Pantheon Report

Generated at 2018-09-08 02:34:51 (UTC).

Data path: Colombia on p4p1 (*remote*) →AWS Brazil 2 on ens5 (*local*).

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 gps.ntp.br and have been applied to correct the timestamps in logs.
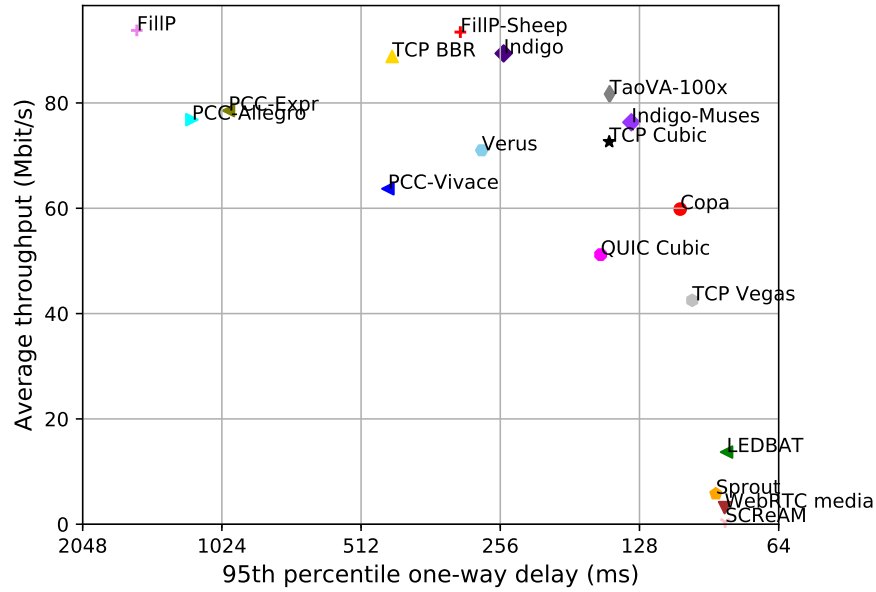
```
System info:
Linux 4.15.0-1020-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 536870912 536870912 536870912
```
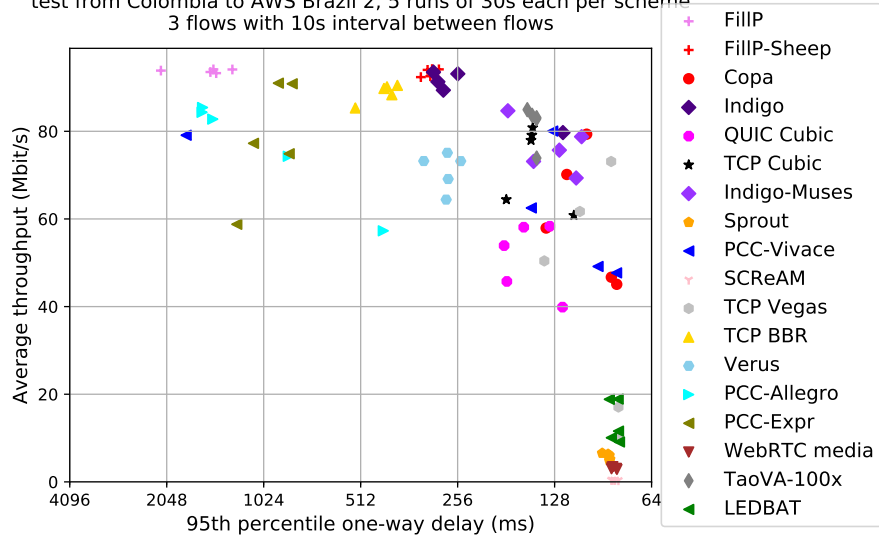
```
Git summary:
branch: muses @ e0a9b05ad97d268013b7cc9a9c95637b593a1b4c
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
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 Colombia to AWS Brazil 2, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from Colombia to AWS Brazil 2, 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	54.52	37.62	28.38	407.78	473.51	543.46	3.68	5.54	8.61
Copa	5	33.53	30.01	19.40	94.62	107.22	88.19	0.69	0.88	2.55
TCP Cubic	5	39.55	30.67	38.72	165.33	137.69	160.28	0.57	1.30	1.78
FillP	5	57.89	39.24	29.96	885.64	995.33	1774.14	6.90	27.01	49.28
FillP-Sheep	5	57.68	38.85	30.49	297.68	262.14	503.13	2.19	2.07	2.92
Indigo	5	63.34	25.96	27.23	276.57	95.88	117.29	2.69	1.54	3.53
LEDBAT	5	8.42	6.12	3.73	83.07	83.03	82.52	1.21	2.10	2.89
Indigo-Muses	5	47.05	31.05	26.50	102.82	129.51	162.41	1.26	1.13	3.90
PCC-Allegro	5	45.05	35.57	25.08	874.46	421.28	1242.60	10.79	3.21	13.41
PCC-Expr	5	46.83	37.12	21.74	773.37	770.69	209.67	17.13	7.75	2.68
QUIC Cubic	5	28.07	24.38	21.33	122.56	170.75	262.18	0.76	1.35	3.35
SCReAM	5	0.22	0.21	0.21	83.35	83.34	83.07	0.54	0.93	1.89
Sprout	5	3.08	3.07	2.09	87.35	87.84	85.74	1.16	1.27	4.52
TaoVA-100x	5	48.65	36.15	27.73	145.50	156.63	144.67	0.53	0.84	2.25
TCP Vegas	5	24.75	19.10	15.45	98.46	114.14	110.55	1.45	0.82	2.06
Verus	5	43.15	31.95	20.87	266.28	459.49	334.93	1.27	2.24	4.35
PCC-Vivace	5	51.04	13.49	11.37	486.89	113.92	132.53	2.51	2.02	3.02
WebRTC media	5	1.87	0.96	0.33	83.58	83.26	83.66	0.61	0.94	2.49

```
Run 1: Statistics of TCP BBR

Start at: 2018-09-08 00:38:16
End at: 2018-09-08 00:38:46
Local clock offset: -4.863 ms
Remote clock offset: 7.447 ms


# Below is generated by plot.py at 2018-09-08 02:25:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.32 Mbit/s
95th percentile per-packet one-way delay: 531.792 ms
Loss rate: 5.22%
-- Flow 1:
Average throughput: 52.21 Mbit/s
95th percentile per-packet one-way delay: 405.591 ms
Loss rate: 4.20%
-- Flow 2:
Average throughput: 37.73 Mbit/s
95th percentile per-packet one-way delay: 645.960 ms
Loss rate: 5.88%
-- Flow 3:
Average throughput: 24.50 Mbit/s
95th percentile per-packet one-way delay: 650.523 ms
Loss rate: 9.48%
```
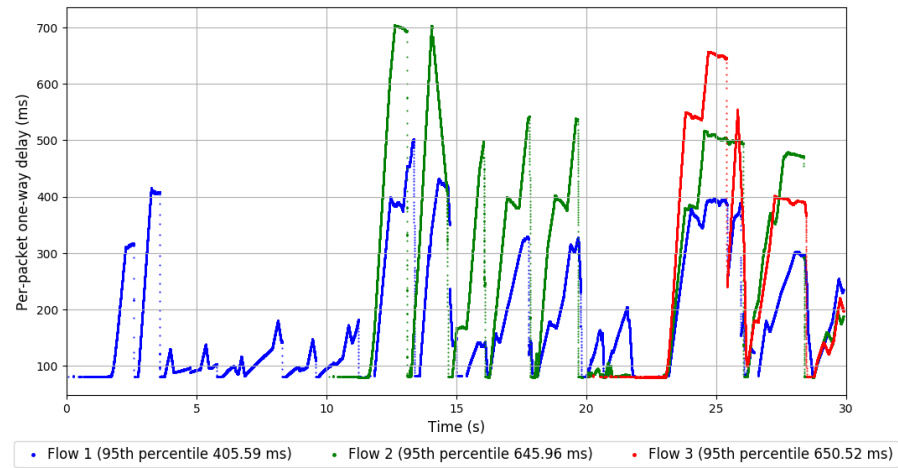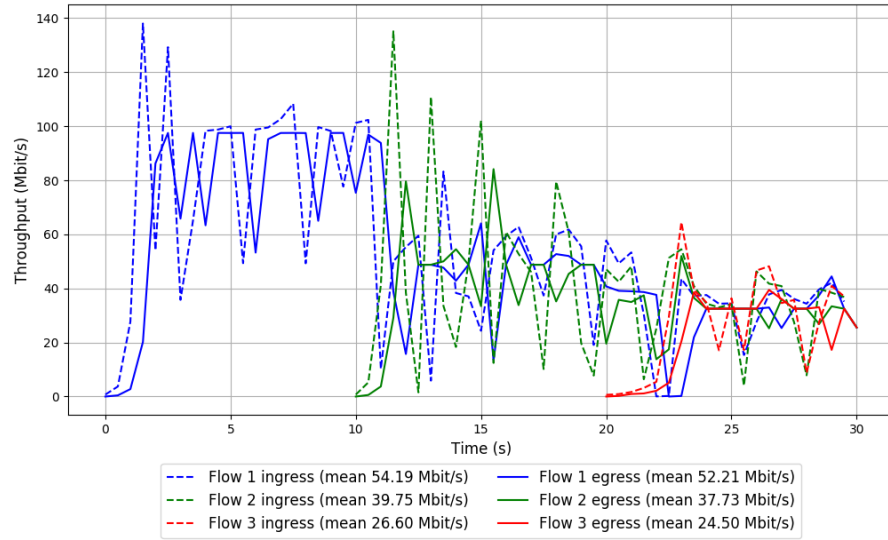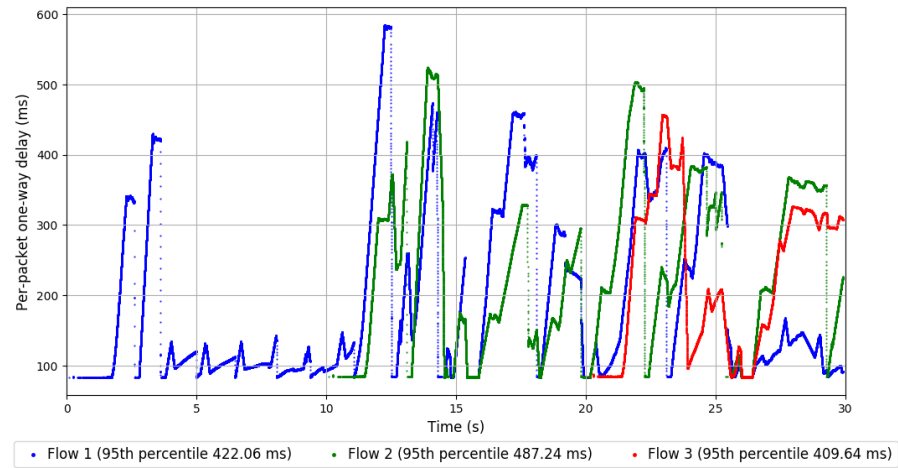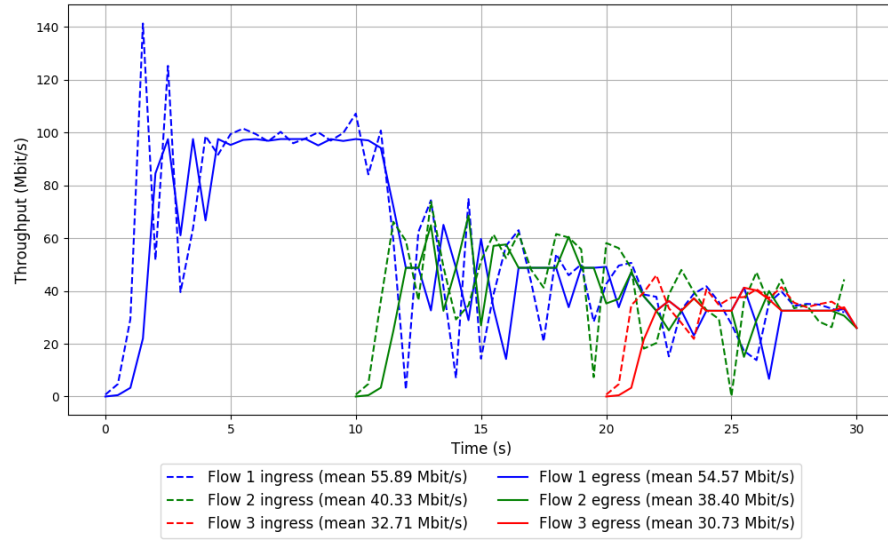
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 54.19 Mbit/s) --- Flow 1 egress (mean 52.21 Mbit/s)
Flow 2 ingress (mean 39.75 Mbit/s) --- Flow 2 egress (mean 37.73 Mbit/s)
Flow 3 ingress (mean 26.60 Mbit/s) --- Flow 3 egress (mean 24.50 Mbit/s)

Flow 1 (95th percentile 405.59 ms) • Flow 2 (95th percentile 645.96 ms) • Flow 3 (95th percentile 650.52 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2018-09-08 01:01:43
End at: 2018-09-08 01:02:13
Local clock offset: 1.536 ms
Remote clock offset: 3.463 ms


# Below is generated by plot.py at 2018-09-08 02:25:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.17 Mbit/s
95th percentile per-packet one-way delay: 424.205 ms
Loss rate: 4.23%
-- Flow 1:
Average throughput: 54.57 Mbit/s
95th percentile per-packet one-way delay: 422.055 ms
Loss rate: 2.91%
-- Flow 2:
Average throughput: 38.40 Mbit/s
95th percentile per-packet one-way delay: 487.240 ms
Loss rate: 5.60%
-- Flow 3:
Average throughput: 30.73 Mbit/s
95th percentile per-packet one-way delay: 409.645 ms
Loss rate: 7.64%
```
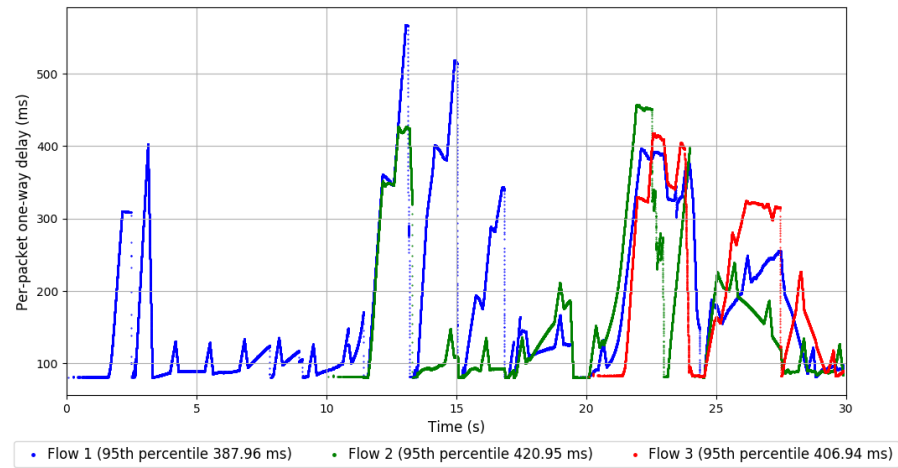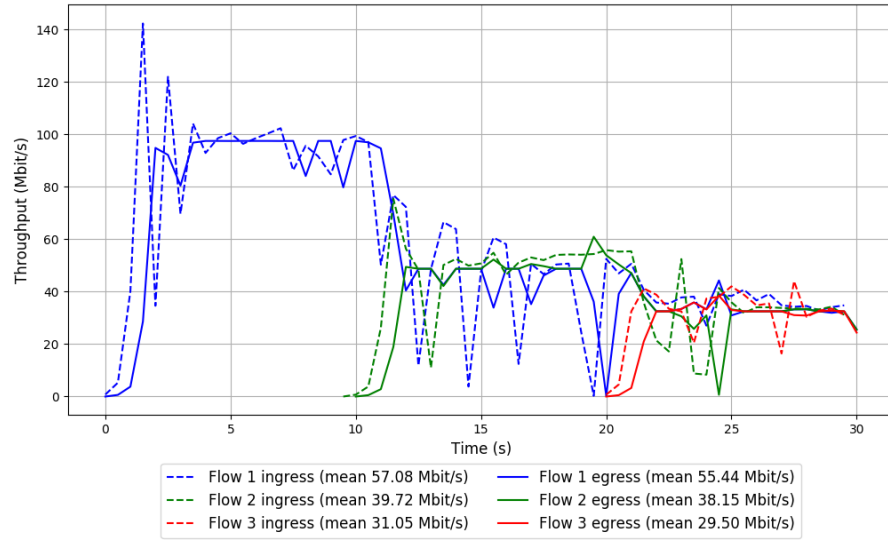
Run 2: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 55.89 Mbit/s) —— Flow 1 egress (mean 54.57 Mbit/s)
- - - Flow 2 ingress (mean 40.33 Mbit/s) —— Flow 2 egress (mean 38.40 Mbit/s)
- - - Flow 3 ingress (mean 32.71 Mbit/s) —— Flow 3 egress (mean 30.73 Mbit/s)

• Flow 1 (95th percentile 422.06 ms)   • Flow 2 (95th percentile 487.24 ms)   • Flow 3 (95th percentile 409.64 ms)

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```
Run 3: Statistics of TCP BBR

Start at: 2018-09-08 01:24:47
End at: 2018-09-08 01:25:17
Local clock offset: -1.292 ms
Remote clock offset: 5.639 ms


# Below is generated by plot.py at 2018-09-08 02:25:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.48 Mbit/s
95th percentile per-packet one-way delay: 393.788 ms
Loss rate: 4.18%
-- Flow 1:
Average throughput: 55.44 Mbit/s
95th percentile per-packet one-way delay: 387.961 ms
Loss rate: 3.45%
-- Flow 2:
Average throughput: 38.15 Mbit/s
95th percentile per-packet one-way delay: 420.953 ms
Loss rate: 4.80%
-- Flow 3:
Average throughput: 29.50 Mbit/s
95th percentile per-packet one-way delay: 406.939 ms
Loss rate: 6.65%
```
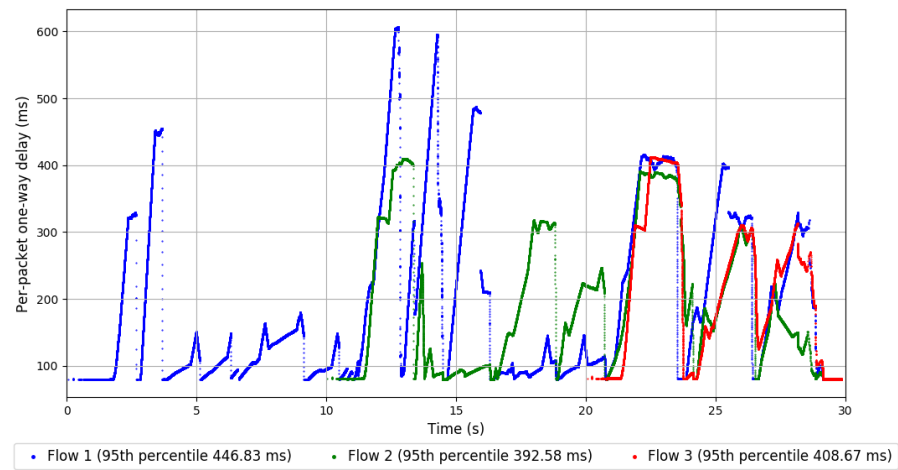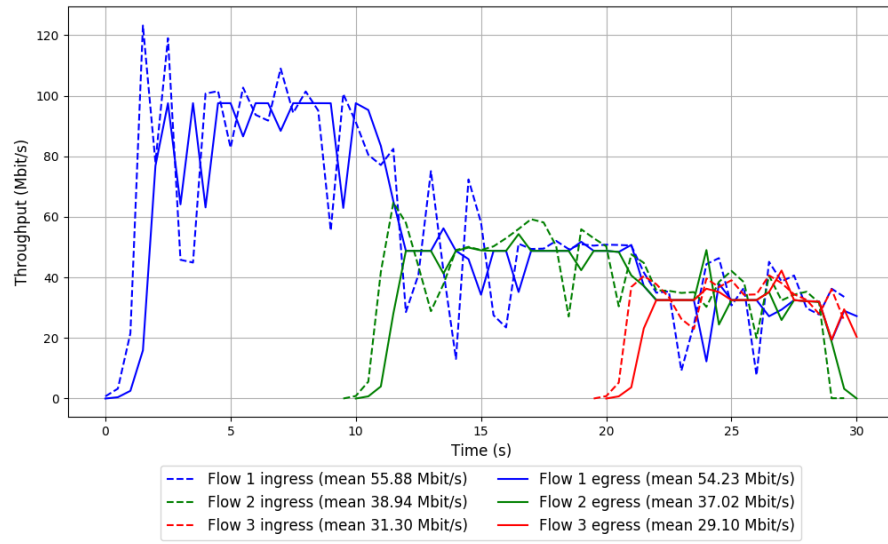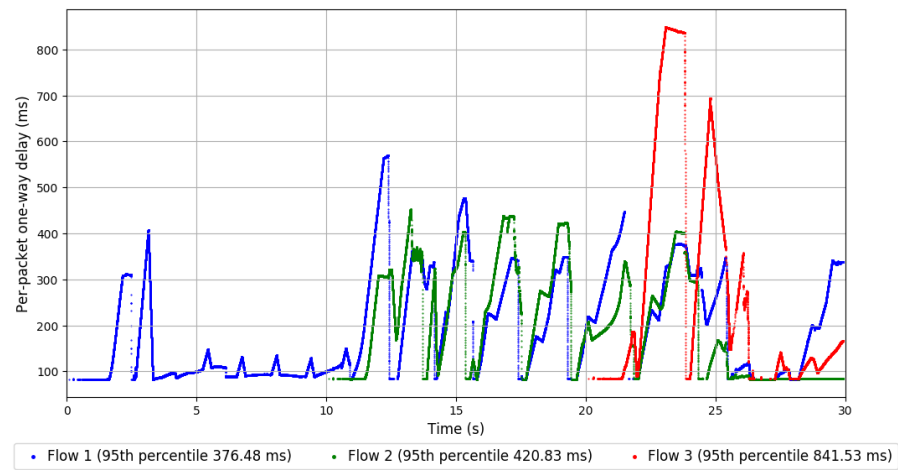
Run 3: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 57.08 Mbit/s) —— Flow 1 egress (mean 55.44 Mbit/s)
- - - Flow 2 ingress (mean 39.72 Mbit/s) —— Flow 2 egress (mean 38.15 Mbit/s)
- - - Flow 3 ingress (mean 31.05 Mbit/s) —— Flow 3 egress (mean 29.50 Mbit/s)

- Flow 1 (95th percentile 387.96 ms) • Flow 2 (95th percentile 420.95 ms) • Flow 3 (95th percentile 406.94 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2018-09-08 01:48:08
End at: 2018-09-08 01:48:38
Local clock offset: -4.14 ms
Remote clock offset: 5.848 ms


# Below is generated by plot.py at 2018-09-08 02:25:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.35 Mbit/s
95th percentile per-packet one-way delay: 409.682 ms
Loss rate: 4.70%
-- Flow 1:
Average throughput: 54.23 Mbit/s
95th percentile per-packet one-way delay: 446.826 ms
Loss rate: 3.50%
-- Flow 2:
Average throughput: 37.02 Mbit/s
95th percentile per-packet one-way delay: 392.583 ms
Loss rate: 5.73%
-- Flow 3:
Average throughput: 29.10 Mbit/s
95th percentile per-packet one-way delay: 408.671 ms
Loss rate: 8.59%
```
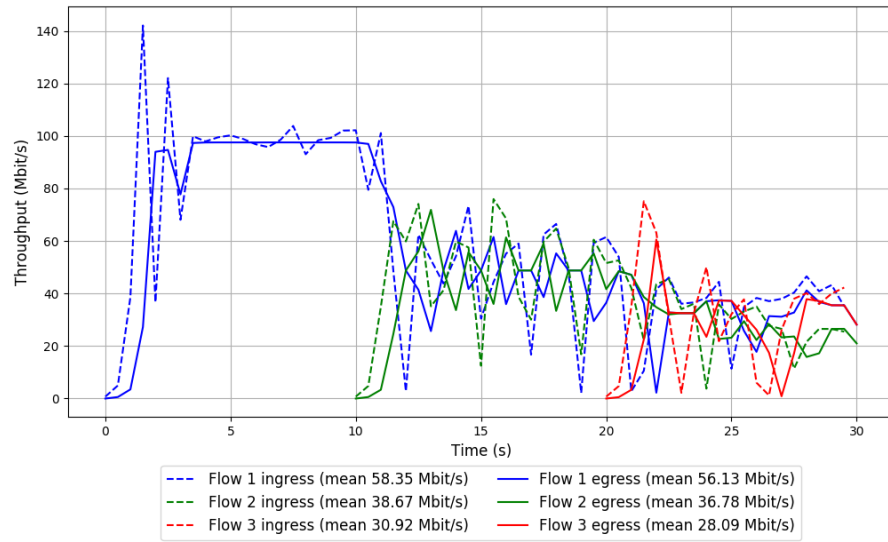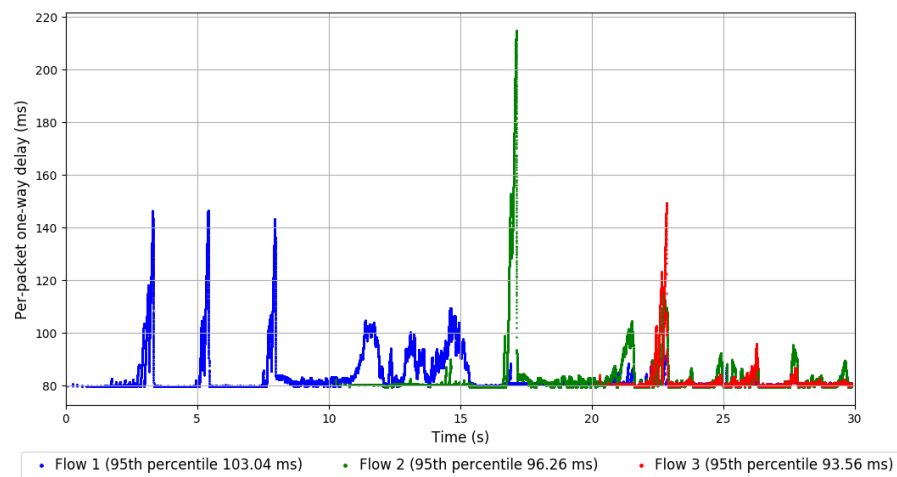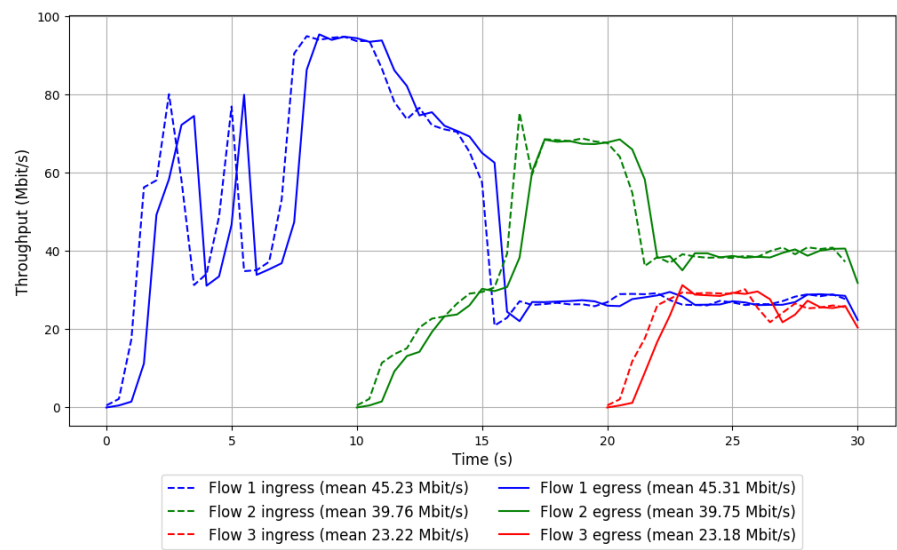
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 55.88 Mbit/s) — — — Flow 1 egress (mean 54.23 Mbit/s)
Flow 2 ingress (mean 38.94 Mbit/s) — — — Flow 2 egress (mean 37.02 Mbit/s)
Flow 3 ingress (mean 31.30 Mbit/s) — — — Flow 3 egress (mean 29.10 Mbit/s)

Flow 1 (95th percentile 446.83 ms)   Flow 2 (95th percentile 392.58 ms)   Flow 3 (95th percentile 408.67 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2018-09-08 02:11:11
End at: 2018-09-08 02:11:41
Local clock offset: -2.887 ms
Remote clock offset: 3.795 ms


# Below is generated by plot.py at 2018-09-08 02:25:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.78 Mbit/s
95th percentile per-packet one-way delay: 433.413 ms
Loss rate: 5.40%
-- Flow 1:
Average throughput: 56.13 Mbit/s
95th percentile per-packet one-way delay: 376.478 ms
Loss rate: 4.35%
-- Flow 2:
Average throughput: 36.78 Mbit/s
95th percentile per-packet one-way delay: 420.826 ms
Loss rate: 5.67%
-- Flow 3:
Average throughput: 28.09 Mbit/s
95th percentile per-packet one-way delay: 841.526 ms
Loss rate: 10.70%
```
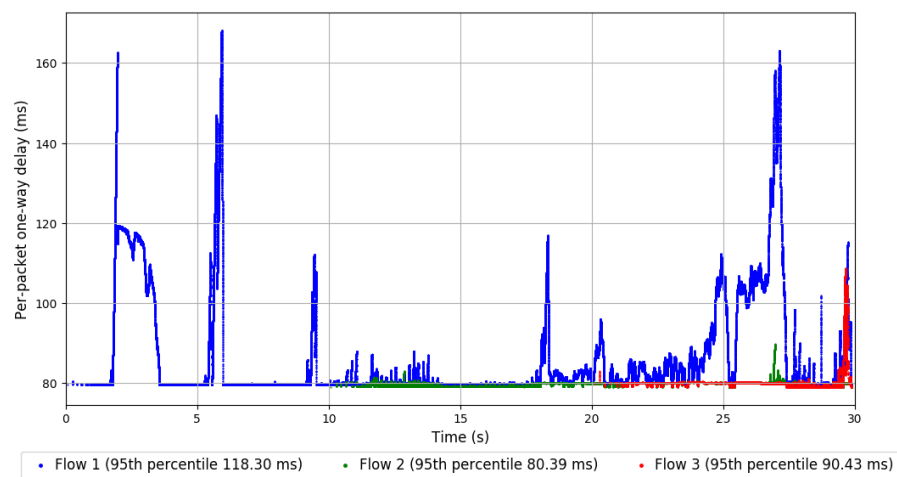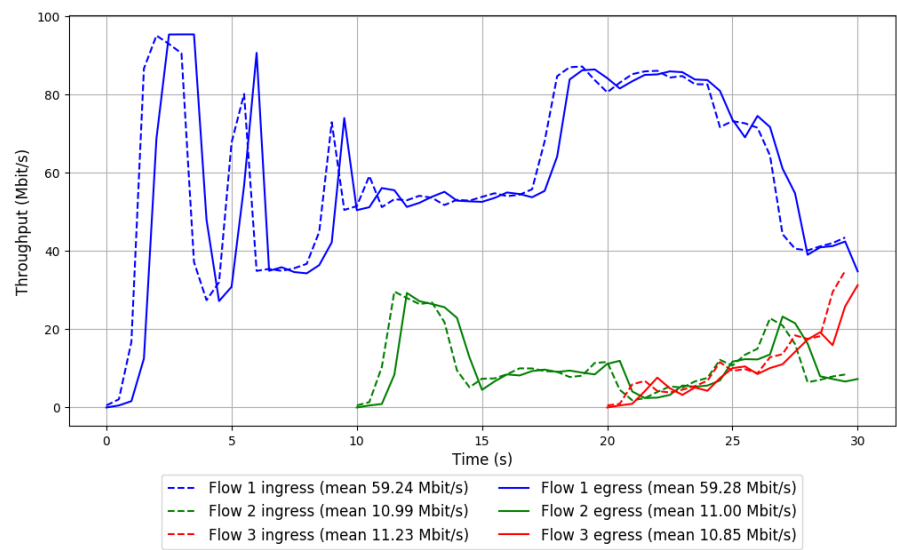
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 58.35 Mbit/s)   Flow 1 egress (mean 56.13 Mbit/s)
Flow 2 ingress (mean 38.67 Mbit/s)   Flow 2 egress (mean 36.78 Mbit/s)
Flow 3 ingress (mean 30.92 Mbit/s)   Flow 3 egress (mean 28.09 Mbit/s)

Flow 1 (95th percentile 376.48 ms)   Flow 2 (95th percentile 420.83 ms)   Flow 3 (95th percentile 841.53 ms)

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```
Run 1: Statistics of Copa

Start at: 2018-09-08 00:27:42
End at: 2018-09-08 00:28:12
Local clock offset: -4.086 ms
Remote clock offset: 8.57 ms


# Below is generated by plot.py at 2018-09-08 02:26:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.34 Mbit/s
95th percentile per-packet one-way delay: 101.785 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 45.31 Mbit/s
95th percentile per-packet one-way delay: 103.044 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 39.75 Mbit/s
95th percentile per-packet one-way delay: 96.264 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 23.18 Mbit/s
95th percentile per-packet one-way delay: 93.561 ms
Loss rate: 1.89%
```
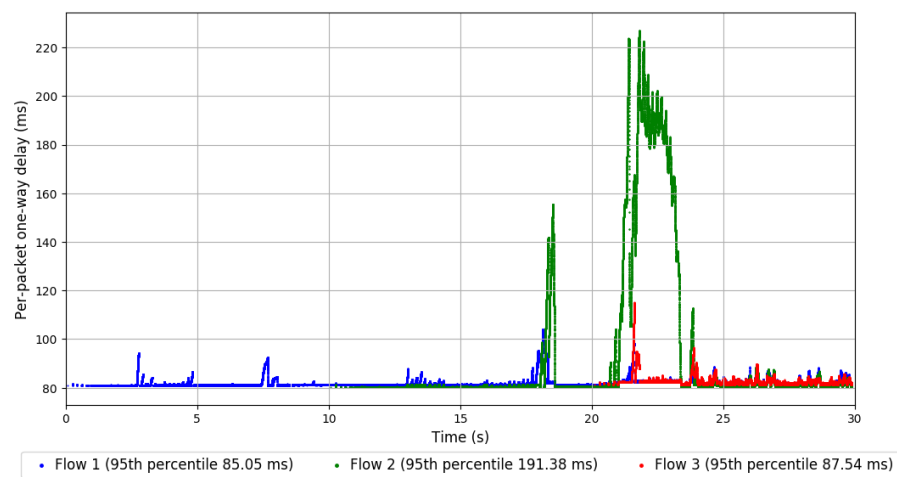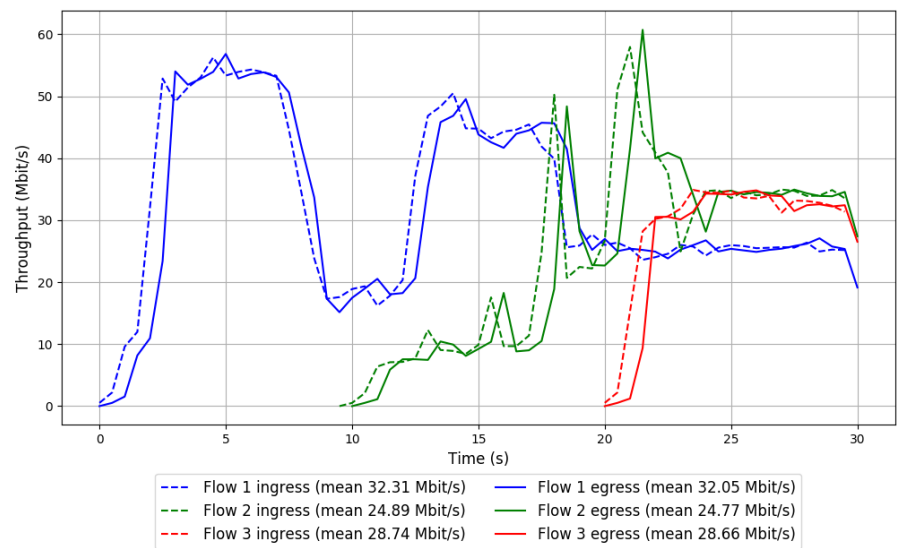
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2018-09-08 00:51:03
End at: 2018-09-08 00:51:33
Local clock offset: -1.669 ms
Remote clock offset: 7.437 ms


# Below is generated by plot.py at 2018-09-08 02:26:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.15 Mbit/s
95th percentile per-packet one-way delay: 117.296 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 59.28 Mbit/s
95th percentile per-packet one-way delay: 118.302 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 11.00 Mbit/s
95th percentile per-packet one-way delay: 80.388 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 10.85 Mbit/s
95th percentile per-packet one-way delay: 90.430 ms
Loss rate: 5.03%
```
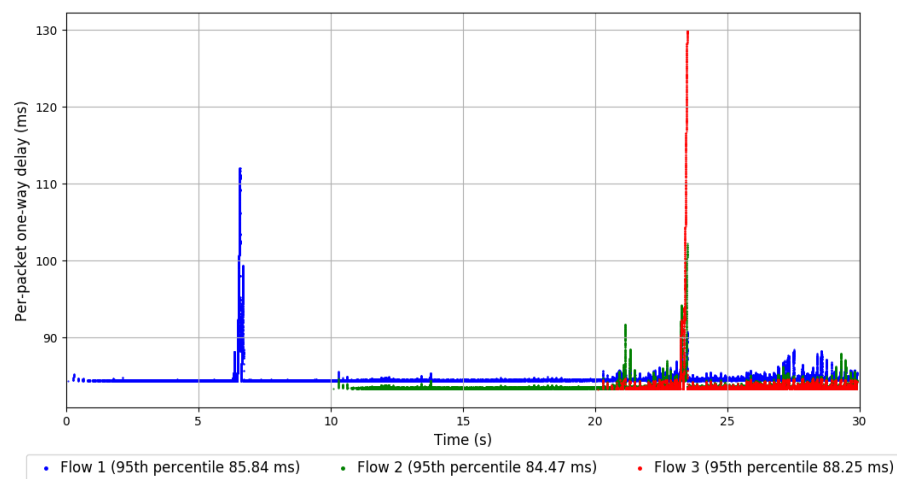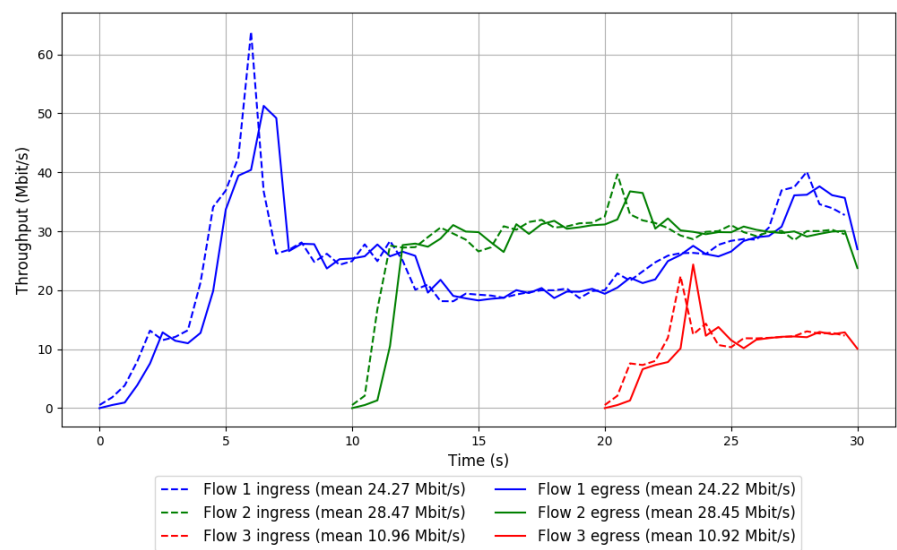
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 59.24 Mbit/s)   Flow 1 egress (mean 59.28 Mbit/s)
Flow 2 ingress (mean 10.99 Mbit/s)   Flow 2 egress (mean 11.00 Mbit/s)
Flow 3 ingress (mean 11.23 Mbit/s)   Flow 3 egress (mean 10.85 Mbit/s)

Flow 1 (95th percentile 118.30 ms)   Flow 2 (95th percentile 80.39 ms)   Flow 3 (95th percentile 90.43 ms)

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```
Run 3: Statistics of Copa

Start at: 2018-09-08 01:14:29
End at: 2018-09-08 01:14:59
Local clock offset: 3.136 ms
Remote clock offset: 6.161 ms


# Below is generated by plot.py at 2018-09-08 02:26:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.93 Mbit/s
95th percentile per-packet one-way delay: 135.993 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 32.05 Mbit/s
95th percentile per-packet one-way delay: 85.053 ms
Loss rate: 1.35%
-- Flow 2:
Average throughput: 24.77 Mbit/s
95th percentile per-packet one-way delay: 191.380 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 28.66 Mbit/s
95th percentile per-packet one-way delay: 87.538 ms
Loss rate: 1.97%
```
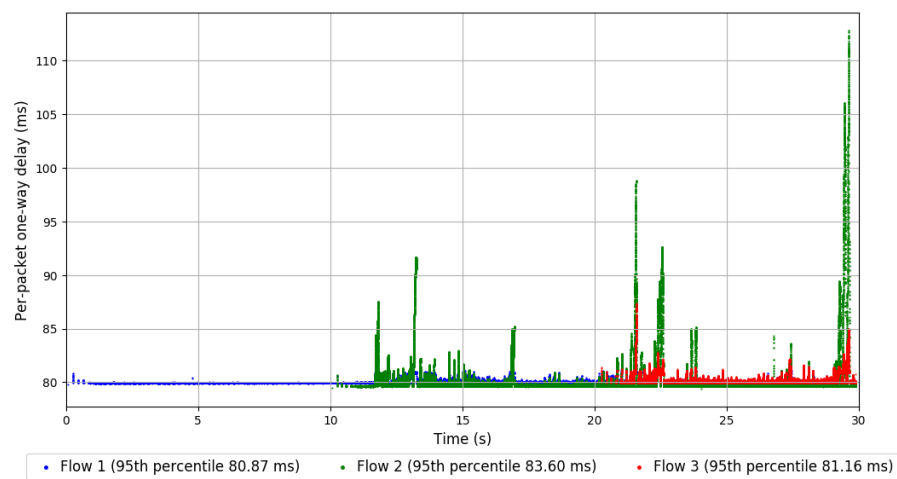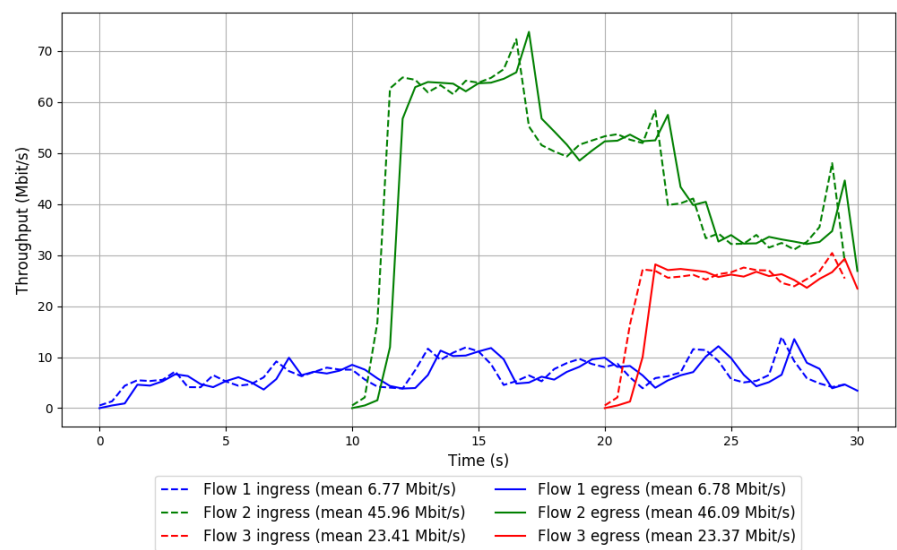
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-09-08 01:37:42
End at: 2018-09-08 01:38:12
Local clock offset: -4.274 ms
Remote clock offset: 1.261 ms


# Below is generated by plot.py at 2018-09-08 02:26:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.70 Mbit/s
95th percentile per-packet one-way delay: 85.335 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 24.22 Mbit/s
95th percentile per-packet one-way delay: 85.839 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 28.45 Mbit/s
95th percentile per-packet one-way delay: 84.470 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 10.92 Mbit/s
95th percentile per-packet one-way delay: 88.248 ms
Loss rate: 2.01%
```
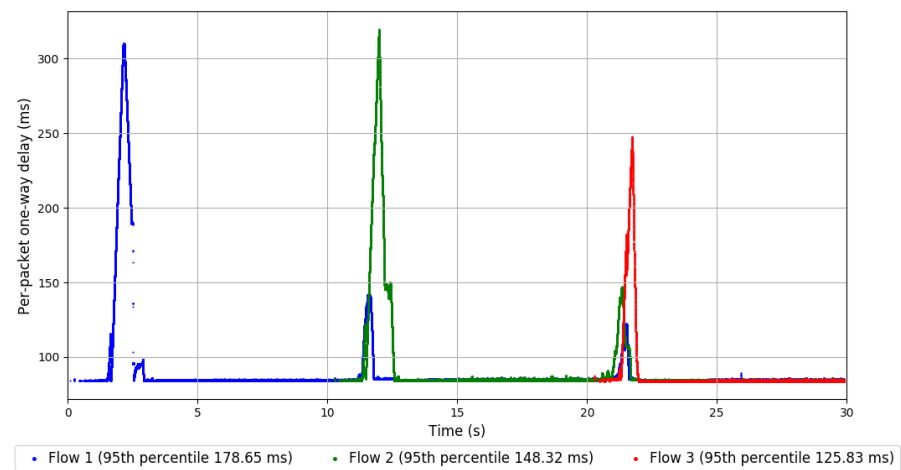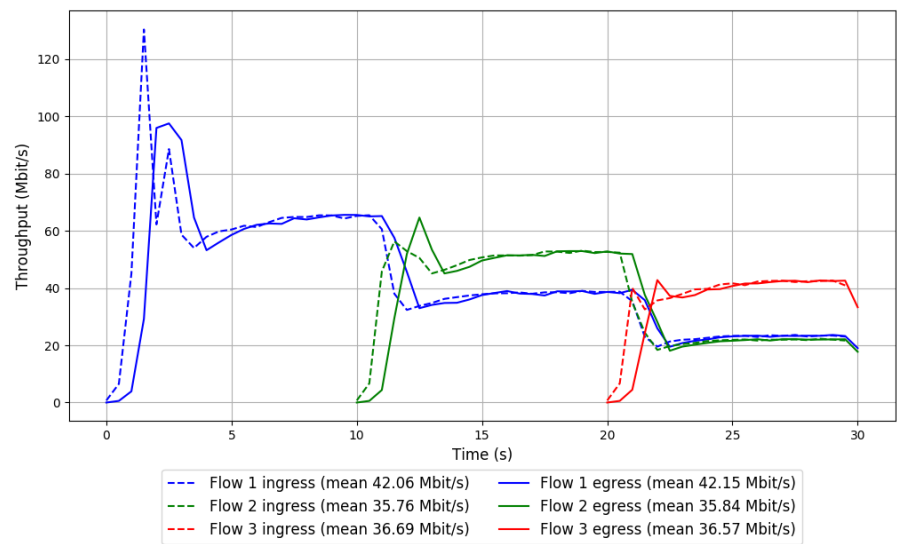
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2018-09-08 02:00:53
End at: 2018-09-08 02:01:23
Local clock offset: -2.345 ms
Remote clock offset: 7.496 ms


# Below is generated by plot.py at 2018-09-08 02:26:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.08 Mbit/s
95th percentile per-packet one-way delay: 82.095 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 6.78 Mbit/s
95th percentile per-packet one-way delay: 80.869 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 46.09 Mbit/s
95th percentile per-packet one-way delay: 83.602 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 23.37 Mbit/s
95th percentile per-packet one-way delay: 81.156 ms
Loss rate: 1.86%
```

Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2018-09-08 00:40:50
End at: 2018-09-08 00:41:20
Local clock offset: -5.163 ms
Remote clock offset: 3.419 ms


# Below is generated by plot.py at 2018-09-08 02:26:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.96 Mbit/s
95th percentile per-packet one-way delay: 151.527 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 42.15 Mbit/s
95th percentile per-packet one-way delay: 178.650 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 35.84 Mbit/s
95th percentile per-packet one-way delay: 148.319 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 36.57 Mbit/s
95th percentile per-packet one-way delay: 125.827 ms
Loss rate: 1.97%
```
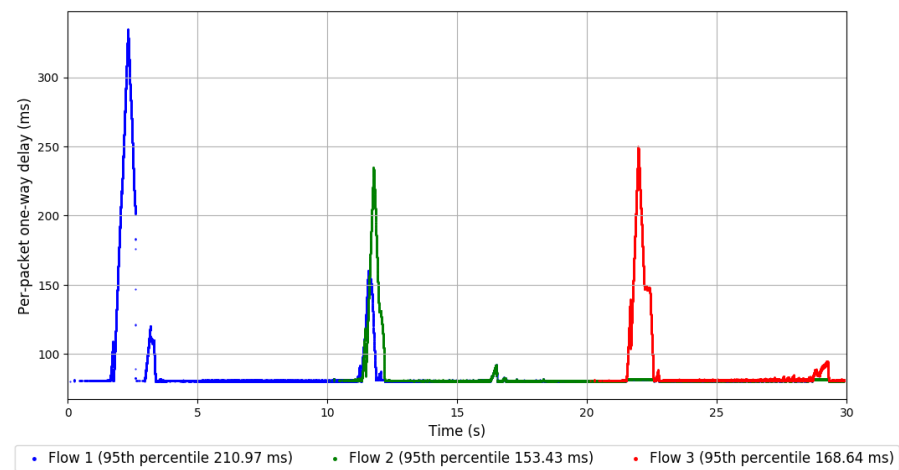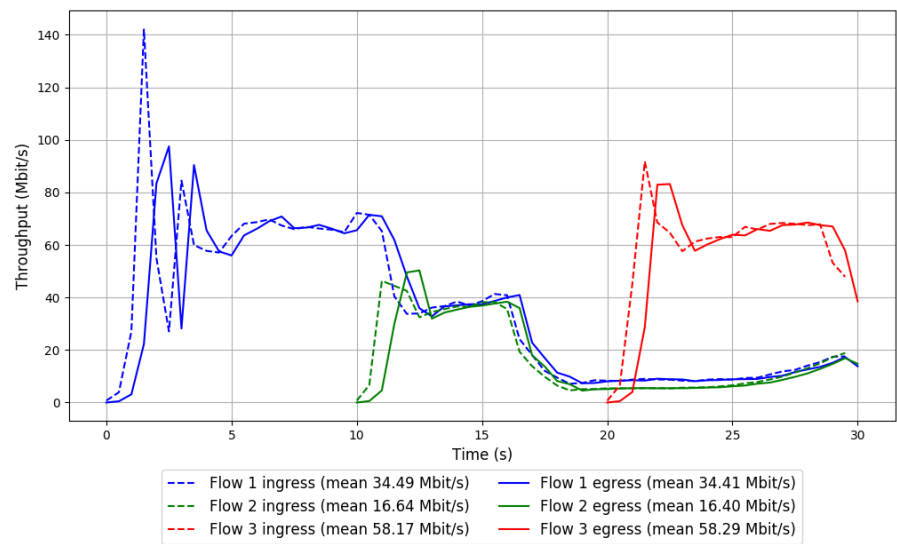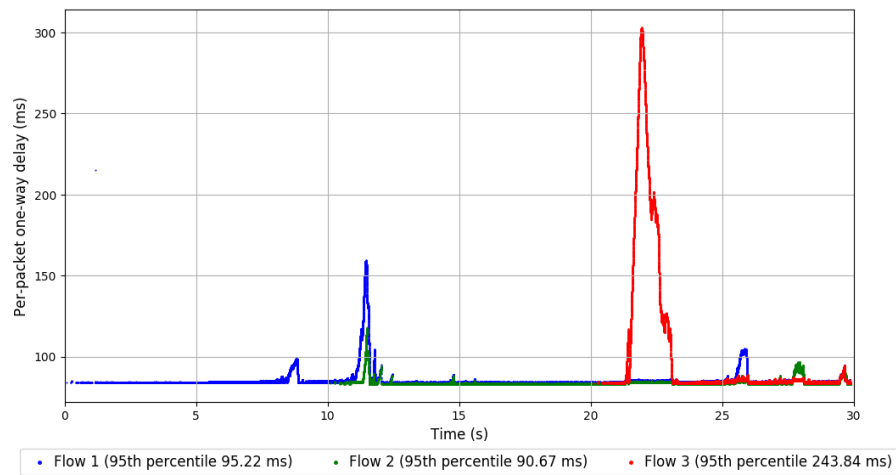
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2018-09-08 01:04:20
End at: 2018-09-08 01:04:50
Local clock offset: 2.648 ms
Remote clock offset: 7.14 ms


# Below is generated by plot.py at 2018-09-08 02:26:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.43 Mbit/s
95th percentile per-packet one-way delay: 180.754 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 34.41 Mbit/s
95th percentile per-packet one-way delay: 210.965 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 16.40 Mbit/s
95th percentile per-packet one-way delay: 153.434 ms
Loss rate: 2.26%
-- Flow 3:
Average throughput: 58.29 Mbit/s
95th percentile per-packet one-way delay: 168.637 ms
Loss rate: 1.51%
```
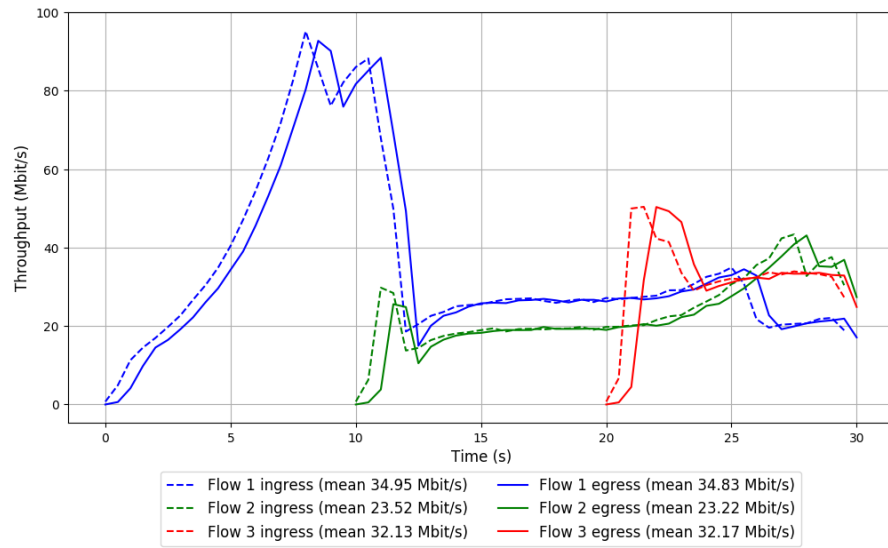
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2018-09-08 01:27:25
End at: 2018-09-08 01:27:55
Local clock offset: -2.791 ms
Remote clock offset: 2.192 ms


# Below is generated by plot.py at 2018-09-08 02:26:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.82 Mbit/s
95th percentile per-packet one-way delay: 111.549 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 34.83 Mbit/s
95th percentile per-packet one-way delay: 95.223 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 23.22 Mbit/s
95th percentile per-packet one-way delay: 90.671 ms
Loss rate: 2.16%
-- Flow 3:
Average throughput: 32.17 Mbit/s
95th percentile per-packet one-way delay: 243.837 ms
Loss rate: 1.54%
```
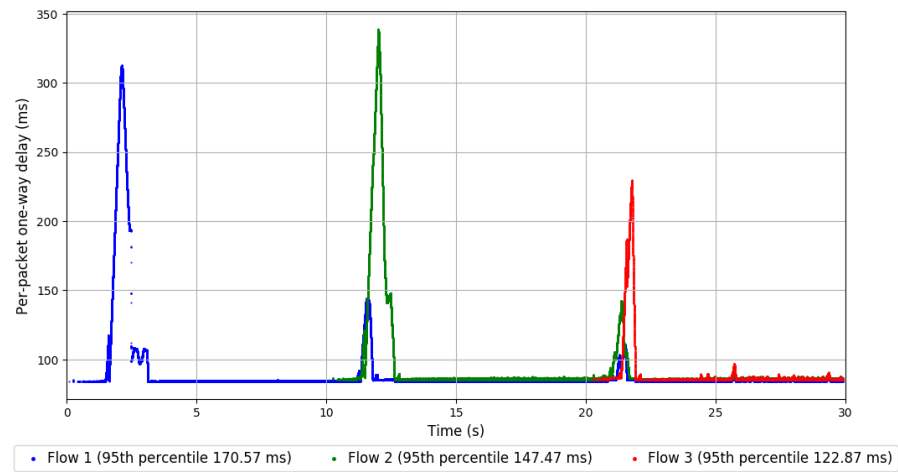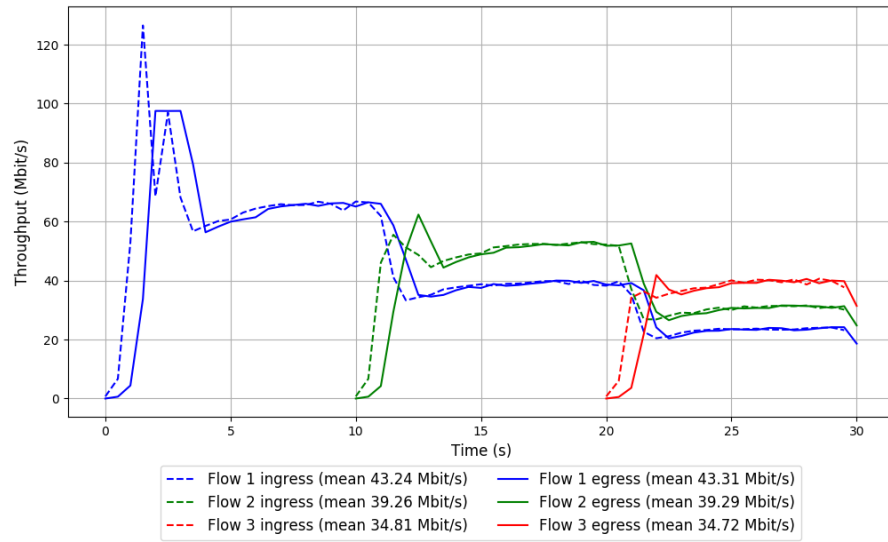
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2018-09-08 01:50:42
End at: 2018-09-08 01:51:12
Local clock offset: -3.042 ms
Remote clock offset: 2.088 ms


# Below is generated by plot.py at 2018-09-08 02:27:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.82 Mbit/s
95th percentile per-packet one-way delay: 149.695 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 43.31 Mbit/s
95th percentile per-packet one-way delay: 170.572 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 39.29 Mbit/s
95th percentile per-packet one-way delay: 147.466 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 34.72 Mbit/s
95th percentile per-packet one-way delay: 122.872 ms
Loss rate: 1.96%
```
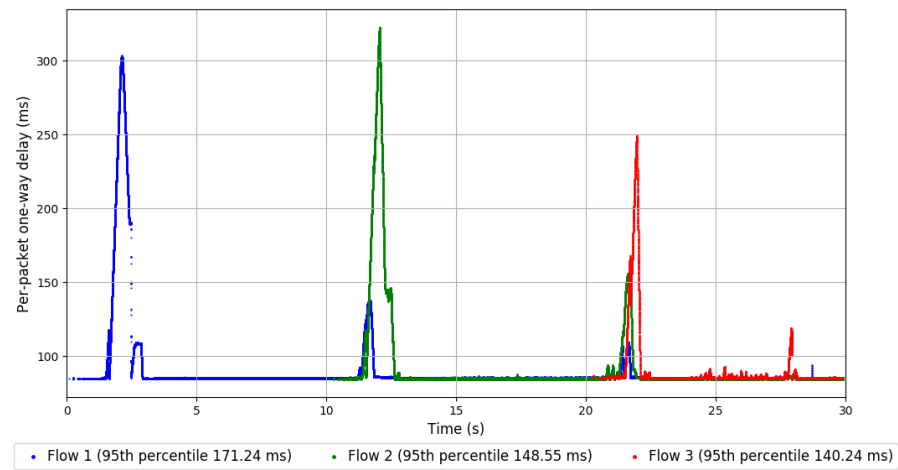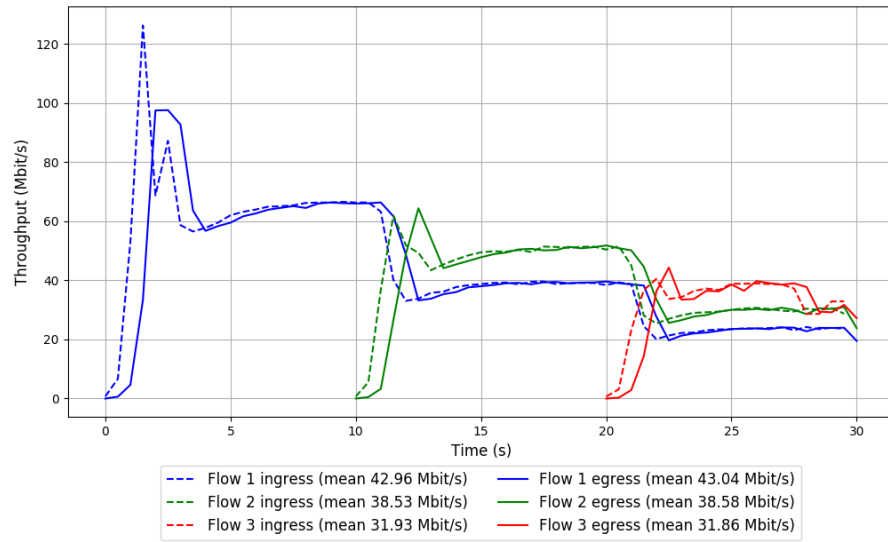
Run 4: Report of TCP Cubic — Data Link

- Flow 1 ingress (mean 43.24 Mbit/s) —— Flow 1 egress (mean 43.31 Mbit/s)
- Flow 2 ingress (mean 39.26 Mbit/s) —— Flow 2 egress (mean 39.29 Mbit/s)
- Flow 3 ingress (mean 34.81 Mbit/s) —— Flow 3 egress (mean 34.72 Mbit/s)

- Flow 1 (95th percentile 170.57 ms)   • Flow 2 (95th percentile 147.47 ms)   • Flow 3 (95th percentile 122.87 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2018-09-08 02:13:45
End at: 2018-09-08 02:14:15
Local clock offset: -2.953 ms
Remote clock offset: 3.122 ms


# Below is generated by plot.py at 2018-09-08 02:27:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.13 Mbit/s
95th percentile per-packet one-way delay: 150.616 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 43.04 Mbit/s
95th percentile per-packet one-way delay: 171.235 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 38.58 Mbit/s
95th percentile per-packet one-way delay: 148.546 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 31.86 Mbit/s
95th percentile per-packet one-way delay: 140.242 ms
Loss rate: 1.91%
```
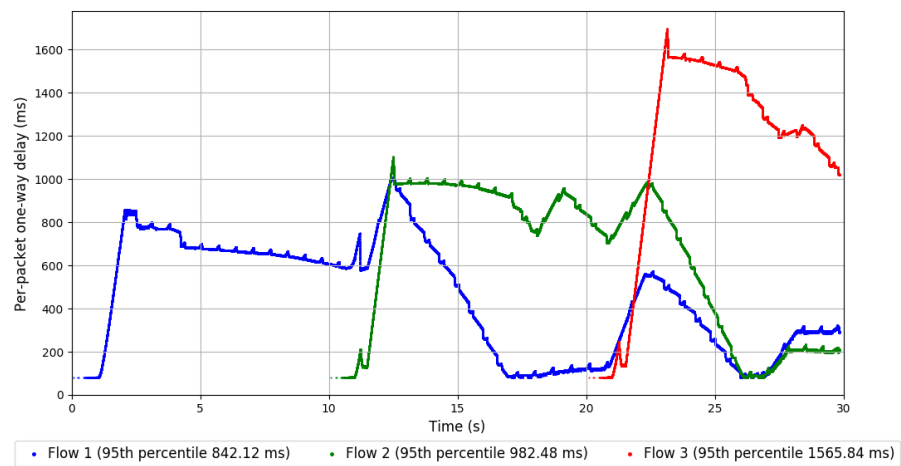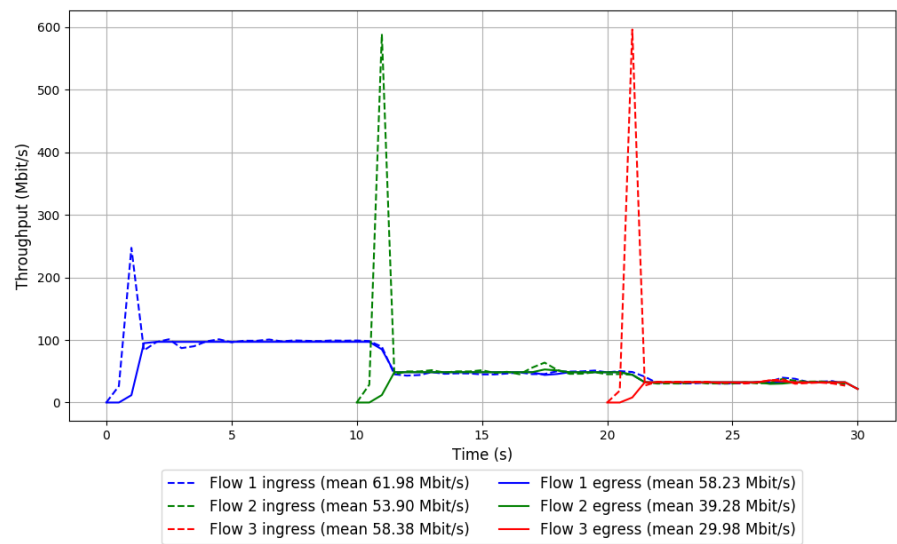
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 42.96 Mbit/s) — Flow 1 egress (mean 43.04 Mbit/s)
Flow 2 ingress (mean 38.53 Mbit/s) — Flow 2 egress (mean 38.58 Mbit/s)
Flow 3 ingress (mean 31.93 Mbit/s) — Flow 3 egress (mean 31.86 Mbit/s)

Flow 1 (95th percentile 171.24 ms) • Flow 2 (95th percentile 148.55 ms) • Flow 3 (95th percentile 140.24 ms)

```
Run 1: Statistics of FillP

Start at: 2018-09-08 00:42:07
End at: 2018-09-08 00:42:37
Local clock offset: -5.947 ms
Remote clock offset: 7.527 ms

# Below is generated by plot.py at 2018-09-08 02:27:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.11 Mbit/s
95th percentile per-packet one-way delay: 1280.913 ms
Loss rate: 20.12%
-- Flow 1:
Average throughput: 58.23 Mbit/s
95th percentile per-packet one-way delay: 842.117 ms
Loss rate: 6.57%
-- Flow 2:
Average throughput: 39.28 Mbit/s
95th percentile per-packet one-way delay: 982.481 ms
Loss rate: 27.71%
-- Flow 3:
Average throughput: 29.98 Mbit/s
95th percentile per-packet one-way delay: 1565.841 ms
Loss rate: 49.51%
```
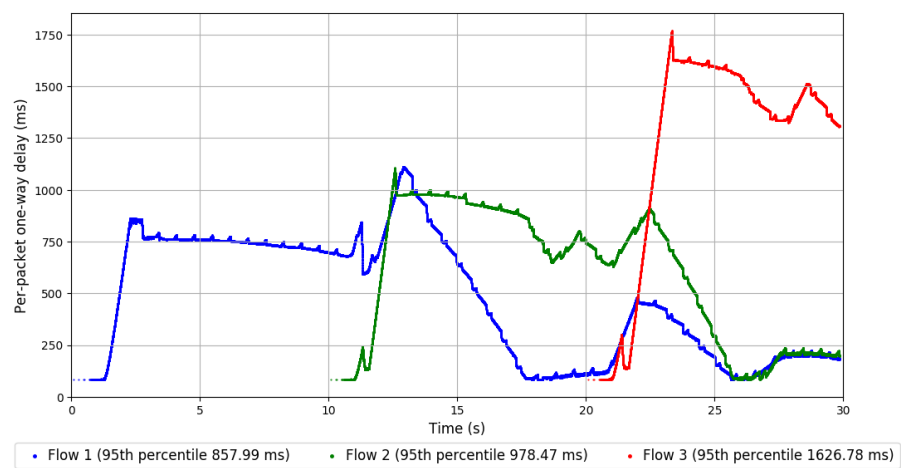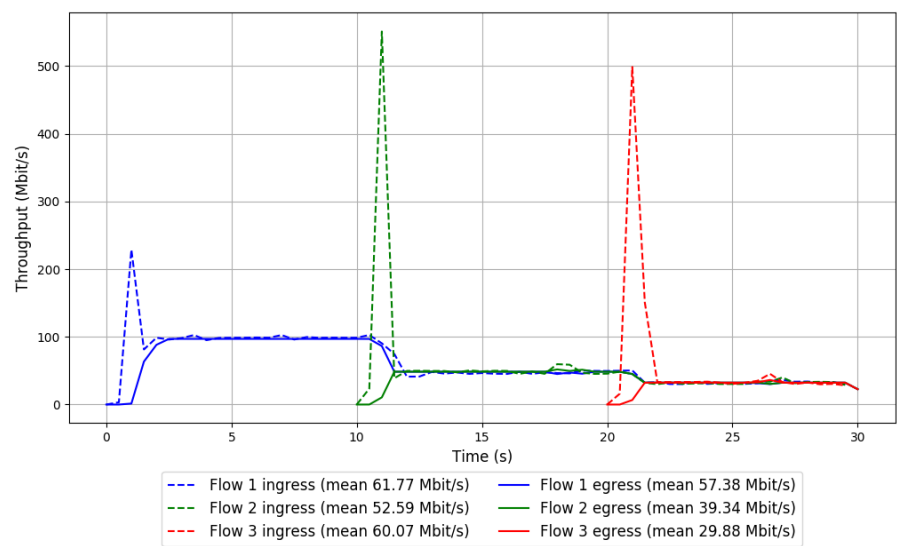
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2018-09-08 01:05:37
End at: 2018-09-08 01:06:07
Local clock offset: 2.085 ms
Remote clock offset: 3.182 ms


# Below is generated by plot.py at 2018-09-08 02:27:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.28 Mbit/s
95th percentile per-packet one-way delay: 1437.954 ms
Loss rate: 20.50%
-- Flow 1:
Average throughput: 57.38 Mbit/s
95th percentile per-packet one-way delay: 857.988 ms
Loss rate: 7.63%
-- Flow 2:
Average throughput: 39.34 Mbit/s
95th percentile per-packet one-way delay: 978.470 ms
Loss rate: 25.80%
-- Flow 3:
Average throughput: 29.88 Mbit/s
95th percentile per-packet one-way delay: 1626.781 ms
Loss rate: 51.08%
```
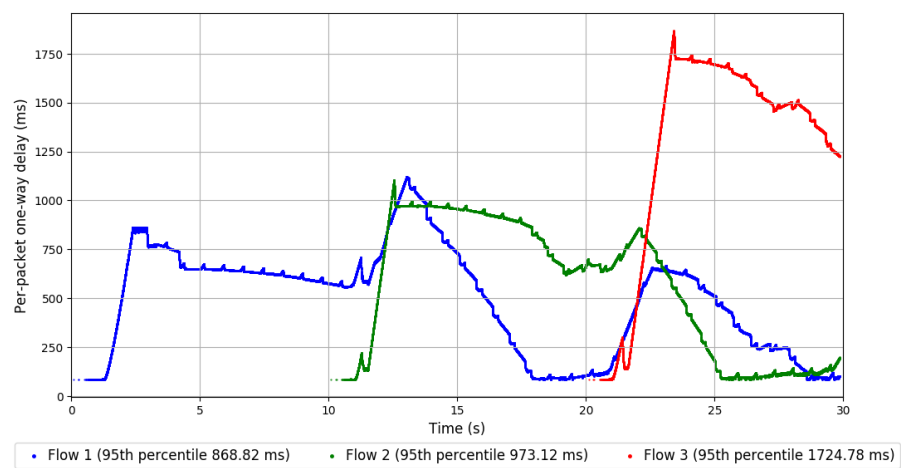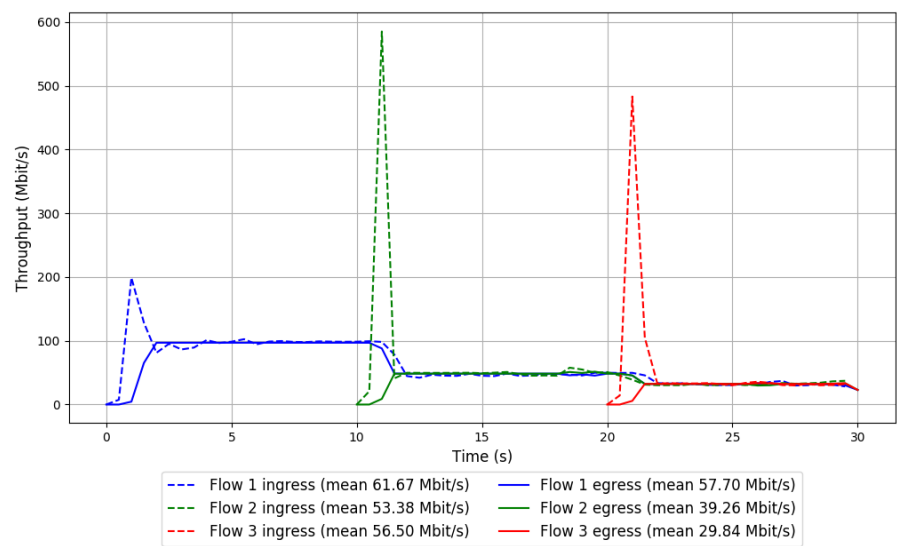
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2018-09-08 01:28:44
End at: 2018-09-08 01:29:14
Local clock offset: -2.246 ms
Remote clock offset: 1.637 ms


# Below is generated by plot.py at 2018-09-08 02:28:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.53 Mbit/s
95th percentile per-packet one-way delay: 1499.016 ms
Loss rate: 19.76%
-- Flow 1:
Average throughput: 57.70 Mbit/s
95th percentile per-packet one-way delay: 868.818 ms
Loss rate: 6.96%
-- Flow 2:
Average throughput: 39.26 Mbit/s
95th percentile per-packet one-way delay: 973.123 ms
Loss rate: 27.06%
-- Flow 3:
Average throughput: 29.84 Mbit/s
95th percentile per-packet one-way delay: 1724.782 ms
Loss rate: 48.08%
```
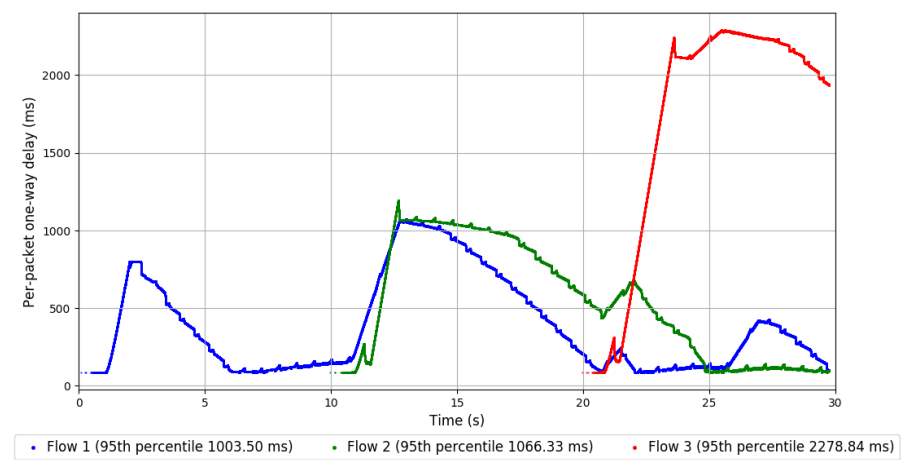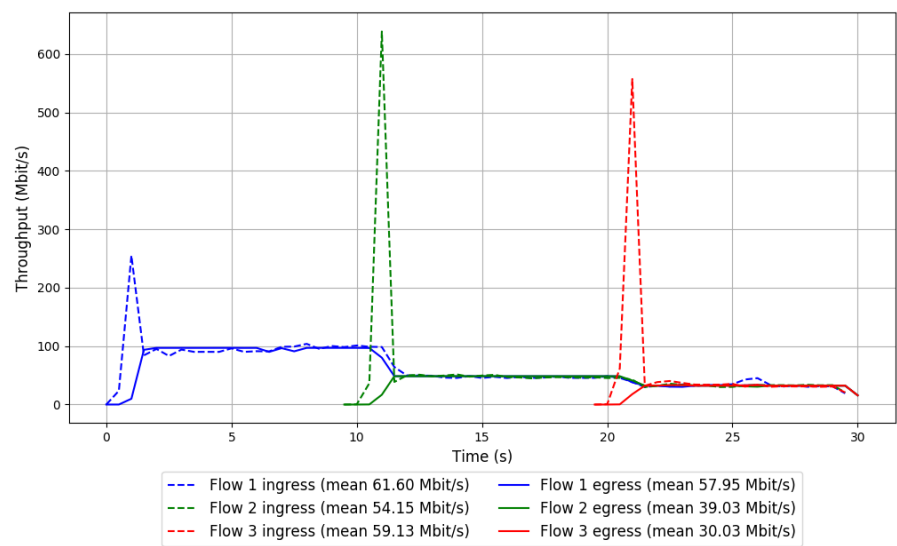
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2018-09-08 01:51:59
End at: 2018-09-08 01:52:29
Local clock offset: -2.828 ms
Remote clock offset: 2.257 ms


# Below is generated by plot.py at 2018-09-08 02:28:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.86 Mbit/s
95th percentile per-packet one-way delay: 2135.019 ms
Loss rate: 20.56%
-- Flow 1:
Average throughput: 57.95 Mbit/s
95th percentile per-packet one-way delay: 1003.499 ms
Loss rate: 6.44%
-- Flow 2:
Average throughput: 39.03 Mbit/s
95th percentile per-packet one-way delay: 1066.328 ms
Loss rate: 28.53%
-- Flow 3:
Average throughput: 30.03 Mbit/s
95th percentile per-packet one-way delay: 2278.843 ms
Loss rate: 50.07%
```
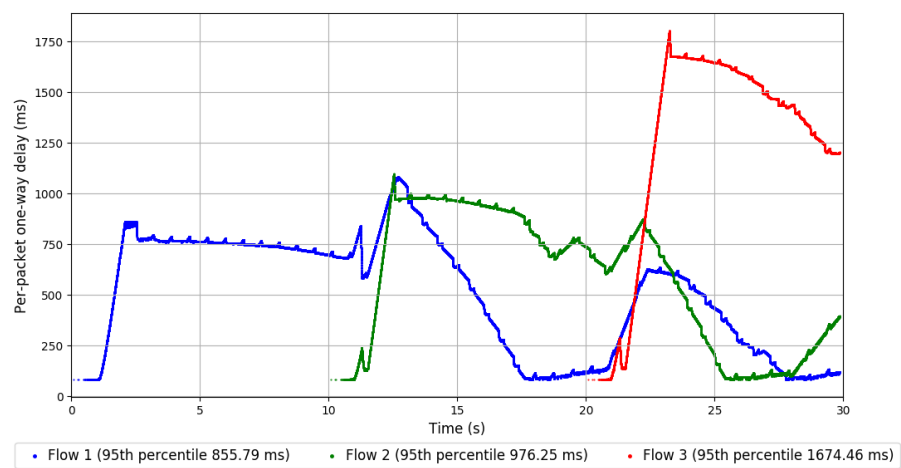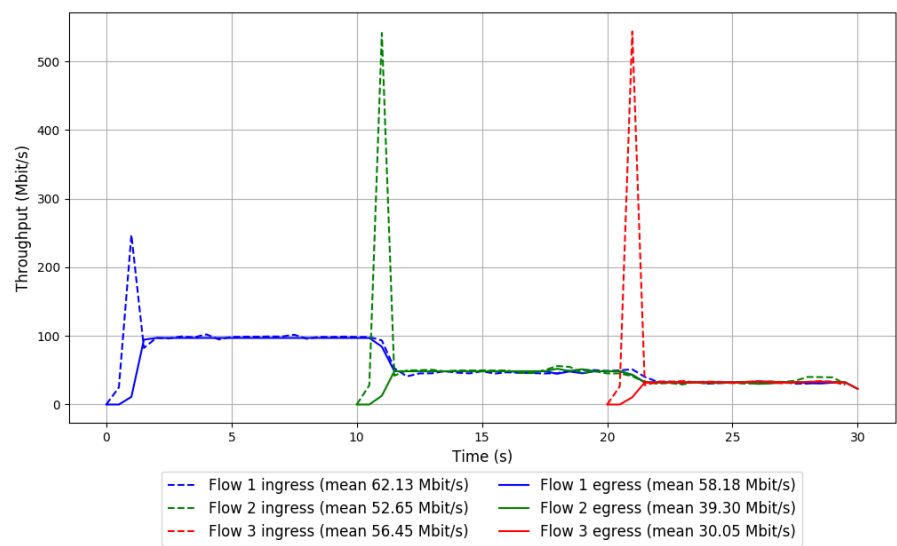
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2018-09-08 02:15:01
End at: 2018-09-08 02:15:31
Local clock offset: -2.054 ms
Remote clock offset: 7.29 ms


# Below is generated by plot.py at 2018-09-08 02:28:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.12 Mbit/s
95th percentile per-packet one-way delay: 1466.781 ms
Loss rate: 19.23%
-- Flow 1:
Average throughput: 58.18 Mbit/s
95th percentile per-packet one-way delay: 855.793 ms
Loss rate: 6.88%
-- Flow 2:
Average throughput: 39.30 Mbit/s
95th percentile per-packet one-way delay: 976.253 ms
Loss rate: 25.95%
-- Flow 3:
Average throughput: 30.05 Mbit/s
95th percentile per-packet one-way delay: 1674.457 ms
Loss rate: 47.65%
```
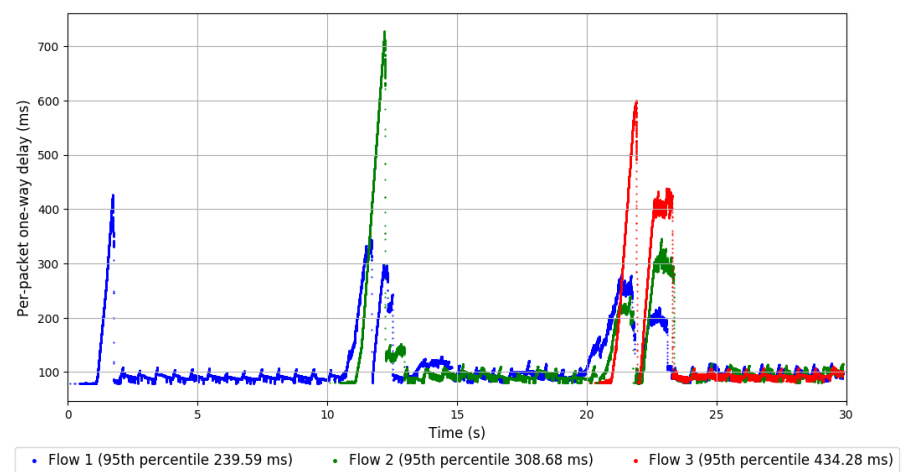
Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2018-09-08 00:36:58
End at: 2018-09-08 00:37:28
Local clock offset: -5.531 ms
Remote clock offset: 7.131 ms


# Below is generated by plot.py at 2018-09-08 02:28:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.14 Mbit/s
95th percentile per-packet one-way delay: 292.635 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 58.36 Mbit/s
95th percentile per-packet one-way delay: 239.587 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 38.96 Mbit/s
95th percentile per-packet one-way delay: 308.679 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 30.29 Mbit/s
95th percentile per-packet one-way delay: 434.280 ms
Loss rate: 2.94%
```
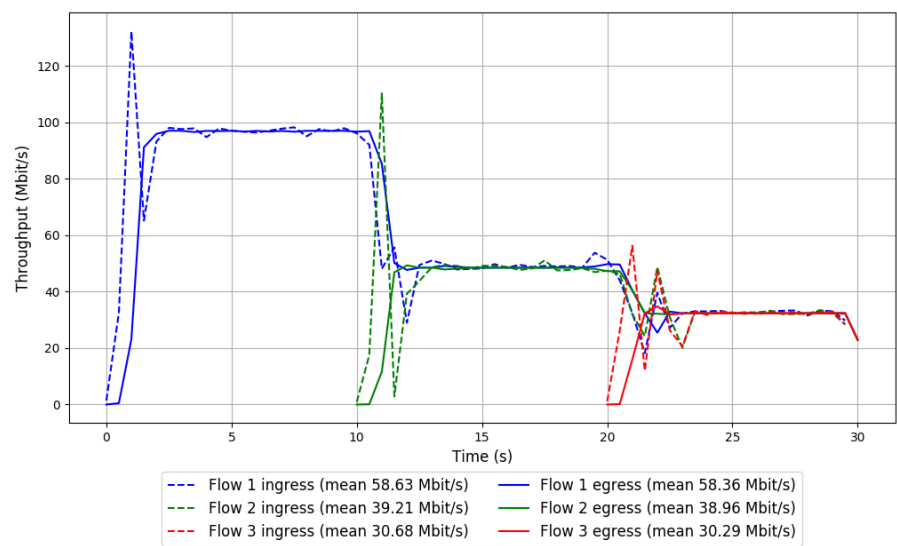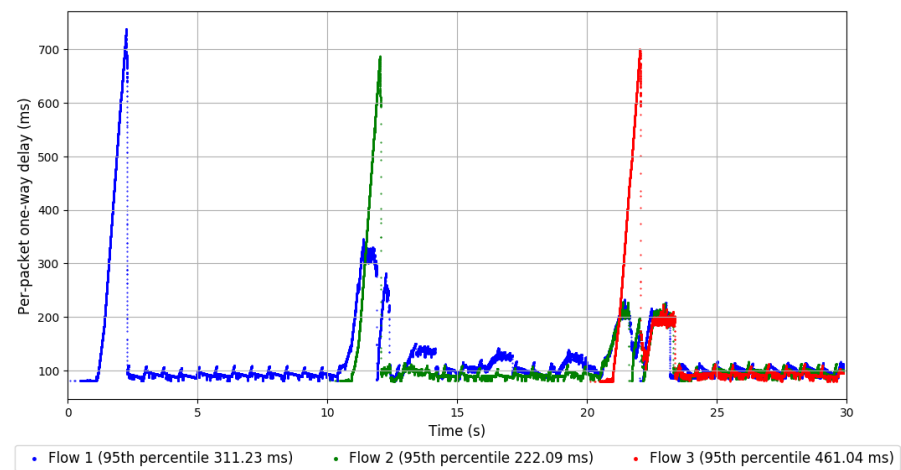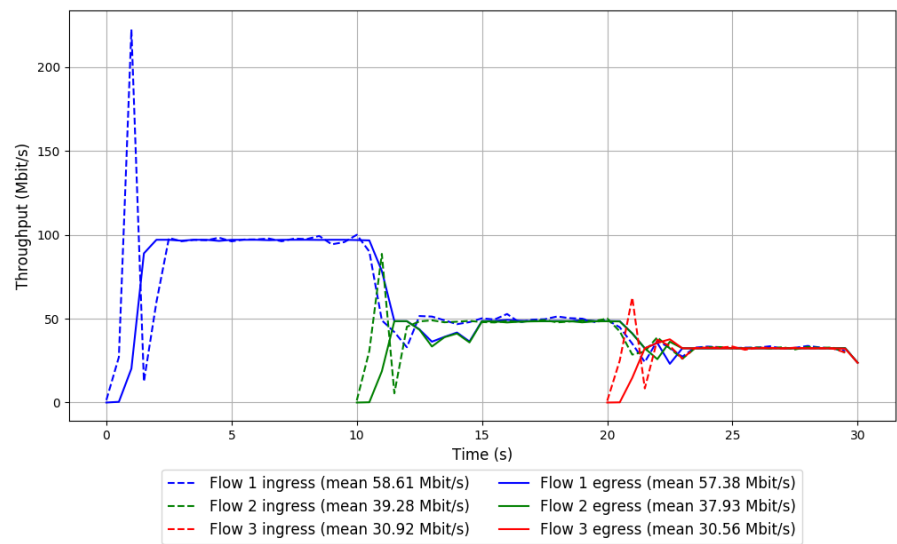
Run 1: Report of FillP-Sheep — Data Link

- - - Flow 1 ingress (mean 58.63 Mbit/s)   —— Flow 1 egress (mean 58.36 Mbit/s)
- - - Flow 2 ingress (mean 39.21 Mbit/s)   —— Flow 2 egress (mean 38.96 Mbit/s)
- - - Flow 3 ingress (mean 30.68 Mbit/s)   —— Flow 3 egress (mean 30.29 Mbit/s)

• Flow 1 (95th percentile 239.59 ms)   • Flow 2 (95th percentile 308.68 ms)   • Flow 3 (95th percentile 434.28 ms)

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```
Run 2: Statistics of FillP-Sheep

Start at: 2018-09-08 01:00:24
End at: 2018-09-08 01:00:54
Local clock offset: 2.012 ms
Remote clock offset: 7.93 ms


# Below is generated by plot.py at 2018-09-08 02:28:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.57 Mbit/s
95th percentile per-packet one-way delay: 311.259 ms
Loss rate: 3.12%
-- Flow 1:
Average throughput: 57.38 Mbit/s
95th percentile per-packet one-way delay: 311.233 ms
Loss rate: 2.65%
-- Flow 2:
Average throughput: 37.93 Mbit/s
95th percentile per-packet one-way delay: 222.091 ms
Loss rate: 4.27%
-- Flow 3:
Average throughput: 30.56 Mbit/s
95th percentile per-packet one-way delay: 461.038 ms
Loss rate: 2.86%
```
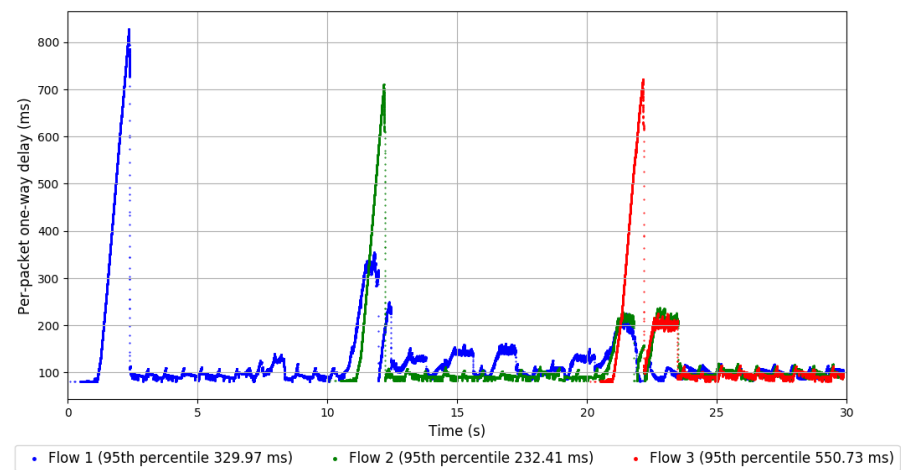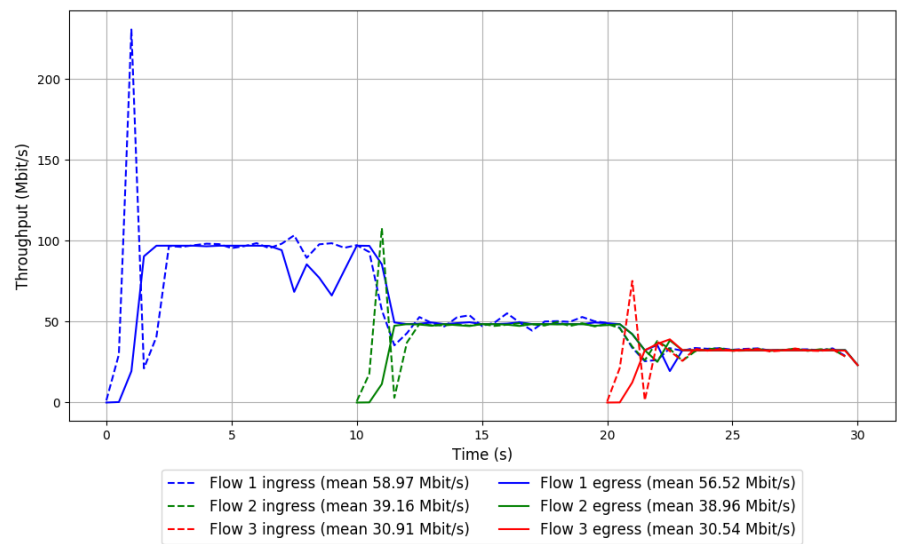
Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 58.61 Mbit/s)   Flow 1 egress (mean 57.38 Mbit/s)
Flow 2 ingress (mean 39.28 Mbit/s)   Flow 2 egress (mean 37.93 Mbit/s)
Flow 3 ingress (mean 30.92 Mbit/s)   Flow 3 egress (mean 30.56 Mbit/s)

Flow 1 (95th percentile 311.23 ms)   Flow 2 (95th percentile 222.09 ms)   Flow 3 (95th percentile 461.04 ms)

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```
Run 3: Statistics of FillP-Sheep

Start at: 2018-09-08 01:23:30
End at: 2018-09-08 01:24:00
Local clock offset: -0.897 ms
Remote clock offset: 6.156 ms


# Below is generated by plot.py at 2018-09-08 02:28:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.37 Mbit/s
95th percentile per-packet one-way delay: 332.967 ms
Loss rate: 3.58%
-- Flow 1:
Average throughput: 56.52 Mbit/s
95th percentile per-packet one-way delay: 329.970 ms
Loss rate: 4.69%
-- Flow 2:
Average throughput: 38.96 Mbit/s
95th percentile per-packet one-way delay: 232.407 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 30.54 Mbit/s
95th percentile per-packet one-way delay: 550.729 ms
Loss rate: 2.88%
```
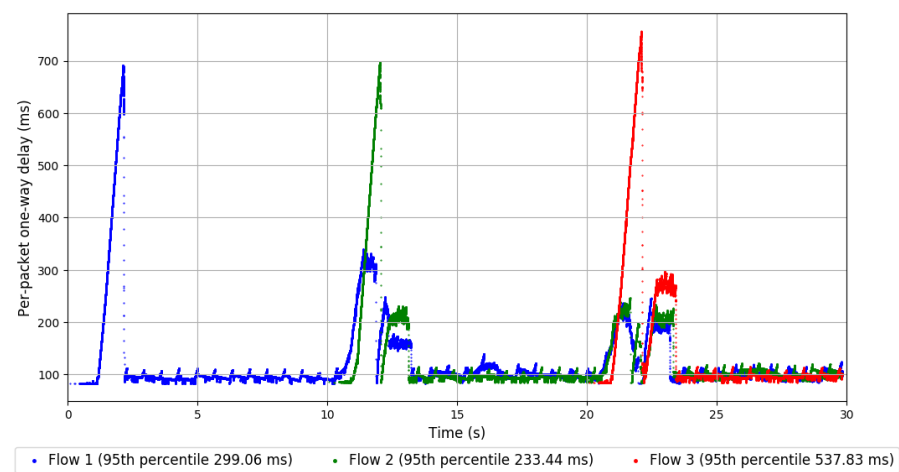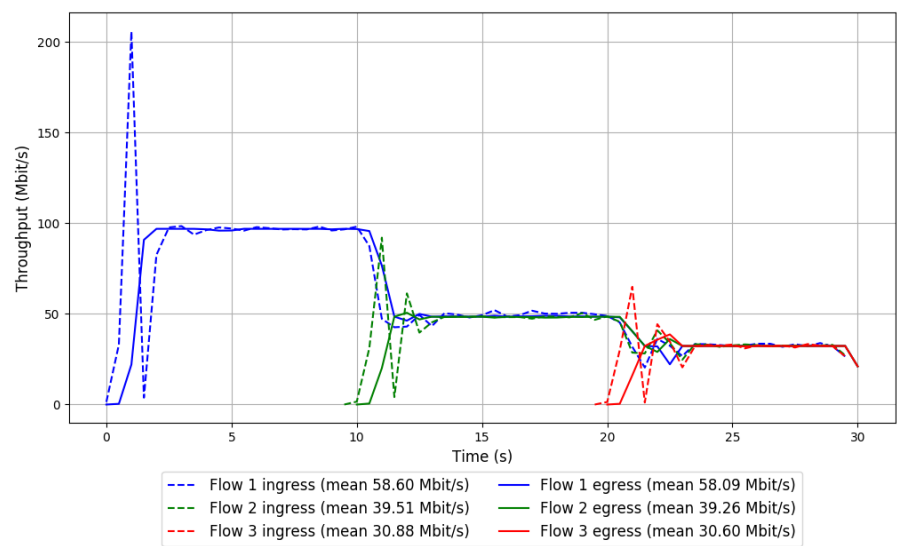
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 58.97 Mbit/s) --- Flow 1 egress (mean 56.52 Mbit/s)
Flow 2 ingress (mean 39.16 Mbit/s) --- Flow 2 egress (mean 38.96 Mbit/s)
Flow 3 ingress (mean 30.91 Mbit/s) --- Flow 3 egress (mean 30.54 Mbit/s)

Flow 1 (95th percentile 329.97 ms)   Flow 2 (95th percentile 232.41 ms)   Flow 3 (95th percentile 550.73 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2018-09-08 01:46:50
End at: 2018-09-08 01:47:20
Local clock offset: -4.287 ms
Remote clock offset: 2.109 ms


# Below is generated by plot.py at 2018-09-08 02:29:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.20 Mbit/s
95th percentile per-packet one-way delay: 307.282 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 58.09 Mbit/s
95th percentile per-packet one-way delay: 299.063 ms
Loss rate: 1.42%
-- Flow 2:
Average throughput: 39.26 Mbit/s
95th percentile per-packet one-way delay: 233.438 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 30.60 Mbit/s
95th percentile per-packet one-way delay: 537.833 ms
Loss rate: 2.59%
```
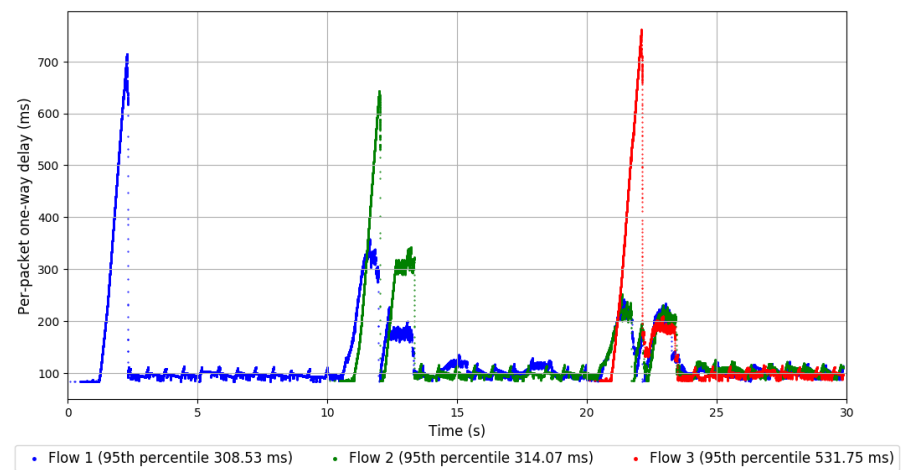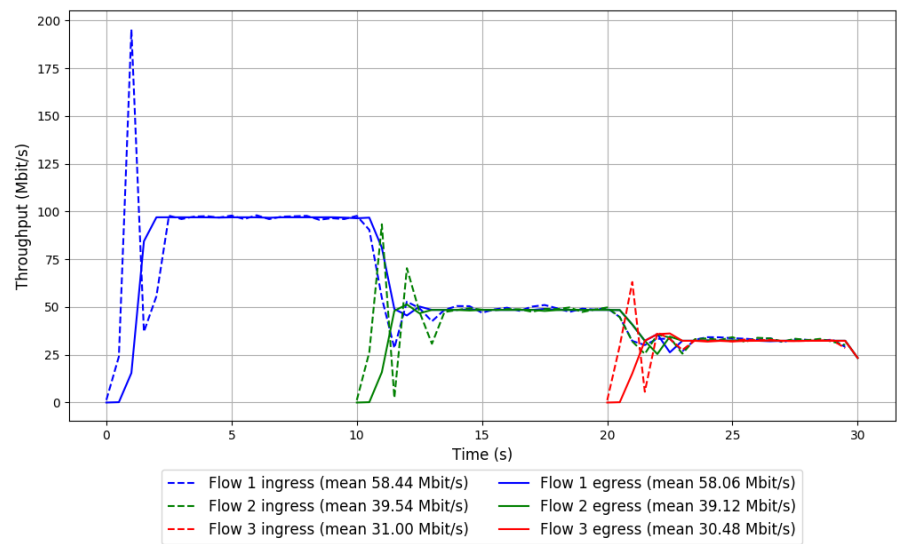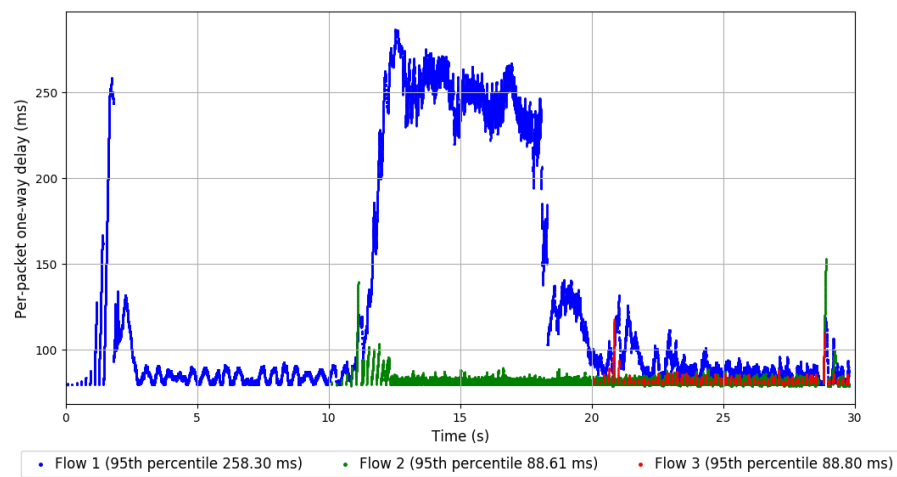
Run 4: Report of FillP-Sheep — Data Link

```
Run 5: Statistics of FillP-Sheep

Start at: 2018-09-08 02:09:54
End at: 2018-09-08 02:10:24
Local clock offset: -2.215 ms
Remote clock offset: 3.72 ms


# Below is generated by plot.py at 2018-09-08 02:29:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.02 Mbit/s
95th percentile per-packet one-way delay: 317.383 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 58.06 Mbit/s
95th percentile per-packet one-way delay: 308.530 ms
Loss rate: 1.19%
-- Flow 2:
Average throughput: 39.12 Mbit/s
95th percentile per-packet one-way delay: 314.073 ms
Loss rate: 1.88%
-- Flow 3:
Average throughput: 30.48 Mbit/s
95th percentile per-packet one-way delay: 531.746 ms
Loss rate: 3.35%
```

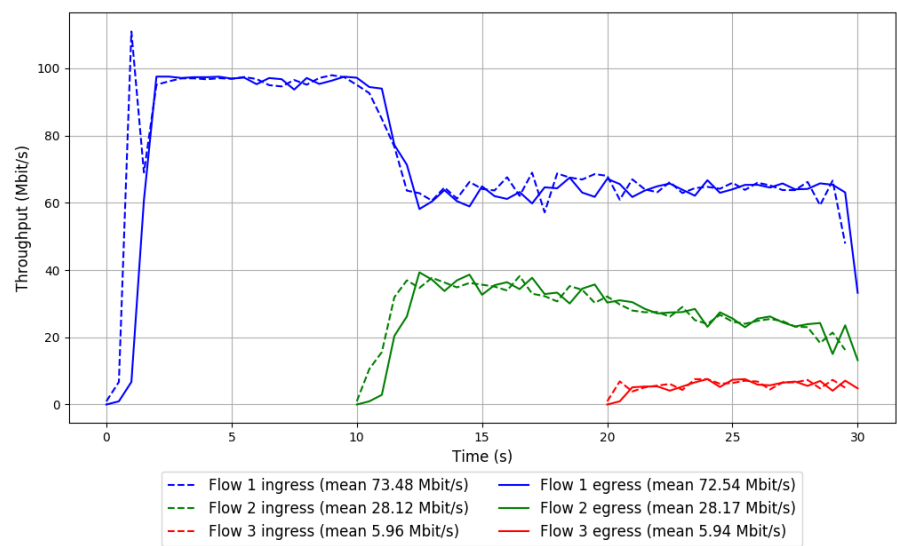Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 58.44 Mbit/s) — Flow 1 egress (mean 58.06 Mbit/s)
Flow 2 ingress (mean 39.54 Mbit/s) — Flow 2 egress (mean 39.12 Mbit/s)
Flow 3 ingress (mean 31.00 Mbit/s) — Flow 3 egress (mean 30.48 Mbit/s)

Flow 1 (95th percentile 308.53 ms)   Flow 2 (95th percentile 314.07 ms)   Flow 3 (95th percentile 531.75 ms)

```
Run 1: Statistics of Indigo

Start at: 2018-09-08 00:35:39
End at: 2018-09-08 00:36:09
Local clock offset: -5.416 ms
Remote clock offset: 7.848 ms

# Below is generated by plot.py at 2018-09-08 02:29:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.12 Mbit/s
95th percentile per-packet one-way delay: 255.687 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 72.54 Mbit/s
95th percentile per-packet one-way delay: 258.297 ms
Loss rate: 1.82%
-- Flow 2:
Average throughput: 28.17 Mbit/s
95th percentile per-packet one-way delay: 88.609 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 5.94 Mbit/s
95th percentile per-packet one-way delay: 88.802 ms
Loss rate: 2.16%
```
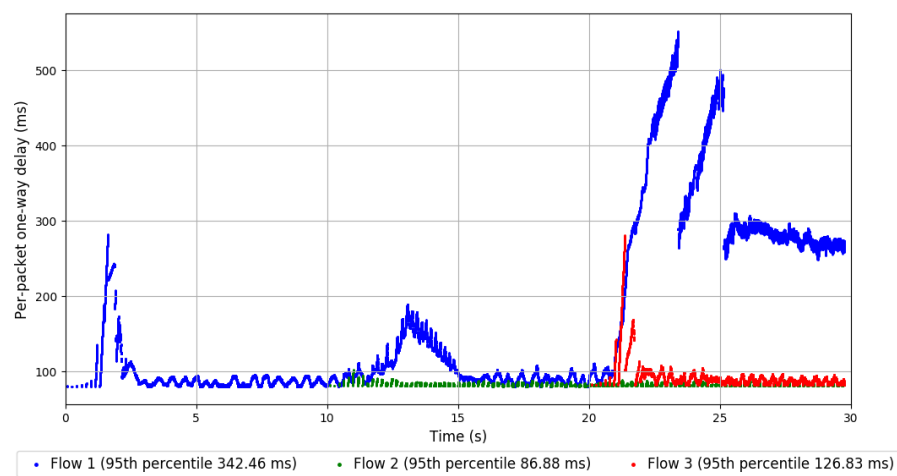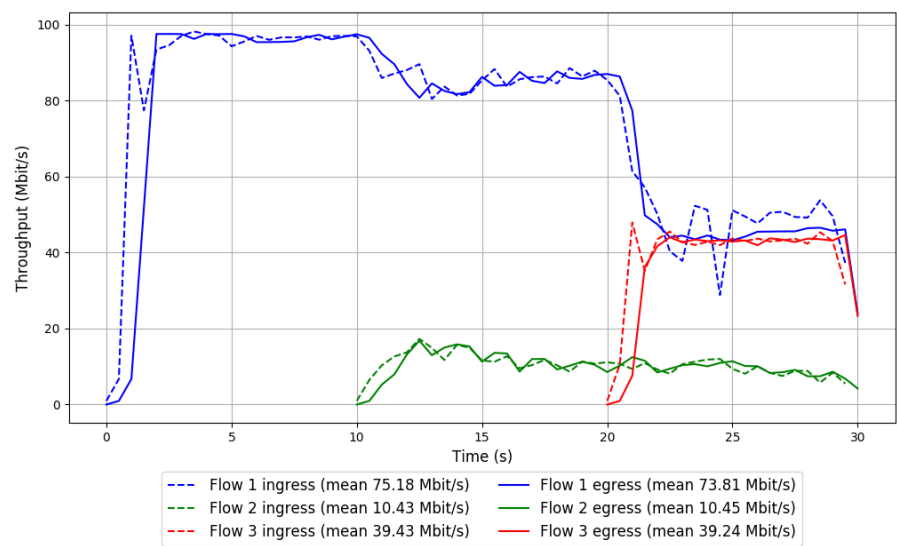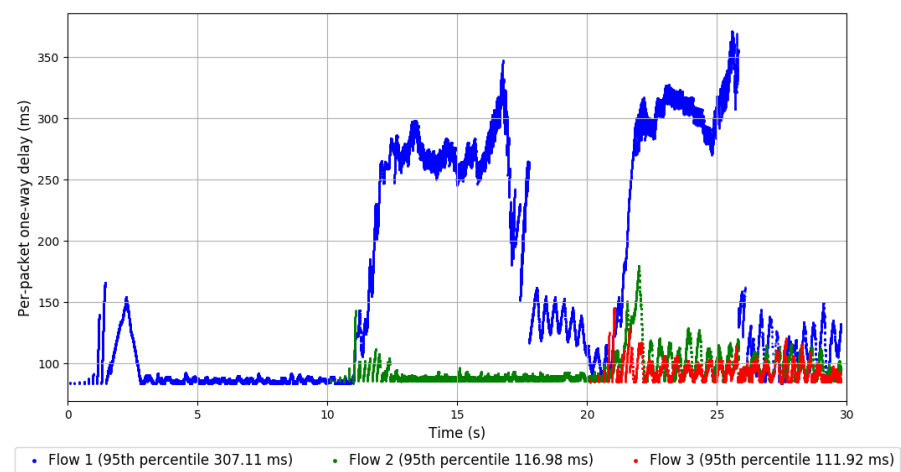
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-09-08 00:59:04
End at: 2018-09-08 00:59:34
Local clock offset: 0.989 ms
Remote clock offset: 7.013 ms

# Below is generated by plot.py at 2018-09-08 02:29:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.51 Mbit/s
95th percentile per-packet one-way delay: 304.290 ms
Loss rate: 2.22%
-- Flow 1:
Average throughput: 73.81 Mbit/s
95th percentile per-packet one-way delay: 342.457 ms
Loss rate: 2.36%
-- Flow 2:
Average throughput: 10.45 Mbit/s
95th percentile per-packet one-way delay: 86.879 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 39.24 Mbit/s
95th percentile per-packet one-way delay: 126.833 ms
Loss rate: 2.17%
```

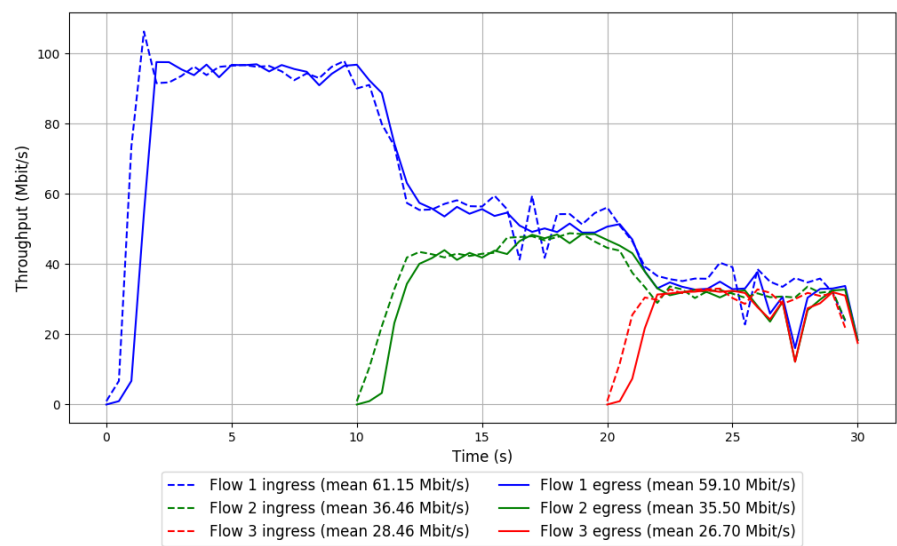Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-09-08 01:22:11
End at: 2018-09-08 01:22:41
Local clock offset: -0.448 ms
Remote clock offset: 2.415 ms


# Below is generated by plot.py at 2018-09-08 02:29:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.31 Mbit/s
95th percentile per-packet one-way delay: 294.823 ms
Loss rate: 4.17%
-- Flow 1:
Average throughput: 59.10 Mbit/s
95th percentile per-packet one-way delay: 307.110 ms
Loss rate: 3.89%
-- Flow 2:
Average throughput: 35.50 Mbit/s
95th percentile per-packet one-way delay: 116.976 ms
Loss rate: 3.46%
-- Flow 3:
Average throughput: 26.70 Mbit/s
95th percentile per-packet one-way delay: 111.922 ms
Loss rate: 7.81%
```
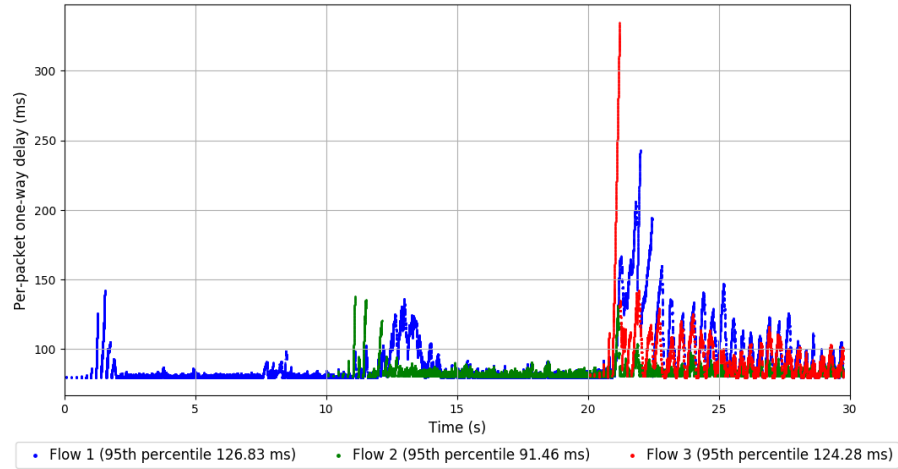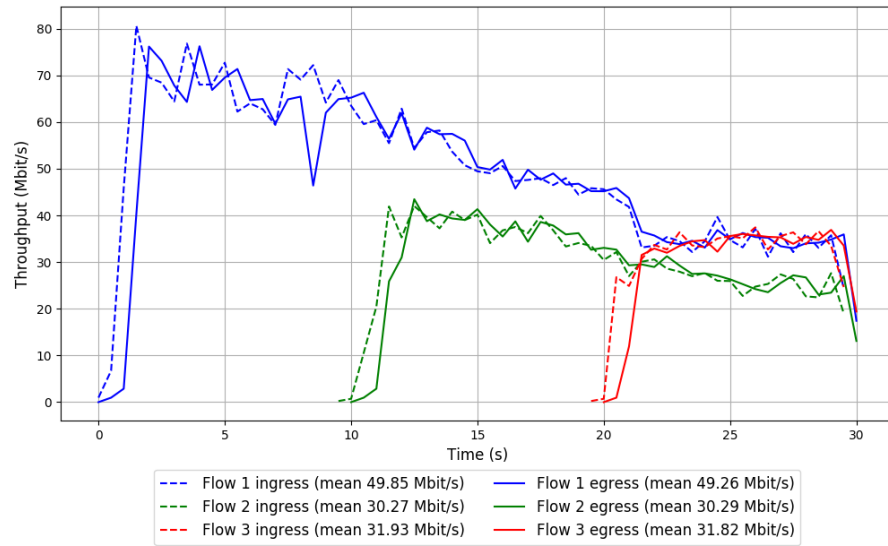
Run 3: Report of Indigo — Data Link

Flow 1 ingress (mean 61.15 Mbit/s) --- Flow 1 egress (mean 59.10 Mbit/s) ---
Flow 2 ingress (mean 36.46 Mbit/s) --- Flow 2 egress (mean 35.50 Mbit/s) ---
Flow 3 ingress (mean 28.46 Mbit/s) --- Flow 3 egress (mean 26.70 Mbit/s) ---

Flow 1 (95th percentile 307.11 ms) · Flow 2 (95th percentile 116.98 ms) · Flow 3 (95th percentile 111.92 ms)

```
Run 4: Statistics of Indigo

Start at: 2018-09-08 01:45:29
End at: 2018-09-08 01:45:59
Local clock offset: -3.866 ms
Remote clock offset: 5.987 ms


# Below is generated by plot.py at 2018-09-08 02:29:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.71 Mbit/s
95th percentile per-packet one-way delay: 120.597 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 49.26 Mbit/s
95th percentile per-packet one-way delay: 126.831 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 30.29 Mbit/s
95th percentile per-packet one-way delay: 91.464 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 31.82 Mbit/s
95th percentile per-packet one-way delay: 124.280 ms
Loss rate: 2.08%
```
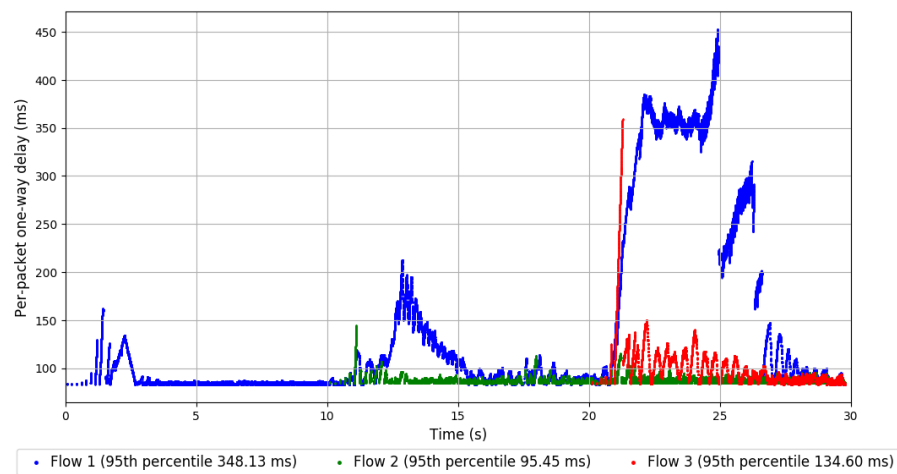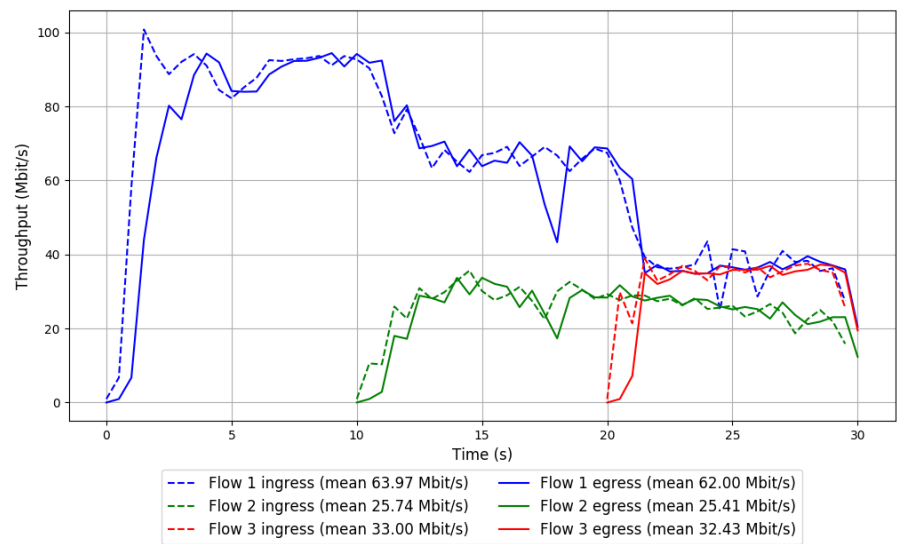
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2018-09-08 02:08:35
End at: 2018-09-08 02:09:05
Local clock offset: -2.885 ms
Remote clock offset: 3.86 ms


# Below is generated by plot.py at 2018-09-08 02:29:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.38 Mbit/s
95th percentile per-packet one-way delay: 283.504 ms
Loss rate: 3.31%
-- Flow 1:
Average throughput: 62.00 Mbit/s
95th percentile per-packet one-way delay: 348.134 ms
Loss rate: 3.62%
-- Flow 2:
Average throughput: 25.41 Mbit/s
95th percentile per-packet one-way delay: 95.449 ms
Loss rate: 2.09%
-- Flow 3:
Average throughput: 32.43 Mbit/s
95th percentile per-packet one-way delay: 134.596 ms
Loss rate: 3.41%
```
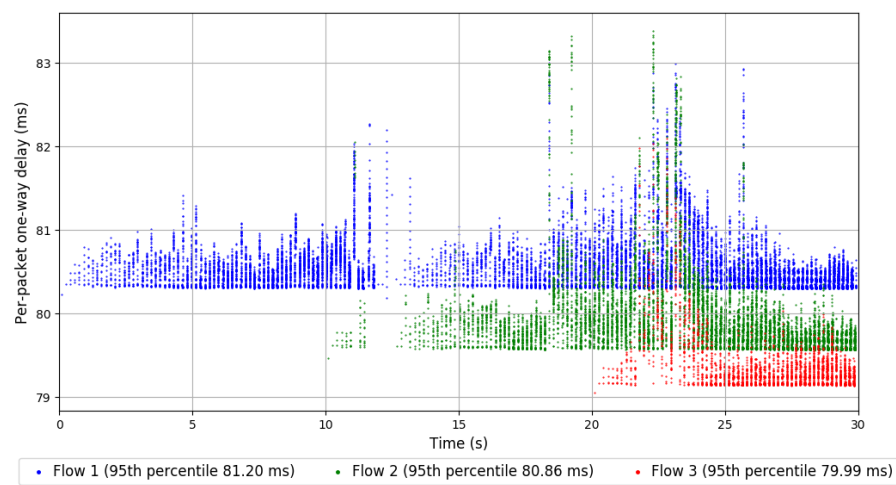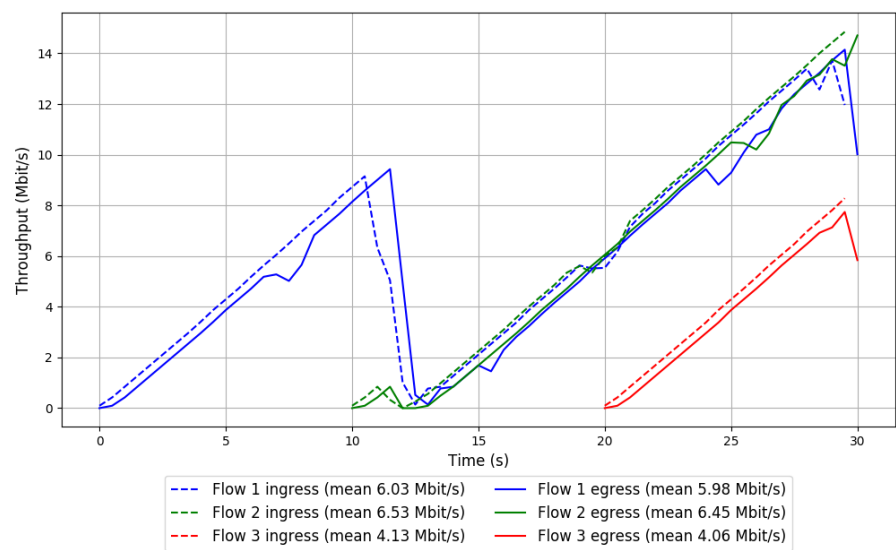
Run 5: Report of Indigo — Data Link

- - - Flow 1 ingress (mean 63.97 Mbit/s) —— Flow 1 egress (mean 62.00 Mbit/s)
- - - Flow 2 ingress (mean 25.74 Mbit/s) —— Flow 2 egress (mean 25.41 Mbit/s)
- - - Flow 3 ingress (mean 33.00 Mbit/s) —— Flow 3 egress (mean 32.43 Mbit/s)

- Flow 1 (95th percentile 348.13 ms) · Flow 2 (95th percentile 95.45 ms) · Flow 3 (95th percentile 134.60 ms)

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```
Run 1: Statistics of LEDBAT

Start at: 2018-09-08 00:43:25
End at: 2018-09-08 00:43:55
Local clock offset: -6.029 ms
Remote clock offset: 6.733 ms


# Below is generated by plot.py at 2018-09-08 02:29:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.58 Mbit/s
95th percentile per-packet one-way delay: 81.090 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 5.98 Mbit/s
95th percentile per-packet one-way delay: 81.199 ms
Loss rate: 1.52%
-- Flow 2:
Average throughput: 6.45 Mbit/s
95th percentile per-packet one-way delay: 80.858 ms
Loss rate: 2.04%
-- Flow 3:
Average throughput: 4.06 Mbit/s
95th percentile per-packet one-way delay: 79.991 ms
Loss rate: 3.44%
```
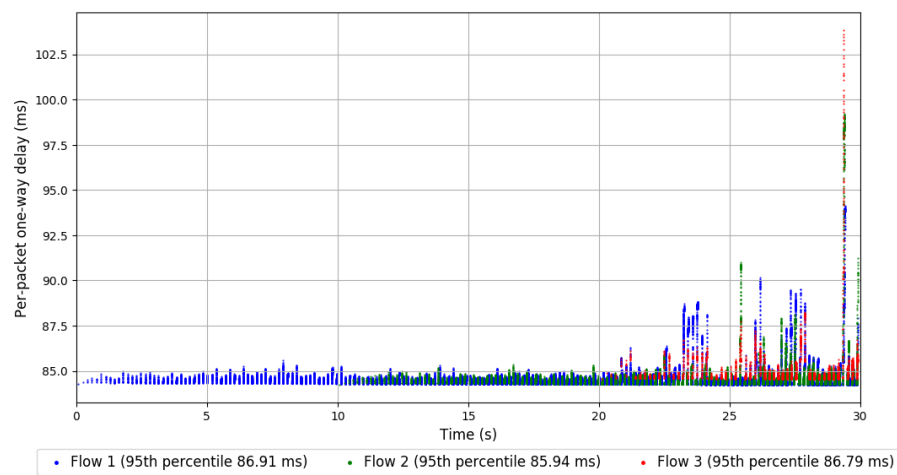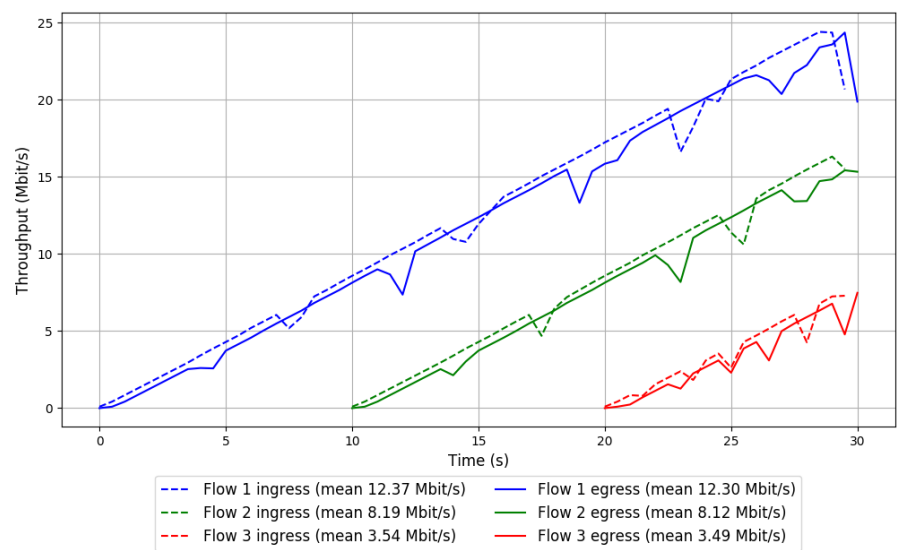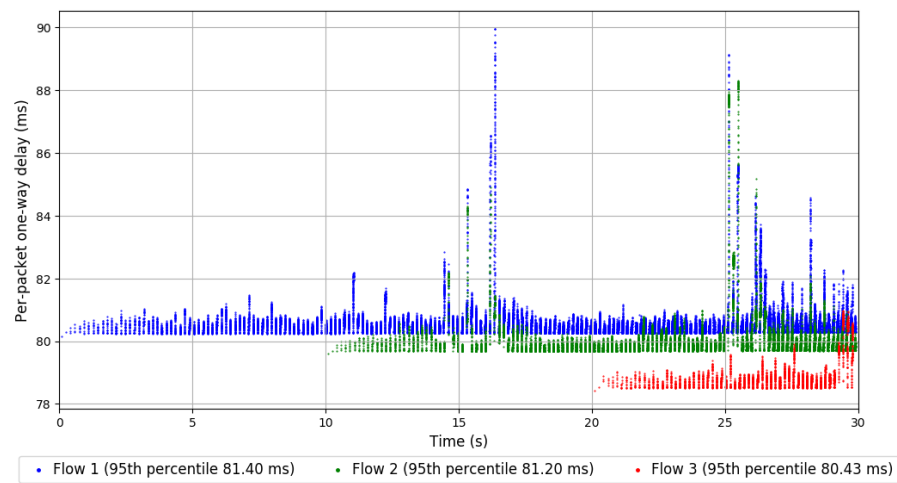
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-09-08 01:06:55
End at: 2018-09-08 01:07:25
Local clock offset: 3.073 ms
Remote clock offset: 3.289 ms


# Below is generated by plot.py at 2018-09-08 02:29:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.84 Mbit/s
95th percentile per-packet one-way delay: 86.599 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 12.30 Mbit/s
95th percentile per-packet one-way delay: 86.911 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 85.940 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 3.49 Mbit/s
95th percentile per-packet one-way delay: 86.793 ms
Loss rate: 3.22%
```
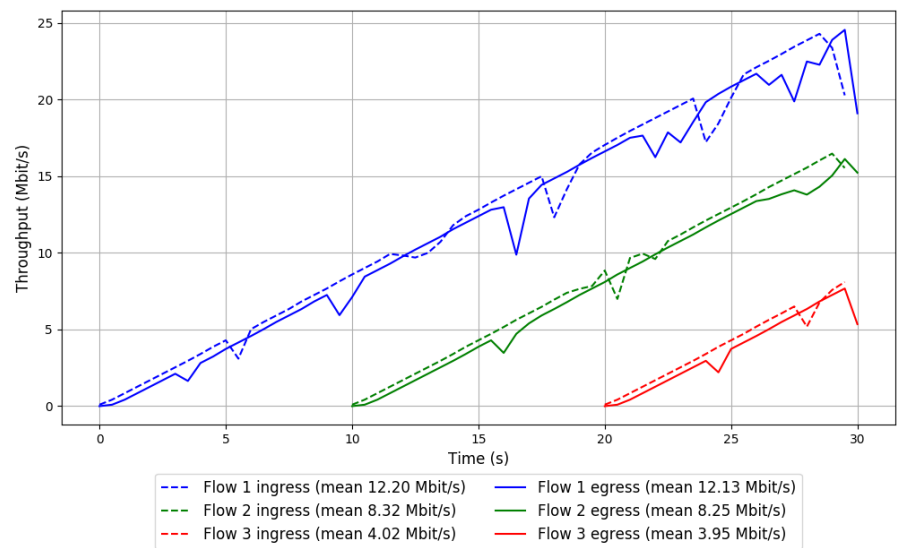
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-09-08 01:30:05
End at: 2018-09-08 01:30:35
Local clock offset: -3.194 ms
Remote clock offset: 6.212 ms


# Below is generated by plot.py at 2018-09-08 02:29:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.90 Mbit/s
95th percentile per-packet one-way delay: 81.281 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 81.396 ms
Loss rate: 1.11%
-- Flow 2:
Average throughput: 8.25 Mbit/s
95th percentile per-packet one-way delay: 81.203 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 3.95 Mbit/s
95th percentile per-packet one-way delay: 80.428 ms
Loss rate: 3.47%
```
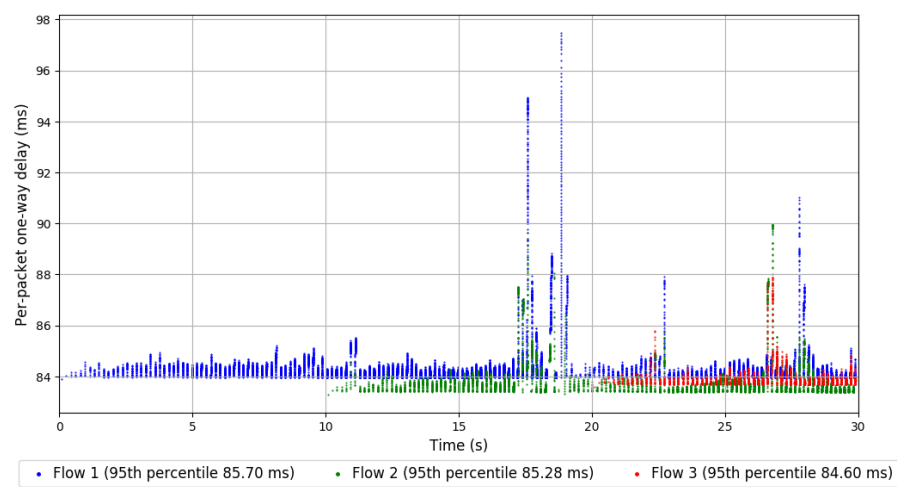
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2018-09-08 01:53:18
End at: 2018-09-08 01:53:48
Local clock offset: -3.42 ms
Remote clock offset: 2.42 ms

# Below is generated by plot.py at 2018-09-08 02:29:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.07 Mbit/s
95th percentile per-packet one-way delay: 85.354 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 6.27 Mbit/s
95th percentile per-packet one-way delay: 85.696 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 85.284 ms
Loss rate: 2.17%
-- Flow 3:
Average throughput: 3.75 Mbit/s
95th percentile per-packet one-way delay: 84.597 ms
Loss rate: 1.23%
```
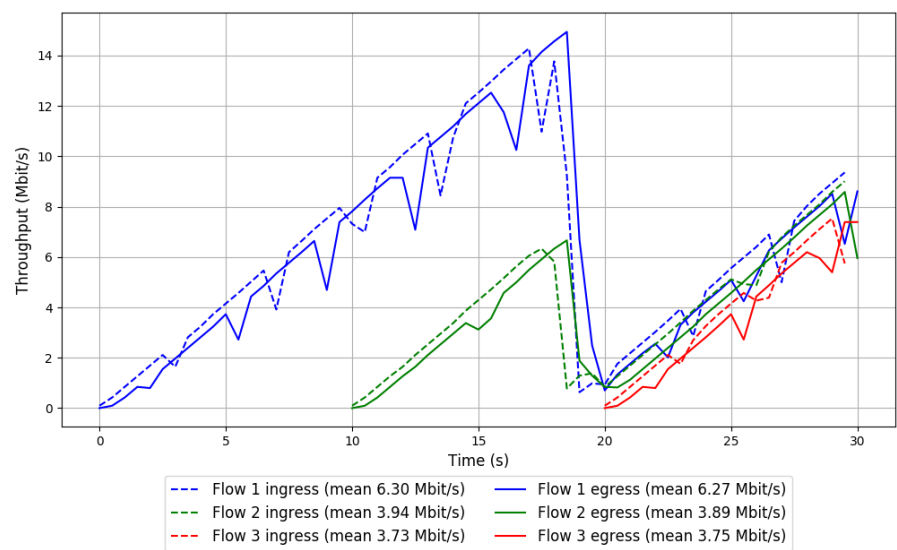
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2018-09-08 02:16:22
End at: 2018-09-08 02:16:52
Local clock offset: -2.548 ms
Remote clock offset: 7.31 ms


# Below is generated by plot.py at 2018-09-08 02:29:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.11 Mbit/s
95th percentile per-packet one-way delay: 80.522 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 5.44 Mbit/s
95th percentile per-packet one-way delay: 80.134 ms
Loss rate: 1.25%
-- Flow 2:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 81.855 ms
Loss rate: 2.86%
-- Flow 3:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 80.793 ms
Loss rate: 3.09%
```
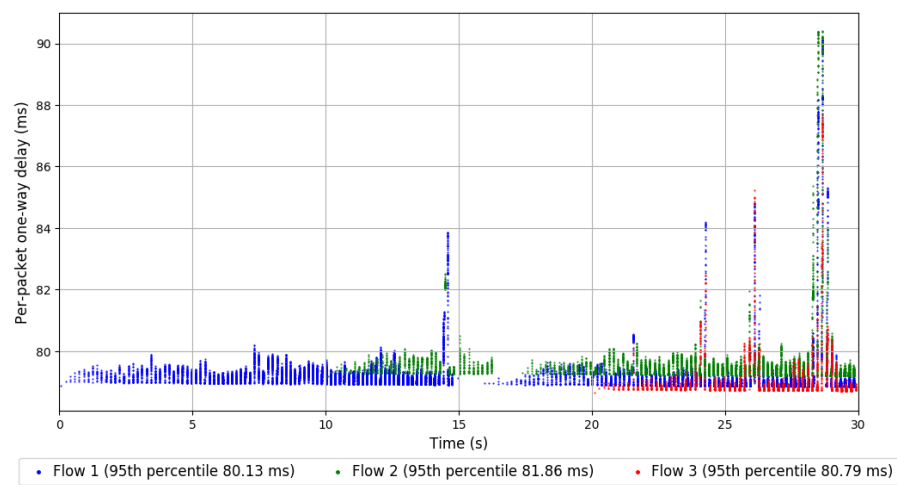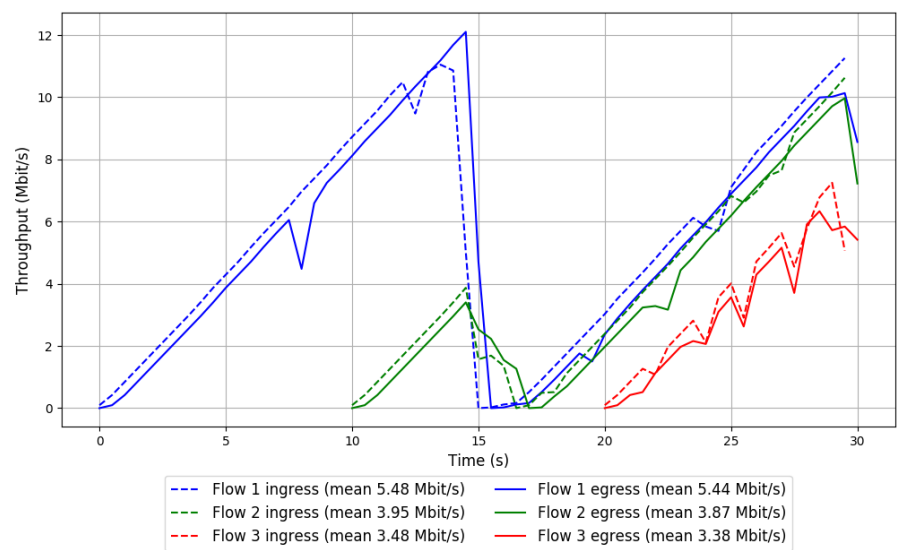
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-08 00:48:32
End at: 2018-09-08 00:49:02
Local clock offset: -2.347 ms
Remote clock offset: 7.476 ms


# Below is generated by plot.py at 2018-09-08 02:30:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.77 Mbit/s
95th percentile per-packet one-way delay: 105.547 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 57.60 Mbit/s
95th percentile per-packet one-way delay: 109.486 ms
Loss rate: 2.75%
-- Flow 2:
Average throughput: 21.28 Mbit/s
95th percentile per-packet one-way delay: 83.338 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 21.63 Mbit/s
95th percentile per-packet one-way delay: 85.564 ms
Loss rate: 2.43%
```
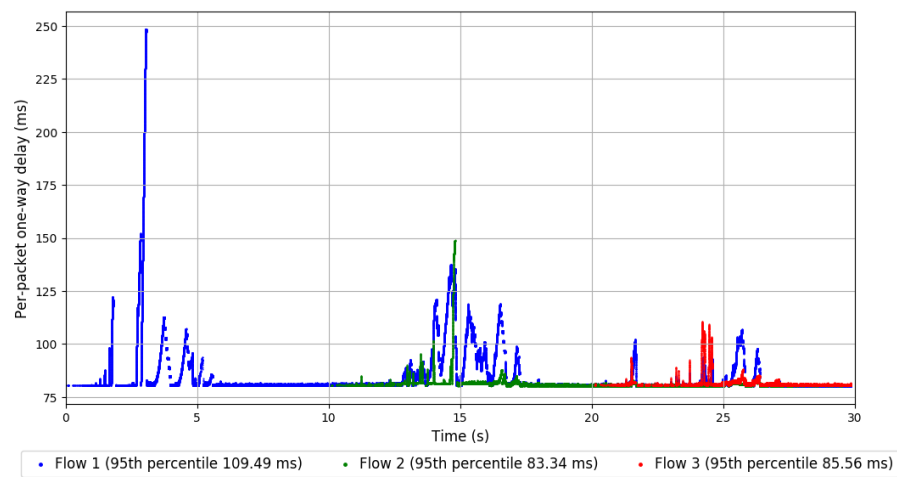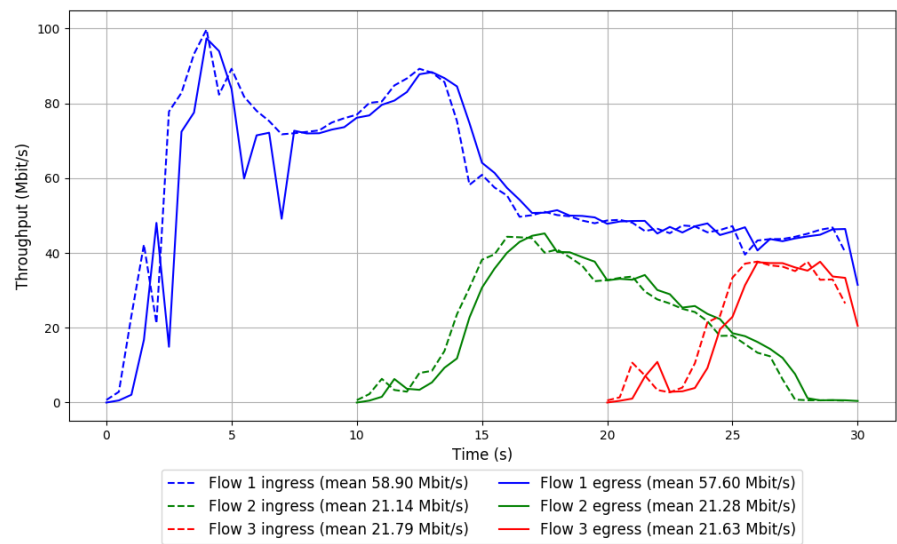
Run 1: Report of Indigo-Muses — Data Link

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-09-08 01:12:00
End at: 2018-09-08 01:12:30
Local clock offset: 2.861 ms
Remote clock offset: 6.774 ms


# Below is generated by plot.py at 2018-09-08 02:30:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.13 Mbit/s
95th percentile per-packet one-way delay: 148.790 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 25.68 Mbit/s
95th percentile per-packet one-way delay: 85.207 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 52.96 Mbit/s
95th percentile per-packet one-way delay: 186.376 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 37.57 Mbit/s
95th percentile per-packet one-way delay: 146.424 ms
Loss rate: 2.58%
```
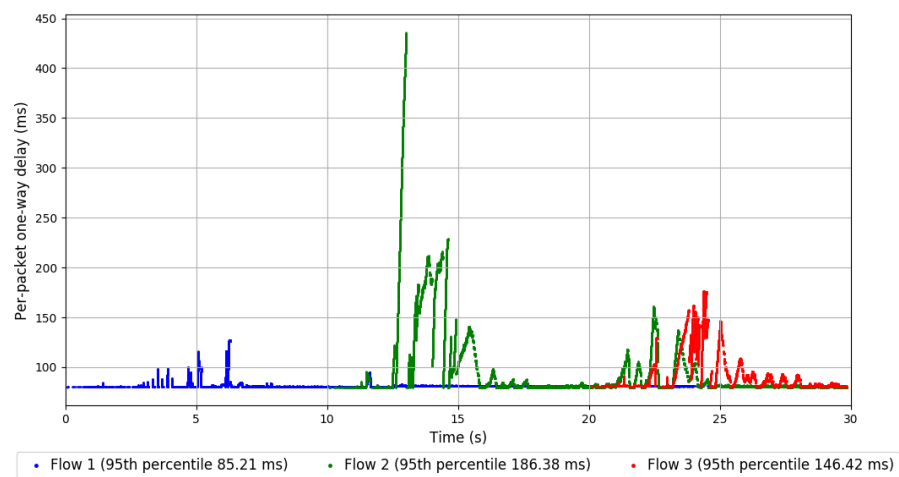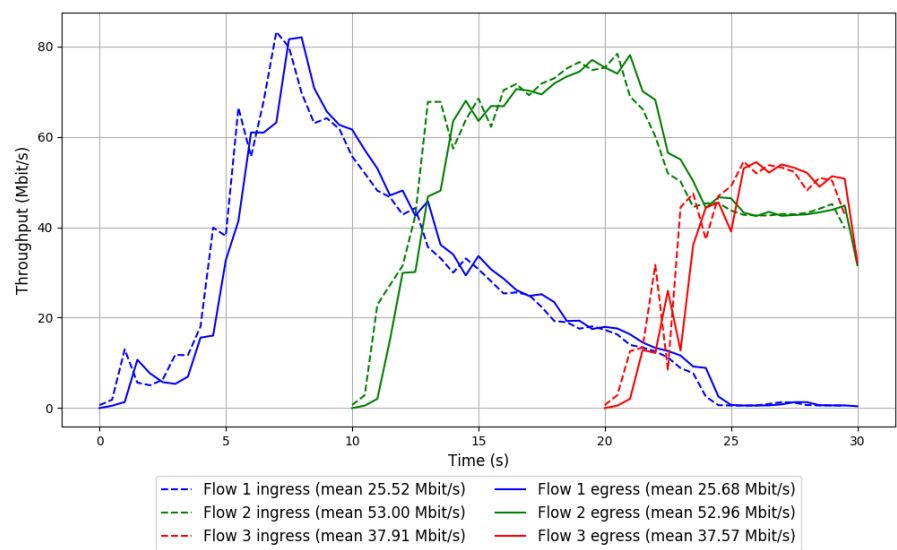
Run 2: Report of Indigo-Muses — Data Link

```
Run 3: Statistics of Indigo-Muses

Start at: 2018-09-08 01:35:13
End at: 2018-09-08 01:35:43
Local clock offset: -3.272 ms
Remote clock offset: 5.942 ms


# Below is generated by plot.py at 2018-09-08 02:30:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.35 Mbit/s
95th percentile per-packet one-way delay: 109.714 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 49.00 Mbit/s
95th percentile per-packet one-way delay: 99.669 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 21.19 Mbit/s
95th percentile per-packet one-way delay: 126.553 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 19.28 Mbit/s
95th percentile per-packet one-way delay: 100.149 ms
Loss rate: 6.80%
```
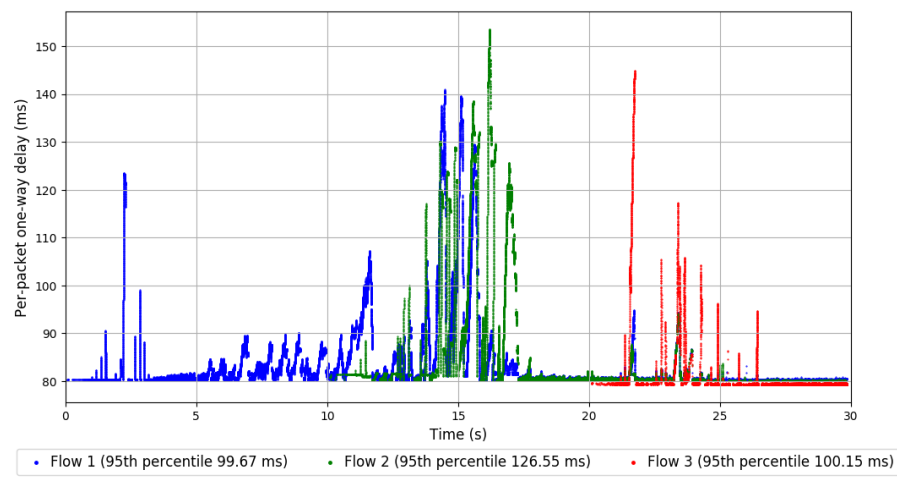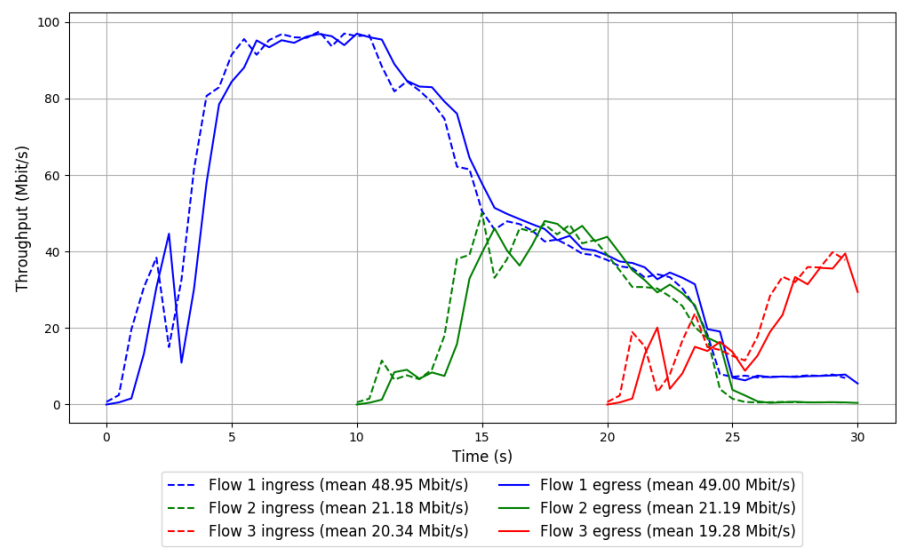
Run 3: Report of Indigo-Muses — Data Link

```
Run 4: Statistics of Indigo-Muses

Start at: 2018-09-08 01:58:23
End at: 2018-09-08 01:58:53
Local clock offset: -3.171 ms
Remote clock offset: 6.996 ms


# Below is generated by plot.py at 2018-09-08 02:30:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.70 Mbit/s
95th percentile per-packet one-way delay: 123.751 ms
Loss rate: 1.89%
-- Flow 1:
Average throughput: 49.81 Mbit/s
95th percentile per-packet one-way delay: 121.629 ms
Loss rate: 1.43%
-- Flow 2:
Average throughput: 27.00 Mbit/s
95th percentile per-packet one-way delay: 112.117 ms
Loss rate: 2.59%
-- Flow 3:
Average throughput: 24.35 Mbit/s
95th percentile per-packet one-way delay: 190.418 ms
Loss rate: 3.13%
```
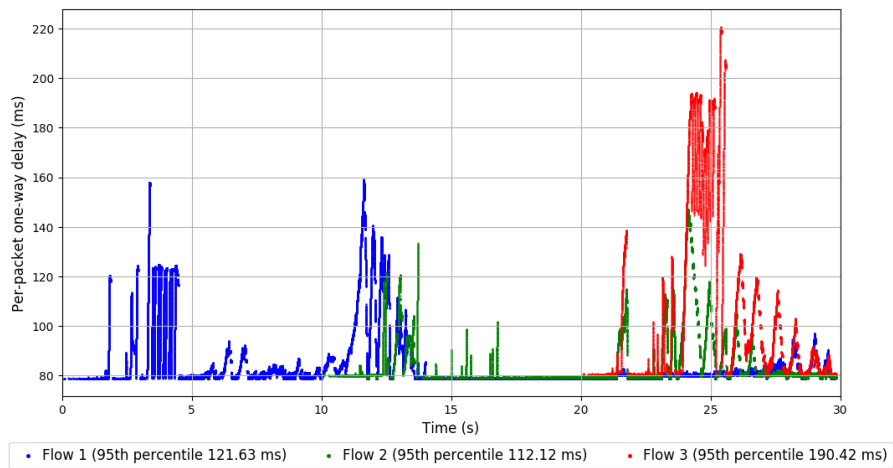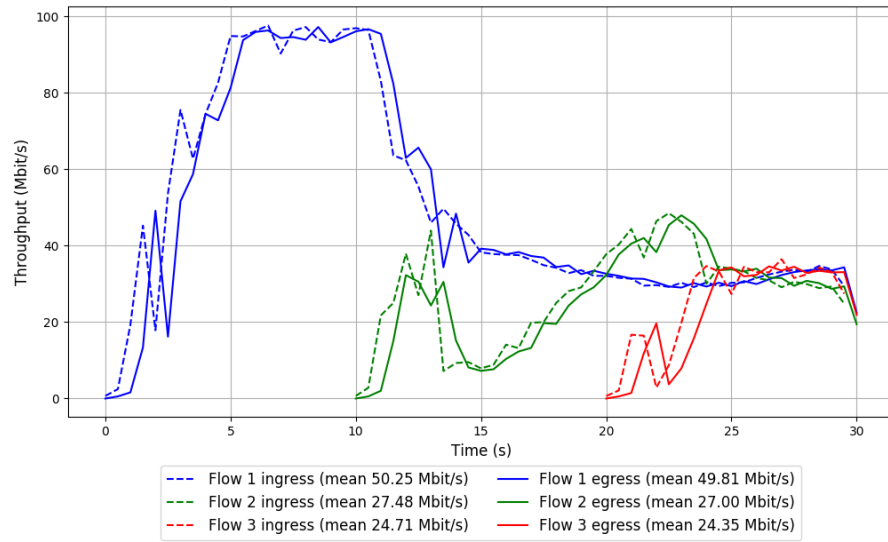
Run 4: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 50.25 Mbit/s) --- Flow 1 egress (mean 49.81 Mbit/s) ——
Flow 2 ingress (mean 27.48 Mbit/s) --- Flow 2 egress (mean 27.00 Mbit/s) ——
Flow 3 ingress (mean 24.71 Mbit/s) --- Flow 3 egress (mean 24.35 Mbit/s) ——

Flow 1 (95th percentile 121.63 ms) • Flow 2 (95th percentile 112.12 ms) • Flow 3 (95th percentile 190.42 ms)

```
Run 5: Statistics of Indigo-Muses

Start at: 2018-09-08 02:21:25
End at: 2018-09-08 02:21:55
Local clock offset: -1.736 ms
Remote clock offset: 2.713 ms


# Below is generated by plot.py at 2018-09-08 02:30:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.68 Mbit/s
95th percentile per-packet one-way delay: 178.759 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 53.16 Mbit/s
95th percentile per-packet one-way delay: 98.094 ms
Loss rate: 1.61%
-- Flow 2:
Average throughput: 32.84 Mbit/s
95th percentile per-packet one-way delay: 139.143 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 29.69 Mbit/s
95th percentile per-packet one-way delay: 289.486 ms
Loss rate: 4.57%
```
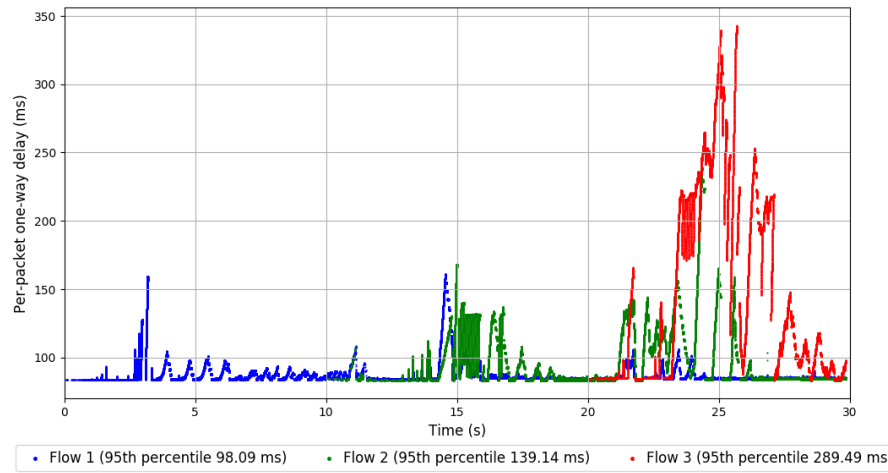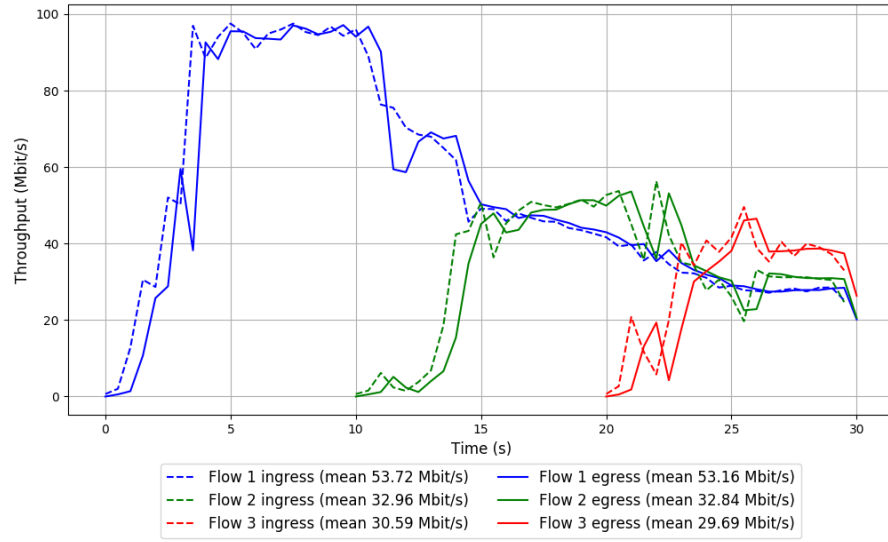
Run 5: Report of Indigo-Muses — Data Link

- Flow 1 ingress (mean 53.72 Mbit/s)
- Flow 1 egress (mean 53.16 Mbit/s)
- Flow 2 ingress (mean 32.96 Mbit/s)
- Flow 2 egress (mean 32.84 Mbit/s)
- Flow 3 ingress (mean 30.59 Mbit/s)
- Flow 3 egress (mean 29.69 Mbit/s)

- Flow 1 (95th percentile 98.09 ms)
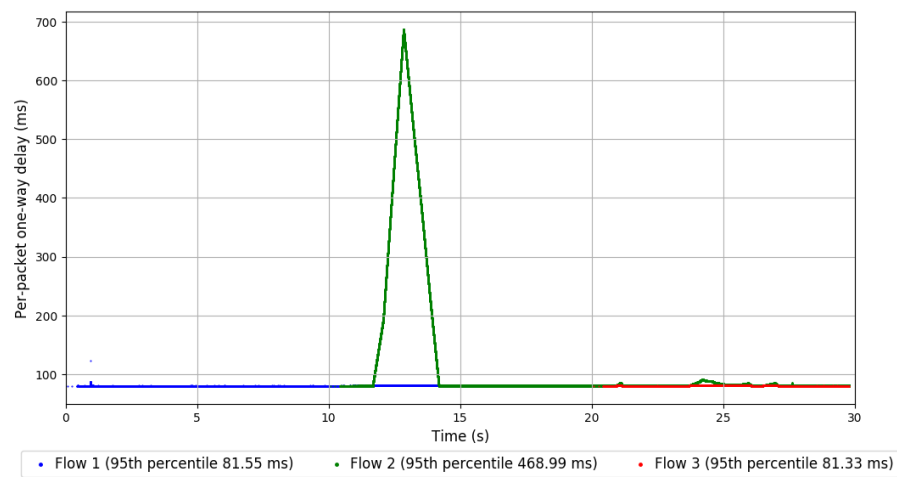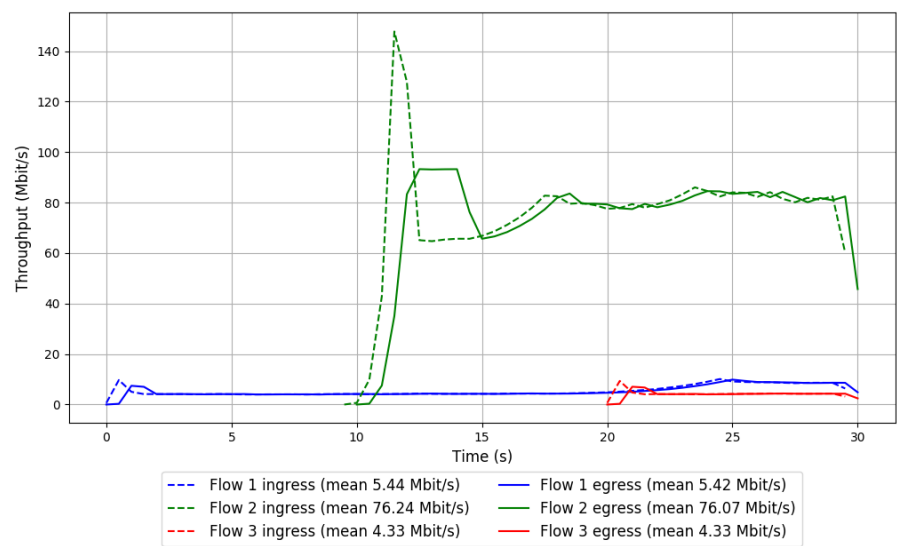- Flow 2 (95th percentile 139.14 ms)
- Flow 3 (95th percentile 289.49 ms)

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-08 00:30:39
End at: 2018-09-08 00:31:09
Local clock offset: -4.687 ms
Remote clock offset: 7.847 ms


# Below is generated by plot.py at 2018-09-08 02:30:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.29 Mbit/s
95th percentile per-packet one-way delay: 435.460 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 5.42 Mbit/s
95th percentile per-packet one-way delay: 81.545 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 76.07 Mbit/s
95th percentile per-packet one-way delay: 468.985 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 4.33 Mbit/s
95th percentile per-packet one-way delay: 81.331 ms
Loss rate: 1.72%
```

Run 1: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 5.44 Mbit/s) ---- Flow 1 egress (mean 5.42 Mbit/s)
Flow 2 ingress (mean 76.24 Mbit/s) ---- Flow 2 egress (mean 76.07 Mbit/s)
Flow 3 ingress (mean 4.33 Mbit/s) ---- Flow 3 egress (mean 4.33 Mbit/s)

Flow 1 (95th percentile 81.55 ms) • Flow 2 (95th percentile 468.99 ms) • Flow 3 (95th percentile 81.33 ms)

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-09-08 00:53:49
End at: 2018-09-08 00:54:19
Local clock offset: -0.624 ms
Remote clock offset: 3.22 ms


# Below is generated by plot.py at 2018-09-08 02:30:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.43 Mbit/s
95th percentile per-packet one-way delay: 1585.064 ms
Loss rate: 13.21%
-- Flow 1:
Average throughput: 54.47 Mbit/s
95th percentile per-packet one-way delay: 1197.457 ms
Loss rate: 16.17%
-- Flow 2:
Average throughput: 32.04 Mbit/s
95th percentile per-packet one-way delay: 390.342 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 29.77 Mbit/s
95th percentile per-packet one-way delay: 1904.030 ms
Loss rate: 18.95%
```
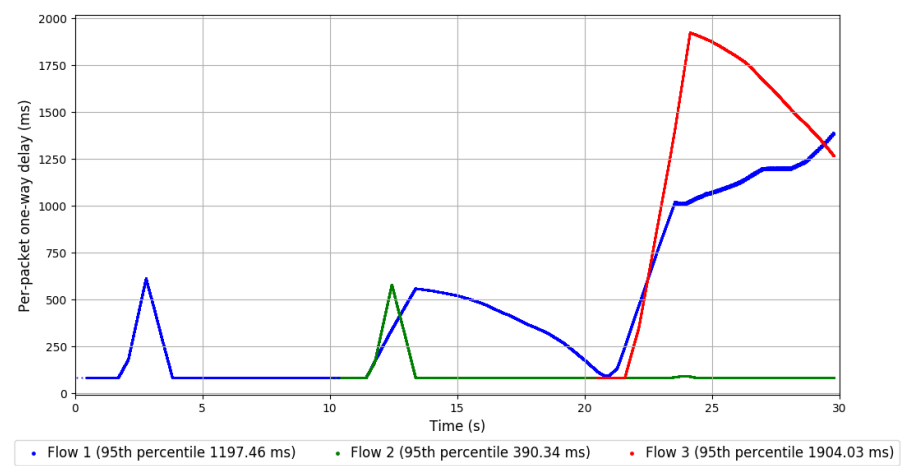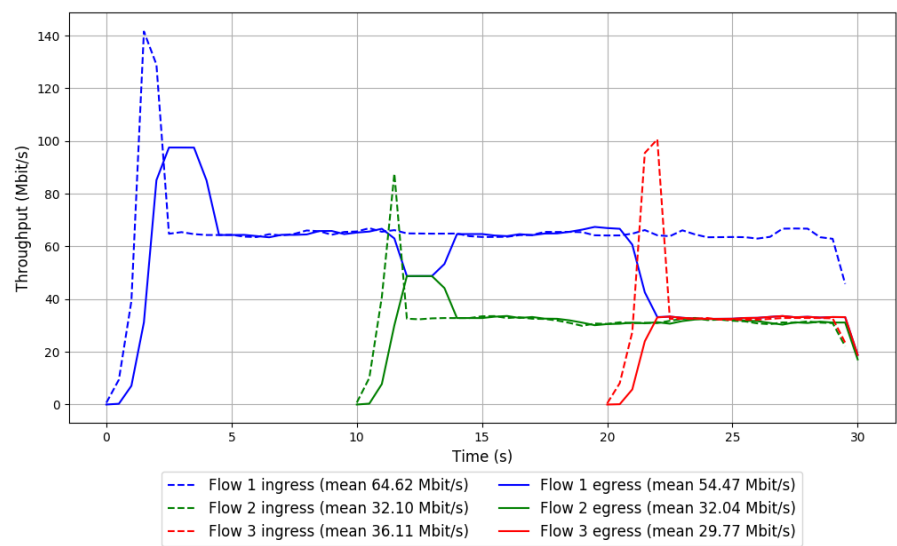
Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-09-08 01:17:08
End at: 2018-09-08 01:17:38
Local clock offset: 2.207 ms
Remote clock offset: 2.666 ms


# Below is generated by plot.py at 2018-09-08 02:30:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.34 Mbit/s
95th percentile per-packet one-way delay: 1590.586 ms
Loss rate: 14.64%
-- Flow 1:
Average throughput: 53.54 Mbit/s
95th percentile per-packet one-way delay: 1199.897 ms
Loss rate: 16.91%
-- Flow 2:
Average throughput: 32.37 Mbit/s
95th percentile per-packet one-way delay: 430.423 ms
Loss rate: 3.39%
-- Flow 3:
Average throughput: 28.59 Mbit/s
95th percentile per-packet one-way delay: 1894.146 ms
Loss rate: 23.18%
```
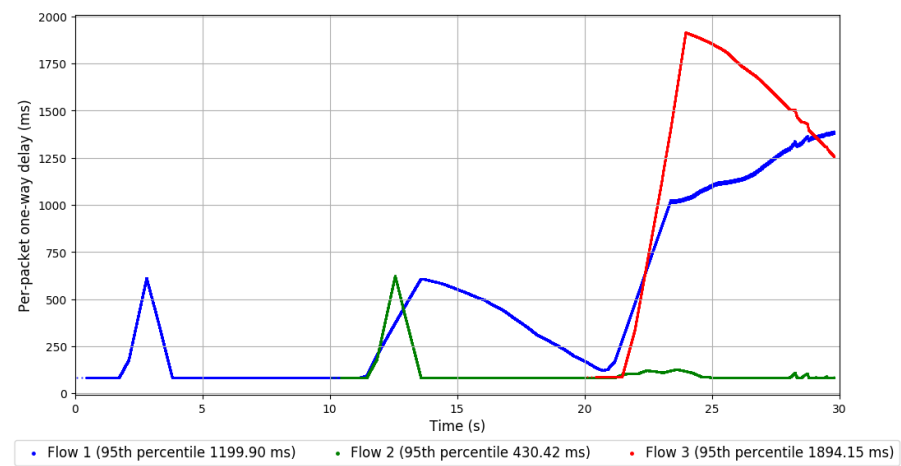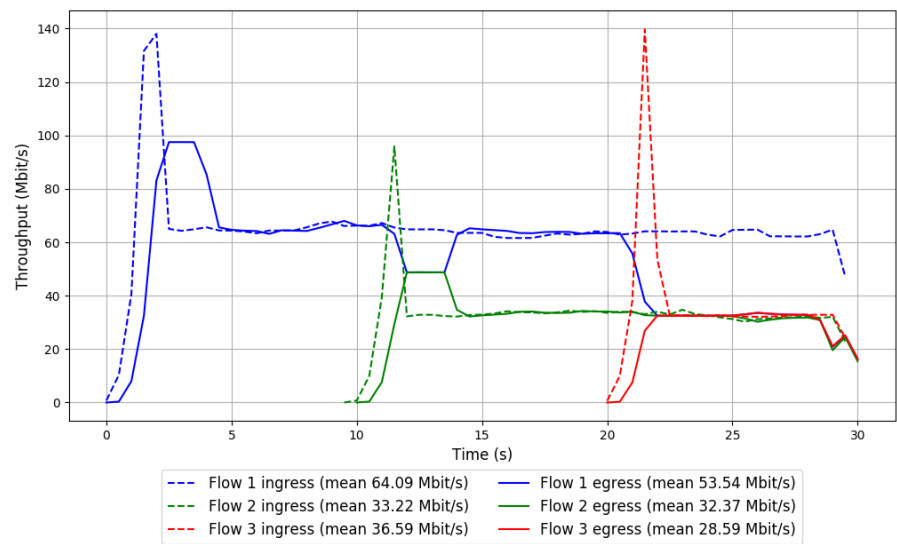
Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 64.09 Mbit/s) — Flow 1 egress (mean 53.54 Mbit/s)
Flow 2 ingress (mean 33.22 Mbit/s) — Flow 2 egress (mean 32.37 Mbit/s)
Flow 3 ingress (mean 36.59 Mbit/s) — Flow 3 egress (mean 28.59 Mbit/s)

Flow 1 (95th percentile 1199.90 ms)   Flow 2 (95th percentile 430.42 ms)   Flow 3 (95th percentile 1894.15 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-09-08 01:40:22
End at: 2018-09-08 01:40:52
Local clock offset: -3.765 ms
Remote clock offset: 1.493 ms


# Below is generated by plot.py at 2018-09-08 02:31:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.78 Mbit/s
95th percentile per-packet one-way delay: 1473.275 ms
Loss rate: 14.42%
-- Flow 1:
Average throughput: 51.20 Mbit/s
95th percentile per-packet one-way delay: 1025.959 ms
Loss rate: 15.05%
-- Flow 2:
Average throughput: 33.10 Mbit/s
95th percentile per-packet one-way delay: 735.712 ms
Loss rate: 9.72%
-- Flow 3:
Average throughput: 29.54 Mbit/s
95th percentile per-packet one-way delay: 1729.647 ms
Loss rate: 20.68%
```
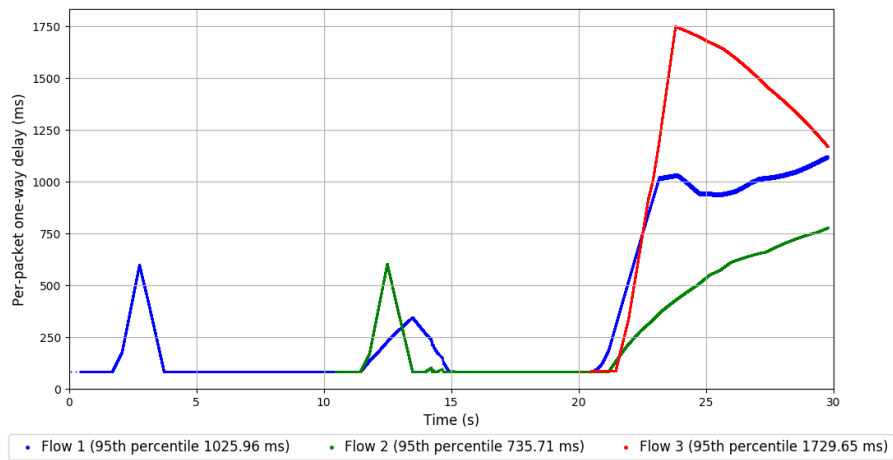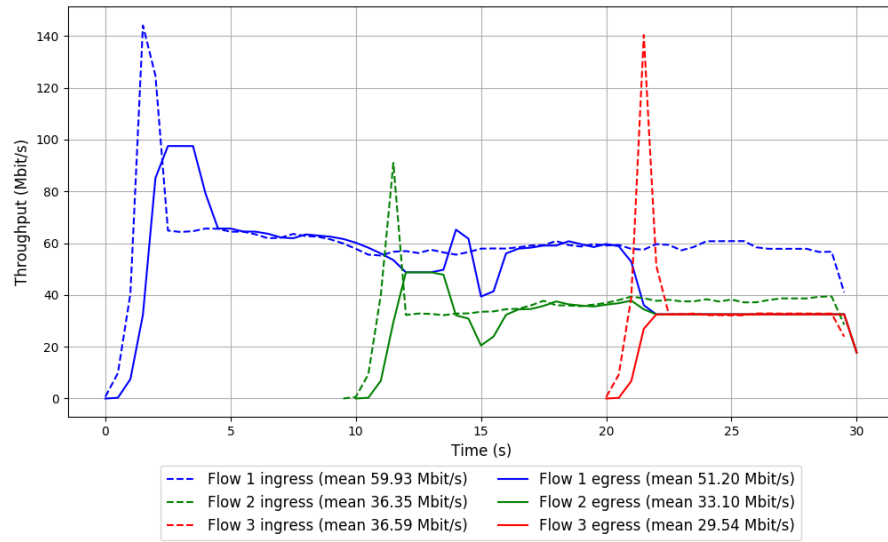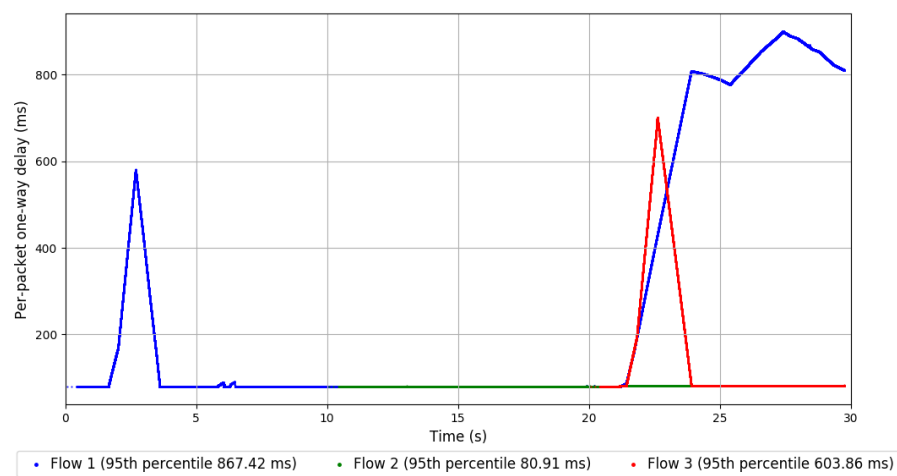
Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 59.93 Mbit/s) --- Flow 1 egress (mean 51.20 Mbit/s)
Flow 2 ingress (mean 36.35 Mbit/s) --- Flow 2 egress (mean 33.10 Mbit/s)
Flow 3 ingress (mean 36.59 Mbit/s) --- Flow 3 egress (mean 29.54 Mbit/s)

Flow 1 (95th percentile 1025.96 ms) · Flow 2 (95th percentile 735.71 ms) · Flow 3 (95th percentile 1729.65 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-09-08 02:03:30
End at: 2018-09-08 02:04:00
Local clock offset: -2.222 ms
Remote clock offset: 7.469 ms


# Below is generated by plot.py at 2018-09-08 02:31:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.30 Mbit/s
95th percentile per-packet one-way delay: 858.856 ms
Loss rate: 4.44%
-- Flow 1:
Average throughput: 60.63 Mbit/s
95th percentile per-packet one-way delay: 867.420 ms
Loss rate: 4.94%
-- Flow 2:
Average throughput: 4.29 Mbit/s
95th percentile per-packet one-way delay: 80.914 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 33.19 Mbit/s
95th percentile per-packet one-way delay: 603.855 ms
Loss rate: 2.51%
```
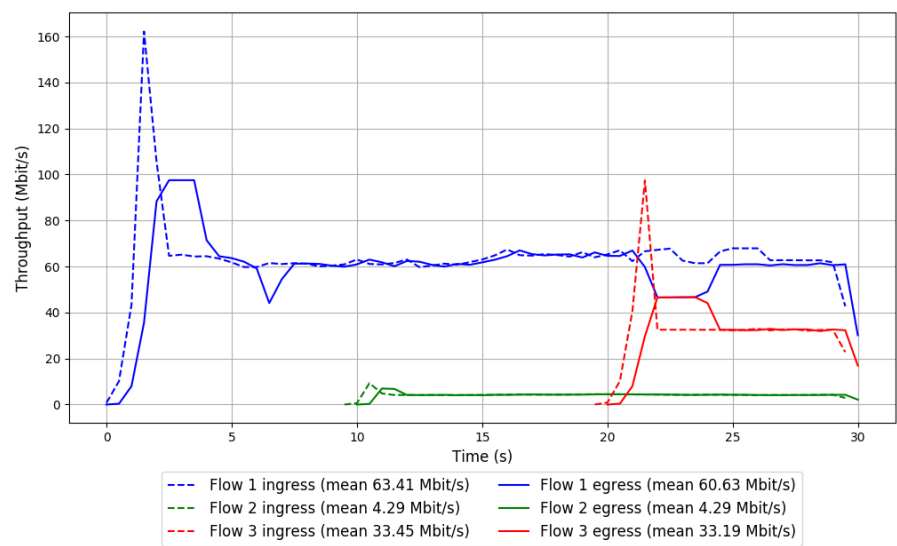
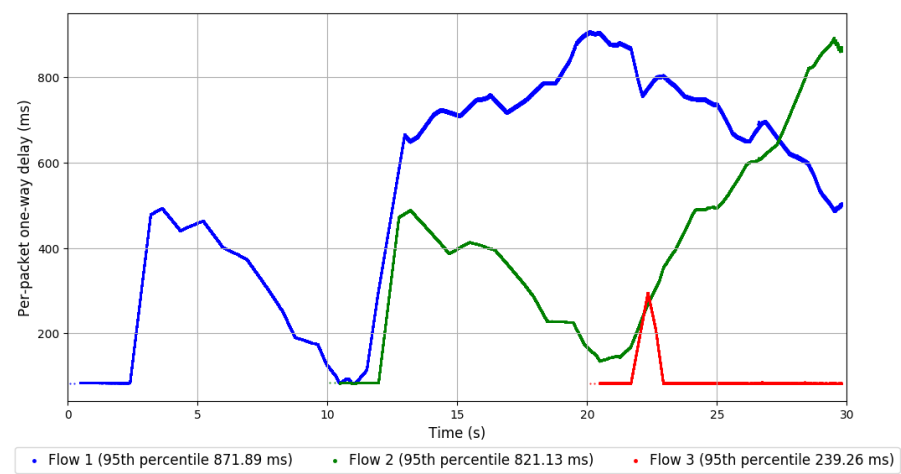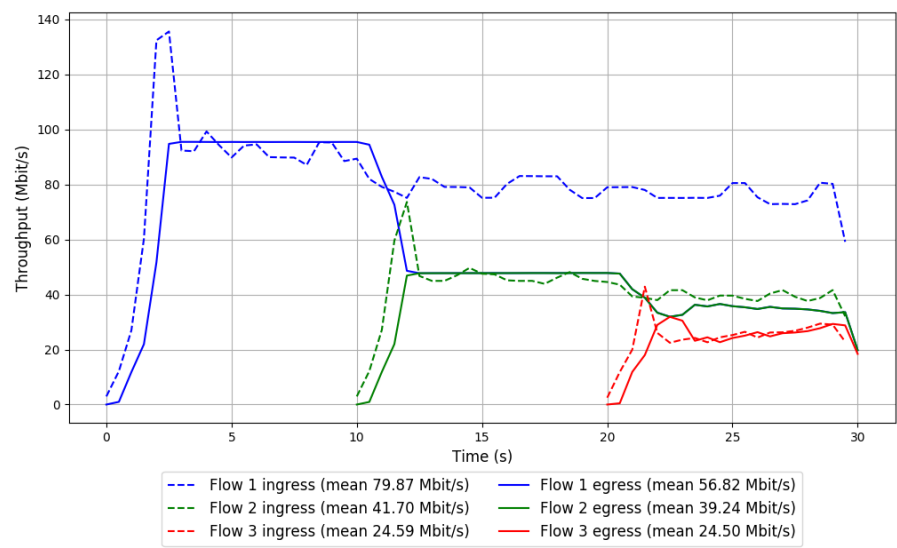Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 63.41 Mbit/s)   Flow 1 egress (mean 60.63 Mbit/s)
Flow 2 ingress (mean 4.29 Mbit/s)   Flow 2 egress (mean 4.29 Mbit/s)
Flow 3 ingress (mean 33.45 Mbit/s)   Flow 3 egress (mean 33.19 Mbit/s)

Flow 1 (95th percentile 867.42 ms)   Flow 2 (95th percentile 80.91 ms)   Flow 3 (95th percentile 603.86 ms)

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```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-08 00:45:57
End at: 2018-09-08 00:46:27
Local clock offset: -4.327 ms
Remote clock offset: 3.2 ms


# Below is generated by plot.py at 2018-09-08 02:32:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.84 Mbit/s
95th percentile per-packet one-way delay: 835.556 ms
Loss rate: 21.94%
-- Flow 1:
Average throughput: 56.82 Mbit/s
95th percentile per-packet one-way delay: 871.890 ms
Loss rate: 29.26%
-- Flow 2:
Average throughput: 39.24 Mbit/s
95th percentile per-packet one-way delay: 821.130 ms
Loss rate: 6.69%
-- Flow 3:
Average throughput: 24.50 Mbit/s
95th percentile per-packet one-way delay: 239.265 ms
Loss rate: 2.03%
```
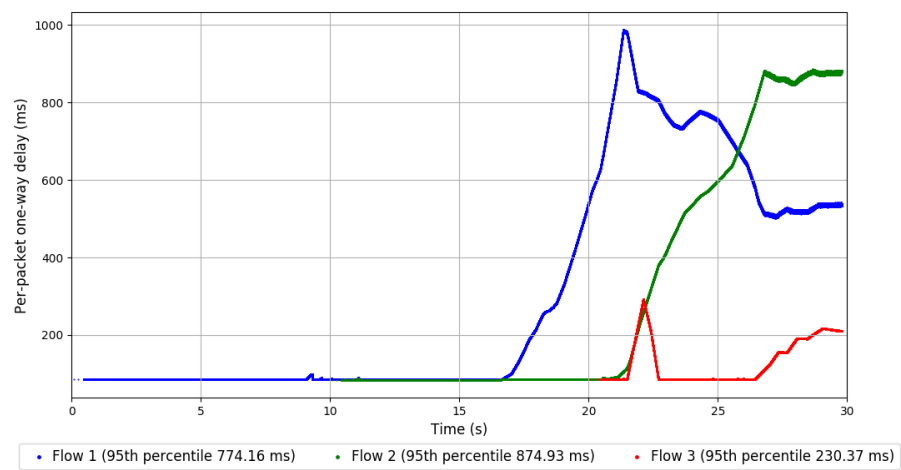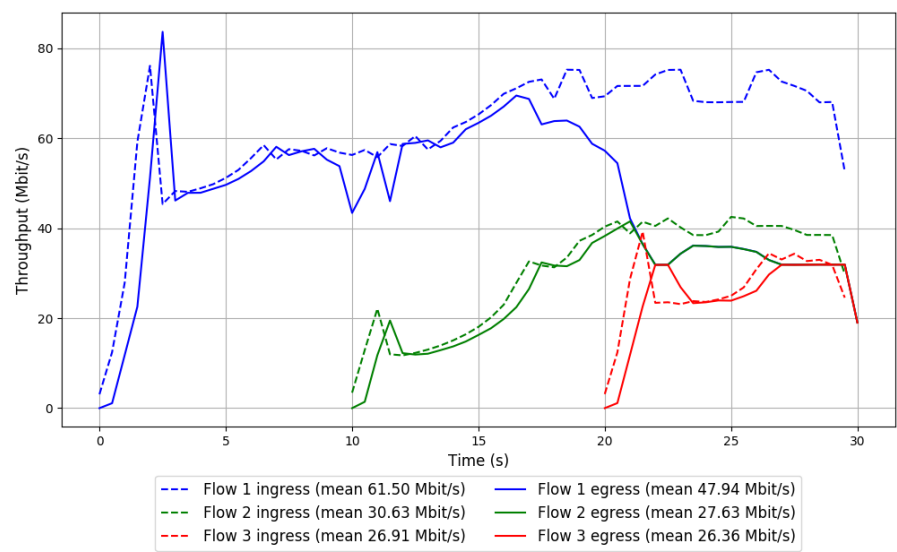
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 79.87 Mbit/s) — Flow 1 egress (mean 56.82 Mbit/s)
Flow 2 ingress (mean 41.70 Mbit/s) — Flow 2 egress (mean 39.24 Mbit/s)
Flow 3 ingress (mean 24.59 Mbit/s) — Flow 3 egress (mean 24.50 Mbit/s)

Flow 1 (95th percentile 871.89 ms) — Flow 2 (95th percentile 821.13 ms) — Flow 3 (95th percentile 239.26 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2018-09-08 01:09:27
End at: 2018-09-08 01:09:57
Local clock offset: 2.558 ms
Remote clock offset: 2.764 ms


# Below is generated by plot.py at 2018-09-08 02:32:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.88 Mbit/s
95th percentile per-packet one-way delay: 853.749 ms
Loss rate: 17.99%
-- Flow 1:
Average throughput: 47.94 Mbit/s
95th percentile per-packet one-way delay: 774.157 ms
Loss rate: 22.50%
-- Flow 2:
Average throughput: 27.63 Mbit/s
95th percentile per-packet one-way delay: 874.931 ms
Loss rate: 10.59%
-- Flow 3:
Average throughput: 26.36 Mbit/s
95th percentile per-packet one-way delay: 230.370 ms
Loss rate: 3.74%
```
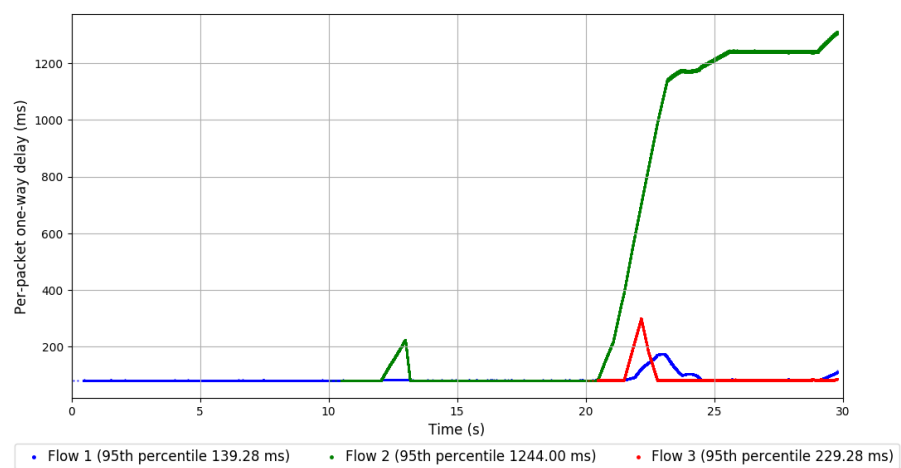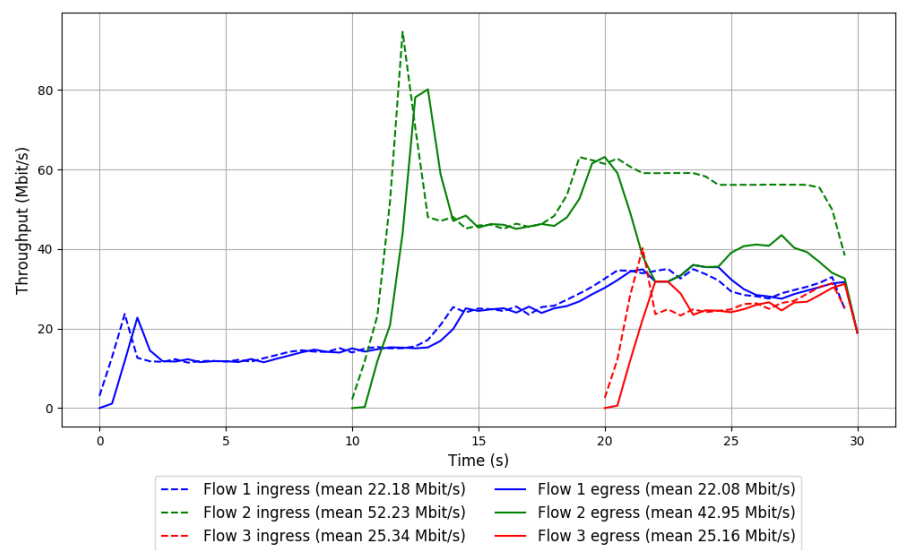
Run 2: Report of PCC-Expr — Data Link

- - - Flow 1 ingress (mean 61.50 Mbit/s) ——— Flow 1 egress (mean 47.94 Mbit/s)
- - - Flow 2 ingress (mean 30.63 Mbit/s) ——— Flow 2 egress (mean 27.63 Mbit/s)
- - - Flow 3 ingress (mean 26.91 Mbit/s) ——— Flow 3 egress (mean 26.36 Mbit/s)

• Flow 1 (95th percentile 774.16 ms)   • Flow 2 (95th percentile 874.93 ms)   • Flow 3 (95th percentile 230.37 ms)

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```
Run 3: Statistics of PCC-Expr

Start at: 2018-09-08 01:32:39
End at: 2018-09-08 01:33:09
Local clock offset: -3.605 ms
Remote clock offset: 4.149 ms


# Below is generated by plot.py at 2018-09-08 02:32:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.78 Mbit/s
95th percentile per-packet one-way delay: 1241.535 ms
Loss rate: 10.47%
-- Flow 1:
Average throughput: 22.08 Mbit/s
95th percentile per-packet one-way delay: 139.282 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 42.95 Mbit/s
95th percentile per-packet one-way delay: 1244.003 ms
Loss rate: 18.46%
-- Flow 3:
Average throughput: 25.16 Mbit/s
95th percentile per-packet one-way delay: 229.284 ms
Loss rate: 2.37%
```
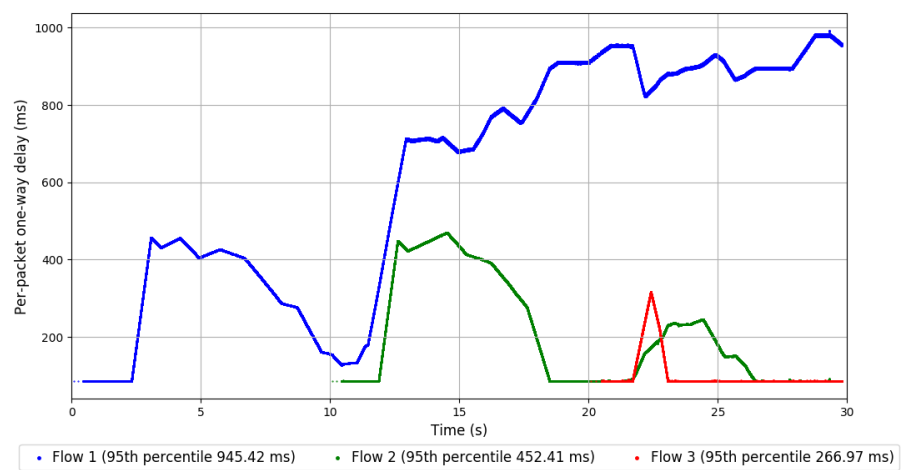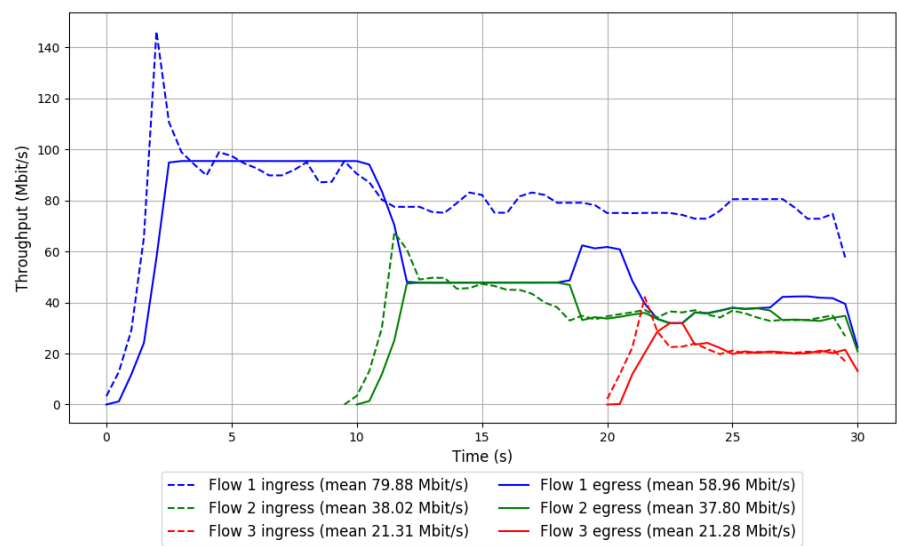
Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2018-09-08 01:55:49
End at: 2018-09-08 01:56:19
Local clock offset: -2.506 ms
Remote clock offset: 2.656 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.98 Mbit/s
95th percentile per-packet one-way delay: 922.265 ms
Loss rate: 19.37%
-- Flow 1:
Average throughput: 58.96 Mbit/s
95th percentile per-packet one-way delay: 945.424 ms
Loss rate: 26.59%
-- Flow 2:
Average throughput: 37.80 Mbit/s
95th percentile per-packet one-way delay: 452.414 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 21.28 Mbit/s
95th percentile per-packet one-way delay: 266.972 ms
Loss rate: 1.87%
```
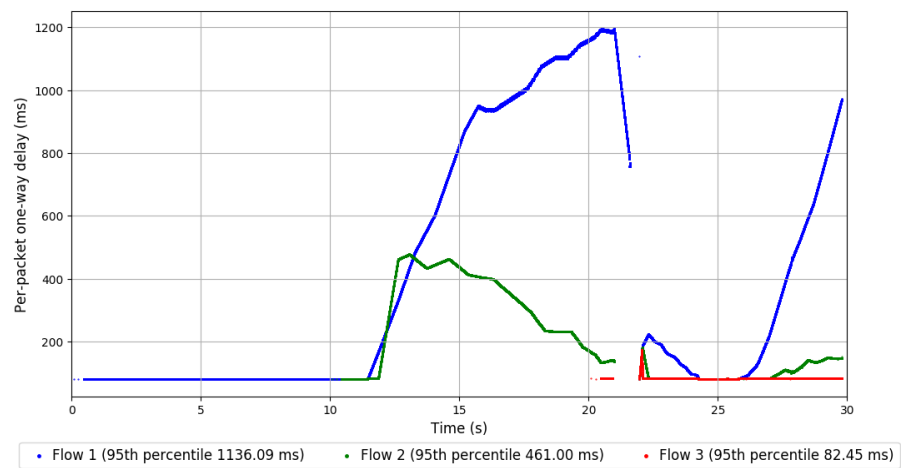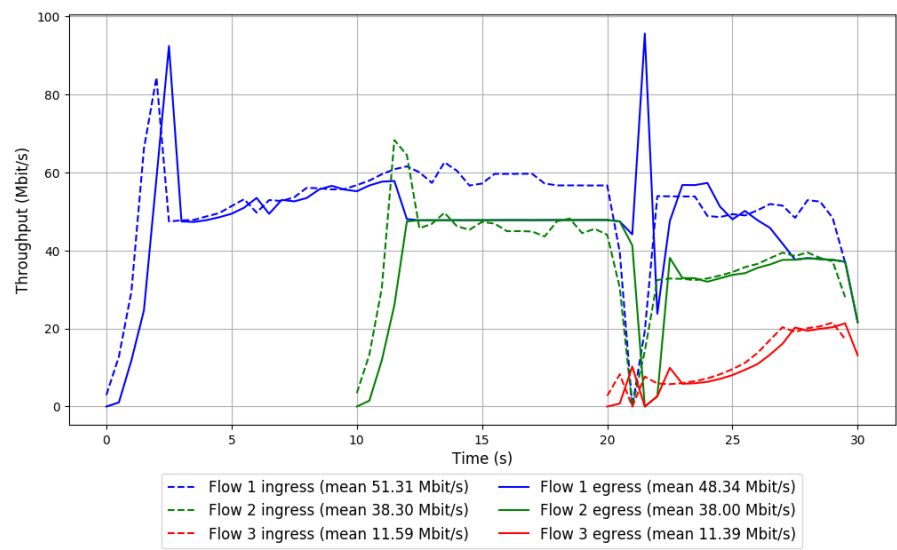
Run 4: Report of PCC-Expr — Data Link

- - - Flow 1 ingress (mean 79.88 Mbit/s) —— Flow 1 egress (mean 58.96 Mbit/s)
- - - Flow 2 ingress (mean 38.02 Mbit/s) —— Flow 2 egress (mean 37.80 Mbit/s)
- - - Flow 3 ingress (mean 21.31 Mbit/s) —— Flow 3 egress (mean 21.28 Mbit/s)

• Flow 1 (95th percentile 945.42 ms)   • Flow 2 (95th percentile 452.41 ms)   • Flow 3 (95th percentile 266.97 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2018-09-08 02:18:53
End at: 2018-09-08 02:19:23
Local clock offset: -2.09 ms
Remote clock offset: 5.417 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.26 Mbit/s
95th percentile per-packet one-way delay: 1101.740 ms
Loss rate: 4.68%
-- Flow 1:
Average throughput: 48.34 Mbit/s
95th percentile per-packet one-way delay: 1136.088 ms
Loss rate: 6.31%
-- Flow 2:
Average throughput: 38.00 Mbit/s
95th percentile per-packet one-way delay: 460.997 ms
Loss rate: 1.59%
-- Flow 3:
Average throughput: 11.39 Mbit/s
95th percentile per-packet one-way delay: 82.450 ms
Loss rate: 3.40%
```
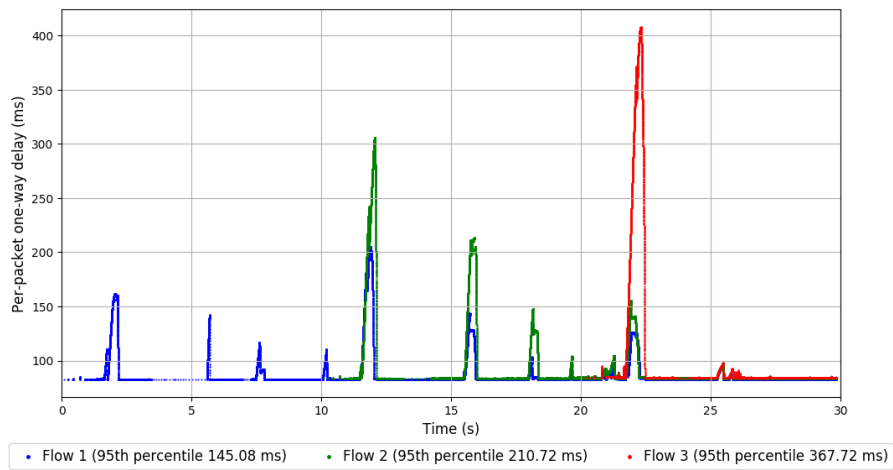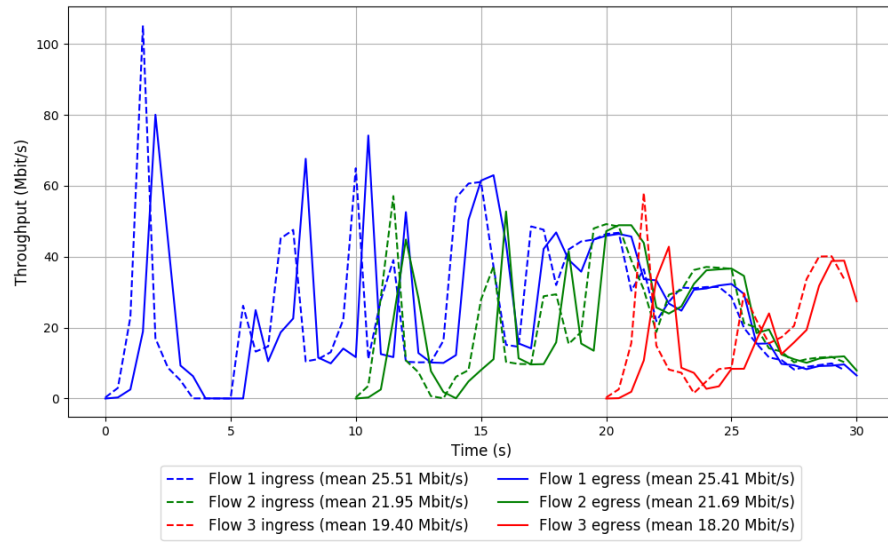
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 51.31 Mbit/s) — Flow 1 egress (mean 48.34 Mbit/s)
Flow 2 ingress (mean 38.30 Mbit/s) — Flow 2 egress (mean 38.00 Mbit/s)
Flow 3 ingress (mean 11.59 Mbit/s) — Flow 3 egress (mean 11.39 Mbit/s)

Flow 1 (95th percentile 1136.09 ms) • Flow 2 (95th percentile 461.00 ms) • Flow 3 (95th percentile 82.45 ms)

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```
Run 1: Statistics of QUIC Cubic

Start at: 2018-09-08 00:33:11
End at: 2018-09-08 00:33:41
Local clock offset: -5.087 ms
Remote clock offset: 3.853 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.74 Mbit/s
95th percentile per-packet one-way delay: 180.071 ms
Loss rate: 2.22%
-- Flow 1:
Average throughput: 25.41 Mbit/s
95th percentile per-packet one-way delay: 145.081 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 21.69 Mbit/s
95th percentile per-packet one-way delay: 210.718 ms
Loss rate: 2.02%
-- Flow 3:
Average throughput: 18.20 Mbit/s
95th percentile per-packet one-way delay: 367.719 ms
Loss rate: 7.74%
```
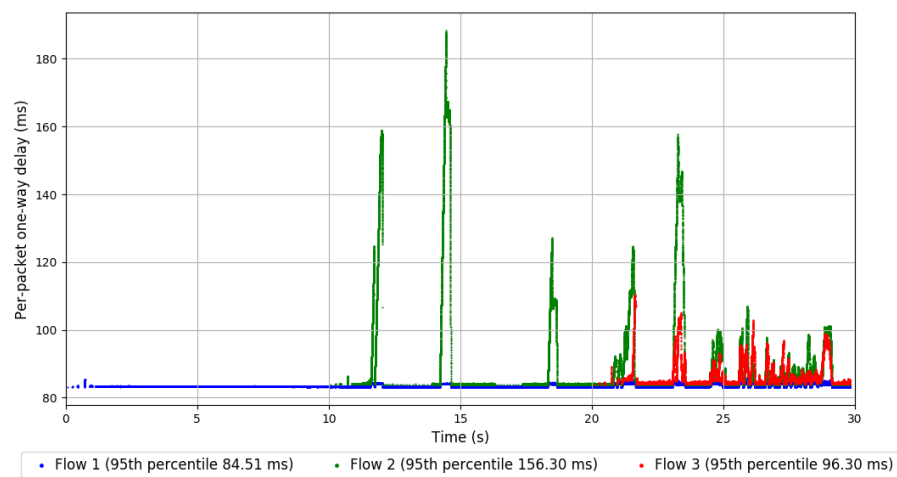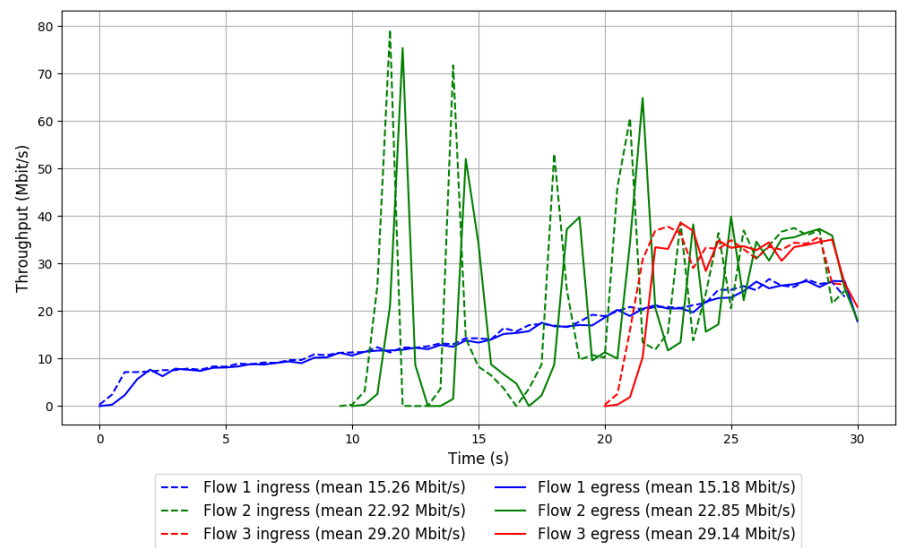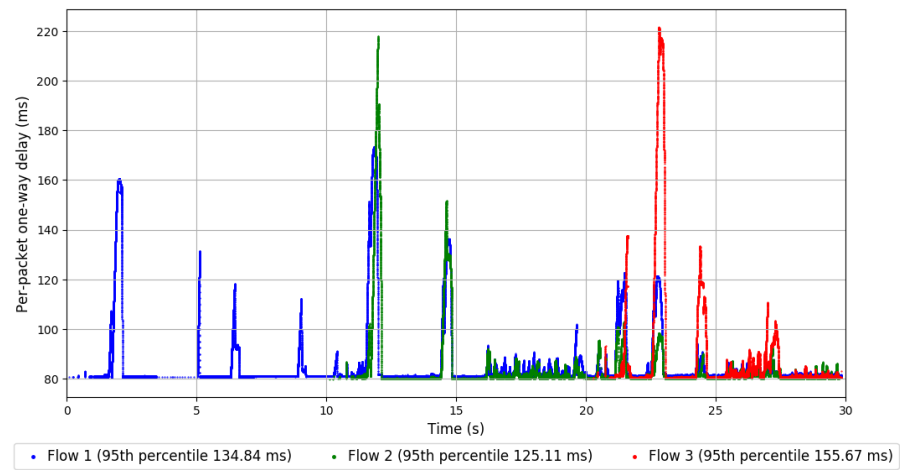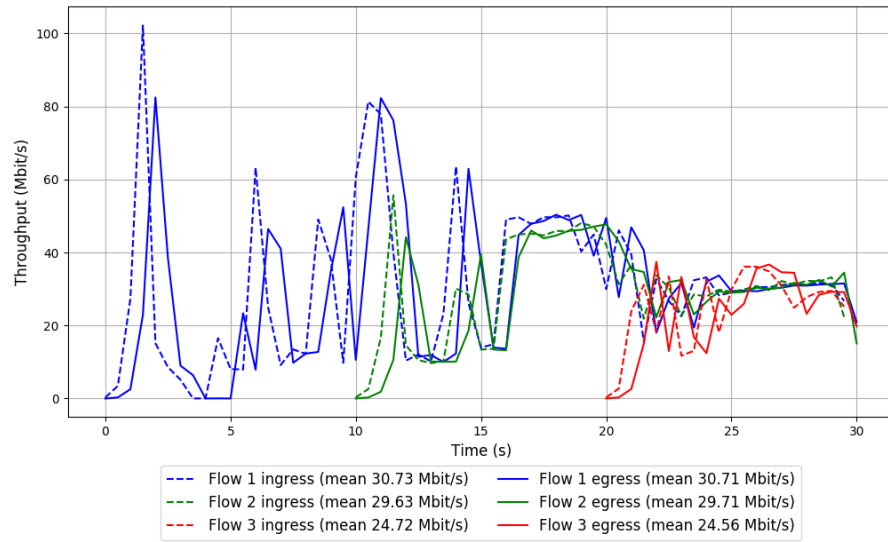
Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 25.51 Mbit/s)   Flow 1 egress (mean 25.41 Mbit/s)
Flow 2 ingress (mean 21.95 Mbit/s)   Flow 2 egress (mean 21.69 Mbit/s)
Flow 3 ingress (mean 19.40 Mbit/s)   Flow 3 egress (mean 18.20 Mbit/s)

Flow 1 (95th percentile 145.08 ms)   Flow 2 (95th percentile 210.72 ms)   Flow 3 (95th percentile 367.72 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-09-08 00:56:36
End at: 2018-09-08 00:57:06
Local clock offset: 1.035 ms
Remote clock offset: 3.865 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.88 Mbit/s
95th percentile per-packet one-way delay: 120.952 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 15.18 Mbit/s
95th percentile per-packet one-way delay: 84.511 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 22.85 Mbit/s
95th percentile per-packet one-way delay: 156.298 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 29.14 Mbit/s
95th percentile per-packet one-way delay: 96.300 ms
Loss rate: 1.93%
```
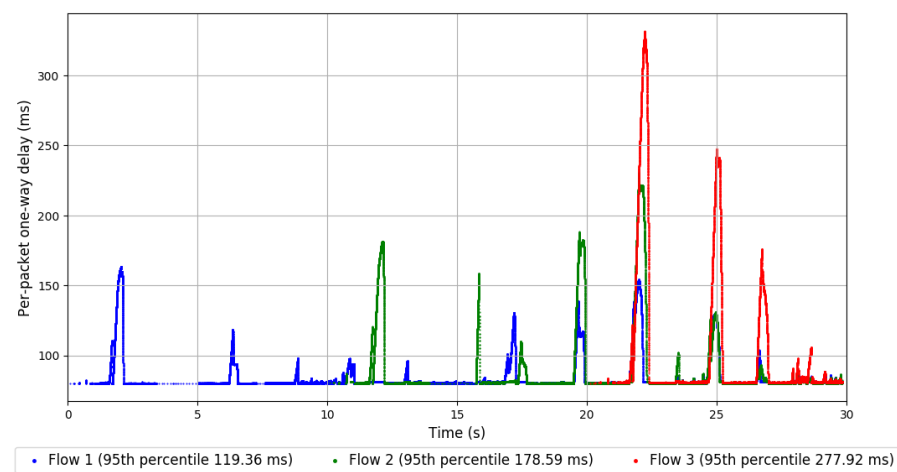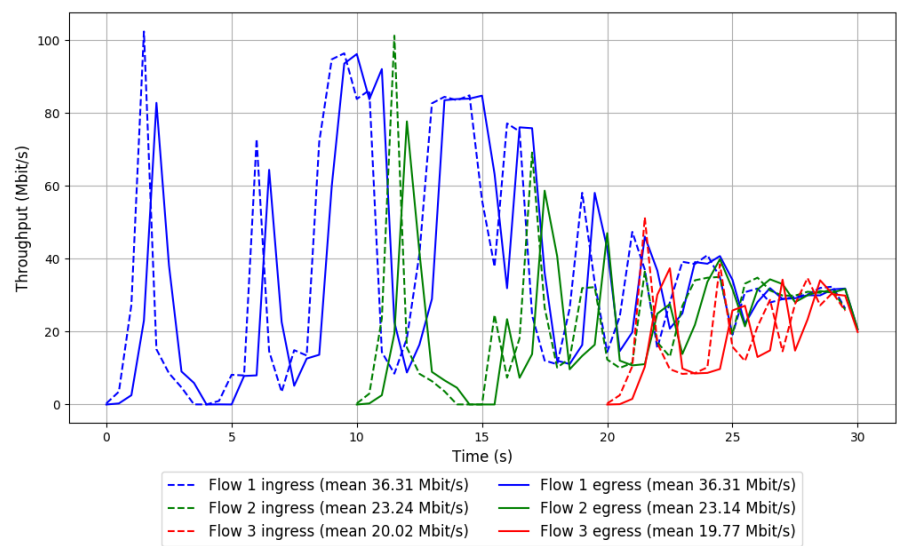
Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 15.26 Mbit/s) --- Flow 1 egress (mean 15.18 Mbit/s)
Flow 2 ingress (mean 22.92 Mbit/s) --- Flow 2 egress (mean 22.85 Mbit/s)
Flow 3 ingress (mean 29.20 Mbit/s) --- Flow 3 egress (mean 29.14 Mbit/s)

Flow 1 (95th percentile 84.51 ms)   Flow 2 (95th percentile 156.30 ms)   Flow 3 (95th percentile 96.30 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-09-08 01:19:42
End at: 2018-09-08 01:20:12
Local clock offset: 0.611 ms
Remote clock offset: 6.306 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.34 Mbit/s
95th percentile per-packet one-way delay: 132.439 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 30.71 Mbit/s
95th percentile per-packet one-way delay: 134.836 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 29.71 Mbit/s
95th percentile per-packet one-way delay: 125.115 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 24.56 Mbit/s
95th percentile per-packet one-way delay: 155.672 ms
Loss rate: 2.33%
```
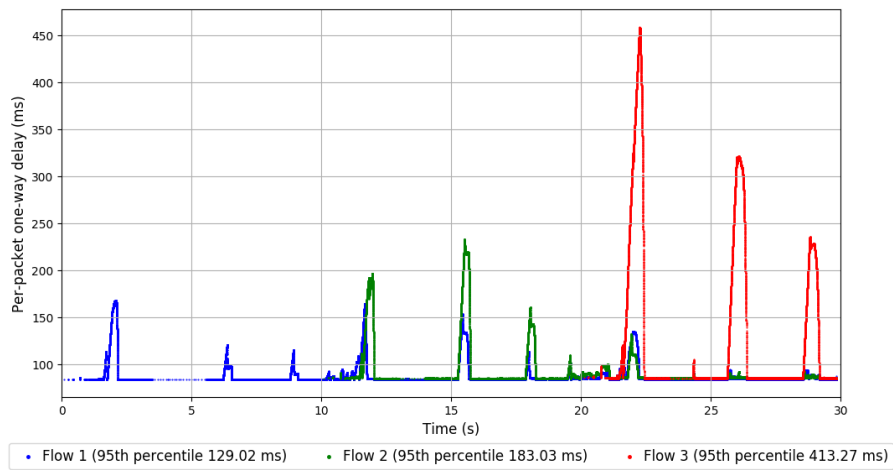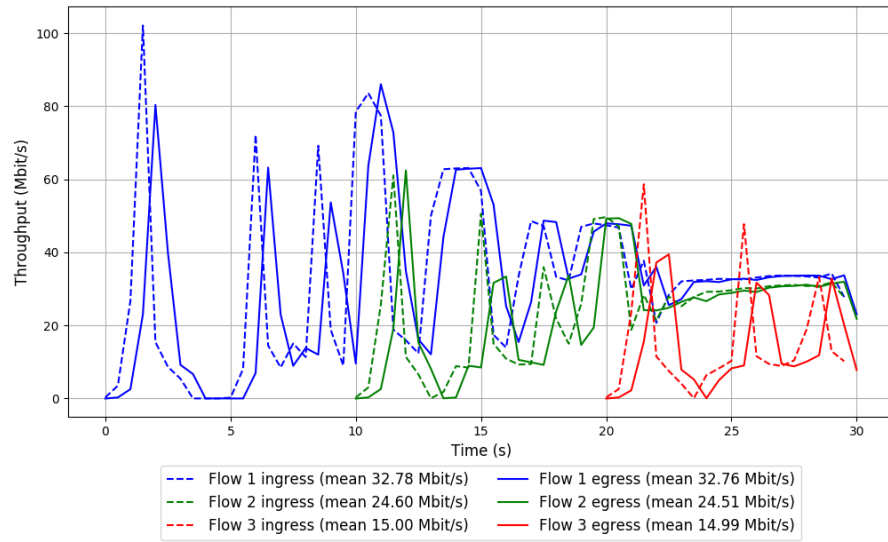
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-09-08 01:42:59
End at: 2018-09-08 01:43:29
Local clock offset: -4.624 ms
Remote clock offset: 5.522 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.12 Mbit/s
95th percentile per-packet one-way delay: 159.589 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 36.31 Mbit/s
95th percentile per-packet one-way delay: 119.360 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 23.14 Mbit/s
95th percentile per-packet one-way delay: 178.588 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 19.77 Mbit/s
95th percentile per-packet one-way delay: 277.922 ms
Loss rate: 2.93%
```
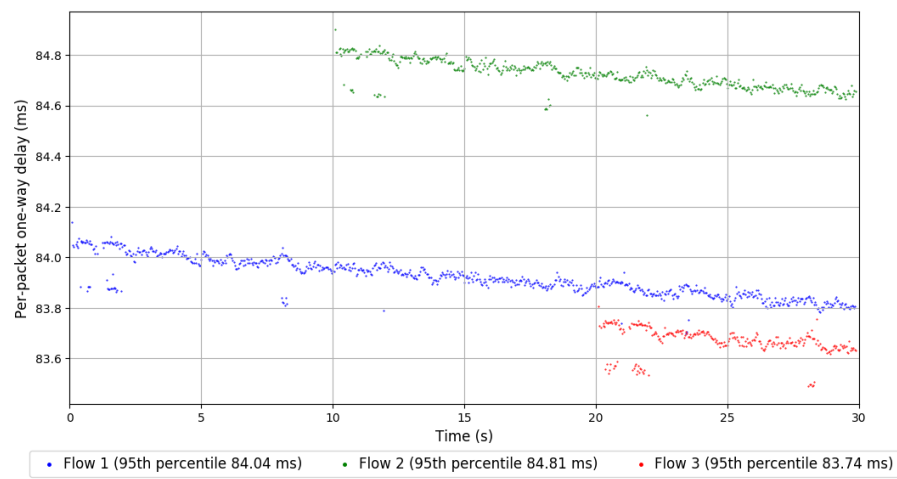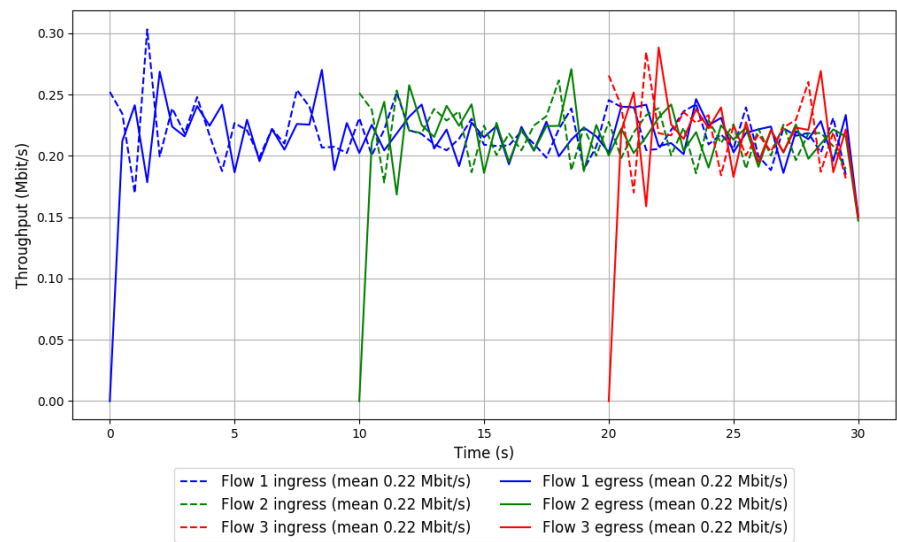
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 36.31 Mbit/s)   Flow 1 egress (mean 36.31 Mbit/s)
Flow 2 ingress (mean 23.24 Mbit/s)   Flow 2 egress (mean 23.14 Mbit/s)
Flow 3 ingress (mean 20.02 Mbit/s)   Flow 3 egress (mean 19.77 Mbit/s)

Flow 1 (95th percentile 119.36 ms)   Flow 2 (95th percentile 178.59 ms)   Flow 3 (95th percentile 277.92 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-09-08 02:06:04
End at: 2018-09-08 02:06:34
Local clock offset: -2.179 ms
Remote clock offset: 3.844 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.92 Mbit/s
95th percentile per-packet one-way delay: 183.627 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 32.76 Mbit/s
95th percentile per-packet one-way delay: 129.019 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 24.51 Mbit/s
95th percentile per-packet one-way delay: 183.027 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 14.99 Mbit/s
95th percentile per-packet one-way delay: 413.272 ms
Loss rate: 1.82%
```
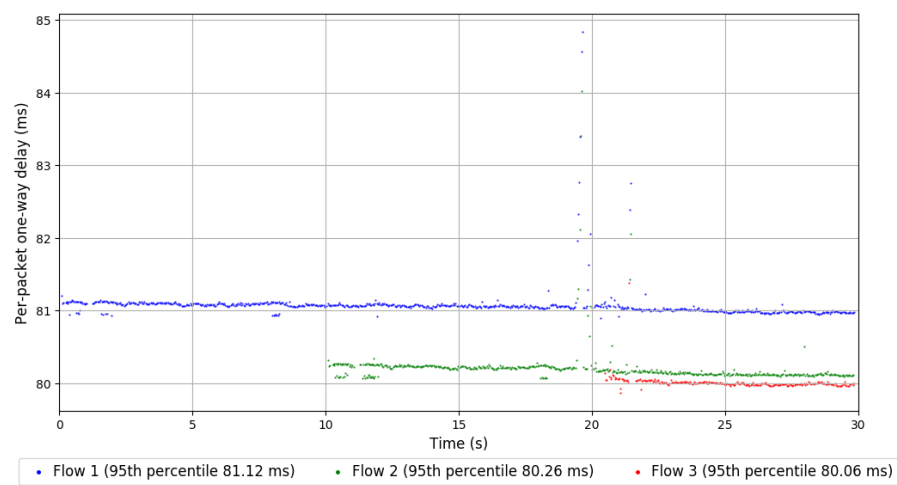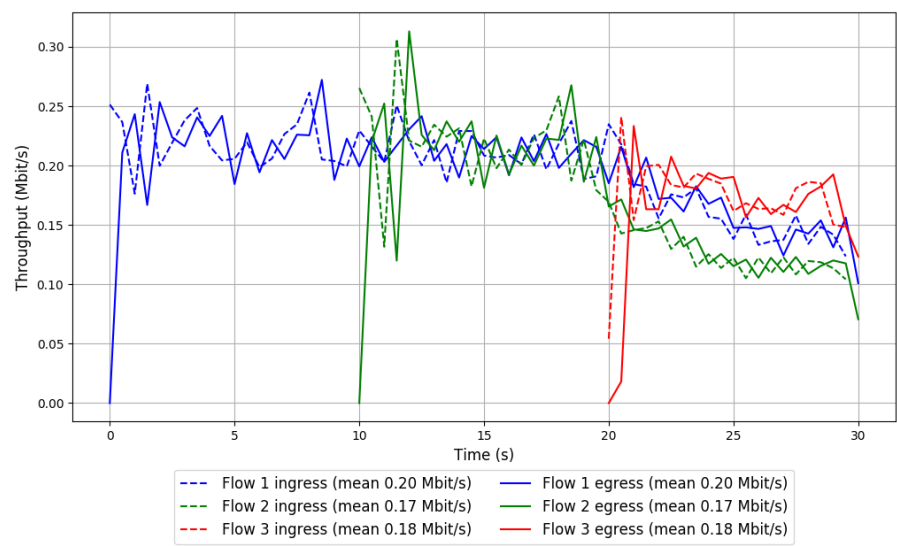
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 32.78 Mbit/s) Flow 1 egress (mean 32.76 Mbit/s)
Flow 2 ingress (mean 24.60 Mbit/s) Flow 2 egress (mean 24.51 Mbit/s)
Flow 3 ingress (mean 15.00 Mbit/s) Flow 3 egress (mean 14.99 Mbit/s)

Flow 1 (95th percentile 129.02 ms) Flow 2 (95th percentile 183.03 ms) Flow 3 (95th percentile 413.27 ms)
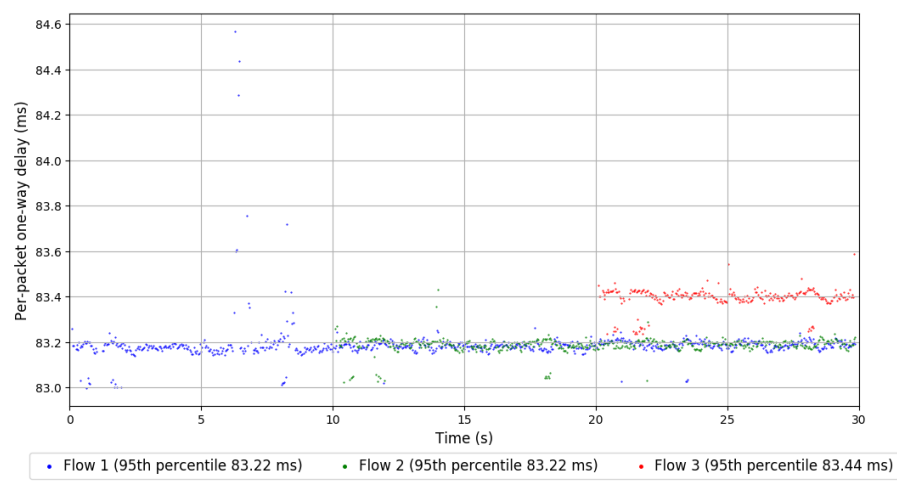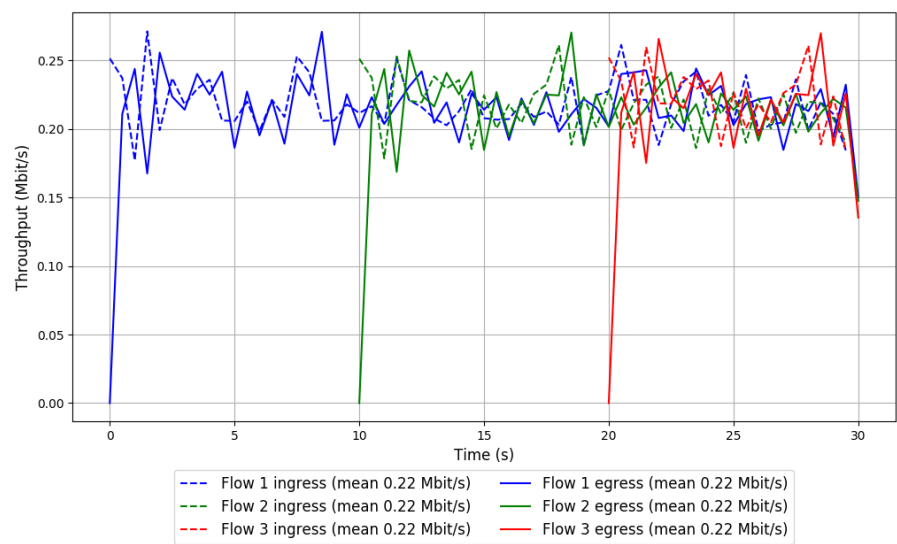
```
Run 1: Statistics of SCReAM

Start at: 2018-09-08 00:49:50
End at: 2018-09-08 00:50:20
Local clock offset: -1.681 ms
Remote clock offset: 3.051 ms

# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 84.786 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 84.044 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 84.813 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 83.741 ms
Loss rate: 1.44%
```
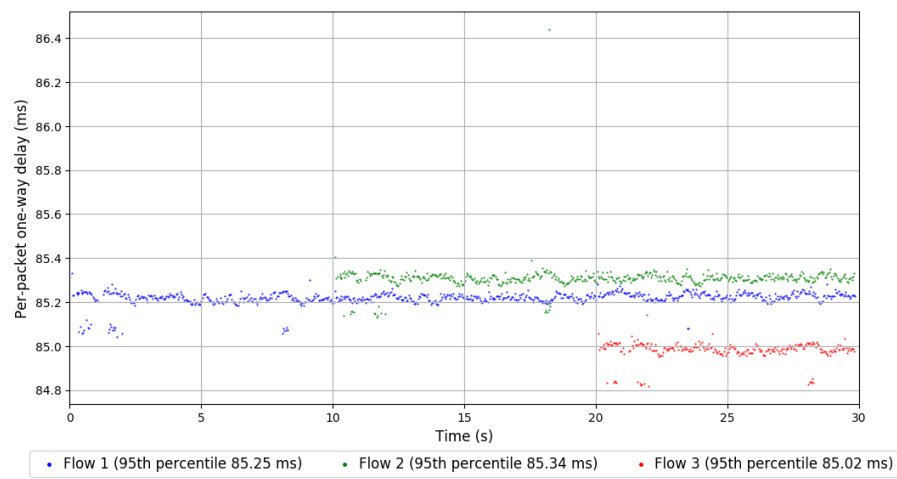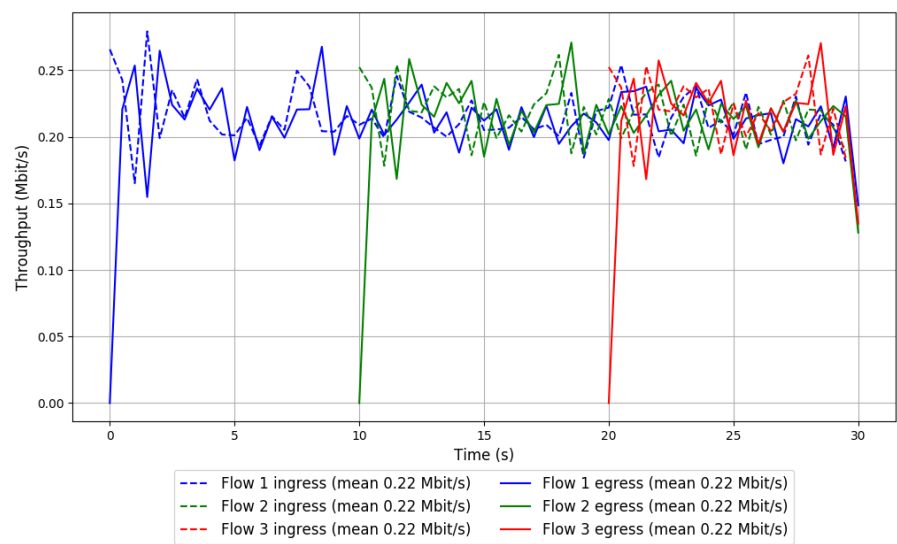
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-09-08 01:13:17
End at: 2018-09-08 01:13:47
Local clock offset: 3.698 ms
Remote clock offset: 6.693 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 81.113 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 81.121 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 80.264 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 80.059 ms
Loss rate: 2.50%
```

Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-09-08 01:36:30
End at: 2018-09-08 01:37:00
Local clock offset: -4.171 ms
Remote clock offset: 1.796 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 83.417 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 83.218 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 83.217 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 83.435 ms
Loss rate: 1.85%
```
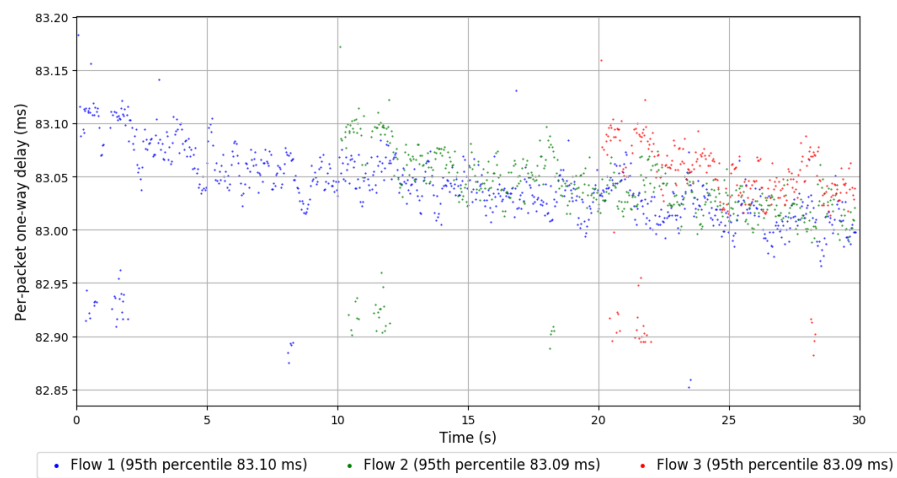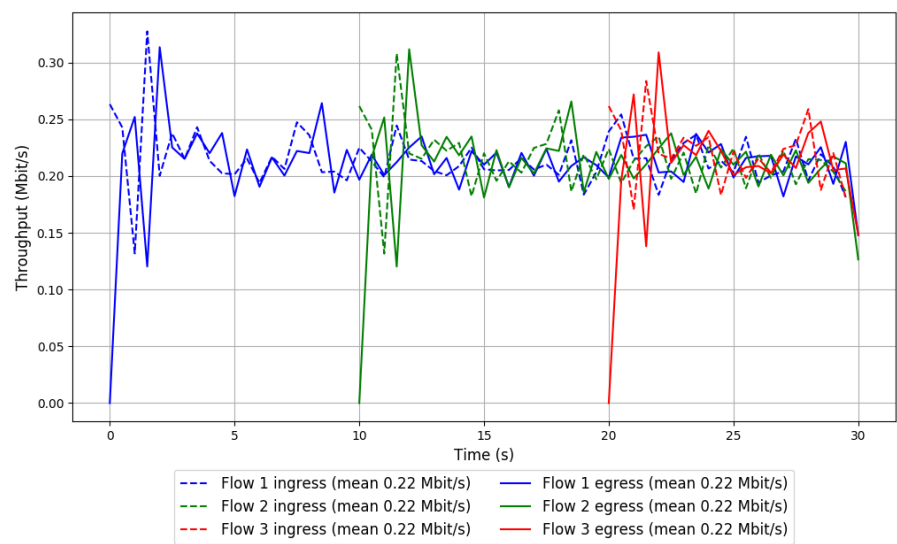
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-09-08 01:59:41
End at: 2018-09-08 02:00:11
Local clock offset: -2.322 ms
Remote clock offset: 2.833 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 85.328 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.250 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.337 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.016 ms
Loss rate: 1.85%
```
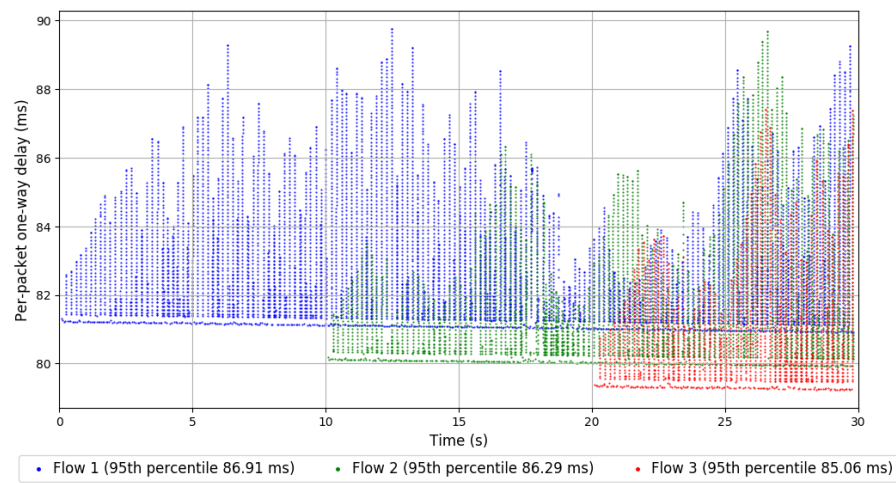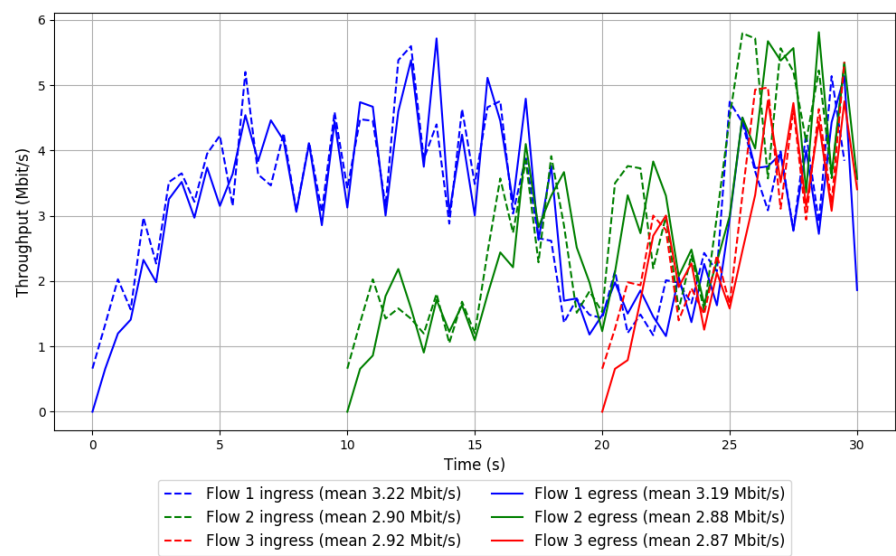
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-09-08 02:22:43
End at: 2018-09-08 02:23:13
Local clock offset: -1.638 ms
Remote clock offset: 3.132 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 83.096 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 83.103 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 83.093 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 83.094 ms
Loss rate: 1.82%
```

Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-09-08 00:47:19
End at: 2018-09-08 00:47:49
Local clock offset: -3.232 ms
Remote clock offset: 6.585 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.03 Mbit/s
95th percentile per-packet one-way delay: 86.544 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 3.19 Mbit/s
95th percentile per-packet one-way delay: 86.908 ms
Loss rate: 1.40%
-- Flow 2:
Average throughput: 2.88 Mbit/s
95th percentile per-packet one-way delay: 86.288 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 2.87 Mbit/s
95th percentile per-packet one-way delay: 85.059 ms
Loss rate: 3.39%
```
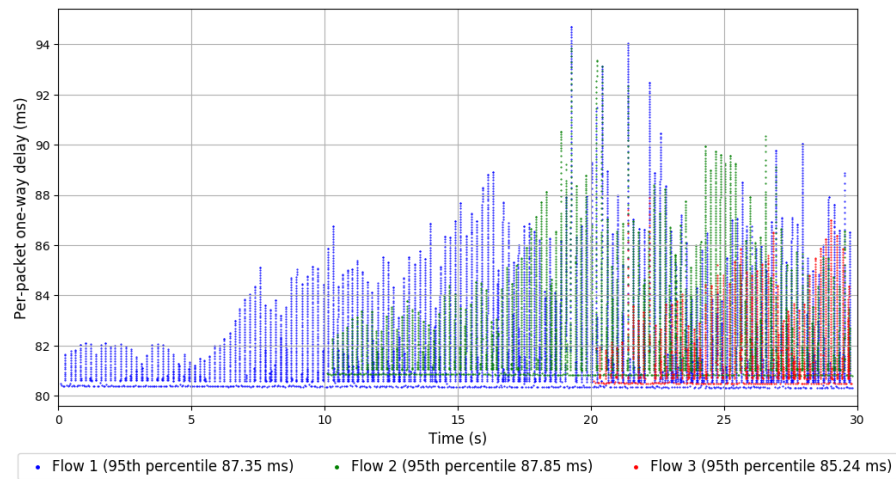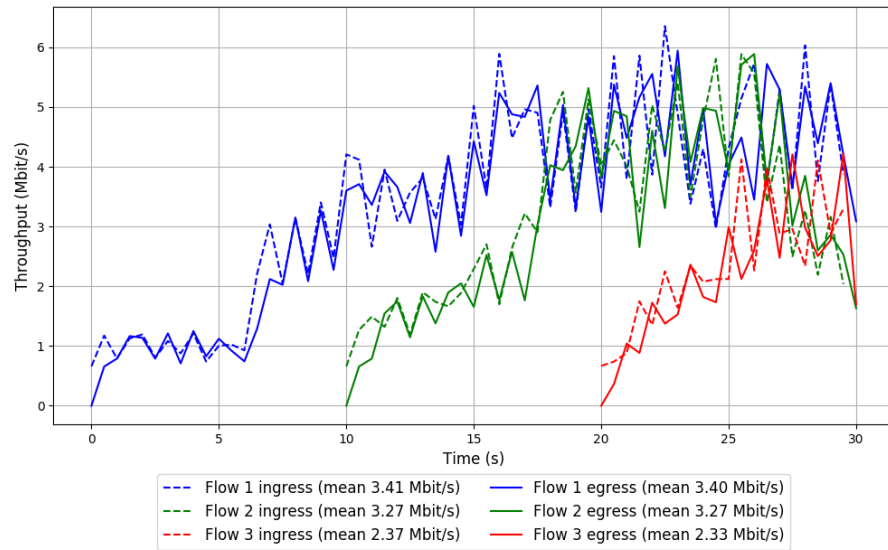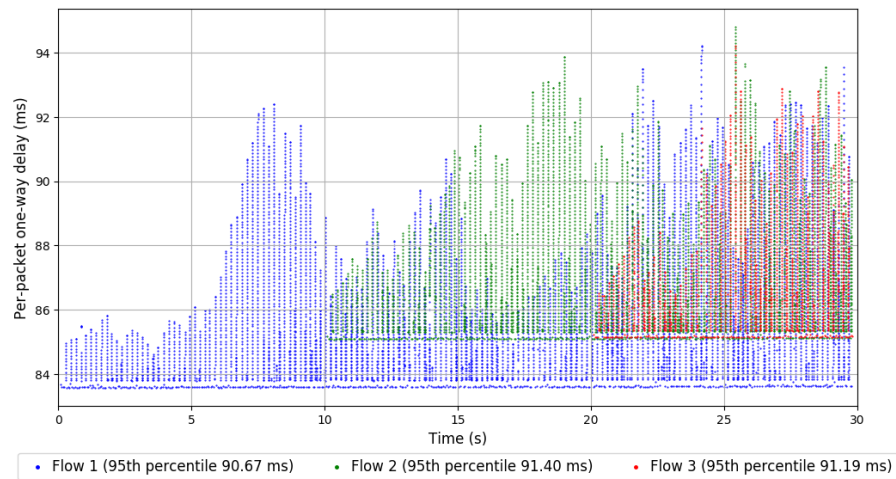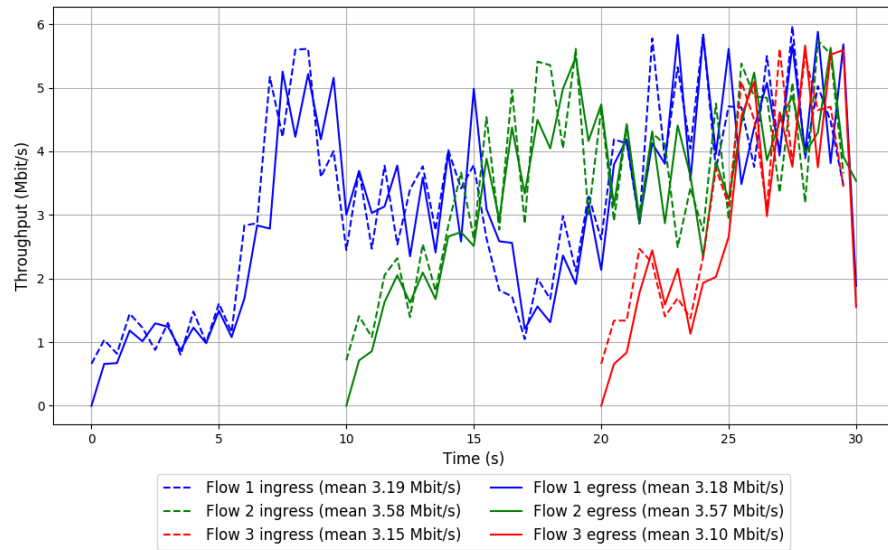
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-09-08 01:10:47
End at: 2018-09-08 01:11:17
Local clock offset: 3.507 ms
Remote clock offset: 6.582 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.32 Mbit/s
95th percentile per-packet one-way delay: 87.325 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 3.40 Mbit/s
95th percentile per-packet one-way delay: 87.350 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 3.27 Mbit/s
95th percentile per-packet one-way delay: 87.850 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 85.237 ms
Loss rate: 3.42%
```
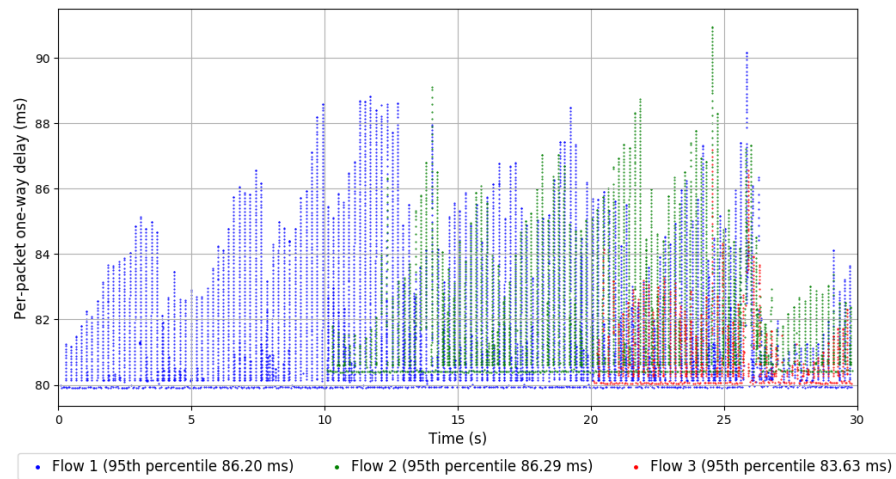
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-09-08 01:34:00
End at: 2018-09-08 01:34:30
Local clock offset: -3.108 ms
Remote clock offset: 1.371 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.55 Mbit/s
95th percentile per-packet one-way delay: 91.046 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 3.18 Mbit/s
95th percentile per-packet one-way delay: 90.673 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 91.399 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 3.10 Mbit/s
95th percentile per-packet one-way delay: 91.186 ms
Loss rate: 3.05%
```
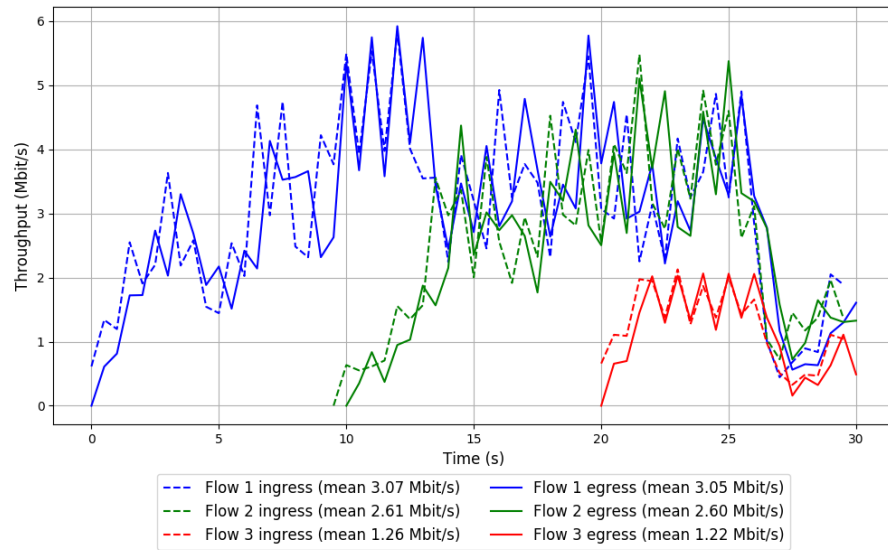
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-09-08 01:57:10
End at: 2018-09-08 01:57:41
Local clock offset: -2.449 ms
Remote clock offset: 6.597 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.17 Mbit/s
95th percentile per-packet one-way delay: 86.146 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 3.05 Mbit/s
95th percentile per-packet one-way delay: 86.197 ms
Loss rate: 1.34%
-- Flow 2:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 86.291 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 83.630 ms
Loss rate: 4.53%
```
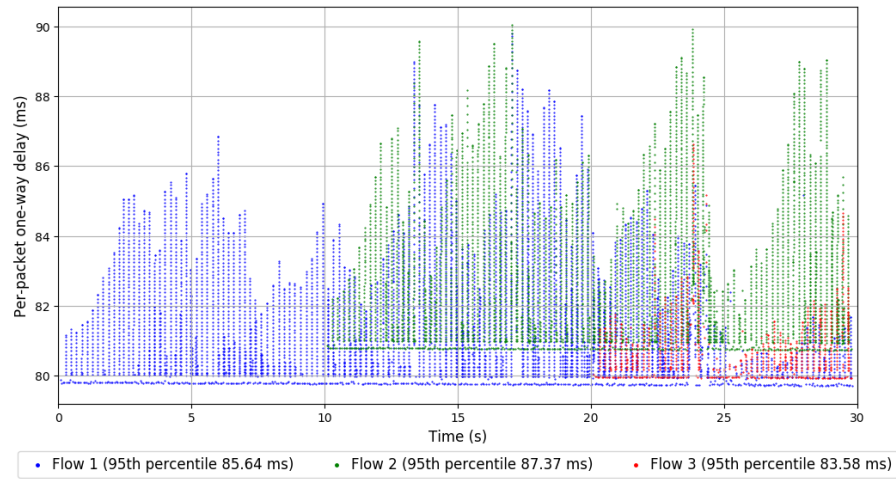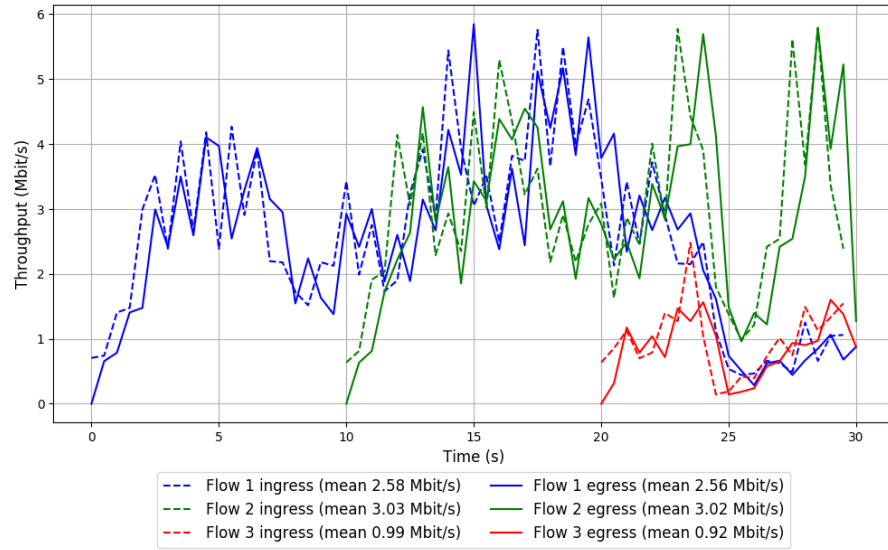
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-09-08 02:20:13
End at: 2018-09-08 02:20:43
Local clock offset: -1.155 ms
Remote clock offset: 6.935 ms


# Below is generated by plot.py at 2018-09-08 02:32:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.86 Mbit/s
95th percentile per-packet one-way delay: 86.511 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 85.644 ms
Loss rate: 1.25%
-- Flow 2:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 87.369 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 83.582 ms
Loss rate: 8.20%
```
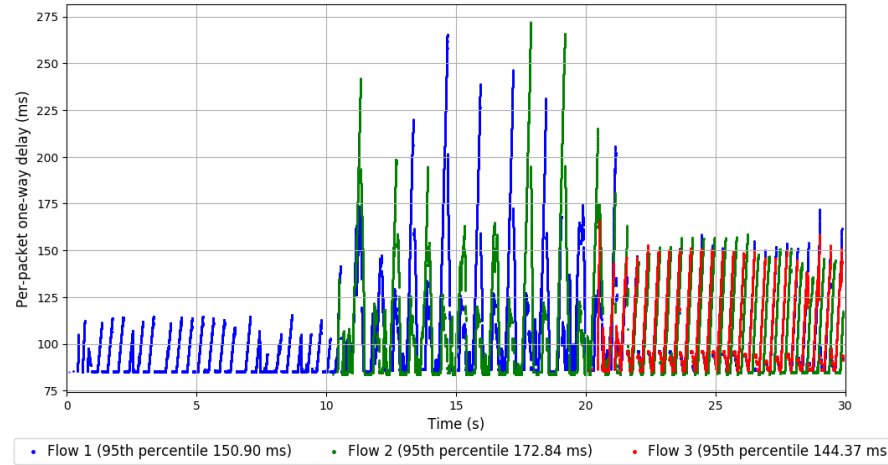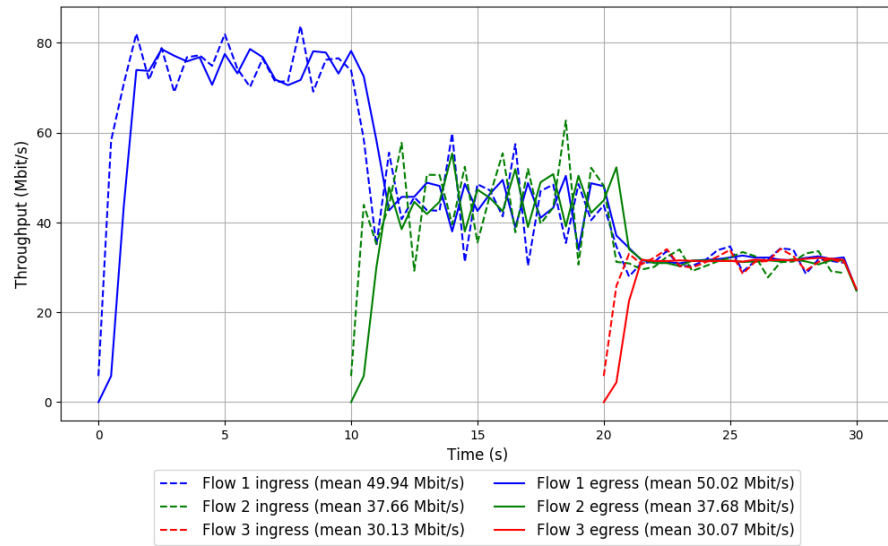
Run 5: Report of Sprout — Data Link

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

Start at: 2018-09-08 00:29:06
End at: 2018-09-08 00:29:36
Local clock offset: -3.715 ms
Remote clock offset: 3.751 ms

# Below is generated by plot.py at 2018-09-08 02:33:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.94 Mbit/s
95th percentile per-packet one-way delay: 155.567 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 50.02 Mbit/s
95th percentile per-packet one-way delay: 150.897 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 37.68 Mbit/s
95th percentile per-packet one-way delay: 172.845 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 30.07 Mbit/s
95th percentile per-packet one-way delay: 144.369 ms
Loss rate: 1.87%
```
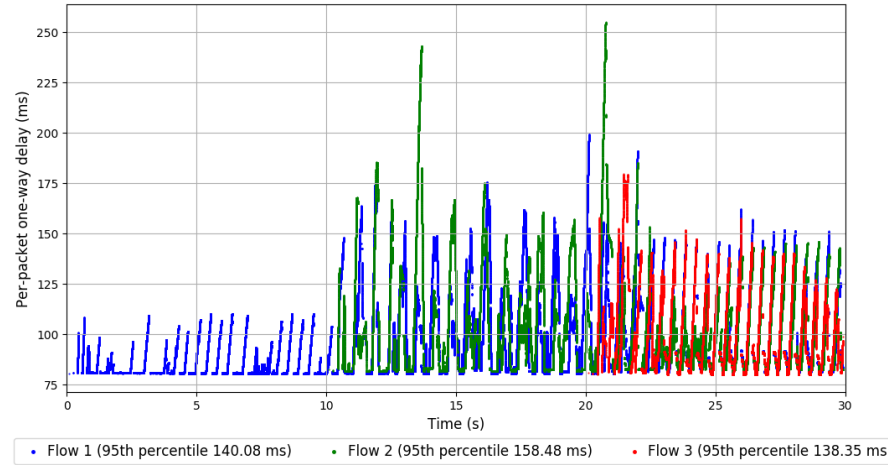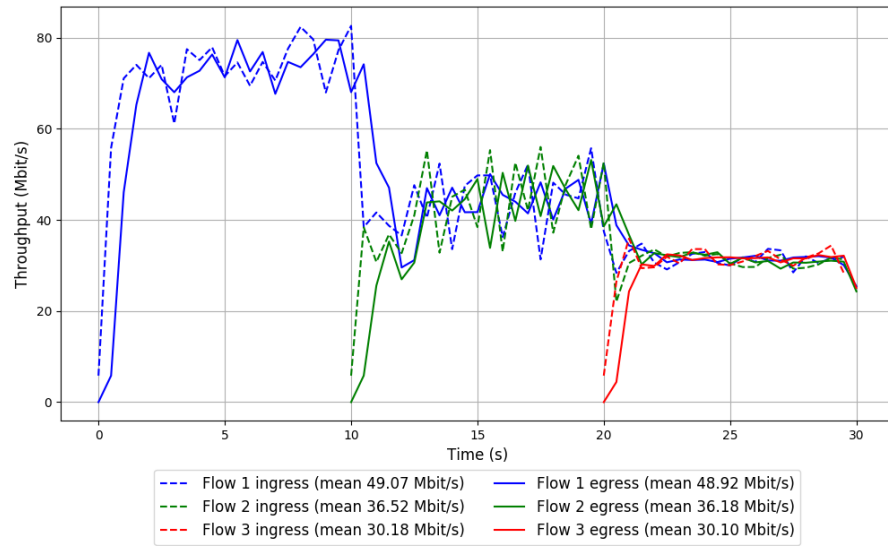
Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 49.94 Mbit/s) — Flow 1 egress (mean 50.02 Mbit/s)
Flow 2 ingress (mean 37.66 Mbit/s) — Flow 2 egress (mean 37.68 Mbit/s)
Flow 3 ingress (mean 30.13 Mbit/s) — Flow 3 egress (mean 30.07 Mbit/s)

Flow 1 (95th percentile 150.90 ms) — Flow 2 (95th percentile 172.84 ms) — Flow 3 (95th percentile 144.37 ms)

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

Start at: 2018-09-08 00:52:25
End at: 2018-09-08 00:52:55
Local clock offset: -0.365 ms
Remote clock offset: 6.415 ms


# Below is generated by plot.py at 2018-09-08 02:33:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.85 Mbit/s
95th percentile per-packet one-way delay: 145.718 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 48.92 Mbit/s
95th percentile per-packet one-way delay: 140.079 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 36.18 Mbit/s
95th percentile per-packet one-way delay: 158.484 ms
Loss rate: 1.75%
-- Flow 3:
Average throughput: 30.10 Mbit/s
95th percentile per-packet one-way delay: 138.351 ms
Loss rate: 1.93%
```
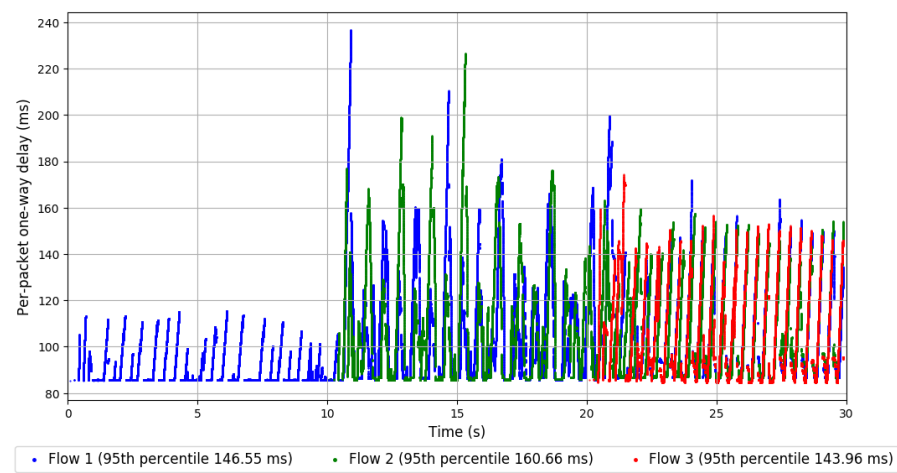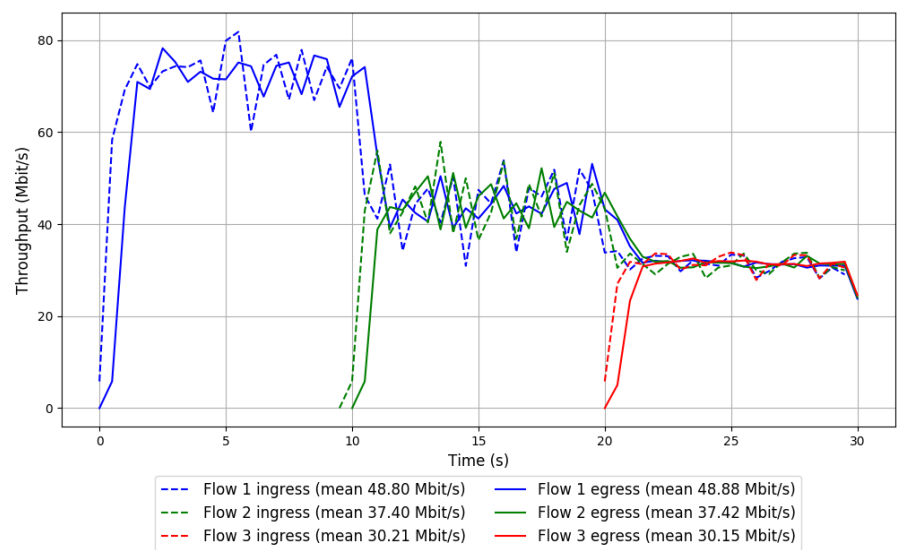
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 49.07 Mbit/s) — — — Flow 1 egress (mean 48.92 Mbit/s)
Flow 2 ingress (mean 36.52 Mbit/s) — — — Flow 2 egress (mean 36.18 Mbit/s)
Flow 3 ingress (mean 30.18 Mbit/s) — — — Flow 3 egress (mean 30.10 Mbit/s)

Flow 1 (95th percentile 140.08 ms)   Flow 2 (95th percentile 158.48 ms)   Flow 3 (95th percentile 138.35 ms)

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

Start at: 2018-09-08 01:15:47
End at: 2018-09-08 01:16:17
Local clock offset: 2.955 ms
Remote clock offset: 2.24 ms


# Below is generated by plot.py at 2018-09-08 02:33:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.66 Mbit/s
95th percentile per-packet one-way delay: 150.329 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 48.88 Mbit/s
95th percentile per-packet one-way delay: 146.551 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 37.42 Mbit/s
95th percentile per-packet one-way delay: 160.659 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 30.15 Mbit/s
95th percentile per-packet one-way delay: 143.959 ms
Loss rate: 1.98%
```
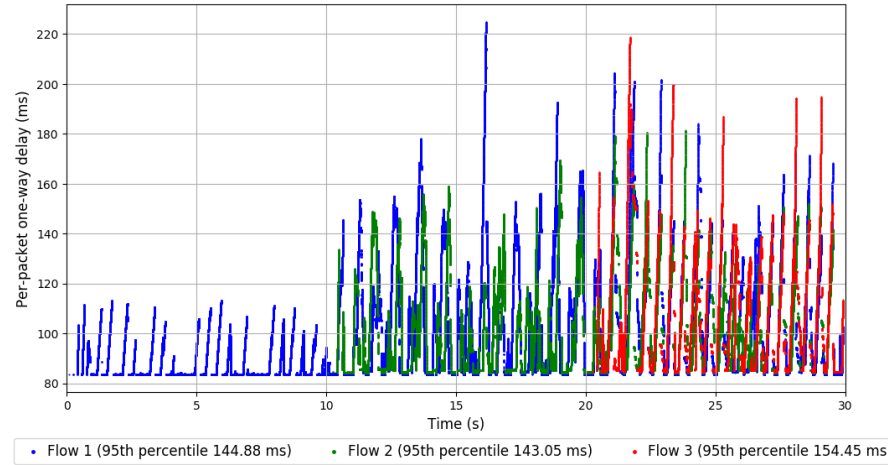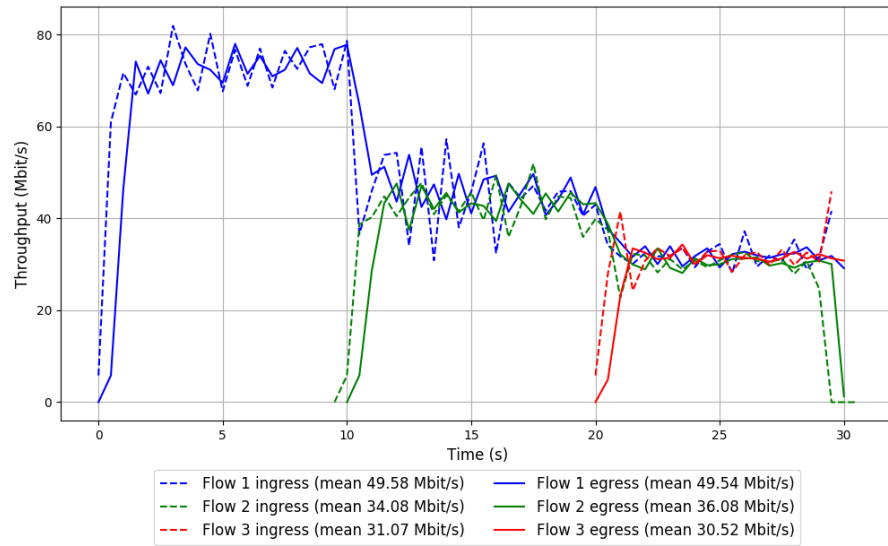
Run 3: Report of TaoVA-100x — Data Link

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

Start at: 2018-09-08 01:39:00
End at: 2018-09-08 01:39:30
Local clock offset: -3.589 ms
Remote clock offset: 1.577 ms


# Below is generated by plot.py at 2018-09-08 02:33:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.11 Mbit/s
95th percentile per-packet one-way delay: 145.541 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 49.54 Mbit/s
95th percentile per-packet one-way delay: 144.882 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 36.08 Mbit/s
95th percentile per-packet one-way delay: 143.053 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 30.52 Mbit/s
95th percentile per-packet one-way delay: 154.452 ms
Loss rate: 3.41%
```
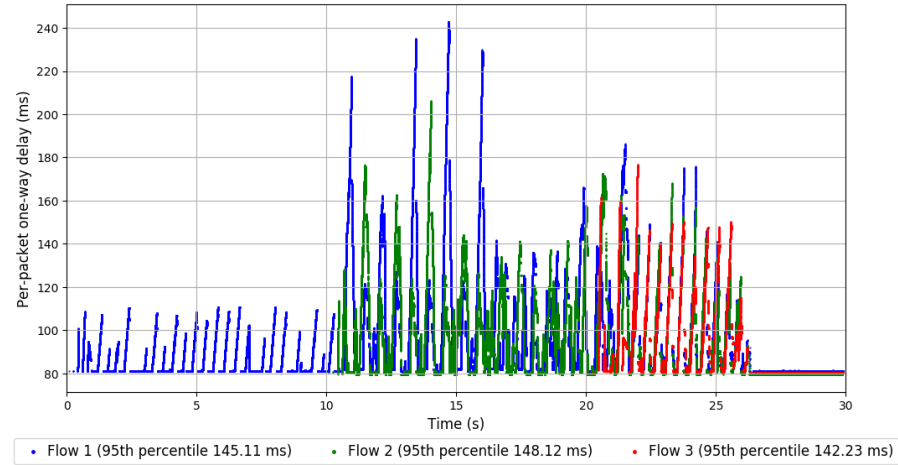
Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2018-09-08 02:02:11
End at: 2018-09-08 02:02:41
Local clock offset: -2.252 ms
Remote clock offset: 7.636 ms


# Below is generated by plot.py at 2018-09-08 02:33:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.89 Mbit/s
95th percentile per-packet one-way delay: 145.533 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 45.90 Mbit/s
95th percentile per-packet one-way delay: 145.108 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 33.38 Mbit/s
95th percentile per-packet one-way delay: 148.124 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 17.79 Mbit/s
95th percentile per-packet one-way delay: 142.232 ms
Loss rate: 2.08%
```
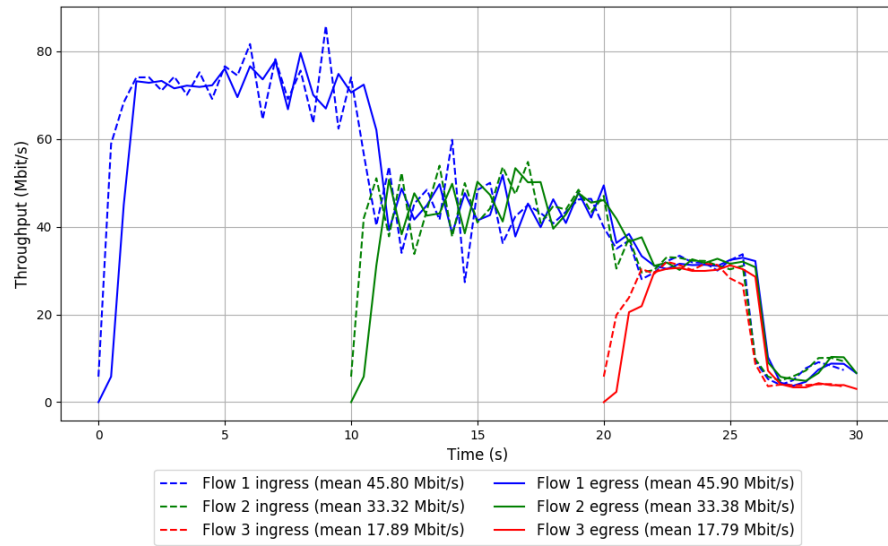
Run 5: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2018-09-08 00:39:35
End at: 2018-09-08 00:40:05
Local clock offset: -5.735 ms
Remote clock offset: 7.718 ms


# Below is generated by plot.py at 2018-09-08 02:33:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.42 Mbit/s
95th percentile per-packet one-way delay: 137.774 ms
Loss rate: 2.46%
-- Flow 1:
Average throughput: 22.35 Mbit/s
95th percentile per-packet one-way delay: 158.560 ms
Loss rate: 4.24%
-- Flow 2:
Average throughput: 32.12 Mbit/s
95th percentile per-packet one-way delay: 118.782 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 20.55 Mbit/s
95th percentile per-packet one-way delay: 145.649 ms
Loss rate: 2.18%
```
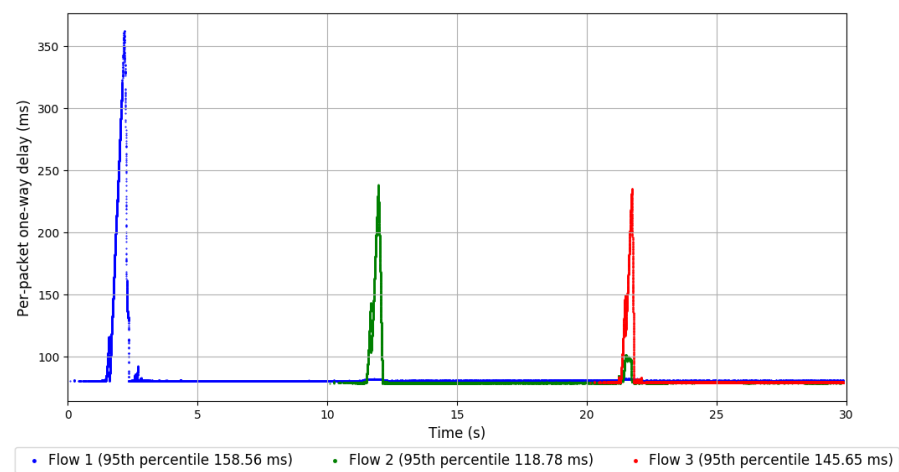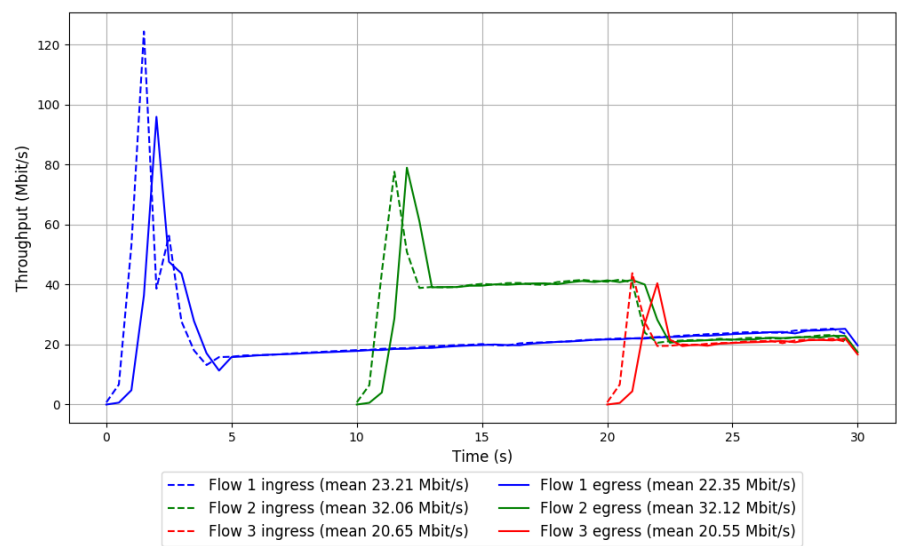
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-09-08 01:03:03
End at: 2018-09-08 01:03:33
Local clock offset: 1.8 ms
Remote clock offset: 3.457 ms


# Below is generated by plot.py at 2018-09-08 02:33:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.11 Mbit/s
95th percentile per-packet one-way delay: 85.439 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 46.91 Mbit/s
95th percentile per-packet one-way delay: 85.024 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 29.78 Mbit/s
95th percentile per-packet one-way delay: 84.617 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 19.55 Mbit/s
95th percentile per-packet one-way delay: 161.651 ms
Loss rate: 1.88%
```
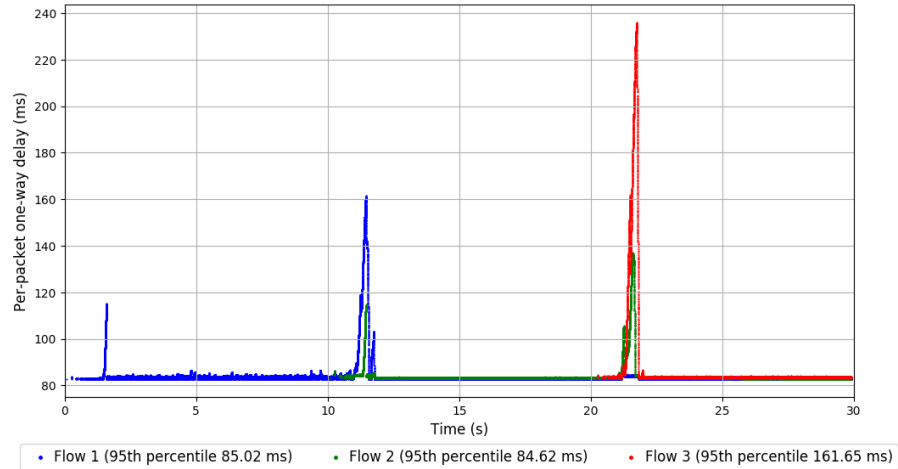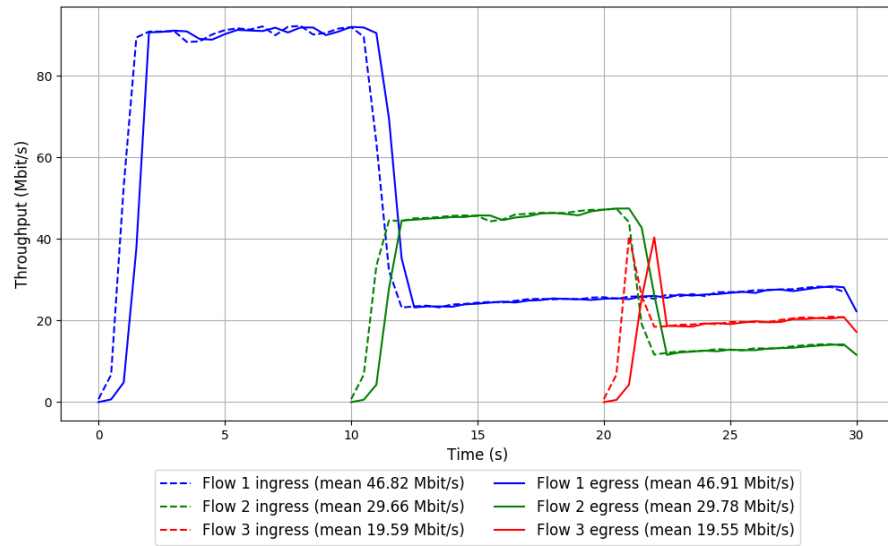
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-09-08 01:26:05
End at: 2018-09-08 01:26:35
Local clock offset: -2.409 ms
Remote clock offset: 2.286 ms


# Below is generated by plot.py at 2018-09-08 02:33:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.70 Mbit/s
95th percentile per-packet one-way delay: 106.849 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 44.47 Mbit/s
95th percentile per-packet one-way delay: 87.188 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 20.50 Mbit/s
95th percentile per-packet one-way delay: 204.989 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 11.01 Mbit/s
95th percentile per-packet one-way delay: 83.802 ms
Loss rate: 2.07%
```
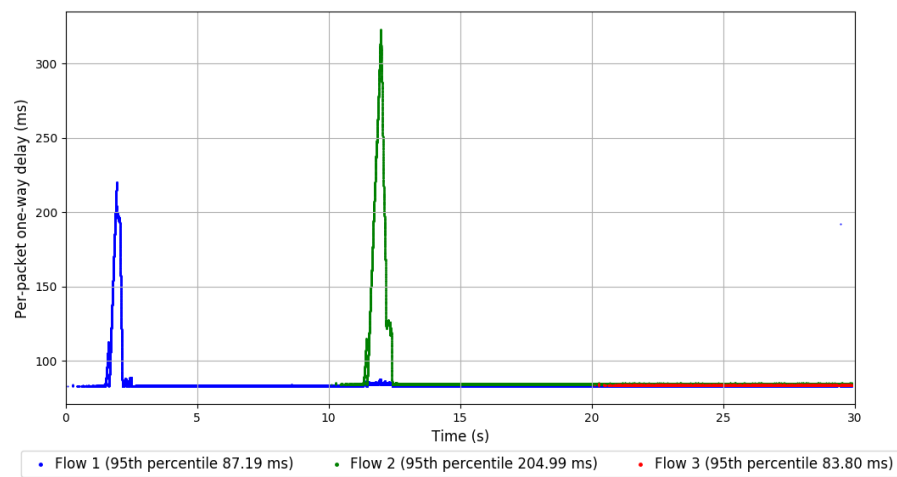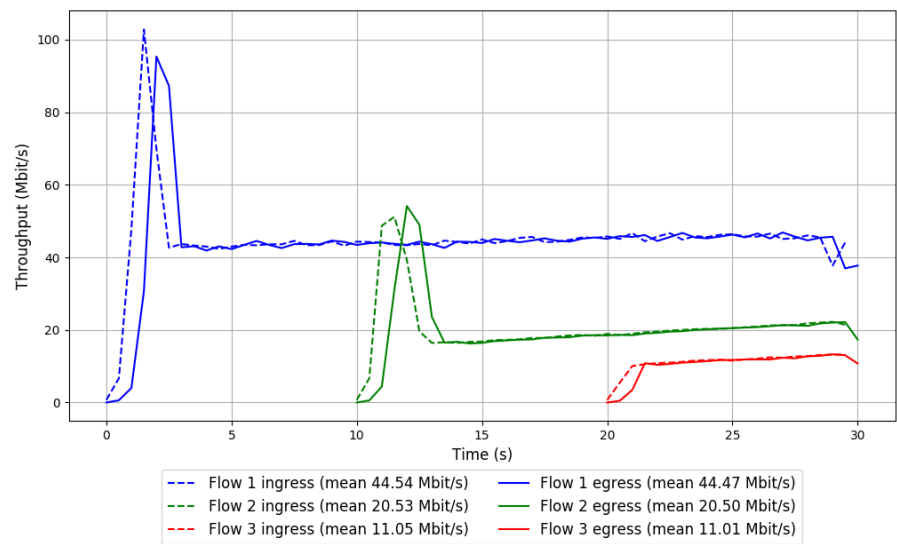
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2018-09-08 01:49:28
End at: 2018-09-08 01:49:58
Local clock offset: -3.134 ms
Remote clock offset: 6.248 ms


# Below is generated by plot.py at 2018-09-08 02:33:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.22 Mbit/s
95th percentile per-packet one-way delay: 81.026 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 4.94 Mbit/s
95th percentile per-packet one-way delay: 80.811 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 5.33 Mbit/s
95th percentile per-packet one-way delay: 81.063 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 5.30 Mbit/s
95th percentile per-packet one-way delay: 80.886 ms
Loss rate: 2.22%
```
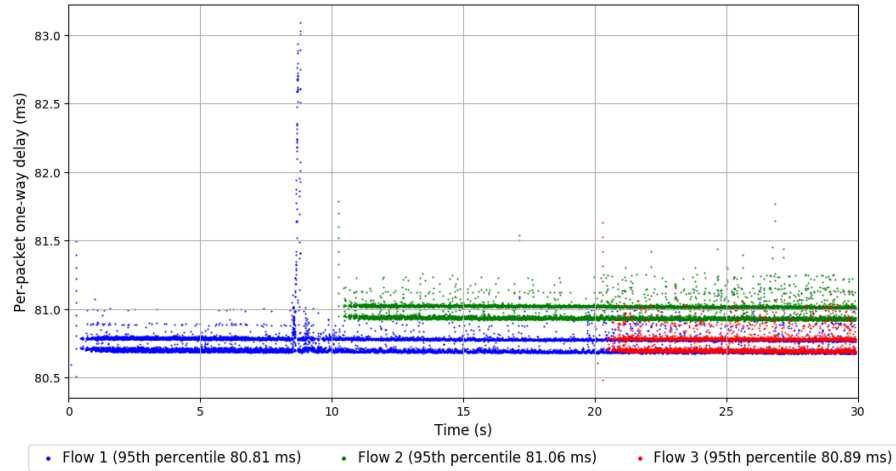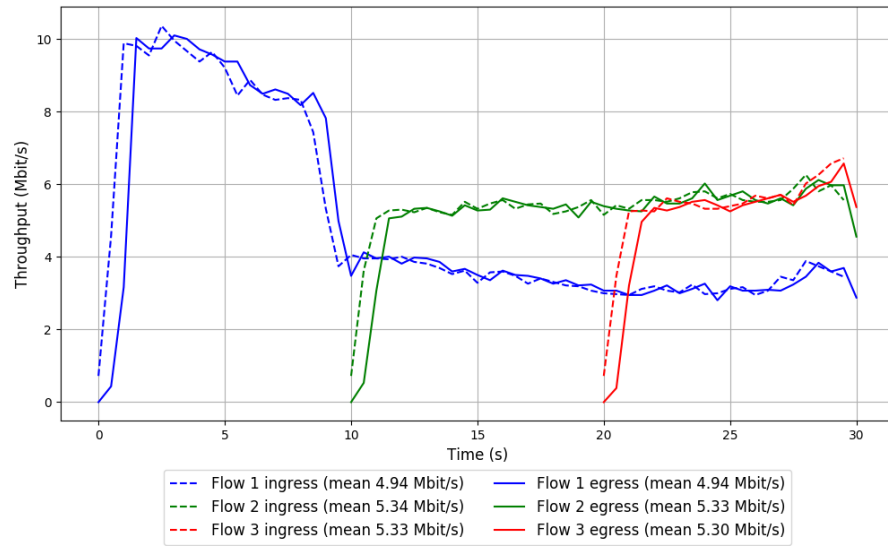
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-09-08 02:12:31
End at: 2018-09-08 02:13:01
Local clock offset: -2.143 ms
Remote clock offset: 7.44 ms


# Below is generated by plot.py at 2018-09-08 02:33:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.09 Mbit/s
95th percentile per-packet one-way delay: 81.102 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 5.07 Mbit/s
95th percentile per-packet one-way delay: 80.699 ms
Loss rate: 1.23%
-- Flow 2:
Average throughput: 7.79 Mbit/s
95th percentile per-packet one-way delay: 81.228 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 20.84 Mbit/s
95th percentile per-packet one-way delay: 80.761 ms
Loss rate: 1.94%
```
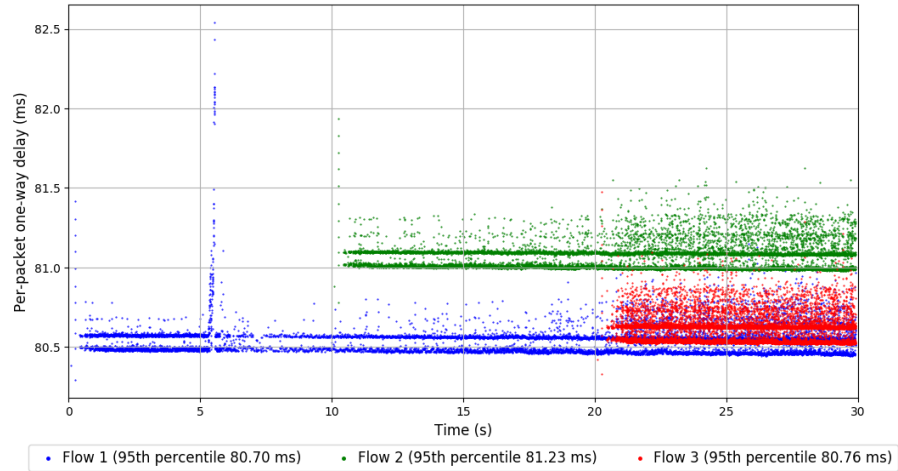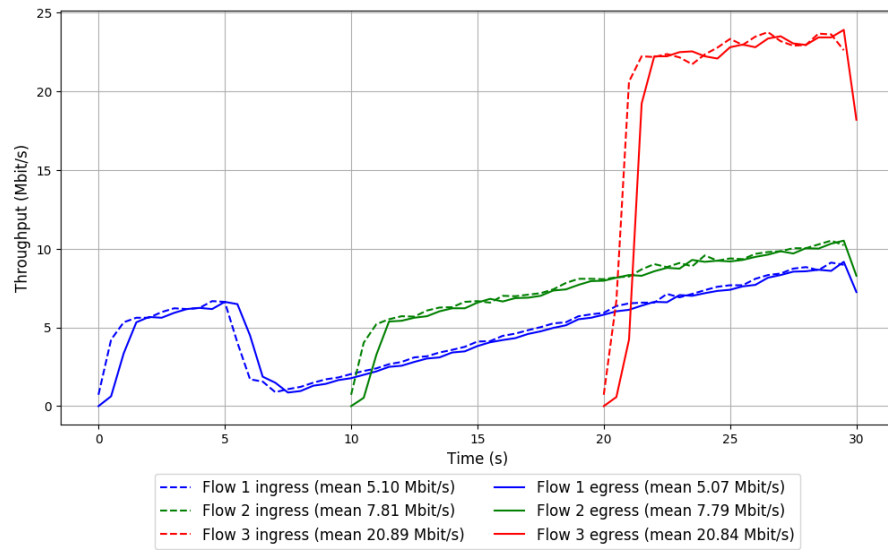
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 5.10 Mbit/s)   Flow 1 egress (mean 5.07 Mbit/s)
Flow 2 ingress (mean 7.81 Mbit/s)   Flow 2 egress (mean 7.79 Mbit/s)
Flow 3 ingress (mean 20.89 Mbit/s)   Flow 3 egress (mean 20.84 Mbit/s)

Flow 1 (95th percentile 80.70 ms)   Flow 2 (95th percentile 81.23 ms)   Flow 3 (95th percentile 80.76 ms)

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```
Run 1: Statistics of Verus

Start at: 2018-09-08 00:44:39
End at: 2018-09-08 00:45:09
Local clock offset: -5.4 ms
Remote clock offset: 2.668 ms


# Below is generated by plot.py at 2018-09-08 02:34:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.20 Mbit/s
95th percentile per-packet one-way delay: 250.442 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 41.55 Mbit/s
95th percentile per-packet one-way delay: 260.099 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 35.27 Mbit/s
95th percentile per-packet one-way delay: 241.031 ms
Loss rate: 1.81%
-- Flow 3:
Average throughput: 25.08 Mbit/s
95th percentile per-packet one-way delay: 306.877 ms
Loss rate: 2.48%
```
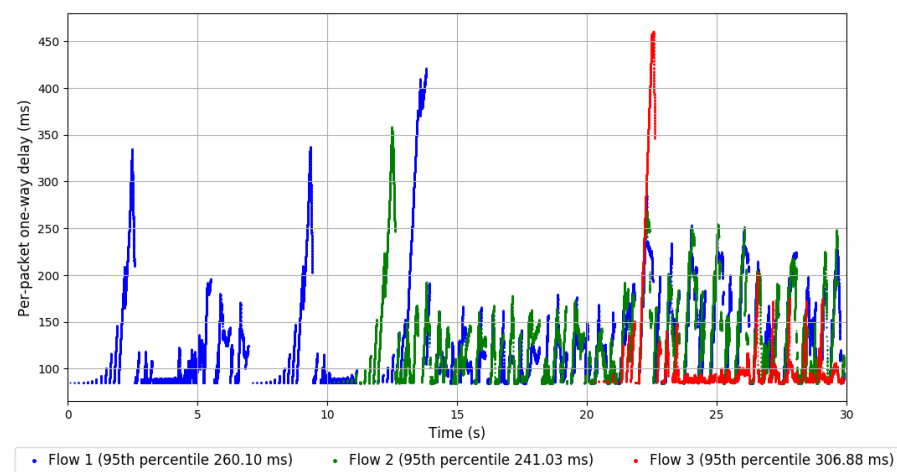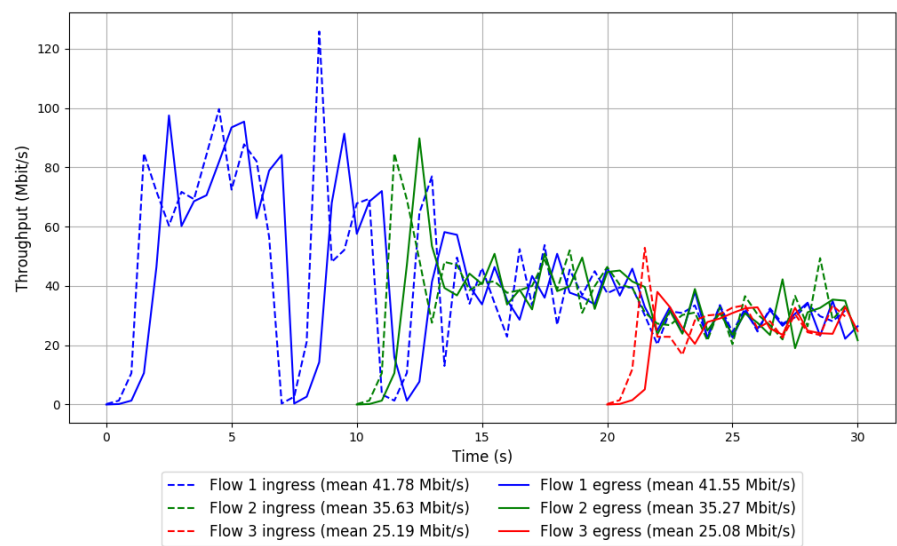
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 41.78 Mbit/s)   Flow 1 egress (mean 41.55 Mbit/s)
Flow 2 ingress (mean 35.63 Mbit/s)   Flow 2 egress (mean 35.27 Mbit/s)
Flow 3 ingress (mean 25.19 Mbit/s)   Flow 3 egress (mean 25.08 Mbit/s)

Flow 1 (95th percentile 260.10 ms)   Flow 2 (95th percentile 241.03 ms)   Flow 3 (95th percentile 306.88 ms)
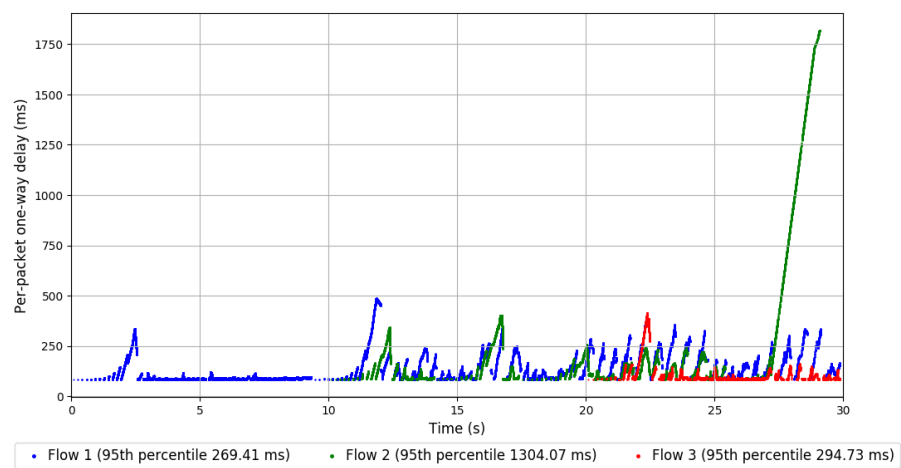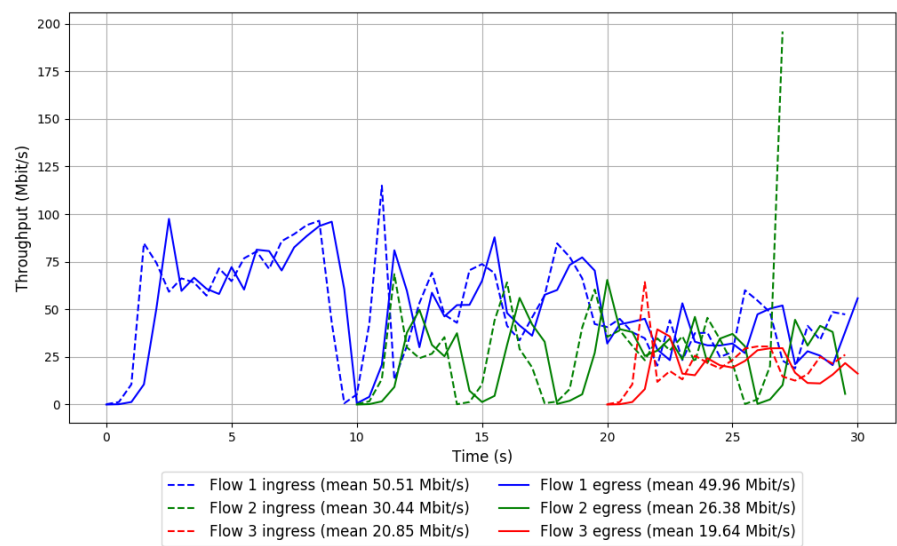
```
Run 2: Statistics of Verus

Start at: 2018-09-08 01:08:09
End at: 2018-09-08 01:08:39
Local clock offset: 3.245 ms
Remote clock offset: 2.803 ms

# Below is generated by plot.py at 2018-09-08 02:34:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.22 Mbit/s
95th percentile per-packet one-way delay: 326.165 ms
Loss rate: 2.86%
-- Flow 1:
Average throughput: 49.96 Mbit/s
95th percentile per-packet one-way delay: 269.412 ms
Loss rate: 1.60%
-- Flow 2:
Average throughput: 26.38 Mbit/s
95th percentile per-packet one-way delay: 1304.066 ms
Loss rate: 4.64%
-- Flow 3:
Average throughput: 19.64 Mbit/s
95th percentile per-packet one-way delay: 294.727 ms
Loss rate: 7.51%
```

Run 2: Report of Verus — Data Link

- Flow 1 ingress (mean 50.51 Mbit/s) --- Flow 1 egress (mean 49.96 Mbit/s)
- Flow 2 ingress (mean 30.44 Mbit/s) --- Flow 2 egress (mean 26.38 Mbit/s)
- Flow 3 ingress (mean 20.85 Mbit/s) --- Flow 3 egress (mean 19.64 Mbit/s)

- Flow 1 (95th percentile 269.41 ms)
- Flow 2 (95th percentile 1304.07 ms)
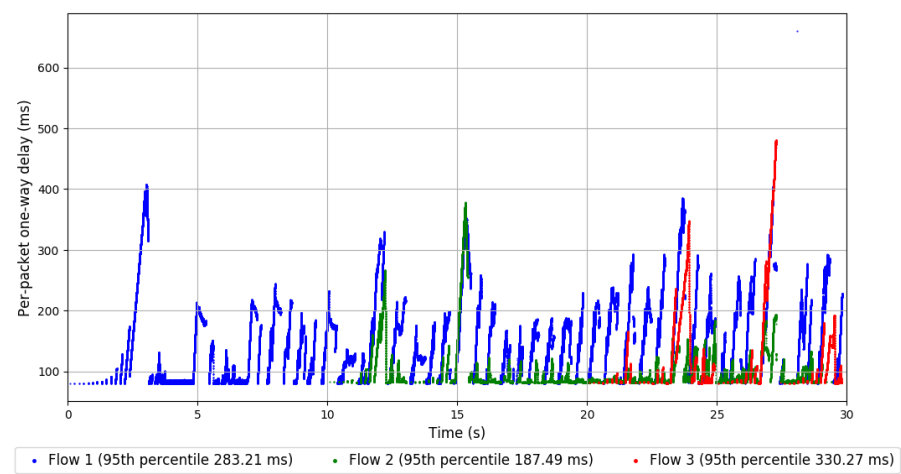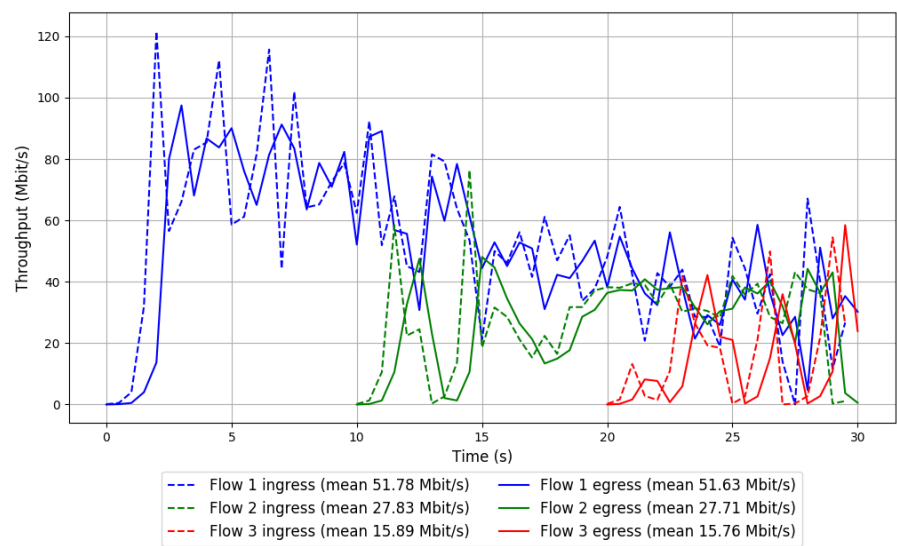- Flow 3 (95th percentile 294.73 ms)

```
Run 3: Statistics of Verus

Start at: 2018-09-08 01:31:20
End at: 2018-09-08 01:31:50
Local clock offset: -2.693 ms
Remote clock offset: 5.75 ms


# Below is generated by plot.py at 2018-09-08 02:34:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.09 Mbit/s
95th percentile per-packet one-way delay: 275.522 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 51.63 Mbit/s
95th percentile per-packet one-way delay: 283.214 ms
Loss rate: 1.04%
-- Flow 2:
Average throughput: 27.71 Mbit/s
95th percentile per-packet one-way delay: 187.493 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 15.76 Mbit/s
95th percentile per-packet one-way delay: 330.272 ms
Loss rate: 3.22%
```

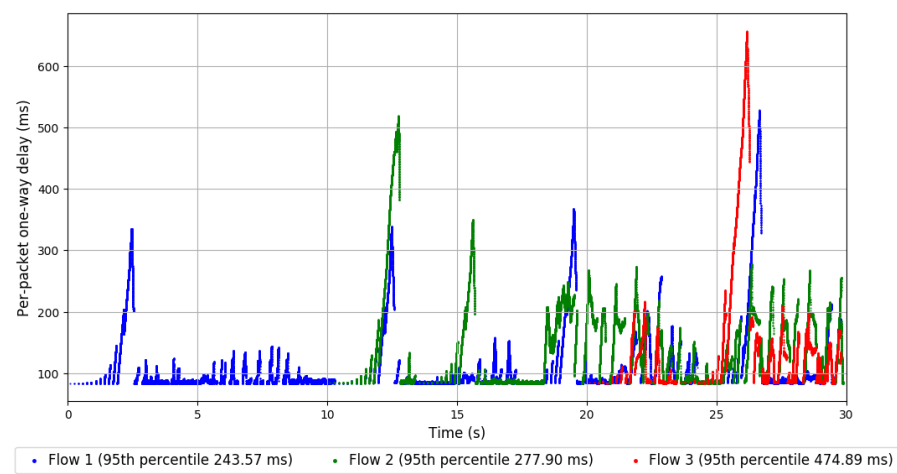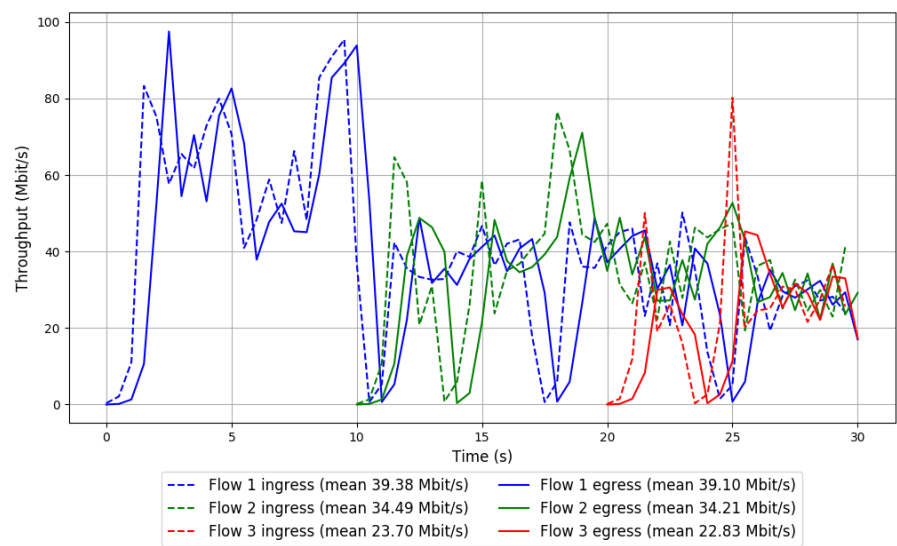Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-09-08 01:54:31
End at: 2018-09-08 01:55:01
Local clock offset: -3.401 ms
Remote clock offset: 2.85 ms


# Below is generated by plot.py at 2018-09-08 02:34:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.11 Mbit/s
95th percentile per-packet one-way delay: 273.971 ms
Loss rate: 2.12%
-- Flow 1:
Average throughput: 39.10 Mbit/s
95th percentile per-packet one-way delay: 243.571 ms
Loss rate: 1.57%
-- Flow 2:
Average throughput: 34.21 Mbit/s
95th percentile per-packet one-way delay: 277.898 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 22.83 Mbit/s
95th percentile per-packet one-way delay: 474.889 ms
Loss rate: 6.22%
```

Run 4: Report of Verus — Data Link

Flow 1 ingress (mean 39.38 Mbit/s) Flow 1 egress (mean 39.10 Mbit/s)
Flow 2 ingress (mean 34.49 Mbit/s) Flow 2 egress (mean 34.21 Mbit/s)
Flow 3 ingress (mean 23.70 Mbit/s) Flow 3 egress (mean 22.83 Mbit/s)

Flow 1 (95th percentile 243.57 ms)   Flow 2 (95th percentile 277.90 ms)   Flow 3 (95th percentile 474.89 ms)

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```
Run 5: Statistics of Verus

Start at: 2018-09-08 02:17:35
End at: 2018-09-08 02:18:05
Local clock offset: -2.307 ms
Remote clock offset: 3.351 ms

# Below is generated by plot.py at 2018-09-08 02:34:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.41 Mbit/s
95th percentile per-packet one-way delay: 277.844 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 33.50 Mbit/s
95th percentile per-packet one-way delay: 275.121 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 36.18 Mbit/s
95th percentile per-packet one-way delay: 286.972 ms
Loss rate: 1.82%
-- Flow 3:
Average throughput: 21.04 Mbit/s
95th percentile per-packet one-way delay: 267.861 ms
Loss rate: 2.31%
```
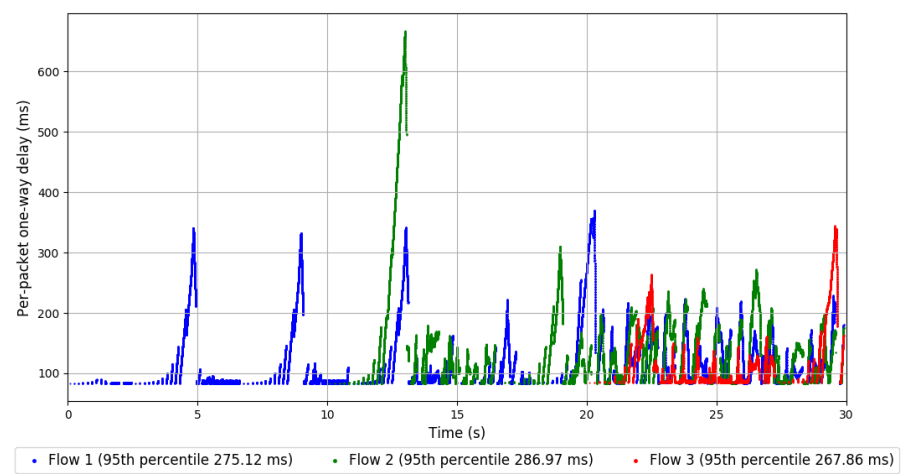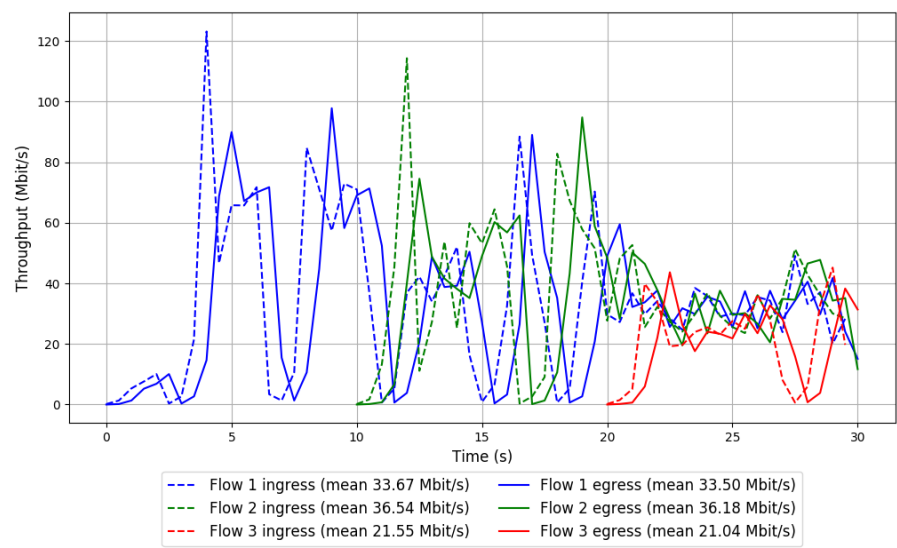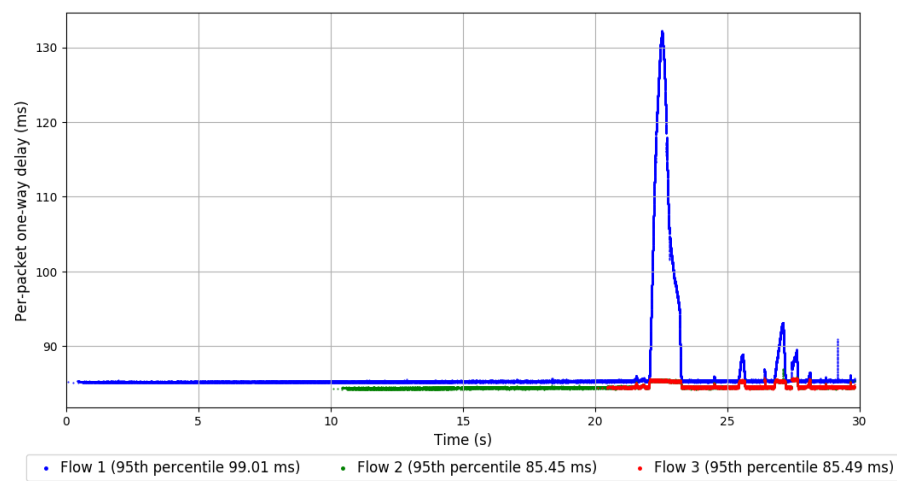
Run 5: Report of Verus — Data Link

- - - - Flow 1 ingress (mean 33.67 Mbit/s)   —— Flow 1 egress (mean 33.50 Mbit/s)
- - - - Flow 2 ingress (mean 36.54 Mbit/s)   —— Flow 2 egress (mean 36.18 Mbit/s)
- - - - Flow 3 ingress (mean 21.55 Mbit/s)   —— Flow 3 egress (mean 21.04 Mbit/s)

- Flow 1 (95th percentile 275.12 ms)   • Flow 2 (95th percentile 286.97 ms)   • Flow 3 (95th percentile 267.86 ms)

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-09-08 00:31:54
End at: 2018-09-08 00:32:24
Local clock offset: -4.123 ms
Remote clock offset: 3.56 ms


# Below is generated by plot.py at 2018-09-08 02:34:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 49.16 Mbit/s
95th percentile per-packet one-way delay: 93.856 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 38.73 Mbit/s
95th percentile per-packet one-way delay: 99.007 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 11.58 Mbit/s
95th percentile per-packet one-way delay: 85.452 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 8.40 Mbit/s
95th percentile per-packet one-way delay: 85.486 ms
Loss rate: 2.37%
```
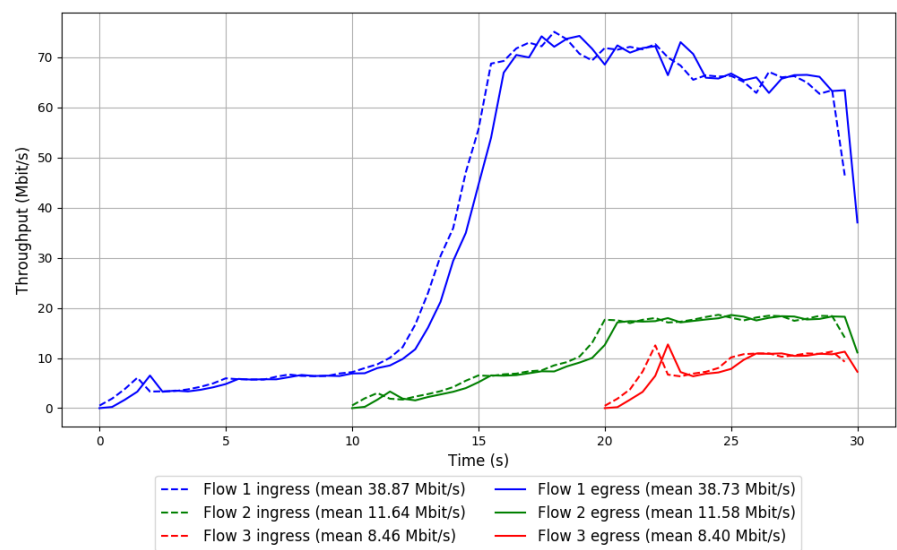
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-09-08 00:55:06
End at: 2018-09-08 00:55:36
Local clock offset: 0.677 ms
Remote clock offset: 7.498 ms


# Below is generated by plot.py at 2018-09-08 02:34:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.05 Mbit/s
95th percentile per-packet one-way delay: 129.746 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 68.19 Mbit/s
95th percentile per-packet one-way delay: 131.899 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 16.29 Mbit/s
95th percentile per-packet one-way delay: 80.974 ms
Loss rate: 1.90%
-- Flow 3:
Average throughput: 3.26 Mbit/s
95th percentile per-packet one-way delay: 81.555 ms
Loss rate: 2.15%
```
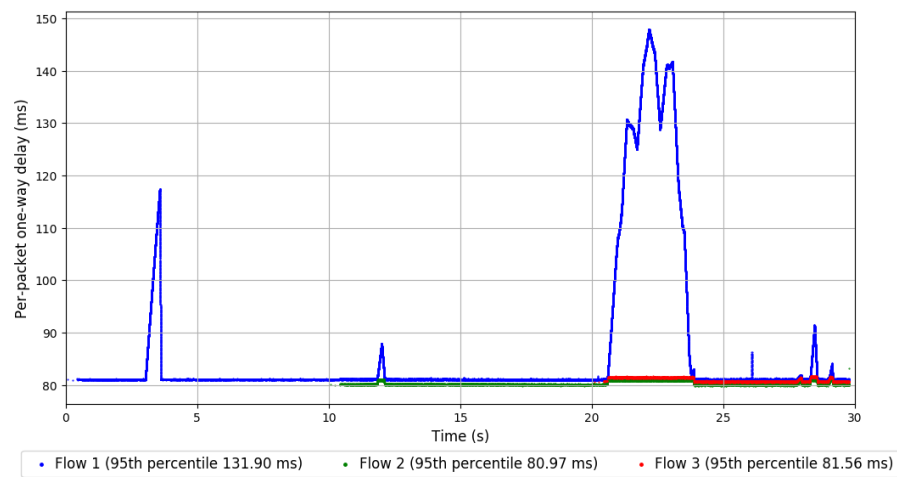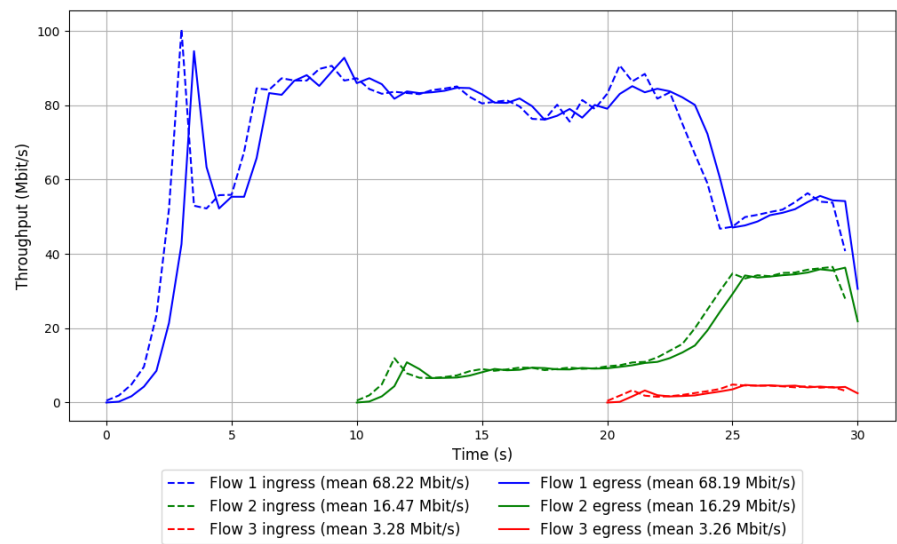
Run 2: Report of PCC-Vivace — Data Link

- - - Flow 1 ingress (mean 68.22 Mbit/s) —— Flow 1 egress (mean 68.19 Mbit/s)
- - - Flow 2 ingress (mean 16.47 Mbit/s) —— Flow 2 egress (mean 16.29 Mbit/s)
- - - Flow 3 ingress (mean 3.28 Mbit/s) —— Flow 3 egress (mean 3.26 Mbit/s)

- Flow 1 (95th percentile 131.90 ms)   • Flow 2 (95th percentile 80.97 ms)   • Flow 3 (95th percentile 81.56 ms)

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```
Run 3: Statistics of PCC-Vivace

Start at: 2018-09-08 01:18:24
End at: 2018-09-08 01:18:54
Local clock offset: 0.632 ms
Remote clock offset: 5.651 ms


# Below is generated by plot.py at 2018-09-08 02:34:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.70 Mbit/s
95th percentile per-packet one-way delay: 82.205 ms
Loss rate: 1.83%
-- Flow 1:
Average throughput: 41.04 Mbit/s
95th percentile per-packet one-way delay: 84.526 ms
Loss rate: 1.69%
-- Flow 2:
Average throughput: 6.47 Mbit/s
95th percentile per-packet one-way delay: 80.879 ms
Loss rate: 3.06%
-- Flow 3:
Average throughput: 7.23 Mbit/s
95th percentile per-packet one-way delay: 80.119 ms
Loss rate: 2.11%
```
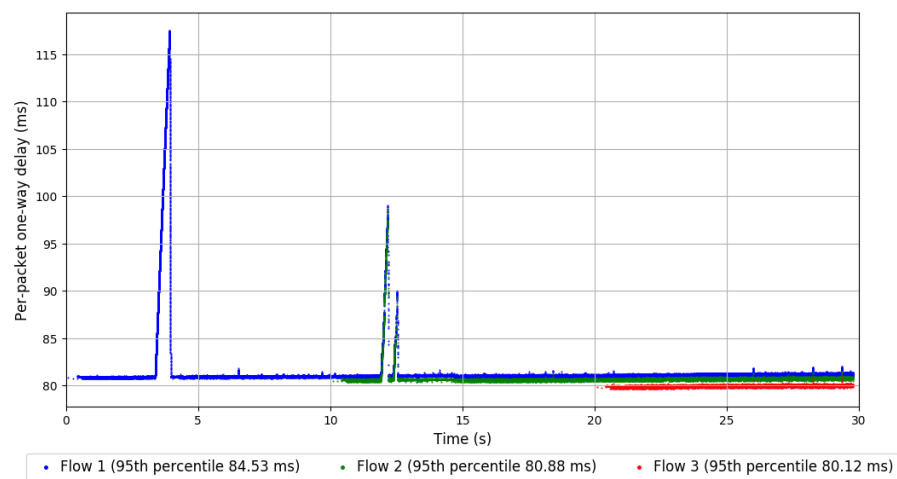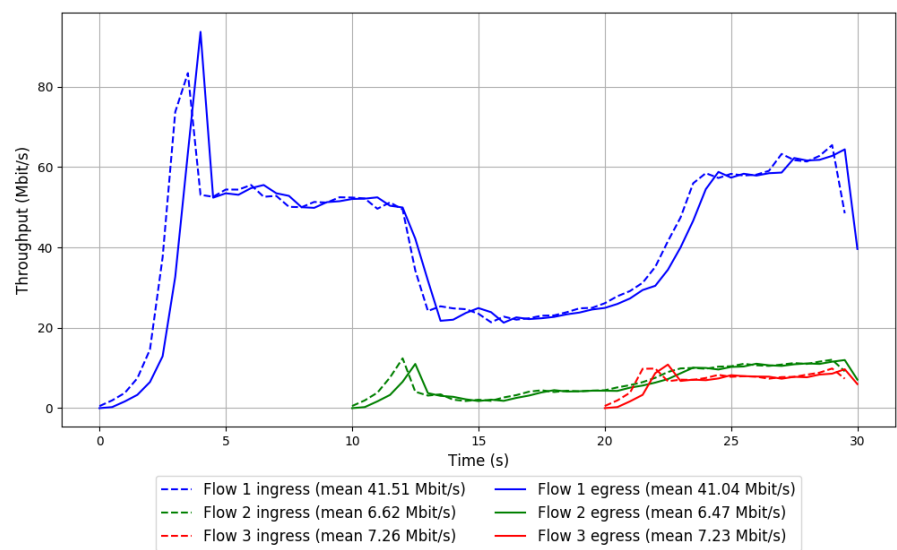
Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-09-08 01:41:40
End at: 2018-09-08 01:42:10
Local clock offset: -3.787 ms
Remote clock offset: 5.182 ms


# Below is generated by plot.py at 2018-09-08 02:34:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 62.51 Mbit/s
95th percentile per-packet one-way delay: 151.237 ms
Loss rate: 2.72%
-- Flow 1:
Average throughput: 55.91 Mbit/s
95th percentile per-packet one-way delay: 152.057 ms
Loss rate: 2.49%
-- Flow 2:
Average throughput: 2.93 Mbit/s
95th percentile per-packet one-way delay: 82.067 ms
Loss rate: 2.57%
-- Flow 3:
Average throughput: 14.27 Mbit/s
95th percentile per-packet one-way delay: 81.317 ms
Loss rate: 5.48%
```
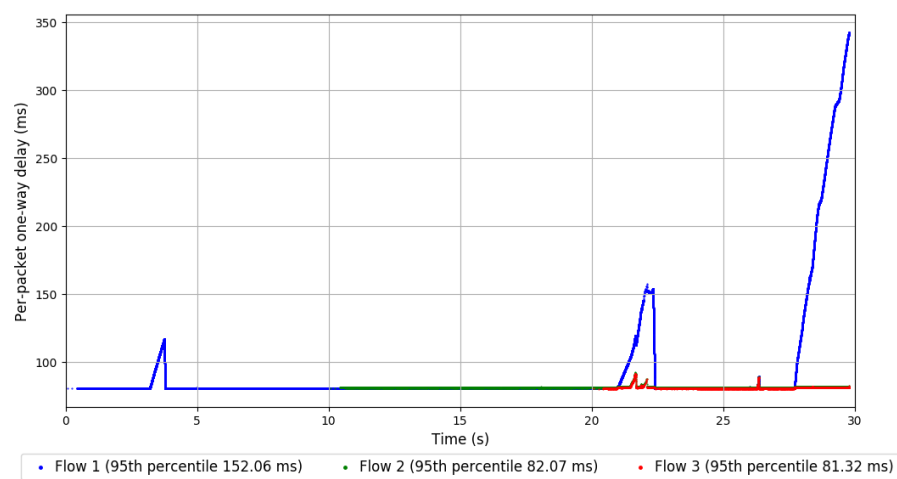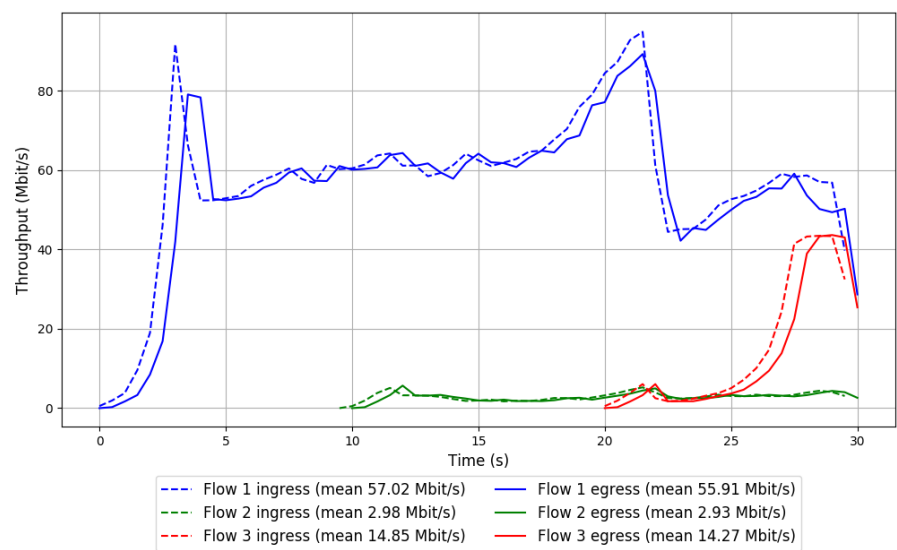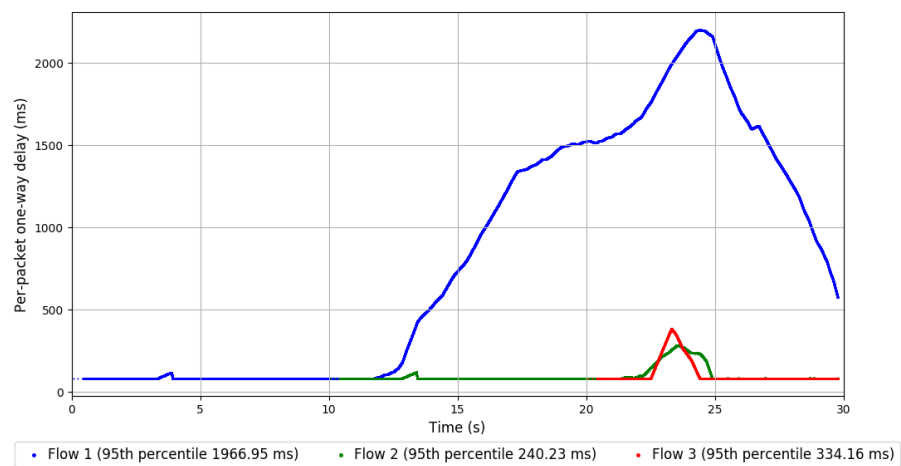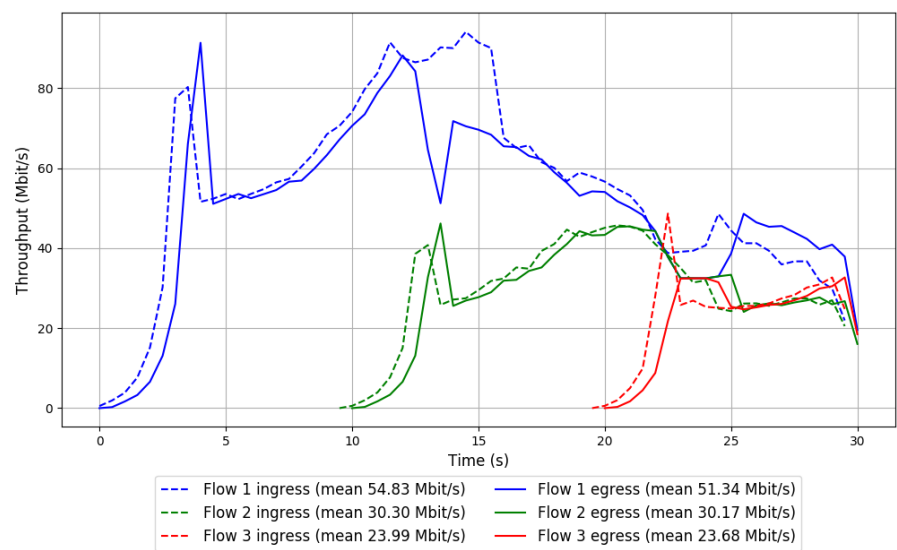
Run 4: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 57.02 Mbit/s) --- Flow 1 egress (mean 55.91 Mbit/s)
Flow 2 ingress (mean 2.98 Mbit/s) --- Flow 2 egress (mean 2.93 Mbit/s)
Flow 3 ingress (mean 14.85 Mbit/s) --- Flow 3 egress (mean 14.27 Mbit/s)

Flow 1 (95th percentile 152.06 ms)   Flow 2 (95th percentile 82.07 ms)   Flow 3 (95th percentile 81.32 ms)

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-09-08 02:04:46
End at: 2018-09-08 02:05:16
Local clock offset: -2.938 ms
Remote clock offset: 3.538 ms


# Below is generated by plot.py at 2018-09-08 02:34:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.10 Mbit/s
95th percentile per-packet one-way delay: 1782.954 ms
Loss rate: 5.15%
-- Flow 1:
Average throughput: 51.34 Mbit/s
95th percentile per-packet one-way delay: 1966.948 ms
Loss rate: 6.89%
-- Flow 2:
Average throughput: 30.17 Mbit/s
95th percentile per-packet one-way delay: 240.233 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 23.68 Mbit/s
95th percentile per-packet one-way delay: 334.158 ms
Loss rate: 2.99%
```

Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2018-09-08 00:34:26
End at: 2018-09-08 00:34:56
Local clock offset: -5.227 ms
Remote clock offset: 6.099 ms

# Below is generated by plot.py at 2018-09-08 02:34:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 82.317 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 82.412 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 81.336 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 81.353 ms
Loss rate: 1.93%
```
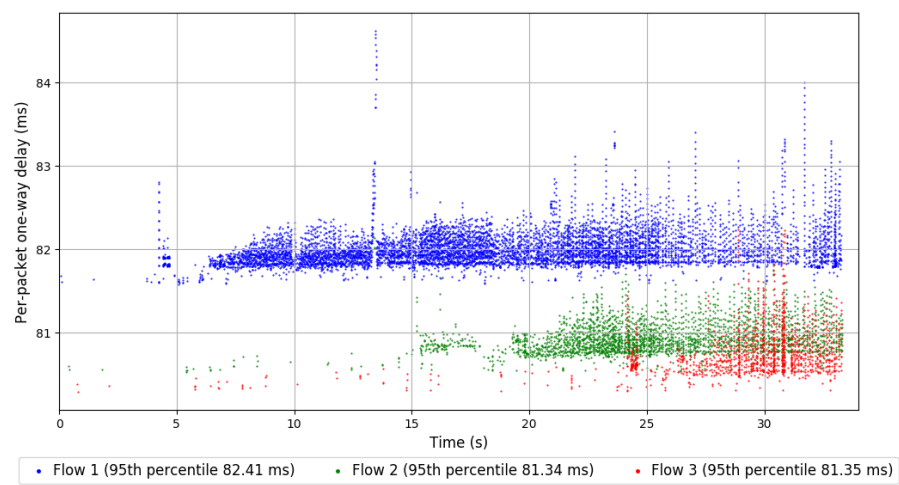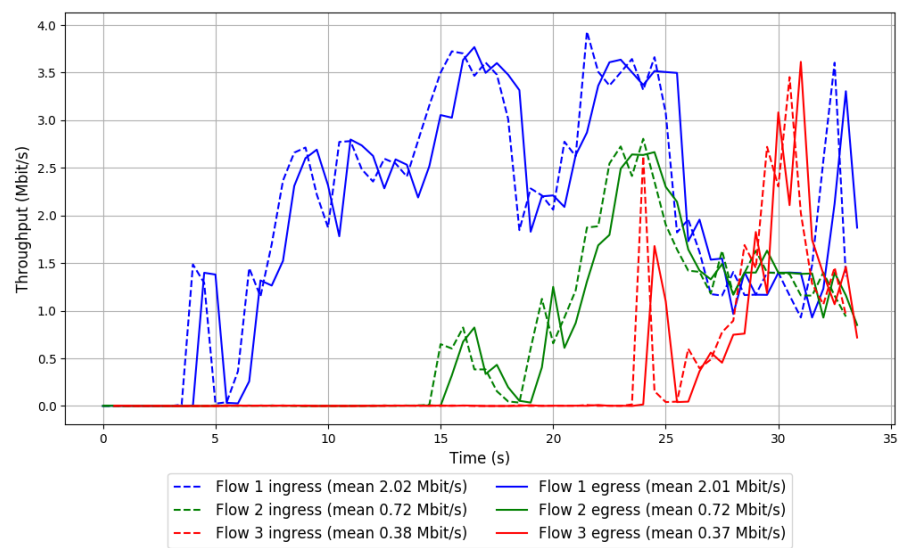
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-09-08 00:57:51
End at: 2018-09-08 00:58:21
Local clock offset: 1.438 ms
Remote clock offset: 7.149 ms


# Below is generated by plot.py at 2018-09-08 02:34:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.84 Mbit/s
95th percentile per-packet one-way delay: 81.985 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 82.049 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 81.803 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 81.397 ms
Loss rate: 2.73%
```
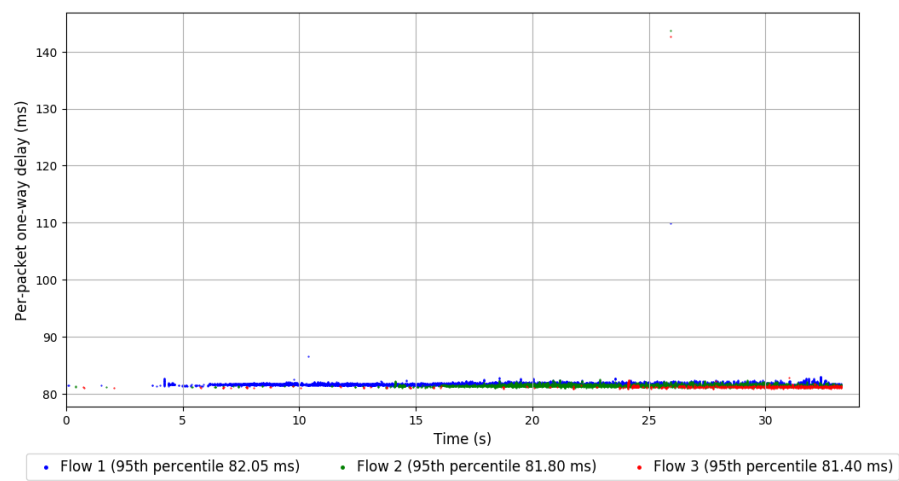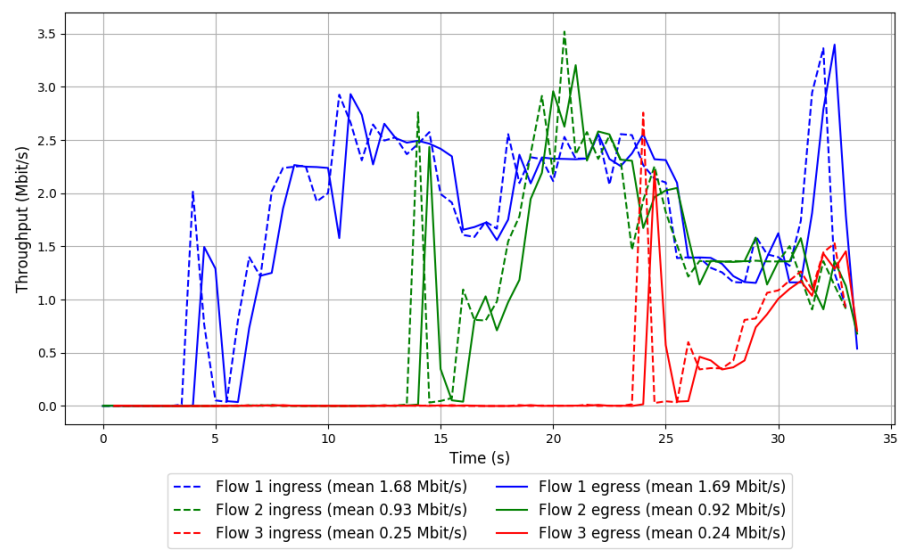
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-09-08 01:20:58
End at: 2018-09-08 01:21:28
Local clock offset: -0.599 ms
Remote clock offset: 2.149 ms


# Below is generated by plot.py at 2018-09-08 02:34:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.99 Mbit/s
95th percentile per-packet one-way delay: 85.225 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 85.242 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 84.613 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 85.478 ms
Loss rate: 1.85%
```
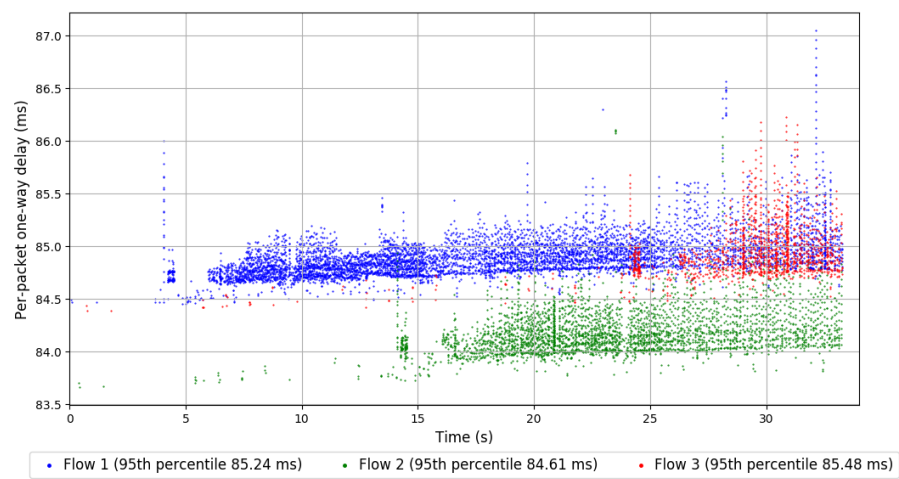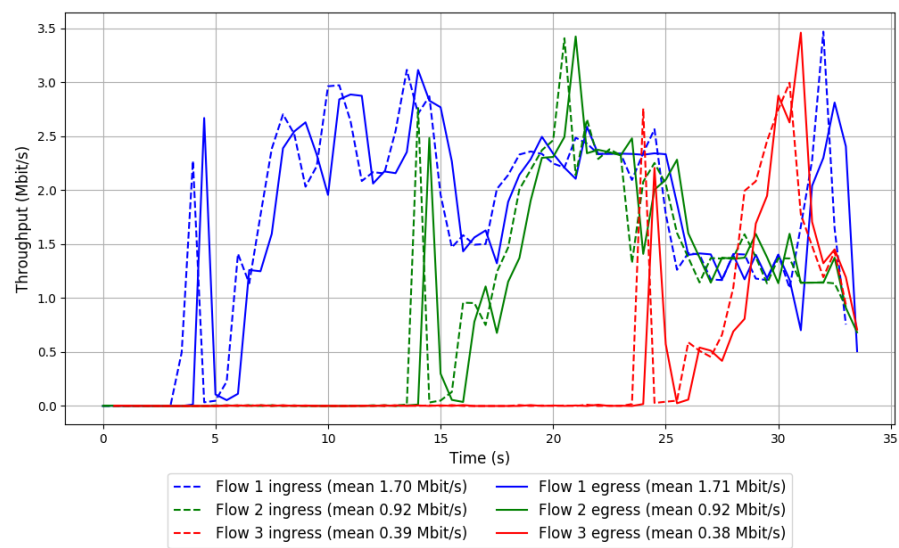
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-09-08 01:44:16
End at: 2018-09-08 01:44:46
Local clock offset: -4.71 ms
Remote clock offset: 1.492 ms


# Below is generated by plot.py at 2018-09-08 02:34:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.36 Mbit/s
95th percentile per-packet one-way delay: 84.935 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 84.670 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 84.866 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 85.205 ms
Loss rate: 5.01%
```
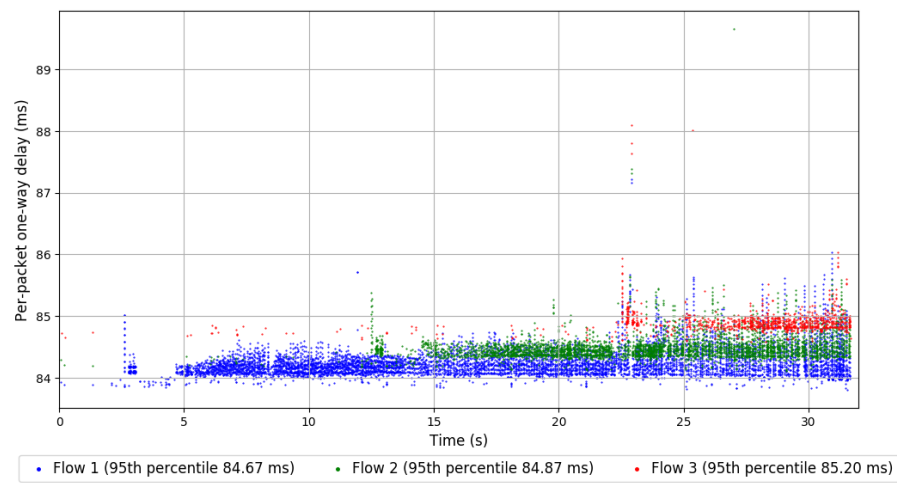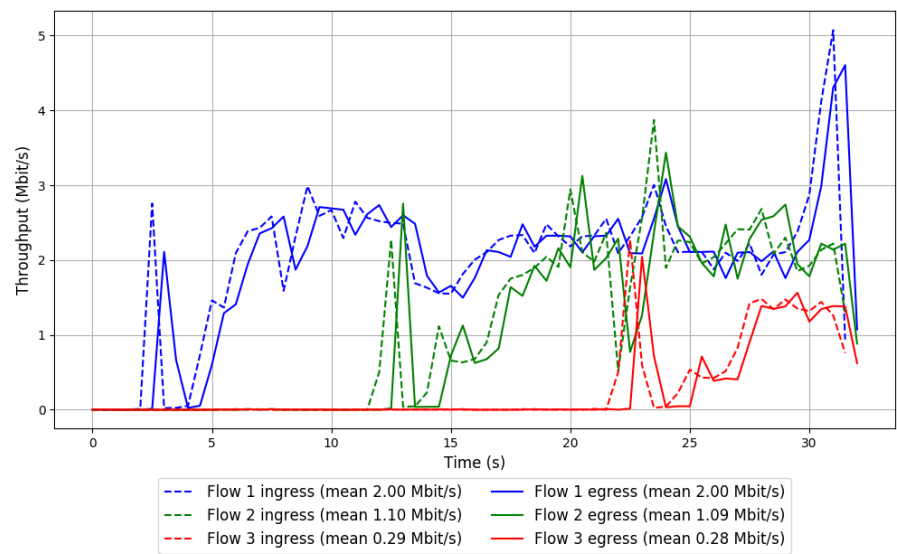
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-09-08 02:07:22
End at: 2018-09-08 02:07:52
Local clock offset: -2.962 ms
Remote clock offset: 3.997 ms


# Below is generated by plot.py at 2018-09-08 02:34:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.46 Mbit/s
95th percentile per-packet one-way delay: 84.417 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 83.548 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 1.15 Mbit/s
95th percentile per-packet one-way delay: 83.688 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 84.859 ms
Loss rate: 0.91%
```

Run 5: Report of WebRTC media — Data Link