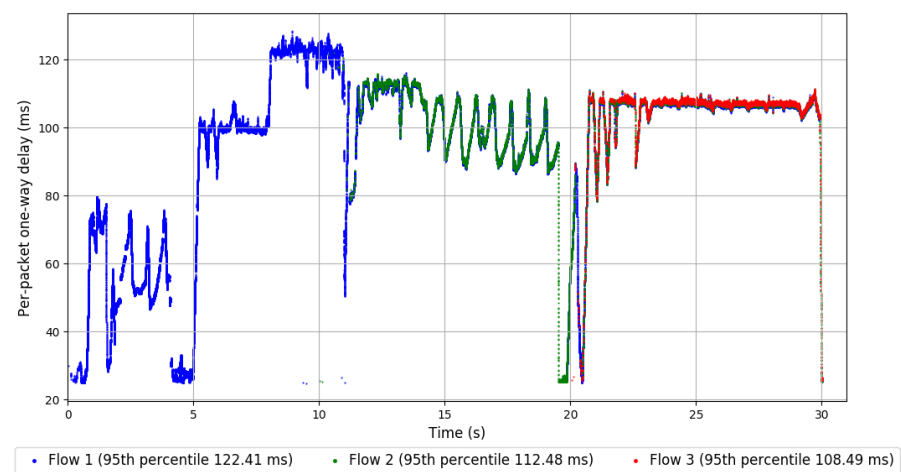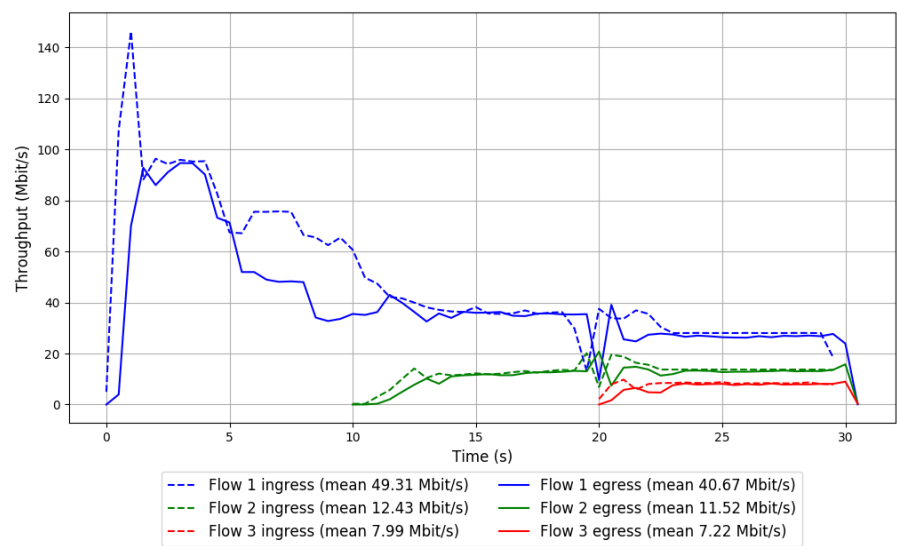
```
Run 3: Statistics of TCP BBR

Start at: 2018-09-07 15:29:12
End at: 2018-09-07 15:29:42
Local clock offset: 2.171 ms
Remote clock offset: 49.954 ms


# Below is generated by plot.py at 2018-09-07 16:29:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.60 Mbit/s
95th percentile per-packet one-way delay: 149.864 ms
Loss rate: 15.89%
-- Flow 1:
Average throughput: 49.07 Mbit/s
95th percentile per-packet one-way delay: 152.416 ms
Loss rate: 15.28%
-- Flow 2:
Average throughput: 20.71 Mbit/s
95th percentile per-packet one-way delay: 131.214 ms
Loss rate: 17.83%
-- Flow 3:
Average throughput: 23.21 Mbit/s
95th percentile per-packet one-way delay: 96.366 ms
Loss rate: 16.21%
```
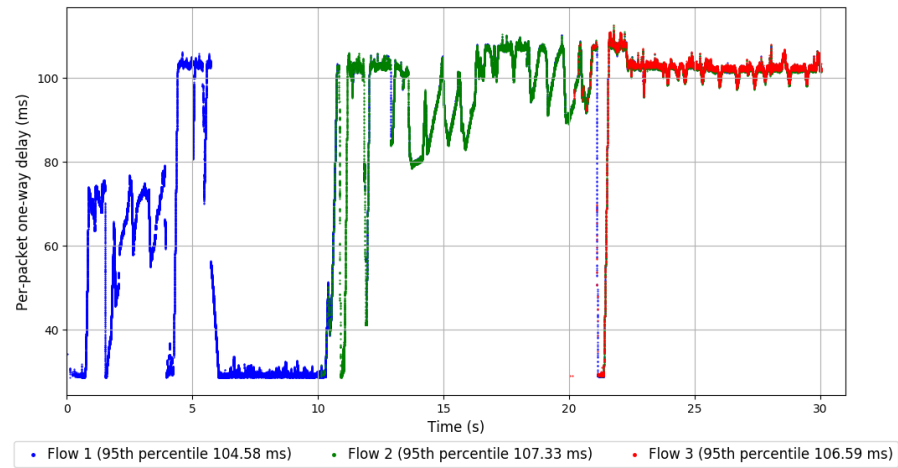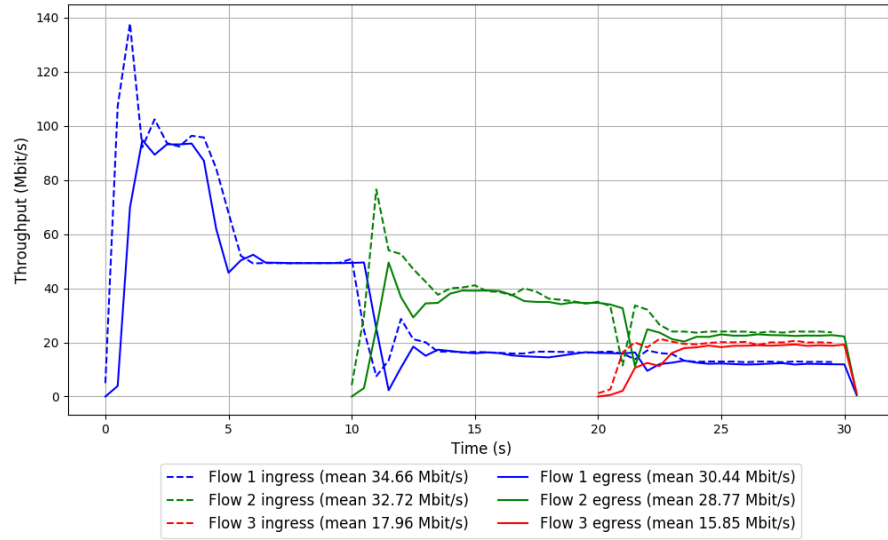
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 57.85 Mbit/s) — Flow 1 egress (mean 49.07 Mbit/s)
Flow 2 ingress (mean 25.17 Mbit/s) — Flow 2 egress (mean 20.71 Mbit/s)
Flow 3 ingress (mean 27.75 Mbit/s) — Flow 3 egress (mean 23.21 Mbit/s)

Flow 1 (95th percentile 152.42 ms)   Flow 2 (95th percentile 131.21 ms)   Flow 3 (95th percentile 96.37 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2018-09-07 15:52:20
End at: 2018-09-07 15:52:50
Local clock offset: 1.171 ms
Remote clock offset: 51.203 ms


# Below is generated by plot.py at 2018-09-07 16:29:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.75 Mbit/s
95th percentile per-packet one-way delay: 121.897 ms
Loss rate: 15.78%
-- Flow 1:
Average throughput: 40.67 Mbit/s
95th percentile per-packet one-way delay: 122.410 ms
Loss rate: 17.53%
-- Flow 2:
Average throughput: 11.52 Mbit/s
95th percentile per-packet one-way delay: 112.482 ms
Loss rate: 7.31%
-- Flow 3:
Average throughput: 7.22 Mbit/s
95th percentile per-packet one-way delay: 108.486 ms
Loss rate: 9.70%
```
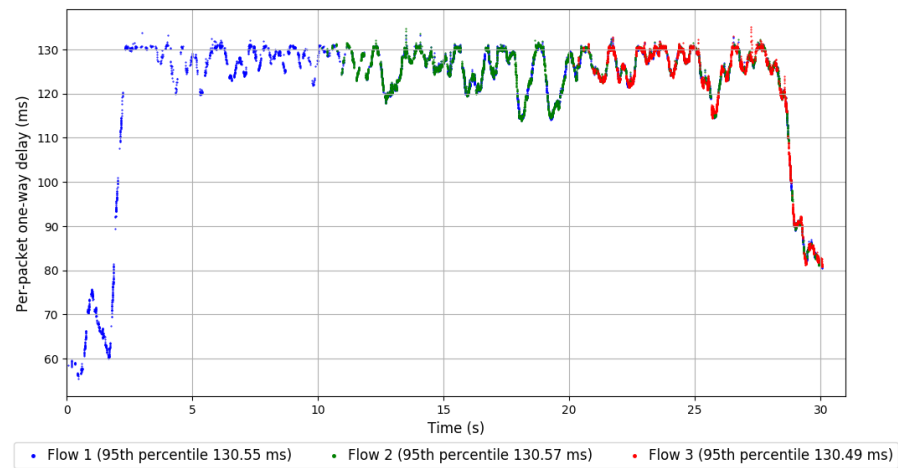
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 49.31 Mbit/s) — — — —   Flow 1 egress (mean 40.67 Mbit/s) ————
Flow 2 ingress (mean 12.43 Mbit/s) — — — —   Flow 2 egress (mean 11.52 Mbit/s) ————
Flow 3 ingress (mean 7.99 Mbit/s) — — — —   Flow 3 egress (mean 7.22 Mbit/s) ————

Flow 1 (95th percentile 122.41 ms)   Flow 2 (95th percentile 112.48 ms)   Flow 3 (95th percentile 108.49 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2018-09-07 16:18:09
End at: 2018-09-07 16:18:39
Local clock offset: 2.598 ms
Remote clock offset: 54.674 ms


# Below is generated by plot.py at 2018-09-07 16:29:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.88 Mbit/s
95th percentile per-packet one-way delay: 107.038 ms
Loss rate: 12.09%
-- Flow 1:
Average throughput: 30.44 Mbit/s
95th percentile per-packet one-way delay: 104.579 ms
Loss rate: 12.18%
-- Flow 2:
Average throughput: 28.77 Mbit/s
95th percentile per-packet one-way delay: 107.329 ms
Loss rate: 12.07%
-- Flow 3:
Average throughput: 15.85 Mbit/s
95th percentile per-packet one-way delay: 106.593 ms
Loss rate: 11.68%
```
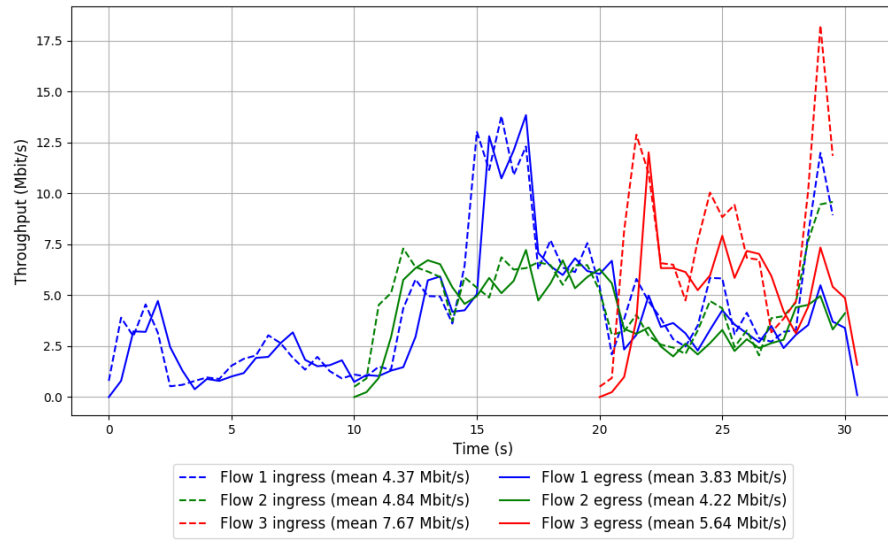
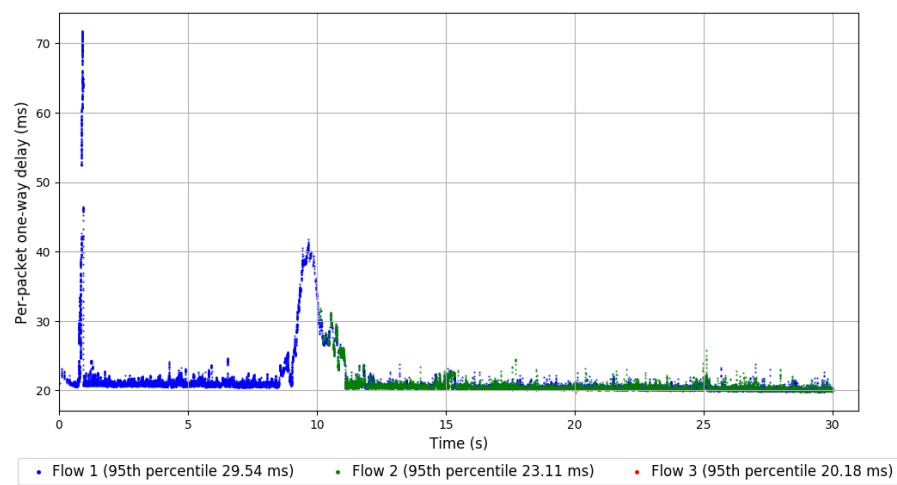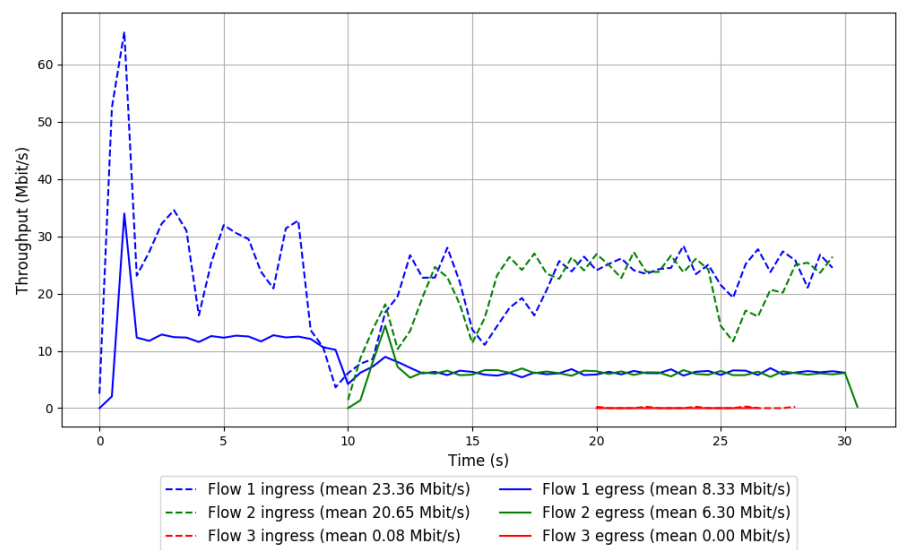Run 5: Report of TCP BBR — Data Link

```
Run 1: Statistics of Copa

Start at: 2018-09-07 14:32:54
End at: 2018-09-07 14:33:24
Local clock offset: 7.319 ms
Remote clock offset: 47.64 ms


# Below is generated by plot.py at 2018-09-07 16:29:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.49 Mbit/s
95th percentile per-packet one-way delay: 130.539 ms
Loss rate: 16.18%
-- Flow 1:
Average throughput: 3.83 Mbit/s
95th percentile per-packet one-way delay: 130.548 ms
Loss rate: 12.42%
-- Flow 2:
Average throughput: 4.22 Mbit/s
95th percentile per-packet one-way delay: 130.571 ms
Loss rate: 12.96%
-- Flow 3:
Average throughput: 5.64 Mbit/s
95th percentile per-packet one-way delay: 130.492 ms
Loss rate: 26.72%
```
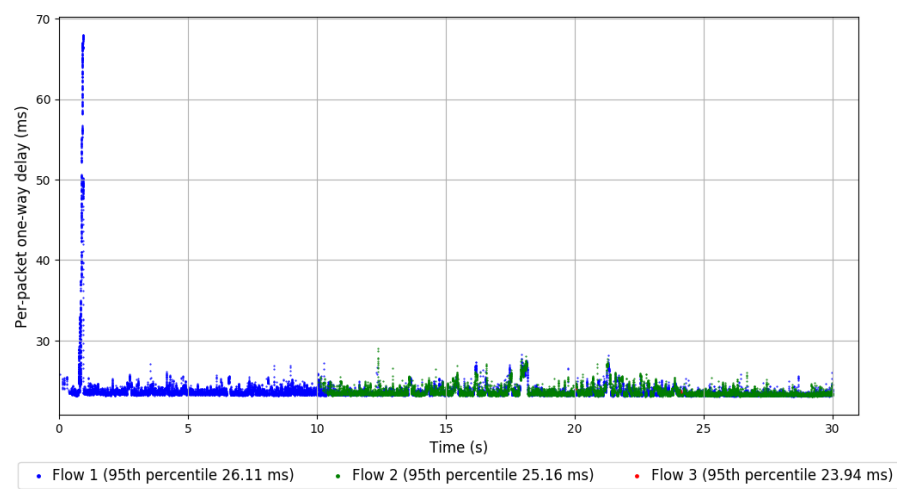
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 4.37 Mbit/s) --- Flow 1 egress (mean 3.83 Mbit/s)
Flow 2 ingress (mean 4.84 Mbit/s) --- Flow 2 egress (mean 4.22 Mbit/s)
Flow 3 ingress (mean 7.67 Mbit/s) --- Flow 3 egress (mean 5.64 Mbit/s)

Flow 1 (95th percentile 130.55 ms) · Flow 2 (95th percentile 130.57 ms) · Flow 3 (95th percentile 130.49 ms)

```
Run 2: Statistics of Copa

Start at: 2018-09-07 14:56:56
End at: 2018-09-07 14:57:26
Local clock offset: 6.379 ms
Remote clock offset: 34.239 ms


# Below is generated by plot.py at 2018-09-07 16:29:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.52 Mbit/s
95th percentile per-packet one-way delay: 26.942 ms
Loss rate: 66.27%
-- Flow 1:
Average throughput: 8.33 Mbit/s
95th percentile per-packet one-way delay: 29.536 ms
Loss rate: 64.34%
-- Flow 2:
Average throughput: 6.30 Mbit/s
95th percentile per-packet one-way delay: 23.111 ms
Loss rate: 69.51%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 20.183 ms
Loss rate: 97.92%
```
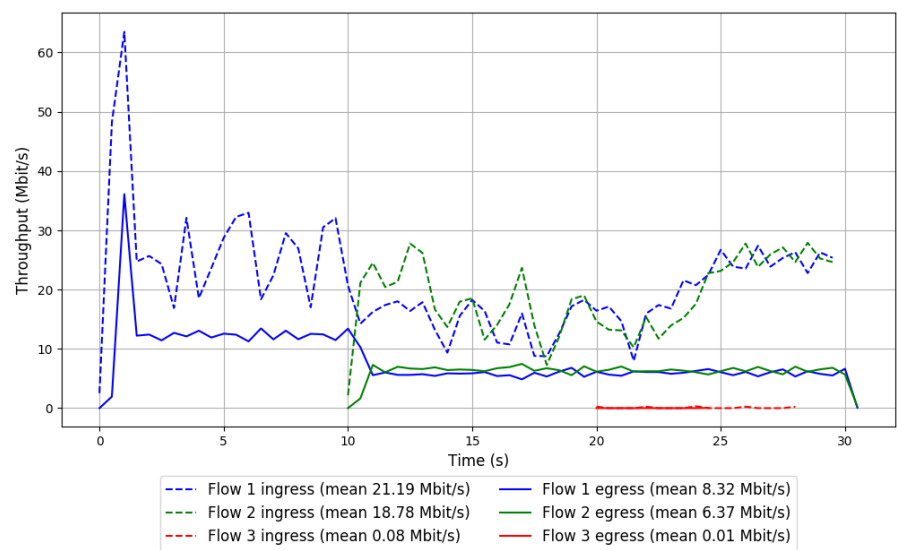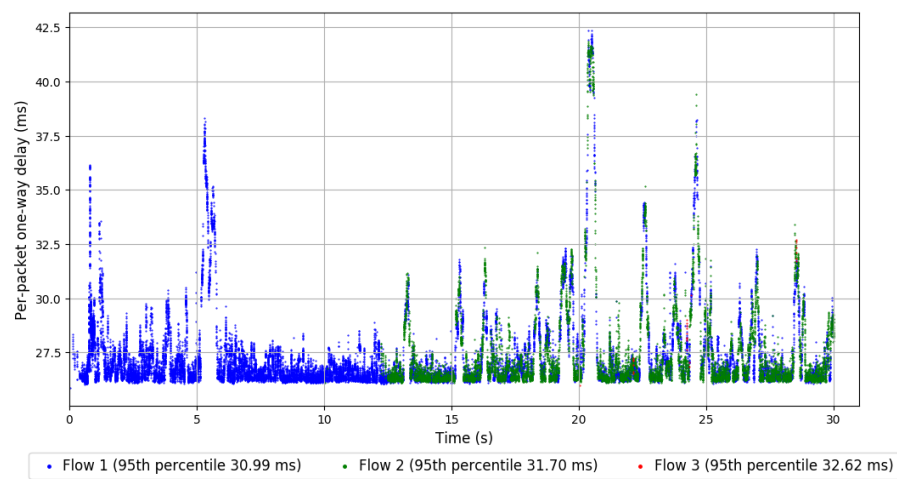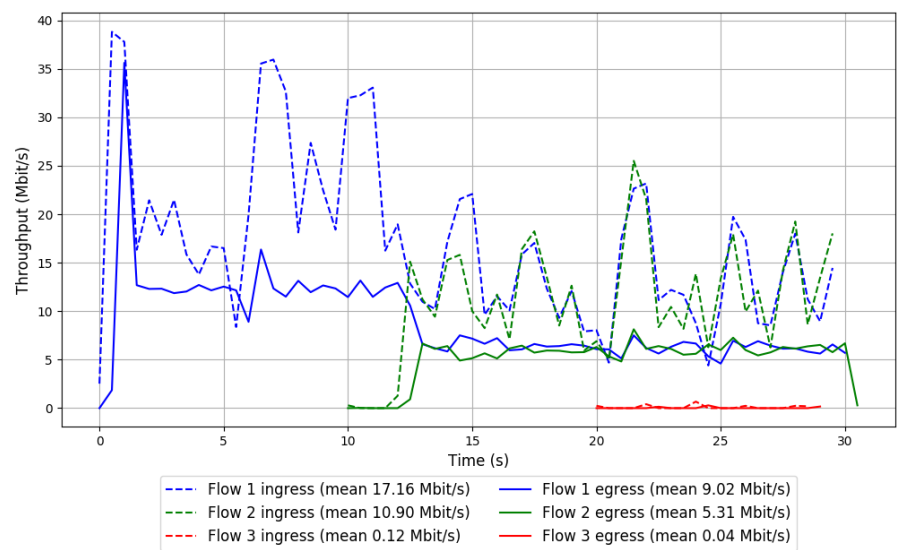
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-09-07 15:20:08
End at: 2018-09-07 15:20:38
Local clock offset: 3.994 ms
Remote clock offset: 50.1 ms


# Below is generated by plot.py at 2018-09-07 16:29:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.56 Mbit/s
95th percentile per-packet one-way delay: 25.444 ms
Loss rate: 62.76%
-- Flow 1:
Average throughput: 8.32 Mbit/s
95th percentile per-packet one-way delay: 26.115 ms
Loss rate: 60.76%
-- Flow 2:
Average throughput: 6.37 Mbit/s
95th percentile per-packet one-way delay: 25.156 ms
Loss rate: 66.10%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 23.942 ms
Loss rate: 96.07%
```
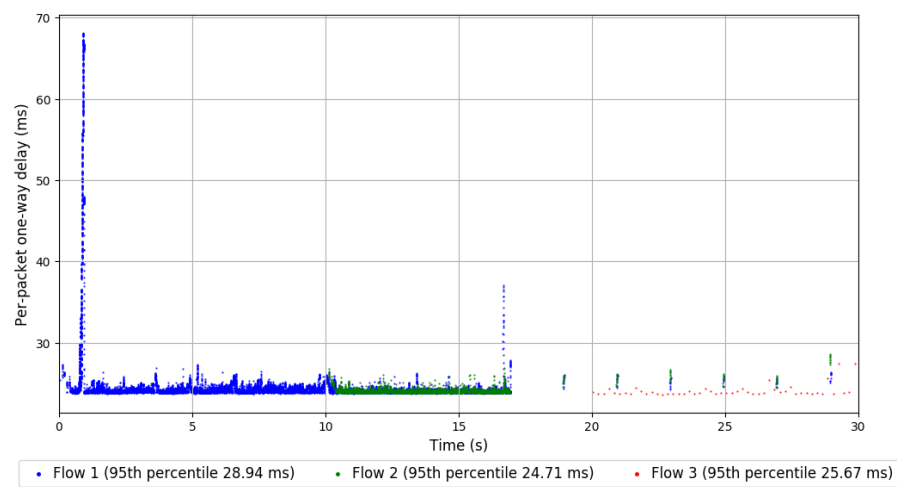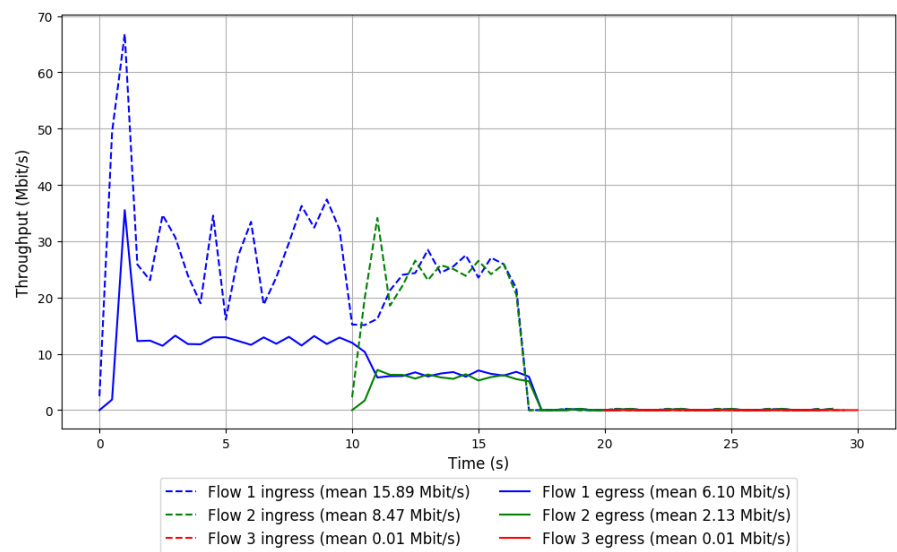
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-09-07 15:43:30
End at: 2018-09-07 15:44:00
Local clock offset: 0.729 ms
Remote clock offset: 52.293 ms


# Below is generated by plot.py at 2018-09-07 16:29:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.55 Mbit/s
95th percentile per-packet one-way delay: 31.317 ms
Loss rate: 48.59%
-- Flow 1:
Average throughput: 9.02 Mbit/s
95th percentile per-packet one-way delay: 30.988 ms
Loss rate: 47.41%
-- Flow 2:
Average throughput: 5.31 Mbit/s
95th percentile per-packet one-way delay: 31.702 ms
Loss rate: 51.28%
-- Flow 3:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 32.619 ms
Loss rate: 69.81%
```
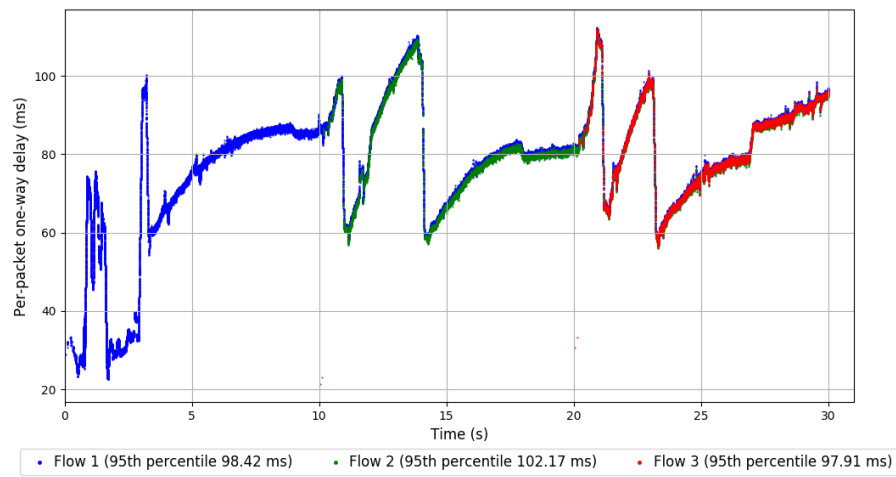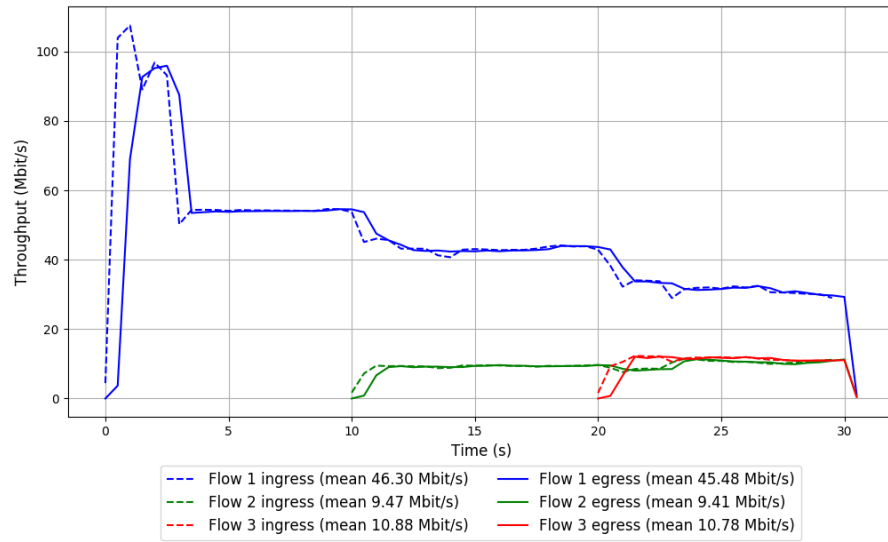
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 17.16 Mbit/s)   Flow 1 egress (mean 9.02 Mbit/s)
Flow 2 ingress (mean 10.90 Mbit/s)   Flow 2 egress (mean 5.31 Mbit/s)
Flow 3 ingress (mean 0.12 Mbit/s)   Flow 3 egress (mean 0.04 Mbit/s)

Flow 1 (95th percentile 30.99 ms)   Flow 2 (95th percentile 31.70 ms)   Flow 3 (95th percentile 32.62 ms)

```
Run 5: Statistics of Copa

Start at: 2018-09-07 16:08:11
End at: 2018-09-07 16:08:41
Local clock offset: 1.541 ms
Remote clock offset: 49.693 ms


# Below is generated by plot.py at 2018-09-07 16:29:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.26 Mbit/s
95th percentile per-packet one-way delay: 26.382 ms
Loss rate: 65.03%
-- Flow 1:
Average throughput: 6.10 Mbit/s
95th percentile per-packet one-way delay: 28.937 ms
Loss rate: 61.63%
-- Flow 2:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 24.714 ms
Loss rate: 74.83%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 25.673 ms
Loss rate: 0.00%
```
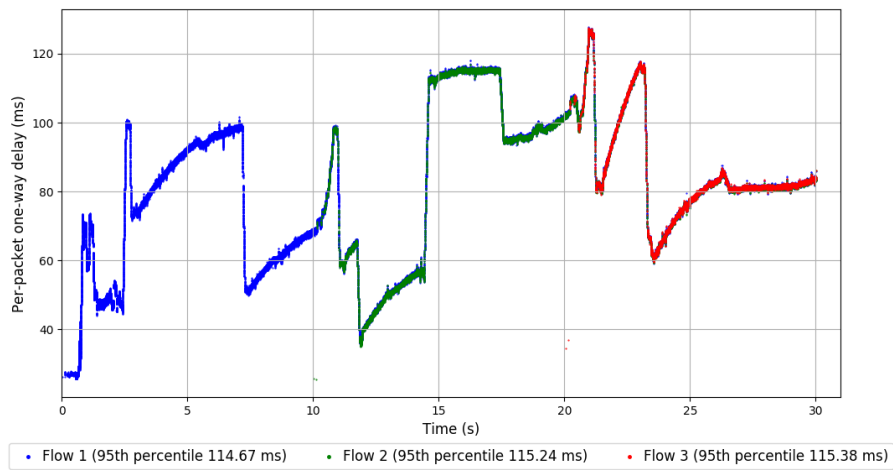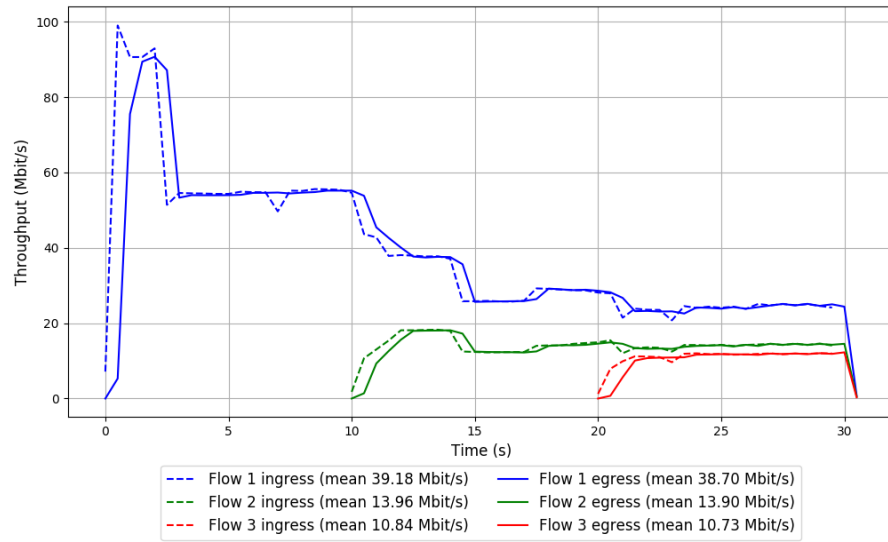
Run 5: Report of Copa — Data Link

Legend:
- Flow 1 ingress (mean 15.89 Mbit/s)
- Flow 2 ingress (mean 8.47 Mbit/s)
- Flow 3 ingress (mean 0.01 Mbit/s)
- Flow 1 egress (mean 6.10 Mbit/s)
- Flow 2 egress (mean 2.13 Mbit/s)
- Flow 3 egress (mean 0.01 Mbit/s)

Legend:
- Flow 1 (95th percentile 28.94 ms)
- Flow 2 (95th percentile 24.71 ms)
- Flow 3 (95th percentile 25.67 ms)

```
Run 1: Statistics of TCP Cubic

Start at: 2018-09-07 14:47:41
End at: 2018-09-07 14:48:11
Local clock offset: 7.122 ms
Remote clock offset: 37.481 ms


# Below is generated by plot.py at 2018-09-07 16:29:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.33 Mbit/s
95th percentile per-packet one-way delay: 98.618 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 45.48 Mbit/s
95th percentile per-packet one-way delay: 98.415 ms
Loss rate: 1.77%
-- Flow 2:
Average throughput: 9.41 Mbit/s
95th percentile per-packet one-way delay: 102.174 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 10.78 Mbit/s
95th percentile per-packet one-way delay: 97.910 ms
Loss rate: 0.93%
```
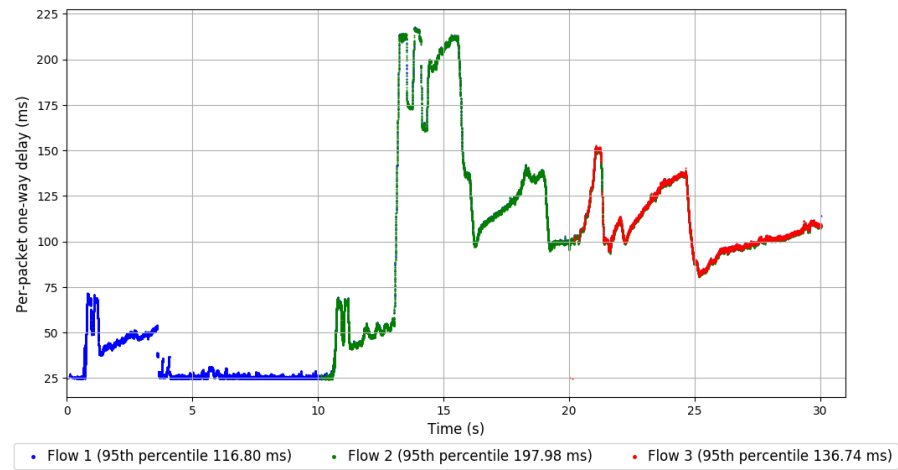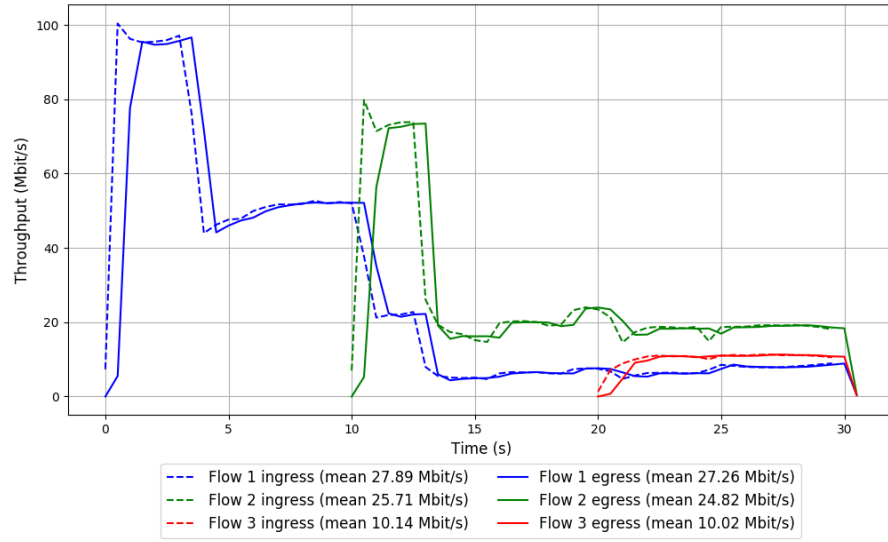
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2018-09-07 15:11:08
End at: 2018-09-07 15:11:38
Local clock offset: 6.19 ms
Remote clock offset: 50.918 ms


# Below is generated by plot.py at 2018-09-07 16:29:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.52 Mbit/s
95th percentile per-packet one-way delay: 114.903 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 38.70 Mbit/s
95th percentile per-packet one-way delay: 114.668 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 13.90 Mbit/s
95th percentile per-packet one-way delay: 115.238 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 10.73 Mbit/s
95th percentile per-packet one-way delay: 115.379 ms
Loss rate: 1.04%
```
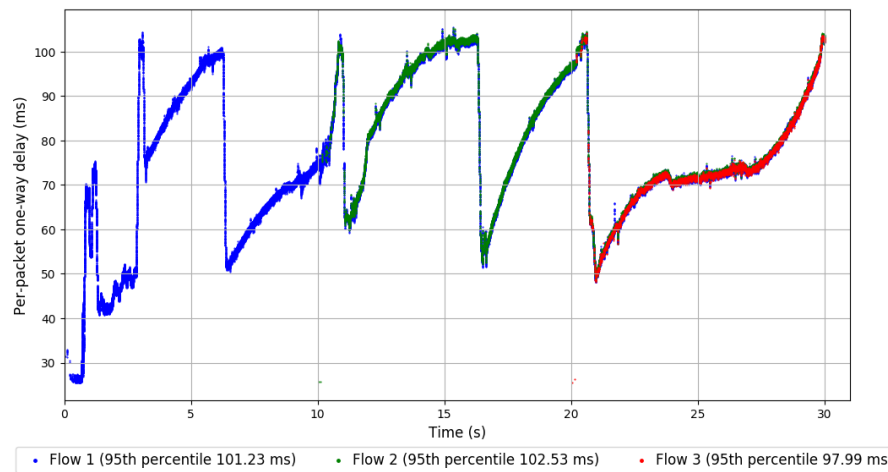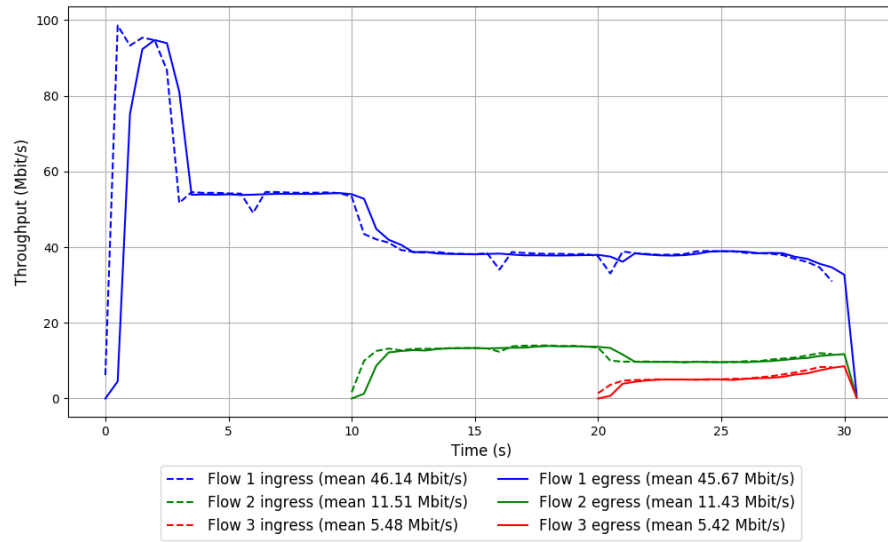
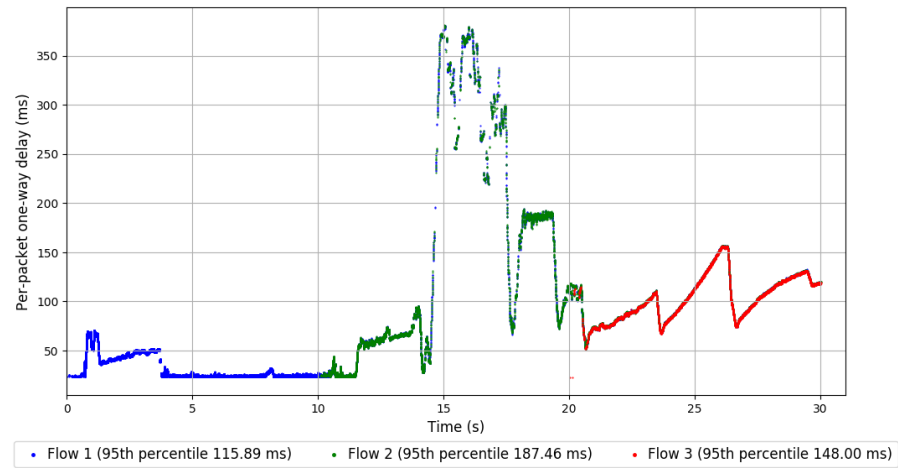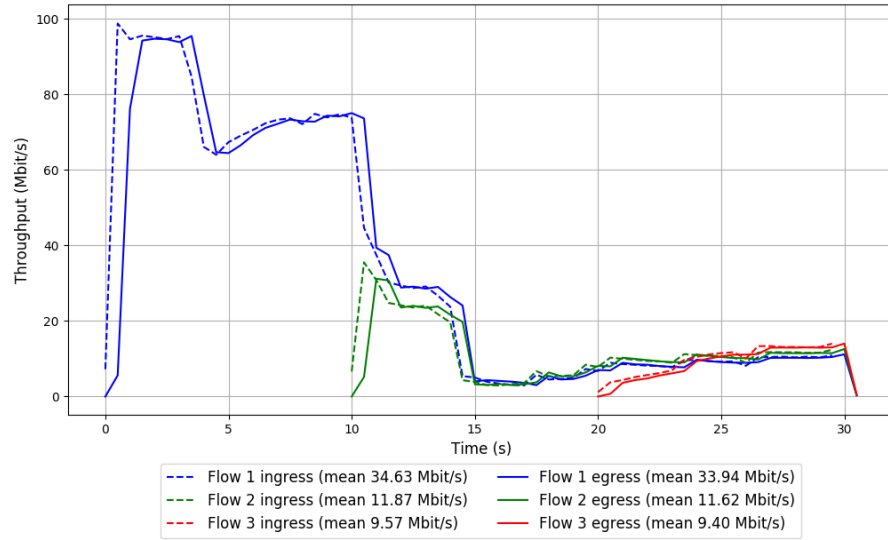Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2018-09-07 15:34:27
End at: 2018-09-07 15:34:57
Local clock offset: 1.286 ms
Remote clock offset: 51.659 ms


# Below is generated by plot.py at 2018-09-07 16:30:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.12 Mbit/s
95th percentile per-packet one-way delay: 137.748 ms
Loss rate: 2.60%
-- Flow 1:
Average throughput: 27.26 Mbit/s
95th percentile per-packet one-way delay: 116.796 ms
Loss rate: 2.25%
-- Flow 2:
Average throughput: 24.82 Mbit/s
95th percentile per-packet one-way delay: 197.977 ms
Loss rate: 3.46%
-- Flow 3:
Average throughput: 10.02 Mbit/s
95th percentile per-packet one-way delay: 136.735 ms
Loss rate: 1.19%
```

Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 27.89 Mbit/s) --- Flow 1 egress (mean 27.26 Mbit/s)
Flow 2 ingress (mean 25.71 Mbit/s) --- Flow 2 egress (mean 24.82 Mbit/s)
Flow 3 ingress (mean 10.14 Mbit/s) --- Flow 3 egress (mean 10.02 Mbit/s)

Flow 1 (95th percentile 116.80 ms)   Flow 2 (95th percentile 197.98 ms)   Flow 3 (95th percentile 136.74 ms)

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```
Run 4: Statistics of TCP Cubic

Start at: 2018-09-07 15:59:11
End at: 2018-09-07 15:59:41
Local clock offset: 1.341 ms
Remote clock offset: 51.283 ms


# Below is generated by plot.py at 2018-09-07 16:30:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.09 Mbit/s
95th percentile per-packet one-way delay: 101.609 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 45.67 Mbit/s
95th percentile per-packet one-way delay: 101.233 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 11.43 Mbit/s
95th percentile per-packet one-way delay: 102.535 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 5.42 Mbit/s
95th percentile per-packet one-way delay: 97.989 ms
Loss rate: 1.06%
```
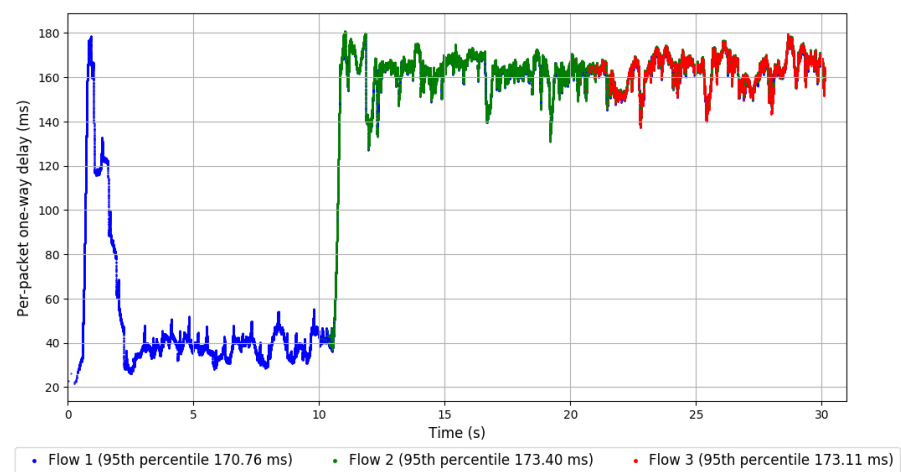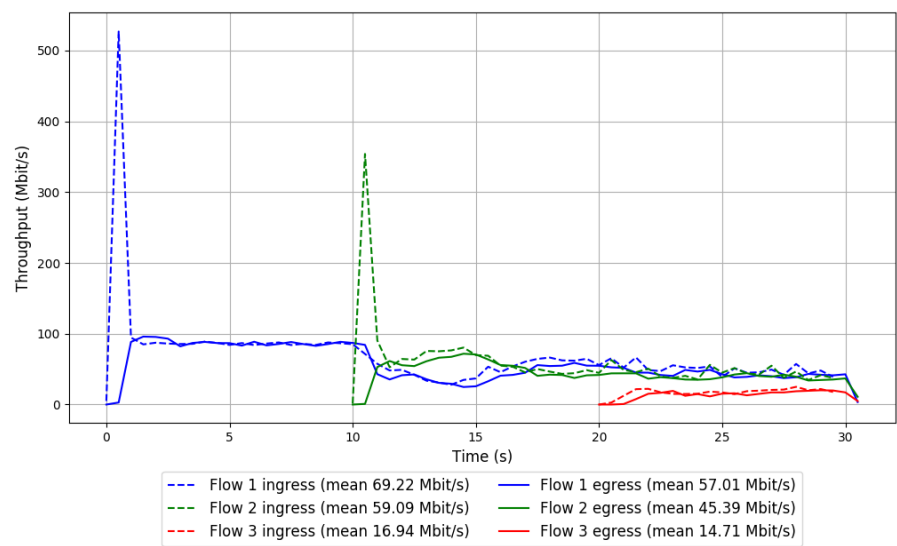
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-09-07 16:23:14
End at: 2018-09-07 16:23:44
Local clock offset: 4.047 ms
Remote clock offset: 48.752 ms


# Below is generated by plot.py at 2018-09-07 16:30:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 44.81 Mbit/s
95th percentile per-packet one-way delay: 130.258 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 33.94 Mbit/s
95th percentile per-packet one-way delay: 115.894 ms
Loss rate: 2.01%
-- Flow 2:
Average throughput: 11.62 Mbit/s
95th percentile per-packet one-way delay: 187.455 ms
Loss rate: 2.11%
-- Flow 3:
Average throughput: 9.40 Mbit/s
95th percentile per-packet one-way delay: 147.995 ms
Loss rate: 1.70%
```

Run 5: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 34.63 Mbit/s)   —— Flow 1 egress (mean 33.94 Mbit/s)
- - - Flow 2 ingress (mean 11.87 Mbit/s)   —— Flow 2 egress (mean 11.62 Mbit/s)
- - - Flow 3 ingress (mean 9.57 Mbit/s)   —— Flow 3 egress (mean 9.40 Mbit/s)

- Flow 1 (95th percentile 115.89 ms)   • Flow 2 (95th percentile 187.46 ms)   • Flow 3 (95th percentile 148.00 ms)

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```
Run 1: Statistics of FillP

Start at: 2018-09-07 14:39:25
End at: 2018-09-07 14:39:55
Local clock offset: 7.359 ms
Remote clock offset: 41.351 ms


# Below is generated by plot.py at 2018-09-07 16:31:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.94 Mbit/s
95th percentile per-packet one-way delay: 172.098 ms
Loss rate: 19.09%
-- Flow 1:
Average throughput: 57.01 Mbit/s
95th percentile per-packet one-way delay: 170.757 ms
Loss rate: 17.50%
-- Flow 2:
Average throughput: 45.39 Mbit/s
95th percentile per-packet one-way delay: 173.400 ms
Loss rate: 22.71%
-- Flow 3:
Average throughput: 14.71 Mbit/s
95th percentile per-packet one-way delay: 173.110 ms
Loss rate: 13.23%
```
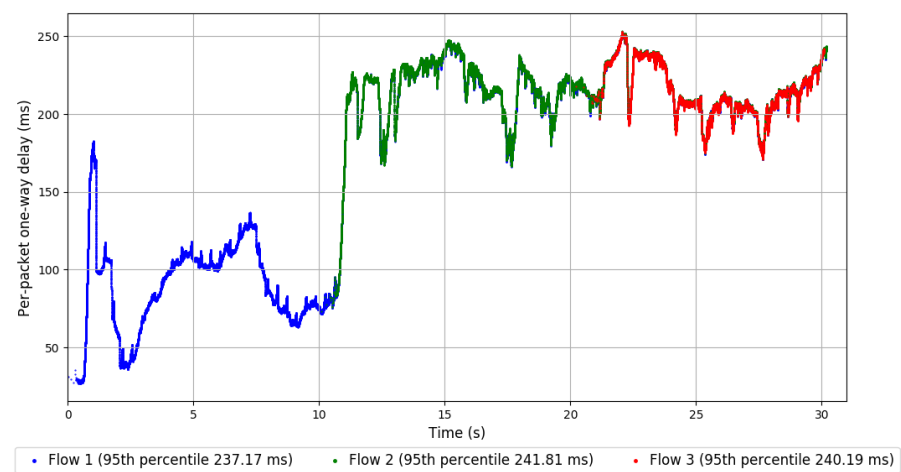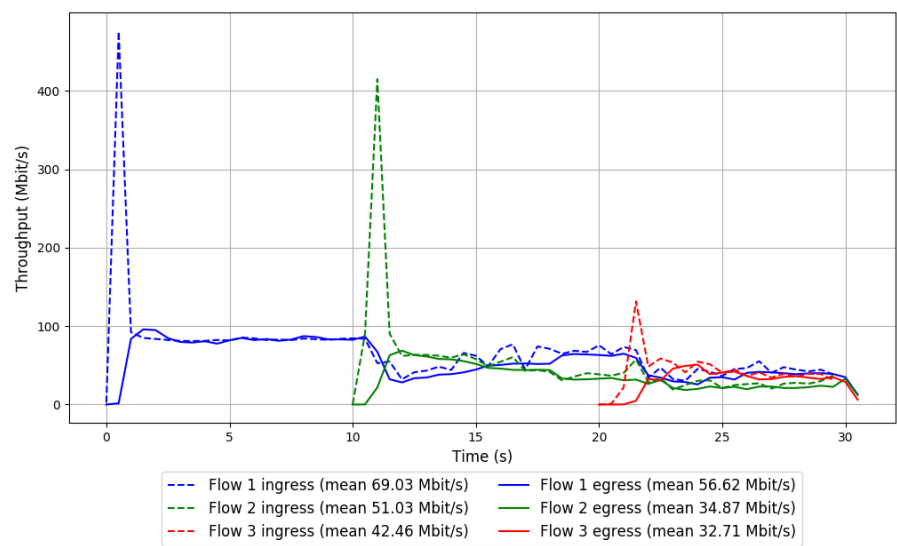
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 69.22 Mbit/s) --- Flow 1 egress (mean 57.01 Mbit/s)
Flow 2 ingress (mean 59.09 Mbit/s) --- Flow 2 egress (mean 45.39 Mbit/s)
Flow 3 ingress (mean 16.94 Mbit/s) --- Flow 3 egress (mean 14.71 Mbit/s)

Flow 1 (95th percentile 170.76 ms) Flow 2 (95th percentile 173.40 ms) Flow 3 (95th percentile 173.11 ms)

```
Run 2: Statistics of FillP

Start at: 2018-09-07 15:03:23
End at: 2018-09-07 15:03:53
Local clock offset: 6.284 ms
Remote clock offset: 45.138 ms


# Below is generated by plot.py at 2018-09-07 16:31:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.94 Mbit/s
95th percentile per-packet one-way delay: 153.907 ms
Loss rate: 20.81%
-- Flow 1:
Average throughput: 54.82 Mbit/s
95th percentile per-packet one-way delay: 153.779 ms
Loss rate: 17.36%
-- Flow 2:
Average throughput: 41.92 Mbit/s
95th percentile per-packet one-way delay: 154.043 ms
Loss rate: 26.65%
-- Flow 3:
Average throughput: 25.17 Mbit/s
95th percentile per-packet one-way delay: 154.031 ms
Loss rate: 21.31%
```
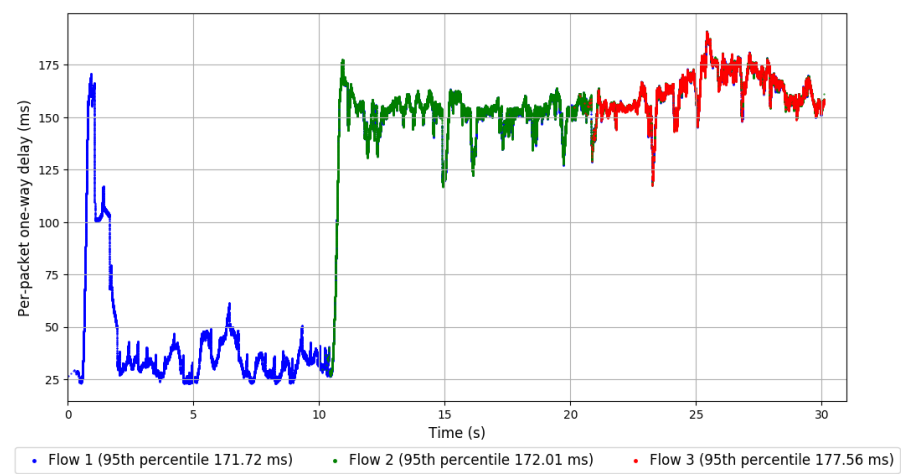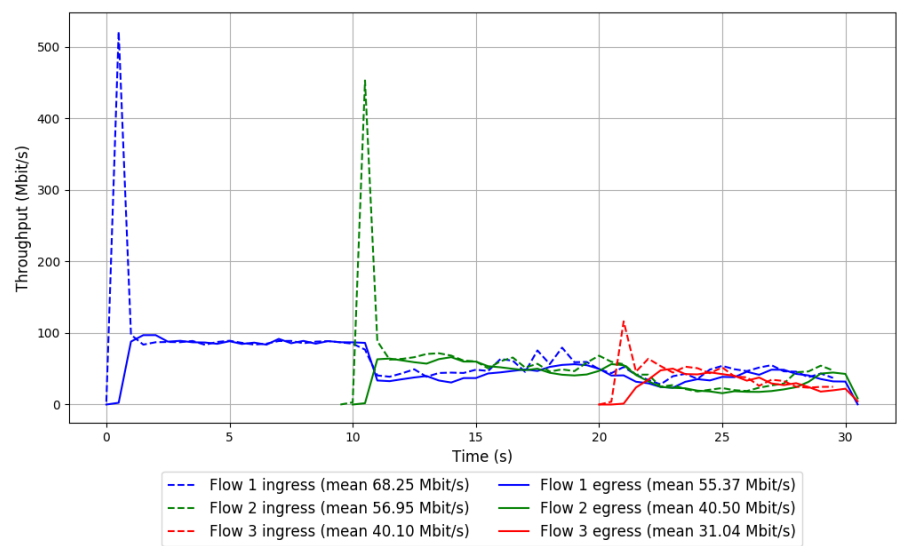
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2018-09-07 15:26:29
End at: 2018-09-07 15:26:59
Local clock offset: 2.51 ms
Remote clock offset: 50.289 ms


# Below is generated by plot.py at 2018-09-07 16:31:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.56 Mbit/s
95th percentile per-packet one-way delay: 239.239 ms
Loss rate: 22.10%
-- Flow 1:
Average throughput: 56.62 Mbit/s
95th percentile per-packet one-way delay: 237.172 ms
Loss rate: 17.39%
-- Flow 2:
Average throughput: 34.87 Mbit/s
95th percentile per-packet one-way delay: 241.808 ms
Loss rate: 31.09%
-- Flow 3:
Average throughput: 32.71 Mbit/s
95th percentile per-packet one-way delay: 240.189 ms
Loss rate: 23.51%
```
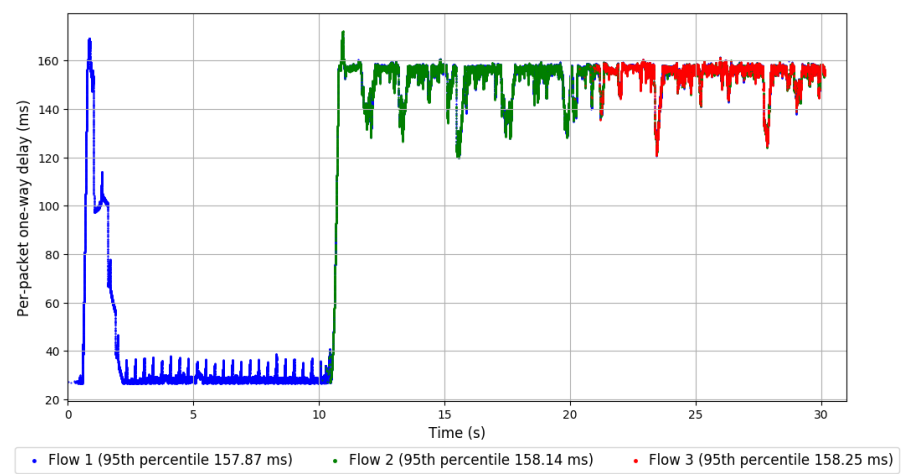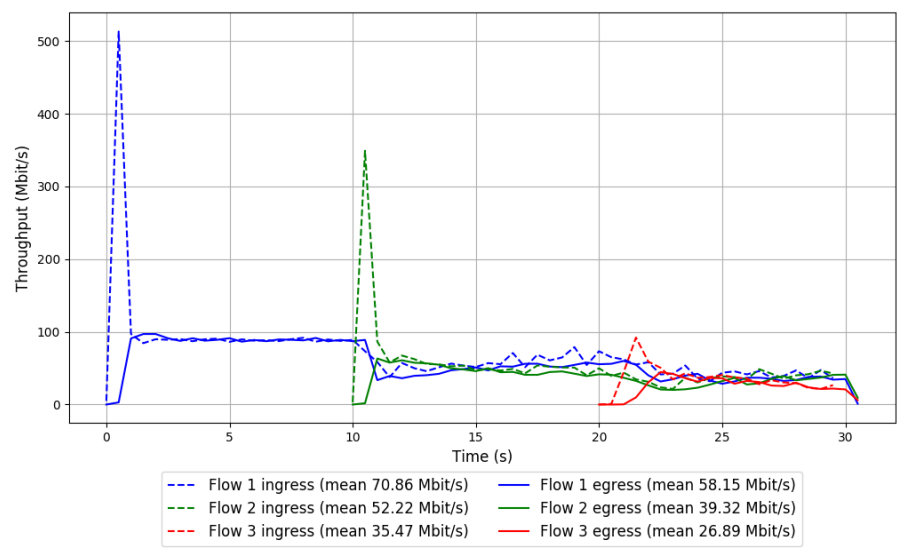
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2018-09-07 15:49:40
End at: 2018-09-07 15:50:10
Local clock offset: 1.03 ms
Remote clock offset: 49.365 ms


# Below is generated by plot.py at 2018-09-07 16:31:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.47 Mbit/s
95th percentile per-packet one-way delay: 173.968 ms
Loss rate: 22.27%
-- Flow 1:
Average throughput: 55.37 Mbit/s
95th percentile per-packet one-way delay: 171.721 ms
Loss rate: 18.77%
-- Flow 2:
Average throughput: 40.50 Mbit/s
95th percentile per-packet one-way delay: 172.014 ms
Loss rate: 28.44%
-- Flow 3:
Average throughput: 31.04 Mbit/s
95th percentile per-packet one-way delay: 177.557 ms
Loss rate: 22.58%
```
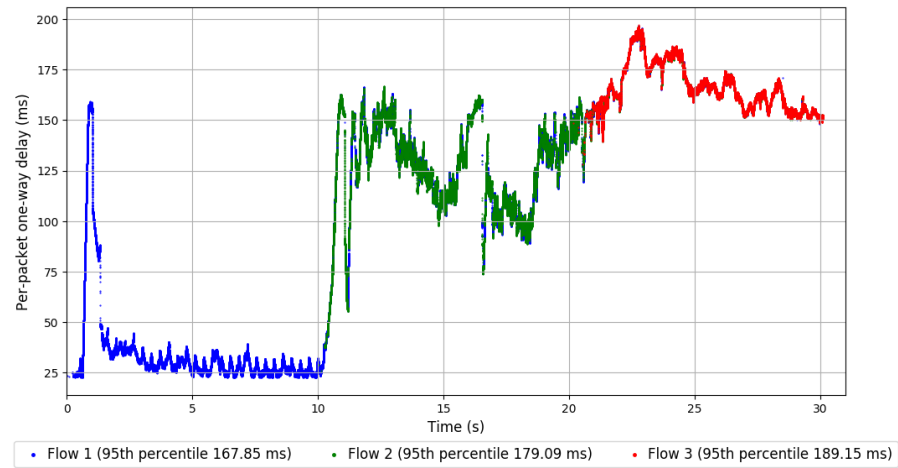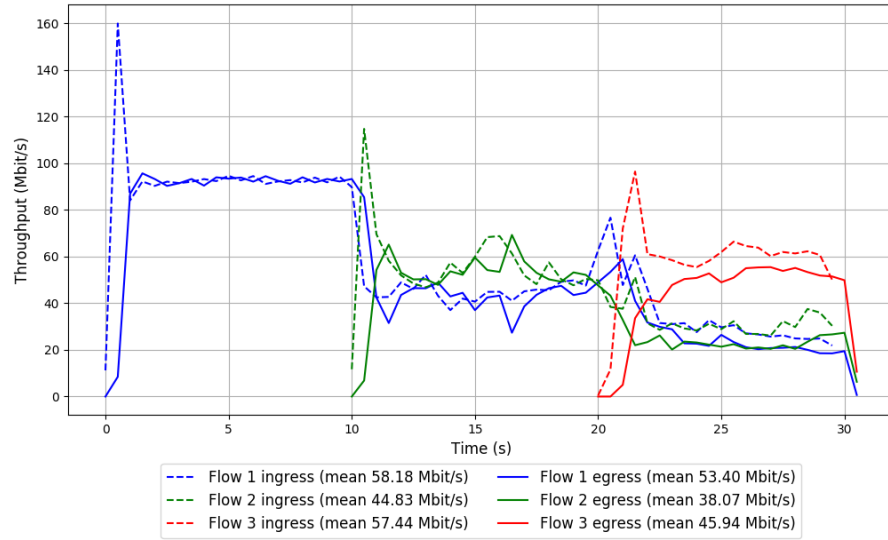
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2018-09-07 16:15:28
End at: 2018-09-07 16:15:58
Local clock offset: 1.307 ms
Remote clock offset: 52.667 ms


# Below is generated by plot.py at 2018-09-07 16:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.06 Mbit/s
95th percentile per-packet one-way delay: 157.986 ms
Loss rate: 20.38%
-- Flow 1:
Average throughput: 58.15 Mbit/s
95th percentile per-packet one-way delay: 157.865 ms
Loss rate: 17.87%
-- Flow 2:
Average throughput: 39.32 Mbit/s
95th percentile per-packet one-way delay: 158.142 ms
Loss rate: 24.25%
-- Flow 3:
Average throughput: 26.89 Mbit/s
95th percentile per-packet one-way delay: 158.246 ms
Loss rate: 24.10%
```
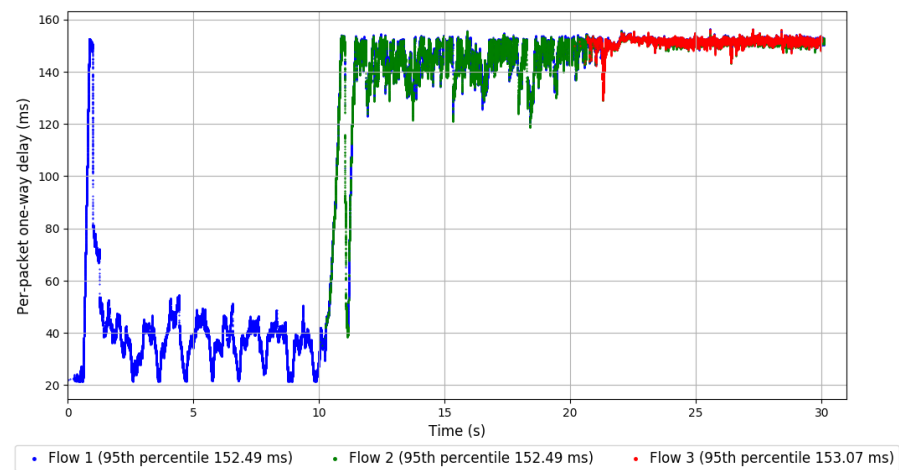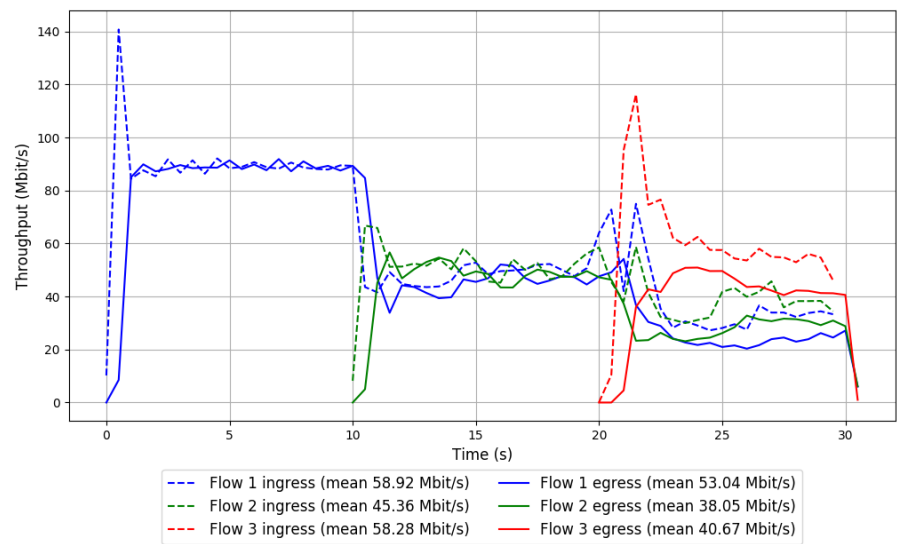
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 70.86 Mbit/s) --- Flow 1 egress (mean 58.15 Mbit/s)
Flow 2 ingress (mean 52.22 Mbit/s) --- Flow 2 egress (mean 39.32 Mbit/s)
Flow 3 ingress (mean 35.47 Mbit/s) --- Flow 3 egress (mean 26.89 Mbit/s)

Flow 1 (95th percentile 157.87 ms)   Flow 2 (95th percentile 158.14 ms)   Flow 3 (95th percentile 158.25 ms)

```
Run 1: Statistics of FillP-Sheep

Start at: 2018-09-07 14:50:20
End at: 2018-09-07 14:50:50
Local clock offset: 6.823 ms
Remote clock offset: 38.194 ms

# Below is generated by plot.py at 2018-09-07 16:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.85 Mbit/s
95th percentile per-packet one-way delay: 180.349 ms
Loss rate: 12.02%
-- Flow 1:
Average throughput: 53.40 Mbit/s
95th percentile per-packet one-way delay: 167.848 ms
Loss rate: 8.09%
-- Flow 2:
Average throughput: 38.07 Mbit/s
95th percentile per-packet one-way delay: 179.089 ms
Loss rate: 14.56%
-- Flow 3:
Average throughput: 45.94 Mbit/s
95th percentile per-packet one-way delay: 189.152 ms
Loss rate: 20.00%
```

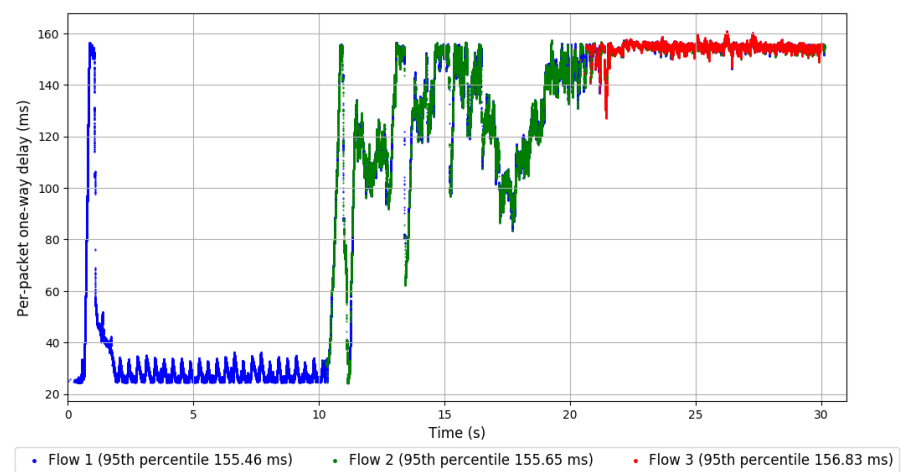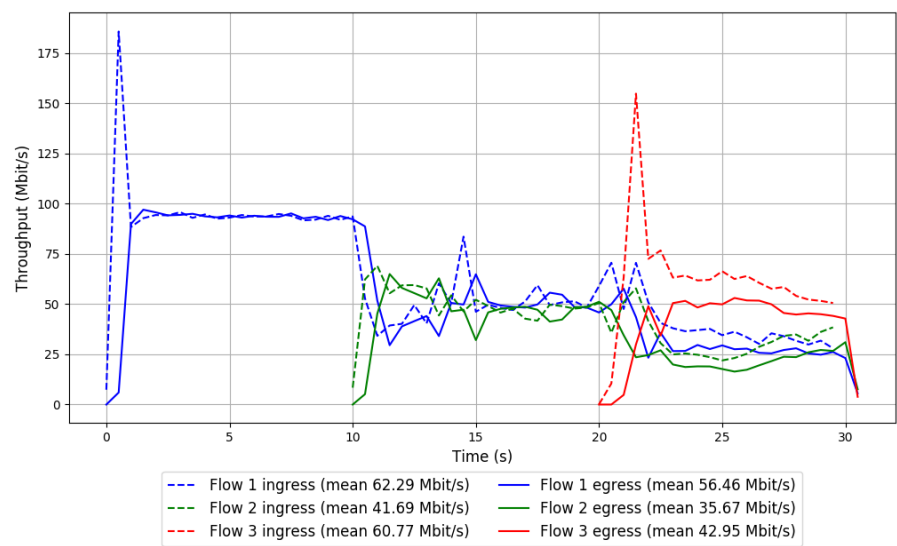Run 1: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 58.18 Mbit/s) --- Flow 1 egress (mean 53.40 Mbit/s)
Flow 2 ingress (mean 44.83 Mbit/s) --- Flow 2 egress (mean 38.07 Mbit/s)
Flow 3 ingress (mean 57.44 Mbit/s) --- Flow 3 egress (mean 45.94 Mbit/s)

Flow 1 (95th percentile 167.85 ms)   Flow 2 (95th percentile 179.09 ms)   Flow 3 (95th percentile 189.15 ms)

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```
Run 2: Statistics of FillP-Sheep

Start at: 2018-09-07 15:13:43
End at: 2018-09-07 15:14:13
Local clock offset: 6.186 ms
Remote clock offset: 47.857 ms


# Below is generated by plot.py at 2018-09-07 16:31:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.73 Mbit/s
95th percentile per-packet one-way delay: 152.656 ms
Loss rate: 15.07%
-- Flow 1:
Average throughput: 53.04 Mbit/s
95th percentile per-packet one-way delay: 152.493 ms
Loss rate: 9.59%
-- Flow 2:
Average throughput: 38.05 Mbit/s
95th percentile per-packet one-way delay: 152.491 ms
Loss rate: 15.63%
-- Flow 3:
Average throughput: 40.67 Mbit/s
95th percentile per-packet one-way delay: 153.073 ms
Loss rate: 30.88%
```
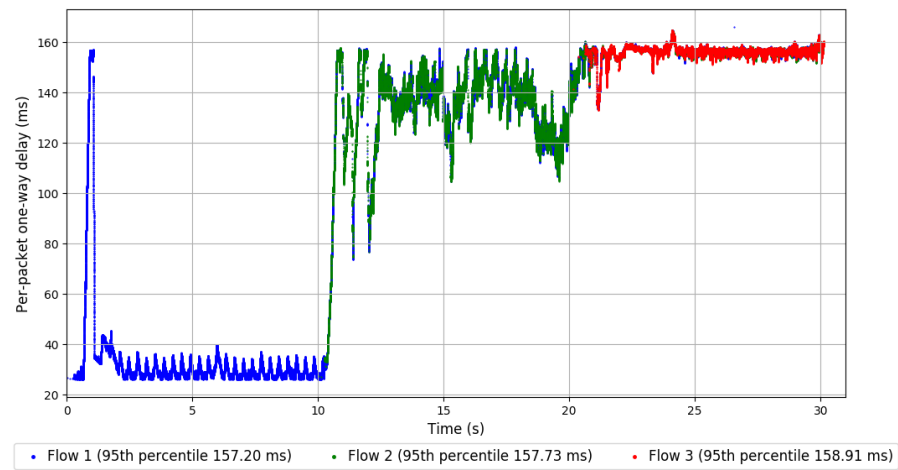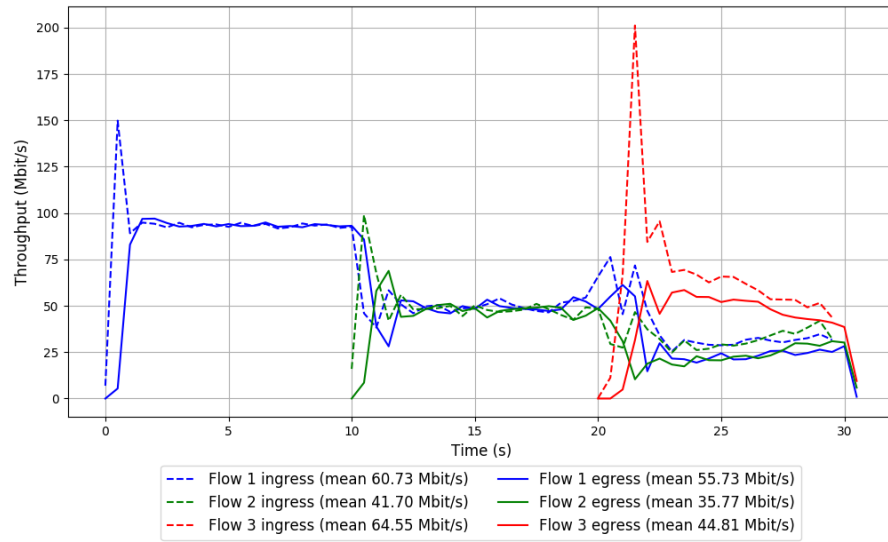
Run 2: Report of FillP-Sheep — Data Link

- - - Flow 1 ingress (mean 58.92 Mbit/s)   —— Flow 1 egress (mean 53.04 Mbit/s)
- - - Flow 2 ingress (mean 45.36 Mbit/s)   —— Flow 2 egress (mean 38.05 Mbit/s)
- - - Flow 3 ingress (mean 58.28 Mbit/s)   —— Flow 3 egress (mean 40.67 Mbit/s)

• Flow 1 (95th percentile 152.49 ms)   • Flow 2 (95th percentile 152.49 ms)   • Flow 3 (95th percentile 153.07 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2018-09-07 15:37:02
End at: 2018-09-07 15:37:32
Local clock offset: 1.36 ms
Remote clock offset: 51.715 ms


# Below is generated by plot.py at 2018-09-07 16:31:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.31 Mbit/s
95th percentile per-packet one-way delay: 155.807 ms
Loss rate: 14.03%
-- Flow 1:
Average throughput: 56.46 Mbit/s
95th percentile per-packet one-way delay: 155.457 ms
Loss rate: 8.97%
-- Flow 2:
Average throughput: 35.67 Mbit/s
95th percentile per-packet one-way delay: 155.645 ms
Loss rate: 13.88%
-- Flow 3:
Average throughput: 42.95 Mbit/s
95th percentile per-packet one-way delay: 156.831 ms
Loss rate: 29.86%
```

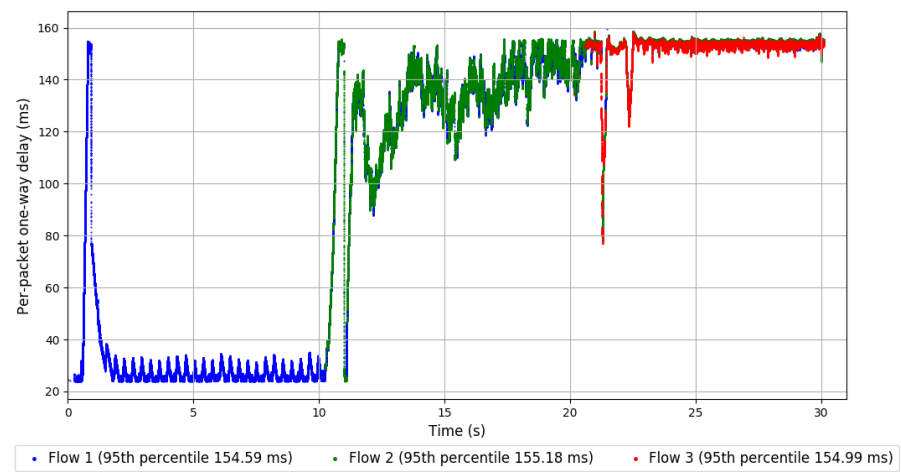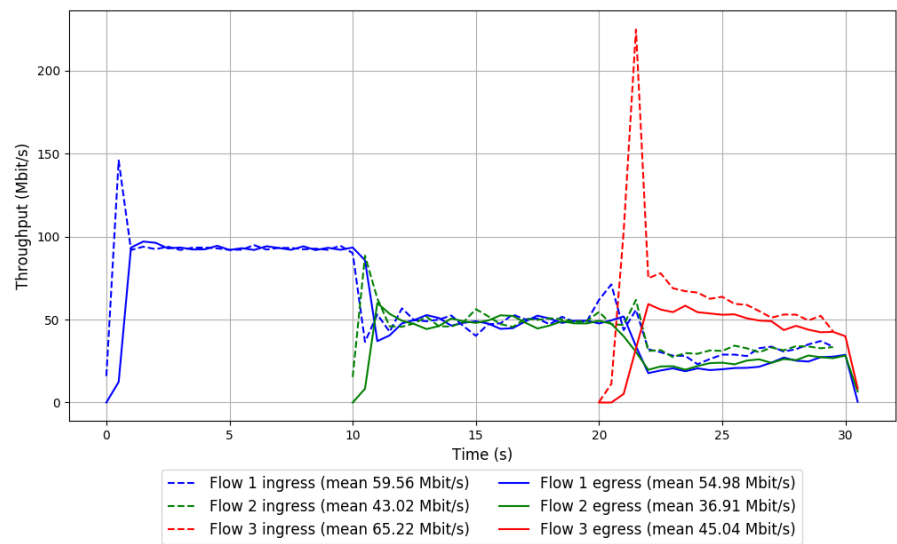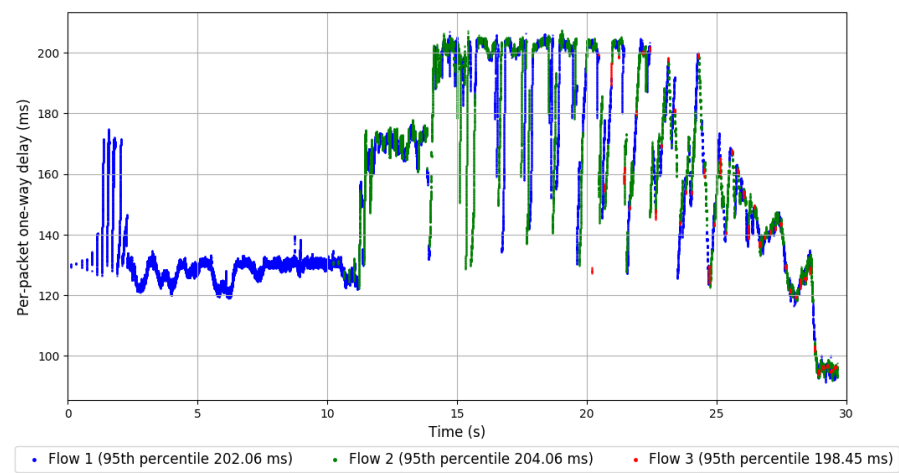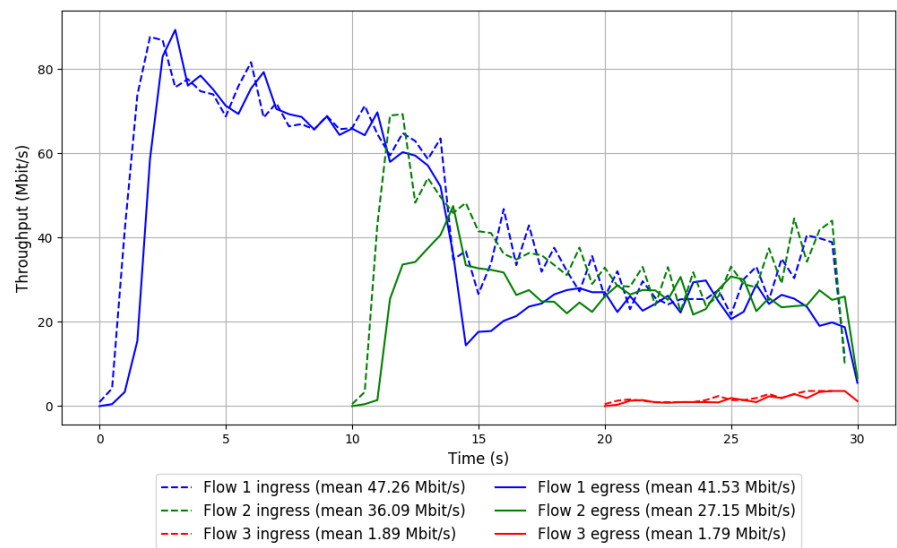# Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 62.29 Mbit/s) — — — Flow 1 egress (mean 56.46 Mbit/s)
Flow 2 ingress (mean 41.69 Mbit/s) — — — Flow 2 egress (mean 35.67 Mbit/s)
Flow 3 ingress (mean 60.77 Mbit/s) — — — Flow 3 egress (mean 42.95 Mbit/s)

Flow 1 (95th percentile 155.46 ms)   Flow 2 (95th percentile 155.65 ms)   Flow 3 (95th percentile 156.83 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2018-09-07 16:01:45
End at: 2018-09-07 16:02:15
Local clock offset: 1.287 ms
Remote clock offset: 51.57 ms


# Below is generated by plot.py at 2018-09-07 16:32:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.23 Mbit/s
95th percentile per-packet one-way delay: 157.858 ms
Loss rate: 13.87%
-- Flow 1:
Average throughput: 55.73 Mbit/s
95th percentile per-packet one-way delay: 157.200 ms
Loss rate: 8.12%
-- Flow 2:
Average throughput: 35.77 Mbit/s
95th percentile per-packet one-way delay: 157.727 ms
Loss rate: 13.65%
-- Flow 3:
Average throughput: 44.81 Mbit/s
95th percentile per-packet one-way delay: 158.906 ms
Loss rate: 30.46%
```
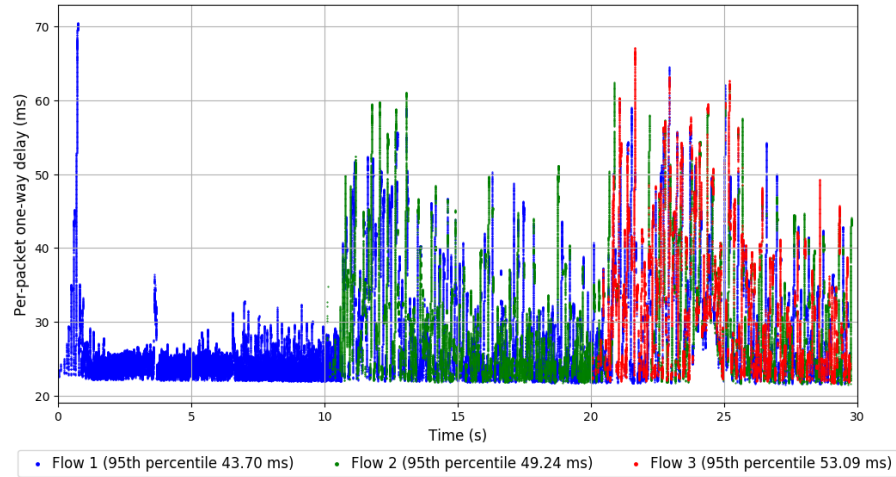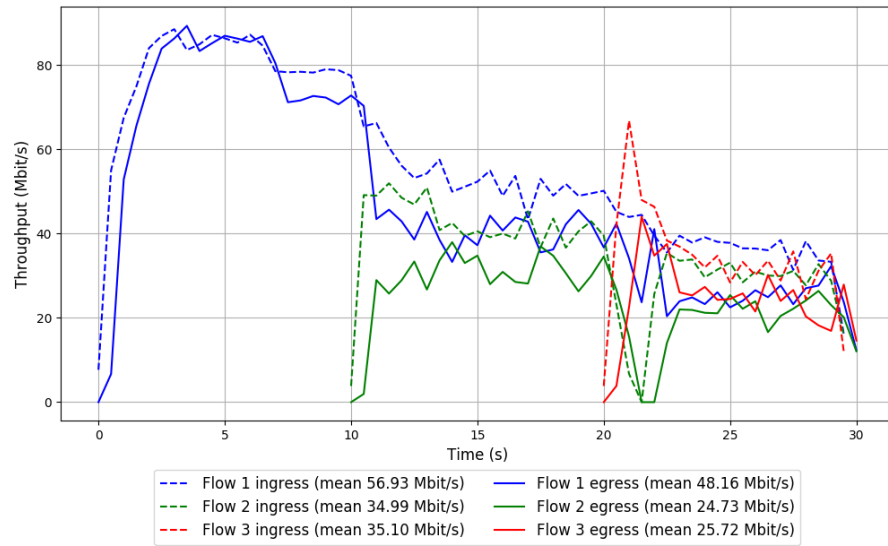
Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 60.73 Mbit/s)   Flow 1 egress (mean 55.73 Mbit/s)
Flow 2 ingress (mean 41.70 Mbit/s)   Flow 2 egress (mean 35.77 Mbit/s)
Flow 3 ingress (mean 64.55 Mbit/s)   Flow 3 egress (mean 44.81 Mbit/s)

Flow 1 (95th percentile 157.20 ms)   Flow 2 (95th percentile 157.73 ms)   Flow 3 (95th percentile 158.91 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2018-09-07 16:25:46
End at: 2018-09-07 16:26:16
Local clock offset: 4.401 ms
Remote clock offset: 49.959 ms


# Below is generated by plot.py at 2018-09-07 16:32:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.33 Mbit/s
95th percentile per-packet one-way delay: 154.888 ms
Loss rate: 13.75%
-- Flow 1:
Average throughput: 54.98 Mbit/s
95th percentile per-packet one-way delay: 154.589 ms
Loss rate: 7.60%
-- Flow 2:
Average throughput: 36.91 Mbit/s
95th percentile per-packet one-way delay: 155.176 ms
Loss rate: 13.65%
-- Flow 3:
Average throughput: 45.04 Mbit/s
95th percentile per-packet one-way delay: 154.986 ms
Loss rate: 30.81%
```

Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 59.56 Mbit/s) --- Flow 1 egress (mean 54.98 Mbit/s)
Flow 2 ingress (mean 43.02 Mbit/s) --- Flow 2 egress (mean 36.91 Mbit/s)
Flow 3 ingress (mean 65.22 Mbit/s) --- Flow 3 egress (mean 45.04 Mbit/s)

Flow 1 (95th percentile 154.59 ms) Flow 2 (95th percentile 155.18 ms) Flow 3 (95th percentile 154.99 ms)

```
Run 1: Statistics of Indigo

Start at: 2018-09-07 14:34:08
End at: 2018-09-07 14:34:38
Local clock offset: 7.245 ms
Remote clock offset: 45.802 ms

# Below is generated by plot.py at 2018-09-07 16:32:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.83 Mbit/s
95th percentile per-packet one-way delay: 203.276 ms
Loss rate: 16.68%
-- Flow 1:
Average throughput: 41.53 Mbit/s
95th percentile per-packet one-way delay: 202.058 ms
Loss rate: 12.69%
-- Flow 2:
Average throughput: 27.15 Mbit/s
95th percentile per-packet one-way delay: 204.055 ms
Loss rate: 24.93%
-- Flow 3:
Average throughput: 1.79 Mbit/s
95th percentile per-packet one-way delay: 198.450 ms
Loss rate: 5.46%
```
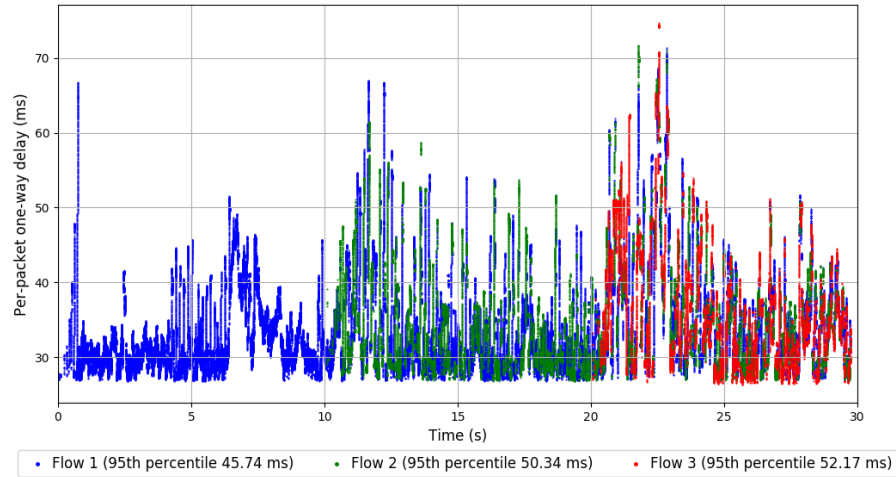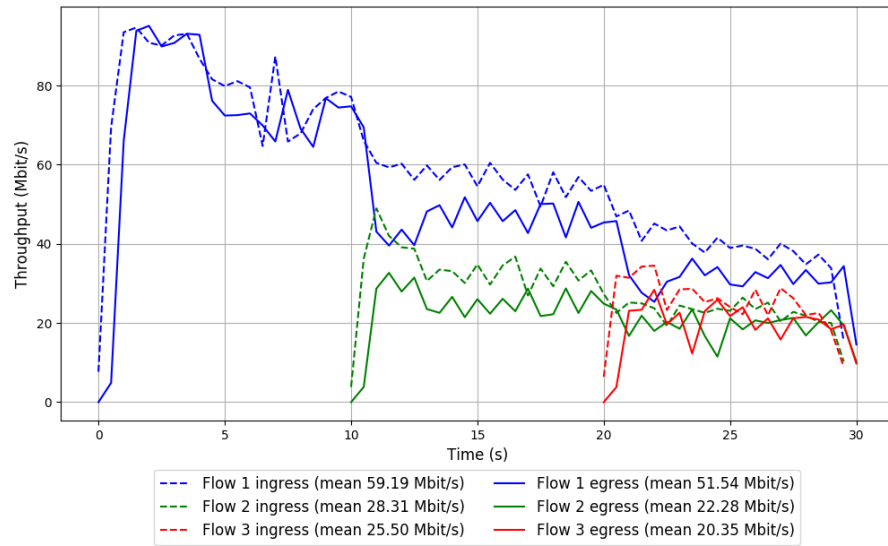
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-09-07 14:58:09
End at: 2018-09-07 14:58:39
Local clock offset: 6.406 ms
Remote clock offset: 38.316 ms

# Below is generated by plot.py at 2018-09-07 16:32:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.78 Mbit/s
95th percentile per-packet one-way delay: 46.546 ms
Loss rate: 20.31%
-- Flow 1:
Average throughput: 48.16 Mbit/s
95th percentile per-packet one-way delay: 43.697 ms
Loss rate: 15.39%
-- Flow 2:
Average throughput: 24.73 Mbit/s
95th percentile per-packet one-way delay: 49.239 ms
Loss rate: 29.27%
-- Flow 3:
Average throughput: 25.72 Mbit/s
95th percentile per-packet one-way delay: 53.087 ms
Loss rate: 26.70%
```

Run 2: Report of Indigo — Data Link

Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-09-07 15:21:21
End at: 2018-09-07 15:21:51
Local clock offset: 3.657 ms
Remote clock offset: 53.568 ms


# Below is generated by plot.py at 2018-09-07 16:32:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.49 Mbit/s
95th percentile per-packet one-way delay: 52.107 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.54 Mbit/s
95th percentile per-packet one-way delay: 53.058 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 14.45 Mbit/s
95th percentile per-packet one-way delay: 52.195 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.48 Mbit/s
95th percentile per-packet one-way delay: 42.332 ms
Loss rate: 0.06%
```
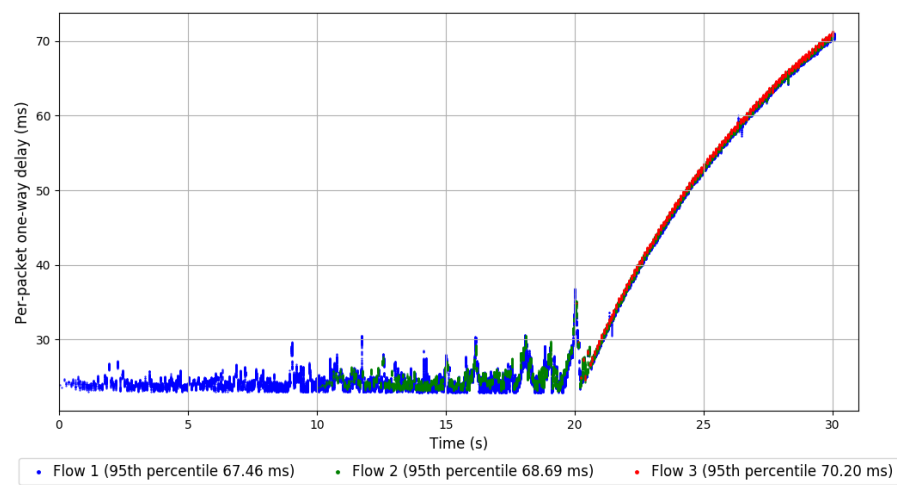
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-09-07 15:44:43
End at: 2018-09-07 15:45:13
Local clock offset: 0.659 ms
Remote clock offset: 53.098 ms


# Below is generated by plot.py at 2018-09-07 16:32:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.90 Mbit/s
95th percentile per-packet one-way delay: 48.152 ms
Loss rate: 15.43%
-- Flow 1:
Average throughput: 51.54 Mbit/s
95th percentile per-packet one-way delay: 45.745 ms
Loss rate: 12.92%
-- Flow 2:
Average throughput: 22.28 Mbit/s
95th percentile per-packet one-way delay: 50.337 ms
Loss rate: 21.30%
-- Flow 3:
Average throughput: 20.35 Mbit/s
95th percentile per-packet one-way delay: 52.170 ms
Loss rate: 20.12%
```
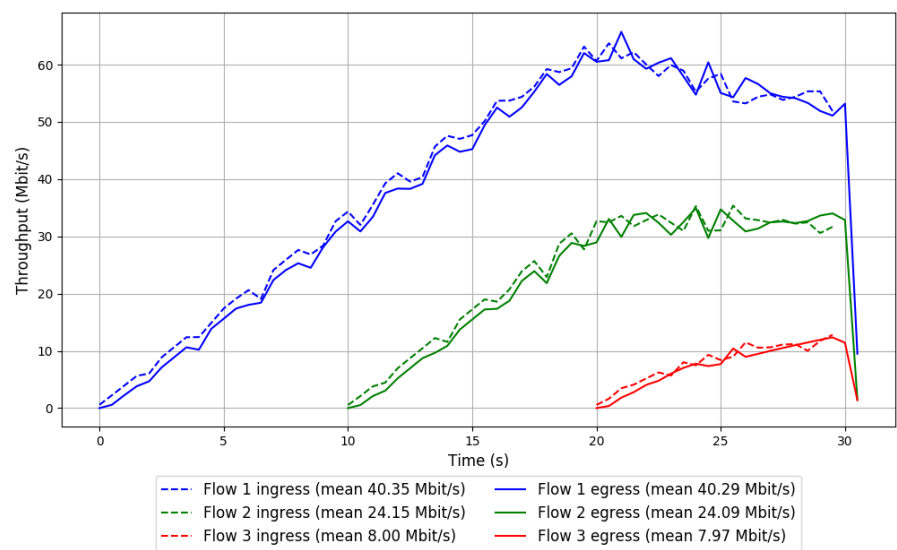
Run 4: Report of Indigo — Data Link

Run 5: Statistics of Indigo

/home/ubuntu/pantheon/data/2018-09-07T14-28-AWS-Korea-to-China-5-runs-3-flows/indigo_stats_r

Run 5: Report of Indigo — Data Link

Figure is missing

Figure is missing

```
Run 1: Statistics of LEDBAT

Start at: 2018-09-07 14:46:05
End at: 2018-09-07 14:46:35
Local clock offset: 7.251 ms
Remote clock offset: 37.47 ms

# Below is generated by plot.py at 2018-09-07 16:32:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.10 Mbit/s
95th percentile per-packet one-way delay: 65.452 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 39.30 Mbit/s
95th percentile per-packet one-way delay: 64.844 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 24.32 Mbit/s
95th percentile per-packet one-way delay: 65.738 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.99 Mbit/s
95th percentile per-packet one-way delay: 67.463 ms
Loss rate: 0.00%
```
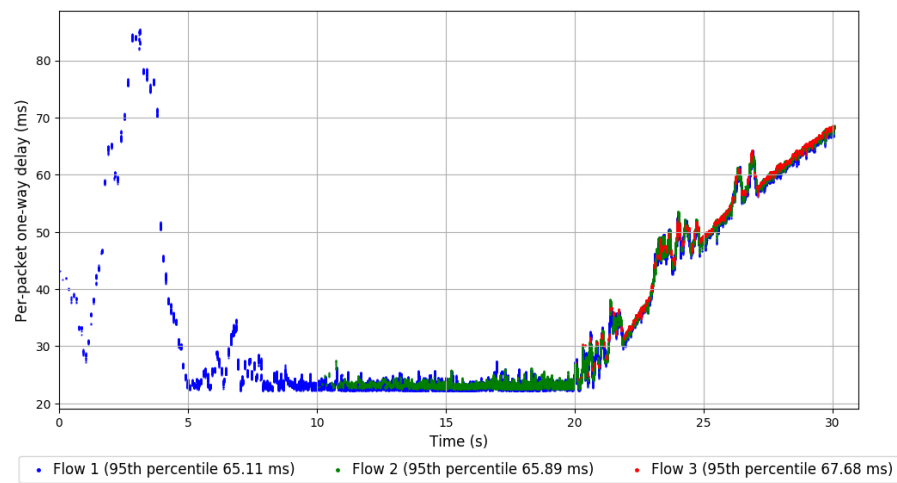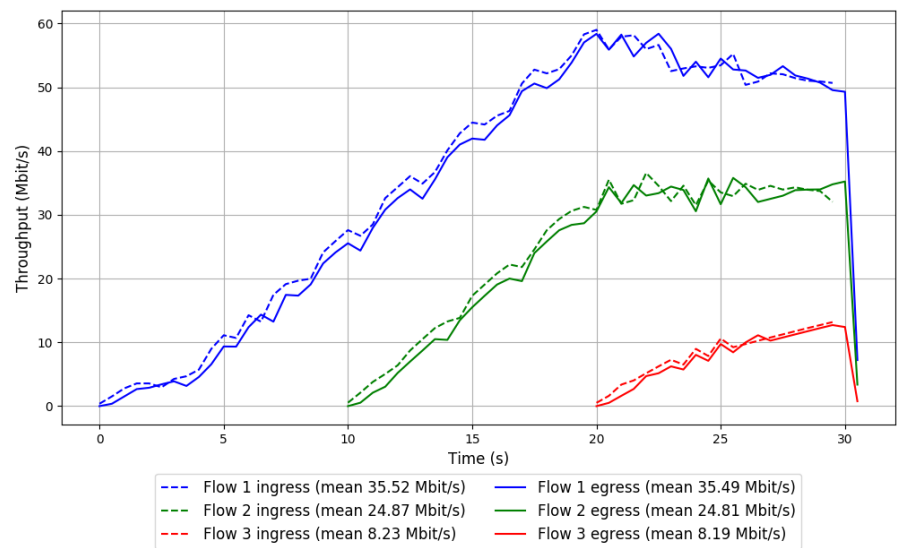
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-09-07 15:09:45
End at: 2018-09-07 15:10:15
Local clock offset: 6.122 ms
Remote clock offset: 48.433 ms


# Below is generated by plot.py at 2018-09-07 16:32:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.95 Mbit/s
95th percentile per-packet one-way delay: 68.161 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 40.29 Mbit/s
95th percentile per-packet one-way delay: 67.464 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.09 Mbit/s
95th percentile per-packet one-way delay: 68.692 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 70.205 ms
Loss rate: 0.00%
```
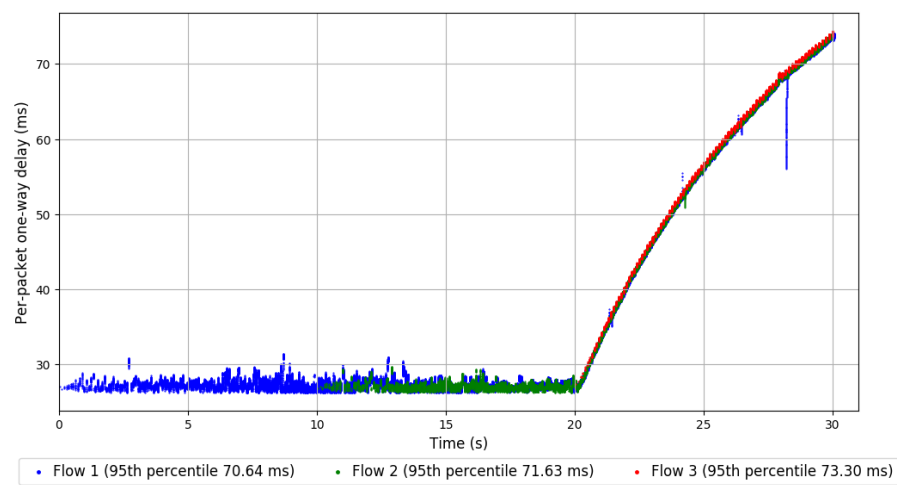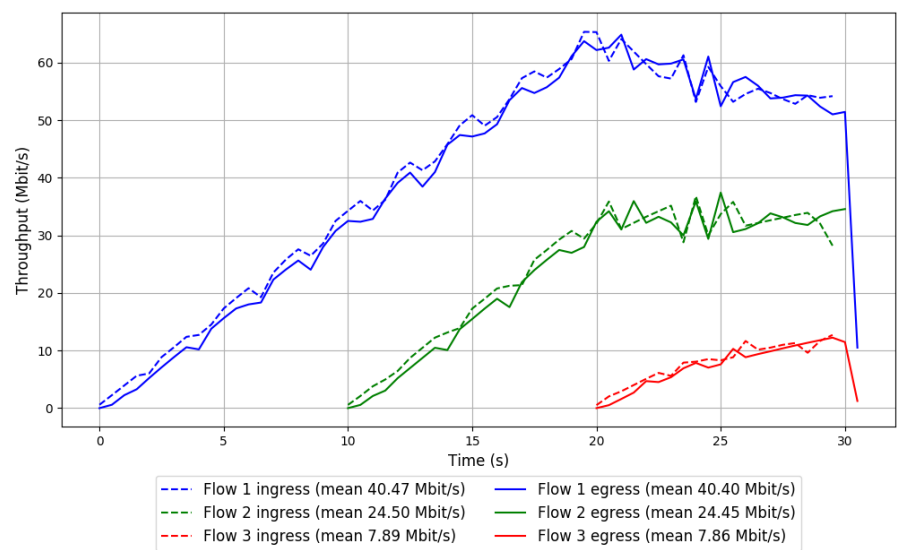
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-09-07 15:33:10
End at: 2018-09-07 15:33:40
Local clock offset: 1.659 ms
Remote clock offset: 50.216 ms


# Below is generated by plot.py at 2018-09-07 16:32:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.76 Mbit/s
95th percentile per-packet one-way delay: 65.604 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 35.49 Mbit/s
95th percentile per-packet one-way delay: 65.107 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 24.81 Mbit/s
95th percentile per-packet one-way delay: 65.890 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.19 Mbit/s
95th percentile per-packet one-way delay: 67.680 ms
Loss rate: 0.00%
```
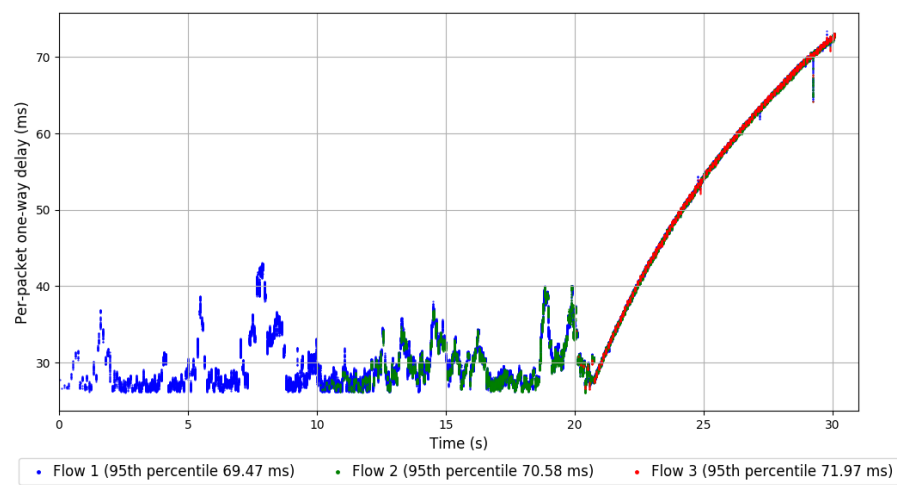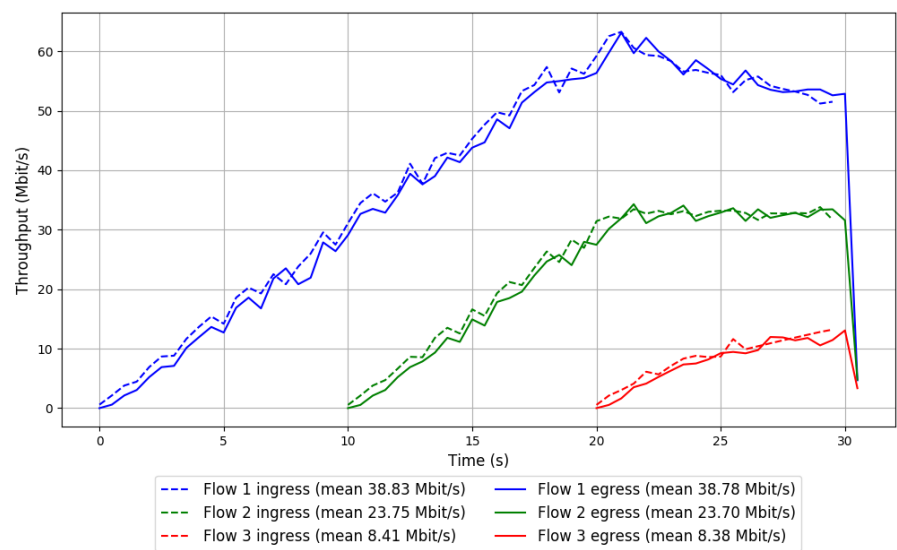
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 35.52 Mbit/s) --- Flow 1 egress (mean 35.49 Mbit/s)
Flow 2 ingress (mean 24.87 Mbit/s) --- Flow 2 egress (mean 24.81 Mbit/s)
Flow 3 ingress (mean 8.23 Mbit/s) --- Flow 3 egress (mean 8.19 Mbit/s)

Flow 1 (95th percentile 65.11 ms)   Flow 2 (95th percentile 65.89 ms)   Flow 3 (95th percentile 67.68 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2018-09-07 15:57:52
End at: 2018-09-07 15:58:22
Local clock offset: 1.337 ms
Remote clock offset: 52.254 ms


# Below is generated by plot.py at 2018-09-07 16:32:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.24 Mbit/s
95th percentile per-packet one-way delay: 71.323 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 40.40 Mbit/s
95th percentile per-packet one-way delay: 70.642 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 71.634 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.86 Mbit/s
95th percentile per-packet one-way delay: 73.301 ms
Loss rate: 0.00%
```
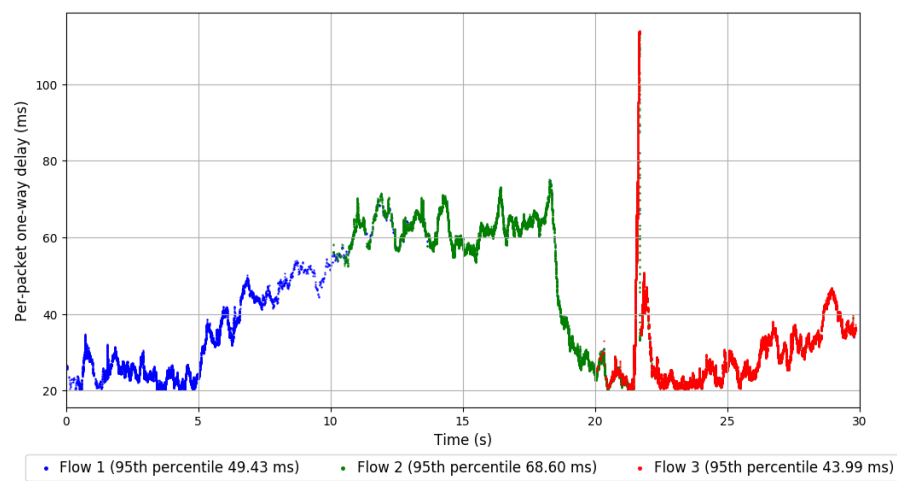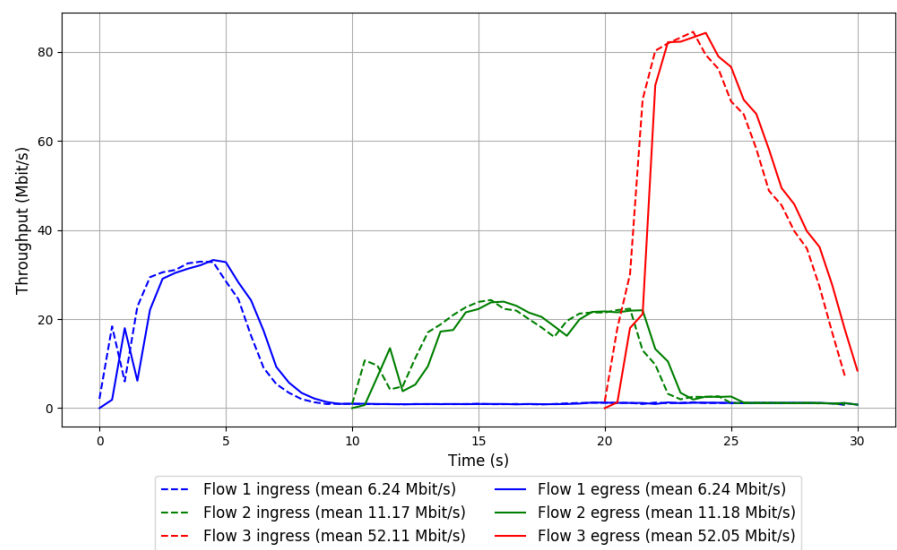
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 40.47 Mbit/s) --- Flow 1 egress (mean 40.40 Mbit/s)
Flow 2 ingress (mean 24.50 Mbit/s) --- Flow 2 egress (mean 24.45 Mbit/s)
Flow 3 ingress (mean 7.89 Mbit/s) --- Flow 3 egress (mean 7.86 Mbit/s)

Flow 1 (95th percentile 70.64 ms)   Flow 2 (95th percentile 71.63 ms)   Flow 3 (95th percentile 73.30 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2018-09-07 16:21:56
End at: 2018-09-07 16:22:26
Local clock offset: 3.744 ms
Remote clock offset: 52.376 ms


# Below is generated by plot.py at 2018-09-07 16:32:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.36 Mbit/s
95th percentile per-packet one-way delay: 70.202 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 38.78 Mbit/s
95th percentile per-packet one-way delay: 69.475 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.70 Mbit/s
95th percentile per-packet one-way delay: 70.580 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.38 Mbit/s
95th percentile per-packet one-way delay: 71.968 ms
Loss rate: 0.00%
```
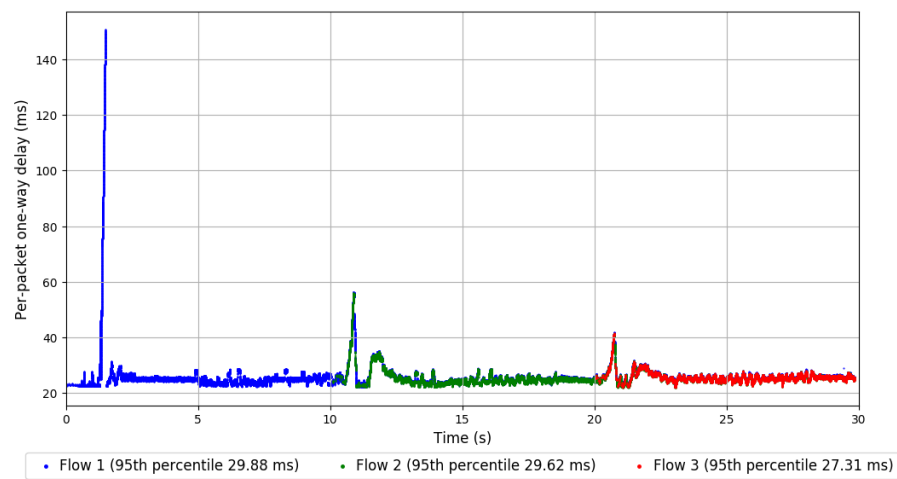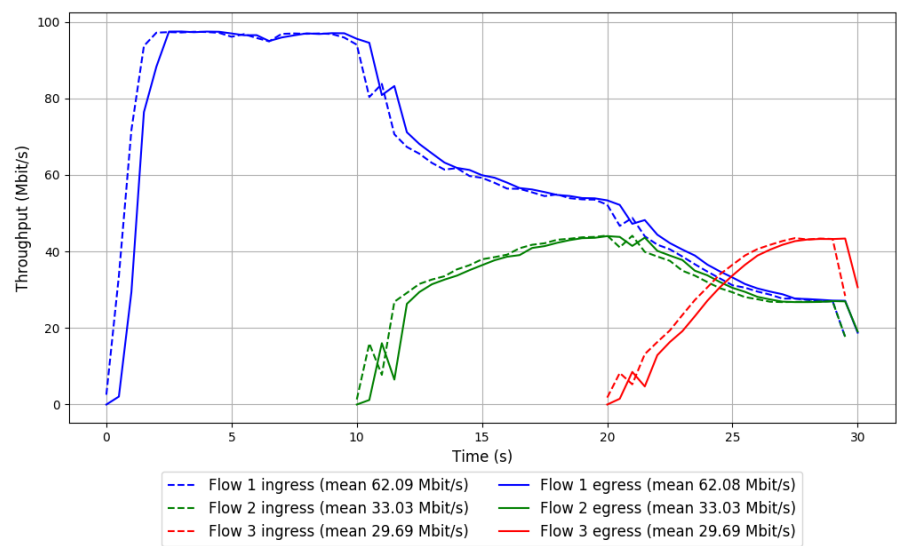
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-07 14:40:49
End at: 2018-09-07 14:41:19
Local clock offset: 7.455 ms
Remote clock offset: 39.775 ms


# Below is generated by plot.py at 2018-09-07 16:32:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 30.72 Mbit/s
95th percentile per-packet one-way delay: 64.945 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.24 Mbit/s
95th percentile per-packet one-way delay: 49.426 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 11.18 Mbit/s
95th percentile per-packet one-way delay: 68.600 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 52.05 Mbit/s
95th percentile per-packet one-way delay: 43.992 ms
Loss rate: 0.00%
```
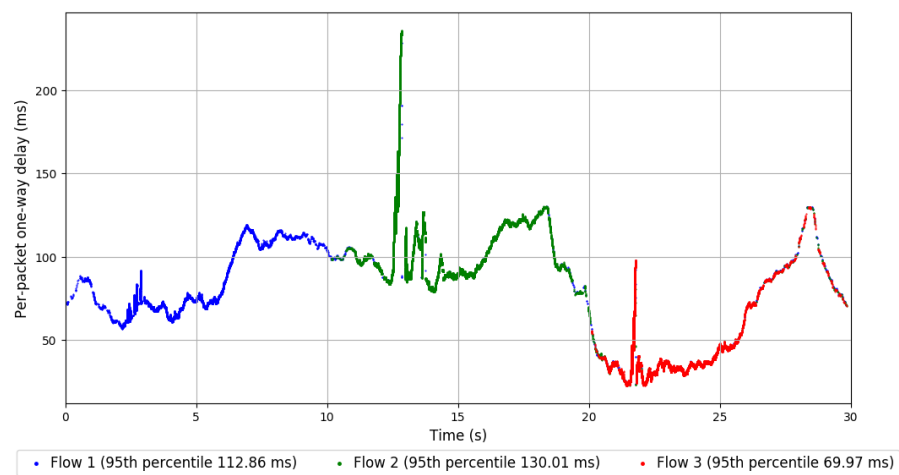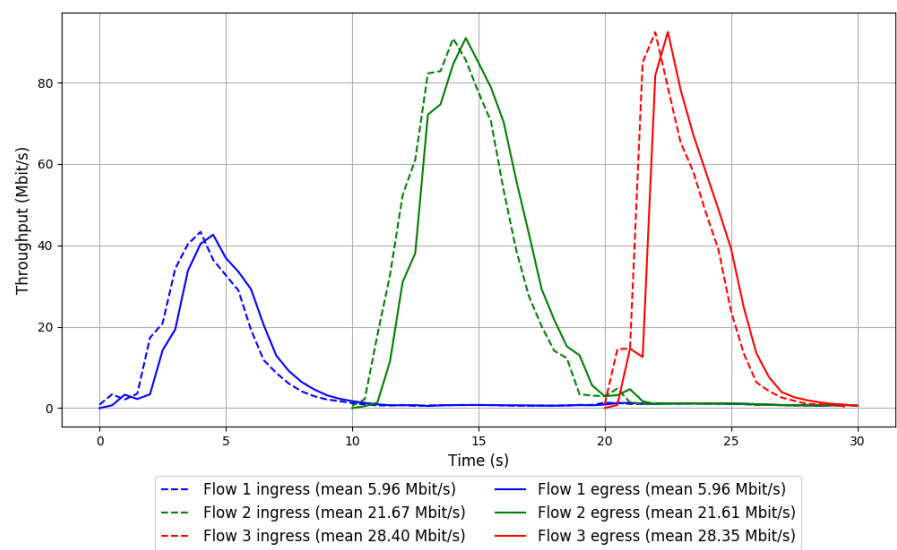
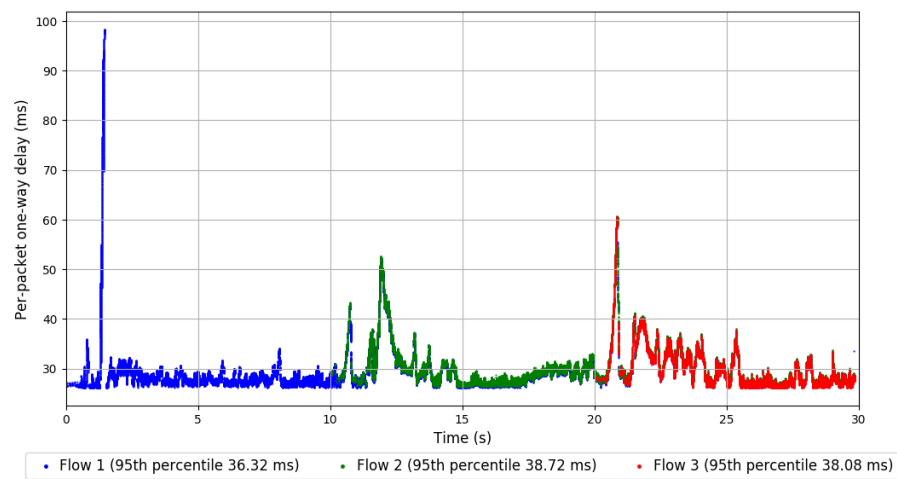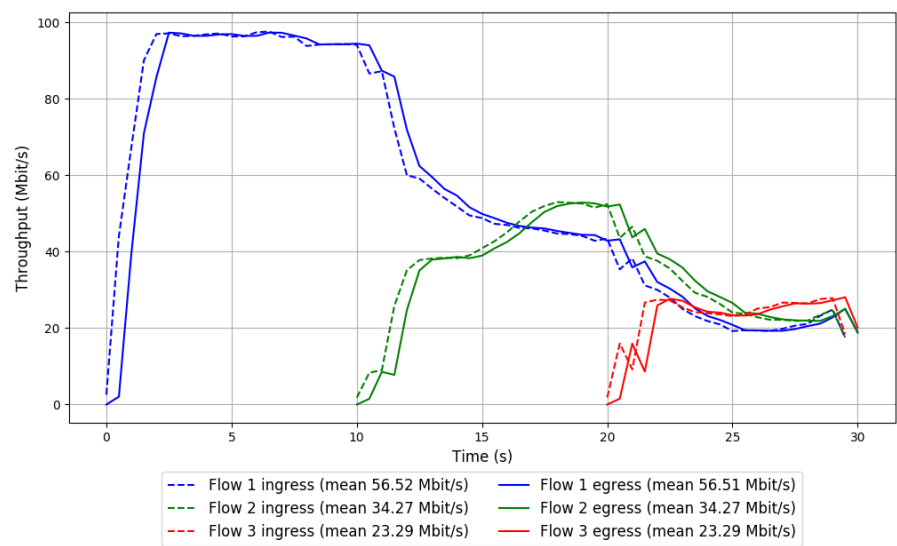Run 1: Report of Indigo-Muses — Data Link

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-09-07 15:04:42
End at: 2018-09-07 15:05:12
Local clock offset: 6.203 ms
Remote clock offset: 45.089 ms


# Below is generated by plot.py at 2018-09-07 16:33:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.70 Mbit/s
95th percentile per-packet one-way delay: 29.543 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.08 Mbit/s
95th percentile per-packet one-way delay: 29.876 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.03 Mbit/s
95th percentile per-packet one-way delay: 29.620 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 29.69 Mbit/s
95th percentile per-packet one-way delay: 27.311 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-Muses — Data Link

- - - Flow 1 ingress (mean 62.09 Mbit/s) —— Flow 1 egress (mean 62.08 Mbit/s)
- - - Flow 2 ingress (mean 33.03 Mbit/s) —— Flow 2 egress (mean 33.03 Mbit/s)
- - - Flow 3 ingress (mean 29.69 Mbit/s) —— Flow 3 egress (mean 29.69 Mbit/s)

- Flow 1 (95th percentile 29.88 ms)   - Flow 2 (95th percentile 29.62 ms)   - Flow 3 (95th percentile 27.31 ms)

```
Run 3: Statistics of Indigo-Muses

Start at: 2018-09-07 15:27:54
End at: 2018-09-07 15:28:24
Local clock offset: 2.289 ms
Remote clock offset: 50.505 ms


# Below is generated by plot.py at 2018-09-07 16:33:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.50 Mbit/s
95th percentile per-packet one-way delay: 122.038 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 5.96 Mbit/s
95th percentile per-packet one-way delay: 112.862 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.61 Mbit/s
95th percentile per-packet one-way delay: 130.009 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 28.35 Mbit/s
95th percentile per-packet one-way delay: 69.971 ms
Loss rate: 0.00%
```

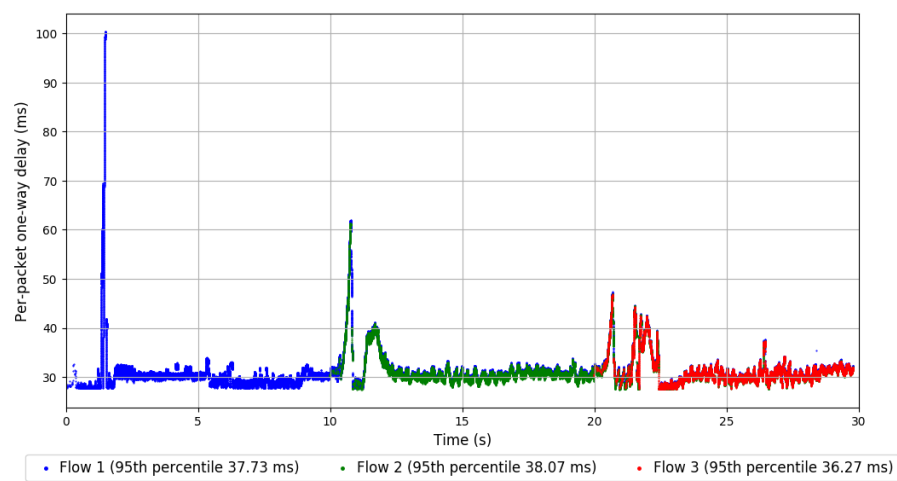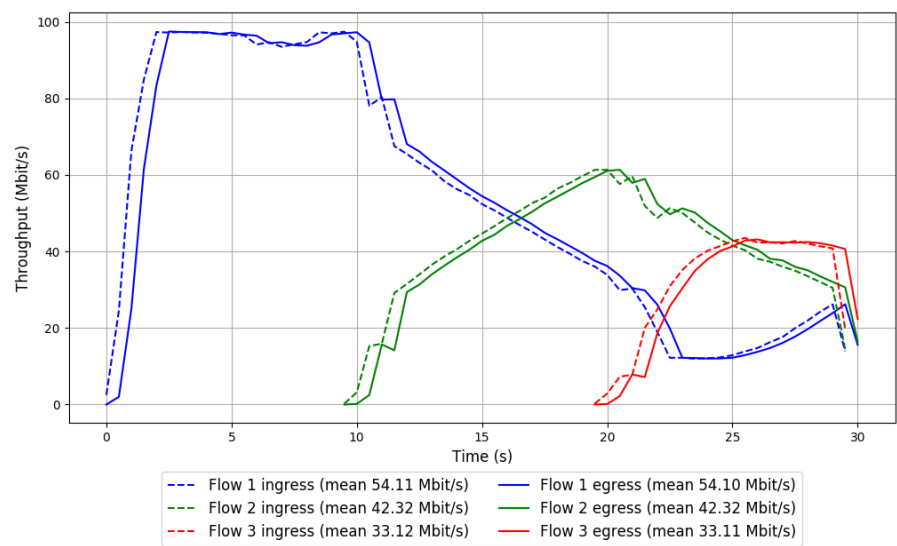Run 3: Report of Indigo-Muses — Data Link

```
Run 4: Statistics of Indigo-Muses

Start at: 2018-09-07 15:51:02
End at: 2018-09-07 15:51:32
Local clock offset: 1.098 ms
Remote clock offset: 52.484 ms


# Below is generated by plot.py at 2018-09-07 16:33:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.89 Mbit/s
95th percentile per-packet one-way delay: 37.447 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.51 Mbit/s
95th percentile per-packet one-way delay: 36.321 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 34.27 Mbit/s
95th percentile per-packet one-way delay: 38.721 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 23.29 Mbit/s
95th percentile per-packet one-way delay: 38.082 ms
Loss rate: 0.00%
```

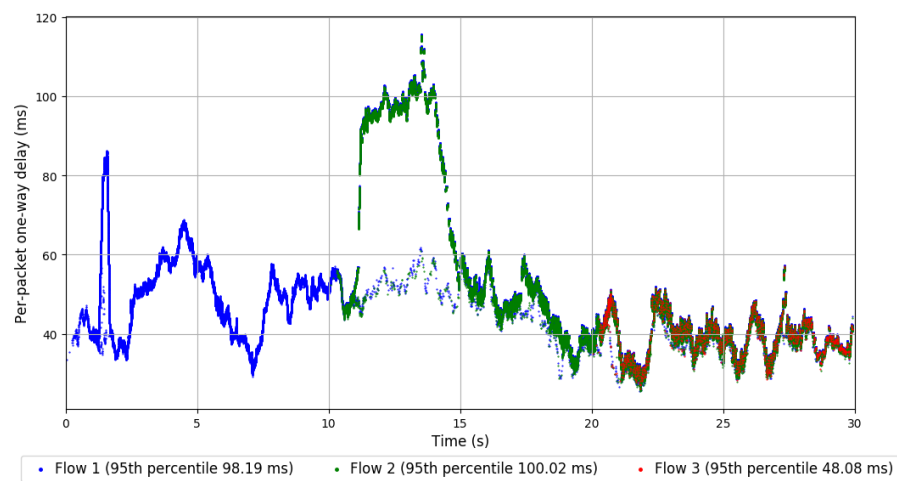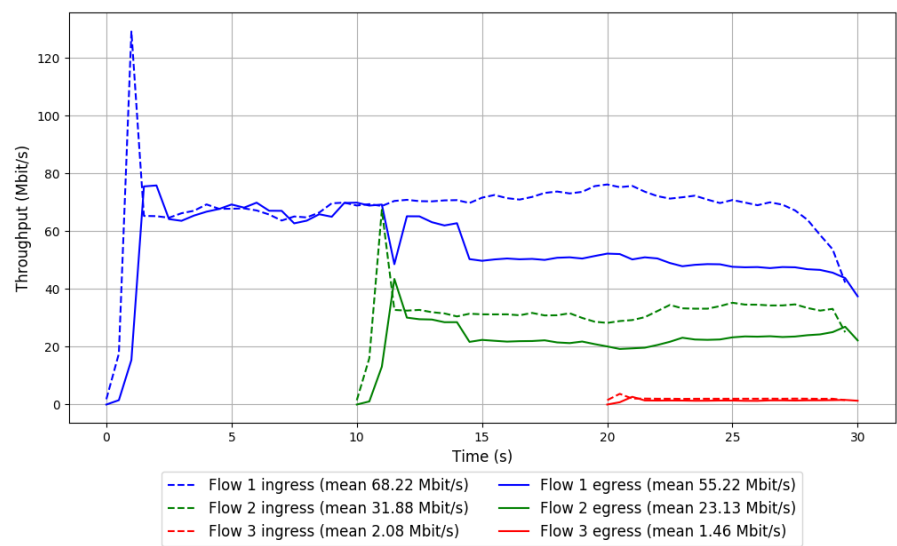Run 4: Report of Indigo-Muses — Data Link

```
Run 5: Statistics of Indigo-Muses

Start at: 2018-09-07 16:16:50
End at: 2018-09-07 16:17:20
Local clock offset: 2.025 ms
Remote clock offset: 53.607 ms


# Below is generated by plot.py at 2018-09-07 16:33:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.16 Mbit/s
95th percentile per-packet one-way delay: 37.602 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 54.10 Mbit/s
95th percentile per-packet one-way delay: 37.733 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.32 Mbit/s
95th percentile per-packet one-way delay: 38.072 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.11 Mbit/s
95th percentile per-packet one-way delay: 36.269 ms
Loss rate: 0.00%
```
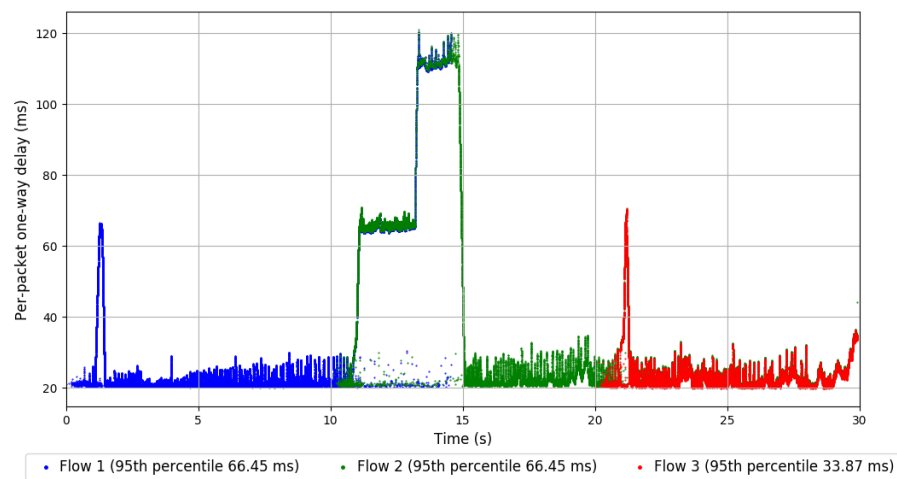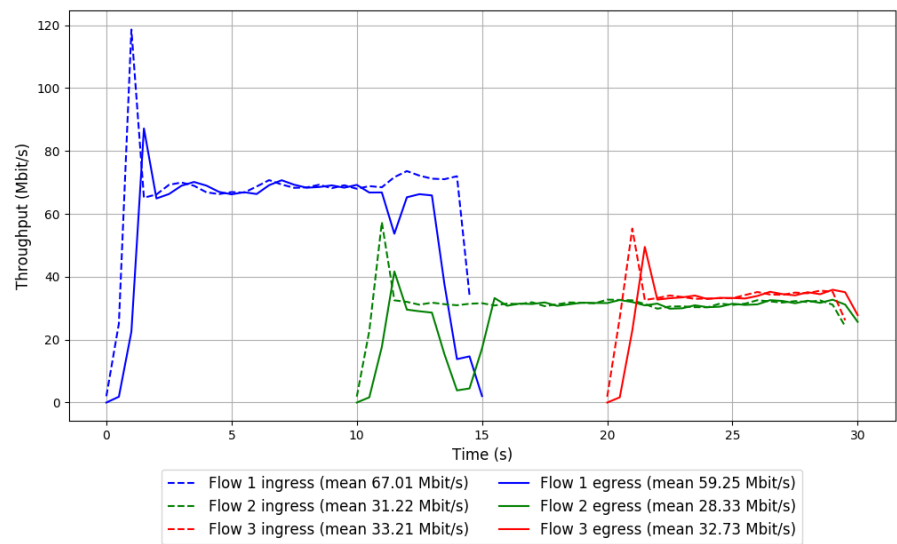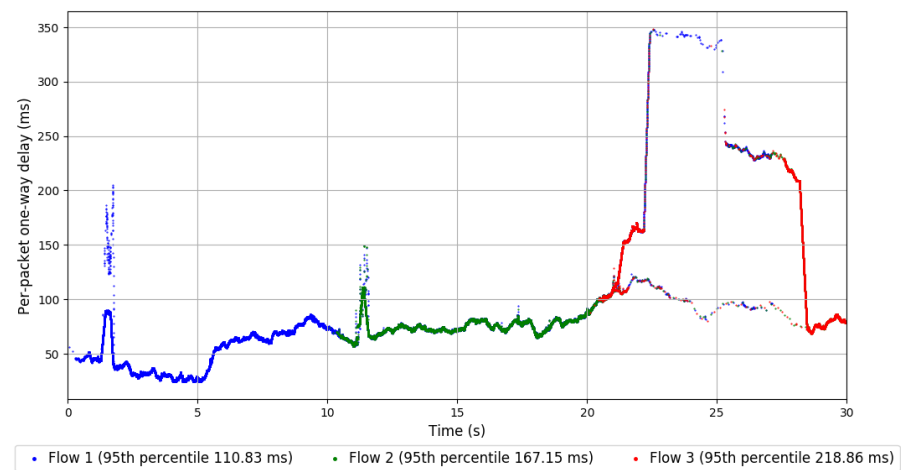
Run 5: Report of Indigo-Muses — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-07 14:43:34
End at: 2018-09-07 14:44:04
Local clock offset: 7.549 ms
Remote clock offset: 38.959 ms


# Below is generated by plot.py at 2018-09-07 16:33:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.07 Mbit/s
95th percentile per-packet one-way delay: 98.670 ms
Loss rate: 21.10%
-- Flow 1:
Average throughput: 55.22 Mbit/s
95th percentile per-packet one-way delay: 98.192 ms
Loss rate: 19.03%
-- Flow 2:
Average throughput: 23.13 Mbit/s
95th percentile per-packet one-way delay: 100.021 ms
Loss rate: 27.47%
-- Flow 3:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 48.083 ms
Loss rate: 30.10%
```
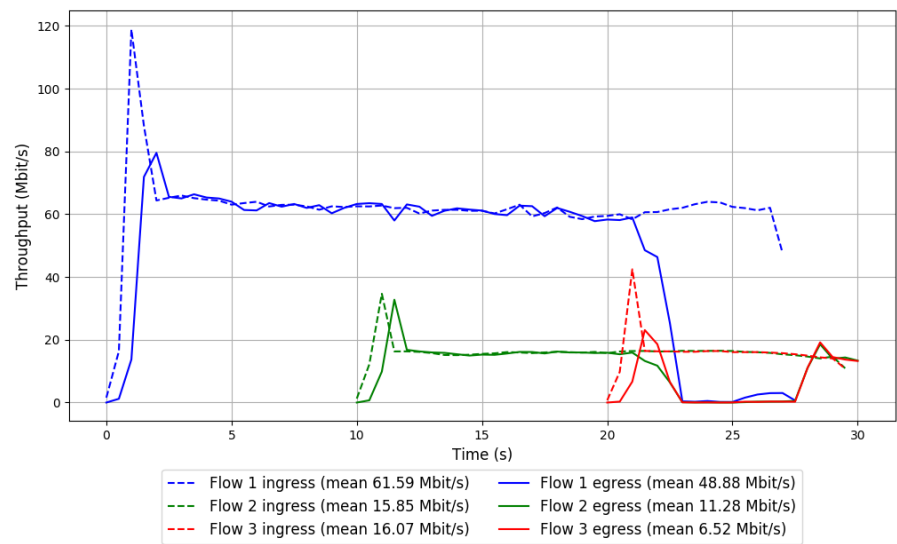
Run 1: Report of PCC-Allegro — Data Link

- - - Flow 1 ingress (mean 68.22 Mbit/s) ——— Flow 1 egress (mean 55.22 Mbit/s)
- - - Flow 2 ingress (mean 31.88 Mbit/s) ——— Flow 2 egress (mean 23.13 Mbit/s)
- - - Flow 3 ingress (mean 2.08 Mbit/s) ——— Flow 3 egress (mean 1.46 Mbit/s)

• Flow 1 (95th percentile 98.19 ms)   • Flow 2 (95th percentile 100.02 ms)   • Flow 3 (95th percentile 48.08 ms)

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-09-07 15:07:18
End at: 2018-09-07 15:07:48
Local clock offset: 5.959 ms
Remote clock offset: 44.486 ms


# Below is generated by plot.py at 2018-09-07 16:33:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.46 Mbit/s
95th percentile per-packet one-way delay: 66.182 ms
Loss rate: 9.68%
-- Flow 1:
Average throughput: 59.25 Mbit/s
95th percentile per-packet one-way delay: 66.449 ms
Loss rate: 12.78%
-- Flow 2:
Average throughput: 28.33 Mbit/s
95th percentile per-packet one-way delay: 66.452 ms
Loss rate: 9.14%
-- Flow 3:
Average throughput: 32.73 Mbit/s
95th percentile per-packet one-way delay: 33.874 ms
Loss rate: 1.33%
```

Run 2: Report of PCC-Allegro — Data Link

- - - Flow 1 ingress (mean 67.01 Mbit/s)   —— Flow 1 egress (mean 59.25 Mbit/s)
- - - Flow 2 ingress (mean 31.22 Mbit/s)   —— Flow 2 egress (mean 28.33 Mbit/s)
- - - Flow 3 ingress (mean 33.21 Mbit/s)   —— Flow 3 egress (mean 32.73 Mbit/s)

• Flow 1 (95th percentile 66.45 ms)   • Flow 2 (95th percentile 66.45 ms)   • Flow 3 (95th percentile 33.87 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-09-07 15:30:36
End at: 2018-09-07 15:31:06
Local clock offset: 1.84 ms
Remote clock offset: 52.781 ms


# Below is generated by plot.py at 2018-09-07 16:33:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.92 Mbit/s
95th percentile per-packet one-way delay: 153.731 ms
Loss rate: 25.35%
-- Flow 1:
Average throughput: 48.88 Mbit/s
95th percentile per-packet one-way delay: 110.830 ms
Loss rate: 21.51%
-- Flow 2:
Average throughput: 11.28 Mbit/s
95th percentile per-packet one-way delay: 167.154 ms
Loss rate: 28.83%
-- Flow 3:
Average throughput: 6.52 Mbit/s
95th percentile per-packet one-way delay: 218.864 ms
Loss rate: 59.45%
```
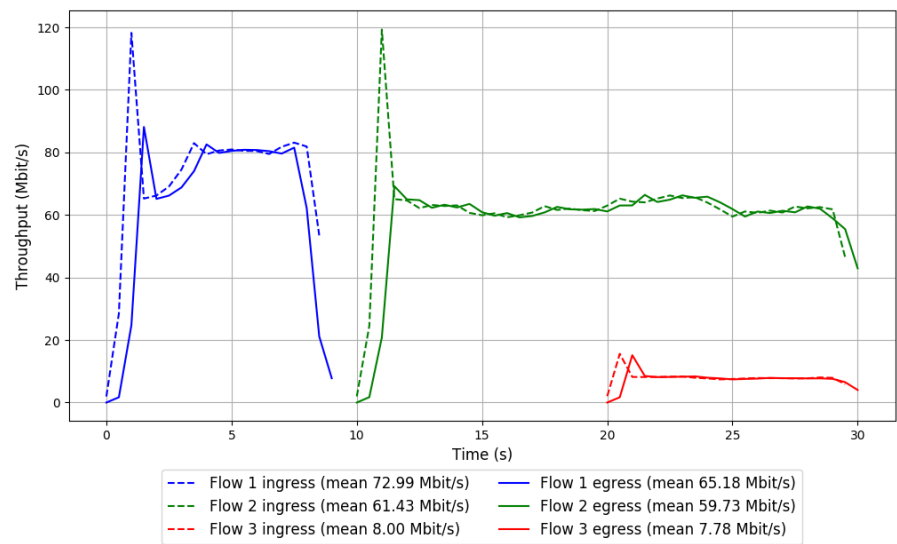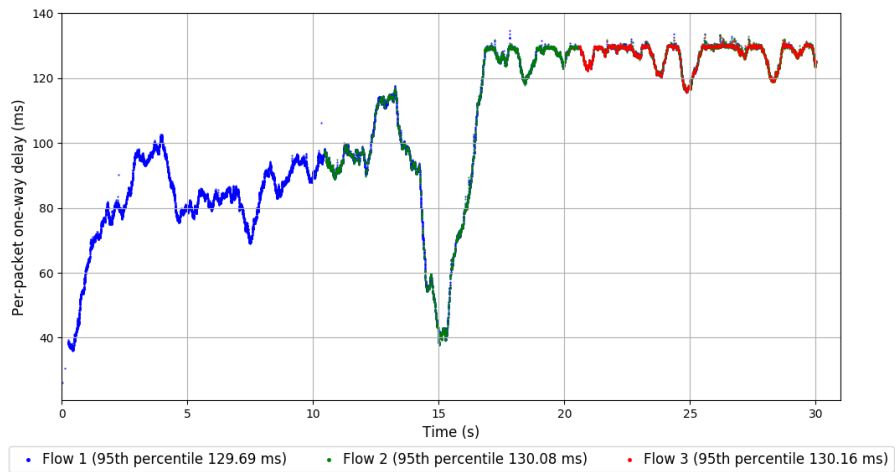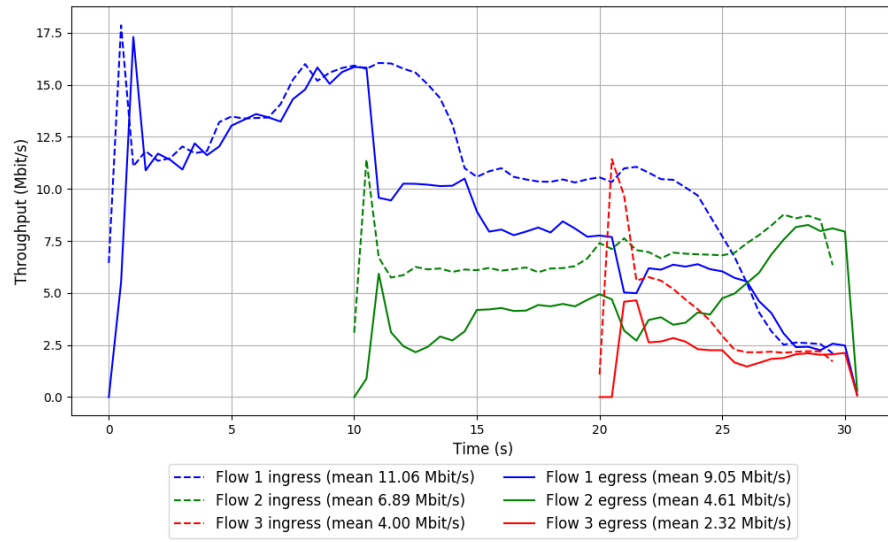
Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 61.59 Mbit/s)   Flow 1 egress (mean 48.88 Mbit/s)
Flow 2 ingress (mean 15.85 Mbit/s)   Flow 2 egress (mean 11.28 Mbit/s)
Flow 3 ingress (mean 16.07 Mbit/s)   Flow 3 egress (mean 6.52 Mbit/s)

Flow 1 (95th percentile 110.83 ms)   Flow 2 (95th percentile 167.15 ms)   Flow 3 (95th percentile 218.86 ms)

Run 4: Statistics of PCC-Allegro

/home/ubuntu/pantheon/data/2018-09-07T14-28-AWS-Korea-to-China-5-runs-3-flows/pcc_stats_run4

Run 4: Report of PCC-Allegro — Data Link

Figure is missing

Figure is missing

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-09-07 16:19:26
End at: 2018-09-07 16:19:56
Local clock offset: 3.043 ms
Remote clock offset: 56.156 ms

# Below is generated by plot.py at 2018-09-07 16:33:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.12 Mbit/s
95th percentile per-packet one-way delay: 65.506 ms
Loss rate: 6.02%
-- Flow 1:
Average throughput: 65.18 Mbit/s
95th percentile per-packet one-way delay: 74.259 ms
Loss rate: 12.62%
-- Flow 2:
Average throughput: 59.73 Mbit/s
95th percentile per-packet one-way delay: 58.094 ms
Loss rate: 2.76%
-- Flow 3:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 71.086 ms
Loss rate: 2.66%
```
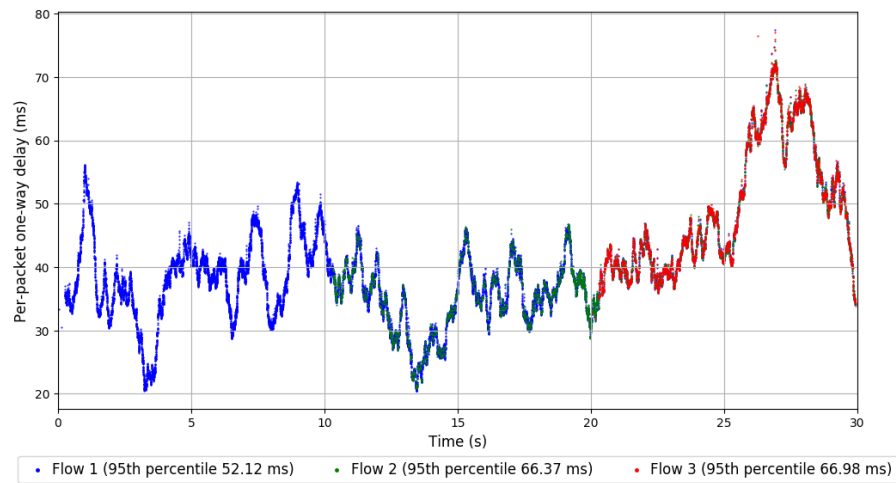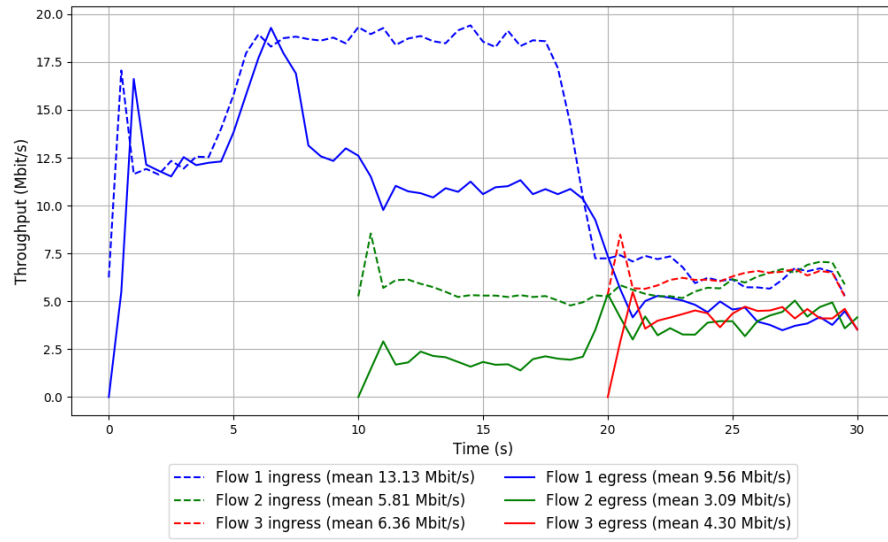
Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-07 14:30:16
End at: 2018-09-07 14:30:47
Local clock offset: 7.457 ms
Remote clock offset: 50.273 ms


# Below is generated by plot.py at 2018-09-07 16:33:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.88 Mbit/s
95th percentile per-packet one-way delay: 129.915 ms
Loss rate: 23.84%
-- Flow 1:
Average throughput: 9.05 Mbit/s
95th percentile per-packet one-way delay: 129.689 ms
Loss rate: 17.85%
-- Flow 2:
Average throughput: 4.61 Mbit/s
95th percentile per-packet one-way delay: 130.081 ms
Loss rate: 33.04%
-- Flow 3:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 130.165 ms
Loss rate: 42.09%
```
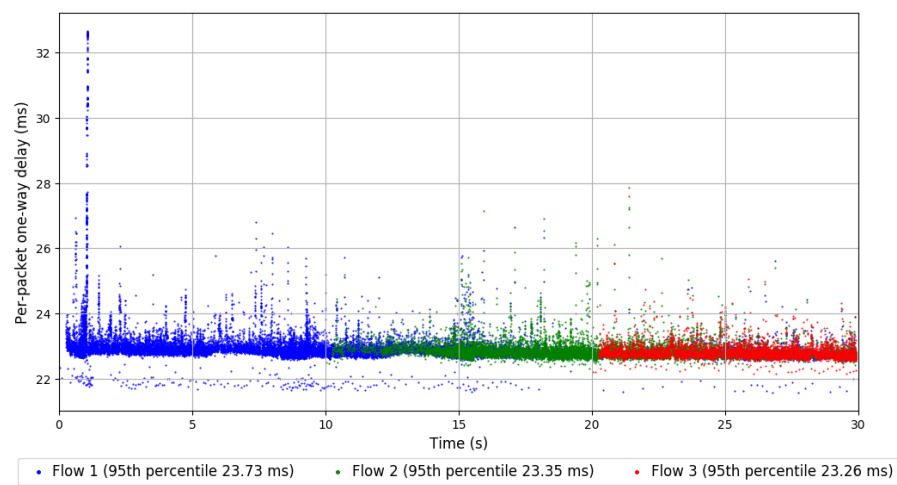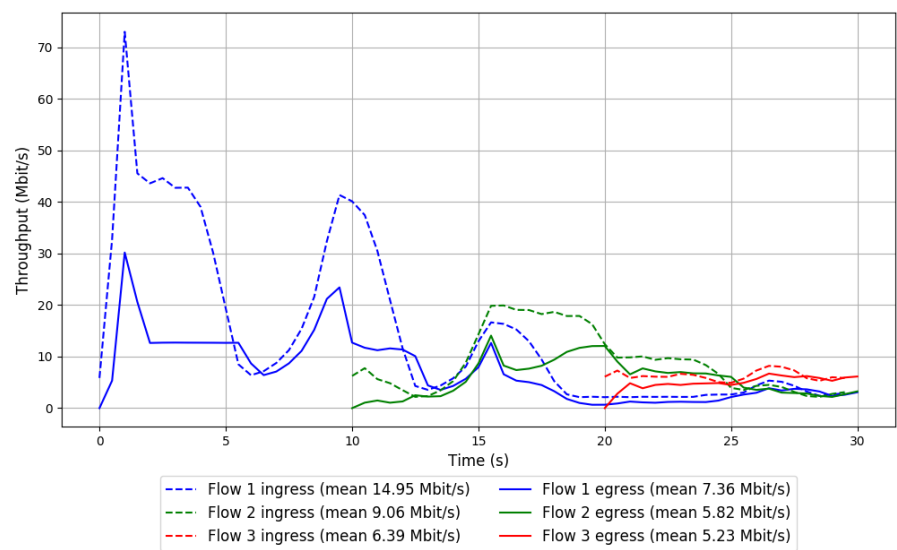
Run 1: Report of PCC-Expr — Data Link

- Flow 1 ingress (mean 11.06 Mbit/s)
- Flow 1 egress (mean 9.05 Mbit/s)
- Flow 2 ingress (mean 6.89 Mbit/s)
- Flow 2 egress (mean 4.61 Mbit/s)
- Flow 3 ingress (mean 4.00 Mbit/s)
- Flow 3 egress (mean 2.32 Mbit/s)

- Flow 1 (95th percentile 129.69 ms)
- Flow 2 (95th percentile 130.08 ms)
- Flow 3 (95th percentile 130.16 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2018-09-07 14:54:26
End at: 2018-09-07 14:54:56
Local clock offset: 6.359 ms
Remote clock offset: 33.866 ms


# Below is generated by plot.py at 2018-09-07 16:33:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.03 Mbit/s
95th percentile per-packet one-way delay: 63.232 ms
Loss rate: 31.75%
-- Flow 1:
Average throughput: 9.56 Mbit/s
95th percentile per-packet one-way delay: 52.121 ms
Loss rate: 27.20%
-- Flow 2:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 66.374 ms
Loss rate: 46.88%
-- Flow 3:
Average throughput: 4.30 Mbit/s
95th percentile per-packet one-way delay: 66.981 ms
Loss rate: 32.38%
```
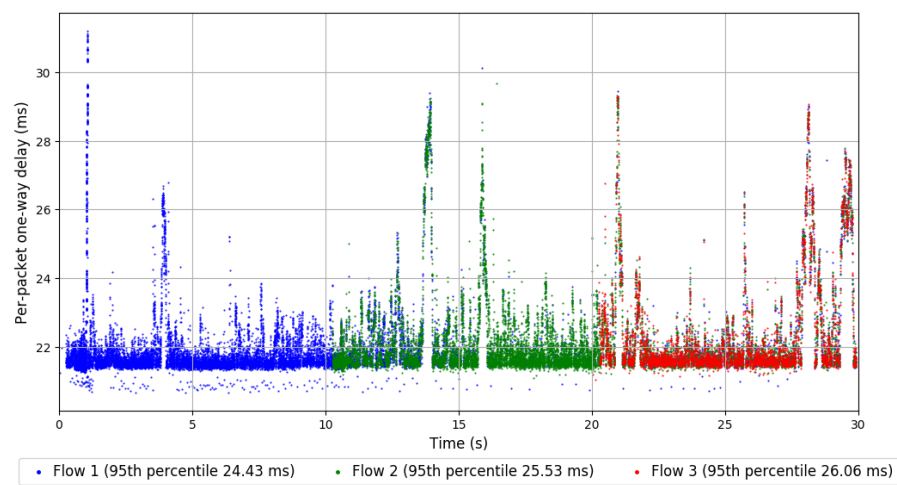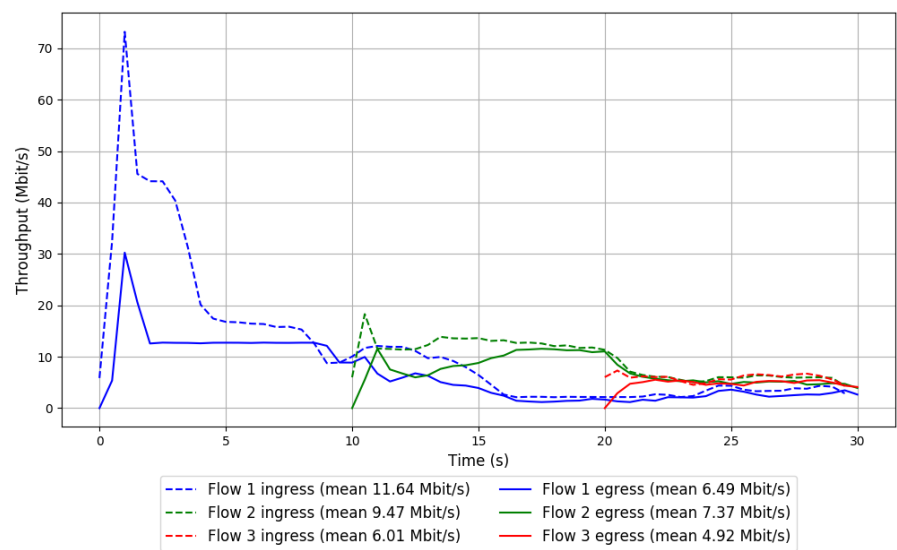
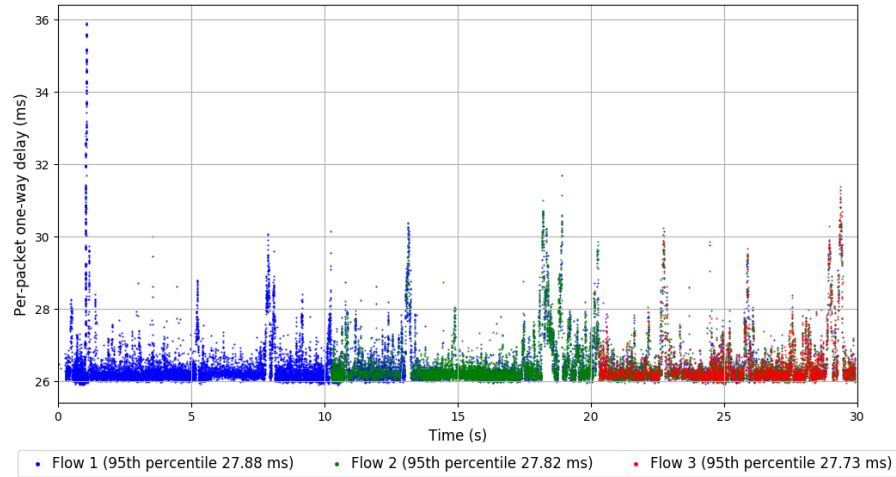Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-09-07 15:17:38
End at: 2018-09-07 15:18:08
Local clock offset: 4.849 ms
Remote clock offset: 49.345 ms


# Below is generated by plot.py at 2018-09-07 16:33:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.96 Mbit/s
95th percentile per-packet one-way delay: 23.530 ms
Loss rate: 43.86%
-- Flow 1:
Average throughput: 7.36 Mbit/s
95th percentile per-packet one-way delay: 23.733 ms
Loss rate: 50.77%
-- Flow 2:
Average throughput: 5.82 Mbit/s
95th percentile per-packet one-way delay: 23.353 ms
Loss rate: 35.71%
-- Flow 3:
Average throughput: 5.23 Mbit/s
95th percentile per-packet one-way delay: 23.258 ms
Loss rate: 18.16%
```
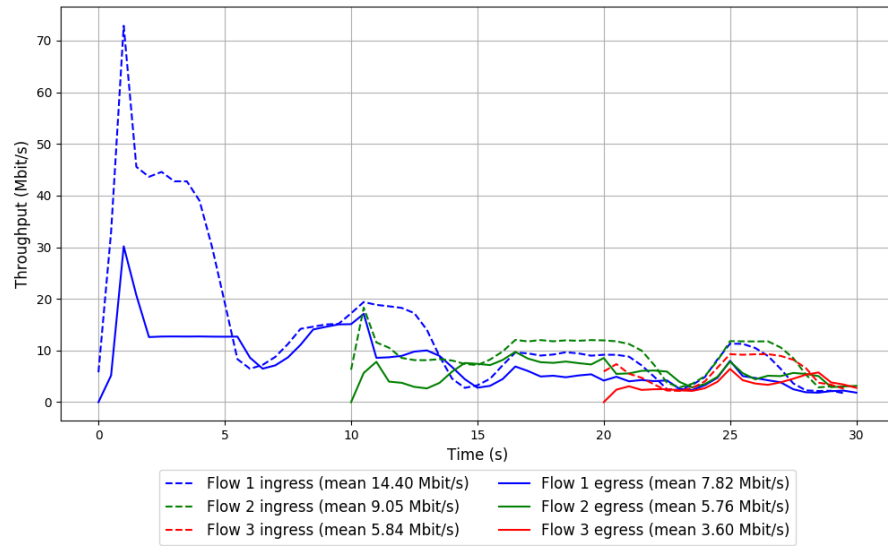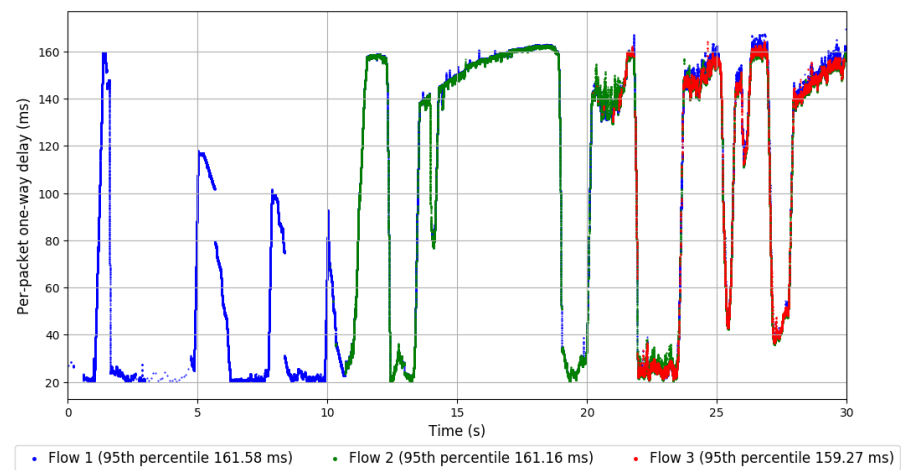
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 14.95 Mbit/s)   Flow 1 egress (mean 7.36 Mbit/s)
Flow 2 ingress (mean 9.06 Mbit/s)   Flow 2 egress (mean 5.82 Mbit/s)
Flow 3 ingress (mean 6.39 Mbit/s)   Flow 3 egress (mean 5.23 Mbit/s)

Flow 1 (95th percentile 23.73 ms)   Flow 2 (95th percentile 23.35 ms)   Flow 3 (95th percentile 23.26 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2018-09-07 15:40:59
End at: 2018-09-07 15:41:29
Local clock offset: 0.922 ms
Remote clock offset: 47.686 ms


# Below is generated by plot.py at 2018-09-07 16:33:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.02 Mbit/s
95th percentile per-packet one-way delay: 25.267 ms
Loss rate: 34.63%
-- Flow 1:
Average throughput: 6.49 Mbit/s
95th percentile per-packet one-way delay: 24.426 ms
Loss rate: 44.22%
-- Flow 2:
Average throughput: 7.37 Mbit/s
95th percentile per-packet one-way delay: 25.529 ms
Loss rate: 22.14%
-- Flow 3:
Average throughput: 4.92 Mbit/s
95th percentile per-packet one-way delay: 26.058 ms
Loss rate: 18.05%
```
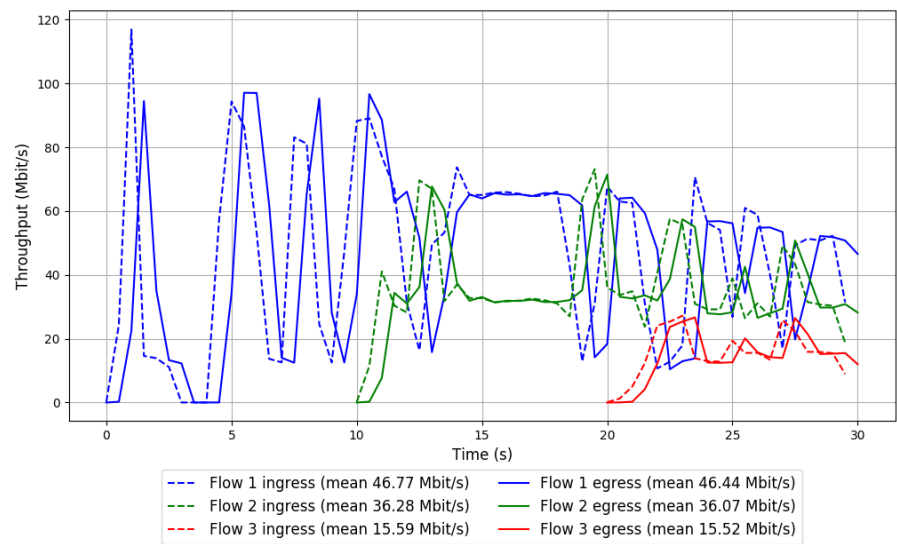
Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2018-09-07 16:05:41
End at: 2018-09-07 16:06:11
Local clock offset: 1.36 ms
Remote clock offset: 51.406 ms


# Below is generated by plot.py at 2018-09-07 16:33:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.84 Mbit/s
95th percentile per-packet one-way delay: 27.855 ms
Loss rate: 42.56%
-- Flow 1:
Average throughput: 7.82 Mbit/s
95th percentile per-packet one-way delay: 27.881 ms
Loss rate: 45.73%
-- Flow 2:
Average throughput: 5.76 Mbit/s
95th percentile per-packet one-way delay: 27.815 ms
Loss rate: 36.30%
-- Flow 3:
Average throughput: 3.60 Mbit/s
95th percentile per-packet one-way delay: 27.731 ms
Loss rate: 38.41%
```

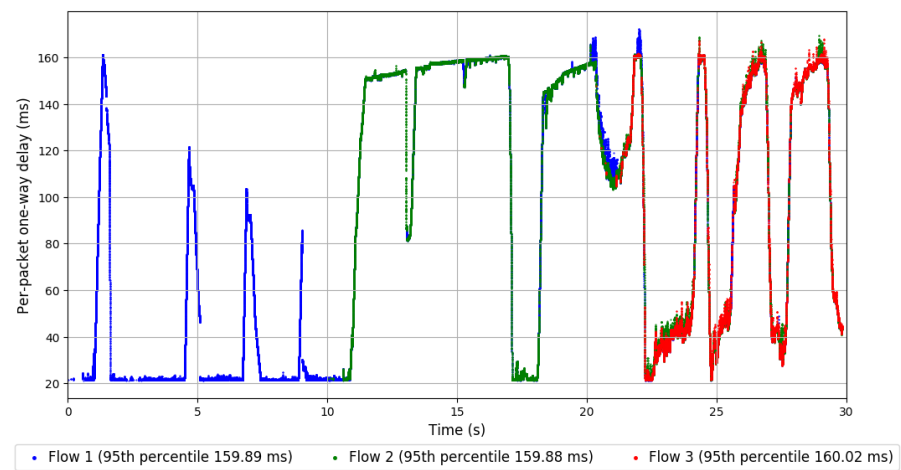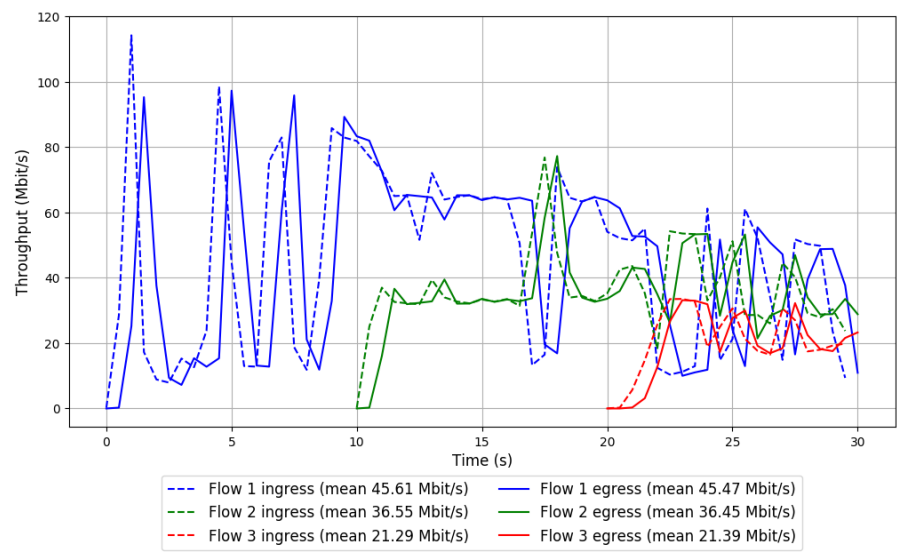Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-09-07 14:49:01
End at: 2018-09-07 14:49:31
Local clock offset: 6.895 ms
Remote clock offset: 36.388 ms


# Below is generated by plot.py at 2018-09-07 16:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.39 Mbit/s
95th percentile per-packet one-way delay: 161.356 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 46.44 Mbit/s
95th percentile per-packet one-way delay: 161.583 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 36.07 Mbit/s
95th percentile per-packet one-way delay: 161.163 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 15.52 Mbit/s
95th percentile per-packet one-way delay: 159.270 ms
Loss rate: 1.01%
```

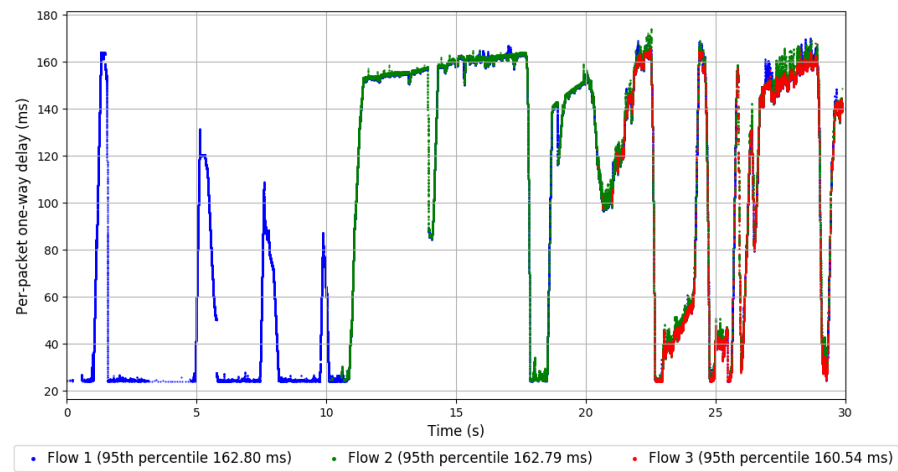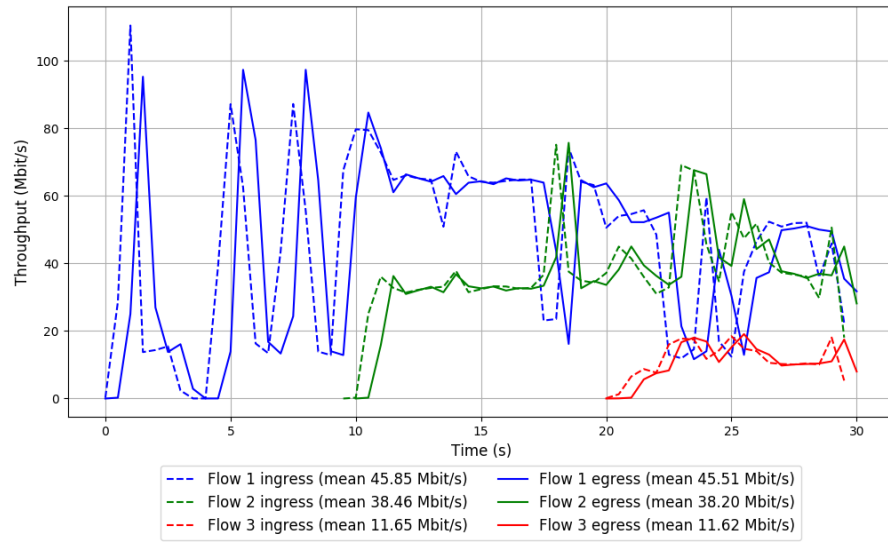Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-09-07 15:12:24
End at: 2018-09-07 15:12:54
Local clock offset: 6.096 ms
Remote clock offset: 47.594 ms


# Below is generated by plot.py at 2018-09-07 16:34:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.48 Mbit/s
95th percentile per-packet one-way delay: 159.888 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 45.47 Mbit/s
95th percentile per-packet one-way delay: 159.887 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 36.45 Mbit/s
95th percentile per-packet one-way delay: 159.876 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 21.39 Mbit/s
95th percentile per-packet one-way delay: 160.022 ms
Loss rate: 0.62%
```

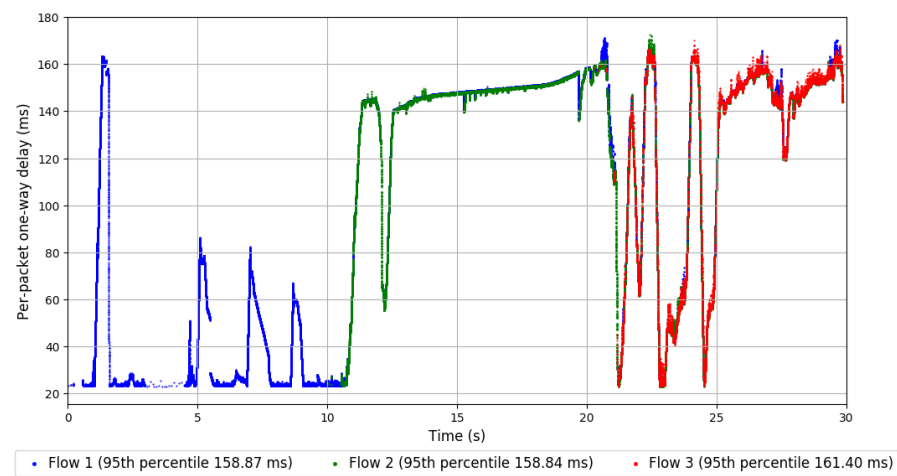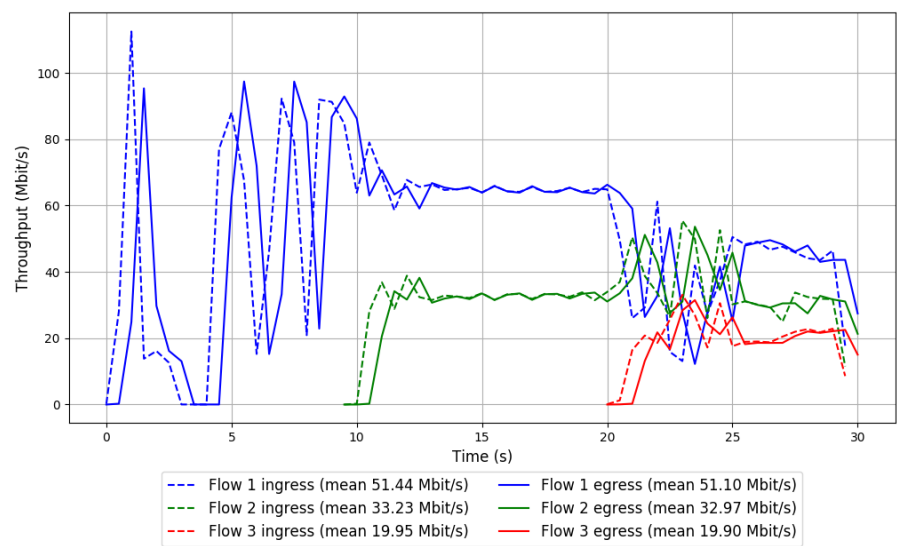Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-09-07 15:35:43
End at: 2018-09-07 15:36:13
Local clock offset: 1.471 ms
Remote clock offset: 51.662 ms


# Below is generated by plot.py at 2018-09-07 16:34:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.57 Mbit/s
95th percentile per-packet one-way delay: 162.759 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 45.51 Mbit/s
95th percentile per-packet one-way delay: 162.796 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 38.20 Mbit/s
95th percentile per-packet one-way delay: 162.791 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 11.62 Mbit/s
95th percentile per-packet one-way delay: 160.540 ms
Loss rate: 0.20%
```
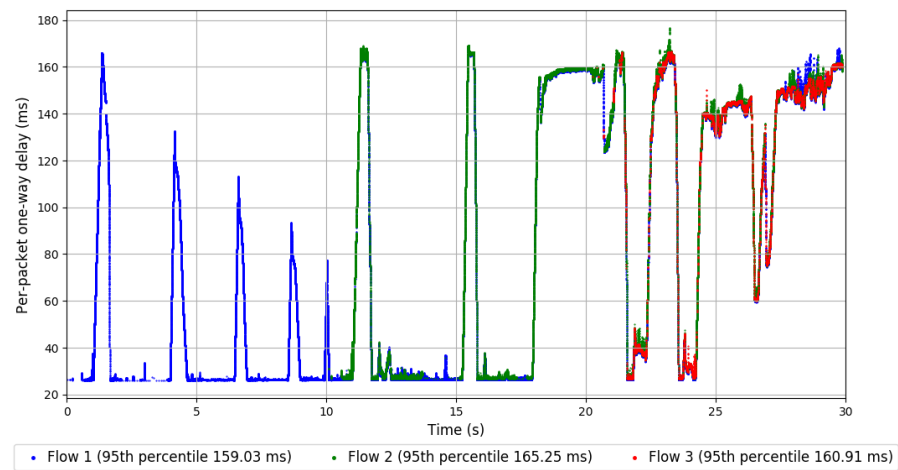
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 45.85 Mbit/s) ---- Flow 1 egress (mean 45.51 Mbit/s)
Flow 2 ingress (mean 38.46 Mbit/s) ---- Flow 2 egress (mean 38.20 Mbit/s)
Flow 3 ingress (mean 11.65 Mbit/s) ---- Flow 3 egress (mean 11.62 Mbit/s)

Flow 1 (95th percentile 162.80 ms)   Flow 2 (95th percentile 162.79 ms)   Flow 3 (95th percentile 160.54 ms)
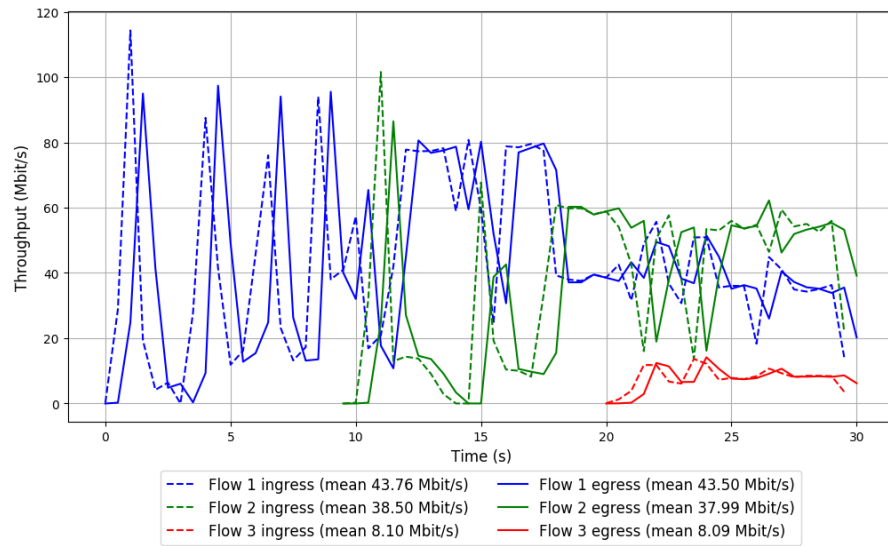
110

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-09-07 16:00:26
End at: 2018-09-07 16:00:56
Local clock offset: 1.494 ms
Remote clock offset: 48.938 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.37 Mbit/s
95th percentile per-packet one-way delay: 159.110 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 51.10 Mbit/s
95th percentile per-packet one-way delay: 158.874 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 32.97 Mbit/s
95th percentile per-packet one-way delay: 158.845 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 19.90 Mbit/s
95th percentile per-packet one-way delay: 161.398 ms
Loss rate: 0.44%
```
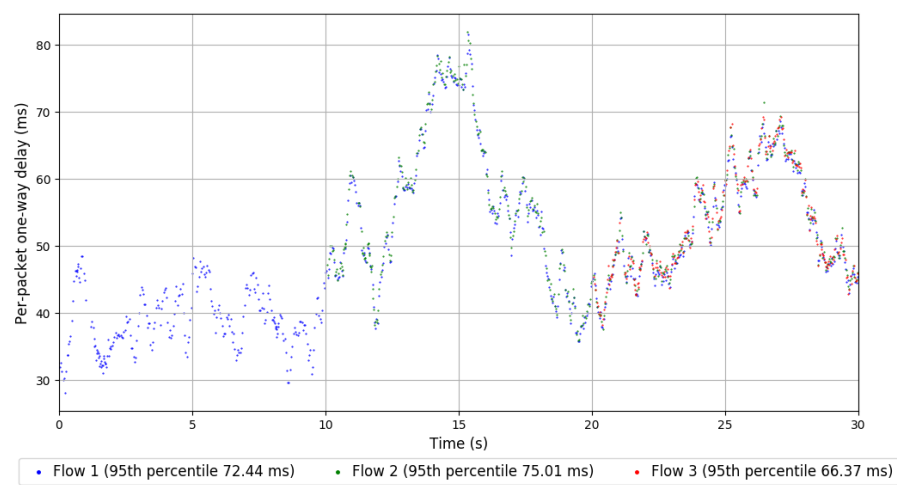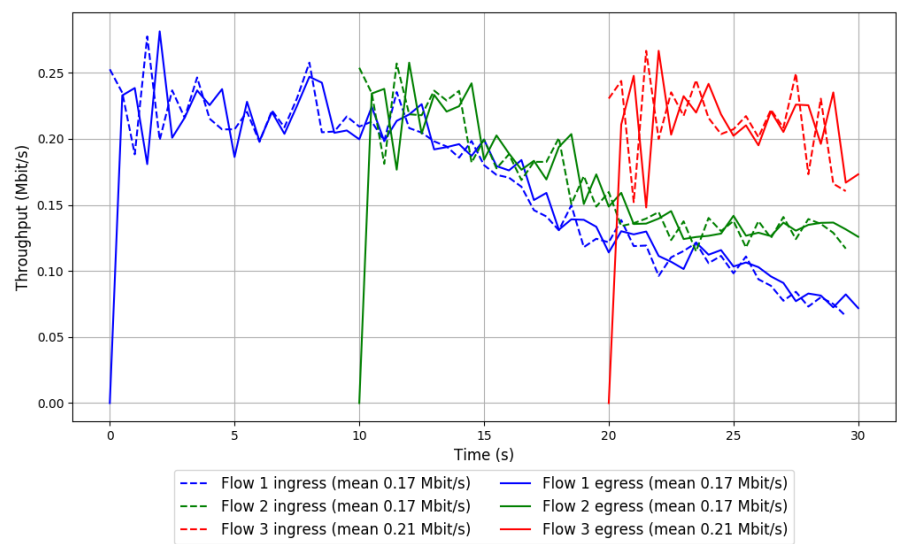
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 51.44 Mbit/s)   Flow 1 egress (mean 51.10 Mbit/s)
Flow 2 ingress (mean 33.23 Mbit/s)   Flow 2 egress (mean 32.97 Mbit/s)
Flow 3 ingress (mean 19.95 Mbit/s)   Flow 3 egress (mean 19.90 Mbit/s)

Flow 1 (95th percentile 158.87 ms)   Flow 2 (95th percentile 158.84 ms)   Flow 3 (95th percentile 161.40 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-09-07 16:24:29
End at: 2018-09-07 16:24:59
Local clock offset: 4.409 ms
Remote clock offset: 52.862 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.29 Mbit/s
95th percentile per-packet one-way delay: 162.369 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 43.50 Mbit/s
95th percentile per-packet one-way delay: 159.028 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 37.99 Mbit/s
95th percentile per-packet one-way delay: 165.250 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 8.09 Mbit/s
95th percentile per-packet one-way delay: 160.914 ms
Loss rate: 0.06%
```
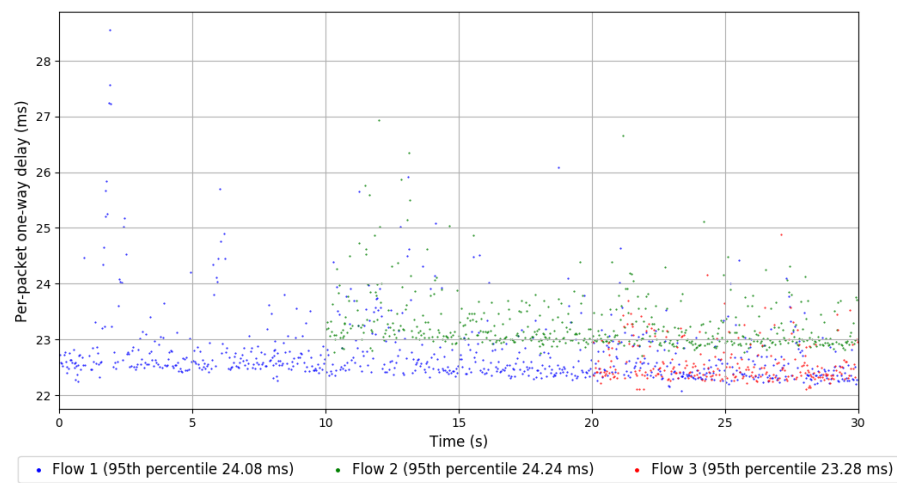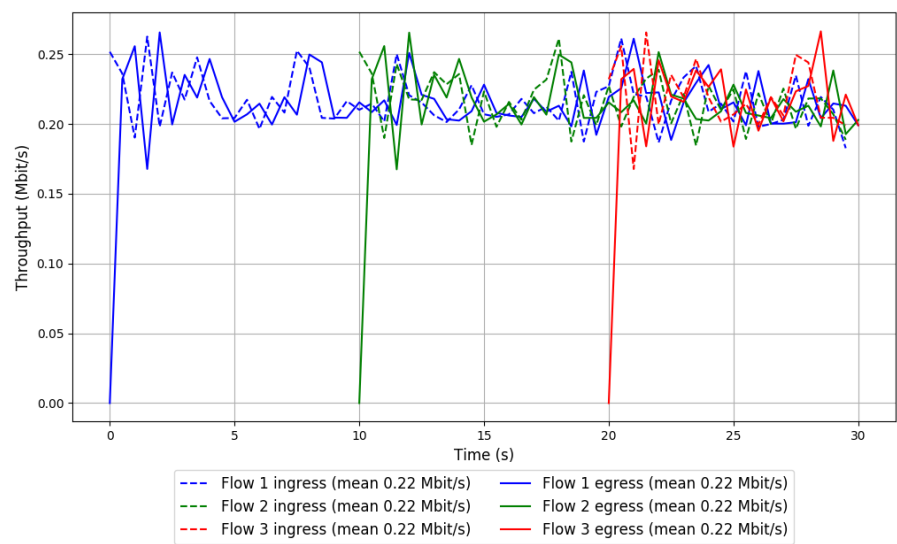
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 43.76 Mbit/s) — Flow 1 egress (mean 43.50 Mbit/s)
Flow 2 ingress (mean 38.50 Mbit/s) — Flow 2 egress (mean 37.99 Mbit/s)
Flow 3 ingress (mean 8.10 Mbit/s) — Flow 3 egress (mean 8.09 Mbit/s)

Flow 1 (95th percentile 159.03 ms)   Flow 2 (95th percentile 165.25 ms)   Flow 3 (95th percentile 160.91 ms)

```
Run 1: Statistics of SCReAM

Start at: 2018-09-07 14:44:54
End at: 2018-09-07 14:45:24
Local clock offset: 7.549 ms
Remote clock offset: 39.604 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 72.440 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 72.440 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 75.011 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 66.372 ms
Loss rate: 0.00%
```
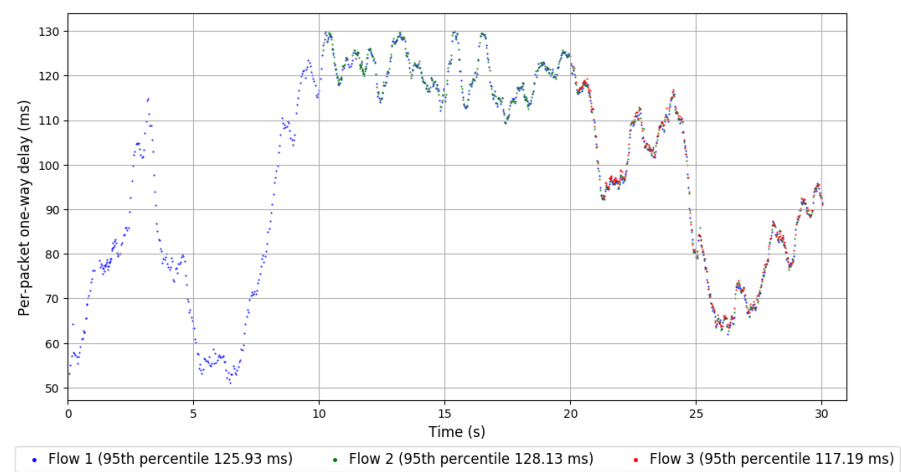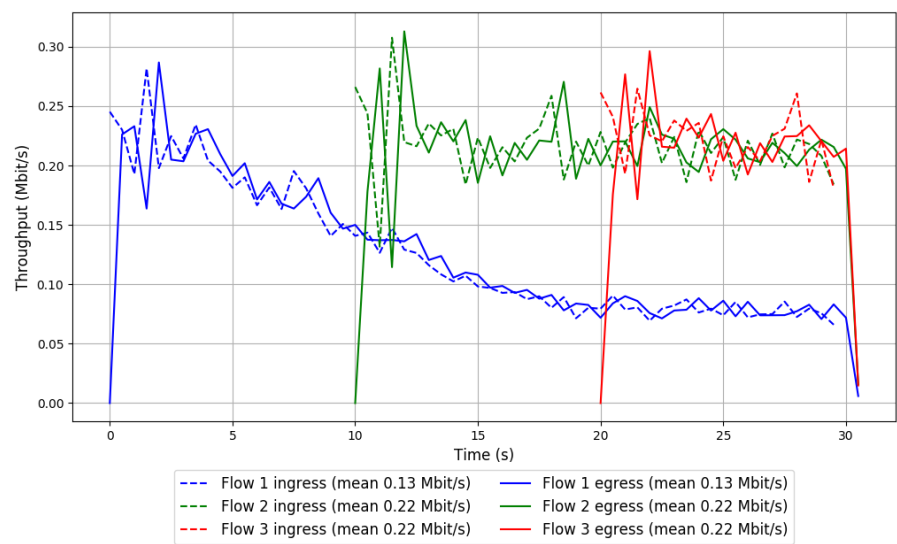
Run 1: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.17 Mbit/s)   Flow 1 egress (mean 0.17 Mbit/s)
Flow 2 ingress (mean 0.17 Mbit/s)   Flow 2 egress (mean 0.17 Mbit/s)
Flow 3 ingress (mean 0.21 Mbit/s)   Flow 3 egress (mean 0.21 Mbit/s)

Flow 1 (95th percentile 72.44 ms)   Flow 2 (95th percentile 75.01 ms)   Flow 3 (95th percentile 66.37 ms)

```
Run 2: Statistics of SCReAM

Start at: 2018-09-07 15:08:34
End at: 2018-09-07 15:09:04
Local clock offset: 6.078 ms
Remote clock offset: 47.221 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 24.039 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 24.077 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 24.244 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 23.276 ms
Loss rate: 0.00%
```
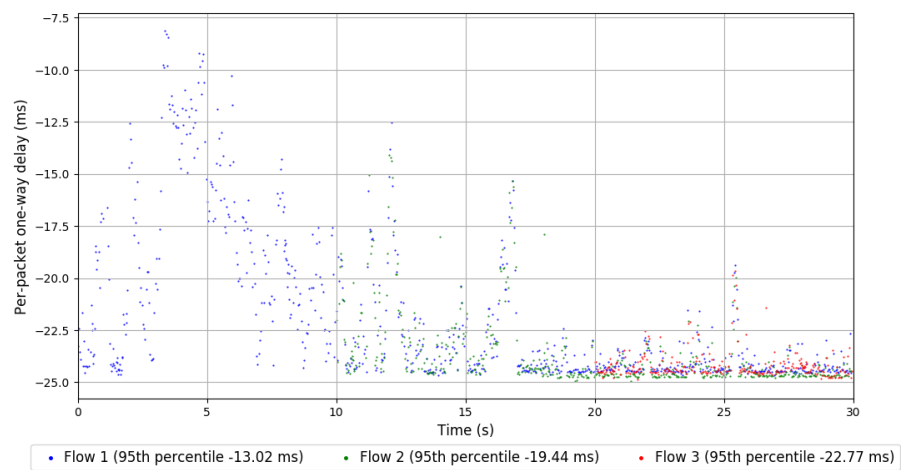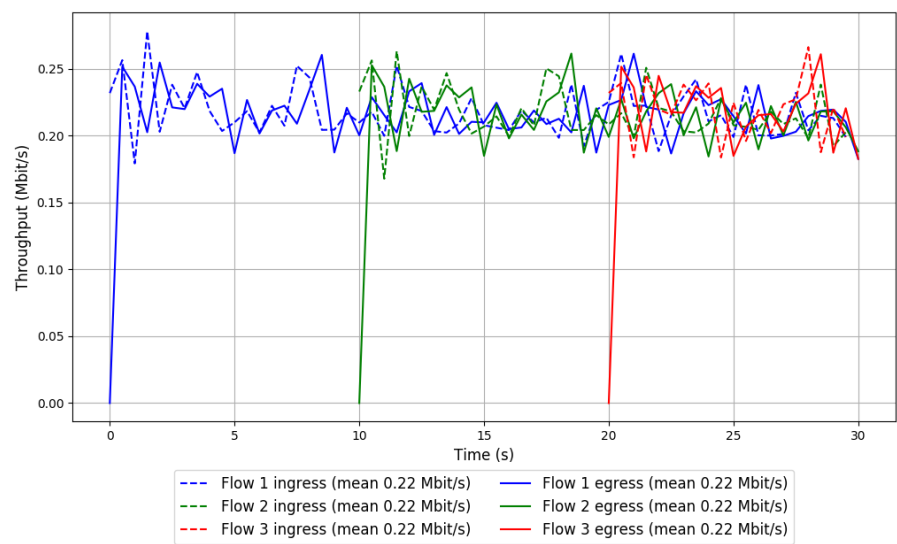
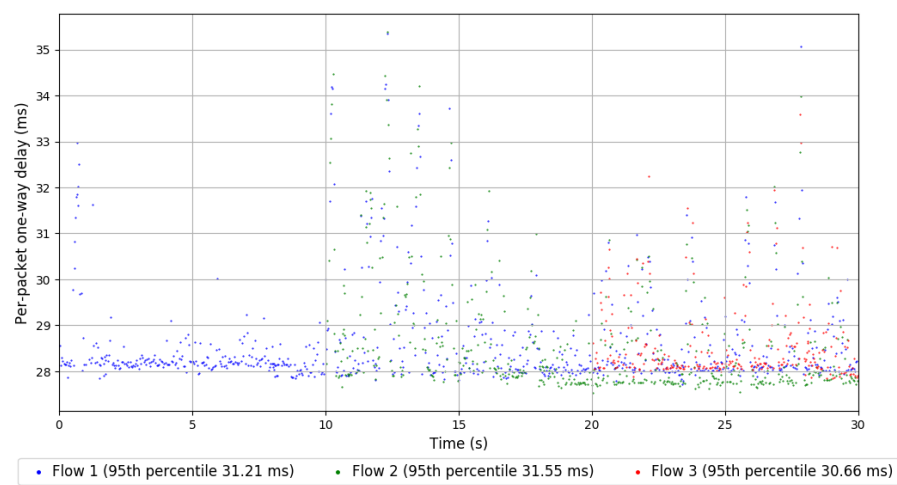# Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-09-07 15:31:58
End at: 2018-09-07 15:32:28
Local clock offset: 1.875 ms
Remote clock offset: 50.24 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 126.075 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 125.933 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 128.130 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 117.189 ms
Loss rate: 0.00%
```
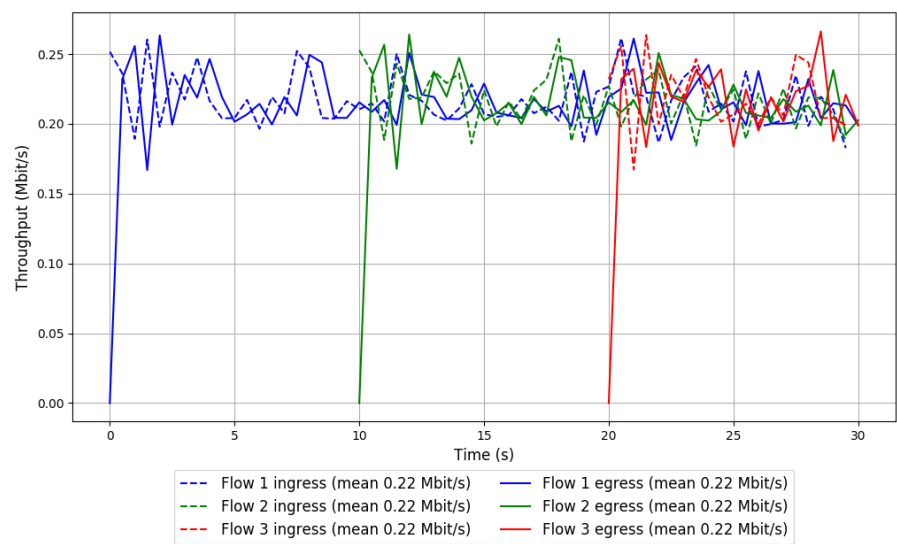
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-09-07 15:56:41
End at: 2018-09-07 15:57:11
Local clock offset: 1.492 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: -15.790 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -13.021 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -19.443 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -22.773 ms
Loss rate: 0.00%
```
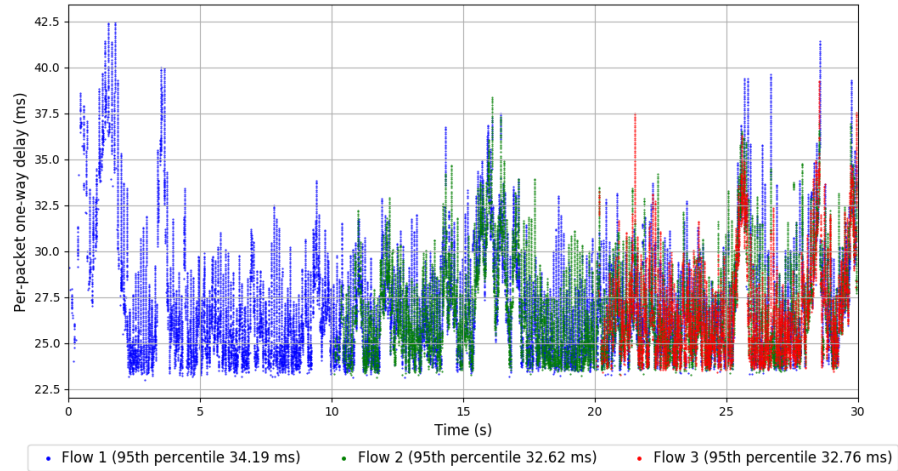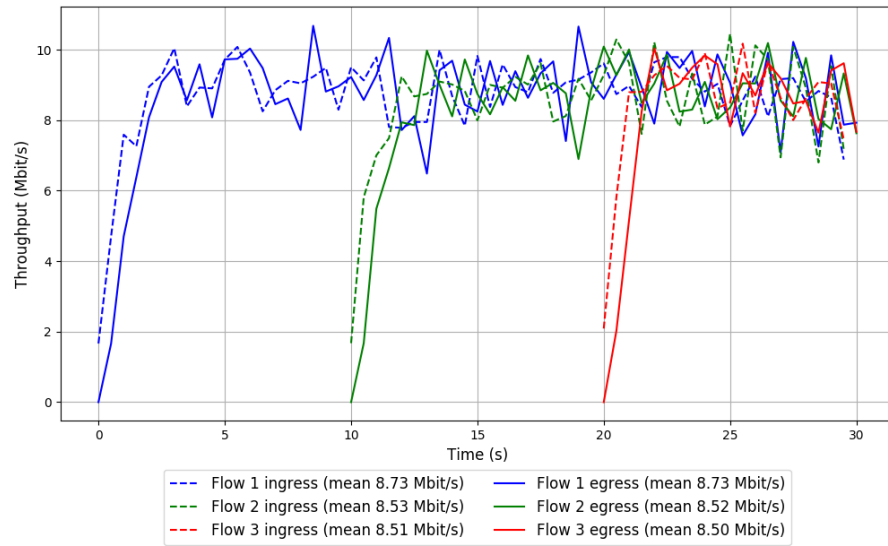
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-09-07 16:20:45
End at: 2018-09-07 16:21:15
Local clock offset: 3.311 ms
Remote clock offset: 53.741 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 31.209 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 31.215 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 31.552 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 30.656 ms
Loss rate: 0.00%
```
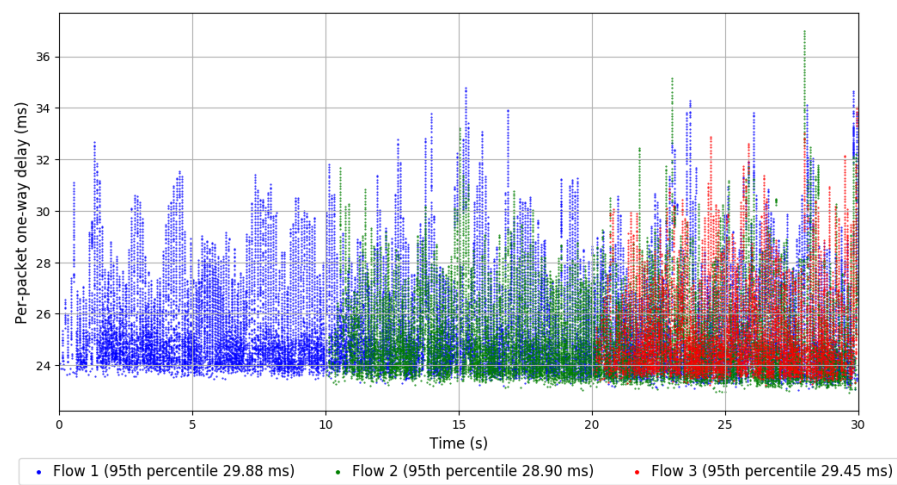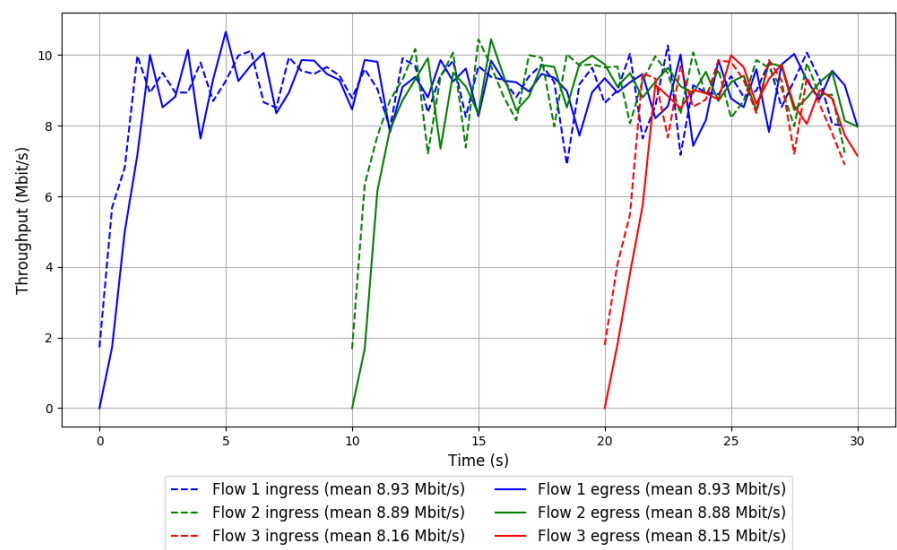
Run 5: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 31.21 ms)   Flow 2 (95th percentile 31.55 ms)   Flow 3 (95th percentile 30.66 ms)

```
Run 1: Statistics of Sprout

Start at: 2018-09-07 14:38:07
End at: 2018-09-07 14:38:37
Local clock offset: 7.309 ms
Remote clock offset: 44.219 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.21 Mbit/s
95th percentile per-packet one-way delay: 33.261 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.73 Mbit/s
95th percentile per-packet one-way delay: 34.194 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.52 Mbit/s
95th percentile per-packet one-way delay: 32.621 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.50 Mbit/s
95th percentile per-packet one-way delay: 32.759 ms
Loss rate: 0.00%
```
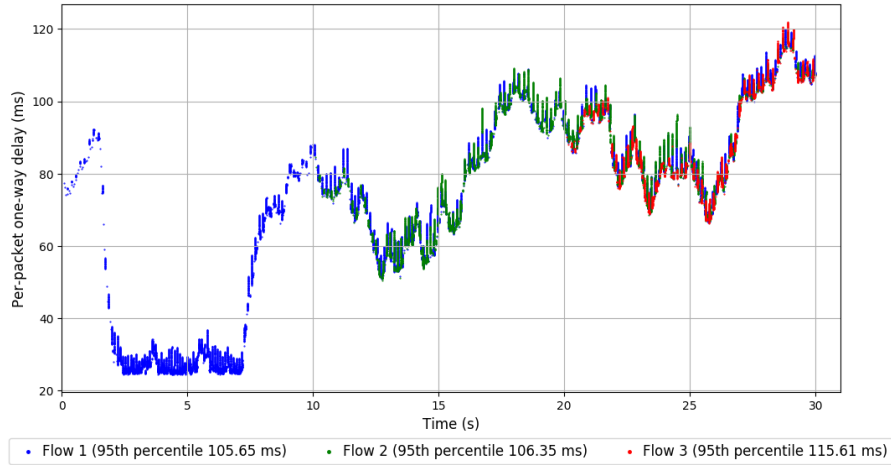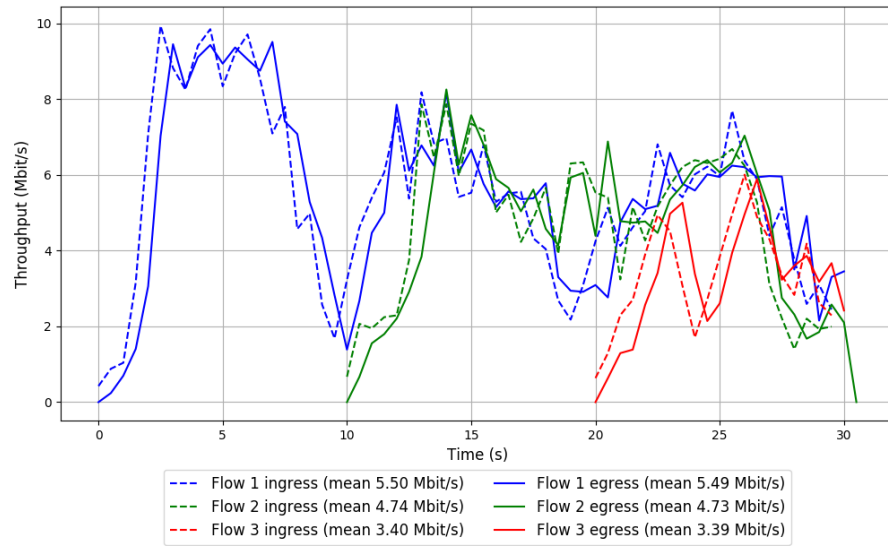
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-09-07 15:02:11
End at: 2018-09-07 15:02:41
Local clock offset: 6.082 ms
Remote clock offset: 44.049 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.53 Mbit/s
95th percentile per-packet one-way delay: 29.554 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.93 Mbit/s
95th percentile per-packet one-way delay: 29.878 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.88 Mbit/s
95th percentile per-packet one-way delay: 28.896 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.15 Mbit/s
95th percentile per-packet one-way delay: 29.445 ms
Loss rate: 0.00%
```
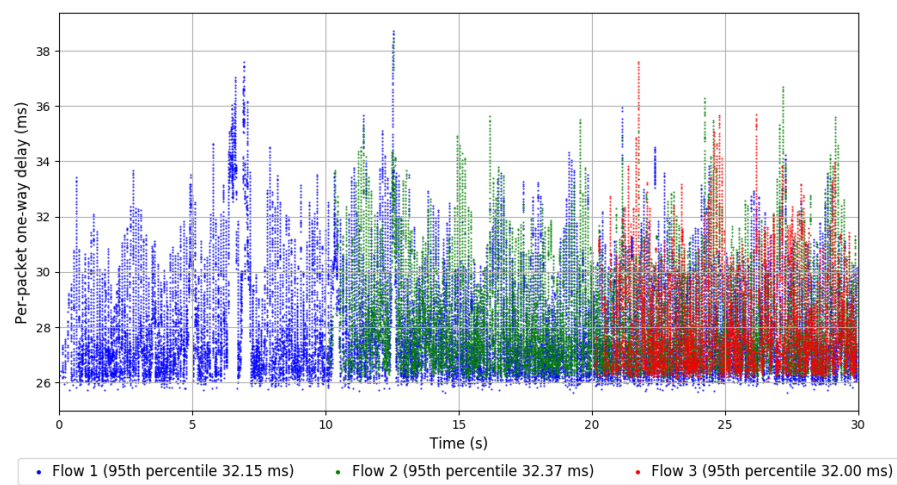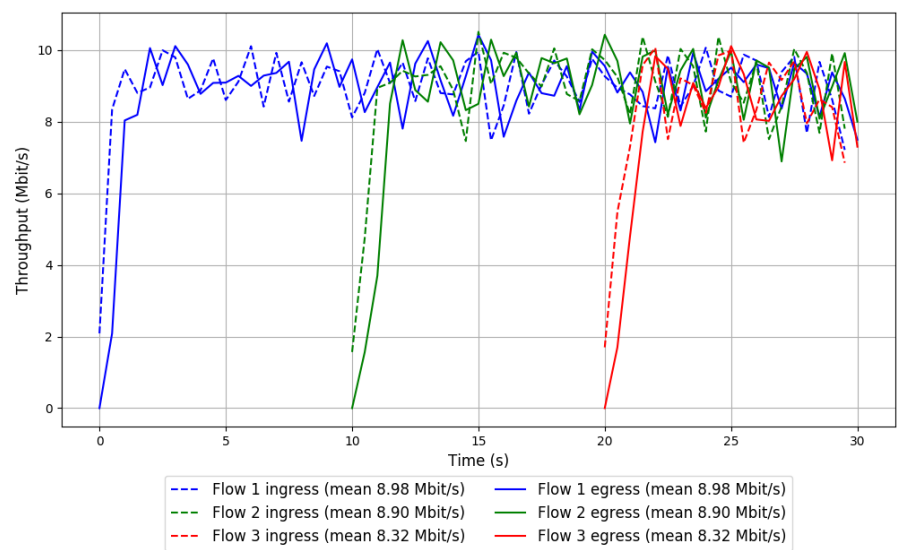
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-09-07 15:25:13
End at: 2018-09-07 15:25:43
Local clock offset: 2.887 ms
Remote clock offset: 52.09 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.76 Mbit/s
95th percentile per-packet one-way delay: 107.436 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.49 Mbit/s
95th percentile per-packet one-way delay: 105.647 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.73 Mbit/s
95th percentile per-packet one-way delay: 106.349 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 3.39 Mbit/s
95th percentile per-packet one-way delay: 115.607 ms
Loss rate: 0.00%
```
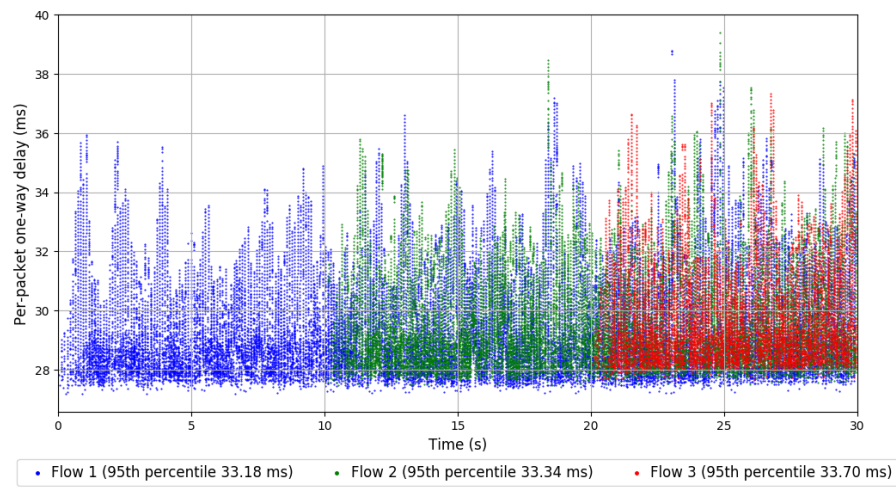
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-09-07 15:48:27
End at: 2018-09-07 15:48:57
Local clock offset: 0.95 ms
Remote clock offset: 52.173 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.64 Mbit/s
95th percentile per-packet one-way delay: 32.213 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.98 Mbit/s
95th percentile per-packet one-way delay: 32.152 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.90 Mbit/s
95th percentile per-packet one-way delay: 32.373 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.32 Mbit/s
95th percentile per-packet one-way delay: 31.998 ms
Loss rate: 0.00%
```
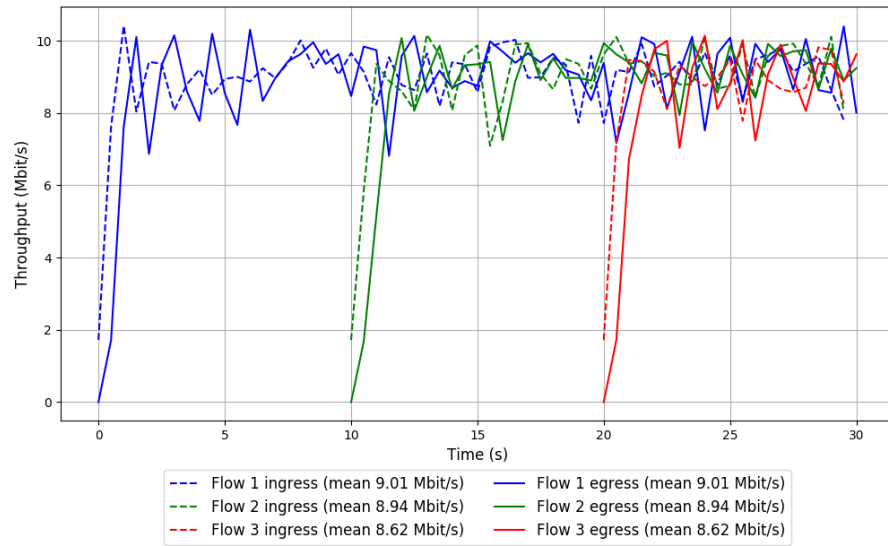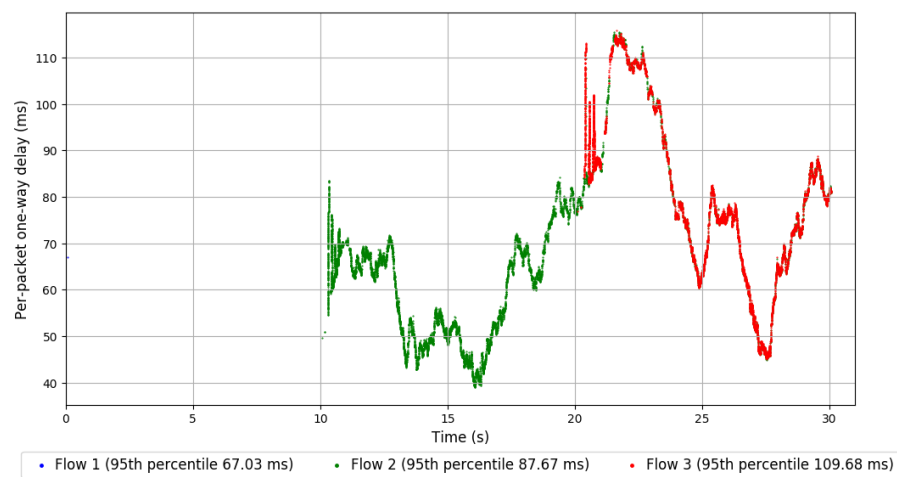
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-09-07 16:14:15
End at: 2018-09-07 16:14:45
Local clock offset: 1.289 ms
Remote clock offset: 53.861 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.80 Mbit/s
95th percentile per-packet one-way delay: 33.326 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.01 Mbit/s
95th percentile per-packet one-way delay: 33.184 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.94 Mbit/s
95th percentile per-packet one-way delay: 33.345 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 33.696 ms
Loss rate: 0.00%
```
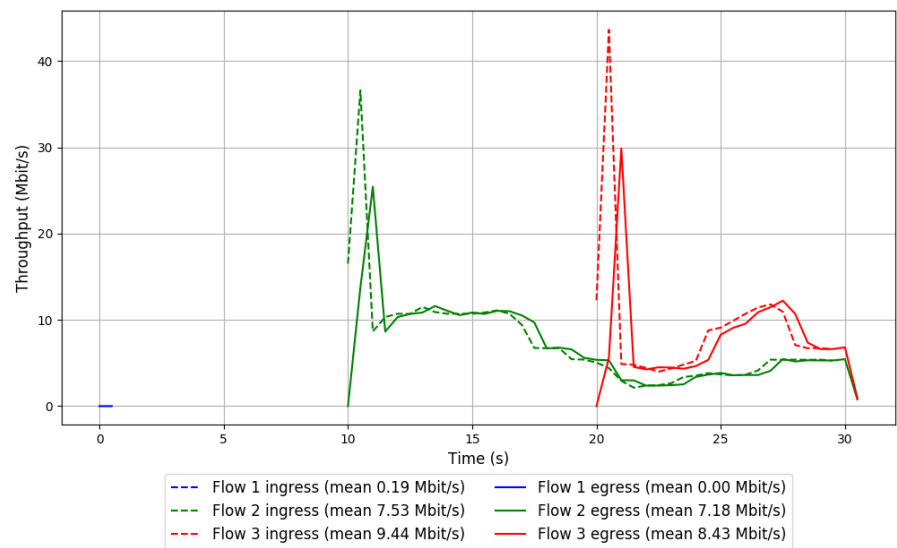
Run 5: Report of Sprout — Data Link

Flow 1 ingress (mean 9.01 Mbit/s) --- Flow 1 egress (mean 9.01 Mbit/s)
Flow 2 ingress (mean 8.94 Mbit/s) --- Flow 2 egress (mean 8.94 Mbit/s)
Flow 3 ingress (mean 8.62 Mbit/s) --- Flow 3 egress (mean 8.62 Mbit/s)

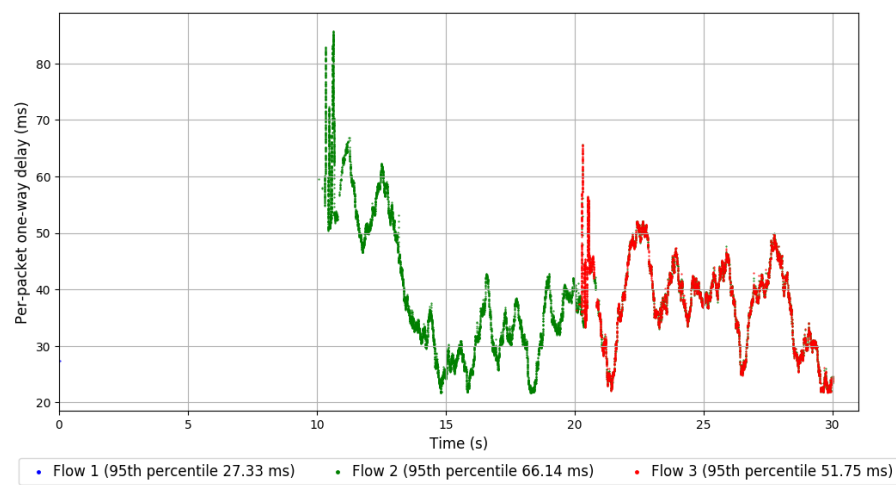Flow 1 (95th percentile 33.18 ms)   Flow 2 (95th percentile 33.34 ms)   Flow 3 (95th percentile 33.70 ms)

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

Start at: 2018-09-07 14:28:57
End at: 2018-09-07 14:29:27
Local clock offset: 7.35 ms
Remote clock offset: 52.881 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.59 Mbit/s
95th percentile per-packet one-way delay: 105.166 ms
Loss rate: 6.92%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 67.027 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 7.18 Mbit/s
95th percentile per-packet one-way delay: 87.666 ms
Loss rate: 4.57%
-- Flow 3:
Average throughput: 8.43 Mbit/s
95th percentile per-packet one-way delay: 109.678 ms
Loss rate: 10.65%
```

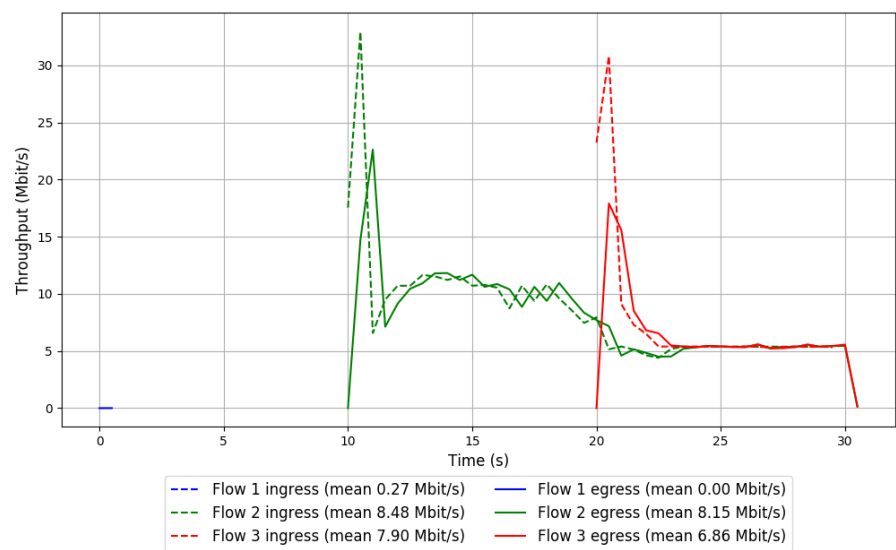Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2018-09-07 14:53:13
End at: 2018-09-07 14:53:43
Local clock offset: 6.717 ms
Remote clock offset: 35.814 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.70 Mbit/s
95th percentile per-packet one-way delay: 62.866 ms
Loss rate: 7.03%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 27.334 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 8.15 Mbit/s
95th percentile per-packet one-way delay: 66.139 ms
Loss rate: 4.08%
-- Flow 3:
Average throughput: 6.86 Mbit/s
95th percentile per-packet one-way delay: 51.751 ms
Loss rate: 13.33%
```
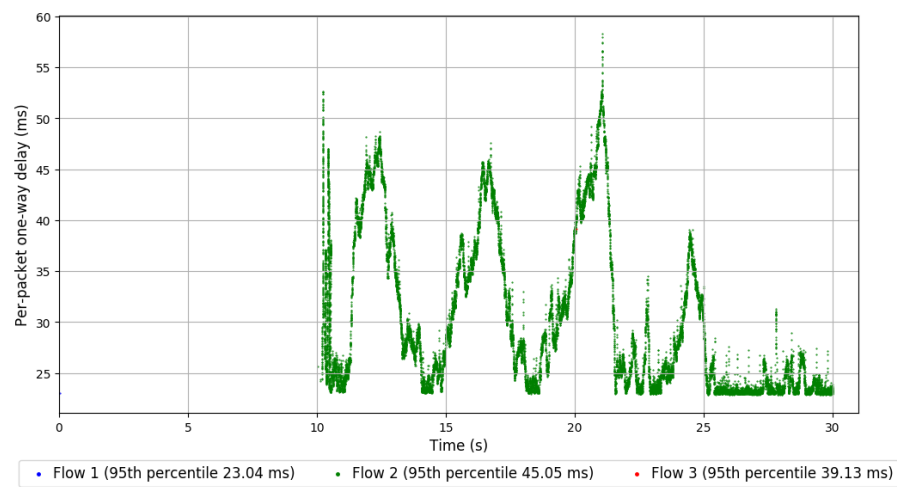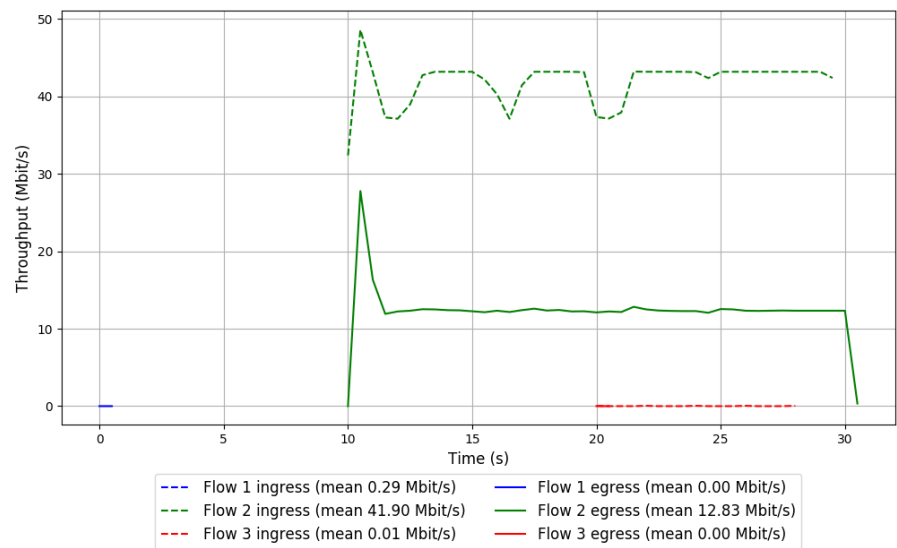
Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2018-09-07 15:16:26
End at: 2018-09-07 15:16:56
Local clock offset: 5.348 ms
Remote clock offset: 49.6 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 45.055 ms
Loss rate: 69.38%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 23.043 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 12.83 Mbit/s
95th percentile per-packet one-way delay: 45.055 ms
Loss rate: 69.38%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 39.131 ms
Loss rate: 99.16%
```
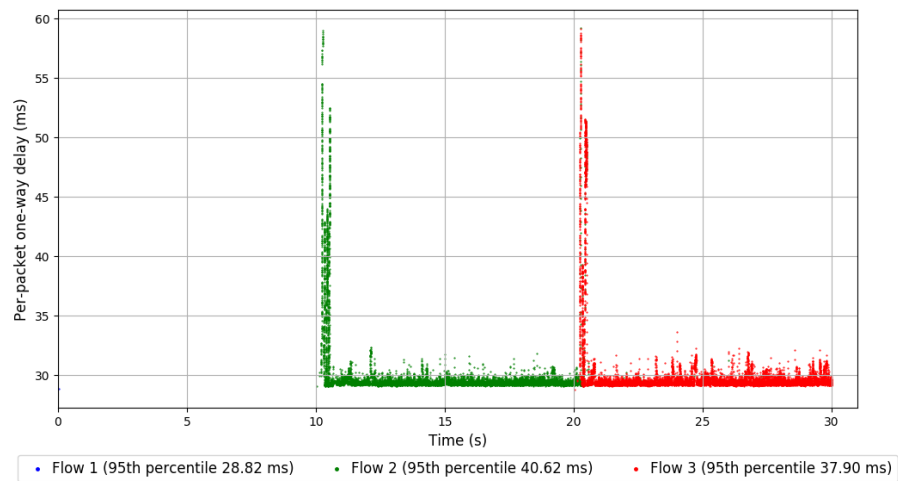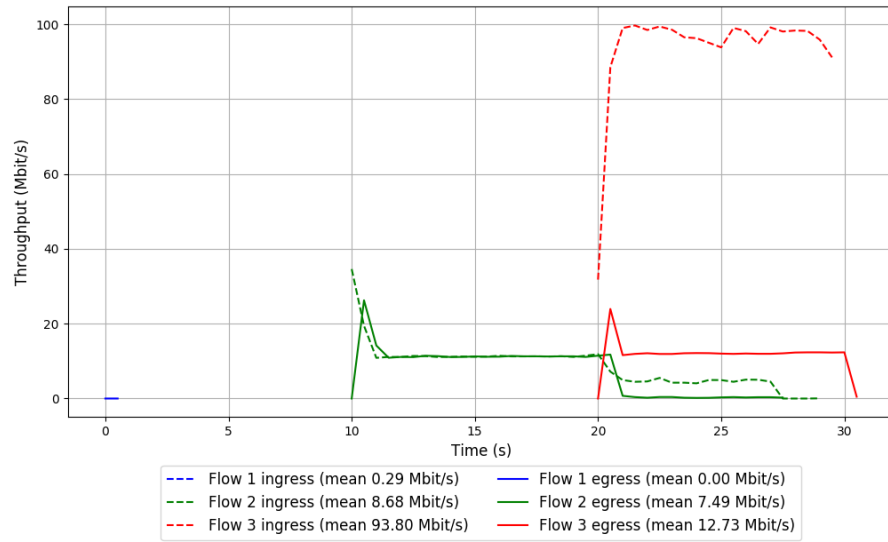
Run 3: Report of TaoVA-100x — Data Link

- - - Flow 1 ingress (mean 0.29 Mbit/s)   —— Flow 1 egress (mean 0.00 Mbit/s)
- - - Flow 2 ingress (mean 41.90 Mbit/s)   —— Flow 2 egress (mean 12.83 Mbit/s)
- - - Flow 3 ingress (mean 0.01 Mbit/s)   —— Flow 3 egress (mean 0.00 Mbit/s)

- Flow 1 (95th percentile 23.04 ms)   • Flow 2 (95th percentile 45.05 ms)   • Flow 3 (95th percentile 39.13 ms)

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

Start at: 2018-09-07 15:39:46
End at: 2018-09-07 15:40:16
Local clock offset: 0.852 ms
Remote clock offset: 55.339 ms

# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 39.573 ms
Loss rate: 76.76%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 28.815 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 7.49 Mbit/s
95th percentile per-packet one-way delay: 40.618 ms
Loss rate: 23.00%
-- Flow 3:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 37.898 ms
Loss rate: 86.43%
```
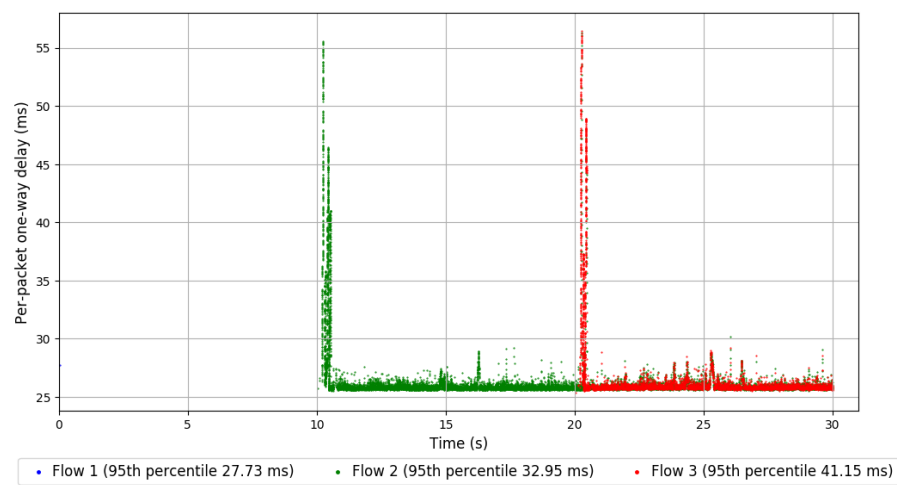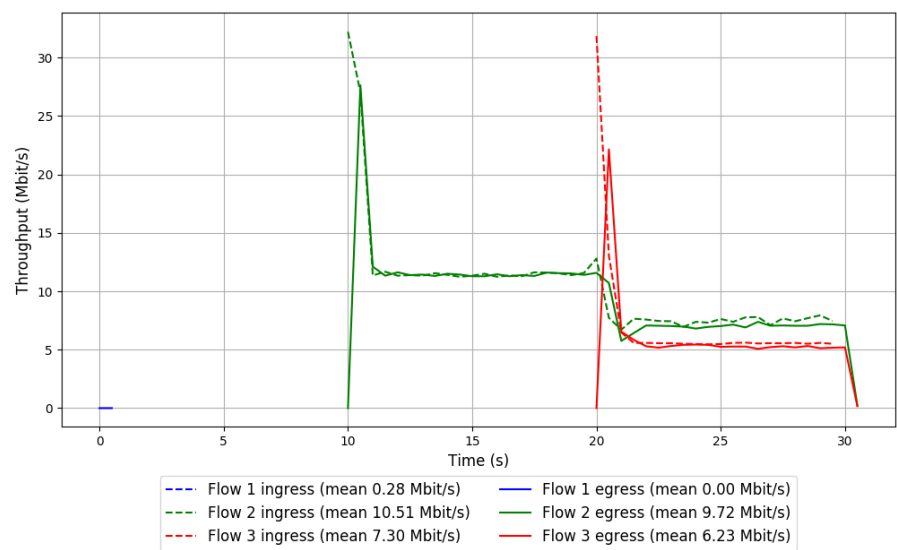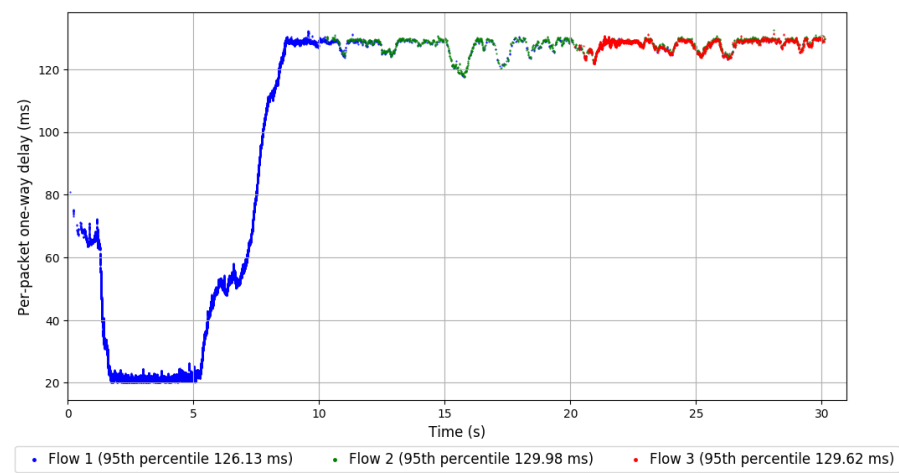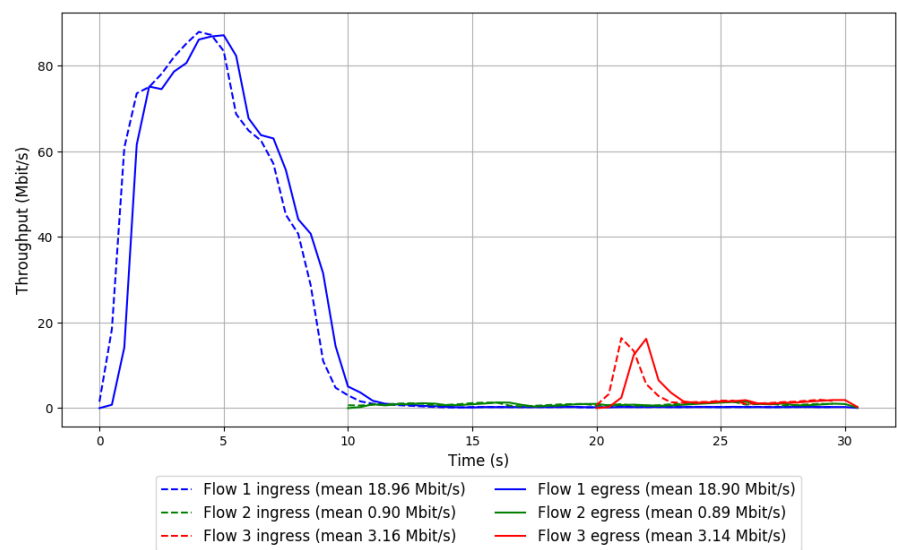
Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 0.29 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 8.68 Mbit/s) --- Flow 2 egress (mean 7.49 Mbit/s)
Flow 3 ingress (mean 93.80 Mbit/s) --- Flow 3 egress (mean 12.73 Mbit/s)

Flow 1 (95th percentile 28.82 ms)   Flow 2 (95th percentile 40.62 ms)   Flow 3 (95th percentile 37.90 ms)

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

Start at: 2018-09-07 16:04:29
End at: 2018-09-07 16:04:59
Local clock offset: 1.473 ms
Remote clock offset: 50.989 ms

# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 35.318 ms
Loss rate: 9.34%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 27.732 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 9.72 Mbit/s
95th percentile per-packet one-way delay: 32.954 ms
Loss rate: 7.46%
-- Flow 3:
Average throughput: 6.23 Mbit/s
95th percentile per-packet one-way delay: 41.152 ms
Loss rate: 14.74%
```

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

Flow 1 ingress (mean 0.28 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 10.51 Mbit/s) --- Flow 2 egress (mean 9.72 Mbit/s)
Flow 3 ingress (mean 7.30 Mbit/s) --- Flow 3 egress (mean 6.23 Mbit/s)

Flow 1 (95th percentile 27.73 ms)   Flow 2 (95th percentile 32.95 ms)   Flow 3 (95th percentile 41.15 ms)
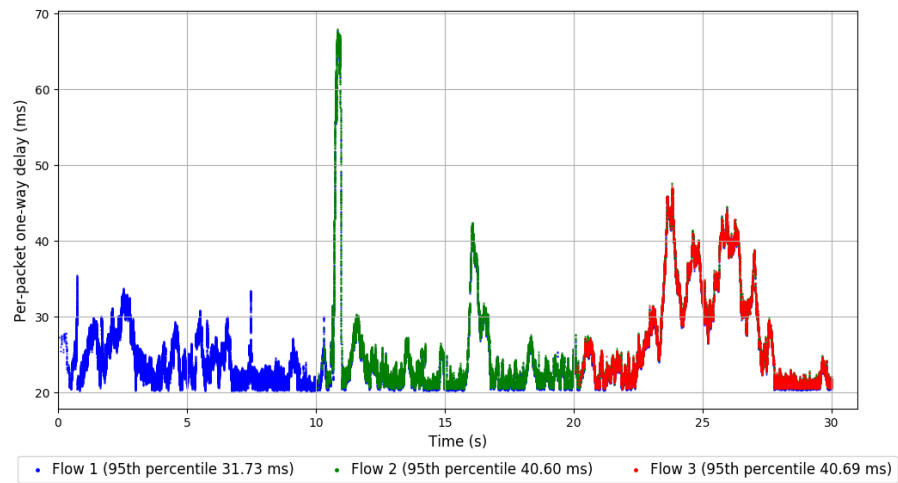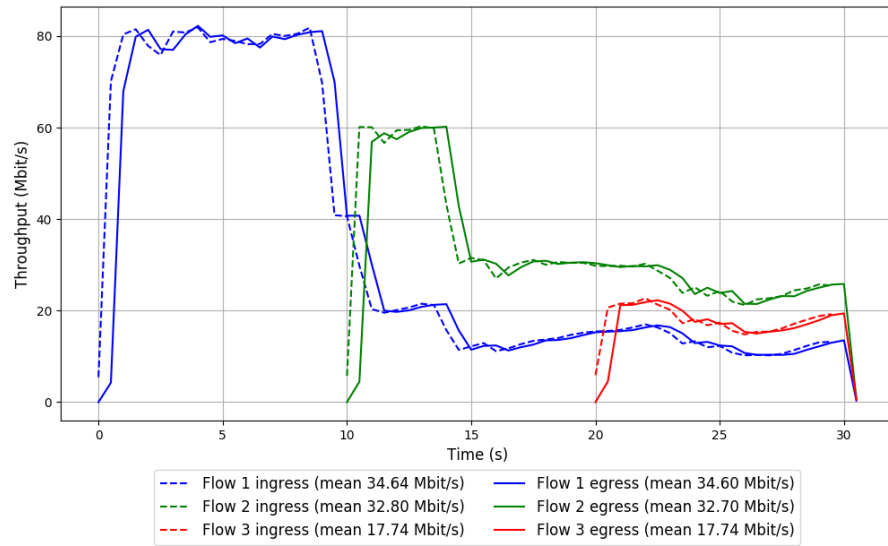
```
Run 1: Statistics of TCP Vegas

Start at: 2018-09-07 14:31:37
End at: 2018-09-07 14:32:07
Local clock offset: 7.499 ms
Remote clock offset: 47.652 ms


# Below is generated by plot.py at 2018-09-07 16:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.48 Mbit/s
95th percentile per-packet one-way delay: 128.862 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 18.90 Mbit/s
95th percentile per-packet one-way delay: 126.131 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 129.976 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 3.14 Mbit/s
95th percentile per-packet one-way delay: 129.623 ms
Loss rate: 0.50%
```
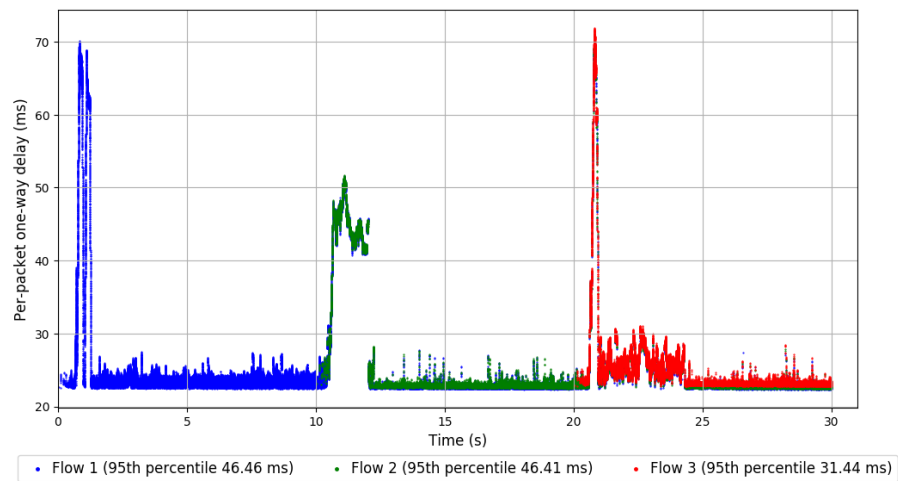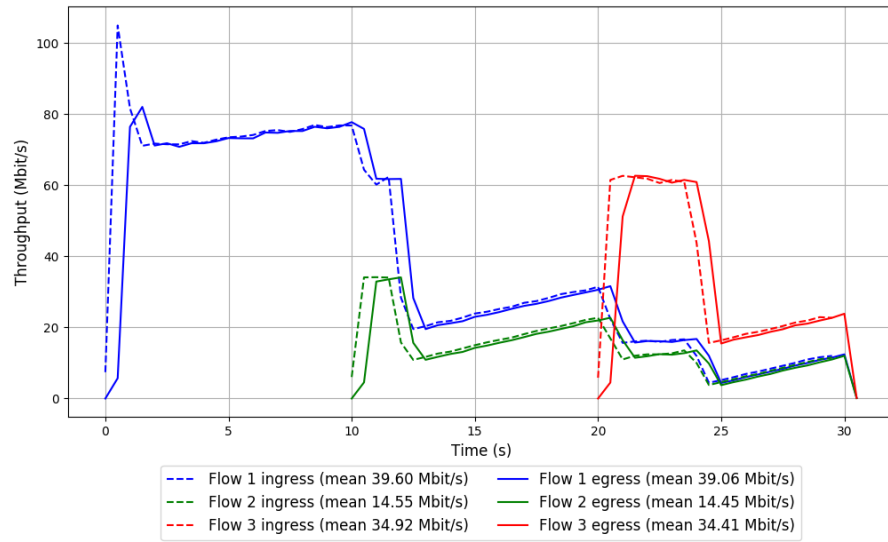
Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 18.96 Mbit/s) ---- Flow 1 egress (mean 18.90 Mbit/s)
Flow 2 ingress (mean 0.90 Mbit/s) ---- Flow 2 egress (mean 0.89 Mbit/s)
Flow 3 ingress (mean 3.16 Mbit/s) ---- Flow 3 egress (mean 3.14 Mbit/s)

Flow 1 (95th percentile 126.13 ms) • Flow 2 (95th percentile 129.98 ms) • Flow 3 (95th percentile 129.62 ms)
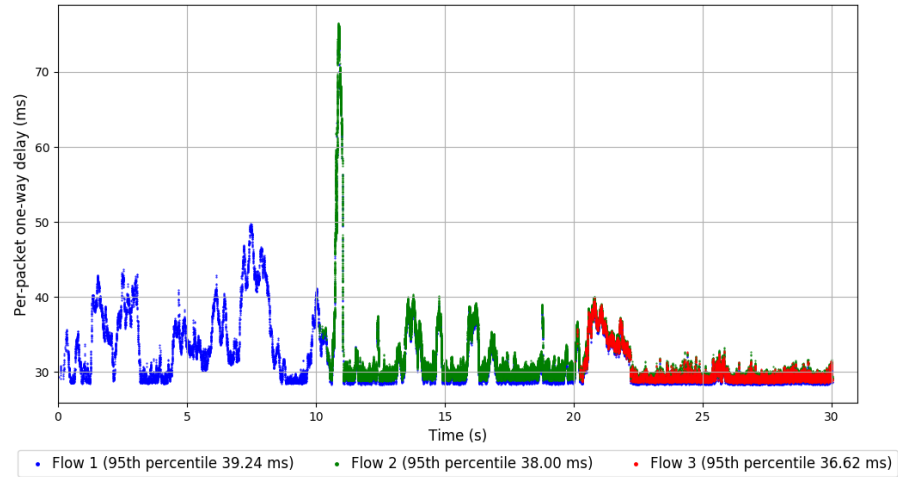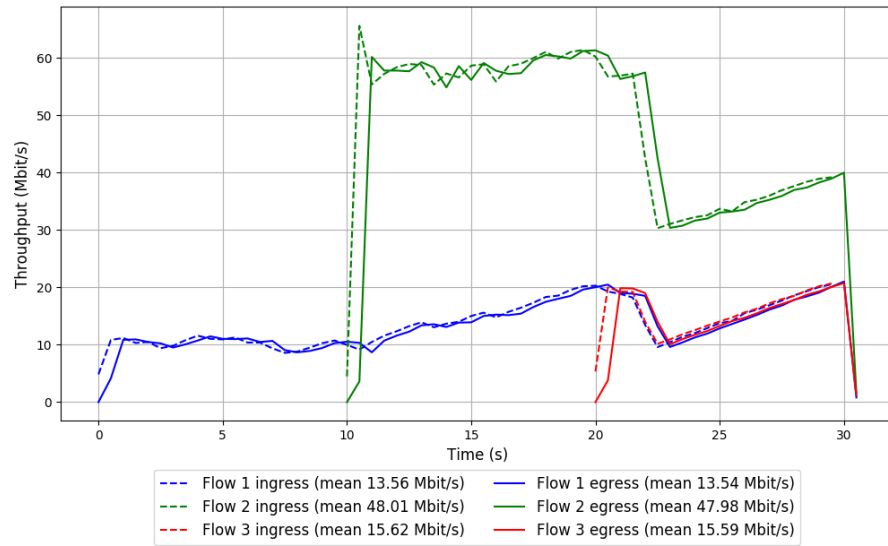
```
Run 2: Statistics of TCP Vegas

Start at: 2018-09-07 14:55:39
End at: 2018-09-07 14:56:09
Local clock offset: 6.508 ms
Remote clock offset: 33.951 ms


# Below is generated by plot.py at 2018-09-07 16:35:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 62.29 Mbit/s
95th percentile per-packet one-way delay: 38.233 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 34.60 Mbit/s
95th percentile per-packet one-way delay: 31.726 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 32.70 Mbit/s
95th percentile per-packet one-way delay: 40.597 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 17.74 Mbit/s
95th percentile per-packet one-way delay: 40.691 ms
Loss rate: 0.00%
```

Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 34.64 Mbit/s) — Flow 1 egress (mean 34.60 Mbit/s)
Flow 2 ingress (mean 32.80 Mbit/s) — Flow 2 egress (mean 32.70 Mbit/s)
Flow 3 ingress (mean 17.74 Mbit/s) — Flow 3 egress (mean 17.74 Mbit/s)

Flow 1 (95th percentile 31.73 ms) • Flow 2 (95th percentile 40.60 ms) • Flow 3 (95th percentile 40.69 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2018-09-07 15:18:51
End at: 2018-09-07 15:19:21
Local clock offset: 4.502 ms
Remote clock offset: 49.938 ms


# Below is generated by plot.py at 2018-09-07 16:35:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.12 Mbit/s
95th percentile per-packet one-way delay: 46.197 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 39.06 Mbit/s
95th percentile per-packet one-way delay: 46.461 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 14.45 Mbit/s
95th percentile per-packet one-way delay: 46.411 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 34.41 Mbit/s
95th percentile per-packet one-way delay: 31.437 ms
Loss rate: 1.46%
```
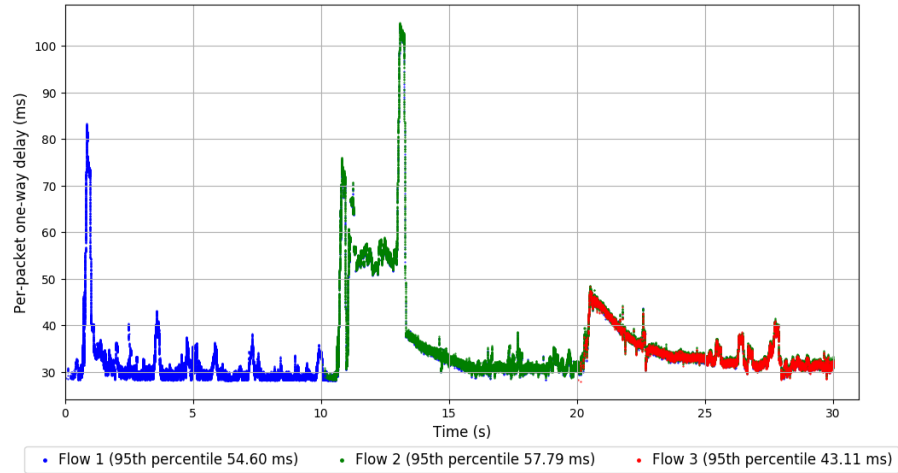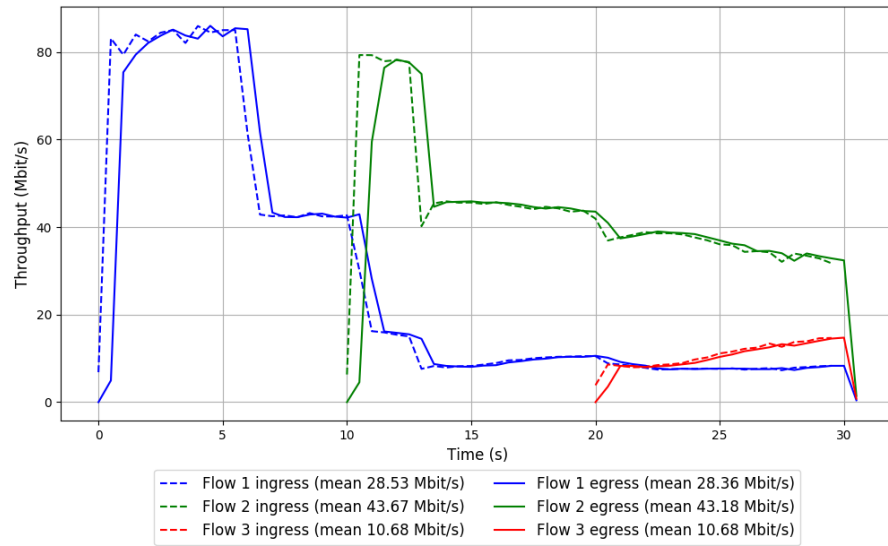
Run 3: Report of TCP Vegas — Data Link

- - - Flow 1 ingress (mean 39.60 Mbit/s)   —— Flow 1 egress (mean 39.06 Mbit/s)
- - - Flow 2 ingress (mean 14.55 Mbit/s)   —— Flow 2 egress (mean 14.45 Mbit/s)
- - - Flow 3 ingress (mean 34.92 Mbit/s)   —— Flow 3 egress (mean 34.41 Mbit/s)

- Flow 1 (95th percentile 46.46 ms)   • Flow 2 (95th percentile 46.41 ms)   • Flow 3 (95th percentile 31.44 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2018-09-07 15:42:13
End at: 2018-09-07 15:42:43
Local clock offset: 0.686 ms
Remote clock offset: 55.174 ms


# Below is generated by plot.py at 2018-09-07 16:35:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.67 Mbit/s
95th percentile per-packet one-way delay: 38.106 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 13.54 Mbit/s
95th percentile per-packet one-way delay: 39.244 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 47.98 Mbit/s
95th percentile per-packet one-way delay: 38.004 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 15.59 Mbit/s
95th percentile per-packet one-way delay: 36.615 ms
Loss rate: 0.26%
```
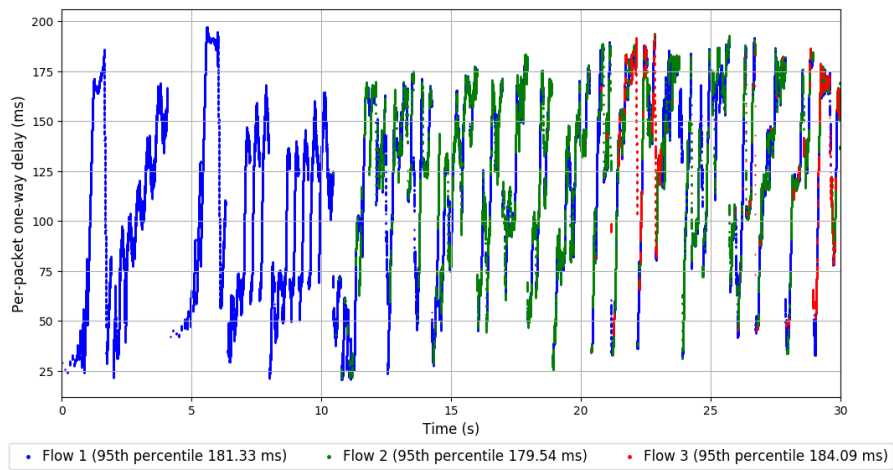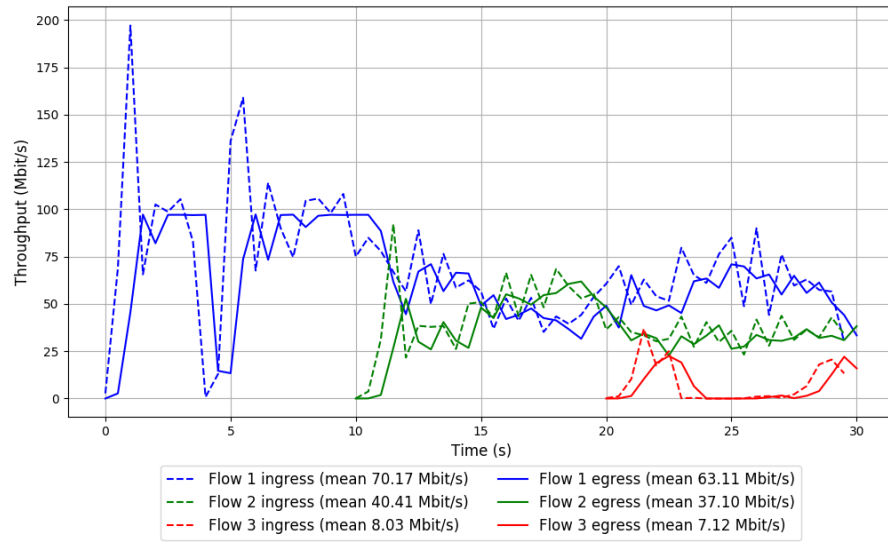
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-09-07 16:06:54
End at: 2018-09-07 16:07:24
Local clock offset: 1.425 ms
Remote clock offset: 54.036 ms


# Below is generated by plot.py at 2018-09-07 16:35:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.67 Mbit/s
95th percentile per-packet one-way delay: 56.492 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 28.36 Mbit/s
95th percentile per-packet one-way delay: 54.603 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 43.18 Mbit/s
95th percentile per-packet one-way delay: 57.790 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 10.68 Mbit/s
95th percentile per-packet one-way delay: 43.113 ms
Loss rate: 0.02%
```
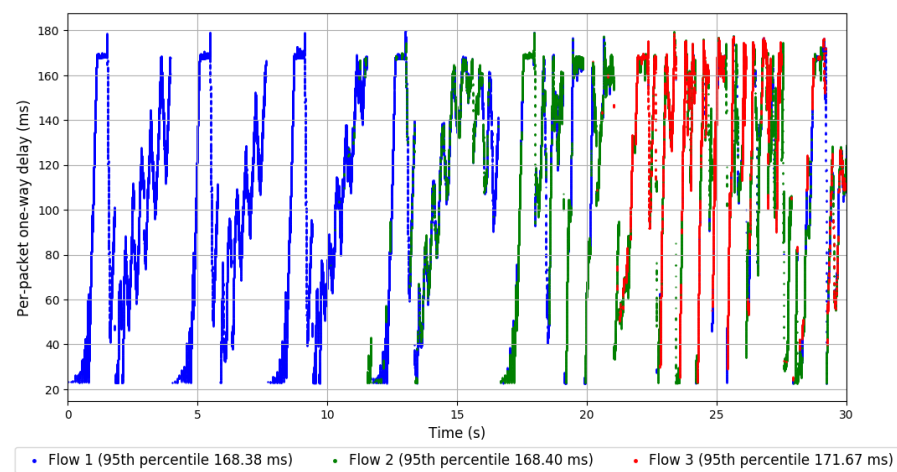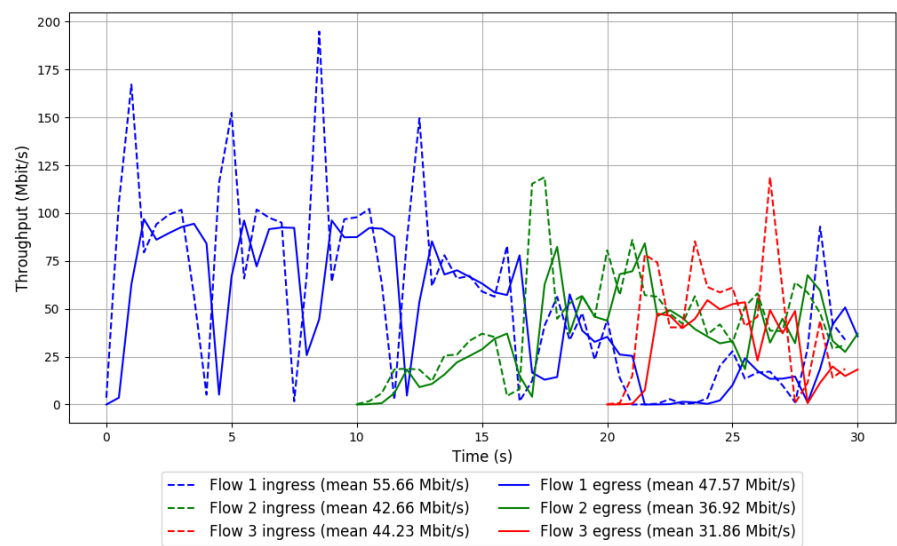
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 28.53 Mbit/s) --- Flow 1 egress (mean 28.36 Mbit/s)
Flow 2 ingress (mean 43.67 Mbit/s) --- Flow 2 egress (mean 43.18 Mbit/s)
Flow 3 ingress (mean 10.68 Mbit/s) --- Flow 3 egress (mean 10.68 Mbit/s)

Flow 1 (95th percentile 54.60 ms)   •   Flow 2 (95th percentile 57.79 ms)   •   Flow 3 (95th percentile 43.11 ms)

```
Run 1: Statistics of Verus

Start at: 2018-09-07 14:51:48
End at: 2018-09-07 14:52:18
Local clock offset: 6.674 ms
Remote clock offset: 35.45 ms


# Below is generated by plot.py at 2018-09-07 16:35:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.74 Mbit/s
95th percentile per-packet one-way delay: 181.032 ms
Loss rate: 9.51%
-- Flow 1:
Average throughput: 63.11 Mbit/s
95th percentile per-packet one-way delay: 181.334 ms
Loss rate: 9.97%
-- Flow 2:
Average throughput: 37.10 Mbit/s
95th percentile per-packet one-way delay: 179.544 ms
Loss rate: 8.13%
-- Flow 3:
Average throughput: 7.12 Mbit/s
95th percentile per-packet one-way delay: 184.095 ms
Loss rate: 11.45%
```
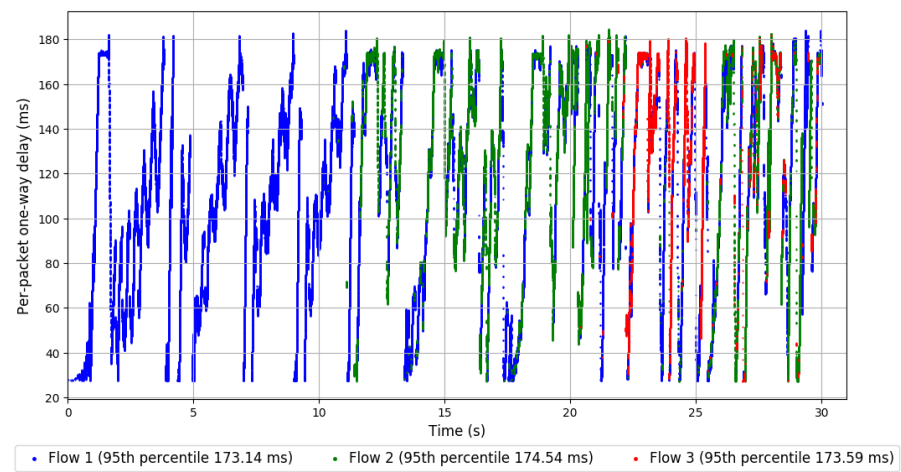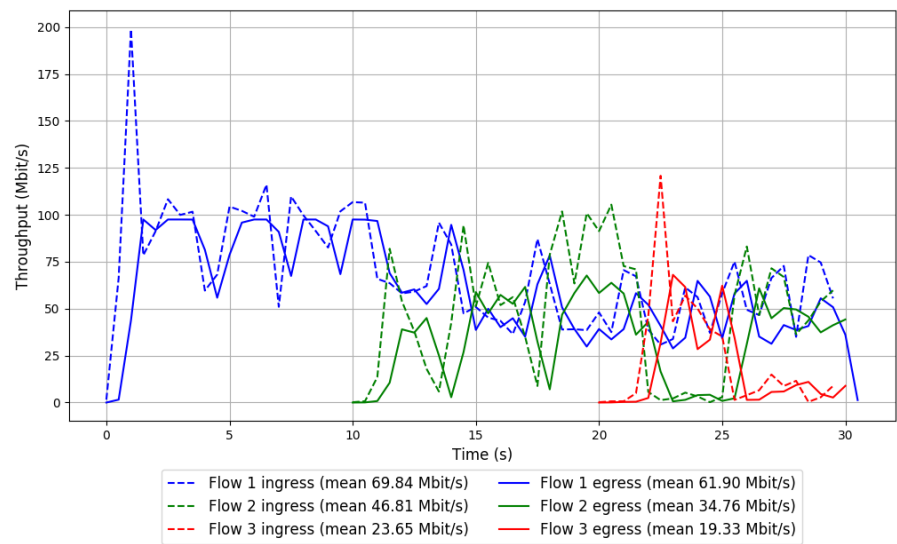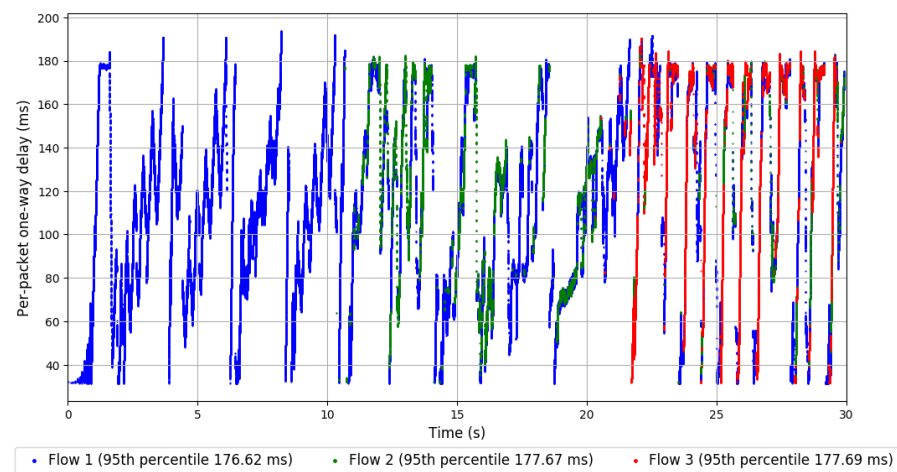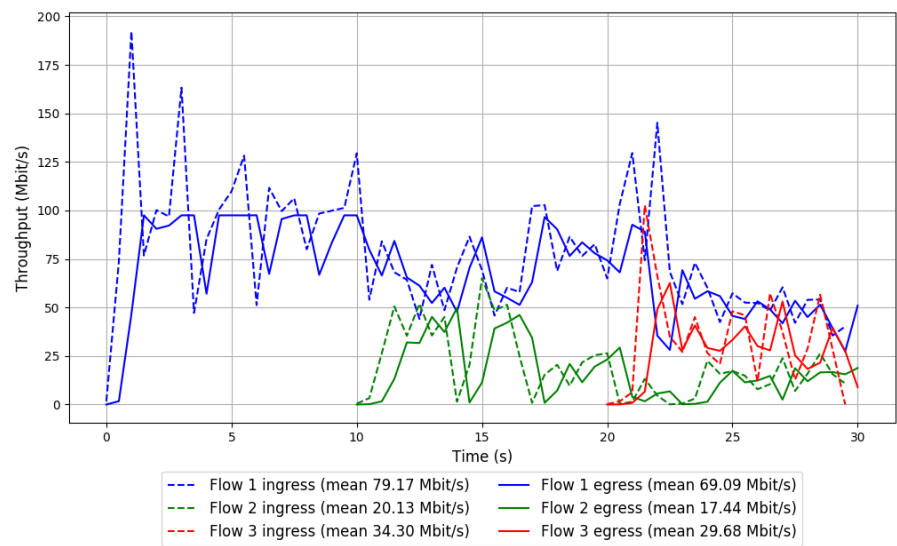
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 70.17 Mbit/s)   Flow 1 egress (mean 63.11 Mbit/s)
Flow 2 ingress (mean 40.41 Mbit/s)   Flow 2 egress (mean 37.10 Mbit/s)
Flow 3 ingress (mean 8.03 Mbit/s)   Flow 3 egress (mean 7.12 Mbit/s)

Flow 1 (95th percentile 181.33 ms)   Flow 2 (95th percentile 179.54 ms)   Flow 3 (95th percentile 184.09 ms)

```
Run 2: Statistics of Verus

Start at: 2018-09-07 15:15:05
End at: 2018-09-07 15:15:35
Local clock offset: 6.049 ms
Remote clock offset: 49.84 ms

# Below is generated by plot.py at 2018-09-07 16:35:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.38 Mbit/s
95th percentile per-packet one-way delay: 168.497 ms
Loss rate: 16.08%
-- Flow 1:
Average throughput: 47.57 Mbit/s
95th percentile per-packet one-way delay: 168.375 ms
Loss rate: 14.24%
-- Flow 2:
Average throughput: 36.92 Mbit/s
95th percentile per-packet one-way delay: 168.395 ms
Loss rate: 13.23%
-- Flow 3:
Average throughput: 31.86 Mbit/s
95th percentile per-packet one-way delay: 171.670 ms
Loss rate: 28.65%
```
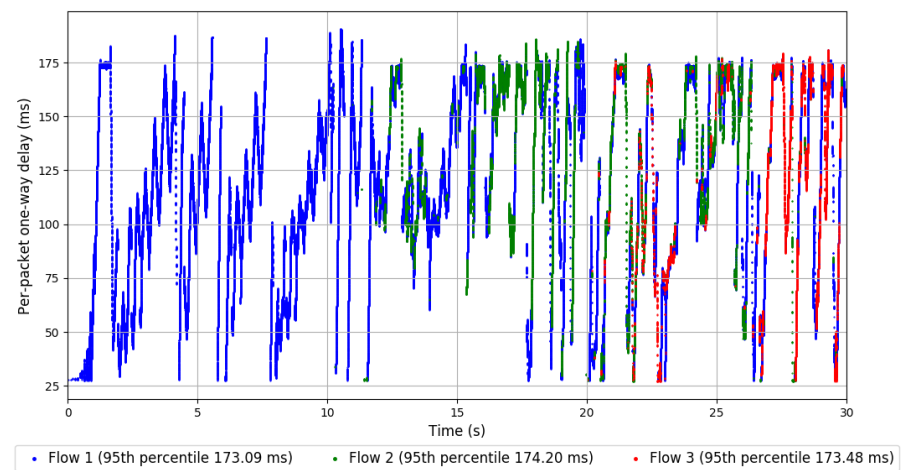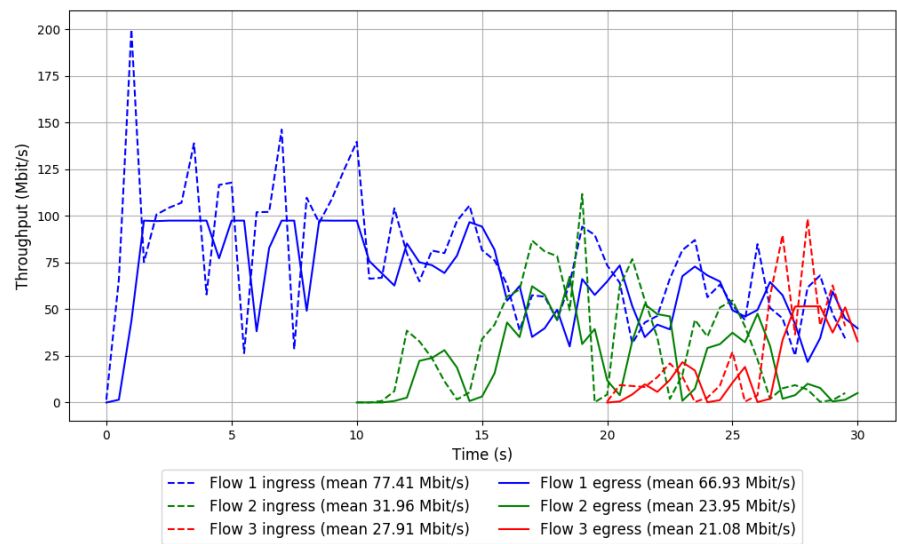
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-09-07 15:38:23
End at: 2018-09-07 15:38:53
Local clock offset: 1.035 ms
Remote clock offset: 54.213 ms


# Below is generated by plot.py at 2018-09-07 16:35:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.03 Mbit/s
95th percentile per-packet one-way delay: 173.458 ms
Loss rate: 15.75%
-- Flow 1:
Average throughput: 61.90 Mbit/s
95th percentile per-packet one-way delay: 173.142 ms
Loss rate: 10.99%
-- Flow 2:
Average throughput: 34.76 Mbit/s
95th percentile per-packet one-way delay: 174.539 ms
Loss rate: 25.89%
-- Flow 3:
Average throughput: 19.33 Mbit/s
95th percentile per-packet one-way delay: 173.589 ms
Loss rate: 18.11%
```

Run 3: Report of Verus — Data Link

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```
Run 4: Statistics of Verus

Start at: 2018-09-07 16:03:07
End at: 2018-09-07 16:03:37
Local clock offset: 1.397 ms
Remote clock offset: 57.074 ms


# Below is generated by plot.py at 2018-09-07 16:36:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.13 Mbit/s
95th percentile per-packet one-way delay: 177.181 ms
Loss rate: 12.59%
-- Flow 1:
Average throughput: 69.09 Mbit/s
95th percentile per-packet one-way delay: 176.622 ms
Loss rate: 12.35%
-- Flow 2:
Average throughput: 17.44 Mbit/s
95th percentile per-packet one-way delay: 177.667 ms
Loss rate: 13.38%
-- Flow 3:
Average throughput: 29.68 Mbit/s
95th percentile per-packet one-way delay: 177.689 ms
Loss rate: 13.38%
```
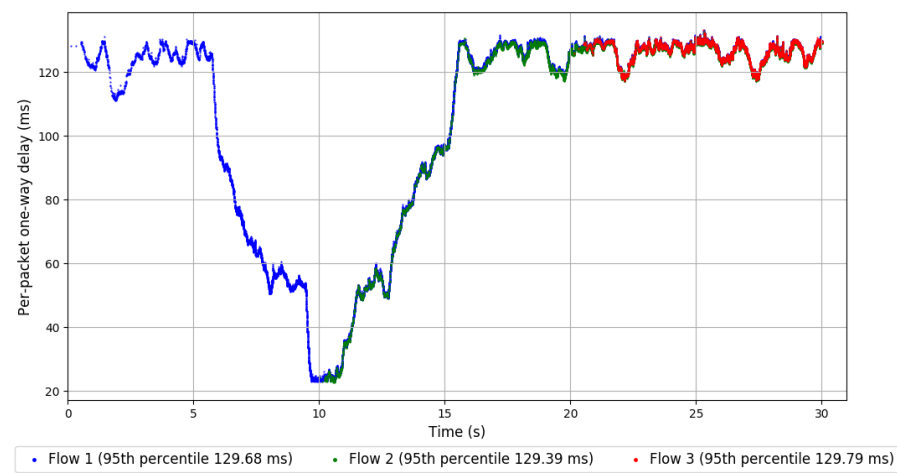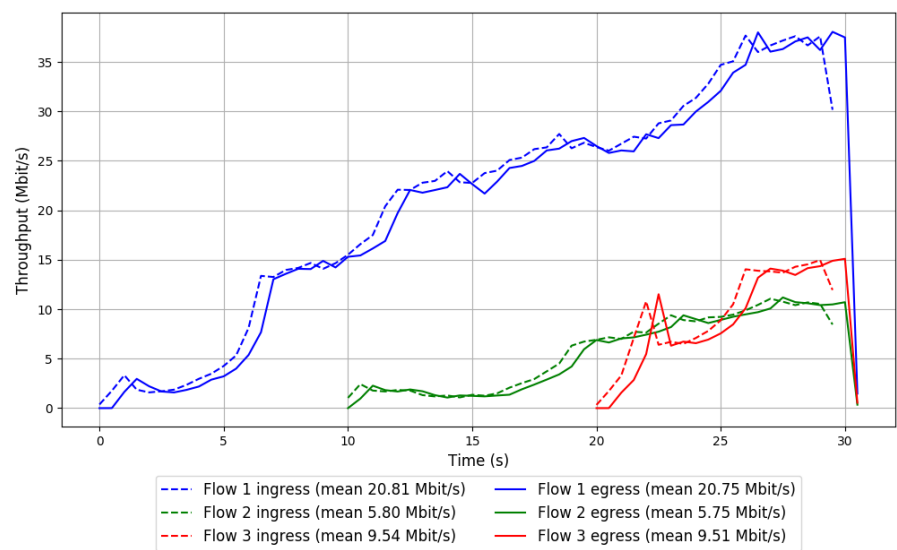
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-09-07 16:27:06
End at: 2018-09-07 16:27:36
Local clock offset: 4.789 ms
Remote clock offset: 53.364 ms


# Below is generated by plot.py at 2018-09-07 16:36:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.55 Mbit/s
95th percentile per-packet one-way delay: 173.285 ms
Loss rate: 16.41%
-- Flow 1:
Average throughput: 66.93 Mbit/s
95th percentile per-packet one-way delay: 173.094 ms
Loss rate: 13.16%
-- Flow 2:
Average throughput: 23.95 Mbit/s
95th percentile per-packet one-way delay: 174.196 ms
Loss rate: 25.04%
-- Flow 3:
Average throughput: 21.08 Mbit/s
95th percentile per-packet one-way delay: 173.482 ms
Loss rate: 24.13%
```
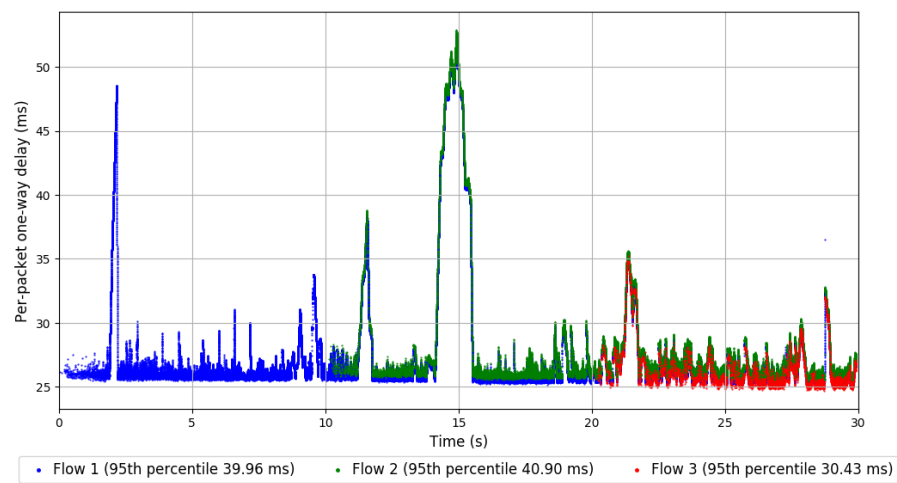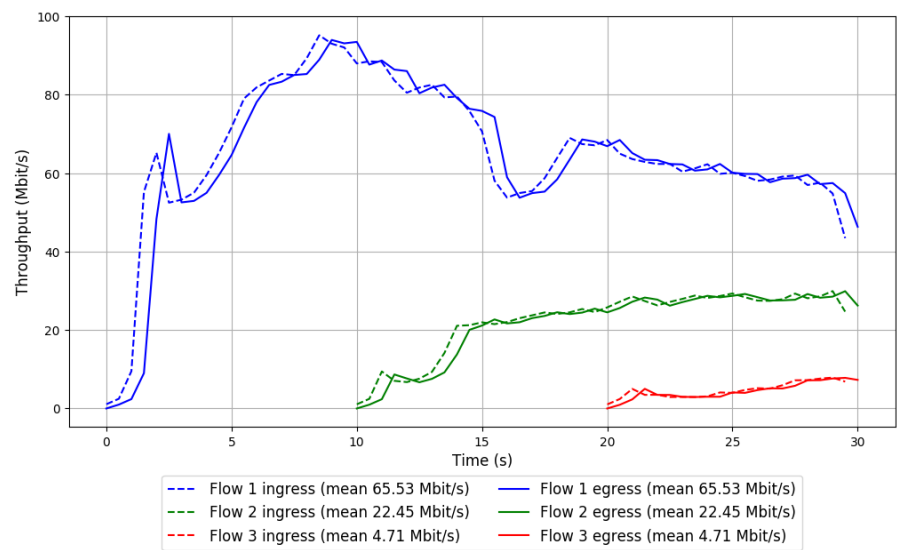
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-09-07 14:35:38
End at: 2018-09-07 14:36:08
Local clock offset: 7.44 ms
Remote clock offset: 46.465 ms


# Below is generated by plot.py at 2018-09-07 16:36:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 27.74 Mbit/s
95th percentile per-packet one-way delay: 129.671 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 20.75 Mbit/s
95th percentile per-packet one-way delay: 129.680 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 5.75 Mbit/s
95th percentile per-packet one-way delay: 129.391 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 9.51 Mbit/s
95th percentile per-packet one-way delay: 129.789 ms
Loss rate: 0.29%
```
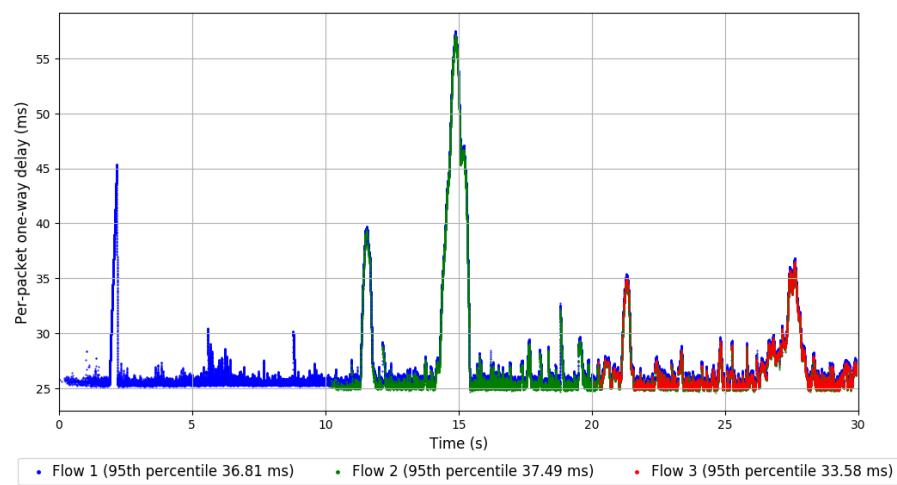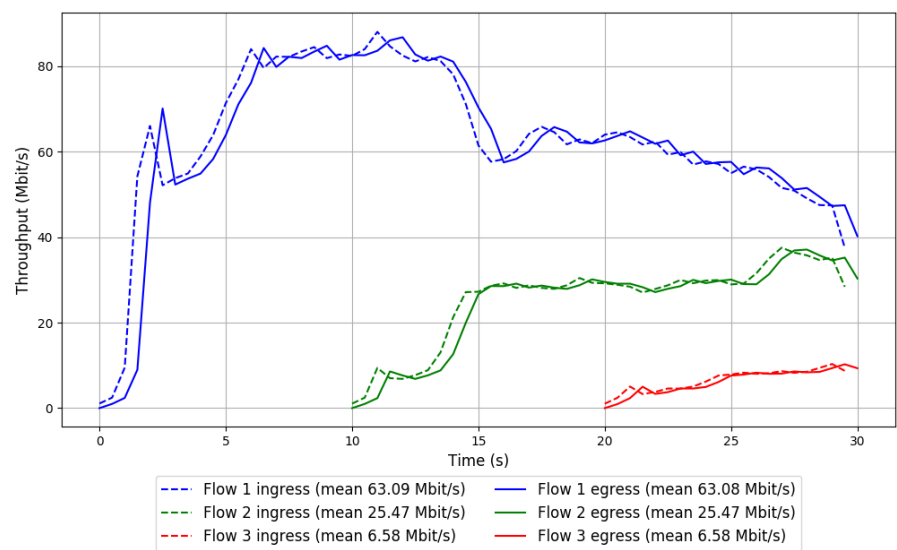
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-09-07 14:59:32
End at: 2018-09-07 15:00:02
Local clock offset: 6.107 ms
Remote clock offset: 43.408 ms


# Below is generated by plot.py at 2018-09-07 16:36:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.01 Mbit/s
95th percentile per-packet one-way delay: 39.970 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 65.53 Mbit/s
95th percentile per-packet one-way delay: 39.963 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 22.45 Mbit/s
95th percentile per-packet one-way delay: 40.896 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.71 Mbit/s
95th percentile per-packet one-way delay: 30.430 ms
Loss rate: 0.00%
```
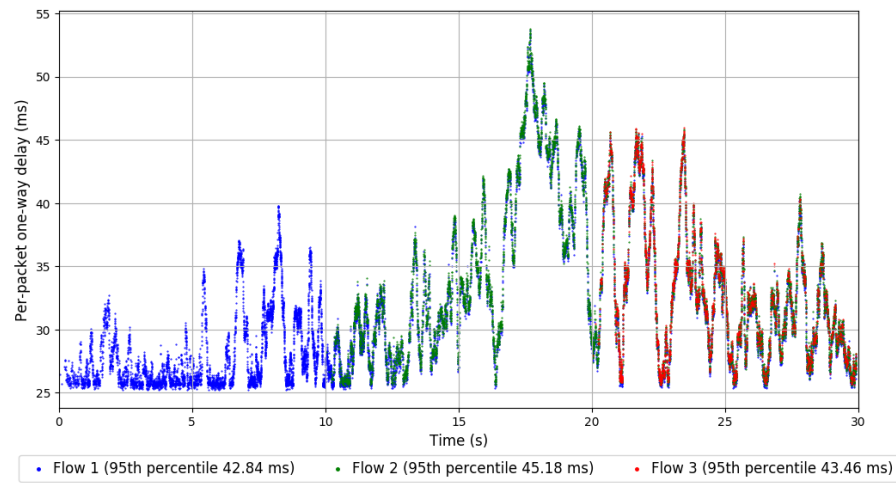
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-09-07 15:22:39
End at: 2018-09-07 15:23:09
Local clock offset: 3.231 ms
Remote clock offset: 52.645 ms


# Below is generated by plot.py at 2018-09-07 16:36:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.20 Mbit/s
95th percentile per-packet one-way delay: 36.620 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.08 Mbit/s
95th percentile per-packet one-way delay: 36.814 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 25.47 Mbit/s
95th percentile per-packet one-way delay: 37.487 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.58 Mbit/s
95th percentile per-packet one-way delay: 33.576 ms
Loss rate: 0.00%
```

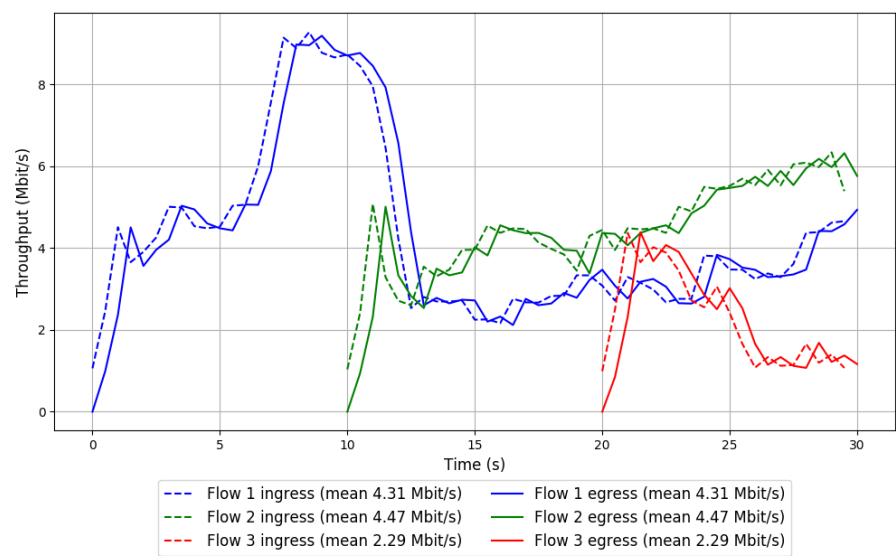Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-09-07 15:46:03
End at: 2018-09-07 15:46:33
Local clock offset: 0.652 ms
Remote clock offset: 52.193 ms


# Below is generated by plot.py at 2018-09-07 16:36:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.04 Mbit/s
95th percentile per-packet one-way delay: 44.135 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.31 Mbit/s
95th percentile per-packet one-way delay: 42.842 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.47 Mbit/s
95th percentile per-packet one-way delay: 45.176 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 43.460 ms
Loss rate: 0.00%
```

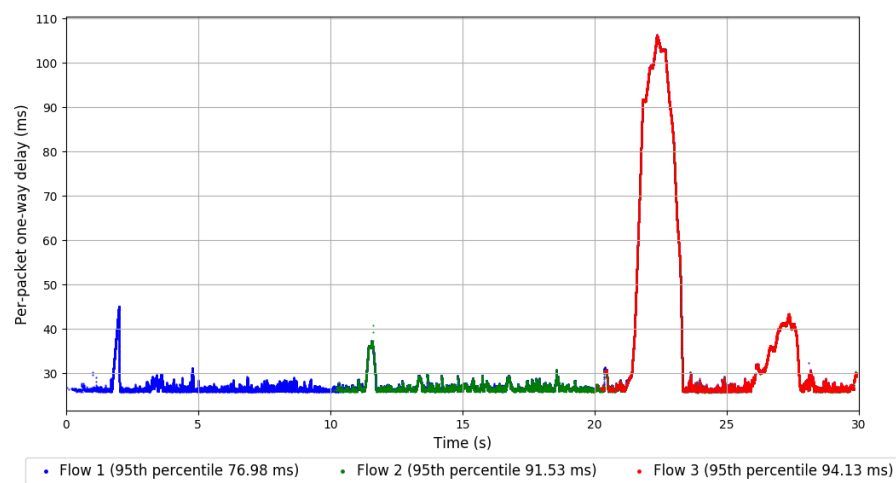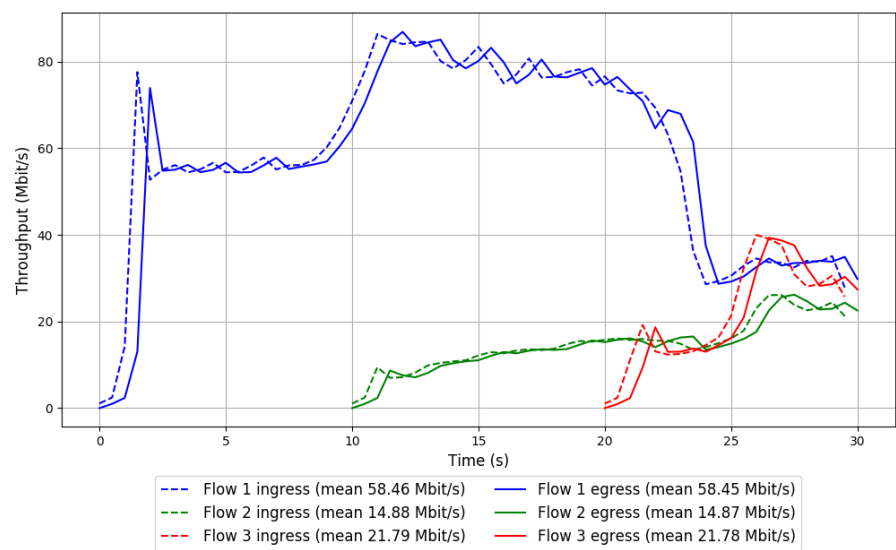Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-09-07 16:11:43
End at: 2018-09-07 16:12:13
Local clock offset: 1.252 ms
Remote clock offset: 52.221 ms


# Below is generated by plot.py at 2018-09-07 16:36:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.54 Mbit/s
95th percentile per-packet one-way delay: 85.370 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.45 Mbit/s
95th percentile per-packet one-way delay: 76.979 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 14.87 Mbit/s
95th percentile per-packet one-way delay: 91.527 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.78 Mbit/s
95th percentile per-packet one-way delay: 94.129 ms
Loss rate: 0.00%
```

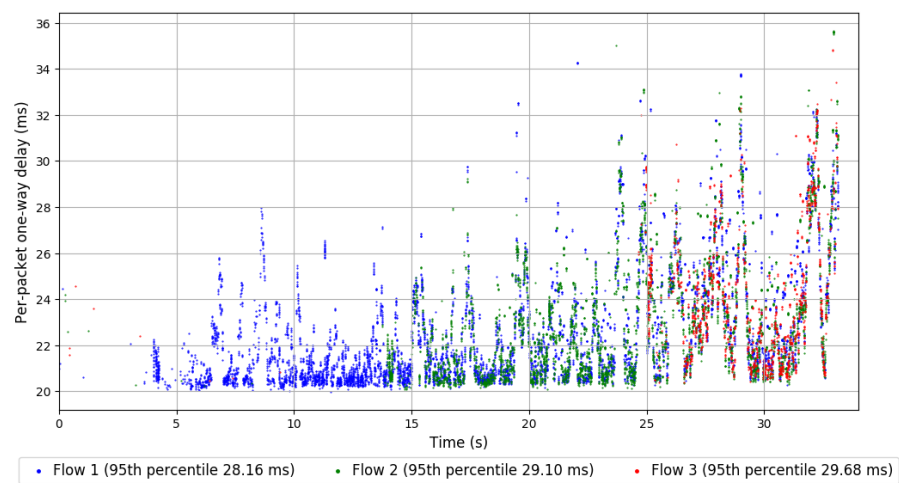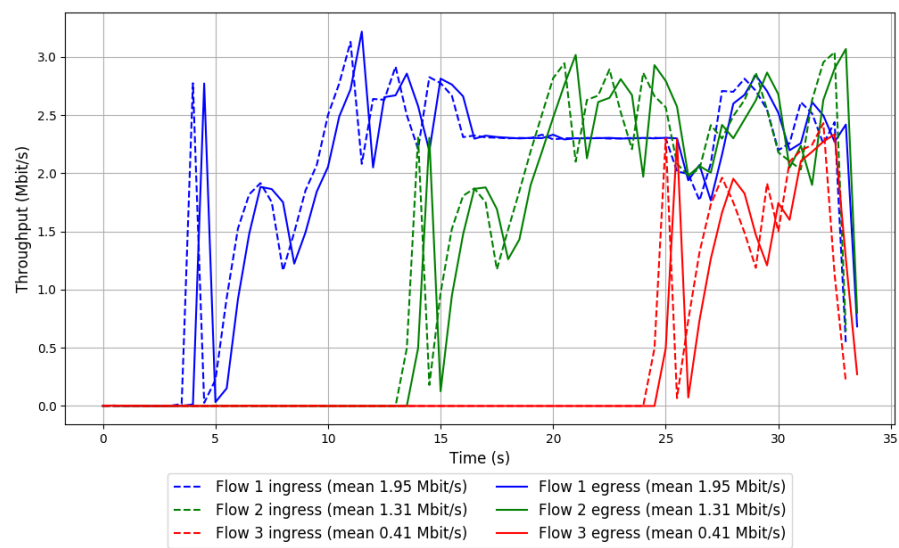Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2018-09-07 14:36:55
End at: 2018-09-07 14:37:25
Local clock offset: 7.519 ms
Remote clock offset: 42.596 ms

# Below is generated by plot.py at 2018-09-07 16:36:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 28.818 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 28.161 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 29.097 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 29.677 ms
Loss rate: 0.00%
```

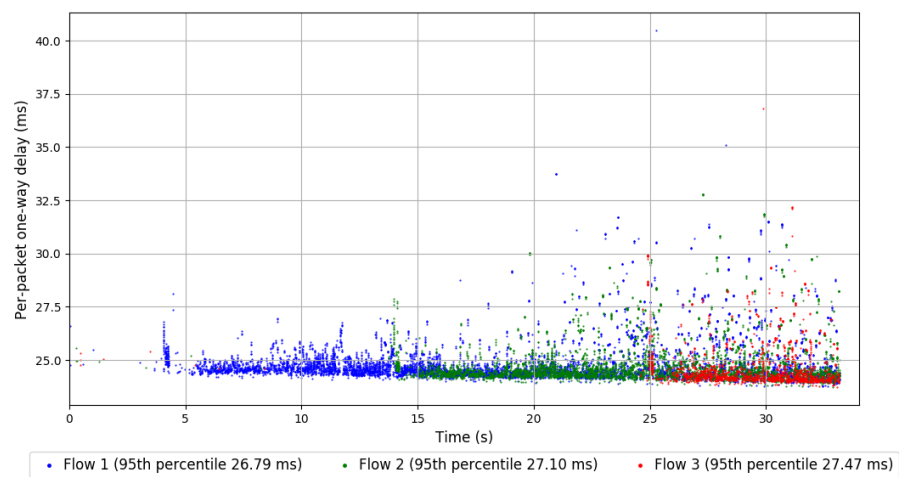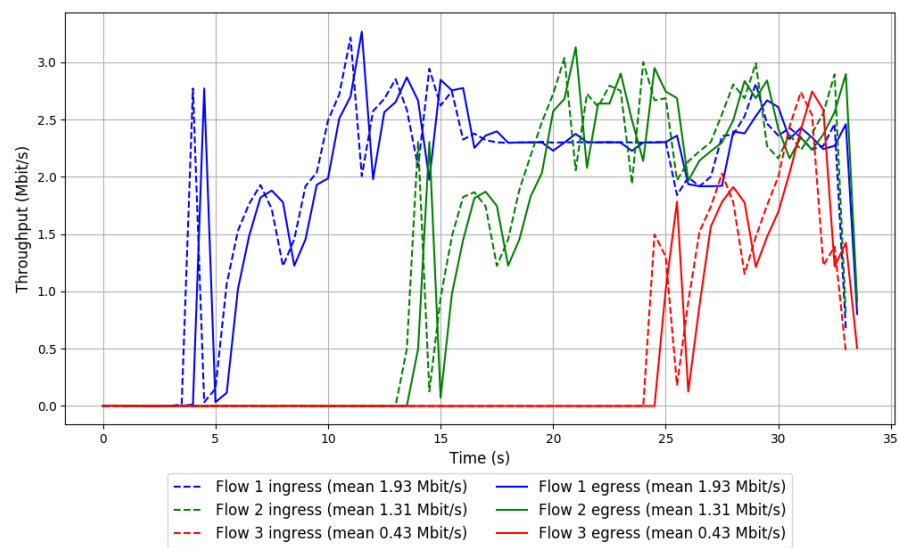Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-09-07 15:00:59
End at: 2018-09-07 15:01:29
Local clock offset: 6.239 ms
Remote clock offset: 43.641 ms


# Below is generated by plot.py at 2018-09-07 16:36:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 26.963 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 26.789 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 27.100 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 27.474 ms
Loss rate: 0.00%
```

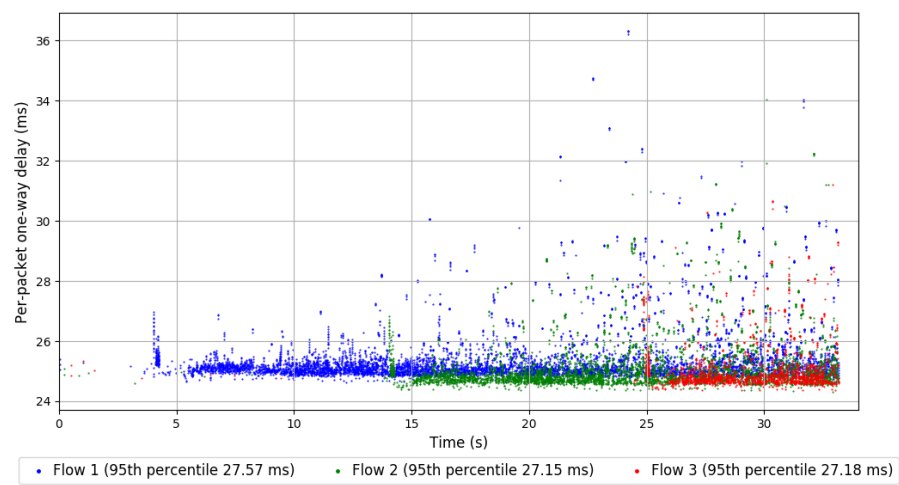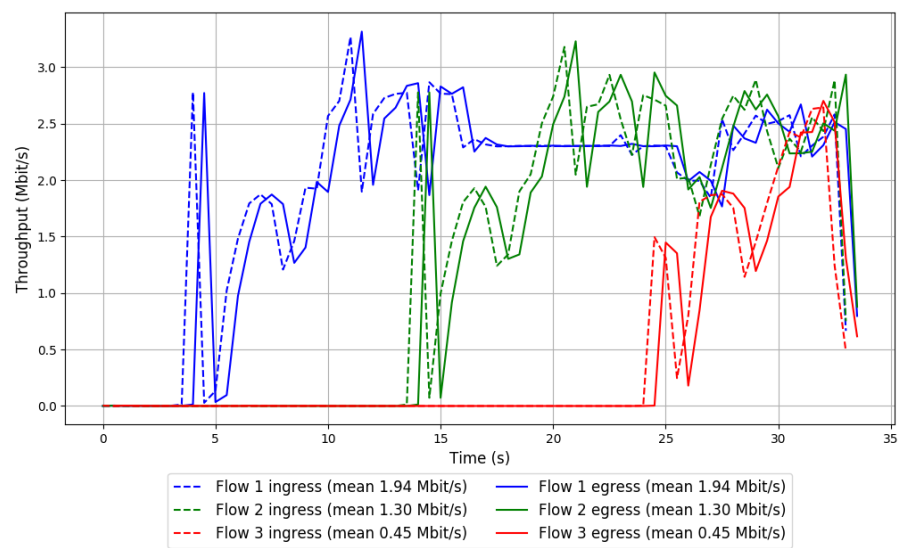Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-09-07 15:24:00
End at: 2018-09-07 15:24:30
Local clock offset: 3.002 ms
Remote clock offset: 52.464 ms


# Below is generated by plot.py at 2018-09-07 16:36:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.67 Mbit/s
95th percentile per-packet one-way delay: 27.421 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 27.571 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.30 Mbit/s
95th percentile per-packet one-way delay: 27.146 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 27.185 ms
Loss rate: 0.00%
```
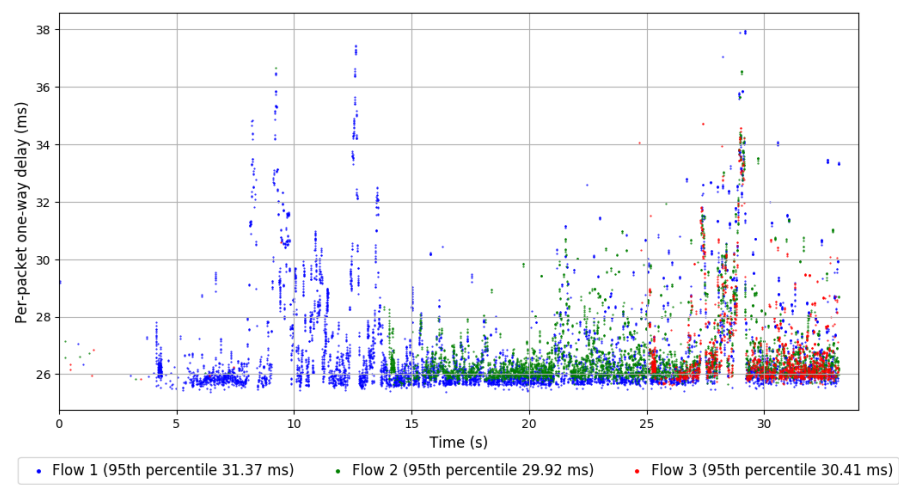
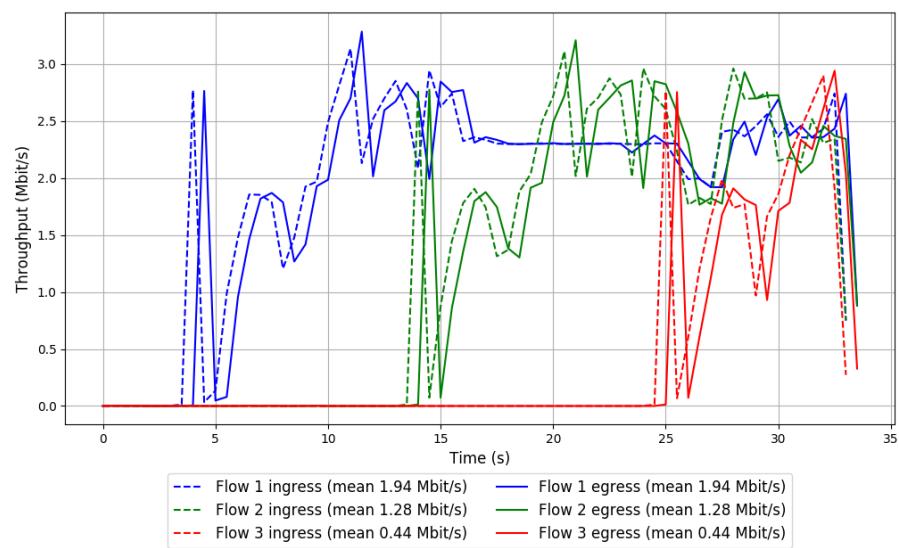Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-09-07 15:47:16
End at: 2018-09-07 15:47:46
Local clock offset: 0.845 ms
Remote clock offset: 52.192 ms


# Below is generated by plot.py at 2018-09-07 16:36:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 30.686 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 31.372 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 29.920 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 30.409 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-09-07 16:13:03
End at: 2018-09-07 16:13:33
Local clock offset: 1.197 ms
Remote clock offset: 50.731 ms


# Below is generated by plot.py at 2018-09-07 16:36:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.64 Mbit/s
95th percentile per-packet one-way delay: 26.760 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 26.738 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 26.959 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 26.412 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link