Pantheon Report

Generated at 2019-07-12 07:48:38 (UTC).

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

Repeated the test of 24 congestion control schemes 5 times.

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

NTP offsets were measured against `time.stanford.edu` and have been applied to correct the timestamps in logs.
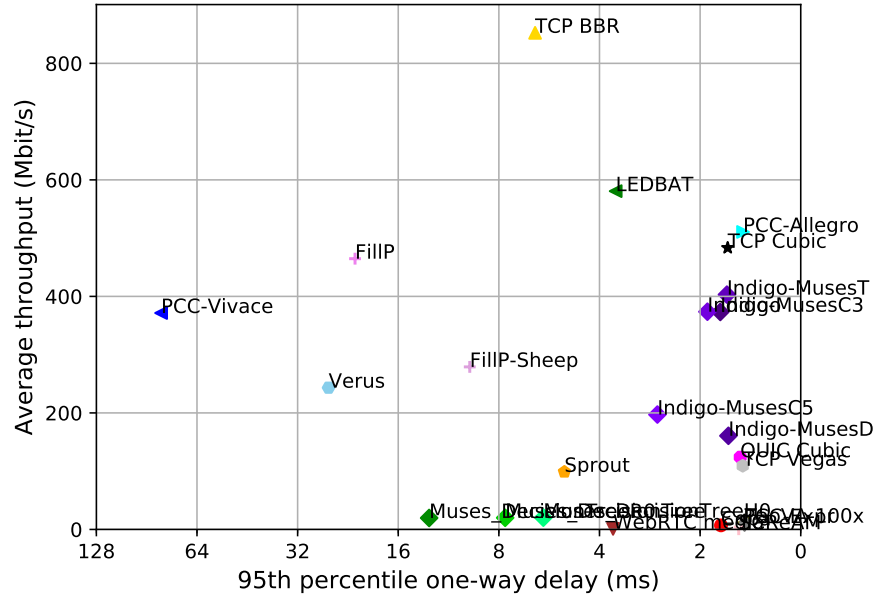
```
System info:
Linux 4.15.0-1041-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 2076e1149a241f3edb4365d686df32342bf9561f
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/muses_dtree @ 8bb93ffff2b107204a92d8b72449fc0c55e15f00
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
```
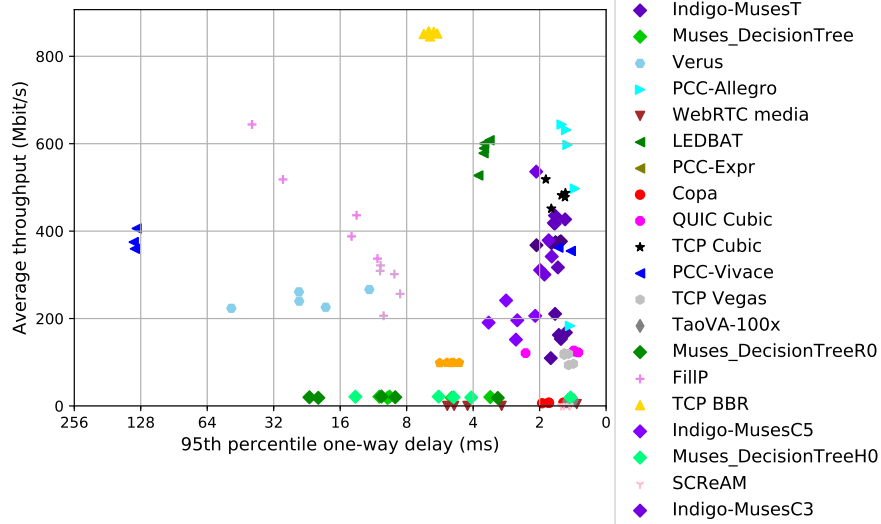
```
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from AWS California 1 to Stanford, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from AWS California 1 to Stanford, 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	485.55	394.89	311.96	5.91	6.67	4.89	4.55	7.92	11.75
Copa	5	0.00	8.29	6.04	1.16	1.57	1.70	97.95	45.52	45.13
TCP Cubic	5	245.86	242.63	227.98	1.38	1.57	1.47	0.33	0.33	0.36
FillP	5	288.84	209.29	110.36	19.79	19.56	11.39	5.78	9.10	4.40
FillP-Sheep	5	221.62	76.78	19.34	10.19	3.73	3.48	0.78	1.16	1.16
Indigo	5	193.73	182.47	181.03	1.49	1.55	1.95	0.28	0.26	0.26
Indigo-MusesC3	5	174.43	215.09	199.75	1.74	1.94	1.85	0.30	0.32	0.34
Indigo-MusesC5	5	78.29	107.05	166.97	1.35	3.39	2.20	0.31	0.30	0.26
Indigo-MusesD	5	85.65	75.07	90.38	1.35	1.27	1.64	0.23	0.26	0.24
Indigo-MusesT	5	202.05	231.03	176.89	1.33	1.58	1.63	0.28	0.28	0.24
LEDBAT	5	311.67	304.66	214.56	3.64	3.47	3.51	0.39	0.41	0.55
Muses_DecisionTree	5	9.14	10.77	11.36	4.50	6.39	9.04	0.41	0.47	0.29
Muses_DecisionTreeH0	5	9.56	9.79	12.73	6.79	3.35	7.92	0.29	0.29	0.23
Muses_DecisionTreeR0	5	9.24	10.86	9.88	9.51	10.62	7.75	0.26	0.33	0.32
PCC-Allegro	5	299.45	245.14	146.14	1.15	1.12	1.10	0.33	0.31	0.31
PCC-Expr	5	6.04	5.06	4.69	1.16	1.12	1.10	62.19	62.23	61.45
QUIC Cubic	5	68.33	59.61	48.83	0.87	1.73	3.87	0.26	0.26	0.27
SCReAM	5	0.18	0.18	0.21	1.22	1.24	1.23	0.21	0.29	0.18
Sprout	5	49.63	49.55	49.20	5.05	5.18	5.05	0.43	0.42	0.38
TaoVA-100x	5	7.65	4.28	4.54	1.13	1.09	1.08	50.46	62.49	71.49
TCP Vegas	5	55.33	55.65	50.74	1.14	1.12	1.30	0.25	0.26	0.26
Verus	5	130.63	114.94	110.47	18.04	34.60	27.94	2.27	4.90	3.89
PCC-Vivace	5	204.32	168.55	166.84	81.28	4.55	56.83	0.69	0.27	1.39
WebRTC media	5	0.48	0.34	0.16	3.69	3.32	2.78	0.88	0.03	0.06

```
Run 1: Statistics of TCP BBR

Start at: 2019-07-12 04:15:14
End at: 2019-07-12 04:15:44
Local clock offset: 2.85 ms
Remote clock offset: 0.398 ms


# Below is generated by plot.py at 2019-07-12 07:13:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 852.12 Mbit/s
95th percentile per-packet one-way delay: 5.815 ms
Loss rate: 7.43%
-- Flow 1:
Average throughput: 485.88 Mbit/s
95th percentile per-packet one-way delay: 5.699 ms
Loss rate: 5.40%
-- Flow 2:
Average throughput: 426.41 Mbit/s
95th percentile per-packet one-way delay: 6.489 ms
Loss rate: 8.66%
-- Flow 3:
Average throughput: 247.30 Mbit/s
95th percentile per-packet one-way delay: 2.717 ms
Loss rate: 14.31%
```
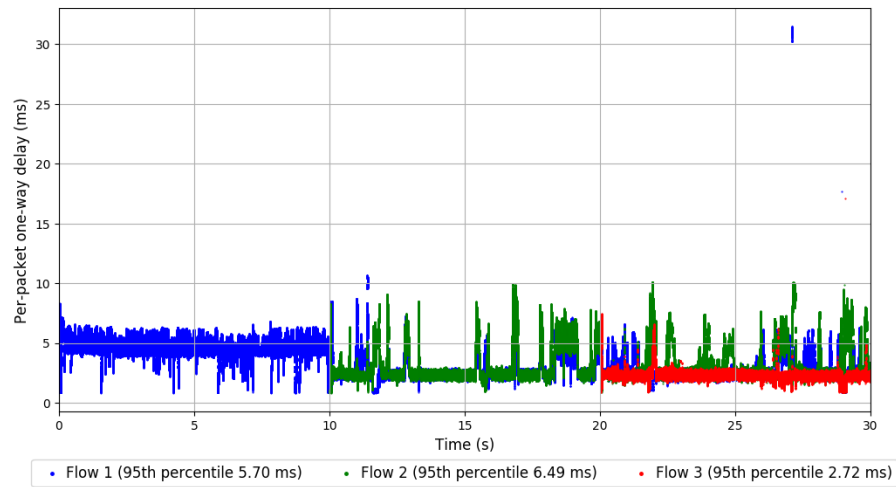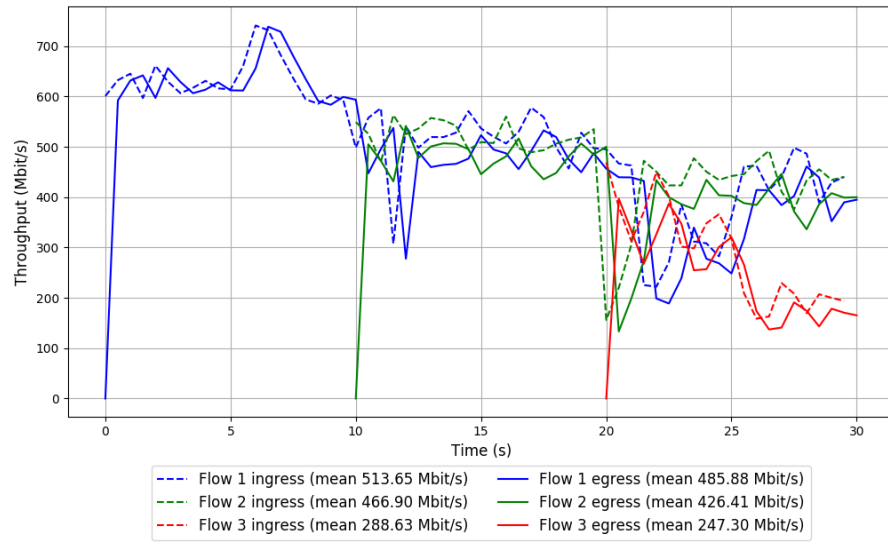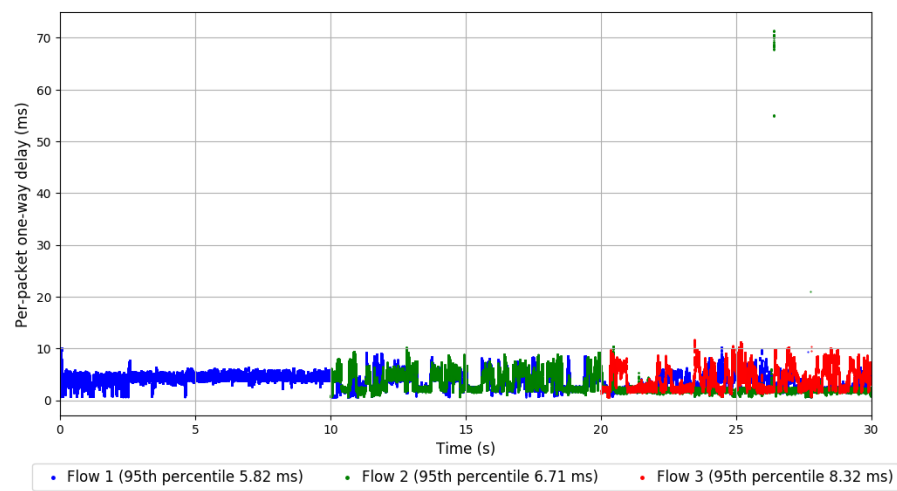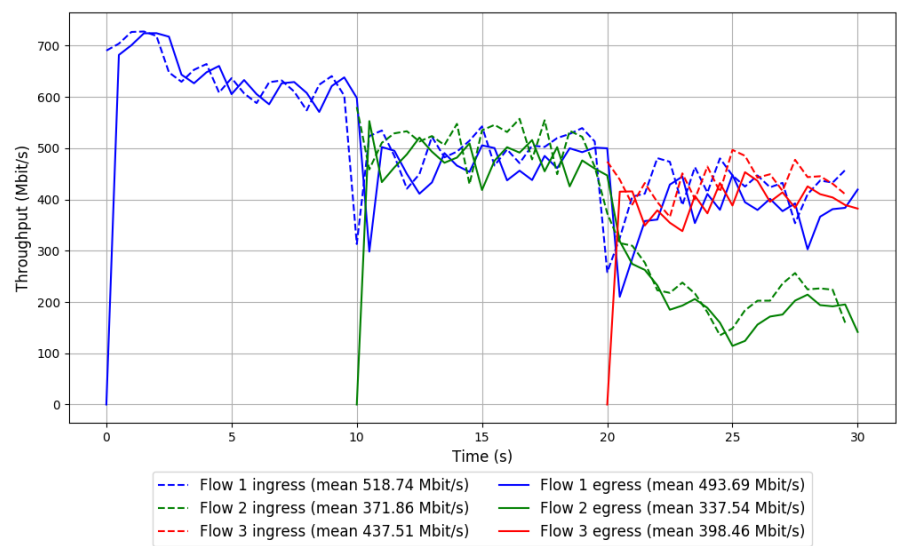
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-07-12 04:48:34
End at: 2019-07-12 04:49:04
Local clock offset: 0.072 ms
Remote clock offset: 0.796 ms


# Below is generated by plot.py at 2019-07-12 07:13:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 851.04 Mbit/s
95th percentile per-packet one-way delay: 6.693 ms
Loss rate: 6.67%
-- Flow 1:
Average throughput: 493.69 Mbit/s
95th percentile per-packet one-way delay: 5.818 ms
Loss rate: 4.83%
-- Flow 2:
Average throughput: 337.54 Mbit/s
95th percentile per-packet one-way delay: 6.713 ms
Loss rate: 9.22%
-- Flow 3:
Average throughput: 398.46 Mbit/s
95th percentile per-packet one-way delay: 8.319 ms
Loss rate: 8.92%
```
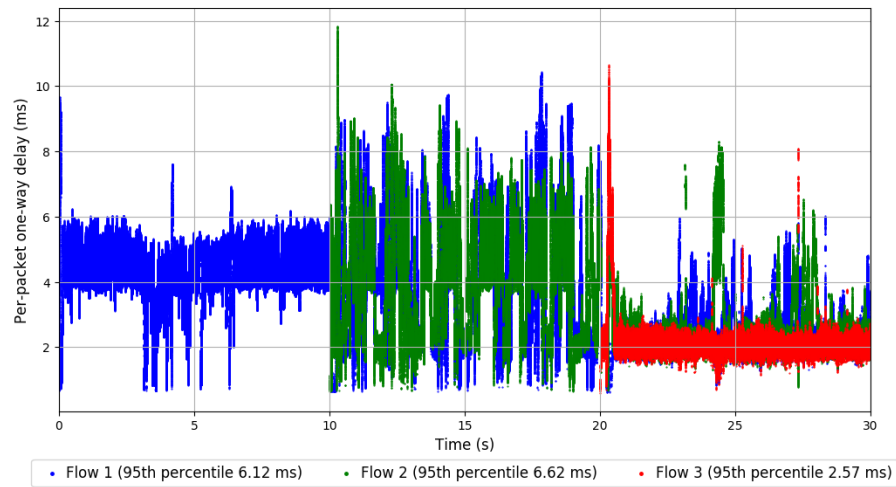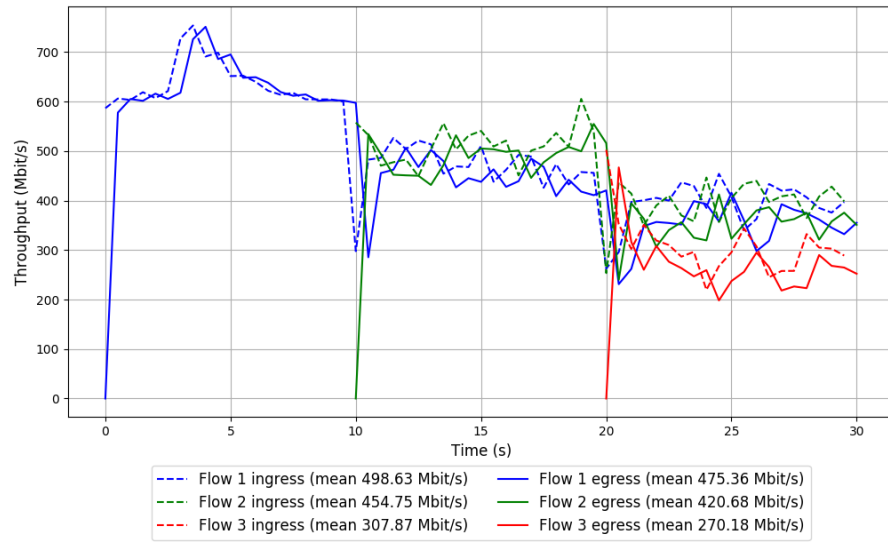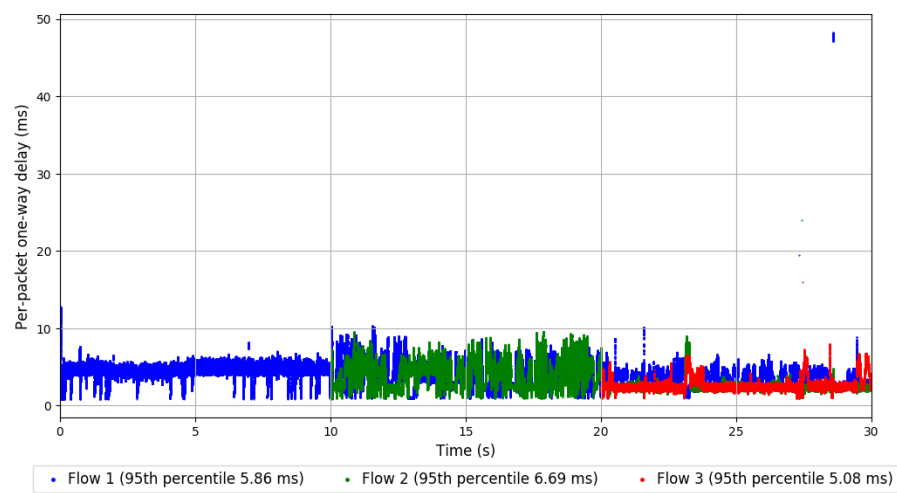
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-07-12 05:22:05
End at: 2019-07-12 05:22:35
Local clock offset: -1.294 ms
Remote clock offset: 2.901 ms


# Below is generated by plot.py at 2019-07-12 07:13:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 845.55 Mbit/s
95th percentile per-packet one-way delay: 6.273 ms
Loss rate: 6.47%
-- Flow 1:
Average throughput: 475.36 Mbit/s
95th percentile per-packet one-way delay: 6.124 ms
Loss rate: 4.66%
-- Flow 2:
Average throughput: 420.68 Mbit/s
95th percentile per-packet one-way delay: 6.623 ms
Loss rate: 7.49%
-- Flow 3:
Average throughput: 270.18 Mbit/s
95th percentile per-packet one-way delay: 2.571 ms
Loss rate: 12.23%
```

Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2019-07-12 05:55:19
End at: 2019-07-12 05:55:49
Local clock offset: -0.08 ms
Remote clock offset: -2.334 ms

# Below is generated by plot.py at 2019-07-12 07:13:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 855.95 Mbit/s
95th percentile per-packet one-way delay: 6.029 ms
Loss rate: 5.66%
-- Flow 1:
Average throughput: 516.96 Mbit/s
95th percentile per-packet one-way delay: 5.859 ms
Loss rate: 3.01%
-- Flow 2:
Average throughput: 356.57 Mbit/s
95th percentile per-packet one-way delay: 6.691 ms
Loss rate: 8.27%
-- Flow 3:
Average throughput: 305.08 Mbit/s
95th percentile per-packet one-way delay: 5.078 ms
Loss rate: 12.03%
```
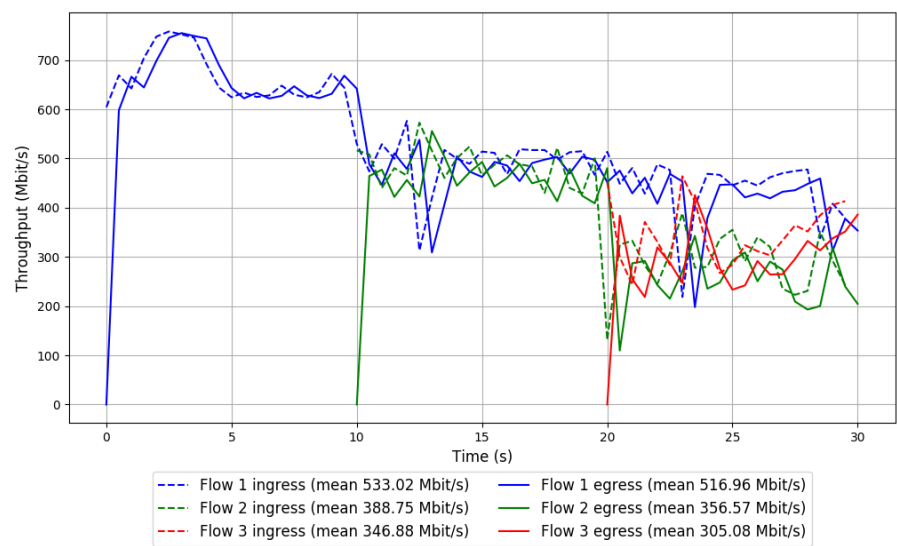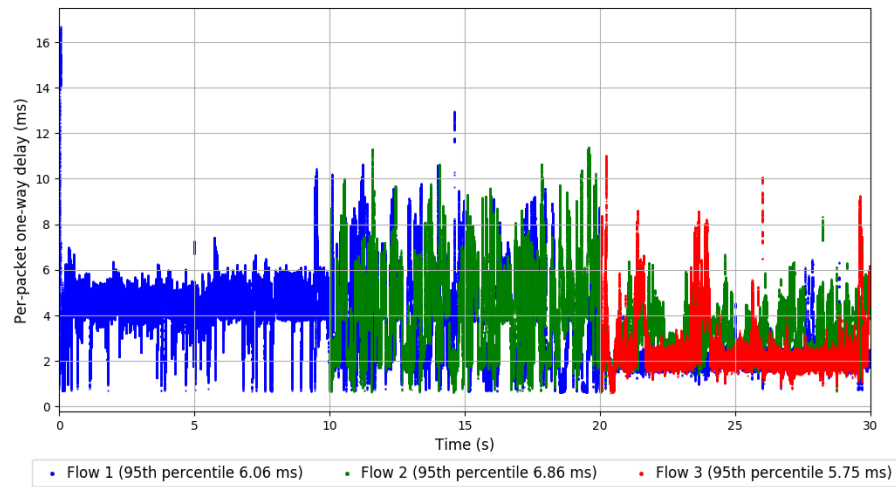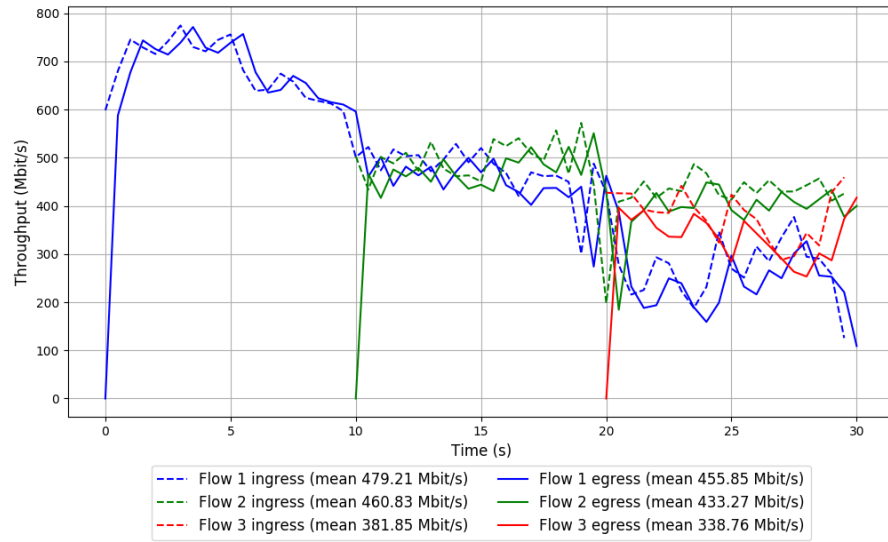
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 533.02 Mbit/s) --- Flow 1 egress (mean 516.96 Mbit/s)
Flow 2 ingress (mean 388.75 Mbit/s) --- Flow 2 egress (mean 356.57 Mbit/s)
Flow 3 ingress (mean 346.88 Mbit/s) --- Flow 3 egress (mean 305.08 Mbit/s)

Flow 1 (95th percentile 5.86 ms) • Flow 2 (95th percentile 6.69 ms) • Flow 3 (95th percentile 5.08 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2019-07-12 06:28:42
End at: 2019-07-12 06:29:12
Local clock offset: 0.001 ms
Remote clock offset: -2.316 ms


# Below is generated by plot.py at 2019-07-12 07:13:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 857.35 Mbit/s
95th percentile per-packet one-way delay: 6.356 ms
Loss rate: 6.13%
-- Flow 1:
Average throughput: 455.85 Mbit/s
95th percentile per-packet one-way delay: 6.063 ms
Loss rate: 4.87%
-- Flow 2:
Average throughput: 433.27 Mbit/s
95th percentile per-packet one-way delay: 6.858 ms
Loss rate: 5.98%
-- Flow 3:
Average throughput: 338.76 Mbit/s
95th percentile per-packet one-way delay: 5.747 ms
Loss rate: 11.28%
```
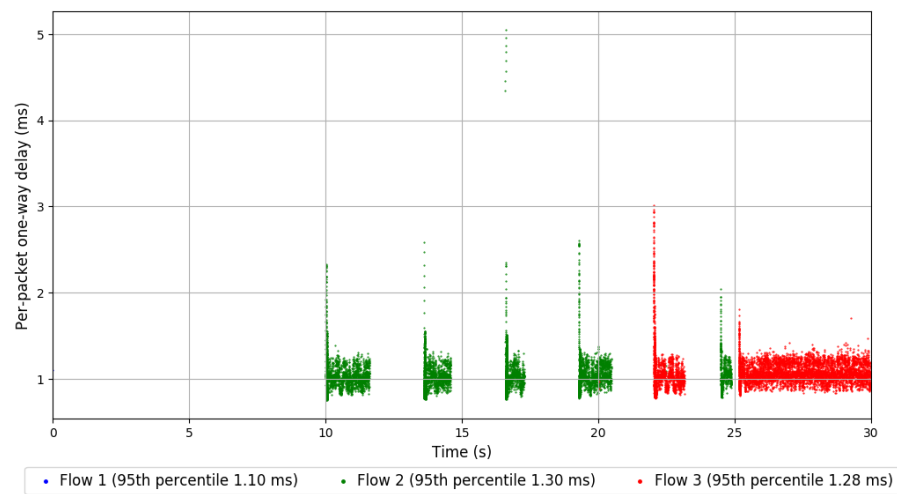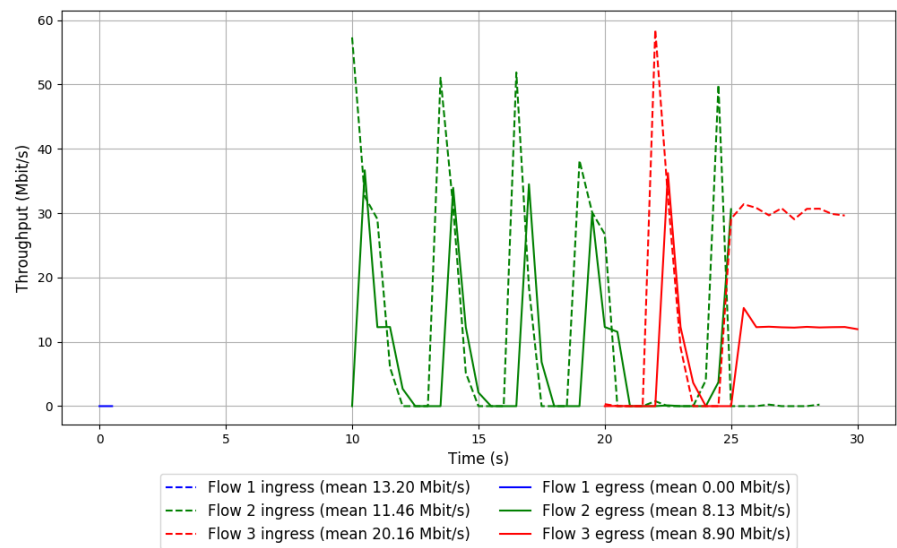
Run 5: Report of TCP BBR — Data Link

```
Run 1: Statistics of Copa

Start at: 2019-07-12 04:18:23
End at: 2019-07-12 04:18:53
Local clock offset: 3.079 ms
Remote clock offset: 0.046 ms


# Below is generated by plot.py at 2019-07-12 07:13:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.99 Mbit/s
95th percentile per-packet one-way delay: 1.289 ms
Loss rate: 49.77%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.105 ms
Loss rate: 97.24%
-- Flow 2:
Average throughput: 8.13 Mbit/s
95th percentile per-packet one-way delay: 1.296 ms
Loss rate: 44.11%
-- Flow 3:
Average throughput: 8.90 Mbit/s
95th percentile per-packet one-way delay: 1.283 ms
Loss rate: 55.84%
```
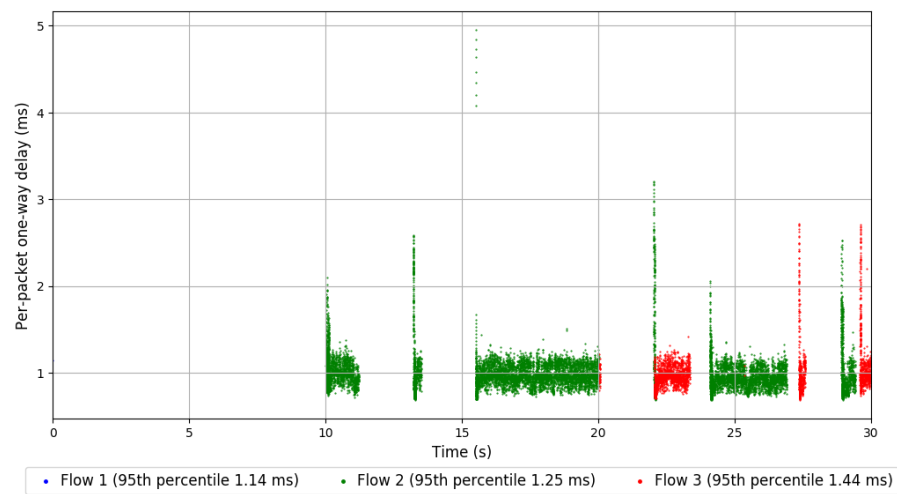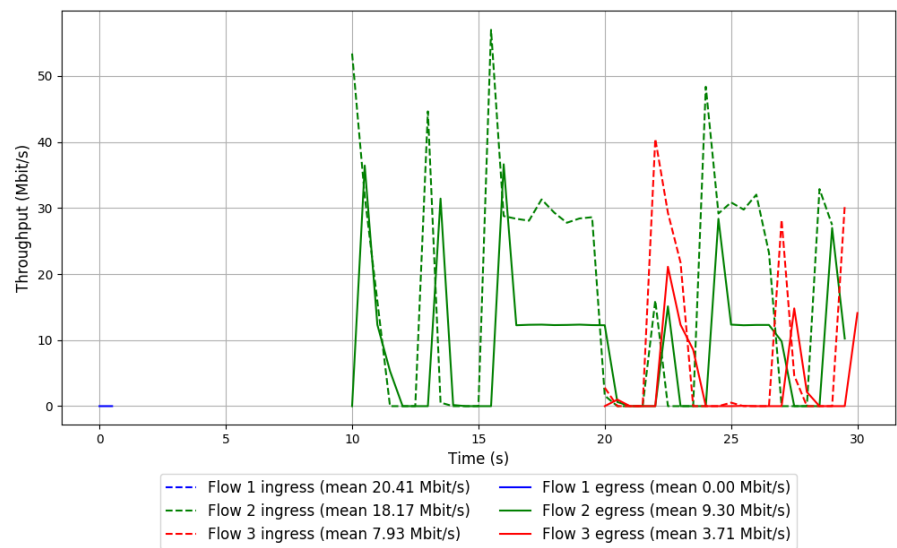
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 13.20 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 11.46 Mbit/s) --- Flow 2 egress (mean 8.13 Mbit/s)
Flow 3 ingress (mean 20.16 Mbit/s) --- Flow 3 egress (mean 8.90 Mbit/s)

Flow 1 (95th percentile 1.10 ms)   Flow 2 (95th percentile 1.30 ms)   Flow 3 (95th percentile 1.28 ms)

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```
Run 2: Statistics of Copa

Start at: 2019-07-12 04:51:42
End at: 2019-07-12 04:52:12
Local clock offset: -0.138 ms
Remote clock offset: 0.949 ms


# Below is generated by plot.py at 2019-07-12 07:13:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.25 Mbit/s
95th percentile per-packet one-way delay: 1.267 ms
Loss rate: 49.62%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.143 ms
Loss rate: 98.33%
-- Flow 2:
Average throughput: 9.30 Mbit/s
95th percentile per-packet one-way delay: 1.253 ms
Loss rate: 48.81%
-- Flow 3:
Average throughput: 3.71 Mbit/s
95th percentile per-packet one-way delay: 1.441 ms
Loss rate: 53.17%
```
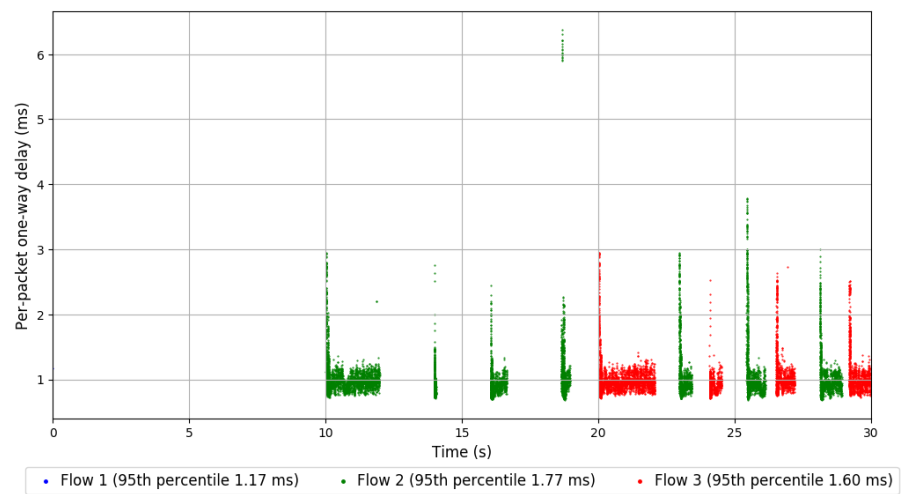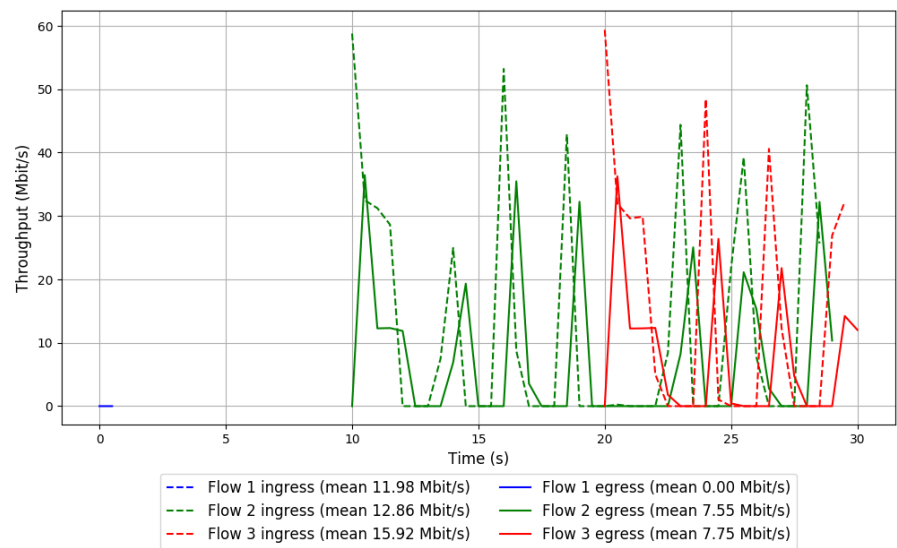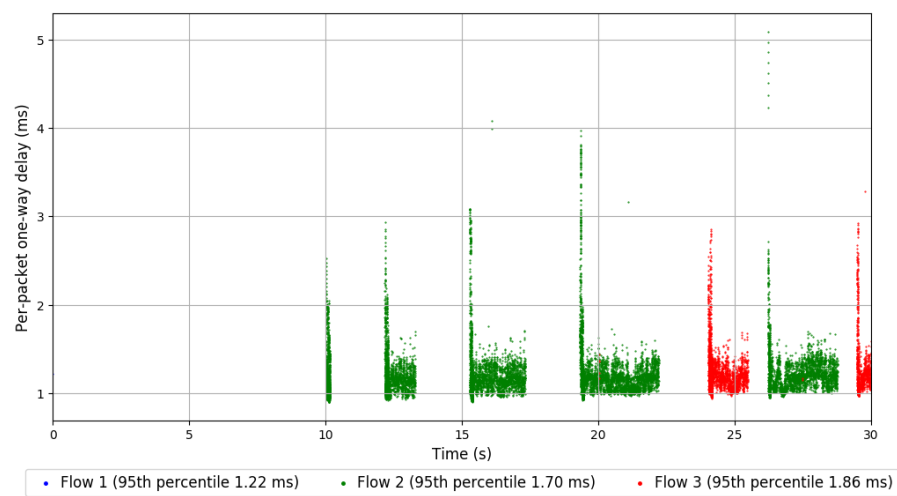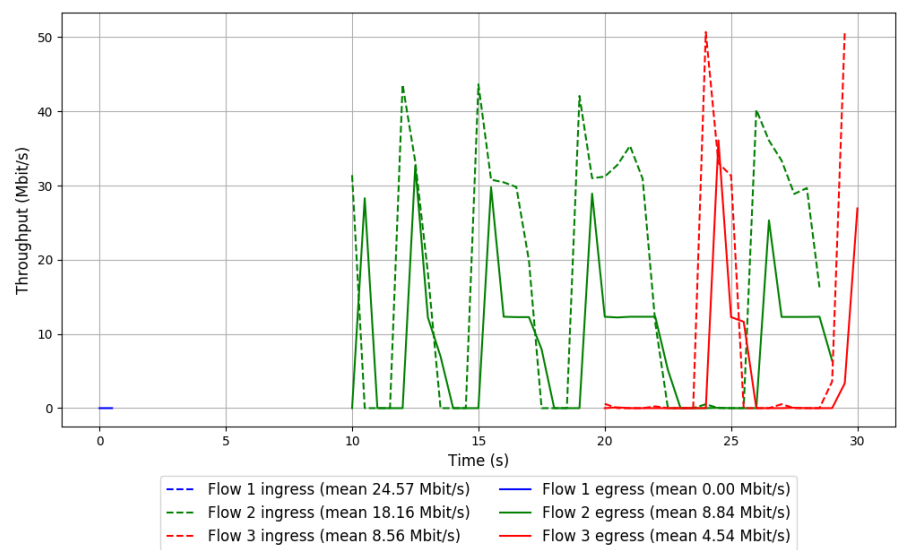
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 20.41 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 18.17 Mbit/s) --- Flow 2 egress (mean 9.30 Mbit/s)
Flow 3 ingress (mean 7.93 Mbit/s) --- Flow 3 egress (mean 3.71 Mbit/s)

Flow 1 (95th percentile 1.14 ms) • Flow 2 (95th percentile 1.25 ms) • Flow 3 (95th percentile 1.44 ms)

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```
Run 3: Statistics of Copa

Start at: 2019-07-12 05:25:11
End at: 2019-07-12 05:25:41
Local clock offset: -1.362 ms
Remote clock offset: 3.199 ms


# Below is generated by plot.py at 2019-07-12 07:13:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.34 Mbit/s
95th percentile per-packet one-way delay: 1.718 ms
Loss rate: 45.26%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.169 ms
Loss rate: 97.24%
-- Flow 2:
Average throughput: 7.55 Mbit/s
95th percentile per-packet one-way delay: 1.767 ms
Loss rate: 41.31%
-- Flow 3:
Average throughput: 7.75 Mbit/s
95th percentile per-packet one-way delay: 1.604 ms
Loss rate: 51.31%
```
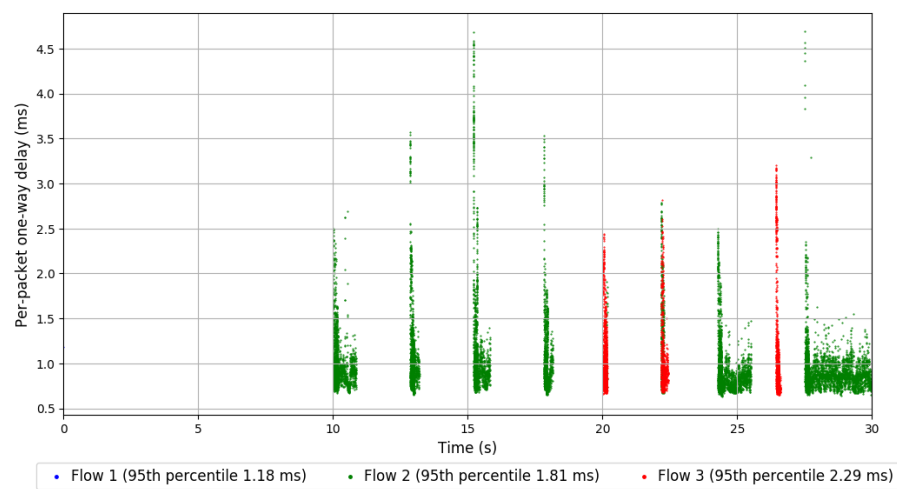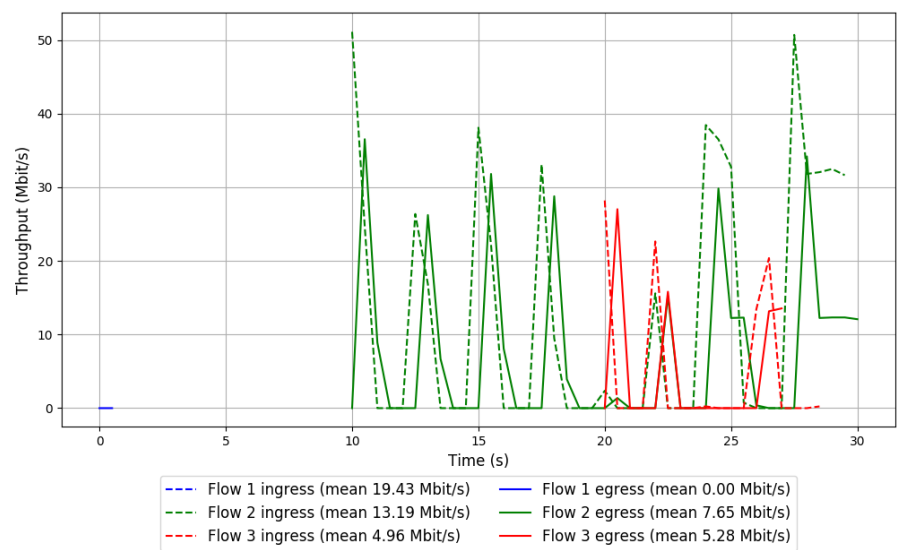
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 11.98 Mbit/s) — Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 12.86 Mbit/s) — Flow 2 egress (mean 7.55 Mbit/s)
Flow 3 ingress (mean 15.92 Mbit/s) — Flow 3 egress (mean 7.75 Mbit/s)

Flow 1 (95th percentile 1.17 ms)   Flow 2 (95th percentile 1.77 ms)   Flow 3 (95th percentile 1.60 ms)

```
Run 4: Statistics of Copa

Start at: 2019-07-12 05:58:27
End at: 2019-07-12 05:58:57
Local clock offset: -0.041 ms
Remote clock offset: -3.196 ms


# Below is generated by plot.py at 2019-07-12 07:13:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.03 Mbit/s
95th percentile per-packet one-way delay: 1.730 ms
Loss rate: 50.48%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.224 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 8.84 Mbit/s
95th percentile per-packet one-way delay: 1.700 ms
Loss rate: 51.34%
-- Flow 3:
Average throughput: 4.54 Mbit/s
95th percentile per-packet one-way delay: 1.862 ms
Loss rate: 47.03%
```
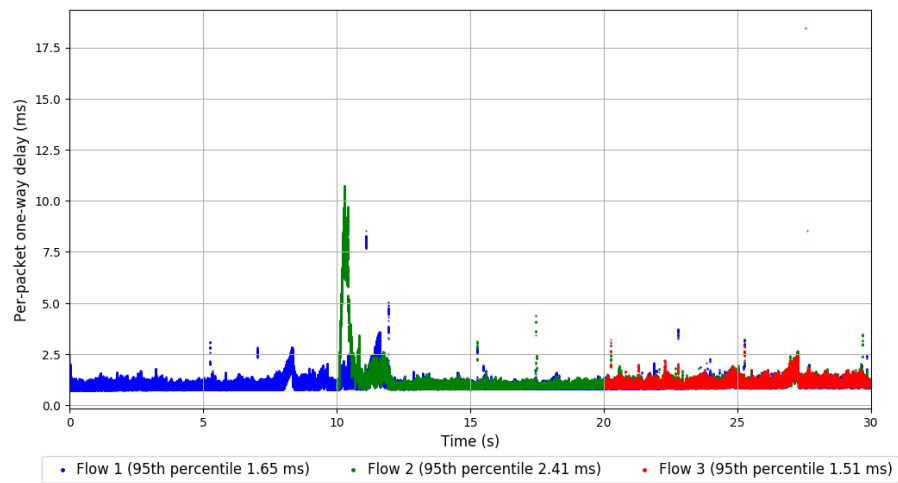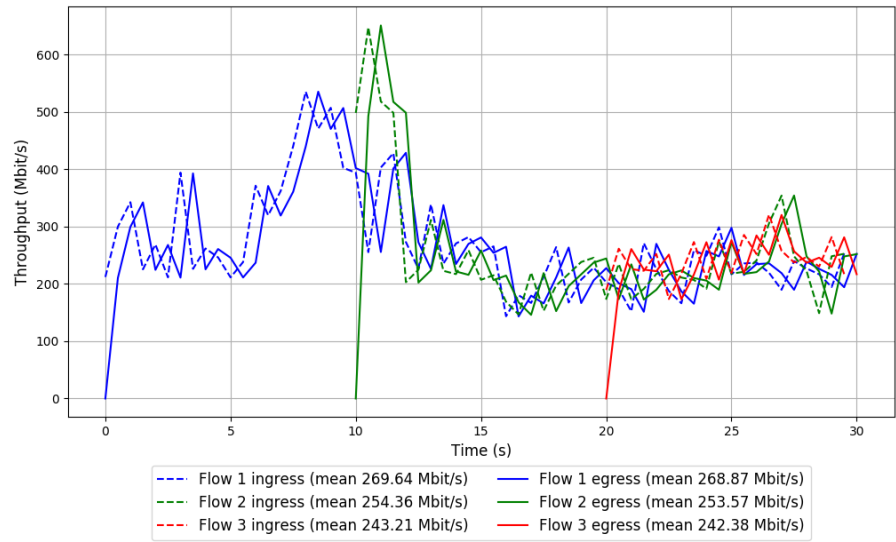
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 24.57 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 18.16 Mbit/s) --- Flow 2 egress (mean 8.84 Mbit/s)
Flow 3 ingress (mean 8.56 Mbit/s) --- Flow 3 egress (mean 4.54 Mbit/s)

Flow 1 (95th percentile 1.22 ms)   Flow 2 (95th percentile 1.70 ms)   Flow 3 (95th percentile 1.86 ms)

```
Run 5: Statistics of Copa

Start at: 2019-07-12 06:31:50
End at: 2019-07-12 06:32:20
Local clock offset: 0.017 ms
Remote clock offset: -1.727 ms


# Below is generated by plot.py at 2019-07-12 07:13:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.25 Mbit/s
95th percentile per-packet one-way delay: 1.925 ms
Loss rate: 38.74%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.180 ms
Loss rate: 98.33%
-- Flow 2:
Average throughput: 7.65 Mbit/s
95th percentile per-packet one-way delay: 1.812 ms
Loss rate: 42.03%
-- Flow 3:
Average throughput: 5.28 Mbit/s
95th percentile per-packet one-way delay: 2.286 ms
Loss rate: 18.31%
```
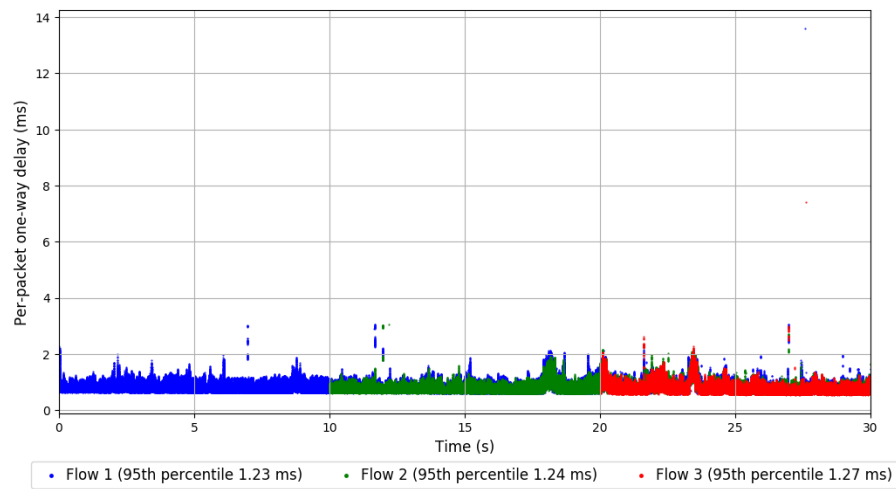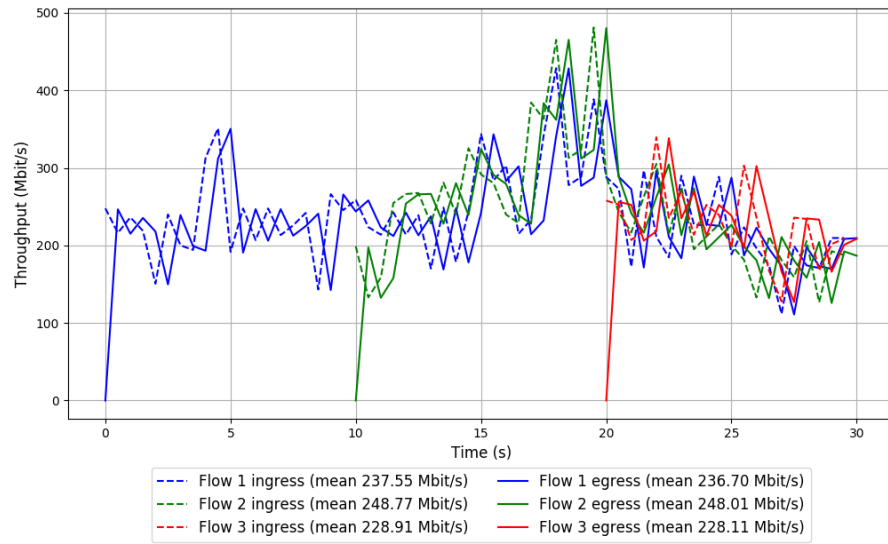
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-07-12 04:12:04
End at: 2019-07-12 04:12:34
Local clock offset: 2.559 ms
Remote clock offset: 0.725 ms

# Below is generated by plot.py at 2019-07-12 07:13:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 518.39 Mbit/s
95th percentile per-packet one-way delay: 1.814 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 268.87 Mbit/s
95th percentile per-packet one-way delay: 1.649 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 253.57 Mbit/s
95th percentile per-packet one-way delay: 2.409 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 242.38 Mbit/s
95th percentile per-packet one-way delay: 1.515 ms
Loss rate: 0.34%
```
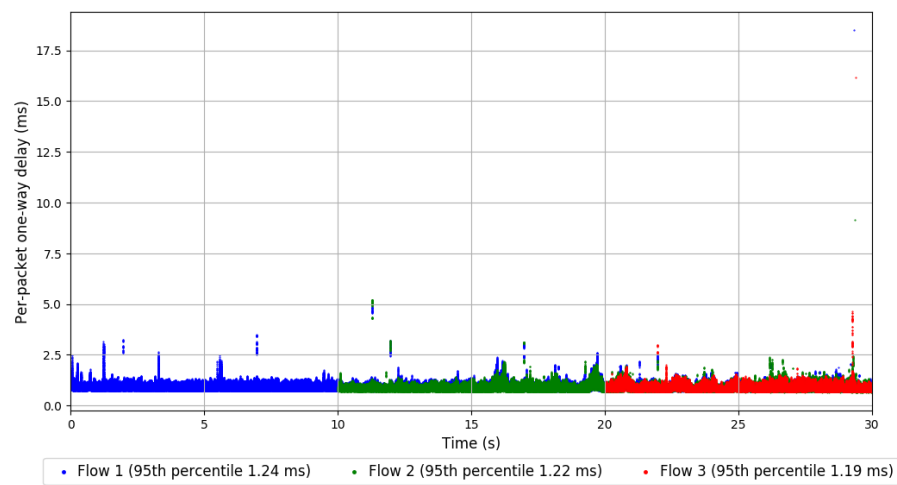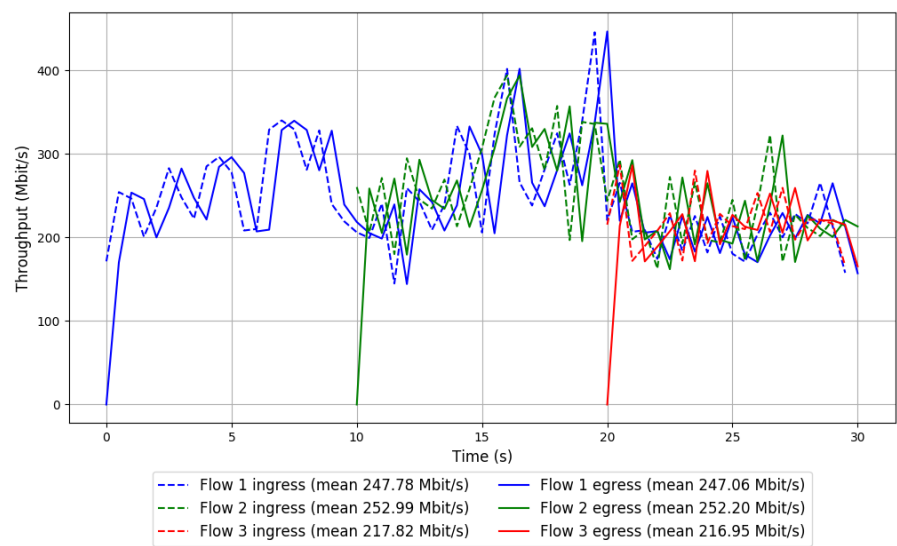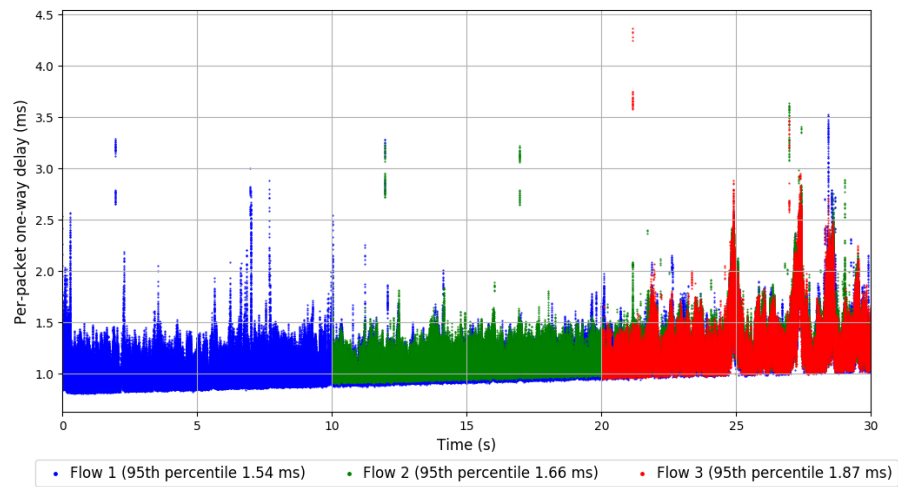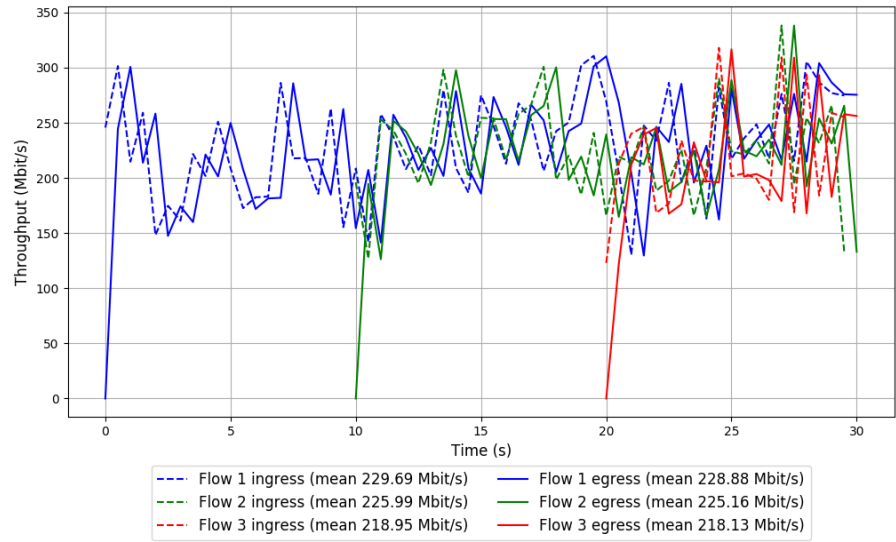
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-07-12 04:45:24
End at: 2019-07-12 04:45:54
Local clock offset: 0.328 ms
Remote clock offset: 0.589 ms


# Below is generated by plot.py at 2019-07-12 07:13:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 477.80 Mbit/s
95th percentile per-packet one-way delay: 1.238 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 236.70 Mbit/s
95th percentile per-packet one-way delay: 1.228 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 248.01 Mbit/s
95th percentile per-packet one-way delay: 1.238 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 228.11 Mbit/s
95th percentile per-packet one-way delay: 1.271 ms
Loss rate: 0.35%
```
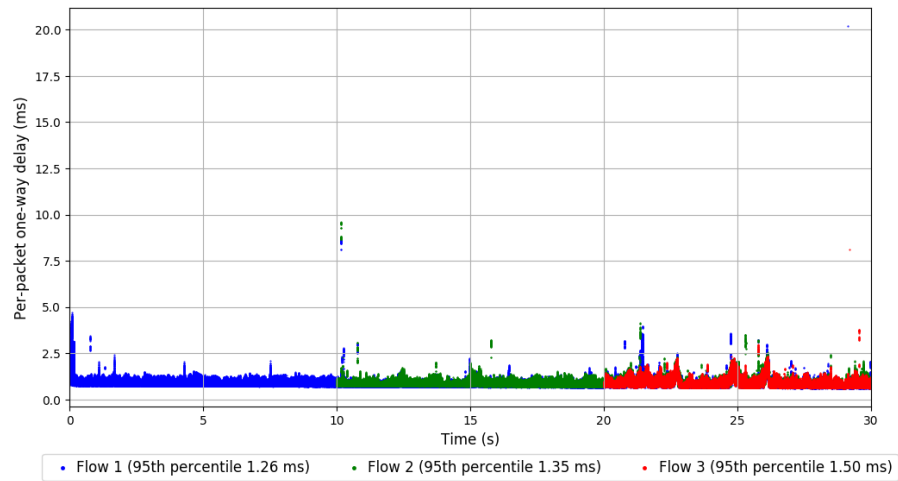
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 237.55 Mbit/s)   Flow 1 egress (mean 236.70 Mbit/s)
Flow 2 ingress (mean 248.77 Mbit/s)   Flow 2 egress (mean 248.01 Mbit/s)
Flow 3 ingress (mean 228.91 Mbit/s)   Flow 3 egress (mean 228.11 Mbit/s)

Flow 1 (95th percentile 1.23 ms)   Flow 2 (95th percentile 1.24 ms)   Flow 3 (95th percentile 1.27 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2019-07-12 05:18:55
End at: 2019-07-12 05:19:25
Local clock offset: -1.19 ms
Remote clock offset: 2.711 ms


# Below is generated by plot.py at 2019-07-12 07:13:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 487.14 Mbit/s
95th percentile per-packet one-way delay: 1.224 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 247.06 Mbit/s
95th percentile per-packet one-way delay: 1.236 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 252.20 Mbit/s
95th percentile per-packet one-way delay: 1.222 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 216.95 Mbit/s
95th percentile per-packet one-way delay: 1.191 ms
Loss rate: 0.39%
```
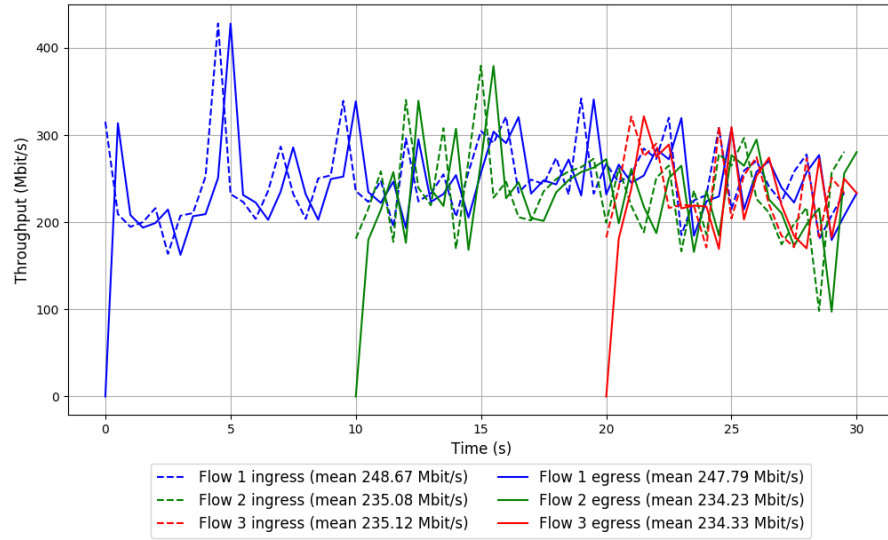
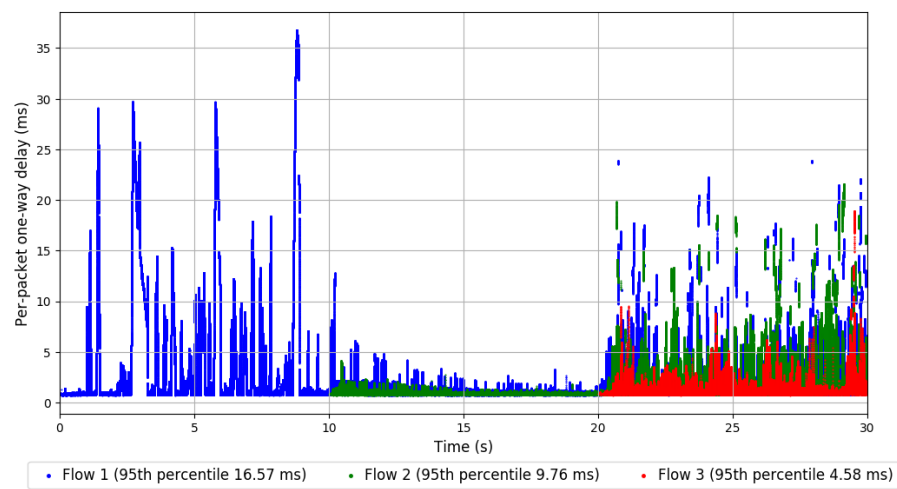Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2019-07-12 05:52:10
End at: 2019-07-12 05:52:40
Local clock offset: -0.088 ms
Remote clock offset: -1.089 ms


# Below is generated by plot.py at 2019-07-12 07:14:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 451.46 Mbit/s
95th percentile per-packet one-way delay: 1.648 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 228.88 Mbit/s
95th percentile per-packet one-way delay: 1.537 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 225.16 Mbit/s
95th percentile per-packet one-way delay: 1.659 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 218.13 Mbit/s
95th percentile per-packet one-way delay: 1.874 ms
Loss rate: 0.37%
```
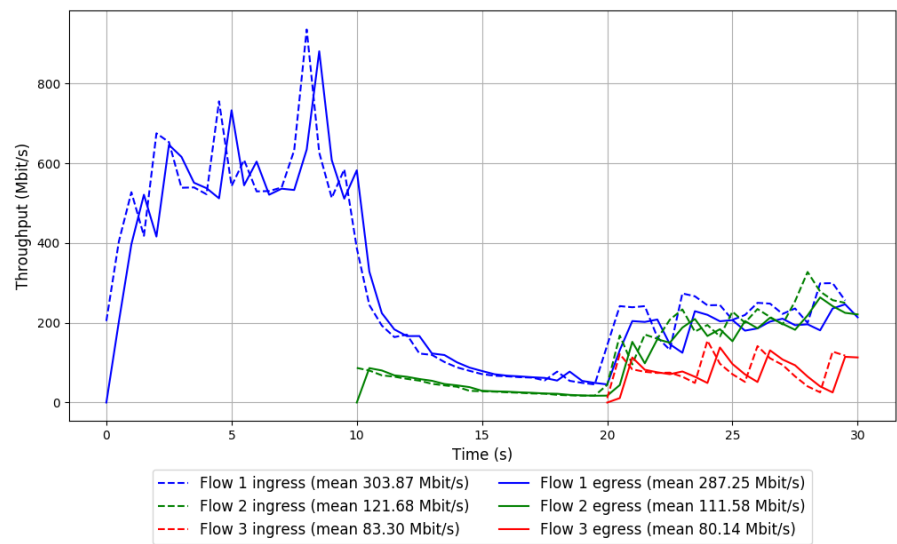
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-07-12 06:25:32
End at: 2019-07-12 06:26:02
Local clock offset: 0.023 ms
Remote clock offset: -3.002 ms


# Below is generated by plot.py at 2019-07-12 07:14:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 481.90 Mbit/s
95th percentile per-packet one-way delay: 1.337 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 247.79 Mbit/s
95th percentile per-packet one-way delay: 1.260 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 234.23 Mbit/s
95th percentile per-packet one-way delay: 1.347 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 234.33 Mbit/s
95th percentile per-packet one-way delay: 1.498 ms
Loss rate: 0.34%
```
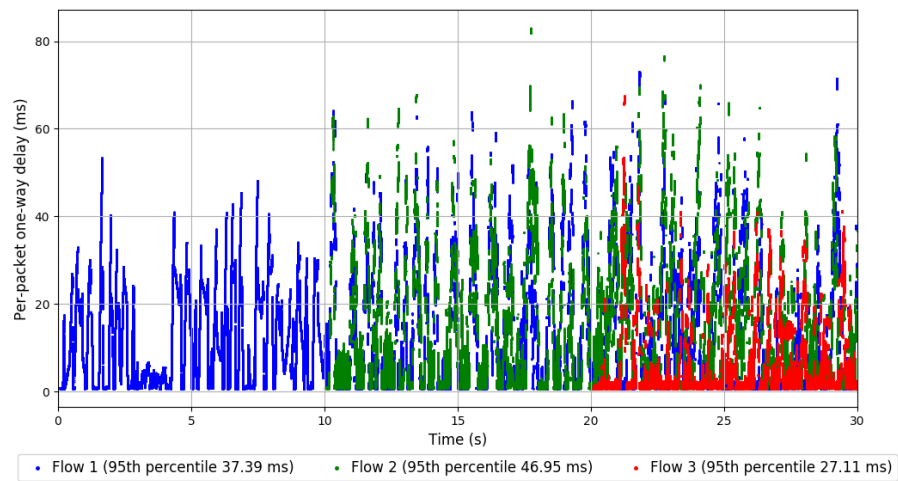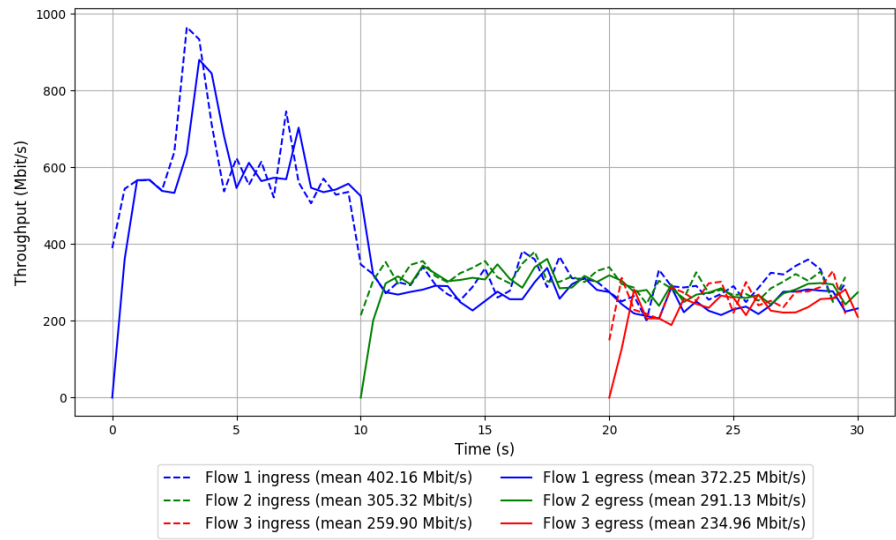
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 248.67 Mbit/s) — Flow 1 egress (mean 247.79 Mbit/s)
Flow 2 ingress (mean 235.08 Mbit/s) — Flow 2 egress (mean 234.23 Mbit/s)
Flow 3 ingress (mean 235.12 Mbit/s) — Flow 3 egress (mean 234.33 Mbit/s)

Flow 1 (95th percentile 1.26 ms)   Flow 2 (95th percentile 1.35 ms)   Flow 3 (95th percentile 1.50 ms)

34

```
Run 1: Statistics of FillP

Start at: 2019-07-12 04:23:34
End at: 2019-07-12 04:24:04
Local clock offset: 3.422 ms
Remote clock offset: -0.161 ms


# Below is generated by plot.py at 2019-07-12 07:15:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 388.01 Mbit/s
95th percentile per-packet one-way delay: 14.210 ms
Loss rate: 5.89%
-- Flow 1:
Average throughput: 287.25 Mbit/s
95th percentile per-packet one-way delay: 16.568 ms
Loss rate: 5.43%
-- Flow 2:
Average throughput: 111.58 Mbit/s
95th percentile per-packet one-way delay: 9.756 ms
Loss rate: 8.31%
-- Flow 3:
Average throughput: 80.14 Mbit/s
95th percentile per-packet one-way delay: 4.579 ms
Loss rate: 3.79%
```
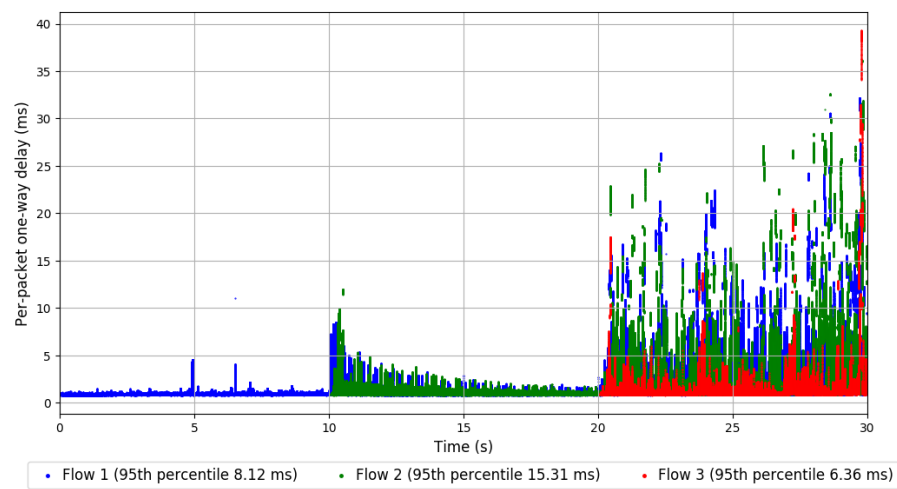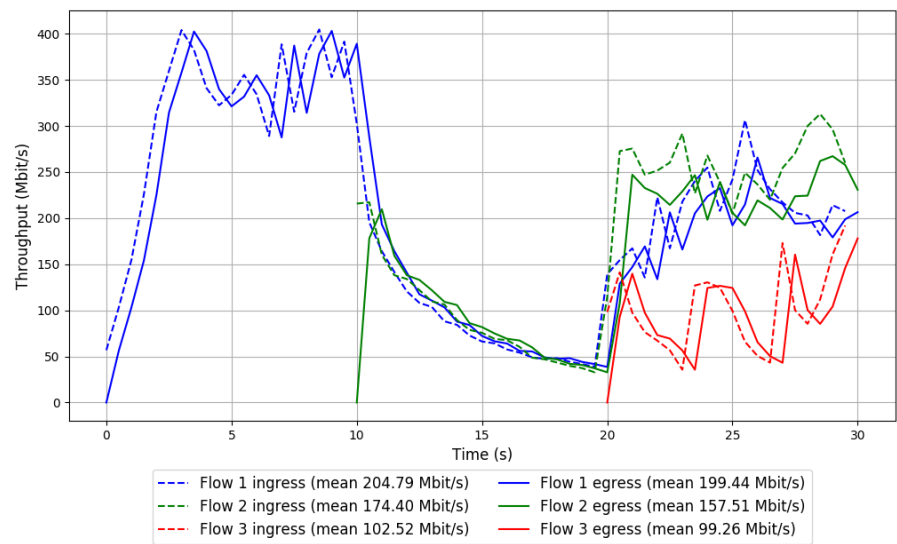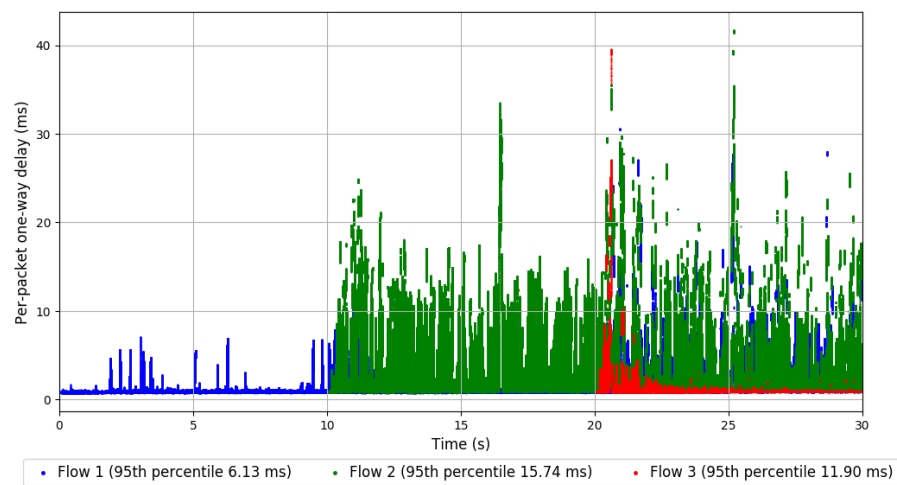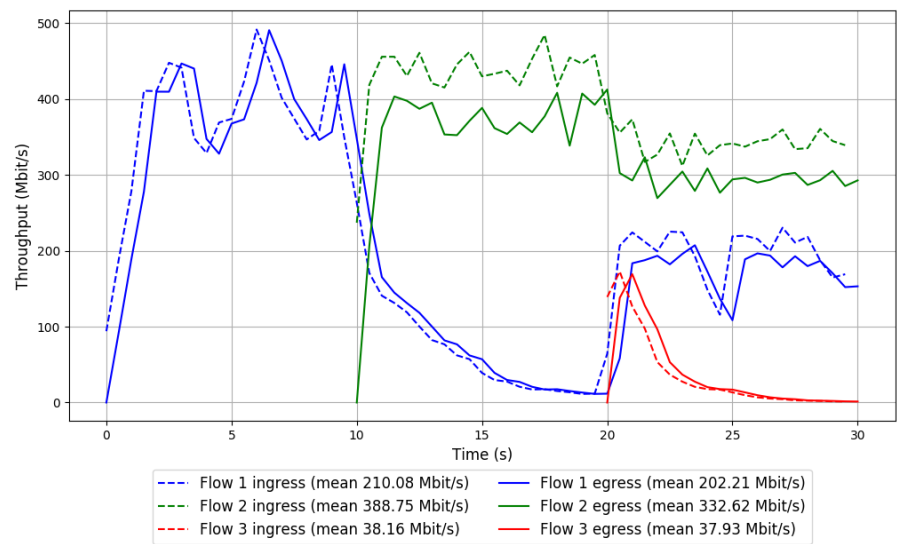
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 303.87 Mbit/s) ----- Flow 1 egress (mean 287.25 Mbit/s) ——
Flow 2 ingress (mean 121.68 Mbit/s) ----- Flow 2 egress (mean 111.58 Mbit/s) ——
Flow 3 ingress (mean 83.30 Mbit/s) ----- Flow 3 egress (mean 80.14 Mbit/s) ——

• Flow 1 (95th percentile 16.57 ms)   • Flow 2 (95th percentile 9.76 ms)   • Flow 3 (95th percentile 4.58 ms)

```
Run 2: Statistics of FillP

Start at: 2019-07-12 04:56:51
End at: 2019-07-12 04:57:21
Local clock offset: -0.347 ms
Remote clock offset: 1.092 ms


# Below is generated by plot.py at 2019-07-12 07:22:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 644.05 Mbit/s
95th percentile per-packet one-way delay: 40.130 ms
Loss rate: 6.88%
-- Flow 1:
Average throughput: 372.25 Mbit/s
95th percentile per-packet one-way delay: 37.386 ms
Loss rate: 7.44%
-- Flow 2:
Average throughput: 291.13 Mbit/s
95th percentile per-packet one-way delay: 46.950 ms
Loss rate: 4.64%
-- Flow 3:
Average throughput: 234.96 Mbit/s
95th percentile per-packet one-way delay: 27.108 ms
Loss rate: 9.60%
```
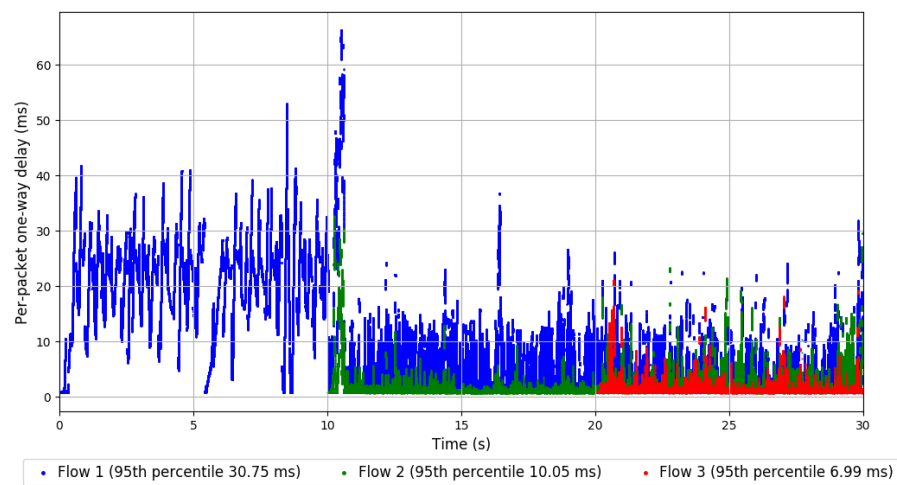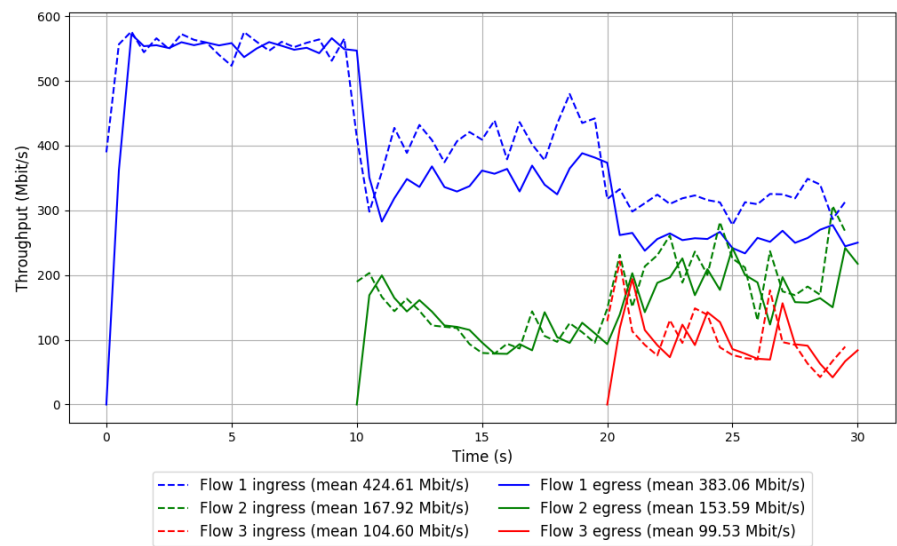
Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 402.16 Mbit/s)   Flow 1 egress (mean 372.25 Mbit/s)
Flow 2 ingress (mean 305.32 Mbit/s)   Flow 2 egress (mean 291.13 Mbit/s)
Flow 3 ingress (mean 259.90 Mbit/s)   Flow 3 egress (mean 234.96 Mbit/s)

Flow 1 (95th percentile 37.39 ms)   Flow 2 (95th percentile 46.95 ms)   Flow 3 (95th percentile 27.11 ms)

```
Run 3: Statistics of FillP

Start at: 2019-07-12 05:30:22
End at: 2019-07-12 05:30:52
Local clock offset: -1.254 ms
Remote clock offset: 3.475 ms


# Below is generated by plot.py at 2019-07-12 07:22:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 337.07 Mbit/s
95th percentile per-packet one-way delay: 10.848 ms
Loss rate: 4.94%
-- Flow 1:
Average throughput: 199.44 Mbit/s
95th percentile per-packet one-way delay: 8.116 ms
Loss rate: 2.59%
-- Flow 2:
Average throughput: 157.51 Mbit/s
95th percentile per-packet one-way delay: 15.309 ms
Loss rate: 9.62%
-- Flow 3:
Average throughput: 99.26 Mbit/s
95th percentile per-packet one-way delay: 6.362 ms
Loss rate: 3.18%
```

Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-07-12 06:03:37
End at: 2019-07-12 06:04:07
Local clock offset: 0.008 ms
Remote clock offset: -4.462 ms


# Below is generated by plot.py at 2019-07-12 07:22:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 436.25 Mbit/s
95th percentile per-packet one-way delay: 13.485 ms
Loss rate: 9.40%
-- Flow 1:
Average throughput: 202.21 Mbit/s
95th percentile per-packet one-way delay: 6.128 ms
Loss rate: 3.71%
-- Flow 2:
Average throughput: 332.62 Mbit/s
95th percentile per-packet one-way delay: 15.737 ms
Loss rate: 14.44%
-- Flow 3:
Average throughput: 37.93 Mbit/s
95th percentile per-packet one-way delay: 11.900 ms
Loss rate: 0.62%
```
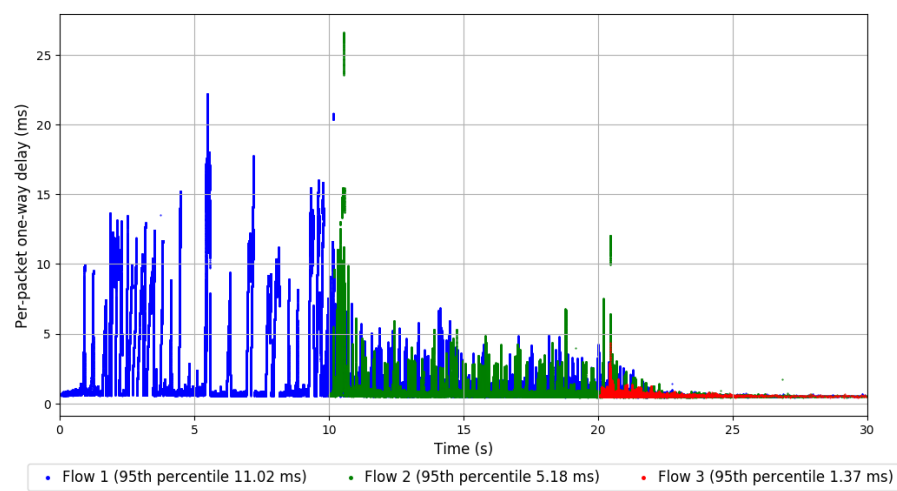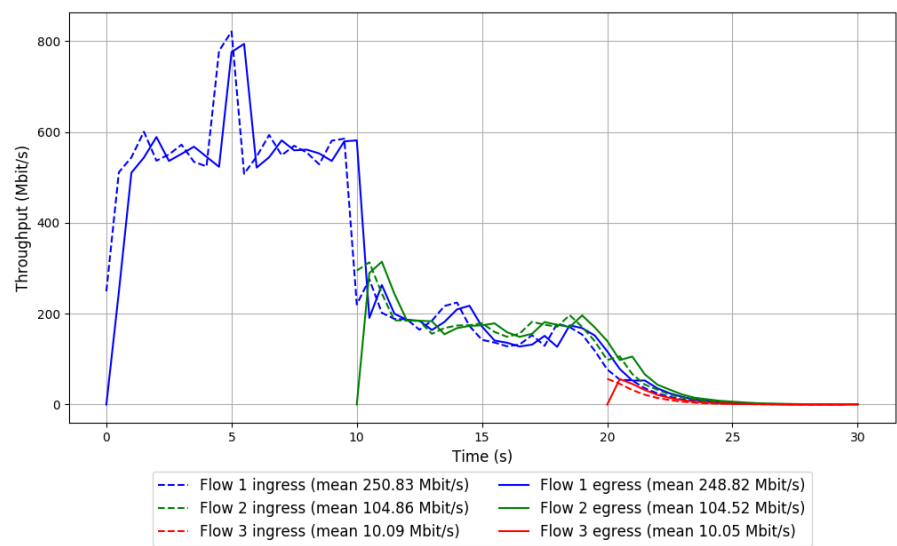
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2019-07-12 06:37:07
End at: 2019-07-12 06:37:37
Local clock offset: -0.002 ms
Remote clock offset: -1.097 ms


# Below is generated by plot.py at 2019-07-12 07:22:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 518.25 Mbit/s
95th percentile per-packet one-way delay: 29.059 ms
Loss rate: 9.18%
-- Flow 1:
Average throughput: 383.06 Mbit/s
95th percentile per-packet one-way delay: 30.747 ms
Loss rate: 9.72%
-- Flow 2:
Average throughput: 153.59 Mbit/s
95th percentile per-packet one-way delay: 10.052 ms
Loss rate: 8.48%
-- Flow 3:
Average throughput: 99.53 Mbit/s
95th percentile per-packet one-way delay: 6.987 ms
Loss rate: 4.81%
```
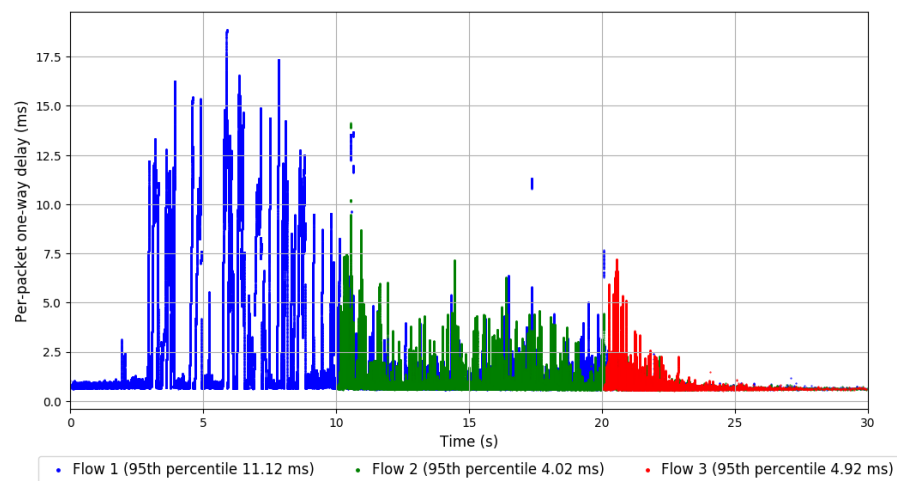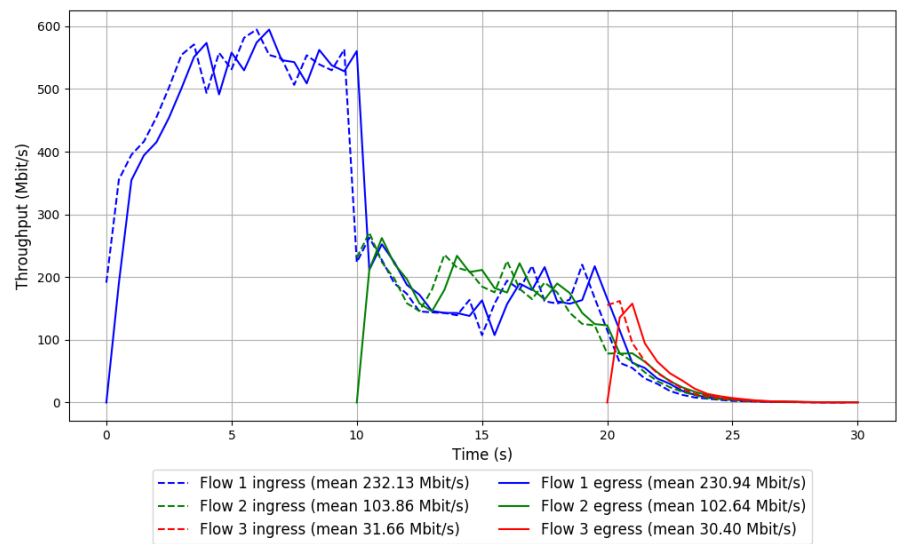
Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-07-12 04:39:52
End at: 2019-07-12 04:40:22
Local clock offset: 0.897 ms
Remote clock offset: 0.053 ms


# Below is generated by plot.py at 2019-07-12 07:22:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 321.57 Mbit/s
95th percentile per-packet one-way delay: 10.500 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 248.82 Mbit/s
95th percentile per-packet one-way delay: 11.023 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 104.52 Mbit/s
95th percentile per-packet one-way delay: 5.182 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 10.05 Mbit/s
95th percentile per-packet one-way delay: 1.367 ms
Loss rate: 0.40%
```
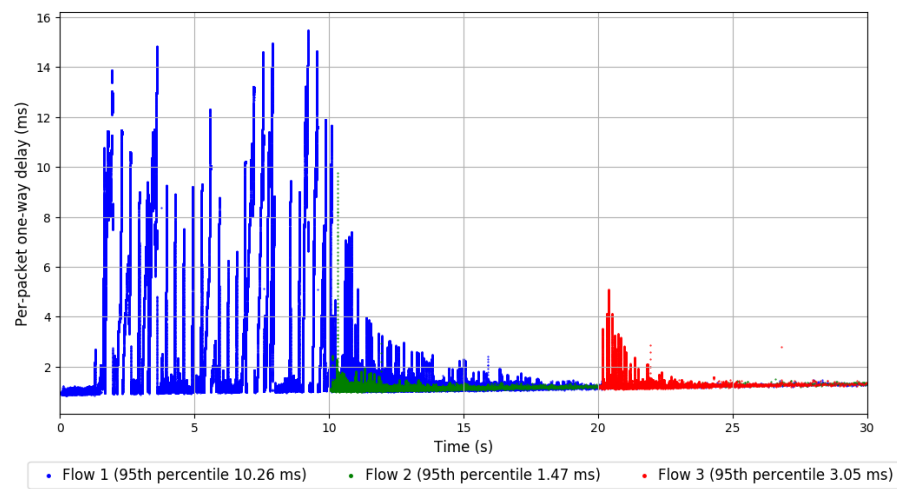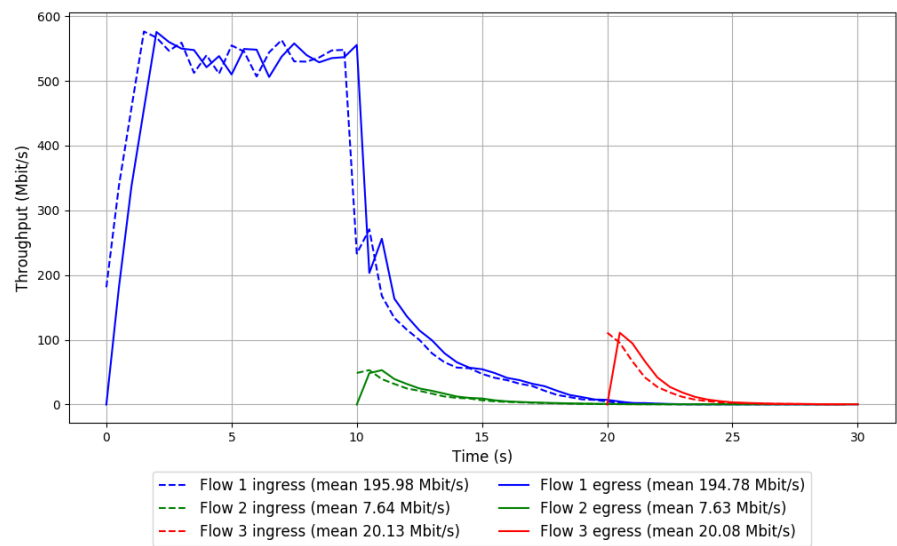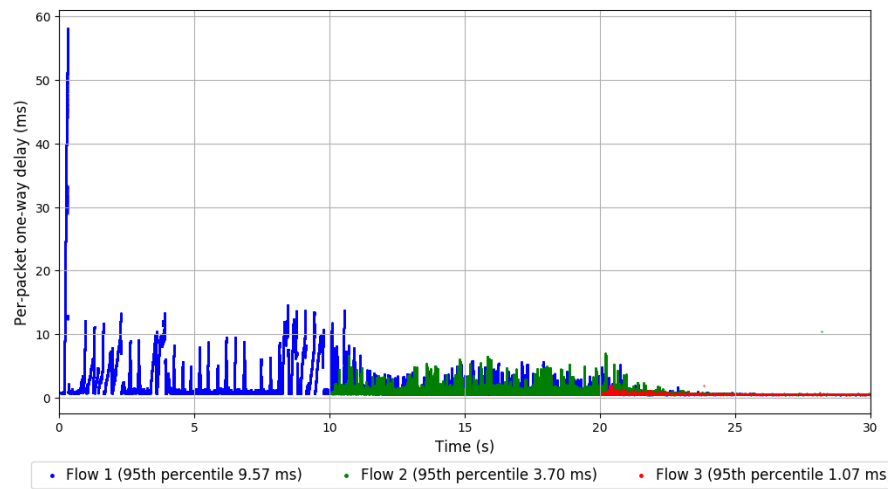
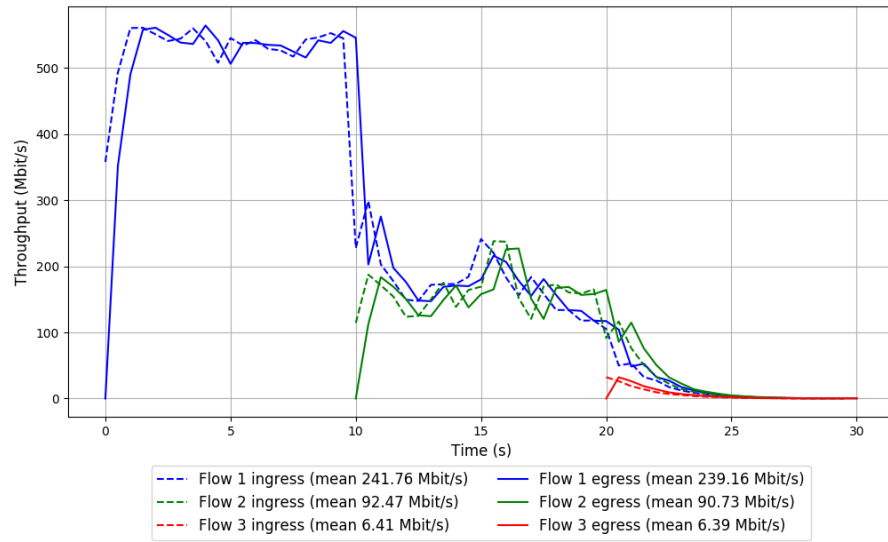Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-07-12 05:13:24
End at: 2019-07-12 05:13:54
Local clock offset: -1.03 ms
Remote clock offset: 1.968 ms


# Below is generated by plot.py at 2019-07-12 07:22:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 309.13 Mbit/s
95th percentile per-packet one-way delay: 10.551 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 230.94 Mbit/s
95th percentile per-packet one-way delay: 11.117 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 102.64 Mbit/s
95th percentile per-packet one-way delay: 4.016 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 30.40 Mbit/s
95th percentile per-packet one-way delay: 4.919 ms
Loss rate: 3.99%
```

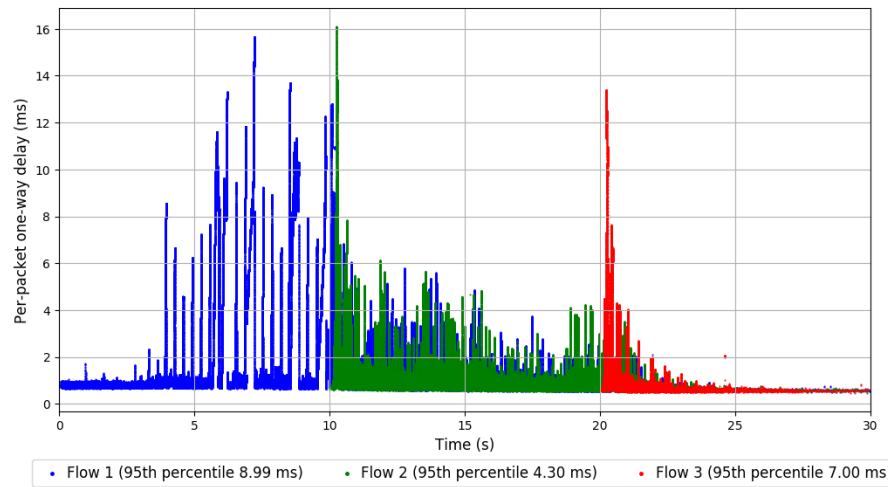# Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-07-12 05:46:44
End at: 2019-07-12 05:47:14
Local clock offset: -0.149 ms
Remote clock offset: 2.029 ms

# Below is generated by plot.py at 2019-07-12 07:22:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 206.37 Mbit/s
95th percentile per-packet one-way delay: 10.174 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 194.78 Mbit/s
95th percentile per-packet one-way delay: 10.260 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 7.63 Mbit/s
95th percentile per-packet one-way delay: 1.466 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 20.08 Mbit/s
95th percentile per-packet one-way delay: 3.052 ms
Loss rate: 0.22%
```
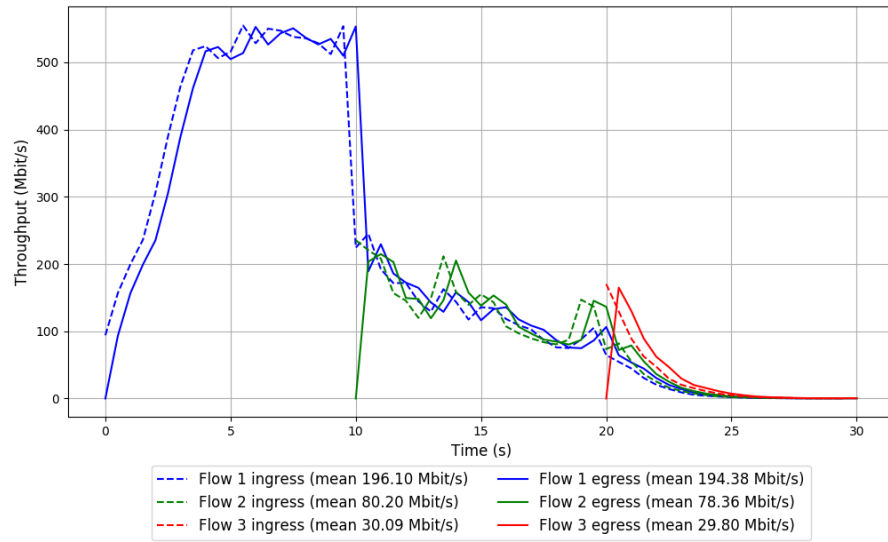
Run 3: Report of FillP-Sheep — Data Link

- - - Flow 1 ingress (mean 195.98 Mbit/s) ——— Flow 1 egress (mean 194.78 Mbit/s)
- - - Flow 2 ingress (mean 7.64 Mbit/s) ——— Flow 2 egress (mean 7.63 Mbit/s)
- - - Flow 3 ingress (mean 20.13 Mbit/s) ——— Flow 3 egress (mean 20.08 Mbit/s)

• Flow 1 (95th percentile 10.26 ms)   • Flow 2 (95th percentile 1.47 ms)   • Flow 3 (95th percentile 3.05 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-07-12 06:20:02
End at: 2019-07-12 06:20:32
Local clock offset: 0.041 ms
Remote clock offset: -5.492 ms


# Below is generated by plot.py at 2019-07-12 07:22:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 301.56 Mbit/s
95th percentile per-packet one-way delay: 9.092 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 239.16 Mbit/s
95th percentile per-packet one-way delay: 9.568 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 90.73 Mbit/s
95th percentile per-packet one-way delay: 3.699 ms
Loss rate: 1.89%
-- Flow 3:
Average throughput: 6.39 Mbit/s
95th percentile per-packet one-way delay: 1.066 ms
Loss rate: 0.25%
```
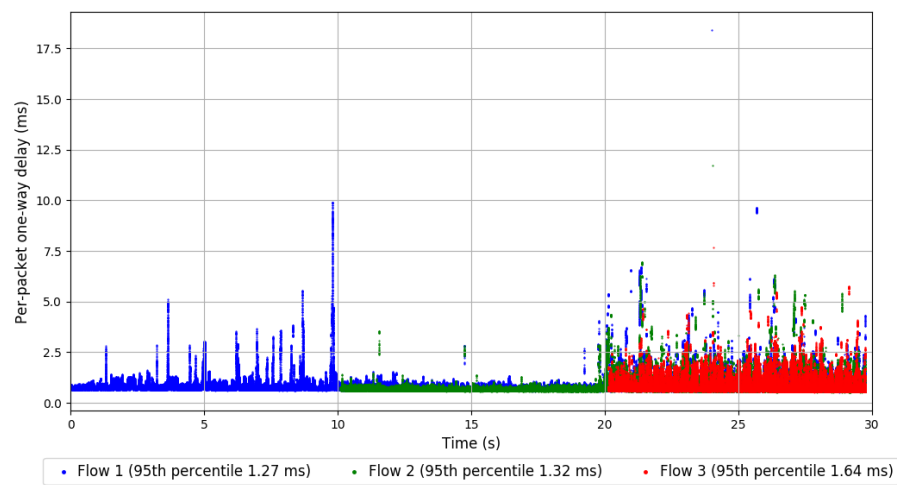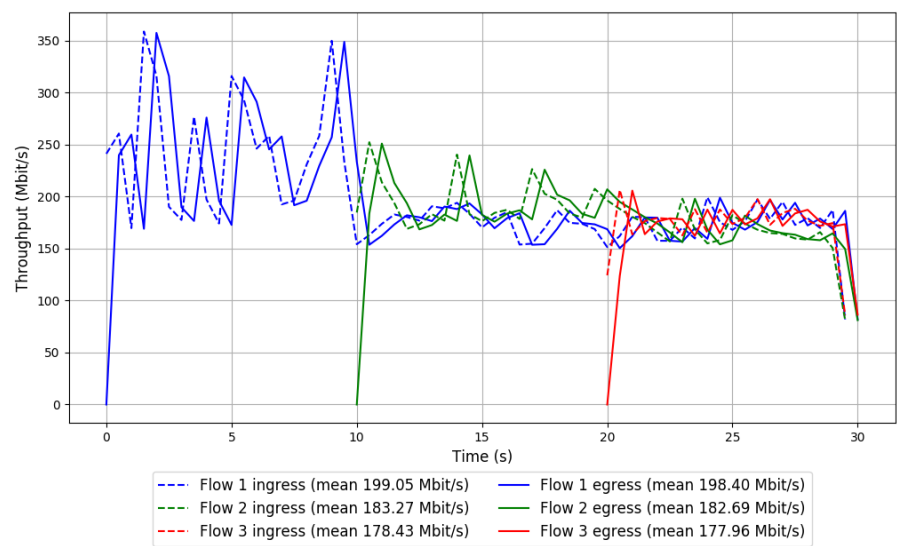
Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 241.76 Mbit/s) Flow 1 egress (mean 239.16 Mbit/s)
Flow 2 ingress (mean 92.47 Mbit/s)   Flow 2 egress (mean 90.73 Mbit/s)
Flow 3 ingress (mean 6.41 Mbit/s)   Flow 3 egress (mean 6.39 Mbit/s)

Flow 1 (95th percentile 9.57 ms)   Flow 2 (95th percentile 3.70 ms)   Flow 3 (95th percentile 1.07 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-07-12 06:53:25
End at: 2019-07-12 06:53:55
Local clock offset: 0.009 ms
Remote clock offset: -0.444 ms


# Below is generated by plot.py at 2019-07-12 07:22:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 256.35 Mbit/s
95th percentile per-packet one-way delay: 8.563 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 194.38 Mbit/s
95th percentile per-packet one-way delay: 8.992 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 78.36 Mbit/s
95th percentile per-packet one-way delay: 4.298 ms
Loss rate: 2.30%
-- Flow 3:
Average throughput: 29.80 Mbit/s
95th percentile per-packet one-way delay: 7.000 ms
Loss rate: 0.96%
```
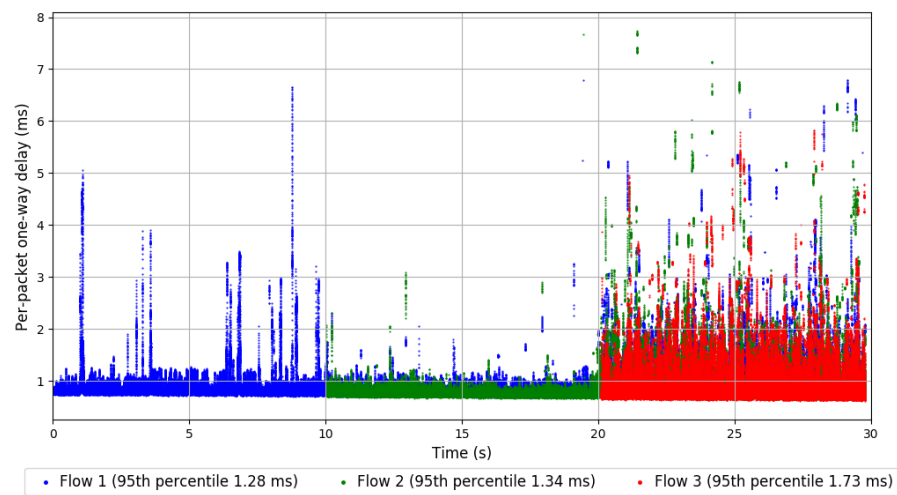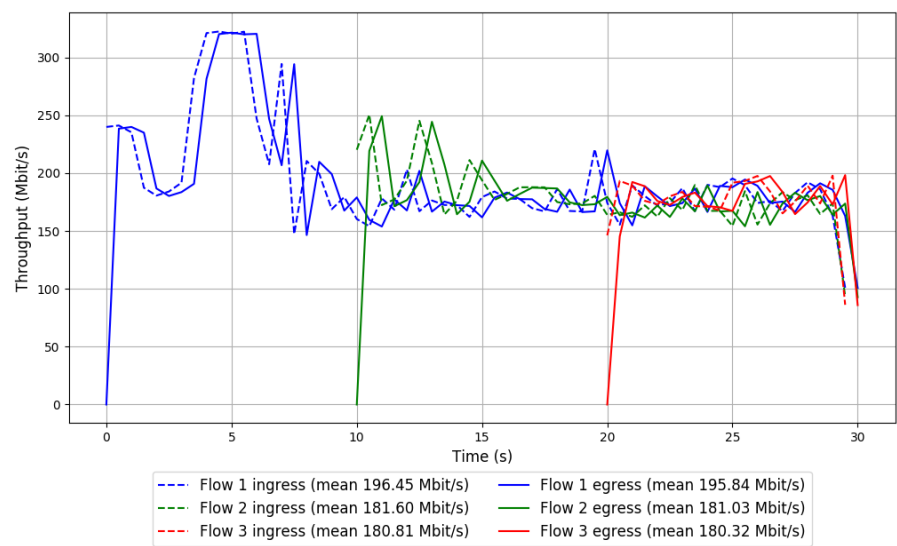
Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 196.10 Mbit/s) --- Flow 1 egress (mean 194.38 Mbit/s)
Flow 2 ingress (mean 80.20 Mbit/s) --- Flow 2 egress (mean 78.36 Mbit/s)
Flow 3 ingress (mean 30.09 Mbit/s) --- Flow 3 egress (mean 29.80 Mbit/s)

Flow 1 (95th percentile 8.99 ms)   Flow 2 (95th percentile 4.30 ms)   Flow 3 (95th percentile 7.00 ms)

```
Run 1: Statistics of Indigo

Start at: 2019-07-12 04:41:15
End at: 2019-07-12 04:41:45
Local clock offset: 0.751 ms
Remote clock offset: 0.281 ms


# Below is generated by plot.py at 2019-07-12 07:22:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 376.74 Mbit/s
95th percentile per-packet one-way delay: 1.360 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 198.40 Mbit/s
95th percentile per-packet one-way delay: 1.274 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 182.69 Mbit/s
95th percentile per-packet one-way delay: 1.319 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 177.96 Mbit/s
95th percentile per-packet one-way delay: 1.636 ms
Loss rate: 0.27%
```
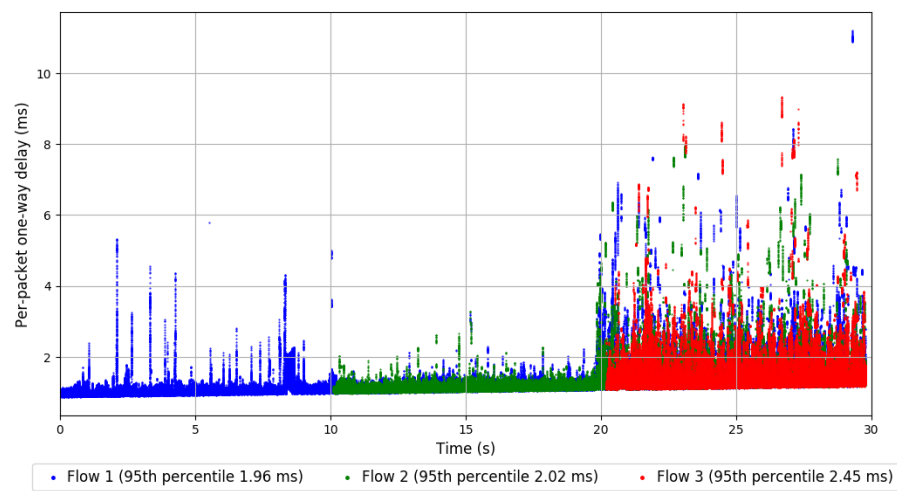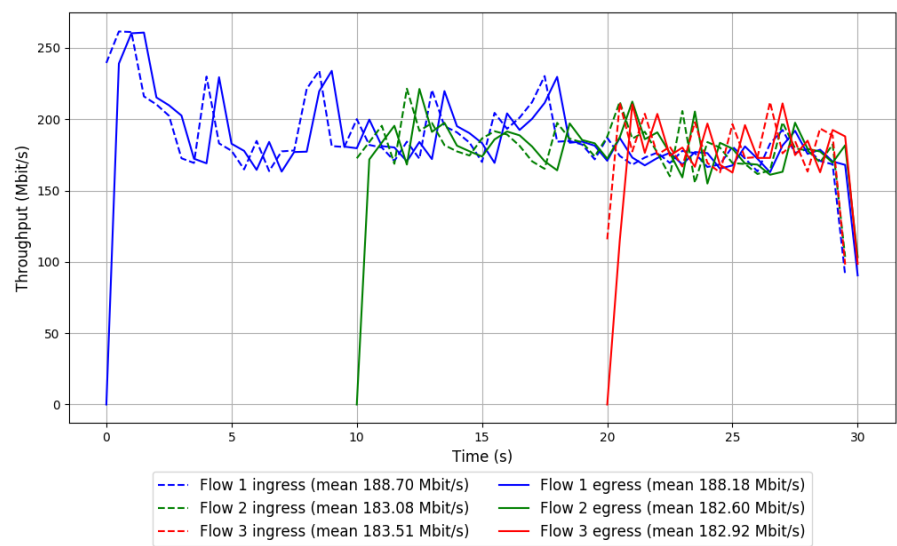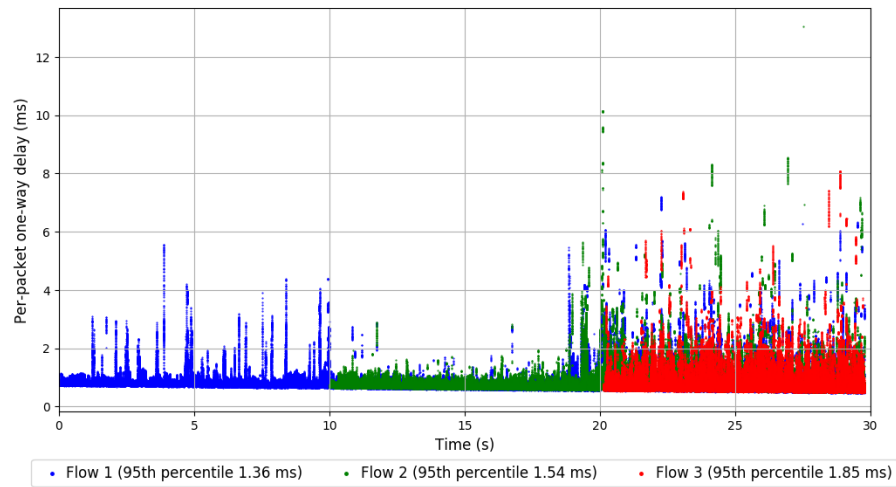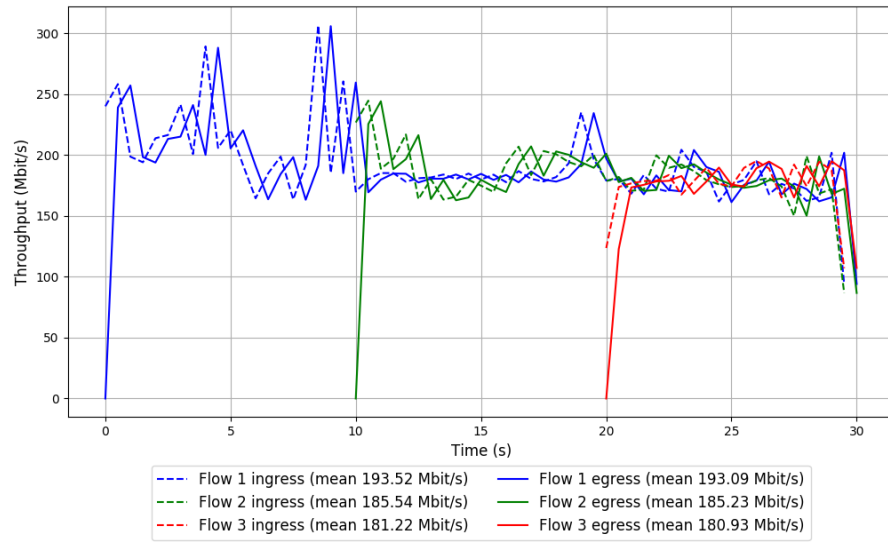
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-07-12 05:14:47
End at: 2019-07-12 05:15:17
Local clock offset: -1.111 ms
Remote clock offset: 2.192 ms


# Below is generated by plot.py at 2019-07-12 07:22:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 374.68 Mbit/s
95th percentile per-packet one-way delay: 1.402 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 195.84 Mbit/s
95th percentile per-packet one-way delay: 1.278 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 181.03 Mbit/s
95th percentile per-packet one-way delay: 1.338 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 180.32 Mbit/s
95th percentile per-packet one-way delay: 1.730 ms
Loss rate: 0.27%
```
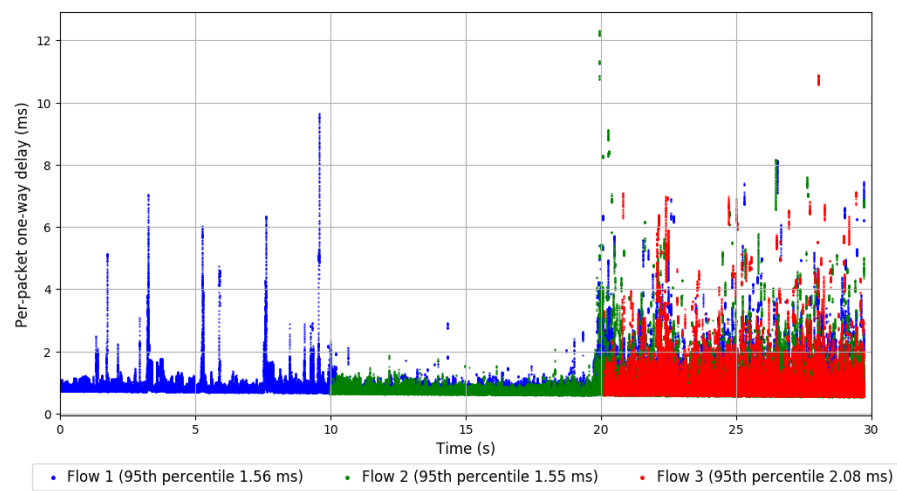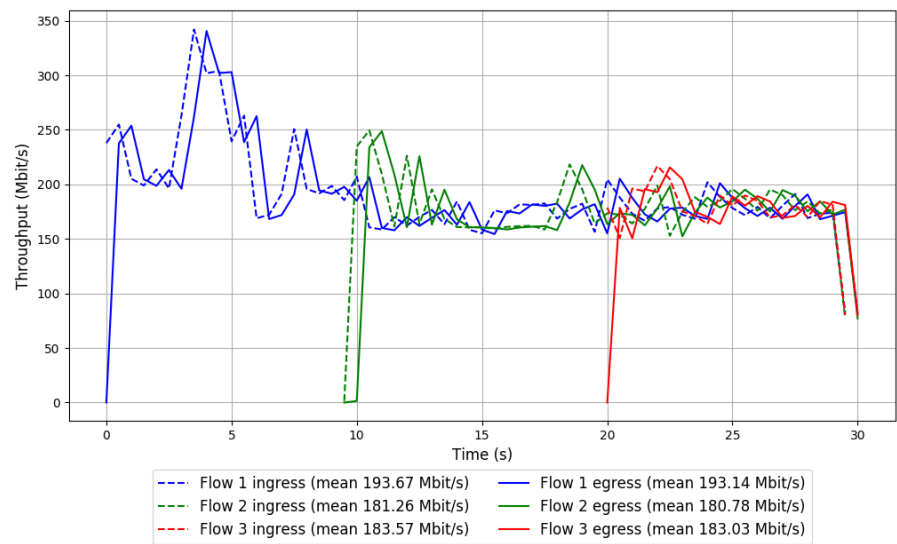
Run 2: Report of Indigo — Data Link

Flow 1 ingress (mean 196.45 Mbit/s) --- Flow 1 egress (mean 195.84 Mbit/s) —
Flow 2 ingress (mean 181.60 Mbit/s) --- Flow 2 egress (mean 181.03 Mbit/s) —
Flow 3 ingress (mean 180.81 Mbit/s) --- Flow 3 egress (mean 180.32 Mbit/s) —

Flow 1 (95th percentile 1.28 ms) • Flow 2 (95th percentile 1.34 ms) • Flow 3 (95th percentile 1.73 ms)

```
Run 3: Statistics of Indigo

Start at: 2019-07-12 05:48:04
End at: 2019-07-12 05:48:34
Local clock offset: -0.134 ms
Remote clock offset: 1.082 ms


# Below is generated by plot.py at 2019-07-12 07:23:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 367.76 Mbit/s
95th percentile per-packet one-way delay: 2.067 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 188.18 Mbit/s
95th percentile per-packet one-way delay: 1.960 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 182.60 Mbit/s
95th percentile per-packet one-way delay: 2.015 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 182.92 Mbit/s
95th percentile per-packet one-way delay: 2.453 ms
Loss rate: 0.32%
```
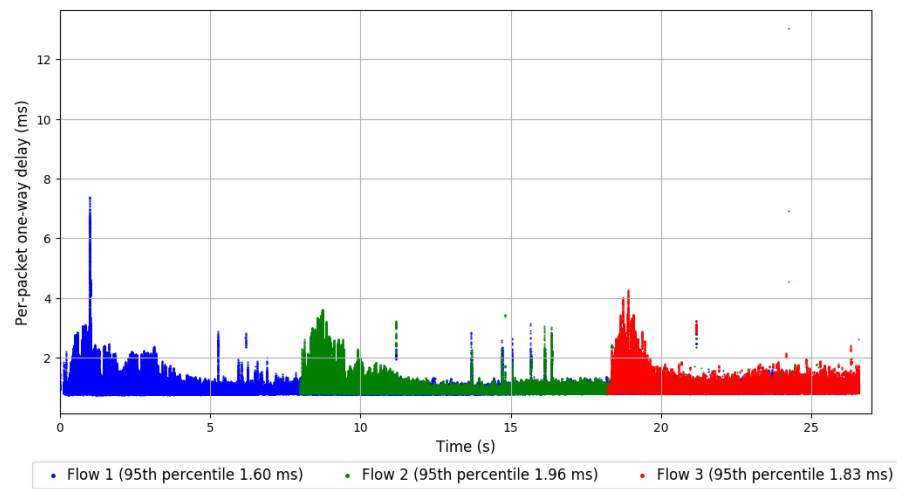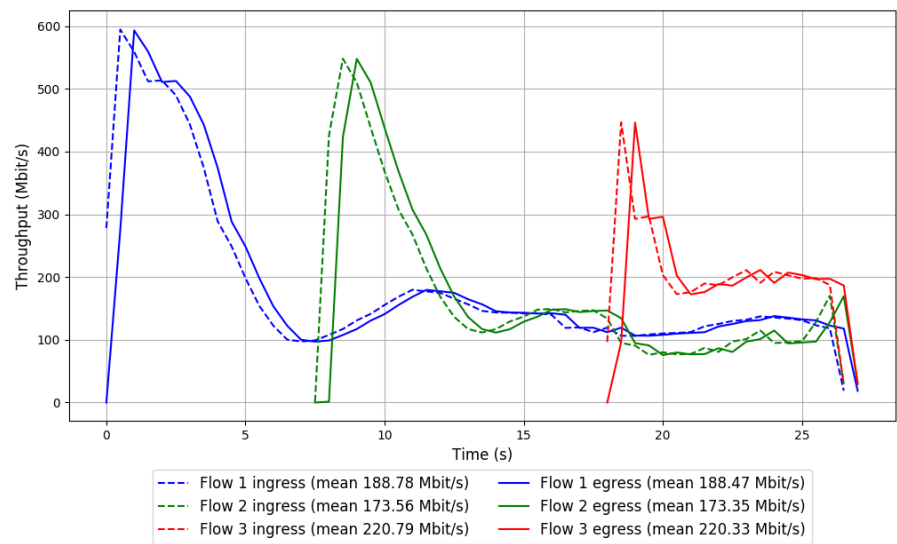
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-07-12 06:21:25
End at: 2019-07-12 06:21:55
Local clock offset: 0.021 ms
Remote clock offset: -4.741 ms


# Below is generated by plot.py at 2019-07-12 07:23:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 374.69 Mbit/s
95th percentile per-packet one-way delay: 1.521 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 193.09 Mbit/s
95th percentile per-packet one-way delay: 1.357 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 185.23 Mbit/s
95th percentile per-packet one-way delay: 1.539 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 180.93 Mbit/s
95th percentile per-packet one-way delay: 1.846 ms
Loss rate: 0.16%
```
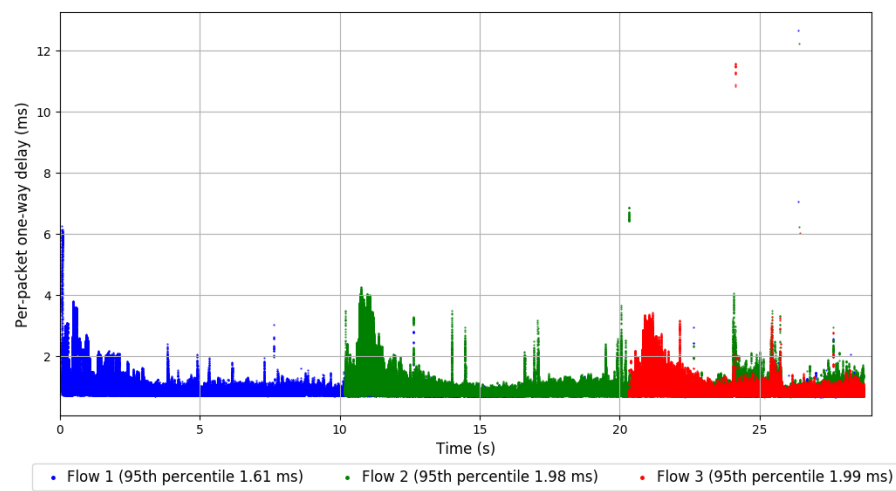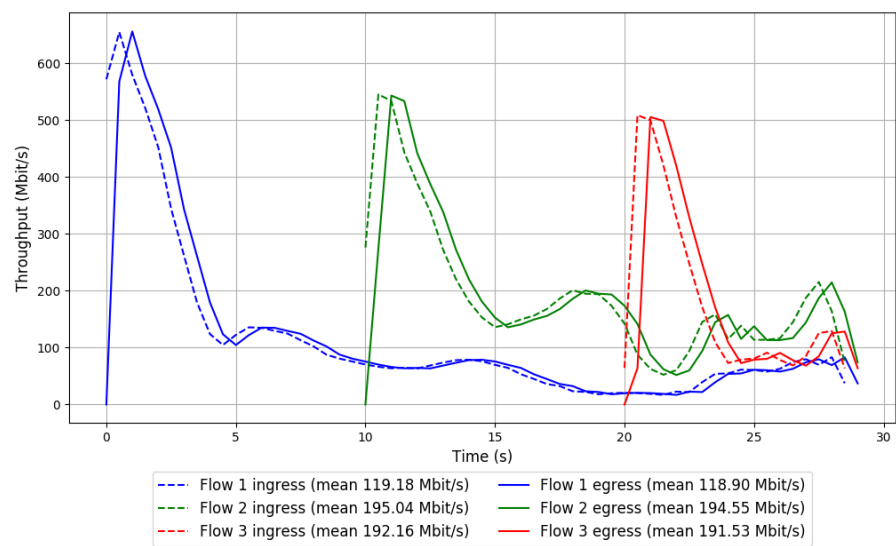
Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 193.52 Mbit/s) --- Flow 1 egress (mean 193.09 Mbit/s) ---
Flow 2 ingress (mean 185.54 Mbit/s) --- Flow 2 egress (mean 185.23 Mbit/s) ---
Flow 3 ingress (mean 181.22 Mbit/s) --- Flow 3 egress (mean 180.93 Mbit/s) ---

Flow 1 (95th percentile 1.36 ms)   Flow 2 (95th percentile 1.54 ms)   Flow 3 (95th percentile 1.85 ms)

```
Run 5: Statistics of Indigo

Start at: 2019-07-12 06:54:47
End at: 2019-07-12 06:55:17
Local clock offset: 0.001 ms
Remote clock offset: 0.058 ms


# Below is generated by plot.py at 2019-07-12 07:24:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 372.51 Mbit/s
95th percentile per-packet one-way delay: 1.644 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 193.14 Mbit/s
95th percentile per-packet one-way delay: 1.559 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 180.78 Mbit/s
95th percentile per-packet one-way delay: 1.552 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 183.03 Mbit/s
95th percentile per-packet one-way delay: 2.083 ms
Loss rate: 0.27%
```
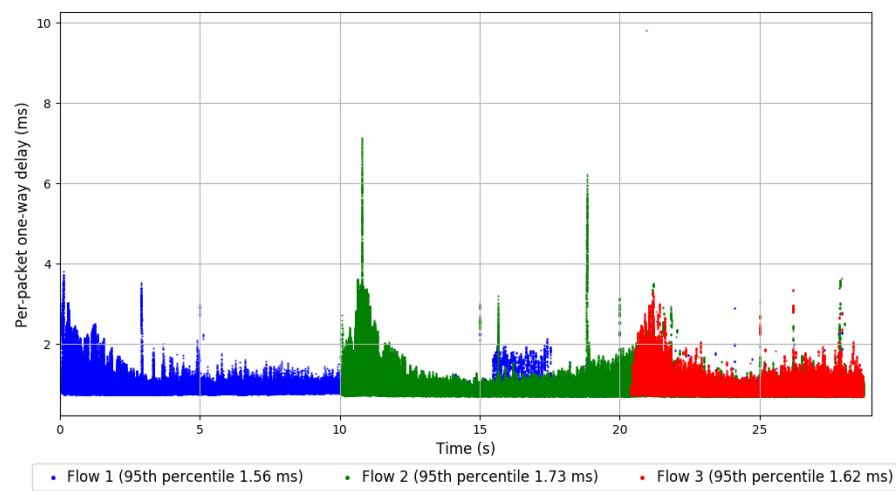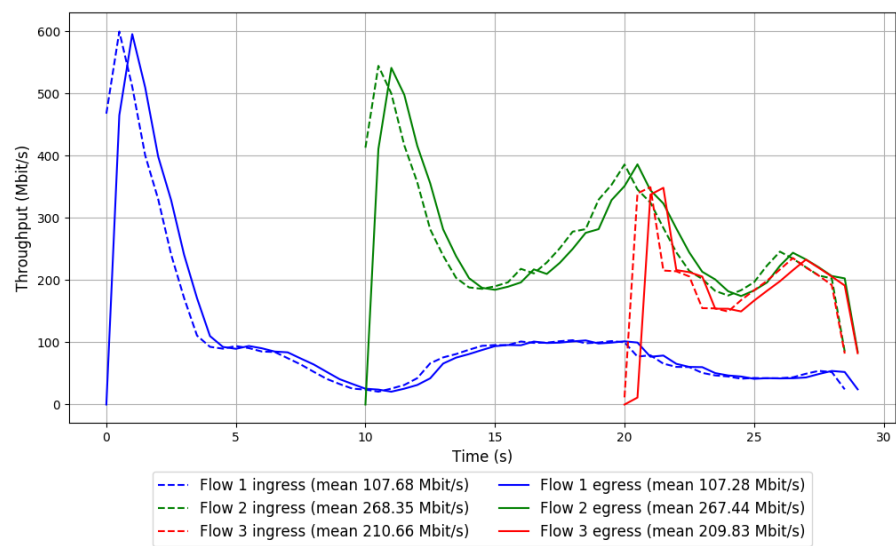
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-07-12 04:19:38
End at: 2019-07-12 04:20:08
Local clock offset: 3.197 ms
Remote clock offset: 0.052 ms


# Below is generated by plot.py at 2019-07-12 07:25:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 378.99 Mbit/s
95th percentile per-packet one-way delay: 1.727 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 188.47 Mbit/s
95th percentile per-packet one-way delay: 1.598 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 173.35 Mbit/s
95th percentile per-packet one-way delay: 1.960 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 220.33 Mbit/s
95th percentile per-packet one-way delay: 1.834 ms
Loss rate: 0.19%
```

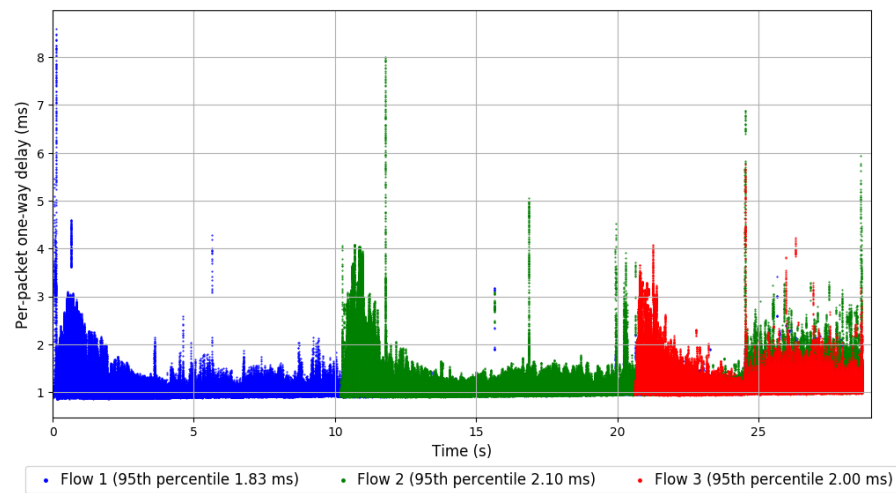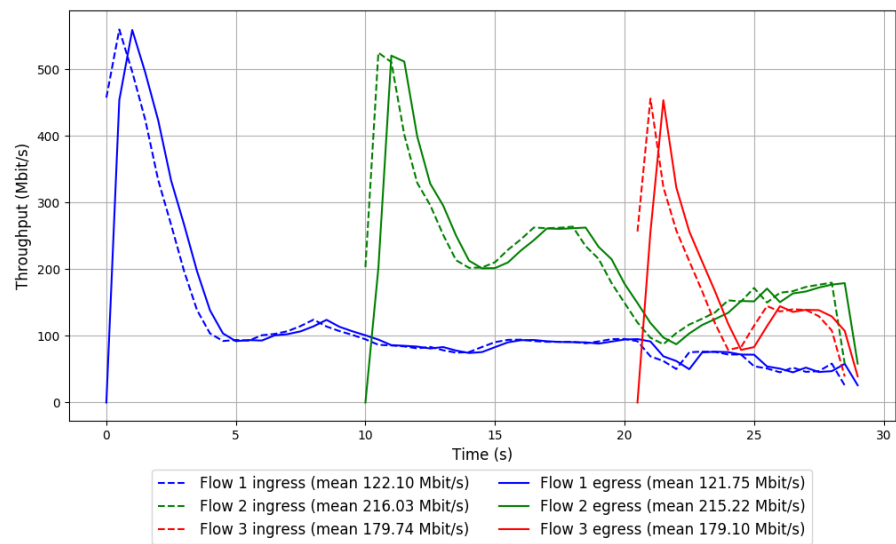Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-07-12 04:52:57
End at: 2019-07-12 04:53:27
Local clock offset: -0.215 ms
Remote clock offset: 0.993 ms


# Below is generated by plot.py at 2019-07-12 07:25:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 300.60 Mbit/s
95th percentile per-packet one-way delay: 1.855 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 118.90 Mbit/s
95th percentile per-packet one-way delay: 1.608 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 194.55 Mbit/s
95th percentile per-packet one-way delay: 1.982 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 191.53 Mbit/s
95th percentile per-packet one-way delay: 1.988 ms
Loss rate: 0.33%
```

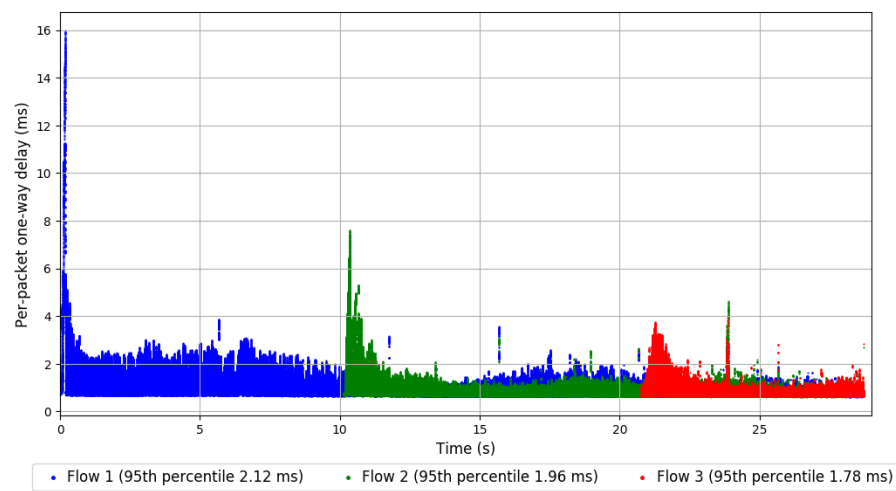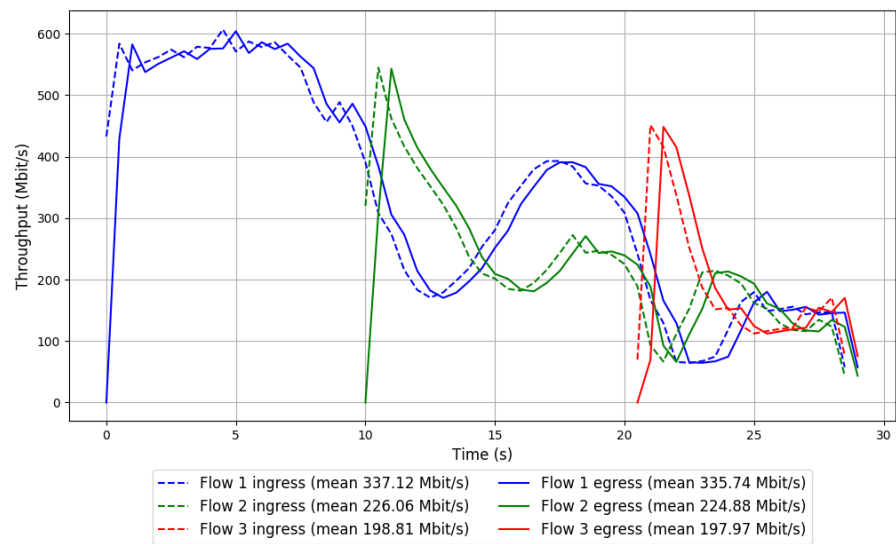Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-07-12 05:26:26
End at: 2019-07-12 05:26:56
Local clock offset: -1.4 ms
Remote clock offset: 3.301 ms


# Below is generated by plot.py at 2019-07-12 07:26:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 341.89 Mbit/s
95th percentile per-packet one-way delay: 1.636 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 107.28 Mbit/s
95th percentile per-packet one-way delay: 1.556 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 267.44 Mbit/s
95th percentile per-packet one-way delay: 1.726 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 209.83 Mbit/s
95th percentile per-packet one-way delay: 1.616 ms
Loss rate: 0.39%
```

Run 3: Report of Indigo-MusesC3 — Data Link

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-07-12 05:59:42
End at: 2019-07-12 06:00:12
Local clock offset: -0.031 ms
Remote clock offset: -3.501 ms


# Below is generated by plot.py at 2019-07-12 07:26:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 310.98 Mbit/s
95th percentile per-packet one-way delay: 1.986 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 121.75 Mbit/s
95th percentile per-packet one-way delay: 1.830 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 215.22 Mbit/s
95th percentile per-packet one-way delay: 2.095 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 179.10 Mbit/s
95th percentile per-packet one-way delay: 2.003 ms
Loss rate: 0.36%
```
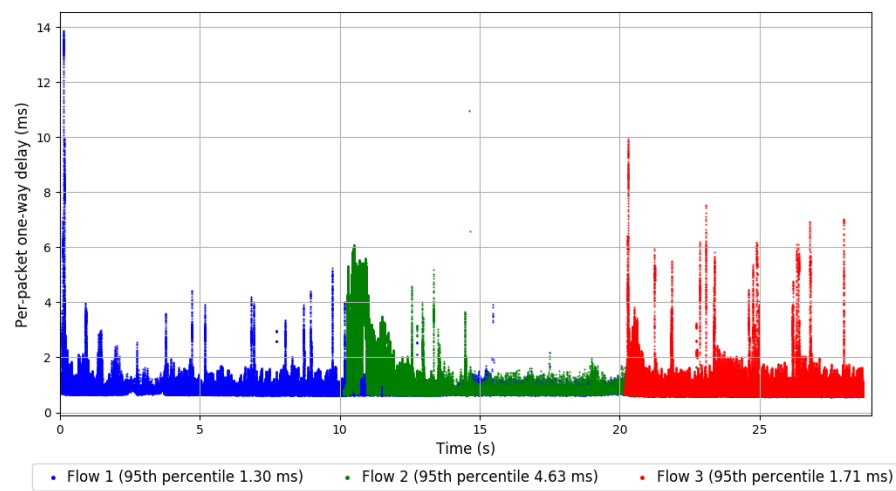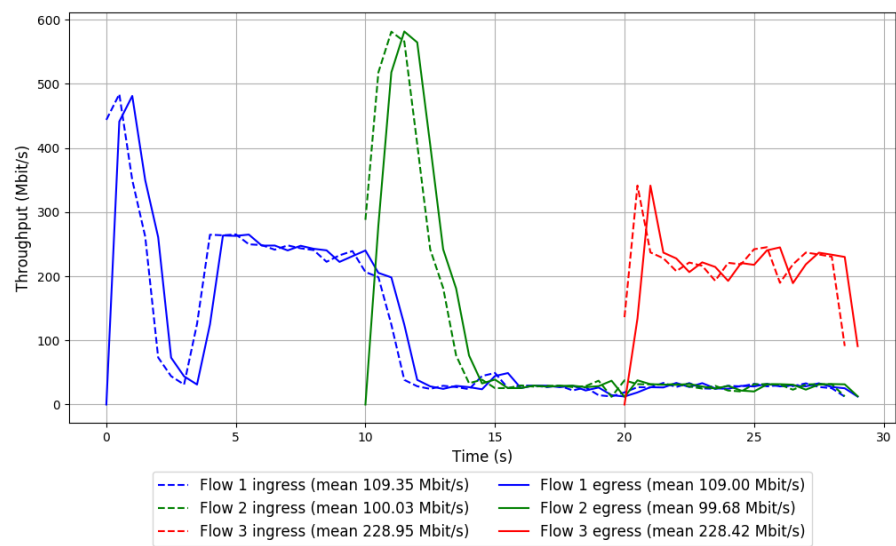
Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-07-12 06:33:05
End at: 2019-07-12 06:33:35
Local clock offset: 0.009 ms
Remote clock offset: -1.568 ms


# Below is generated by plot.py at 2019-07-12 07:29:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 536.07 Mbit/s
95th percentile per-packet one-way delay: 2.072 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 335.74 Mbit/s
95th percentile per-packet one-way delay: 2.123 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 224.88 Mbit/s
95th percentile per-packet one-way delay: 1.956 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 197.97 Mbit/s
95th percentile per-packet one-way delay: 1.784 ms
Loss rate: 0.41%
```
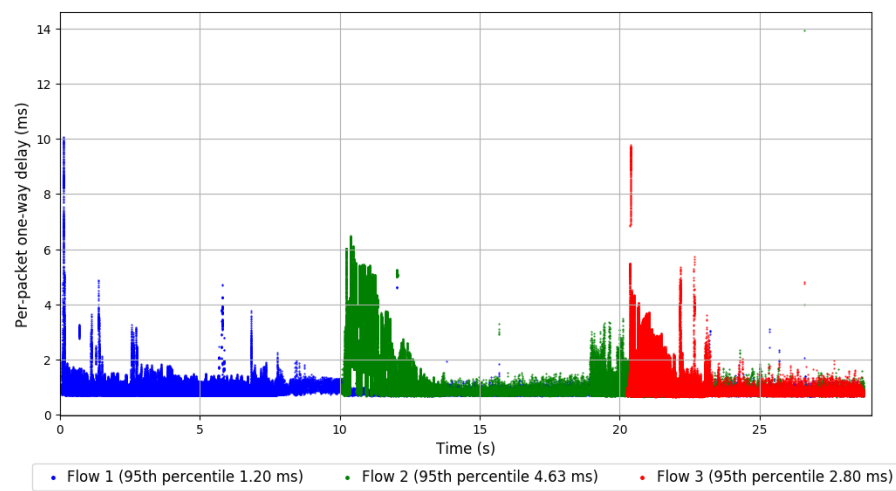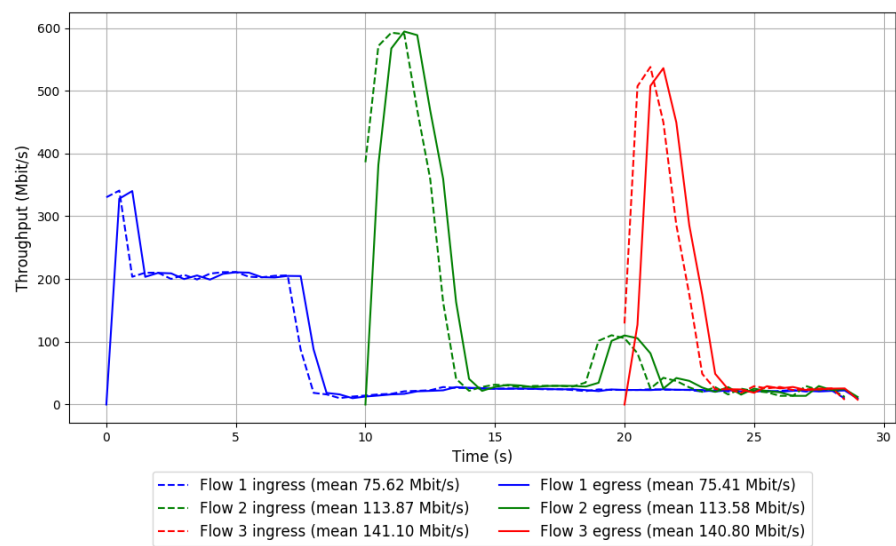
Run 5: Report of Indigo-MusesC3 — Data Link

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-07-12 04:42:46
End at: 2019-07-12 04:43:16
Local clock offset: 0.582 ms
Remote clock offset: 0.445 ms


# Below is generated by plot.py at 2019-07-12 07:29:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 241.39 Mbit/s
95th percentile per-packet one-way delay: 2.838 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 109.00 Mbit/s
95th percentile per-packet one-way delay: 1.305 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 99.68 Mbit/s
95th percentile per-packet one-way delay: 4.627 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 228.42 Mbit/s
95th percentile per-packet one-way delay: 1.714 ms
Loss rate: 0.27%
```
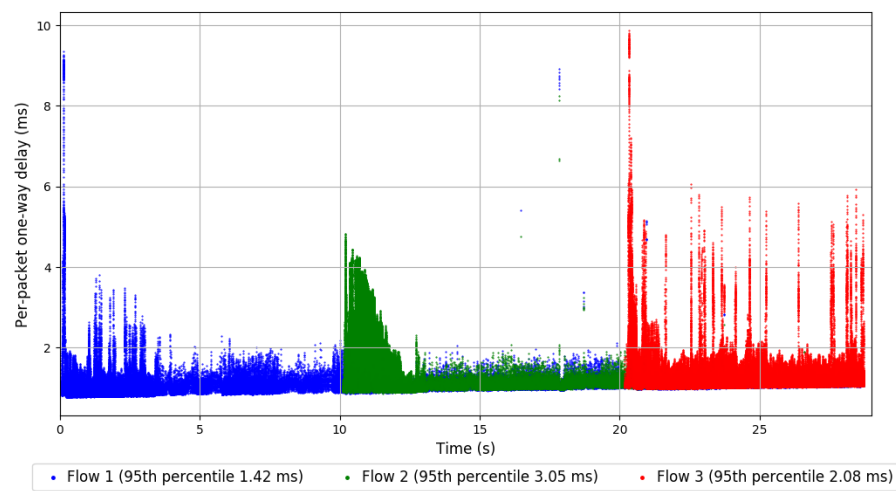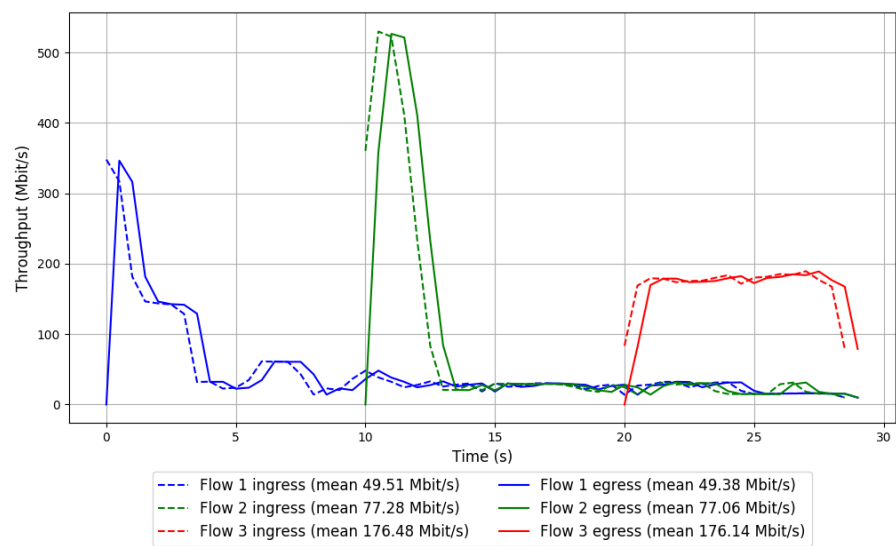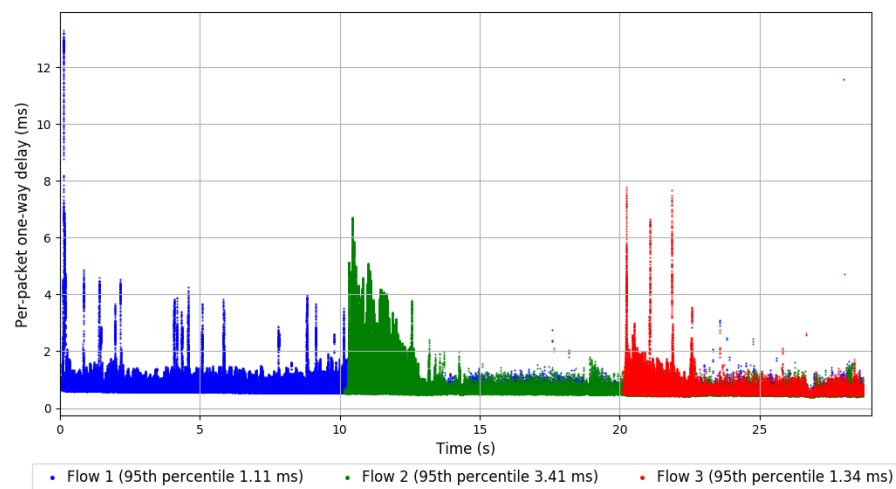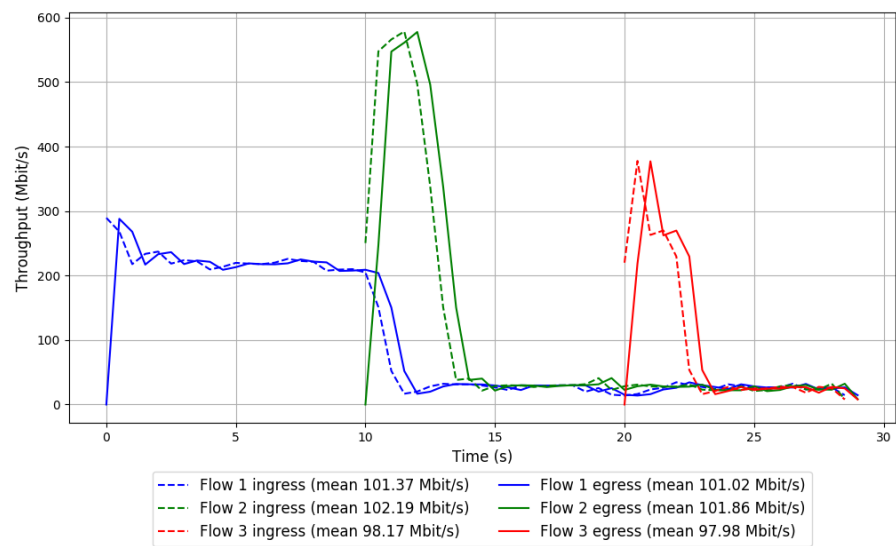
Run 1: Report of Indigo-MusesC5 — Data Link

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```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-07-12 05:16:18
End at: 2019-07-12 05:16:48
Local clock offset: -1.145 ms
Remote clock offset: 2.394 ms


# Below is generated by plot.py at 2019-07-12 07:29:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 190.68 Mbit/s
95th percentile per-packet one-way delay: 3.404 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 75.41 Mbit/s
95th percentile per-packet one-way delay: 1.195 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 113.58 Mbit/s
95th percentile per-packet one-way delay: 4.634 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 140.80 Mbit/s
95th percentile per-packet one-way delay: 2.804 ms
Loss rate: 0.21%
```

Run 2: Report of Indigo-MusesC5 — Data Link

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-07-12 05:49:35
End at: 2019-07-12 05:50:05
Local clock offset: -0.104 ms
Remote clock offset: 0.118 ms


# Below is generated by plot.py at 2019-07-12 07:29:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 151.73 Mbit/s
95th percentile per-packet one-way delay: 2.561 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 49.38 Mbit/s
95th percentile per-packet one-way delay: 1.419 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 77.06 Mbit/s
95th percentile per-packet one-way delay: 3.051 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 176.14 Mbit/s
95th percentile per-packet one-way delay: 2.075 ms
Loss rate: 0.19%
```
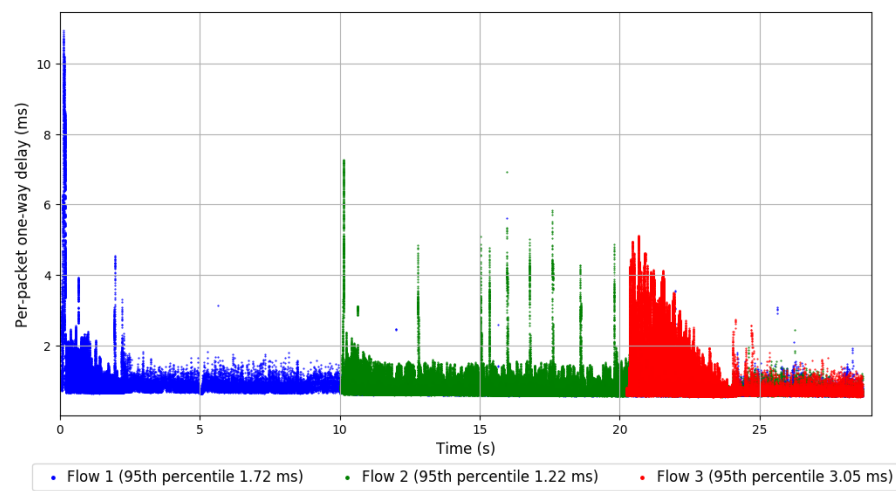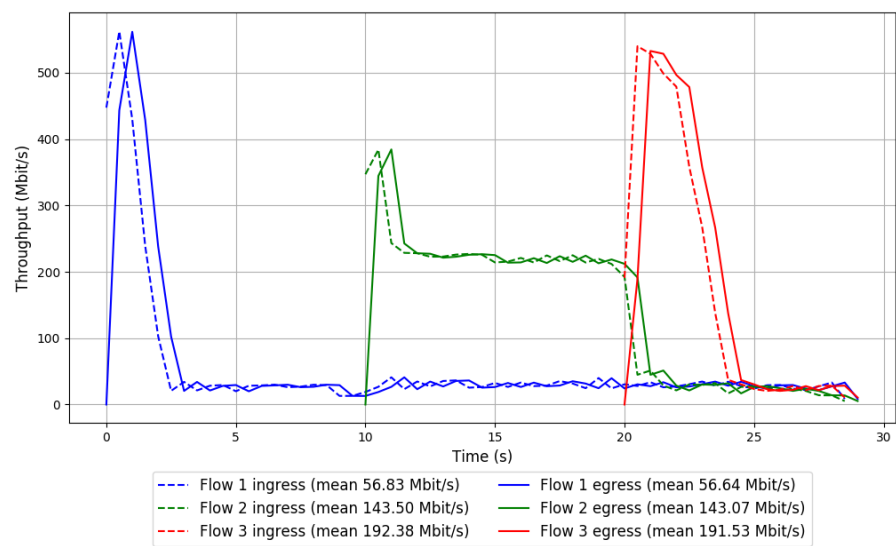
Run 3: Report of Indigo-MusesC5 — Data Link

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-07-12 06:22:56
End at: 2019-07-12 06:23:26
Local clock offset: 0.011 ms
Remote clock offset: -4.148 ms


# Below is generated by plot.py at 2019-07-12 07:29:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 196.04 Mbit/s
95th percentile per-packet one-way delay: 2.525 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 101.02 Mbit/s
95th percentile per-packet one-way delay: 1.107 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 101.86 Mbit/s
95th percentile per-packet one-way delay: 3.409 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 97.98 Mbit/s
95th percentile per-packet one-way delay: 1.343 ms
Loss rate: 0.20%
```

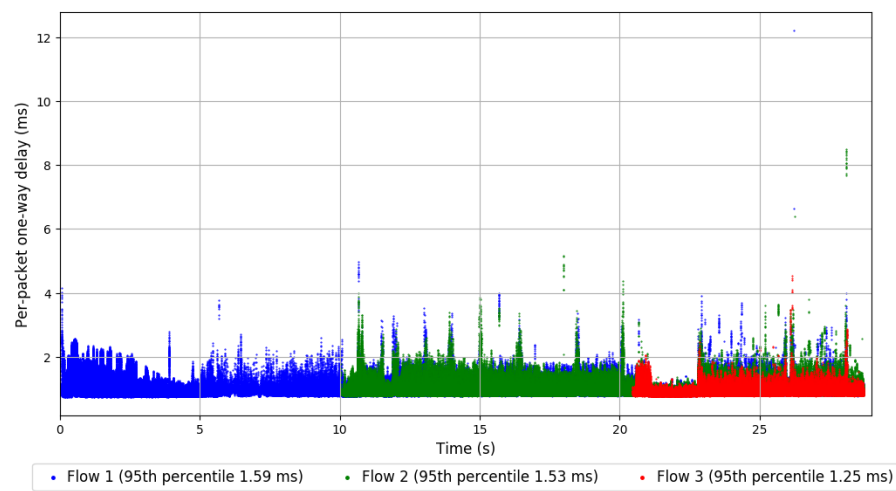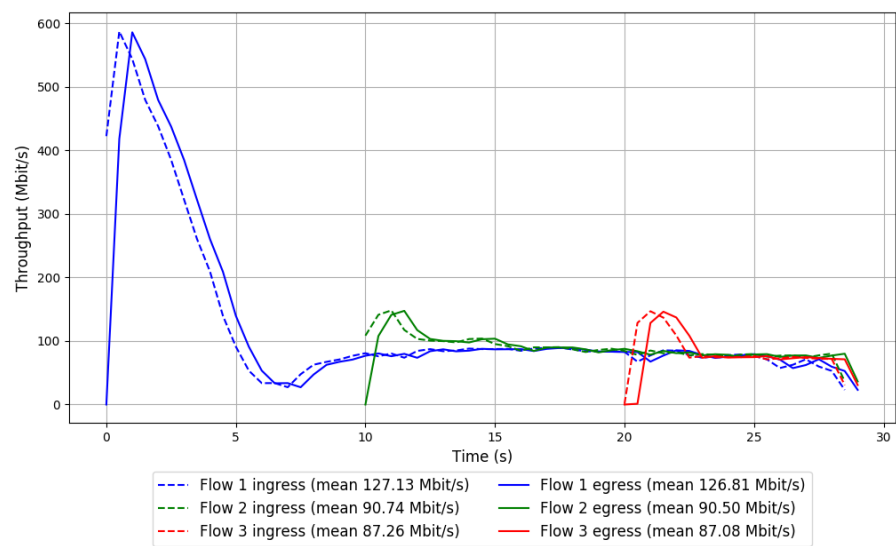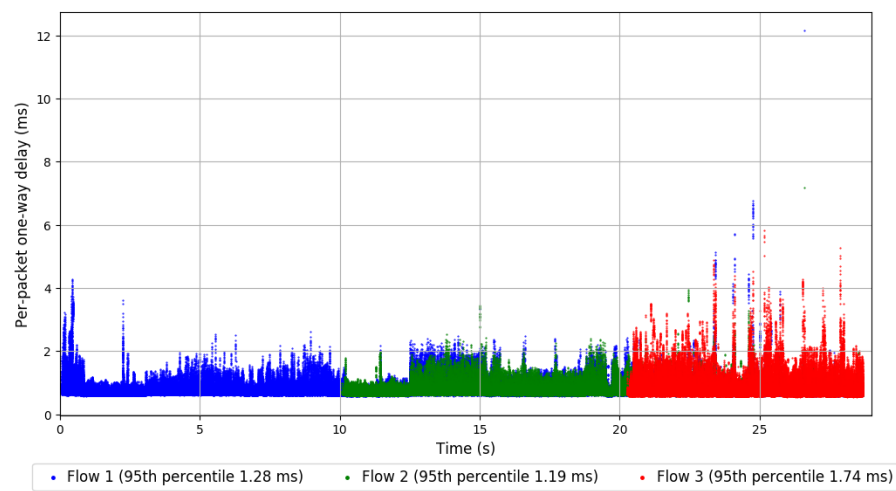Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-07-12 06:56:17
End at: 2019-07-12 06:56:47
Local clock offset: 0.002 ms
Remote clock offset: 0.509 ms

# Below is generated by plot.py at 2019-07-12 07:29:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 206.17 Mbit/s
95th percentile per-packet one-way delay: 2.094 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 56.64 Mbit/s
95th percentile per-packet one-way delay: 1.719 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 143.07 Mbit/s
95th percentile per-packet one-way delay: 1.221 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 191.53 Mbit/s
95th percentile per-packet one-way delay: 3.047 ms
Loss rate: 0.44%
```
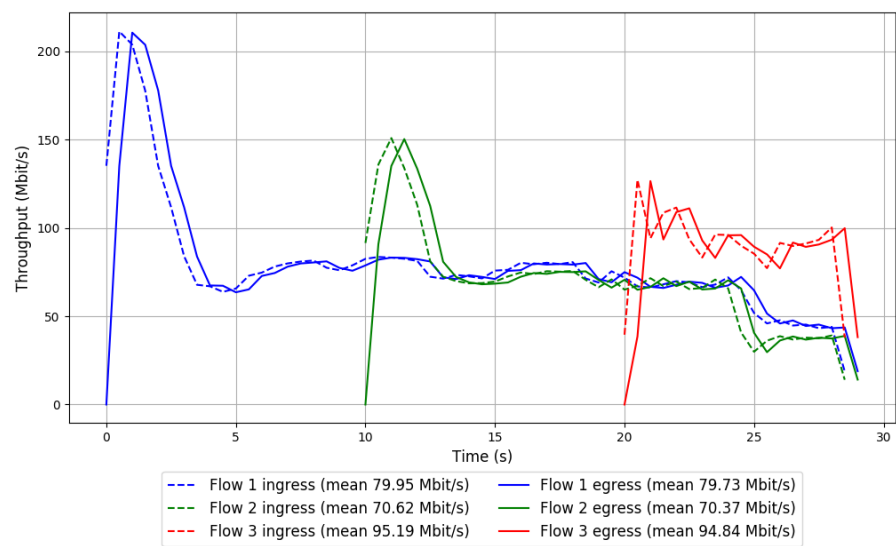
Run 5: Report of Indigo-MusesC5 — Data Link

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-07-12 04:27:32
End at: 2019-07-12 04:28:02
Local clock offset: 3.609 ms
Remote clock offset: -0.306 ms


# Below is generated by plot.py at 2019-07-12 07:29:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 210.63 Mbit/s
95th percentile per-packet one-way delay: 1.535 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 126.81 Mbit/s
95th percentile per-packet one-way delay: 1.588 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 90.50 Mbit/s
95th percentile per-packet one-way delay: 1.526 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 87.08 Mbit/s
95th percentile per-packet one-way delay: 1.254 ms
Loss rate: 0.21%
```

Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-07-12 05:01:03
End at: 2019-07-12 05:01:33
Local clock offset: -0.552 ms
Remote clock offset: 1.123 ms


# Below is generated by plot.py at 2019-07-12 07:29:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 153.25 Mbit/s
95th percentile per-packet one-way delay: 1.360 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 79.73 Mbit/s
95th percentile per-packet one-way delay: 1.280 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 70.37 Mbit/s
95th percentile per-packet one-way delay: 1.187 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 94.84 Mbit/s
95th percentile per-packet one-way delay: 1.741 ms
Loss rate: 0.37%
```
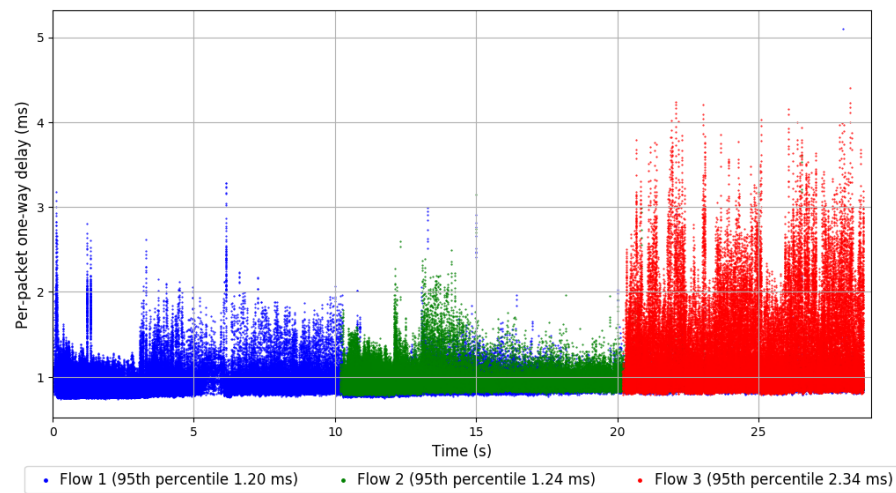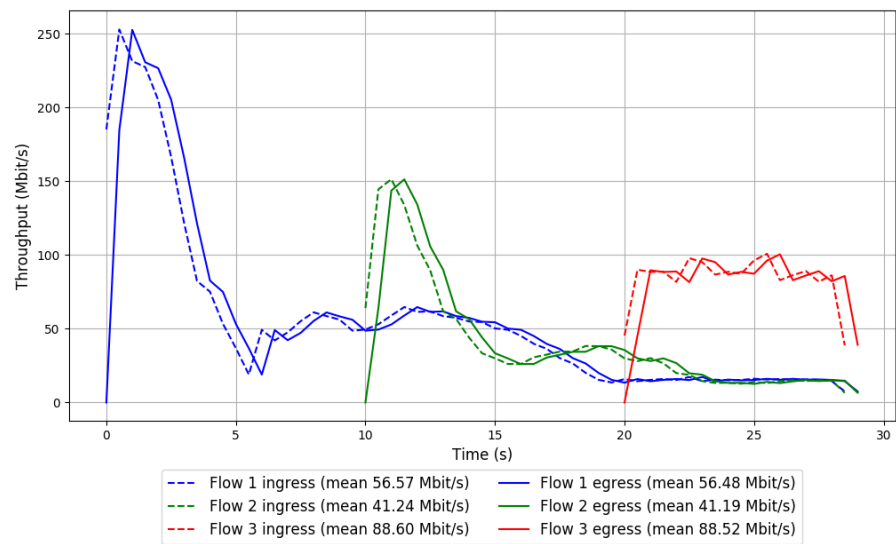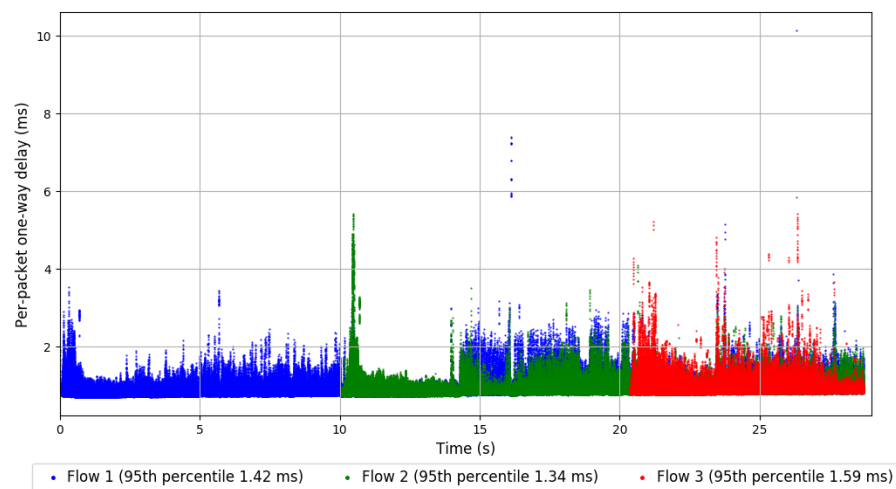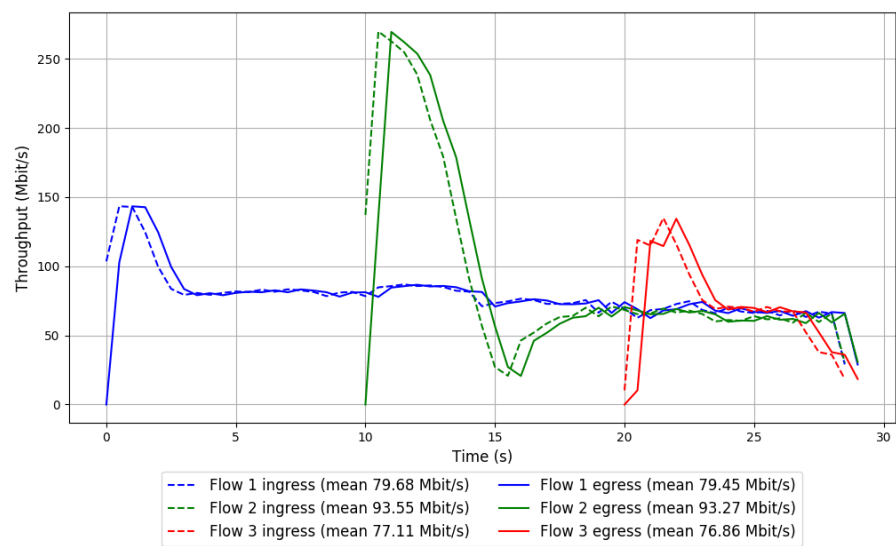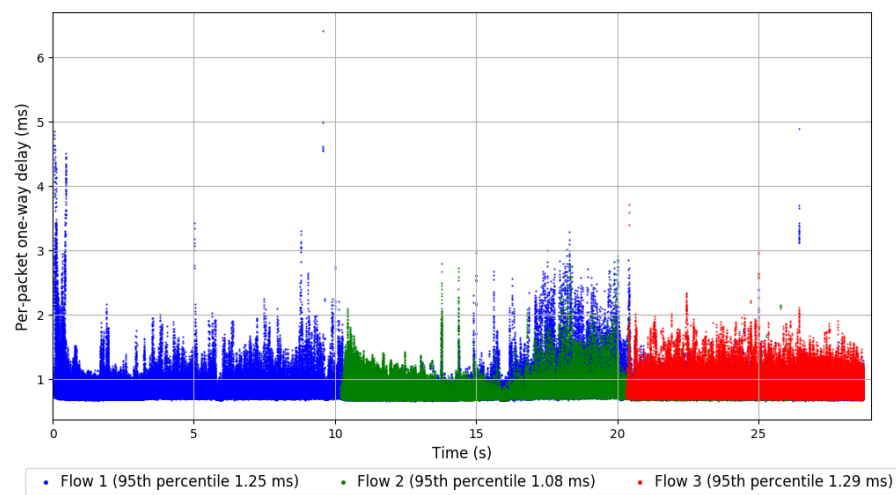
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-07-12 05:34:24
End at: 2019-07-12 05:34:54
Local clock offset: -0.753 ms
Remote clock offset: 3.639 ms


# Below is generated by plot.py at 2019-07-12 07:29:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 109.38 Mbit/s
95th percentile per-packet one-way delay: 1.664 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 56.48 Mbit/s
95th percentile per-packet one-way delay: 1.199 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 41.19 Mbit/s
95th percentile per-packet one-way delay: 1.243 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 88.52 Mbit/s
95th percentile per-packet one-way delay: 2.336 ms
Loss rate: 0.09%
```

Run 3: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 56.57 Mbit/s) --- Flow 1 egress (mean 56.48 Mbit/s)
Flow 2 ingress (mean 41.24 Mbit/s) --- Flow 2 egress (mean 41.19 Mbit/s)
Flow 3 ingress (mean 88.60 Mbit/s) --- Flow 3 egress (mean 88.52 Mbit/s)

Flow 1 (95th percentile 1.20 ms)   Flow 2 (95th percentile 1.24 ms)   Flow 3 (95th percentile 2.34 ms)

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-07-12 06:07:36
End at: 2019-07-12 06:08:06
Local clock offset: 0.041 ms
Remote clock offset: -5.268 ms


# Below is generated by plot.py at 2019-07-12 07:29:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 162.40 Mbit/s
95th percentile per-packet one-way delay: 1.421 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 79.45 Mbit/s
95th percentile per-packet one-way delay: 1.424 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 93.27 Mbit/s
95th percentile per-packet one-way delay: 1.338 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 76.86 Mbit/s
95th percentile per-packet one-way delay: 1.589 ms
Loss rate: 0.32%
```
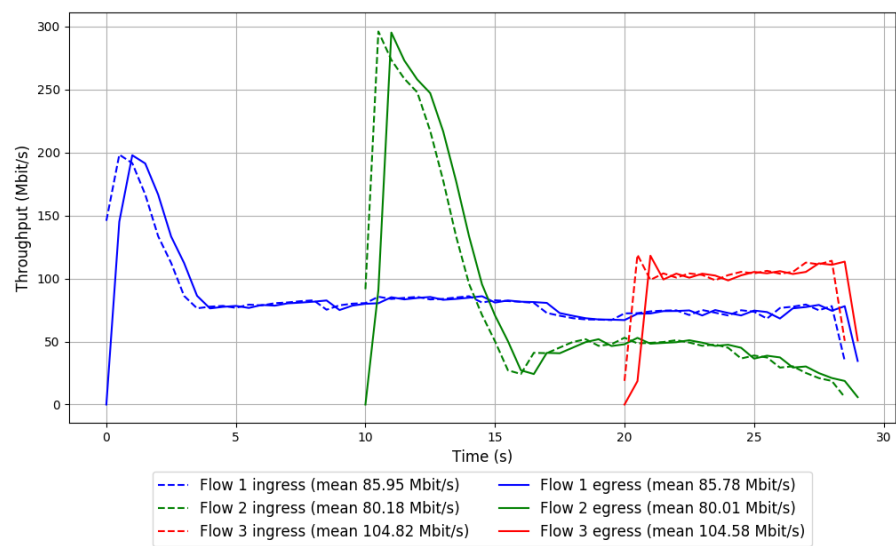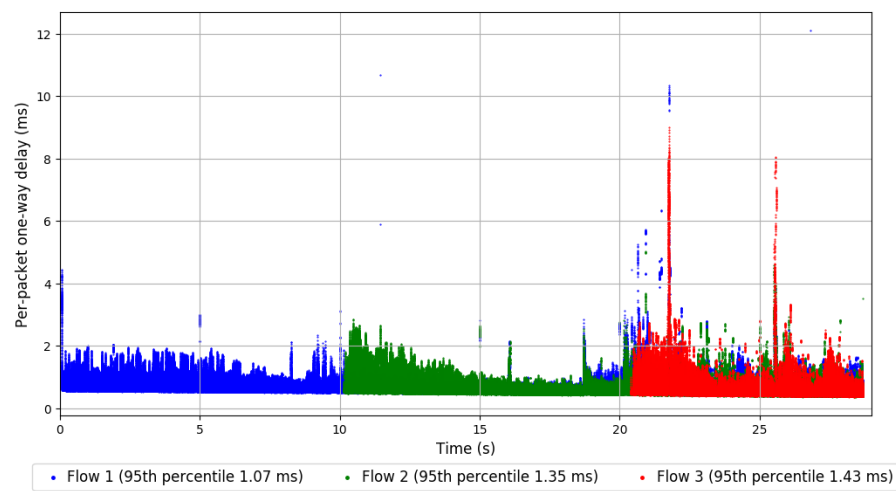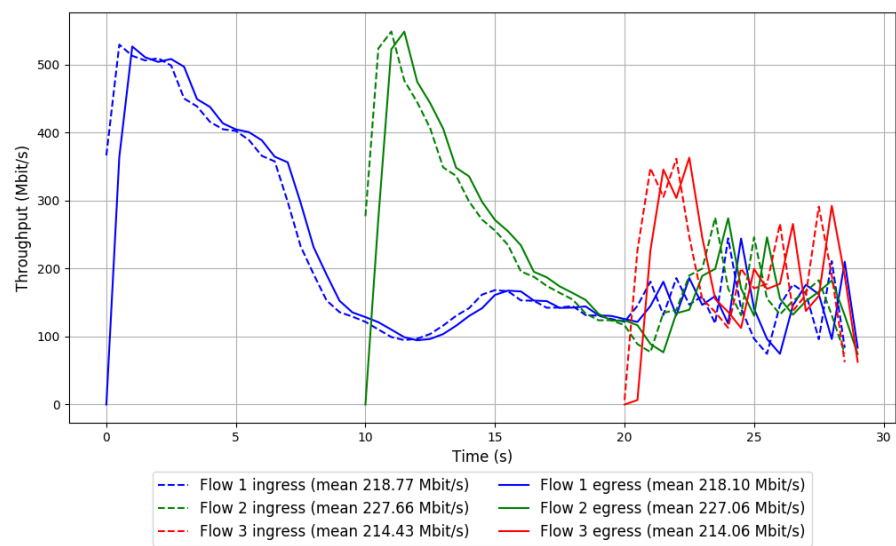
Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-07-12 06:41:17
End at: 2019-07-12 06:41:47
Local clock offset: 0.023 ms
Remote clock offset: -0.991 ms


# Below is generated by plot.py at 2019-07-12 07:29:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 167.98 Mbit/s
95th percentile per-packet one-way delay: 1.209 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 85.78 Mbit/s
95th percentile per-packet one-way delay: 1.248 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 80.01 Mbit/s
95th percentile per-packet one-way delay: 1.077 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 104.58 Mbit/s
95th percentile per-packet one-way delay: 1.291 ms
Loss rate: 0.23%
```

Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-07-12 04:28:53
End at: 2019-07-12 04:29:23
Local clock offset: 3.651 ms
Remote clock offset: -0.386 ms


# Below is generated by plot.py at 2019-07-12 07:32:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 426.84 Mbit/s
95th percentile per-packet one-way delay: 1.233 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 218.10 Mbit/s
95th percentile per-packet one-way delay: 1.073 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 227.06 Mbit/s
95th percentile per-packet one-way delay: 1.353 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 214.06 Mbit/s
95th percentile per-packet one-way delay: 1.431 ms
Loss rate: 0.17%
```
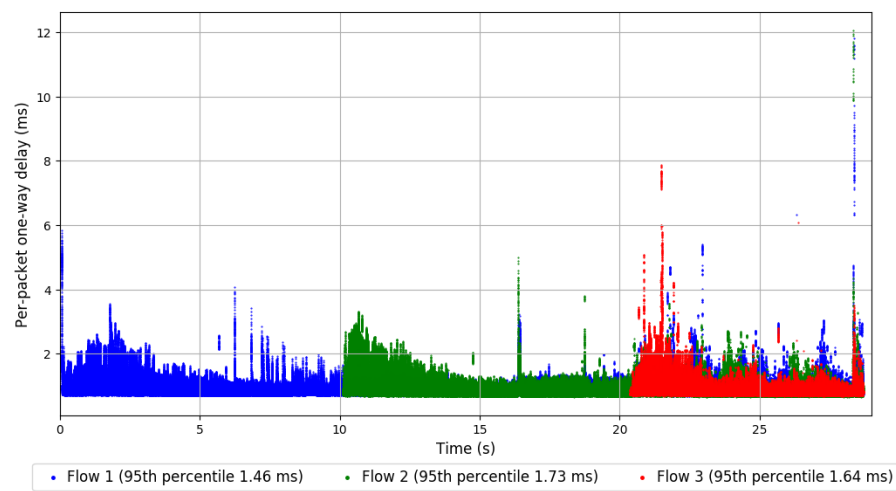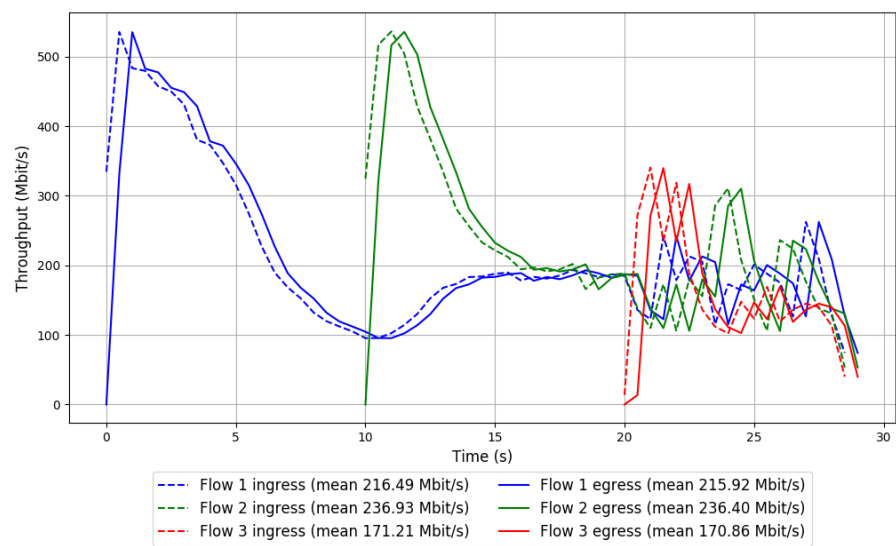
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-07-12 05:02:23
End at: 2019-07-12 05:02:53
Local clock offset: -0.626 ms
Remote clock offset: 1.248 ms


# Below is generated by plot.py at 2019-07-12 07:32:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 418.81 Mbit/s
95th percentile per-packet one-way delay: 1.569 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 215.92 Mbit/s
95th percentile per-packet one-way delay: 1.460 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 236.40 Mbit/s
95th percentile per-packet one-way delay: 1.733 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 170.86 Mbit/s
95th percentile per-packet one-way delay: 1.639 ms
Loss rate: 0.20%
```
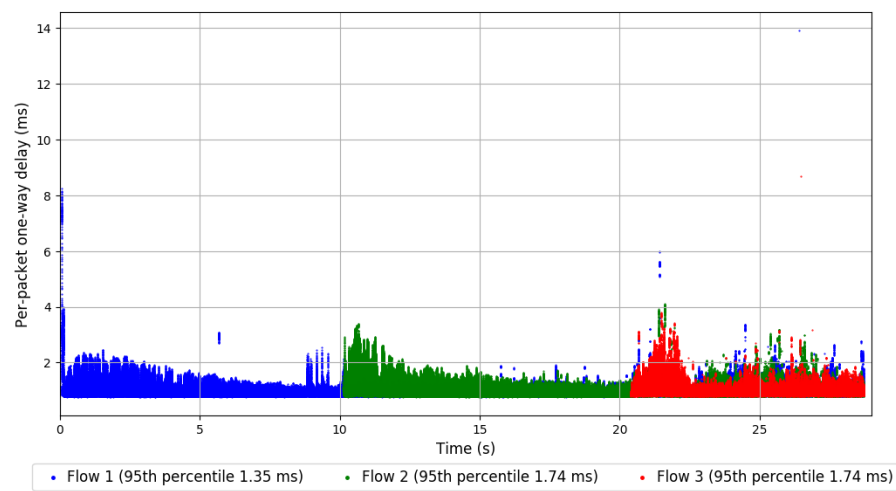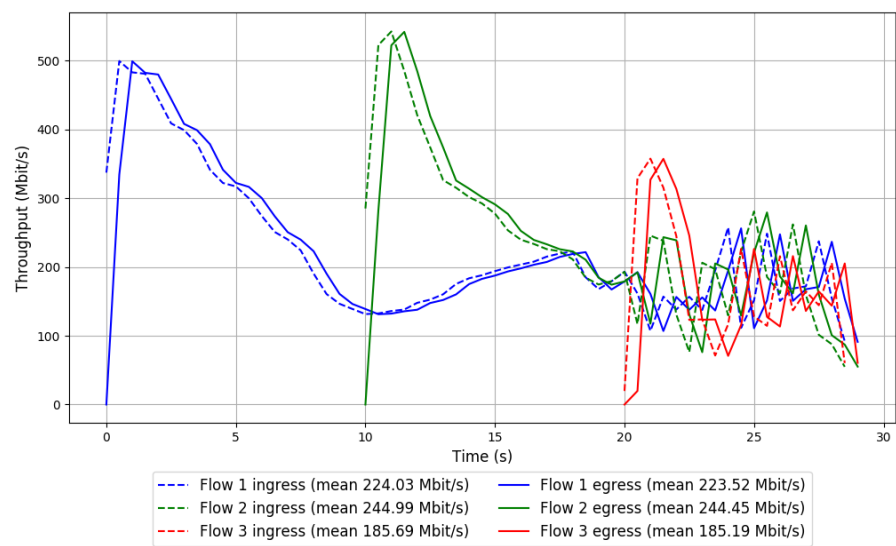
Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-07-12 05:35:42
End at: 2019-07-12 05:36:12
Local clock offset: -0.654 ms
Remote clock offset: 3.698 ms


# Below is generated by plot.py at 2019-07-12 07:32:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 435.65 Mbit/s
95th percentile per-packet one-way delay: 1.537 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 223.52 Mbit/s
95th percentile per-packet one-way delay: 1.349 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 244.45 Mbit/s
95th percentile per-packet one-way delay: 1.736 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 185.19 Mbit/s
95th percentile per-packet one-way delay: 1.737 ms
Loss rate: 0.27%
```
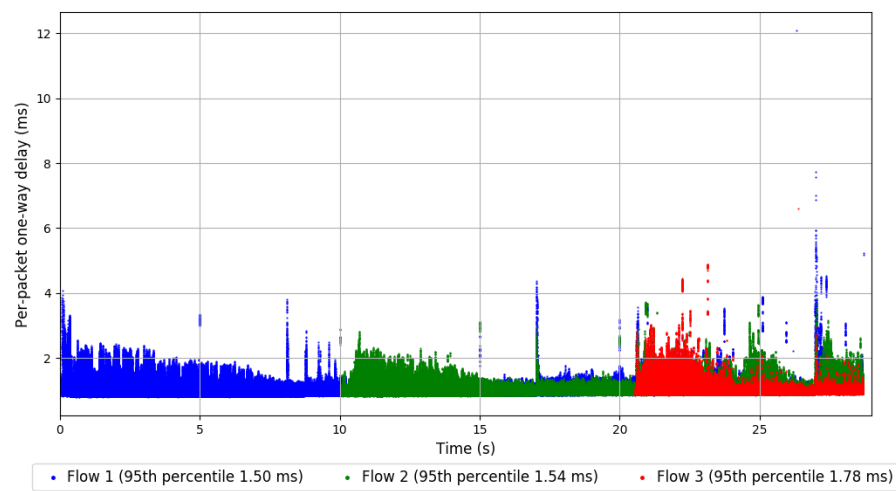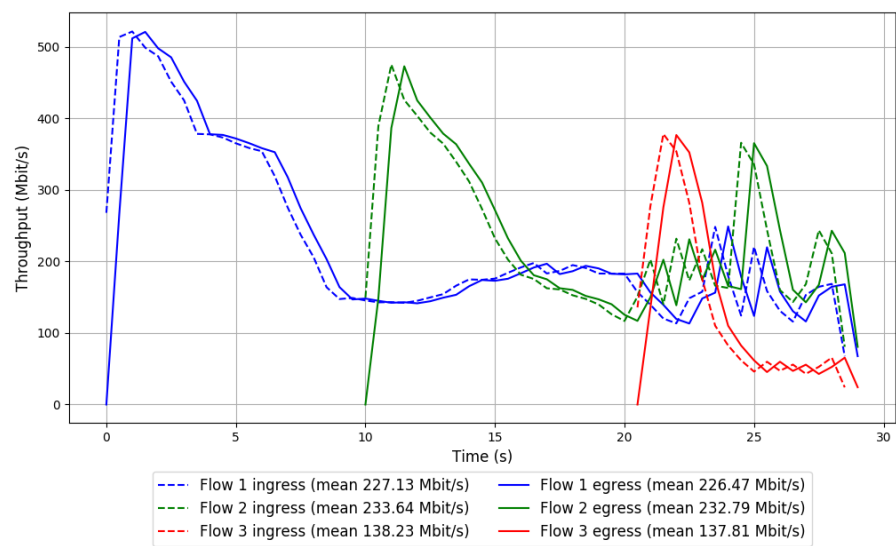
Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-07-12 06:08:57
End at: 2019-07-12 06:09:27
Local clock offset: 0.046 ms
Remote clock offset: -5.39 ms


# Below is generated by plot.py at 2019-07-12 07:32:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 416.80 Mbit/s
95th percentile per-packet one-way delay: 1.548 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 226.47 Mbit/s
95th percentile per-packet one-way delay: 1.498 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 232.79 Mbit/s
95th percentile per-packet one-way delay: 1.541 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 137.81 Mbit/s
95th percentile per-packet one-way delay: 1.777 ms
Loss rate: 0.31%
```

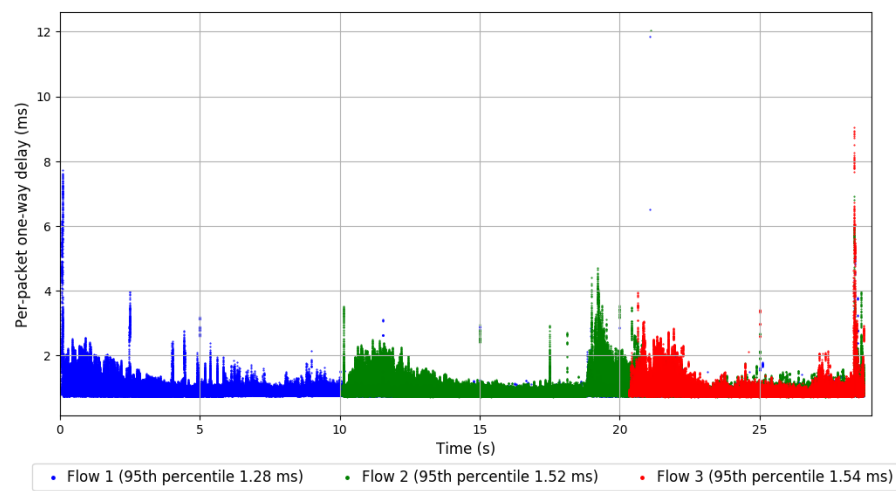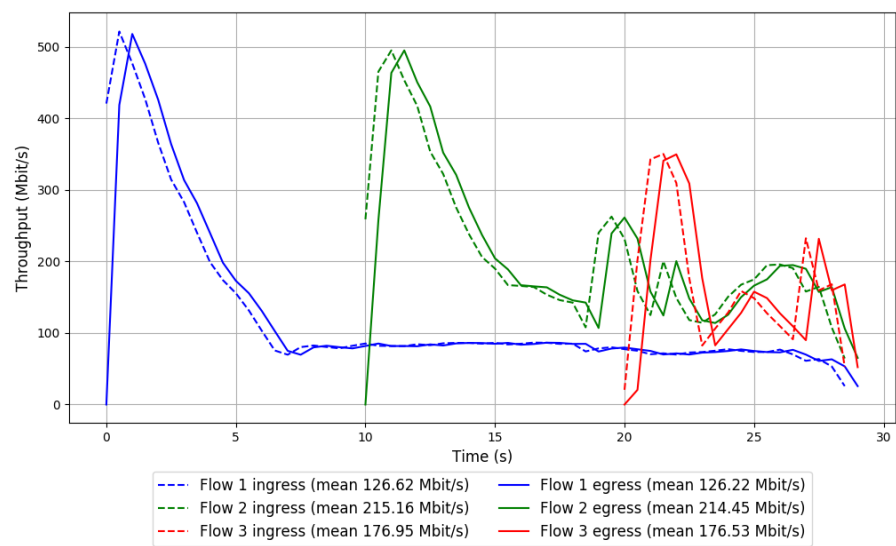## Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-07-12 06:42:37
End at: 2019-07-12 06:43:07
Local clock offset: 0.013 ms
Remote clock offset: -0.923 ms


# Below is generated by plot.py at 2019-07-12 07:32:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 316.95 Mbit/s
95th percentile per-packet one-way delay: 1.450 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 126.22 Mbit/s
95th percentile per-packet one-way delay: 1.285 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 214.45 Mbit/s
95th percentile per-packet one-way delay: 1.520 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 176.53 Mbit/s
95th percentile per-packet one-way delay: 1.542 ms
Loss rate: 0.27%
```

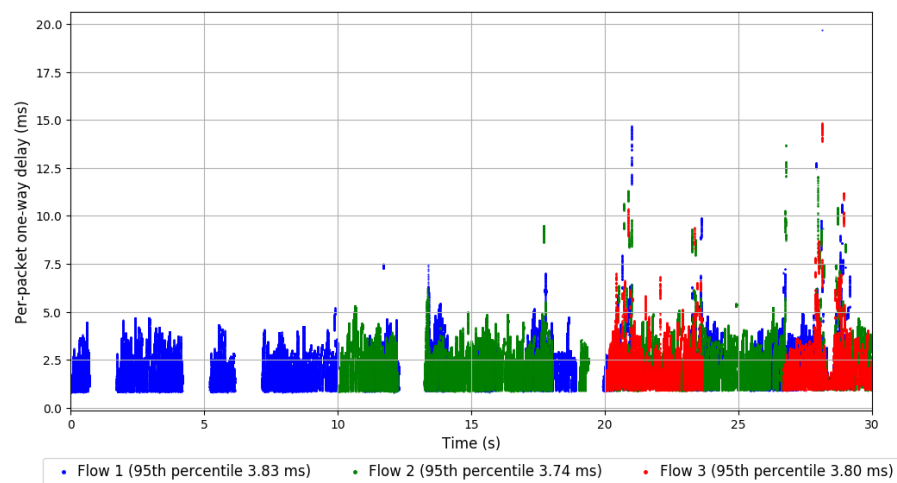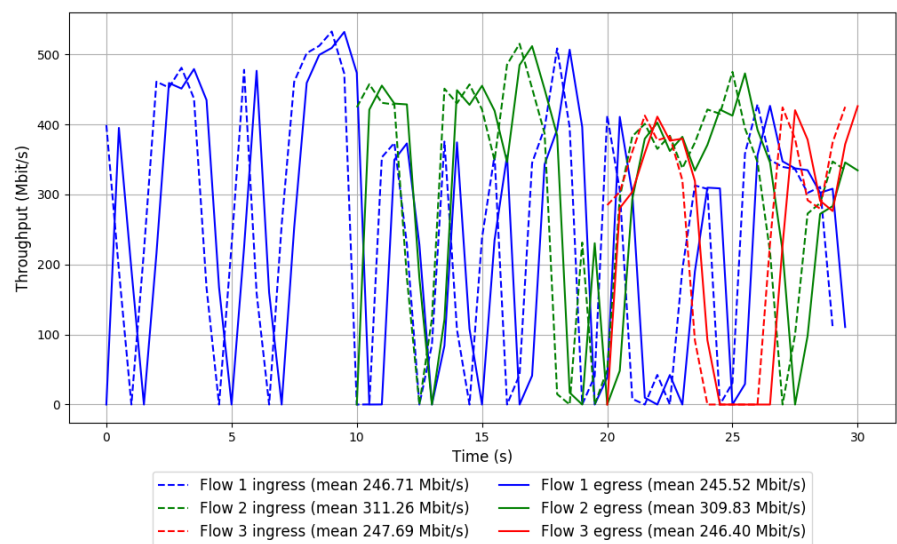Run 5: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 126.62 Mbit/s)   Flow 1 egress (mean 126.22 Mbit/s)
Flow 2 ingress (mean 215.16 Mbit/s)   Flow 2 egress (mean 214.45 Mbit/s)
Flow 3 ingress (mean 176.95 Mbit/s)   Flow 3 egress (mean 176.53 Mbit/s)

Flow 1 (95th percentile 1.28 ms)   Flow 2 (95th percentile 1.52 ms)   Flow 3 (95th percentile 1.54 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2019-07-12 04:13:36
End at: 2019-07-12 04:14:06
Local clock offset: 2.708 ms
Remote clock offset: 0.603 ms


# Below is generated by plot.py at 2019-07-12 07:34:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 527.29 Mbit/s
95th percentile per-packet one-way delay: 3.791 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 245.52 Mbit/s
95th percentile per-packet one-way delay: 3.828 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 309.83 Mbit/s
95th percentile per-packet one-way delay: 3.744 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 246.40 Mbit/s
95th percentile per-packet one-way delay: 3.796 ms
Loss rate: 0.52%
```
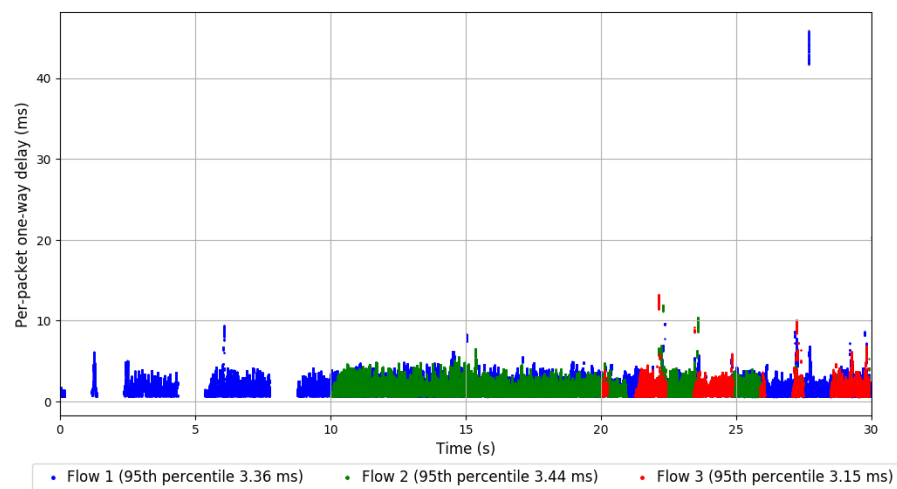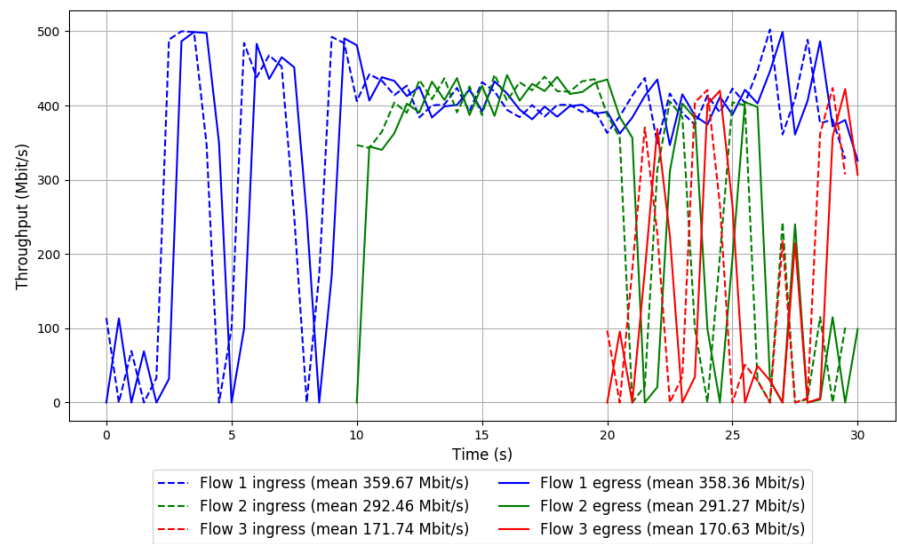
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-07-12 04:46:55
End at: 2019-07-12 04:47:25
Local clock offset: 0.191 ms
Remote clock offset: 0.708 ms


# Below is generated by plot.py at 2019-07-12 07:35:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 607.88 Mbit/s
95th percentile per-packet one-way delay: 3.372 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 358.36 Mbit/s
95th percentile per-packet one-way delay: 3.357 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 291.27 Mbit/s
95th percentile per-packet one-way delay: 3.443 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 170.63 Mbit/s
95th percentile per-packet one-way delay: 3.153 ms
Loss rate: 0.65%
```
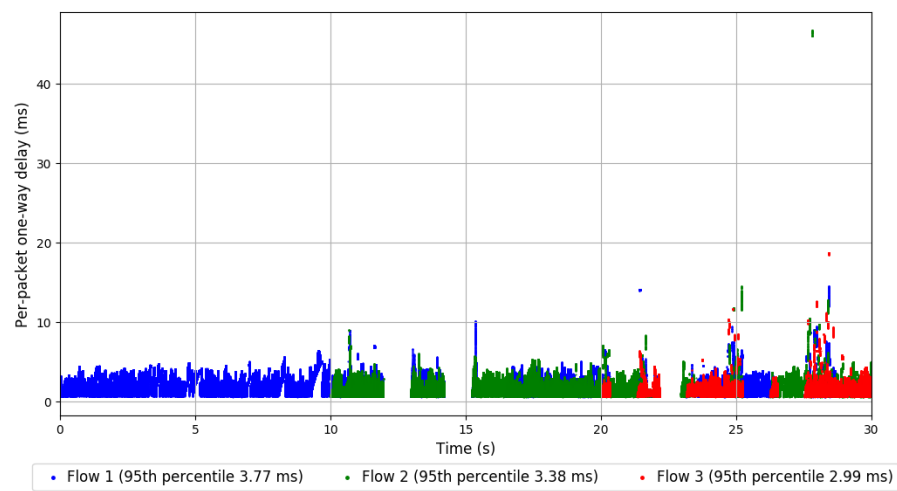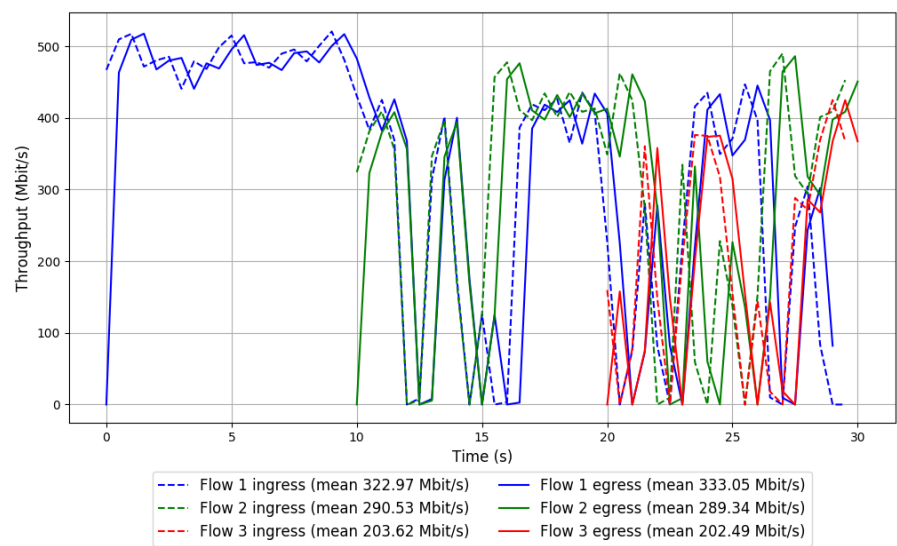
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-07-12 05:20:26
End at: 2019-07-12 05:20:56
Local clock offset: -1.259 ms
Remote clock offset: 2.755 ms


# Below is generated by plot.py at 2019-07-12 07:36:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 578.23 Mbit/s
95th percentile per-packet one-way delay: 3.590 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 333.05 Mbit/s
95th percentile per-packet one-way delay: 3.765 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 289.34 Mbit/s
95th percentile per-packet one-way delay: 3.375 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 202.49 Mbit/s
95th percentile per-packet one-way delay: 2.993 ms
Loss rate: 0.56%
```
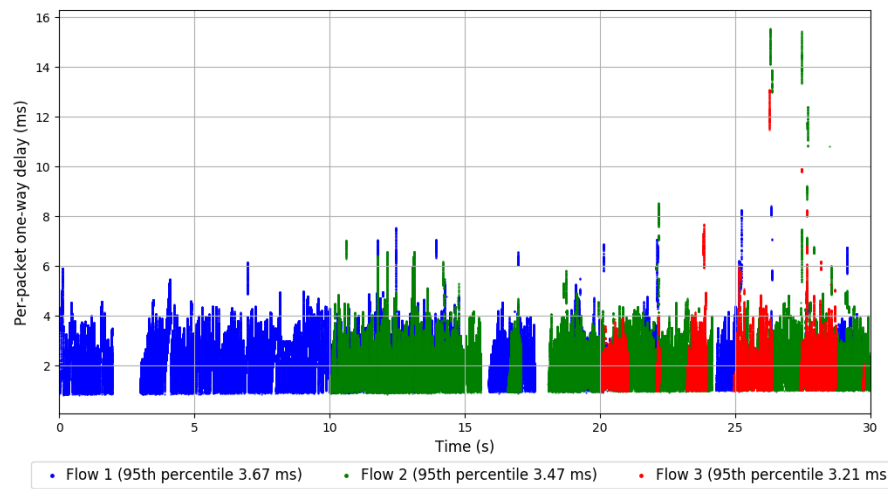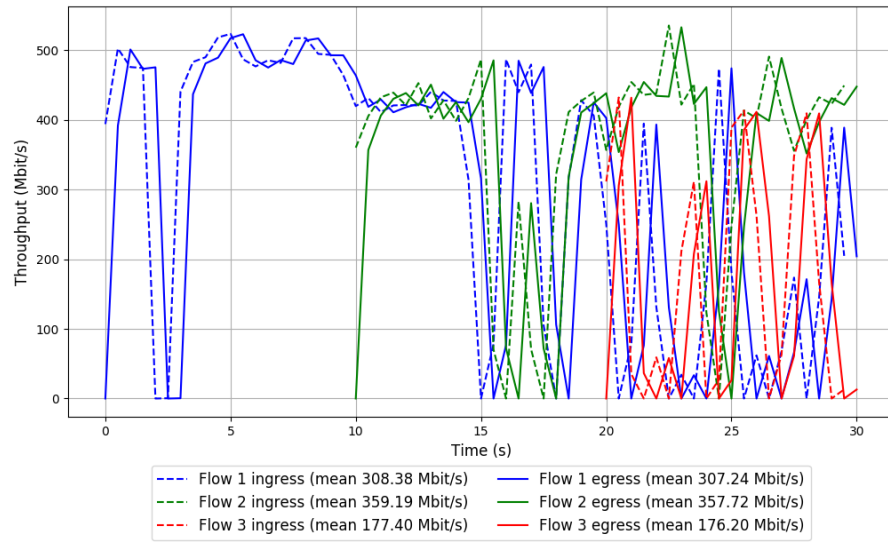
Run 3: Report of LEDBAT — Data Link

Legend:
- Flow 1 ingress (mean 322.97 Mbit/s)
- Flow 1 egress (mean 333.05 Mbit/s)
- Flow 2 ingress (mean 290.53 Mbit/s)
- Flow 2 egress (mean 289.34 Mbit/s)
- Flow 3 ingress (mean 203.62 Mbit/s)
- Flow 3 egress (mean 202.49 Mbit/s)

Legend:
- Flow 1 (95th percentile 3.77 ms)
- Flow 2 (95th percentile 3.38 ms)
- Flow 3 (95th percentile 2.99 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2019-07-12 05:53:40
End at: 2019-07-12 05:54:10
Local clock offset: -0.063 ms
Remote clock offset: -1.673 ms


# Below is generated by plot.py at 2019-07-12 07:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 600.37 Mbit/s
95th percentile per-packet one-way delay: 3.568 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 307.24 Mbit/s
95th percentile per-packet one-way delay: 3.667 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 357.72 Mbit/s
95th percentile per-packet one-way delay: 3.467 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 176.20 Mbit/s
95th percentile per-packet one-way delay: 3.211 ms
Loss rate: 0.68%
```
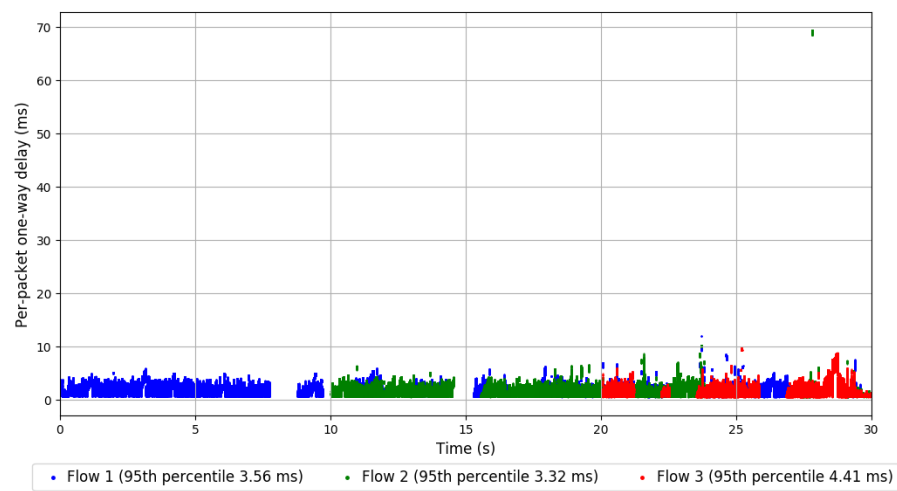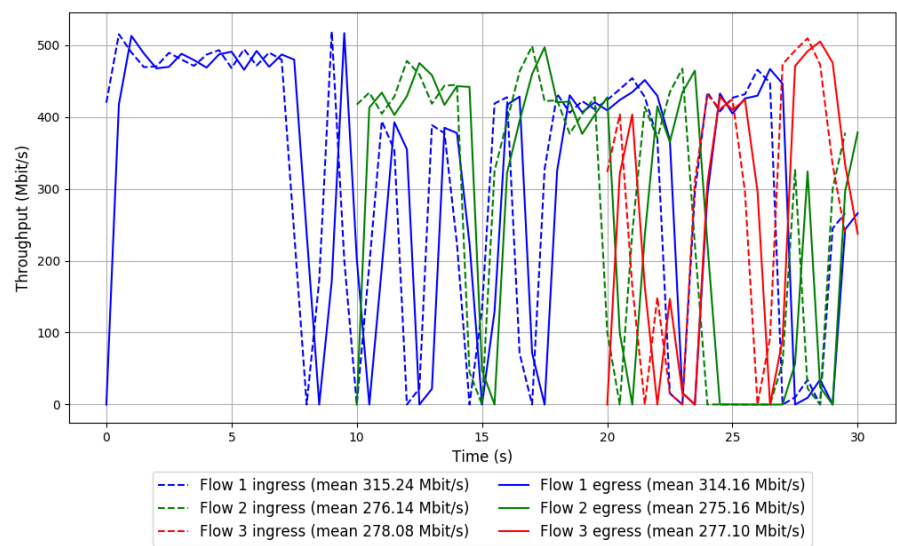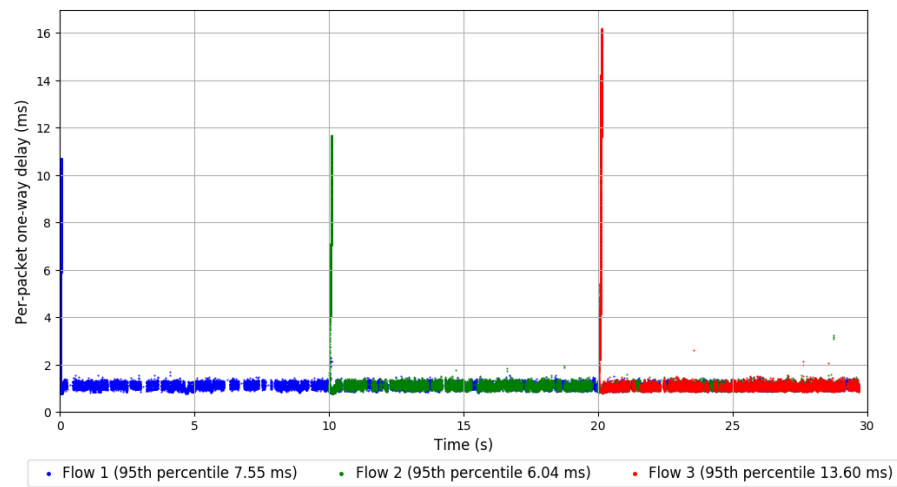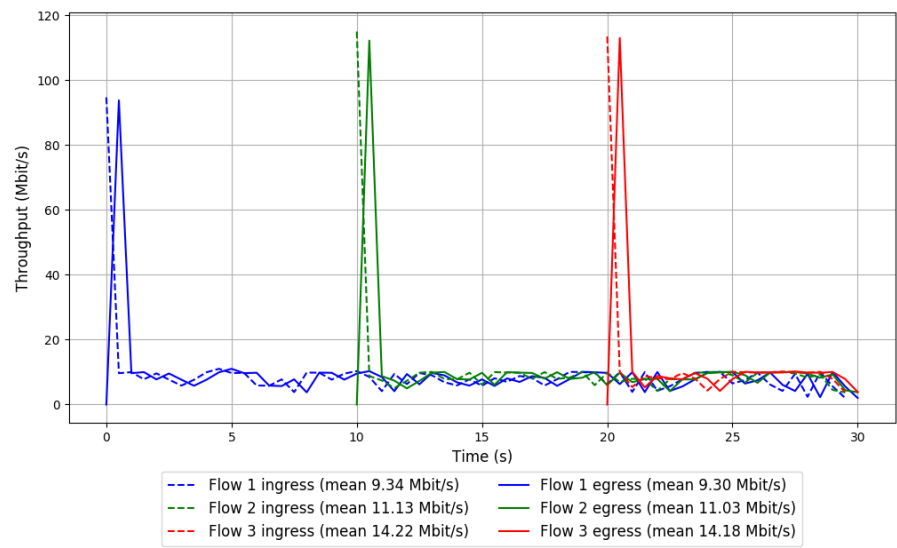
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 308.38 Mbit/s)   Flow 1 egress (mean 307.24 Mbit/s)
Flow 2 ingress (mean 359.19 Mbit/s)   Flow 2 egress (mean 357.72 Mbit/s)
Flow 3 ingress (mean 177.40 Mbit/s)   Flow 3 egress (mean 176.20 Mbit/s)

Flow 1 (95th percentile 3.67 ms)   Flow 2 (95th percentile 3.47 ms)   Flow 3 (95th percentile 3.21 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2019-07-12 06:27:03
End at: 2019-07-12 06:27:33
Local clock offset: 0.018 ms
Remote clock offset: -2.634 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 589.51 Mbit/s
95th percentile per-packet one-way delay: 3.573 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 314.16 Mbit/s
95th percentile per-packet one-way delay: 3.558 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 275.16 Mbit/s
95th percentile per-packet one-way delay: 3.321 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 277.10 Mbit/s
95th percentile per-packet one-way delay: 4.412 ms
Loss rate: 0.36%
```

Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 04:22:19
End at: 2019-07-12 04:22:49
Local clock offset: 3.364 ms
Remote clock offset: -0.073 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.23 Mbit/s
95th percentile per-packet one-way delay: 10.630 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 9.30 Mbit/s
95th percentile per-packet one-way delay: 7.551 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 11.03 Mbit/s
95th percentile per-packet one-way delay: 6.043 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 14.18 Mbit/s
95th percentile per-packet one-way delay: 13.603 ms
Loss rate: 0.30%
```
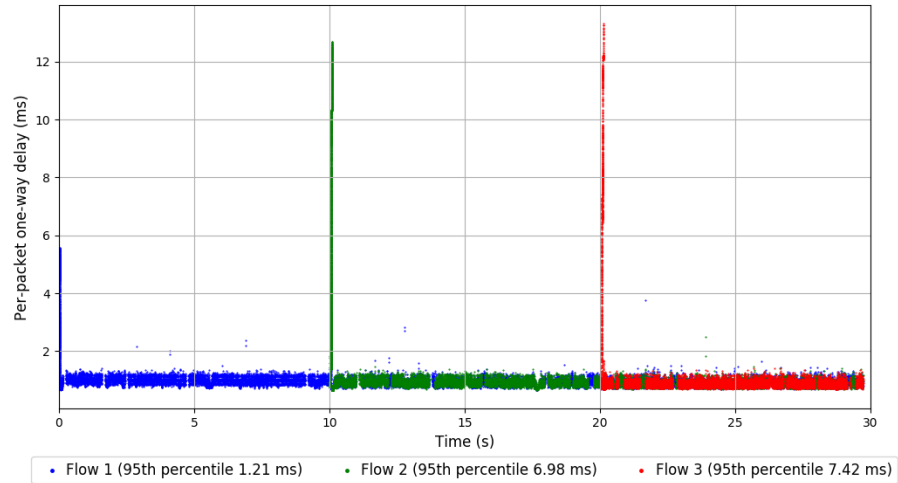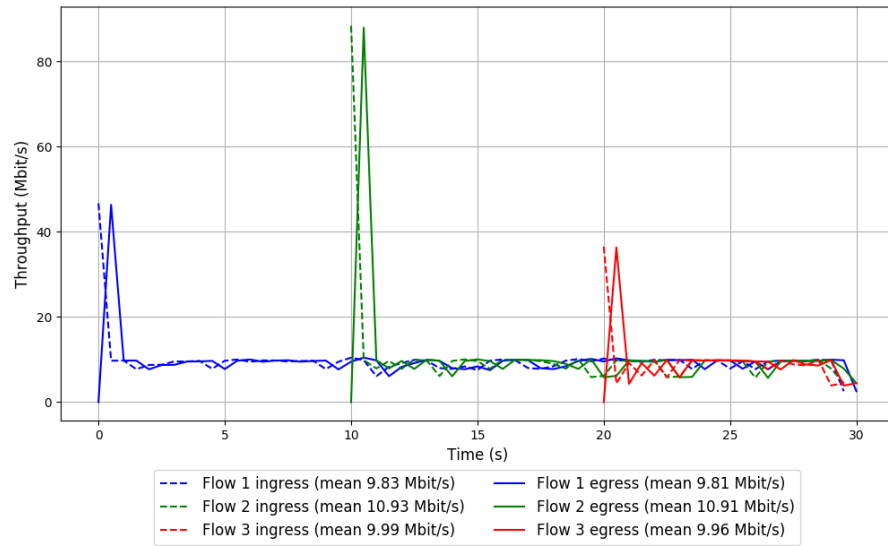
Run 1: Report of Muses_DecisionTree — Data Link

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```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 04:55:36
End at: 2019-07-12 04:56:06
Local clock offset: -0.275 ms
Remote clock offset: 1.068 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.29 Mbit/s
95th percentile per-packet one-way delay: 3.346 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 9.81 Mbit/s
95th percentile per-packet one-way delay: 1.213 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 10.91 Mbit/s
95th percentile per-packet one-way delay: 6.977 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 9.96 Mbit/s
95th percentile per-packet one-way delay: 7.425 ms
Loss rate: 0.24%
```
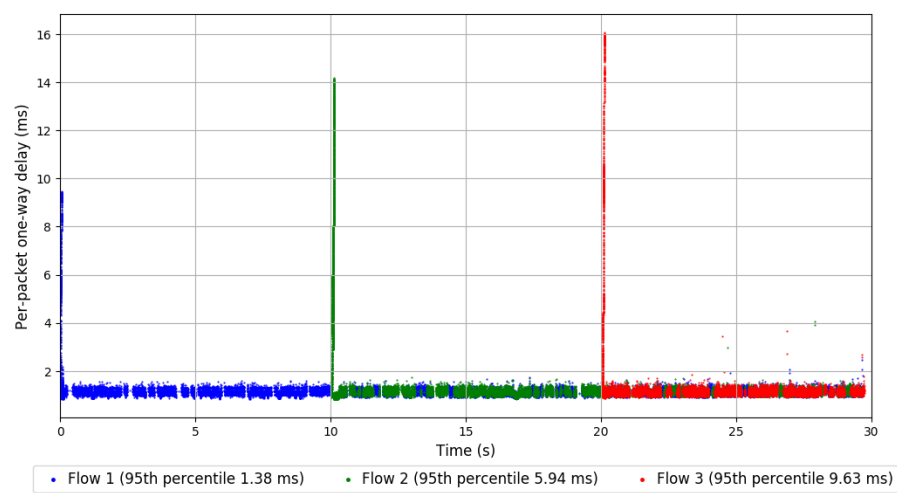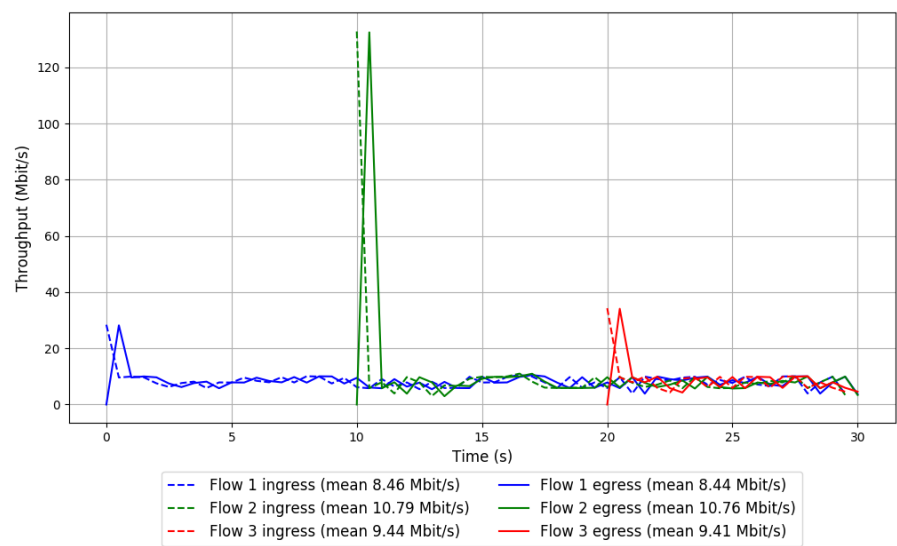
Run 2: Report of Muses_DecisionTree — Data Link

```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 05:29:07
End at: 2019-07-12 05:29:37
Local clock offset: -1.441 ms
Remote clock offset: 3.42 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.59 Mbit/s
95th percentile per-packet one-way delay: 4.995 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 8.44 Mbit/s
95th percentile per-packet one-way delay: 1.379 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 10.76 Mbit/s
95th percentile per-packet one-way delay: 5.939 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 9.41 Mbit/s
95th percentile per-packet one-way delay: 9.634 ms
Loss rate: 0.38%
```

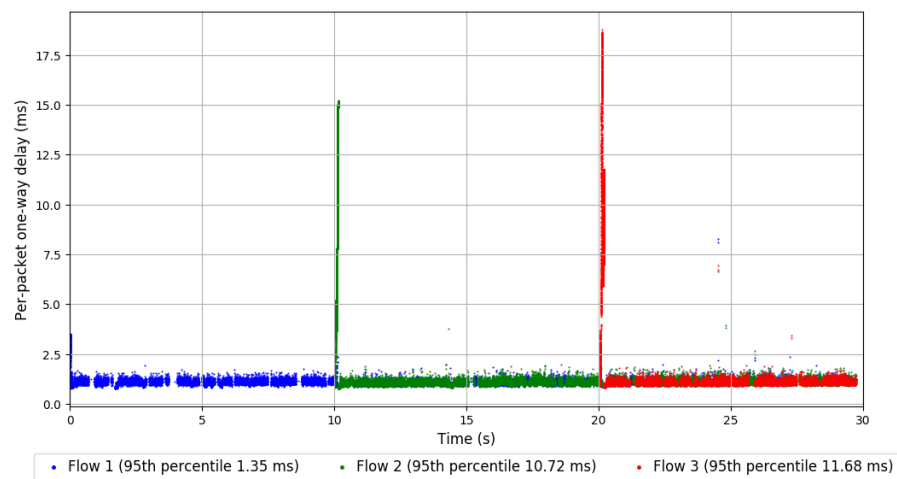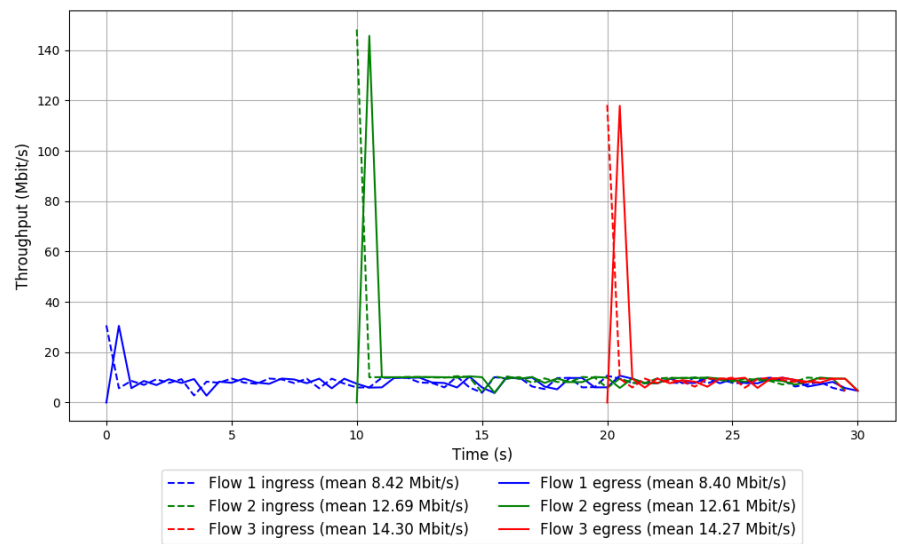Run 3: Report of Muses_DecisionTree — Data Link

```
Run 4: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 06:02:22
End at: 2019-07-12 06:02:52
Local clock offset: 0.0 ms
Remote clock offset: -4.217 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.41 Mbit/s
95th percentile per-packet one-way delay: 9.566 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 8.40 Mbit/s
95th percentile per-packet one-way delay: 1.354 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 10.720 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 14.27 Mbit/s
95th percentile per-packet one-way delay: 11.683 ms
Loss rate: 0.21%
```

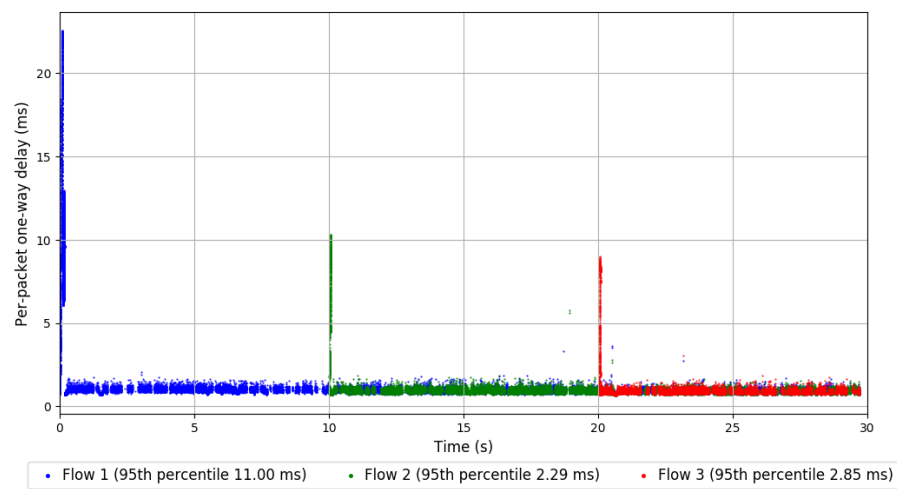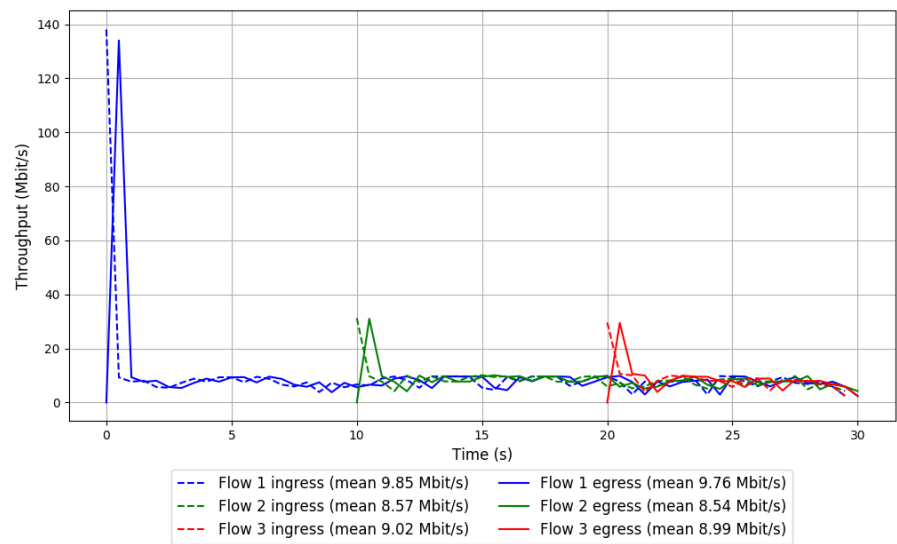Run 4: Report of Muses_DecisionTree — Data Link

- - - Flow 1 ingress (mean 8.42 Mbit/s) — Flow 1 egress (mean 8.40 Mbit/s)
- - - Flow 2 ingress (mean 12.69 Mbit/s) — Flow 2 egress (mean 12.61 Mbit/s)
- - - Flow 3 ingress (mean 14.30 Mbit/s) — Flow 3 egress (mean 14.27 Mbit/s)

- Flow 1 (95th percentile 1.35 ms)   • Flow 2 (95th percentile 10.72 ms)   • Flow 3 (95th percentile 11.68 ms)
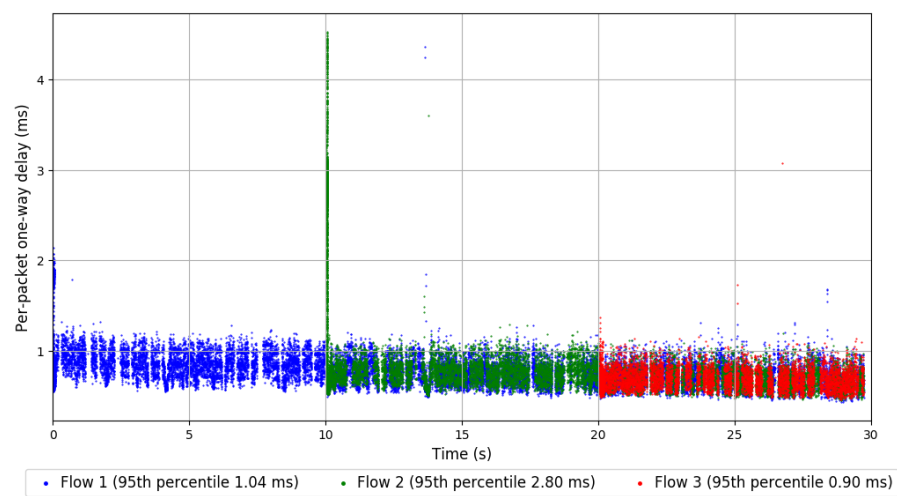
```
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 06:35:52
End at: 2019-07-12 06:36:22
Local clock offset: 0.031 ms
Remote clock offset: -1.272 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.35 Mbit/s
95th percentile per-packet one-way delay: 9.764 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 9.76 Mbit/s
95th percentile per-packet one-way delay: 10.998 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 8.54 Mbit/s
95th percentile per-packet one-way delay: 2.295 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 8.99 Mbit/s
95th percentile per-packet one-way delay: 2.851 ms
Loss rate: 0.32%
```

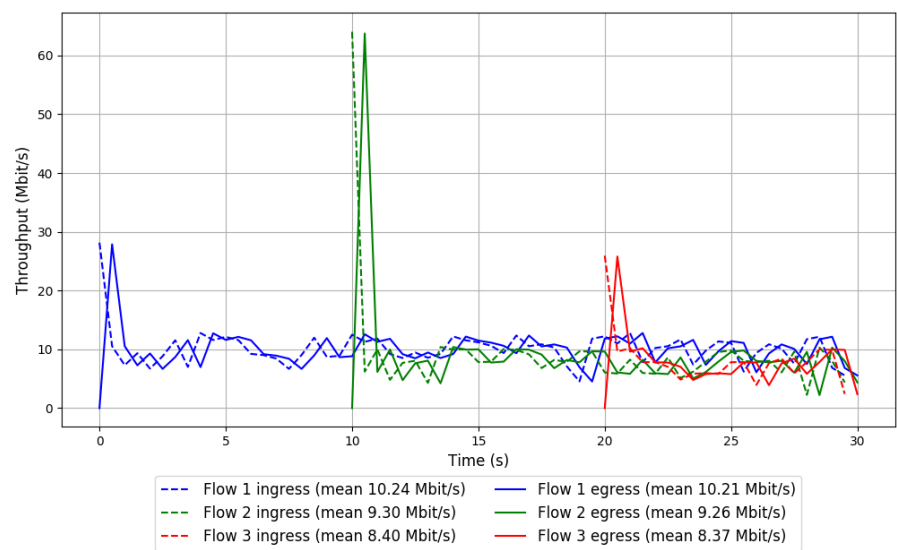Run 5: Report of Muses_DecisionTree — Data Link

Flow 1 ingress (mean 9.85 Mbit/s)   Flow 1 egress (mean 9.76 Mbit/s)
Flow 2 ingress (mean 8.57 Mbit/s)   Flow 2 egress (mean 8.54 Mbit/s)
Flow 3 ingress (mean 9.02 Mbit/s)   Flow 3 egress (mean 8.99 Mbit/s)

Flow 1 (95th percentile 11.00 ms)   Flow 2 (95th percentile 2.29 ms)   Flow 3 (95th percentile 2.85 ms)

```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-12 04:37:20
End at: 2019-07-12 04:37:50
Local clock offset: 1.33 ms
Remote clock offset: -0.244 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.07 Mbit/s
95th percentile per-packet one-way delay: 1.071 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 10.21 Mbit/s
95th percentile per-packet one-way delay: 1.041 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 9.26 Mbit/s
95th percentile per-packet one-way delay: 2.800 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 8.37 Mbit/s
95th percentile per-packet one-way delay: 0.899 ms
Loss rate: 0.42%
```
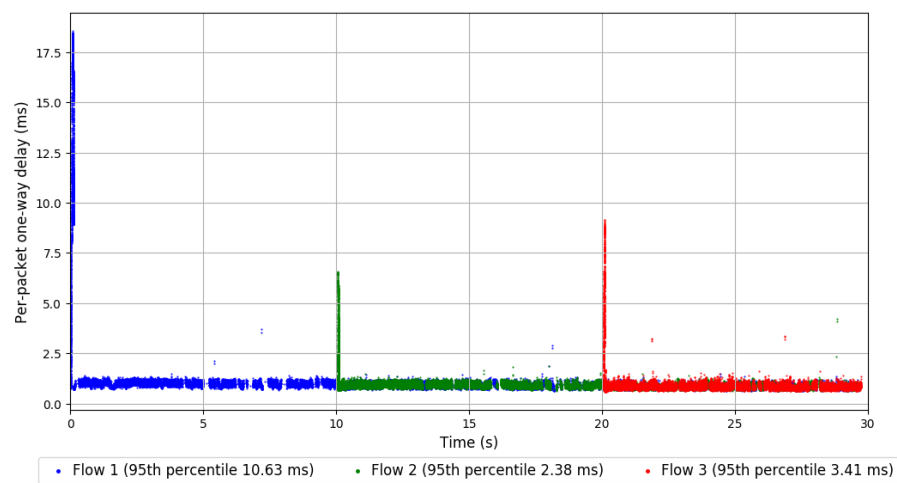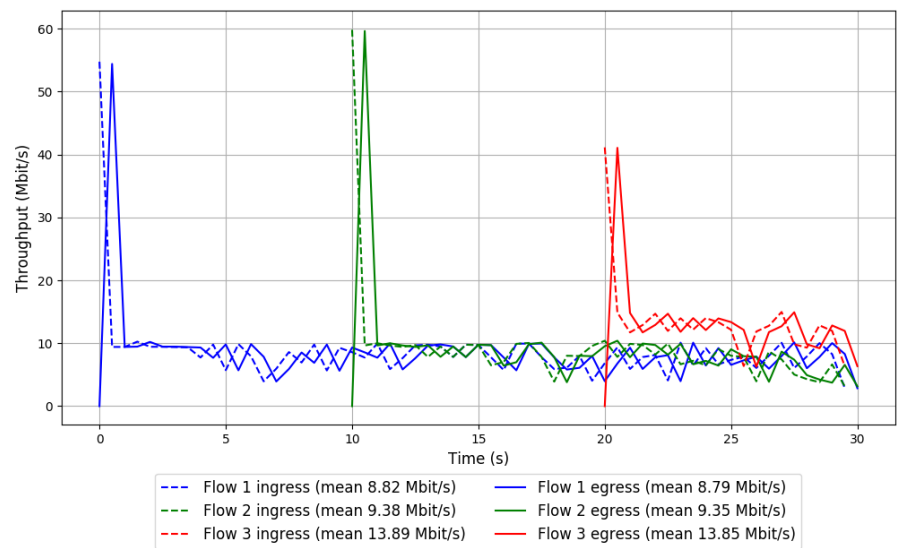
Run 1: Report of Muses_DecisionTreeH0 — Data Link

```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-12 05:10:52
End at: 2019-07-12 05:11:22
Local clock offset: -0.968 ms
Remote clock offset: 1.547 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.45 Mbit/s
95th percentile per-packet one-way delay: 4.080 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 8.79 Mbit/s
95th percentile per-packet one-way delay: 10.628 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 9.35 Mbit/s
95th percentile per-packet one-way delay: 2.383 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 13.85 Mbit/s
95th percentile per-packet one-way delay: 3.412 ms
Loss rate: 0.29%
```
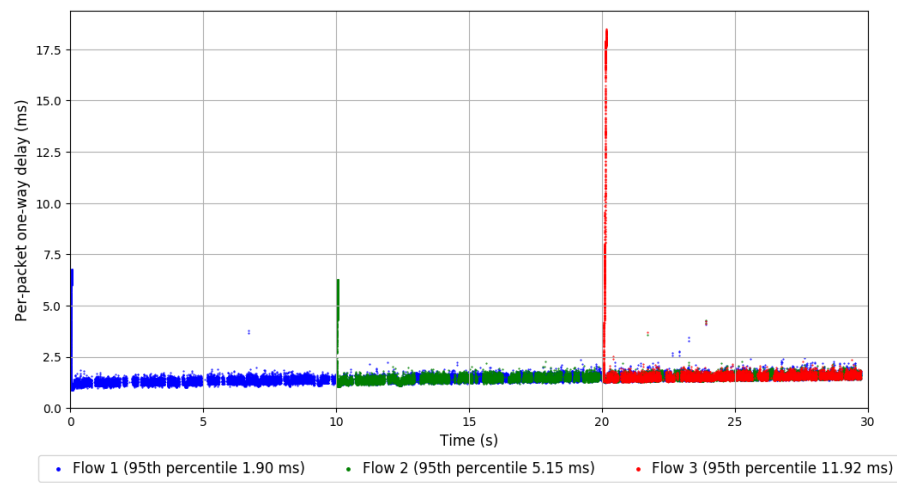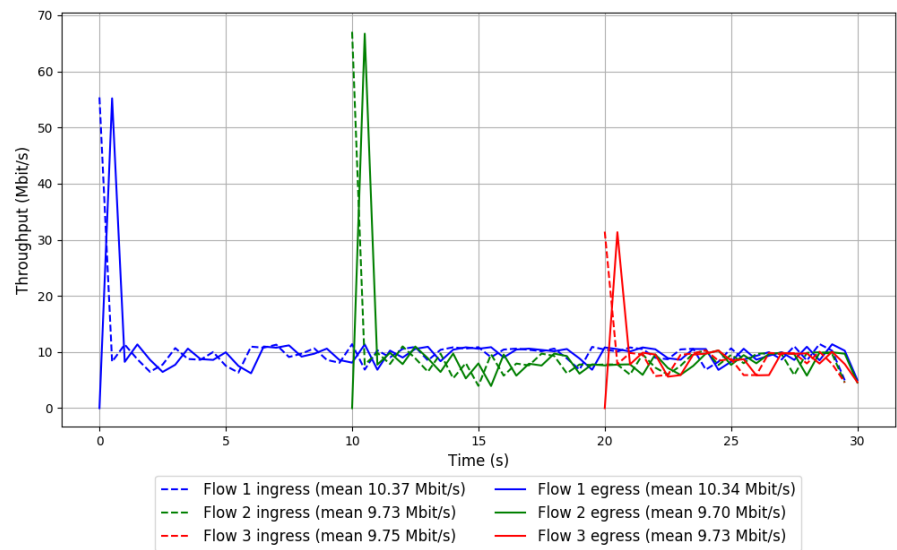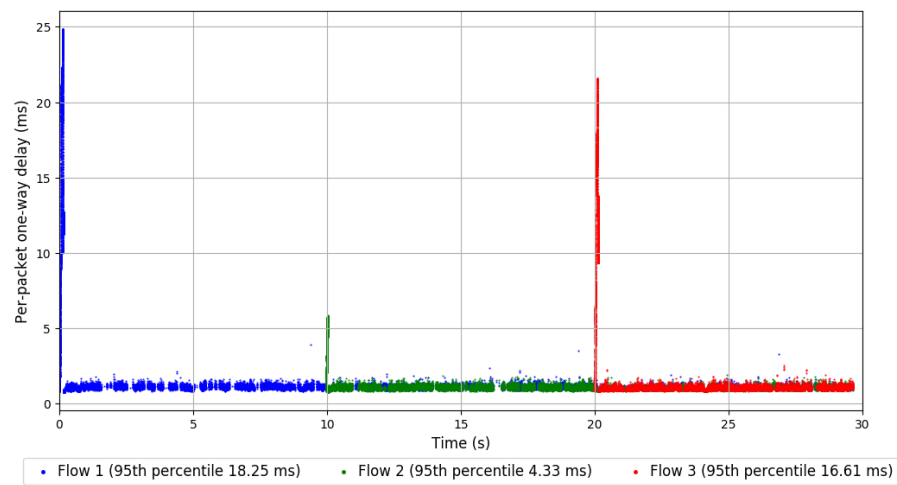
Run 2: Report of Muses_DecisionTreeH0 — Data Link

Run 3: Statistics of Muses_DecisionTreeH0

Start at: 2019-07-12 05:44:11
End at: 2019-07-12 05:44:41
Local clock offset: -0.209 ms
Remote clock offset: 4.048 ms

Below is generated by plot.py at 2019-07-12 07:39:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 19.94 Mbit/s
95th percentile per-packet one-way delay: 4.908 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 10.34 Mbit/s
95th percentile per-packet one-way delay: 1.903 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 9.70 Mbit/s
95th percentile per-packet one-way delay: 5.152 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 9.73 Mbit/s
95th percentile per-packet one-way delay: 11.923 ms
Loss rate: 0.17%

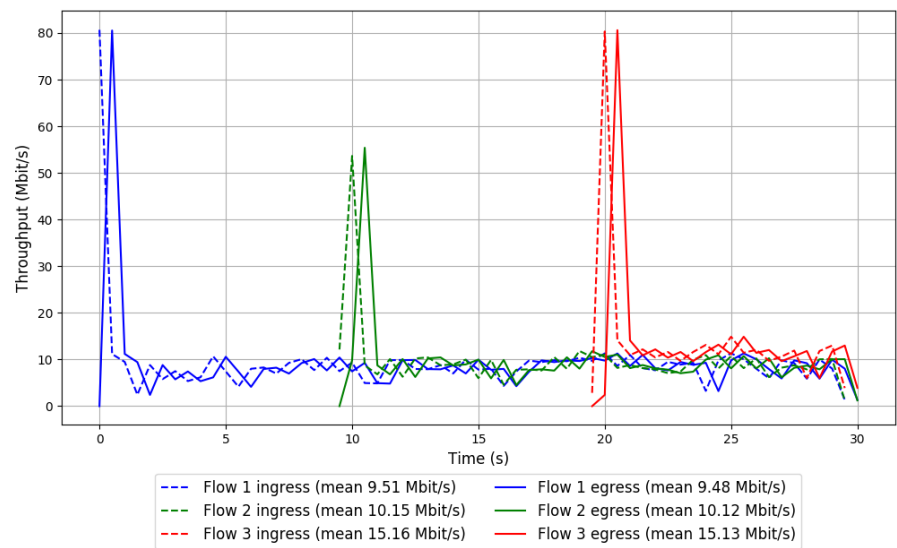Run 3: Report of Muses_DecisionTreeH0 — Data Link

```
Run 4: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-12 06:17:29
End at: 2019-07-12 06:17:59
Local clock offset: 0.03 ms
Remote clock offset: -6.674 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.11 Mbit/s
95th percentile per-packet one-way delay: 13.653 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 9.48 Mbit/s
95th percentile per-packet one-way delay: 18.252 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 10.12 Mbit/s
95th percentile per-packet one-way delay: 4.325 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 15.13 Mbit/s
95th percentile per-packet one-way delay: 16.611 ms
Loss rate: 0.18%
```

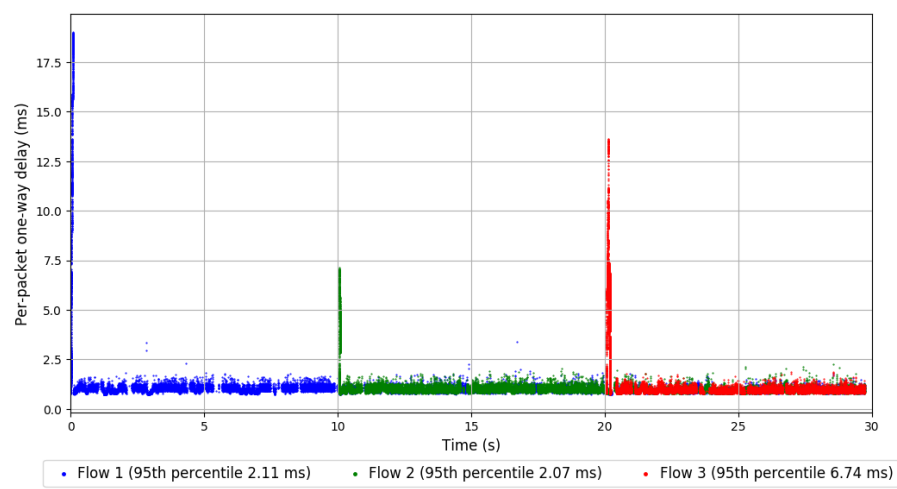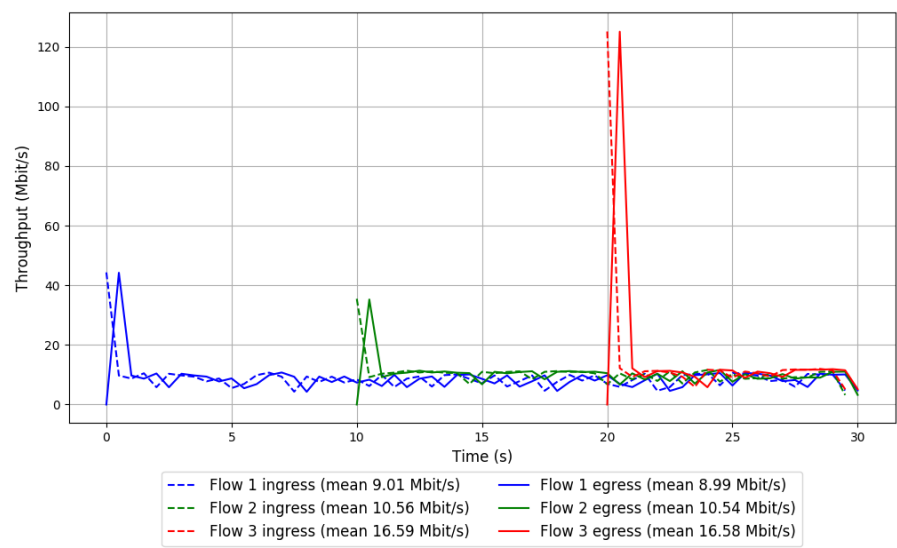Run 4: Report of Muses_DecisionTreeH0 — Data Link

```
Run 5: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-12 06:50:52
End at: 2019-07-12 06:51:22
Local clock offset: 0.0 ms
Remote clock offset: -0.871 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.37 Mbit/s
95th percentile per-packet one-way delay: 5.731 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 8.99 Mbit/s
95th percentile per-packet one-way delay: 2.107 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 10.54 Mbit/s
95th percentile per-packet one-way delay: 2.066 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 16.58 Mbit/s
95th percentile per-packet one-way delay: 6.737 ms
Loss rate: 0.11%
```
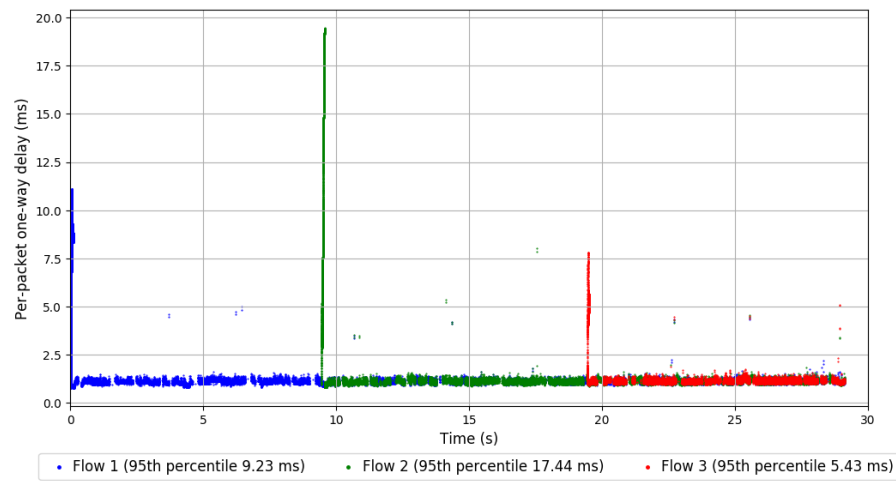
Run 5: Report of Muses_DecisionTreeH0 — Data Link

```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-12 04:10:49
End at: 2019-07-12 04:11:19
Local clock offset: 2.383 ms
Remote clock offset: 0.917 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.62 Mbit/s
95th percentile per-packet one-way delay: 10.406 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 10.55 Mbit/s
95th percentile per-packet one-way delay: 9.226 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 11.24 Mbit/s
95th percentile per-packet one-way delay: 17.439 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 10.43 Mbit/s
95th percentile per-packet one-way delay: 5.426 ms
Loss rate: 0.44%
```
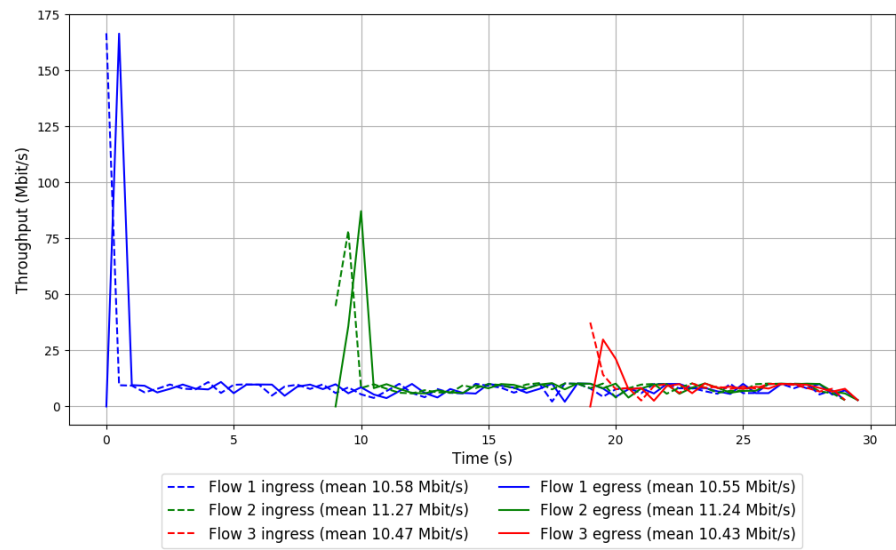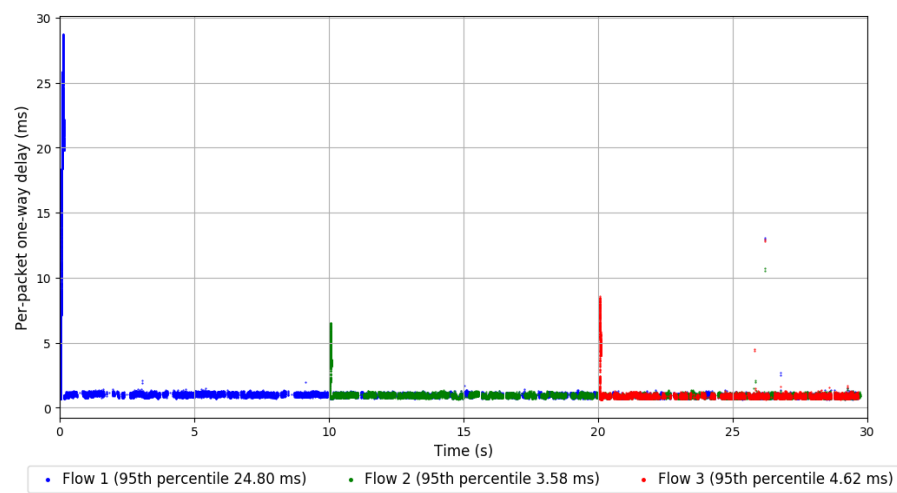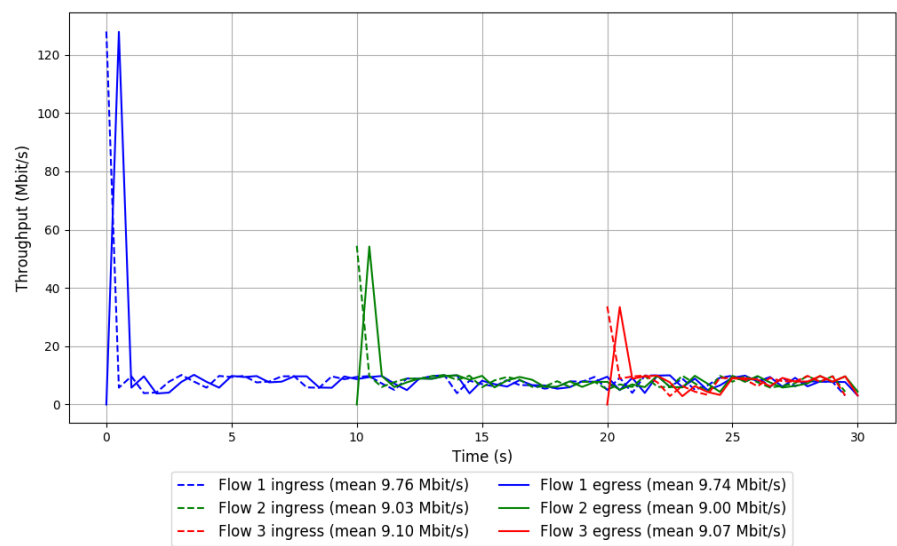
Run 1: Report of Muses_DecisionTreeR0 — Data Link

Flow 1 ingress (mean 10.58 Mbit/s) --- Flow 1 egress (mean 10.55 Mbit/s)
Flow 2 ingress (mean 11.27 Mbit/s) --- Flow 2 egress (mean 11.24 Mbit/s)
Flow 3 ingress (mean 10.47 Mbit/s) --- Flow 3 egress (mean 10.43 Mbit/s)

Flow 1 (95th percentile 9.23 ms)   Flow 2 (95th percentile 17.44 ms)   Flow 3 (95th percentile 5.43 ms)

```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-12 04:44:09
End at: 2019-07-12 04:44:39
Local clock offset: 0.387 ms
Remote clock offset: 0.518 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.61 Mbit/s
95th percentile per-packet one-way delay: 20.102 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 9.74 Mbit/s
95th percentile per-packet one-way delay: 24.798 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 9.00 Mbit/s
95th percentile per-packet one-way delay: 3.575 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 9.07 Mbit/s
95th percentile per-packet one-way delay: 4.623 ms
Loss rate: 0.40%
```
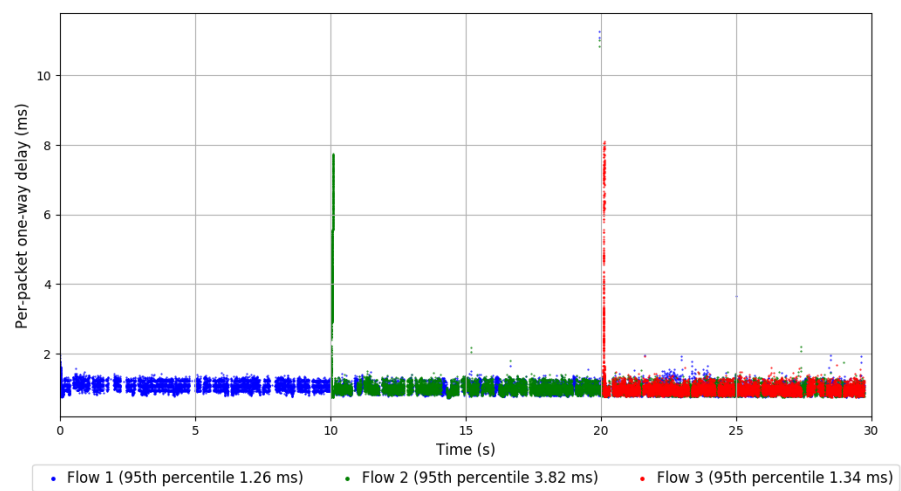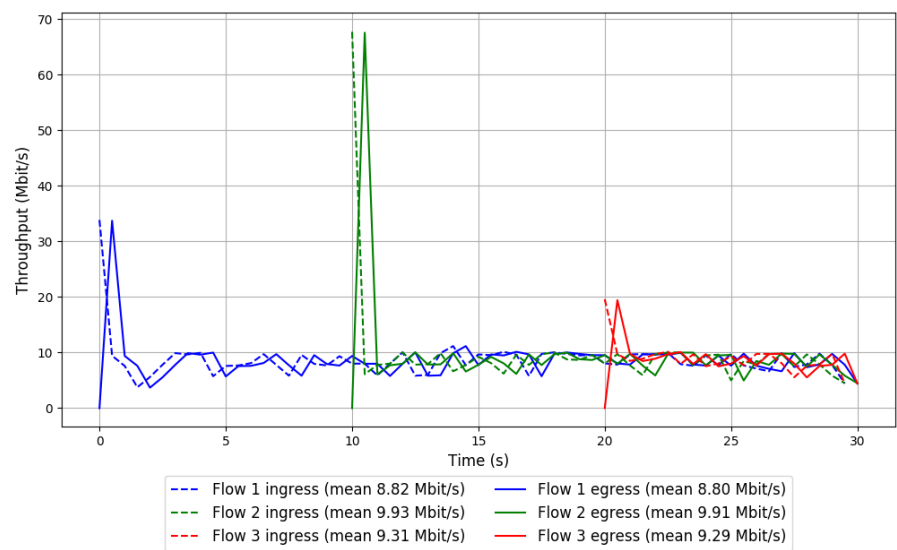
Run 2: Report of Muses_DecisionTreeR0 — Data Link

```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-12 05:17:39
End at: 2019-07-12 05:18:09
Local clock offset: -1.171 ms
Remote clock offset: 2.613 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.39 Mbit/s
95th percentile per-packet one-way delay: 3.093 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 8.80 Mbit/s
95th percentile per-packet one-way delay: 1.264 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 9.91 Mbit/s
95th percentile per-packet one-way delay: 3.816 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 9.29 Mbit/s
95th percentile per-packet one-way delay: 1.343 ms
Loss rate: 0.19%
```

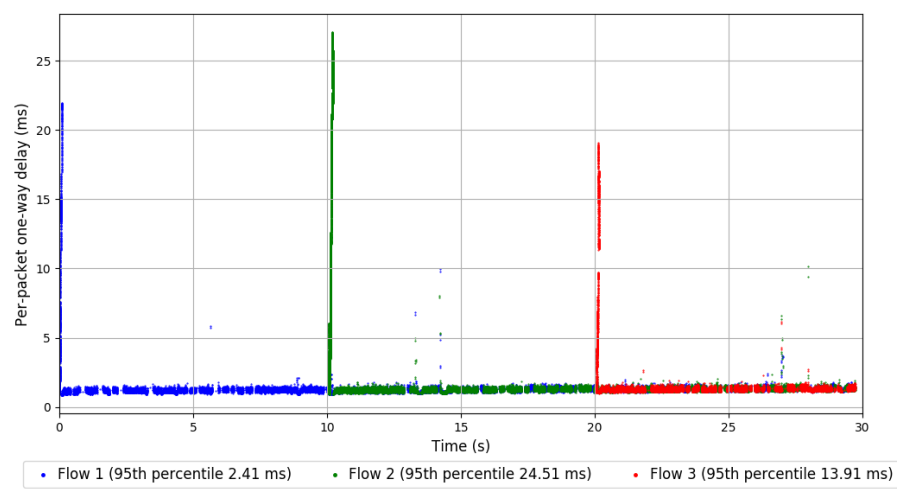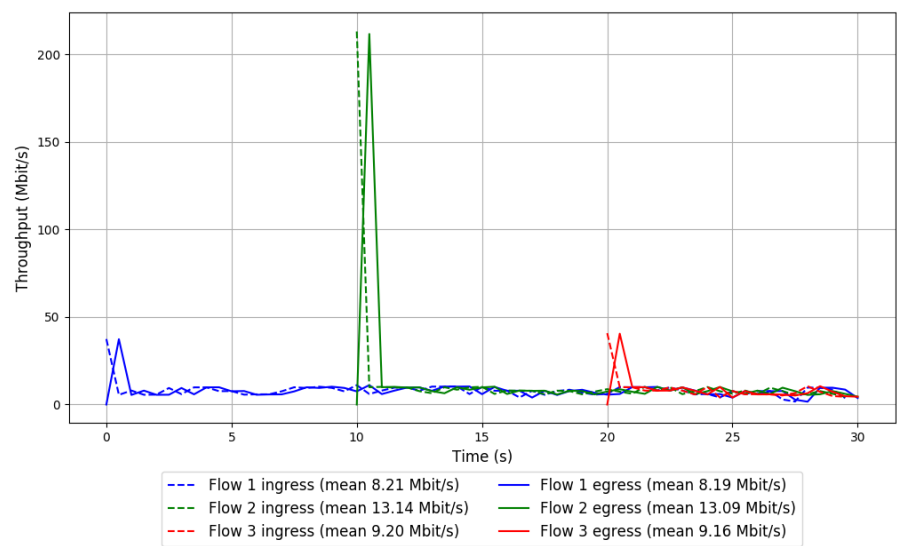# Run 3: Report of Muses_DecisionTreeR0 — Data Link

Flow 1 ingress (mean 8.82 Mbit/s)   Flow 1 egress (mean 8.80 Mbit/s)
Flow 2 ingress (mean 9.93 Mbit/s)   Flow 2 egress (mean 9.91 Mbit/s)
Flow 3 ingress (mean 9.31 Mbit/s)   Flow 3 egress (mean 9.29 Mbit/s)

Flow 1 (95th percentile 1.26 ms)   Flow 2 (95th percentile 3.82 ms)   Flow 3 (95th percentile 1.34 ms)
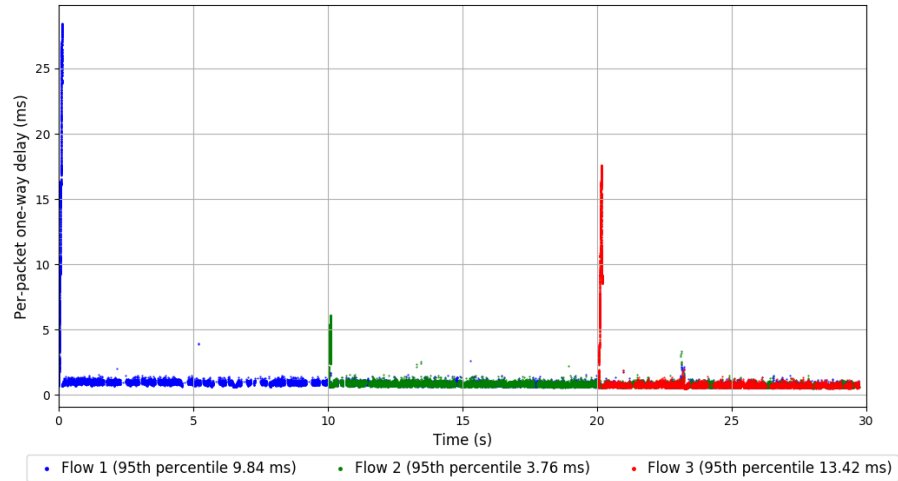
```
Run 4: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-12 05:50:54
End at: 2019-07-12 05:51:24
Local clock offset: -0.105 ms
Remote clock offset: -0.505 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.83 Mbit/s
95th percentile per-packet one-way delay: 22.048 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 8.19 Mbit/s
95th percentile per-packet one-way delay: 2.412 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 13.09 Mbit/s
95th percentile per-packet one-way delay: 24.507 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 9.16 Mbit/s
95th percentile per-packet one-way delay: 13.910 ms
Loss rate: 0.43%
```

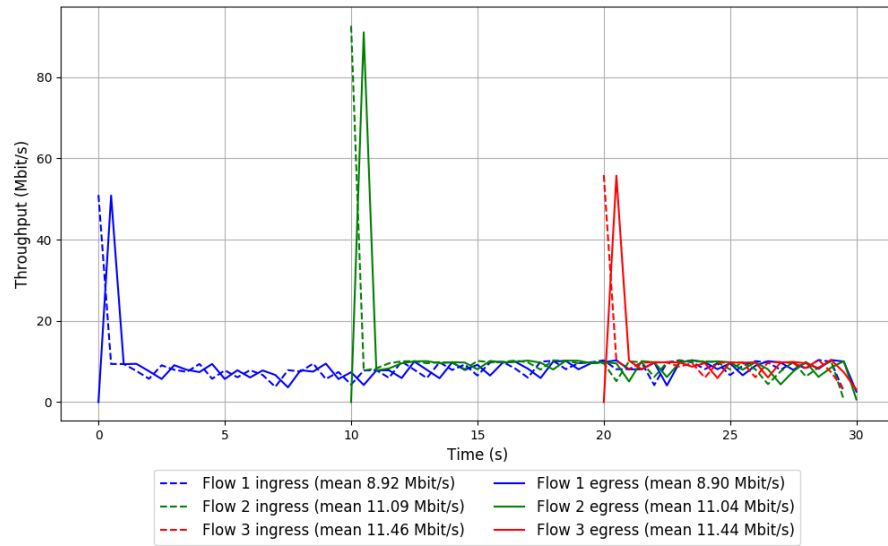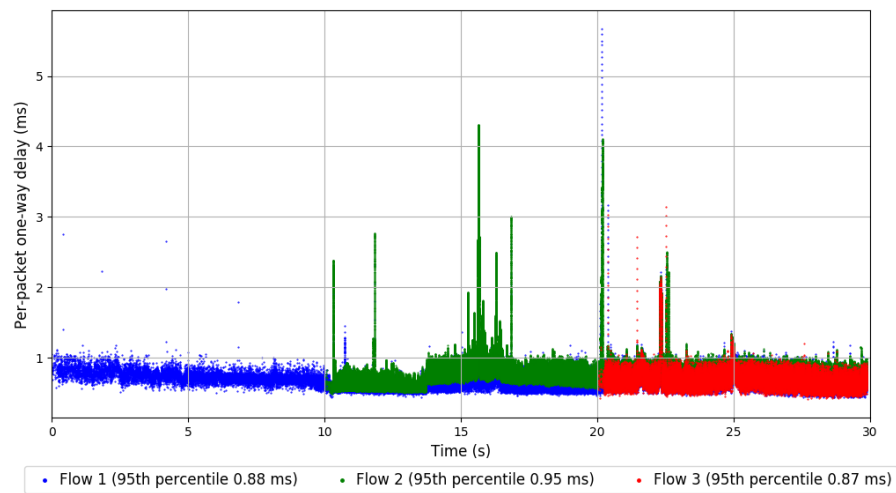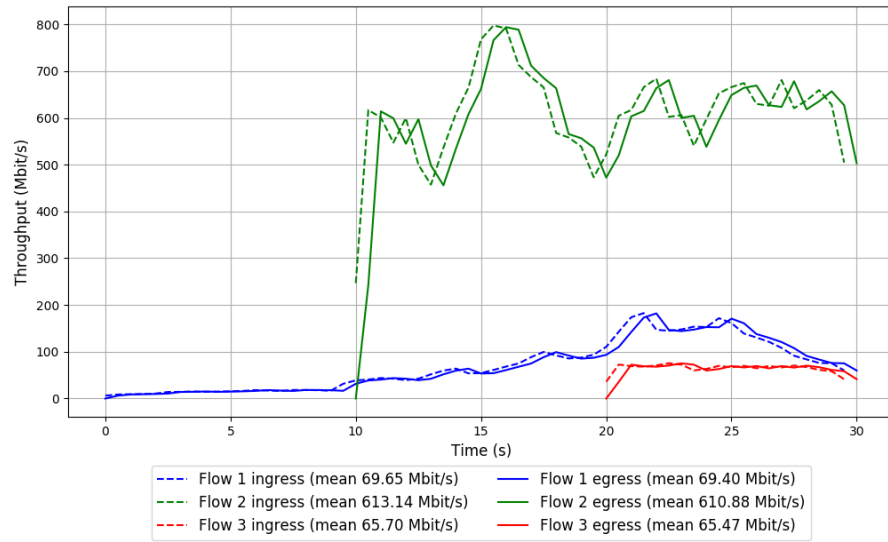Run 4: Report of Muses_DecisionTreeR0 — Data Link

Flow 1 ingress (mean 8.21 Mbit/s) — Flow 1 egress (mean 8.19 Mbit/s)
Flow 2 ingress (mean 13.14 Mbit/s) — Flow 2 egress (mean 13.09 Mbit/s)
Flow 3 ingress (mean 9.20 Mbit/s) — Flow 3 egress (mean 9.16 Mbit/s)

Flow 1 (95th percentile 2.41 ms) • Flow 2 (95th percentile 24.51 ms) • Flow 3 (95th percentile 13.91 ms)

```
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-12 06:24:17
End at: 2019-07-12 06:24:47
Local clock offset: 0.06 ms
Remote clock offset: -3.536 ms


# Below is generated by plot.py at 2019-07-12 07:39:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.95 Mbit/s
95th percentile per-packet one-way delay: 9.012 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 8.90 Mbit/s
95th percentile per-packet one-way delay: 9.836 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 11.04 Mbit/s
95th percentile per-packet one-way delay: 3.757 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 11.44 Mbit/s
95th percentile per-packet one-way delay: 13.424 ms
Loss rate: 0.16%
```

Run 5: Report of Muses_DecisionTreeR0 — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-07-12 04:33:01
End at: 2019-07-12 04:33:31
Local clock offset: 2.308 ms
Remote clock offset: -0.422 ms


# Below is generated by plot.py at 2019-07-12 07:39:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 497.24 Mbit/s
95th percentile per-packet one-way delay: 0.939 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 69.40 Mbit/s
95th percentile per-packet one-way delay: 0.881 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 610.88 Mbit/s
95th percentile per-packet one-way delay: 0.950 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 65.47 Mbit/s
95th percentile per-packet one-way delay: 0.871 ms
Loss rate: 0.35%
```
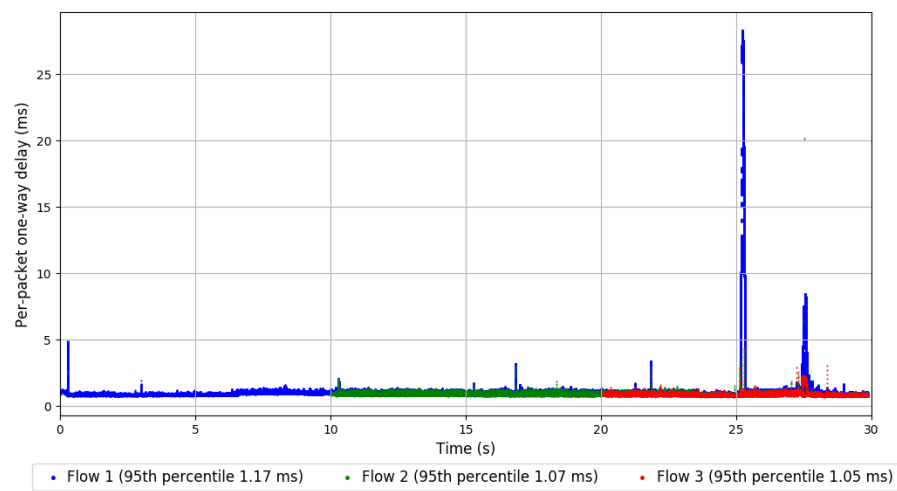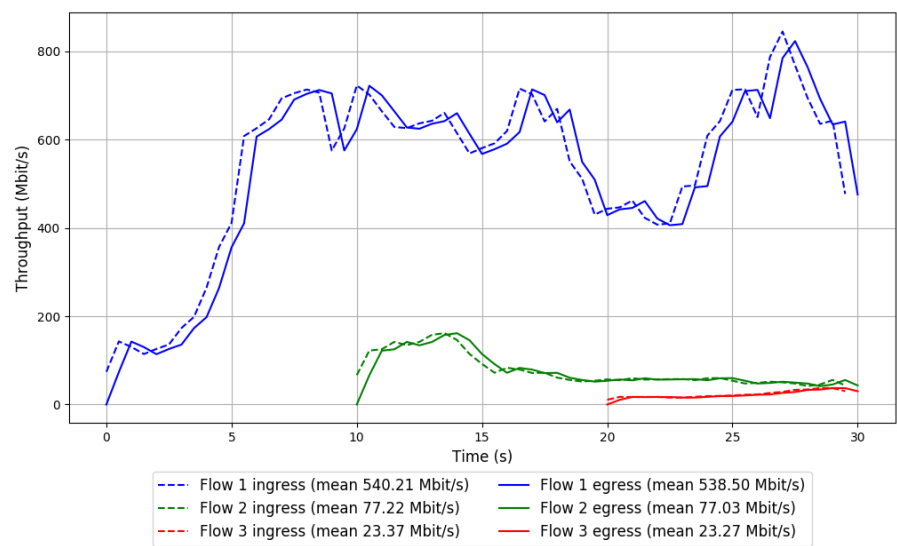
Run 1: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 69.65 Mbit/s) --- Flow 1 egress (mean 69.40 Mbit/s)
Flow 2 ingress (mean 613.14 Mbit/s) --- Flow 2 egress (mean 610.88 Mbit/s)
Flow 3 ingress (mean 65.70 Mbit/s) --- Flow 3 egress (mean 65.47 Mbit/s)

• Flow 1 (95th percentile 0.88 ms) • Flow 2 (95th percentile 0.95 ms) • Flow 3 (95th percentile 0.87 ms)

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-07-12 05:06:32
End at: 2019-07-12 05:07:02
Local clock offset: -0.832 ms
Remote clock offset: 1.323 ms


# Below is generated by plot.py at 2019-07-12 07:41:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 597.39 Mbit/s
95th percentile per-packet one-way delay: 1.162 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 538.50 Mbit/s
95th percentile per-packet one-way delay: 1.170 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 77.03 Mbit/s
95th percentile per-packet one-way delay: 1.068 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 23.27 Mbit/s
95th percentile per-packet one-way delay: 1.055 ms
Loss rate: 0.40%
```
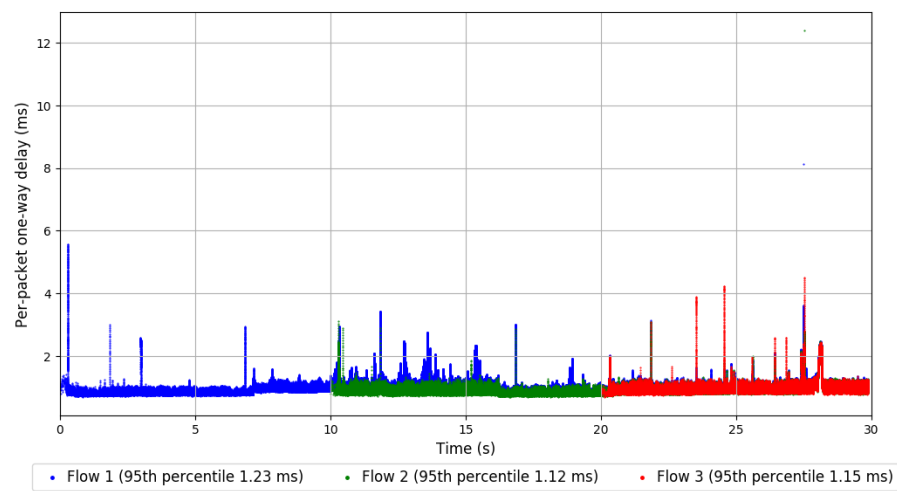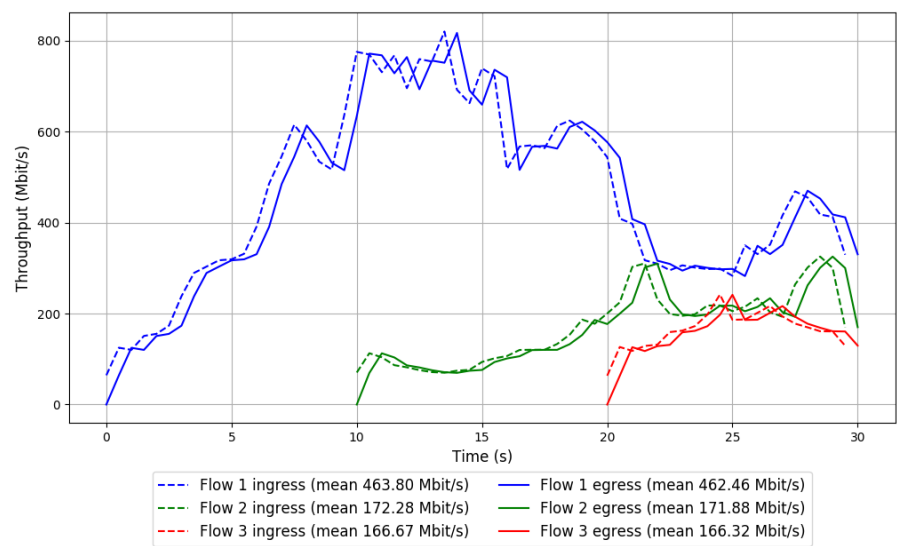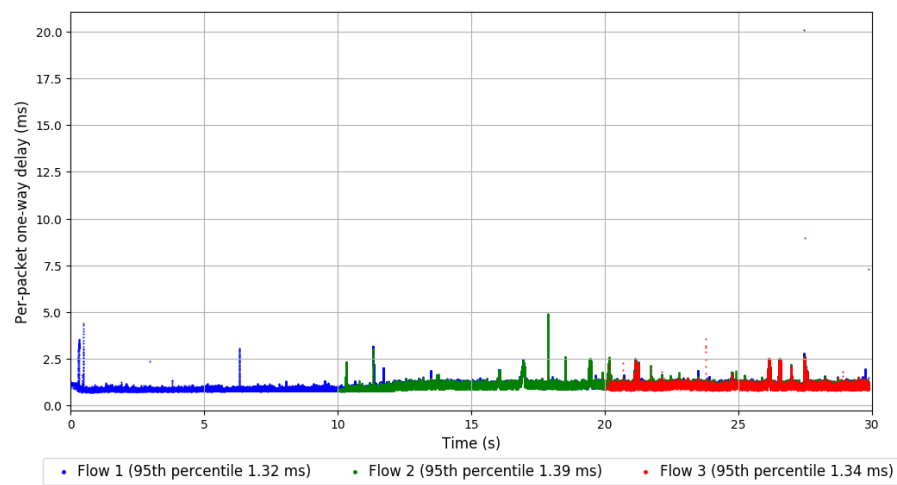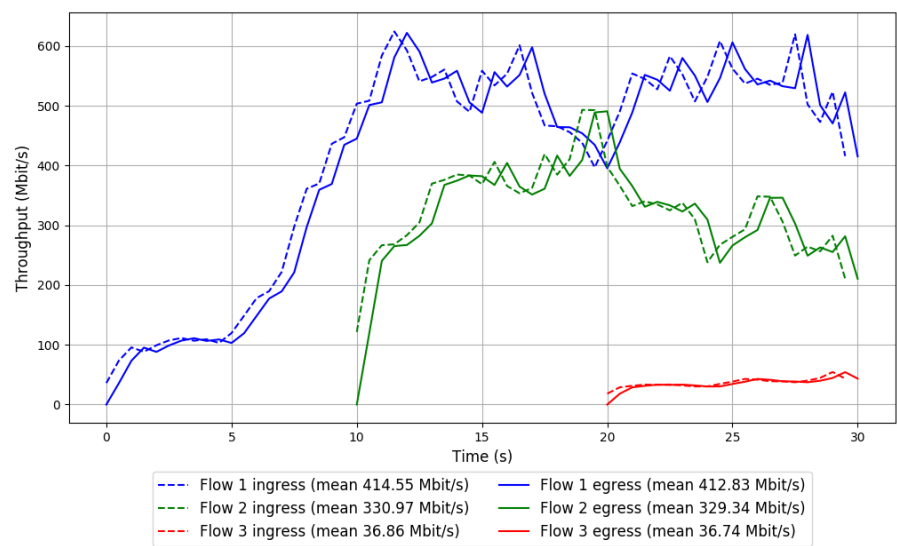
Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-07-12 05:39:50
End at: 2019-07-12 05:40:20
Local clock offset: -0.372 ms
Remote clock offset: 3.853 ms


# Below is generated by plot.py at 2019-07-12 07:41:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 631.49 Mbit/s
95th percentile per-packet one-way delay: 1.204 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 462.46 Mbit/s
95th percentile per-packet one-way delay: 1.228 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 171.88 Mbit/s
95th percentile per-packet one-way delay: 1.121 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 166.32 Mbit/s
95th percentile per-packet one-way delay: 1.148 ms
Loss rate: 0.21%
```
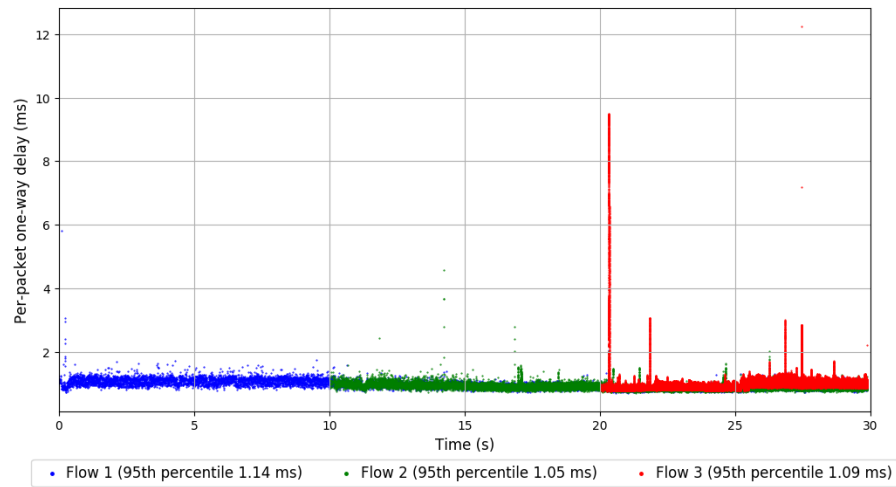
Run 3: Report of PCC-Allegro — Data Link

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```
Run 4: Statistics of PCC-Allegro

Start at: 2019-07-12 06:13:06
End at: 2019-07-12 06:13:36
Local clock offset: 0.026 ms
Remote clock offset: -6.083 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 643.86 Mbit/s
95th percentile per-packet one-way delay: 1.339 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 412.83 Mbit/s
95th percentile per-packet one-way delay: 1.325 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 329.34 Mbit/s
95th percentile per-packet one-way delay: 1.392 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 36.74 Mbit/s
95th percentile per-packet one-way delay: 1.338 ms
Loss rate: 0.32%
```

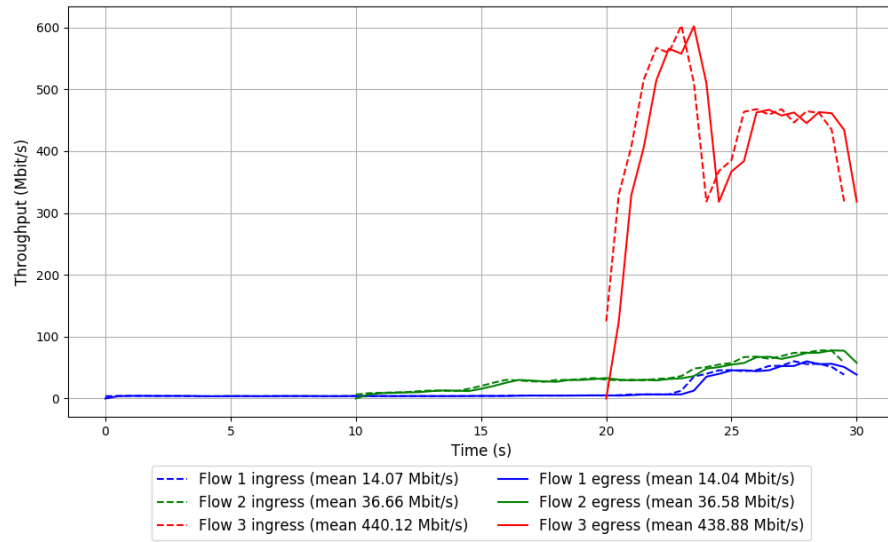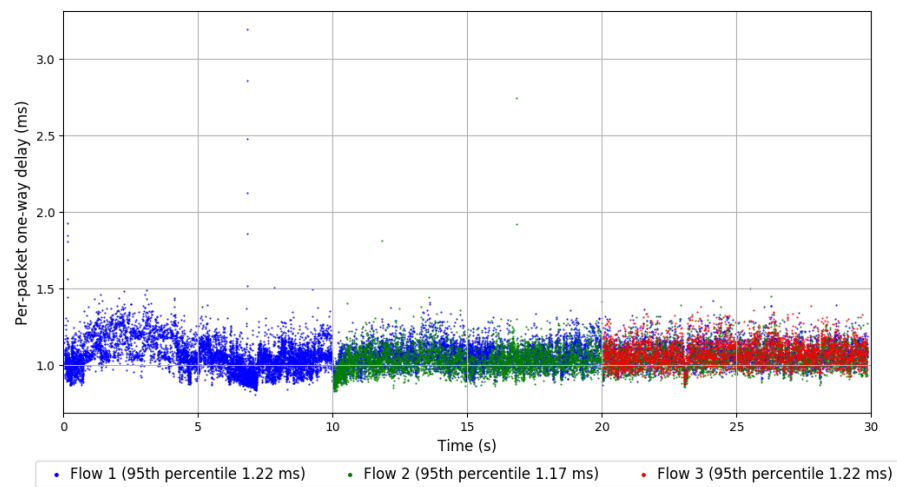Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-07-12 06:46:42
End at: 2019-07-12 06:47:12
Local clock offset: 0.015 ms
Remote clock offset: -0.825 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 183.13 Mbit/s
95th percentile per-packet one-way delay: 1.087 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 14.04 Mbit/s
95th percentile per-packet one-way delay: 1.136 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 36.58 Mbit/s
95th percentile per-packet one-way delay: 1.053 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 438.88 Mbit/s
95th percentile per-packet one-way delay: 1.087 ms
Loss rate: 0.27%
```

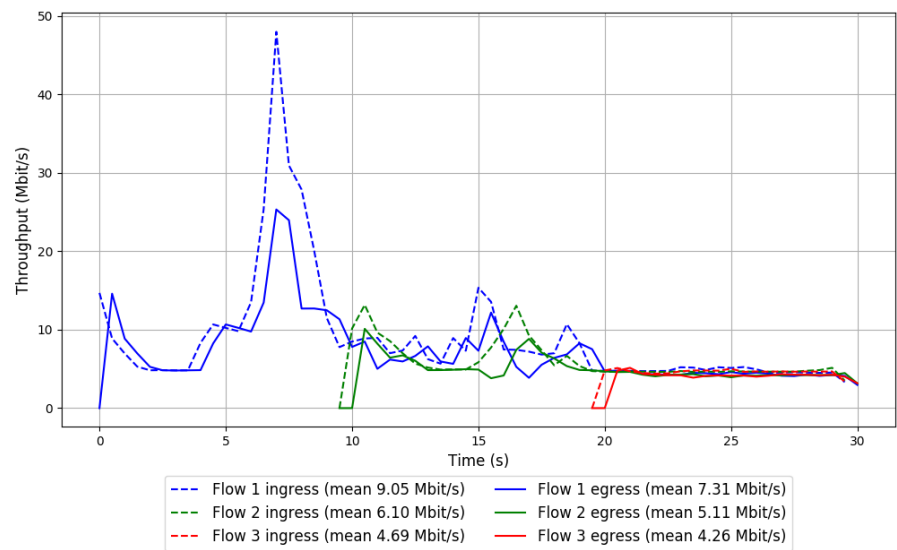Run 5: Report of PCC-Allegro — Data Link

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```
Run 1: Statistics of PCC-Expr

Start at: 2019-07-12 04:25:01
End at: 2019-07-12 04:25:31
Local clock offset: 3.474 ms
Remote clock offset: -0.198 ms

# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.12 Mbit/s
95th percentile per-packet one-way delay: 1.207 ms
Loss rate: 17.35%
-- Flow 1:
Average throughput: 7.31 Mbit/s
95th percentile per-packet one-way delay: 1.217 ms
Loss rate: 19.25%
-- Flow 2:
Average throughput: 5.11 Mbit/s
95th percentile per-packet one-way delay: 1.169 ms
Loss rate: 16.19%
-- Flow 3:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 1.217 ms
Loss rate: 9.33%
```
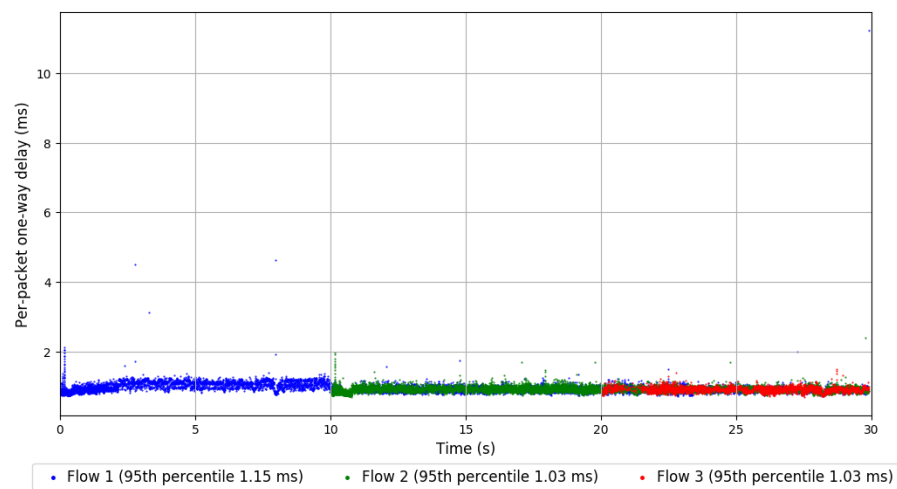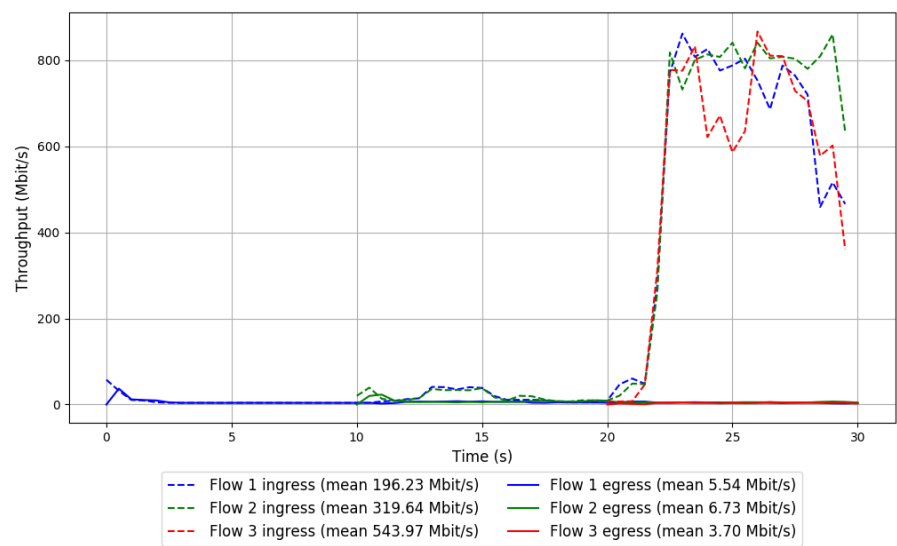
Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2019-07-12 04:58:26
End at: 2019-07-12 04:58:56
Local clock offset: -0.433 ms
Remote clock offset: 1.158 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.24 Mbit/s
95th percentile per-packet one-way delay: 1.104 ms
Loss rate: 98.09%
-- Flow 1:
Average throughput: 5.54 Mbit/s
95th percentile per-packet one-way delay: 1.152 ms
Loss rate: 97.18%
-- Flow 2:
Average throughput: 6.73 Mbit/s
95th percentile per-packet one-way delay: 1.035 ms
Loss rate: 97.89%
-- Flow 3:
Average throughput: 3.70 Mbit/s
95th percentile per-packet one-way delay: 1.029 ms
Loss rate: 99.32%
```
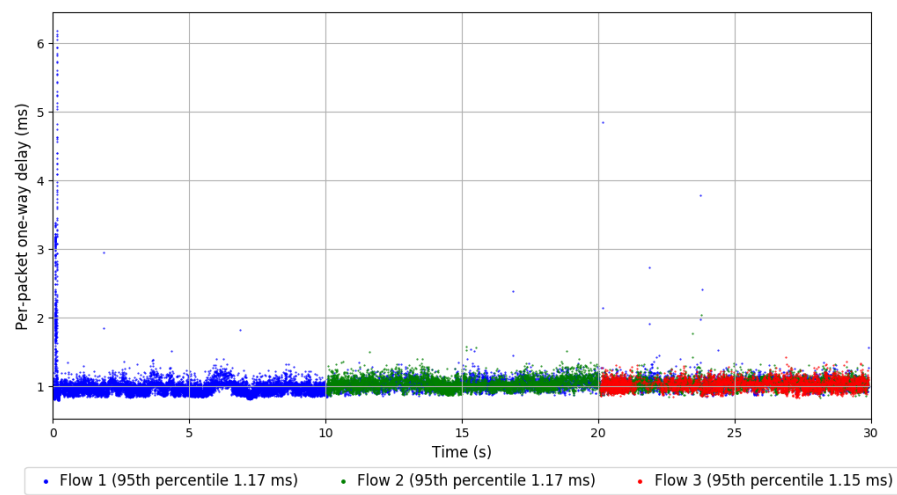
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-07-12 05:31:47
End at: 2019-07-12 05:32:17
Local clock offset: -1.045 ms
Remote clock offset: 3.547 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.51 Mbit/s
95th percentile per-packet one-way delay: 1.168 ms
Loss rate: 97.84%
-- Flow 1:
Average throughput: 7.84 Mbit/s
95th percentile per-packet one-way delay: 1.171 ms
Loss rate: 96.31%
-- Flow 2:
Average throughput: 6.00 Mbit/s
95th percentile per-packet one-way delay: 1.172 ms
Loss rate: 98.07%
-- Flow 3:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 1.154 ms
Loss rate: 99.18%
```
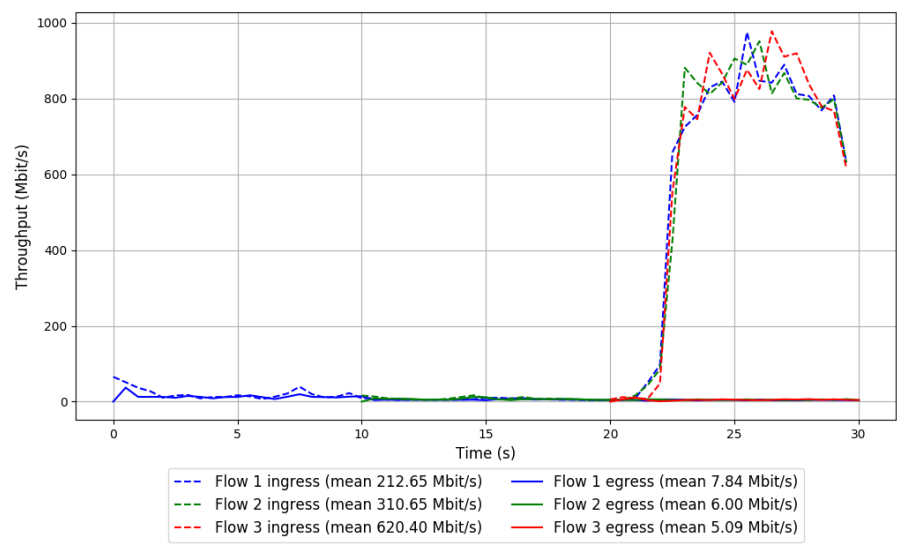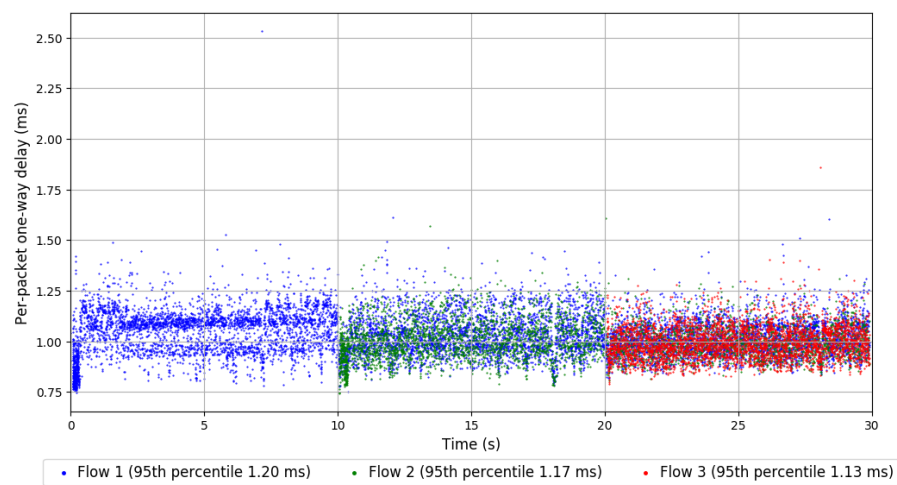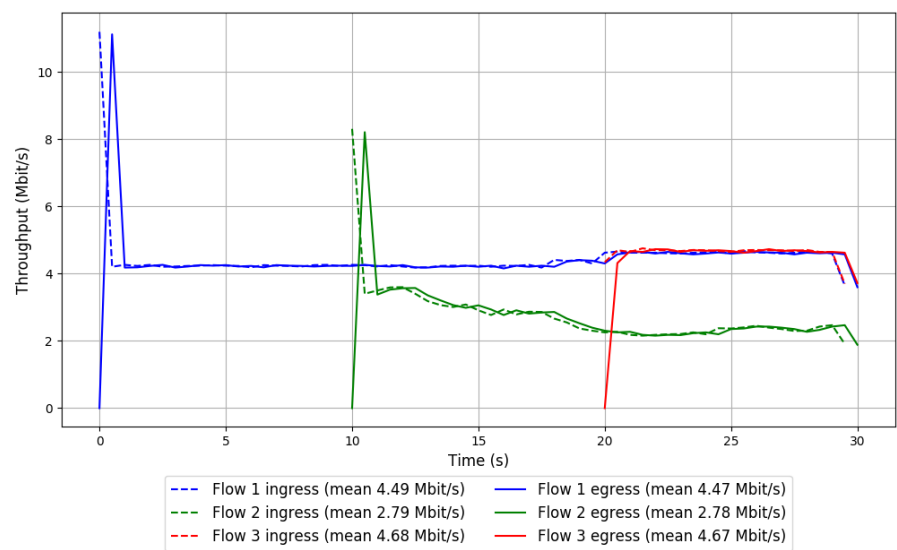
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 212.65 Mbit/s)   Flow 1 egress (mean 7.84 Mbit/s)
Flow 2 ingress (mean 310.65 Mbit/s)   Flow 2 egress (mean 6.00 Mbit/s)
Flow 3 ingress (mean 620.40 Mbit/s)   Flow 3 egress (mean 5.09 Mbit/s)

Flow 1 (95th percentile 1.17 ms)   Flow 2 (95th percentile 1.17 ms)   Flow 3 (95th percentile 1.15 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2019-07-12 06:05:06
End at: 2019-07-12 06:05:36
Local clock offset: 0.032 ms
Remote clock offset: -4.815 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.86 Mbit/s
95th percentile per-packet one-way delay: 1.185 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 4.47 Mbit/s
95th percentile per-packet one-way delay: 1.200 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 2.78 Mbit/s
95th percentile per-packet one-way delay: 1.170 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 4.67 Mbit/s
95th percentile per-packet one-way delay: 1.130 ms
Loss rate: 0.24%
```
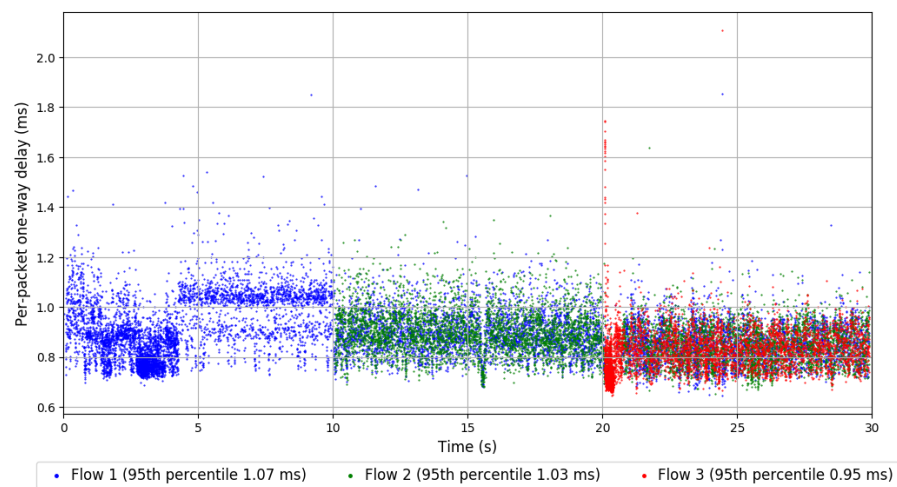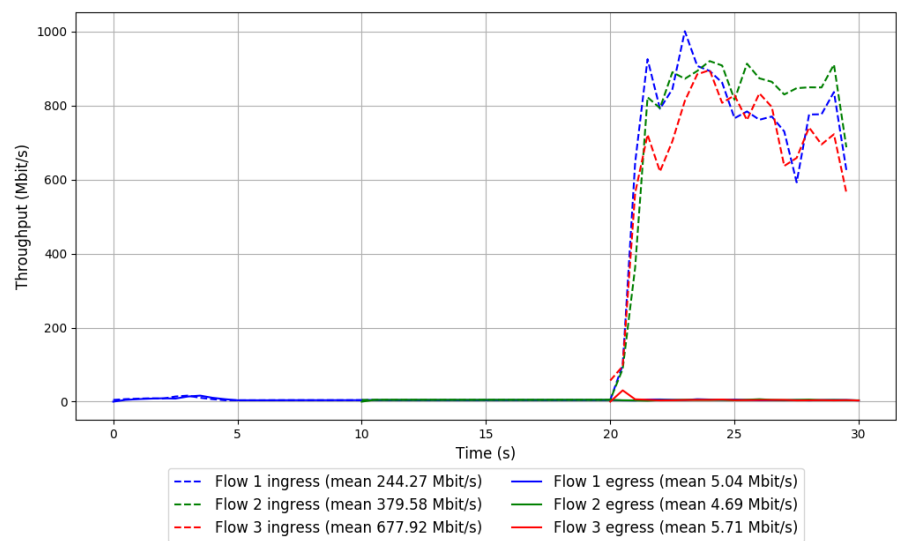
Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-07-12 06:38:38
End at: 2019-07-12 06:39:08
Local clock offset: 0.026 ms
Remote clock offset: -1.131 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.05 Mbit/s
95th percentile per-packet one-way delay: 1.053 ms
Loss rate: 98.61%
-- Flow 1:
Average throughput: 5.04 Mbit/s
95th percentile per-packet one-way delay: 1.072 ms
Loss rate: 97.94%
-- Flow 2:
Average throughput: 4.69 Mbit/s
95th percentile per-packet one-way delay: 1.030 ms
Loss rate: 98.76%
-- Flow 3:
Average throughput: 5.71 Mbit/s
95th percentile per-packet one-way delay: 0.952 ms
Loss rate: 99.16%
```
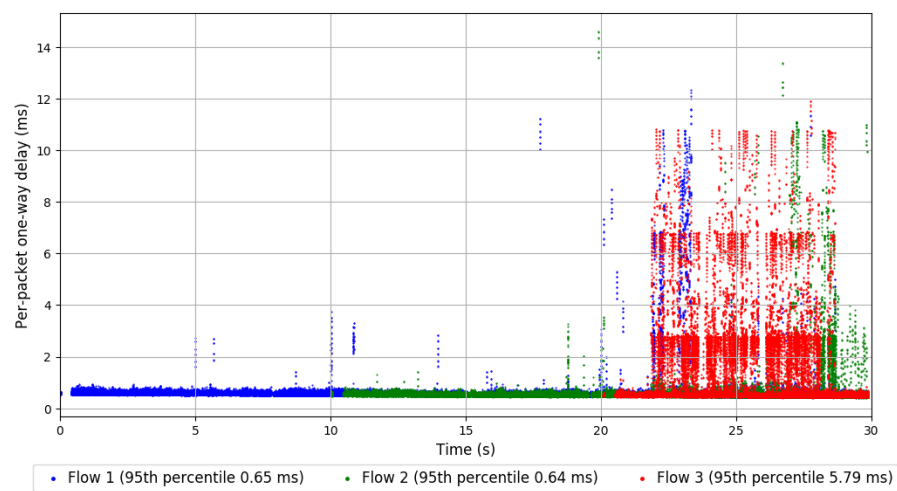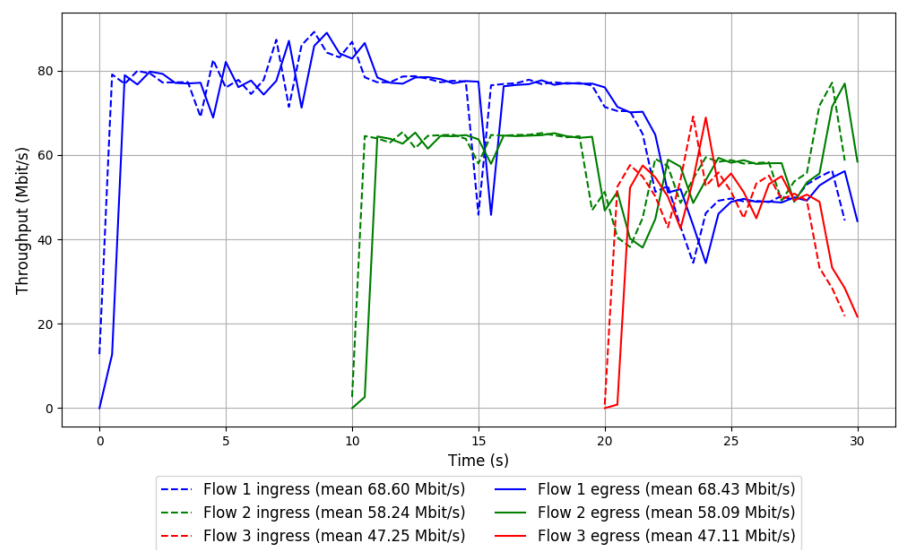
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 244.27 Mbit/s) --- Flow 1 egress (mean 5.04 Mbit/s)
Flow 2 ingress (mean 379.58 Mbit/s) --- Flow 2 egress (mean 4.69 Mbit/s)
Flow 3 ingress (mean 677.92 Mbit/s) --- Flow 3 egress (mean 5.71 Mbit/s)

Flow 1 (95th percentile 1.07 ms)   Flow 2 (95th percentile 1.03 ms)   Flow 3 (95th percentile 0.95 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-07-12 04:34:28
End at: 2019-07-12 04:34:58
Local clock offset: 1.914 ms
Remote clock offset: -0.517 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 122.48 Mbit/s
95th percentile per-packet one-way delay: 0.835 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 68.43 Mbit/s
95th percentile per-packet one-way delay: 0.650 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 58.09 Mbit/s
95th percentile per-packet one-way delay: 0.637 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 47.11 Mbit/s
95th percentile per-packet one-way delay: 5.791 ms
Loss rate: 0.30%
```
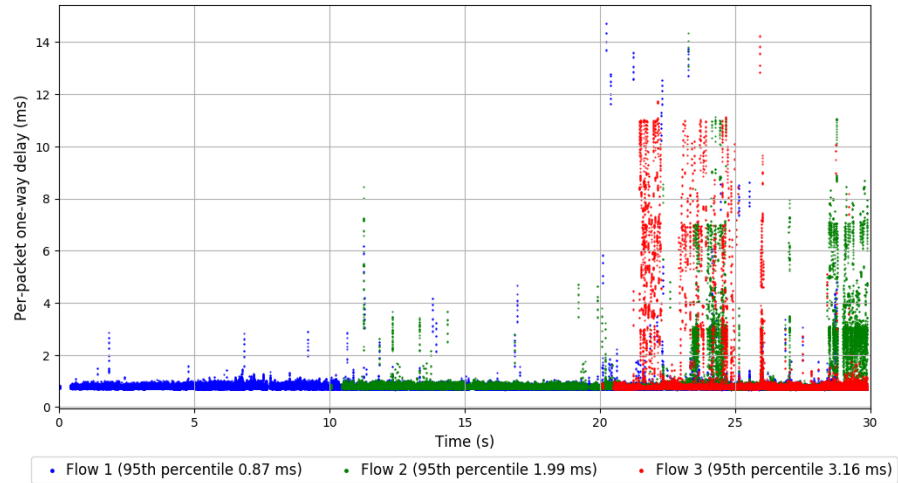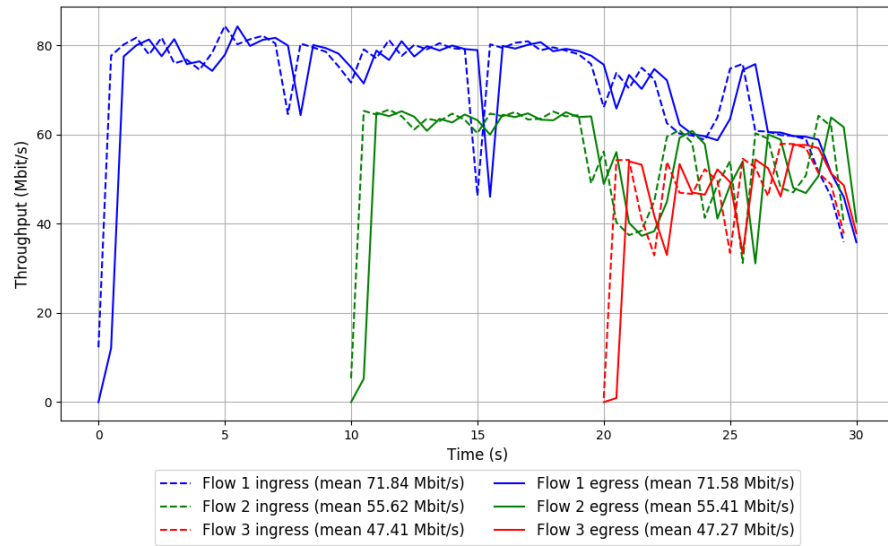
Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 68.60 Mbit/s) ---- Flow 1 egress (mean 68.43 Mbit/s) ——
Flow 2 ingress (mean 58.24 Mbit/s) ---- Flow 2 egress (mean 58.09 Mbit/s) ——
Flow 3 ingress (mean 47.25 Mbit/s) ---- Flow 3 egress (mean 47.11 Mbit/s) ——

Flow 1 (95th percentile 0.65 ms) • Flow 2 (95th percentile 0.64 ms) • Flow 3 (95th percentile 5.79 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-07-12 05:08:01
End at: 2019-07-12 05:08:31
Local clock offset: -0.891 ms
Remote clock offset: 1.316 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 123.90 Mbit/s
95th percentile per-packet one-way delay: 0.918 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 71.58 Mbit/s
95th percentile per-packet one-way delay: 0.873 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 55.41 Mbit/s
95th percentile per-packet one-way delay: 1.991 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 47.27 Mbit/s
95th percentile per-packet one-way delay: 3.163 ms
Loss rate: 0.29%
```
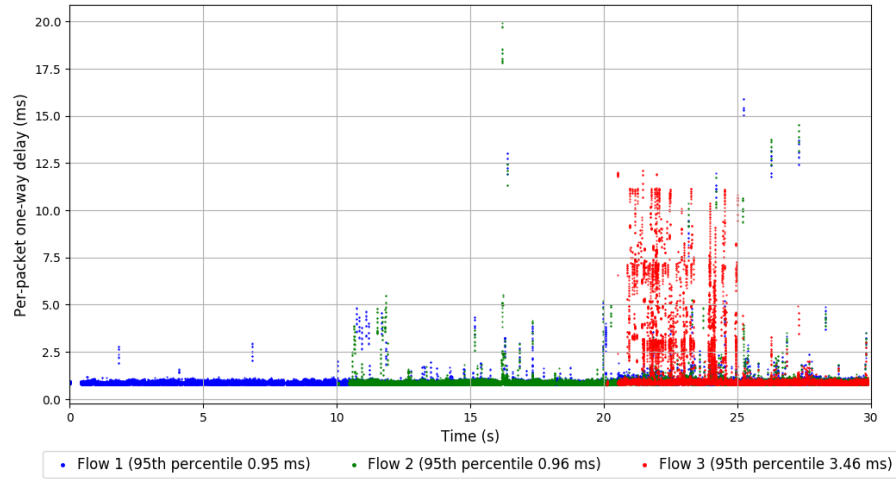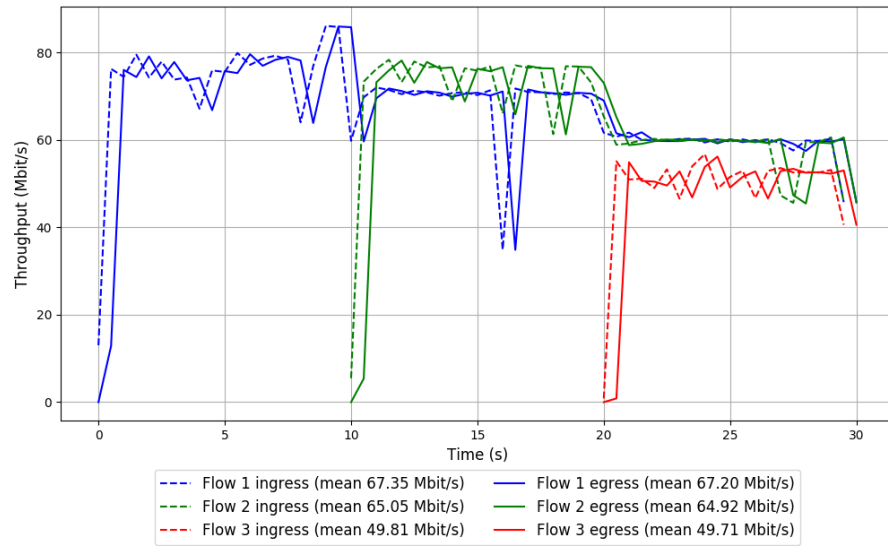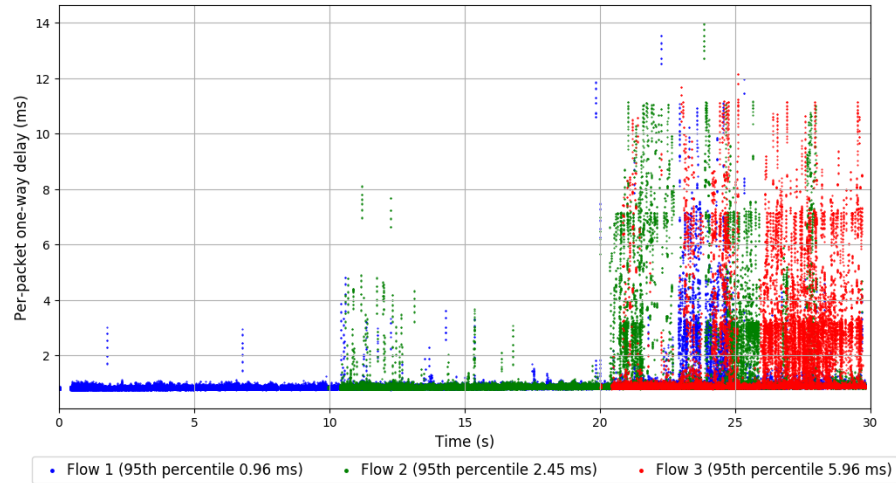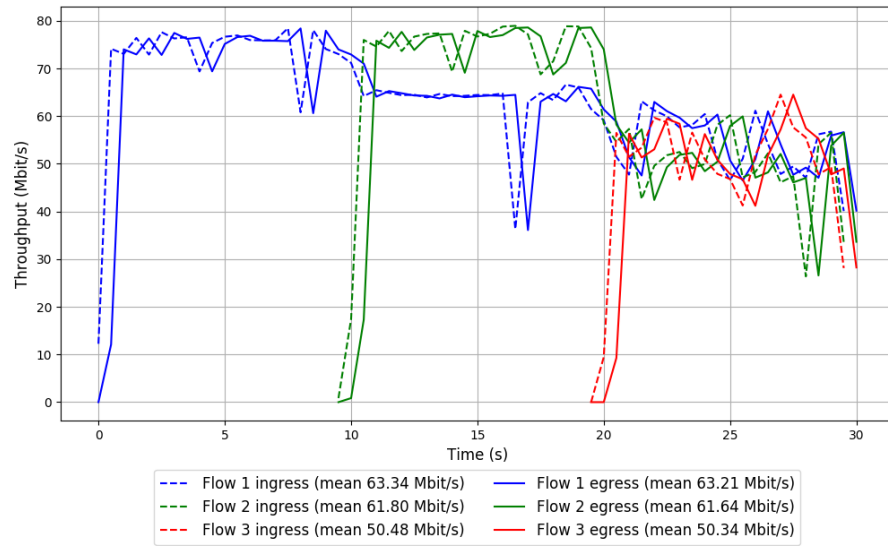
Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 71.84 Mbit/s) — — — Flow 1 egress (mean 71.58 Mbit/s)
Flow 2 ingress (mean 55.62 Mbit/s) — — — Flow 2 egress (mean 55.41 Mbit/s)
Flow 3 ingress (mean 47.41 Mbit/s) — — — Flow 3 egress (mean 47.27 Mbit/s)

Flow 1 (95th percentile 0.87 ms)   Flow 2 (95th percentile 1.99 ms)   Flow 3 (95th percentile 3.16 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-07-12 05:41:21
End at: 2019-07-12 05:41:51
Local clock offset: -0.324 ms
Remote clock offset: 3.935 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 126.62 Mbit/s
95th percentile per-packet one-way delay: 0.973 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 67.20 Mbit/s
95th percentile per-packet one-way delay: 0.952 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 64.92 Mbit/s
95th percentile per-packet one-way delay: 0.961 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 49.71 Mbit/s
95th percentile per-packet one-way delay: 3.456 ms
Loss rate: 0.21%
```

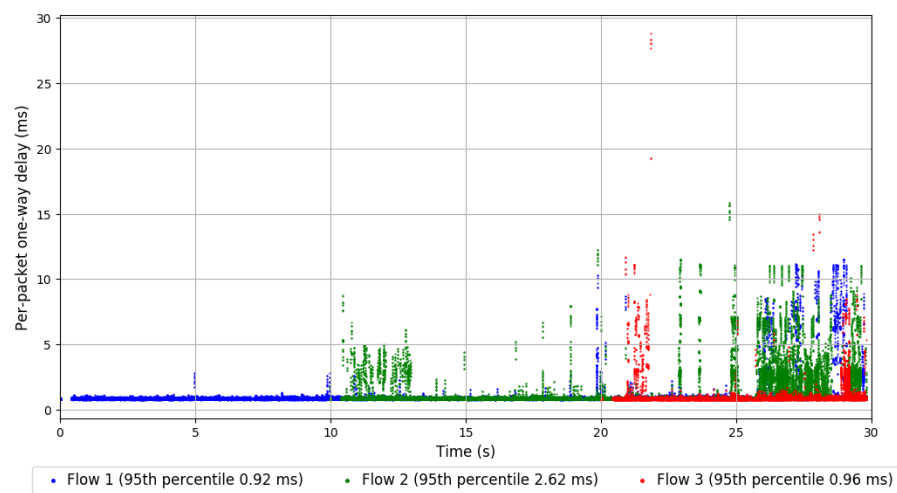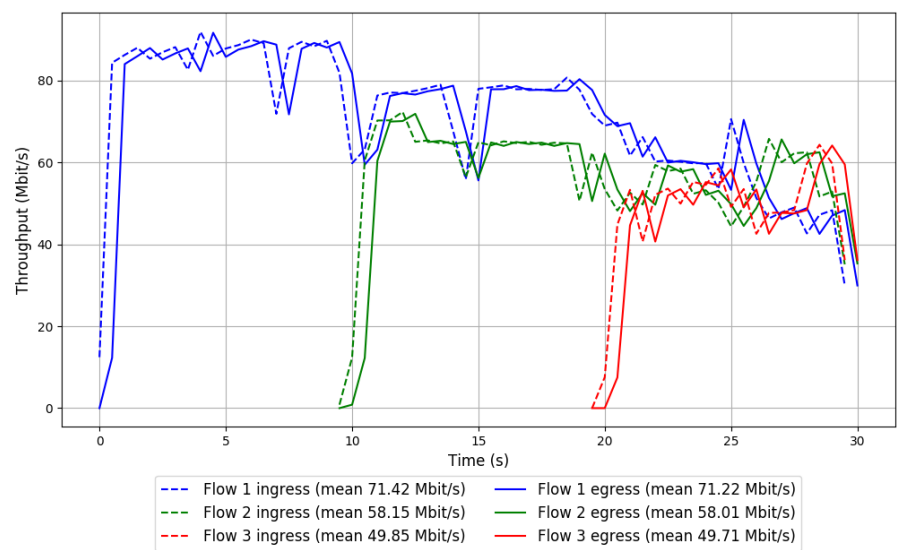Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-07-12 06:14:36
End at: 2019-07-12 06:15:06
Local clock offset: 0.037 ms
Remote clock offset: -6.296 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 120.87 Mbit/s
95th percentile per-packet one-way delay: 2.316 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 63.21 Mbit/s
95th percentile per-packet one-way delay: 0.965 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 61.64 Mbit/s
95th percentile per-packet one-way delay: 2.452 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 50.34 Mbit/s
95th percentile per-packet one-way delay: 5.960 ms
Loss rate: 0.28%
```
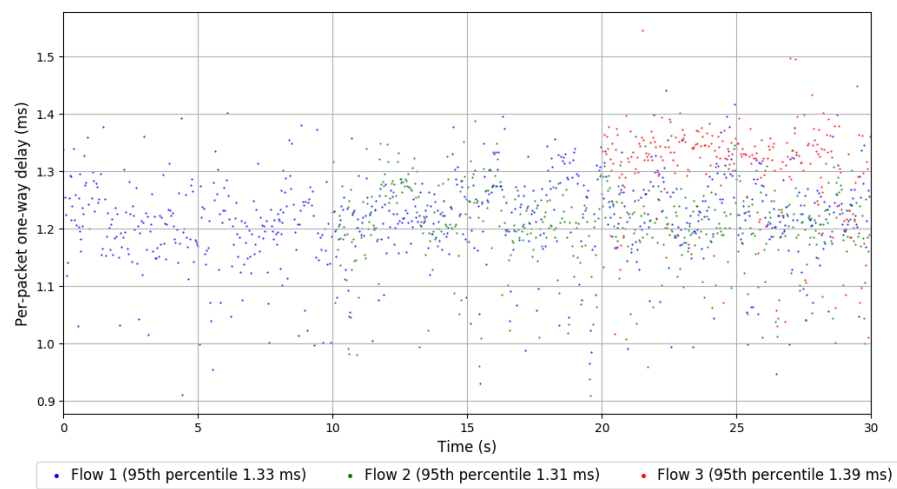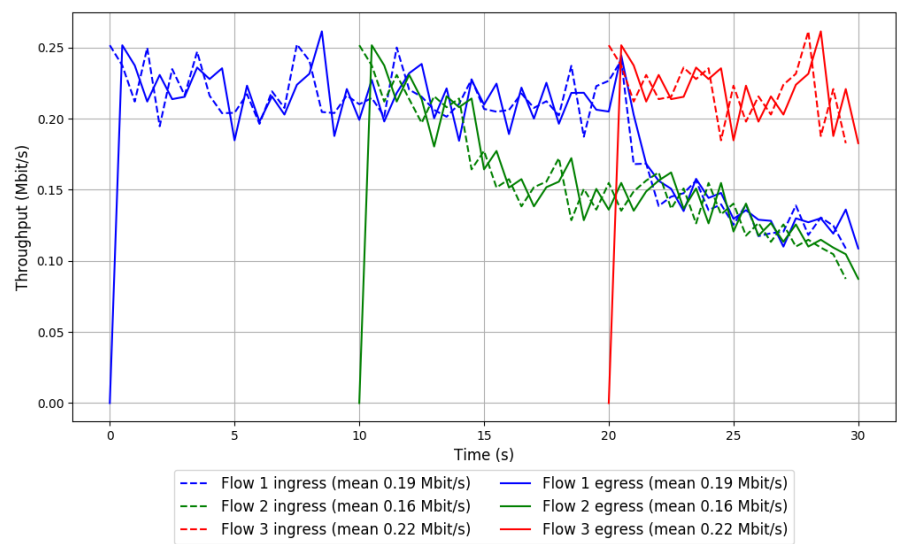
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 63.34 Mbit/s)   Flow 1 egress (mean 63.21 Mbit/s)
Flow 2 ingress (mean 61.80 Mbit/s)   Flow 2 egress (mean 61.64 Mbit/s)
Flow 3 ingress (mean 50.48 Mbit/s)   Flow 3 egress (mean 50.34 Mbit/s)

Flow 1 (95th percentile 0.96 ms)   Flow 2 (95th percentile 2.45 ms)   Flow 3 (95th percentile 5.96 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-07-12 06:48:02
End at: 2019-07-12 06:48:32
Local clock offset: 0.01 ms
Remote clock offset: -0.852 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 126.20 Mbit/s
95th percentile per-packet one-way delay: 0.975 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 71.22 Mbit/s
95th percentile per-packet one-way delay: 0.921 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 58.01 Mbit/s
95th percentile per-packet one-way delay: 2.617 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 49.71 Mbit/s
95th percentile per-packet one-way delay: 0.960 ms
Loss rate: 0.25%
```

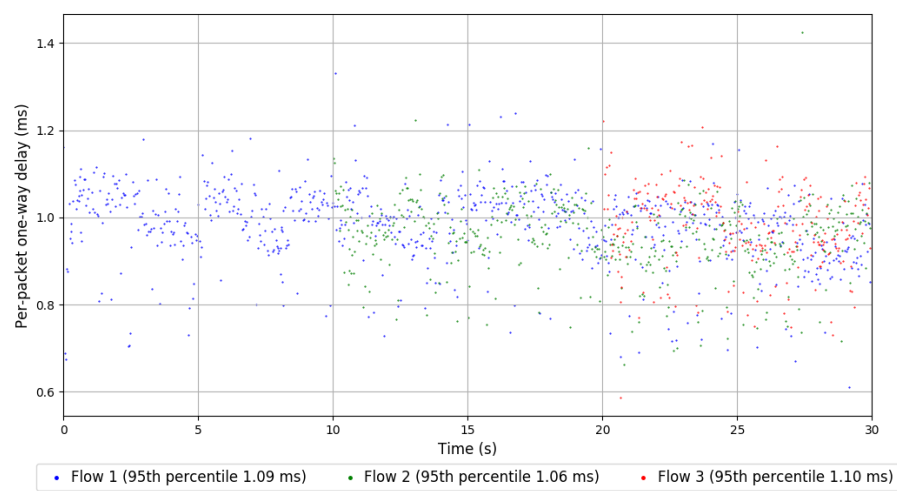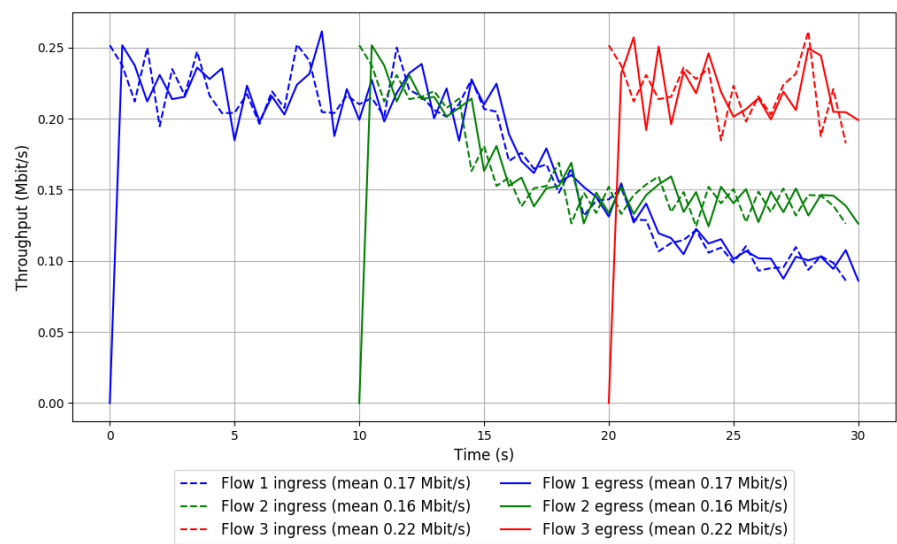# Run 5: Report of QUIC Cubic — Data Link

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```
Run 1: Statistics of SCReAM

Start at: 2019-07-12 04:21:04
End at: 2019-07-12 04:21:34
Local clock offset: 3.263 ms
Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 1.355 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 1.333 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 1.309 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.391 ms
Loss rate: 0.00%
```
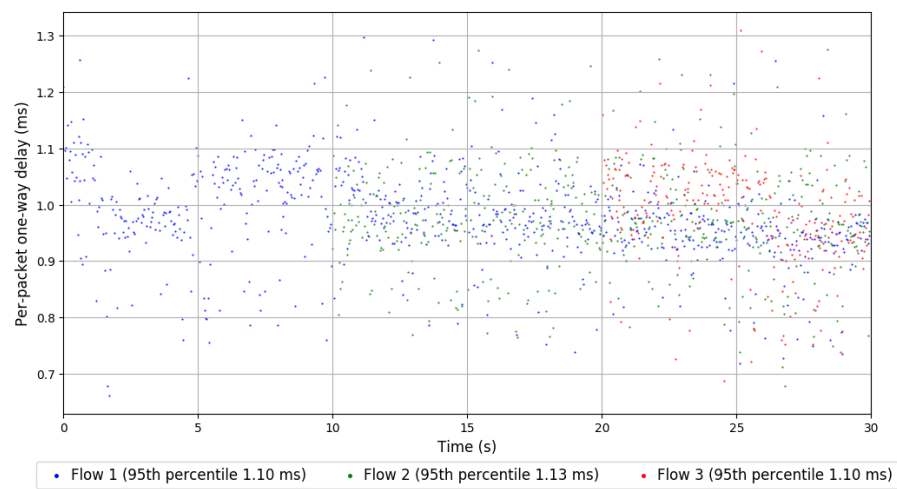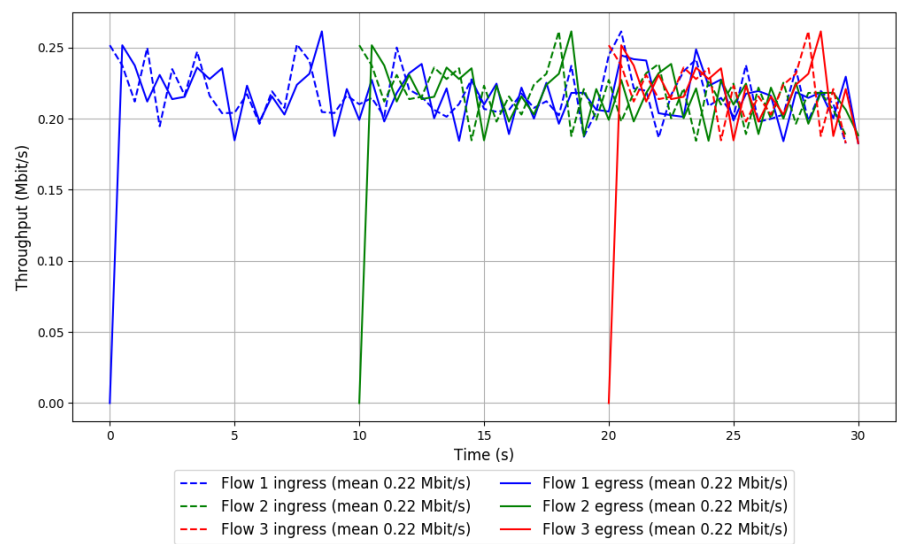
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-07-12 04:54:21
End at: 2019-07-12 04:54:51
Local clock offset: -0.254 ms
Remote clock offset: 0.952 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 1.087 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 1.091 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 1.064 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.100 ms
Loss rate: 0.00%
```
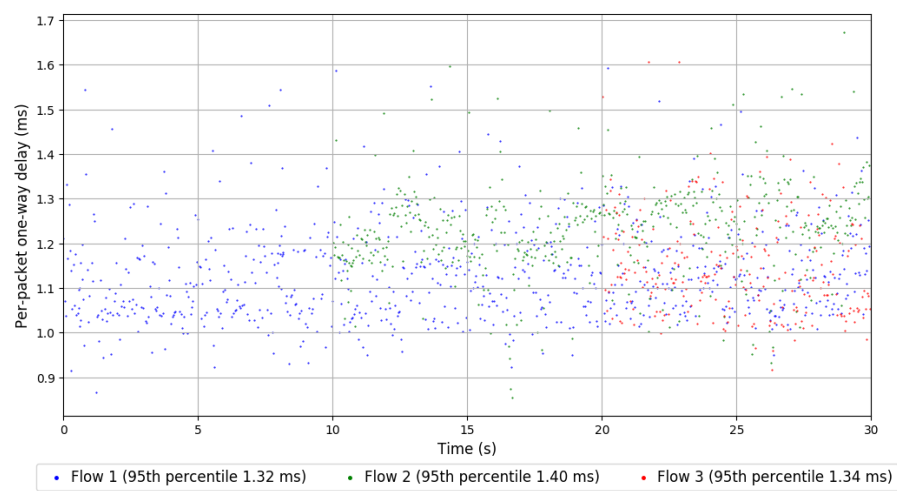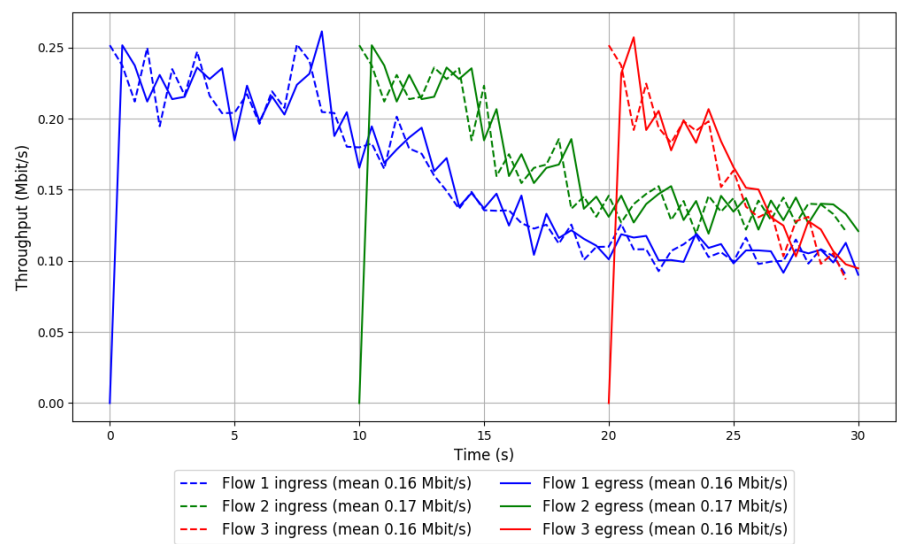
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-07-12 05:27:52
End at: 2019-07-12 05:28:22
Local clock offset: -1.435 ms
Remote clock offset: 3.259 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.105 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.099 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.133 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.098 ms
Loss rate: 0.00%
```
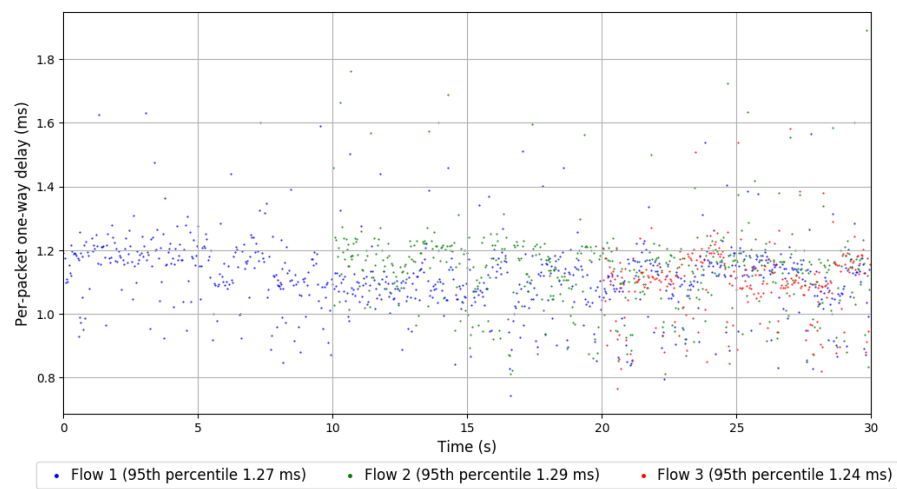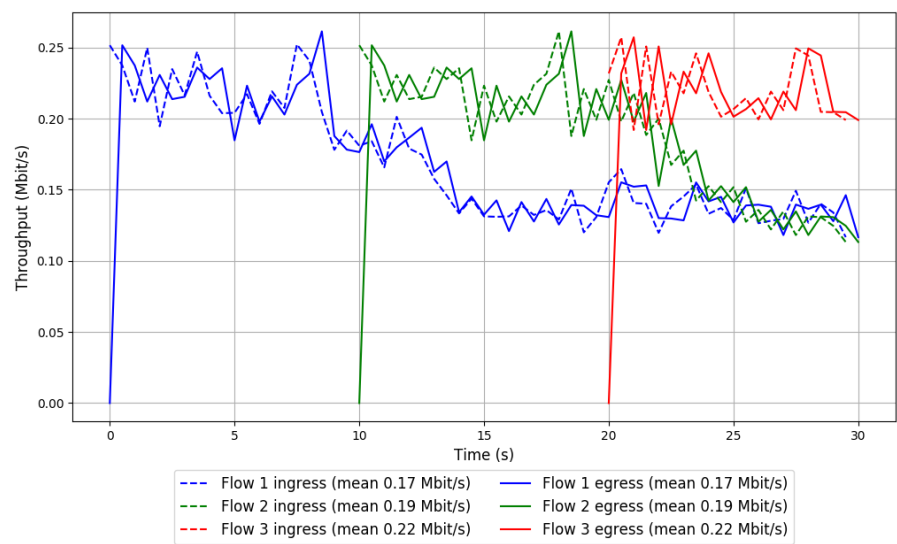
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-07-12 06:01:07
End at: 2019-07-12 06:01:37
Local clock offset: -0.008 ms
Remote clock offset: -3.906 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 1.350 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 1.323 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 1.395 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 1.340 ms
Loss rate: 0.91%
```
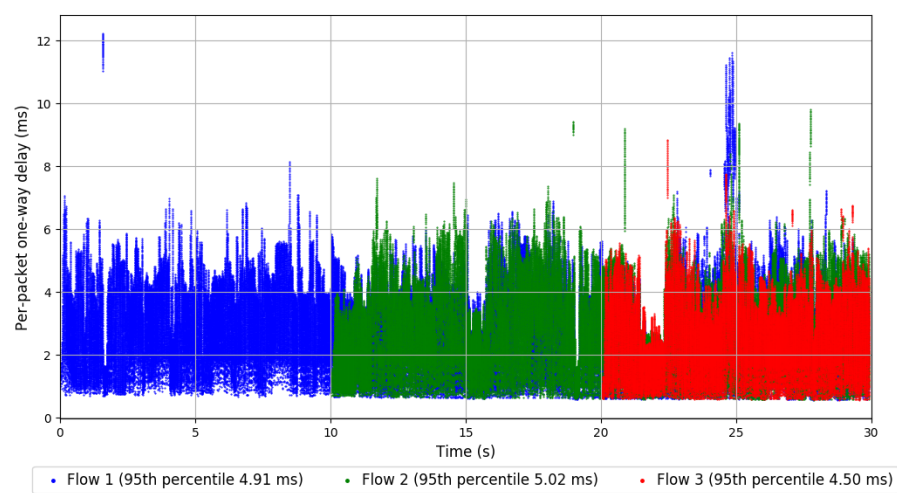
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-07-12 06:34:37
End at: 2019-07-12 06:35:07
Local clock offset: 0.006 ms
Remote clock offset: -1.308 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 1.266 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 1.268 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 1.287 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.235 ms
Loss rate: 0.00%
```
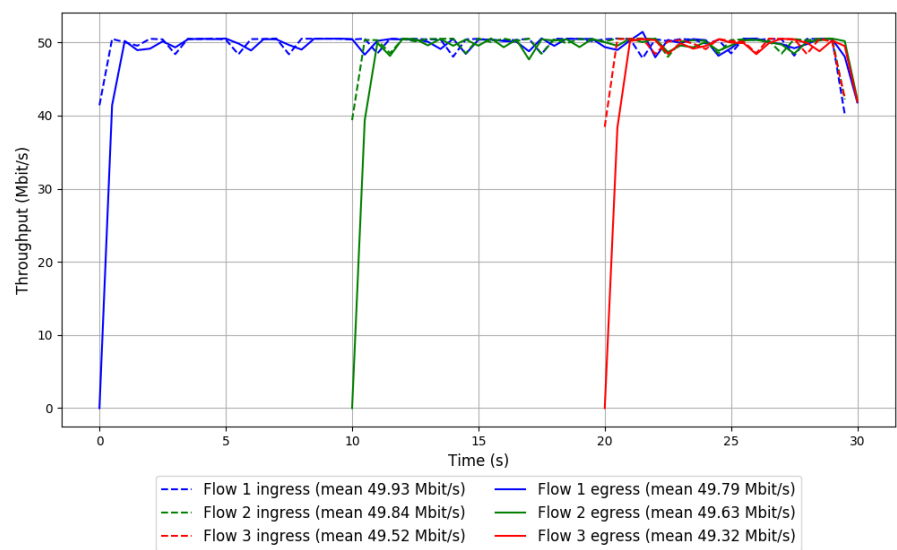
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-07-12 04:38:35
End at: 2019-07-12 04:39:05
Local clock offset: 1.094 ms
Remote clock offset: -0.006 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.11 Mbit/s
95th percentile per-packet one-way delay: 4.901 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 49.79 Mbit/s
95th percentile per-packet one-way delay: 4.910 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 49.63 Mbit/s
95th percentile per-packet one-way delay: 5.021 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 49.32 Mbit/s
95th percentile per-packet one-way delay: 4.502 ms
Loss rate: 0.37%
```
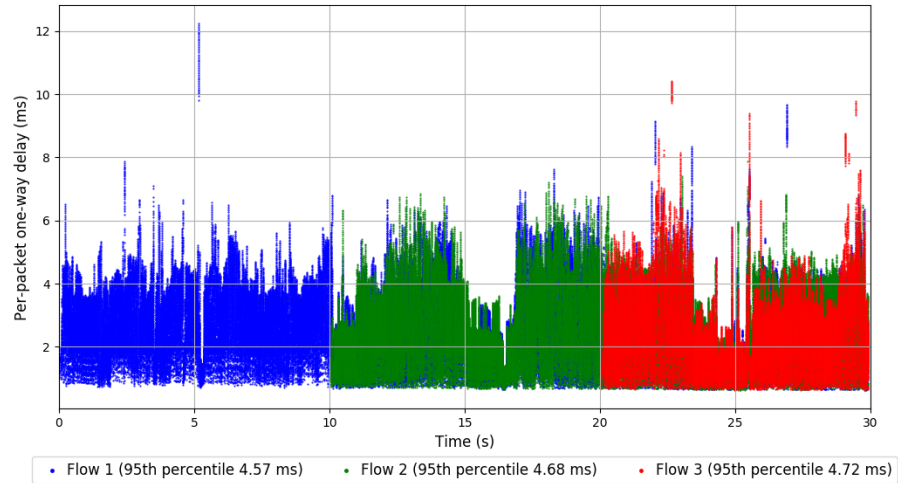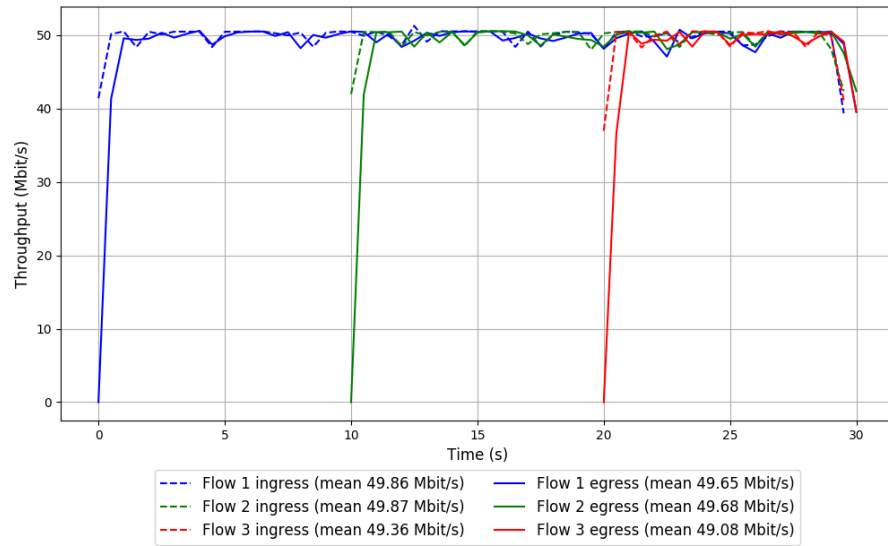
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-07-12 05:12:07
End at: 2019-07-12 05:12:37
Local clock offset: -1.012 ms
Remote clock offset: 1.786 ms


# Below is generated by plot.py at 2019-07-12 07:42:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.90 Mbit/s
95th percentile per-packet one-way delay: 4.629 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 49.65 Mbit/s
95th percentile per-packet one-way delay: 4.565 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 49.68 Mbit/s
95th percentile per-packet one-way delay: 4.679 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 49.08 Mbit/s
95th percentile per-packet one-way delay: 4.716 ms
Loss rate: 0.54%
```
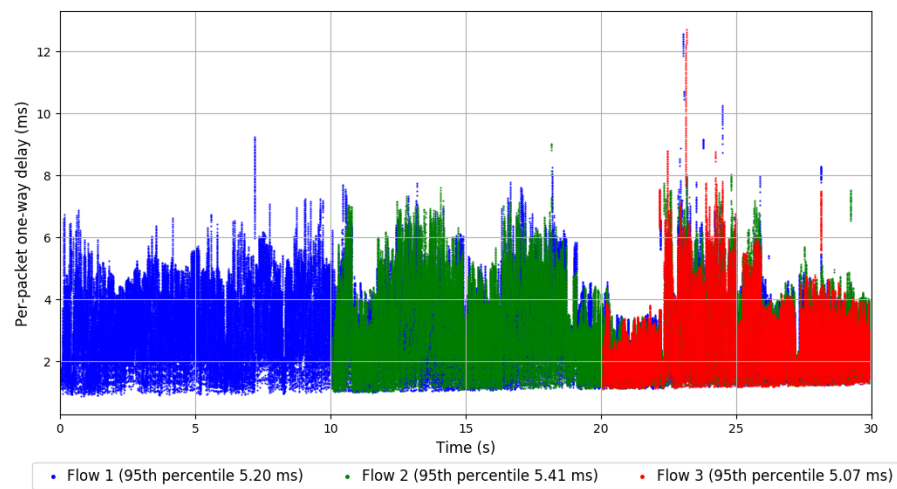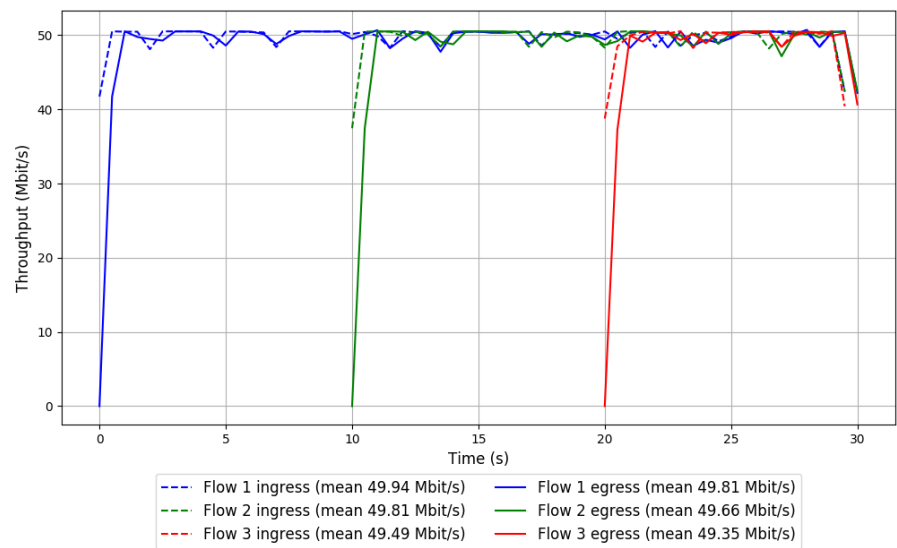
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-07-12 05:45:27
End at: 2019-07-12 05:45:57
Local clock offset: -0.182 ms
Remote clock offset: 2.872 ms


# Below is generated by plot.py at 2019-07-12 07:43:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.17 Mbit/s
95th percentile per-packet one-way delay: 5.253 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 49.81 Mbit/s
95th percentile per-packet one-way delay: 5.196 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 49.66 Mbit/s
95th percentile per-packet one-way delay: 5.412 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 49.35 Mbit/s
95th percentile per-packet one-way delay: 5.070 ms
Loss rate: 0.28%
```
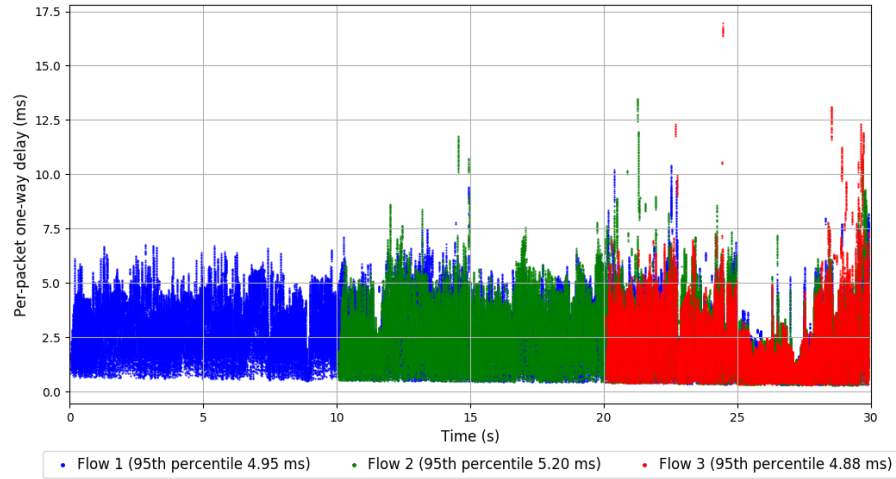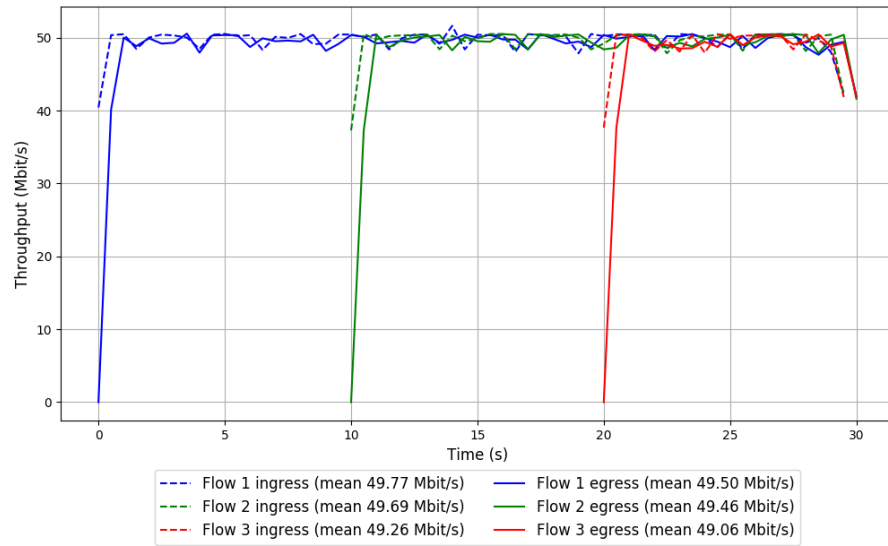
Run 3: Report of Sprout — Data Link

- - - Flow 1 ingress (mean 49.94 Mbit/s) —— Flow 1 egress (mean 49.81 Mbit/s)
- - - Flow 2 ingress (mean 49.81 Mbit/s) —— Flow 2 egress (mean 49.66 Mbit/s)
- - - Flow 3 ingress (mean 49.49 Mbit/s) —— Flow 3 egress (mean 49.35 Mbit/s)

- Flow 1 (95th percentile 5.20 ms)   • Flow 2 (95th percentile 5.41 ms)   • Flow 3 (95th percentile 5.07 ms)

```
Run 4: Statistics of Sprout

Start at: 2019-07-12 06:18:45
End at: 2019-07-12 06:19:15
Local clock offset: 0.033 ms
Remote clock offset: -6.516 ms


# Below is generated by plot.py at 2019-07-12 07:43:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.62 Mbit/s
95th percentile per-packet one-way delay: 5.022 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 49.50 Mbit/s
95th percentile per-packet one-way delay: 4.951 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 49.46 Mbit/s
95th percentile per-packet one-way delay: 5.200 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 49.06 Mbit/s
95th percentile per-packet one-way delay: 4.882 ms
Loss rate: 0.36%
```
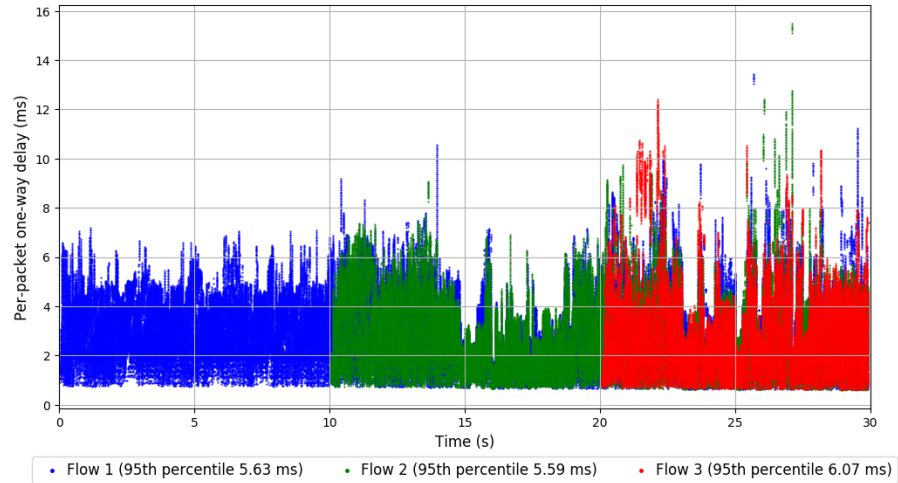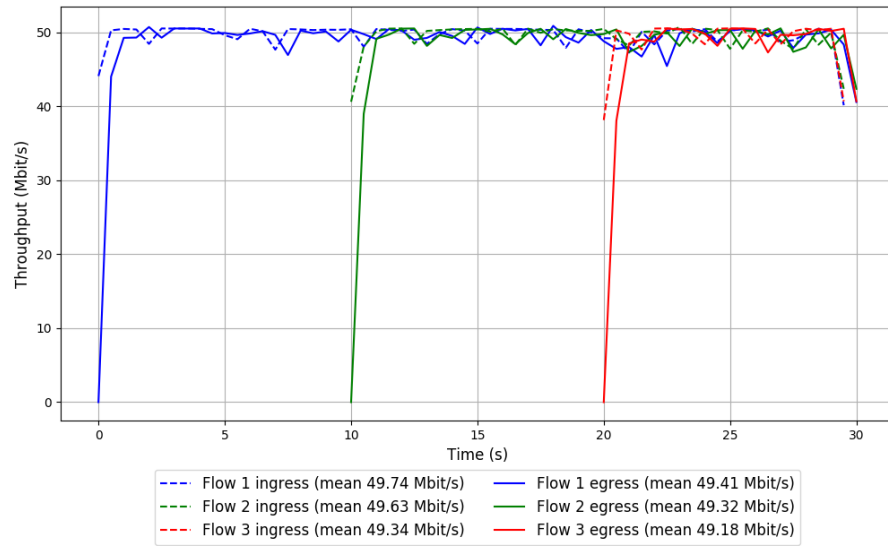
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-07-12 06:52:08
End at: 2019-07-12 06:52:38
Local clock offset: 0.048 ms
Remote clock offset: -0.866 ms


# Below is generated by plot.py at 2019-07-12 07:43:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.47 Mbit/s
95th percentile per-packet one-way delay: 5.666 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 49.41 Mbit/s
95th percentile per-packet one-way delay: 5.634 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 49.32 Mbit/s
95th percentile per-packet one-way delay: 5.592 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 49.18 Mbit/s
95th percentile per-packet one-way delay: 6.068 ms
Loss rate: 0.33%
```
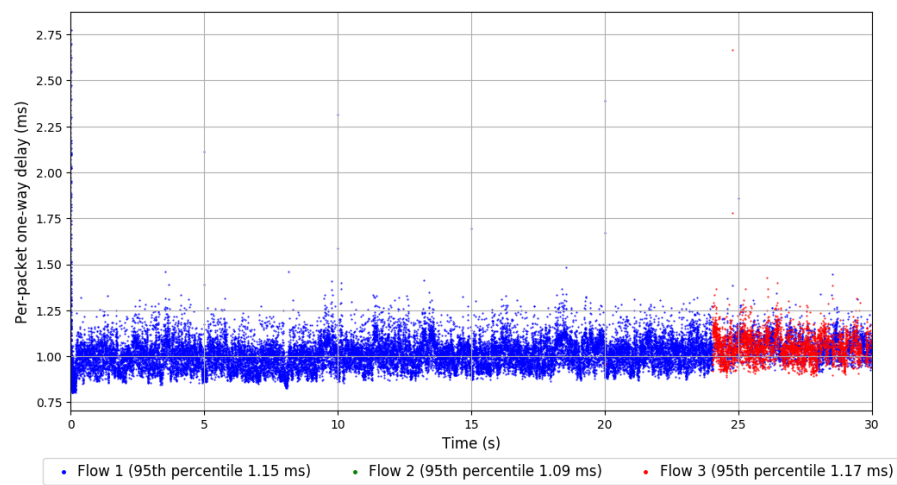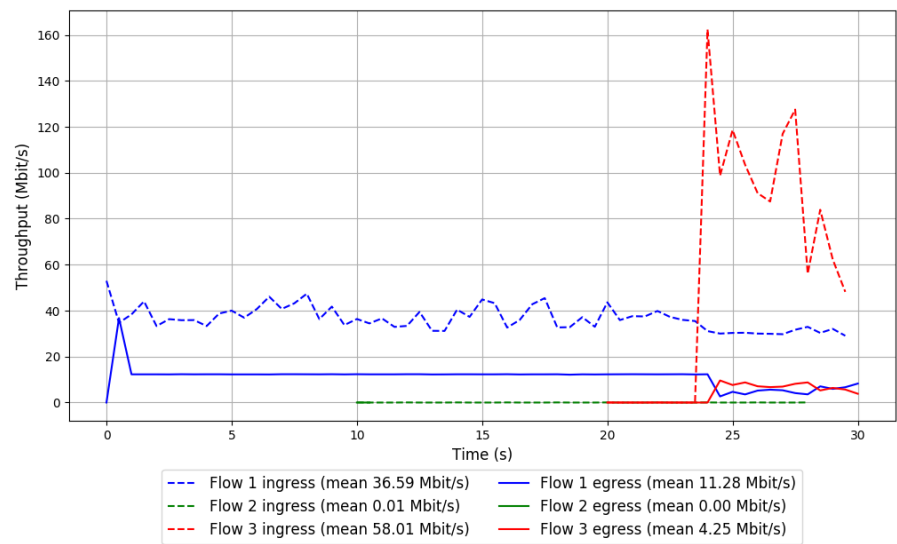
Run 5: Report of Sprout — Data Link

Flow 1 ingress (mean 49.74 Mbit/s) --- Flow 1 egress (mean 49.41 Mbit/s)
Flow 2 ingress (mean 49.63 Mbit/s) --- Flow 2 egress (mean 49.32 Mbit/s)
Flow 3 ingress (mean 49.34 Mbit/s) --- Flow 3 egress (mean 49.18 Mbit/s)

Flow 1 (95th percentile 5.63 ms) Flow 2 (95th percentile 5.59 ms) Flow 3 (95th percentile 6.07 ms)

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

Start at: 2019-07-12 04:26:16
End at: 2019-07-12 04:26:46
Local clock offset: 3.529 ms
Remote clock offset: -0.255 ms


# Below is generated by plot.py at 2019-07-12 07:43:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.69 Mbit/s
95th percentile per-packet one-way delay: 1.155 ms
Loss rate: 77.29%
-- Flow 1:
Average throughput: 11.28 Mbit/s
95th percentile per-packet one-way delay: 1.152 ms
Loss rate: 69.17%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 1.095 ms
Loss rate: 99.58%
-- Flow 3:
Average throughput: 4.25 Mbit/s
95th percentile per-packet one-way delay: 1.168 ms
Loss rate: 92.67%
```
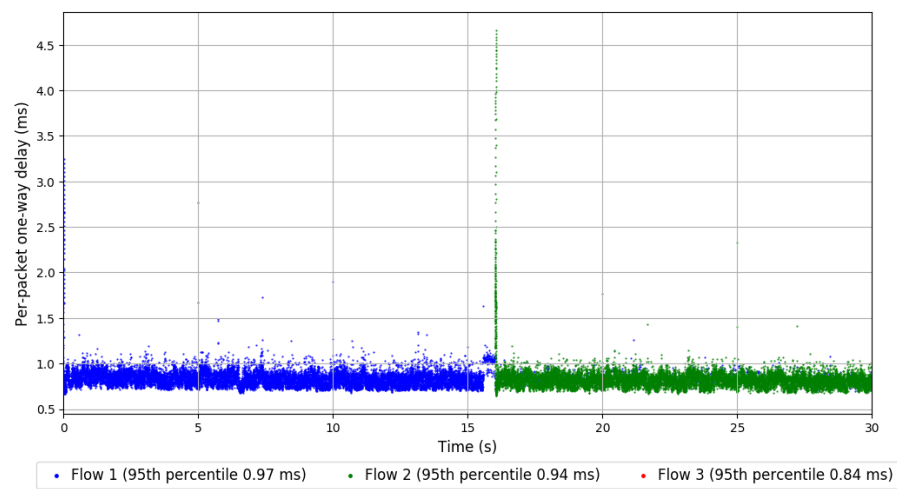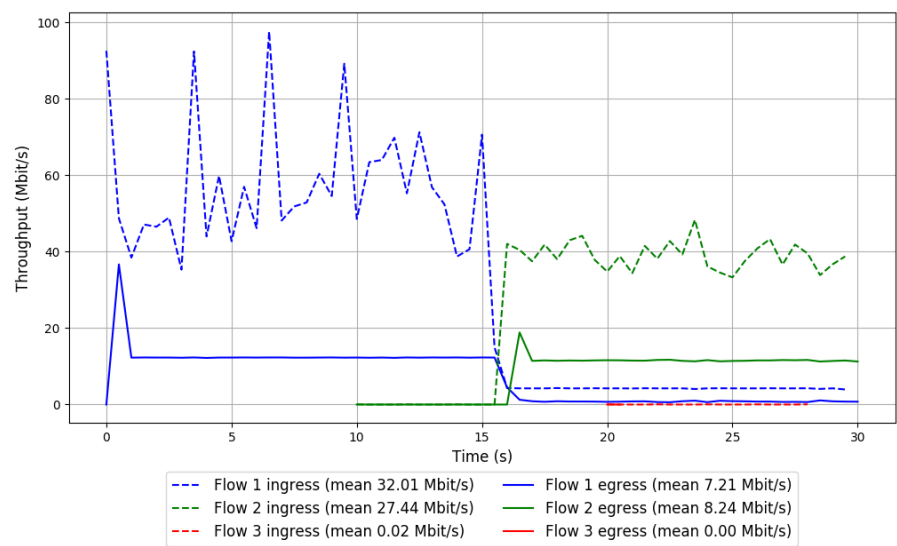
Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 36.59 Mbit/s) — Flow 1 egress (mean 11.28 Mbit/s)
Flow 2 ingress (mean 0.01 Mbit/s) — Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 58.01 Mbit/s) — Flow 3 egress (mean 4.25 Mbit/s)

Flow 1 (95th percentile 1.15 ms)   Flow 2 (95th percentile 1.09 ms)   Flow 3 (95th percentile 1.17 ms)

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

Start at: 2019-07-12 04:59:47
End at: 2019-07-12 05:00:17
Local clock offset: -0.463 ms
Remote clock offset: 1.162 ms


# Below is generated by plot.py at 2019-07-12 07:43:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.70 Mbit/s
95th percentile per-packet one-way delay: 0.958 ms
Loss rate: 74.73%
-- Flow 1:
Average throughput: 7.21 Mbit/s
95th percentile per-packet one-way delay: 0.967 ms
Loss rate: 77.46%
-- Flow 2:
Average throughput: 8.24 Mbit/s
95th percentile per-packet one-way delay: 0.942 ms
Loss rate: 69.95%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 0.842 ms
Loss rate: 99.16%
```
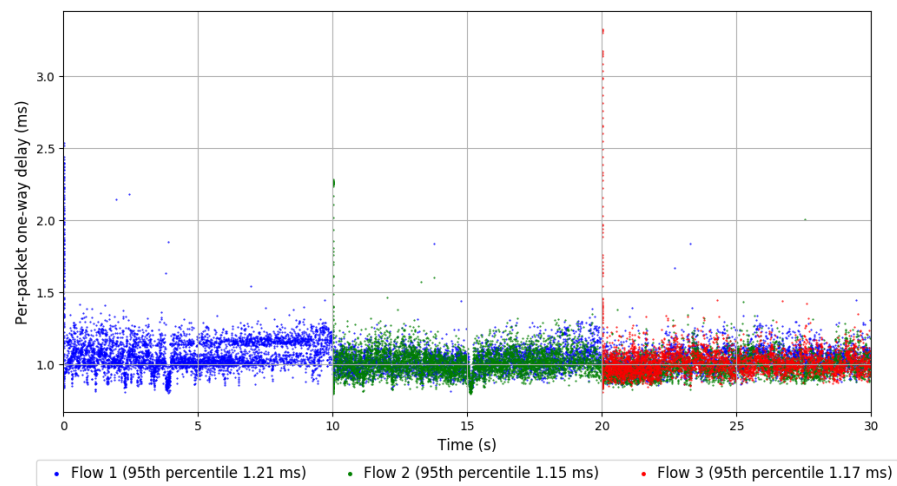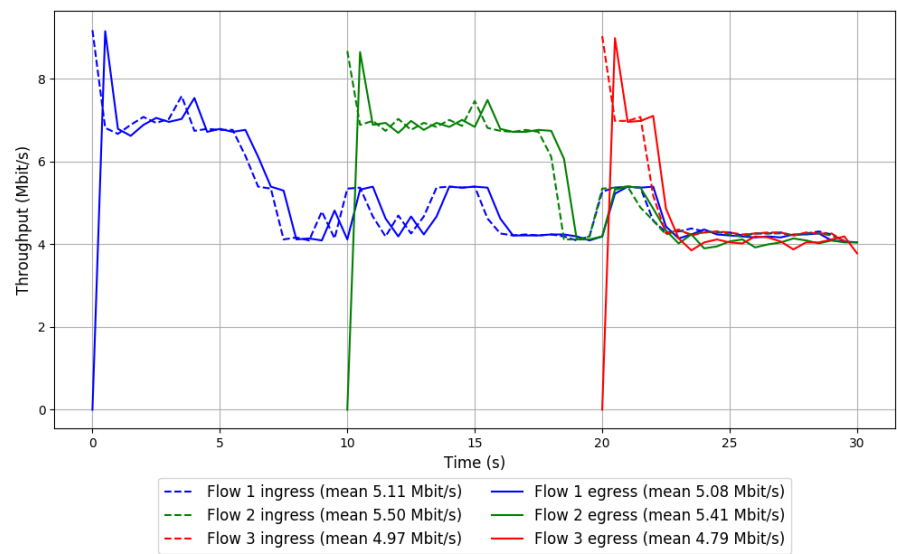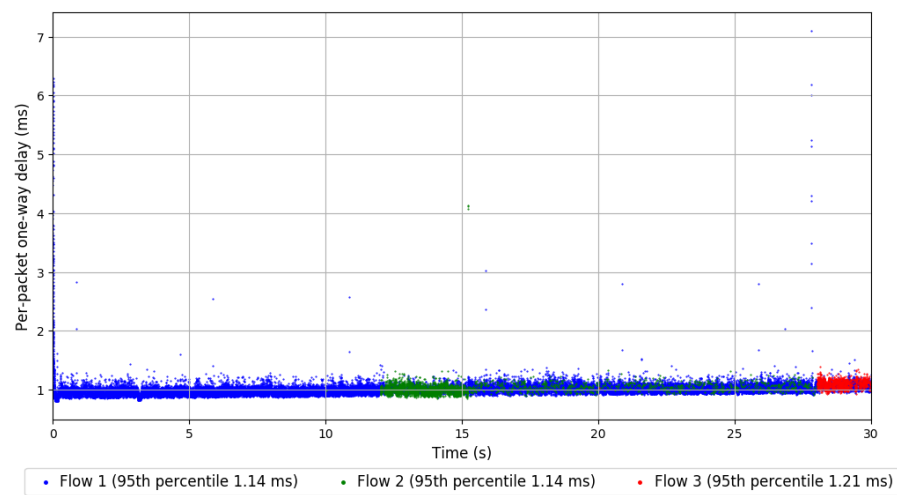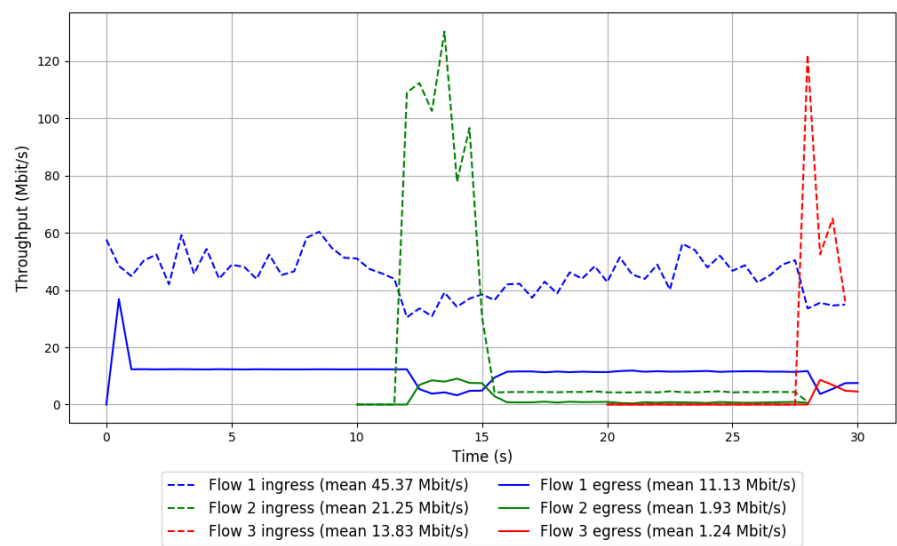
Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2019-07-12 05:33:09
End at: 2019-07-12 05:33:39
Local clock offset: -0.869 ms
Remote clock offset: 3.588 ms

# Below is generated by plot.py at 2019-07-12 07:43:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.27 Mbit/s
95th percentile per-packet one-way delay: 1.188 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 5.08 Mbit/s
95th percentile per-packet one-way delay: 1.213 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 5.41 Mbit/s
95th percentile per-packet one-way delay: 1.152 ms
Loss rate: 1.59%
-- Flow 3:
Average throughput: 4.79 Mbit/s
95th percentile per-packet one-way delay: 1.165 ms
Loss rate: 3.57%
```

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

Flow 1 ingress (mean 5.11 Mbit/s)   Flow 1 egress (mean 5.08 Mbit/s)
Flow 2 ingress (mean 5.50 Mbit/s)   Flow 2 egress (mean 5.41 Mbit/s)
Flow 3 ingress (mean 4.97 Mbit/s)   Flow 3 egress (mean 4.79 Mbit/s)

Flow 1 (95th percentile 1.21 ms)   Flow 2 (95th percentile 1.15 ms)   Flow 3 (95th percentile 1.17 ms)
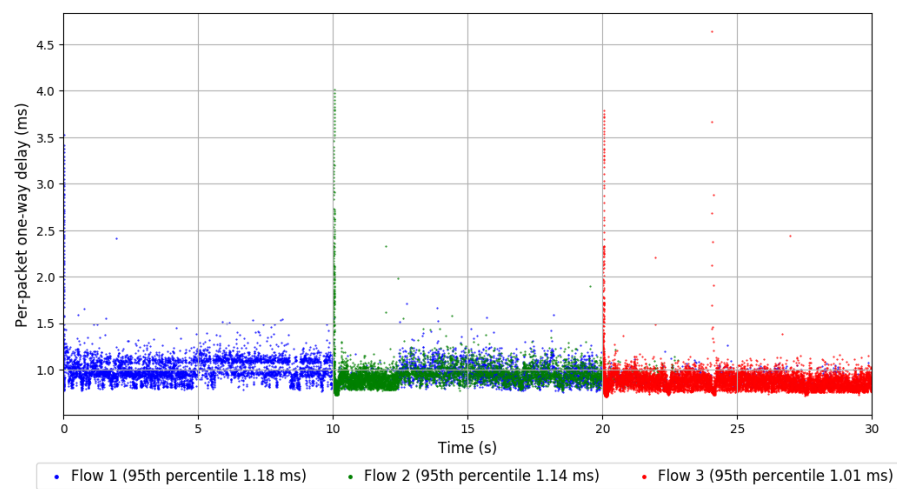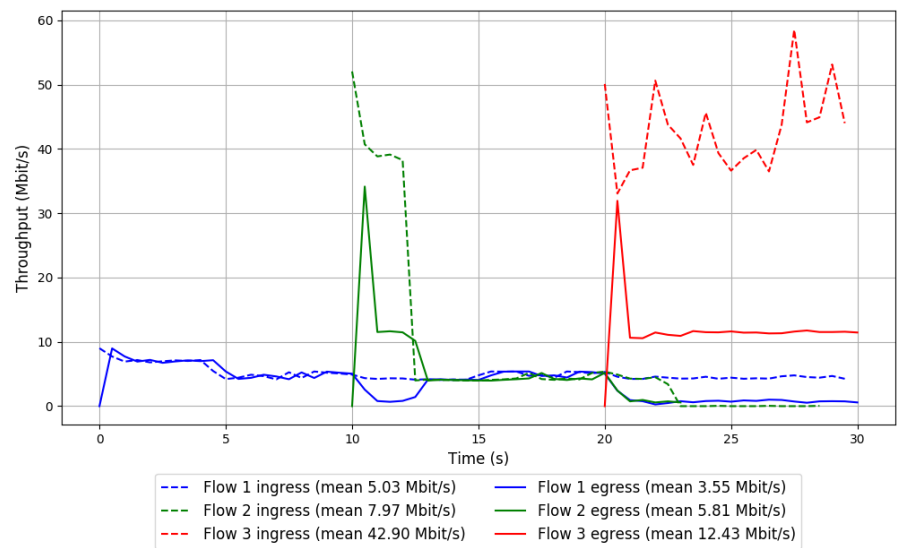
```
Run 4: Statistics of TaoVA-100x

Start at: 2019-07-12 06:06:21
End at: 2019-07-12 06:06:51
Local clock offset: 0.031 ms
Remote clock offset: -4.948 ms

# Below is generated by plot.py at 2019-07-12 07:43:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.70 Mbit/s
95th percentile per-packet one-way delay: 1.145 ms
Loss rate: 79.78%
-- Flow 1:
Average throughput: 11.13 Mbit/s
95th percentile per-packet one-way delay: 1.135 ms
Loss rate: 75.47%
-- Flow 2:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 1.143 ms
Loss rate: 91.00%
-- Flow 3:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 1.205 ms
Loss rate: 91.01%
```

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

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

Start at: 2019-07-12 06:40:01
End at: 2019-07-12 06:40:31
Local clock offset: 0.013 ms
Remote clock offset: -1.021 ms


# Below is generated by plot.py at 2019-07-12 07:43:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.16 Mbit/s
95th percentile per-packet one-way delay: 1.135 ms
Loss rate: 58.19%
-- Flow 1:
Average throughput: 3.55 Mbit/s
95th percentile per-packet one-way delay: 1.176 ms
Loss rate: 29.62%
-- Flow 2:
Average throughput: 5.81 Mbit/s
95th percentile per-packet one-way delay: 1.137 ms
Loss rate: 50.35%
-- Flow 3:
Average throughput: 12.43 Mbit/s
95th percentile per-packet one-way delay: 1.013 ms
Loss rate: 71.02%
```
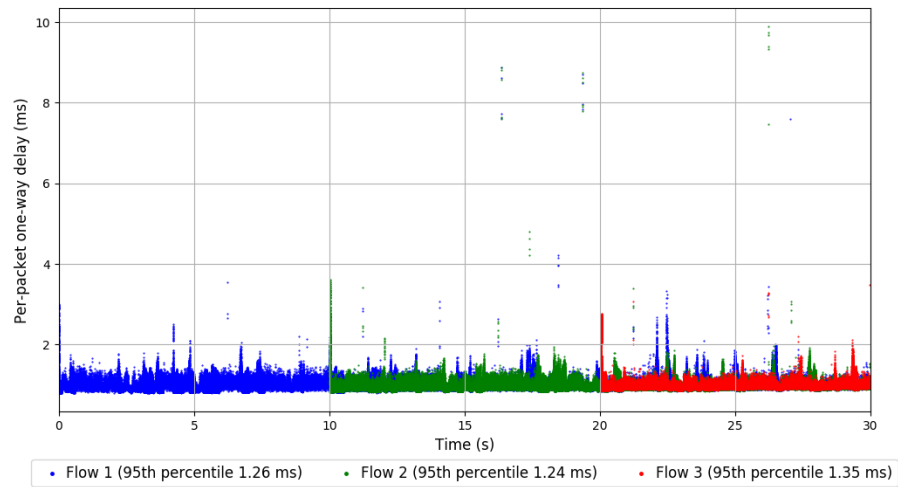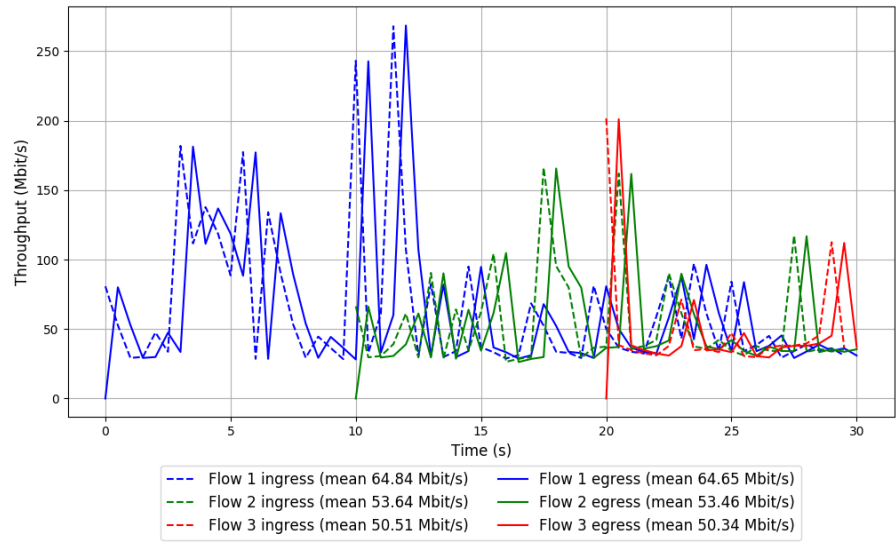
Run 5: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2019-07-12 04:17:05
End at: 2019-07-12 04:17:35
Local clock offset: 2.984 ms
Remote clock offset: 0.218 ms


# Below is generated by plot.py at 2019-07-12 07:44:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 116.98 Mbit/s
95th percentile per-packet one-way delay: 1.261 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 64.65 Mbit/s
95th percentile per-packet one-way delay: 1.261 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 53.46 Mbit/s
95th percentile per-packet one-way delay: 1.240 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 50.34 Mbit/s
95th percentile per-packet one-way delay: 1.350 ms
Loss rate: 0.31%
```
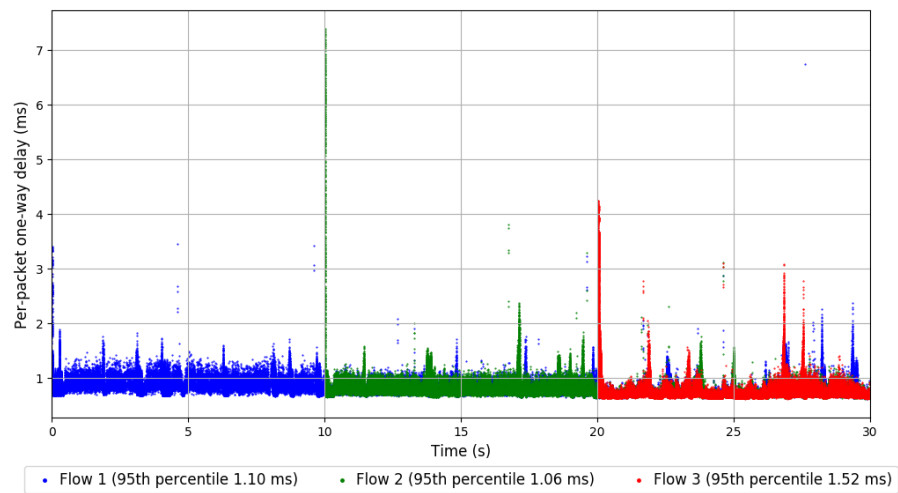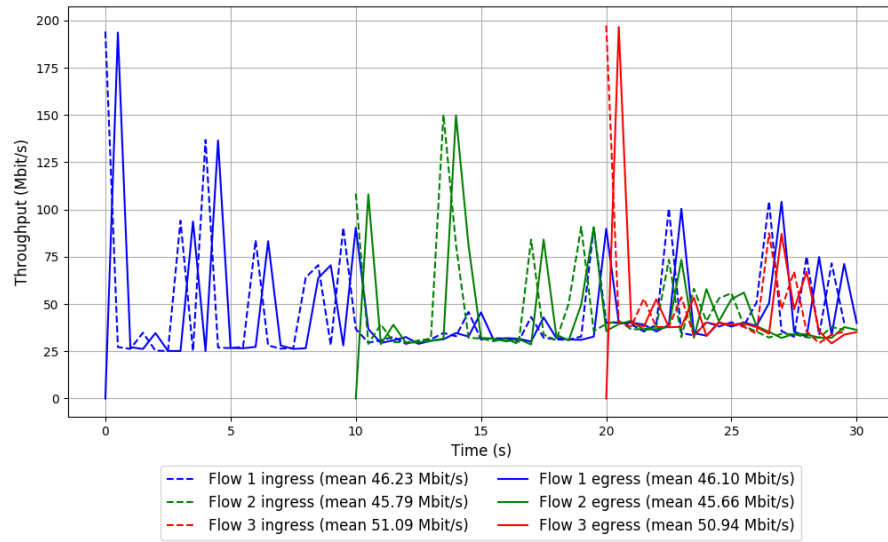
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-07-12 04:50:24
End at: 2019-07-12 04:50:54
Local clock offset: -0.008 ms
Remote clock offset: 0.912 ms


# Below is generated by plot.py at 2019-07-12 07:44:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.44 Mbit/s
95th percentile per-packet one-way delay: 1.132 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 46.10 Mbit/s
95th percentile per-packet one-way delay: 1.100 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 45.66 Mbit/s
95th percentile per-packet one-way delay: 1.056 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 50.94 Mbit/s
95th percentile per-packet one-way delay: 1.525 ms
Loss rate: 0.30%
```
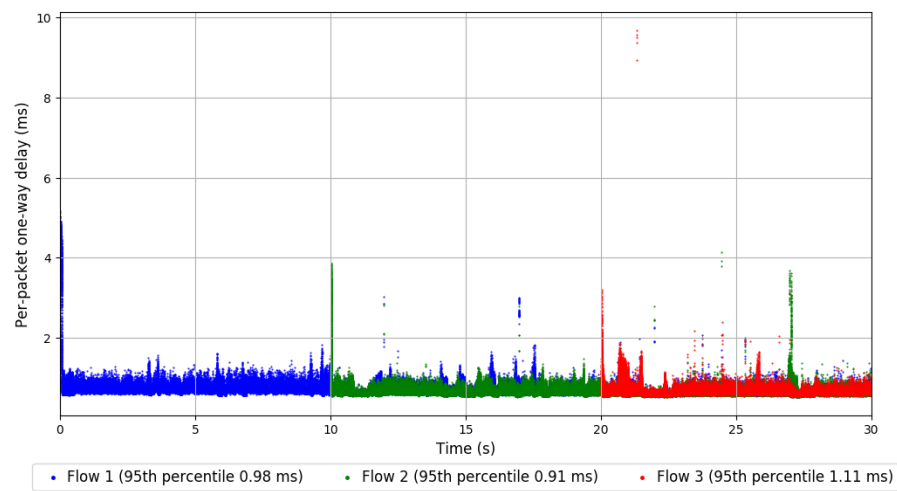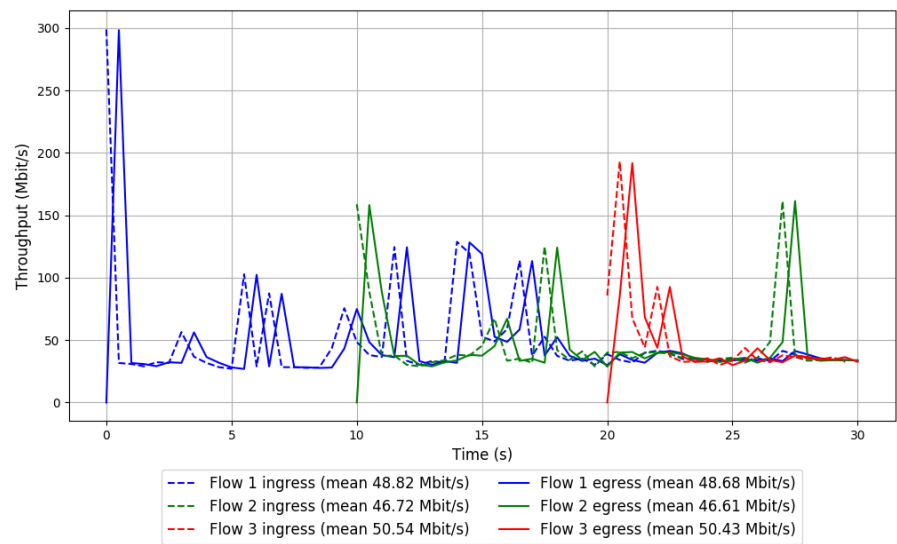
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-07-12 05:23:53
End at: 2019-07-12 05:24:23
Local clock offset: -1.349 ms
Remote clock offset: 2.955 ms


# Below is generated by plot.py at 2019-07-12 07:44:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.50 Mbit/s
95th percentile per-packet one-way delay: 0.983 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 48.68 Mbit/s
95th percentile per-packet one-way delay: 0.985 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 46.61 Mbit/s
95th percentile per-packet one-way delay: 0.908 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 50.43 Mbit/s
95th percentile per-packet one-way delay: 1.114 ms
Loss rate: 0.22%
```

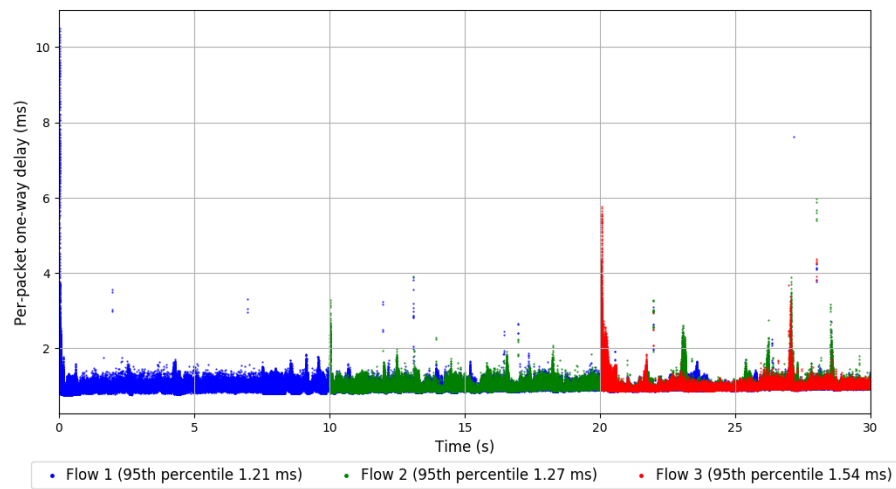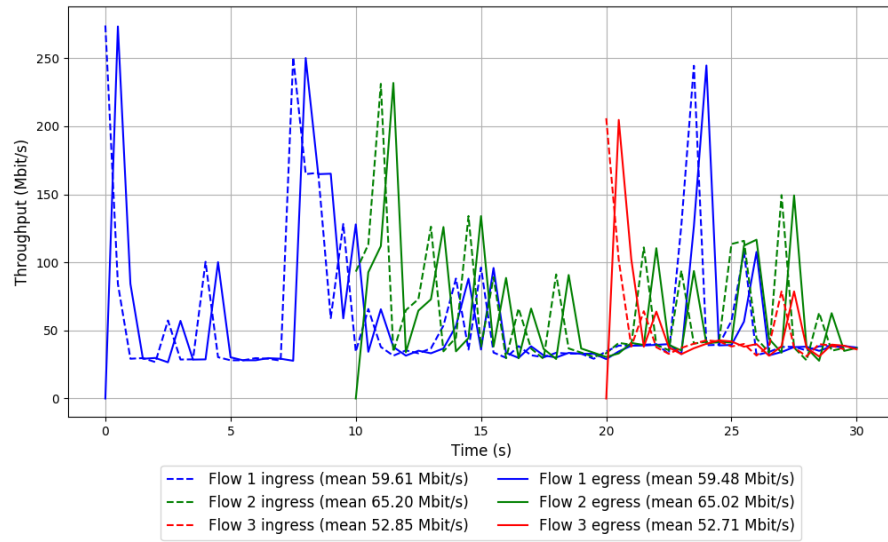# Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-07-12 05:57:08
End at: 2019-07-12 05:57:38
Local clock offset: -0.045 ms
Remote clock offset: -2.901 ms


# Below is generated by plot.py at 2019-07-12 07:44:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 120.30 Mbit/s
95th percentile per-packet one-way delay: 1.258 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 59.48 Mbit/s
95th percentile per-packet one-way delay: 1.210 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 65.02 Mbit/s
95th percentile per-packet one-way delay: 1.275 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 52.71 Mbit/s
95th percentile per-packet one-way delay: 1.537 ms
Loss rate: 0.27%
```
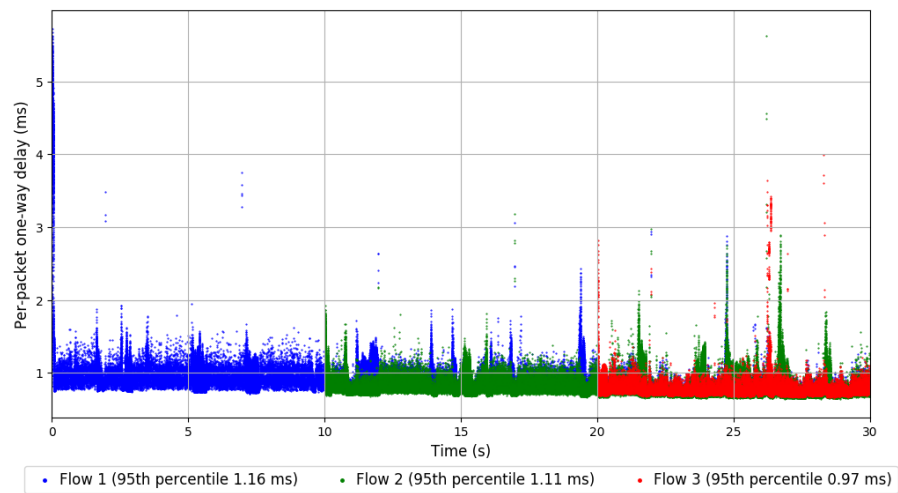
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-07-12 06:30:31
End at: 2019-07-12 06:31:01
Local clock offset: 0.009 ms
Remote clock offset: -1.87 ms


# Below is generated by plot.py at 2019-07-12 07:44:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 119.05 Mbit/s
95th percentile per-packet one-way delay: 1.130 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 57.72 Mbit/s
95th percentile per-packet one-way delay: 1.160 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 67.48 Mbit/s
95th percentile per-packet one-way delay: 1.111 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 49.28 Mbit/s
95th percentile per-packet one-way delay: 0.968 ms
Loss rate: 0.21%
```
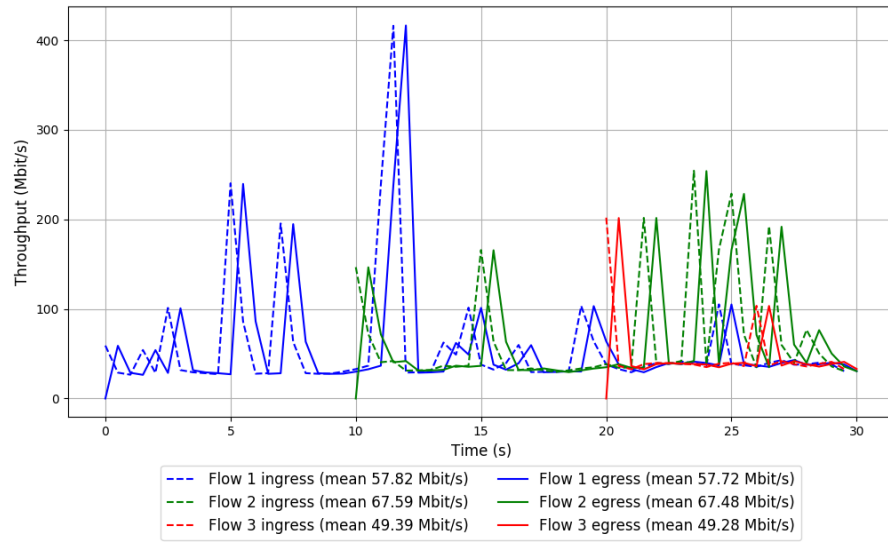
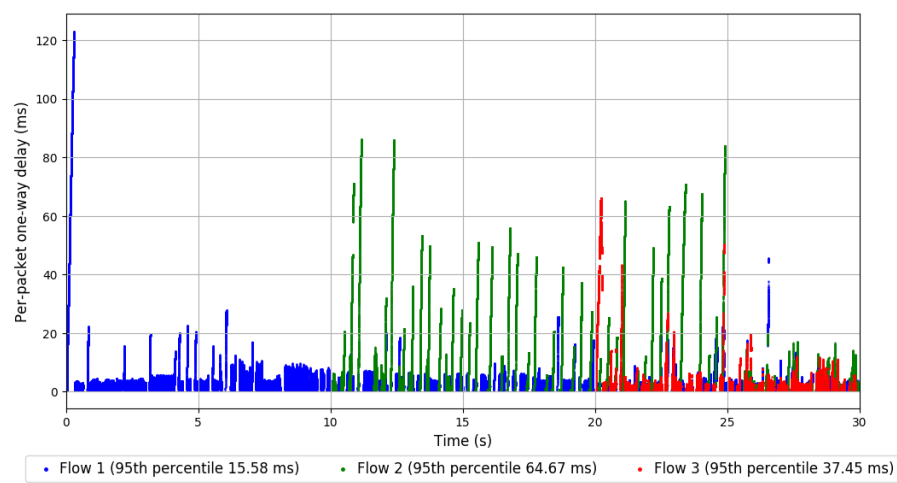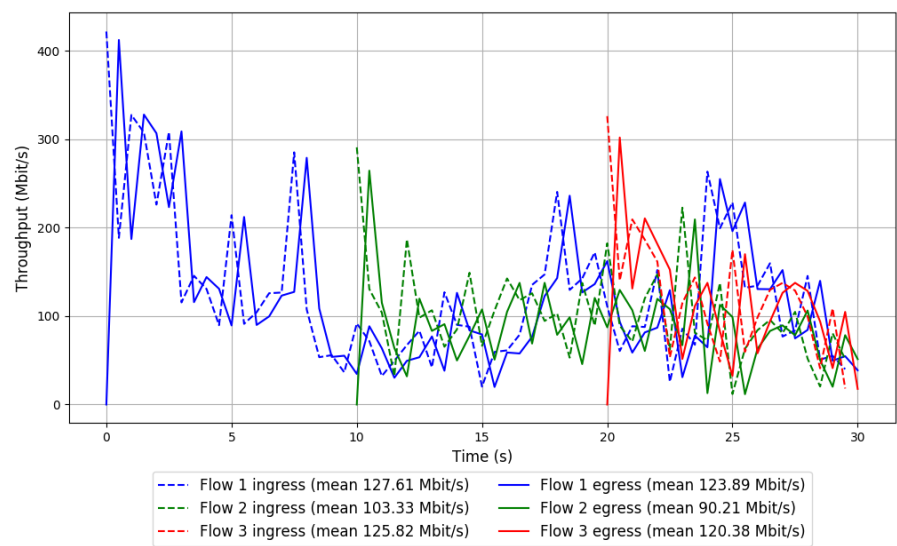Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-07-12 04:31:37
End at: 2019-07-12 04:32:07
Local clock offset: 2.691 ms
Remote clock offset: -0.392 ms


# Below is generated by plot.py at 2019-07-12 07:45:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 223.39 Mbit/s
95th percentile per-packet one-way delay: 49.757 ms
Loss rate: 5.98%
-- Flow 1:
Average throughput: 123.89 Mbit/s
95th percentile per-packet one-way delay: 15.578 ms
Loss rate: 2.91%
-- Flow 2:
Average throughput: 90.21 Mbit/s
95th percentile per-packet one-way delay: 64.674 ms
Loss rate: 12.69%
-- Flow 3:
Average throughput: 120.38 Mbit/s
95th percentile per-packet one-way delay: 37.454 ms
Loss rate: 4.32%
```

Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-07-12 05:05:06
End at: 2019-07-12 05:05:36
Local clock offset: -0.76 ms
Remote clock offset: 1.289 ms

# Below is generated by plot.py at 2019-07-12 07:46:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 266.40 Mbit/s
95th percentile per-packet one-way delay: 11.806 ms
Loss rate: 2.47%
-- Flow 1:
Average throughput: 156.28 Mbit/s
95th percentile per-packet one-way delay: 9.918 ms
Loss rate: 1.54%
-- Flow 2:
Average throughput: 113.59 Mbit/s
95th percentile per-packet one-way delay: 11.285 ms
Loss rate: 3.50%
-- Flow 3:
Average throughput: 106.36 Mbit/s
95th percentile per-packet one-way delay: 21.836 ms
Loss rate: 4.33%
```
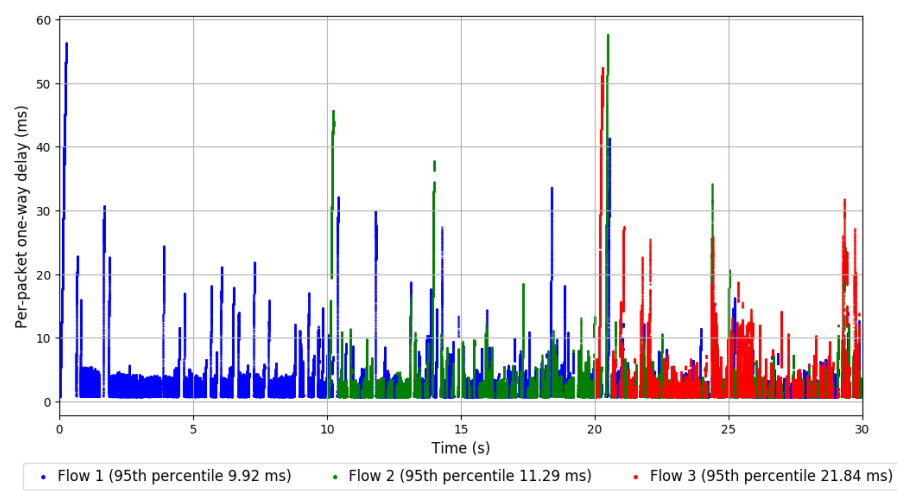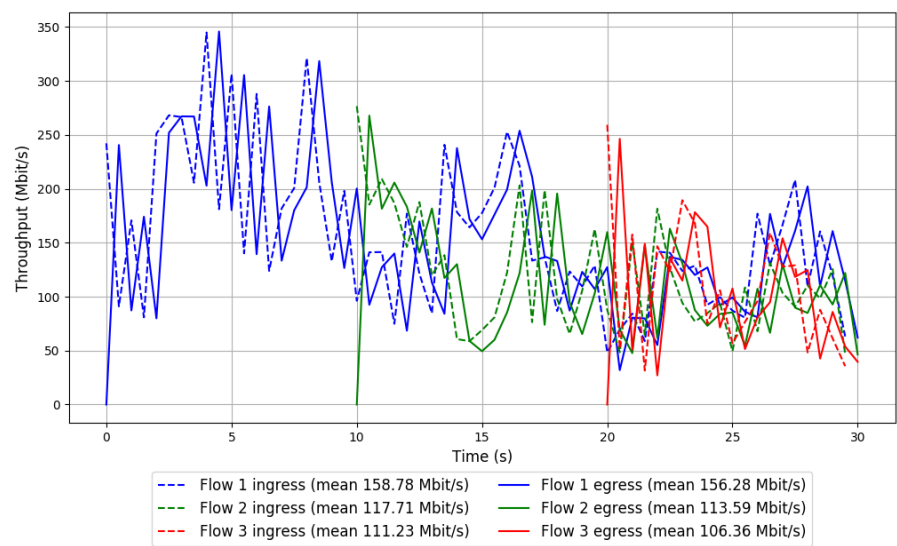
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-07-12 05:38:25
End at: 2019-07-12 05:38:55
Local clock offset: -0.432 ms
Remote clock offset: 3.816 ms


# Below is generated by plot.py at 2019-07-12 07:46:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 225.85 Mbit/s
95th percentile per-packet one-way delay: 18.610 ms
Loss rate: 2.74%
-- Flow 1:
Average throughput: 108.82 Mbit/s
95th percentile per-packet one-way delay: 14.414 ms
Loss rate: 2.64%
-- Flow 2:
Average throughput: 123.28 Mbit/s
95th percentile per-packet one-way delay: 17.326 ms
Loss rate: 2.51%
-- Flow 3:
Average throughput: 107.46 Mbit/s
95th percentile per-packet one-way delay: 24.790 ms
Loss rate: 3.58%
```
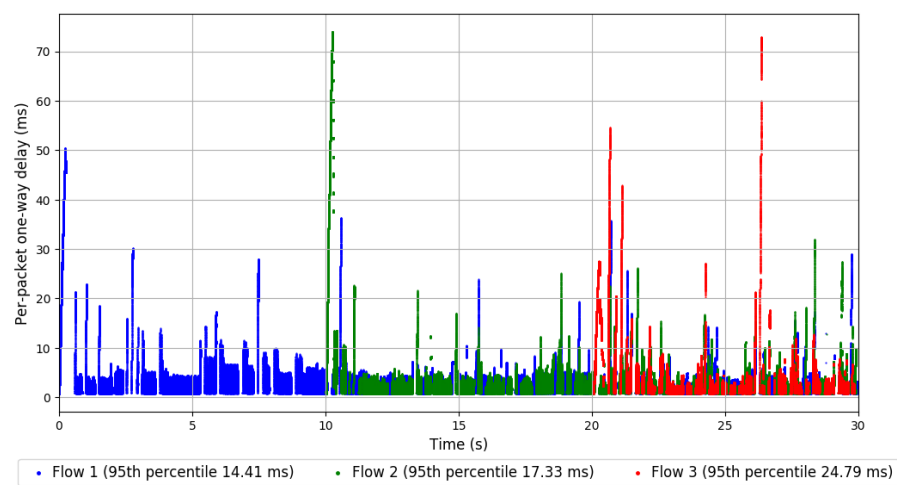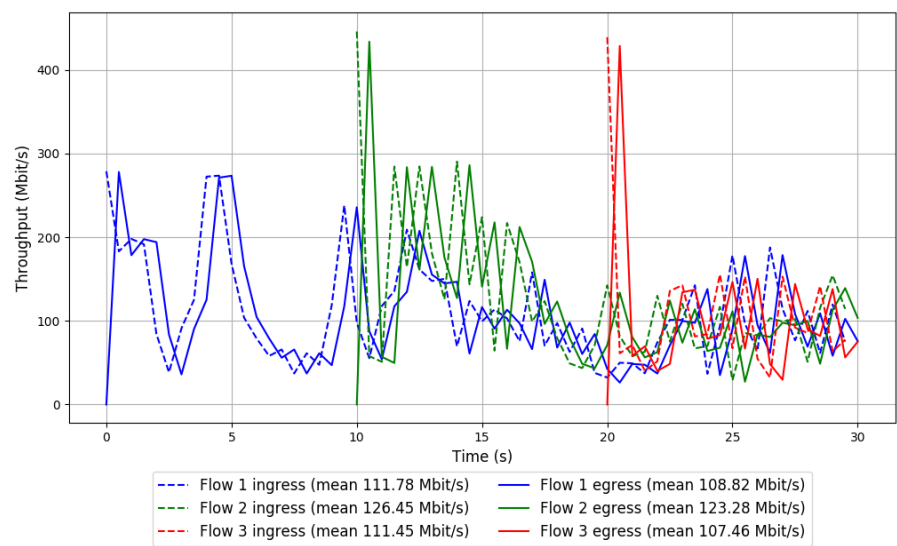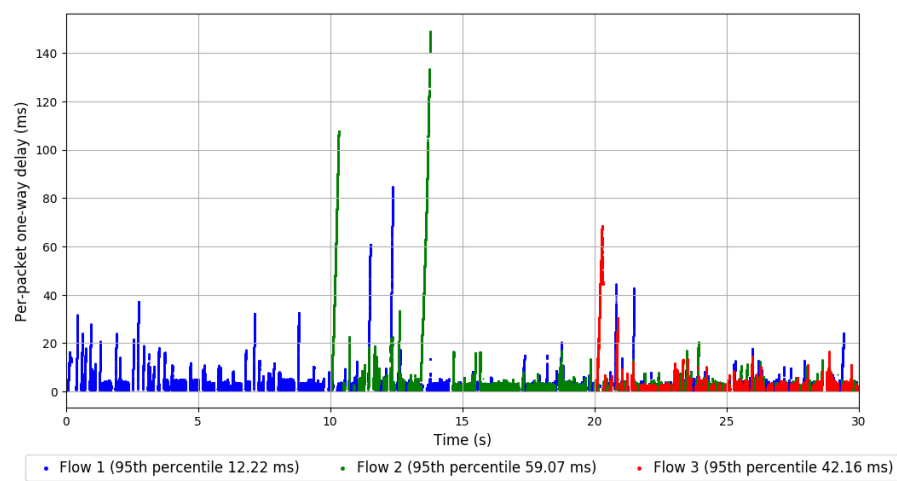
Run 3: Report of Verus — Data Link

Flow 1 ingress (mean 111.78 Mbit/s) --- Flow 1 egress (mean 108.82 Mbit/s)
Flow 2 ingress (mean 126.45 Mbit/s) --- Flow 2 egress (mean 123.28 Mbit/s)
Flow 3 ingress (mean 111.45 Mbit/s) --- Flow 3 egress (mean 107.46 Mbit/s)

Flow 1 (95th percentile 14.41 ms)   Flow 2 (95th percentile 17.33 ms)   Flow 3 (95th percentile 24.79 ms)

```
Run 4: Statistics of Verus

Start at: 2019-07-12 06:11:40
End at: 2019-07-12 06:12:10
Local clock offset: 0.051 ms
Remote clock offset: -5.873 ms


# Below is generated by plot.py at 2019-07-12 07:46:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 261.10 Mbit/s
95th percentile per-packet one-way delay: 24.587 ms
Loss rate: 2.07%
-- Flow 1:
Average throughput: 127.35 Mbit/s
95th percentile per-packet one-way delay: 12.218 ms
Loss rate: 1.79%
-- Flow 2:
Average throughput: 145.67 Mbit/s
95th percentile per-packet one-way delay: 59.070 ms
Loss rate: 2.00%
-- Flow 3:
Average throughput: 111.94 Mbit/s
95th percentile per-packet one-way delay: 42.157 ms
Loss rate: 3.22%
```
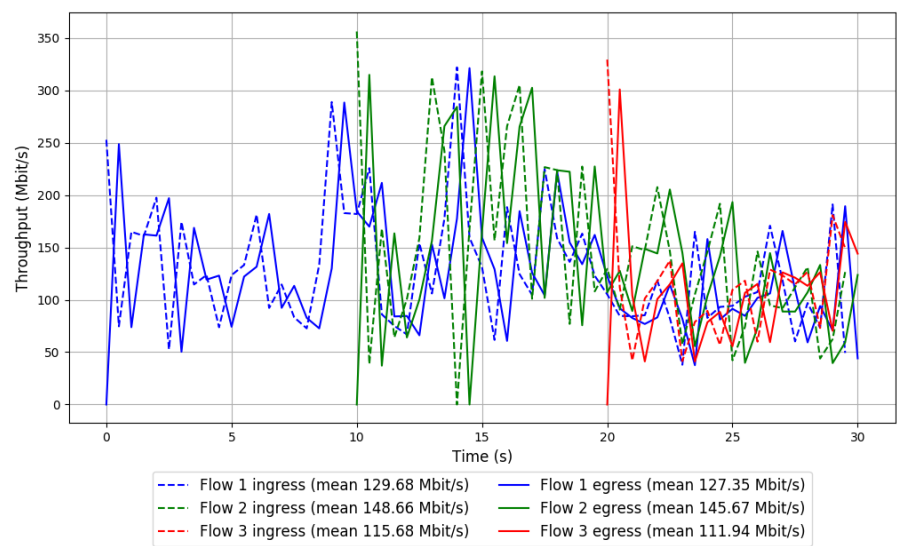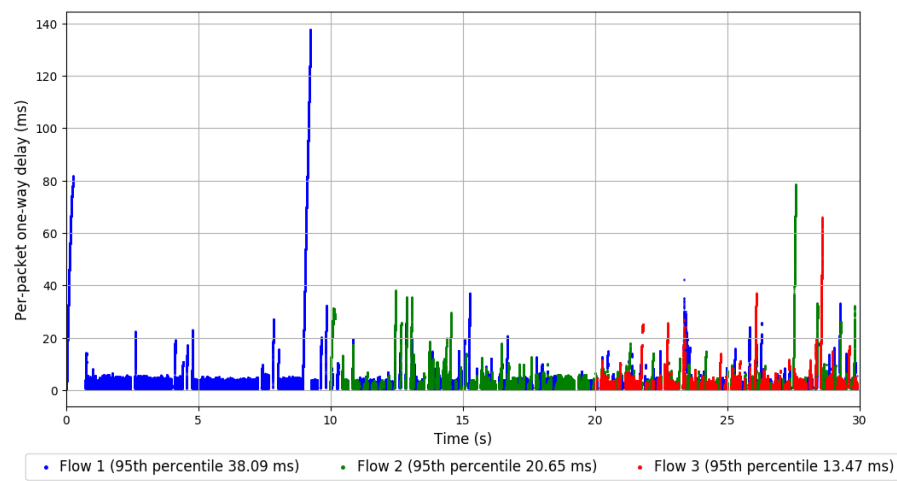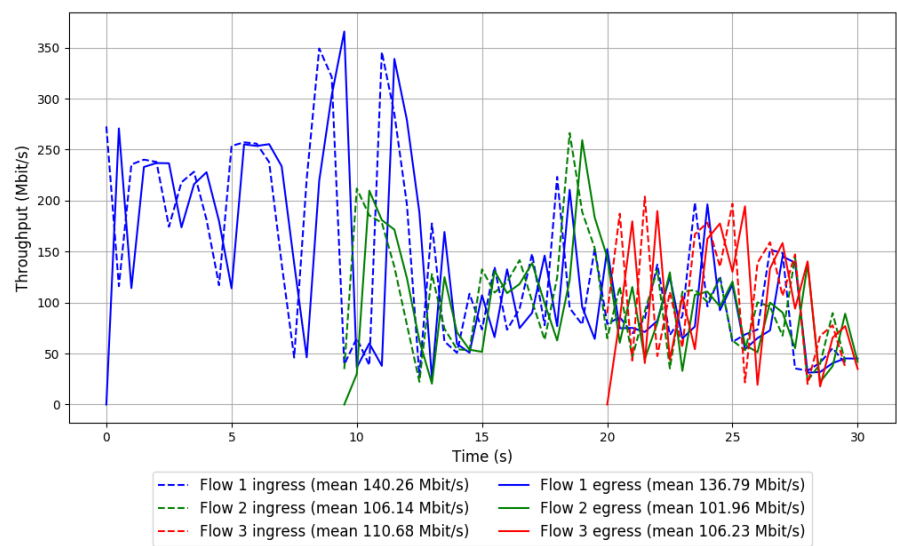
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-07-12 06:45:17
End at: 2019-07-12 06:45:47
Local clock offset: 0.012 ms
Remote clock offset: -0.884 ms


# Below is generated by plot.py at 2019-07-12 07:46:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 239.67 Mbit/s
95th percentile per-packet one-way delay: 24.520 ms
Loss rate: 3.07%
-- Flow 1:
Average throughput: 136.79 Mbit/s
95th percentile per-packet one-way delay: 38.092 ms
Loss rate: 2.46%
-- Flow 2:
Average throughput: 101.96 Mbit/s
95th percentile per-packet one-way delay: 20.652 ms
Loss rate: 3.79%
-- Flow 3:
Average throughput: 106.23 Mbit/s
95th percentile per-packet one-way delay: 13.466 ms
Loss rate: 4.01%
```

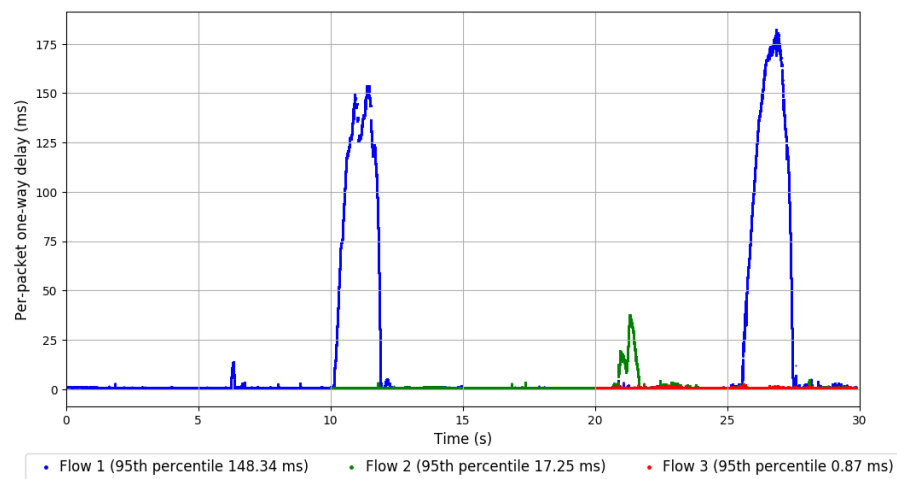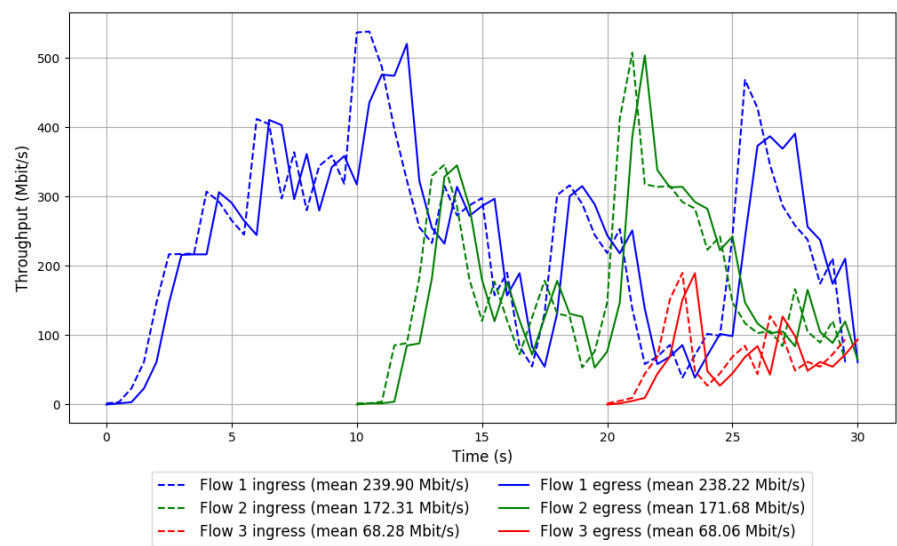## Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-07-12 04:35:47
End at: 2019-07-12 04:36:17
Local clock offset: 1.611 ms
Remote clock offset: -0.449 ms


# Below is generated by plot.py at 2019-07-12 07:48:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 374.86 Mbit/s
95th percentile per-packet one-way delay: 137.761 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 238.22 Mbit/s
95th percentile per-packet one-way delay: 148.337 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 171.68 Mbit/s
95th percentile per-packet one-way delay: 17.245 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 68.06 Mbit/s
95th percentile per-packet one-way delay: 0.874 ms
Loss rate: 0.31%
```

Run 1: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 239.90 Mbit/s) --- Flow 1 egress (mean 238.22 Mbit/s)
Flow 2 ingress (mean 172.31 Mbit/s) --- Flow 2 egress (mean 171.68 Mbit/s)
Flow 3 ingress (mean 68.28 Mbit/s) --- Flow 3 egress (mean 68.06 Mbit/s)

Flow 1 (95th percentile 148.34 ms)   Flow 2 (95th percentile 17.25 ms)   Flow 3 (95th percentile 0.87 ms)

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-07-12 05:09:20
End at: 2019-07-12 05:09:50
Local clock offset: -0.905 ms
Remote clock offset: 1.384 ms


# Below is generated by plot.py at 2019-07-12 07:48:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 362.29 Mbit/s
95th percentile per-packet one-way delay: 1.436 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 202.53 Mbit/s
95th percentile per-packet one-way delay: 1.115 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 153.17 Mbit/s
95th percentile per-packet one-way delay: 1.138 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 175.41 Mbit/s
95th percentile per-packet one-way delay: 95.128 ms
Loss rate: 4.81%
```
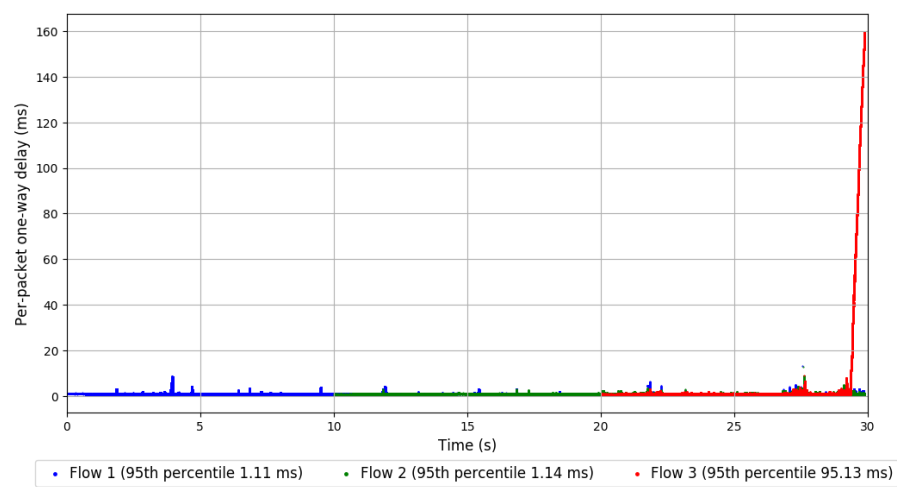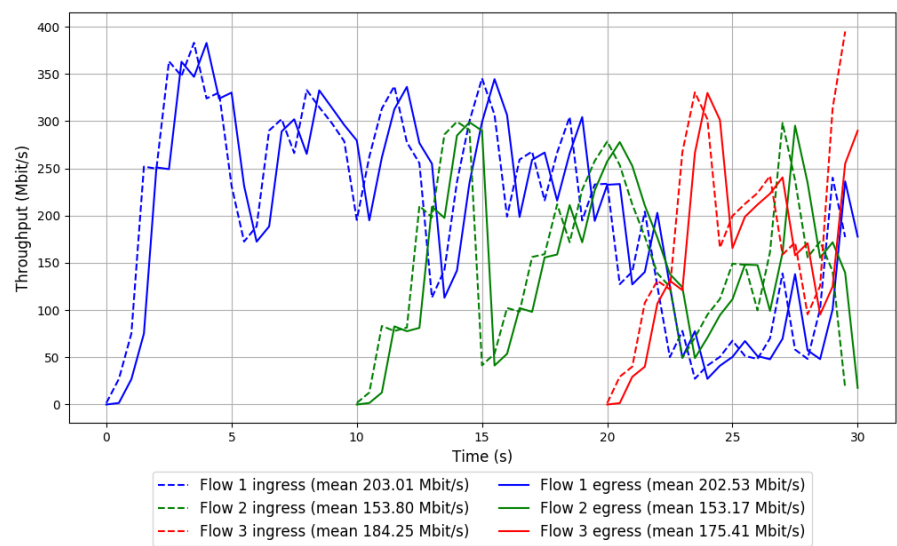
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-07-12 05:42:40
End at: 2019-07-12 05:43:10
Local clock offset: -0.245 ms
Remote clock offset: 3.9 ms


# Below is generated by plot.py at 2019-07-12 07:48:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 359.61 Mbit/s
95th percentile per-packet one-way delay: 136.032 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 179.27 Mbit/s
95th percentile per-packet one-way delay: 147.671 ms
Loss rate: 1.19%
-- Flow 2:
Average throughput: 164.78 Mbit/s
95th percentile per-packet one-way delay: 0.982 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 214.36 Mbit/s
95th percentile per-packet one-way delay: 36.489 ms
Loss rate: 0.26%
```
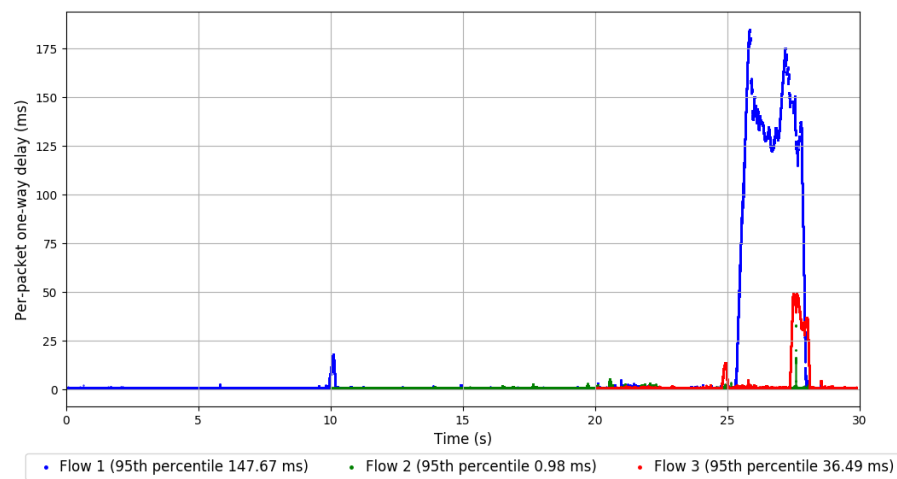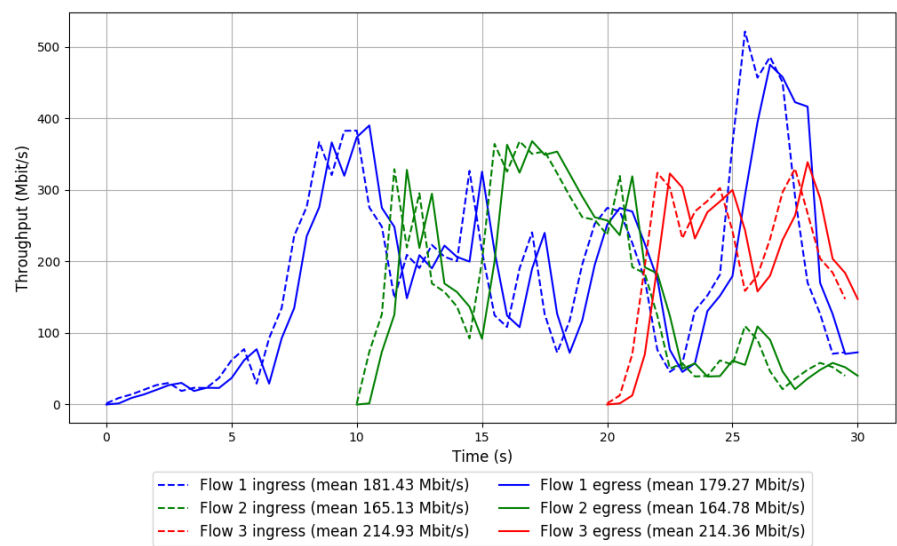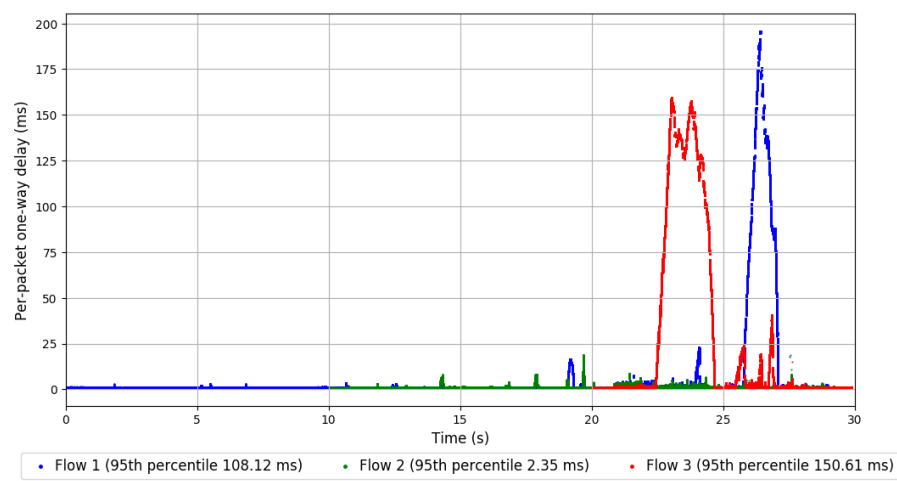
Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 181.43 Mbit/s) —— Flow 1 egress (mean 179.27 Mbit/s)
Flow 2 ingress (mean 165.13 Mbit/s) —— Flow 2 egress (mean 164.78 Mbit/s)
Flow 3 ingress (mean 214.93 Mbit/s) —— Flow 3 egress (mean 214.36 Mbit/s)

Flow 1 (95th percentile 147.67 ms) • Flow 2 (95th percentile 0.98 ms) • Flow 3 (95th percentile 36.49 ms)
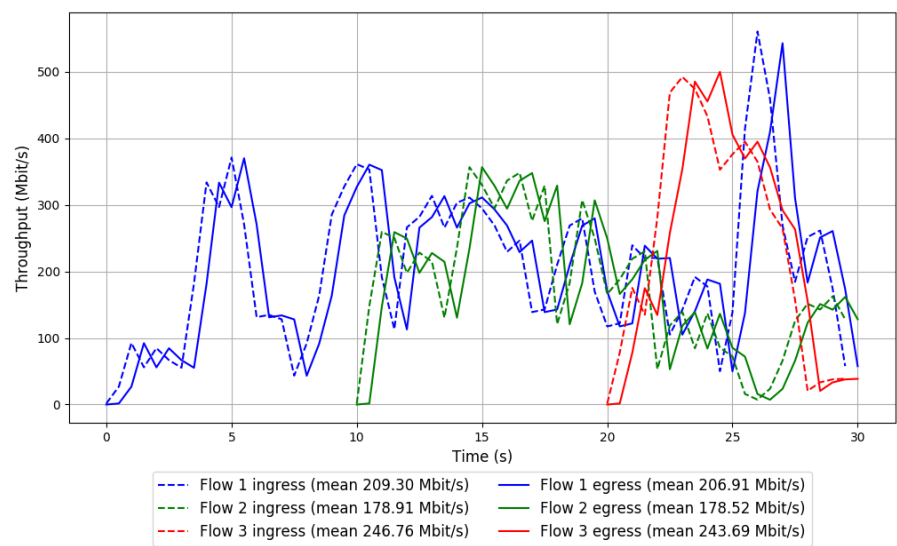
```
Run 4: Statistics of PCC-Vivace

Start at: 2019-07-12 06:15:56
End at: 2019-07-12 06:16:26
Local clock offset: 0.035 ms
Remote clock offset: -6.474 ms


# Below is generated by plot.py at 2019-07-12 07:48:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 406.10 Mbit/s
95th percentile per-packet one-way delay: 133.502 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 206.91 Mbit/s
95th percentile per-packet one-way delay: 108.119 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 178.52 Mbit/s
95th percentile per-packet one-way delay: 2.354 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 243.69 Mbit/s
95th percentile per-packet one-way delay: 150.613 ms
Loss rate: 1.31%
```

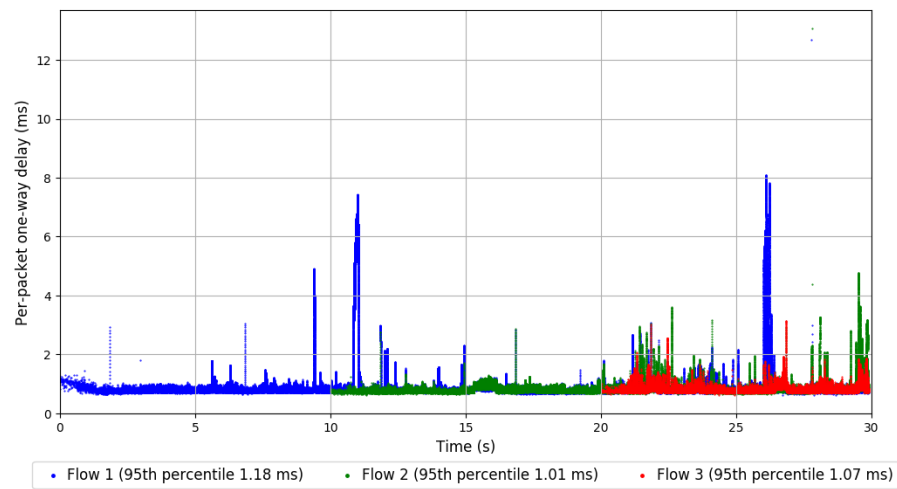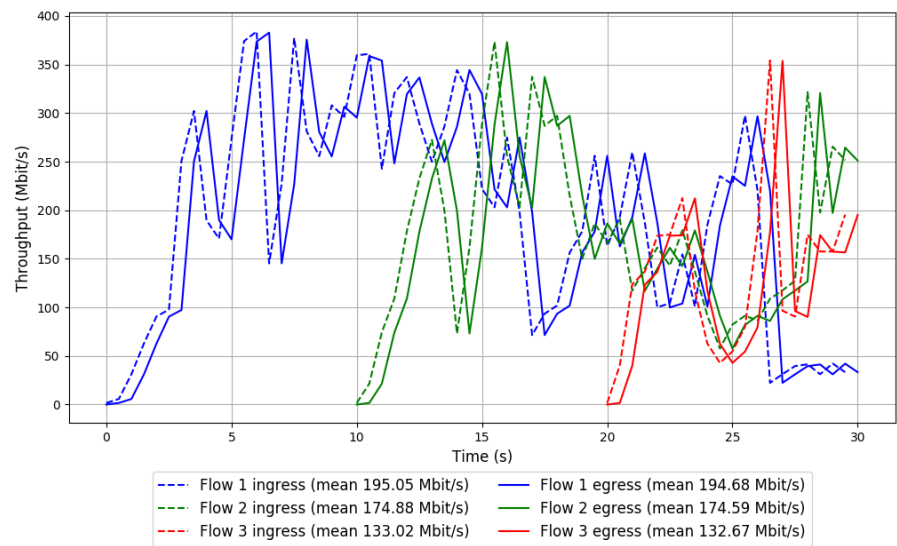Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-07-12 06:49:21
End at: 2019-07-12 06:49:51
Local clock offset: 0.014 ms
Remote clock offset: -0.896 ms


# Below is generated by plot.py at 2019-07-12 07:48:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 354.61 Mbit/s
95th percentile per-packet one-way delay: 1.063 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 194.68 Mbit/s
95th percentile per-packet one-way delay: 1.180 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 174.59 Mbit/s
95th percentile per-packet one-way delay: 1.015 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 132.67 Mbit/s
95th percentile per-packet one-way delay: 1.070 ms
Loss rate: 0.26%
```

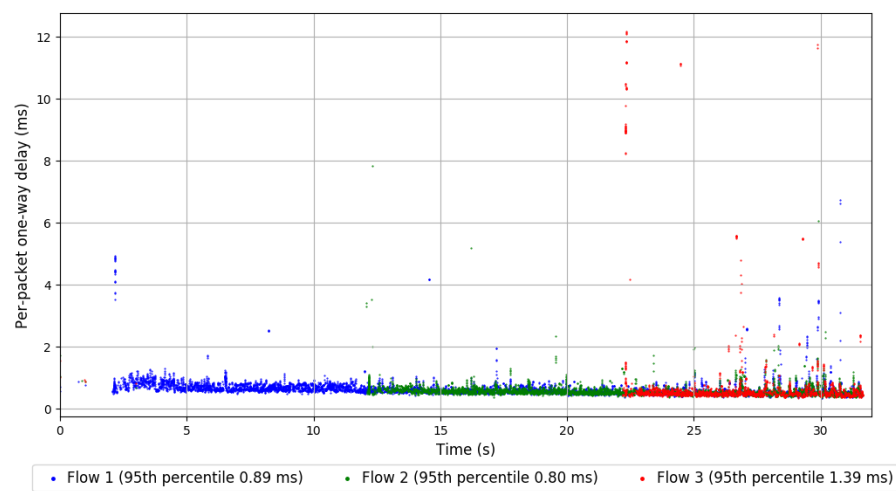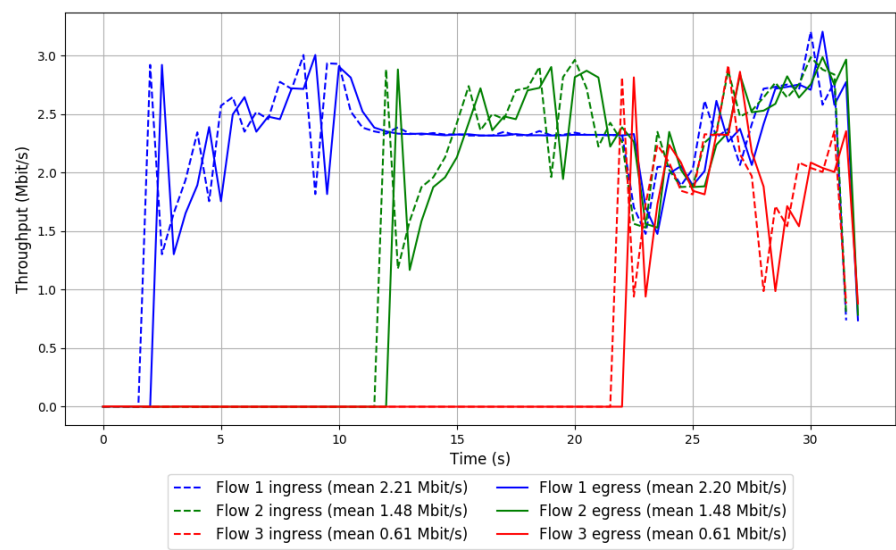# Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-07-12 04:30:22
End at: 2019-07-12 04:30:52
Local clock offset: 3.209 ms
Remote clock offset: -0.345 ms


# Below is generated by plot.py at 2019-07-12 07:48:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.29 Mbit/s
95th percentile per-packet one-way delay: 0.885 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 0.894 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 0.803 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 1.386 ms
Loss rate: 0.32%
```

Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-07-12 05:03:51
End at: 2019-07-12 05:04:21
Local clock offset: -0.688 ms
Remote clock offset: 1.222 ms


# Below is generated by plot.py at 2019-07-12 07:48:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 5.237 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.601 ms
Loss rate: 3.84%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 6.217 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 3.293 ms
Loss rate: 0.00%
```
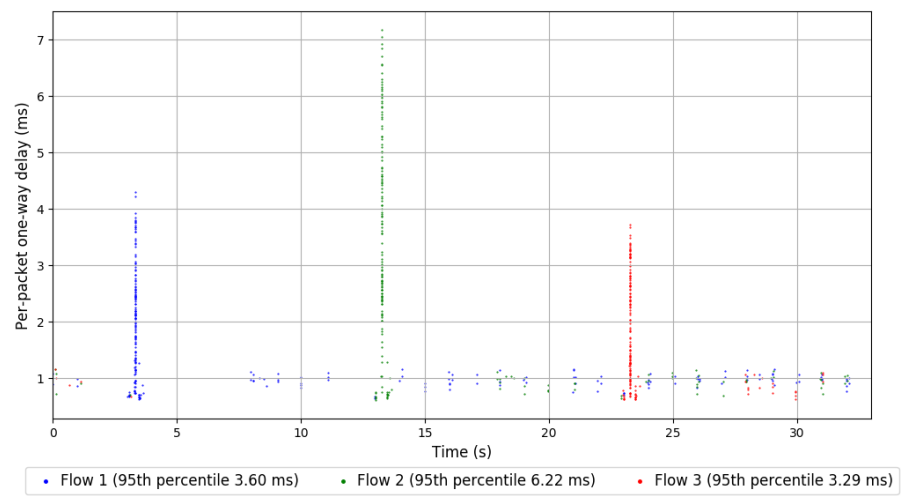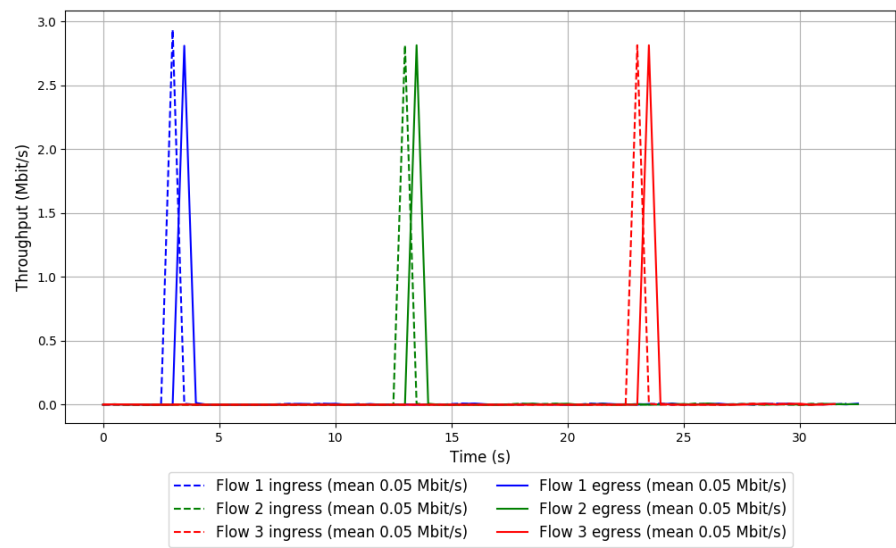
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-07-12 05:37:11
End at: 2019-07-12 05:37:41
Local clock offset: -0.528 ms
Remote clock offset: 3.705 ms


# Below is generated by plot.py at 2019-07-12 07:48:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 4.878 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.795 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 5.315 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 2.639 ms
Loss rate: 0.00%
```
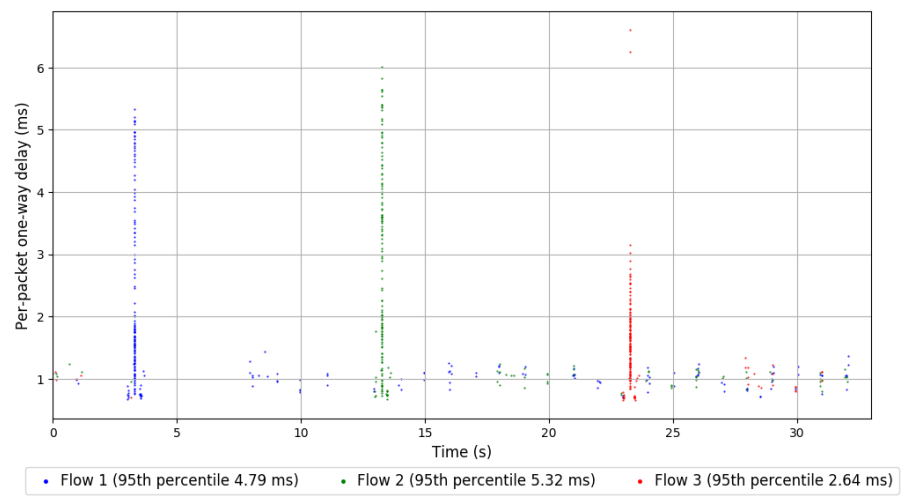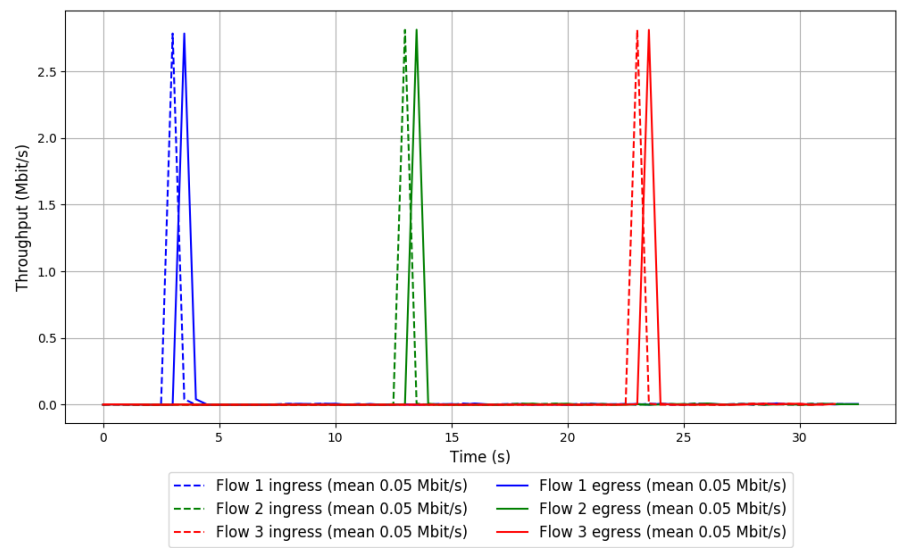
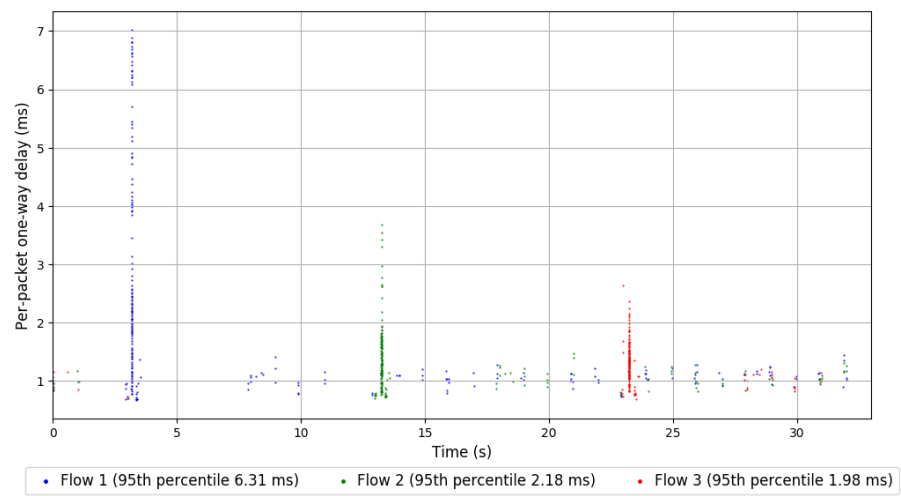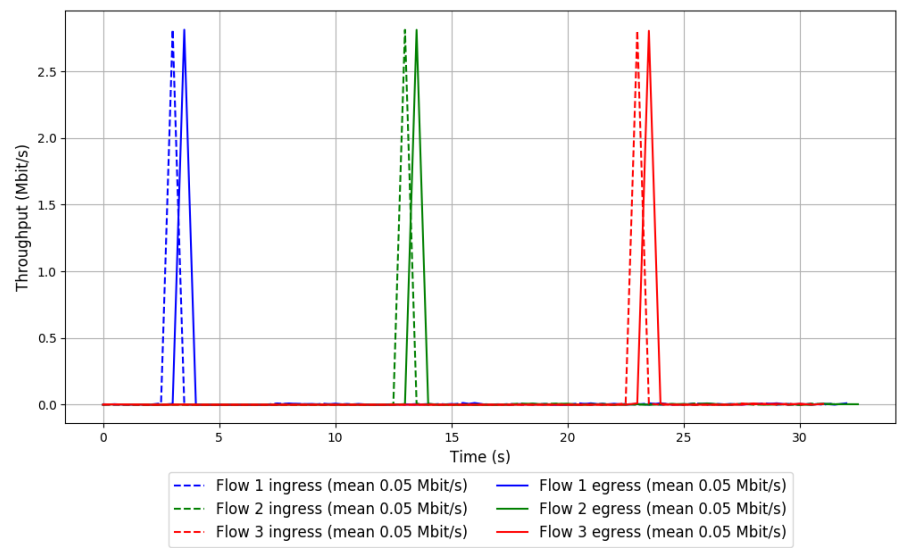Run 3: Report of WebRTC media — Data Link

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```
Run 4: Statistics of WebRTC media

Start at: 2019-07-12 06:10:25
End at: 2019-07-12 06:10:55
Local clock offset: 0.049 ms
Remote clock offset: -5.724 ms


# Below is generated by plot.py at 2019-07-12 07:48:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 4.241 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 6.313 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 2.180 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1.979 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-07-12 06:44:02
End at: 2019-07-12 06:44:32
Local clock offset: 0.042 ms
Remote clock offset: -0.931 ms


# Below is generated by plot.py at 2019-07-12 07:48:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 2.973 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 2.829 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 2.094 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.580 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link