Pantheon Report

Generated at 2018-09-25 20:12:29 (UTC).

Data path: Stanford on **eno1** (*remote*) →AWS California 1 on **ens5** (*local*).

Repeated the test of 19 congestion control schemes 5 times.

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

NTP offsets were measured against `time.stanford.edu` and have been applied to correct the timestamps in logs.
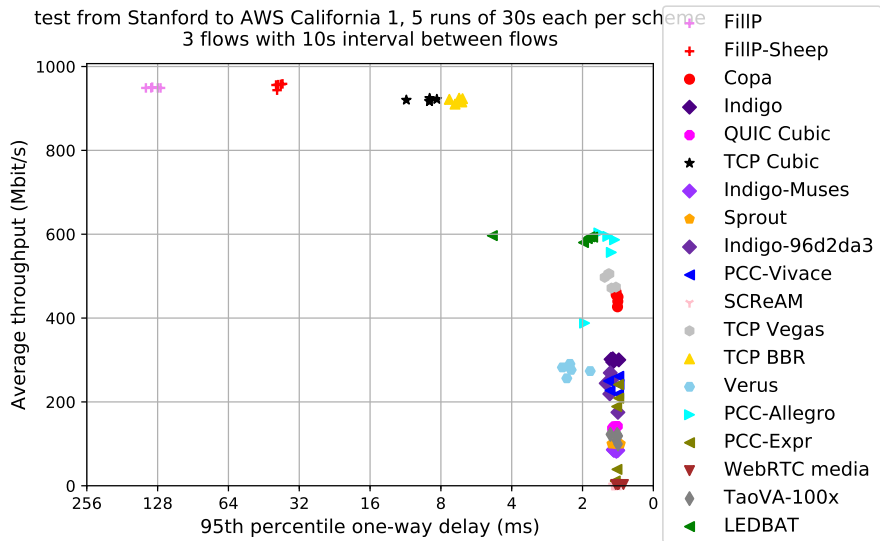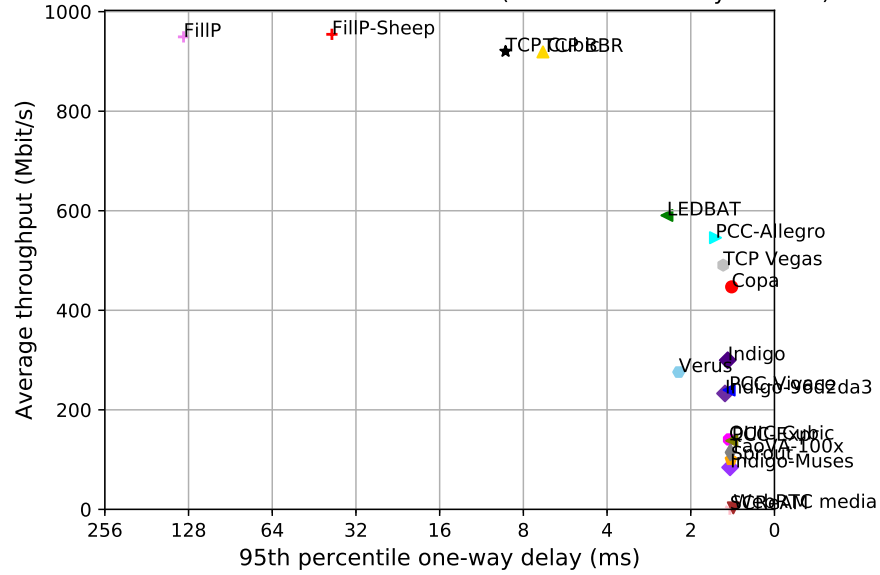
```
System info:
Linux 4.15.0-1021-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 184101 245469 368202

Git summary:
branch: muses @ 90192f6b64ce1a1191dcca0e9ff9ee24950674d7
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
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 Stanford to AWS California 1, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from Stanford to AWS California 1, 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	540.26	404.86	328.53	6.94	5.87	6.22	0.02	0.03	0.06
Copa	5	267.57	209.76	119.90	1.02	1.02	1.02	0.00	0.01	0.02
TCP Cubic	5	545.29	398.73	328.51	9.67	6.90	7.48	0.03	0.03	0.07
FillP	5	584.91	400.41	295.73	117.41	119.26	152.38	1.85	2.90	3.47
FillP-Sheep	5	580.89	401.97	323.43	37.84	47.54	50.17	0.76	1.21	1.31
Indigo	5	159.75	145.75	130.79	1.07	1.14	1.23	0.01	0.01	0.01
Indigo-96d2da3	5	117.41	117.56	112.47	1.17	1.19	1.21	0.01	0.01	0.01
LEDBAT	5	355.26	259.02	189.41	2.72	2.00	1.73	0.00	0.01	0.02
Indigo-Muses	5	40.63	42.25	47.09	1.06	1.06	1.05	0.01	0.01	0.02
PCC-Allegro	5	427.40	117.54	122.40	1.36	1.43	1.55	0.00	0.01	0.01
PCC-Expr	5	121.97	9.84	28.57	1.02	1.00	1.00	0.00	0.00	0.03
QUIC Cubic	5	76.29	68.15	56.83	1.08	1.09	1.10	0.00	0.01	0.02
SCReAM	5	0.22	0.22	0.22	1.07	1.05	1.02	0.00	0.00	0.14
Sprout	5	50.24	50.16	49.96	1.04	1.04	1.02	0.00	0.01	0.00
TaoVA-100x	5	86.08	16.93	51.41	1.05	1.05	1.06	0.01	0.00	0.02
TCP Vegas	5	241.37	251.83	245.35	1.22	1.29	1.23	0.01	0.01	0.01
Verus	5	176.67	107.98	82.69	2.34	1.80	1.43	0.00	0.01	0.02
PCC-Vivace	5	155.66	96.79	60.00	1.07	1.11	1.15	0.00	0.00	0.02
WebRTC media	5	1.43	1.08	0.48	0.98	0.98	0.97	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2018-09-25 16:55:49
End at: 2018-09-25 16:56:19
Local clock offset: 0.928 ms
Remote clock offset: 4.68 ms


# Below is generated by plot.py at 2018-09-25 19:20:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 923.45 Mbit/s
95th percentile per-packet one-way delay: 6.474 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 544.30 Mbit/s
95th percentile per-packet one-way delay: 6.587 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 405.32 Mbit/s
95th percentile per-packet one-way delay: 5.872 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 328.65 Mbit/s
95th percentile per-packet one-way delay: 6.363 ms
Loss rate: 0.06%
```
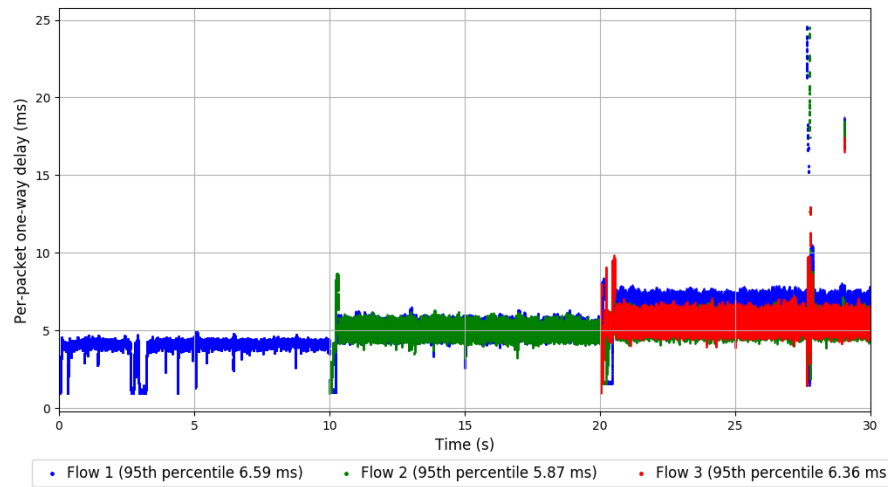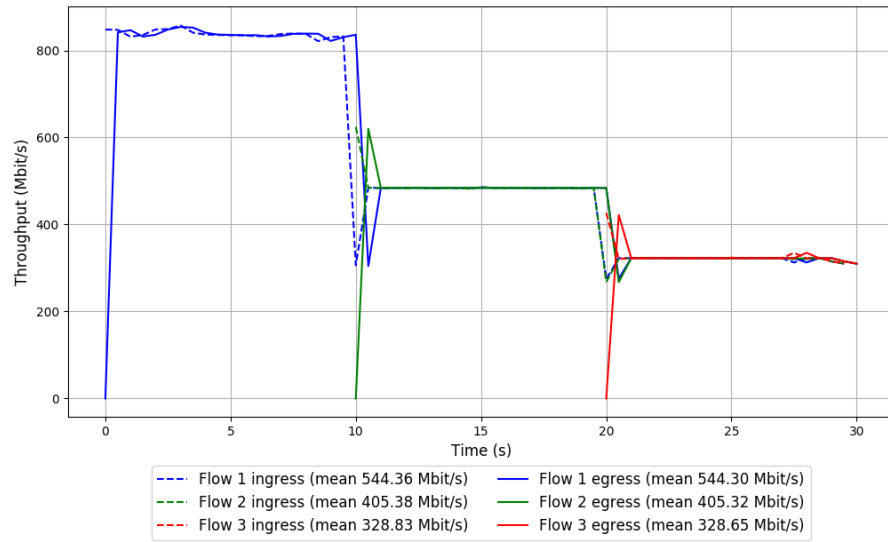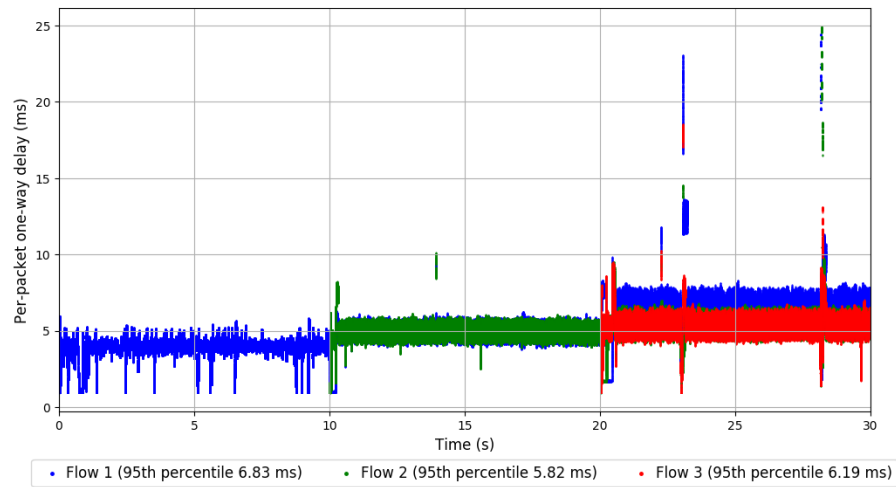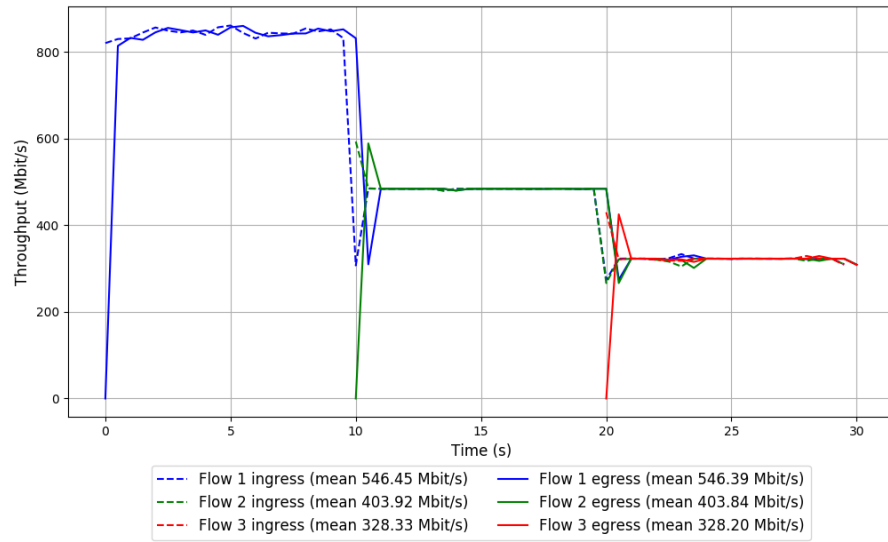
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-09-25 17:25:25
End at: 2018-09-25 17:25:55
Local clock offset: 0.247 ms
Remote clock offset: 0.58 ms


# Below is generated by plot.py at 2018-09-25 19:21:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 924.44 Mbit/s
95th percentile per-packet one-way delay: 6.691 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 546.39 Mbit/s
95th percentile per-packet one-way delay: 6.829 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 403.84 Mbit/s
95th percentile per-packet one-way delay: 5.821 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 328.20 Mbit/s
95th percentile per-packet one-way delay: 6.190 ms
Loss rate: 0.06%
```
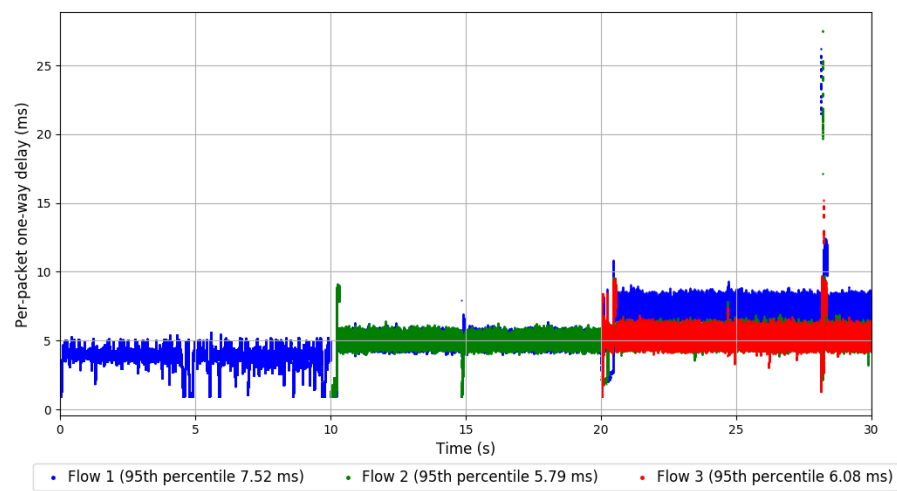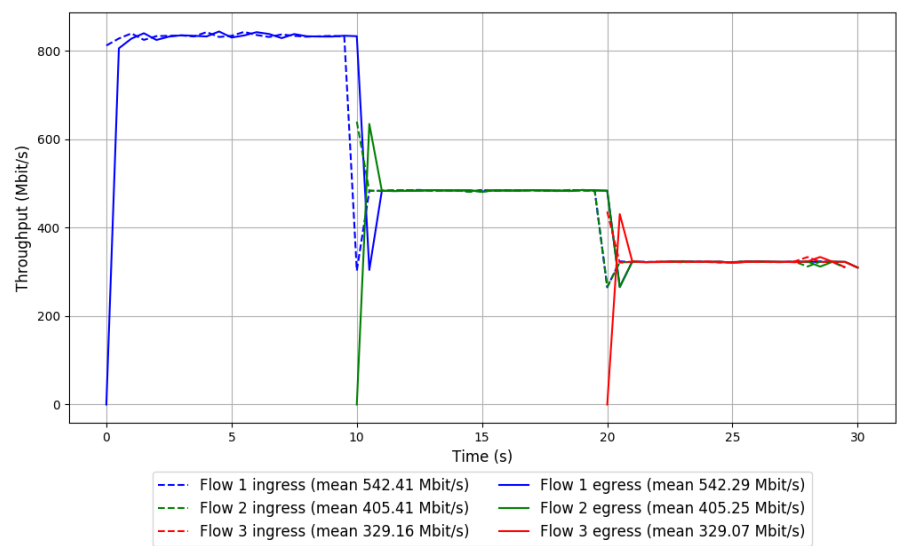
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2018-09-25 17:54:58
End at: 2018-09-25 17:55:28
Local clock offset: 0.625 ms
Remote clock offset: 0.095 ms


# Below is generated by plot.py at 2018-09-25 19:21:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 921.70 Mbit/s
95th percentile per-packet one-way delay: 7.365 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 542.29 Mbit/s
95th percentile per-packet one-way delay: 7.521 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 405.25 Mbit/s
95th percentile per-packet one-way delay: 5.795 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 329.07 Mbit/s
95th percentile per-packet one-way delay: 6.083 ms
Loss rate: 0.07%
```
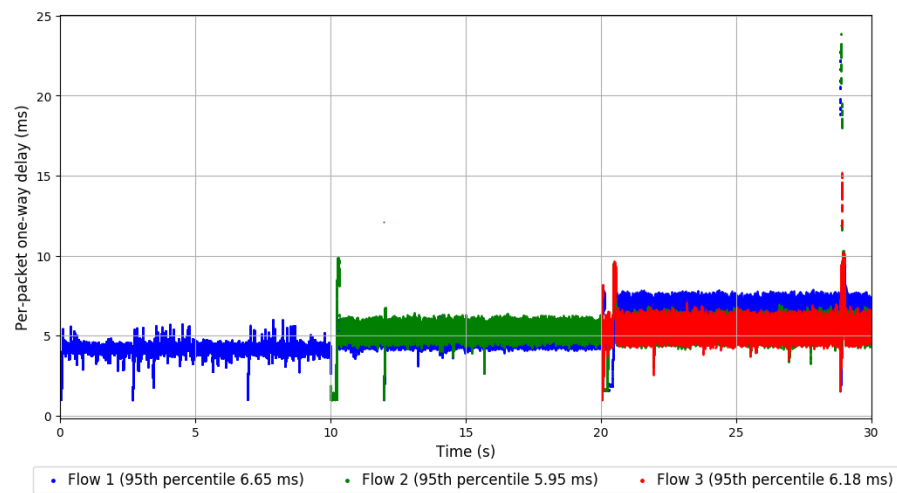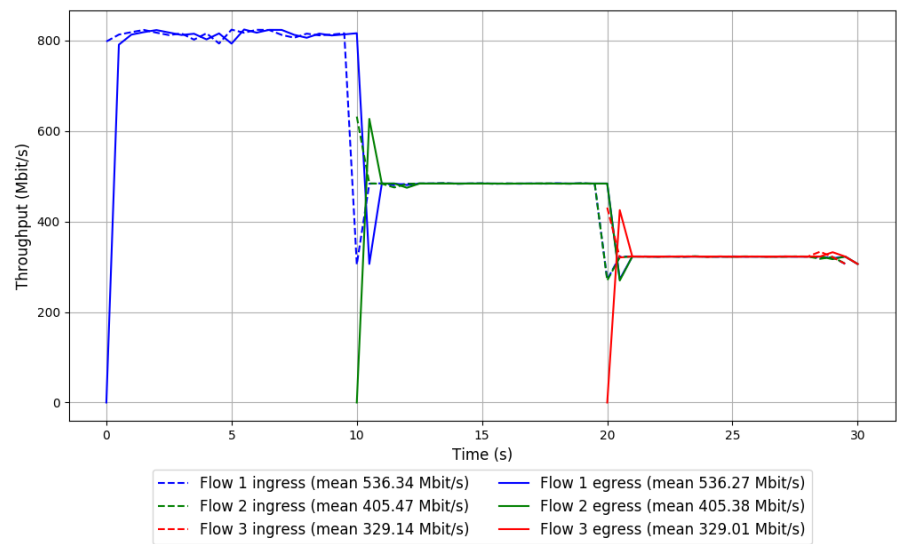
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 542.41 Mbit/s) --- Flow 1 egress (mean 542.29 Mbit/s)
Flow 2 ingress (mean 405.41 Mbit/s) --- Flow 2 egress (mean 405.25 Mbit/s)
Flow 3 ingress (mean 329.16 Mbit/s) --- Flow 3 egress (mean 329.07 Mbit/s)

Flow 1 (95th percentile 7.52 ms)   Flow 2 (95th percentile 5.79 ms)   Flow 3 (95th percentile 6.08 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2018-09-25 18:24:24
End at: 2018-09-25 18:24:54
Local clock offset: 0.427 ms
Remote clock offset: 0.009 ms


# Below is generated by plot.py at 2018-09-25 19:21:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 915.58 Mbit/s
95th percentile per-packet one-way delay: 6.522 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 536.27 Mbit/s
95th percentile per-packet one-way delay: 6.651 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 405.38 Mbit/s
95th percentile per-packet one-way delay: 5.946 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 329.01 Mbit/s
95th percentile per-packet one-way delay: 6.178 ms
Loss rate: 0.06%
```
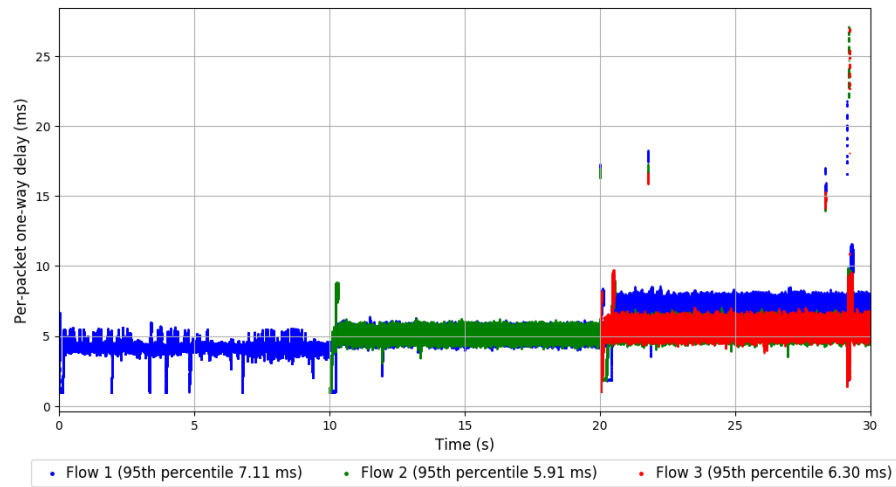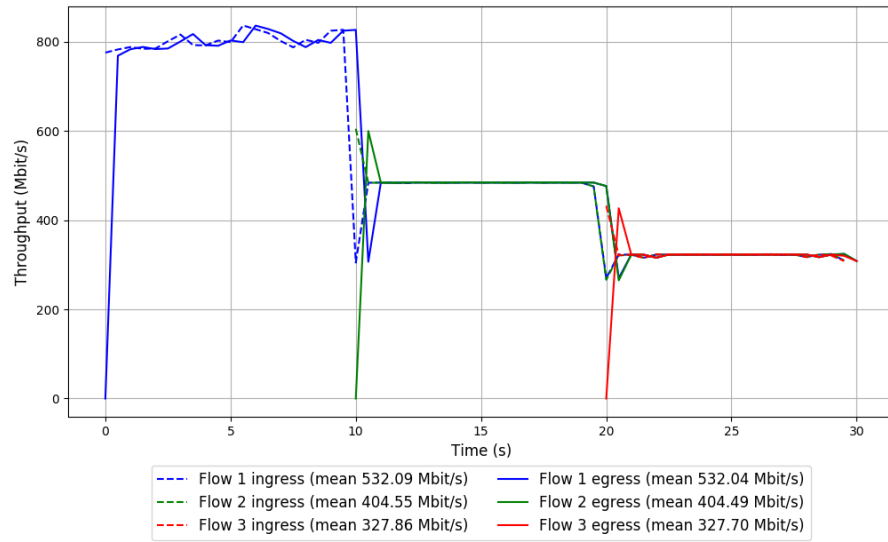
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2018-09-25 18:53:56
End at: 2018-09-25 18:54:26
Local clock offset: 0.432 ms
Remote clock offset: 2.901 ms


# Below is generated by plot.py at 2018-09-25 19:21:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 910.35 Mbit/s
95th percentile per-packet one-way delay: 6.965 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 532.04 Mbit/s
95th percentile per-packet one-way delay: 7.110 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 404.49 Mbit/s
95th percentile per-packet one-way delay: 5.907 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 327.70 Mbit/s
95th percentile per-packet one-way delay: 6.302 ms
Loss rate: 0.06%
```
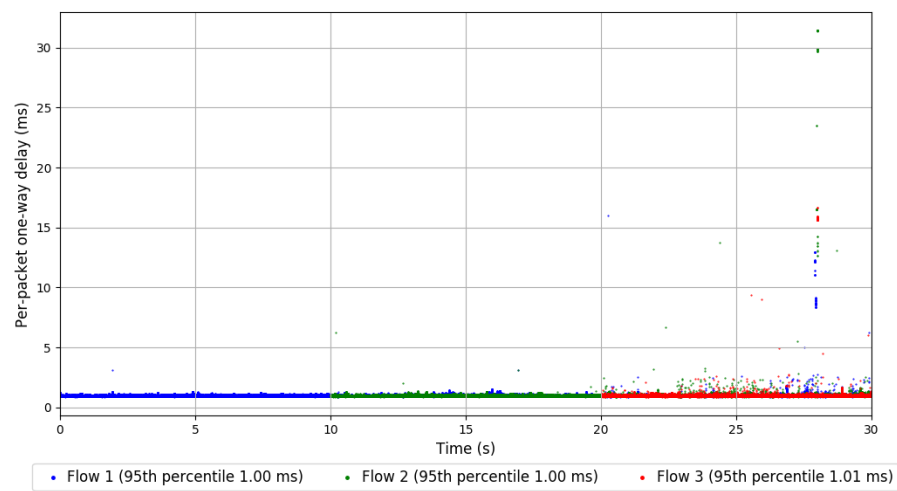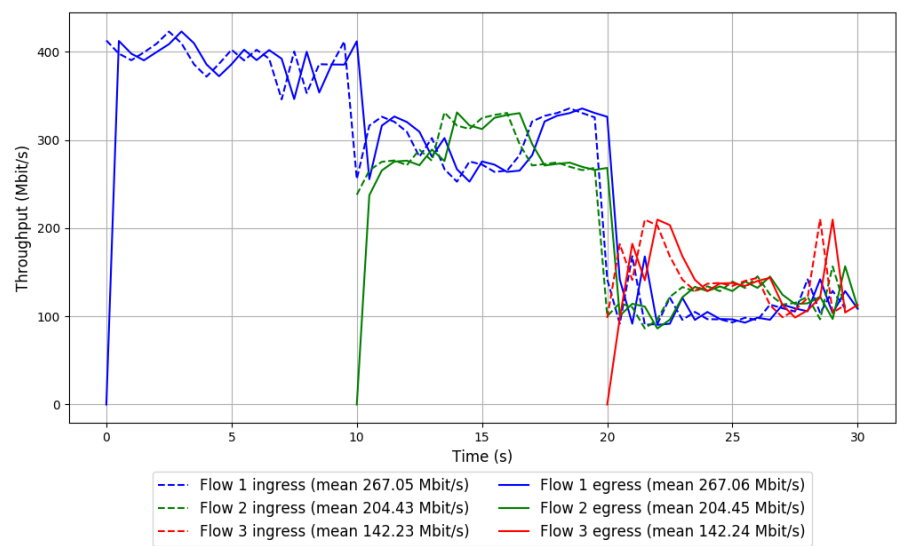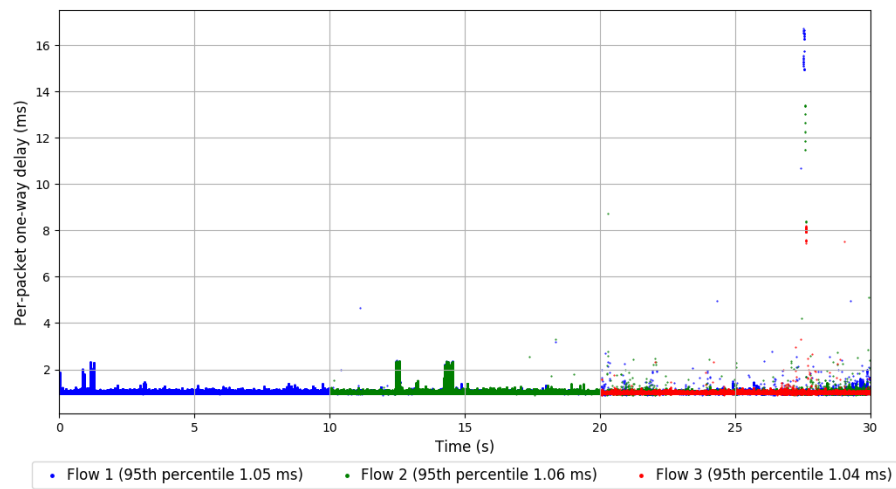
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 532.09 Mbit/s) ---- Flow 1 egress (mean 532.04 Mbit/s) ——
Flow 2 ingress (mean 404.55 Mbit/s) ---- Flow 2 egress (mean 404.49 Mbit/s) ——
Flow 3 ingress (mean 327.86 Mbit/s) ---- Flow 3 egress (mean 327.70 Mbit/s) ——

• Flow 1 (95th percentile 7.11 ms)   • Flow 2 (95th percentile 5.91 ms)   • Flow 3 (95th percentile 6.30 ms)

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```
Run 1: Statistics of Copa

Start at: 2018-09-25 16:57:38
End at: 2018-09-25 16:58:08
Local clock offset: 0.945 ms
Remote clock offset: 4.944 ms


# Below is generated by plot.py at 2018-09-25 19:21:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 450.44 Mbit/s
95th percentile per-packet one-way delay: 0.999 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 267.06 Mbit/s
95th percentile per-packet one-way delay: 0.996 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 204.45 Mbit/s
95th percentile per-packet one-way delay: 1.001 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 142.24 Mbit/s
95th percentile per-packet one-way delay: 1.009 ms
Loss rate: 0.02%
```
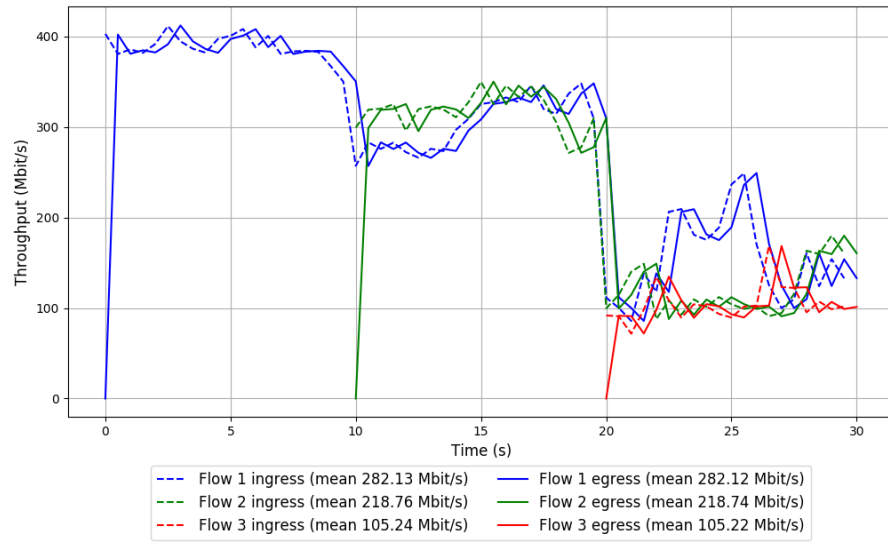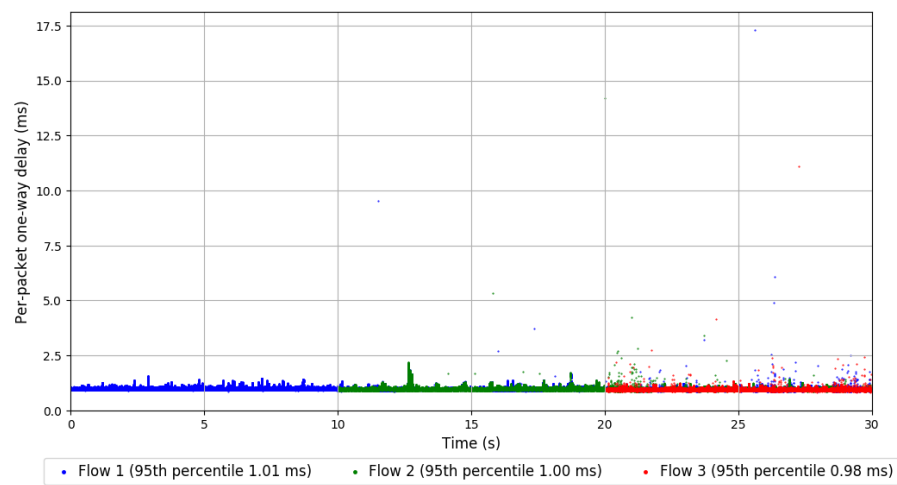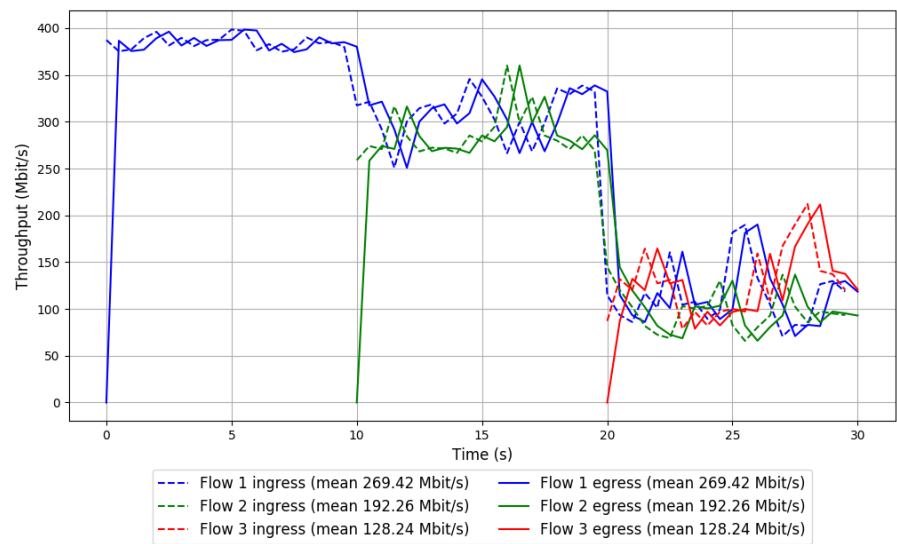
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2018-09-25 17:27:14
End at: 2018-09-25 17:27:44
Local clock offset: 0.22 ms
Remote clock offset: 0.526 ms


# Below is generated by plot.py at 2018-09-25 19:21:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 462.72 Mbit/s
95th percentile per-packet one-way delay: 1.053 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 282.12 Mbit/s
95th percentile per-packet one-way delay: 1.053 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 218.74 Mbit/s
95th percentile per-packet one-way delay: 1.057 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 105.22 Mbit/s
95th percentile per-packet one-way delay: 1.041 ms
Loss rate: 0.03%
```

Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-09-25 17:56:48
End at: 2018-09-25 17:57:18
Local clock offset: 0.694 ms
Remote clock offset: 0.129 ms


# Below is generated by plot.py at 2018-09-25 19:21:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 439.96 Mbit/s
95th percentile per-packet one-way delay: 1.004 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 269.42 Mbit/s
95th percentile per-packet one-way delay: 1.009 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 192.26 Mbit/s
95th percentile per-packet one-way delay: 0.997 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 128.24 Mbit/s
95th percentile per-packet one-way delay: 0.979 ms
Loss rate: 0.00%
```
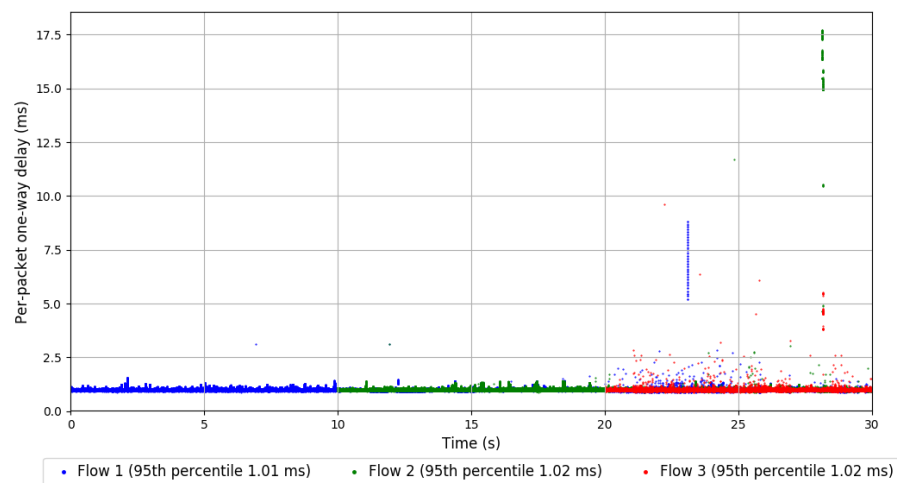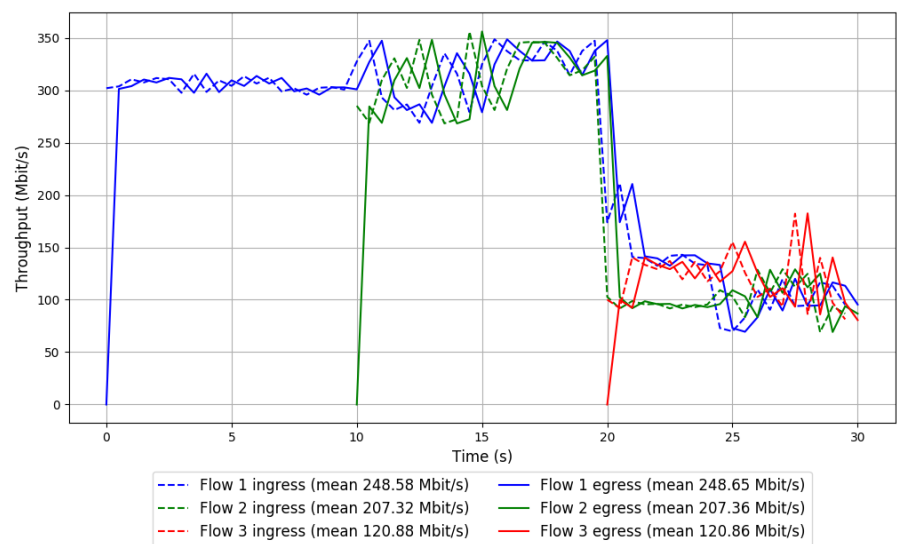
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-09-25 18:26:13
End at: 2018-09-25 18:26:43
Local clock offset: 0.402 ms
Remote clock offset: 0.028 ms


# Below is generated by plot.py at 2018-09-25 19:28:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 426.89 Mbit/s
95th percentile per-packet one-way delay: 1.012 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 248.65 Mbit/s
95th percentile per-packet one-way delay: 1.007 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 207.36 Mbit/s
95th percentile per-packet one-way delay: 1.017 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 120.86 Mbit/s
95th percentile per-packet one-way delay: 1.017 ms
Loss rate: 0.03%
```
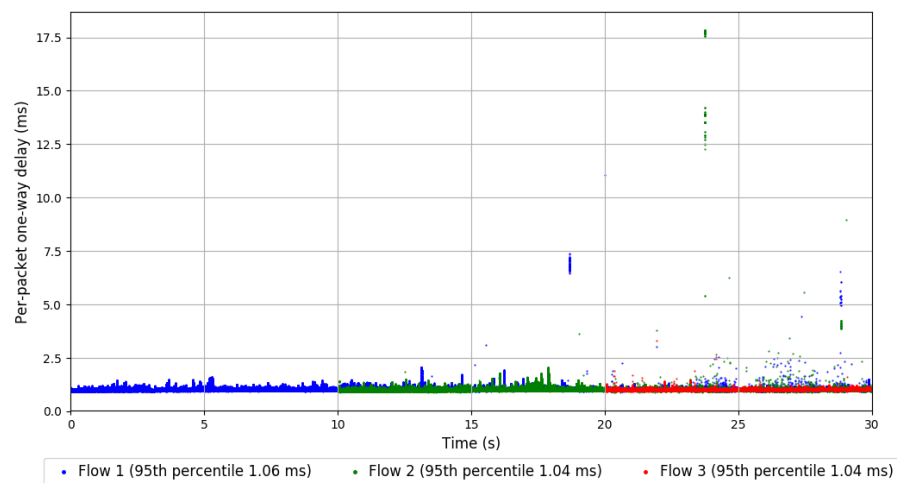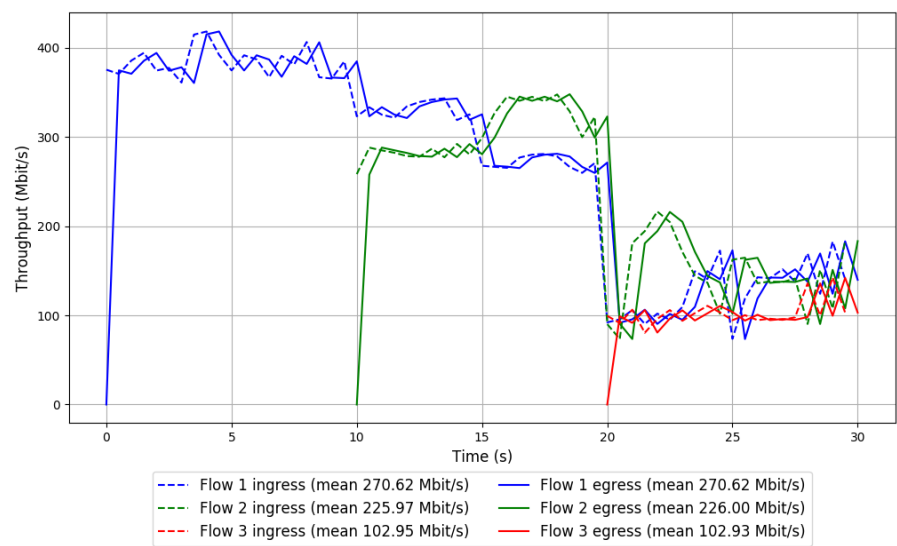
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2018-09-25 18:55:45
End at: 2018-09-25 18:56:15
Local clock offset: 0.429 ms
Remote clock offset: 3.126 ms


# Below is generated by plot.py at 2018-09-25 19:29:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 455.26 Mbit/s
95th percentile per-packet one-way delay: 1.049 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 270.62 Mbit/s
95th percentile per-packet one-way delay: 1.056 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 226.00 Mbit/s
95th percentile per-packet one-way delay: 1.041 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 102.93 Mbit/s
95th percentile per-packet one-way delay: 1.039 ms
Loss rate: 0.03%
```
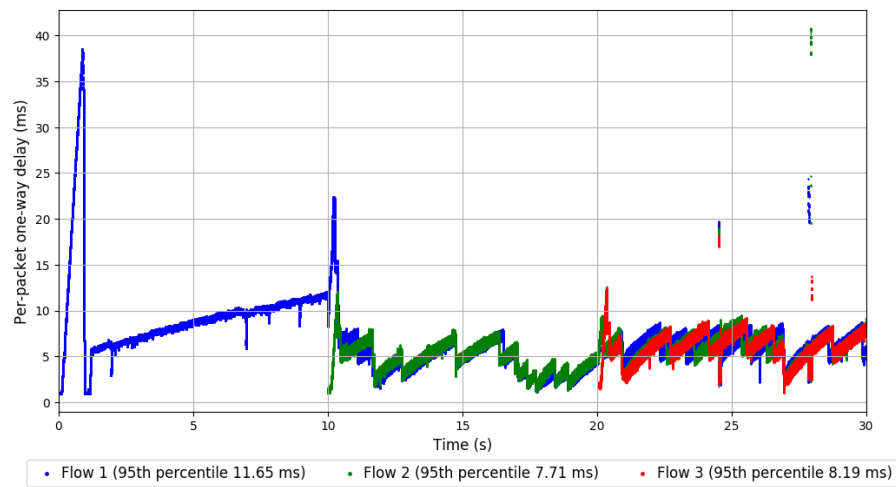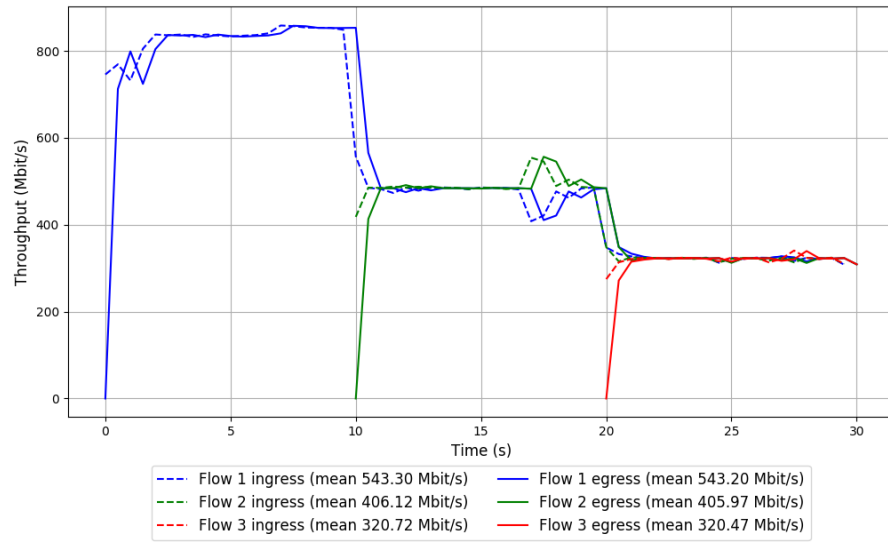
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2018-09-25 16:37:06
End at: 2018-09-25 16:37:36
Local clock offset: 1.55 ms
Remote clock offset: 1.487 ms


# Below is generated by plot.py at 2018-09-25 19:30:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 920.07 Mbit/s
95th percentile per-packet one-way delay: 11.216 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 543.20 Mbit/s
95th percentile per-packet one-way delay: 11.654 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 405.97 Mbit/s
95th percentile per-packet one-way delay: 7.713 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 320.47 Mbit/s
95th percentile per-packet one-way delay: 8.190 ms
Loss rate: 0.10%
```
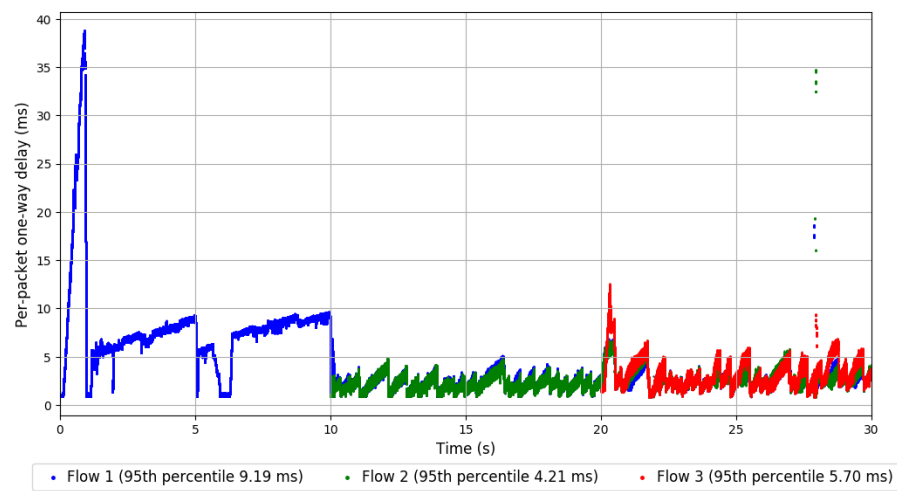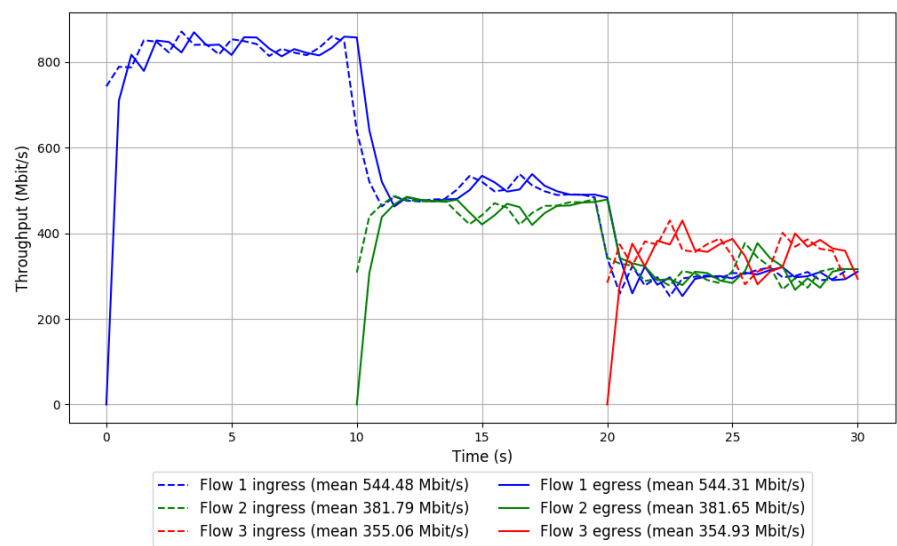
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2018-09-25 17:06:32
End at: 2018-09-25 17:07:02
Local clock offset: 0.981 ms
Remote clock offset: 1.977 ms


# Below is generated by plot.py at 2018-09-25 19:31:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 916.60 Mbit/s
95th percentile per-packet one-way delay: 8.948 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 544.31 Mbit/s
95th percentile per-packet one-way delay: 9.192 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 381.65 Mbit/s
95th percentile per-packet one-way delay: 4.205 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 354.93 Mbit/s
95th percentile per-packet one-way delay: 5.702 ms
Loss rate: 0.06%
```
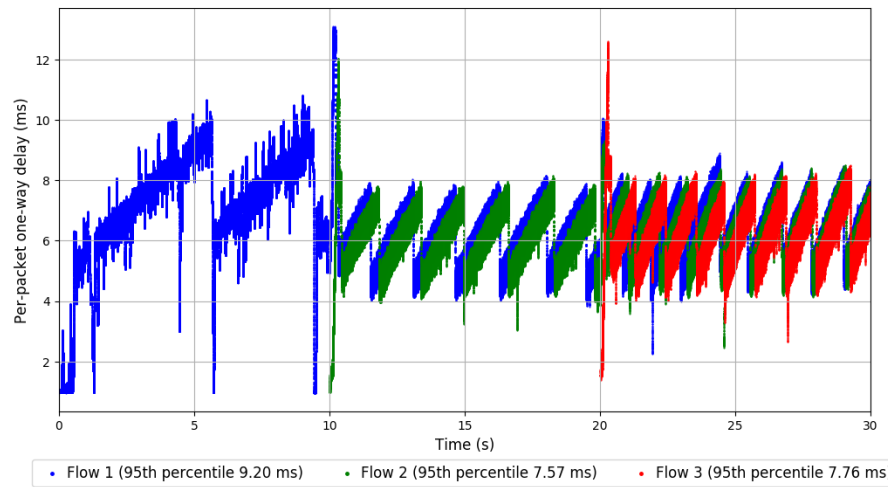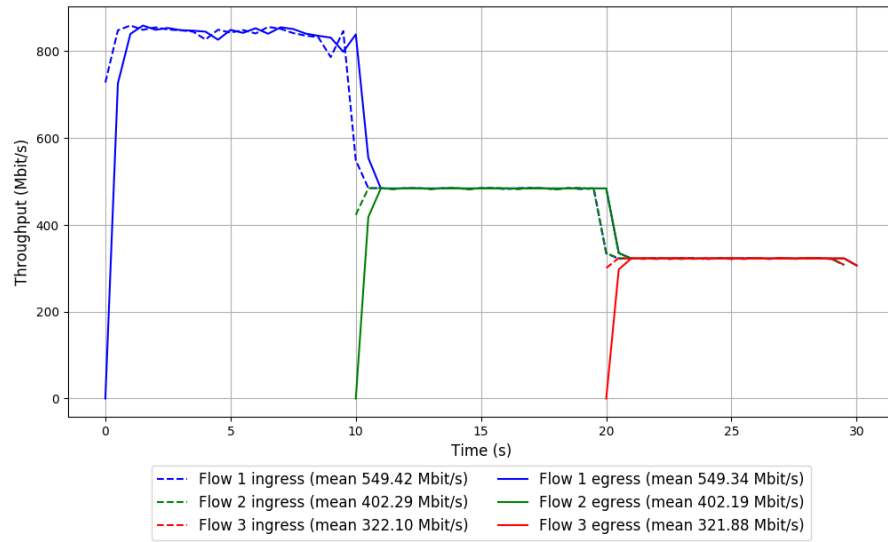
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 544.48 Mbit/s) --- Flow 1 egress (mean 544.31 Mbit/s)
Flow 2 ingress (mean 381.79 Mbit/s) --- Flow 2 egress (mean 381.65 Mbit/s)
Flow 3 ingress (mean 355.06 Mbit/s) --- Flow 3 egress (mean 354.93 Mbit/s)

Flow 1 (95th percentile 9.19 ms)   Flow 2 (95th percentile 4.21 ms)   Flow 3 (95th percentile 5.70 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2018-09-25 17:36:09
End at: 2018-09-25 17:36:39
Local clock offset: 0.103 ms
Remote clock offset: 0.339 ms


# Below is generated by plot.py at 2018-09-25 19:31:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 924.23 Mbit/s
95th percentile per-packet one-way delay: 8.934 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 549.34 Mbit/s
95th percentile per-packet one-way delay: 9.196 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 402.19 Mbit/s
95th percentile per-packet one-way delay: 7.569 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 321.88 Mbit/s
95th percentile per-packet one-way delay: 7.757 ms
Loss rate: 0.08%
```
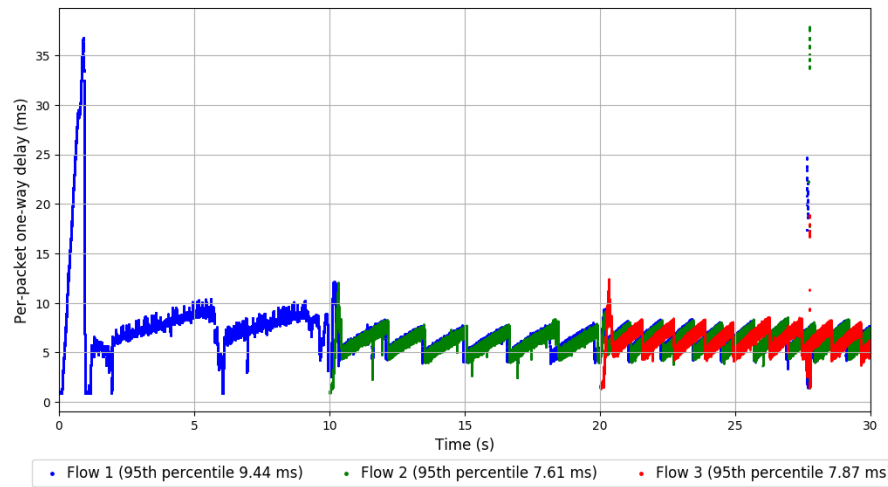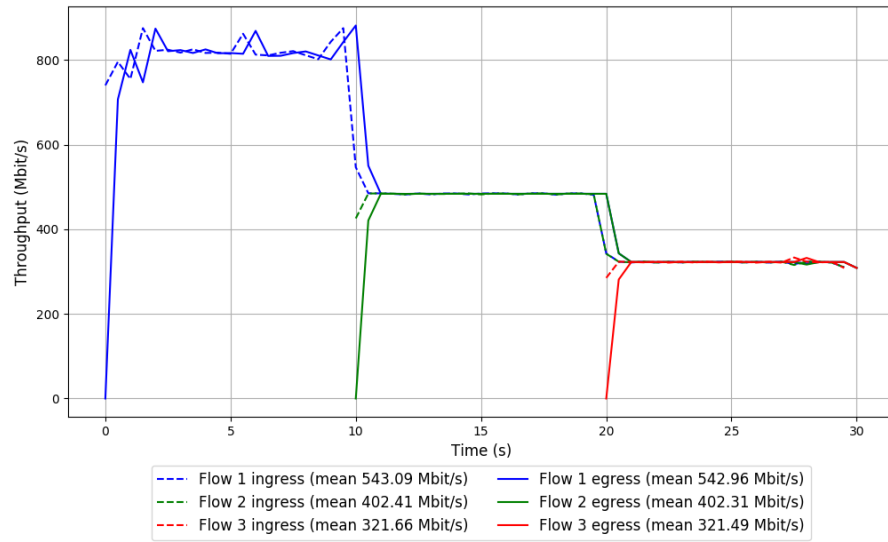
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 549.42 Mbit/s) —— Flow 1 egress (mean 549.34 Mbit/s)
Flow 2 ingress (mean 402.29 Mbit/s) —— Flow 2 egress (mean 402.19 Mbit/s)
Flow 3 ingress (mean 322.10 Mbit/s) —— Flow 3 egress (mean 321.88 Mbit/s)

• Flow 1 (95th percentile 9.20 ms)   • Flow 2 (95th percentile 7.57 ms)   • Flow 3 (95th percentile 7.76 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2018-09-25 18:05:31
End at: 2018-09-25 18:06:01
Local clock offset: 0.934 ms
Remote clock offset: 0.162 ms


# Below is generated by plot.py at 2018-09-25 19:31:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 917.87 Mbit/s
95th percentile per-packet one-way delay: 8.940 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 542.96 Mbit/s
95th percentile per-packet one-way delay: 9.438 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 402.31 Mbit/s
95th percentile per-packet one-way delay: 7.611 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 321.49 Mbit/s
95th percentile per-packet one-way delay: 7.874 ms
Loss rate: 0.07%
```
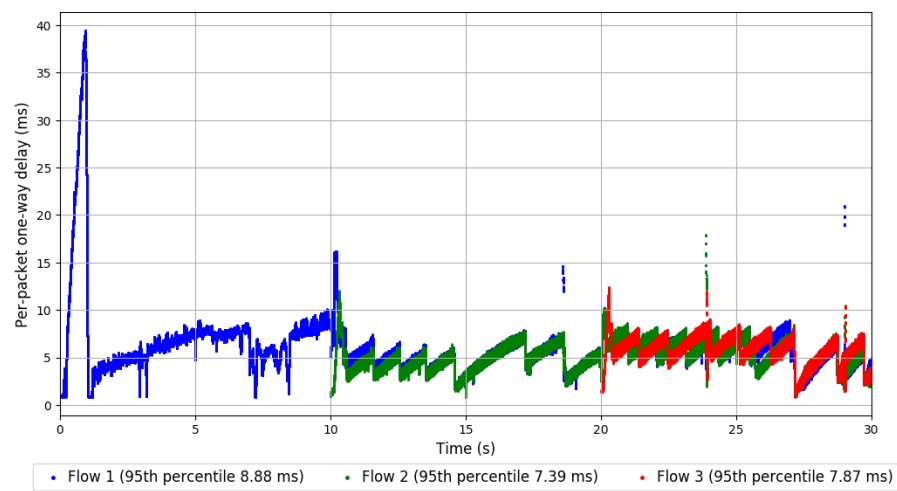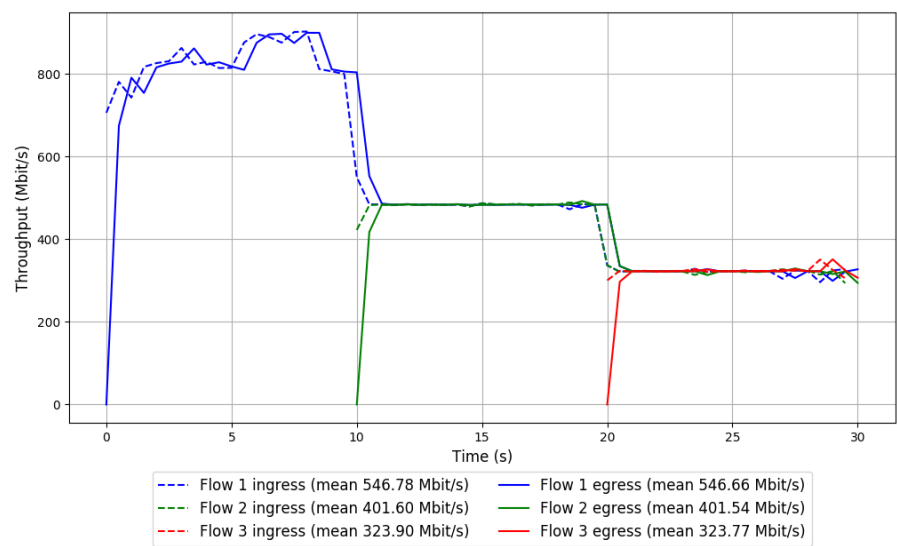
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-09-25 18:35:05
End at: 2018-09-25 18:35:35
Local clock offset: 0.413 ms
Remote clock offset: 0.131 ms


# Below is generated by plot.py at 2018-09-25 19:31:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 921.85 Mbit/s
95th percentile per-packet one-way delay: 8.324 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 546.66 Mbit/s
95th percentile per-packet one-way delay: 8.879 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 401.54 Mbit/s
95th percentile per-packet one-way delay: 7.394 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 323.77 Mbit/s
95th percentile per-packet one-way delay: 7.874 ms
Loss rate: 0.06%
```
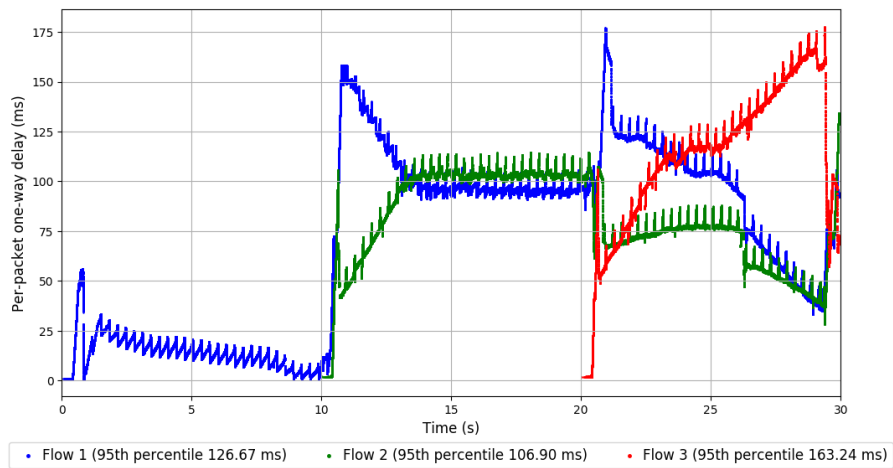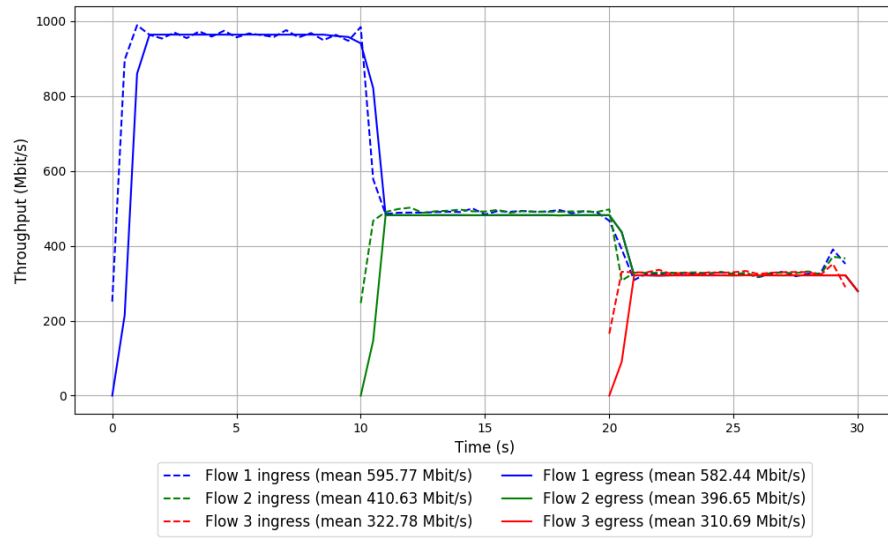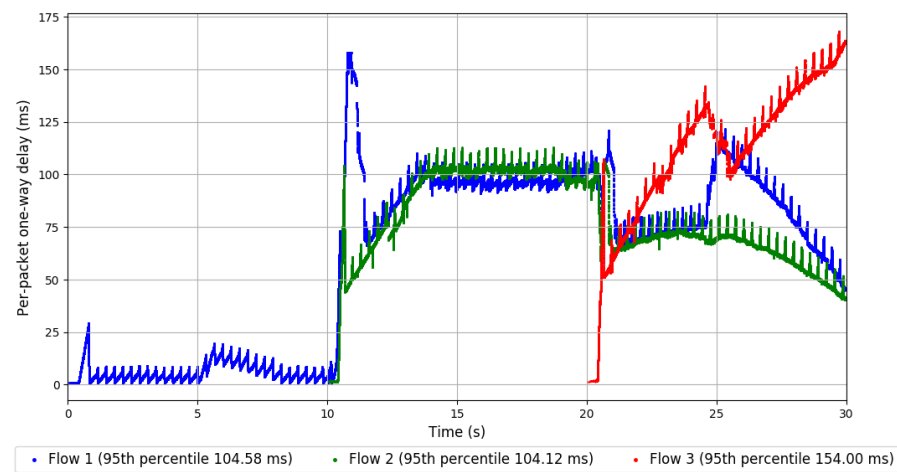
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 546.78 Mbit/s) --- Flow 1 egress (mean 546.66 Mbit/s)
Flow 2 ingress (mean 401.60 Mbit/s) --- Flow 2 egress (mean 401.54 Mbit/s)
Flow 3 ingress (mean 323.90 Mbit/s) --- Flow 3 egress (mean 323.77 Mbit/s)

Flow 1 (95th percentile 8.88 ms)   Flow 2 (95th percentile 7.39 ms)   Flow 3 (95th percentile 7.87 ms)

34

```
Run 1: Statistics of FillP

Start at: 2018-09-25 16:46:32
End at: 2018-09-25 16:47:02
Local clock offset: 1.067 ms
Remote clock offset: 3.487 ms


# Below is generated by plot.py at 2018-09-25 19:34:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 949.17 Mbit/s
95th percentile per-packet one-way delay: 136.345 ms
Loss rate: 2.74%
-- Flow 1:
Average throughput: 582.44 Mbit/s
95th percentile per-packet one-way delay: 126.670 ms
Loss rate: 2.24%
-- Flow 2:
Average throughput: 396.65 Mbit/s
95th percentile per-packet one-way delay: 106.896 ms
Loss rate: 3.42%
-- Flow 3:
Average throughput: 310.69 Mbit/s
95th percentile per-packet one-way delay: 163.243 ms
Loss rate: 3.77%
```
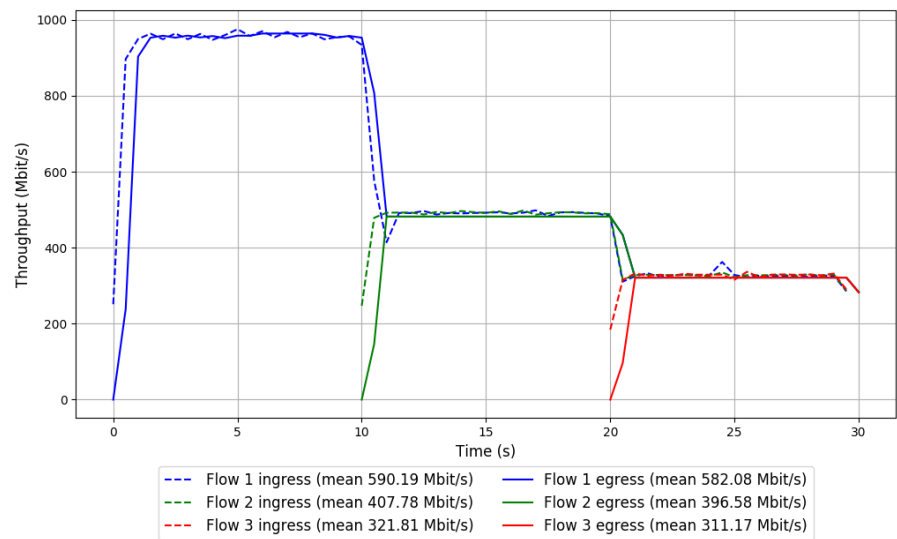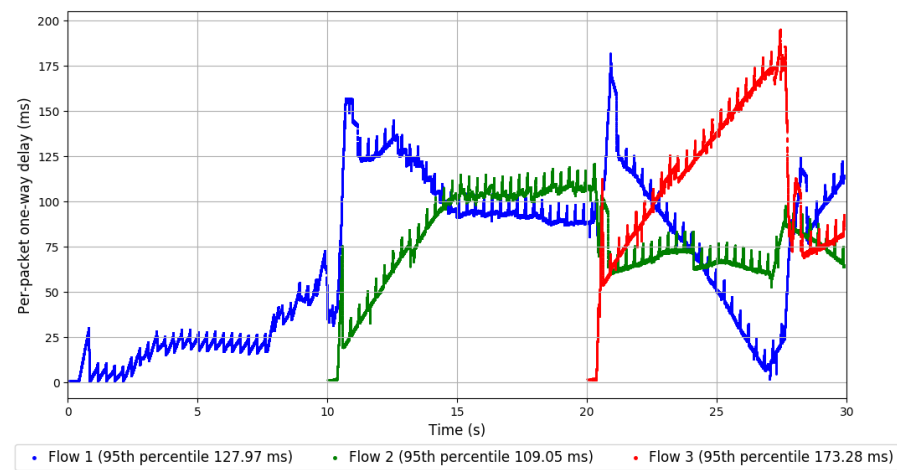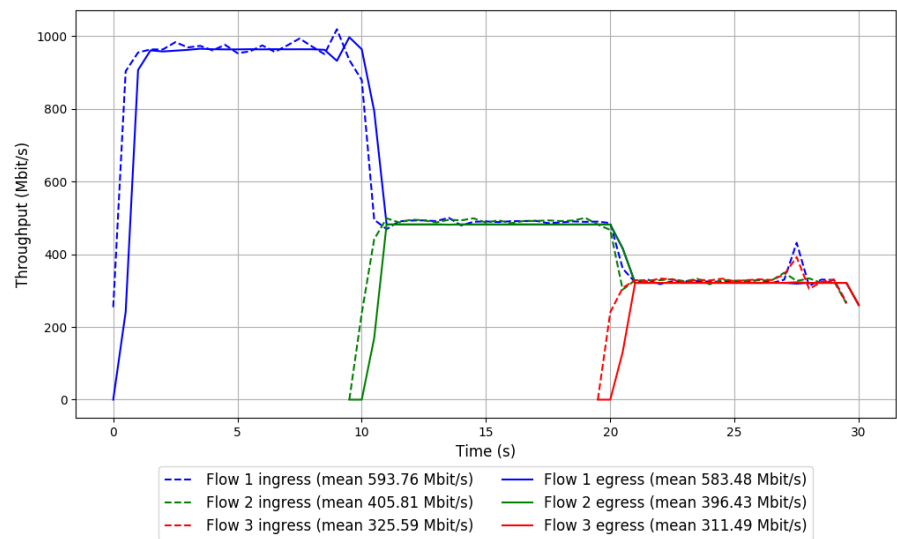
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 595.77 Mbit/s) --- Flow 1 egress (mean 582.44 Mbit/s)
Flow 2 ingress (mean 410.63 Mbit/s) --- Flow 2 egress (mean 396.65 Mbit/s)
Flow 3 ingress (mean 322.78 Mbit/s) --- Flow 3 egress (mean 310.69 Mbit/s)

Flow 1 (95th percentile 126.67 ms)   Flow 2 (95th percentile 106.90 ms)   Flow 3 (95th percentile 163.24 ms)

```
Run 2: Statistics of FillP

Start at: 2018-09-25 17:16:02
End at: 2018-09-25 17:16:32
Local clock offset: 0.547 ms
Remote clock offset: 0.843 ms


# Below is generated by plot.py at 2018-09-25 19:42:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 948.92 Mbit/s
95th percentile per-packet one-way delay: 124.424 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 582.08 Mbit/s
95th percentile per-packet one-way delay: 104.575 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 396.58 Mbit/s
95th percentile per-packet one-way delay: 104.117 ms
Loss rate: 2.75%
-- Flow 3:
Average throughput: 311.17 Mbit/s
95th percentile per-packet one-way delay: 154.002 ms
Loss rate: 3.32%
```
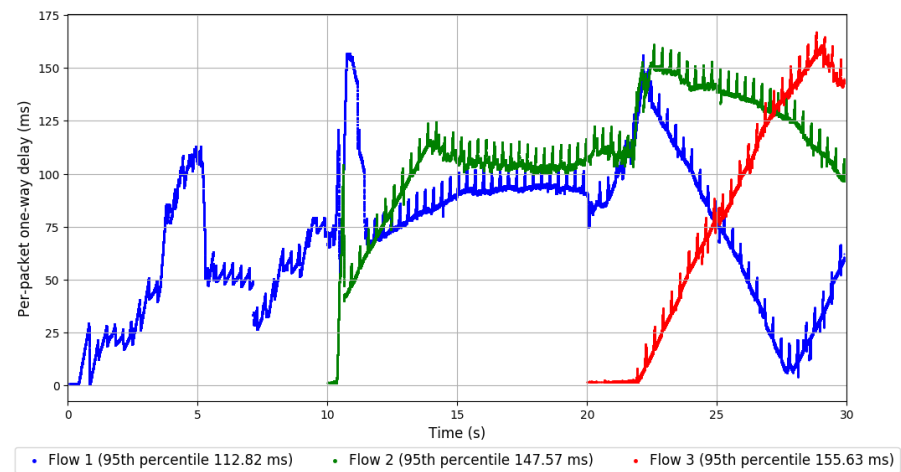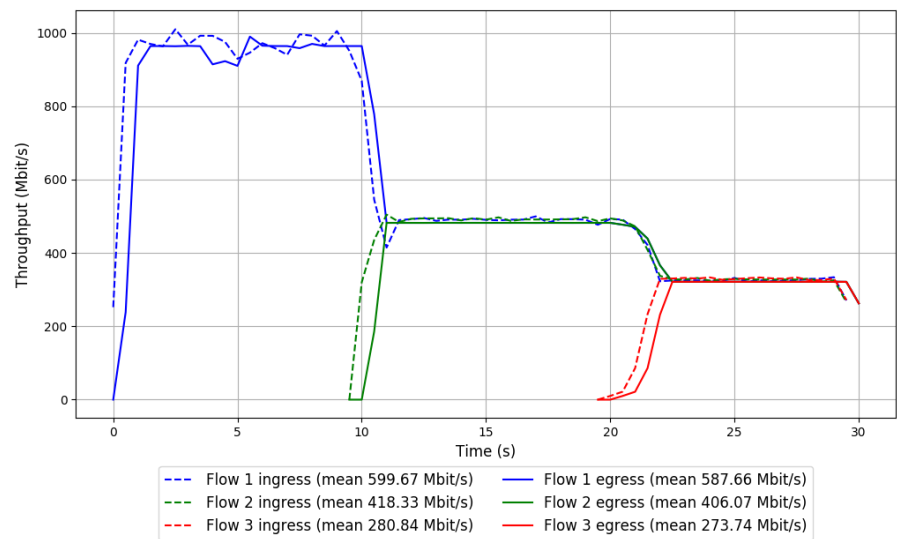
Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 590.19 Mbit/s) — — — Flow 1 egress (mean 582.08 Mbit/s)
Flow 2 ingress (mean 407.78 Mbit/s) — — — Flow 2 egress (mean 396.58 Mbit/s)
Flow 3 ingress (mean 321.81 Mbit/s) — — — Flow 3 egress (mean 311.17 Mbit/s)

Flow 1 (95th percentile 104.58 ms)   Flow 2 (95th percentile 104.12 ms)   Flow 3 (95th percentile 154.00 ms)

```
Run 3: Statistics of FillP

Start at: 2018-09-25 17:45:34
End at: 2018-09-25 17:46:04
Local clock offset: 0.275 ms
Remote clock offset: 0.115 ms


# Below is generated by plot.py at 2018-09-25 19:43:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 950.69 Mbit/s
95th percentile per-packet one-way delay: 134.945 ms
Loss rate: 2.19%
-- Flow 1:
Average throughput: 583.48 Mbit/s
95th percentile per-packet one-way delay: 127.966 ms
Loss rate: 1.74%
-- Flow 2:
Average throughput: 396.43 Mbit/s
95th percentile per-packet one-way delay: 109.046 ms
Loss rate: 2.32%
-- Flow 3:
Average throughput: 311.49 Mbit/s
95th percentile per-packet one-way delay: 173.283 ms
Loss rate: 4.34%
```
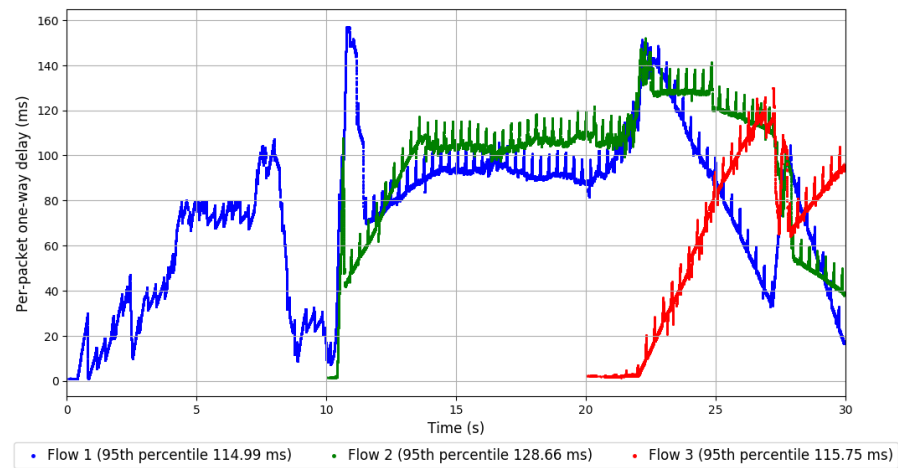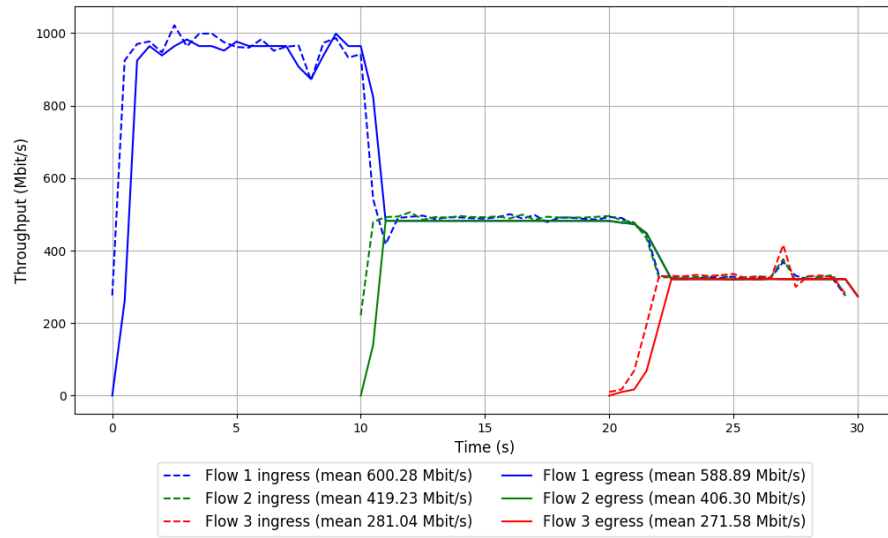
Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 593.76 Mbit/s) — — — Flow 1 egress (mean 583.48 Mbit/s)
Flow 2 ingress (mean 405.81 Mbit/s) — — — Flow 2 egress (mean 396.43 Mbit/s)
Flow 3 ingress (mean 325.59 Mbit/s) — — — Flow 3 egress (mean 311.49 Mbit/s)

Flow 1 (95th percentile 127.97 ms)   Flow 2 (95th percentile 109.05 ms)   Flow 3 (95th percentile 173.28 ms)

40

```
Run 4: Statistics of FillP

Start at: 2018-09-25 18:15:02
End at: 2018-09-25 18:15:32
Local clock offset: 0.657 ms
Remote clock offset: 0.019 ms


# Below is generated by plot.py at 2018-09-25 19:43:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 948.93 Mbit/s
95th percentile per-packet one-way delay: 143.559 ms
Loss rate: 2.32%
-- Flow 1:
Average throughput: 587.66 Mbit/s
95th percentile per-packet one-way delay: 112.824 ms
Loss rate: 2.00%
-- Flow 2:
Average throughput: 406.07 Mbit/s
95th percentile per-packet one-way delay: 147.567 ms
Loss rate: 2.94%
-- Flow 3:
Average throughput: 273.74 Mbit/s
95th percentile per-packet one-way delay: 155.630 ms
Loss rate: 2.55%
```
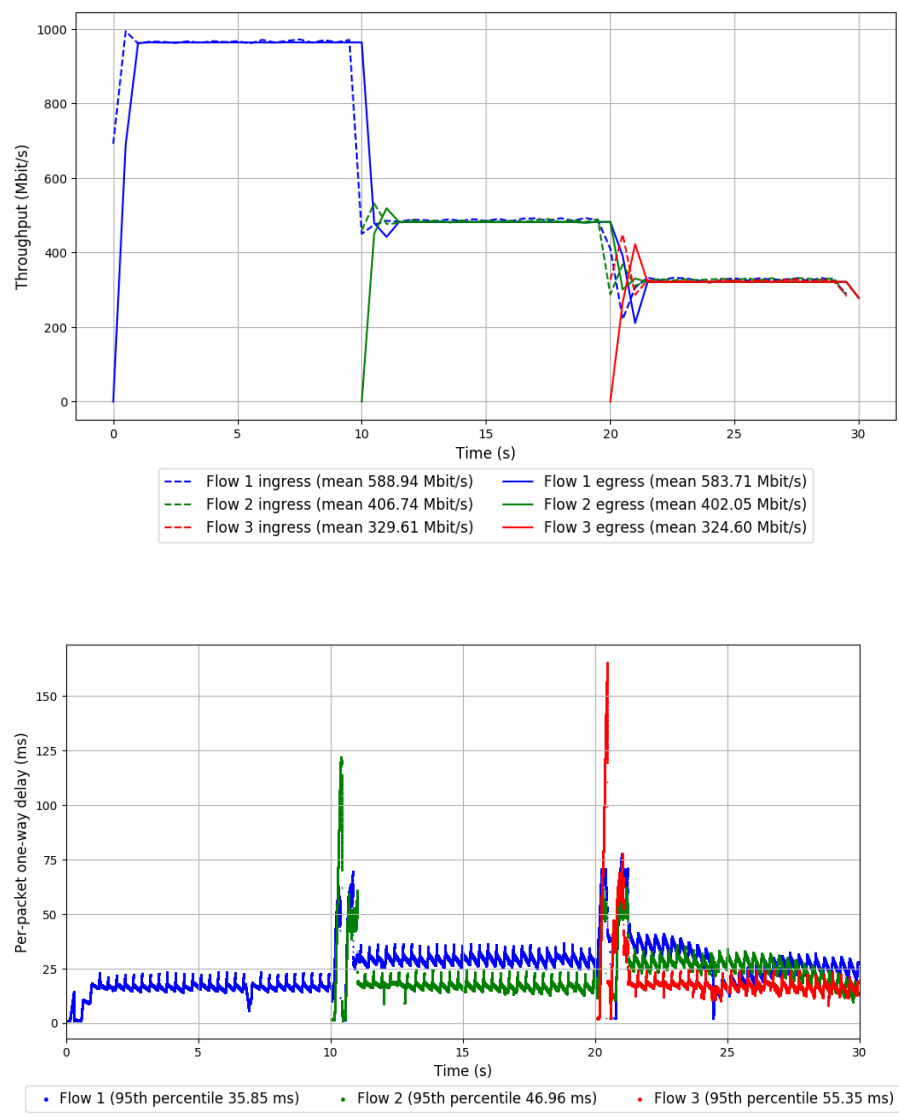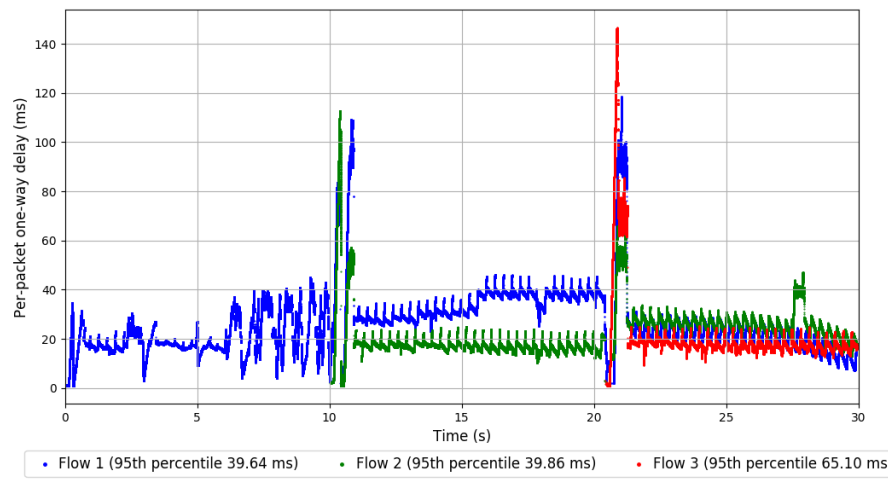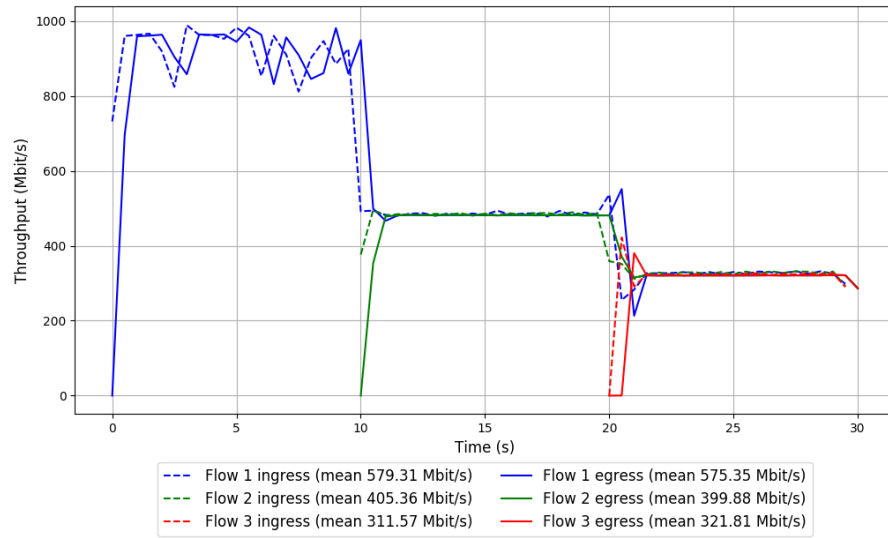
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 599.67 Mbit/s) --- Flow 1 egress (mean 587.66 Mbit/s)
Flow 2 ingress (mean 418.33 Mbit/s) --- Flow 2 egress (mean 406.07 Mbit/s)
Flow 3 ingress (mean 280.84 Mbit/s) --- Flow 3 egress (mean 273.74 Mbit/s)

Flow 1 (95th percentile 112.82 ms) • Flow 2 (95th percentile 147.57 ms) • Flow 3 (95th percentile 155.63 ms)

```
Run 5: Statistics of FillP

Start at: 2018-09-25 18:44:35
End at: 2018-09-25 18:45:05
Local clock offset: 0.41 ms
Remote clock offset: 1.224 ms


# Below is generated by plot.py at 2018-09-25 19:44:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 949.02 Mbit/s
95th percentile per-packet one-way delay: 127.755 ms
Loss rate: 2.39%
-- Flow 1:
Average throughput: 588.89 Mbit/s
95th percentile per-packet one-way delay: 114.992 ms
Loss rate: 1.90%
-- Flow 2:
Average throughput: 406.30 Mbit/s
95th percentile per-packet one-way delay: 128.663 ms
Loss rate: 3.09%
-- Flow 3:
Average throughput: 271.58 Mbit/s
95th percentile per-packet one-way delay: 115.754 ms
Loss rate: 3.39%
```
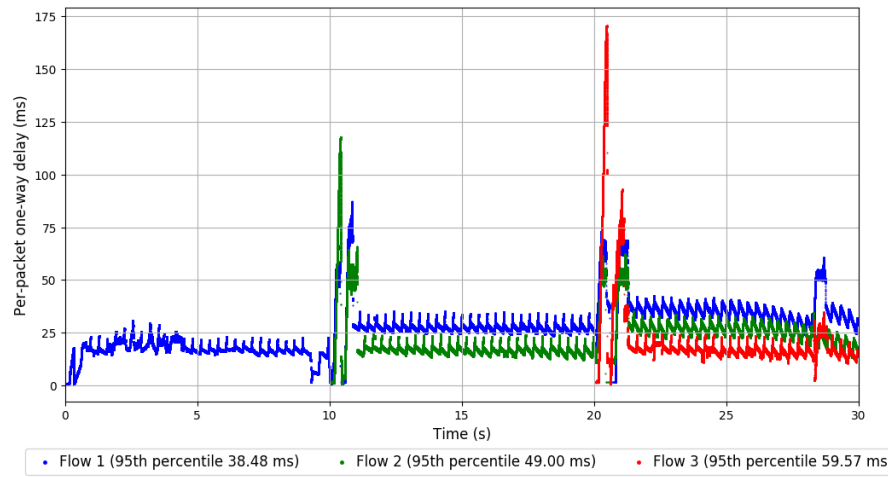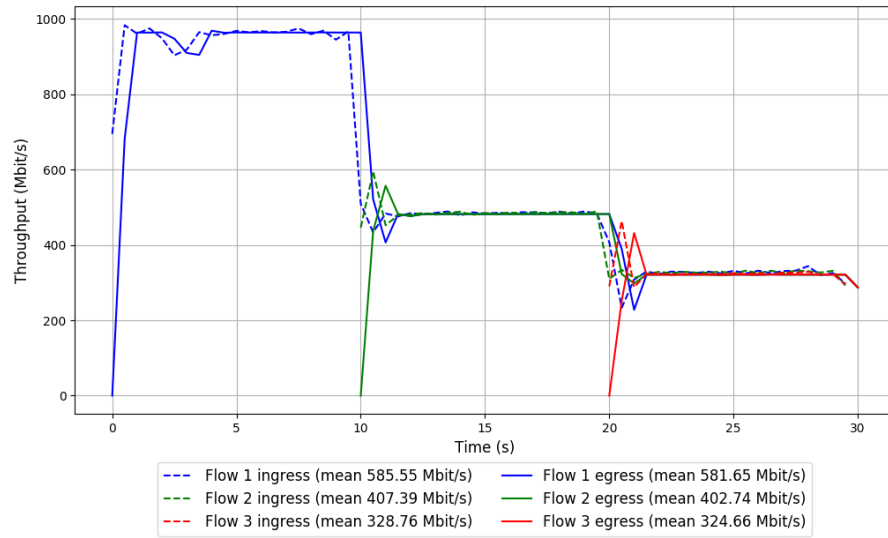
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 600.28 Mbit/s)   Flow 1 egress (mean 588.89 Mbit/s)
Flow 2 ingress (mean 419.23 Mbit/s)   Flow 2 egress (mean 406.30 Mbit/s)
Flow 3 ingress (mean 281.04 Mbit/s)   Flow 3 egress (mean 271.58 Mbit/s)

Flow 1 (95th percentile 114.99 ms)   Flow 2 (95th percentile 128.66 ms)   Flow 3 (95th percentile 115.75 ms)

44

```
Run 1: Statistics of FillP-Sheep

Start at: 2018-09-25 16:49:41
End at: 2018-09-25 16:50:11
Local clock offset: 0.963 ms
Remote clock offset: 3.872 ms


# Below is generated by plot.py at 2018-09-25 19:44:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 958.65 Mbit/s
95th percentile per-packet one-way delay: 37.692 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 583.71 Mbit/s
95th percentile per-packet one-way delay: 35.850 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 402.05 Mbit/s
95th percentile per-packet one-way delay: 46.959 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 324.60 Mbit/s
95th percentile per-packet one-way delay: 55.347 ms
Loss rate: 1.54%
```
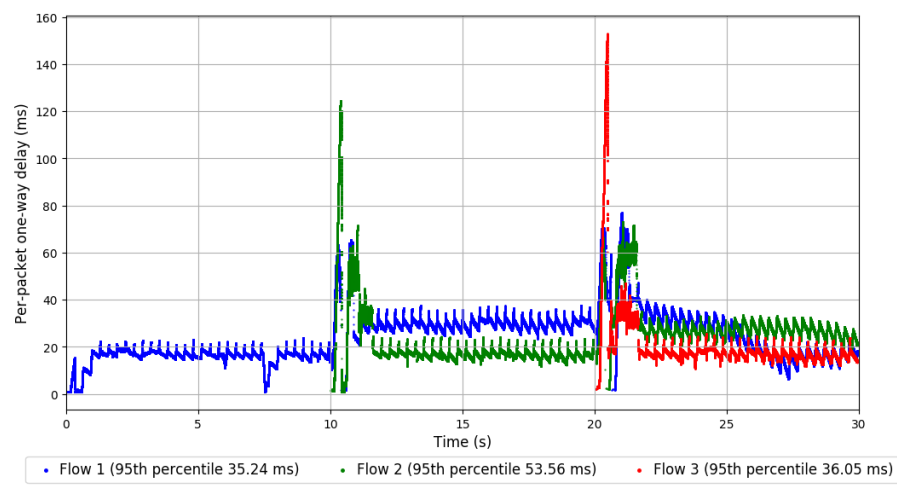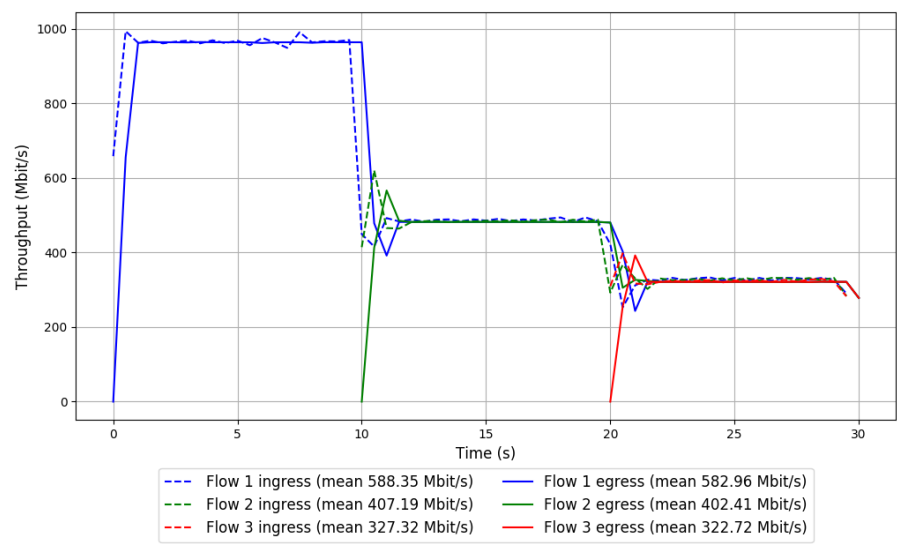
Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2018-09-25 17:19:12
End at: 2018-09-25 17:19:42
Local clock offset: 0.417 ms
Remote clock offset: 0.66 ms


# Below is generated by plot.py at 2018-09-25 19:44:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 943.59 Mbit/s
95th percentile per-packet one-way delay: 39.753 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 575.35 Mbit/s
95th percentile per-packet one-way delay: 39.636 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 399.88 Mbit/s
95th percentile per-packet one-way delay: 39.863 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 321.81 Mbit/s
95th percentile per-packet one-way delay: 65.099 ms
Loss rate: 0.93%
```
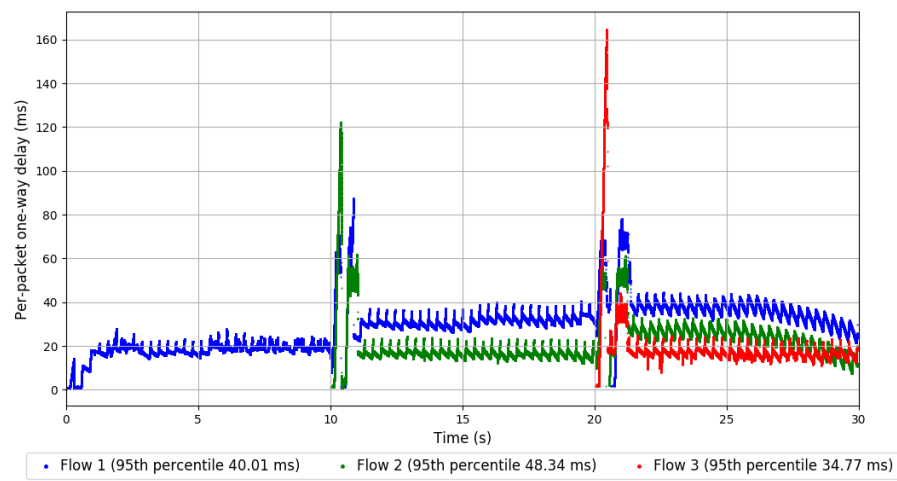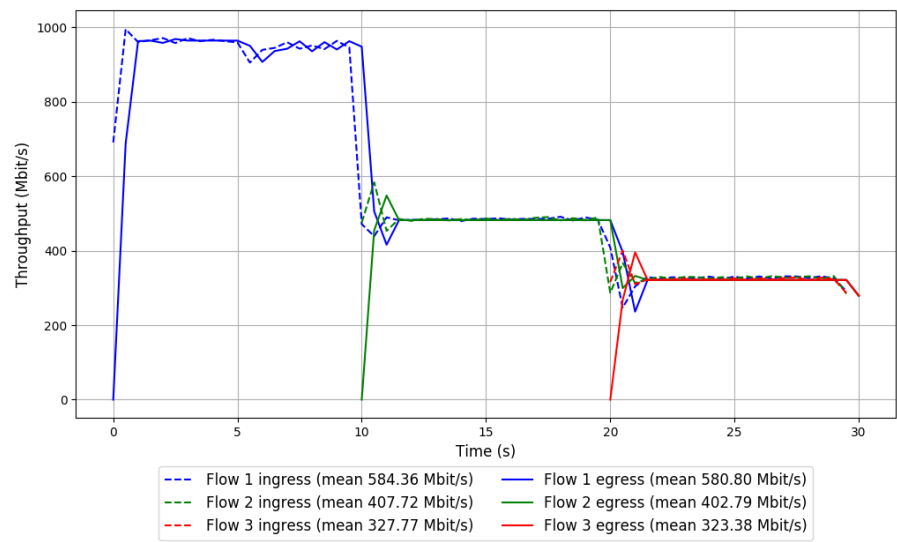
Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2018-09-25 17:48:45
End at: 2018-09-25 17:49:15
Local clock offset: 0.389 ms
Remote clock offset: 0.103 ms

# Below is generated by plot.py at 2018-09-25 19:44:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 956.76 Mbit/s
95th percentile per-packet one-way delay: 39.320 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 581.65 Mbit/s
95th percentile per-packet one-way delay: 38.477 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 402.74 Mbit/s
95th percentile per-packet one-way delay: 49.001 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 324.66 Mbit/s
95th percentile per-packet one-way delay: 59.569 ms
Loss rate: 1.27%
```
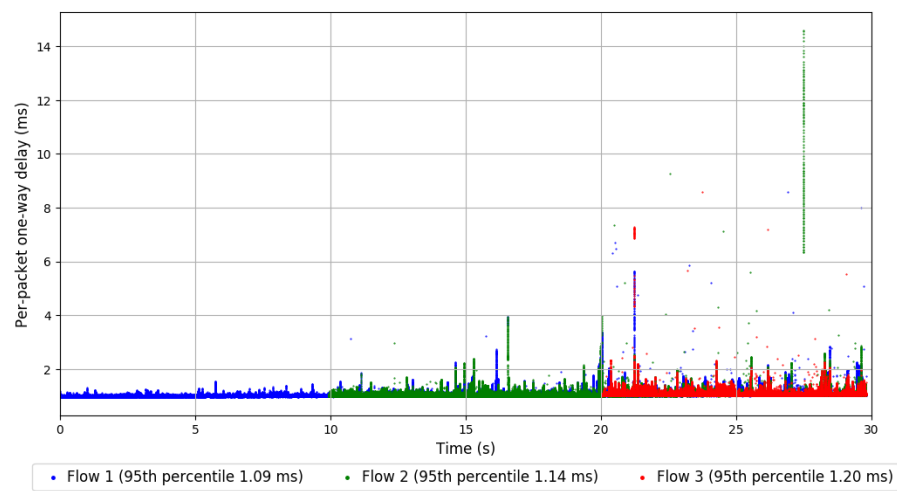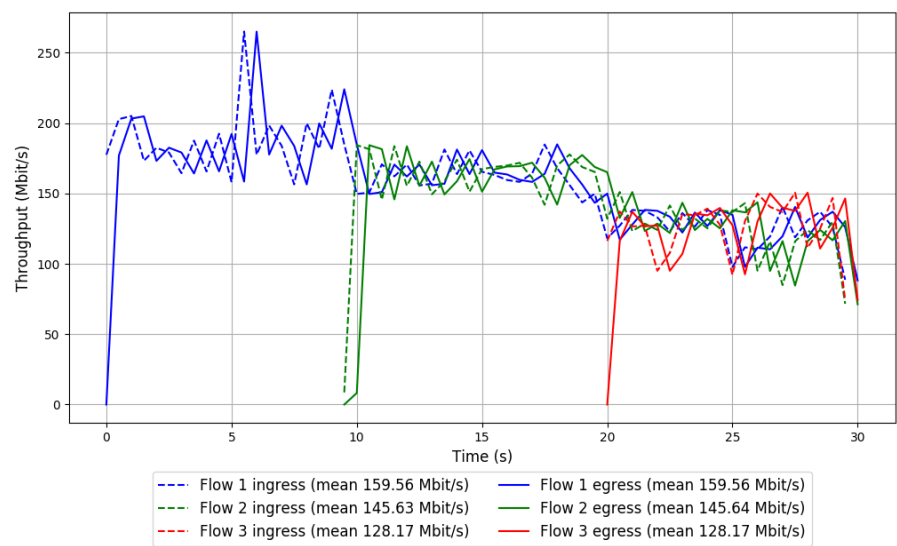
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 585.55 Mbit/s)   Flow 1 egress (mean 581.65 Mbit/s)
Flow 2 ingress (mean 407.39 Mbit/s)   Flow 2 egress (mean 402.74 Mbit/s)
Flow 3 ingress (mean 328.76 Mbit/s)   Flow 3 egress (mean 324.66 Mbit/s)

Flow 1 (95th percentile 38.48 ms)   Flow 2 (95th percentile 49.00 ms)   Flow 3 (95th percentile 59.57 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2018-09-25 18:18:12
End at: 2018-09-25 18:18:42
Local clock offset: 0.543 ms
Remote clock offset: 0.001 ms


# Below is generated by plot.py at 2018-09-25 19:49:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 957.48 Mbit/s
95th percentile per-packet one-way delay: 38.298 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 582.96 Mbit/s
95th percentile per-packet one-way delay: 35.240 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 402.41 Mbit/s
95th percentile per-packet one-way delay: 53.558 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 322.72 Mbit/s
95th percentile per-packet one-way delay: 36.053 ms
Loss rate: 1.43%
```
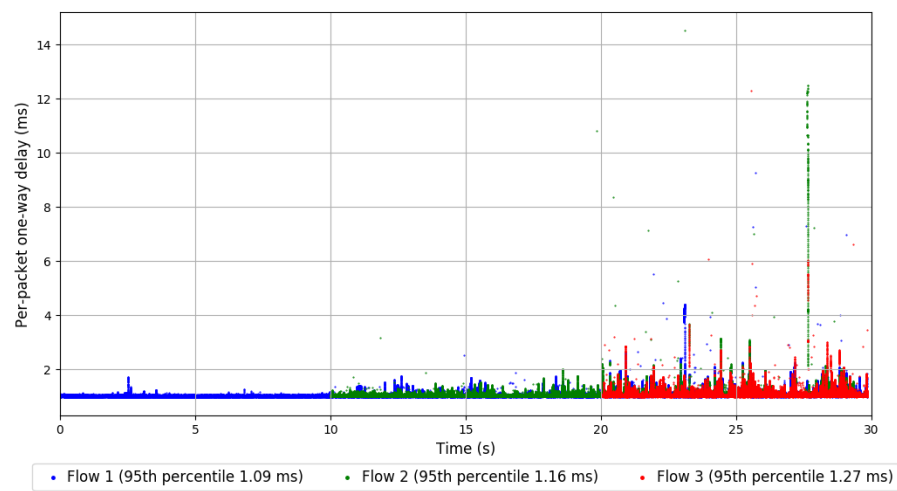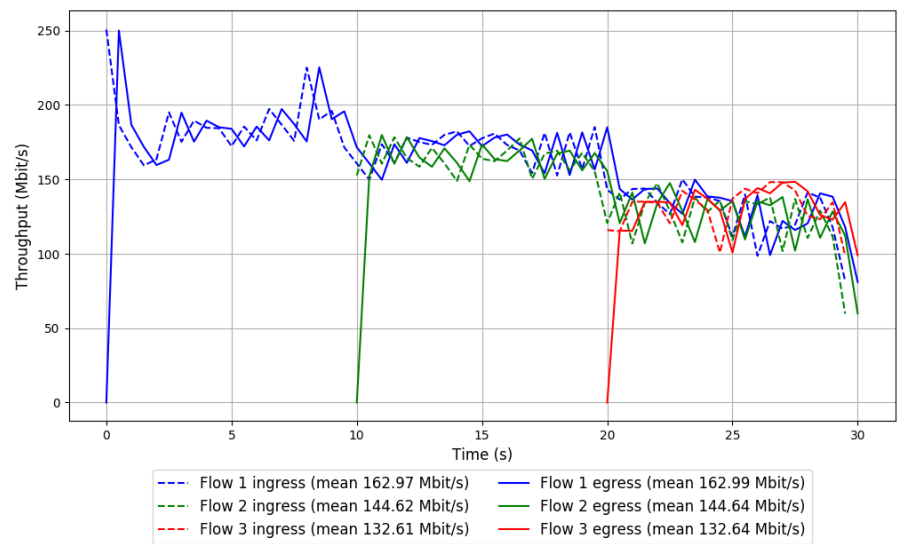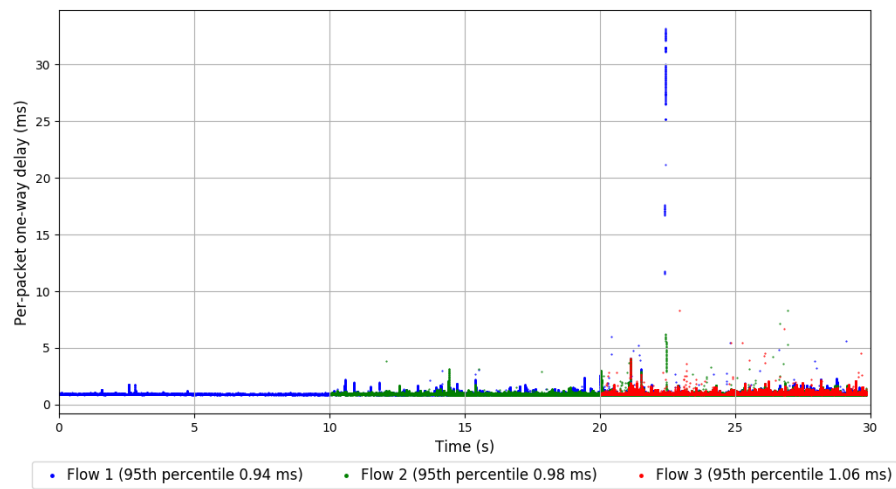
Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 588.35 Mbit/s) ---- Flow 1 egress (mean 582.96 Mbit/s)
Flow 2 ingress (mean 407.19 Mbit/s) ---- Flow 2 egress (mean 402.41 Mbit/s)
Flow 3 ingress (mean 327.32 Mbit/s) ---- Flow 3 egress (mean 322.72 Mbit/s)

Flow 1 (95th percentile 35.24 ms) • Flow 2 (95th percentile 53.56 ms) • Flow 3 (95th percentile 36.05 ms)

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```
Run 5: Statistics of FillP-Sheep

Start at: 2018-09-25 18:47:44
End at: 2018-09-25 18:48:14
Local clock offset: 0.401 ms
Remote clock offset: 2.012 ms


# Below is generated by plot.py at 2018-09-25 19:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 955.86 Mbit/s
95th percentile per-packet one-way delay: 40.170 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 580.80 Mbit/s
95th percentile per-packet one-way delay: 40.014 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 402.79 Mbit/s
95th percentile per-packet one-way delay: 48.340 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 323.38 Mbit/s
95th percentile per-packet one-way delay: 34.769 ms
Loss rate: 1.39%
```
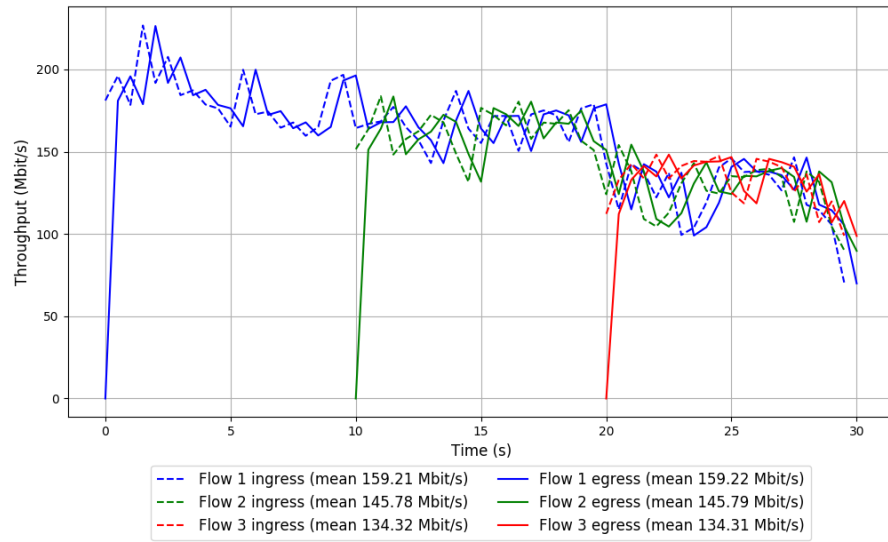
Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 584.36 Mbit/s) --- Flow 1 egress (mean 580.80 Mbit/s)
Flow 2 ingress (mean 407.72 Mbit/s) --- Flow 2 egress (mean 402.79 Mbit/s)
Flow 3 ingress (mean 327.77 Mbit/s) --- Flow 3 egress (mean 323.38 Mbit/s)

Flow 1 (95th percentile 40.01 ms) • Flow 2 (95th percentile 48.34 ms) • Flow 3 (95th percentile 34.77 ms)

```
Run 1: Statistics of Indigo

Start at: 2018-09-25 16:52:55
End at: 2018-09-25 16:53:25
Local clock offset: 0.934 ms
Remote clock offset: 4.346 ms


# Below is generated by plot.py at 2018-09-25 19:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 298.62 Mbit/s
95th percentile per-packet one-way delay: 1.130 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 159.56 Mbit/s
95th percentile per-packet one-way delay: 1.092 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 145.64 Mbit/s
95th percentile per-packet one-way delay: 1.143 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 128.17 Mbit/s
95th percentile per-packet one-way delay: 1.201 ms
Loss rate: 0.01%
```
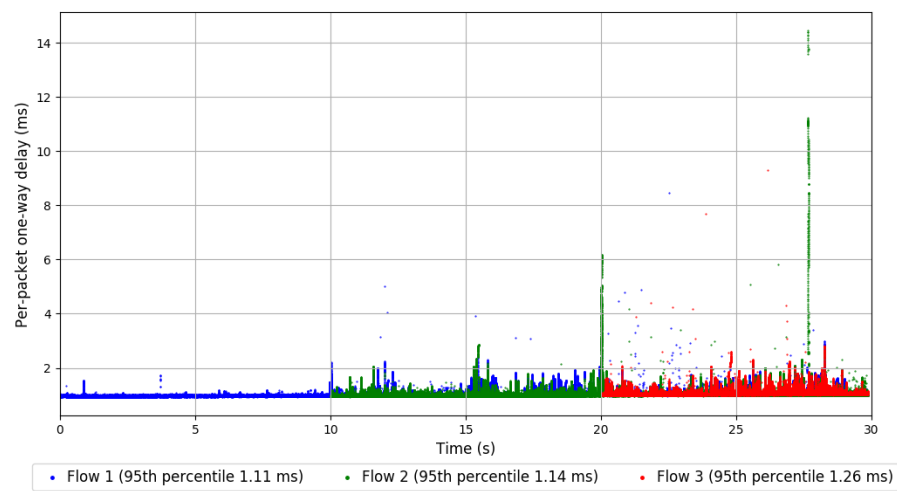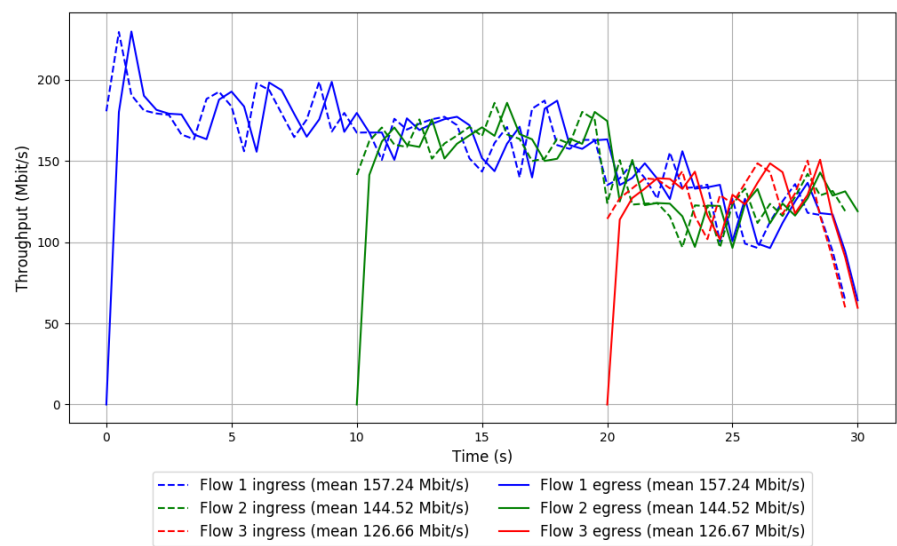
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-09-25 17:22:31
End at: 2018-09-25 17:23:01
Local clock offset: 0.293 ms
Remote clock offset: 0.538 ms


# Below is generated by plot.py at 2018-09-25 19:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 302.81 Mbit/s
95th percentile per-packet one-way delay: 1.145 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 162.99 Mbit/s
95th percentile per-packet one-way delay: 1.094 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 144.64 Mbit/s
95th percentile per-packet one-way delay: 1.162 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 132.64 Mbit/s
95th percentile per-packet one-way delay: 1.270 ms
Loss rate: 0.00%
```
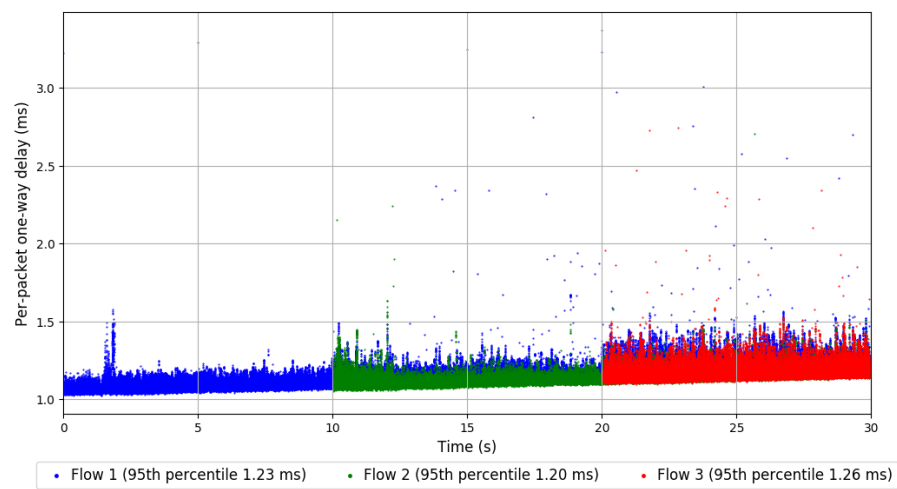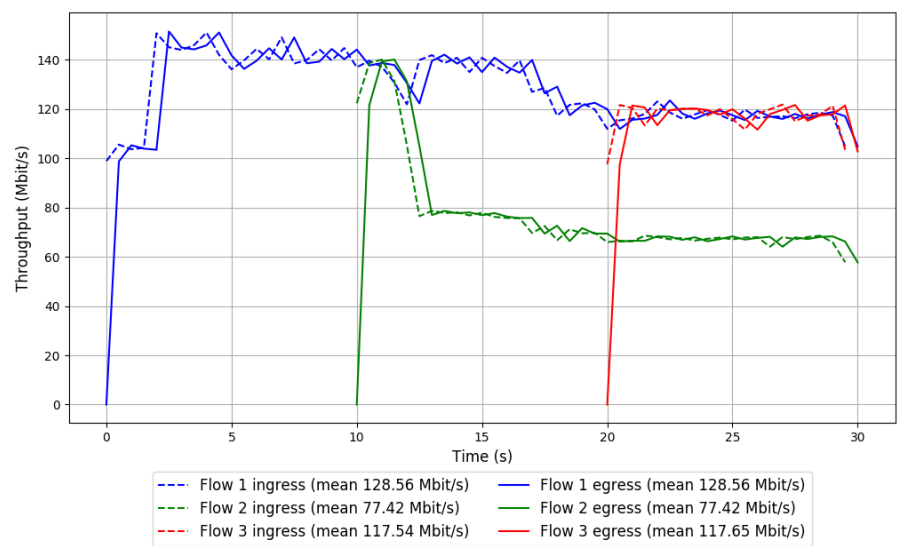
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-09-25 17:52:04
End at: 2018-09-25 17:52:34
Local clock offset: 0.508 ms
Remote clock offset: 0.165 ms


# Below is generated by plot.py at 2018-09-25 19:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 300.25 Mbit/s
95th percentile per-packet one-way delay: 0.976 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 159.22 Mbit/s
95th percentile per-packet one-way delay: 0.939 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 145.79 Mbit/s
95th percentile per-packet one-way delay: 0.983 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 134.31 Mbit/s
95th percentile per-packet one-way delay: 1.065 ms
Loss rate: 0.01%
```
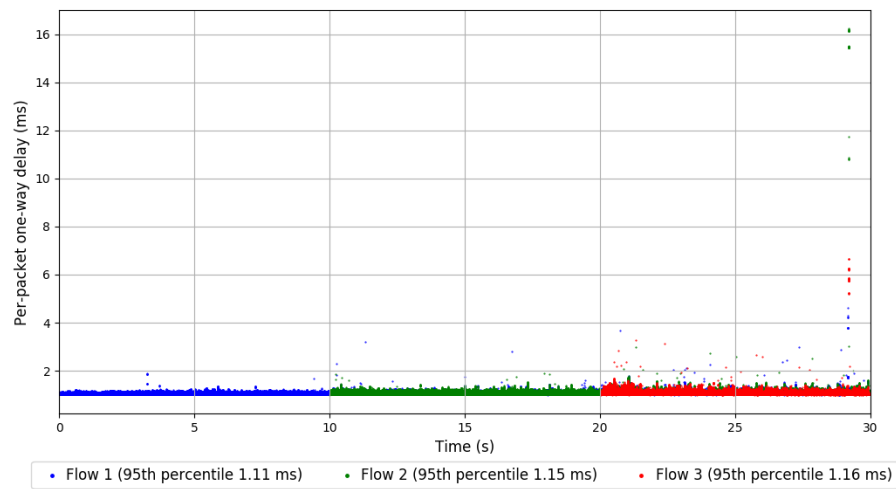
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-09-25 18:21:30
End at: 2018-09-25 18:22:00
Local clock offset: 0.472 ms
Remote clock offset: -0.002 ms


# Below is generated by plot.py at 2018-09-25 19:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 301.60 Mbit/s
95th percentile per-packet one-way delay: 1.194 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 159.75 Mbit/s
95th percentile per-packet one-way delay: 1.092 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 148.17 Mbit/s
95th percentile per-packet one-way delay: 1.260 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 132.15 Mbit/s
95th percentile per-packet one-way delay: 1.358 ms
Loss rate: 0.02%
```
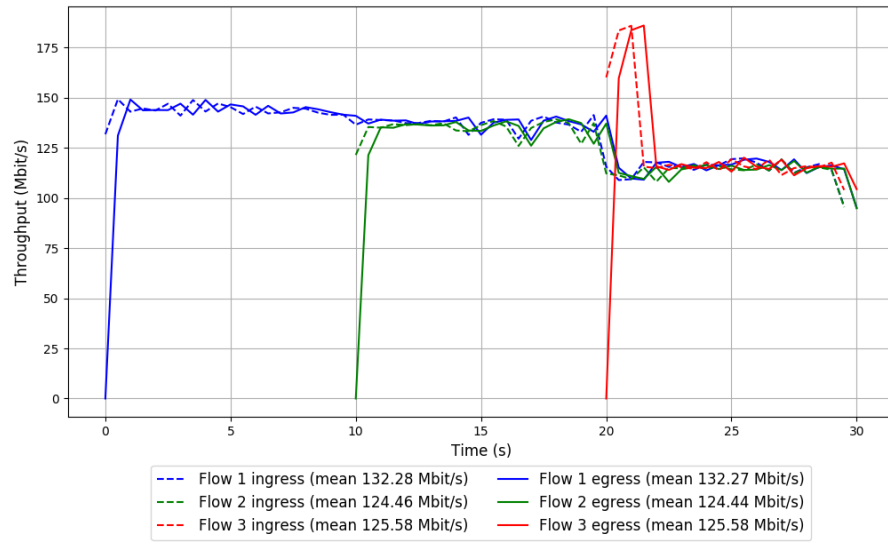
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2018-09-25 18:51:03
End at: 2018-09-25 18:51:33
Local clock offset: 0.405 ms
Remote clock offset: 2.529 ms


# Below is generated by plot.py at 2018-09-25 19:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.98 Mbit/s
95th percentile per-packet one-way delay: 1.146 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 157.24 Mbit/s
95th percentile per-packet one-way delay: 1.109 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 144.52 Mbit/s
95th percentile per-packet one-way delay: 1.136 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 126.67 Mbit/s
95th percentile per-packet one-way delay: 1.263 ms
Loss rate: 0.01%
```
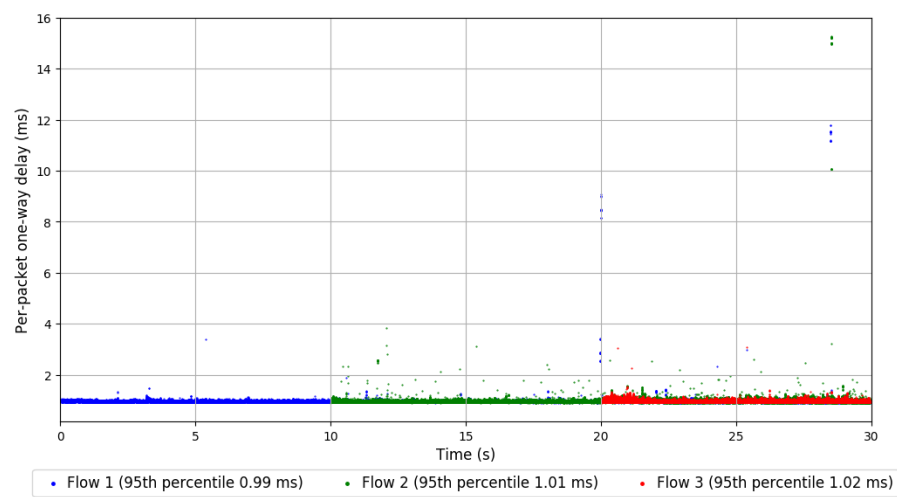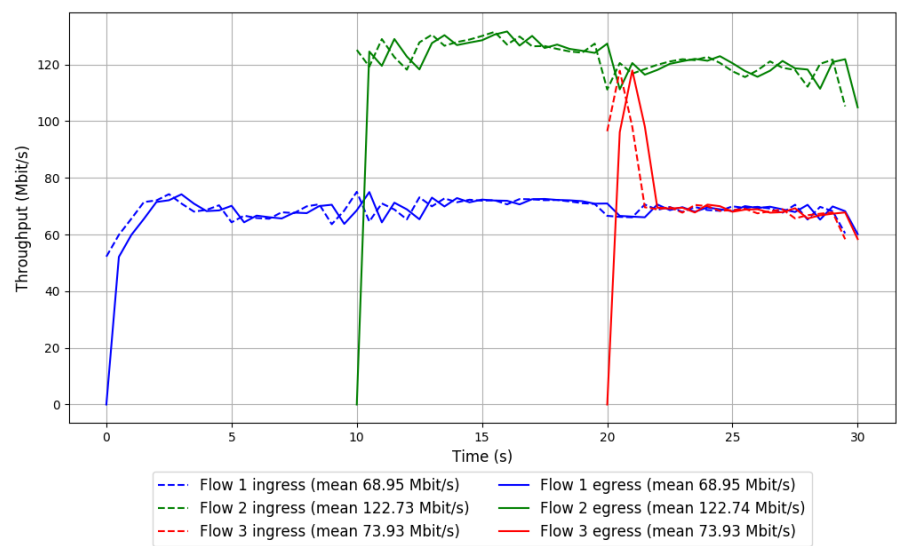
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-96d2da3

Start at: 2018-09-25 16:43:36
End at: 2018-09-25 16:44:06
Local clock offset: 1.27 ms
Remote clock offset: 2.969 ms


# Below is generated by plot.py at 2018-09-25 19:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 219.06 Mbit/s
95th percentile per-packet one-way delay: 1.230 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 128.56 Mbit/s
95th percentile per-packet one-way delay: 1.227 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 77.42 Mbit/s
95th percentile per-packet one-way delay: 1.201 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 117.65 Mbit/s
95th percentile per-packet one-way delay: 1.260 ms
Loss rate: 0.03%
```
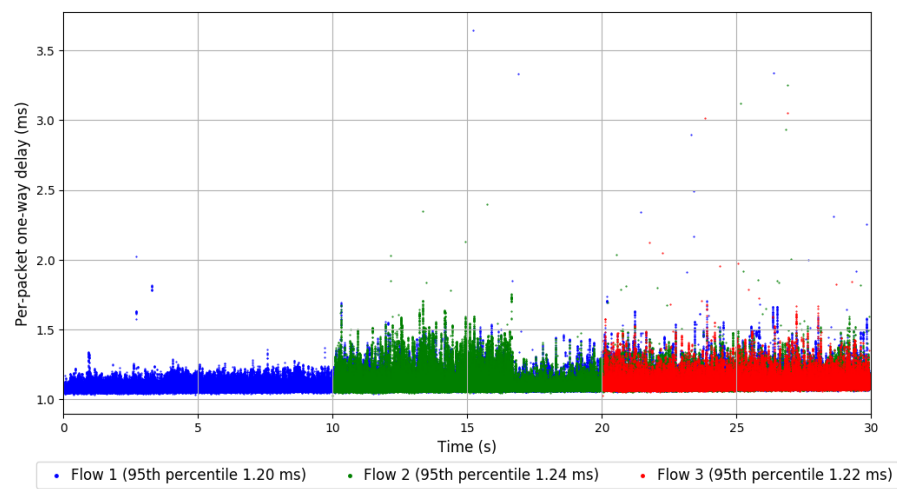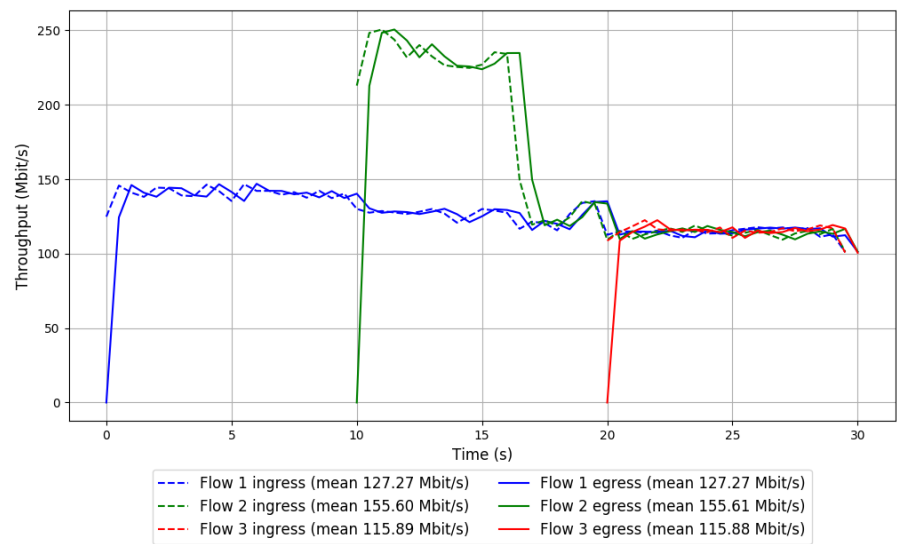
Run 1: Report of Indigo-96d2da3 — Data Link

66

```
Run 2: Statistics of Indigo-96d2da3

Start at: 2018-09-25 17:13:03
End at: 2018-09-25 17:13:33
Local clock offset: 0.753 ms
Remote clock offset: 1.01 ms


# Below is generated by plot.py at 2018-09-25 19:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 256.63 Mbit/s
95th percentile per-packet one-way delay: 1.132 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 132.27 Mbit/s
95th percentile per-packet one-way delay: 1.113 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 124.44 Mbit/s
95th percentile per-packet one-way delay: 1.148 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 125.58 Mbit/s
95th percentile per-packet one-way delay: 1.162 ms
Loss rate: 0.00%
```
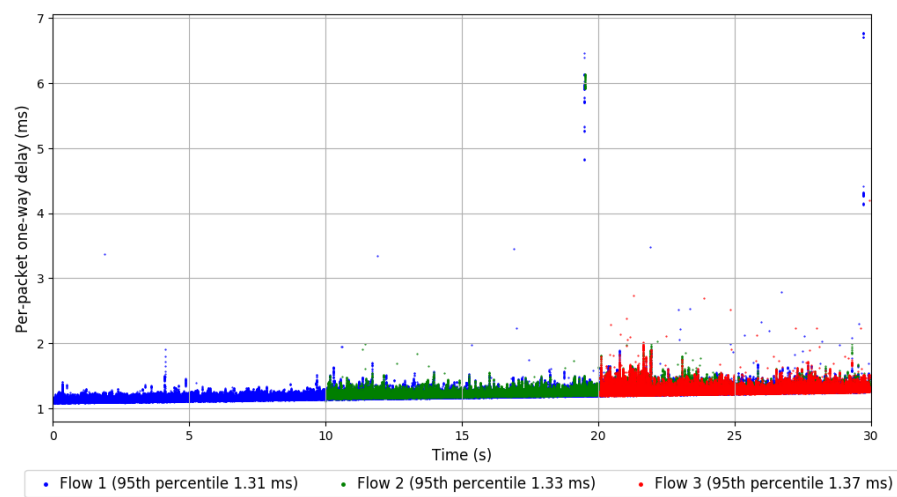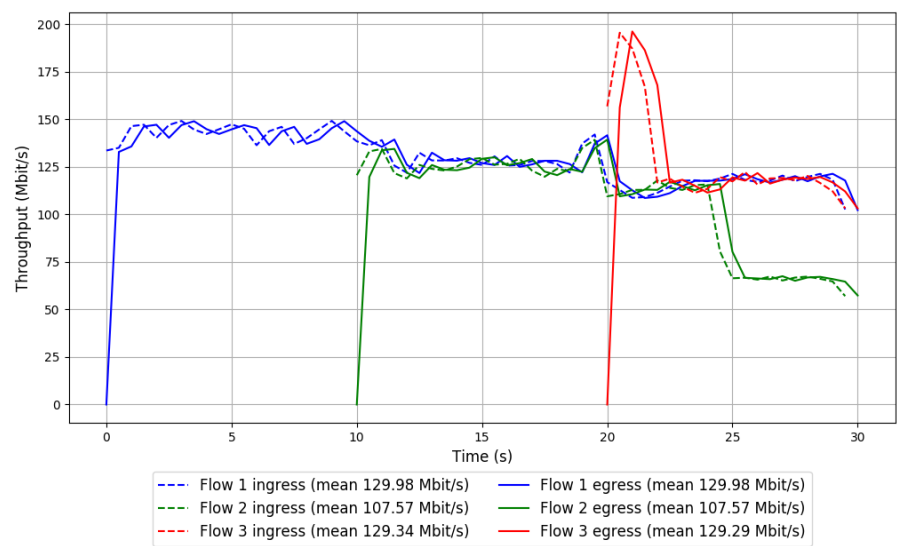
Run 2: Report of Indigo-96d2da3 — Data Link

```
Run 3: Statistics of Indigo-96d2da3

Start at: 2018-09-25 17:42:38
End at: 2018-09-25 17:43:08
Local clock offset: 0.205 ms
Remote clock offset: 0.197 ms


# Below is generated by plot.py at 2018-09-25 19:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 175.11 Mbit/s
95th percentile per-packet one-way delay: 1.001 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 68.95 Mbit/s
95th percentile per-packet one-way delay: 0.988 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 122.74 Mbit/s
95th percentile per-packet one-way delay: 1.010 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 73.93 Mbit/s
95th percentile per-packet one-way delay: 1.016 ms
Loss rate: 0.00%
```
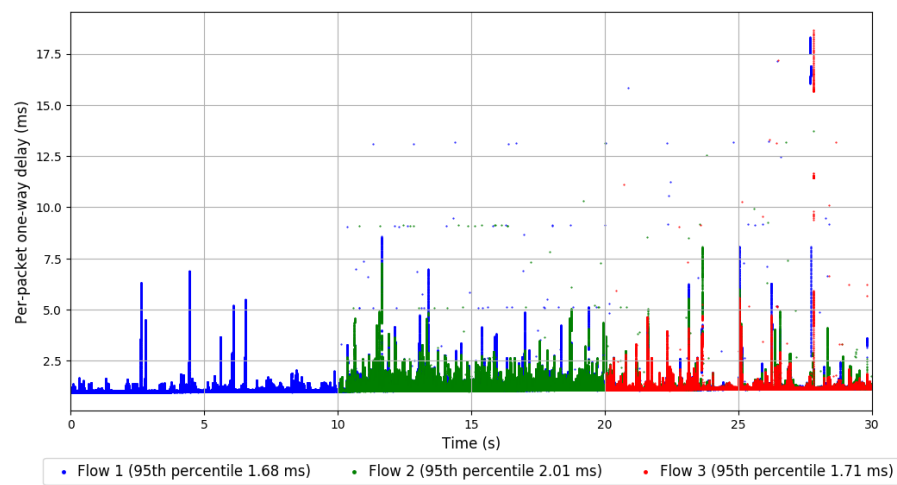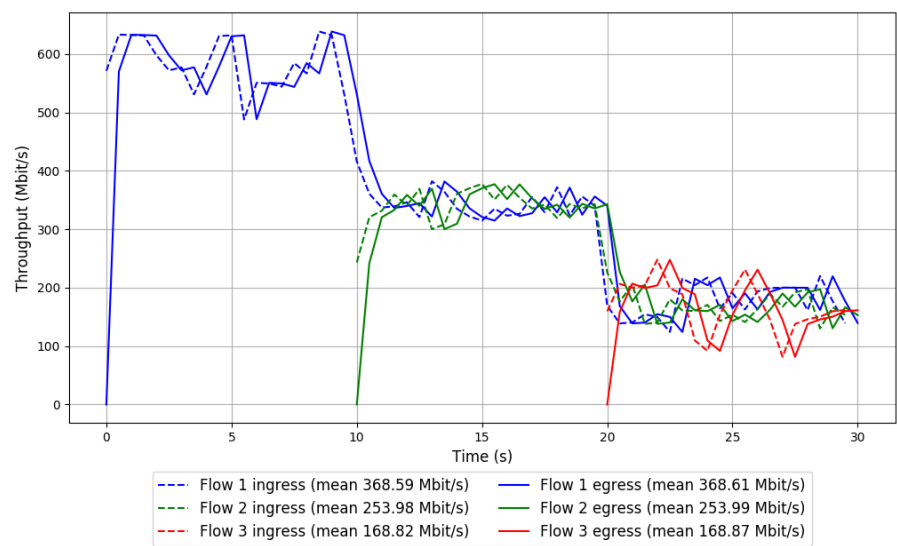
Run 3: Report of Indigo-96d2da3 — Data Link

```
Run 4: Statistics of Indigo-96d2da3

Start at: 2018-09-25 18:12:04
End at: 2018-09-25 18:12:34
Local clock offset: 0.847 ms
Remote clock offset: 0.025 ms


# Below is generated by plot.py at 2018-09-25 19:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 269.29 Mbit/s
95th percentile per-packet one-way delay: 1.217 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 127.27 Mbit/s
95th percentile per-packet one-way delay: 1.202 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 155.61 Mbit/s
95th percentile per-packet one-way delay: 1.236 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 115.88 Mbit/s
95th percentile per-packet one-way delay: 1.216 ms
Loss rate: 0.02%
```
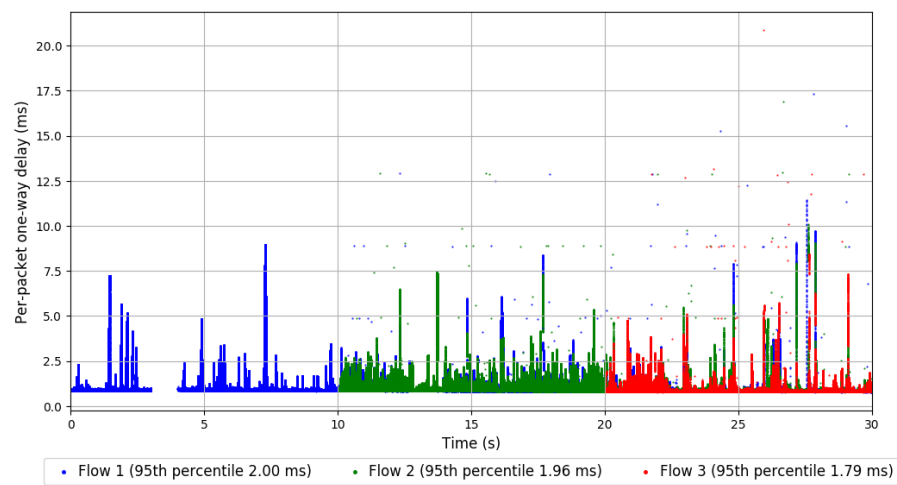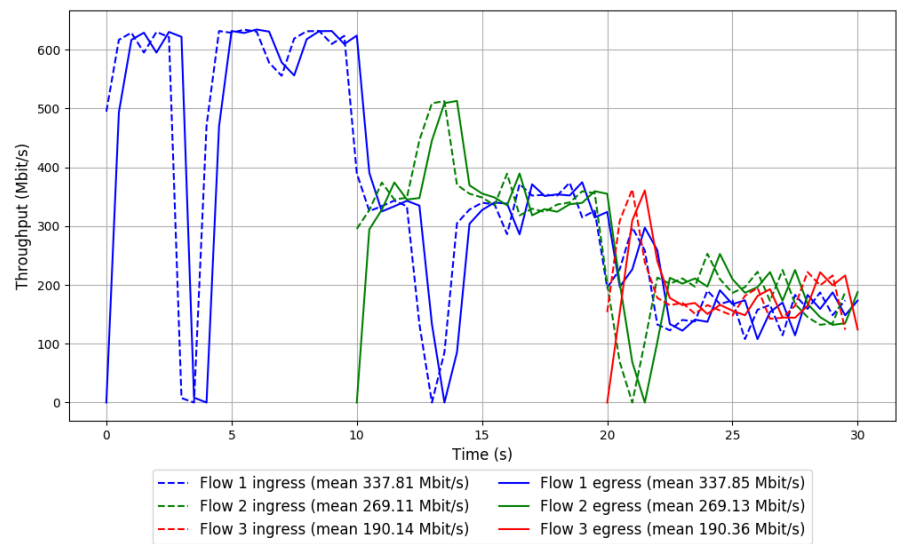
Run 4: Report of Indigo-96d2da3 — Data Link

```
Run 5: Statistics of Indigo-96d2da3

Start at: 2018-09-25 18:41:37
End at: 2018-09-25 18:42:07
Local clock offset: 0.456 ms
Remote clock offset: 0.261 ms

# Below is generated by plot.py at 2018-09-25 19:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 244.37 Mbit/s
95th percentile per-packet one-way delay: 1.332 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 129.98 Mbit/s
95th percentile per-packet one-way delay: 1.315 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 107.57 Mbit/s
95th percentile per-packet one-way delay: 1.330 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 129.29 Mbit/s
95th percentile per-packet one-way delay: 1.374 ms
Loss rate: 0.02%
```
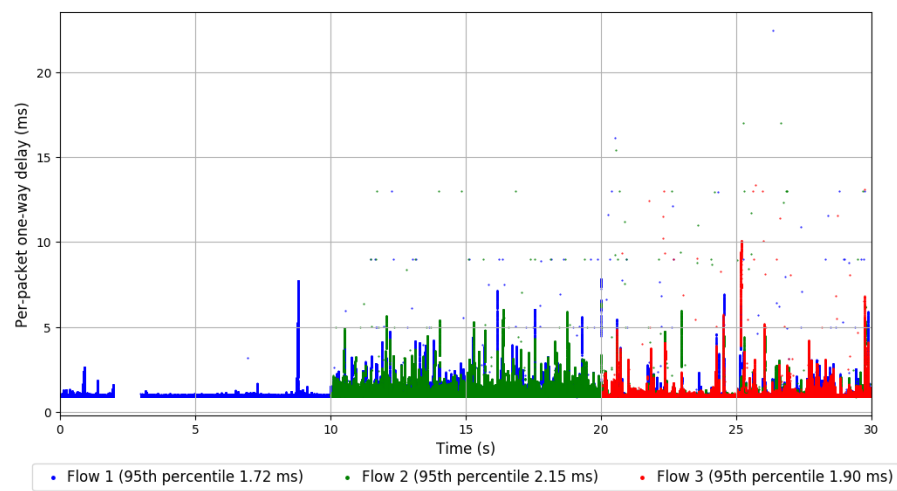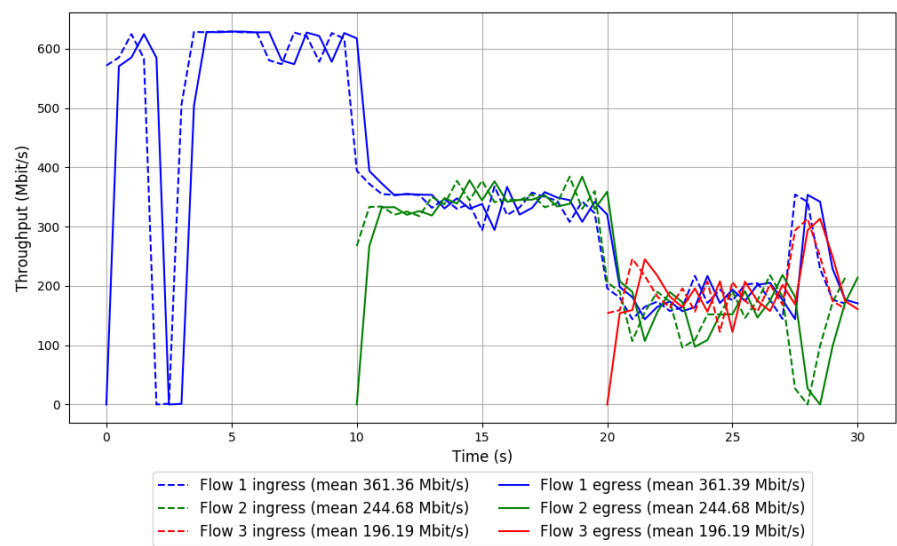
Run 5: Report of Indigo-96d2da3 — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2018-09-25 16:38:54
End at: 2018-09-25 16:39:24
Local clock offset: 1.655 ms
Remote clock offset: 1.943 ms

# Below is generated by plot.py at 2018-09-25 19:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 593.76 Mbit/s
95th percentile per-packet one-way delay: 1.797 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 368.61 Mbit/s
95th percentile per-packet one-way delay: 1.680 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 253.99 Mbit/s
95th percentile per-packet one-way delay: 2.014 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 168.87 Mbit/s
95th percentile per-packet one-way delay: 1.705 ms
Loss rate: 0.02%
```
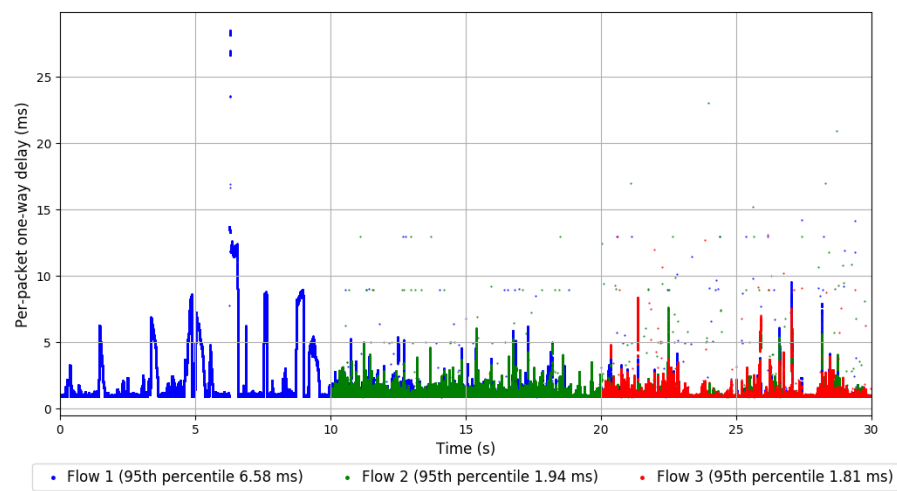
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-09-25 17:08:21
End at: 2018-09-25 17:08:51
Local clock offset: 1.013 ms
Remote clock offset: 1.677 ms


# Below is generated by plot.py at 2018-09-25 19:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 580.18 Mbit/s
95th percentile per-packet one-way delay: 1.973 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 337.85 Mbit/s
95th percentile per-packet one-way delay: 2.005 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 269.13 Mbit/s
95th percentile per-packet one-way delay: 1.964 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 190.36 Mbit/s
95th percentile per-packet one-way delay: 1.792 ms
Loss rate: 0.00%
```
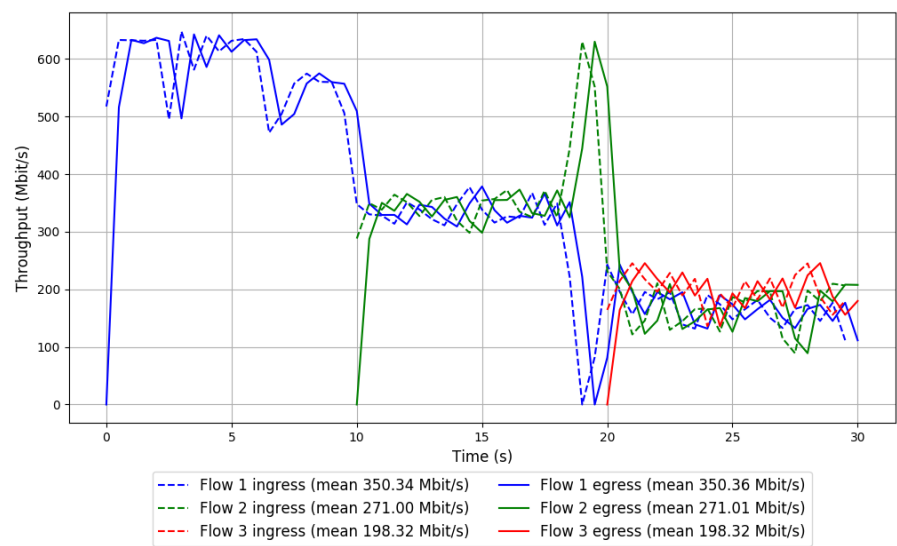
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-09-25 17:37:58
End at: 2018-09-25 17:38:28
Local clock offset: 0.075 ms
Remote clock offset: 0.283 ms

# Below is generated by plot.py at 2018-09-25 19:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 589.51 Mbit/s
95th percentile per-packet one-way delay: 1.865 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 361.39 Mbit/s
95th percentile per-packet one-way delay: 1.716 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 244.68 Mbit/s
95th percentile per-packet one-way delay: 2.149 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 196.19 Mbit/s
95th percentile per-packet one-way delay: 1.895 ms
Loss rate: 0.02%
```
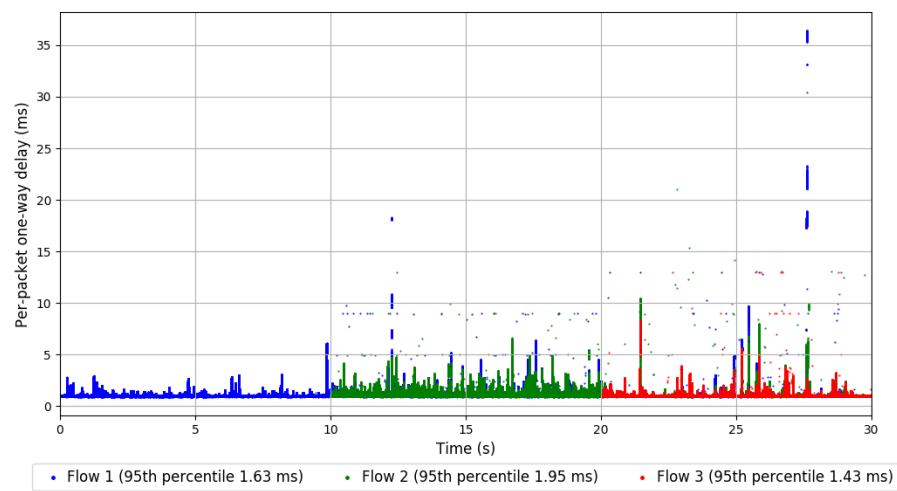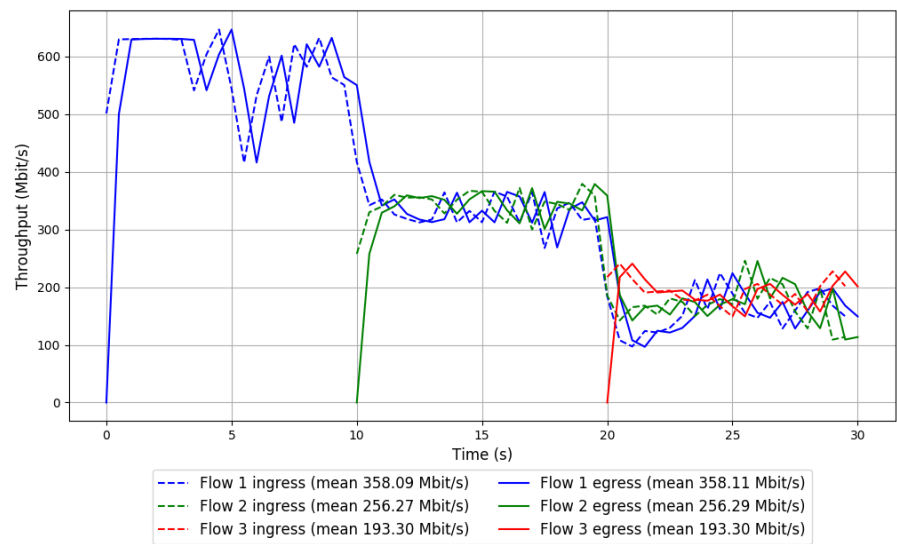
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 361.36 Mbit/s)   Flow 1 egress (mean 361.39 Mbit/s)
Flow 2 ingress (mean 244.68 Mbit/s)   Flow 2 egress (mean 244.68 Mbit/s)
Flow 3 ingress (mean 196.19 Mbit/s)   Flow 3 egress (mean 196.19 Mbit/s)

Flow 1 (95th percentile 1.72 ms)   Flow 2 (95th percentile 2.15 ms)   Flow 3 (95th percentile 1.90 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2018-09-25 18:07:21
End at: 2018-09-25 18:07:51
Local clock offset: 0.978 ms
Remote clock offset: 0.136 ms


# Below is generated by plot.py at 2018-09-25 19:56:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 596.66 Mbit/s
95th percentile per-packet one-way delay: 4.837 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 350.36 Mbit/s
95th percentile per-packet one-way delay: 6.578 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 271.01 Mbit/s
95th percentile per-packet one-way delay: 1.938 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 198.32 Mbit/s
95th percentile per-packet one-way delay: 1.813 ms
Loss rate: 0.01%
```
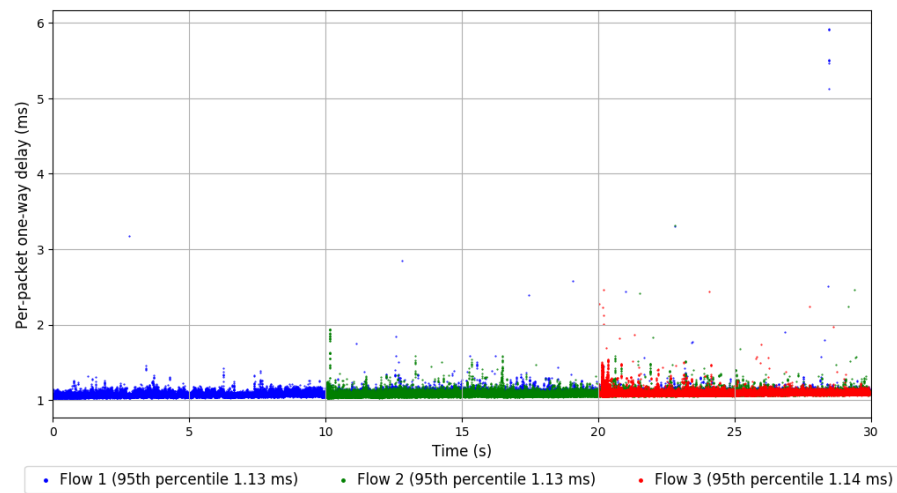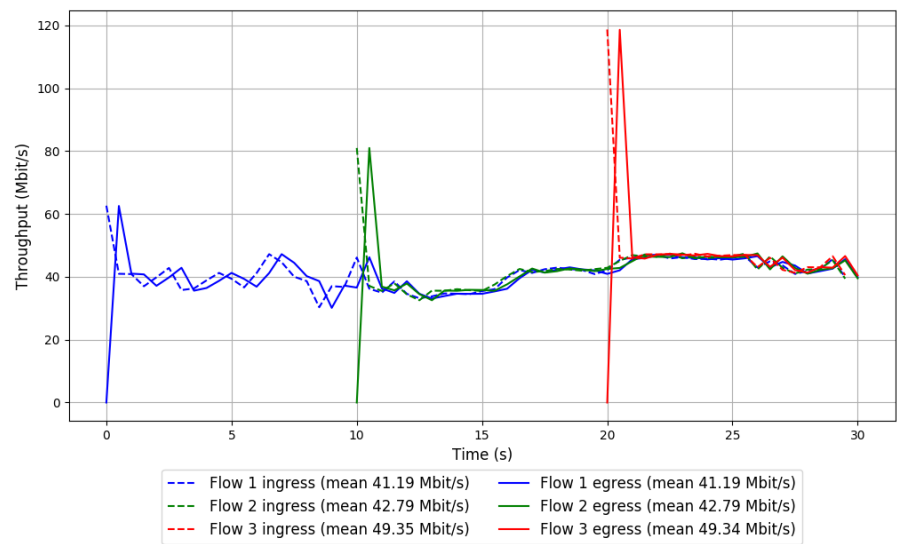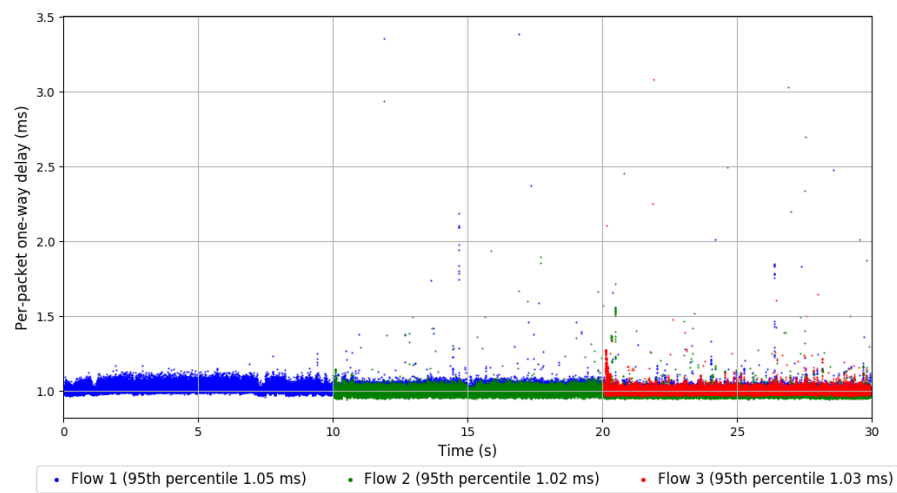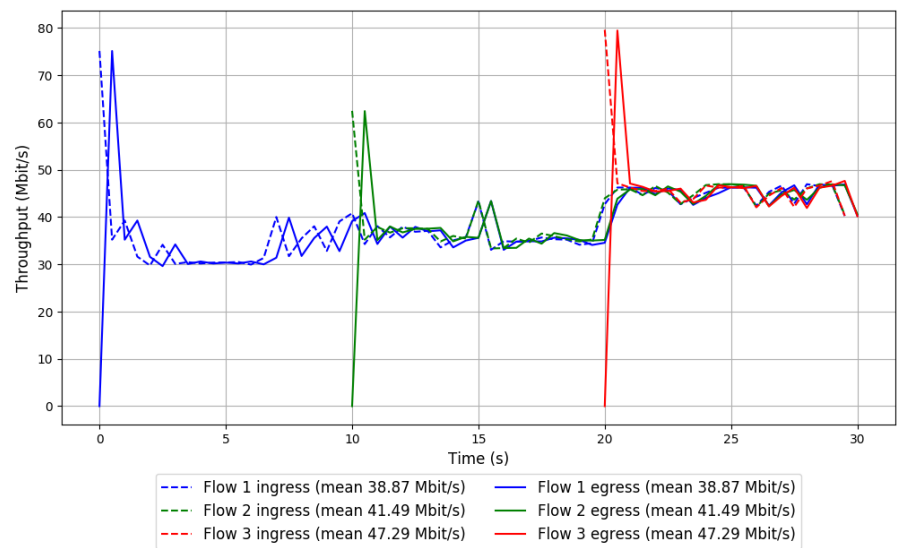
Run 4: Report of LEDBAT — Data Link

- Flow 1 ingress (mean 350.34 Mbit/s)
- Flow 1 egress (mean 350.36 Mbit/s)
- Flow 2 ingress (mean 271.00 Mbit/s)
- Flow 2 egress (mean 271.01 Mbit/s)
- Flow 3 ingress (mean 198.32 Mbit/s)
- Flow 3 egress (mean 198.32 Mbit/s)

- Flow 1 (95th percentile 6.58 ms)
- Flow 2 (95th percentile 1.94 ms)
- Flow 3 (95th percentile 1.81 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2018-09-25 18:36:55
End at: 2018-09-25 18:37:25
Local clock offset: 0.438 ms
Remote clock offset: 0.111 ms


# Below is generated by plot.py at 2018-09-25 19:56:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 592.91 Mbit/s
95th percentile per-packet one-way delay: 1.715 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 358.11 Mbit/s
95th percentile per-packet one-way delay: 1.629 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 256.29 Mbit/s
95th percentile per-packet one-way delay: 1.950 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 193.30 Mbit/s
95th percentile per-packet one-way delay: 1.430 ms
Loss rate: 0.03%
```
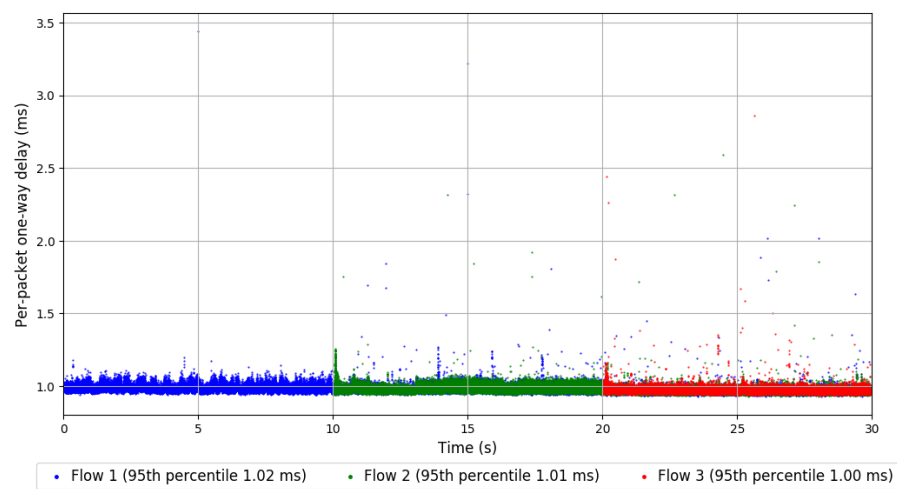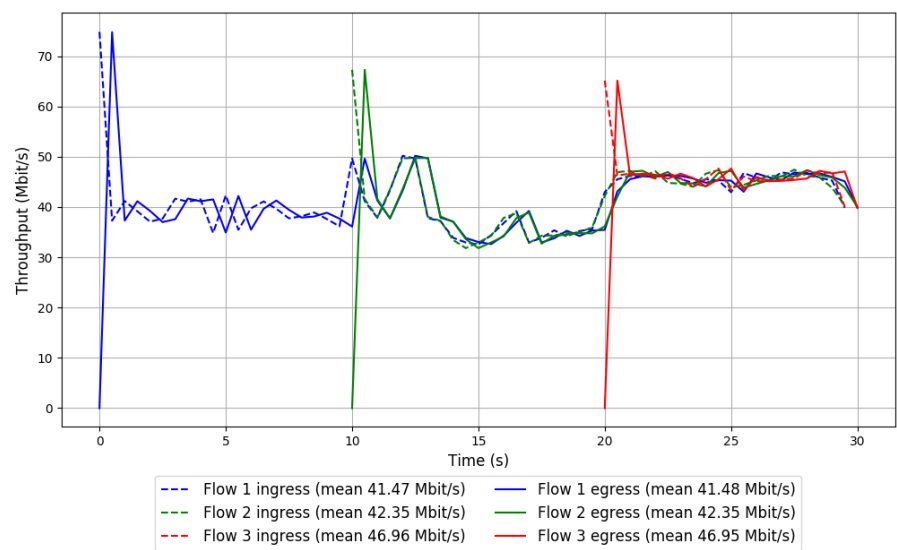
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-25 16:54:27
End at: 2018-09-25 16:54:57
Local clock offset: 0.944 ms
Remote clock offset: 4.485 ms

# Below is generated by plot.py at 2018-09-25 19:56:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.03 Mbit/s
95th percentile per-packet one-way delay: 1.131 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.19 Mbit/s
95th percentile per-packet one-way delay: 1.130 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.79 Mbit/s
95th percentile per-packet one-way delay: 1.128 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.34 Mbit/s
95th percentile per-packet one-way delay: 1.140 ms
Loss rate: 0.02%
```
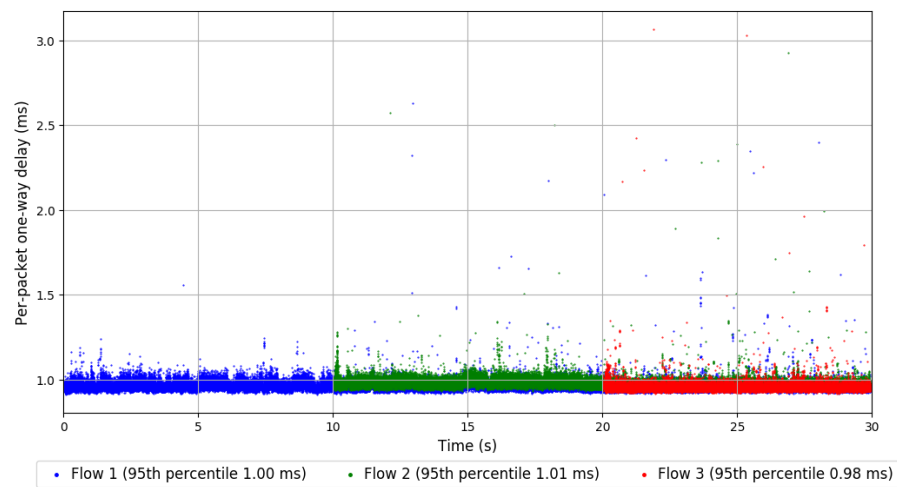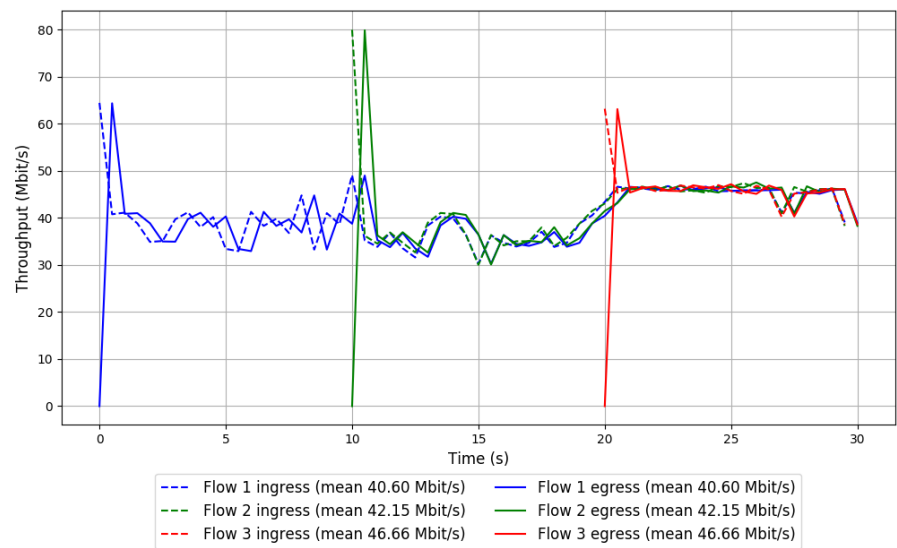
Run 1: Report of Indigo-Muses — Data Link

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-09-25 17:24:03
End at: 2018-09-25 17:24:33
Local clock offset: 0.269 ms
Remote clock offset: 0.569 ms


# Below is generated by plot.py at 2018-09-25 19:56:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.16 Mbit/s
95th percentile per-packet one-way delay: 1.044 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 38.87 Mbit/s
95th percentile per-packet one-way delay: 1.055 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.49 Mbit/s
95th percentile per-packet one-way delay: 1.024 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.29 Mbit/s
95th percentile per-packet one-way delay: 1.027 ms
Loss rate: 0.01%
```
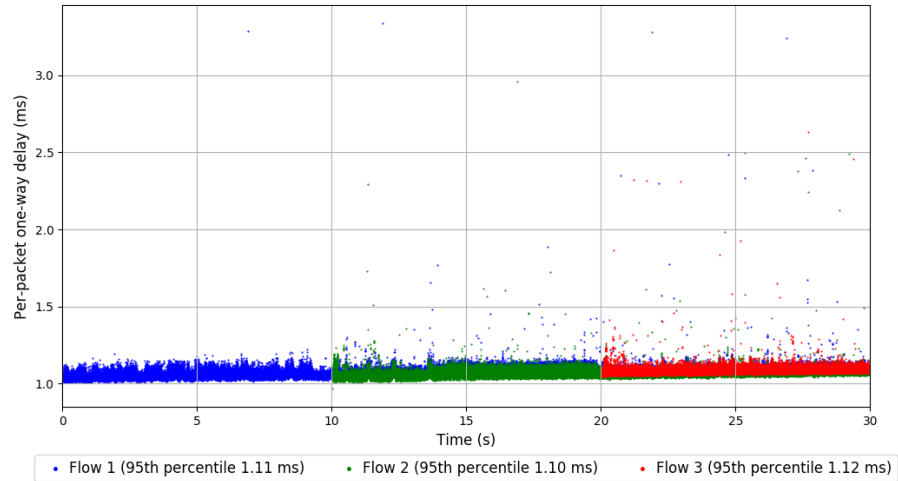
Run 2: Report of Indigo-Muses — Data Link

```
Run 3: Statistics of Indigo-Muses

Start at: 2018-09-25 17:53:36
End at: 2018-09-25 17:54:06
Local clock offset: 0.573 ms
Remote clock offset: 0.083 ms


# Below is generated by plot.py at 2018-09-25 19:56:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.21 Mbit/s
95th percentile per-packet one-way delay: 1.015 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 41.48 Mbit/s
95th percentile per-packet one-way delay: 1.020 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 42.35 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 46.95 Mbit/s
95th percentile per-packet one-way delay: 0.998 ms
Loss rate: 0.02%
```
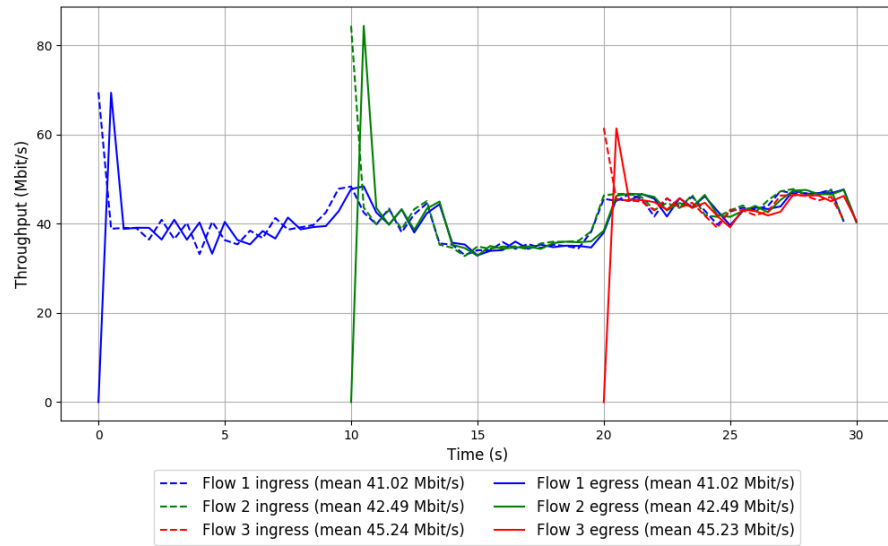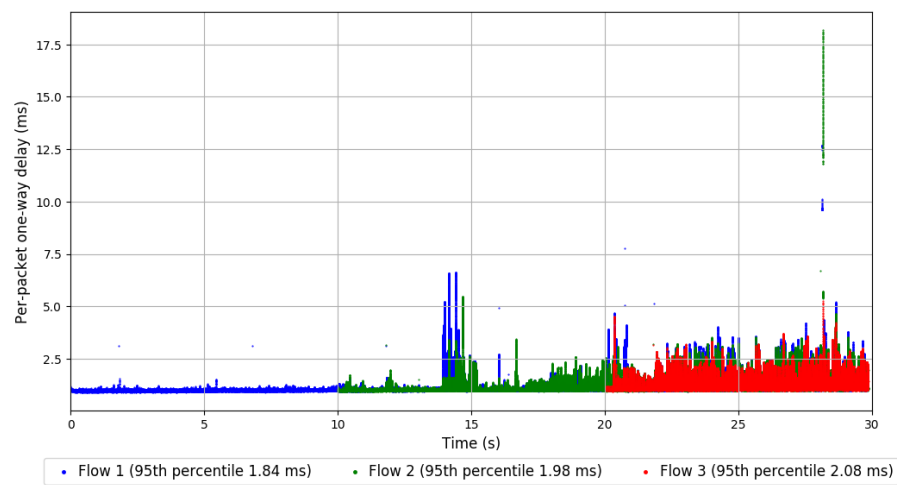
Run 3: Report of Indigo-Muses — Data Link

```
Run 4: Statistics of Indigo-Muses

Start at: 2018-09-25 18:23:02
End at: 2018-09-25 18:23:32
Local clock offset: 0.46 ms
Remote clock offset: 0.077 ms


# Below is generated by plot.py at 2018-09-25 19:56:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.11 Mbit/s
95th percentile per-packet one-way delay: 1.005 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 40.60 Mbit/s
95th percentile per-packet one-way delay: 1.002 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 42.15 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 46.66 Mbit/s
95th percentile per-packet one-way delay: 0.983 ms
Loss rate: 0.03%
```
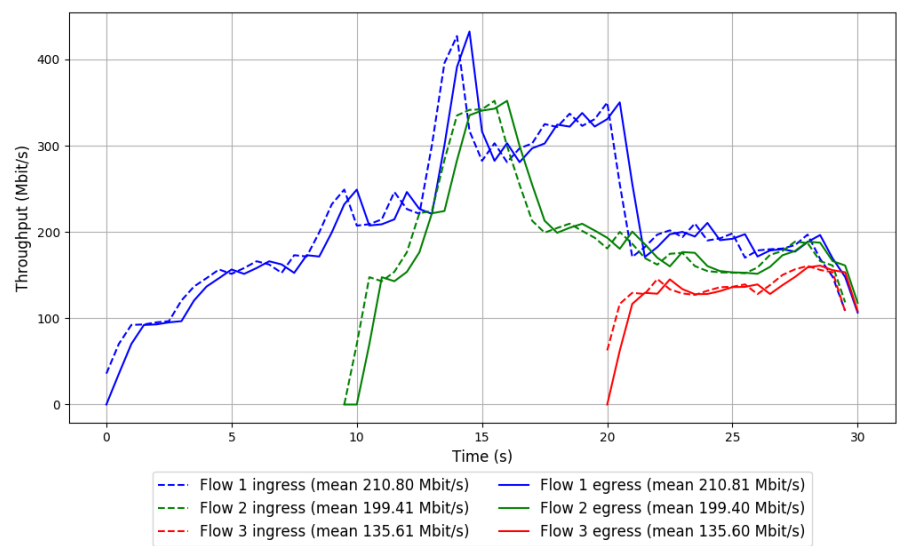
Run 4: Report of Indigo-Muses — Data Link

```
Run 5: Statistics of Indigo-Muses

Start at: 2018-09-25 18:52:35
End at: 2018-09-25 18:53:05
Local clock offset: 0.436 ms
Remote clock offset: 2.707 ms


# Below is generated by plot.py at 2018-09-25 19:56:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.27 Mbit/s
95th percentile per-packet one-way delay: 1.112 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 41.02 Mbit/s
95th percentile per-packet one-way delay: 1.114 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 42.49 Mbit/s
95th percentile per-packet one-way delay: 1.103 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 45.23 Mbit/s
95th percentile per-packet one-way delay: 1.117 ms
Loss rate: 0.03%
```
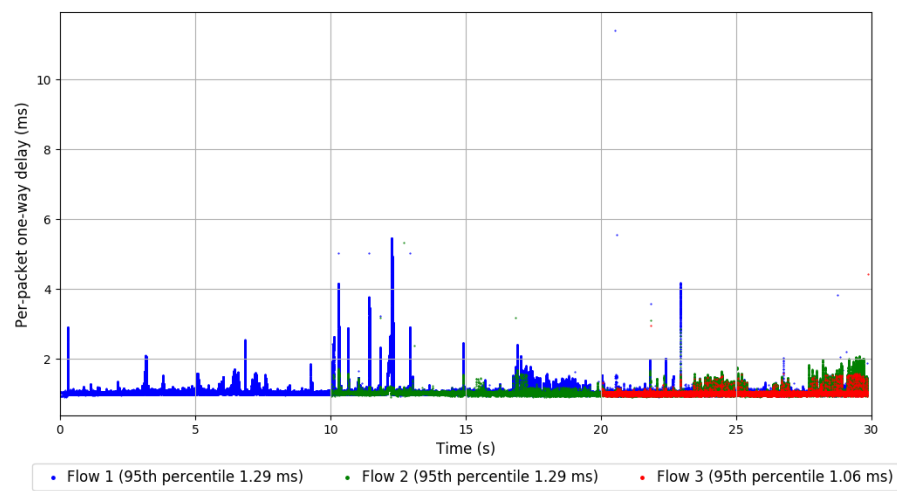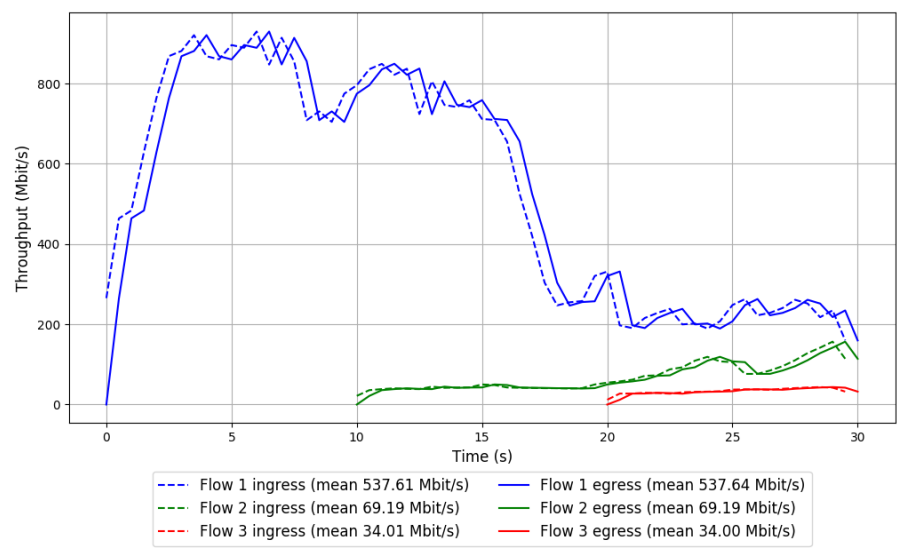
Run 5: Report of Indigo-Muses — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-25 16:51:27
End at: 2018-09-25 16:51:57
Local clock offset: 0.966 ms
Remote clock offset: 4.172 ms


# Below is generated by plot.py at 2018-09-25 19:57:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 388.04 Mbit/s
95th percentile per-packet one-way delay: 1.942 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 210.81 Mbit/s
95th percentile per-packet one-way delay: 1.844 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 199.40 Mbit/s
95th percentile per-packet one-way delay: 1.982 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 135.60 Mbit/s
95th percentile per-packet one-way delay: 2.084 ms
Loss rate: 0.00%
```
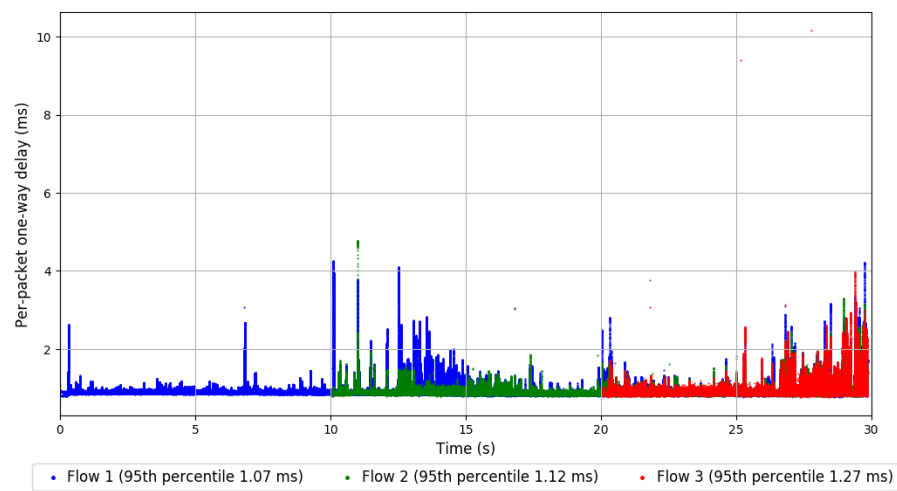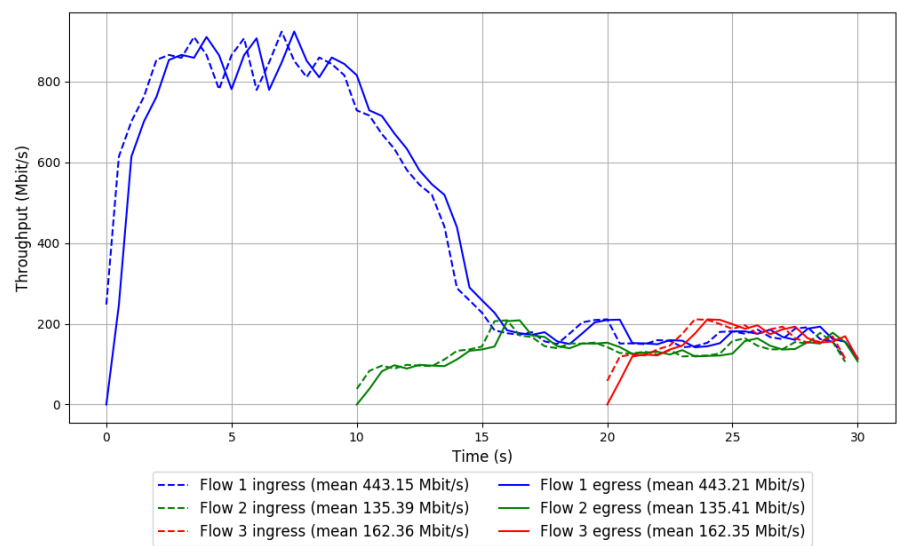
Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-09-25 17:20:57
End at: 2018-09-25 17:21:27
Local clock offset: 0.354 ms
Remote clock offset: 0.591 ms


# Below is generated by plot.py at 2018-09-25 20:00:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 594.79 Mbit/s
95th percentile per-packet one-way delay: 1.286 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 537.64 Mbit/s
95th percentile per-packet one-way delay: 1.295 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 69.19 Mbit/s
95th percentile per-packet one-way delay: 1.286 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 34.00 Mbit/s
95th percentile per-packet one-way delay: 1.059 ms
Loss rate: 0.02%
```
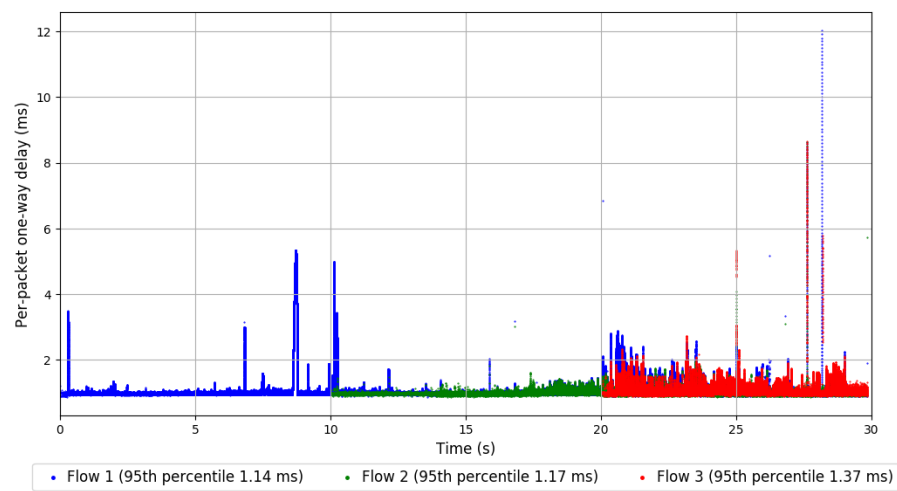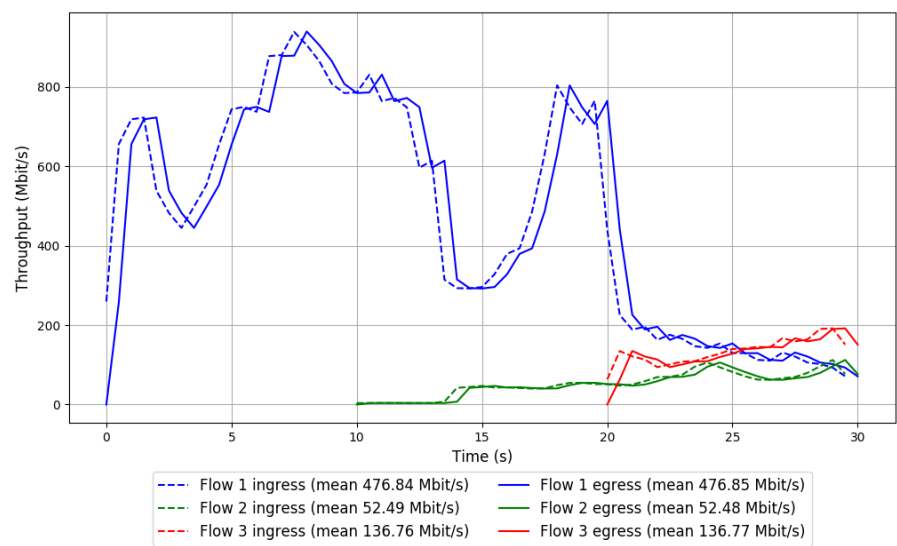
Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-09-25 17:50:30
End at: 2018-09-25 17:51:00
Local clock offset: 0.457 ms
Remote clock offset: 0.168 ms


# Below is generated by plot.py at 2018-09-25 20:01:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 586.71 Mbit/s
95th percentile per-packet one-way delay: 1.096 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 443.21 Mbit/s
95th percentile per-packet one-way delay: 1.075 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 135.41 Mbit/s
95th percentile per-packet one-way delay: 1.117 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 162.35 Mbit/s
95th percentile per-packet one-way delay: 1.270 ms
Loss rate: 0.02%
```
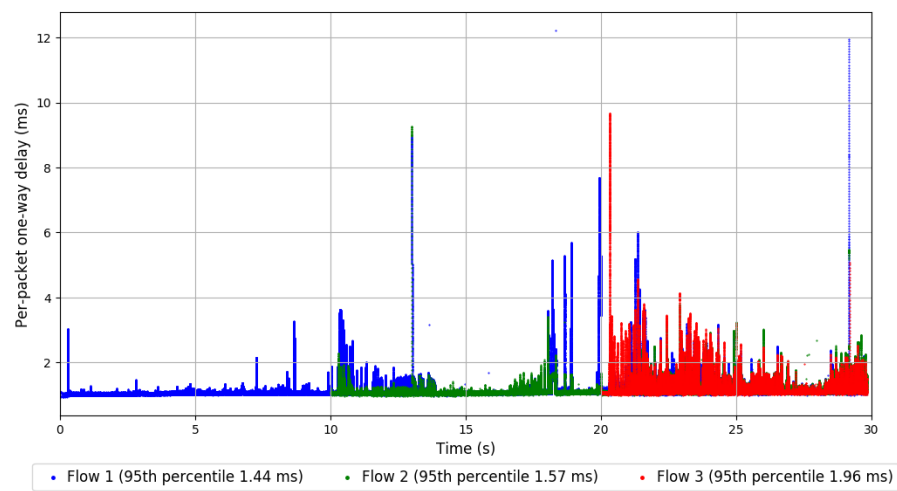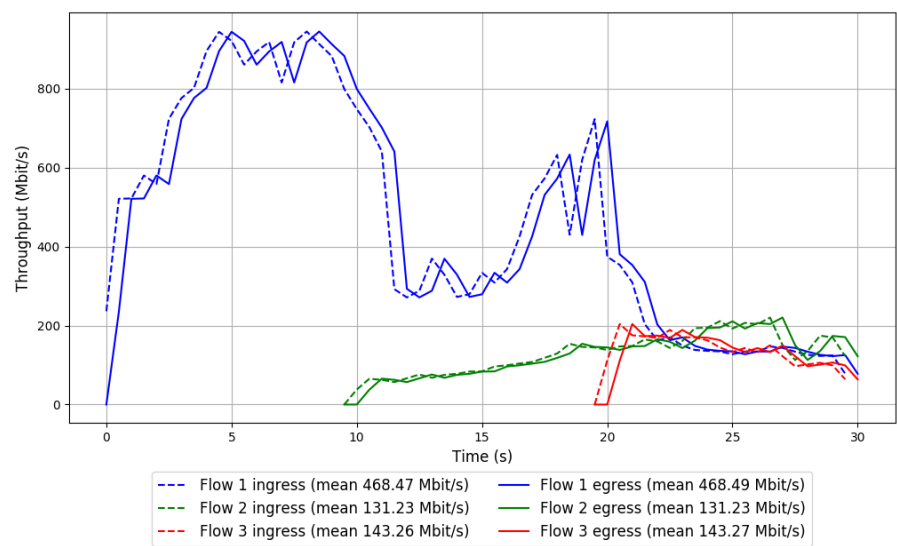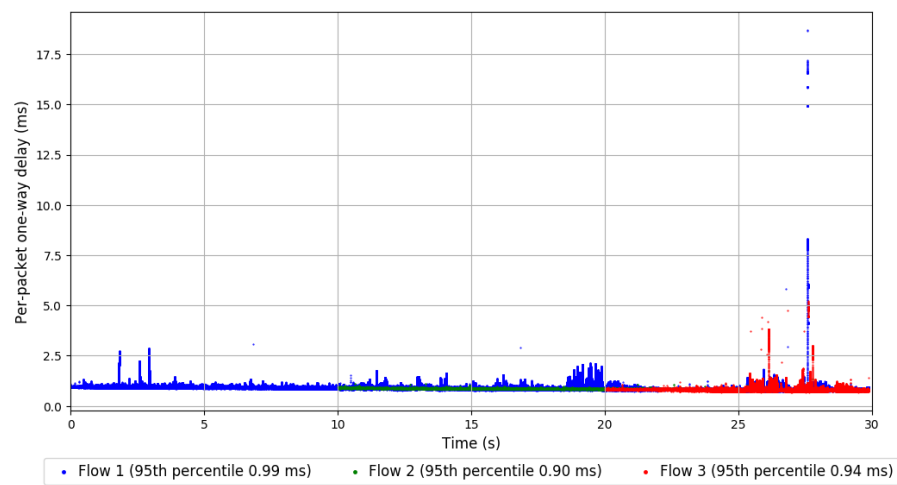
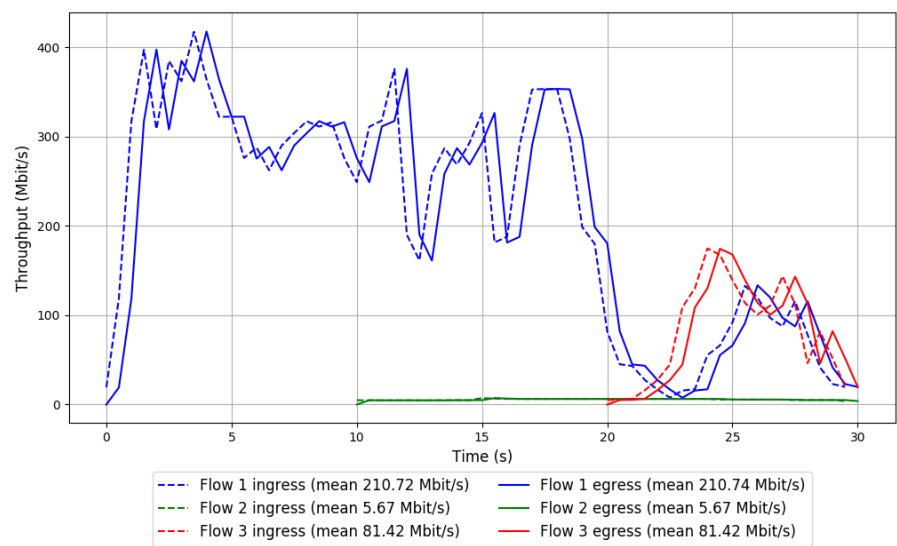## Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-09-25 18:19:57
End at: 2018-09-25 18:20:27
Local clock offset: 0.502 ms
Remote clock offset: 0.045 ms


# Below is generated by plot.py at 2018-09-25 20:01:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 556.64 Mbit/s
95th percentile per-packet one-way delay: 1.187 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 476.85 Mbit/s
95th percentile per-packet one-way delay: 1.142 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 52.48 Mbit/s
95th percentile per-packet one-way delay: 1.170 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 136.77 Mbit/s
95th percentile per-packet one-way delay: 1.366 ms
Loss rate: 0.02%
```

Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-09-25 18:49:29
End at: 2018-09-25 18:49:59
Local clock offset: 0.415 ms
Remote clock offset: 2.23 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 602.96 Mbit/s
95th percentile per-packet one-way delay: 1.538 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 468.49 Mbit/s
95th percentile per-packet one-way delay: 1.438 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 131.23 Mbit/s
95th percentile per-packet one-way delay: 1.572 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 143.27 Mbit/s
95th percentile per-packet one-way delay: 1.963 ms
Loss rate: 0.01%
```
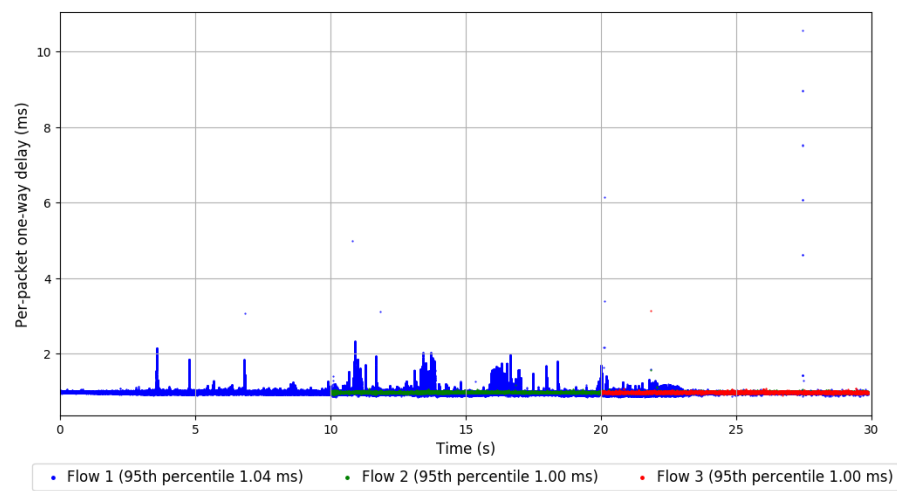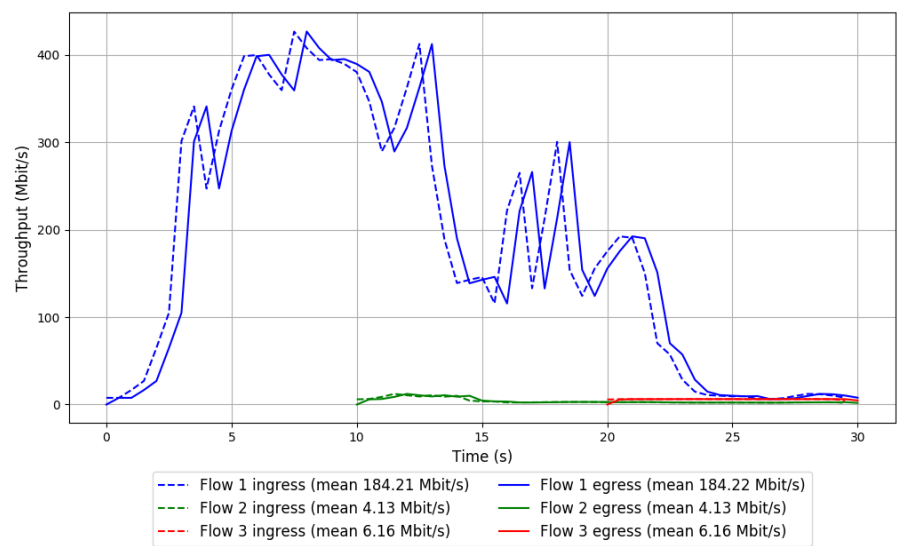
Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-25 17:03:37
End at: 2018-09-25 17:04:07
Local clock offset: 0.962 ms
Remote clock offset: 2.744 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 241.38 Mbit/s
95th percentile per-packet one-way delay: 0.986 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 210.74 Mbit/s
95th percentile per-packet one-way delay: 0.991 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.67 Mbit/s
95th percentile per-packet one-way delay: 0.897 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 81.42 Mbit/s
95th percentile per-packet one-way delay: 0.944 ms
Loss rate: 0.01%
```
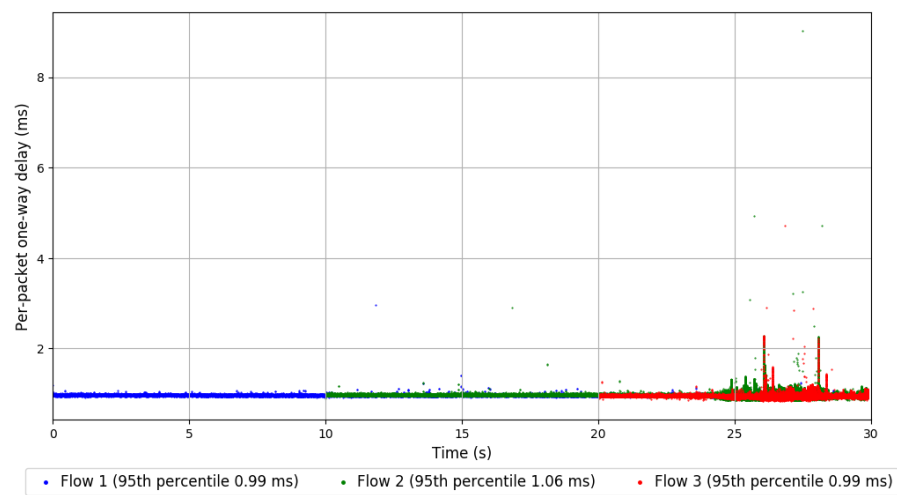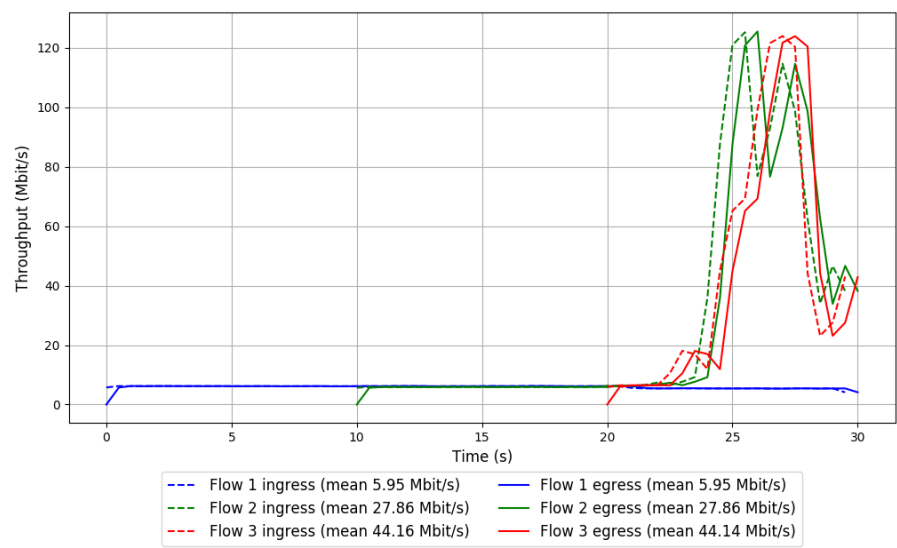
Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2018-09-25 17:33:17
End at: 2018-09-25 17:33:47
Local clock offset: 0.144 ms
Remote clock offset: 0.529 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 189.00 Mbit/s
95th percentile per-packet one-way delay: 1.037 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 184.22 Mbit/s
95th percentile per-packet one-way delay: 1.040 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.13 Mbit/s
95th percentile per-packet one-way delay: 1.001 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.16 Mbit/s
95th percentile per-packet one-way delay: 1.001 ms
Loss rate: 0.00%
```
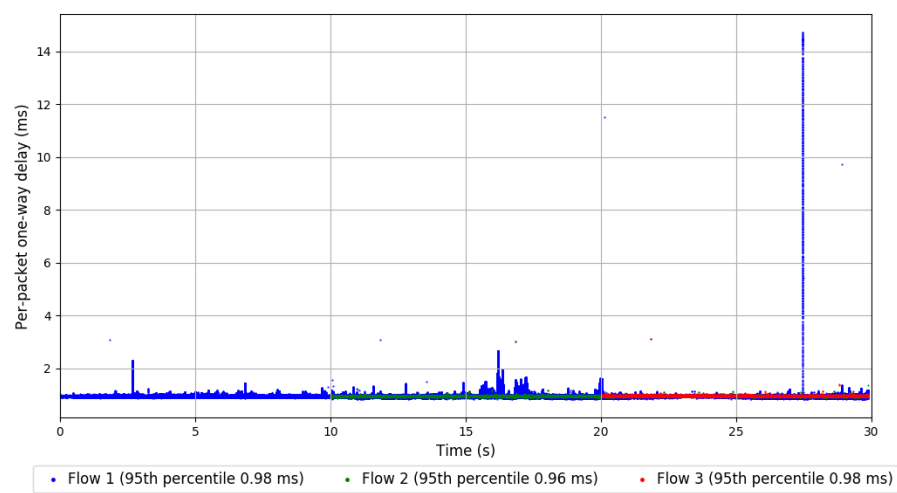
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-09-25 18:02:48
End at: 2018-09-25 18:03:18
Local clock offset: 0.863 ms
Remote clock offset: 0.141 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 39.05 Mbit/s
95th percentile per-packet one-way delay: 1.028 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 5.95 Mbit/s
95th percentile per-packet one-way delay: 0.993 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 27.86 Mbit/s
95th percentile per-packet one-way delay: 1.063 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 44.14 Mbit/s
95th percentile per-packet one-way delay: 0.994 ms
Loss rate: 0.08%
```
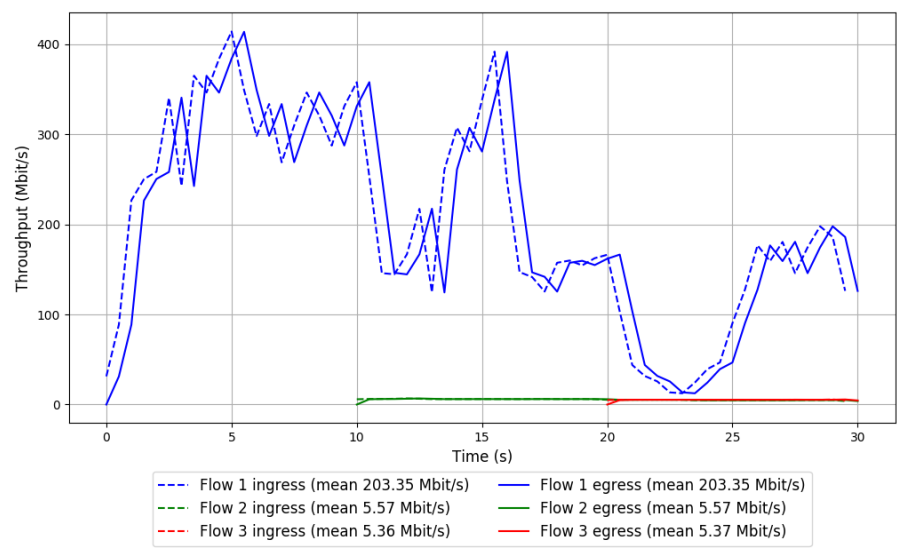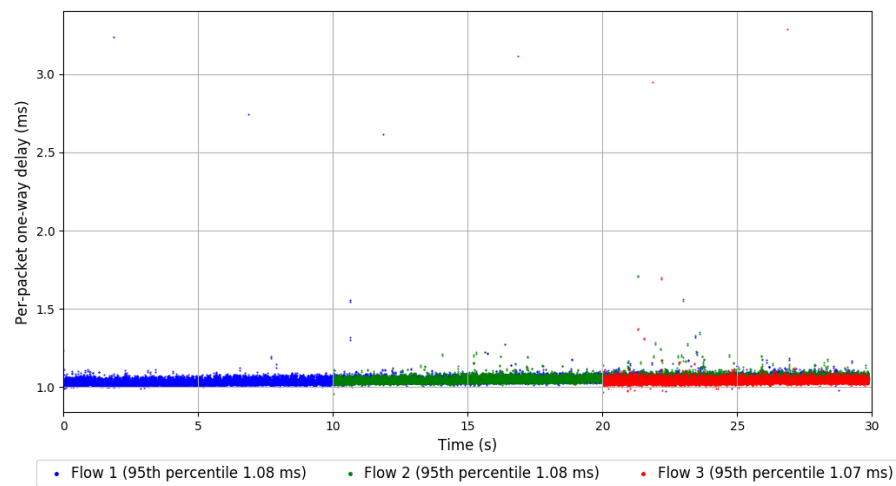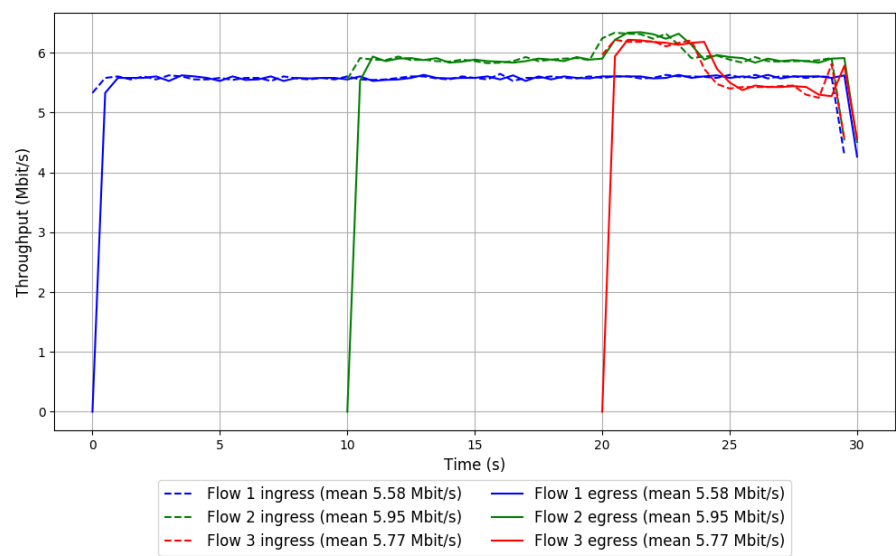
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 5.95 Mbit/s) --- Flow 1 egress (mean 5.95 Mbit/s)
Flow 2 ingress (mean 27.86 Mbit/s) --- Flow 2 egress (mean 27.86 Mbit/s)
Flow 3 ingress (mean 44.16 Mbit/s) --- Flow 3 egress (mean 44.14 Mbit/s)

Flow 1 (95th percentile 0.99 ms) • Flow 2 (95th percentile 1.06 ms) • Flow 3 (95th percentile 0.99 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2018-09-25 18:32:12
End at: 2018-09-25 18:32:42
Local clock offset: 0.409 ms
Remote clock offset: 0.082 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 208.81 Mbit/s
95th percentile per-packet one-way delay: 0.978 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 203.35 Mbit/s
95th percentile per-packet one-way delay: 0.979 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.57 Mbit/s
95th percentile per-packet one-way delay: 0.965 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.37 Mbit/s
95th percentile per-packet one-way delay: 0.983 ms
Loss rate: 0.02%
```
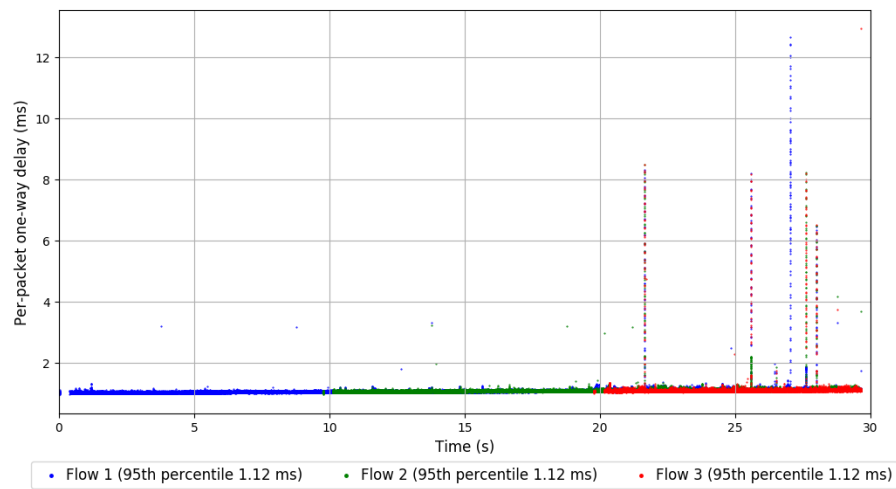
Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2018-09-25 19:01:45
End at: 2018-09-25 19:02:15
Local clock offset: 0.494 ms
Remote clock offset: 3.632 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.44 Mbit/s
95th percentile per-packet one-way delay: 1.077 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 5.58 Mbit/s
95th percentile per-packet one-way delay: 1.077 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 5.95 Mbit/s
95th percentile per-packet one-way delay: 1.081 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 5.77 Mbit/s
95th percentile per-packet one-way delay: 1.067 ms
Loss rate: 0.02%
```
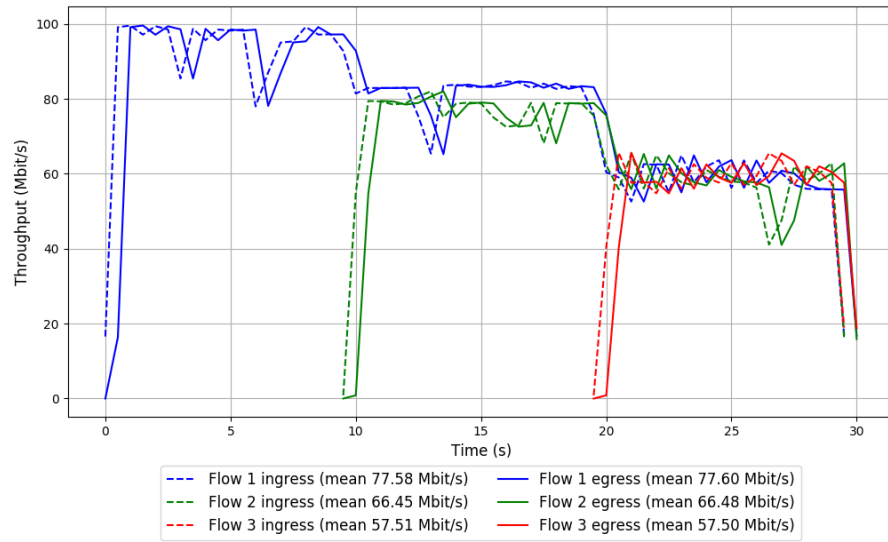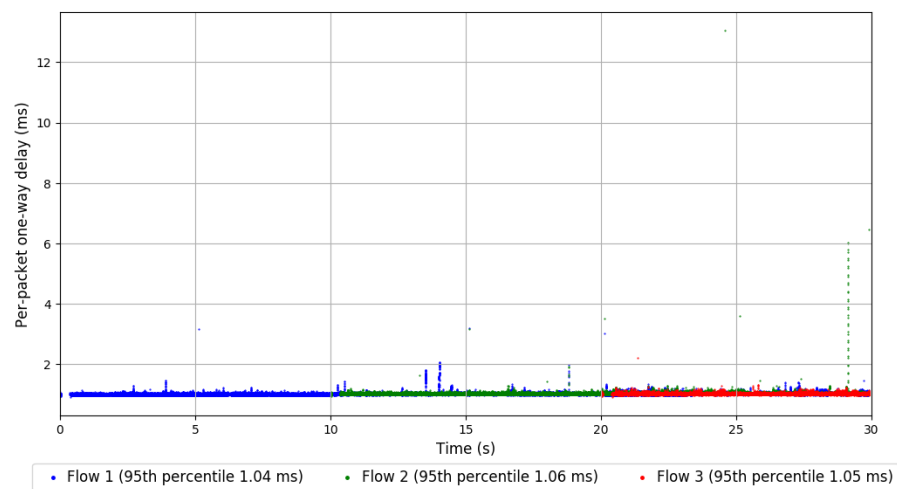
Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-09-25 16:48:17
End at: 2018-09-25 16:48:47
Local clock offset: 1.017 ms
Remote clock offset: 3.724 ms

# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 141.35 Mbit/s
95th percentile per-packet one-way delay: 1.119 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 77.60 Mbit/s
95th percentile per-packet one-way delay: 1.118 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 66.48 Mbit/s
95th percentile per-packet one-way delay: 1.118 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 57.50 Mbit/s
95th percentile per-packet one-way delay: 1.123 ms
Loss rate: 0.02%
```
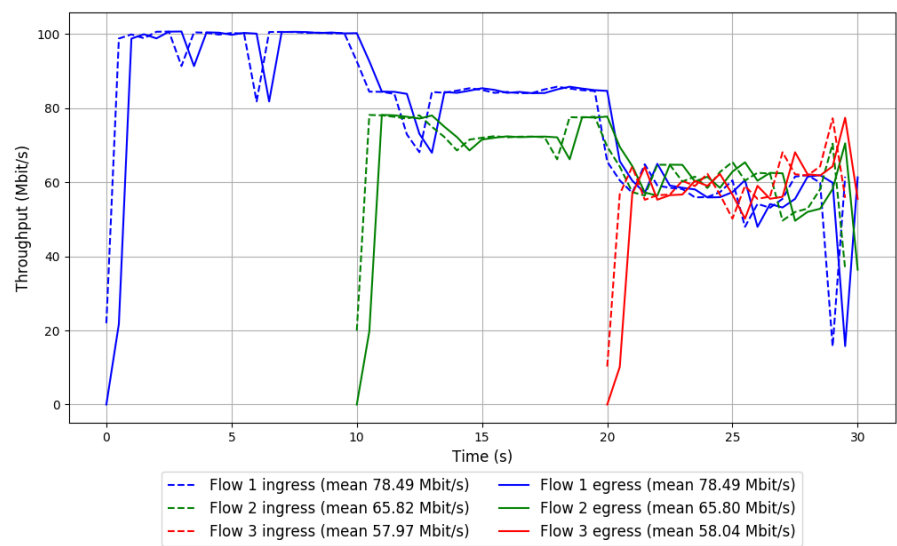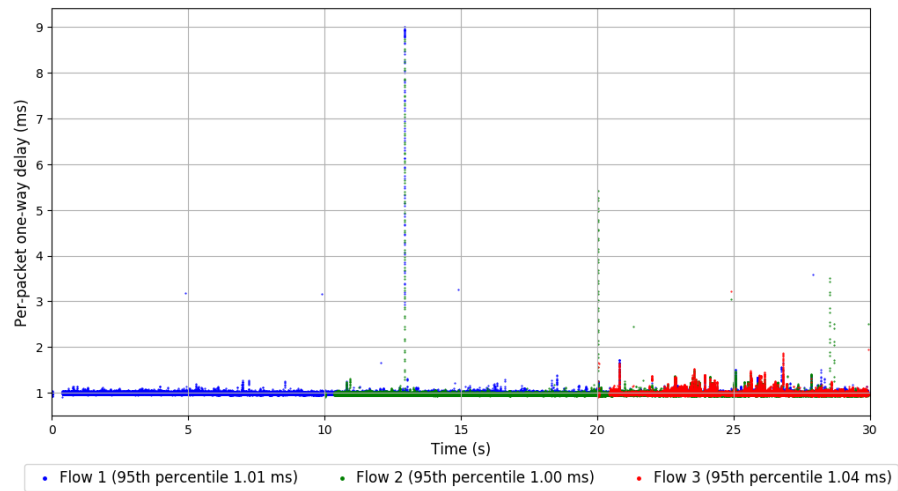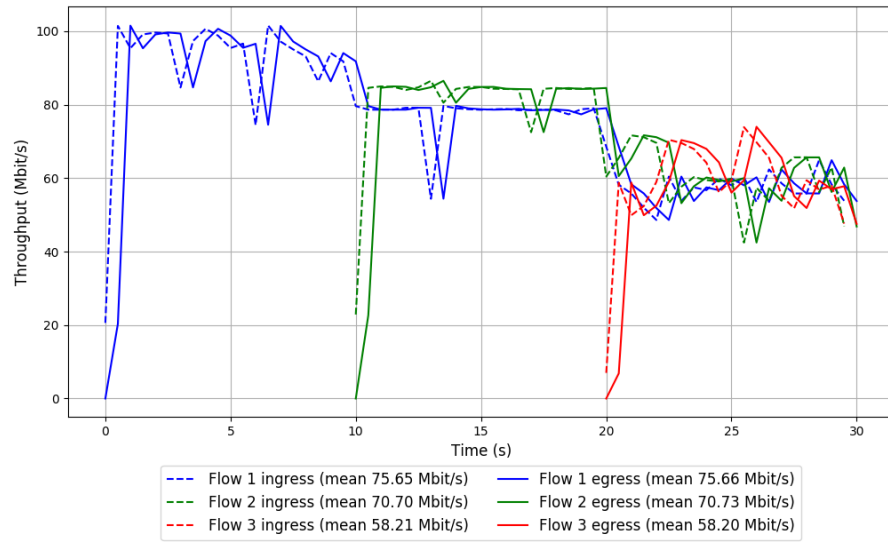
Run 1: Report of QUIC Cubic — Data Link

- - - - Flow 1 ingress (mean 77.58 Mbit/s)   —— Flow 1 egress (mean 77.60 Mbit/s)
- - - - Flow 2 ingress (mean 66.45 Mbit/s)   —— Flow 2 egress (mean 66.48 Mbit/s)
- - - - Flow 3 ingress (mean 57.51 Mbit/s)   —— Flow 3 egress (mean 57.50 Mbit/s)

• Flow 1 (95th percentile 1.12 ms)   • Flow 2 (95th percentile 1.12 ms)   • Flow 3 (95th percentile 1.12 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-09-25 17:17:48
End at: 2018-09-25 17:18:18
Local clock offset: 0.469 ms
Remote clock offset: 0.695 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 141.45 Mbit/s
95th percentile per-packet one-way delay: 1.053 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 78.49 Mbit/s
95th percentile per-packet one-way delay: 1.044 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 65.80 Mbit/s
95th percentile per-packet one-way delay: 1.060 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 58.04 Mbit/s
95th percentile per-packet one-way delay: 1.052 ms
Loss rate: 0.02%
```
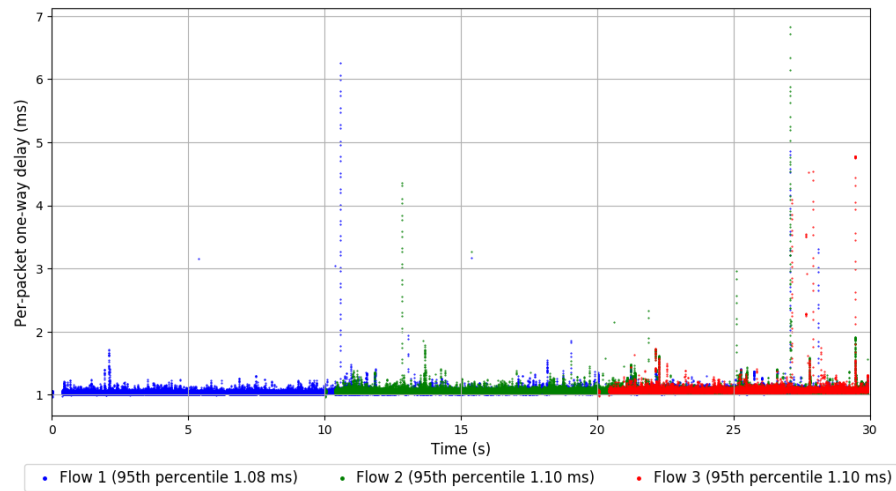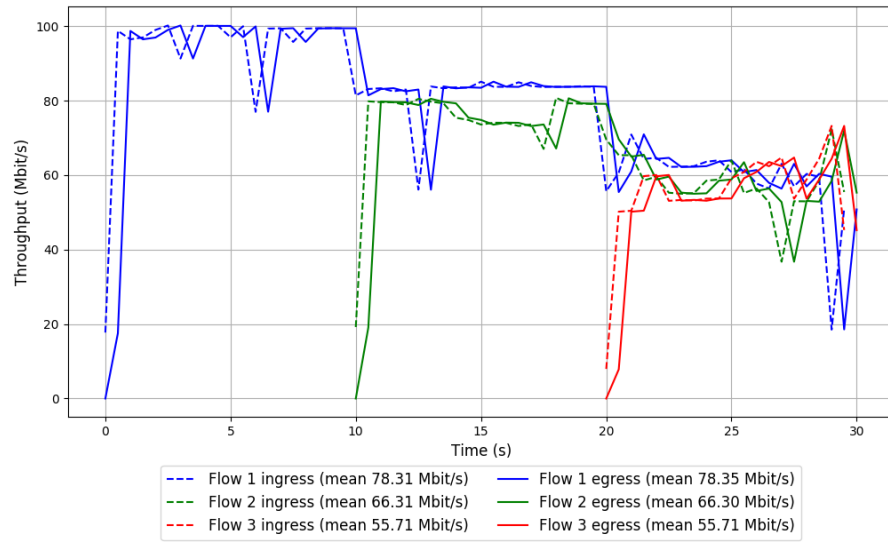
Run 2: Report of QUIC Cubic — Data Link

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```
Run 3: Statistics of QUIC Cubic

Start at: 2018-09-25 17:47:20
End at: 2018-09-25 17:47:50
Local clock offset: 0.341 ms
Remote clock offset: 0.091 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 141.98 Mbit/s
95th percentile per-packet one-way delay: 1.010 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 75.66 Mbit/s
95th percentile per-packet one-way delay: 1.010 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 70.73 Mbit/s
95th percentile per-packet one-way delay: 0.996 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 58.20 Mbit/s
95th percentile per-packet one-way delay: 1.039 ms
Loss rate: 0.02%
```
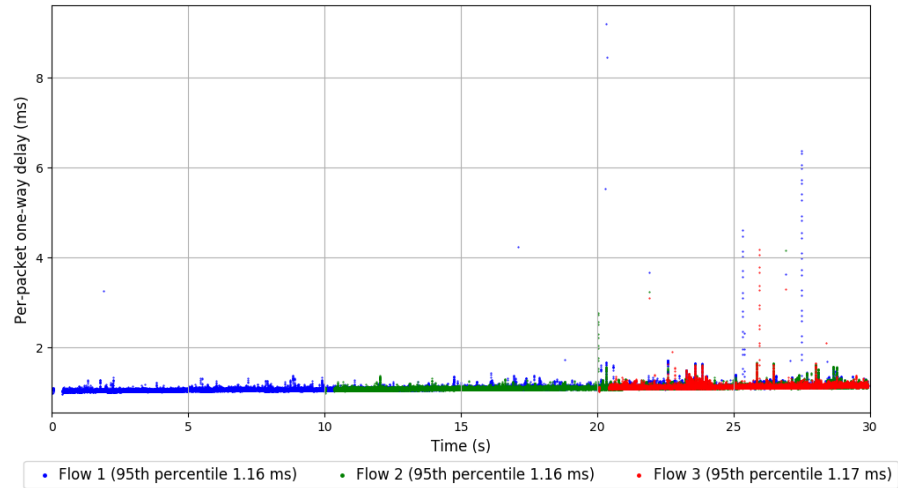
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-09-25 18:16:48
End at: 2018-09-25 18:17:18
Local clock offset: 0.597 ms
Remote clock offset: -0.007 ms

# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.85 Mbit/s
95th percentile per-packet one-way delay: 1.090 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 78.35 Mbit/s
95th percentile per-packet one-way delay: 1.076 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 66.30 Mbit/s
95th percentile per-packet one-way delay: 1.098 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 55.71 Mbit/s
95th percentile per-packet one-way delay: 1.101 ms
Loss rate: 0.02%
```
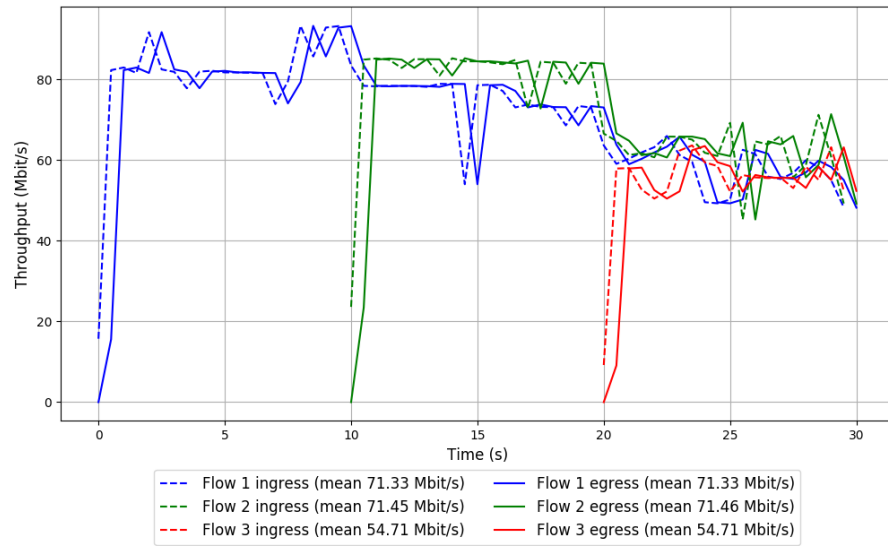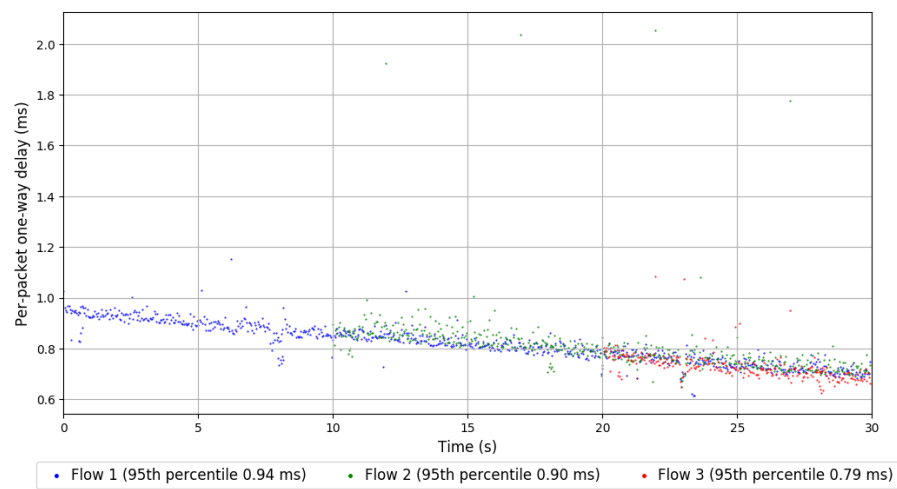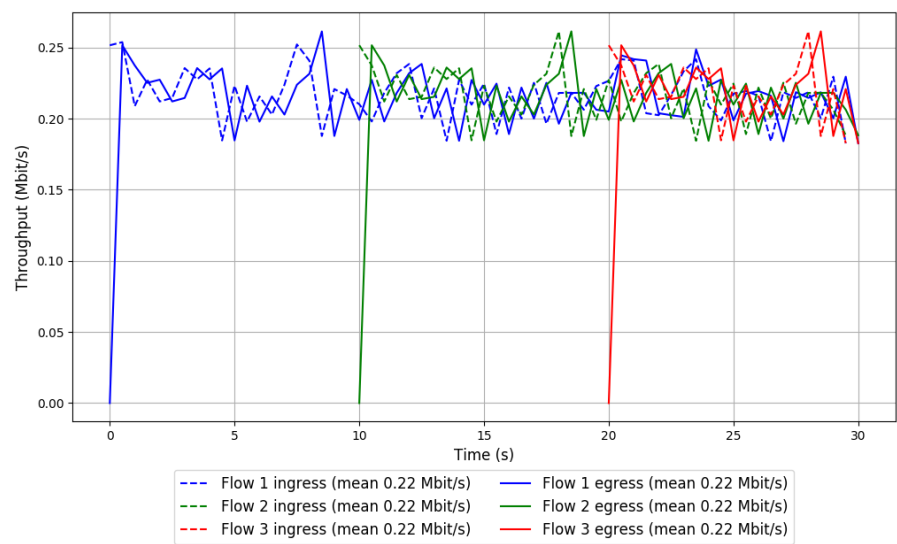
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-09-25 18:46:20
End at: 2018-09-25 18:46:50
Local clock offset: 0.407 ms
Remote clock offset: 1.619 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 136.96 Mbit/s
95th percentile per-packet one-way delay: 1.159 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 71.33 Mbit/s
95th percentile per-packet one-way delay: 1.155 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 71.46 Mbit/s
95th percentile per-packet one-way delay: 1.156 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 54.71 Mbit/s
95th percentile per-packet one-way delay: 1.173 ms
Loss rate: 0.02%
```
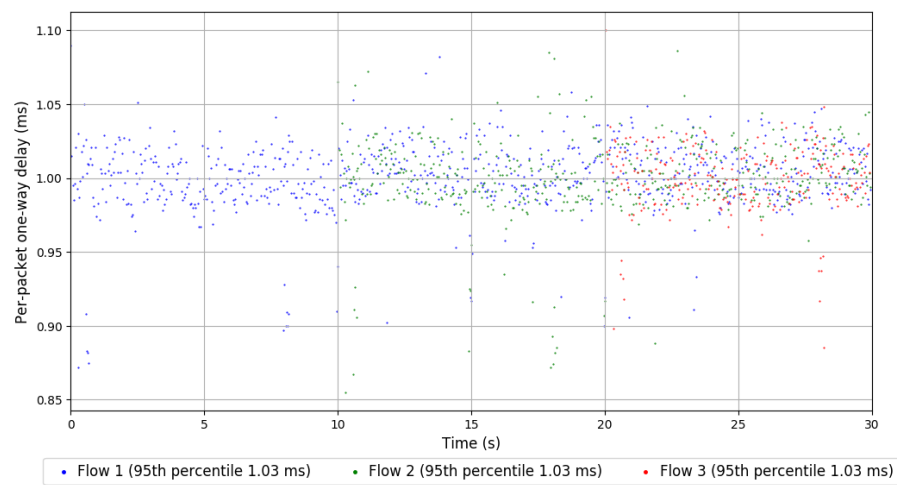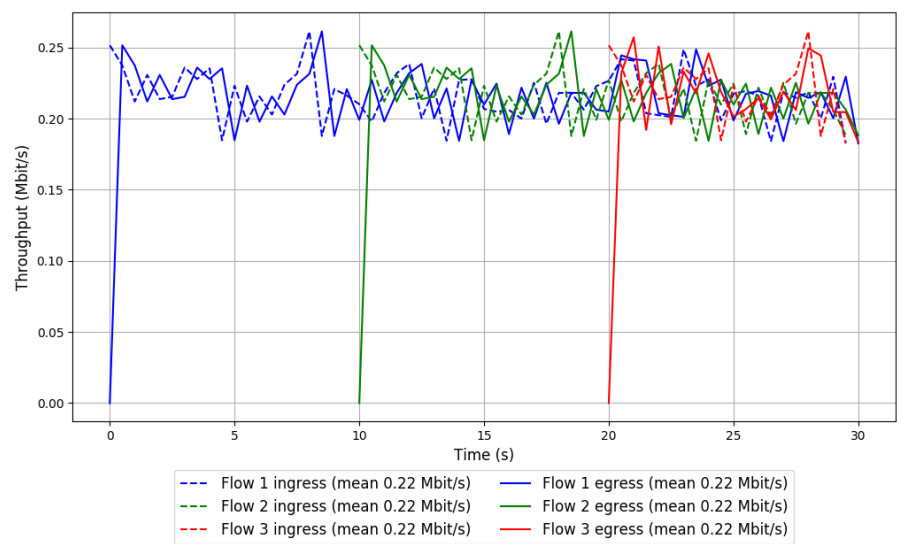
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 71.33 Mbit/s) --- Flow 1 egress (mean 71.33 Mbit/s)
Flow 2 ingress (mean 71.45 Mbit/s) --- Flow 2 egress (mean 71.46 Mbit/s)
Flow 3 ingress (mean 54.71 Mbit/s) --- Flow 3 egress (mean 54.71 Mbit/s)

Flow 1 (95th percentile 1.16 ms) • Flow 2 (95th percentile 1.16 ms) • Flow 3 (95th percentile 1.17 ms)

```
Run 1: Statistics of SCReAM

Start at: 2018-09-25 16:59:25
End at: 2018-09-25 16:59:55
Local clock offset: 0.948 ms
Remote clock offset: 4.558 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 0.931 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.940 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.904 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.794 ms
Loss rate: 0.00%
```
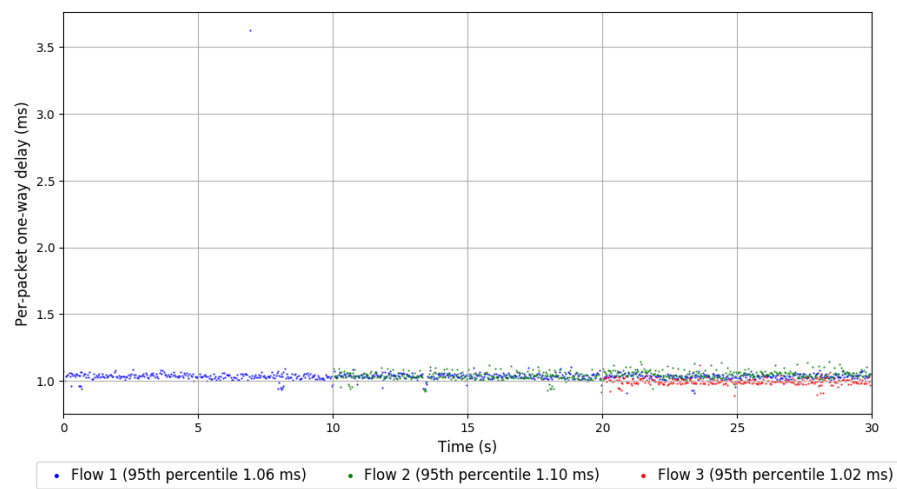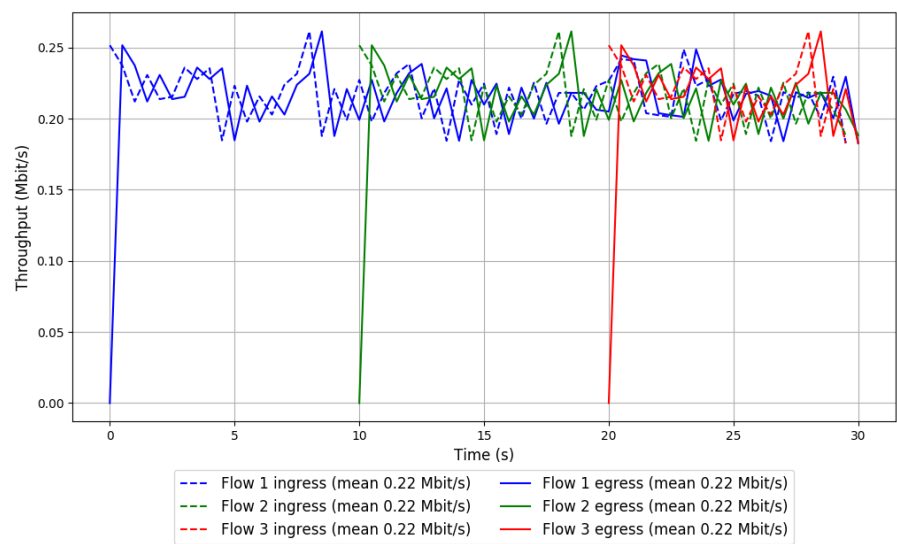
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-09-25 17:29:03
End at: 2018-09-25 17:29:33
Local clock offset: 0.189 ms
Remote clock offset: 0.645 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.032 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.032 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.034 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.028 ms
Loss rate: 0.35%
```
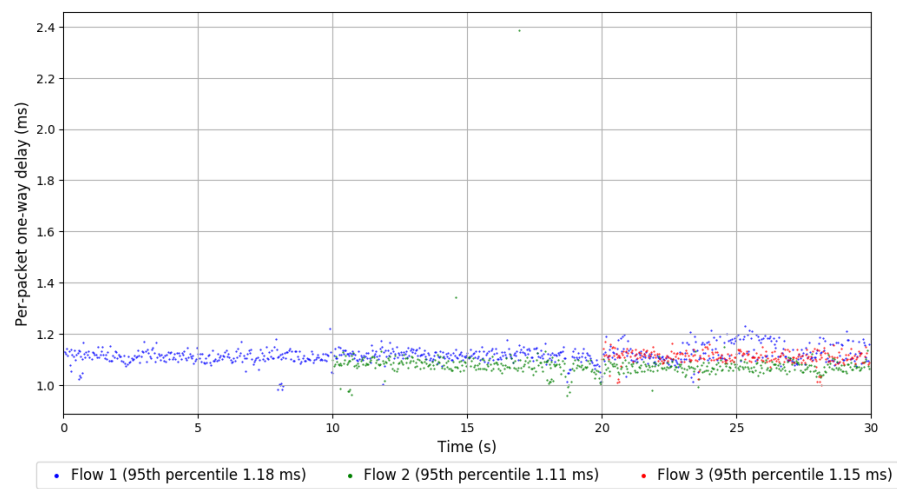
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-09-25 17:58:35
End at: 2018-09-25 17:59:05
Local clock offset: 0.761 ms
Remote clock offset: 0.178 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.079 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.065 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.099 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.024 ms
Loss rate: 0.00%
```
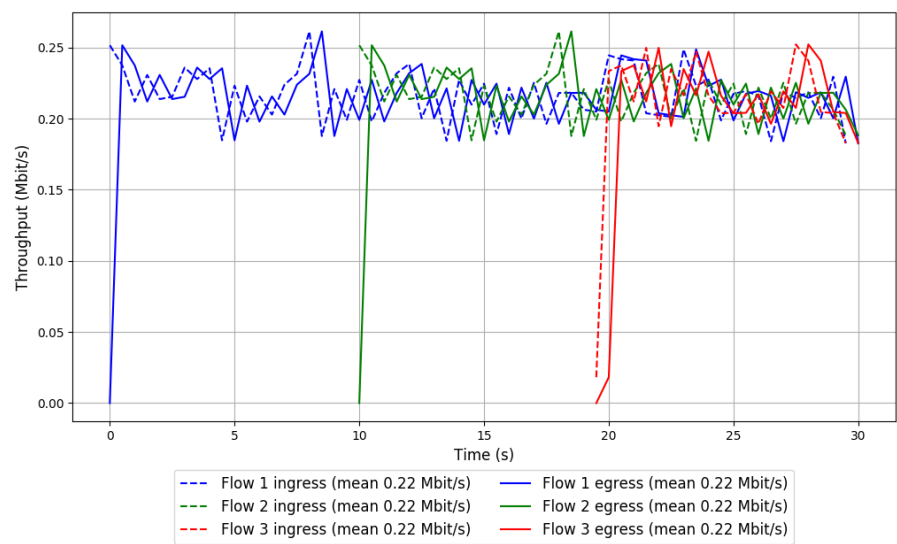
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-09-25 18:27:59
End at: 2018-09-25 18:28:29
Local clock offset: 0.407 ms
Remote clock offset: 0.022 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.164 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.178 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.110 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.146 ms
Loss rate: 0.00%
```
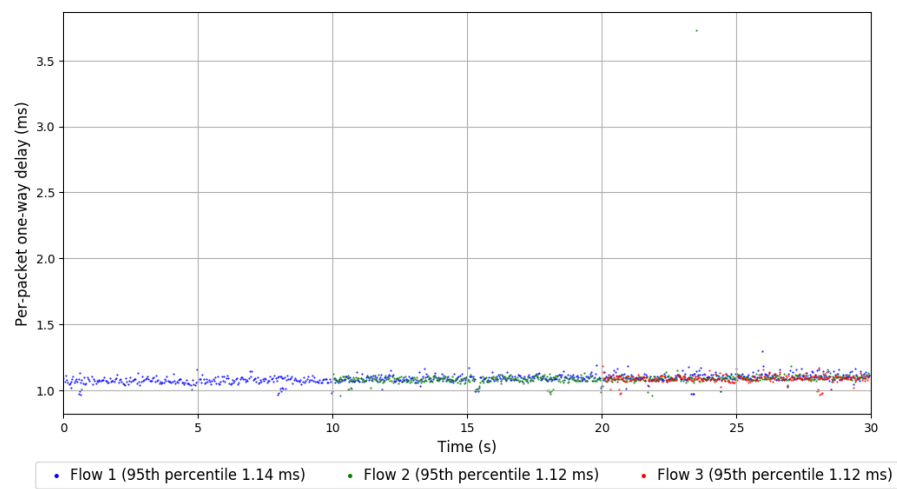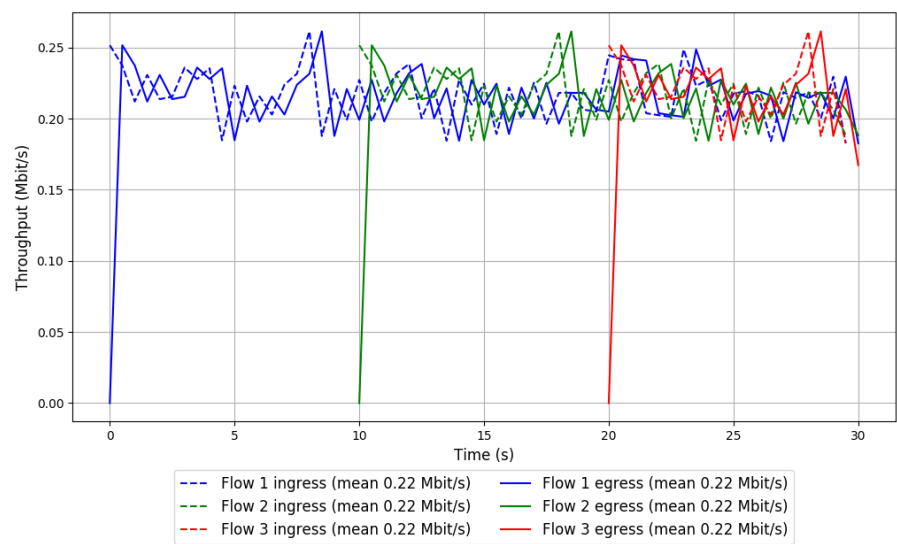
Run 4: Report of SCReAM — Data Link

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```
Run 5: Statistics of SCReAM

Start at: 2018-09-25 18:57:33
End at: 2018-09-25 18:58:03
Local clock offset: 0.458 ms
Remote clock offset: 3.34 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.125 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.137 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.118 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.124 ms
Loss rate: 0.35%
```
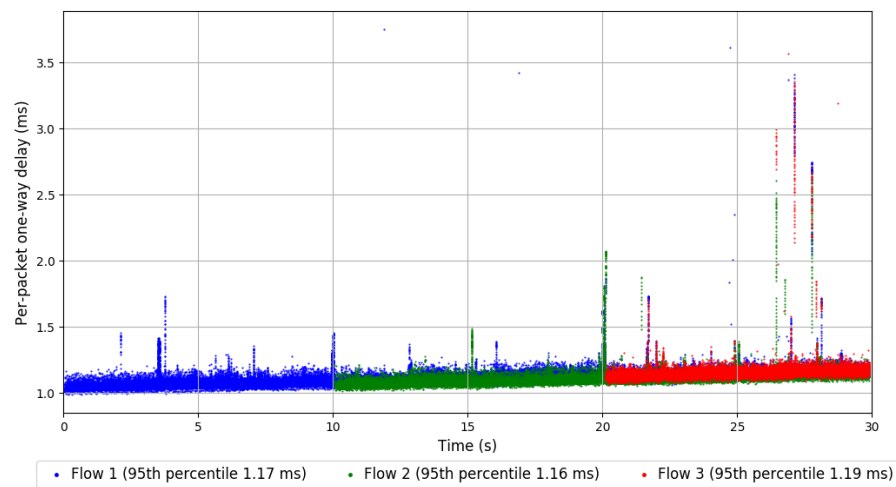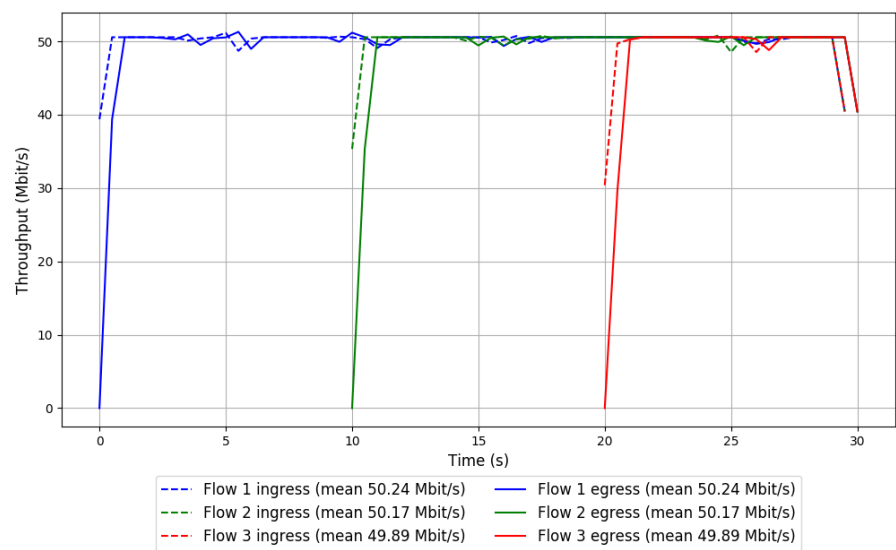
Run 5: Report of SCReAM — Data Link

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```
Run 1: Statistics of Sprout

Start at: 2018-09-25 16:35:44
End at: 2018-09-25 16:36:14
Local clock offset: 1.476 ms
Remote clock offset: 1.057 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.91 Mbit/s
95th percentile per-packet one-way delay: 1.174 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.24 Mbit/s
95th percentile per-packet one-way delay: 1.172 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.17 Mbit/s
95th percentile per-packet one-way delay: 1.157 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.89 Mbit/s
95th percentile per-packet one-way delay: 1.189 ms
Loss rate: 0.00%
```
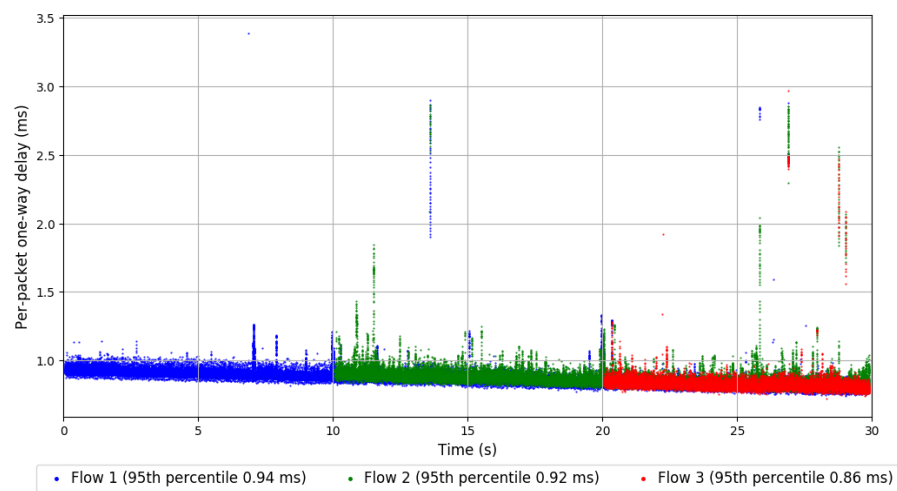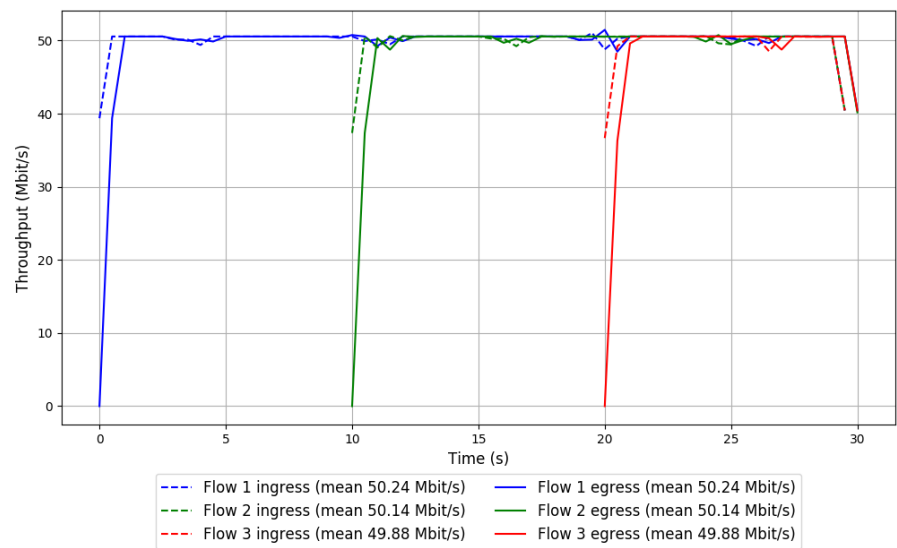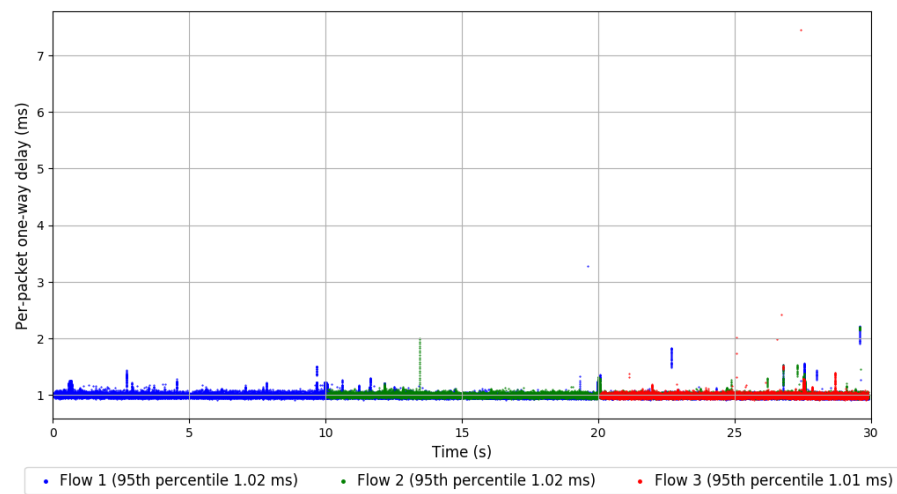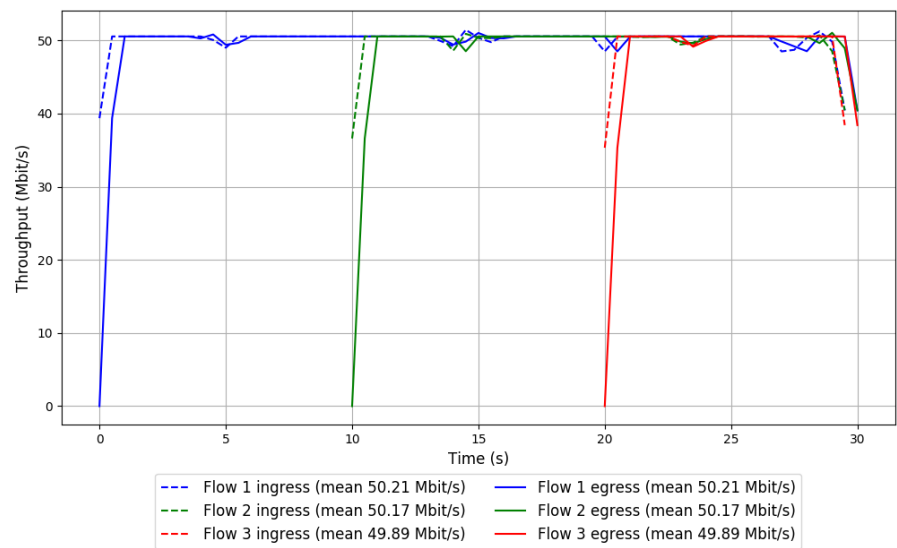
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-09-25 17:05:11
End at: 2018-09-25 17:05:41
Local clock offset: 0.98 ms
Remote clock offset: 2.335 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.00 Mbit/s
95th percentile per-packet one-way delay: 0.929 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.24 Mbit/s
95th percentile per-packet one-way delay: 0.935 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.14 Mbit/s
95th percentile per-packet one-way delay: 0.922 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 49.88 Mbit/s
95th percentile per-packet one-way delay: 0.863 ms
Loss rate: 0.00%
```
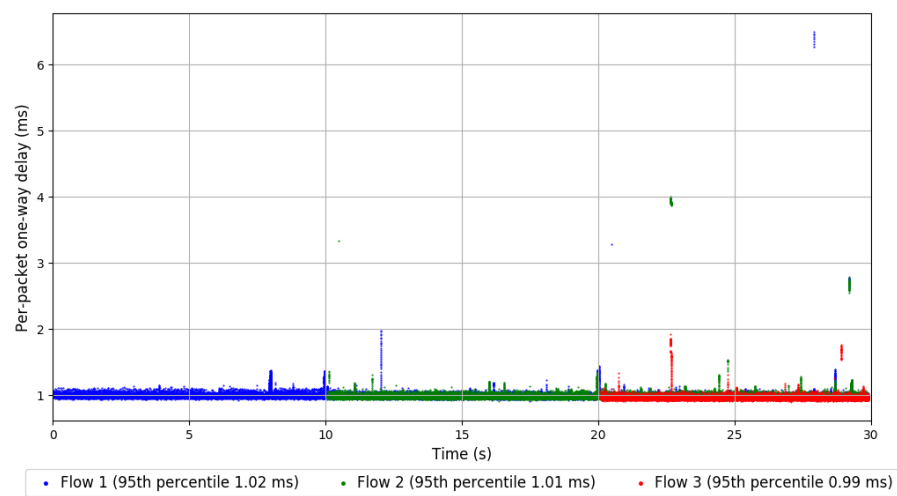
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-09-25 17:34:47
End at: 2018-09-25 17:35:17
Local clock offset: 0.09 ms
Remote clock offset: 0.411 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.95 Mbit/s
95th percentile per-packet one-way delay: 1.017 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.21 Mbit/s
95th percentile per-packet one-way delay: 1.016 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.17 Mbit/s
95th percentile per-packet one-way delay: 1.018 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.89 Mbit/s
95th percentile per-packet one-way delay: 1.012 ms
Loss rate: 0.00%
```
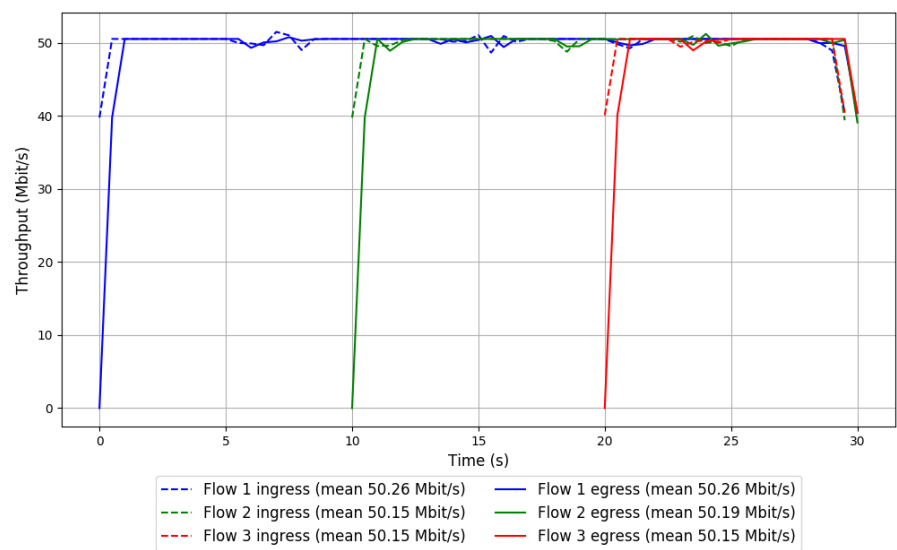
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-09-25 18:04:10
End at: 2018-09-25 18:04:40
Local clock offset: 0.891 ms
Remote clock offset: 0.135 ms


# Below is generated by plot.py at 2018-09-25 20:03:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.11 Mbit/s
95th percentile per-packet one-way delay: 1.016 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 50.26 Mbit/s
95th percentile per-packet one-way delay: 1.020 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.19 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 50.15 Mbit/s
95th percentile per-packet one-way delay: 0.992 ms
Loss rate: 0.00%
```
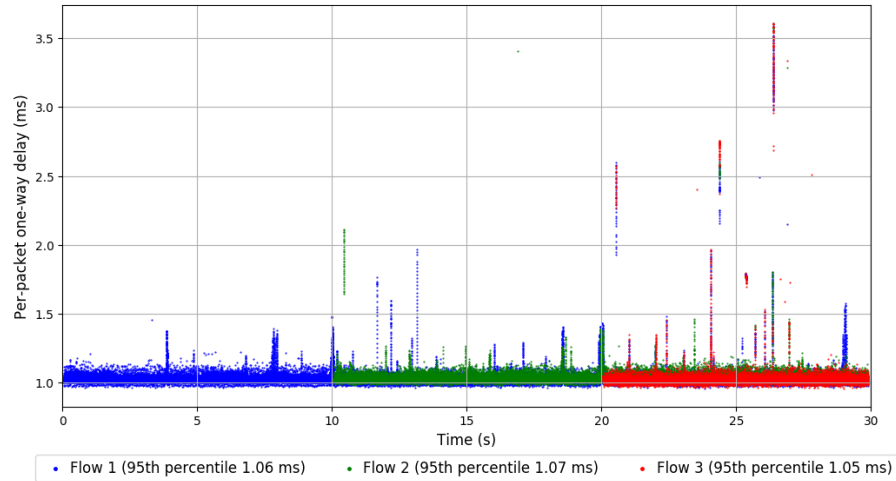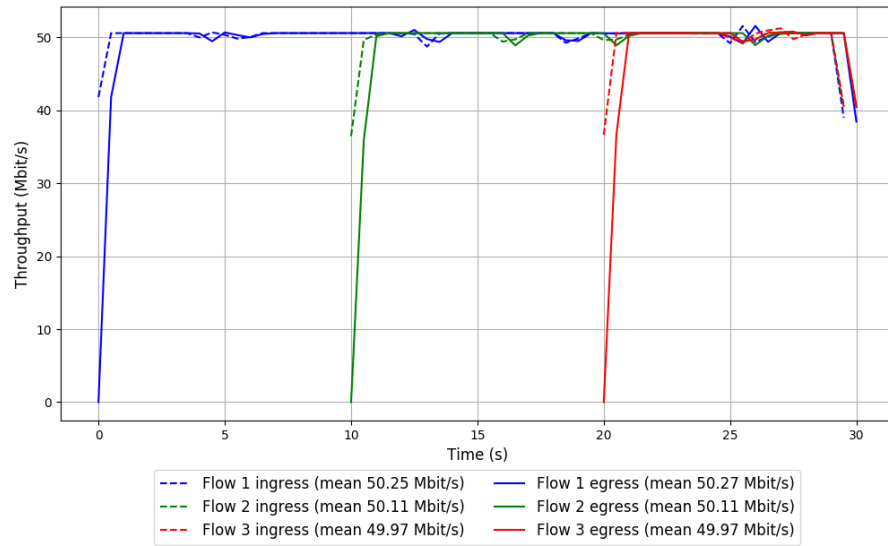
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-09-25 18:33:44
End at: 2018-09-25 18:34:14
Local clock offset: 0.422 ms
Remote clock offset: 0.023 ms


# Below is generated by plot.py at 2018-09-25 20:03:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.02 Mbit/s
95th percentile per-packet one-way delay: 1.067 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 50.27 Mbit/s
95th percentile per-packet one-way delay: 1.062 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 50.11 Mbit/s
95th percentile per-packet one-way delay: 1.074 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.97 Mbit/s
95th percentile per-packet one-way delay: 1.053 ms
Loss rate: 0.00%
```
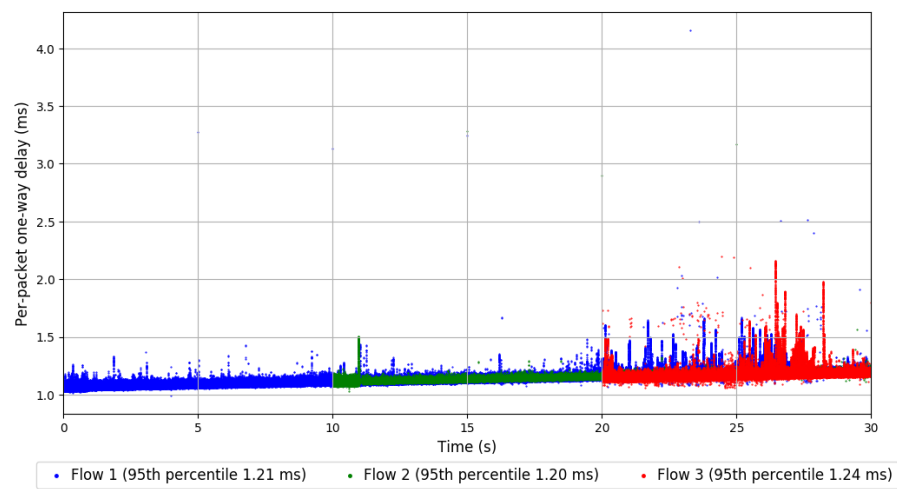
Run 5: Report of Sprout — Data Link

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

Start at: 2018-09-25 16:42:09
End at: 2018-09-25 16:42:39
Local clock offset: 1.364 ms
Remote clock offset: 2.667 ms

# Below is generated by plot.py at 2018-09-25 20:05:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 122.60 Mbit/s
95th percentile per-packet one-way delay: 1.214 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 83.30 Mbit/s
95th percentile per-packet one-way delay: 1.212 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 20.65 Mbit/s
95th percentile per-packet one-way delay: 1.202 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 76.92 Mbit/s
95th percentile per-packet one-way delay: 1.243 ms
Loss rate: 0.02%
```
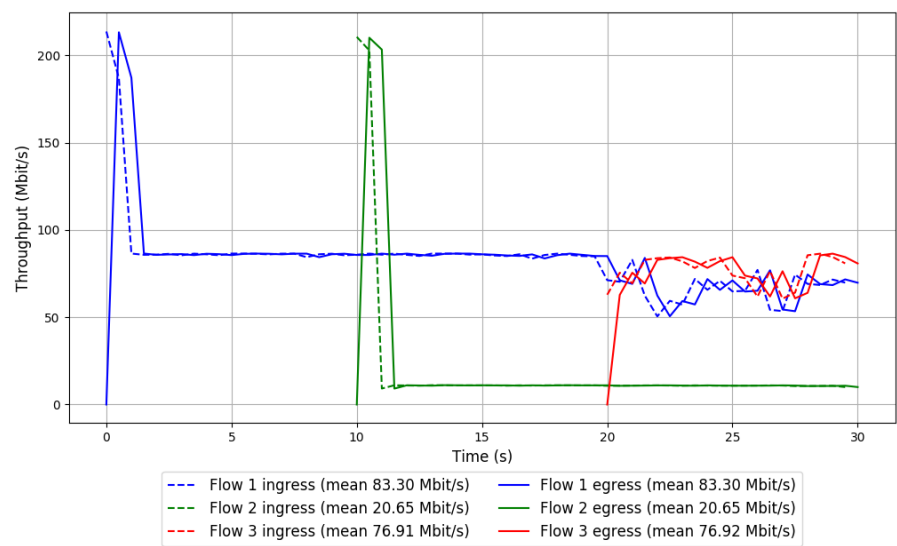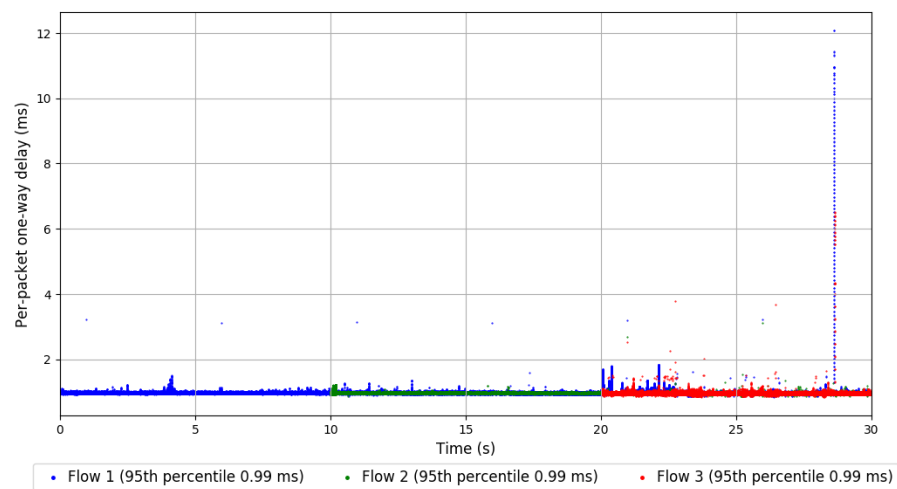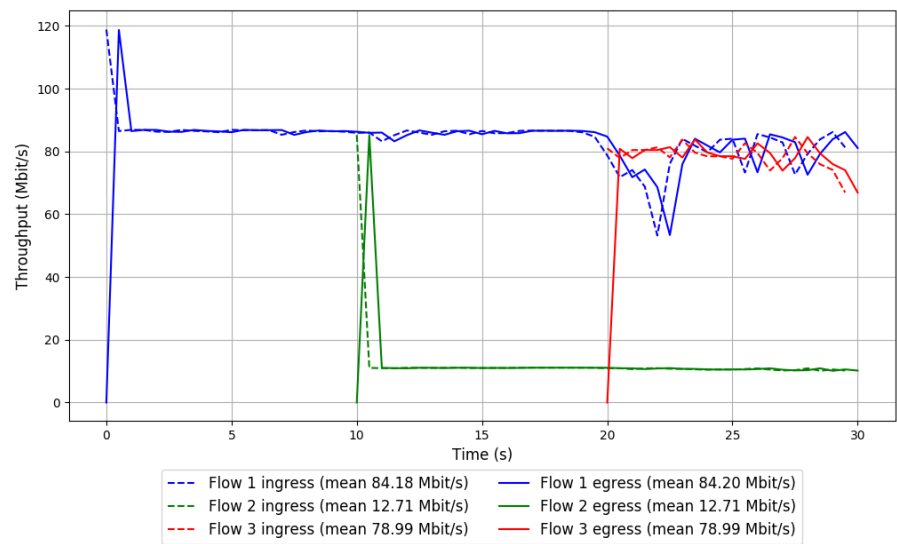
Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 83.30 Mbit/s) Flow 1 egress (mean 83.30 Mbit/s)
Flow 2 ingress (mean 20.65 Mbit/s) Flow 2 egress (mean 20.65 Mbit/s)
Flow 3 ingress (mean 76.91 Mbit/s) Flow 3 egress (mean 76.92 Mbit/s)

Flow 1 (95th percentile 1.21 ms) Flow 2 (95th percentile 1.20 ms) Flow 3 (95th percentile 1.24 ms)

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

Start at: 2018-09-25 17:11:37
End at: 2018-09-25 17:12:07
Local clock offset: 0.829 ms
Remote clock offset: 1.205 ms


# Below is generated by plot.py at 2018-09-25 20:05:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 118.89 Mbit/s
95th percentile per-packet one-way delay: 0.989 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 84.20 Mbit/s
95th percentile per-packet one-way delay: 0.990 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 12.71 Mbit/s
95th percentile per-packet one-way delay: 0.988 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 78.99 Mbit/s
95th percentile per-packet one-way delay: 0.986 ms
Loss rate: 0.02%
```
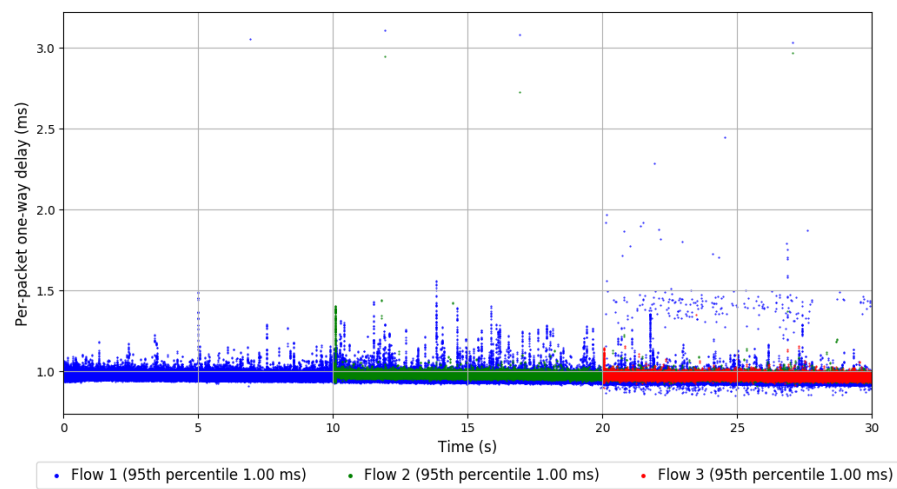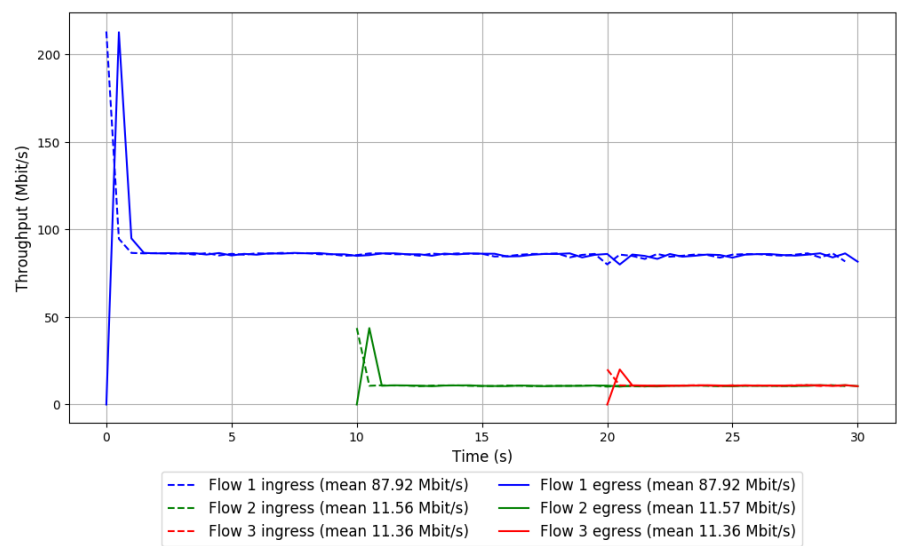
Run 2: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 84.18 Mbit/s)   —— Flow 1 egress (mean 84.20 Mbit/s)
- - - - Flow 2 ingress (mean 12.71 Mbit/s)   —— Flow 2 egress (mean 12.71 Mbit/s)
- - - - Flow 3 ingress (mean 78.99 Mbit/s)   —— Flow 3 egress (mean 78.99 Mbit/s)

- Flow 1 (95th percentile 0.99 ms)   • Flow 2 (95th percentile 0.99 ms)   • Flow 3 (95th percentile 0.99 ms)

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

Start at: 2018-09-25 17:41:13
End at: 2018-09-25 17:41:43
Local clock offset: 0.13 ms
Remote clock offset: 0.176 ms


# Below is generated by plot.py at 2018-09-25 20:05:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.40 Mbit/s
95th percentile per-packet one-way delay: 0.997 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 87.92 Mbit/s
95th percentile per-packet one-way delay: 0.996 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 11.57 Mbit/s
95th percentile per-packet one-way delay: 1.002 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 11.36 Mbit/s
95th percentile per-packet one-way delay: 0.996 ms
Loss rate: 0.01%
```
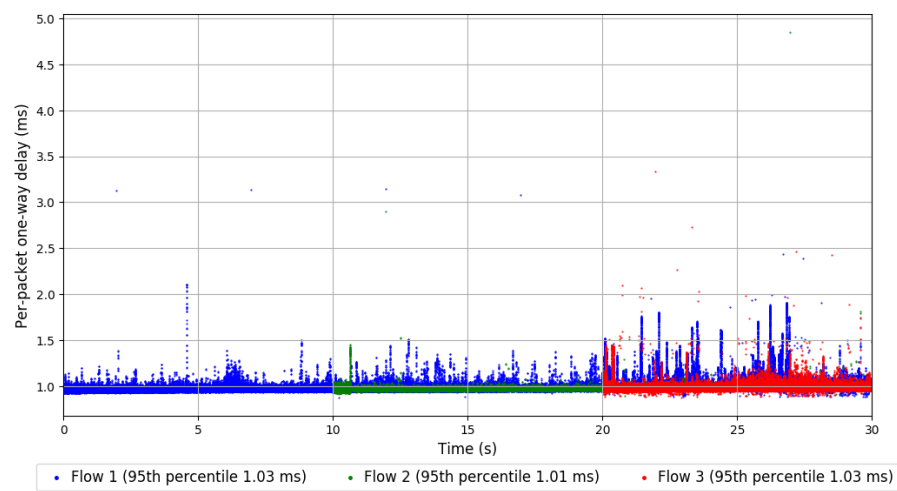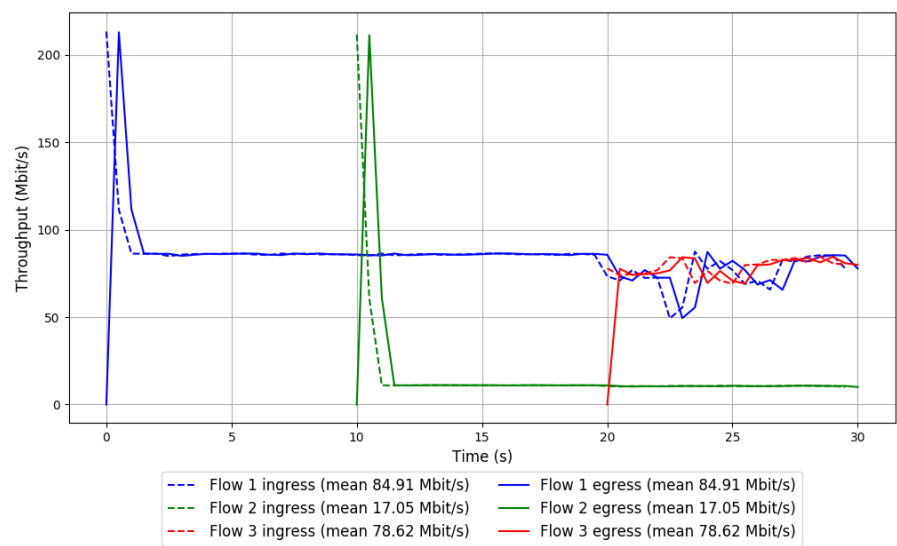
Run 3: Report of TaoVA-100x — Data Link

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

Start at: 2018-09-25 18:10:37
End at: 2018-09-25 18:11:07
Local clock offset: 0.954 ms
Remote clock offset: 0.155 ms

# Below is generated by plot.py at 2018-09-25 20:05:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 122.42 Mbit/s
95th percentile per-packet one-way delay: 1.024 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 84.91 Mbit/s
95th percentile per-packet one-way delay: 1.028 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 17.05 Mbit/s
95th percentile per-packet one-way delay: 1.007 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 78.62 Mbit/s
95th percentile per-packet one-way delay: 1.027 ms
Loss rate: 0.02%
```
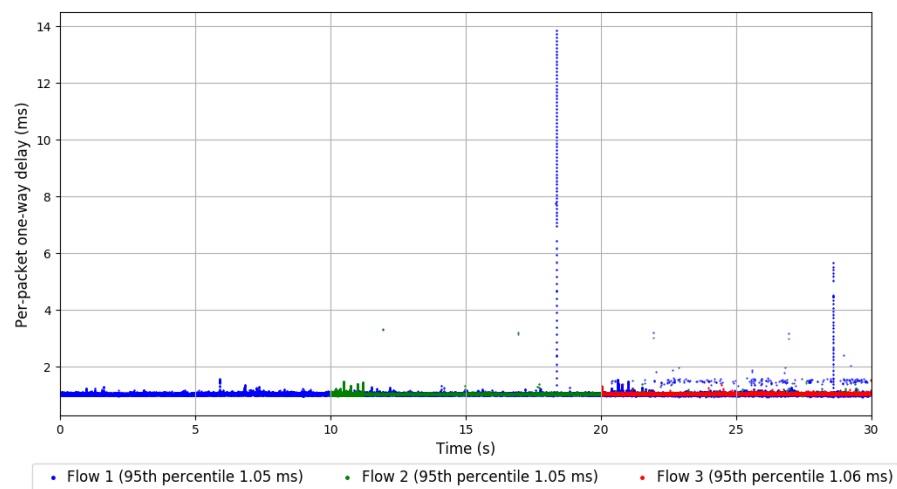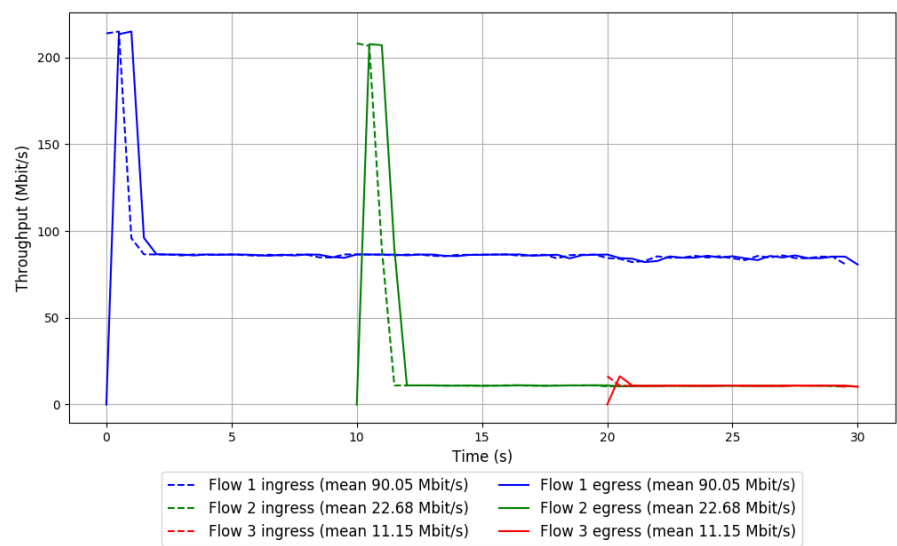
Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2018-09-25 18:40:12
End at: 2018-09-25 18:40:42
Local clock offset: 0.451 ms
Remote clock offset: 0.048 ms

# Below is generated by plot.py at 2018-09-25 20:05:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.86 Mbit/s
95th percentile per-packet one-way delay: 1.048 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 90.05 Mbit/s
95th percentile per-packet one-way delay: 1.047 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 22.68 Mbit/s
95th percentile per-packet one-way delay: 1.052 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.15 Mbit/s
95th percentile per-packet one-way delay: 1.057 ms
Loss rate: 0.01%
```
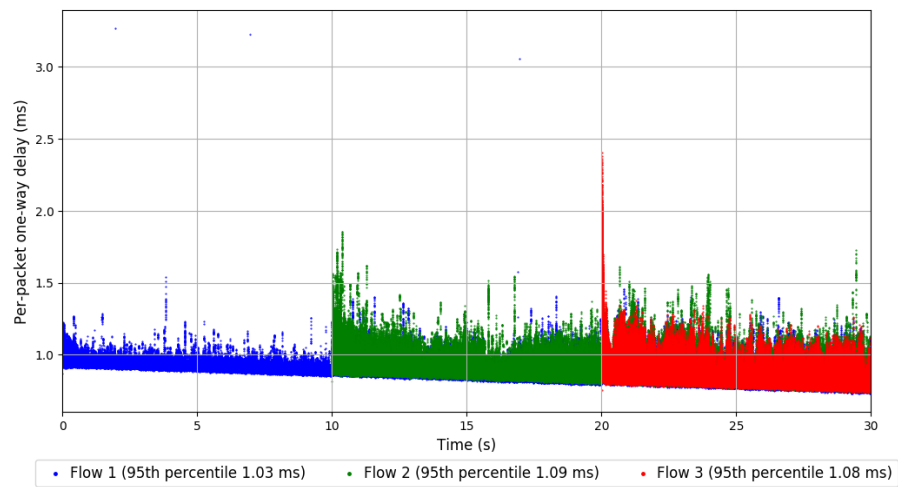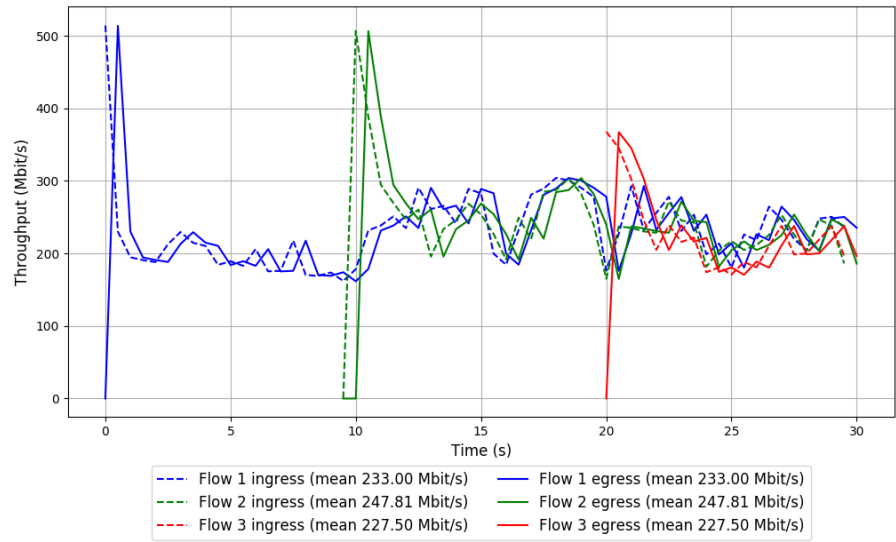
Run 5: Report of TaoVA-100x — Data Link

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```
Run 1: Statistics of TCP Vegas

Start at: 2018-09-25 17:02:03
End at: 2018-09-25 17:02:33
Local clock offset: 0.983 ms
Remote clock offset: 3.308 ms


# Below is generated by plot.py at 2018-09-25 20:08:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 473.85 Mbit/s
95th percentile per-packet one-way delay: 1.057 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 233.00 Mbit/s
95th percentile per-packet one-way delay: 1.028 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 247.81 Mbit/s
95th percentile per-packet one-way delay: 1.088 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 227.50 Mbit/s
95th percentile per-packet one-way delay: 1.078 ms
Loss rate: 0.02%
```

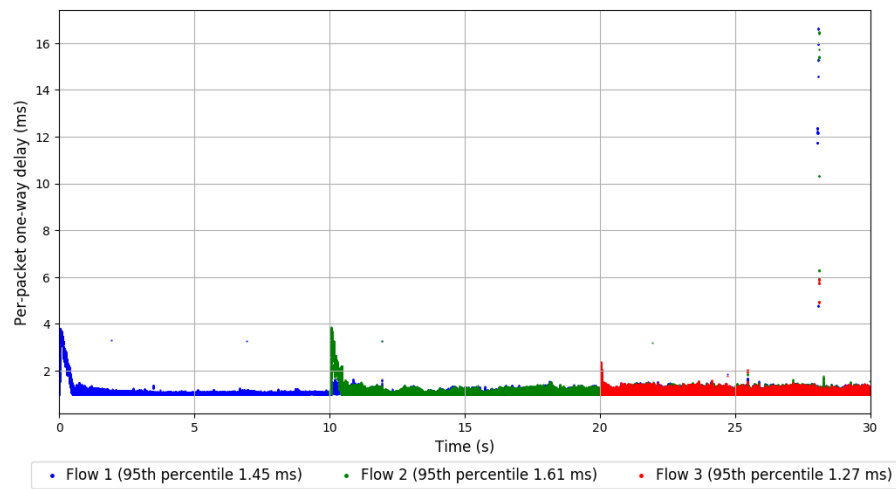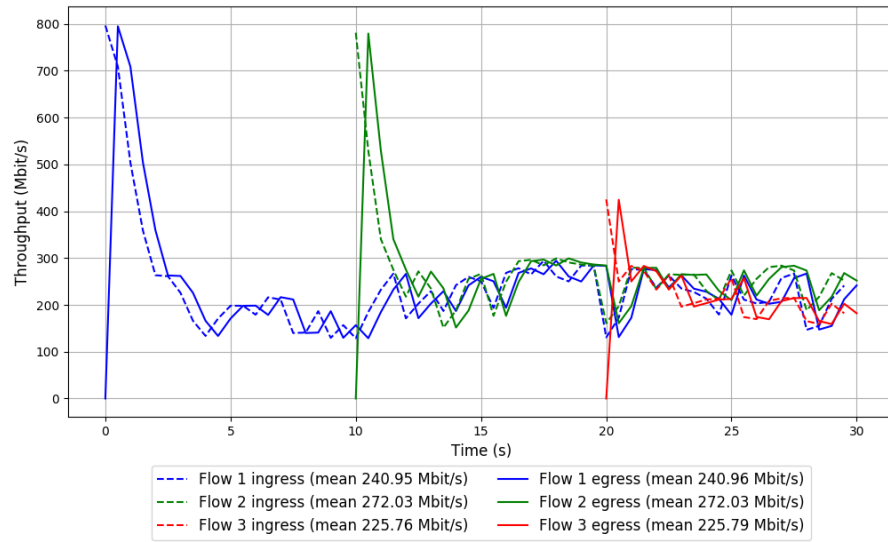Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-09-25 17:31:41
End at: 2018-09-25 17:32:11
Local clock offset: 0.178 ms
Remote clock offset: 0.544 ms


# Below is generated by plot.py at 2018-09-25 20:09:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 497.13 Mbit/s
95th percentile per-packet one-way delay: 1.375 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 240.96 Mbit/s
95th percentile per-packet one-way delay: 1.447 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 272.03 Mbit/s
95th percentile per-packet one-way delay: 1.615 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 225.79 Mbit/s
95th percentile per-packet one-way delay: 1.272 ms
Loss rate: 0.01%
```
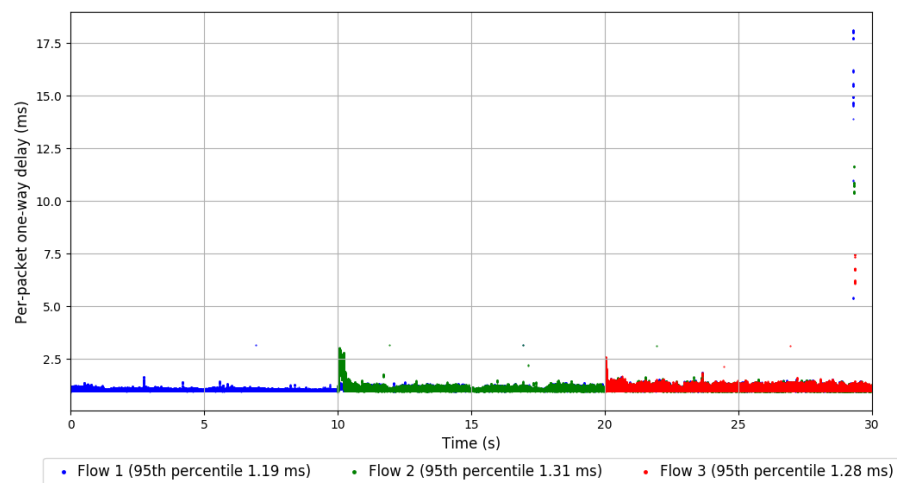
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-09-25 18:01:13
End at: 2018-09-25 18:01:43
Local clock offset: 0.821 ms
Remote clock offset: 0.106 ms


# Below is generated by plot.py at 2018-09-25 20:09:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 505.34 Mbit/s
95th percentile per-packet one-way delay: 1.242 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 244.73 Mbit/s
95th percentile per-packet one-way delay: 1.191 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 250.85 Mbit/s
95th percentile per-packet one-way delay: 1.315 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 281.28 Mbit/s
95th percentile per-packet one-way delay: 1.280 ms
Loss rate: 0.01%
```
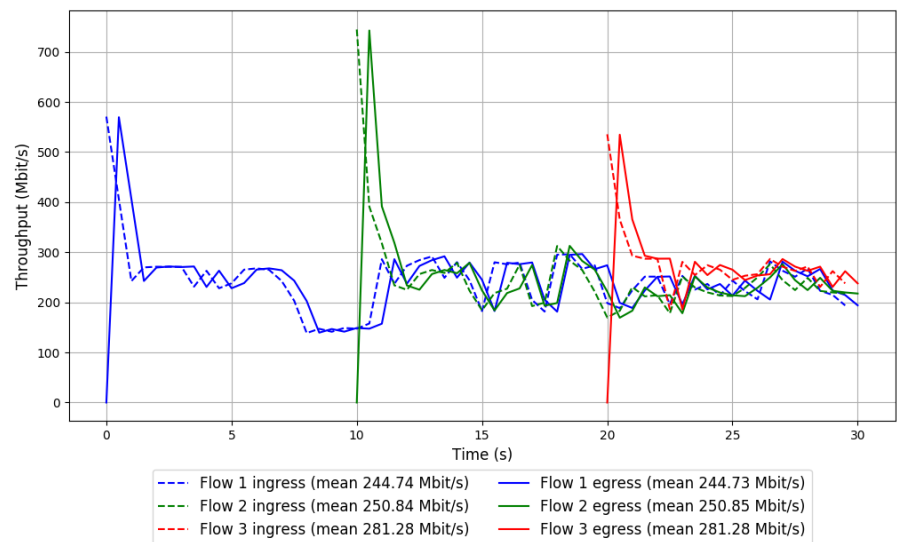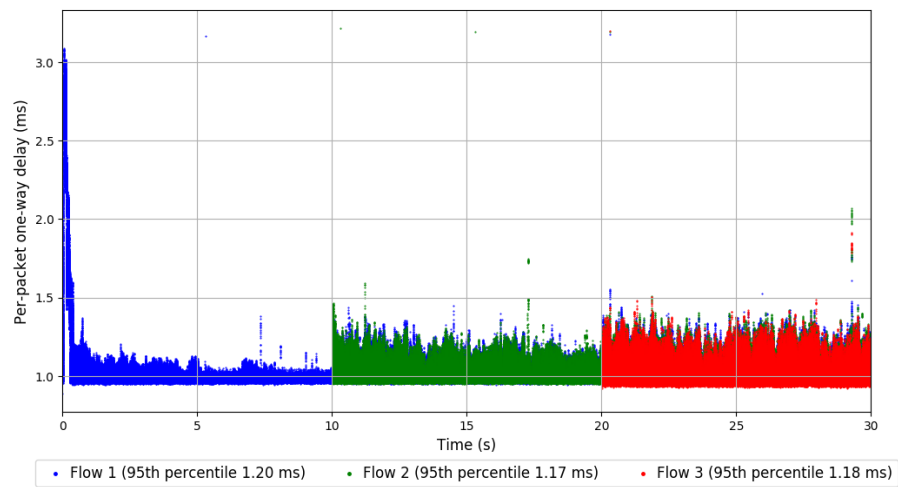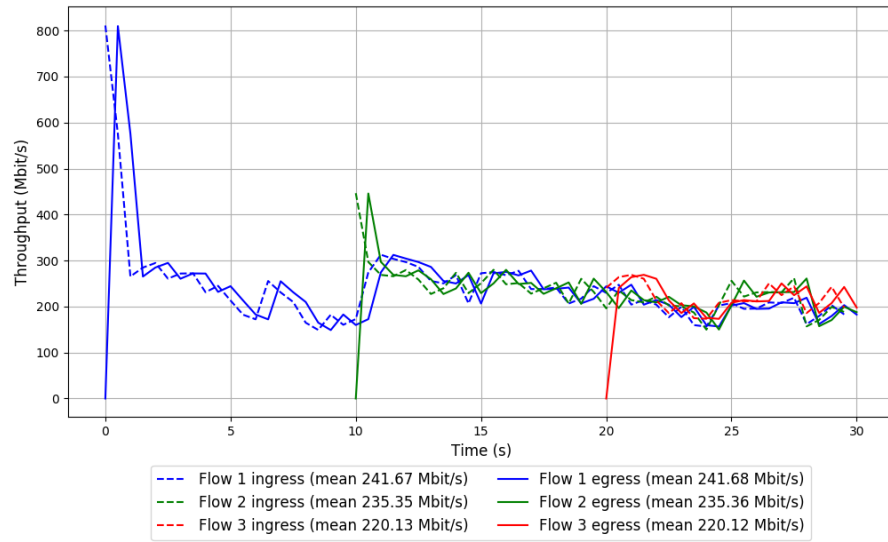
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 244.74 Mbit/s)   Flow 1 egress (mean 244.73 Mbit/s)
Flow 2 ingress (mean 250.84 Mbit/s)   Flow 2 egress (mean 250.85 Mbit/s)
Flow 3 ingress (mean 281.28 Mbit/s)   Flow 3 egress (mean 281.28 Mbit/s)

Flow 1 (95th percentile 1.19 ms)   Flow 2 (95th percentile 1.31 ms)   Flow 3 (95th percentile 1.28 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2018-09-25 18:30:37
End at: 2018-09-25 18:31:07
Local clock offset: 0.404 ms
Remote clock offset: 0.047 ms


# Below is generated by plot.py at 2018-09-25 20:10:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 471.58 Mbit/s
95th percentile per-packet one-way delay: 1.182 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 241.68 Mbit/s
95th percentile per-packet one-way delay: 1.203 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 235.36 Mbit/s
95th percentile per-packet one-way delay: 1.167 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 220.12 Mbit/s
95th percentile per-packet one-way delay: 1.178 ms
Loss rate: 0.01%
```
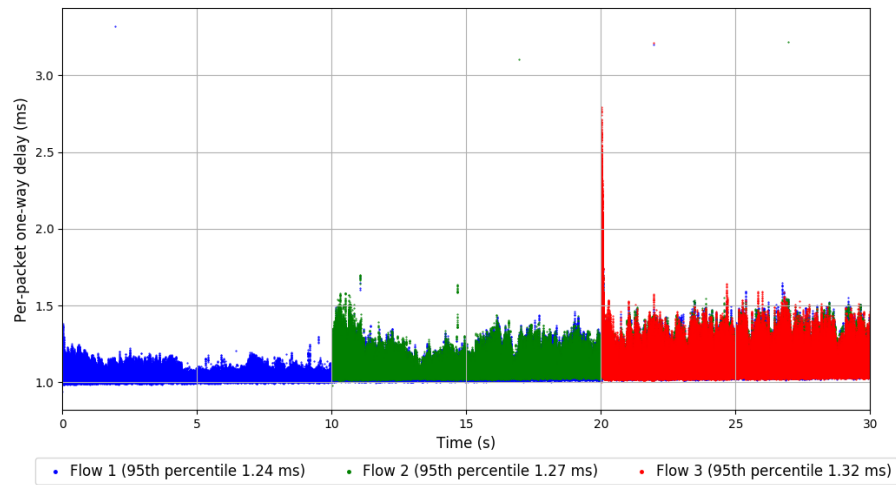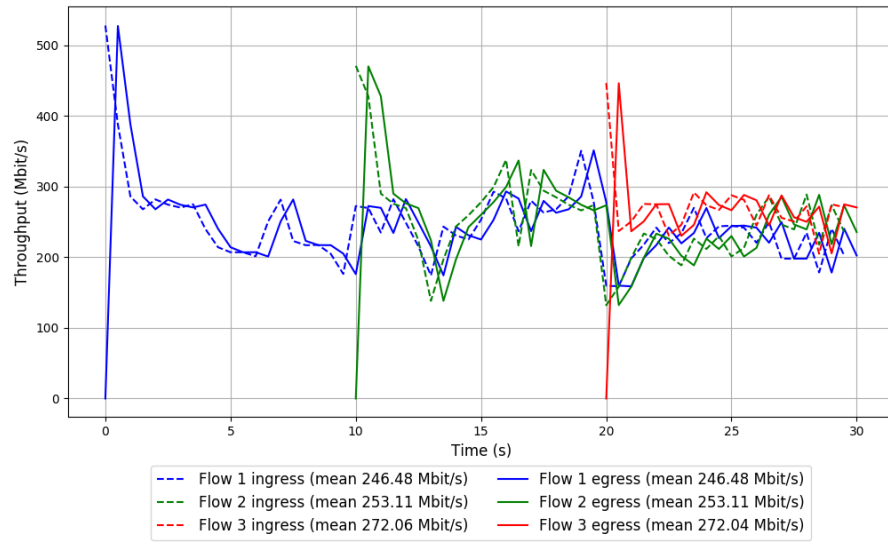
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-09-25 19:00:10
End at: 2018-09-25 19:00:40
Local clock offset: 0.474 ms
Remote clock offset: 3.491 ms


# Below is generated by plot.py at 2018-09-25 20:11:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 505.54 Mbit/s
95th percentile per-packet one-way delay: 1.271 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 246.48 Mbit/s
95th percentile per-packet one-way delay: 1.243 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 253.11 Mbit/s
95th percentile per-packet one-way delay: 1.273 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 272.04 Mbit/s
95th percentile per-packet one-way delay: 1.317 ms
Loss rate: 0.02%
```
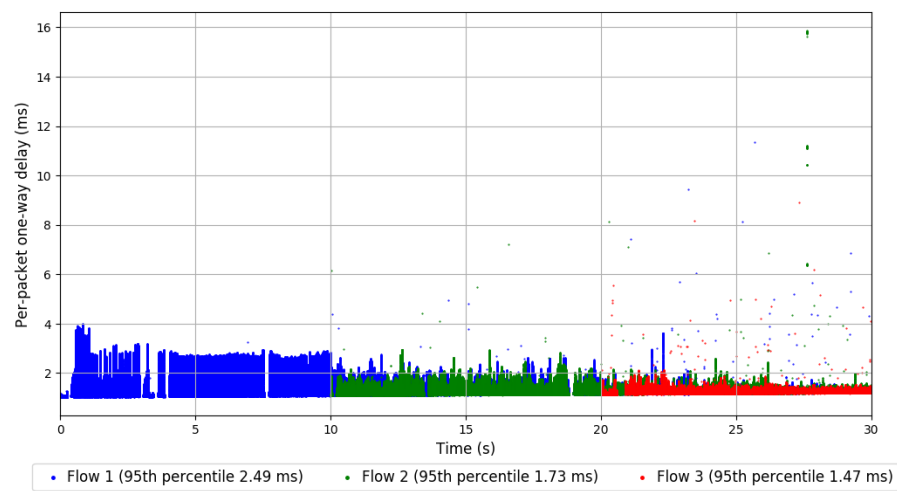
Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2018-09-25 16:40:39
End at: 2018-09-25 16:41:09
Local clock offset: 1.546 ms
Remote clock offset: 2.404 ms


# Below is generated by plot.py at 2018-09-25 20:11:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 256.35 Mbit/s
95th percentile per-packet one-way delay: 2.333 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 162.45 Mbit/s
95th percentile per-packet one-way delay: 2.490 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 105.27 Mbit/s
95th percentile per-packet one-way delay: 1.725 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 71.73 Mbit/s
95th percentile per-packet one-way delay: 1.465 ms
Loss rate: 0.03%
```
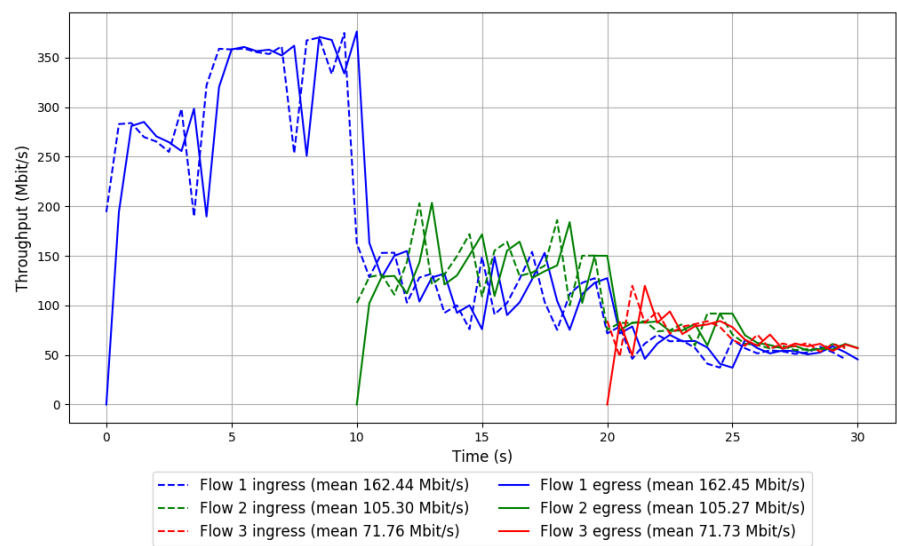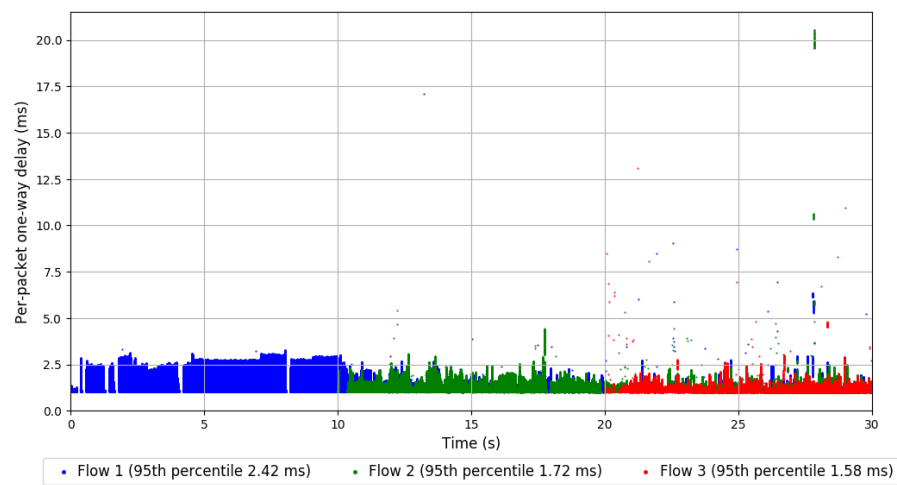
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-09-25 17:10:05
End at: 2018-09-25 17:10:35
Local clock offset: 0.978 ms
Remote clock offset: 1.334 ms


# Below is generated by plot.py at 2018-09-25 20:11:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 290.74 Mbit/s
95th percentile per-packet one-way delay: 2.263 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 180.91 Mbit/s
95th percentile per-packet one-way delay: 2.417 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 119.06 Mbit/s
95th percentile per-packet one-way delay: 1.717 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 91.99 Mbit/s
95th percentile per-packet one-way delay: 1.583 ms
Loss rate: 0.04%
```
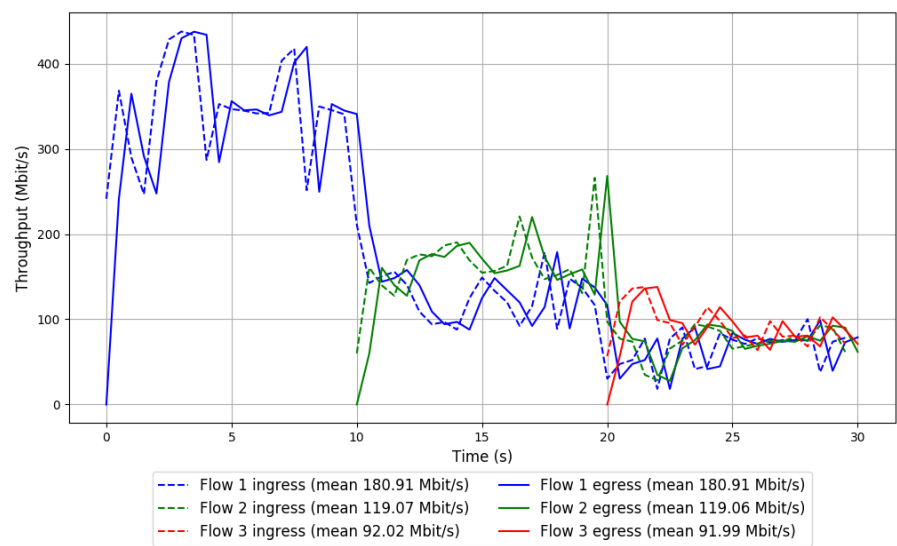
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-09-25 17:39:41
End at: 2018-09-25 17:40:11
Local clock offset: 0.071 ms
Remote clock offset: 0.28 ms


# Below is generated by plot.py at 2018-09-25 20:11:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 273.57 Mbit/s
95th percentile per-packet one-way delay: 1.783 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 171.80 Mbit/s
95th percentile per-packet one-way delay: 1.902 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 117.66 Mbit/s
95th percentile per-packet one-way delay: 1.437 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 70.53 Mbit/s
95th percentile per-packet one-way delay: 1.166 ms
Loss rate: 0.00%
```
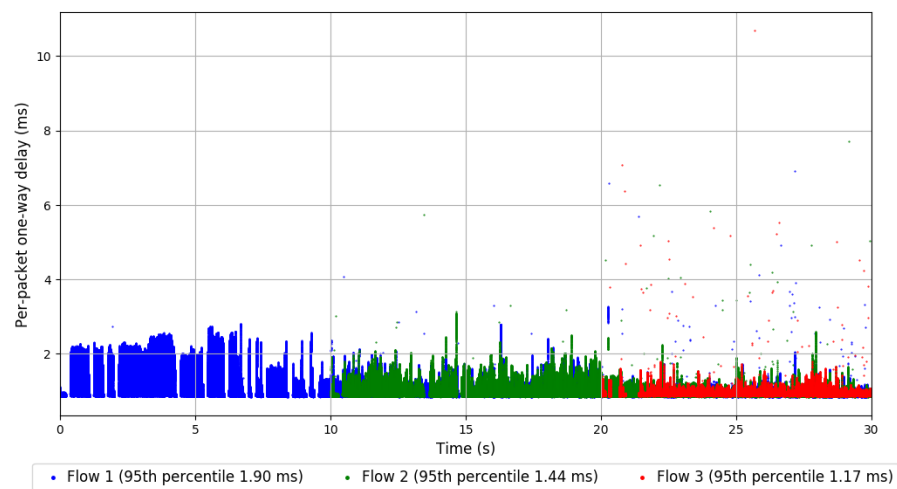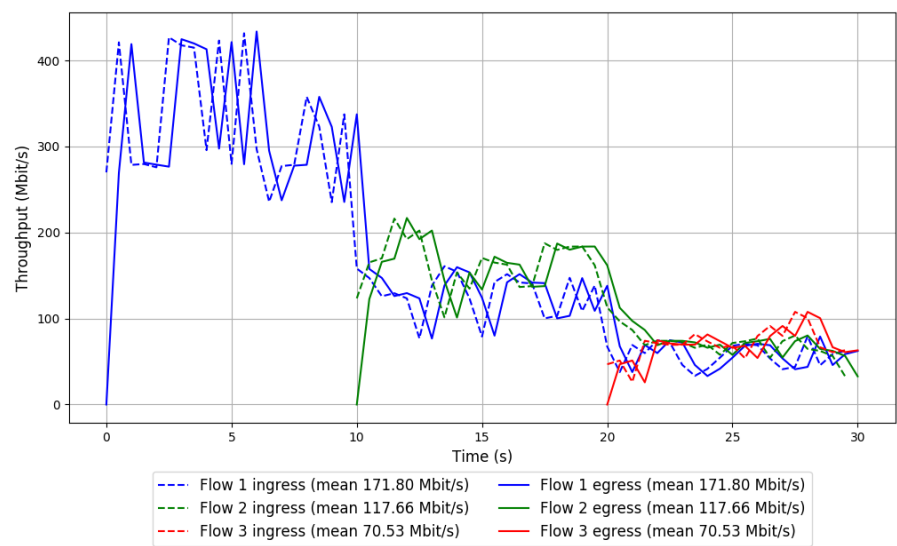
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-09-25 18:09:06
End at: 2018-09-25 18:09:36
Local clock offset: 1.032 ms
Remote clock offset: 0.078 ms


# Below is generated by plot.py at 2018-09-25 20:11:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 276.43 Mbit/s
95th percentile per-packet one-way delay: 2.235 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 178.24 Mbit/s
95th percentile per-packet one-way delay: 2.396 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 111.54 Mbit/s
95th percentile per-packet one-way delay: 1.904 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 72.08 Mbit/s
95th percentile per-packet one-way delay: 1.515 ms
Loss rate: 0.01%
```
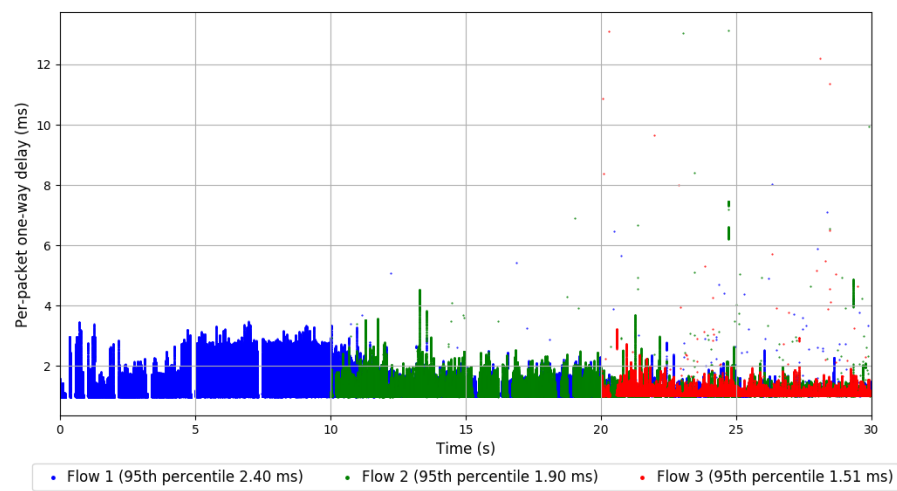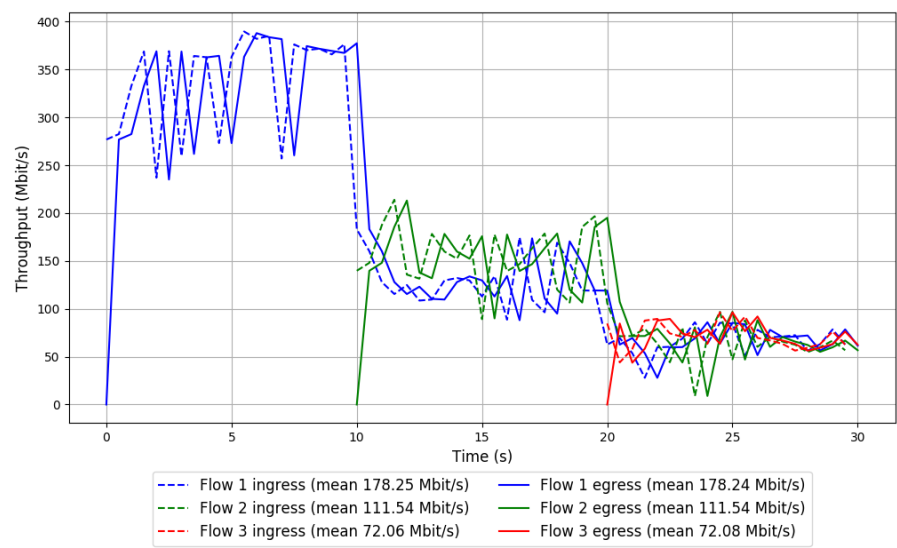
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-09-25 18:38:40
End at: 2018-09-25 18:39:10
Local clock offset: 0.449 ms
Remote clock offset: 0.044 ms


# Below is generated by plot.py at 2018-09-25 20:12:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 282.31 Mbit/s
95th percentile per-packet one-way delay: 2.436 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 189.97 Mbit/s
95th percentile per-packet one-way delay: 2.507 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 86.35 Mbit/s
95th percentile per-packet one-way delay: 2.239 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 107.13 Mbit/s
95th percentile per-packet one-way delay: 1.400 ms
Loss rate: 0.00%
```
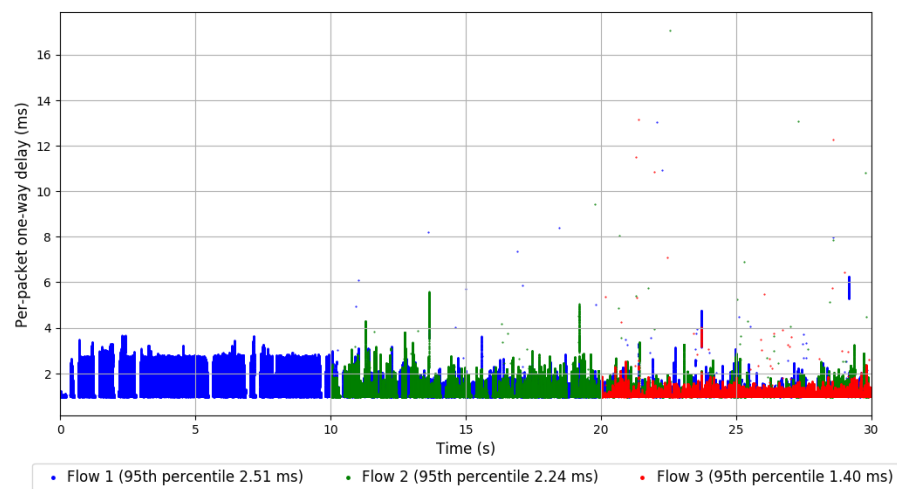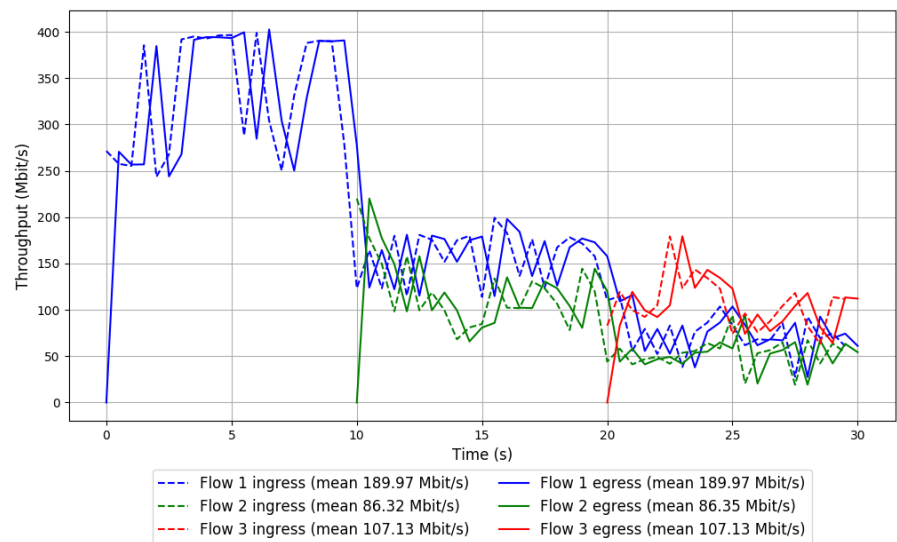
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-09-25 16:45:02
End at: 2018-09-25 16:45:32
Local clock offset: 1.151 ms
Remote clock offset: 3.181 ms


# Below is generated by plot.py at 2018-09-25 20:12:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 227.31 Mbit/s
95th percentile per-packet one-way delay: 1.224 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 145.80 Mbit/s
95th percentile per-packet one-way delay: 1.209 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 97.72 Mbit/s
95th percentile per-packet one-way delay: 1.245 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 50.20 Mbit/s
95th percentile per-packet one-way delay: 1.280 ms
Loss rate: 0.04%
```
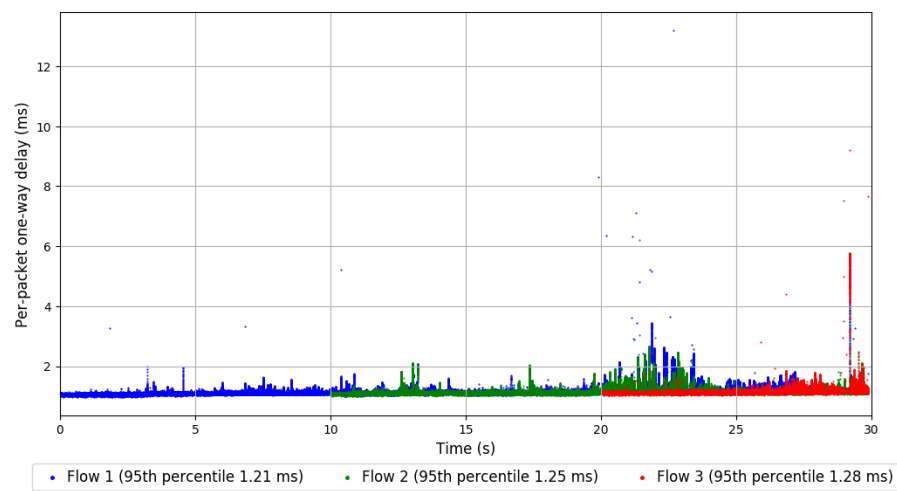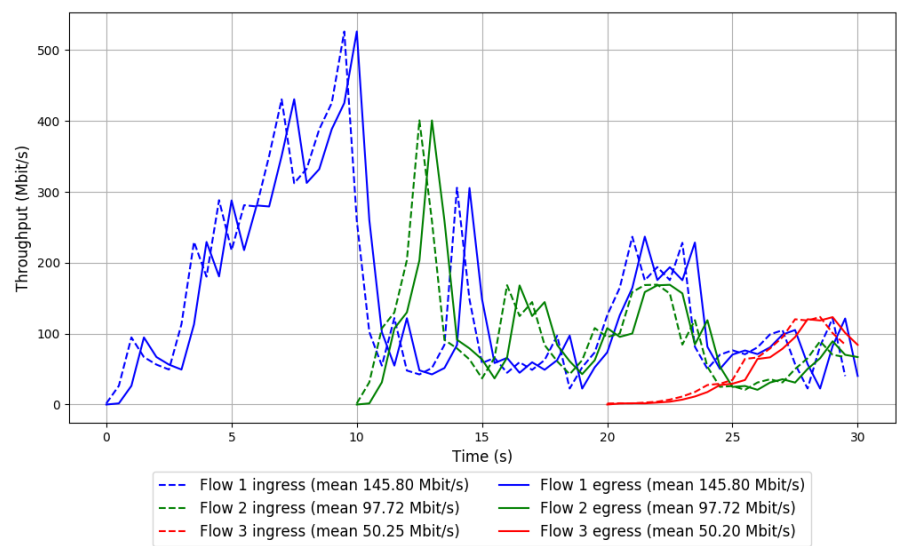
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-09-25 17:14:31
End at: 2018-09-25 17:15:01
Local clock offset: 0.637 ms
Remote clock offset: 0.977 ms


# Below is generated by plot.py at 2018-09-25 20:12:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 241.60 Mbit/s
95th percentile per-packet one-way delay: 0.971 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 147.46 Mbit/s
95th percentile per-packet one-way delay: 0.961 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 105.57 Mbit/s
95th percentile per-packet one-way delay: 1.016 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 72.63 Mbit/s
95th percentile per-packet one-way delay: 1.001 ms
Loss rate: 0.02%
```
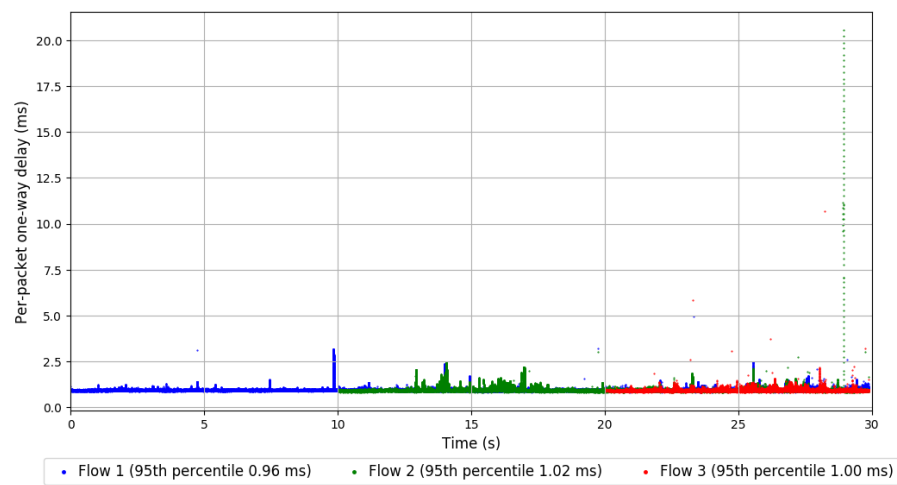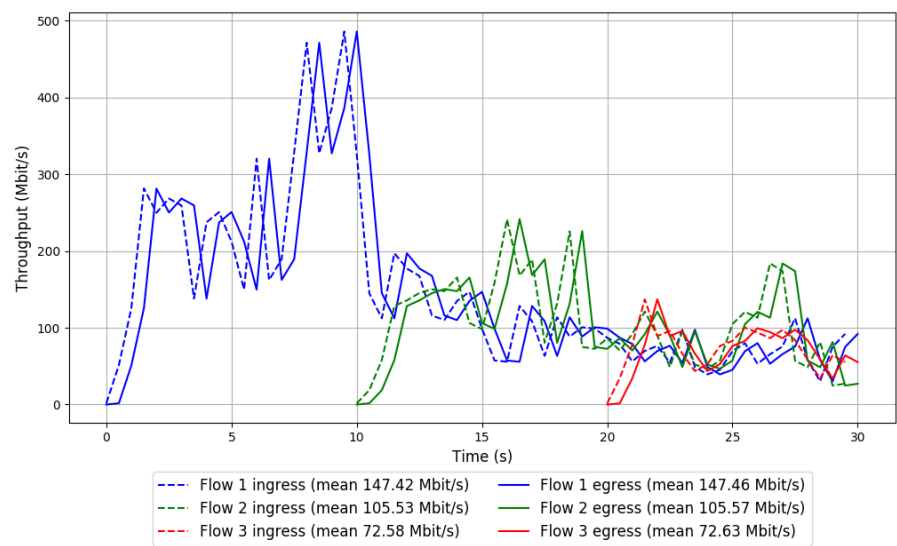
Run 2: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 147.42 Mbit/s) --- Flow 1 egress (mean 147.46 Mbit/s)
Flow 2 ingress (mean 105.53 Mbit/s) --- Flow 2 egress (mean 105.57 Mbit/s)
Flow 3 ingress (mean 72.58 Mbit/s) --- Flow 3 egress (mean 72.63 Mbit/s)

Flow 1 (95th percentile 0.96 ms) Flow 2 (95th percentile 1.02 ms) Flow 3 (95th percentile 1.00 ms)

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-09-25 17:44:03
End at: 2018-09-25 17:44:33
Local clock offset: 0.213 ms
Remote clock offset: 0.146 ms


# Below is generated by plot.py at 2018-09-25 20:12:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 261.07 Mbit/s
95th percentile per-packet one-way delay: 0.976 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 162.14 Mbit/s
95th percentile per-packet one-way delay: 0.968 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 119.42 Mbit/s
95th percentile per-packet one-way delay: 1.018 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 59.26 Mbit/s
95th percentile per-packet one-way delay: 1.006 ms
Loss rate: 0.01%
```
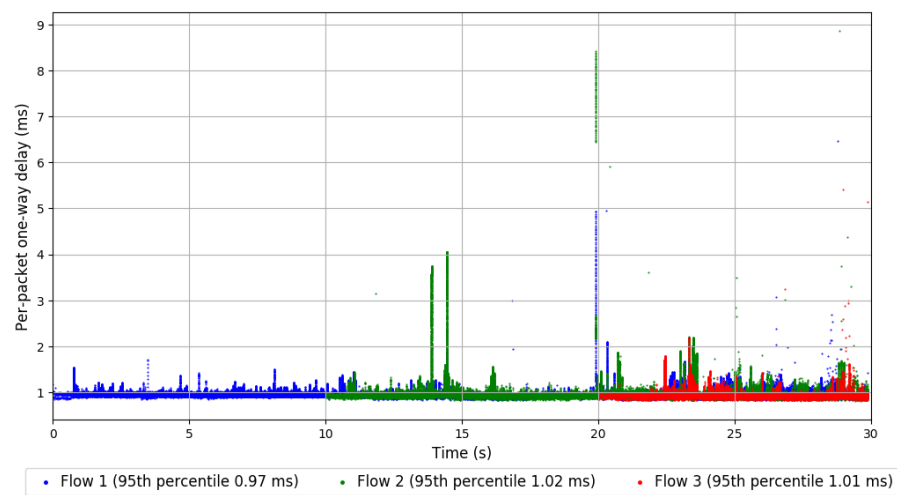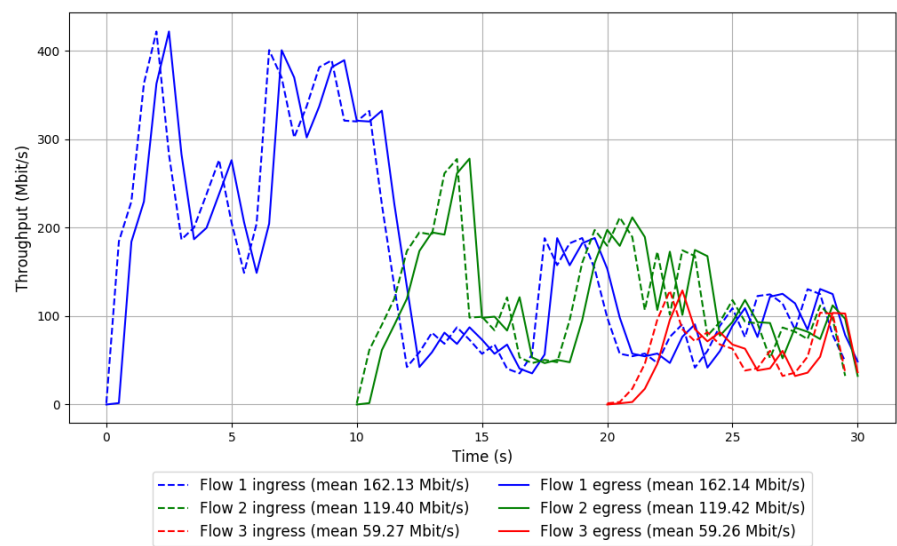
Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 162.13 Mbit/s) --- Flow 1 egress (mean 162.14 Mbit/s)
Flow 2 ingress (mean 119.40 Mbit/s) --- Flow 2 egress (mean 119.42 Mbit/s)
Flow 3 ingress (mean 59.27 Mbit/s) --- Flow 3 egress (mean 59.26 Mbit/s)

Flow 1 (95th percentile 0.97 ms) • Flow 2 (95th percentile 1.02 ms) • Flow 3 (95th percentile 1.01 ms)

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-09-25 18:13:32
End at: 2018-09-25 18:14:02
Local clock offset: 0.744 ms
Remote clock offset: 0.122 ms


# Below is generated by plot.py at 2018-09-25 20:12:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 219.26 Mbit/s
95th percentile per-packet one-way delay: 0.983 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 159.37 Mbit/s
95th percentile per-packet one-way delay: 0.967 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 62.84 Mbit/s
95th percentile per-packet one-way delay: 0.998 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 54.80 Mbit/s
95th percentile per-packet one-way delay: 1.068 ms
Loss rate: 0.01%
```
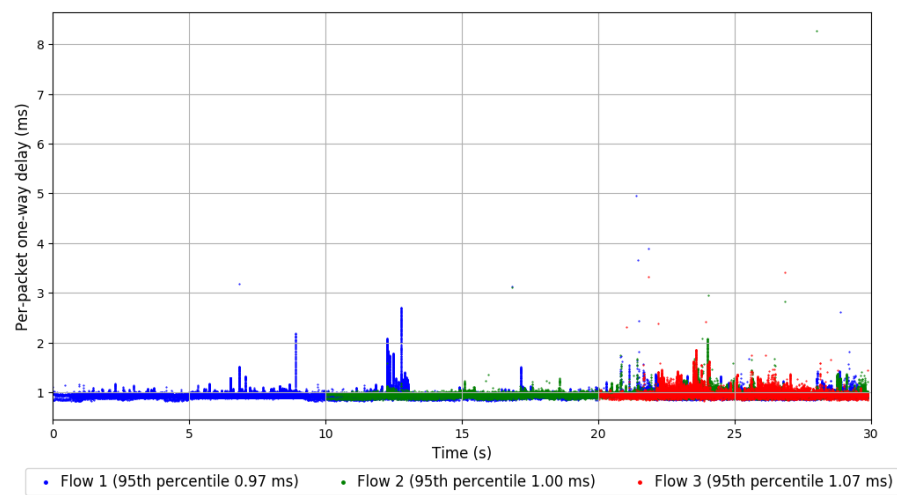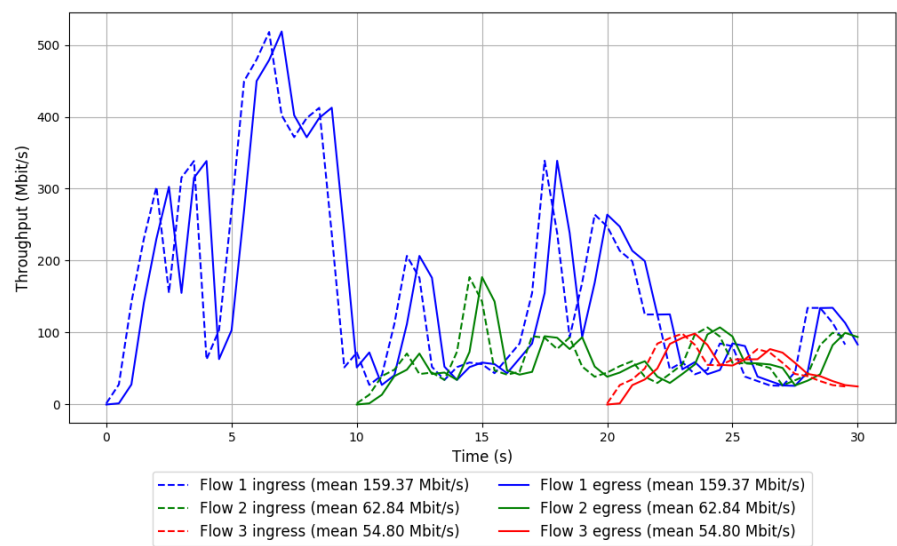
Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-09-25 18:43:04
End at: 2018-09-25 18:43:34
Local clock offset: 0.425 ms
Remote clock offset: 0.747 ms


# Below is generated by plot.py at 2018-09-25 20:12:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 249.79 Mbit/s
95th percentile per-packet one-way delay: 1.266 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 163.53 Mbit/s
95th percentile per-packet one-way delay: 1.246 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 98.40 Mbit/s
95th percentile per-packet one-way delay: 1.267 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 63.11 Mbit/s
95th percentile per-packet one-way delay: 1.395 ms
Loss rate: 0.01%
```
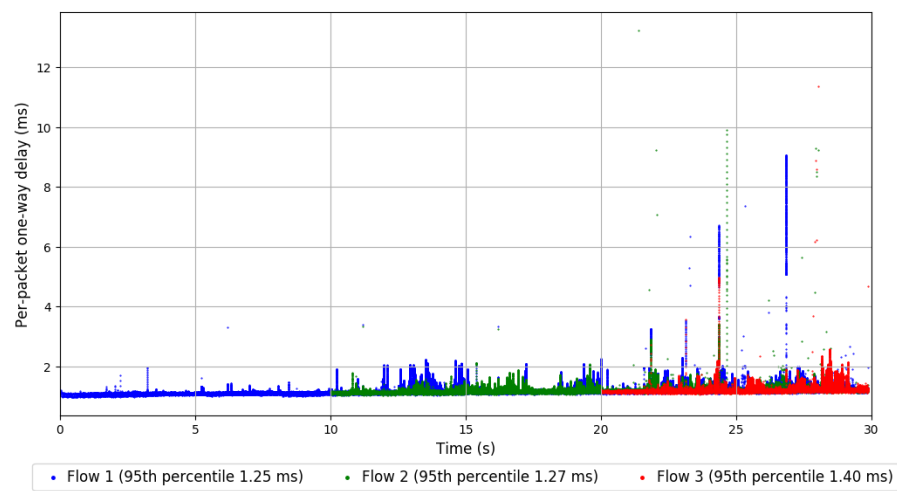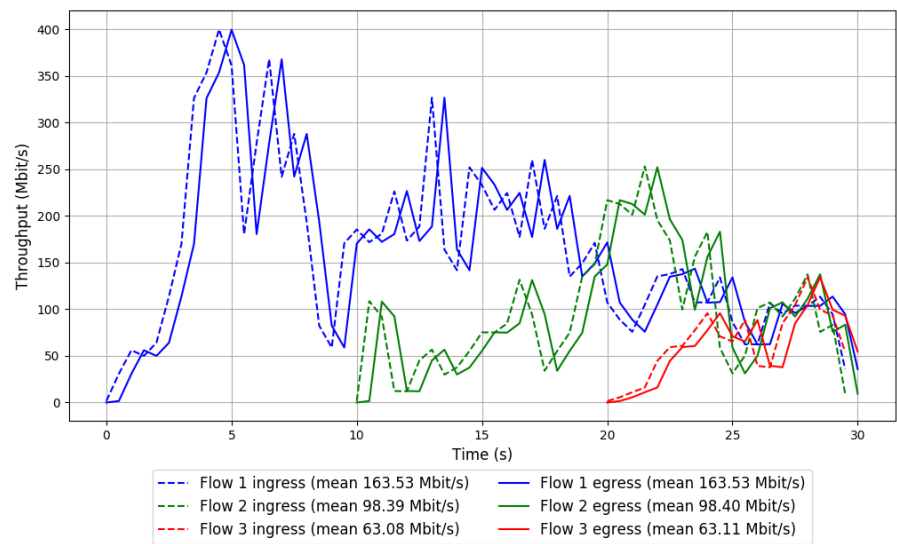
Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2018-09-25 17:00:44
End at: 2018-09-25 17:01:14
Local clock offset: 0.945 ms
Remote clock offset: 3.914 ms


# Below is generated by plot.py at 2018-09-25 20:12:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 0.845 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 0.861 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 0.816 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 0.767 ms
Loss rate: 0.00%
```
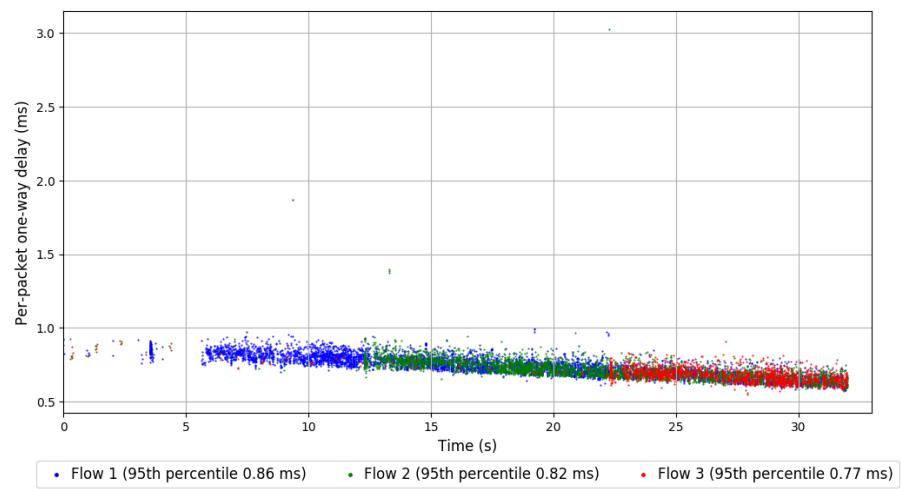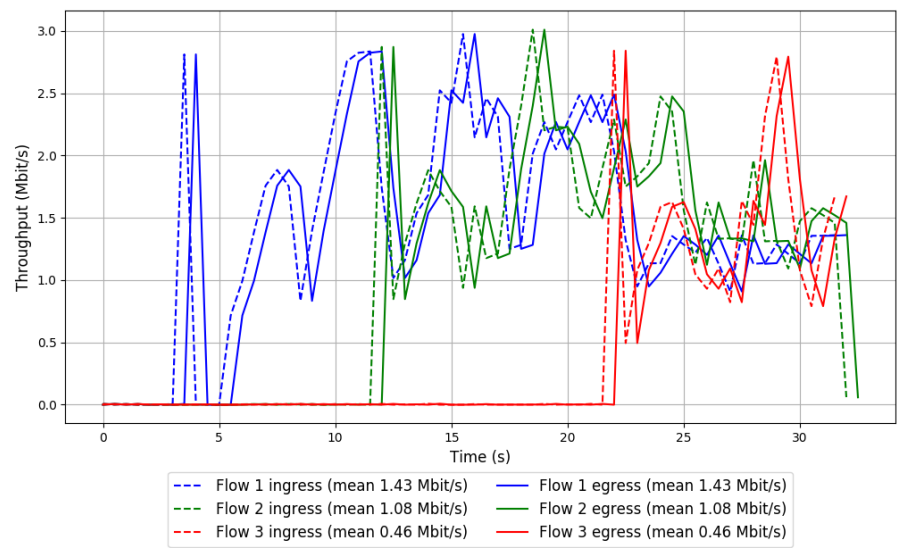
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-09-25 17:30:22
End at: 2018-09-25 17:30:52
Local clock offset: 0.18 ms
Remote clock offset: 0.627 ms


# Below is generated by plot.py at 2018-09-25 20:12:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.95 Mbit/s
95th percentile per-packet one-way delay: 1.011 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 1.003 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 1.017 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 1.015 ms
Loss rate: 0.00%
```
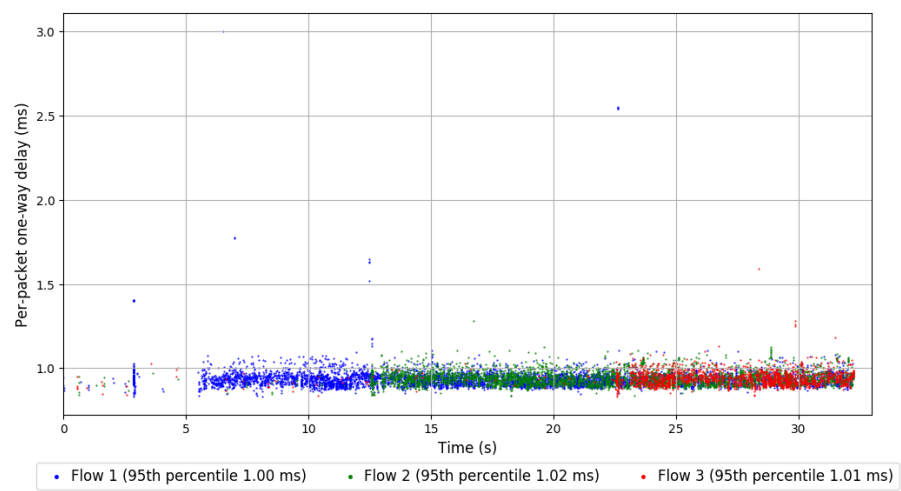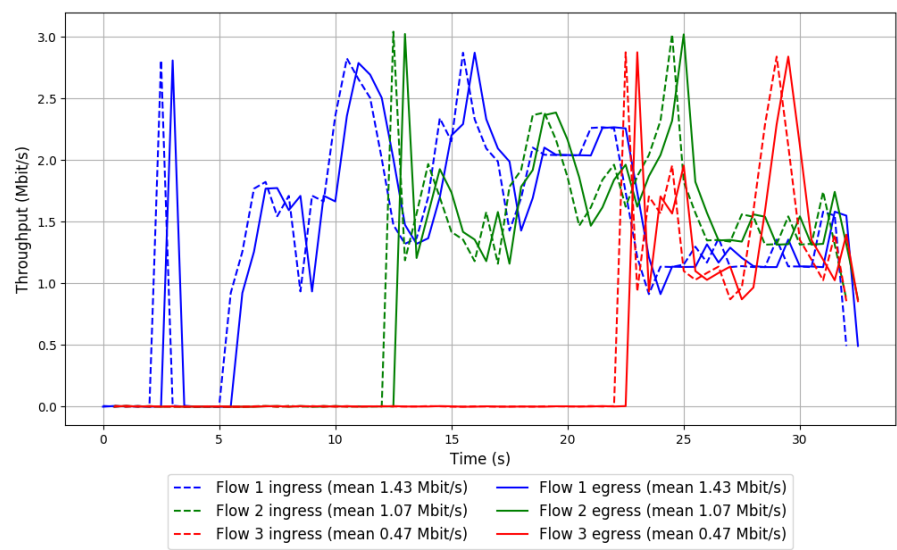
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-09-25 17:59:54
End at: 2018-09-25 18:00:24
Local clock offset: 0.79 ms
Remote clock offset: 0.199 ms


# Below is generated by plot.py at 2018-09-25 20:12:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.91 Mbit/s
95th percentile per-packet one-way delay: 0.979 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 0.973 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 0.979 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 0.994 ms
Loss rate: 0.00%
```
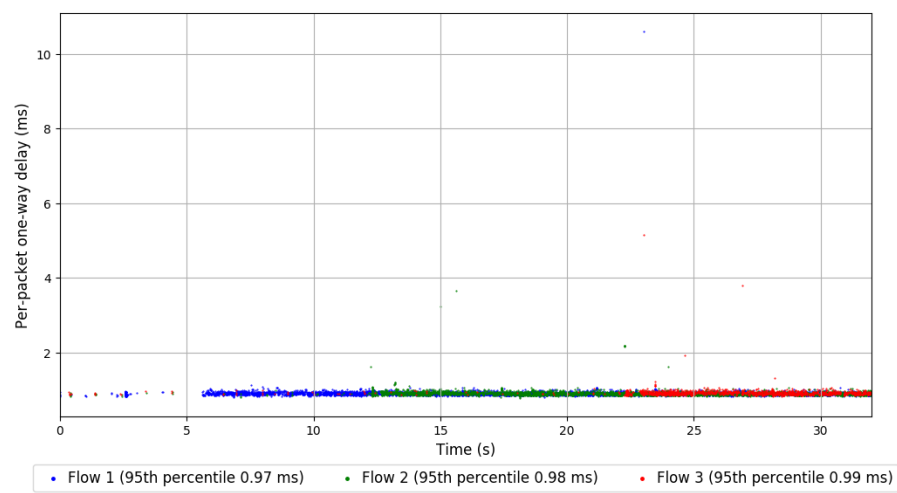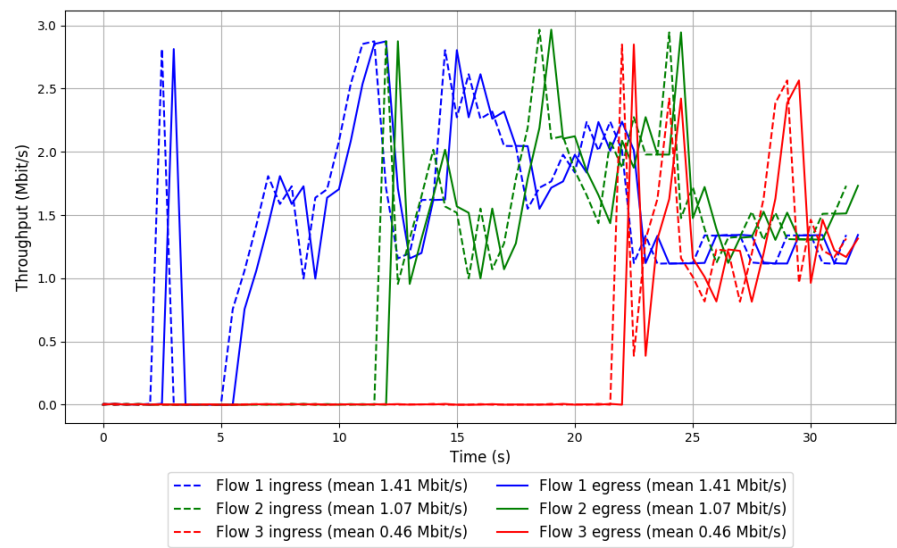
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-09-25 18:29:18
End at: 2018-09-25 18:29:48
Local clock offset: 0.4 ms
Remote clock offset: 0.042 ms

# Below is generated by plot.py at 2018-09-25 20:12:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 1.063 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 1.056 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 1.071 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 1.061 ms
Loss rate: 0.00%
```
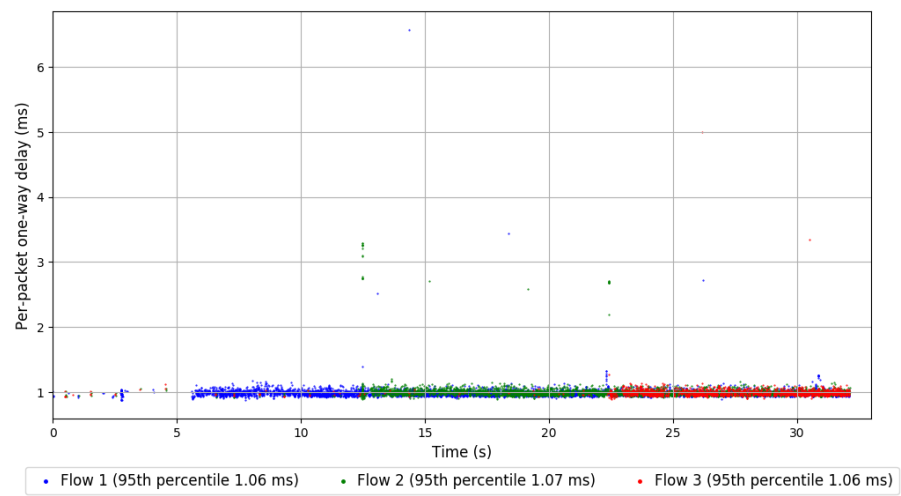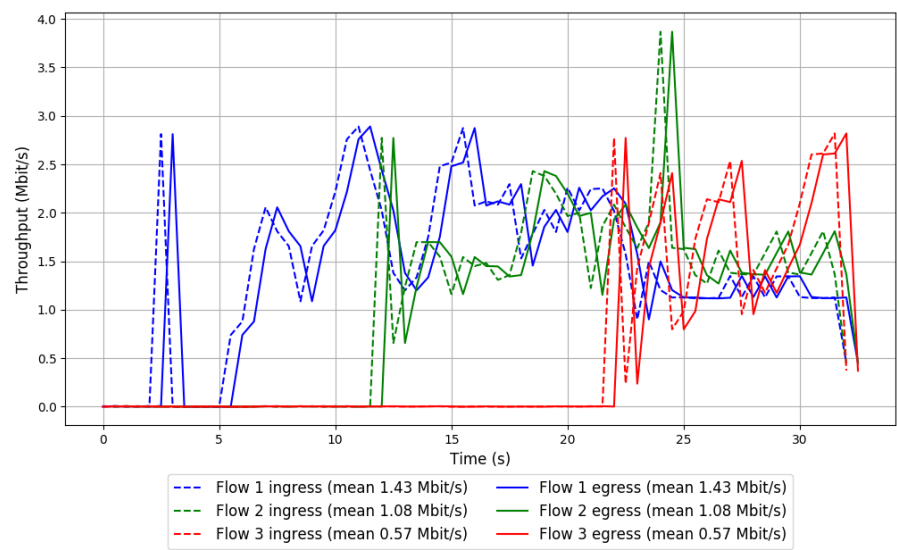
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-09-25 18:58:51
End at: 2018-09-25 18:59:21
Local clock offset: 0.446 ms
Remote clock offset: 3.477 ms


# Below is generated by plot.py at 2018-09-25 20:12:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.95 Mbit/s
95th percentile per-packet one-way delay: 1.018 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 1.024 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 1.019 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

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