Pantheon Report

Generated at 2017-09-01 07:31:59 (UTC).

Data path: GCE London Ethernet (*remote*) →GCE Sydney Ethernet (*local*).

Repeated the test of 15 congestion control schemes 10 times.

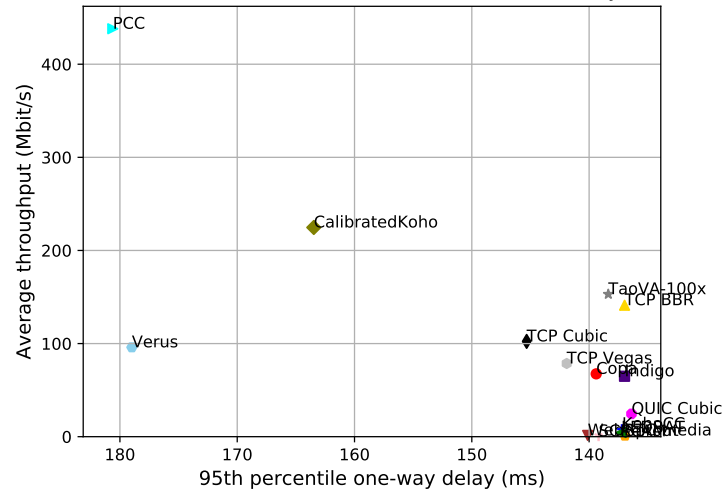Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

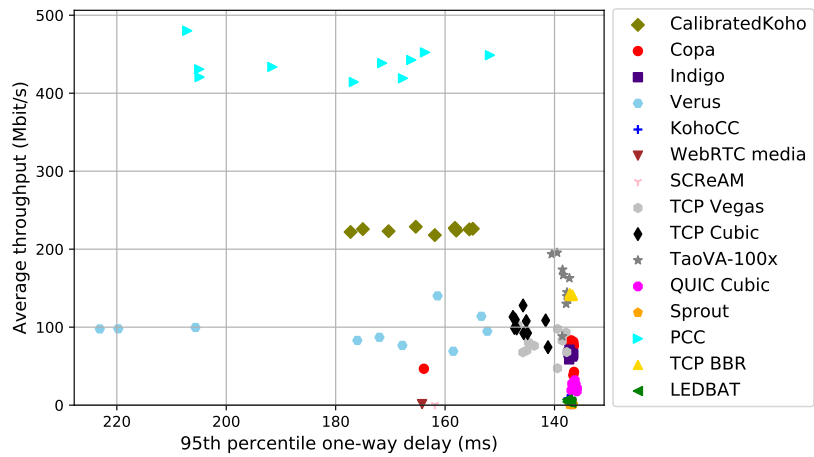Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

```
Git summary:
branch: master @ 5ea146acdebe79f5b9acfb2d9044554a7d2582ea
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/genericCC @ f7ca42f251bf49b432bb71de6d13fa903515c366
third_party/indigo @ 7ddb4adf480966042c0438984cb22a298bfa635f
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
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/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
 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/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

test from GCE London Ethernet to GCE Sydney Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from GCE London Ethernet to GCE Sydney Ethernet, 10 runs of 30s each per scheme
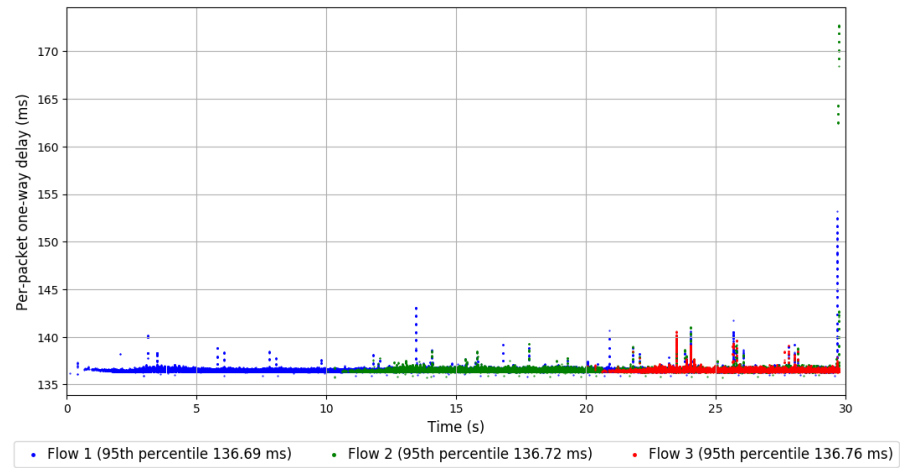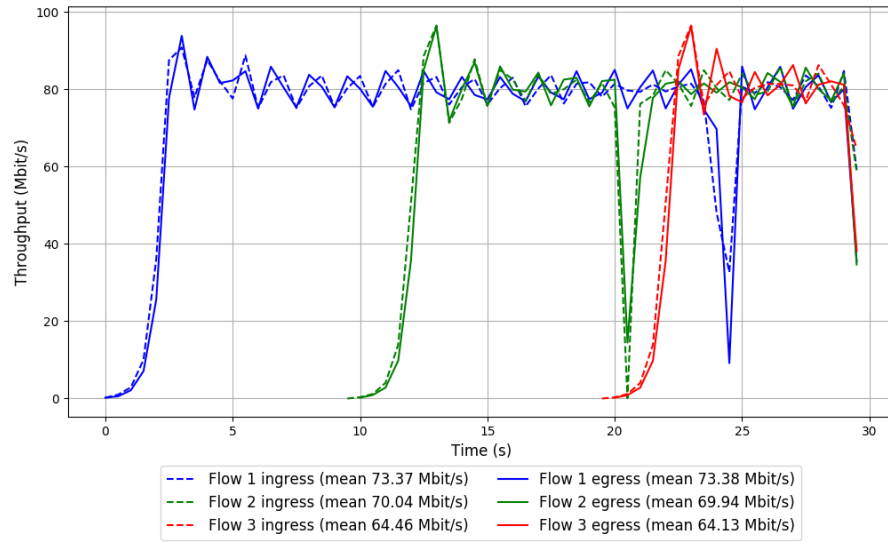### 3 flows with 10s interval between flows

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	10	73.80	70.24	63.70	136.95	136.99	137.04	0.91	1.56	3.43
CalibratedKoho	10	172.19	74.01	10.32	164.57	160.31	141.34	1.05	3.64	10.26
Copa	10	34.29	43.77	19.92	139.42	136.71	136.77	0.56	1.26	4.33
TCP Cubic	10	57.97	51.94	31.62	145.02	144.38	145.87	0.84	1.83	5.72
Indigo	10	19.72	49.57	38.22	136.92	136.96	137.22	1.23	1.16	3.36
KohoCC	10	4.21	4.12	3.87	137.20	137.21	137.16	0.95	1.46	3.11
LEDBAT	10	2.51	2.32	1.26	137.28	137.26	137.23	1.88	2.78	5.03
PCC	10	276.11	184.02	127.16	218.64	152.72	145.09	1.62	1.00	4.22
QUIC Cubic	10	0.04	28.24	17.21	136.77	136.33	135.96	0.00	1.40	3.95
SCReAM	10	0.21	0.22	0.22	136.62	136.24	138.75	0.85	1.33	2.63
Sprout	10	0.41	0.43	0.44	136.94	136.91	136.91	0.90	1.45	2.21
TaoVA-100x	10	120.14	40.87	25.54	137.99	138.17	137.86	0.53	1.52	4.15
TCP Vegas	10	41.83	38.37	33.71	140.95	140.67	143.06	0.93	1.53	3.59
Verus	10	57.66	43.42	30.39	169.52	203.07	157.90	1.05	1.61	2.36
WebRTC media	9	0.05	1.42	0.22	140.03	136.99	140.89	0.00	1.82	9.73

```
Run 1: Statistics of TCP BBR

Start at: 2017-09-01 01:37:38
End at: 2017-09-01 01:38:08

# Below is generated by plot.py at 2017-09-01 07:05:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.72 Mbit/s
95th percentile per-packet one-way delay: 136.711 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 73.38 Mbit/s
95th percentile per-packet one-way delay: 136.692 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 69.94 Mbit/s
95th percentile per-packet one-way delay: 136.720 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 64.13 Mbit/s
95th percentile per-packet one-way delay: 136.762 ms
Loss rate: 3.49%
```
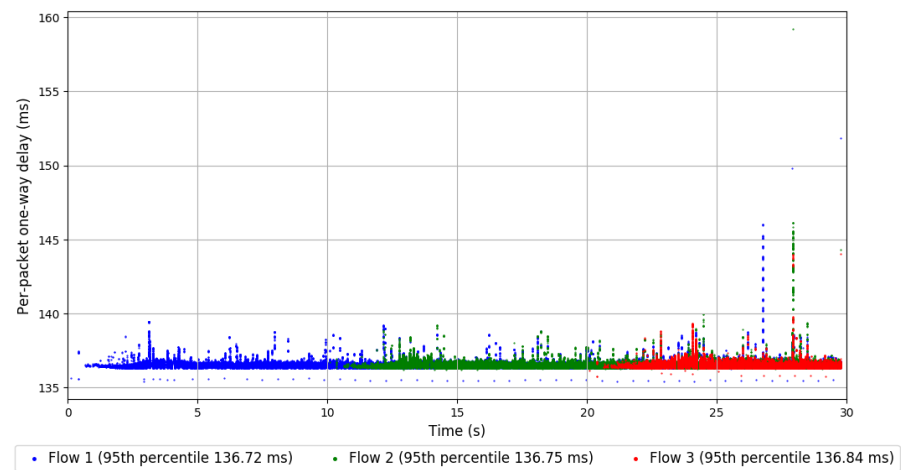
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 73.37 Mbit/s) --- Flow 1 egress (mean 73.38 Mbit/s)
Flow 2 ingress (mean 70.04 Mbit/s) --- Flow 2 egress (mean 69.94 Mbit/s)
Flow 3 ingress (mean 64.46 Mbit/s) --- Flow 3 egress (mean 64.13 Mbit/s)

Flow 1 (95th percentile 136.69 ms)   Flow 2 (95th percentile 136.72 ms)   Flow 3 (95th percentile 136.76 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2017-09-01 01:51:52
End at: 2017-09-01 01:52:22

# Below is generated by plot.py at 2017-09-01 07:05:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 142.01 Mbit/s
95th percentile per-packet one-way delay: 136.750 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 75.05 Mbit/s
95th percentile per-packet one-way delay: 136.723 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 69.27 Mbit/s
95th percentile per-packet one-way delay: 136.747 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 64.21 Mbit/s
95th percentile per-packet one-way delay: 136.840 ms
Loss rate: 3.37%
```
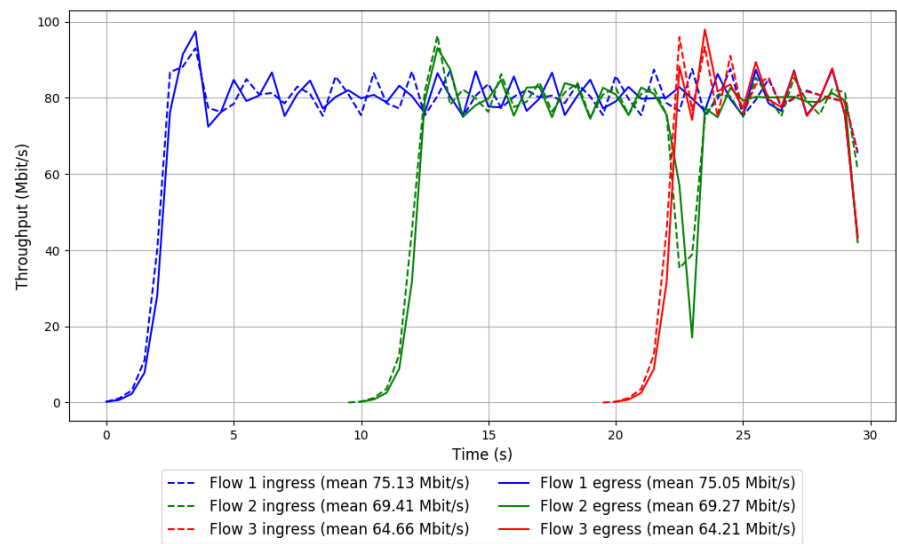
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2017-09-01 02:05:53
End at: 2017-09-01 02:06:23

# Below is generated by plot.py at 2017-09-01 07:06:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.29 Mbit/s
95th percentile per-packet one-way delay: 136.692 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 73.46 Mbit/s
95th percentile per-packet one-way delay: 136.674 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 69.59 Mbit/s
95th percentile per-packet one-way delay: 136.687 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 63.16 Mbit/s
95th percentile per-packet one-way delay: 136.775 ms
Loss rate: 3.59%
```
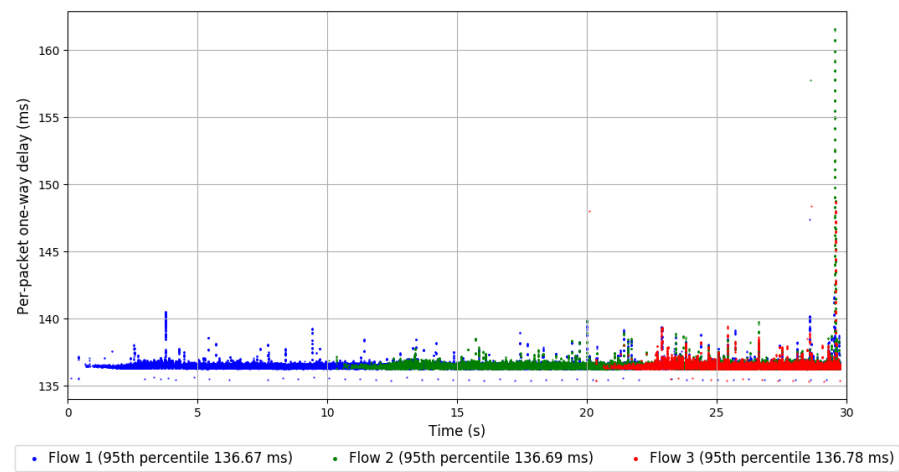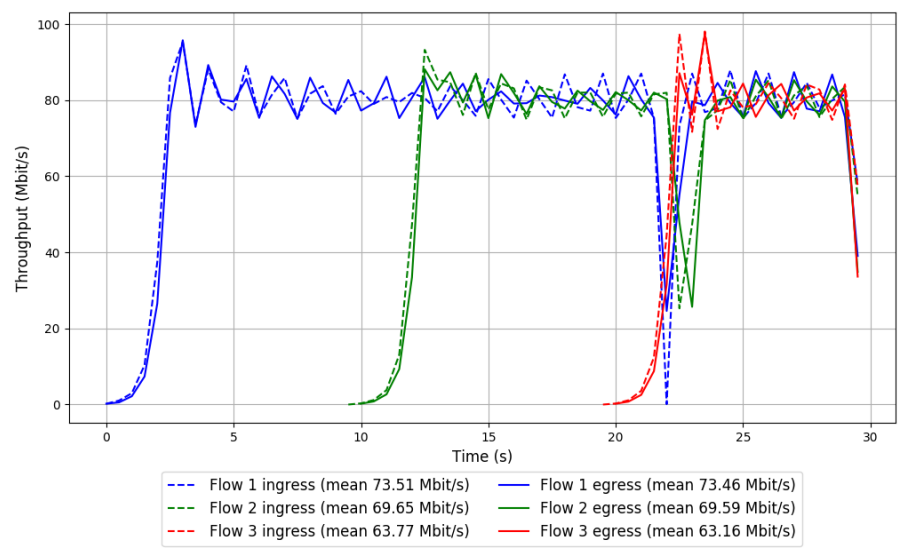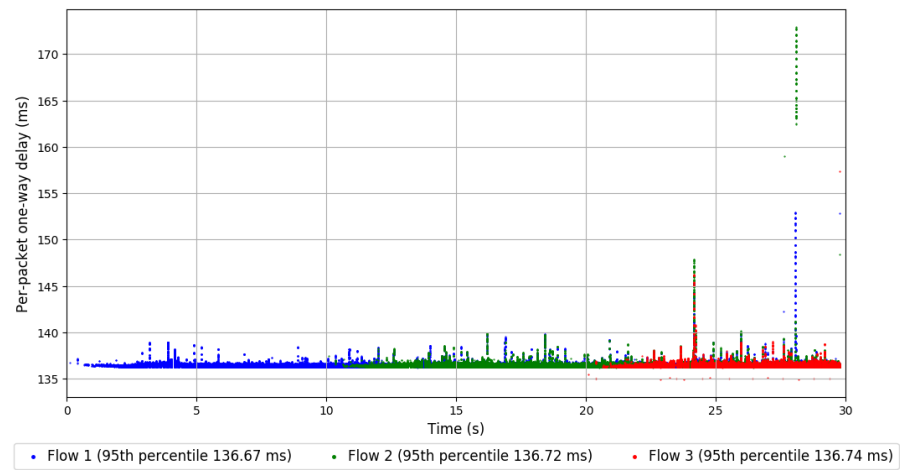
Run 3: Report of TCP BBR — Data Link

- Flow 1 ingress (mean 73.51 Mbit/s)
- Flow 1 egress (mean 73.46 Mbit/s)
- Flow 2 ingress (mean 69.65 Mbit/s)
- Flow 2 egress (mean 69.59 Mbit/s)
- Flow 3 ingress (mean 63.77 Mbit/s)
- Flow 3 egress (mean 63.16 Mbit/s)

- Flow 1 (95th percentile 136.67 ms)
- Flow 2 (95th percentile 136.69 ms)
- Flow 3 (95th percentile 136.78 ms)

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```
Run 4: Statistics of TCP BBR

Start at: 2017-09-01 02:19:59
End at: 2017-09-01 02:20:29

# Below is generated by plot.py at 2017-09-01 07:06:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.33 Mbit/s
95th percentile per-packet one-way delay: 136.696 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 73.06 Mbit/s
95th percentile per-packet one-way delay: 136.671 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 69.97 Mbit/s
95th percentile per-packet one-way delay: 136.717 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 63.69 Mbit/s
95th percentile per-packet one-way delay: 136.738 ms
Loss rate: 3.39%
```
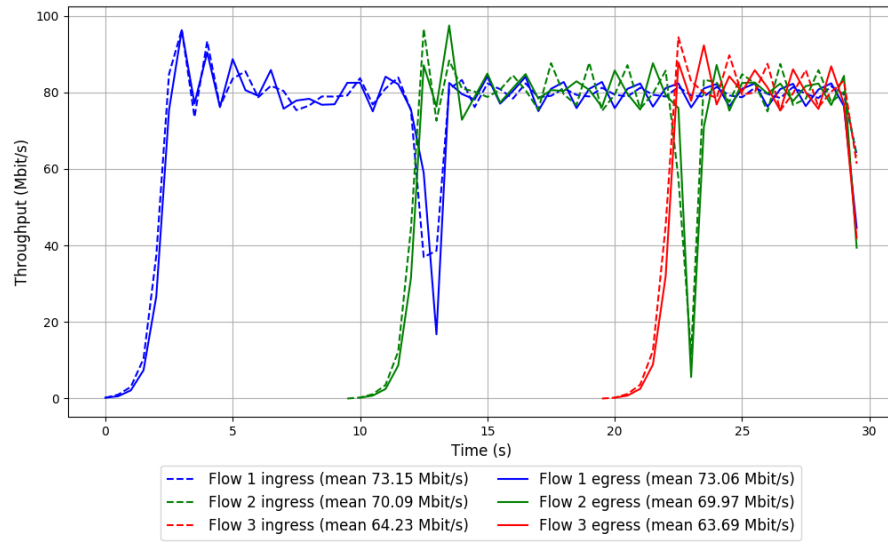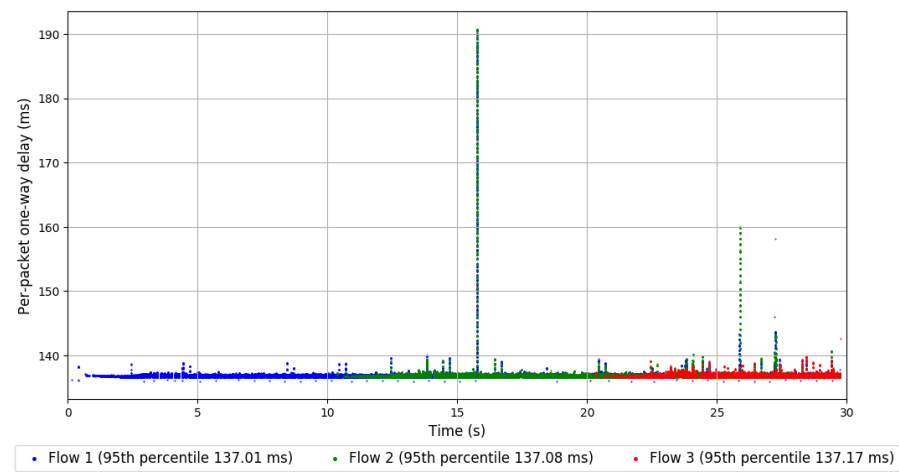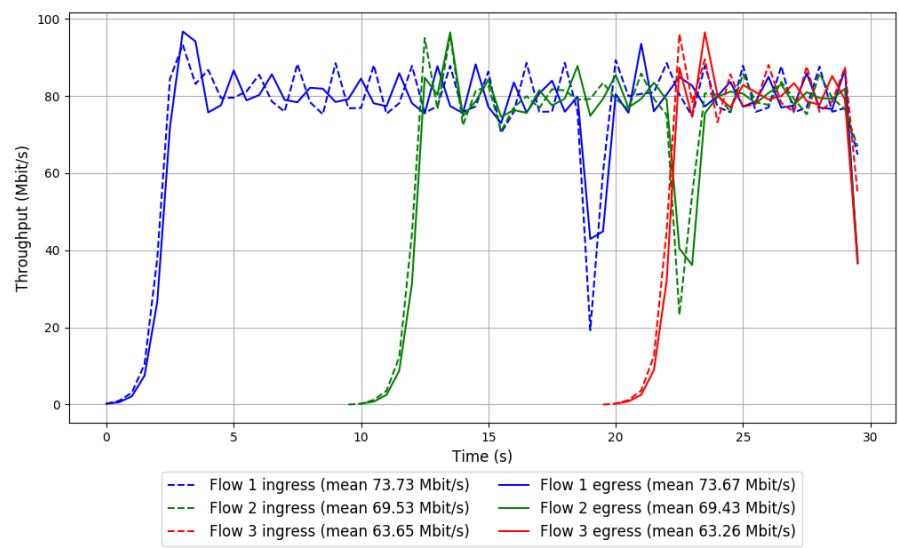
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 73.15 Mbit/s)   Flow 1 egress (mean 73.06 Mbit/s)
Flow 2 ingress (mean 70.09 Mbit/s)   Flow 2 egress (mean 69.97 Mbit/s)
Flow 3 ingress (mean 64.23 Mbit/s)   Flow 3 egress (mean 63.69 Mbit/s)

Flow 1 (95th percentile 136.67 ms)   Flow 2 (95th percentile 136.72 ms)   Flow 3 (95th percentile 136.74 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2017-09-01 02:34:06
End at: 2017-09-01 02:34:36

# Below is generated by plot.py at 2017-09-01 07:06:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.35 Mbit/s
95th percentile per-packet one-way delay: 137.062 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 73.67 Mbit/s
95th percentile per-packet one-way delay: 137.014 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 69.43 Mbit/s
95th percentile per-packet one-way delay: 137.081 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 63.26 Mbit/s
95th percentile per-packet one-way delay: 137.171 ms
Loss rate: 3.43%
```
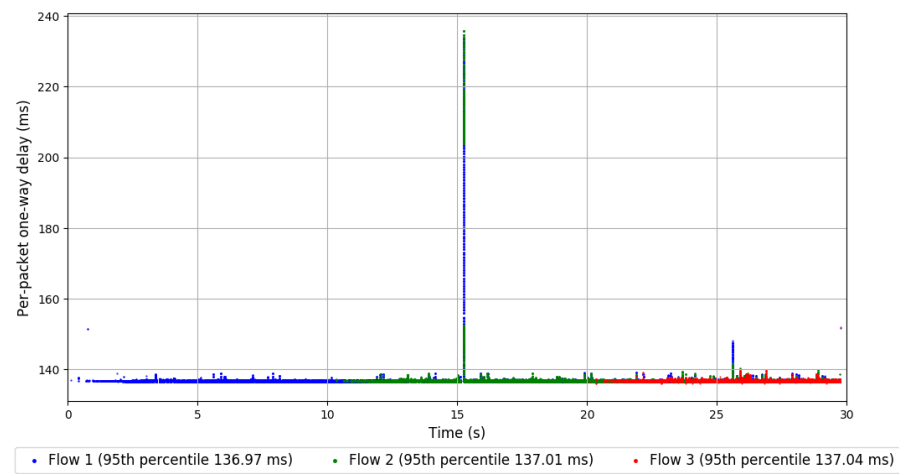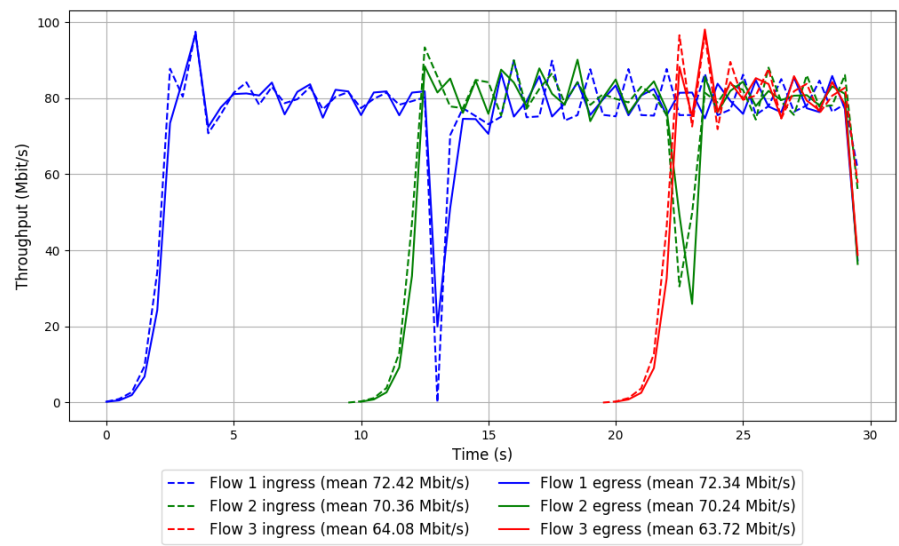
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 73.73 Mbit/s)   Flow 1 egress (mean 73.67 Mbit/s)
Flow 2 ingress (mean 69.53 Mbit/s)   Flow 2 egress (mean 69.43 Mbit/s)
Flow 3 ingress (mean 63.65 Mbit/s)   Flow 3 egress (mean 63.26 Mbit/s)

Flow 1 (95th percentile 137.01 ms)   Flow 2 (95th percentile 137.08 ms)   Flow 3 (95th percentile 137.17 ms)

```
Run 6: Statistics of TCP BBR

Start at: 2017-09-01 02:48:10
End at: 2017-09-01 02:48:40

# Below is generated by plot.py at 2017-09-01 07:06:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 139.82 Mbit/s
95th percentile per-packet one-way delay: 136.995 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 72.34 Mbit/s
95th percentile per-packet one-way delay: 136.966 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 70.24 Mbit/s
95th percentile per-packet one-way delay: 137.011 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 63.72 Mbit/s
95th percentile per-packet one-way delay: 137.040 ms
Loss rate: 3.36%
```
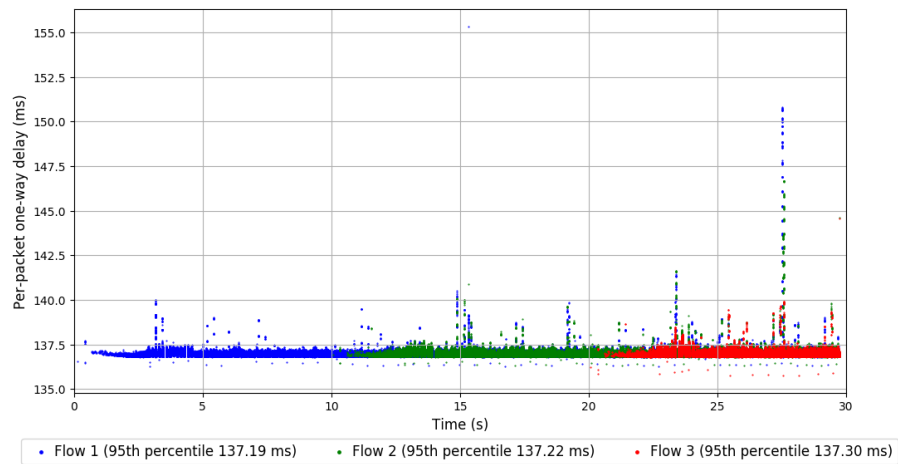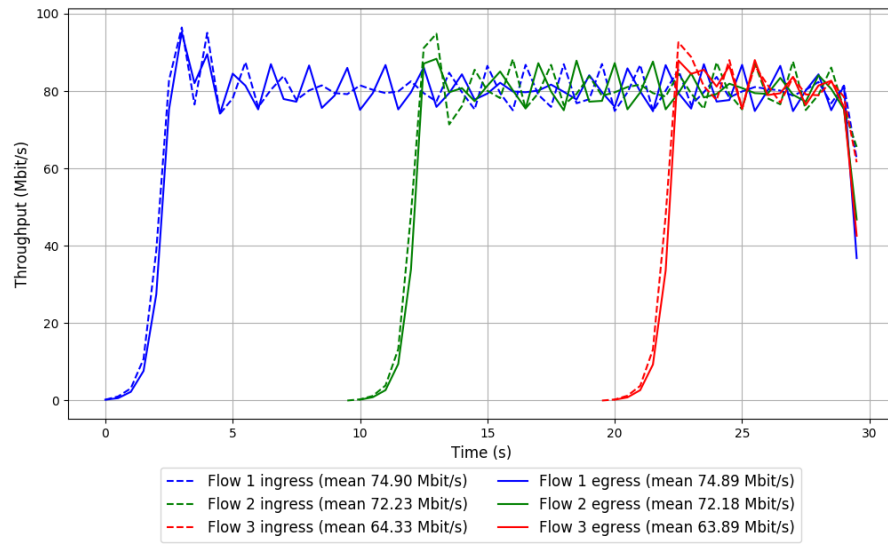
Run 6: Report of TCP BBR — Data Link

Flow 1 ingress (mean 72.42 Mbit/s) --- Flow 1 egress (mean 72.34 Mbit/s)
Flow 2 ingress (mean 70.36 Mbit/s) --- Flow 2 egress (mean 70.24 Mbit/s)
Flow 3 ingress (mean 64.08 Mbit/s) --- Flow 3 egress (mean 63.72 Mbit/s)

Flow 1 (95th percentile 136.97 ms)   Flow 2 (95th percentile 137.01 ms)   Flow 3 (95th percentile 137.04 ms)

```
Run 7: Statistics of TCP BBR

Start at: 2017-09-01 03:02:17
End at: 2017-09-01 03:02:47


# Below is generated by plot.py at 2017-09-01 07:06:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 143.65 Mbit/s
95th percentile per-packet one-way delay: 137.217 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 74.89 Mbit/s
95th percentile per-packet one-way delay: 137.190 ms
Loss rate: 1.07%
-- Flow 2:
Average throughput: 72.18 Mbit/s
95th percentile per-packet one-way delay: 137.224 ms
Loss rate: 1.48%
-- Flow 3:
Average throughput: 63.89 Mbit/s
95th percentile per-packet one-way delay: 137.297 ms
Loss rate: 3.36%
```
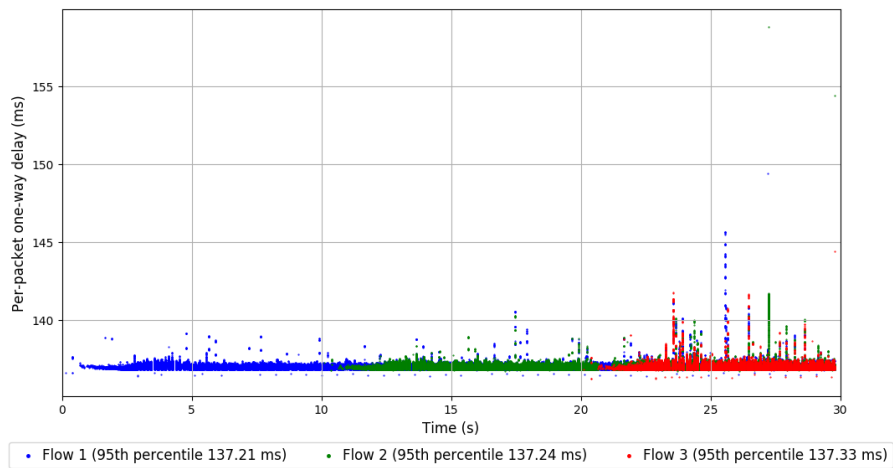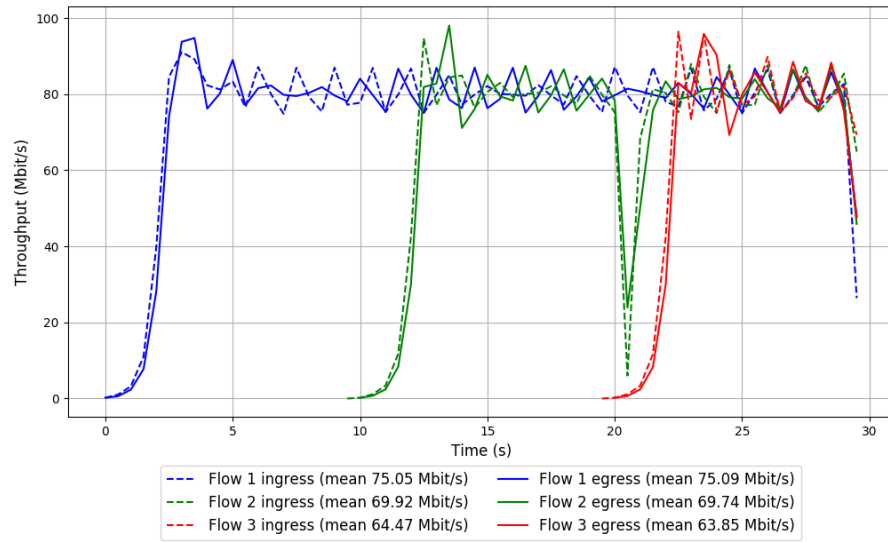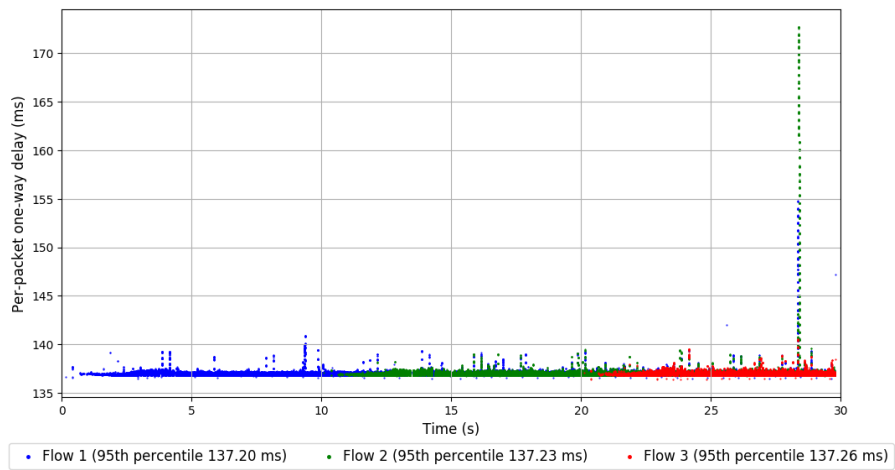
Run 7: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 74.90 Mbit/s) —— Flow 1 egress (mean 74.89 Mbit/s)
- - - Flow 2 ingress (mean 72.23 Mbit/s) —— Flow 2 egress (mean 72.18 Mbit/s)
- - - Flow 3 ingress (mean 64.33 Mbit/s) —— Flow 3 egress (mean 63.89 Mbit/s)

• Flow 1 (95th percentile 137.19 ms)   • Flow 2 (95th percentile 137.22 ms)   • Flow 3 (95th percentile 137.30 ms)

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```
Run 8: Statistics of TCP BBR

Start at: 2017-09-01 03:16:24
End at: 2017-09-01 03:16:54

# Below is generated by plot.py at 2017-09-01 07:07:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 142.17 Mbit/s
95th percentile per-packet one-way delay: 137.235 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 75.09 Mbit/s
95th percentile per-packet one-way delay: 137.209 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 69.74 Mbit/s
95th percentile per-packet one-way delay: 137.241 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 63.85 Mbit/s
95th percentile per-packet one-way delay: 137.329 ms
Loss rate: 3.53%
```
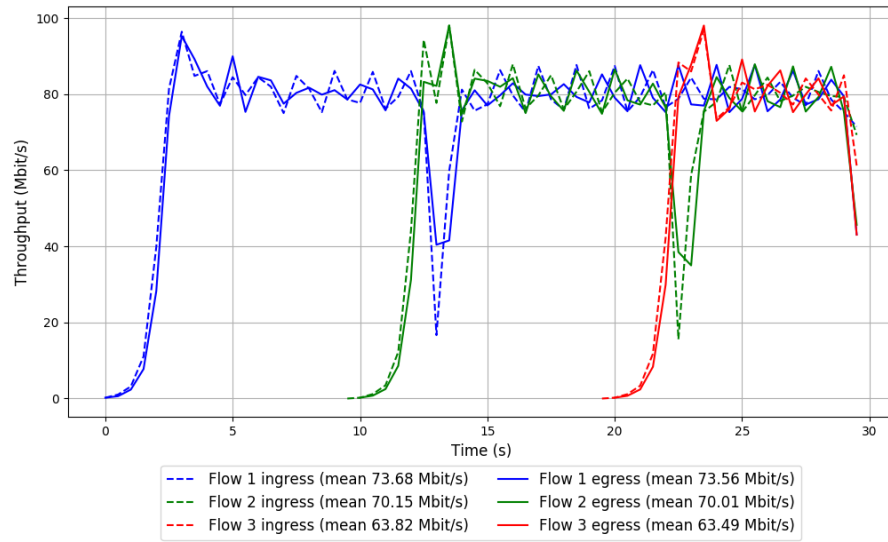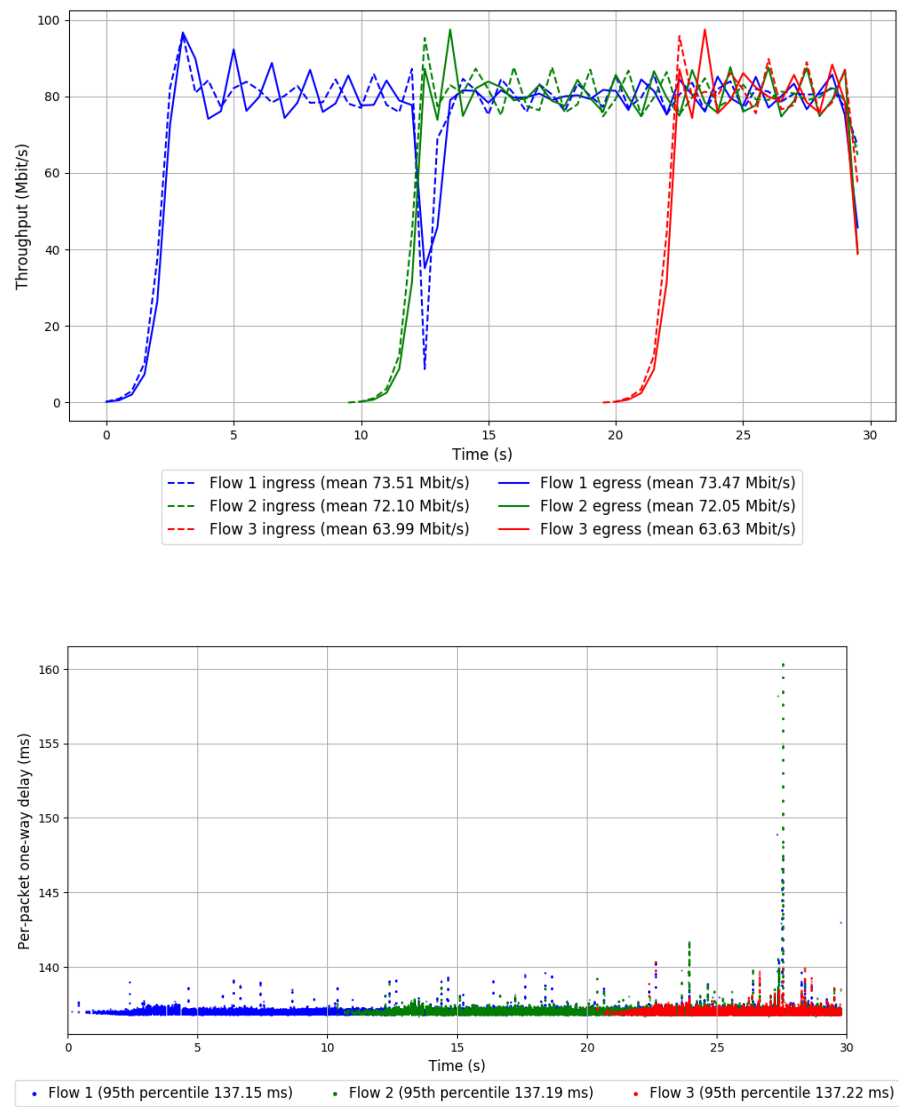
Run 8: Report of TCP BBR — Data Link

- Flow 1 ingress (mean 75.05 Mbit/s)
- Flow 1 egress (mean 75.09 Mbit/s)
- Flow 2 ingress (mean 69.92 Mbit/s)
- Flow 2 egress (mean 69.74 Mbit/s)
- Flow 3 ingress (mean 64.47 Mbit/s)
- Flow 3 egress (mean 63.85 Mbit/s)

- Flow 1 (95th percentile 137.21 ms)
- Flow 2 (95th percentile 137.24 ms)
- Flow 3 (95th percentile 137.33 ms)

```
Run 9: Statistics of TCP BBR

Start at: 2017-09-01 03:30:26
End at: 2017-09-01 03:30:56

# Below is generated by plot.py at 2017-09-01 07:07:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.71 Mbit/s
95th percentile per-packet one-way delay: 137.221 ms
Loss rate: 1.57%
-- Flow 1:
Average throughput: 73.56 Mbit/s
95th percentile per-packet one-way delay: 137.202 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 70.01 Mbit/s
95th percentile per-packet one-way delay: 137.232 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 63.49 Mbit/s
95th percentile per-packet one-way delay: 137.264 ms
Loss rate: 3.37%
```
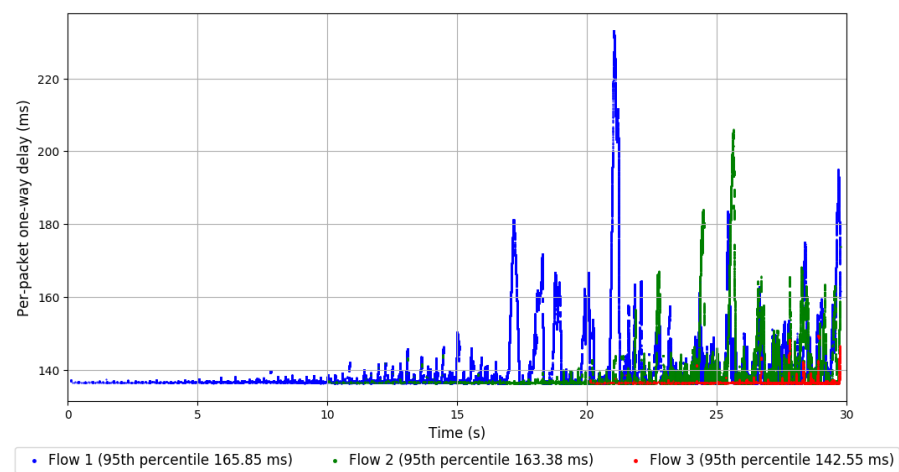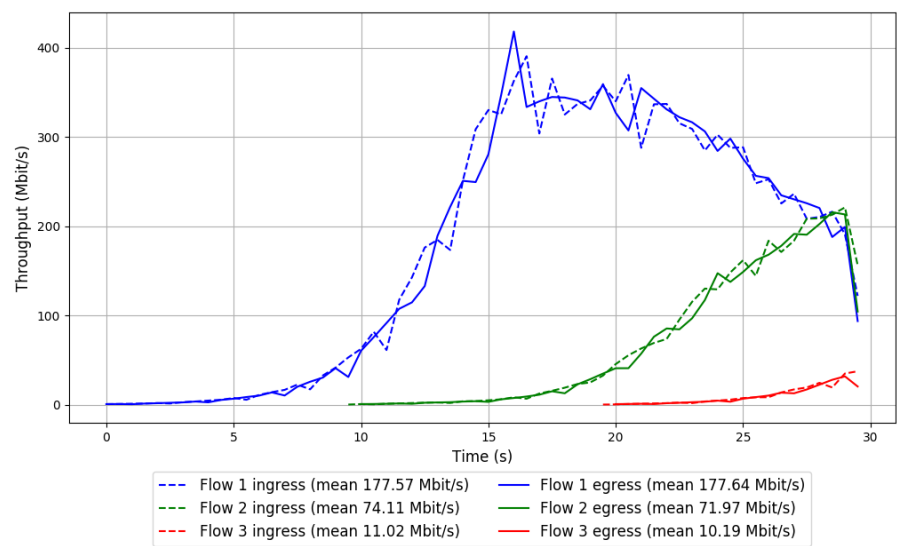
Run 9: Report of TCP BBR — Data Link

Flow 1 ingress (mean 73.68 Mbit/s)   Flow 1 egress (mean 73.56 Mbit/s)
Flow 2 ingress (mean 70.15 Mbit/s)   Flow 2 egress (mean 70.01 Mbit/s)
Flow 3 ingress (mean 63.82 Mbit/s)   Flow 3 egress (mean 63.49 Mbit/s)

Flow 1 (95th percentile 137.20 ms)   Flow 2 (95th percentile 137.23 ms)   Flow 3 (95th percentile 137.26 ms)

```
Run 10: Statistics of TCP BBR

Start at: 2017-09-01 03:44:58
End at: 2017-09-01 03:45:28

# Below is generated by plot.py at 2017-09-01 07:07:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 142.05 Mbit/s
95th percentile per-packet one-way delay: 137.177 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 73.47 Mbit/s
95th percentile per-packet one-way delay: 137.154 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 72.05 Mbit/s
95th percentile per-packet one-way delay: 137.194 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 63.63 Mbit/s
95th percentile per-packet one-way delay: 137.216 ms
Loss rate: 3.39%
```
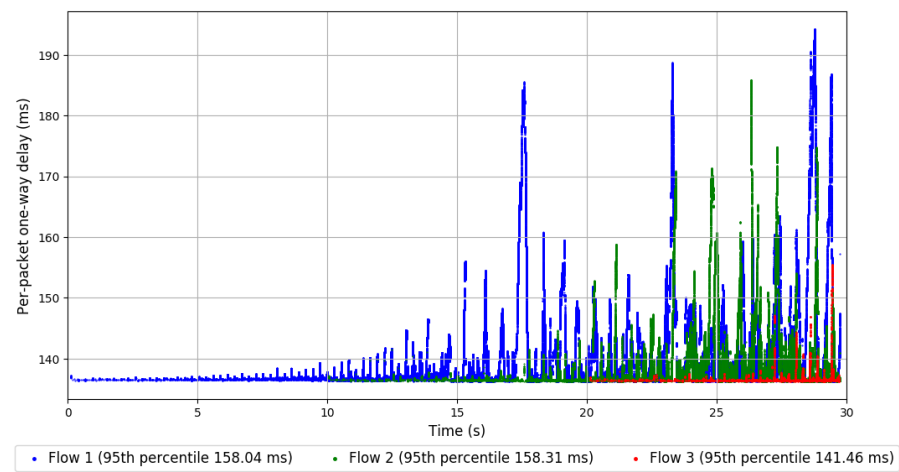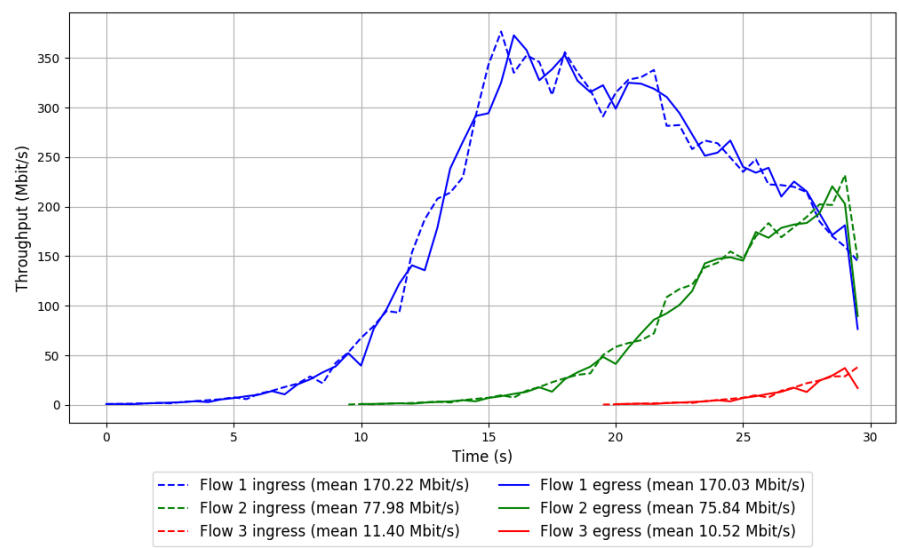
Run 10: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 73.51 Mbit/s)   —— Flow 1 egress (mean 73.47 Mbit/s)
- - - Flow 2 ingress (mean 72.10 Mbit/s)   —— Flow 2 egress (mean 72.05 Mbit/s)
- - - Flow 3 ingress (mean 63.99 Mbit/s)   —— Flow 3 egress (mean 63.63 Mbit/s)

- Flow 1 (95th percentile 137.15 ms)   • Flow 2 (95th percentile 137.19 ms)   • Flow 3 (95th percentile 137.22 ms)

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```
Run 1: Statistics of CalibratedKoho

Start at: 2017-09-01 01:41:22
End at: 2017-09-01 01:41:52

# Below is generated by plot.py at 2017-09-01 07:08:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 228.72 Mbit/s
95th percentile per-packet one-way delay: 165.358 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 177.64 Mbit/s
95th percentile per-packet one-way delay: 165.850 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 71.97 Mbit/s
95th percentile per-packet one-way delay: 163.379 ms
Loss rate: 4.14%
-- Flow 3:
Average throughput: 10.19 Mbit/s
95th percentile per-packet one-way delay: 142.550 ms
Loss rate: 10.03%
```
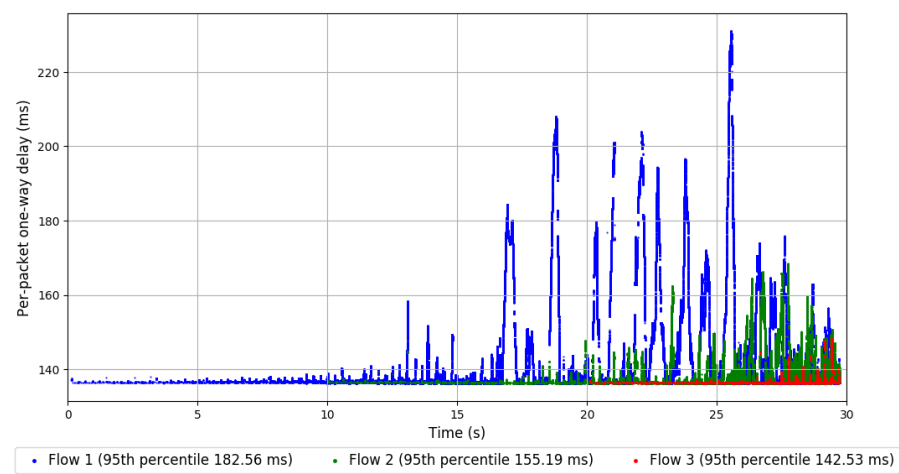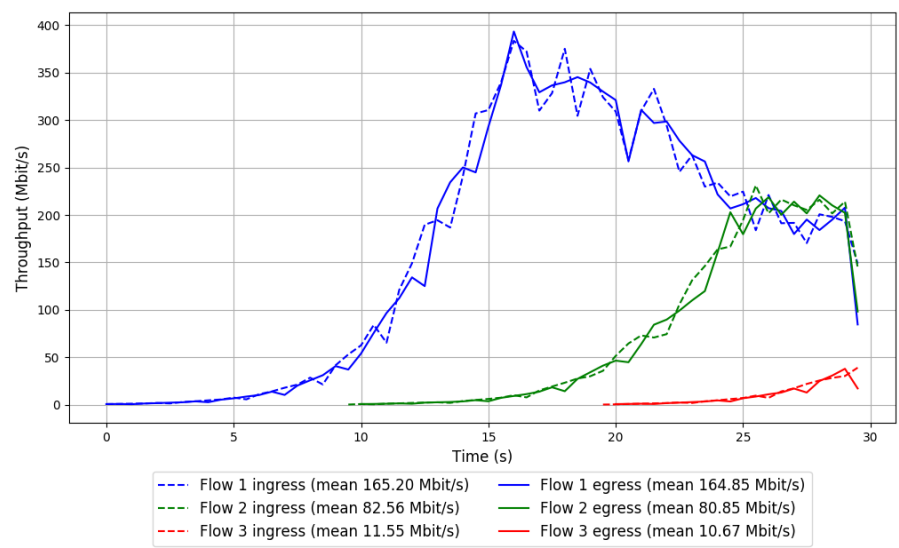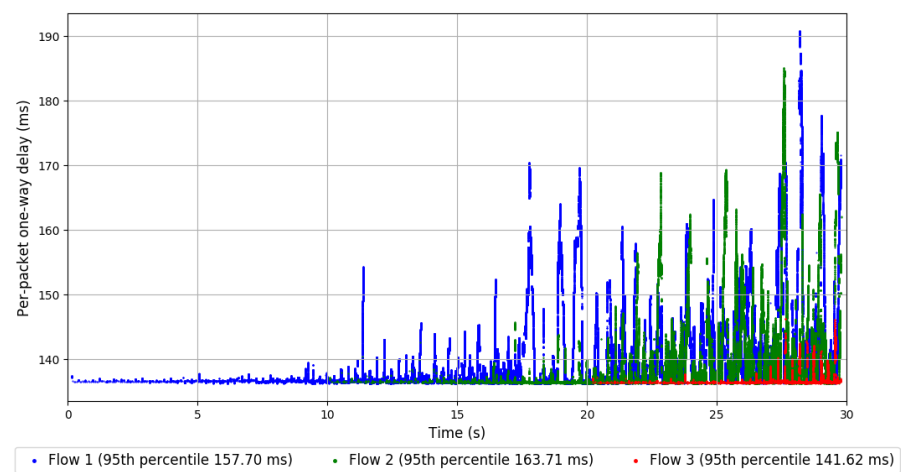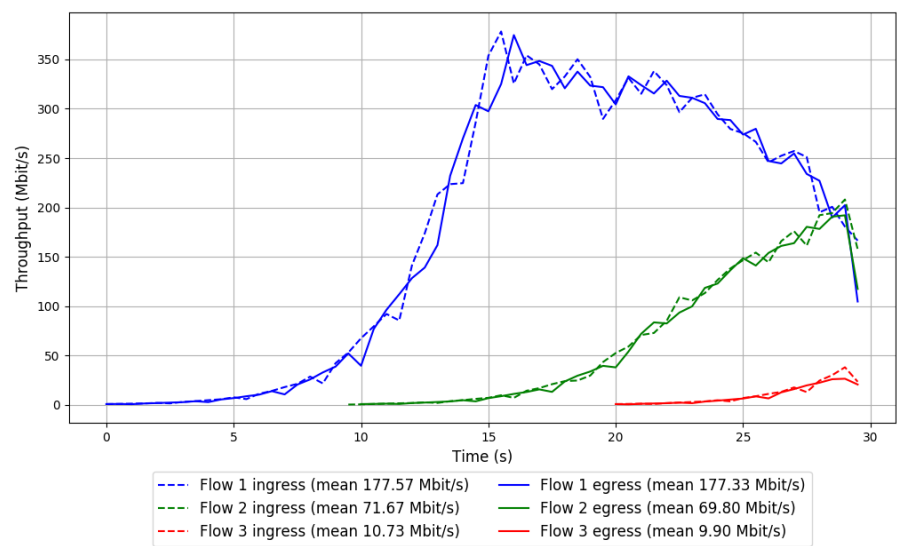
Run 1: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 177.57 Mbit/s)   Flow 1 egress (mean 177.64 Mbit/s)
Flow 2 ingress (mean 74.11 Mbit/s)   Flow 2 egress (mean 71.97 Mbit/s)
Flow 3 ingress (mean 11.02 Mbit/s)   Flow 3 egress (mean 10.19 Mbit/s)

Flow 1 (95th percentile 165.85 ms)   Flow 2 (95th percentile 163.38 ms)   Flow 3 (95th percentile 142.55 ms)

```
Run 2: Statistics of CalibratedKoho

Start at: 2017-09-01 01:55:39
End at: 2017-09-01 01:56:09

# Below is generated by plot.py at 2017-09-01 07:08:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 223.82 Mbit/s
95th percentile per-packet one-way delay: 157.950 ms
Loss rate: 1.86%
-- Flow 1:
Average throughput: 170.03 Mbit/s
95th percentile per-packet one-way delay: 158.039 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 75.84 Mbit/s
95th percentile per-packet one-way delay: 158.310 ms
Loss rate: 4.07%
-- Flow 3:
Average throughput: 10.52 Mbit/s
95th percentile per-packet one-way delay: 141.464 ms
Loss rate: 10.23%
```
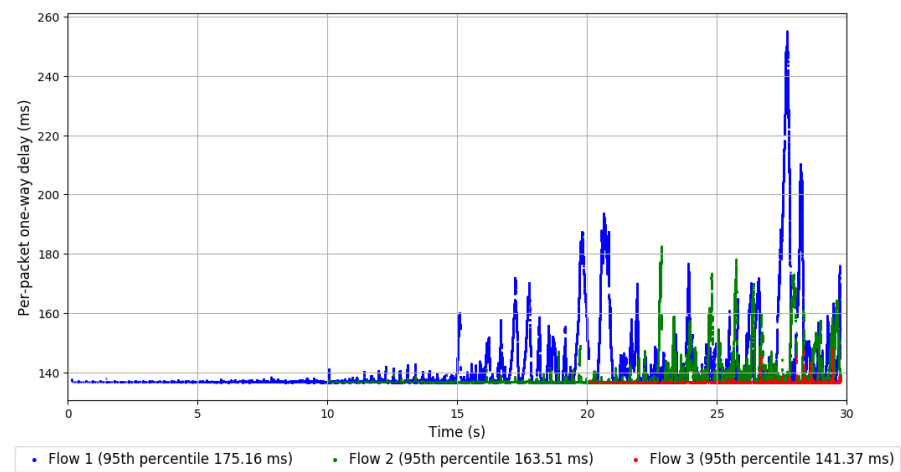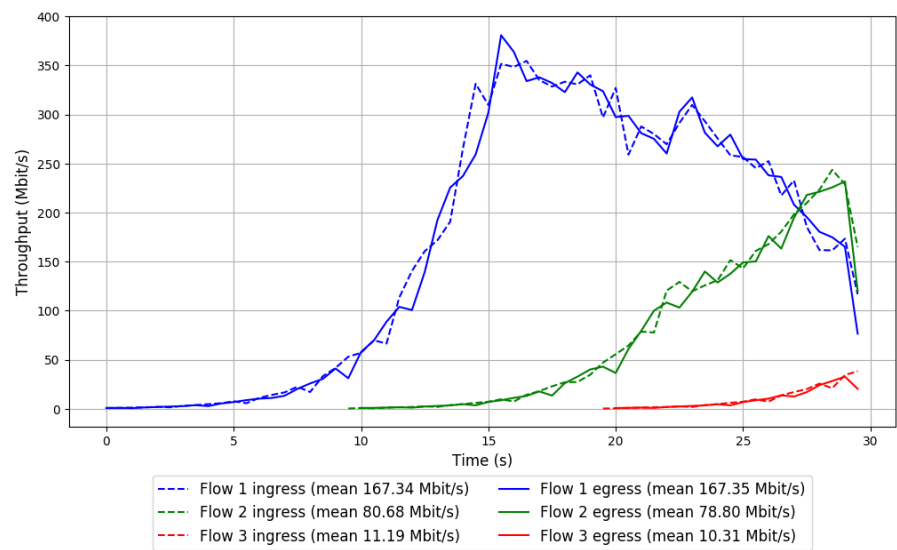
Run 2: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 170.22 Mbit/s) --- Flow 1 egress (mean 170.03 Mbit/s)
Flow 2 ingress (mean 77.98 Mbit/s) --- Flow 2 egress (mean 75.84 Mbit/s)
Flow 3 ingress (mean 11.40 Mbit/s) --- Flow 3 egress (mean 10.52 Mbit/s)

Flow 1 (95th percentile 158.04 ms)   Flow 2 (95th percentile 158.31 ms)   Flow 3 (95th percentile 141.46 ms)

```
Run 3: Statistics of CalibratedKoho

Start at: 2017-09-01 02:09:35
End at: 2017-09-01 02:10:05

# Below is generated by plot.py at 2017-09-01 07:08:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 222.03 Mbit/s
95th percentile per-packet one-way delay: 177.275 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 164.85 Mbit/s
95th percentile per-packet one-way delay: 182.561 ms
Loss rate: 1.13%
-- Flow 2:
Average throughput: 80.85 Mbit/s
95th percentile per-packet one-way delay: 155.189 ms
Loss rate: 3.40%
-- Flow 3:
Average throughput: 10.67 Mbit/s
95th percentile per-packet one-way delay: 142.531 ms
Loss rate: 10.25%
```
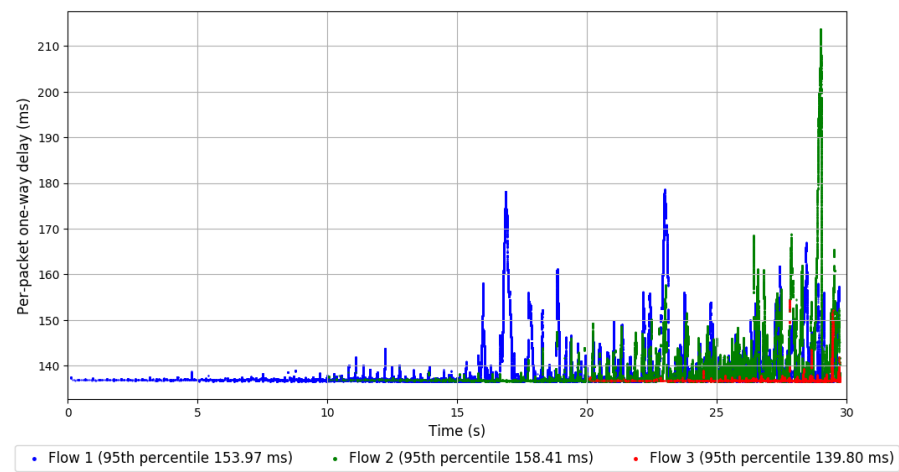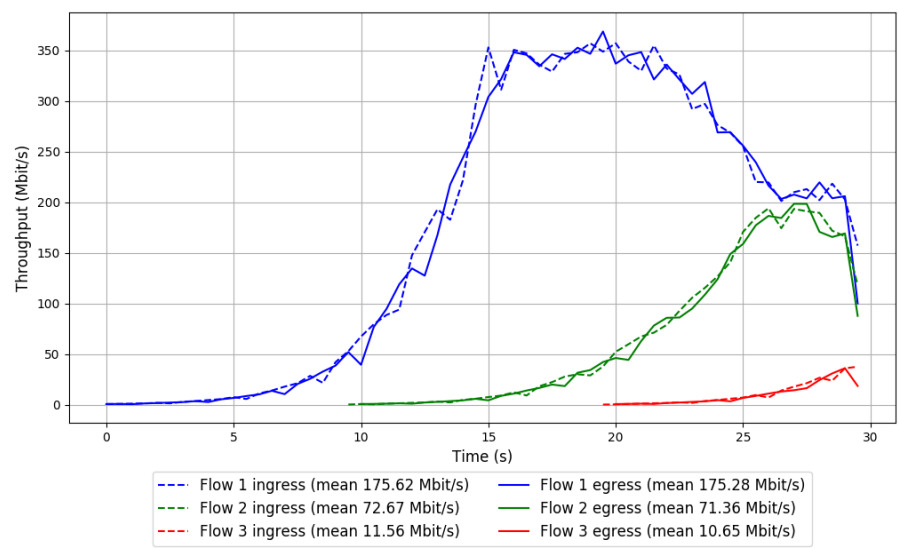
Run 3: Report of CalibratedKoho — Data Link

```
Run 4: Statistics of CalibratedKoho

Start at: 2017-09-01 02:23:45
End at: 2017-09-01 02:24:15

# Below is generated by plot.py at 2017-09-01 07:08:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 226.82 Mbit/s
95th percentile per-packet one-way delay: 158.228 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 177.33 Mbit/s
95th percentile per-packet one-way delay: 157.696 ms
Loss rate: 1.04%
-- Flow 2:
Average throughput: 69.80 Mbit/s
95th percentile per-packet one-way delay: 163.709 ms
Loss rate: 3.89%
-- Flow 3:
Average throughput: 9.90 Mbit/s
95th percentile per-packet one-way delay: 141.615 ms
Loss rate: 10.26%
```
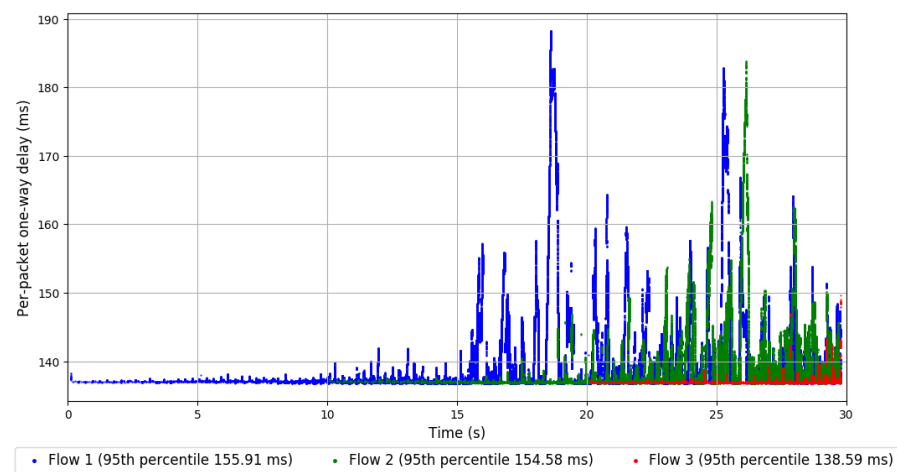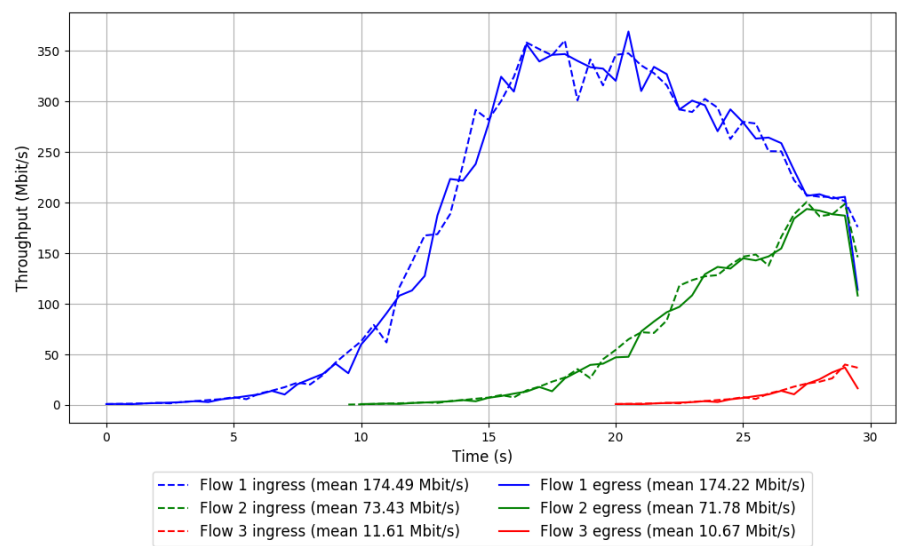
Run 4: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 177.57 Mbit/s)   Flow 1 egress (mean 177.33 Mbit/s)
Flow 2 ingress (mean 71.67 Mbit/s)   Flow 2 egress (mean 69.80 Mbit/s)
Flow 3 ingress (mean 10.73 Mbit/s)   Flow 3 egress (mean 9.90 Mbit/s)

Flow 1 (95th percentile 157.70 ms)   Flow 2 (95th percentile 163.71 ms)   Flow 3 (95th percentile 141.62 ms)

```
Run 5: Statistics of CalibratedKoho

Start at: 2017-09-01 02:37:47
End at: 2017-09-01 02:38:17

# Below is generated by plot.py at 2017-09-01 07:09:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 223.06 Mbit/s
95th percentile per-packet one-way delay: 170.329 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 167.35 Mbit/s
95th percentile per-packet one-way delay: 175.162 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 78.80 Mbit/s
95th percentile per-packet one-way delay: 163.508 ms
Loss rate: 3.65%
-- Flow 3:
Average throughput: 10.31 Mbit/s
95th percentile per-packet one-way delay: 141.373 ms
Loss rate: 10.37%
```
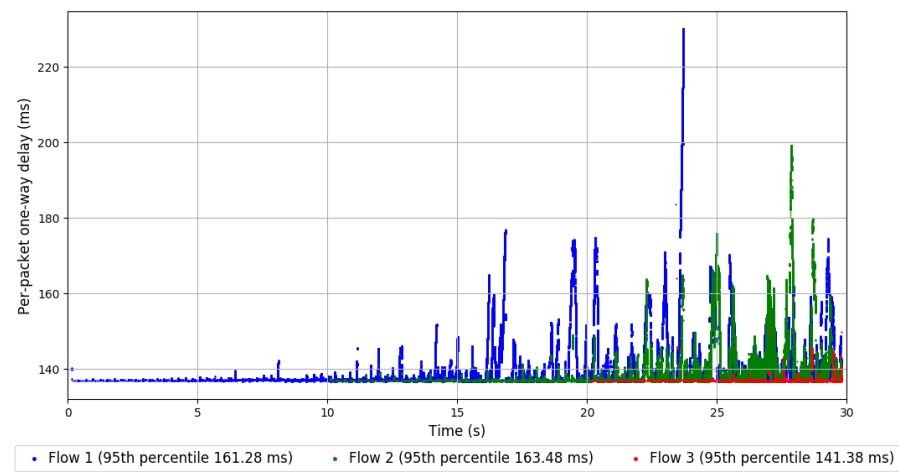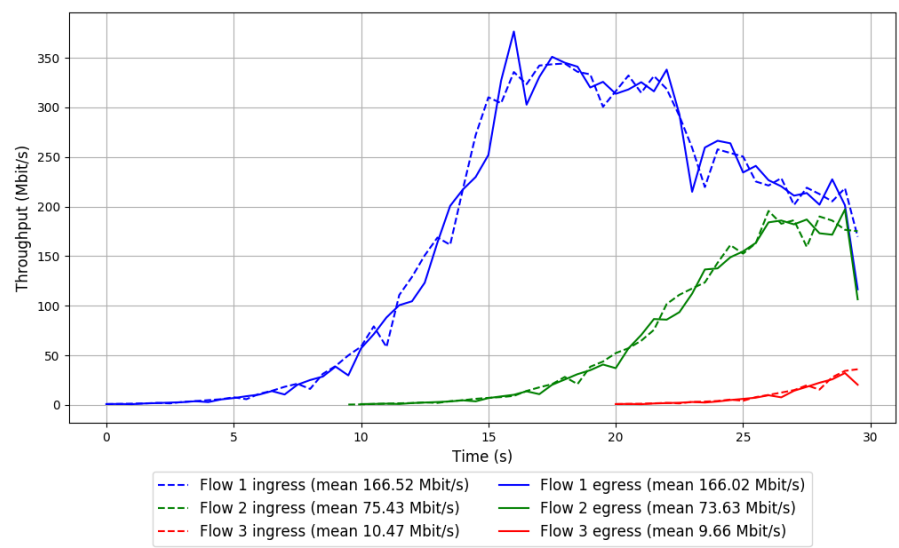
Run 5: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 167.34 Mbit/s)   Flow 1 egress (mean 167.35 Mbit/s)
Flow 2 ingress (mean 80.68 Mbit/s)   Flow 2 egress (mean 78.80 Mbit/s)
Flow 3 ingress (mean 11.19 Mbit/s)   Flow 3 egress (mean 10.31 Mbit/s)

Flow 1 (95th percentile 175.16 ms)   Flow 2 (95th percentile 163.51 ms)   Flow 3 (95th percentile 141.37 ms)

```
Run 6: Statistics of CalibratedKoho

Start at: 2017-09-01 02:51:56
End at: 2017-09-01 02:52:26

# Below is generated by plot.py at 2017-09-01 07:09:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 226.15 Mbit/s
95th percentile per-packet one-way delay: 154.928 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 175.28 Mbit/s
95th percentile per-packet one-way delay: 153.970 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 71.36 Mbit/s
95th percentile per-packet one-way delay: 158.406 ms
Loss rate: 3.12%
-- Flow 3:
Average throughput: 10.65 Mbit/s
95th percentile per-packet one-way delay: 139.800 ms
Loss rate: 10.42%
```
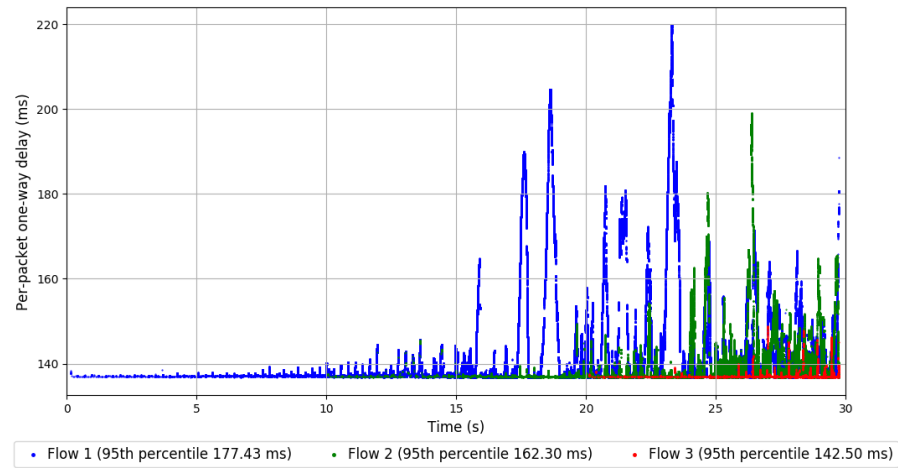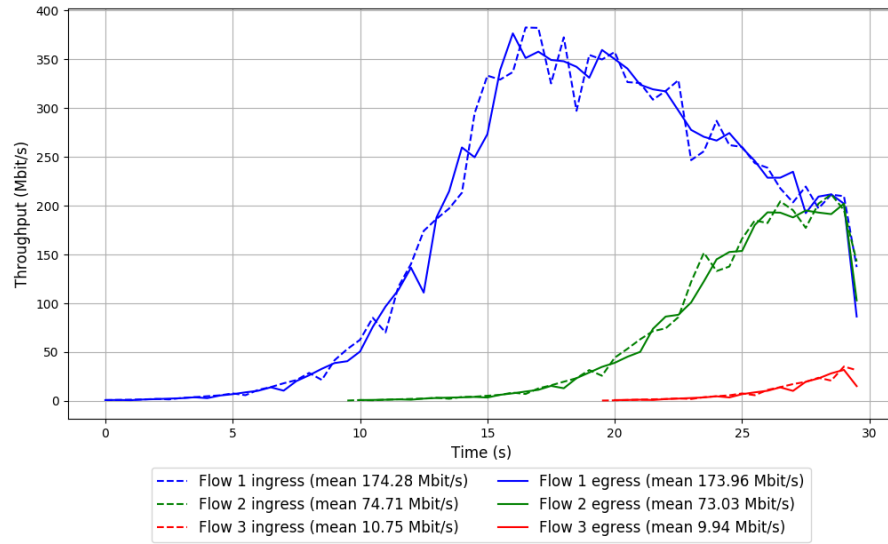
Run 6: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 175.62 Mbit/s)   Flow 1 egress (mean 175.28 Mbit/s)
Flow 2 ingress (mean 72.67 Mbit/s)   Flow 2 egress (mean 71.36 Mbit/s)
Flow 3 ingress (mean 11.56 Mbit/s)   Flow 3 egress (mean 10.65 Mbit/s)

Flow 1 (95th percentile 153.97 ms)   Flow 2 (95th percentile 158.41 ms)   Flow 3 (95th percentile 139.80 ms)

```
Run 7: Statistics of CalibratedKoho

Start at: 2017-09-01 03:06:03
End at: 2017-09-01 03:06:33


# Below is generated by plot.py at 2017-09-01 07:10:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 225.35 Mbit/s
95th percentile per-packet one-way delay: 155.565 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 174.22 Mbit/s
95th percentile per-packet one-way delay: 155.913 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 71.78 Mbit/s
95th percentile per-packet one-way delay: 154.581 ms
Loss rate: 3.59%
-- Flow 3:
Average throughput: 10.67 Mbit/s
95th percentile per-packet one-way delay: 138.594 ms
Loss rate: 10.63%
```
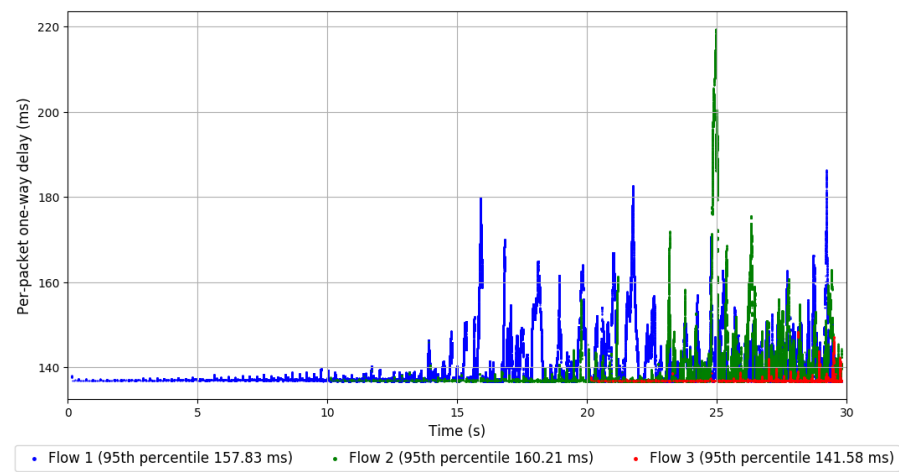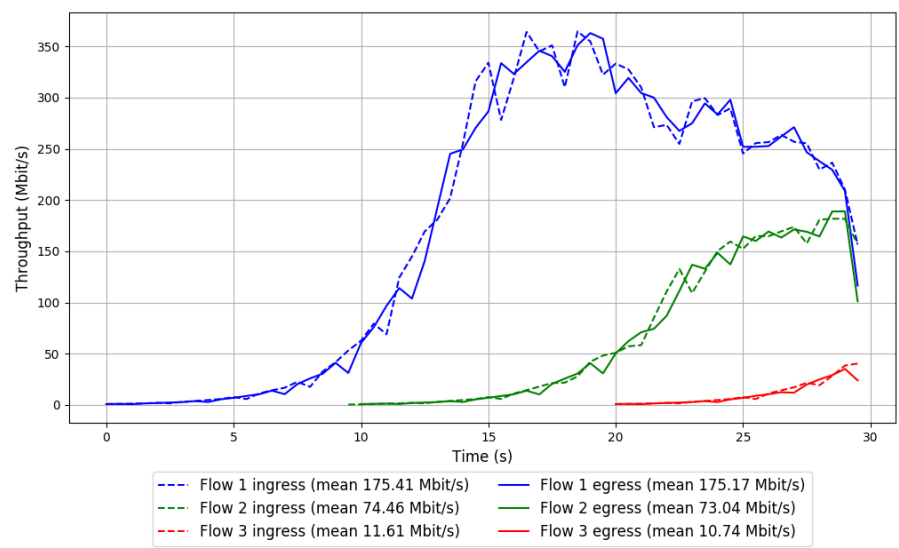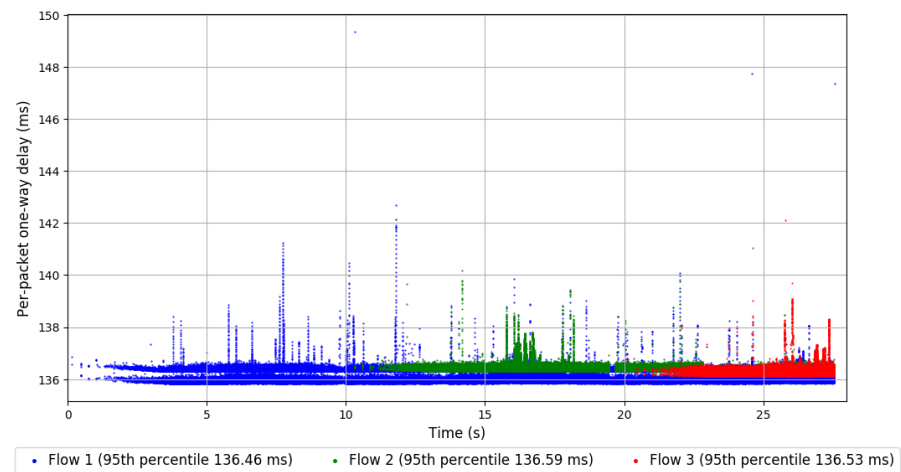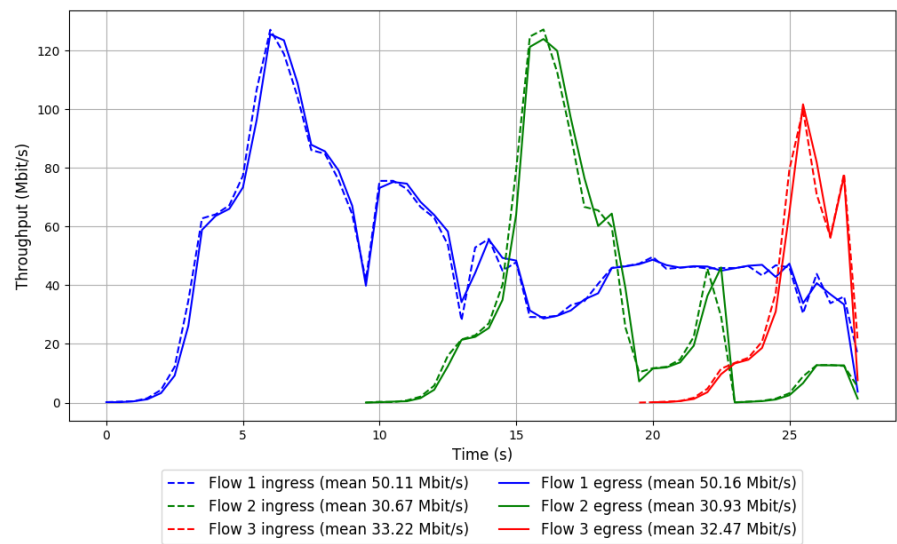
Run 7: Report of CalibratedKoho — Data Link

- - - - Flow 1 ingress (mean 174.49 Mbit/s) ——— Flow 1 egress (mean 174.22 Mbit/s)
- - - - Flow 2 ingress (mean 73.43 Mbit/s) ——— Flow 2 egress (mean 71.78 Mbit/s)
- - - - Flow 3 ingress (mean 11.61 Mbit/s) ——— Flow 3 egress (mean 10.67 Mbit/s)

- Flow 1 (95th percentile 155.91 ms)   - Flow 2 (95th percentile 154.58 ms)   - Flow 3 (95th percentile 138.59 ms)

```
Run 8: Statistics of CalibratedKoho

Start at: 2017-09-01 03:20:08
End at: 2017-09-01 03:20:38


# Below is generated by plot.py at 2017-09-01 07:10:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 218.01 Mbit/s
95th percentile per-packet one-way delay: 161.878 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 166.02 Mbit/s
95th percentile per-packet one-way delay: 161.278 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 73.63 Mbit/s
95th percentile per-packet one-way delay: 163.477 ms
Loss rate: 3.72%
-- Flow 3:
Average throughput: 9.66 Mbit/s
95th percentile per-packet one-way delay: 141.385 ms
Loss rate: 10.25%
```
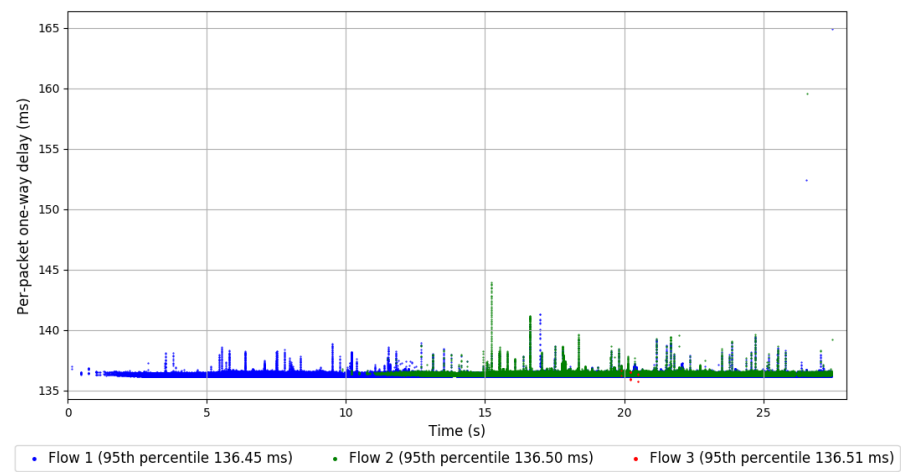
Run 8: Report of CalibratedKoho — Data Link

```
Run 9: Statistics of CalibratedKoho

Start at: 2017-09-01 03:34:15
End at: 2017-09-01 03:34:45

# Below is generated by plot.py at 2017-09-01 07:11:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 225.72 Mbit/s
95th percentile per-packet one-way delay: 175.033 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 173.96 Mbit/s
95th percentile per-packet one-way delay: 177.428 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 73.03 Mbit/s
95th percentile per-packet one-way delay: 162.297 ms
Loss rate: 3.55%
-- Flow 3:
Average throughput: 9.94 Mbit/s
95th percentile per-packet one-way delay: 142.498 ms
Loss rate: 10.05%
```
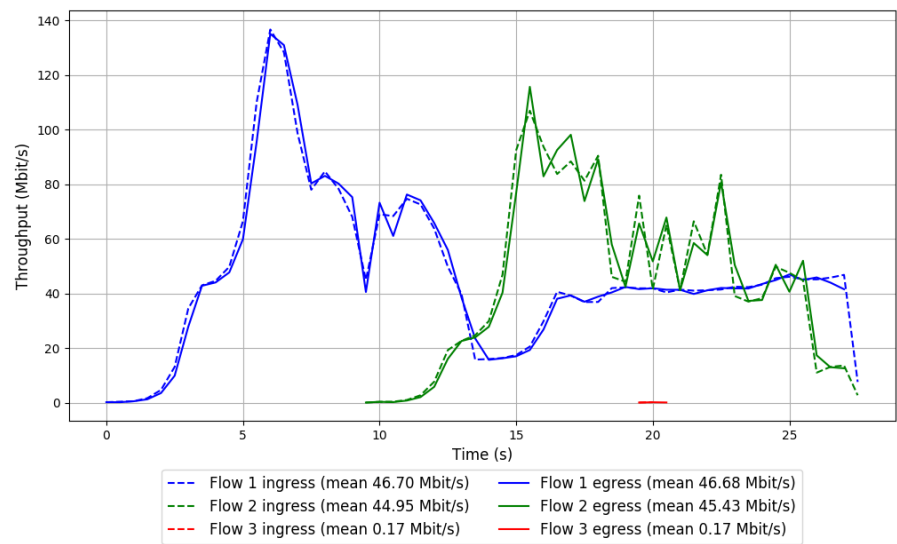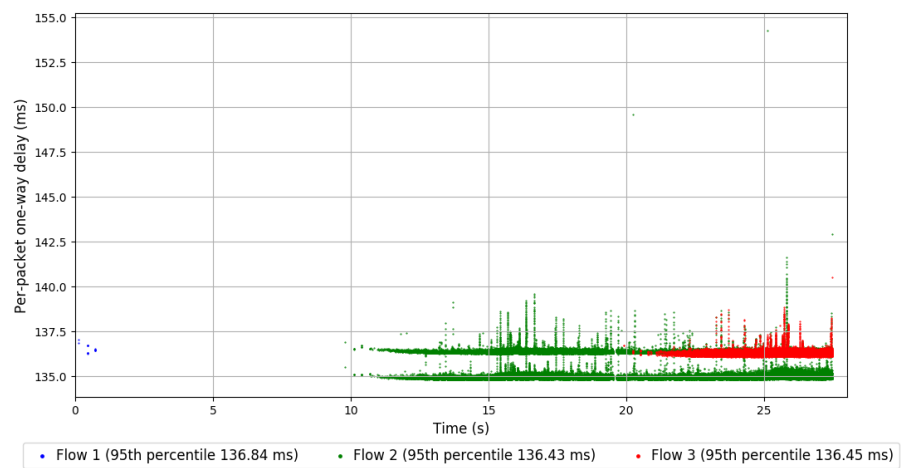
Run 9: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 174.28 Mbit/s) --- Flow 1 egress (mean 173.96 Mbit/s)
Flow 2 ingress (mean 74.71 Mbit/s) --- Flow 2 egress (mean 73.03 Mbit/s)
Flow 3 ingress (mean 10.75 Mbit/s) --- Flow 3 egress (mean 9.94 Mbit/s)

Flow 1 (95th percentile 177.43 ms) • Flow 2 (95th percentile 162.30 ms) • Flow 3 (95th percentile 142.50 ms)

```
Run 10: Statistics of CalibratedKoho

Start at: 2017-09-01 03:48:51
End at: 2017-09-01 03:49:21


# Below is generated by plot.py at 2017-09-01 07:11:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 227.12 Mbit/s
95th percentile per-packet one-way delay: 158.175 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 175.17 Mbit/s
95th percentile per-packet one-way delay: 157.830 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 73.04 Mbit/s
95th percentile per-packet one-way delay: 160.206 ms
Loss rate: 3.29%
-- Flow 3:
Average throughput: 10.74 Mbit/s
95th percentile per-packet one-way delay: 141.581 ms
Loss rate: 10.12%
```
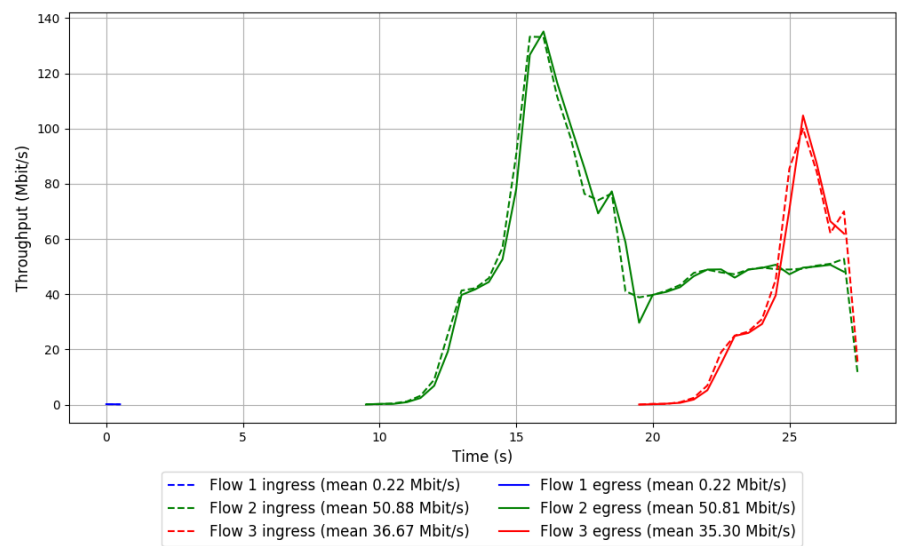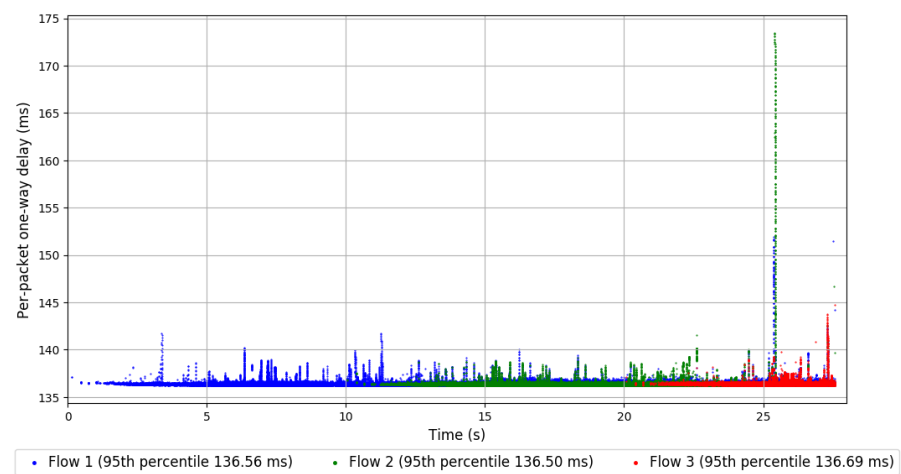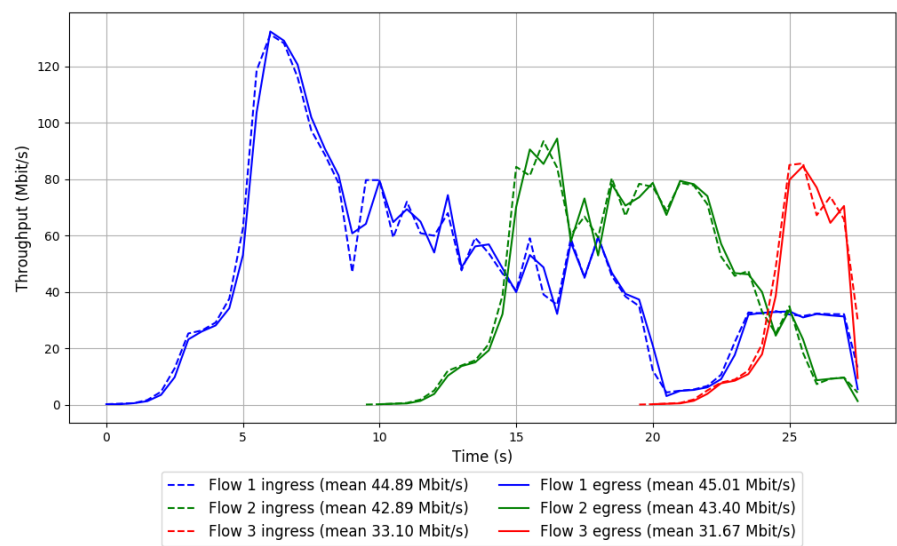
Run 10: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 175.41 Mbit/s)   Flow 1 egress (mean 175.17 Mbit/s)
Flow 2 ingress (mean 74.46 Mbit/s)   Flow 2 egress (mean 73.04 Mbit/s)
Flow 3 ingress (mean 11.61 Mbit/s)   Flow 3 egress (mean 10.74 Mbit/s)

Flow 1 (95th percentile 157.83 ms)   Flow 2 (95th percentile 160.21 ms)   Flow 3 (95th percentile 141.58 ms)

```
Run 1: Statistics of Copa

Start at: 2017-09-01 01:31:52
End at: 2017-09-01 01:32:22


# Below is generated by plot.py at 2017-09-01 07:11:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.75 Mbit/s
95th percentile per-packet one-way delay: 136.524 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 50.16 Mbit/s
95th percentile per-packet one-way delay: 136.461 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 30.93 Mbit/s
95th percentile per-packet one-way delay: 136.585 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 32.47 Mbit/s
95th percentile per-packet one-way delay: 136.532 ms
Loss rate: 5.71%
```
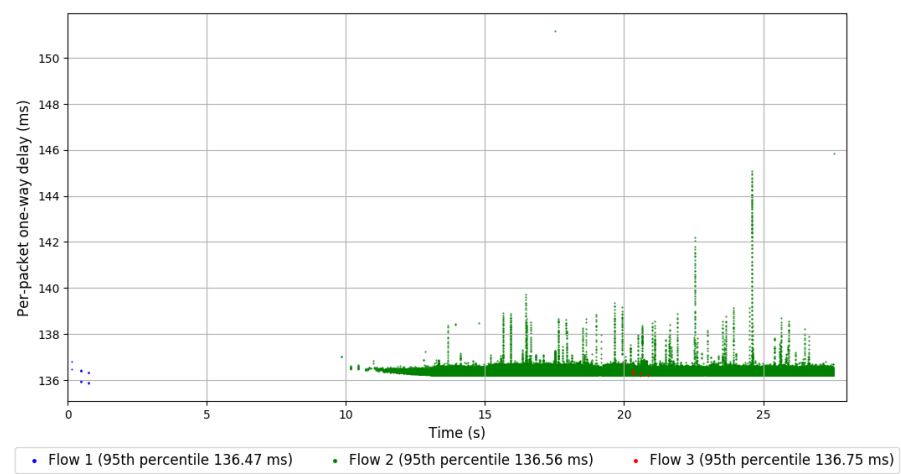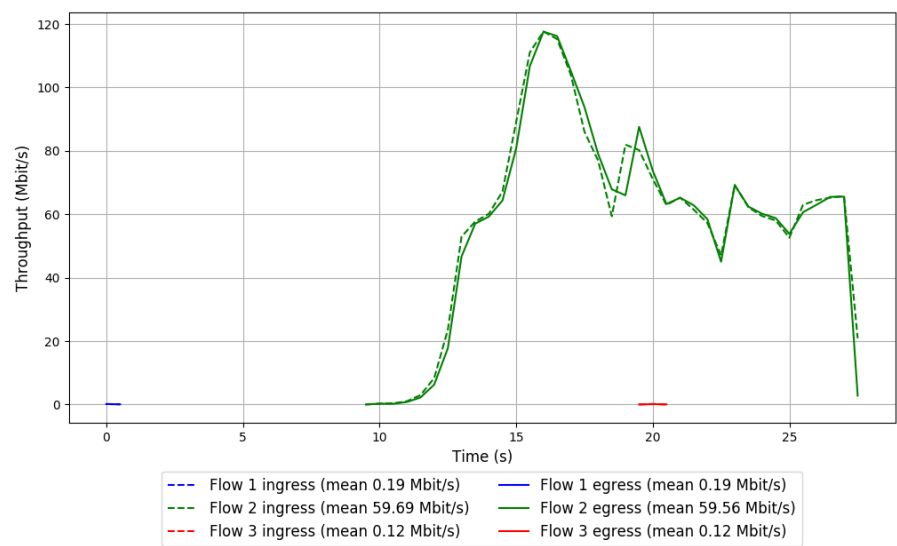
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2017-09-01 01:46:02
End at: 2017-09-01 01:46:32


# Below is generated by plot.py at 2017-09-01 07:11:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.96 Mbit/s
95th percentile per-packet one-way delay: 136.471 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 46.68 Mbit/s
95th percentile per-packet one-way delay: 136.452 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 45.43 Mbit/s
95th percentile per-packet one-way delay: 136.496 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 136.507 ms
Loss rate: 0.00%
```
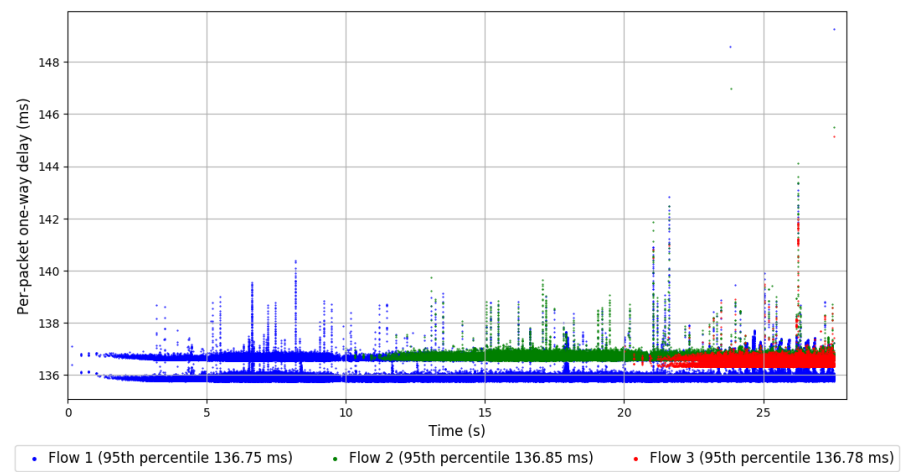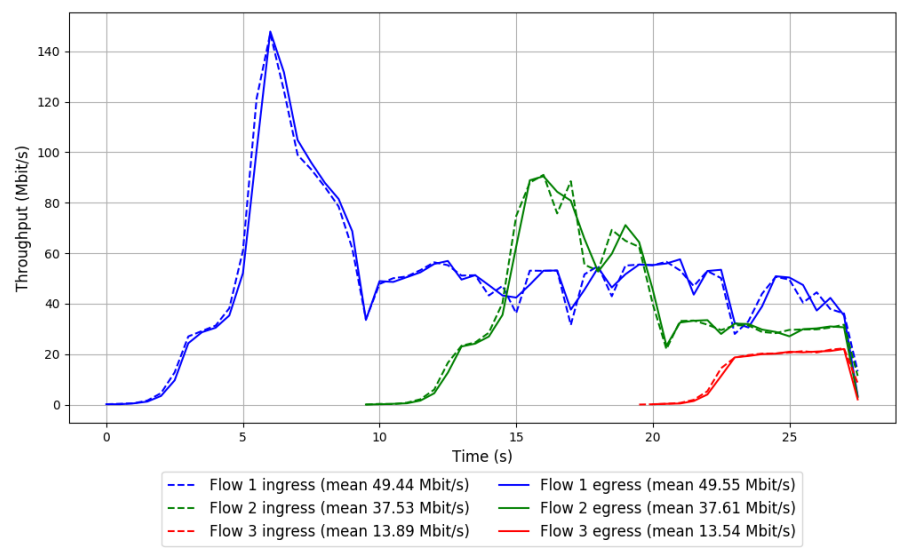
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2017-09-01 02:00:14
End at: 2017-09-01 02:00:44


# Below is generated by plot.py at 2017-09-01 07:11:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.61 Mbit/s
95th percentile per-packet one-way delay: 136.436 ms
Loss rate: 2.94%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.838 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.81 Mbit/s
95th percentile per-packet one-way delay: 136.430 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 35.30 Mbit/s
95th percentile per-packet one-way delay: 136.454 ms
Loss rate: 7.08%
```
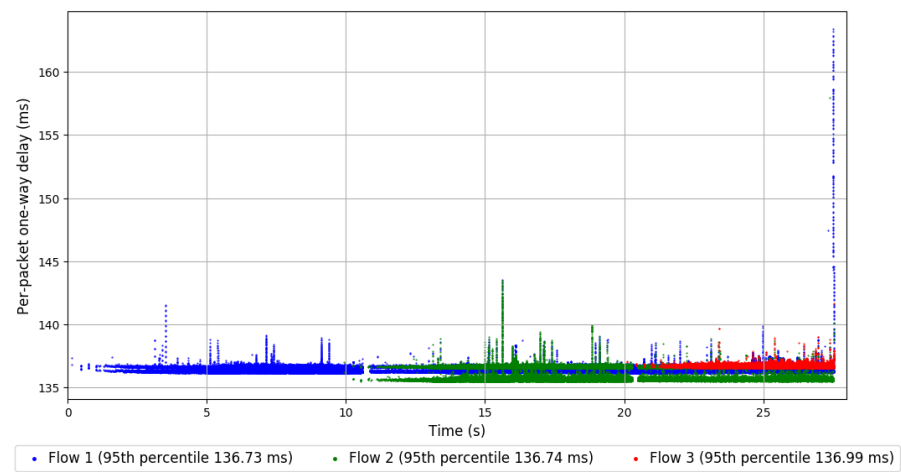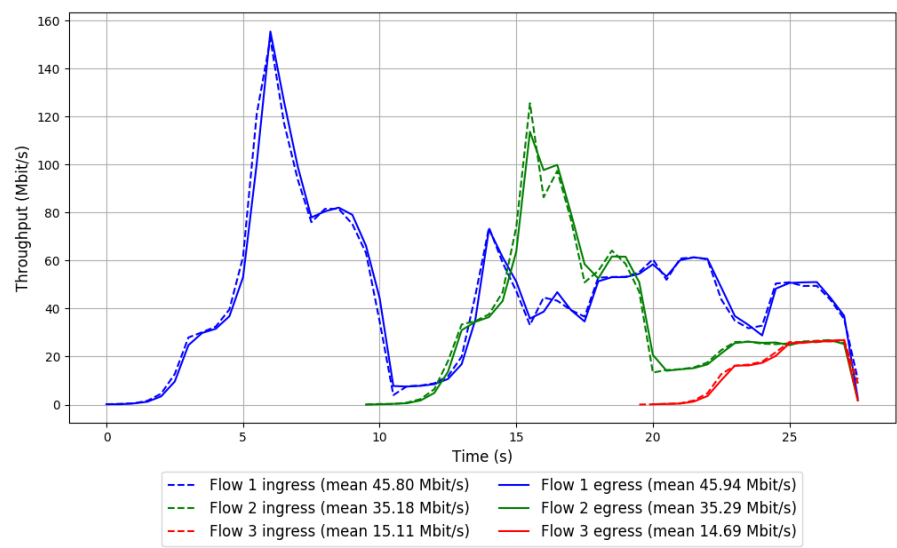
Run 3: Report of Copa — Data Link

Legend:
- Flow 1 ingress (mean 0.22 Mbit/s)
- Flow 1 egress (mean 0.22 Mbit/s)
- Flow 2 ingress (mean 50.88 Mbit/s)
- Flow 2 egress (mean 50.81 Mbit/s)
- Flow 3 ingress (mean 36.67 Mbit/s)
- Flow 3 egress (mean 35.30 Mbit/s)

Legend:
- Flow 1 (95th percentile 136.84 ms)
- Flow 2 (95th percentile 136.43 ms)
- Flow 3 (95th percentile 136.45 ms)

```
Run 4: Statistics of Copa

Start at: 2017-09-01 02:14:14
End at: 2017-09-01 02:14:44


# Below is generated by plot.py at 2017-09-01 07:12:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.38 Mbit/s
95th percentile per-packet one-way delay: 136.556 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 45.01 Mbit/s
95th percentile per-packet one-way delay: 136.565 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 43.40 Mbit/s
95th percentile per-packet one-way delay: 136.502 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 31.67 Mbit/s
95th percentile per-packet one-way delay: 136.694 ms
Loss rate: 7.62%
```
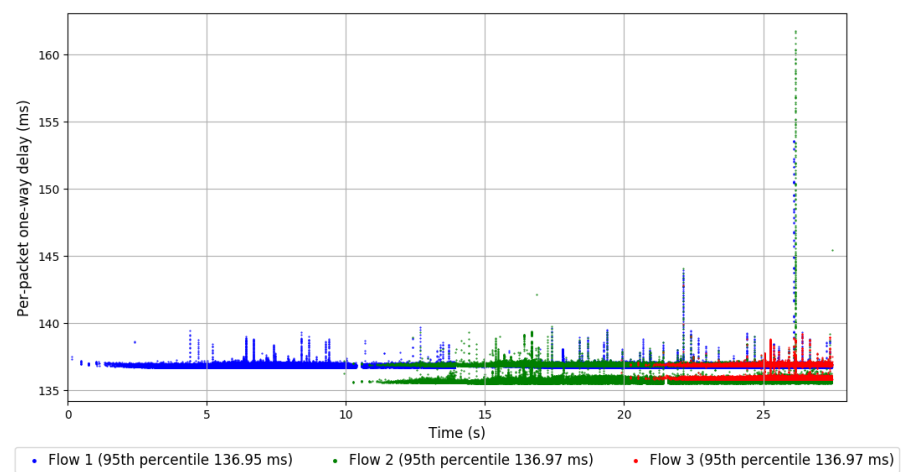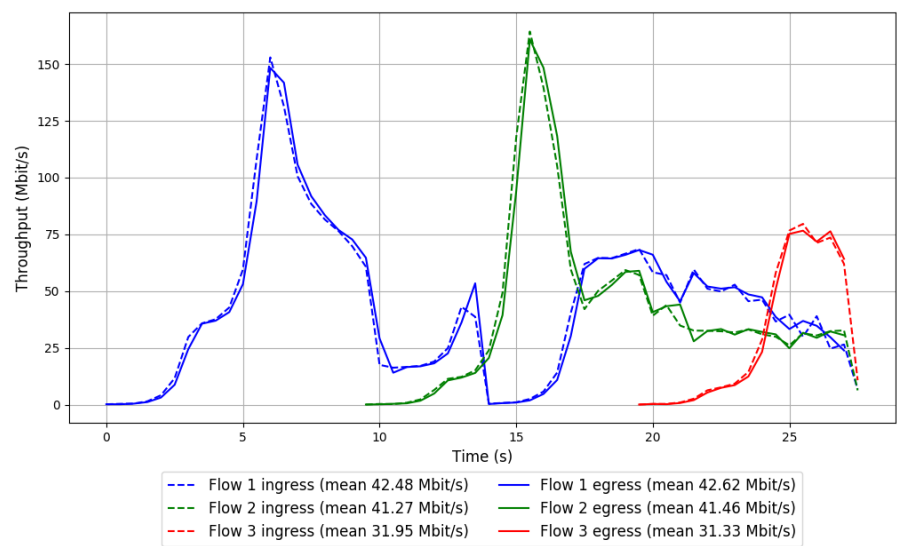
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2017-09-01 02:28:24
End at: 2017-09-01 02:28:54


# Below is generated by plot.py at 2017-09-01 07:12:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 38.45 Mbit/s
95th percentile per-packet one-way delay: 136.565 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 136.465 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 59.56 Mbit/s
95th percentile per-packet one-way delay: 136.565 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 136.746 ms
Loss rate: 0.00%
```
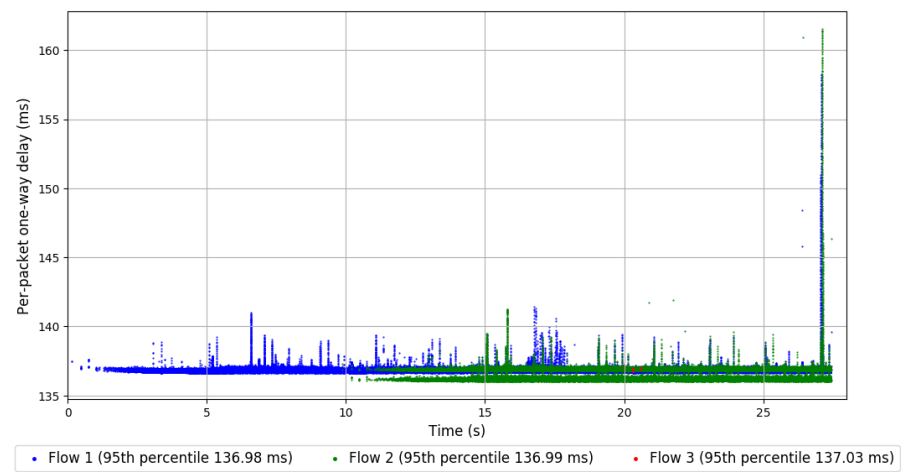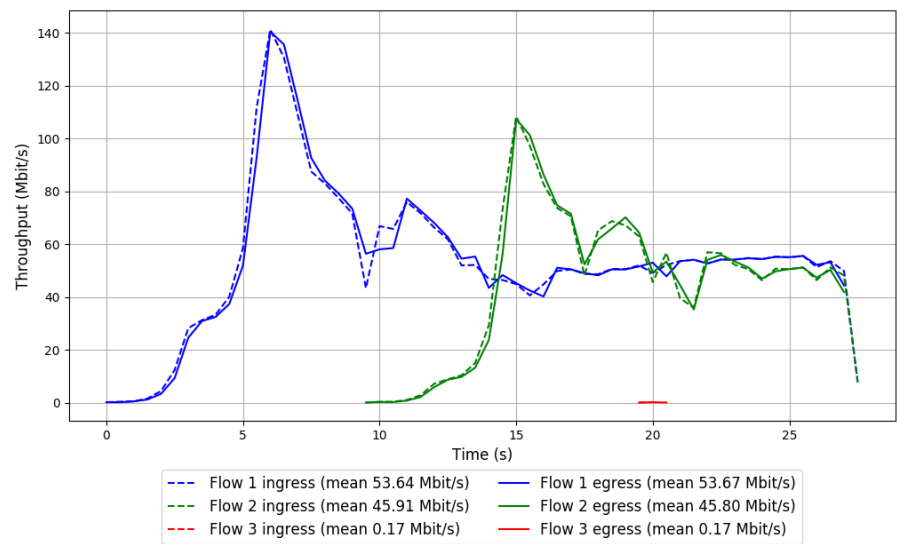
Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 0.19 Mbit/s) --- Flow 1 egress (mean 0.19 Mbit/s)
Flow 2 ingress (mean 59.69 Mbit/s) --- Flow 2 egress (mean 59.56 Mbit/s)
Flow 3 ingress (mean 0.12 Mbit/s) --- Flow 3 egress (mean 0.12 Mbit/s)

Flow 1 (95th percentile 136.47 ms) • Flow 2 (95th percentile 136.56 ms) • Flow 3 (95th percentile 136.75 ms)

```
Run 6: Statistics of Copa

Start at: 2017-09-01 02:42:31
End at: 2017-09-01 02:43:01


# Below is generated by plot.py at 2017-09-01 07:12:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.35 Mbit/s
95th percentile per-packet one-way delay: 136.799 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 49.55 Mbit/s
95th percentile per-packet one-way delay: 136.751 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 37.61 Mbit/s
95th percentile per-packet one-way delay: 136.847 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 13.54 Mbit/s
95th percentile per-packet one-way delay: 136.778 ms
Loss rate: 5.87%
```
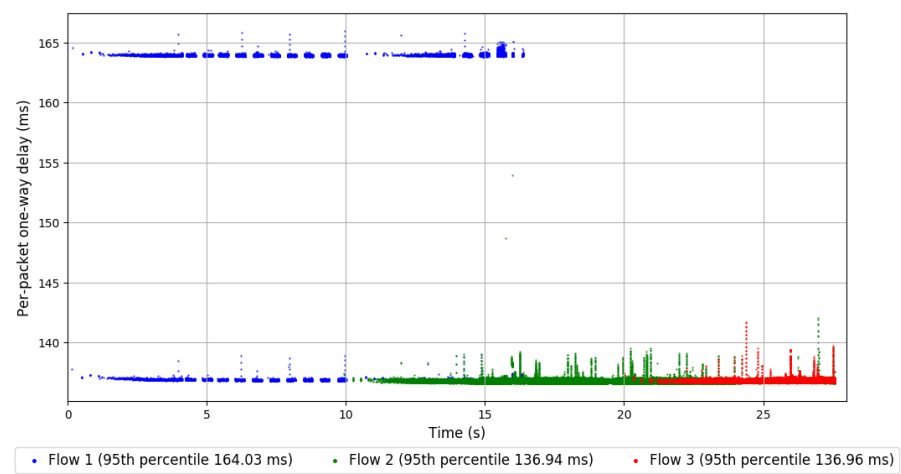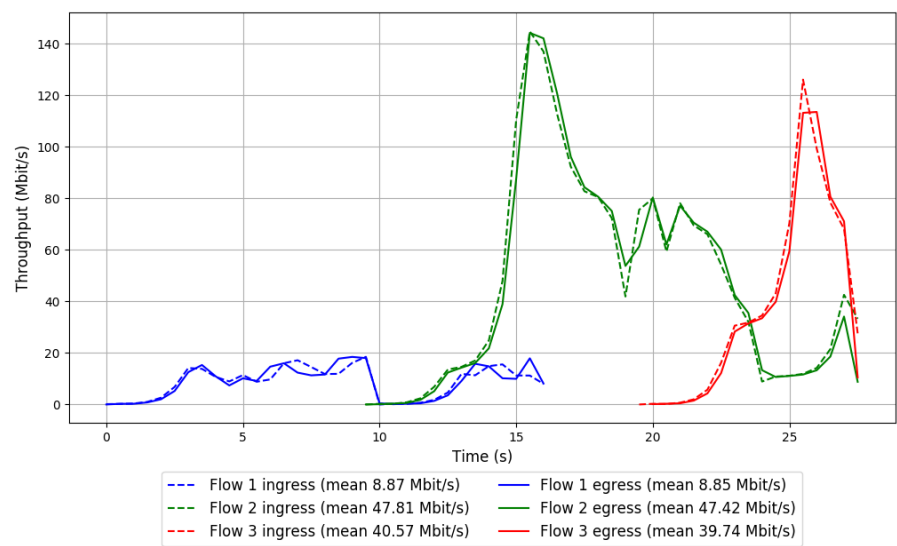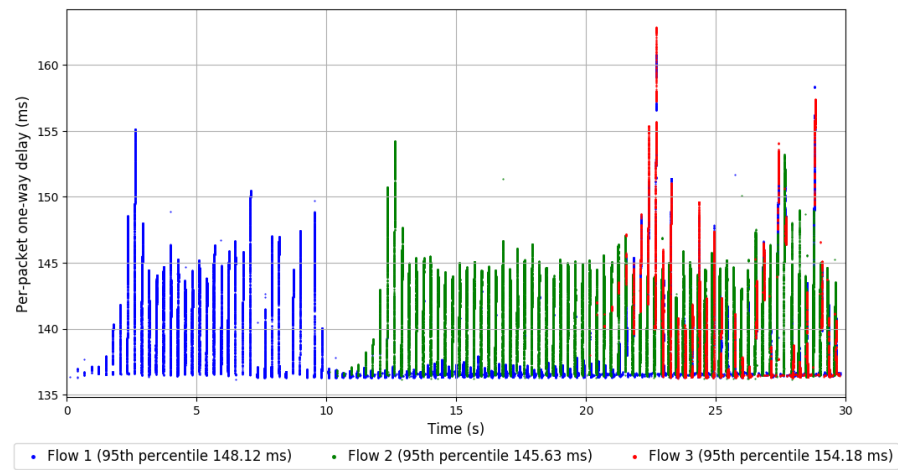
Run 6: Report of Copa — Data Link

```
Run 7: Statistics of Copa

Start at: 2017-09-01 02:56:35
End at: 2017-09-01 02:57:05


# Below is generated by plot.py at 2017-09-01 07:12:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.63 Mbit/s
95th percentile per-packet one-way delay: 136.776 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 45.94 Mbit/s
95th percentile per-packet one-way delay: 136.731 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 35.29 Mbit/s
95th percentile per-packet one-way delay: 136.743 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 14.69 Mbit/s
95th percentile per-packet one-way delay: 136.992 ms
Loss rate: 6.22%
```
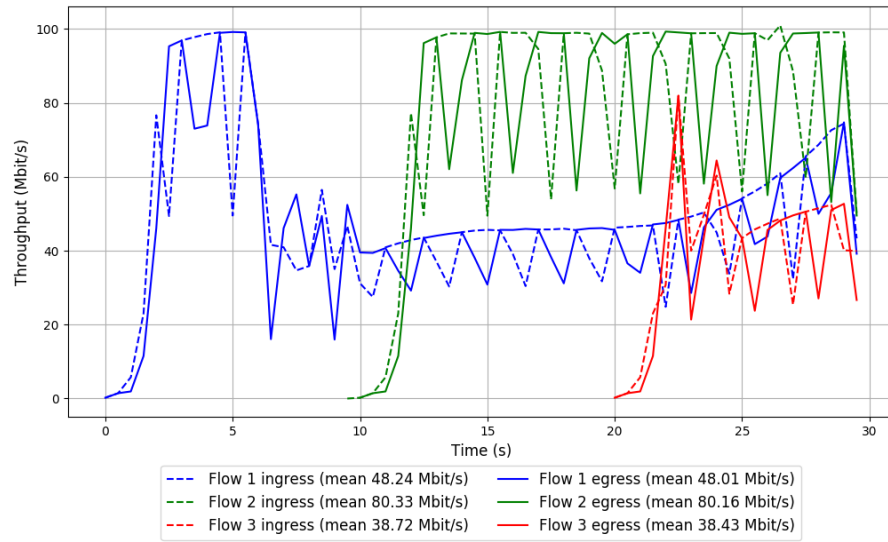
Run 7: Report of Copa — Data Link

```
Run 8: Statistics of Copa

Start at: 2017-09-01 03:10:41
End at: 2017-09-01 03:11:11


# Below is generated by plot.py at 2017-09-01 07:12:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.89 Mbit/s
95th percentile per-packet one-way delay: 136.959 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 42.62 Mbit/s
95th percentile per-packet one-way delay: 136.950 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 41.46 Mbit/s
95th percentile per-packet one-way delay: 136.967 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 31.33 Mbit/s
95th percentile per-packet one-way delay: 136.971 ms
Loss rate: 5.37%
```
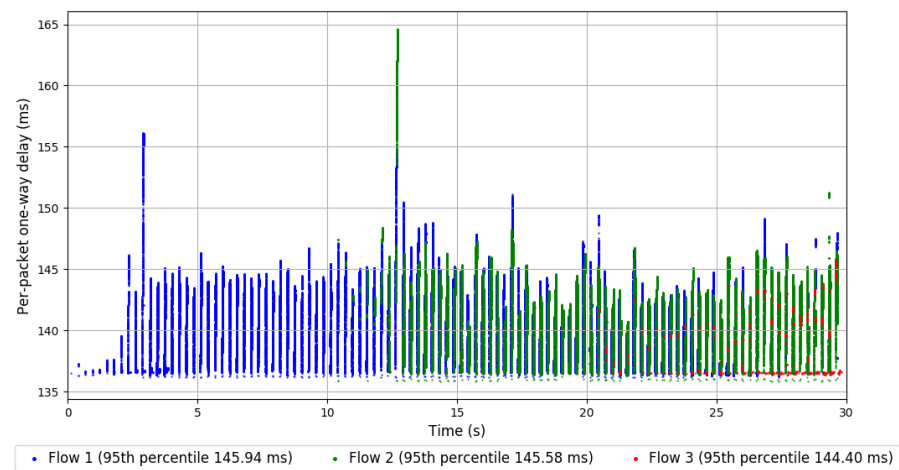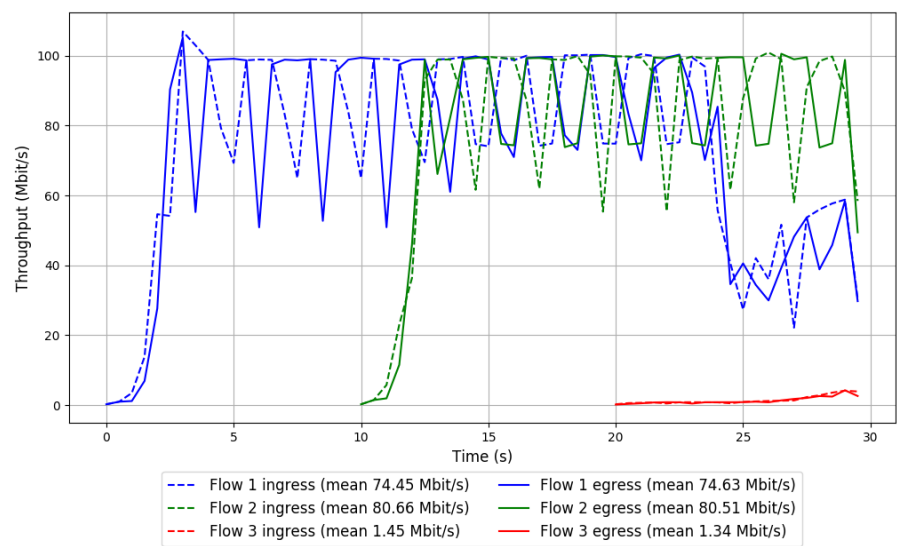
Run 8: Report of Copa — Data Link

Flow 1 ingress (mean 42.48 Mbit/s) --- Flow 1 egress (mean 42.62 Mbit/s)
Flow 2 ingress (mean 41.27 Mbit/s) --- Flow 2 egress (mean 41.46 Mbit/s)
Flow 3 ingress (mean 31.95 Mbit/s) --- Flow 3 egress (mean 31.33 Mbit/s)

Flow 1 (95th percentile 136.95 ms) · Flow 2 (95th percentile 136.97 ms) · Flow 3 (95th percentile 136.97 ms)

```
Run 9: Statistics of Copa

Start at: 2017-09-01 03:24:45
End at: 2017-09-01 03:25:15


# Below is generated by plot.py at 2017-09-01 07:12:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.13 Mbit/s
95th percentile per-packet one-way delay: 136.985 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 53.67 Mbit/s
95th percentile per-packet one-way delay: 136.984 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 45.80 Mbit/s
95th percentile per-packet one-way delay: 136.986 ms
Loss rate: 1.71%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 137.025 ms
Loss rate: 0.00%
```
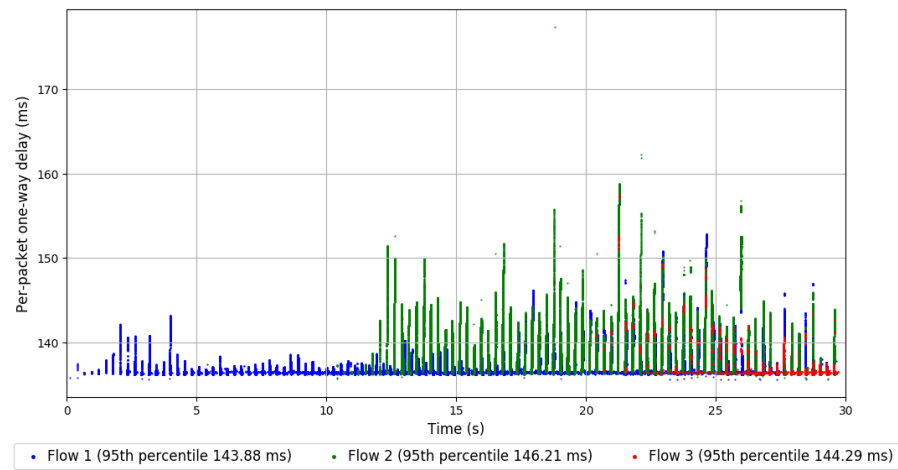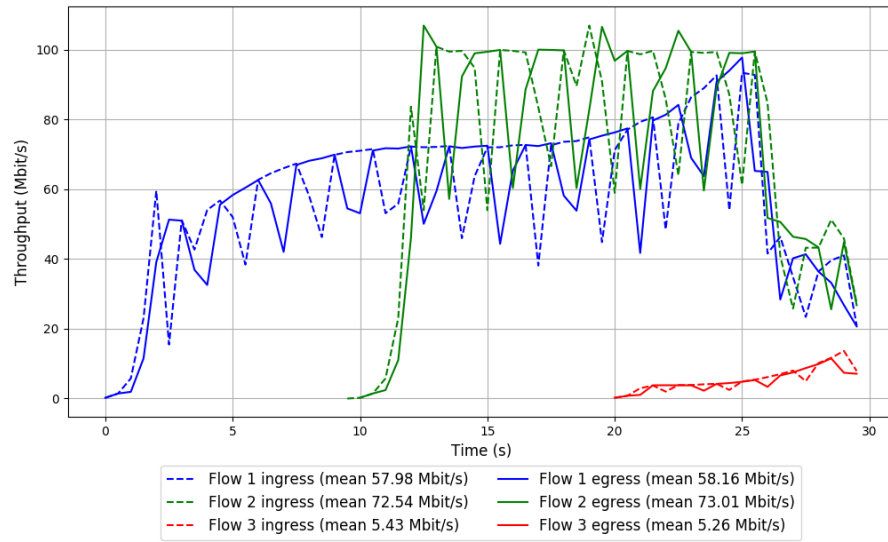
Run 9: Report of Copa — Data Link

- - - - Flow 1 ingress (mean 53.64 Mbit/s)   —— Flow 1 egress (mean 53.67 Mbit/s)
- - - - Flow 2 ingress (mean 45.91 Mbit/s)   —— Flow 2 egress (mean 45.80 Mbit/s)
- - - - Flow 3 ingress (mean 0.17 Mbit/s)   —— Flow 3 egress (mean 0.17 Mbit/s)

• Flow 1 (95th percentile 136.98 ms)   • Flow 2 (95th percentile 136.99 ms)   • Flow 3 (95th percentile 137.03 ms)

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```
Run 10: Statistics of Copa

Start at: 2017-09-01 03:39:00
End at: 2017-09-01 03:39:30


# Below is generated by plot.py at 2017-09-01 07:13:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.67 Mbit/s
95th percentile per-packet one-way delay: 163.875 ms
Loss rate: 2.84%
-- Flow 1:
Average throughput: 8.85 Mbit/s
95th percentile per-packet one-way delay: 164.027 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.42 Mbit/s
95th percentile per-packet one-way delay: 136.940 ms
Loss rate: 2.34%
-- Flow 3:
Average throughput: 39.74 Mbit/s
95th percentile per-packet one-way delay: 136.955 ms
Loss rate: 5.47%
```
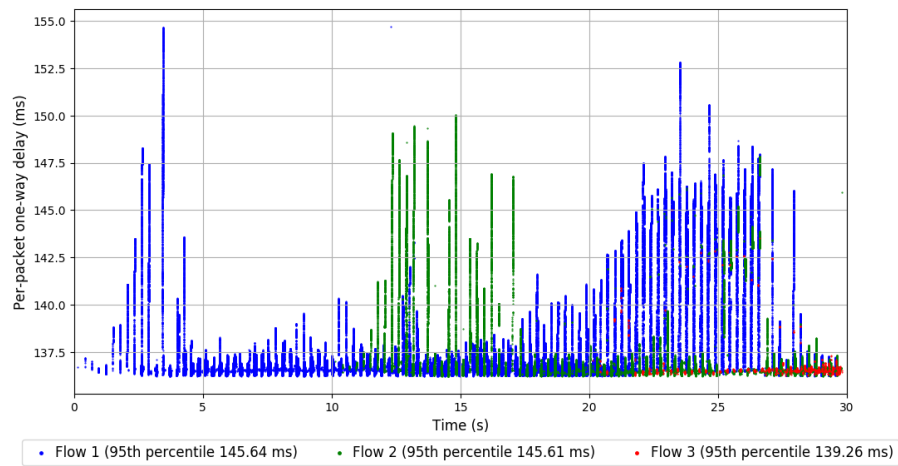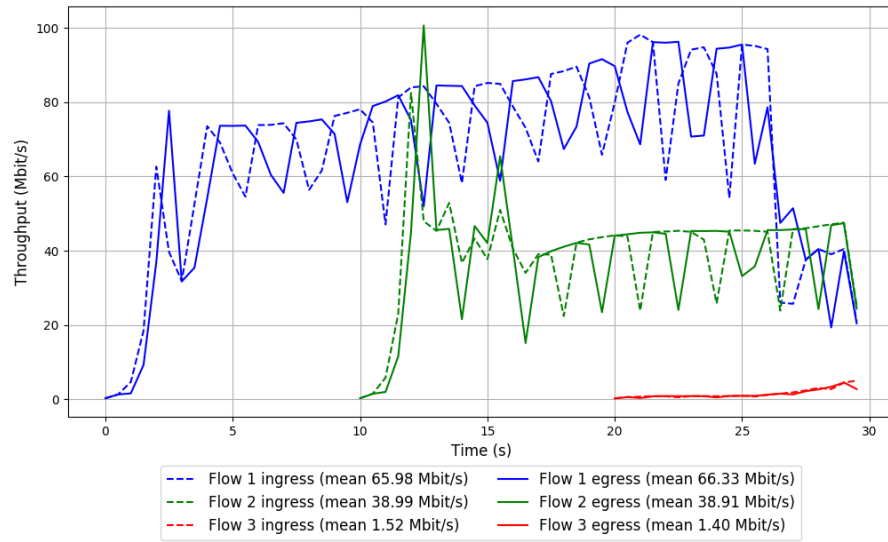
Run 10: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2017-09-01 01:39:31
End at: 2017-09-01 01:40:01

# Below is generated by plot.py at 2017-09-01 07:13:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 113.13 Mbit/s
95th percentile per-packet one-way delay: 147.586 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 48.01 Mbit/s
95th percentile per-packet one-way delay: 148.116 ms
Loss rate: 1.39%
-- Flow 2:
Average throughput: 80.16 Mbit/s
95th percentile per-packet one-way delay: 145.628 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 38.43 Mbit/s
95th percentile per-packet one-way delay: 154.181 ms
Loss rate: 3.48%
```
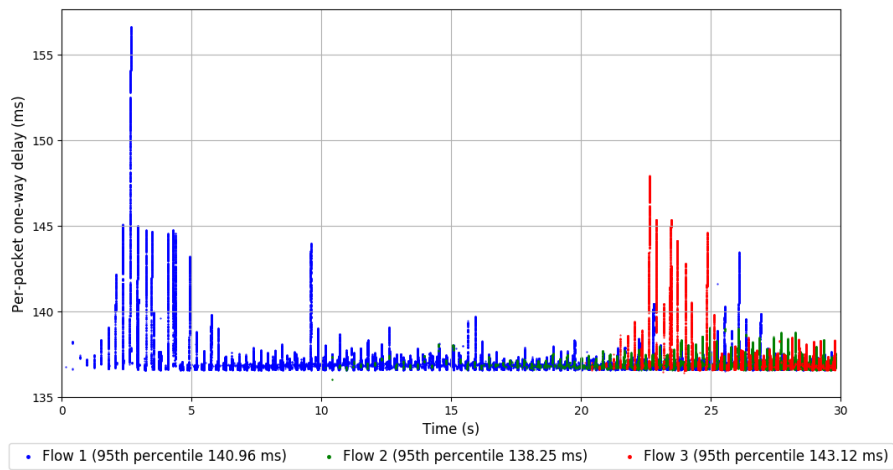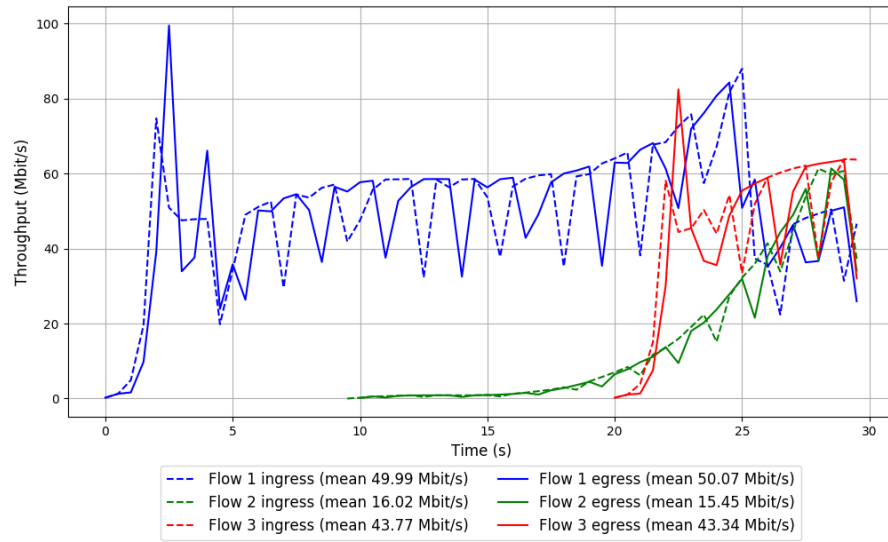
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2017-09-01 01:53:46
End at: 2017-09-01 01:54:16

# Below is generated by plot.py at 2017-09-01 07:13:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 127.80 Mbit/s
95th percentile per-packet one-way delay: 145.746 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 74.63 Mbit/s
95th percentile per-packet one-way delay: 145.940 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 80.51 Mbit/s
95th percentile per-packet one-way delay: 145.581 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 144.401 ms
Loss rate: 10.14%
```
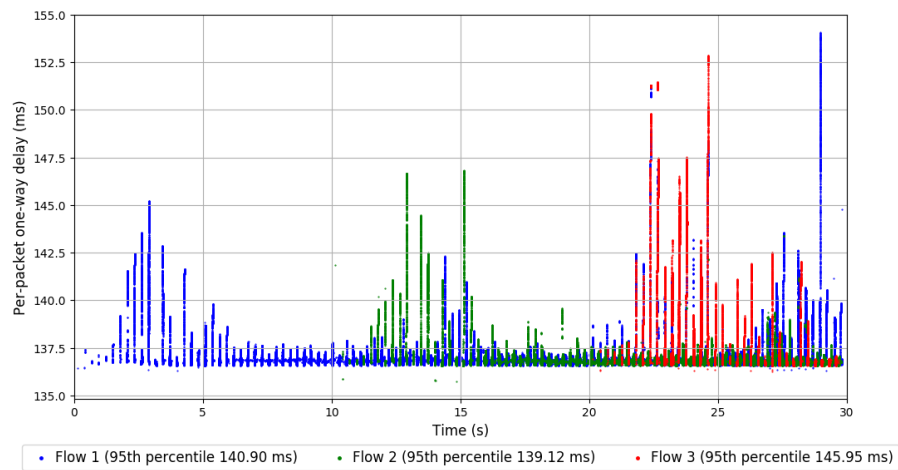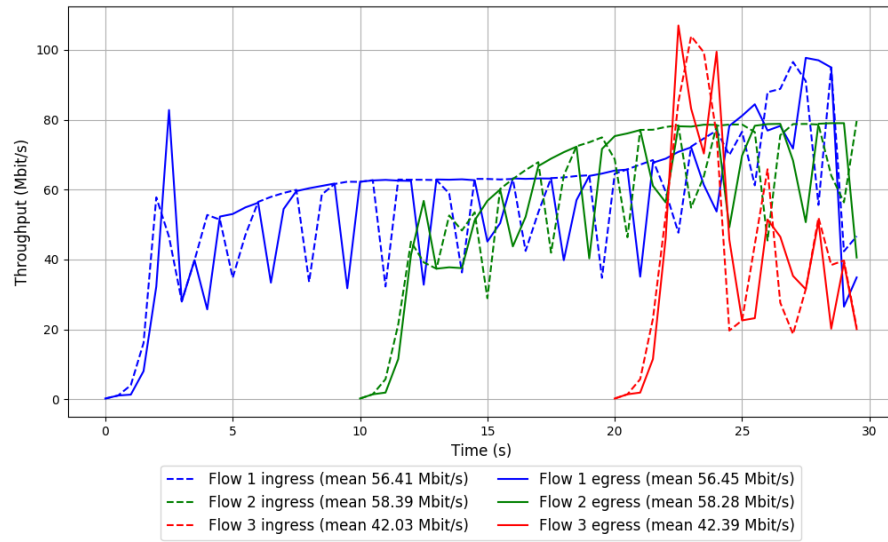
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2017-09-01 02:07:44
End at: 2017-09-01 02:08:14


# Below is generated by plot.py at 2017-09-01 07:13:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 107.80 Mbit/s
95th percentile per-packet one-way delay: 145.159 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 58.16 Mbit/s
95th percentile per-packet one-way delay: 143.877 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 73.01 Mbit/s
95th percentile per-packet one-way delay: 146.208 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 5.26 Mbit/s
95th percentile per-packet one-way delay: 144.295 ms
Loss rate: 7.09%
```
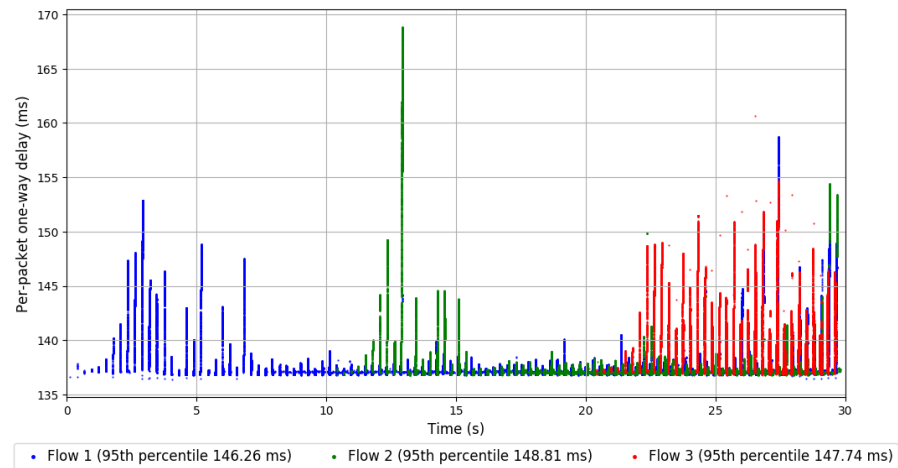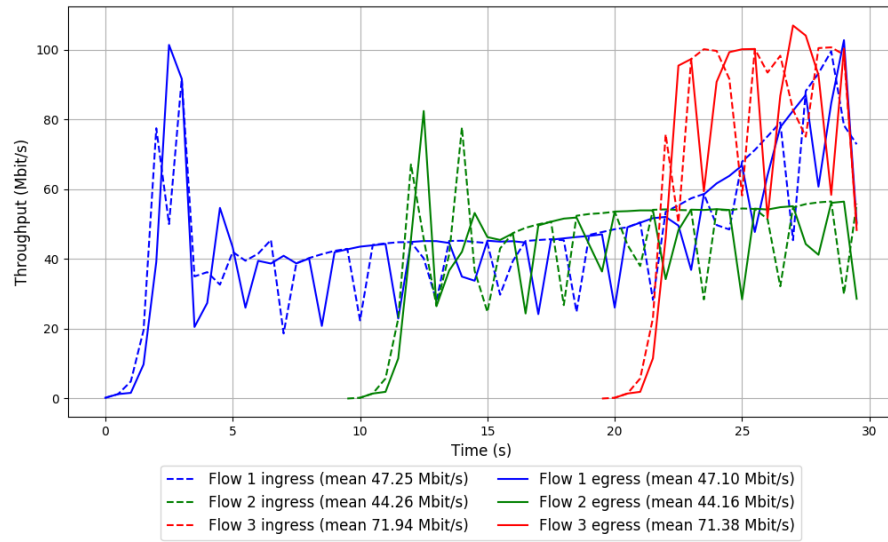
Run 3: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 57.98 Mbit/s) — Flow 1 egress (mean 58.16 Mbit/s)
- - - Flow 2 ingress (mean 72.54 Mbit/s) — Flow 2 egress (mean 73.01 Mbit/s)
- - - Flow 3 ingress (mean 5.43 Mbit/s) — Flow 3 egress (mean 5.26 Mbit/s)

• Flow 1 (95th percentile 143.88 ms)   • Flow 2 (95th percentile 146.21 ms)   • Flow 3 (95th percentile 144.29 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2017-09-01 02:21:53
End at: 2017-09-01 02:22:23


# Below is generated by plot.py at 2017-09-01 07:13:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.24 Mbit/s
95th percentile per-packet one-way delay: 145.630 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 66.33 Mbit/s
95th percentile per-packet one-way delay: 145.643 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 38.91 Mbit/s
95th percentile per-packet one-way delay: 145.613 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 139.260 ms
Loss rate: 10.12%
```
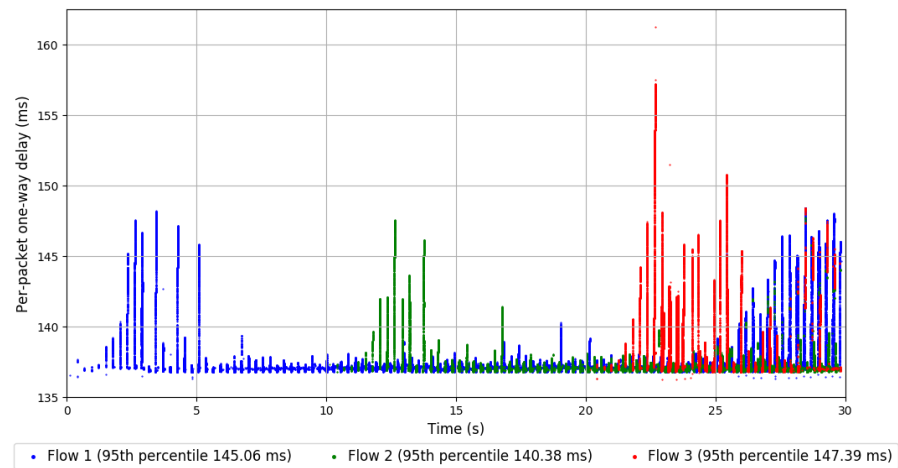
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2017-09-01 02:35:58
End at: 2017-09-01 02:36:28


# Below is generated by plot.py at 2017-09-01 07:13:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.34 Mbit/s
95th percentile per-packet one-way delay: 141.186 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 50.07 Mbit/s
95th percentile per-packet one-way delay: 140.964 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 15.45 Mbit/s
95th percentile per-packet one-way delay: 138.247 ms
Loss rate: 4.85%
-- Flow 3:
Average throughput: 43.34 Mbit/s
95th percentile per-packet one-way delay: 143.117 ms
Loss rate: 3.71%
```
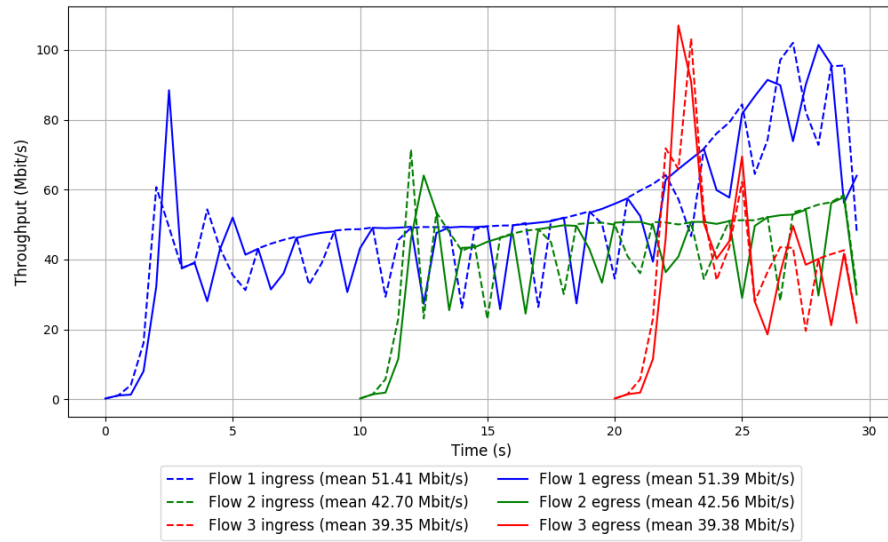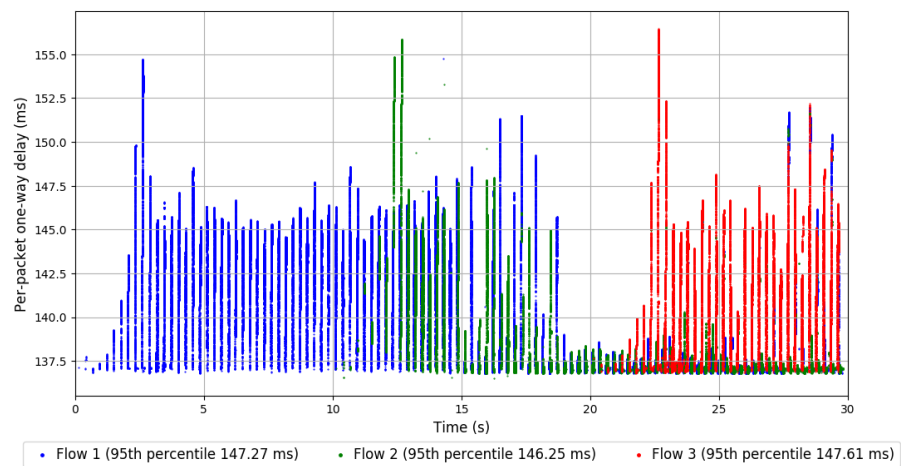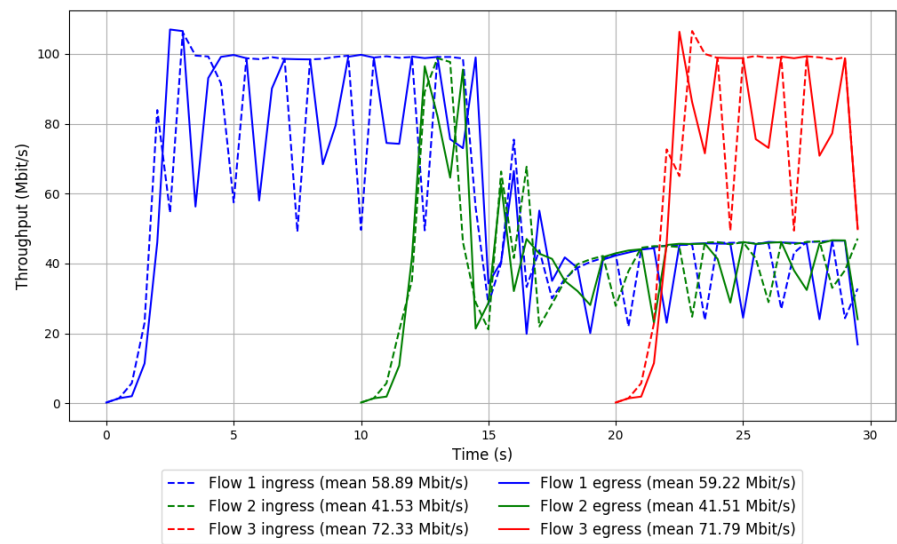
Run 5: Report of TCP Cubic — Data Link

```
Run 6: Statistics of TCP Cubic

Start at: 2017-09-01 02:50:03
End at: 2017-09-01 02:50:33


# Below is generated by plot.py at 2017-09-01 07:14:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.65 Mbit/s
95th percentile per-packet one-way delay: 141.620 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 56.45 Mbit/s
95th percentile per-packet one-way delay: 140.898 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 58.28 Mbit/s
95th percentile per-packet one-way delay: 139.121 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 42.39 Mbit/s
95th percentile per-packet one-way delay: 145.952 ms
Loss rate: 2.47%
```

Run 6: Report of TCP Cubic — Data Link

```
Run 7: Statistics of TCP Cubic

Start at: 2017-09-01 03:04:12
End at: 2017-09-01 03:04:42


# Below is generated by plot.py at 2017-09-01 07:14:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.99 Mbit/s
95th percentile per-packet one-way delay: 147.330 ms
Loss rate: 2.10%
-- Flow 1:
Average throughput: 47.10 Mbit/s
95th percentile per-packet one-way delay: 146.259 ms
Loss rate: 1.69%
-- Flow 2:
Average throughput: 44.16 Mbit/s
95th percentile per-packet one-way delay: 148.815 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 71.38 Mbit/s
95th percentile per-packet one-way delay: 147.740 ms
Loss rate: 3.54%
```
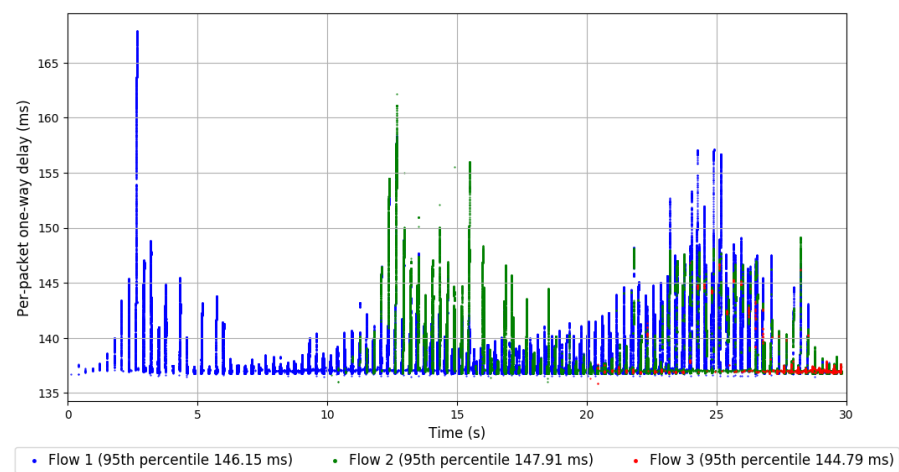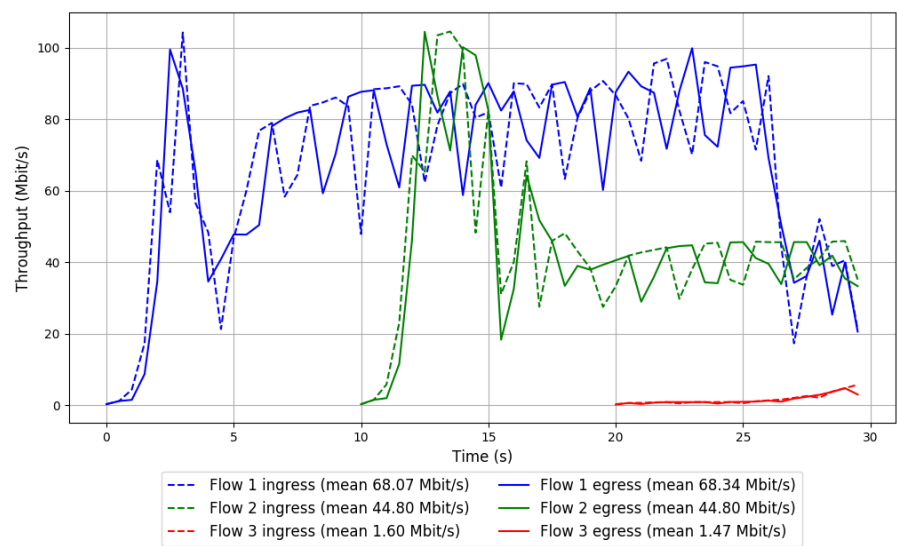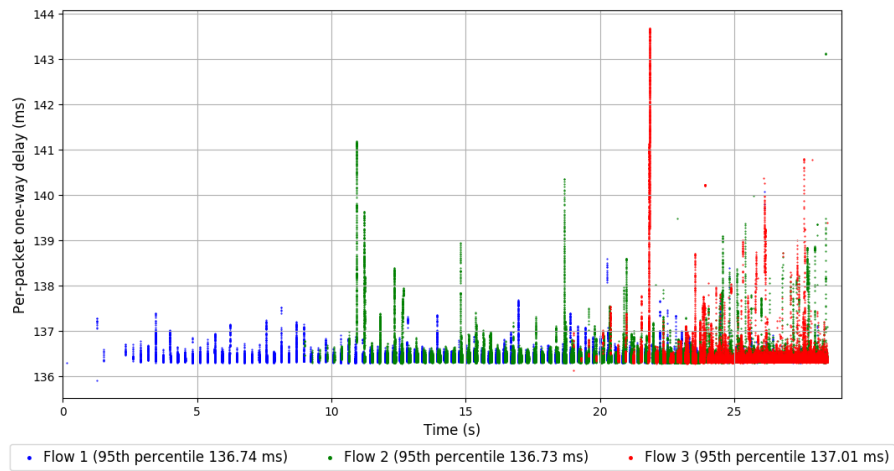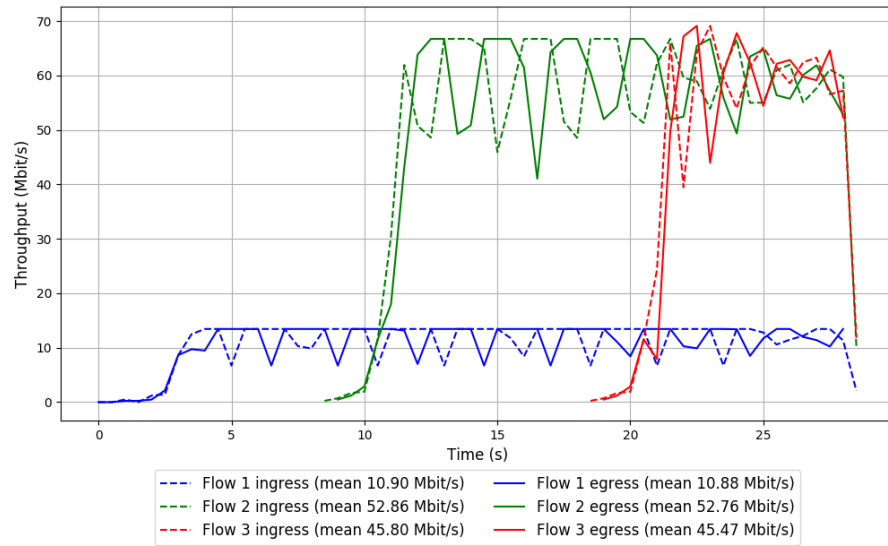
Run 7: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 47.25 Mbit/s) — Flow 1 egress (mean 47.10 Mbit/s)
Flow 2 ingress (mean 44.26 Mbit/s) — Flow 2 egress (mean 44.16 Mbit/s)
Flow 3 ingress (mean 71.94 Mbit/s) — Flow 3 egress (mean 71.38 Mbit/s)

Flow 1 (95th percentile 146.26 ms) Flow 2 (95th percentile 148.81 ms) Flow 3 (95th percentile 147.74 ms)

```
Run 8: Statistics of TCP Cubic

Start at: 2017-09-01 03:18:17
End at: 2017-09-01 03:18:47


# Below is generated by plot.py at 2017-09-01 07:14:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.37 Mbit/s
95th percentile per-packet one-way delay: 144.921 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 51.39 Mbit/s
95th percentile per-packet one-way delay: 145.061 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 42.56 Mbit/s
95th percentile per-packet one-way delay: 140.377 ms
Loss rate: 1.77%
-- Flow 3:
Average throughput: 39.38 Mbit/s
95th percentile per-packet one-way delay: 147.394 ms
Loss rate: 2.77%
```

Run 8: Report of TCP Cubic — Data Link

```
Run 9: Statistics of TCP Cubic

Start at: 2017-09-01 03:32:20
End at: 2017-09-01 03:32:50


# Below is generated by plot.py at 2017-09-01 07:14:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 109.66 Mbit/s
95th percentile per-packet one-way delay: 147.154 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 59.22 Mbit/s
95th percentile per-packet one-way delay: 147.266 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 41.51 Mbit/s
95th percentile per-packet one-way delay: 146.253 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 71.79 Mbit/s
95th percentile per-packet one-way delay: 147.613 ms
Loss rate: 3.52%
```
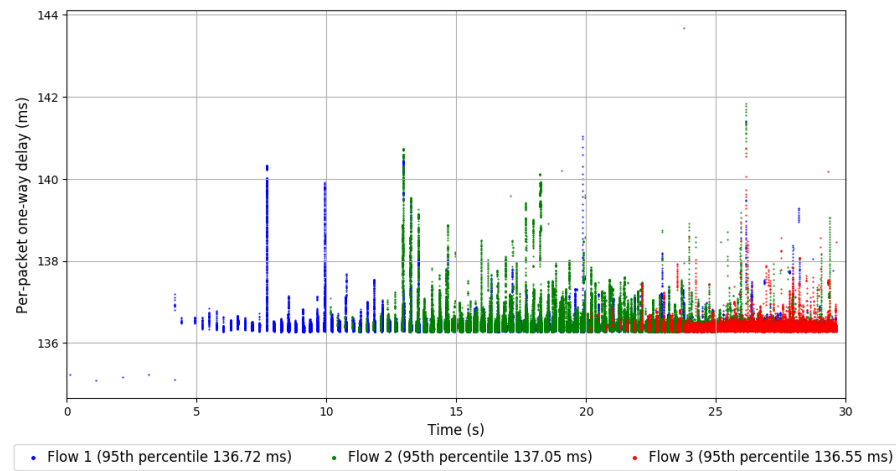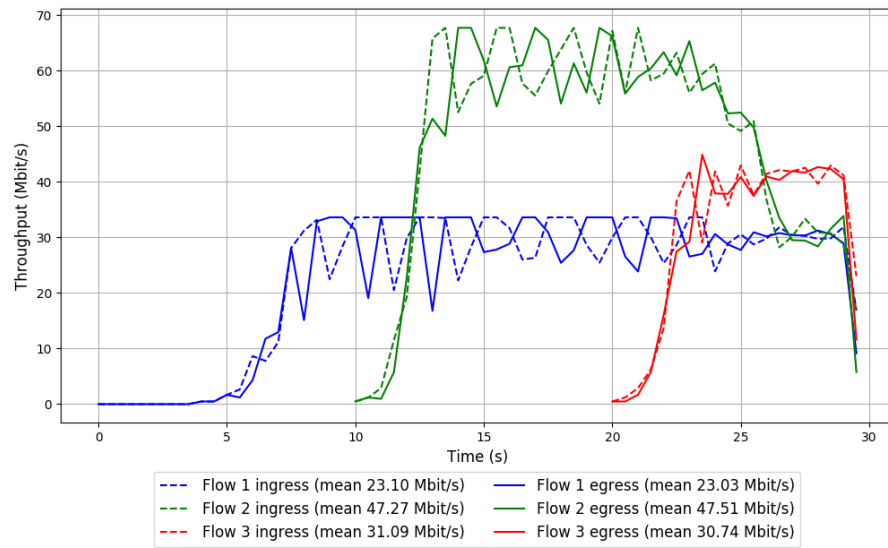
Run 9: Report of TCP Cubic — Data Link

```
Run 10: Statistics of TCP Cubic

Start at: 2017-09-01 03:46:57
End at: 2017-09-01 03:47:27


# Below is generated by plot.py at 2017-09-01 07:14:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.36 Mbit/s
95th percentile per-packet one-way delay: 146.921 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 68.34 Mbit/s
95th percentile per-packet one-way delay: 146.147 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 44.80 Mbit/s
95th percentile per-packet one-way delay: 147.909 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 144.795 ms
Loss rate: 10.31%
```
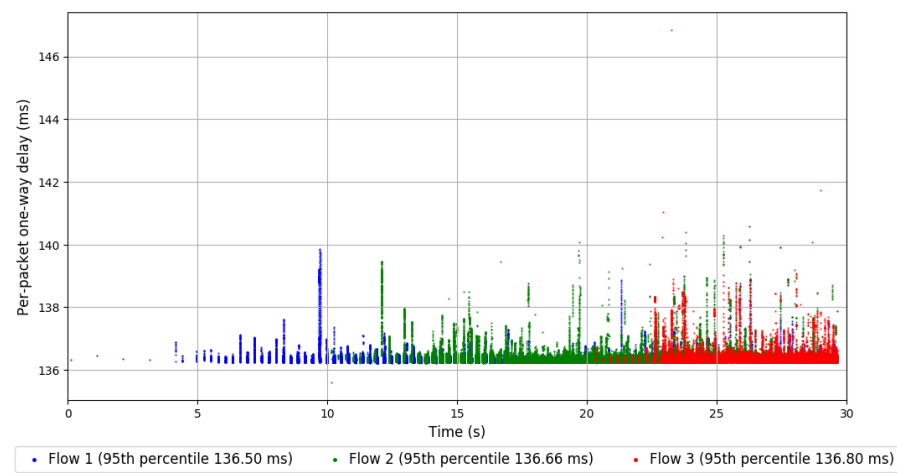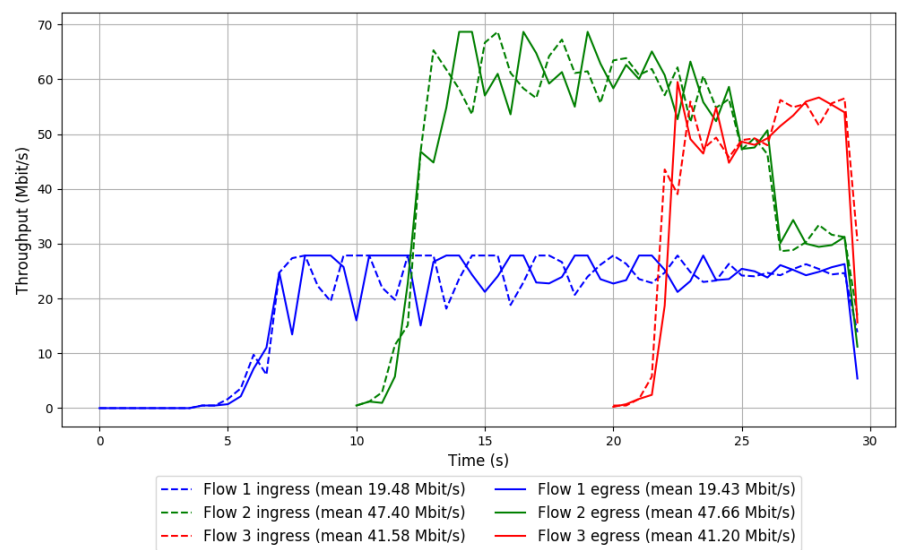
Run 10: Report of TCP Cubic — Data Link

- Flow 1 ingress (mean 68.07 Mbit/s)
- Flow 1 egress (mean 68.34 Mbit/s)
- Flow 2 ingress (mean 44.80 Mbit/s)
- Flow 2 egress (mean 44.80 Mbit/s)
- Flow 3 ingress (mean 1.60 Mbit/s)
- Flow 3 egress (mean 1.47 Mbit/s)

- Flow 1 (95th percentile 146.15 ms)
- Flow 2 (95th percentile 147.91 ms)
- Flow 3 (95th percentile 144.79 ms)

```
Run 1: Statistics of Indigo

Start at: 2017-09-01 01:40:28
End at: 2017-09-01 01:40:58


# Below is generated by plot.py at 2017-09-01 07:14:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 62.28 Mbit/s
95th percentile per-packet one-way delay: 136.782 ms
Loss rate: 1.97%
-- Flow 1:
Average throughput: 10.88 Mbit/s
95th percentile per-packet one-way delay: 136.738 ms
Loss rate: 1.19%
-- Flow 2:
Average throughput: 52.76 Mbit/s
95th percentile per-packet one-way delay: 136.730 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 45.47 Mbit/s
95th percentile per-packet one-way delay: 137.014 ms
Loss rate: 3.49%
```
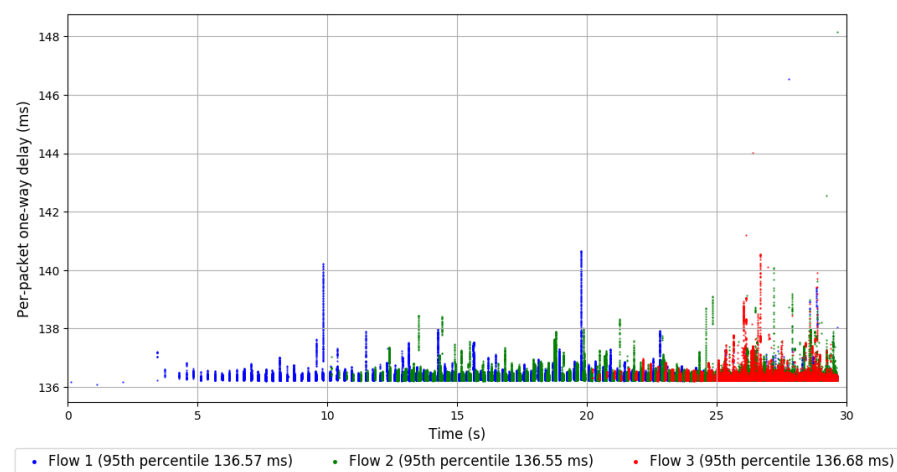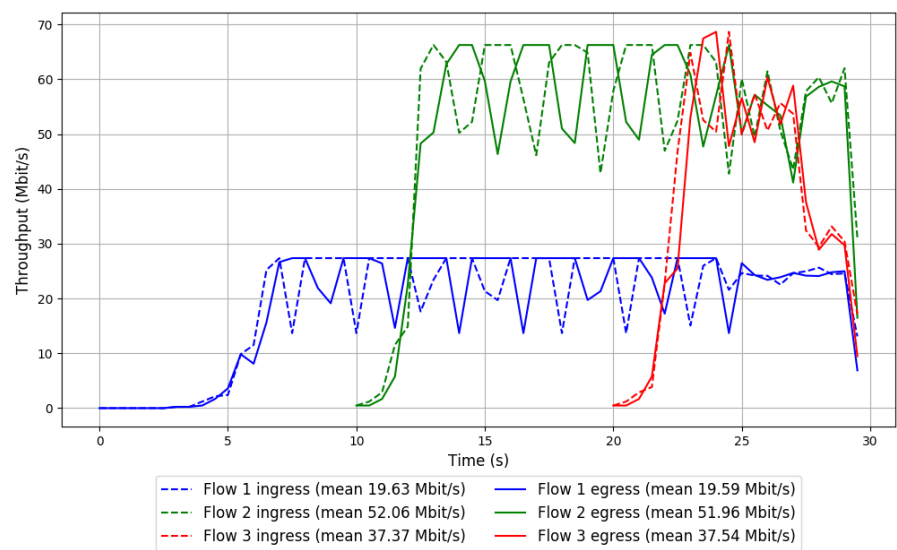
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2017-09-01 01:54:44
End at: 2017-09-01 01:55:14

# Below is generated by plot.py at 2017-09-01 07:15:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.24 Mbit/s
95th percentile per-packet one-way delay: 136.860 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 23.03 Mbit/s
95th percentile per-packet one-way delay: 136.719 ms
Loss rate: 1.22%
-- Flow 2:
Average throughput: 47.51 Mbit/s
95th percentile per-packet one-way delay: 137.049 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 30.74 Mbit/s
95th percentile per-packet one-way delay: 136.552 ms
Loss rate: 3.81%
```
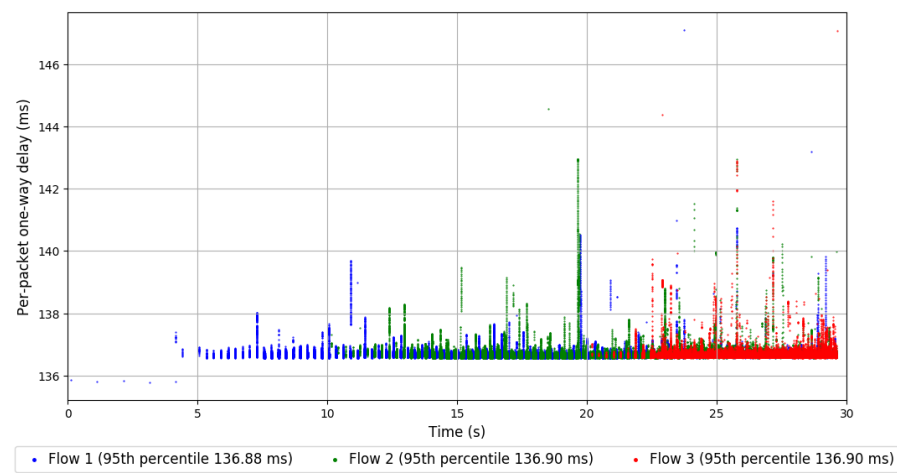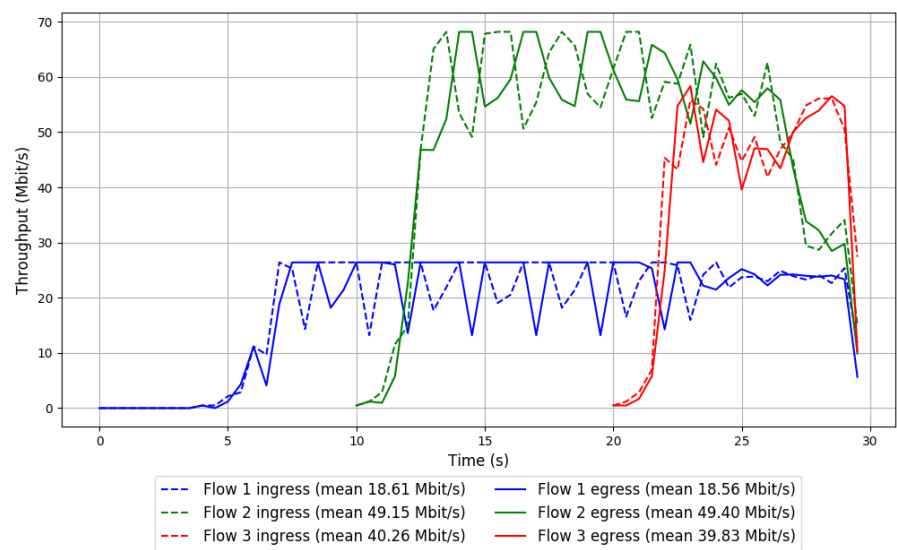
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2017-09-01 02:08:40
End at: 2017-09-01 02:09:10

# Below is generated by plot.py at 2017-09-01 07:15:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.90 Mbit/s
95th percentile per-packet one-way delay: 136.637 ms
Loss rate: 1.57%
-- Flow 1:
Average throughput: 19.43 Mbit/s
95th percentile per-packet one-way delay: 136.499 ms
Loss rate: 1.19%
-- Flow 2:
Average throughput: 47.66 Mbit/s
95th percentile per-packet one-way delay: 136.664 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 41.20 Mbit/s
95th percentile per-packet one-way delay: 136.802 ms
Loss rate: 3.72%
```
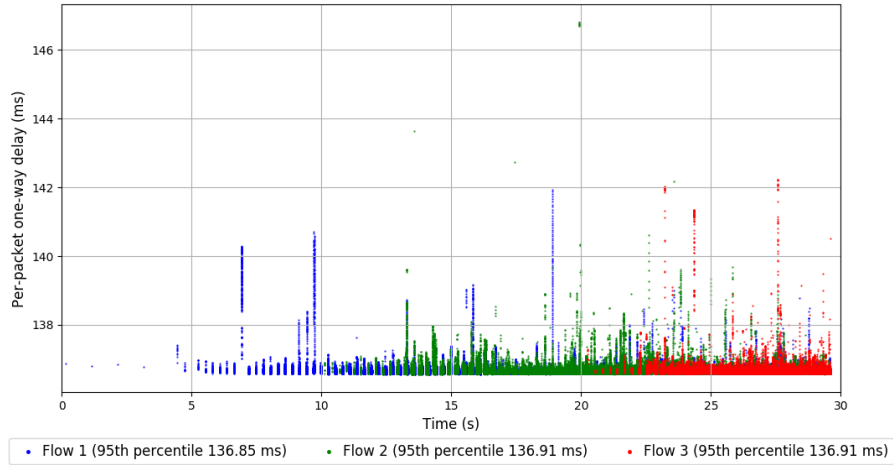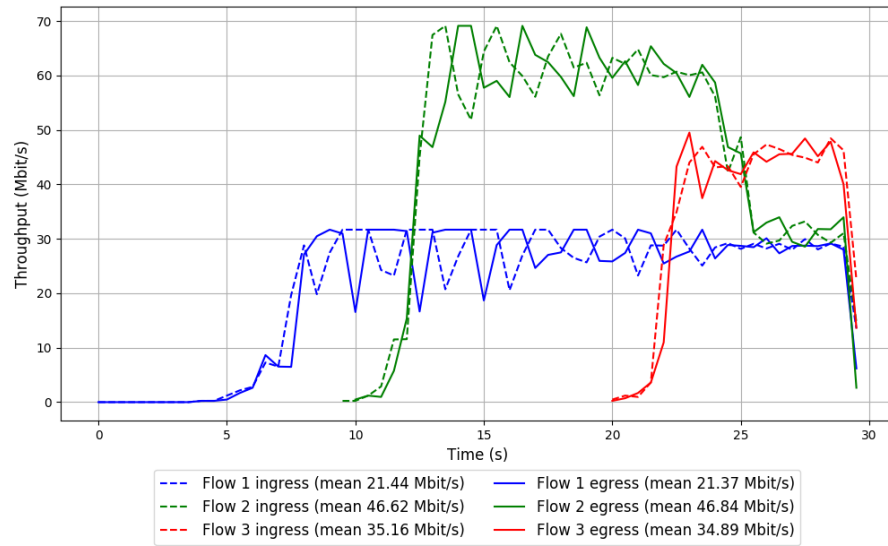
Run 3: Report of Indigo — Data Link

- Flow 1 ingress (mean 19.48 Mbit/s)
- Flow 1 egress (mean 19.43 Mbit/s)
- Flow 2 ingress (mean 47.40 Mbit/s)
- Flow 2 egress (mean 47.66 Mbit/s)
- Flow 3 ingress (mean 41.58 Mbit/s)
- Flow 3 egress (mean 41.20 Mbit/s)

- Flow 1 (95th percentile 136.50 ms)
- Flow 2 (95th percentile 136.66 ms)
- Flow 3 (95th percentile 136.80 ms)

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```
Run 4: Statistics of Indigo

Start at: 2017-09-01 02:22:49
End at: 2017-09-01 02:23:19

# Below is generated by plot.py at 2017-09-01 07:15:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.86 Mbit/s
95th percentile per-packet one-way delay: 136.575 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 19.59 Mbit/s
95th percentile per-packet one-way delay: 136.571 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 51.96 Mbit/s
95th percentile per-packet one-way delay: 136.548 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 37.54 Mbit/s
95th percentile per-packet one-way delay: 136.678 ms
Loss rate: 2.37%
```
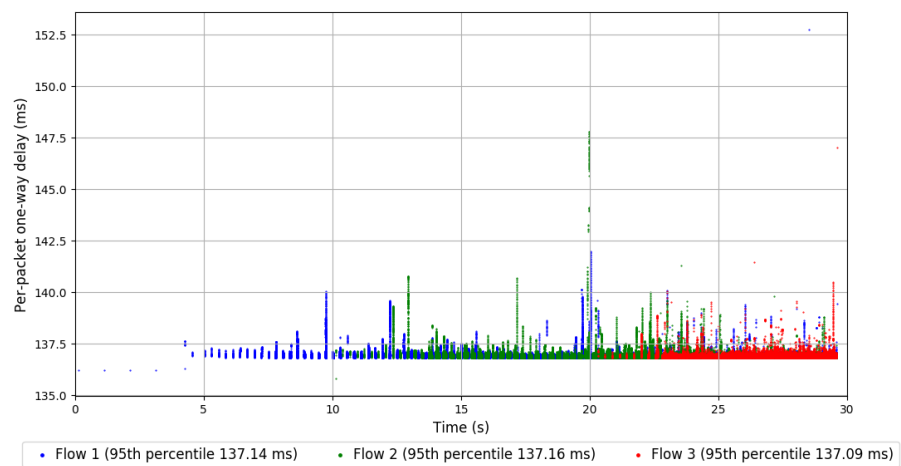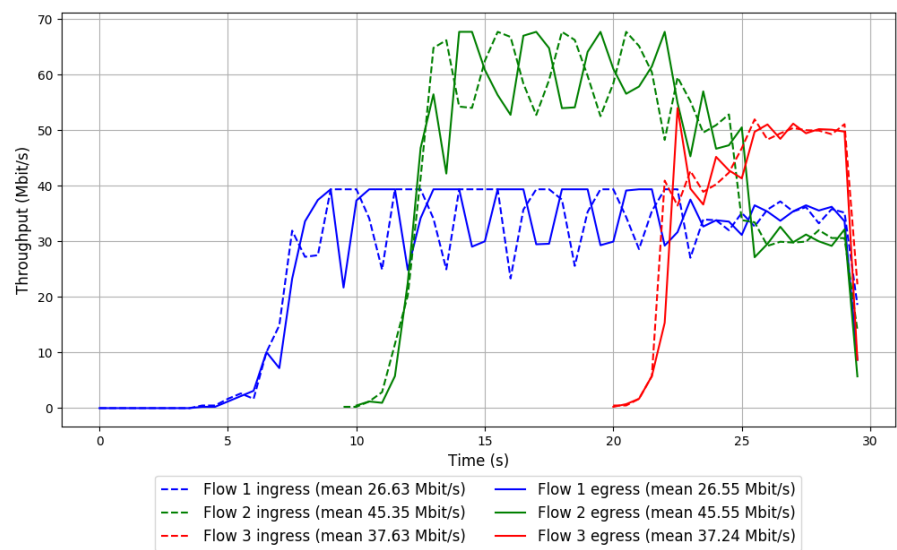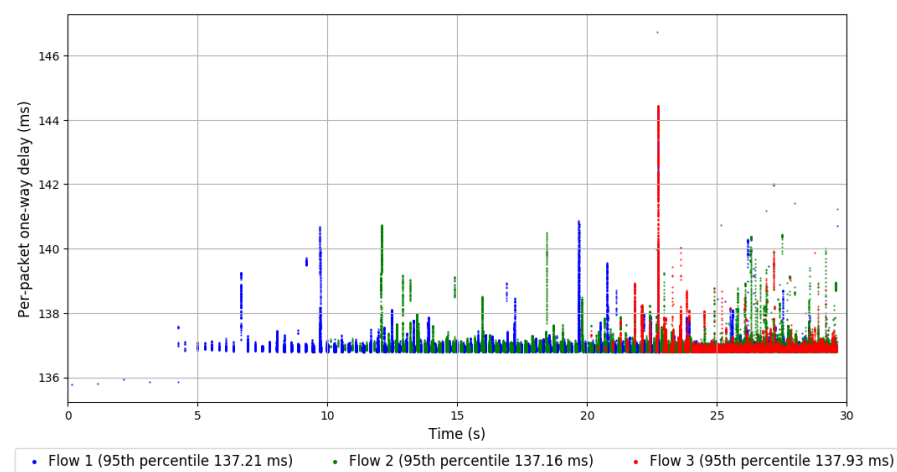
Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 19.63 Mbit/s) — Flow 1 egress (mean 19.59 Mbit/s)
Flow 2 ingress (mean 52.06 Mbit/s) — Flow 2 egress (mean 51.96 Mbit/s)
Flow 3 ingress (mean 37.37 Mbit/s) — Flow 3 egress (mean 37.54 Mbit/s)

Flow 1 (95th percentile 136.57 ms) • Flow 2 (95th percentile 136.55 ms) • Flow 3 (95th percentile 136.68 ms)

```
Run 5: Statistics of Indigo

Start at: 2017-09-01 02:36:53
End at: 2017-09-01 02:37:23

# Below is generated by plot.py at 2017-09-01 07:15:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.90 Mbit/s
95th percentile per-packet one-way delay: 136.896 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 18.56 Mbit/s
95th percentile per-packet one-way delay: 136.879 ms
Loss rate: 1.19%
-- Flow 2:
Average throughput: 49.40 Mbit/s
95th percentile per-packet one-way delay: 136.903 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 39.83 Mbit/s
95th percentile per-packet one-way delay: 136.903 ms
Loss rate: 3.85%
```
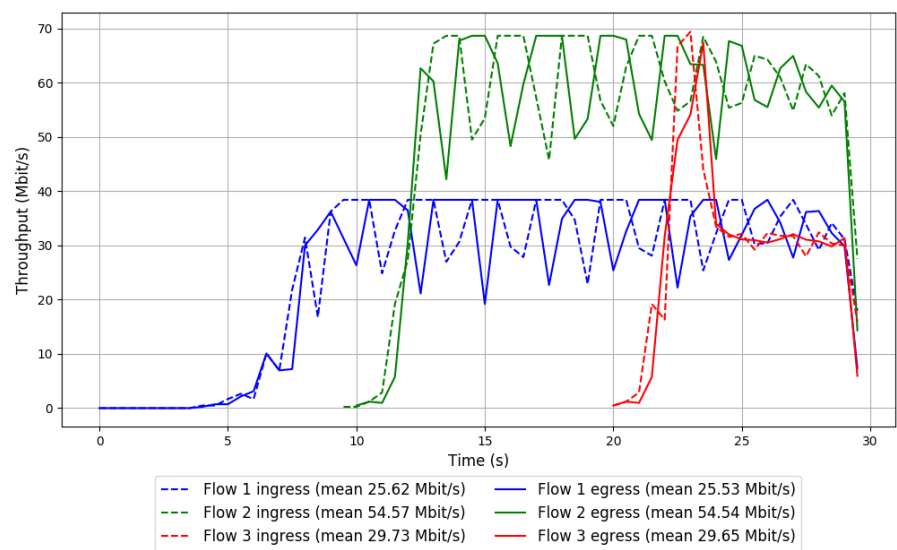
Run 5: Report of Indigo — Data Link

```
Run 6: Statistics of Indigo

Start at: 2017-09-01 02:51:00
End at: 2017-09-01 02:51:30

# Below is generated by plot.py at 2017-09-01 07:15:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.38 Mbit/s
95th percentile per-packet one-way delay: 136.890 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 21.37 Mbit/s
95th percentile per-packet one-way delay: 136.848 ms
Loss rate: 1.24%
-- Flow 2:
Average throughput: 46.84 Mbit/s
95th percentile per-packet one-way delay: 136.906 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 34.89 Mbit/s
95th percentile per-packet one-way delay: 136.910 ms
Loss rate: 3.72%
```
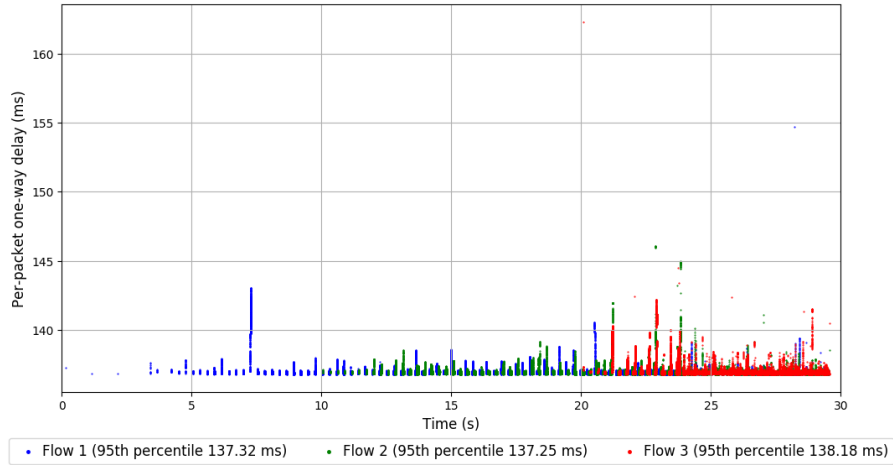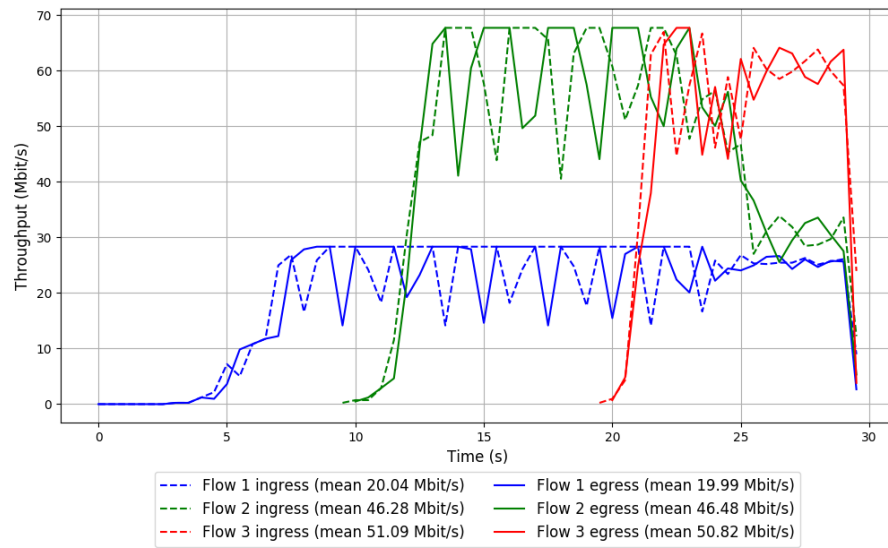
Run 6: Report of Indigo — Data Link

```
Run 7: Statistics of Indigo

Start at: 2017-09-01 03:05:08
End at: 2017-09-01 03:05:38

# Below is generated by plot.py at 2017-09-01 07:15:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.37 Mbit/s
95th percentile per-packet one-way delay: 137.139 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 26.55 Mbit/s
95th percentile per-packet one-way delay: 137.143 ms
Loss rate: 1.23%
-- Flow 2:
Average throughput: 45.55 Mbit/s
95th percentile per-packet one-way delay: 137.159 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 37.24 Mbit/s
95th percentile per-packet one-way delay: 137.093 ms
Loss rate: 3.84%
```
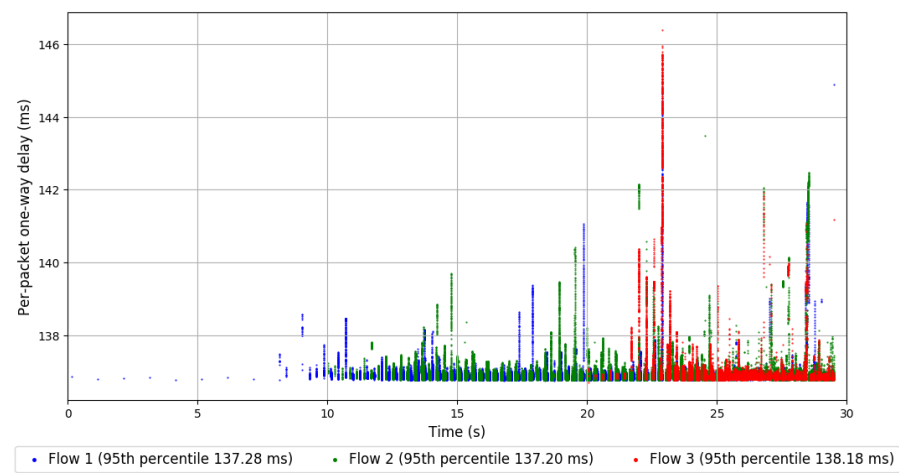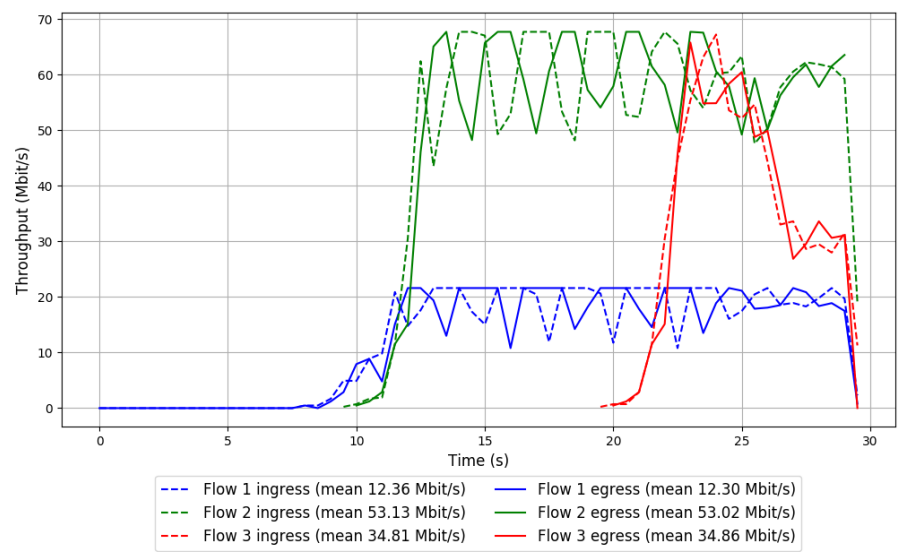
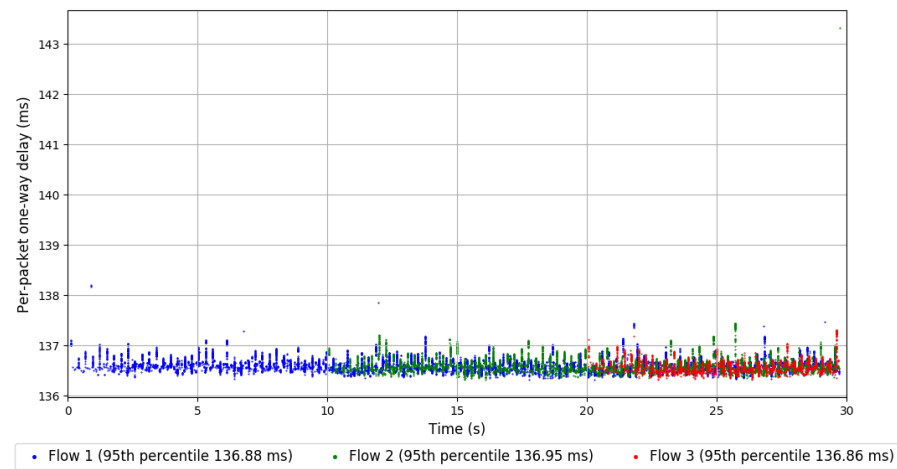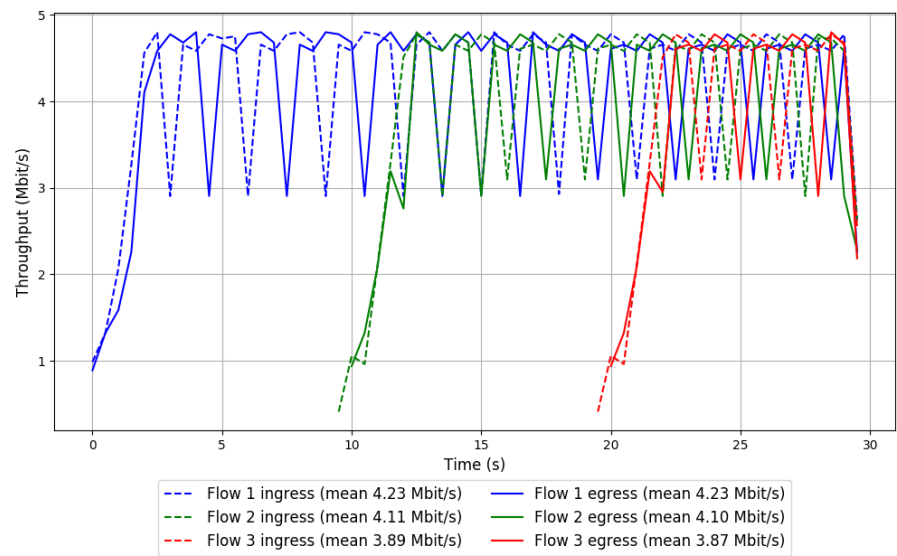## Run 7: Report of Indigo — Data Link

```
Run 8: Statistics of Indigo

Start at: 2017-09-01 03:19:13
End at: 2017-09-01 03:19:43


# Below is generated by plot.py at 2017-09-01 07:15:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.12 Mbit/s
95th percentile per-packet one-way delay: 137.268 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 25.53 Mbit/s
95th percentile per-packet one-way delay: 137.211 ms
Loss rate: 1.26%
-- Flow 2:
Average throughput: 54.54 Mbit/s
95th percentile per-packet one-way delay: 137.160 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 29.65 Mbit/s
95th percentile per-packet one-way delay: 137.930 ms
Loss rate: 3.00%
```
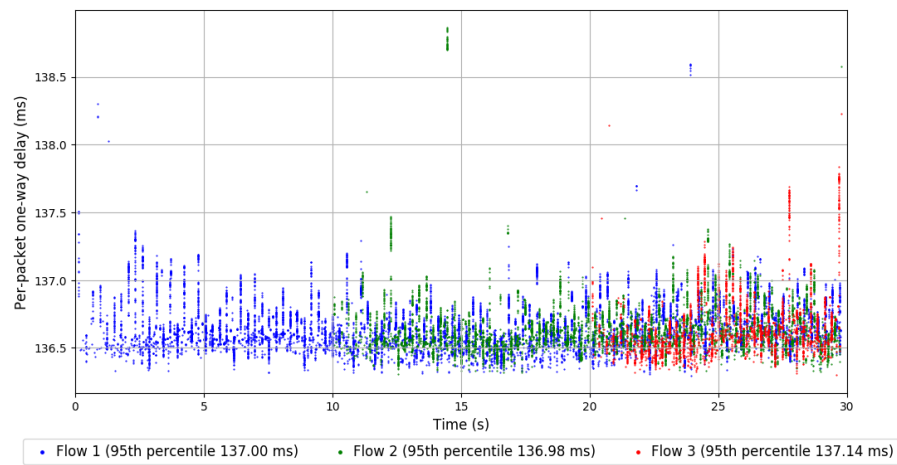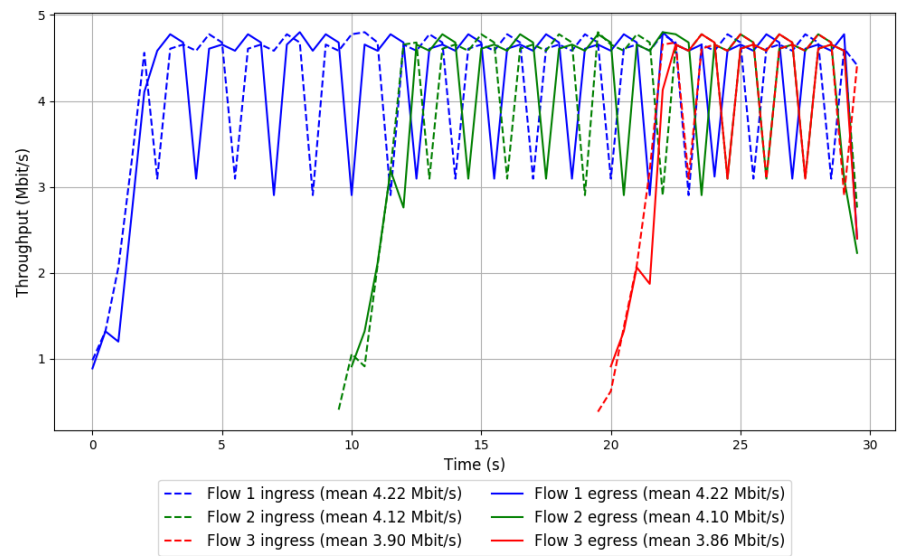
Run 8: Report of Indigo — Data Link

Flow 1 ingress (mean 25.62 Mbit/s)   Flow 1 egress (mean 25.53 Mbit/s)
Flow 2 ingress (mean 54.57 Mbit/s)   Flow 2 egress (mean 54.54 Mbit/s)
Flow 3 ingress (mean 29.73 Mbit/s)   Flow 3 egress (mean 29.65 Mbit/s)

Flow 1 (95th percentile 137.21 ms)   Flow 2 (95th percentile 137.16 ms)   Flow 3 (95th percentile 137.93 ms)

```
Run 9: Statistics of Indigo

Start at: 2017-09-01 03:33:17
End at: 2017-09-01 03:33:47

# Below is generated by plot.py at 2017-09-01 07:15:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.16 Mbit/s
95th percentile per-packet one-way delay: 137.430 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 19.99 Mbit/s
95th percentile per-packet one-way delay: 137.320 ms
Loss rate: 1.19%
-- Flow 2:
Average throughput: 46.48 Mbit/s
95th percentile per-packet one-way delay: 137.254 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 50.82 Mbit/s
95th percentile per-packet one-way delay: 138.176 ms
Loss rate: 3.32%
```

Run 9: Report of Indigo — Data Link

```
Run 10: Statistics of Indigo

Start at: 2017-09-01 03:47:55
End at: 2017-09-01 03:48:25


# Below is generated by plot.py at 2017-09-01 07:16:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.70 Mbit/s
95th percentile per-packet one-way delay: 137.322 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 12.30 Mbit/s
95th percentile per-packet one-way delay: 137.278 ms
Loss rate: 1.42%
-- Flow 2:
Average throughput: 53.02 Mbit/s
95th percentile per-packet one-way delay: 137.196 ms
Loss rate: 1.61%
-- Flow 3:
Average throughput: 34.86 Mbit/s
95th percentile per-packet one-way delay: 138.184 ms
Loss rate: 2.48%
```
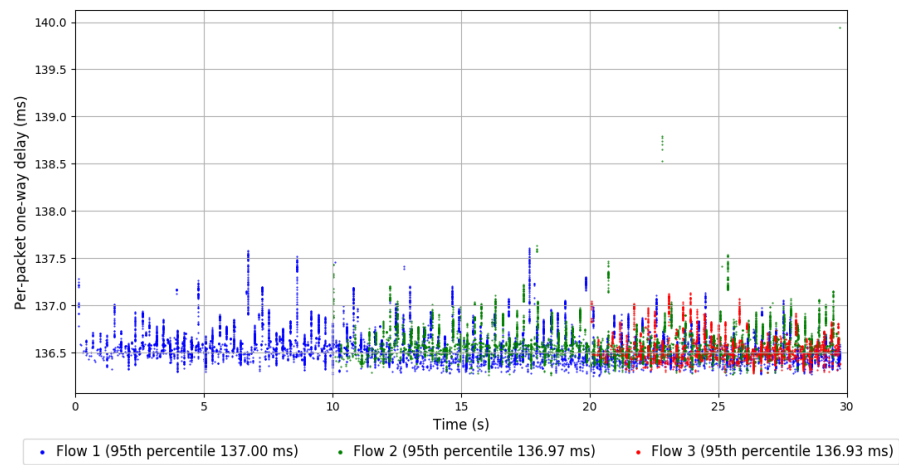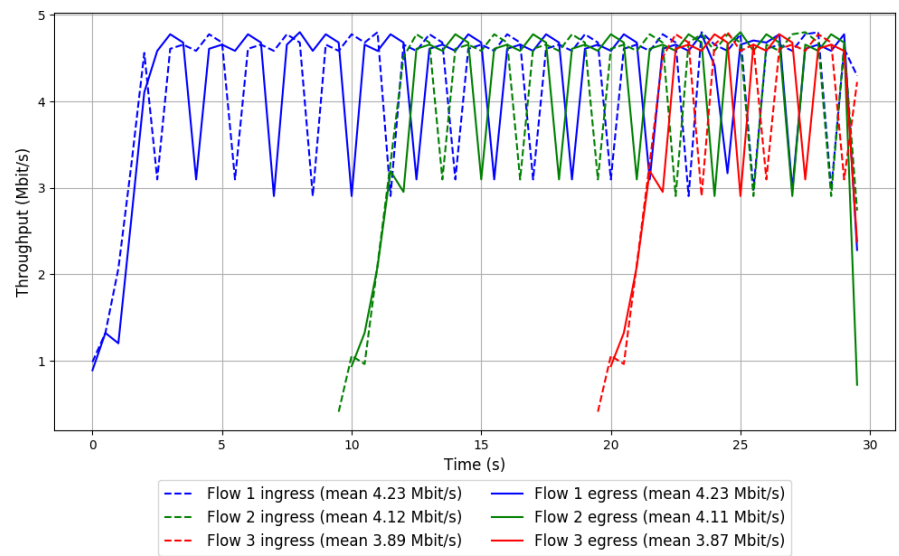
Run 10: Report of Indigo — Data Link

```
Run 1: Statistics of KohoCC

Start at: 2017-09-01 01:35:37
End at: 2017-09-01 01:36:07


# Below is generated by plot.py at 2017-09-01 07:16:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.21 Mbit/s
95th percentile per-packet one-way delay: 136.899 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 136.877 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 136.953 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 136.859 ms
Loss rate: 3.11%
```
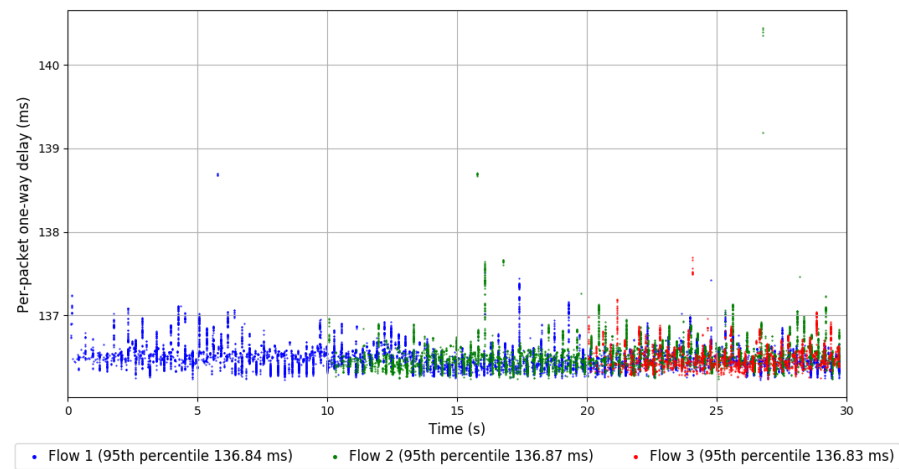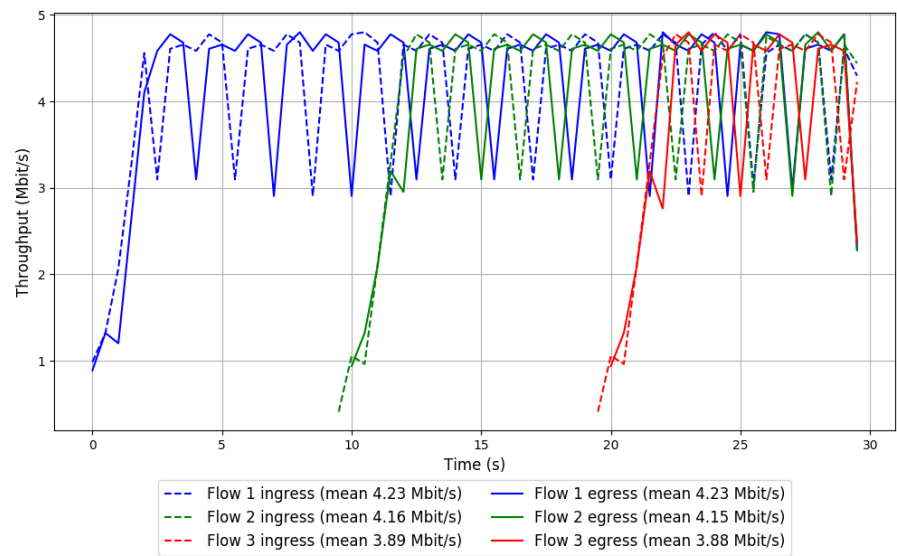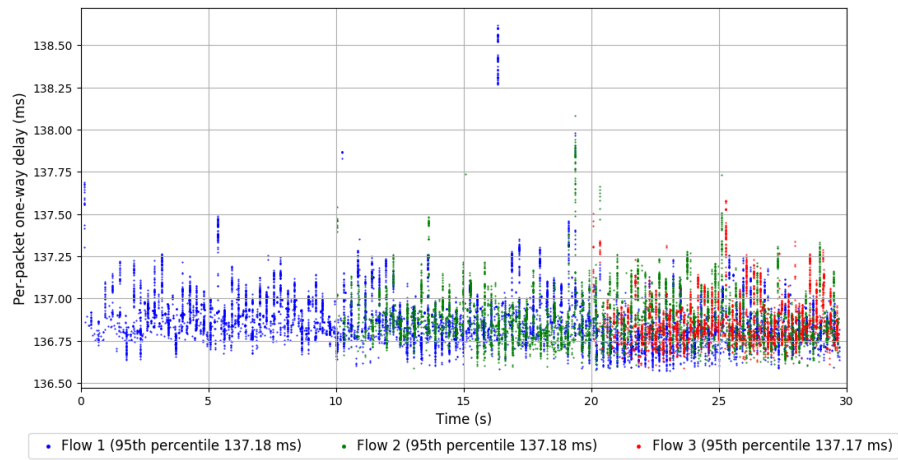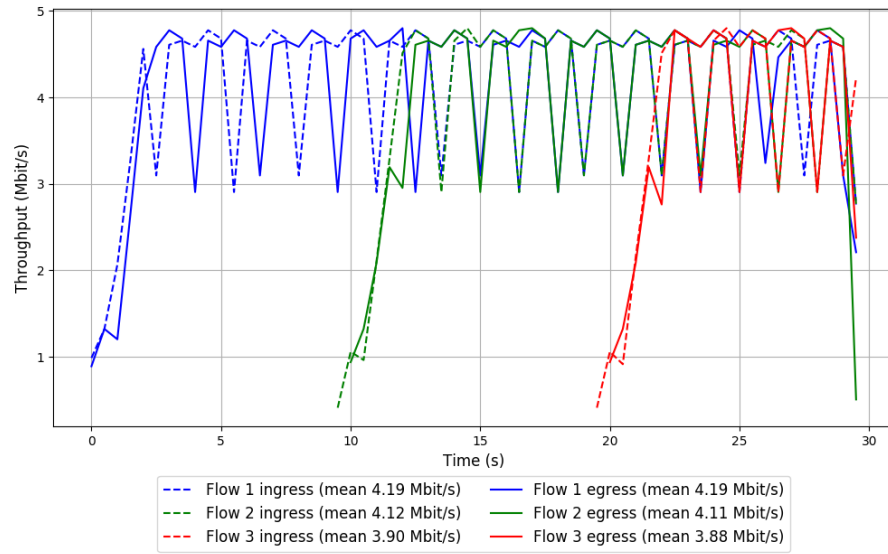
Run 1: Report of KohoCC — Data Link

```
Run 2: Statistics of KohoCC

Start at: 2017-09-01 01:49:50
End at: 2017-09-01 01:50:20

# Below is generated by plot.py at 2017-09-01 07:16:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.21 Mbit/s
95th percentile per-packet one-way delay: 137.013 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 4.22 Mbit/s
95th percentile per-packet one-way delay: 137.005 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 136.983 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 137.142 ms
Loss rate: 3.08%
```

Run 2: Report of KohoCC — Data Link

```
Run 3: Statistics of KohoCC

Start at: 2017-09-01 02:03:51
End at: 2017-09-01 02:04:21


# Below is generated by plot.py at 2017-09-01 07:16:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.22 Mbit/s
95th percentile per-packet one-way delay: 136.978 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 137.004 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 136.971 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 136.934 ms
Loss rate: 3.11%
```
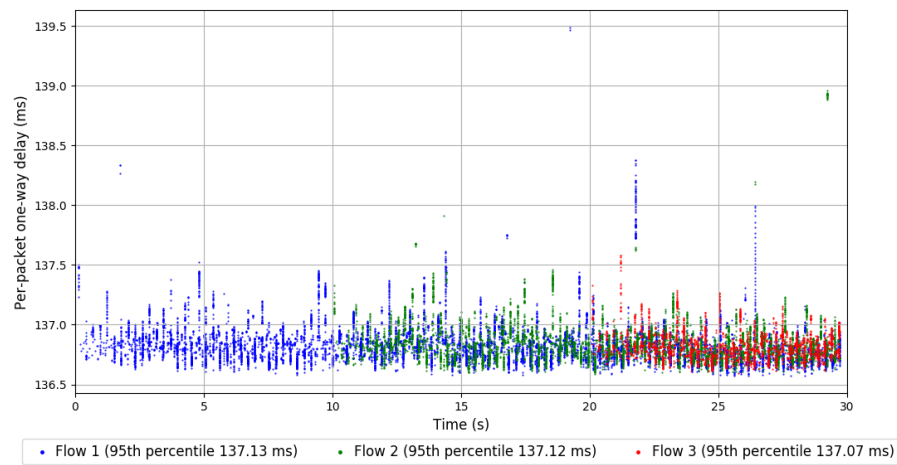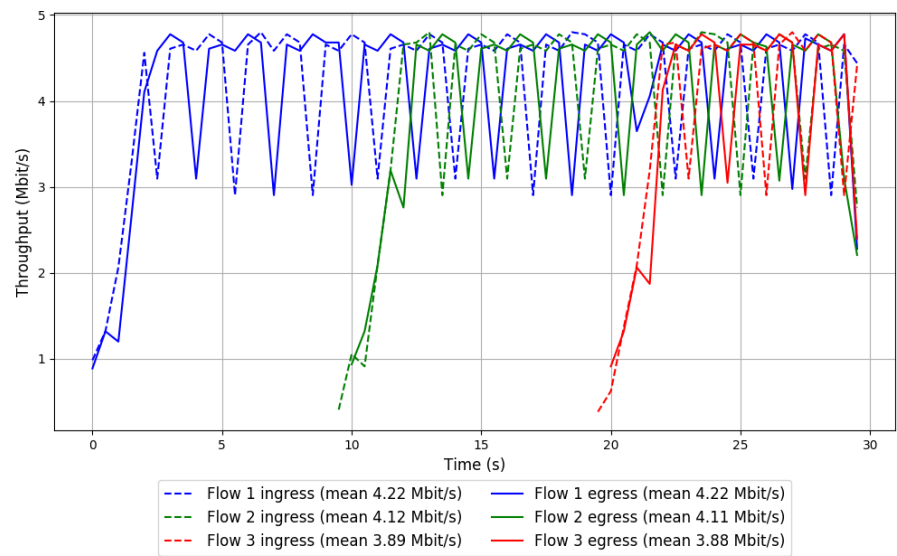
Run 3: Report of KohoCC — Data Link

Flow 1 ingress (mean 4.23 Mbit/s)   Flow 1 egress (mean 4.23 Mbit/s)
Flow 2 ingress (mean 4.12 Mbit/s)   Flow 2 egress (mean 4.11 Mbit/s)
Flow 3 ingress (mean 3.89 Mbit/s)   Flow 3 egress (mean 3.87 Mbit/s)

Flow 1 (95th percentile 137.00 ms)   Flow 2 (95th percentile 136.97 ms)   Flow 3 (95th percentile 136.93 ms)

```
Run 4: Statistics of KohoCC

Start at: 2017-09-01 02:17:58
End at: 2017-09-01 02:18:28


# Below is generated by plot.py at 2017-09-01 07:16:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.25 Mbit/s
95th percentile per-packet one-way delay: 136.847 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 136.836 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 4.15 Mbit/s
95th percentile per-packet one-way delay: 136.872 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 136.827 ms
Loss rate: 3.11%
```
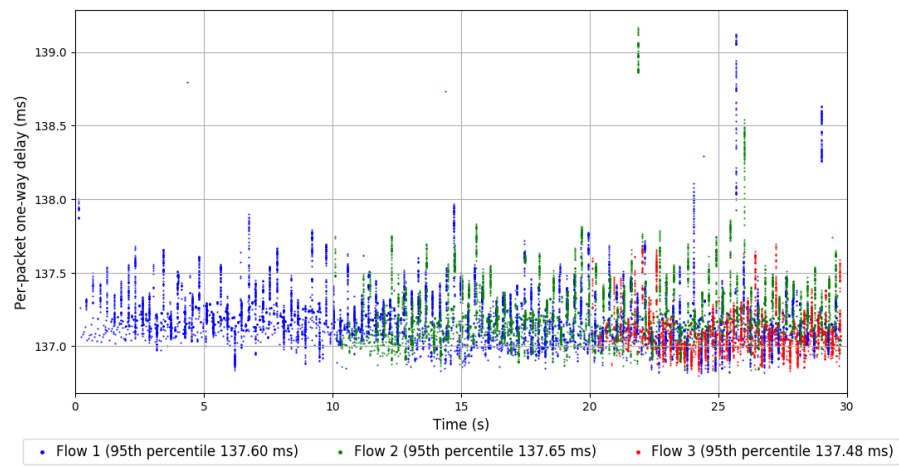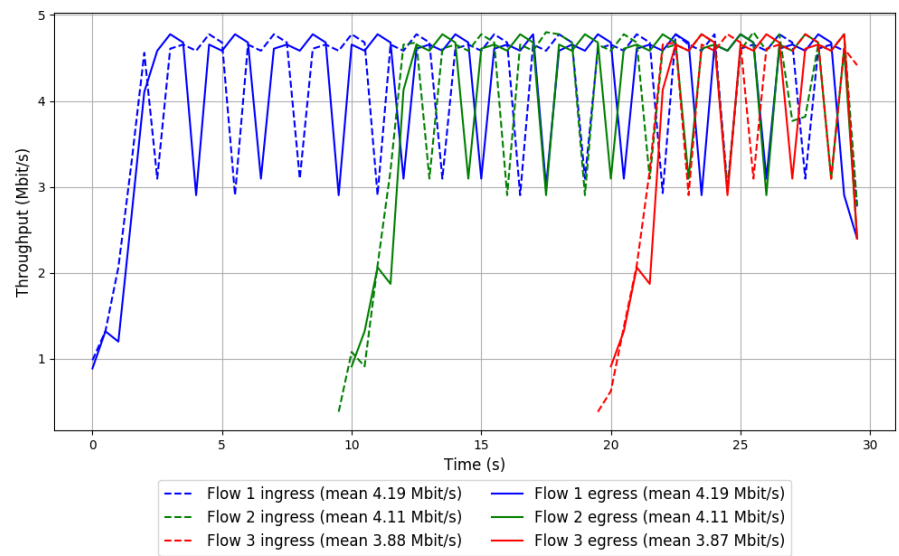
Run 4: Report of KohoCC — Data Link

```
Run 5: Statistics of KohoCC

Start at: 2017-09-01 02:32:04
End at: 2017-09-01 02:32:34

# Below is generated by plot.py at 2017-09-01 07:16:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.18 Mbit/s
95th percentile per-packet one-way delay: 137.175 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 4.19 Mbit/s
95th percentile per-packet one-way delay: 137.176 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 137.175 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 137.172 ms
Loss rate: 3.11%
```
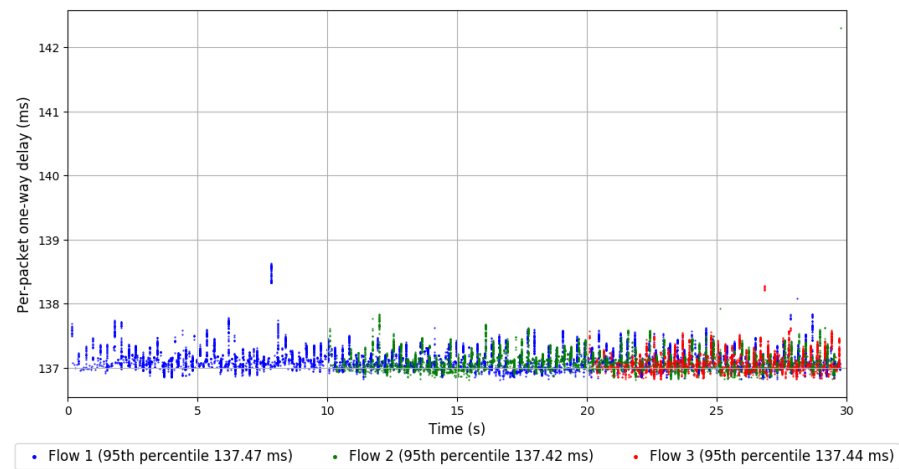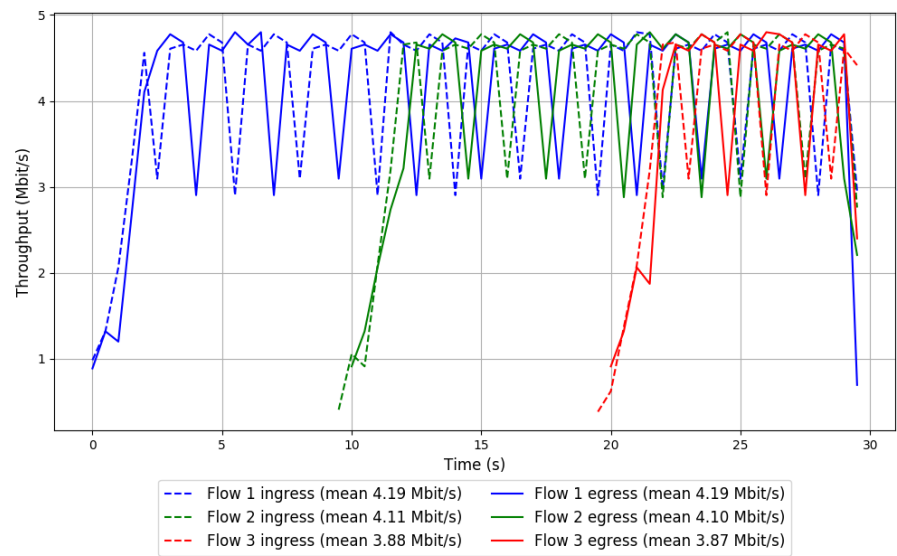
Run 5: Report of KohoCC — Data Link

Flow 1 ingress (mean 4.19 Mbit/s)   Flow 1 egress (mean 4.19 Mbit/s)
Flow 2 ingress (mean 4.12 Mbit/s)   Flow 2 egress (mean 4.11 Mbit/s)
Flow 3 ingress (mean 3.90 Mbit/s)   Flow 3 egress (mean 3.88 Mbit/s)

Flow 1 (95th percentile 137.18 ms)   Flow 2 (95th percentile 137.18 ms)   Flow 3 (95th percentile 137.17 ms)

```
Run 6: Statistics of KohoCC

Start at: 2017-09-01 02:46:07
End at: 2017-09-01 02:46:37

# Below is generated by plot.py at 2017-09-01 07:16:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.21 Mbit/s
95th percentile per-packet one-way delay: 137.119 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 4.22 Mbit/s
95th percentile per-packet one-way delay: 137.129 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 137.125 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 137.075 ms
Loss rate: 3.11%
```
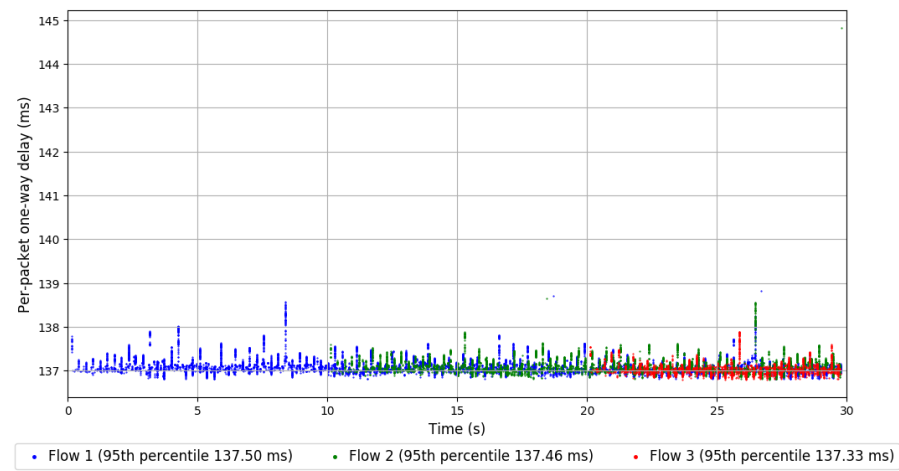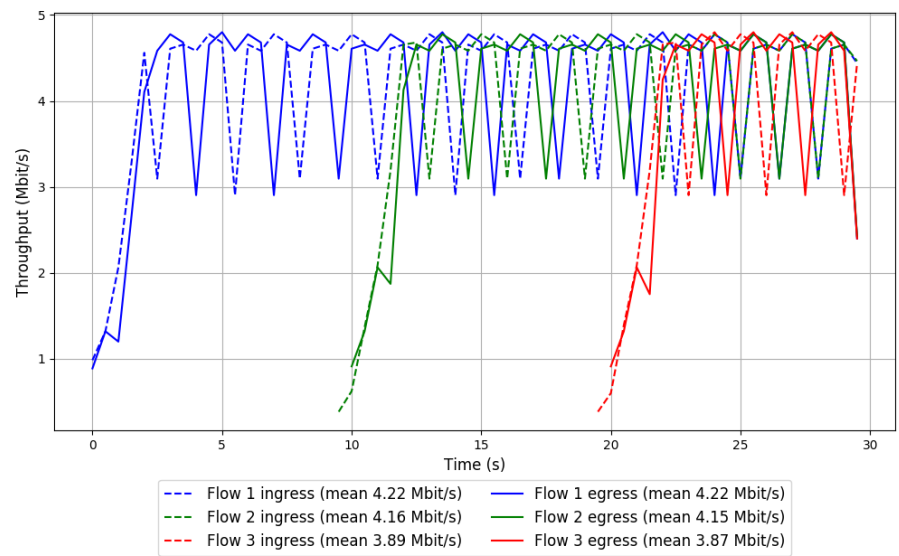
Run 6: Report of KohoCC — Data Link

Flow 1 ingress (mean 4.22 Mbit/s) --- Flow 1 egress (mean 4.22 Mbit/s)
Flow 2 ingress (mean 4.12 Mbit/s) --- Flow 2 egress (mean 4.11 Mbit/s)
Flow 3 ingress (mean 3.89 Mbit/s) --- Flow 3 egress (mean 3.88 Mbit/s)

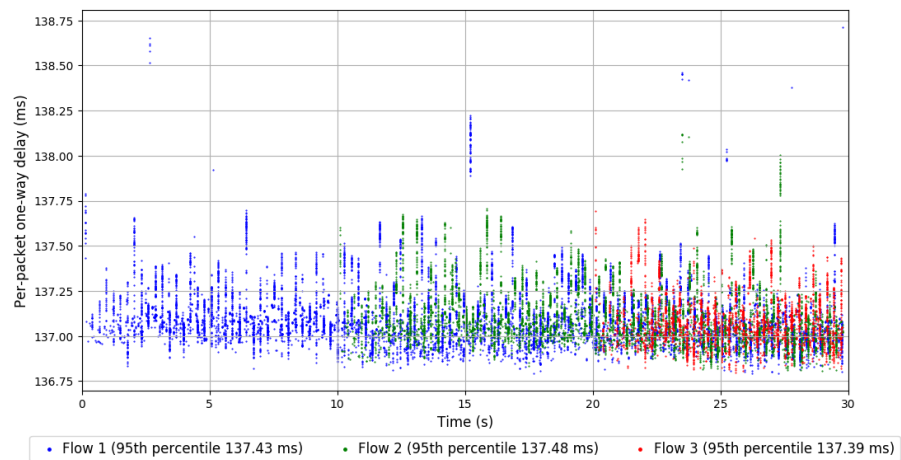Flow 1 (95th percentile 137.13 ms) · Flow 2 (95th percentile 137.12 ms) · Flow 3 (95th percentile 137.07 ms)

```
Run 7: Statistics of KohoCC

Start at: 2017-09-01 03:00:14
End at: 2017-09-01 03:00:44

# Below is generated by plot.py at 2017-09-01 07:16:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.17 Mbit/s
95th percentile per-packet one-way delay: 137.603 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 4.19 Mbit/s
95th percentile per-packet one-way delay: 137.601 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 137.648 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 137.478 ms
Loss rate: 3.11%
```
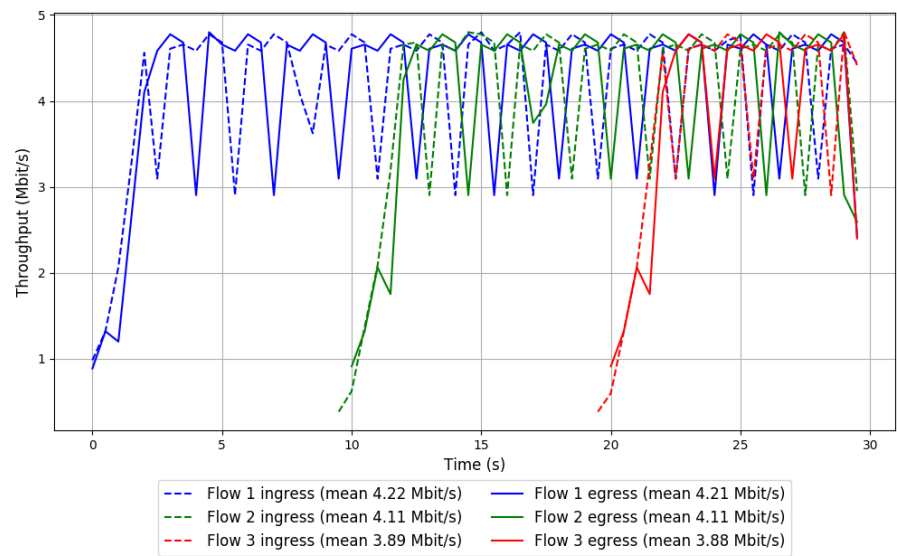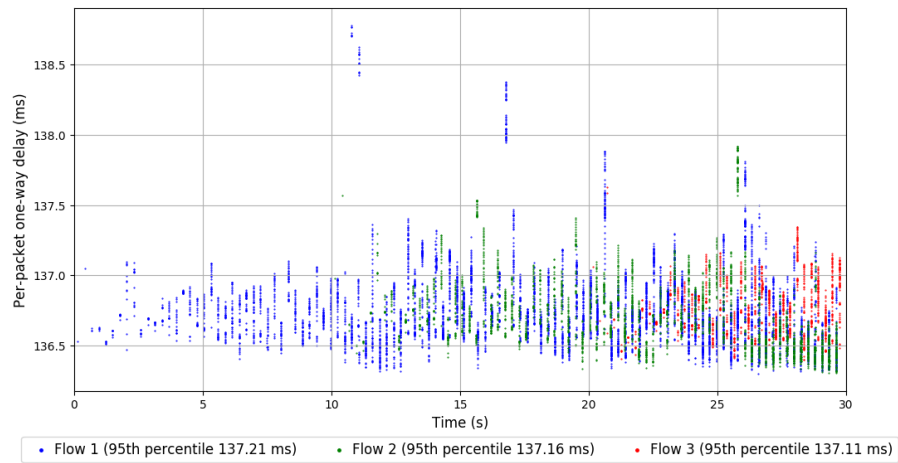
Run 7: Report of KohoCC — Data Link

```
Run 8: Statistics of KohoCC

Start at: 2017-09-01 03:14:22
End at: 2017-09-01 03:14:52

# Below is generated by plot.py at 2017-09-01 07:16:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.17 Mbit/s
95th percentile per-packet one-way delay: 137.445 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 4.19 Mbit/s
95th percentile per-packet one-way delay: 137.469 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 137.422 ms
Loss rate: 1.48%
-- Flow 3:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 137.436 ms
Loss rate: 3.11%
```
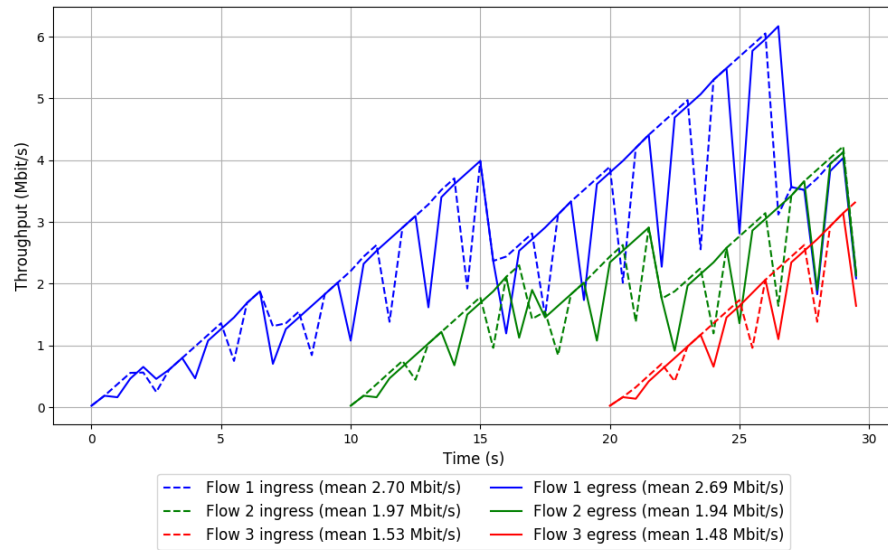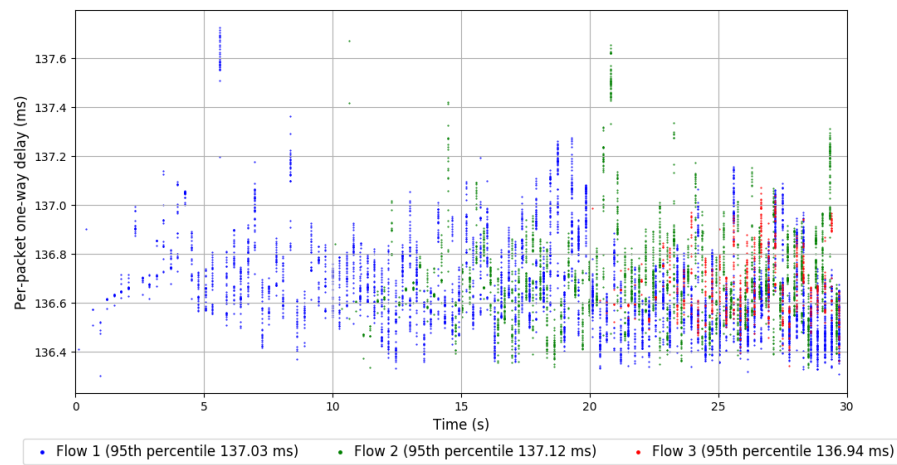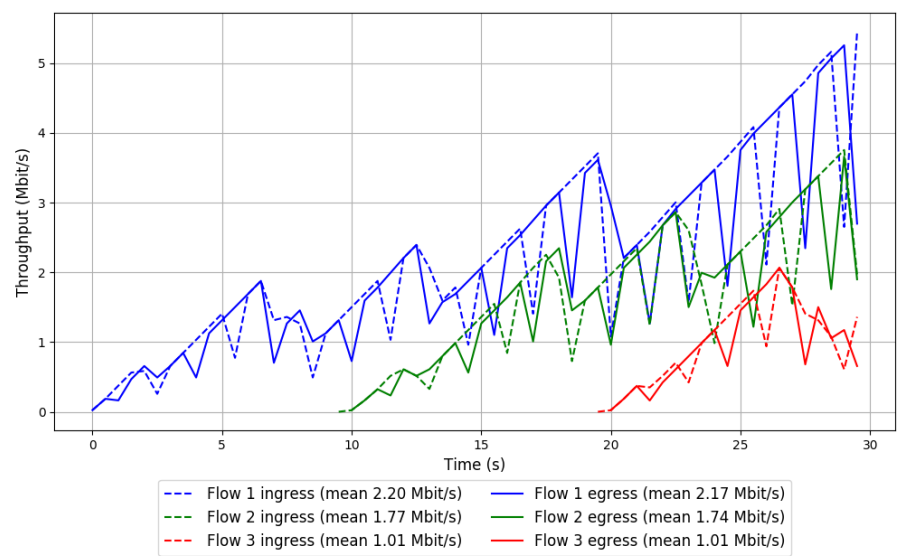
Run 8: Report of KohoCC — Data Link

Flow 1 ingress (mean 4.19 Mbit/s)   Flow 1 egress (mean 4.19 Mbit/s)
Flow 2 ingress (mean 4.11 Mbit/s)   Flow 2 egress (mean 4.10 Mbit/s)
Flow 3 ingress (mean 3.88 Mbit/s)   Flow 3 egress (mean 3.87 Mbit/s)

Flow 1 (95th percentile 137.47 ms)   Flow 2 (95th percentile 137.42 ms)   Flow 3 (95th percentile 137.44 ms)

```
Run 9: Statistics of KohoCC

Start at: 2017-09-01 03:28:26
End at: 2017-09-01 03:28:56

# Below is generated by plot.py at 2017-09-01 07:16:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.23 Mbit/s
95th percentile per-packet one-way delay: 137.463 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 4.22 Mbit/s
95th percentile per-packet one-way delay: 137.500 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 4.15 Mbit/s
95th percentile per-packet one-way delay: 137.459 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 3.87 Mbit/s
95th percentile per-packet one-way delay: 137.329 ms
Loss rate: 3.11%
```

Run 9: Report of KohoCC — Data Link

```
Run 10: Statistics of KohoCC

Start at: 2017-09-01 03:42:51
End at: 2017-09-01 03:43:21


# Below is generated by plot.py at 2017-09-01 07:16:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.20 Mbit/s
95th percentile per-packet one-way delay: 137.436 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 137.434 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 4.11 Mbit/s
95th percentile per-packet one-way delay: 137.476 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 137.387 ms
Loss rate: 3.11%
```
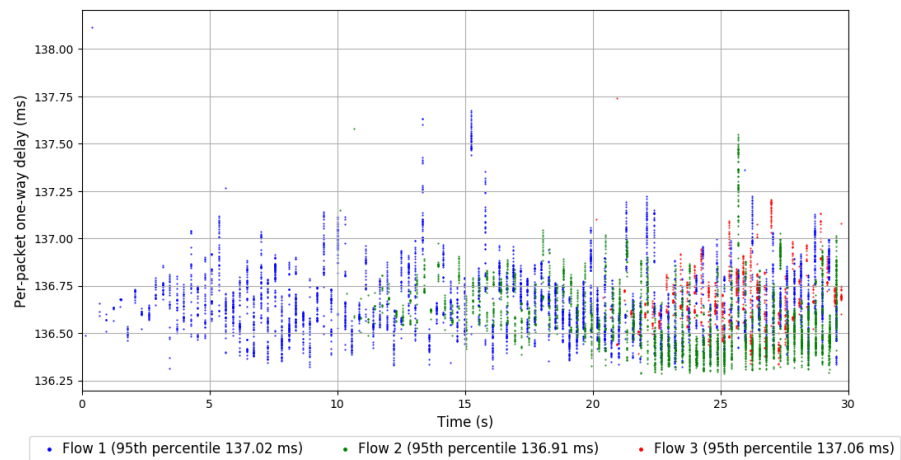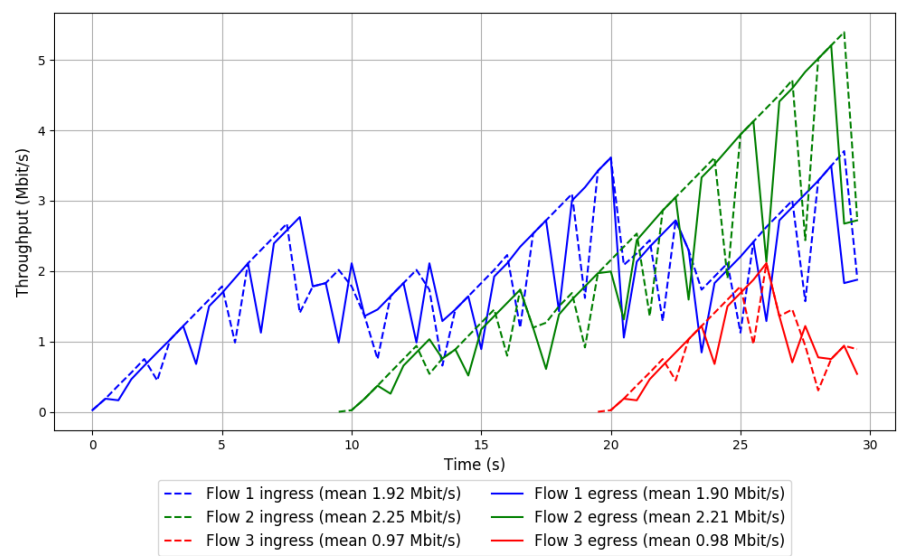
Run 10: Report of KohoCC — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2017-09-01 01:29:21
End at: 2017-09-01 01:29:51

# Below is generated by plot.py at 2017-09-01 07:16:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.43 Mbit/s
95th percentile per-packet one-way delay: 137.181 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 2.69 Mbit/s
95th percentile per-packet one-way delay: 137.211 ms
Loss rate: 1.33%
-- Flow 2:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 137.160 ms
Loss rate: 2.81%
-- Flow 3:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 137.109 ms
Loss rate: 5.61%
```
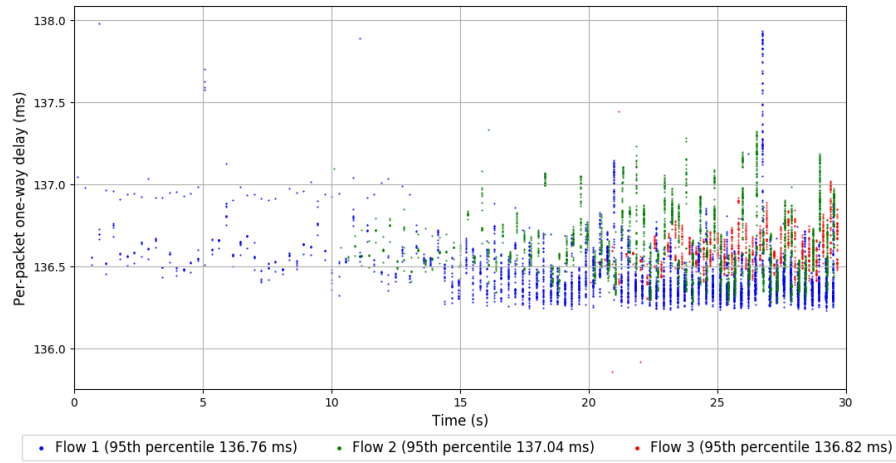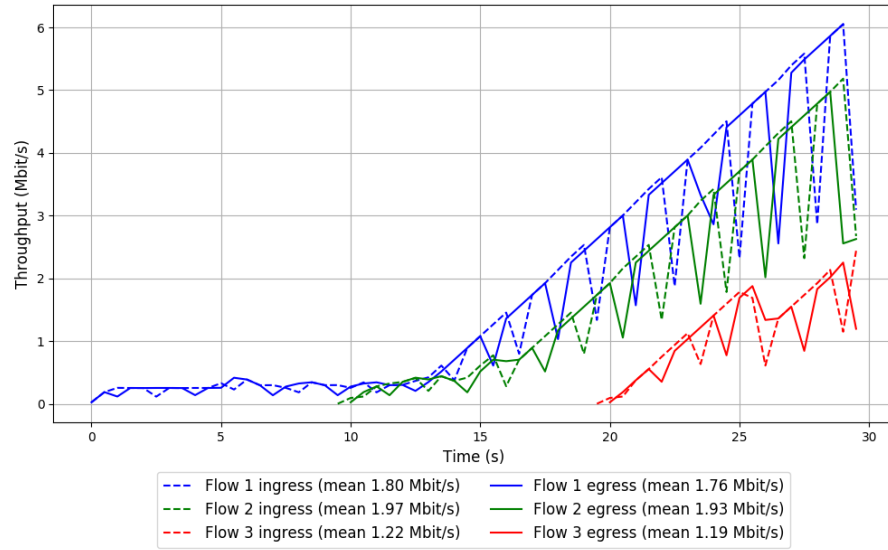
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2017-09-01 01:43:32
End at: 2017-09-01 01:44:02

# Below is generated by plot.py at 2017-09-01 07:16:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 137.034 ms
Loss rate: 2.45%
-- Flow 1:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 137.029 ms
Loss rate: 2.10%
-- Flow 2:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 137.116 ms
Loss rate: 2.82%
-- Flow 3:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 136.945 ms
Loss rate: 3.53%
```
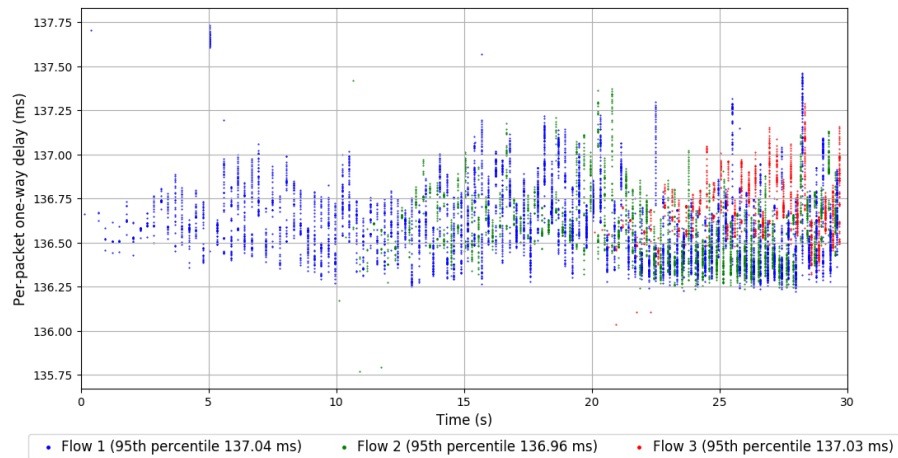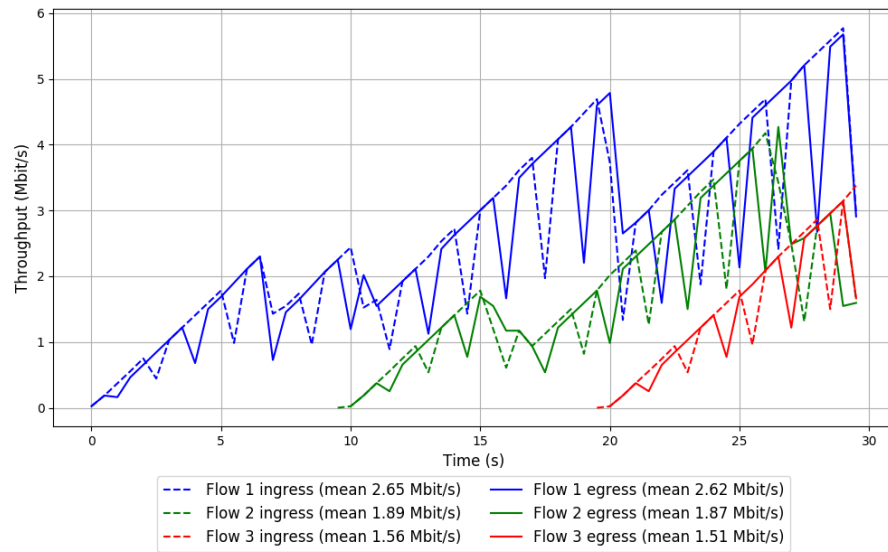
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2017-09-01 01:57:44
End at: 2017-09-01 01:58:14

# Below is generated by plot.py at 2017-09-01 07:16:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 136.979 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 137.018 ms
Loss rate: 1.71%
-- Flow 2:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 136.907 ms
Loss rate: 3.12%
-- Flow 3:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 137.057 ms
Loss rate: 1.84%
```

Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2017-09-01 02:11:43
End at: 2017-09-01 02:12:13


# Below is generated by plot.py at 2017-09-01 07:16:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.41 Mbit/s
95th percentile per-packet one-way delay: 136.947 ms
Loss rate: 3.37%
-- Flow 1:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 136.763 ms
Loss rate: 2.91%
-- Flow 2:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 137.039 ms
Loss rate: 3.44%
-- Flow 3:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 136.817 ms
Loss rate: 5.19%
```
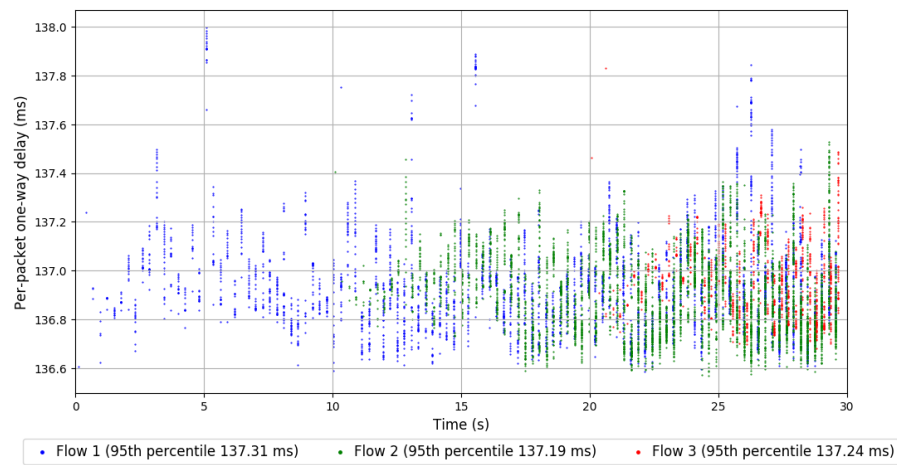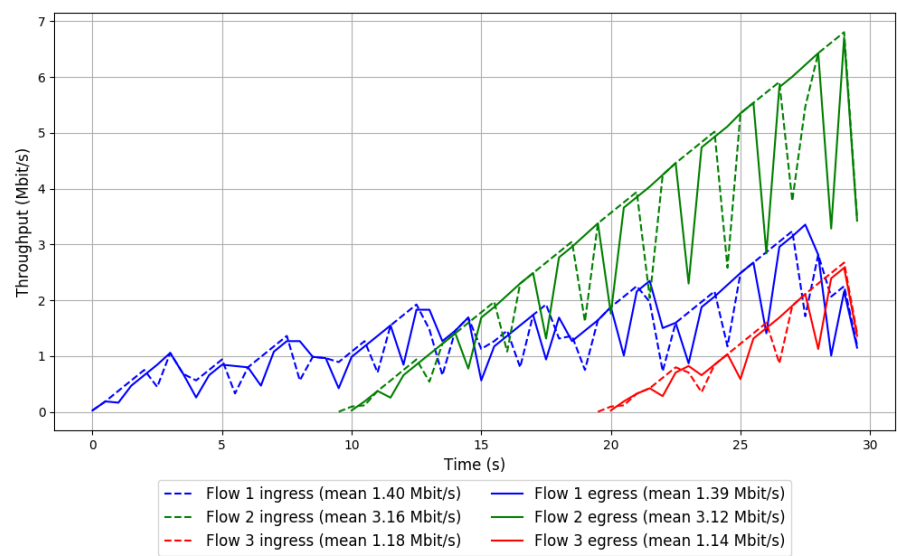
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2017-09-01 02:25:54
End at: 2017-09-01 02:26:24


# Below is generated by plot.py at 2017-09-01 07:16:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.34 Mbit/s
95th percentile per-packet one-way delay: 137.018 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 2.62 Mbit/s
95th percentile per-packet one-way delay: 137.040 ms
Loss rate: 1.88%
-- Flow 2:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 136.962 ms
Loss rate: 2.20%
-- Flow 3:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 137.034 ms
Loss rate: 5.57%
```
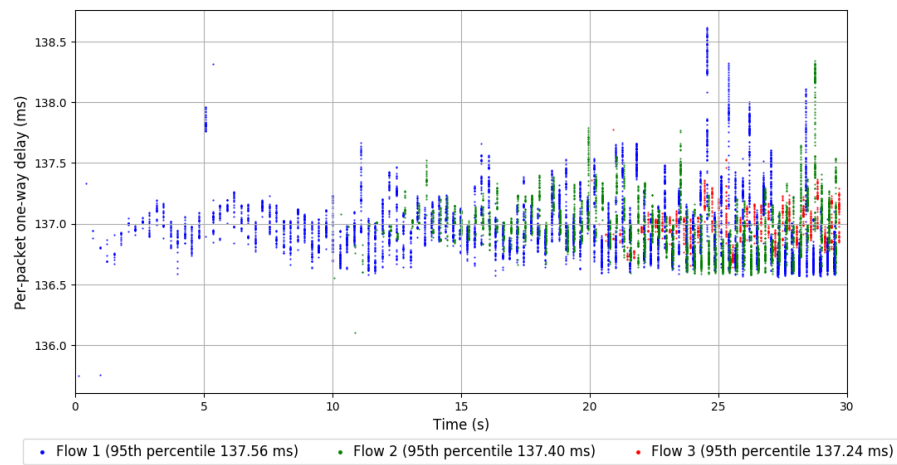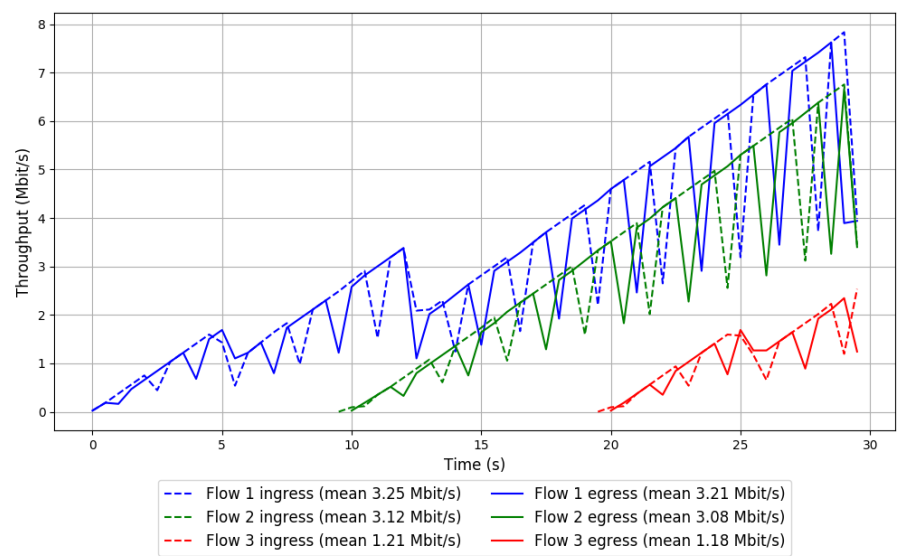
Run 5: Report of LEDBAT — Data Link

```
Run 6: Statistics of LEDBAT

Start at: 2017-09-01 02:39:59
End at: 2017-09-01 02:40:29

# Below is generated by plot.py at 2017-09-01 07:16:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.82 Mbit/s
95th percentile per-packet one-way delay: 137.230 ms
Loss rate: 2.64%
-- Flow 1:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 137.310 ms
Loss rate: 1.47%
-- Flow 2:
Average throughput: 3.12 Mbit/s
95th percentile per-packet one-way delay: 137.185 ms
Loss rate: 2.78%
-- Flow 3:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 137.236 ms
Loss rate: 6.05%
```
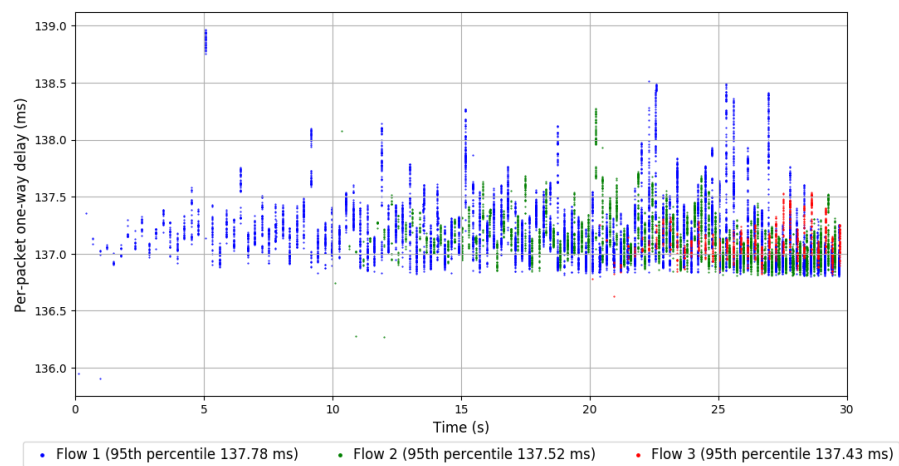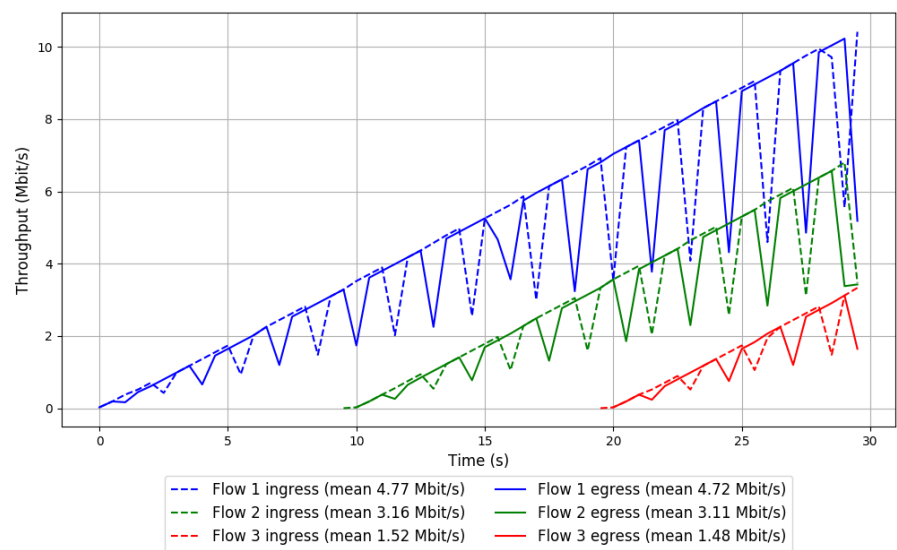
Run 6: Report of LEDBAT — Data Link

```
Run 7: Statistics of LEDBAT

Start at: 2017-09-01 02:54:03
End at: 2017-09-01 02:54:33

# Below is generated by plot.py at 2017-09-01 07:16:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.60 Mbit/s
95th percentile per-packet one-way delay: 137.479 ms
Loss rate: 2.57%
-- Flow 1:
Average throughput: 3.21 Mbit/s
95th percentile per-packet one-way delay: 137.559 ms
Loss rate: 2.07%
-- Flow 2:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 137.403 ms
Loss rate: 2.79%
-- Flow 3:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 137.243 ms
Loss rate: 5.40%
```
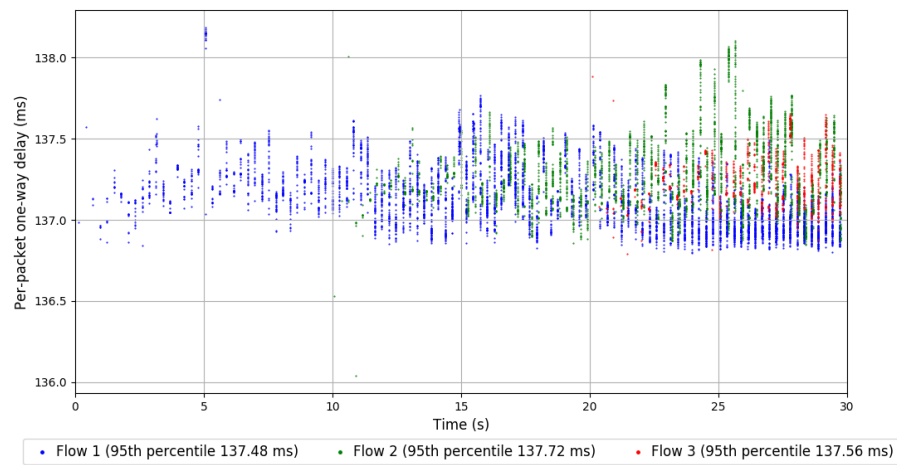
Run 7: Report of LEDBAT — Data Link

```
Run 8: Statistics of LEDBAT

Start at: 2017-09-01 03:08:10
End at: 2017-09-01 03:08:40

# Below is generated by plot.py at 2017-09-01 07:16:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.25 Mbit/s
95th percentile per-packet one-way delay: 137.674 ms
Loss rate: 2.37%
-- Flow 1:
Average throughput: 4.72 Mbit/s
95th percentile per-packet one-way delay: 137.782 ms
Loss rate: 1.84%
-- Flow 2:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 137.522 ms
Loss rate: 2.79%
-- Flow 3:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 137.426 ms
Loss rate: 5.61%
```
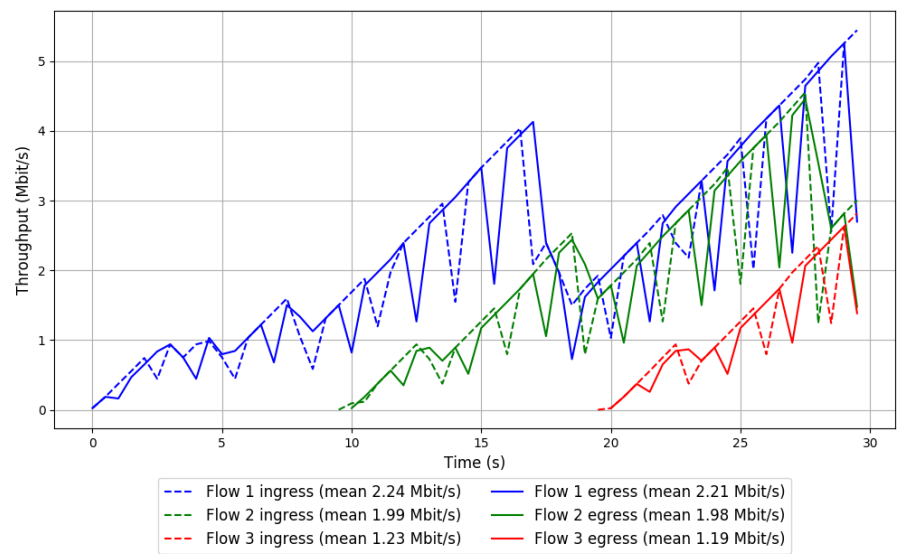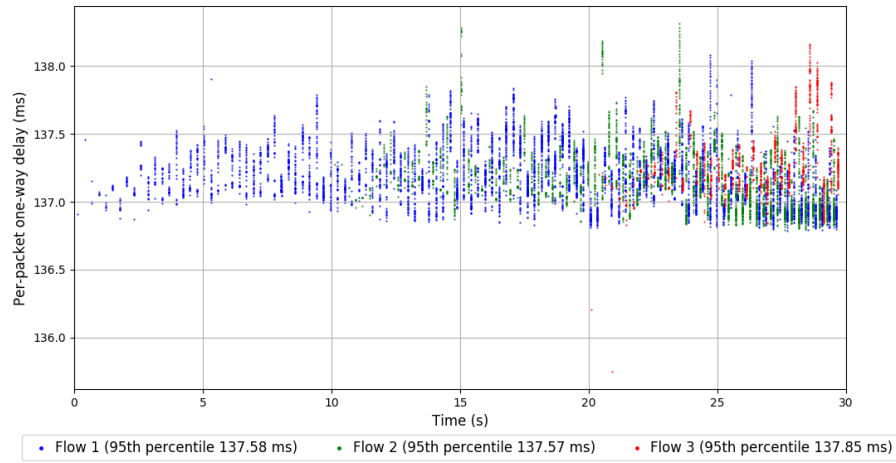
Run 8: Report of LEDBAT — Data Link

```
Run 9: Statistics of LEDBAT

Start at: 2017-09-01 03:22:14
End at: 2017-09-01 03:22:44

# Below is generated by plot.py at 2017-09-01 07:16:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.91 Mbit/s
95th percentile per-packet one-way delay: 137.576 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 137.484 ms
Loss rate: 2.05%
-- Flow 2:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 137.720 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 137.558 ms
Loss rate: 5.89%
```
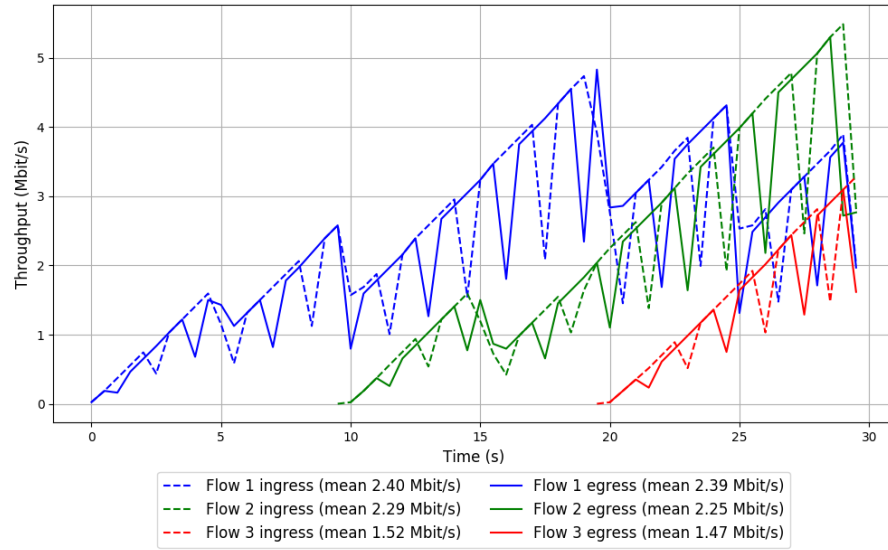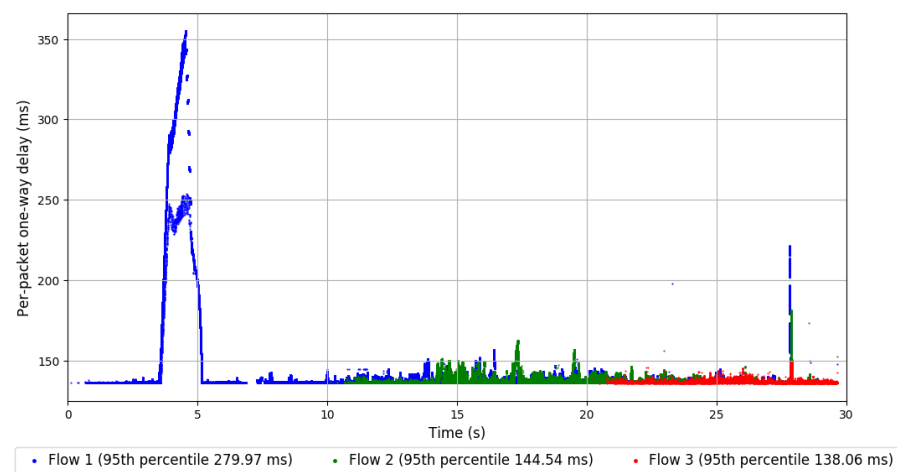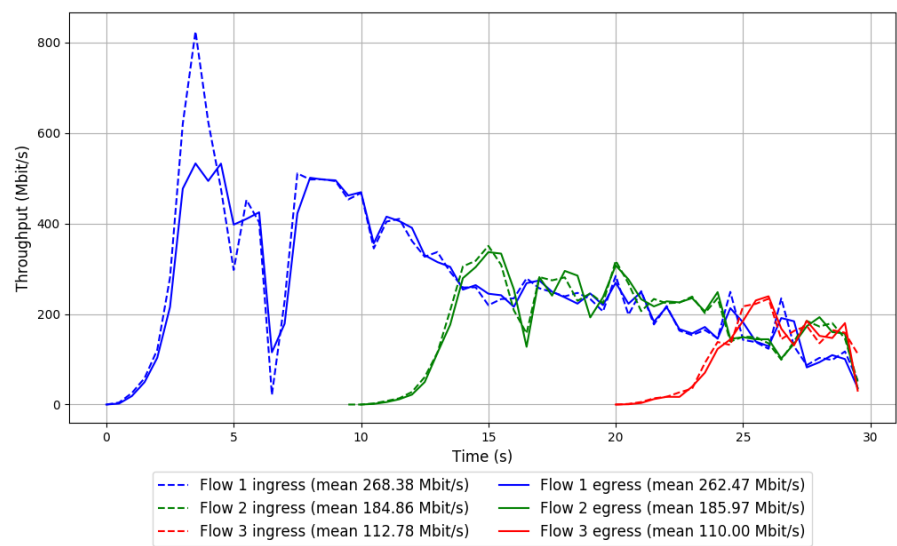
Run 9: Report of LEDBAT — Data Link

```
Run 10: Statistics of LEDBAT

Start at: 2017-09-01 03:36:24
End at: 2017-09-01 03:36:54

# Below is generated by plot.py at 2017-09-01 07:16:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.34 Mbit/s
95th percentile per-packet one-way delay: 137.612 ms
Loss rate: 2.47%
-- Flow 1:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 137.581 ms
Loss rate: 1.41%
-- Flow 2:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 137.566 ms
Loss rate: 3.13%
-- Flow 3:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 137.853 ms
Loss rate: 5.56%
```

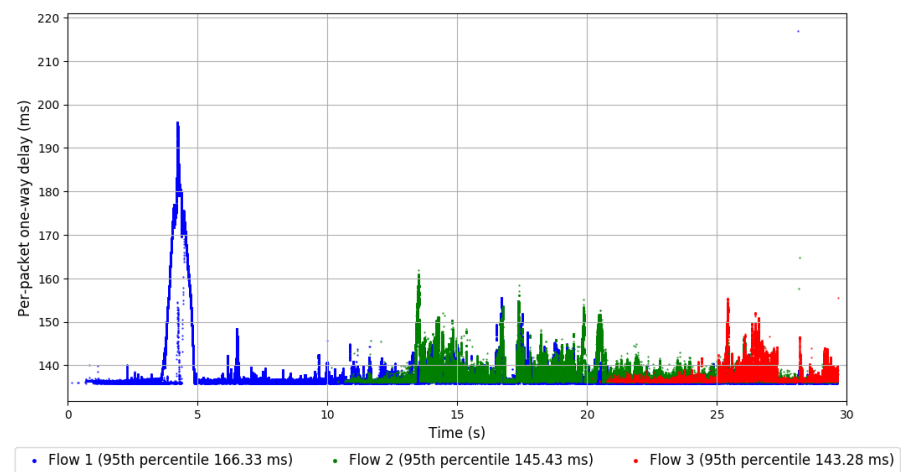## Run 10: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC

Start at: 2017-09-01 01:36:27
End at: 2017-09-01 01:36:57


# Below is generated by plot.py at 2017-09-01 07:17:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 420.58 Mbit/s
95th percentile per-packet one-way delay: 204.875 ms
Loss rate: 2.57%
-- Flow 1:
Average throughput: 262.47 Mbit/s
95th percentile per-packet one-way delay: 279.969 ms
Loss rate: 3.07%
-- Flow 2:
Average throughput: 185.97 Mbit/s
95th percentile per-packet one-way delay: 144.541 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 110.00 Mbit/s
95th percentile per-packet one-way delay: 138.057 ms
Loss rate: 5.17%
```

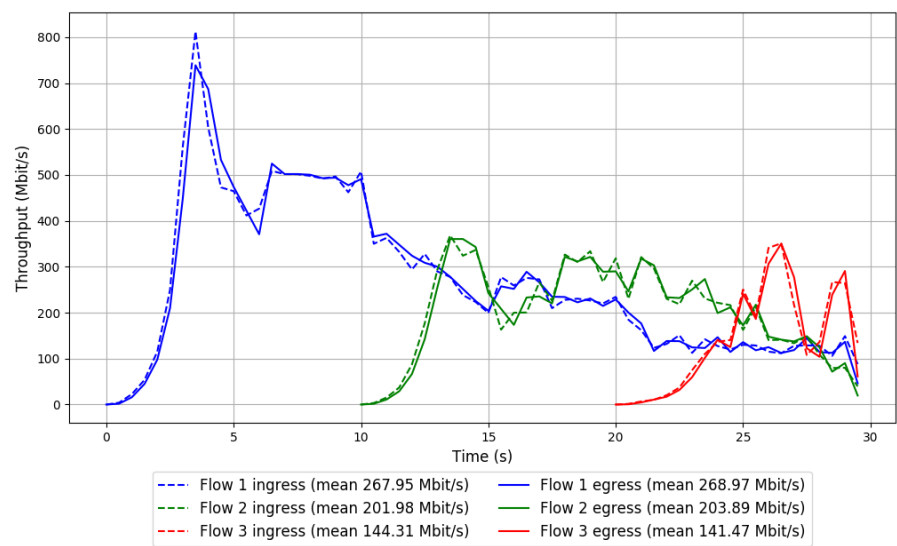# Run 1: Report of PCC — Data Link

```
Run 2: Statistics of PCC

Start at: 2017-09-01 01:50:40
End at: 2017-09-01 01:51:10


# Below is generated by plot.py at 2017-09-01 07:17:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 448.74 Mbit/s
95th percentile per-packet one-way delay: 151.800 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 268.97 Mbit/s
95th percentile per-packet one-way delay: 166.329 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 203.89 Mbit/s
95th percentile per-packet one-way delay: 145.428 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 141.47 Mbit/s
95th percentile per-packet one-way delay: 143.282 ms
Loss rate: 4.57%
```
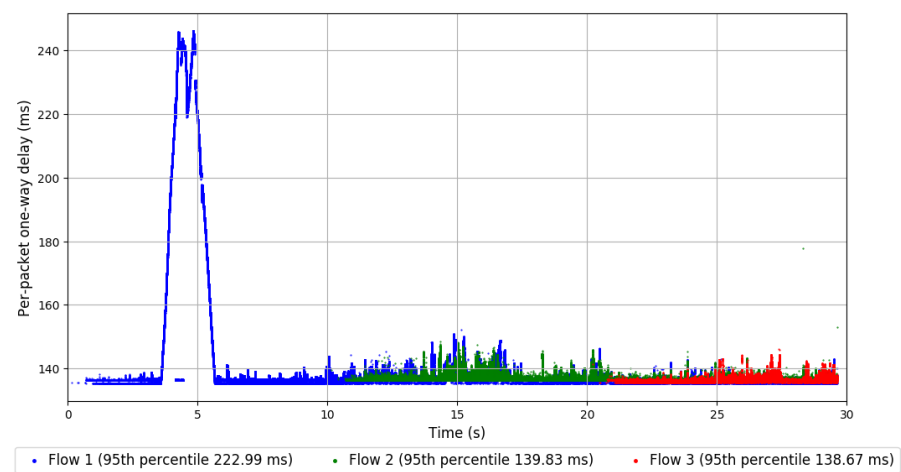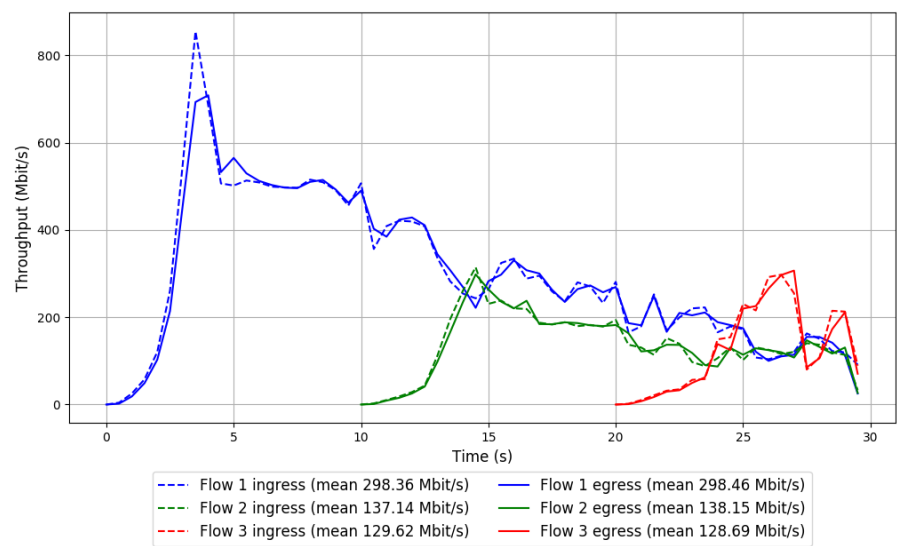
Run 2: Report of PCC — Data Link

- Flow 1 ingress (mean 267.95 Mbit/s)
- Flow 1 egress (mean 268.97 Mbit/s)
- Flow 2 ingress (mean 201.98 Mbit/s)
- Flow 2 egress (mean 203.89 Mbit/s)
- Flow 3 ingress (mean 144.31 Mbit/s)
- Flow 3 egress (mean 141.47 Mbit/s)

- Flow 1 (95th percentile 166.33 ms)
- Flow 2 (95th percentile 145.43 ms)
- Flow 3 (95th percentile 143.28 ms)

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```
Run 3: Statistics of PCC

Start at: 2017-09-01 02:04:41
End at: 2017-09-01 02:05:11


# Below is generated by plot.py at 2017-09-01 07:19:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 430.71 Mbit/s
95th percentile per-packet one-way delay: 204.949 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 298.46 Mbit/s
95th percentile per-packet one-way delay: 222.992 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 138.15 Mbit/s
95th percentile per-packet one-way delay: 139.832 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 128.69 Mbit/s
95th percentile per-packet one-way delay: 138.668 ms
Loss rate: 3.57%
```
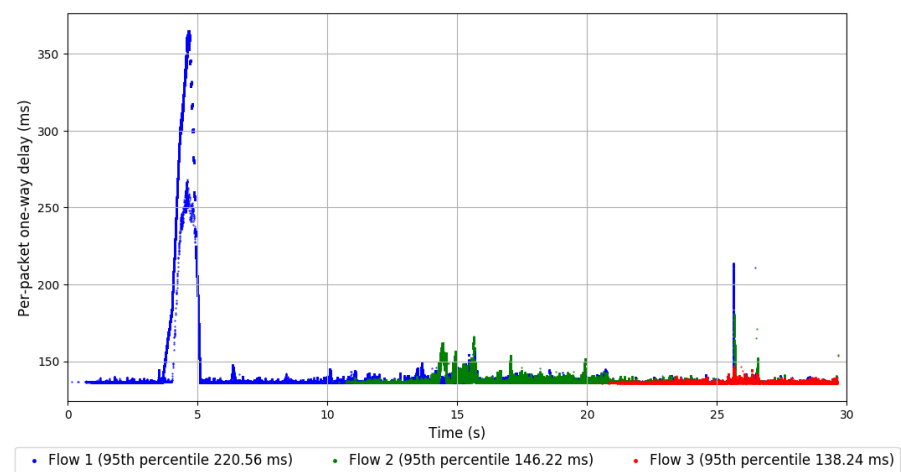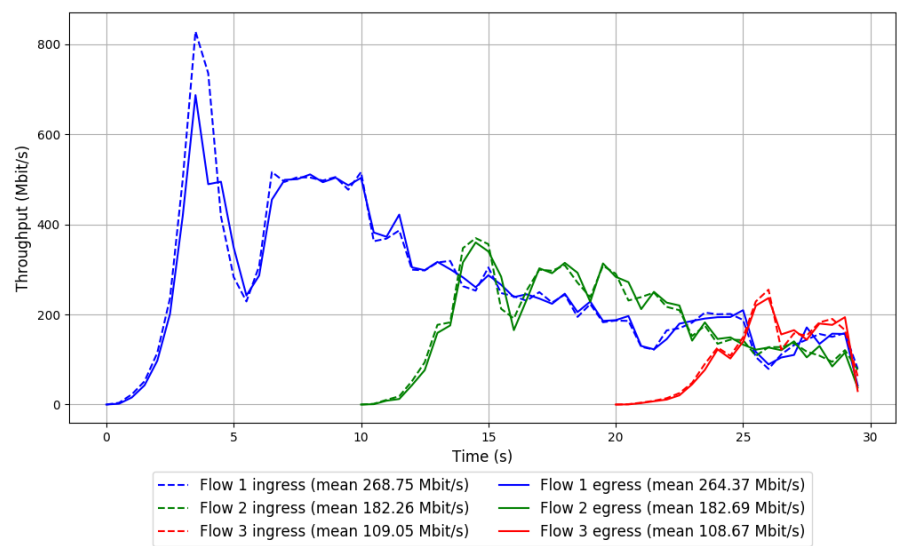
Run 3: Report of PCC — Data Link

Flow 1 ingress (mean 298.36 Mbit/s) — Flow 1 egress (mean 298.46 Mbit/s)
Flow 2 ingress (mean 137.14 Mbit/s) — Flow 2 egress (mean 138.15 Mbit/s)
Flow 3 ingress (mean 129.62 Mbit/s) — Flow 3 egress (mean 128.69 Mbit/s)

Flow 1 (95th percentile 222.99 ms)   Flow 2 (95th percentile 139.83 ms)   Flow 3 (95th percentile 138.67 ms)

```
Run 4: Statistics of PCC

Start at: 2017-09-01 02:18:48
End at: 2017-09-01 02:19:18

# Below is generated by plot.py at 2017-09-01 07:19:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 419.13 Mbit/s
95th percentile per-packet one-way delay: 167.692 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 264.37 Mbit/s
95th percentile per-packet one-way delay: 220.559 ms
Loss rate: 2.53%
-- Flow 2:
Average throughput: 182.69 Mbit/s
95th percentile per-packet one-way delay: 146.224 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 108.67 Mbit/s
95th percentile per-packet one-way delay: 138.242 ms
Loss rate: 3.02%
```
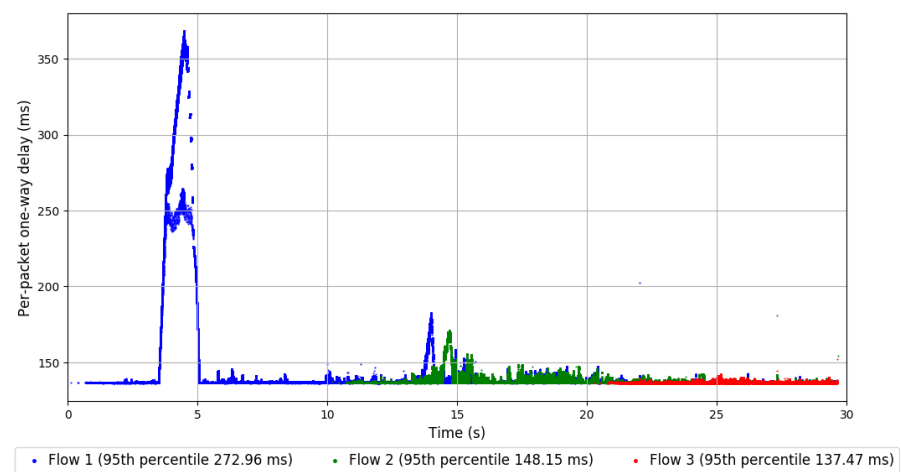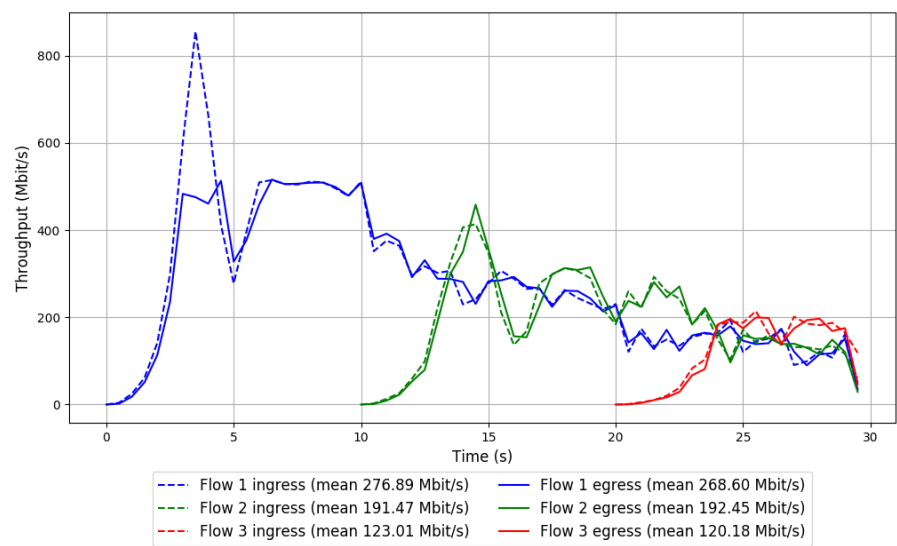
Run 4: Report of PCC — Data Link

Flow 1 ingress (mean 268.75 Mbit/s) ---- Flow 1 egress (mean 264.37 Mbit/s) ——
Flow 2 ingress (mean 182.26 Mbit/s) ---- Flow 2 egress (mean 182.69 Mbit/s) ——
Flow 3 ingress (mean 109.05 Mbit/s) ---- Flow 3 egress (mean 108.67 Mbit/s) ——

Flow 1 (95th percentile 220.56 ms)   • Flow 2 (95th percentile 146.22 ms)   • Flow 3 (95th percentile 138.24 ms)

```
Run 5: Statistics of PCC

Start at: 2017-09-01 02:32:54
End at: 2017-09-01 02:33:24

# Below is generated by plot.py at 2017-09-01 07:20:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 433.70 Mbit/s
95th percentile per-packet one-way delay: 191.572 ms
Loss rate: 3.10%
-- Flow 1:
Average throughput: 268.60 Mbit/s
95th percentile per-packet one-way delay: 272.957 ms
Loss rate: 3.88%
-- Flow 2:
Average throughput: 192.45 Mbit/s
95th percentile per-packet one-way delay: 148.154 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 120.18 Mbit/s
95th percentile per-packet one-way delay: 137.467 ms
Loss rate: 4.95%
```
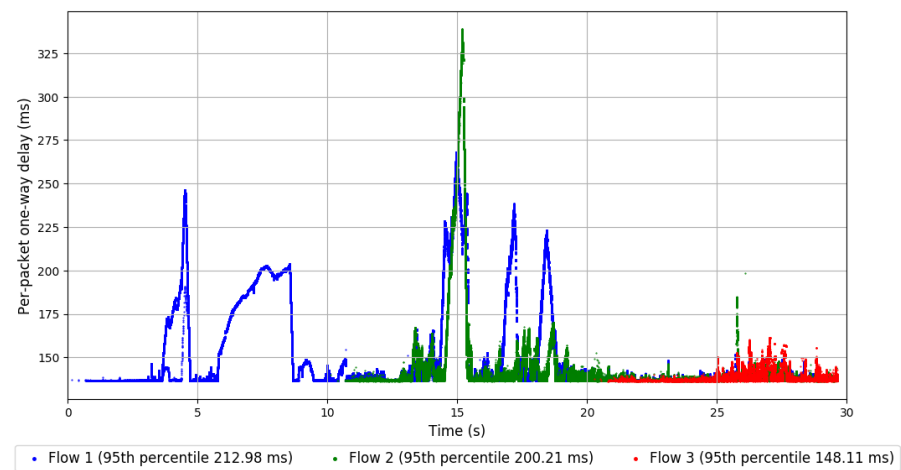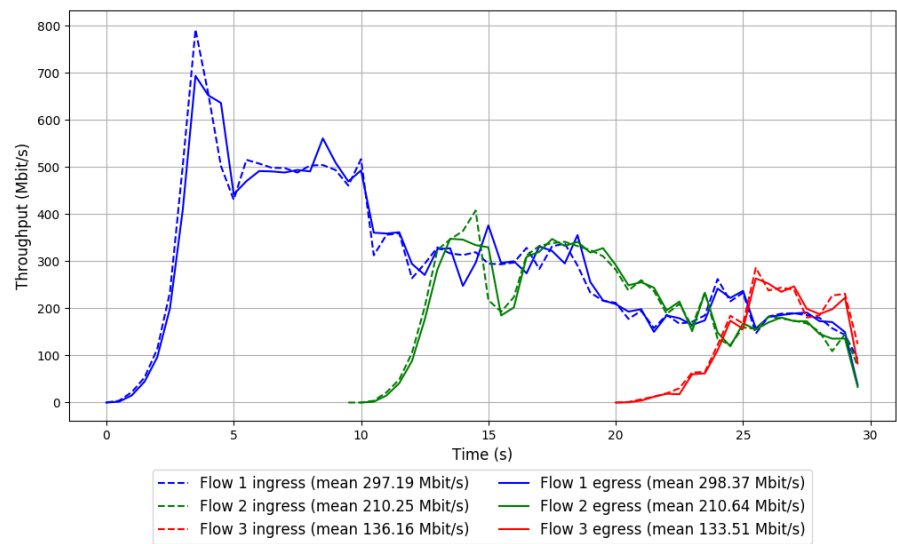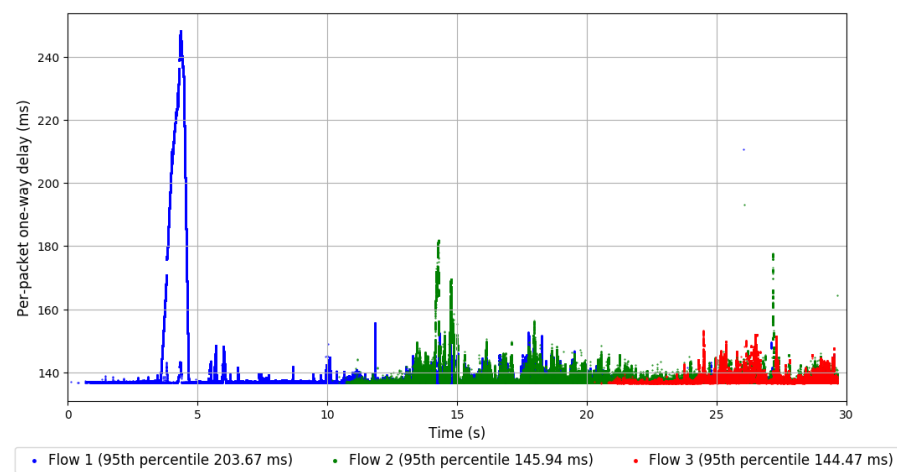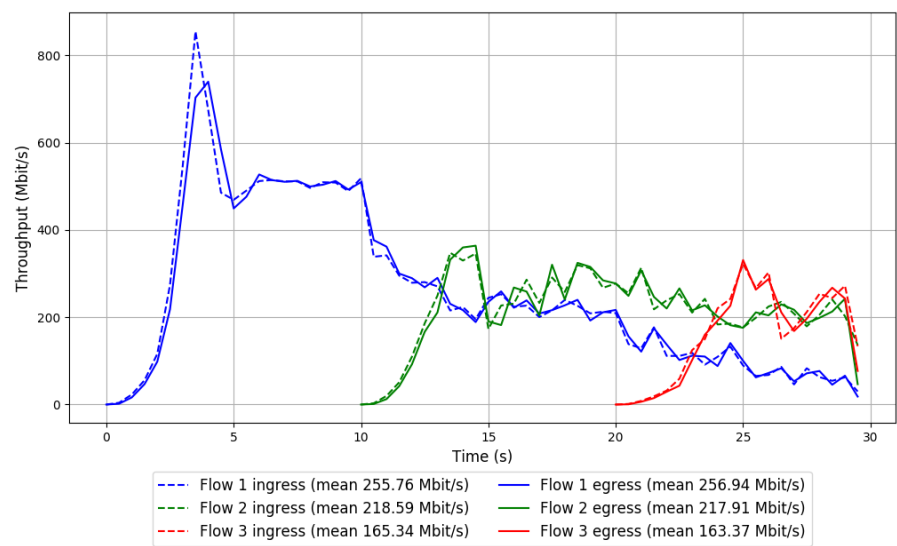
Run 5: Report of PCC — Data Link

Flow 1 ingress (mean 276.89 Mbit/s) — Flow 1 egress (mean 268.60 Mbit/s)
Flow 2 ingress (mean 191.47 Mbit/s) — Flow 2 egress (mean 192.45 Mbit/s)
Flow 3 ingress (mean 123.01 Mbit/s) — Flow 3 egress (mean 120.18 Mbit/s)

Flow 1 (95th percentile 272.96 ms)   Flow 2 (95th percentile 148.15 ms)   Flow 3 (95th percentile 137.47 ms)

```
Run 6: Statistics of PCC

Start at: 2017-09-01 02:46:57
End at: 2017-09-01 02:47:27


# Below is generated by plot.py at 2017-09-01 07:20:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 480.07 Mbit/s
95th percentile per-packet one-way delay: 207.130 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 298.37 Mbit/s
95th percentile per-packet one-way delay: 212.983 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 210.64 Mbit/s
95th percentile per-packet one-way delay: 200.209 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 133.51 Mbit/s
95th percentile per-packet one-way delay: 148.111 ms
Loss rate: 4.75%
```
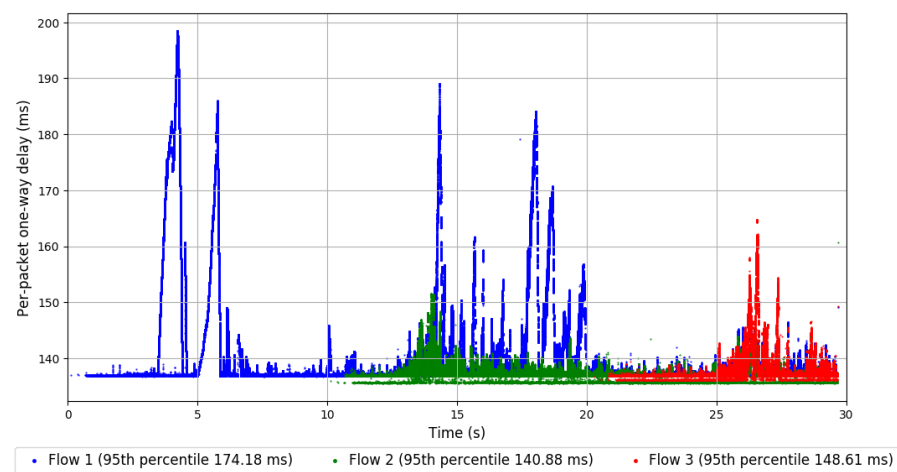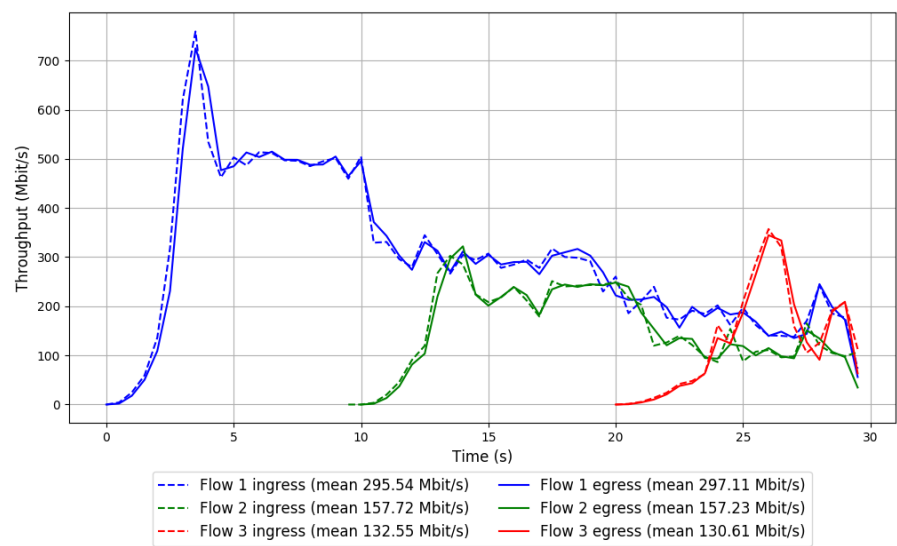
Run 6: Report of PCC — Data Link

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```
Run 7: Statistics of PCC

Start at: 2017-09-01 03:01:04
End at: 2017-09-01 03:01:34


# Below is generated by plot.py at 2017-09-01 07:22:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 452.34 Mbit/s
95th percentile per-packet one-way delay: 163.672 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 256.94 Mbit/s
95th percentile per-packet one-way delay: 203.670 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 217.91 Mbit/s
95th percentile per-packet one-way delay: 145.938 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 163.37 Mbit/s
95th percentile per-packet one-way delay: 144.470 ms
Loss rate: 4.20%
```
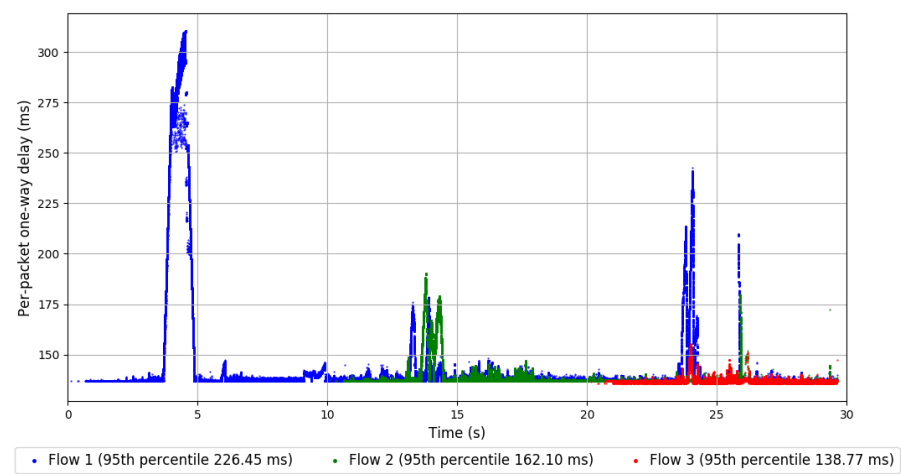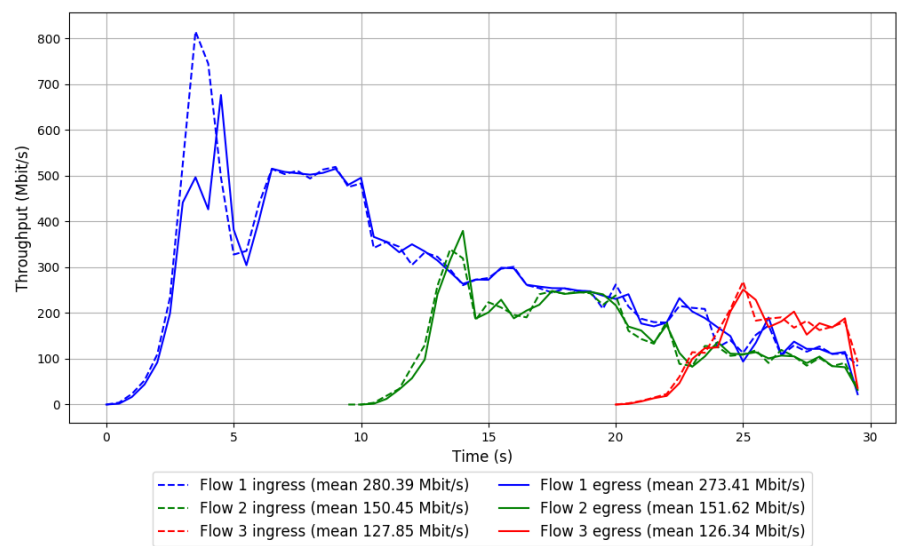
Run 7: Report of PCC — Data Link

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```
Run 8: Statistics of PCC

Start at: 2017-09-01 03:15:12
End at: 2017-09-01 03:15:42


# Below is generated by plot.py at 2017-09-01 07:22:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 442.58 Mbit/s
95th percentile per-packet one-way delay: 166.194 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 297.11 Mbit/s
95th percentile per-packet one-way delay: 174.175 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 157.23 Mbit/s
95th percentile per-packet one-way delay: 140.878 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 130.61 Mbit/s
95th percentile per-packet one-way delay: 148.609 ms
Loss rate: 4.14%
```
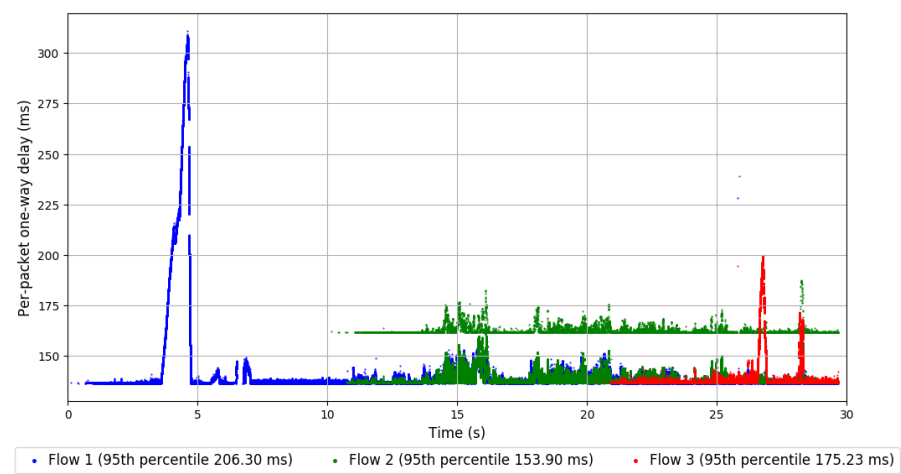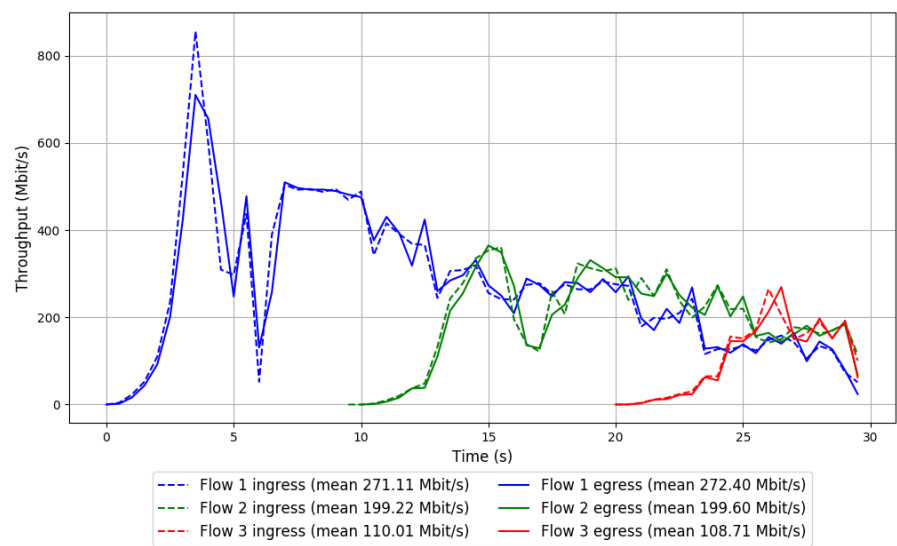
Run 8: Report of PCC — Data Link

```
Run 9: Statistics of PCC

Start at: 2017-09-01 03:29:16
End at: 2017-09-01 03:29:46


# Below is generated by plot.py at 2017-09-01 07:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 414.37 Mbit/s
95th percentile per-packet one-way delay: 176.674 ms
Loss rate: 2.79%
-- Flow 1:
Average throughput: 273.41 Mbit/s
95th percentile per-packet one-way delay: 226.450 ms
Loss rate: 3.42%
-- Flow 2:
Average throughput: 151.62 Mbit/s
95th percentile per-packet one-way delay: 162.105 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 126.34 Mbit/s
95th percentile per-packet one-way delay: 138.770 ms
Loss rate: 3.86%
```
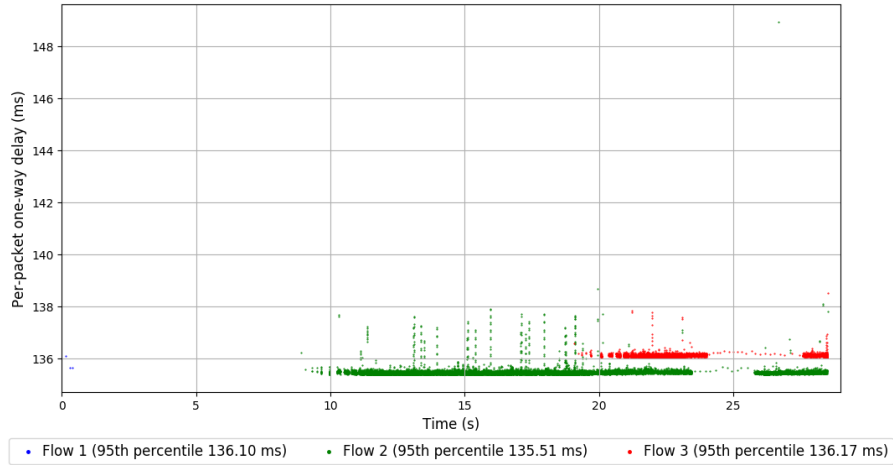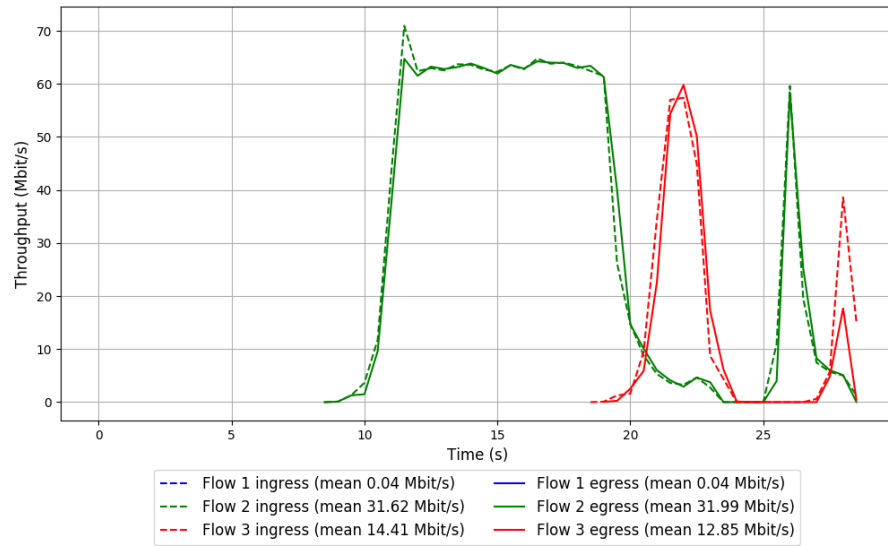
Run 9: Report of PCC — Data Link

- Flow 1 ingress (mean 280.39 Mbit/s)
- Flow 1 egress (mean 273.41 Mbit/s)
- Flow 2 ingress (mean 150.45 Mbit/s)
- Flow 2 egress (mean 151.62 Mbit/s)
- Flow 3 ingress (mean 127.85 Mbit/s)
- Flow 3 egress (mean 126.34 Mbit/s)

- Flow 1 (95th percentile 226.45 ms)
- Flow 2 (95th percentile 162.10 ms)
- Flow 3 (95th percentile 138.77 ms)

```
Run 10: Statistics of PCC

Start at: 2017-09-01 03:43:42
End at: 2017-09-01 03:44:12


# Below is generated by plot.py at 2017-09-01 07:23:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 438.63 Mbit/s
95th percentile per-packet one-way delay: 171.498 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 272.40 Mbit/s
95th percentile per-packet one-way delay: 206.297 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 199.60 Mbit/s
95th percentile per-packet one-way delay: 153.904 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 108.71 Mbit/s
95th percentile per-packet one-way delay: 175.230 ms
Loss rate: 4.00%
```
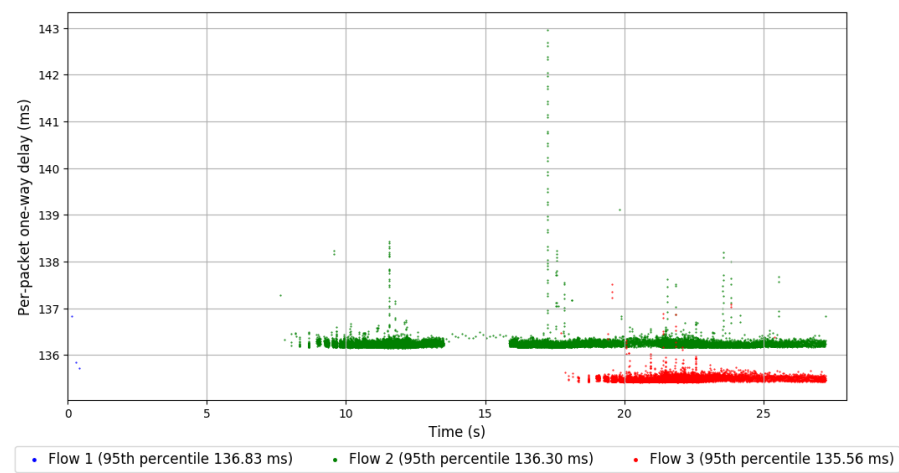
Run 10: Report of PCC — Data Link

Flow 1 ingress (mean 271.11 Mbit/s) — Flow 1 egress (mean 272.40 Mbit/s)
Flow 2 ingress (mean 199.22 Mbit/s) — Flow 2 egress (mean 199.60 Mbit/s)
Flow 3 ingress (mean 110.01 Mbit/s) — Flow 3 egress (mean 108.71 Mbit/s)

Flow 1 (95th percentile 206.30 ms)   Flow 2 (95th percentile 153.90 ms)   Flow 3 (95th percentile 175.23 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2017-09-01 01:31:00
End at: 2017-09-01 01:31:30


# Below is generated by plot.py at 2017-09-01 07:23:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 26.36 Mbit/s
95th percentile per-packet one-way delay: 136.112 ms
Loss rate: 2.59%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 136.098 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.99 Mbit/s
95th percentile per-packet one-way delay: 135.509 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 12.85 Mbit/s
95th percentile per-packet one-way delay: 136.170 ms
Loss rate: 13.29%
```
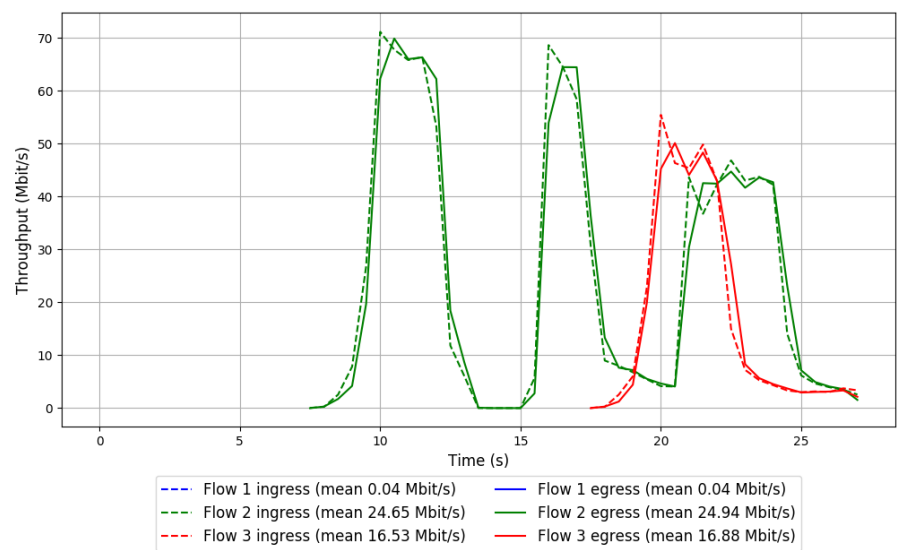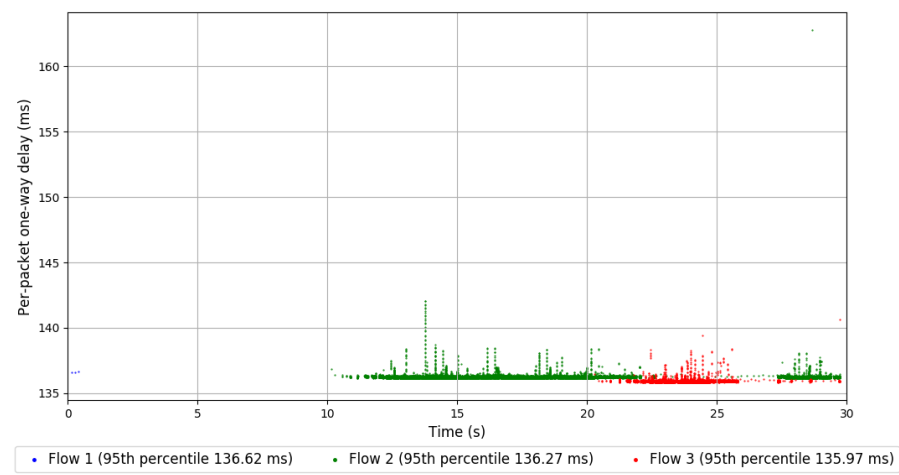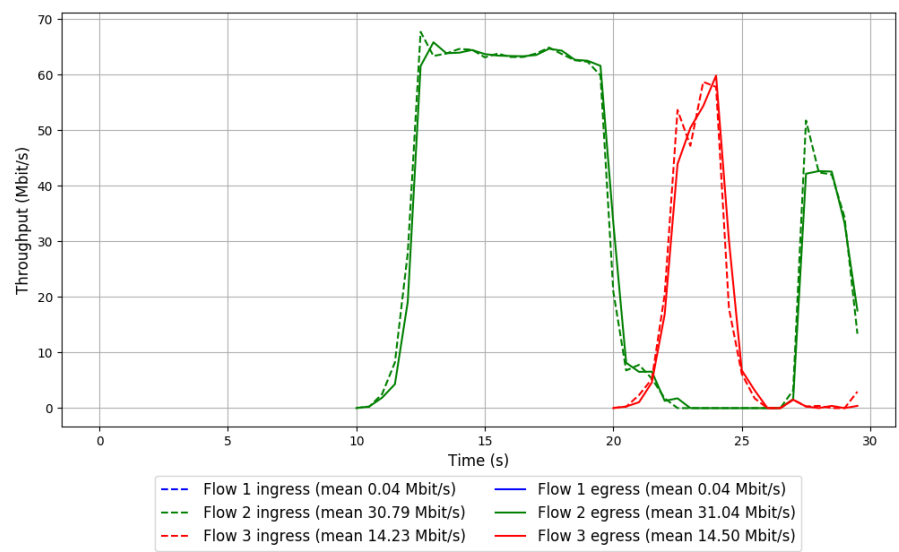
Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 0.04 Mbit/s)   Flow 1 egress (mean 0.04 Mbit/s)
Flow 2 ingress (mean 31.62 Mbit/s)   Flow 2 egress (mean 31.99 Mbit/s)
Flow 3 ingress (mean 14.41 Mbit/s)   Flow 3 egress (mean 12.85 Mbit/s)

Flow 1 (95th percentile 136.10 ms)   Flow 2 (95th percentile 135.51 ms)   Flow 3 (95th percentile 136.17 ms)

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```
Run 2: Statistics of QUIC Cubic

Start at: 2017-09-01 01:45:10
End at: 2017-09-01 01:45:40


# Below is generated by plot.py at 2017-09-01 07:23:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.95 Mbit/s
95th percentile per-packet one-way delay: 136.287 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 136.828 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.94 Mbit/s
95th percentile per-packet one-way delay: 136.298 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 16.88 Mbit/s
95th percentile per-packet one-way delay: 135.563 ms
Loss rate: 0.76%
```
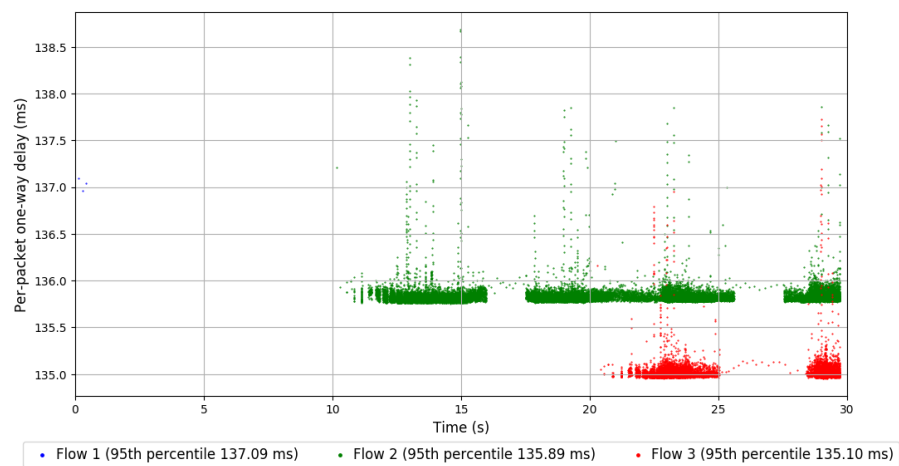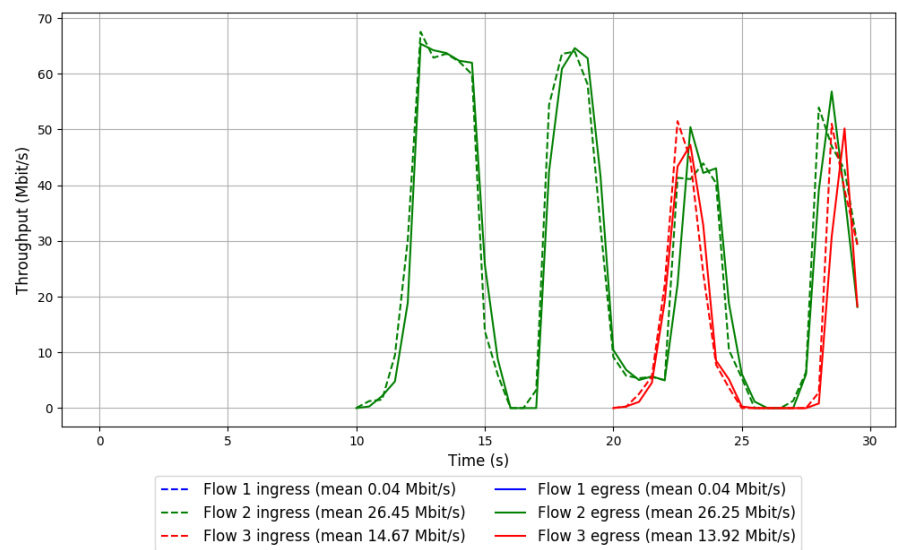
Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 0.04 Mbit/s)   Flow 1 egress (mean 0.04 Mbit/s)
Flow 2 ingress (mean 24.65 Mbit/s)   Flow 2 egress (mean 24.94 Mbit/s)
Flow 3 ingress (mean 16.53 Mbit/s)   Flow 3 egress (mean 16.88 Mbit/s)

Flow 1 (95th percentile 136.83 ms)   Flow 2 (95th percentile 136.30 ms)   Flow 3 (95th percentile 135.56 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2017-09-01 01:59:22
End at: 2017-09-01 01:59:52


# Below is generated by plot.py at 2017-09-01 07:23:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 25.17 Mbit/s
95th percentile per-packet one-way delay: 136.266 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 136.618 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.04 Mbit/s
95th percentile per-packet one-way delay: 136.272 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 14.50 Mbit/s
95th percentile per-packet one-way delay: 135.965 ms
Loss rate: 0.92%
```
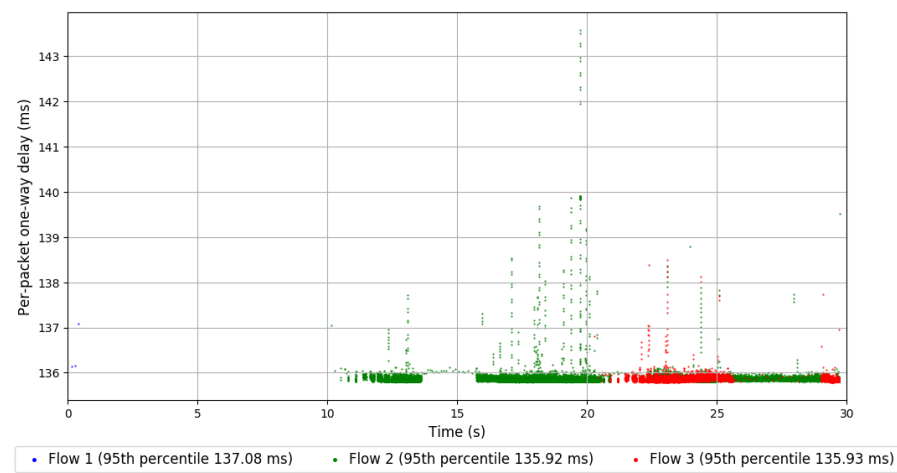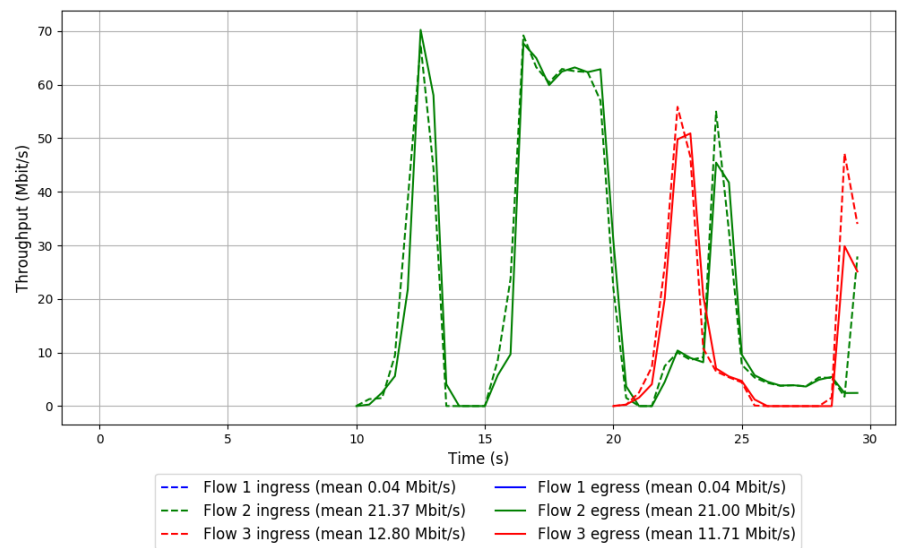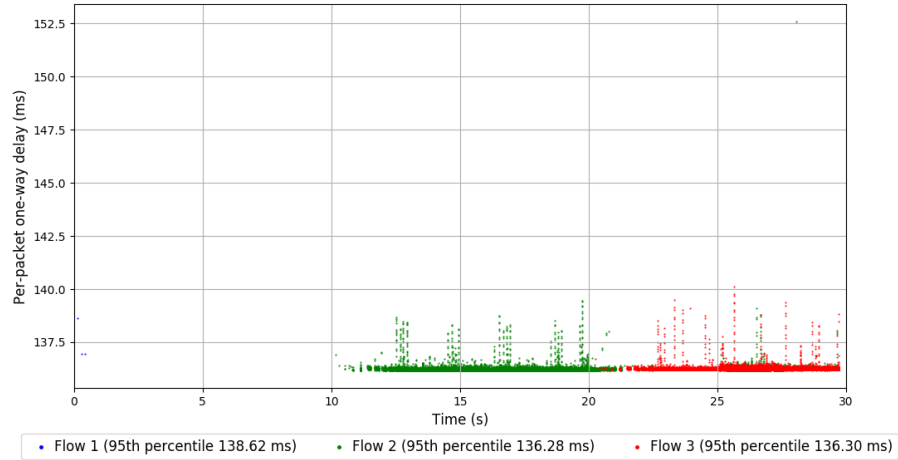
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 0.04 Mbit/s) --- Flow 1 egress (mean 0.04 Mbit/s) —
Flow 2 ingress (mean 30.79 Mbit/s) --- Flow 2 egress (mean 31.04 Mbit/s) —
Flow 3 ingress (mean 14.23 Mbit/s) --- Flow 3 egress (mean 14.50 Mbit/s) —

Flow 1 (95th percentile 136.62 ms) • Flow 2 (95th percentile 136.27 ms) • Flow 3 (95th percentile 135.97 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2017-09-01 02:13:21
End at: 2017-09-01 02:13:51

# Below is generated by plot.py at 2017-09-01 07:23:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.78 Mbit/s
95th percentile per-packet one-way delay: 135.878 ms
Loss rate: 3.35%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 137.092 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 26.25 Mbit/s
95th percentile per-packet one-way delay: 135.887 ms
Loss rate: 2.14%
-- Flow 3:
Average throughput: 13.92 Mbit/s
95th percentile per-packet one-way delay: 135.104 ms
Loss rate: 7.82%
```
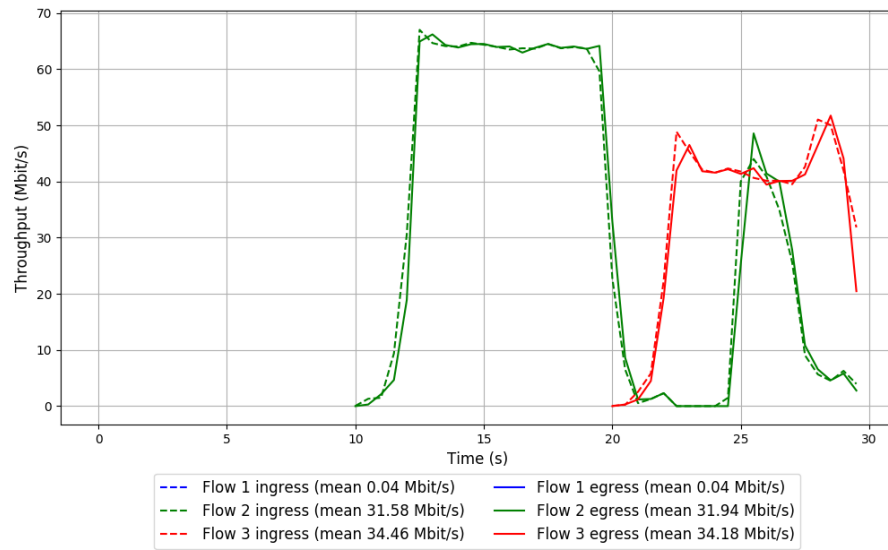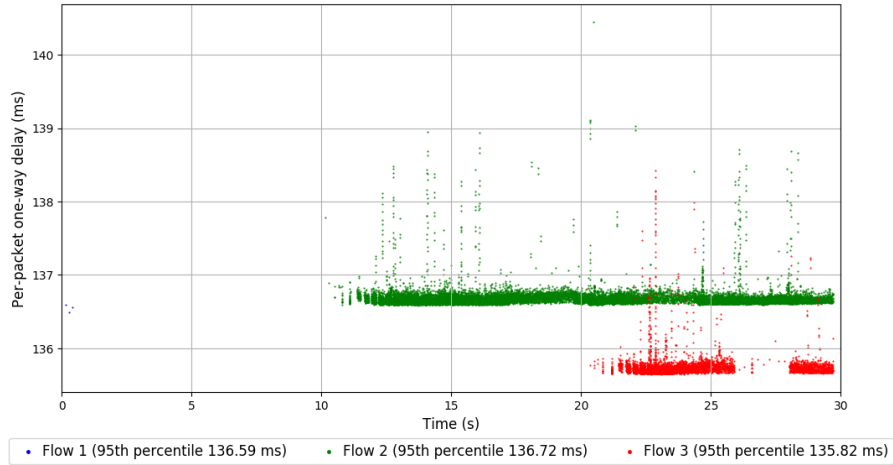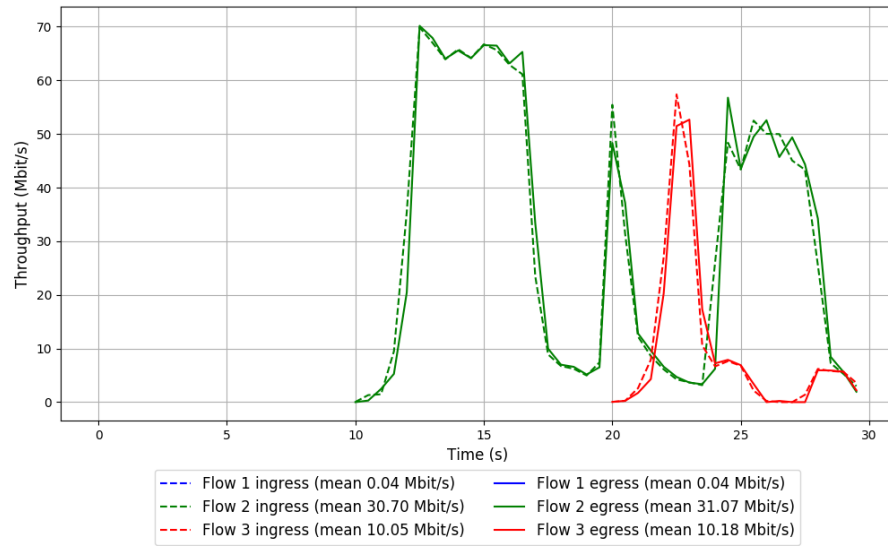
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 0.04 Mbit/s) --- Flow 1 egress (mean 0.04 Mbit/s)
Flow 2 ingress (mean 26.45 Mbit/s) --- Flow 2 egress (mean 26.25 Mbit/s)
Flow 3 ingress (mean 14.67 Mbit/s) --- Flow 3 egress (mean 13.92 Mbit/s)

Flow 1 (95th percentile 137.09 ms) Flow 2 (95th percentile 135.89 ms) Flow 3 (95th percentile 135.10 ms)

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```
Run 5: Statistics of QUIC Cubic

Start at: 2017-09-01 02:27:32
End at: 2017-09-01 02:28:02


# Below is generated by plot.py at 2017-09-01 07:23:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.63 Mbit/s
95th percentile per-packet one-way delay: 135.924 ms
Loss rate: 4.91%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 137.079 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.00 Mbit/s
95th percentile per-packet one-way delay: 135.922 ms
Loss rate: 3.08%
-- Flow 3:
Average throughput: 11.71 Mbit/s
95th percentile per-packet one-way delay: 135.931 ms
Loss rate: 11.16%
```
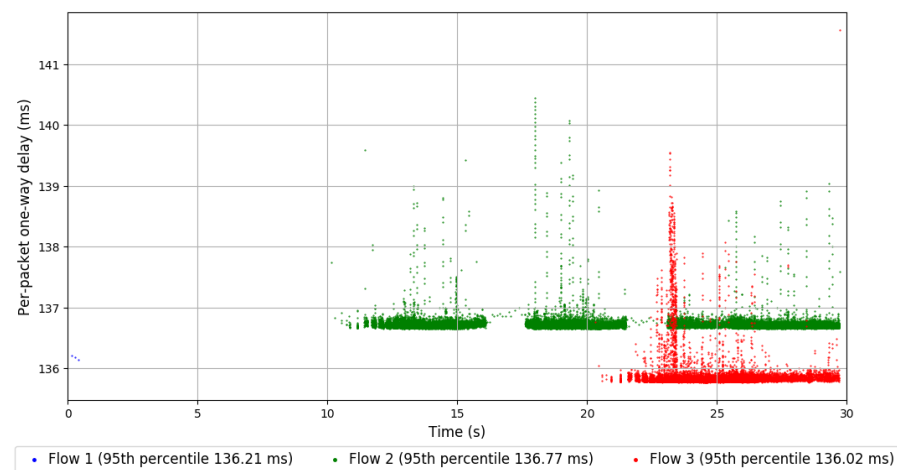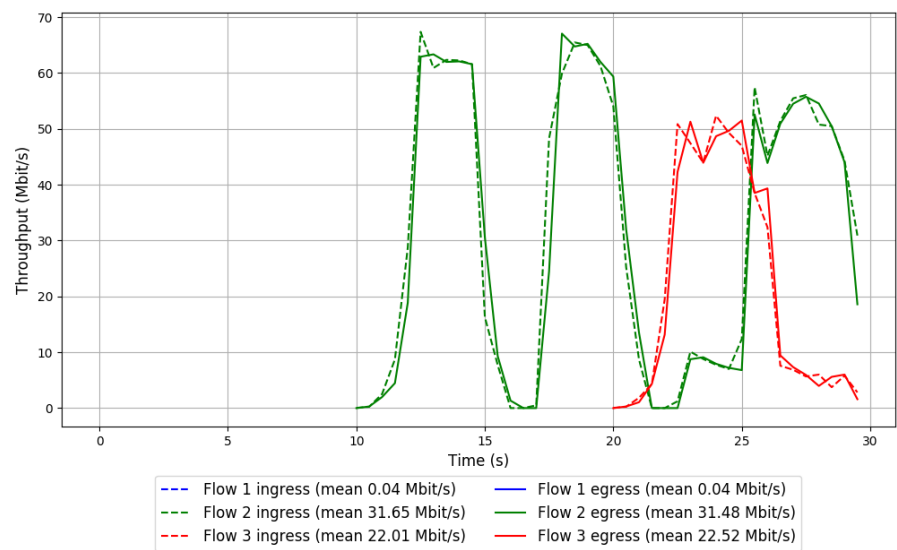
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 0.04 Mbit/s) --- Flow 1 egress (mean 0.04 Mbit/s)
Flow 2 ingress (mean 21.37 Mbit/s) --- Flow 2 egress (mean 21.00 Mbit/s)
Flow 3 ingress (mean 12.80 Mbit/s) --- Flow 3 egress (mean 11.71 Mbit/s)

Flow 1 (95th percentile 137.08 ms)   Flow 2 (95th percentile 135.92 ms)   Flow 3 (95th percentile 135.93 ms)

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```
Run 6: Statistics of QUIC Cubic

Start at: 2017-09-01 02:41:37
End at: 2017-09-01 02:42:07


# Below is generated by plot.py at 2017-09-01 07:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 32.04 Mbit/s
95th percentile per-packet one-way delay: 136.287 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 138.621 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.94 Mbit/s
95th percentile per-packet one-way delay: 136.277 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 34.18 Mbit/s
95th percentile per-packet one-way delay: 136.298 ms
Loss rate: 3.59%
```
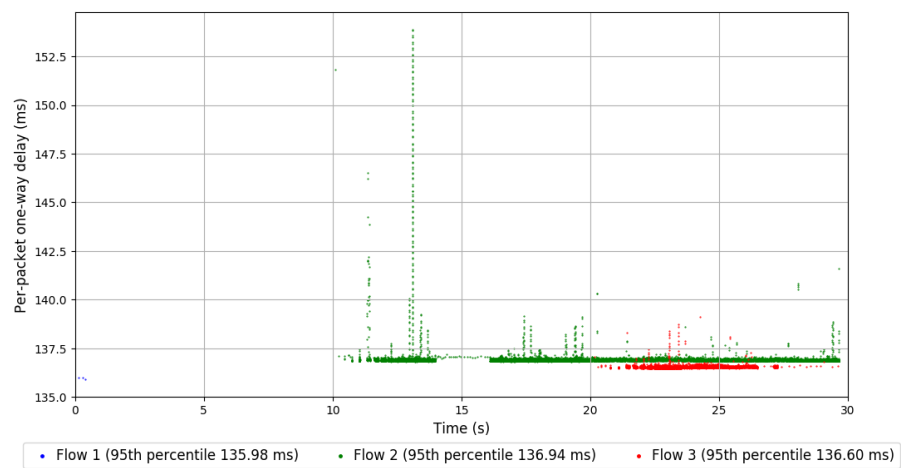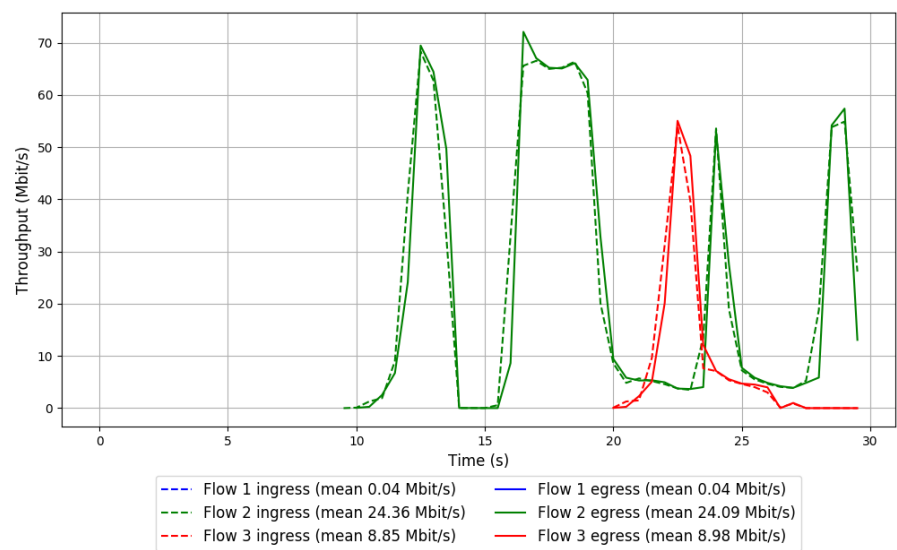
Run 6: Report of QUIC Cubic — Data Link

```
Run 7: Statistics of QUIC Cubic

Start at: 2017-09-01 02:55:42
End at: 2017-09-01 02:56:12


# Below is generated by plot.py at 2017-09-01 07:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 23.81 Mbit/s
95th percentile per-packet one-way delay: 136.714 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 136.592 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.07 Mbit/s
95th percentile per-packet one-way delay: 136.720 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 10.18 Mbit/s
95th percentile per-packet one-way delay: 135.816 ms
Loss rate: 1.46%
```
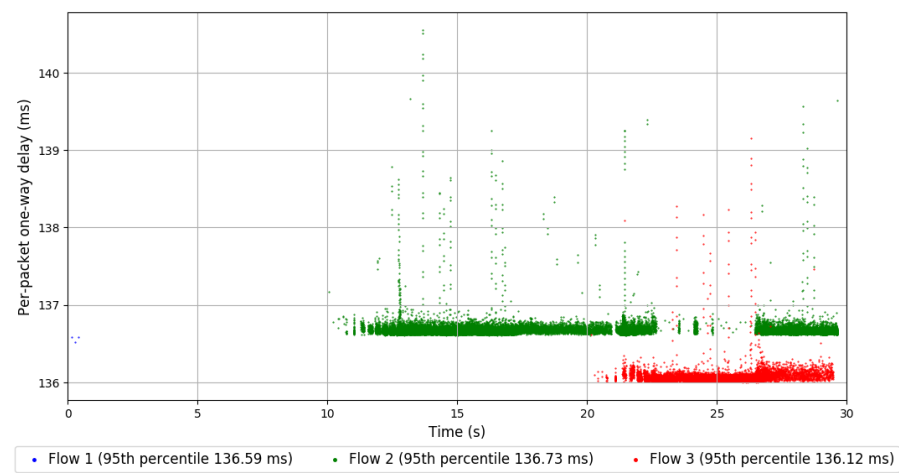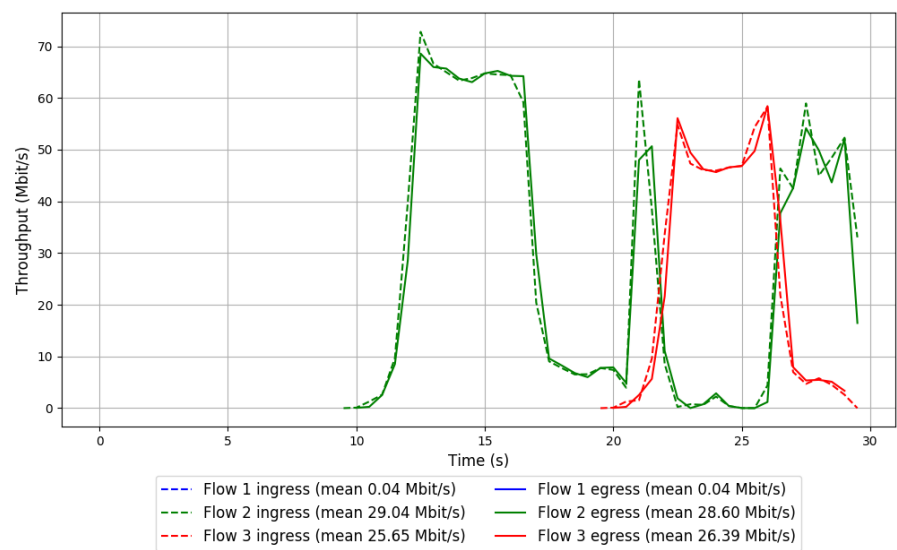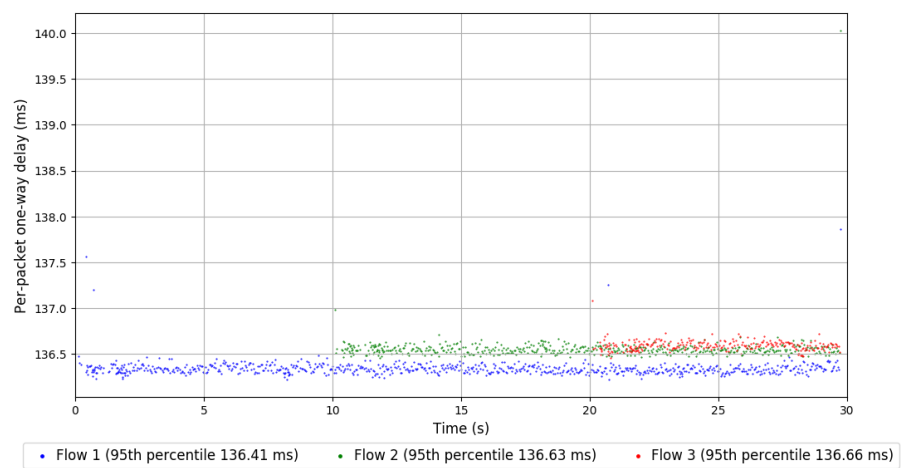
Run 7: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 0.04 Mbit/s) --- Flow 1 egress (mean 0.04 Mbit/s)
Flow 2 ingress (mean 30.70 Mbit/s) --- Flow 2 egress (mean 31.07 Mbit/s)
Flow 3 ingress (mean 10.05 Mbit/s) --- Flow 3 egress (mean 10.18 Mbit/s)

Flow 1 (95th percentile 136.59 ms)   Flow 2 (95th percentile 136.72 ms)   Flow 3 (95th percentile 135.82 ms)

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```
Run 8: Statistics of QUIC Cubic

Start at: 2017-09-01 03:09:49
End at: 2017-09-01 03:10:19


# Below is generated by plot.py at 2017-09-01 07:24:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 28.00 Mbit/s
95th percentile per-packet one-way delay: 136.767 ms
Loss rate: 1.57%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 136.213 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.48 Mbit/s
95th percentile per-packet one-way delay: 136.774 ms
Loss rate: 1.92%
-- Flow 3:
Average throughput: 22.52 Mbit/s
95th percentile per-packet one-way delay: 136.023 ms
Loss rate: 0.52%
```
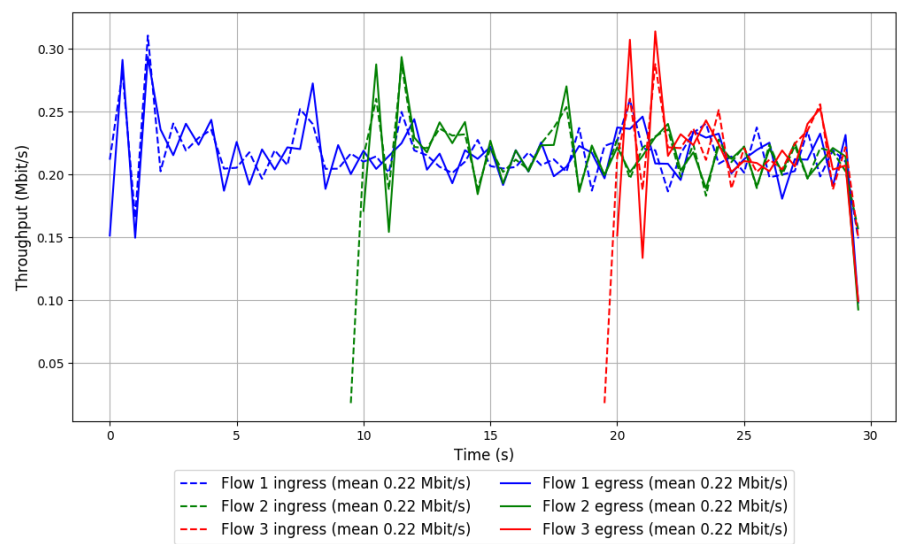
Run 8: Report of QUIC Cubic — Data Link
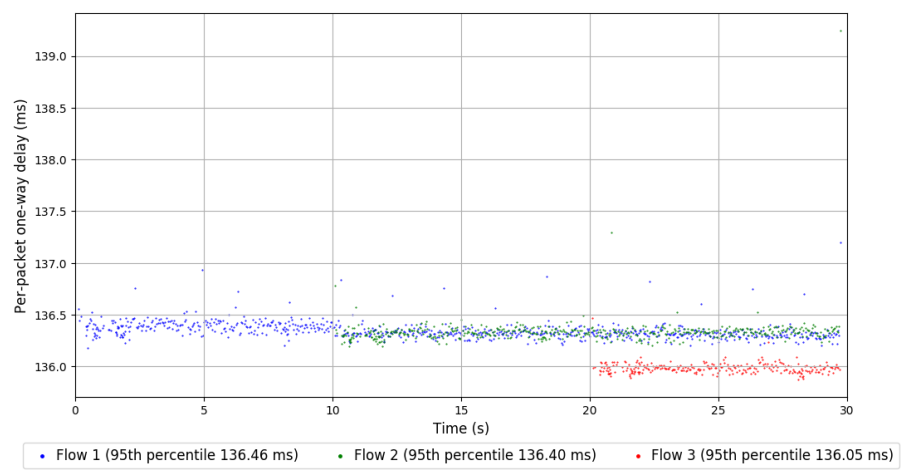
```
Run 9: Statistics of QUIC Cubic

Start at: 2017-09-01 03:23:53
End at: 2017-09-01 03:24:23

# Below is generated by plot.py at 2017-09-01 07:24:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.83 Mbit/s
95th percentile per-packet one-way delay: 136.936 ms
Loss rate: 2.17%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 135.981 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.09 Mbit/s
95th percentile per-packet one-way delay: 136.942 ms
Loss rate: 2.55%
-- Flow 3:
Average throughput: 8.98 Mbit/s
95th percentile per-packet one-way delay: 136.604 ms
Loss rate: 0.00%
```
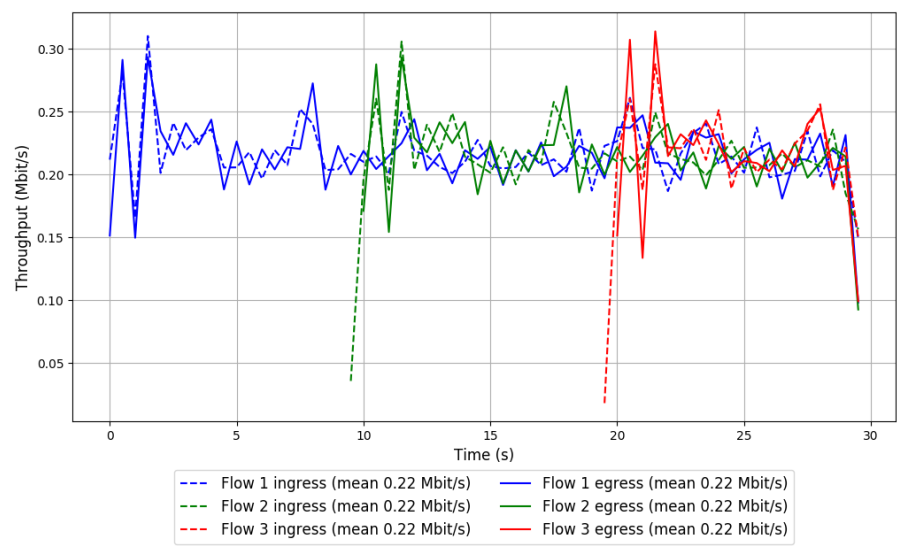
Run 9: Report of QUIC Cubic — Data Link

- - - - Flow 1 ingress (mean 0.04 Mbit/s)   —— Flow 1 egress (mean 0.04 Mbit/s)
- - - - Flow 2 ingress (mean 24.36 Mbit/s)   —— Flow 2 egress (mean 24.09 Mbit/s)
- - - - Flow 3 ingress (mean 8.85 Mbit/s)   —— Flow 3 egress (mean 8.98 Mbit/s)

- Flow 1 (95th percentile 135.98 ms)   • Flow 2 (95th percentile 136.94 ms)   • Flow 3 (95th percentile 136.60 ms)

```
Run 10: Statistics of QUIC Cubic

Start at: 2017-09-01 03:38:05
End at: 2017-09-01 03:38:35


# Below is generated by plot.py at 2017-09-01 07:24:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 27.33 Mbit/s
95th percentile per-packet one-way delay: 136.712 ms
Loss rate: 2.02%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 136.588 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 28.60 Mbit/s
95th percentile per-packet one-way delay: 136.726 ms
Loss rate: 2.88%
-- Flow 3:
Average throughput: 26.39 Mbit/s
95th percentile per-packet one-way delay: 136.118 ms
Loss rate: 0.00%
```
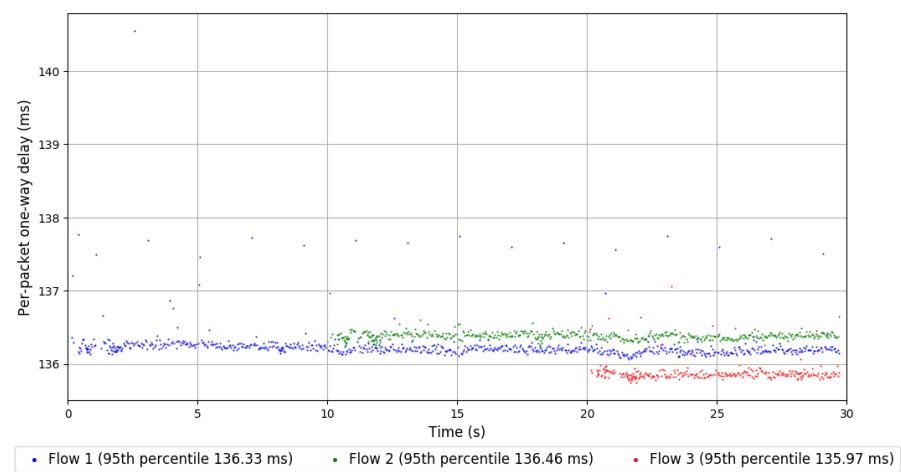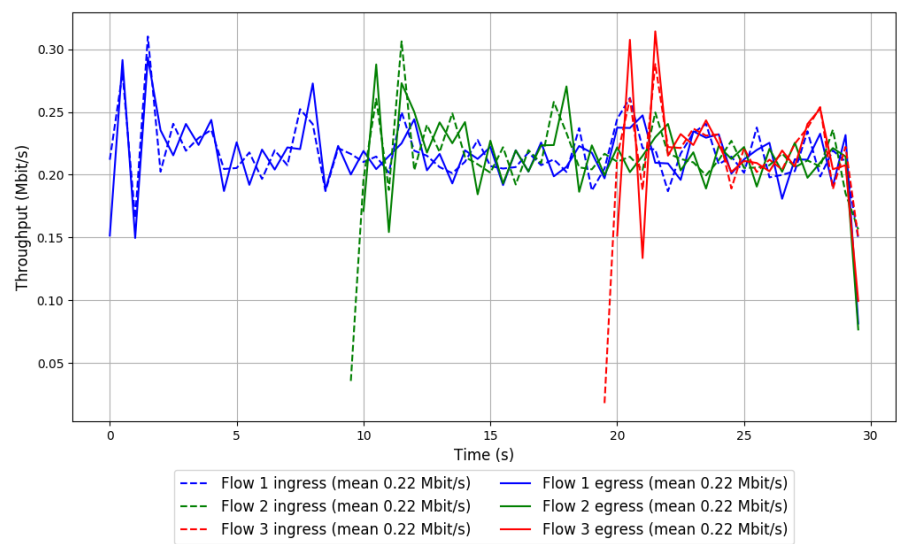
Run 10: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2017-09-01 01:33:59
End at: 2017-09-01 01:34:29

# Below is generated by plot.py at 2017-09-01 07:24:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.628 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.414 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.627 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.664 ms
Loss rate: 2.63%
```
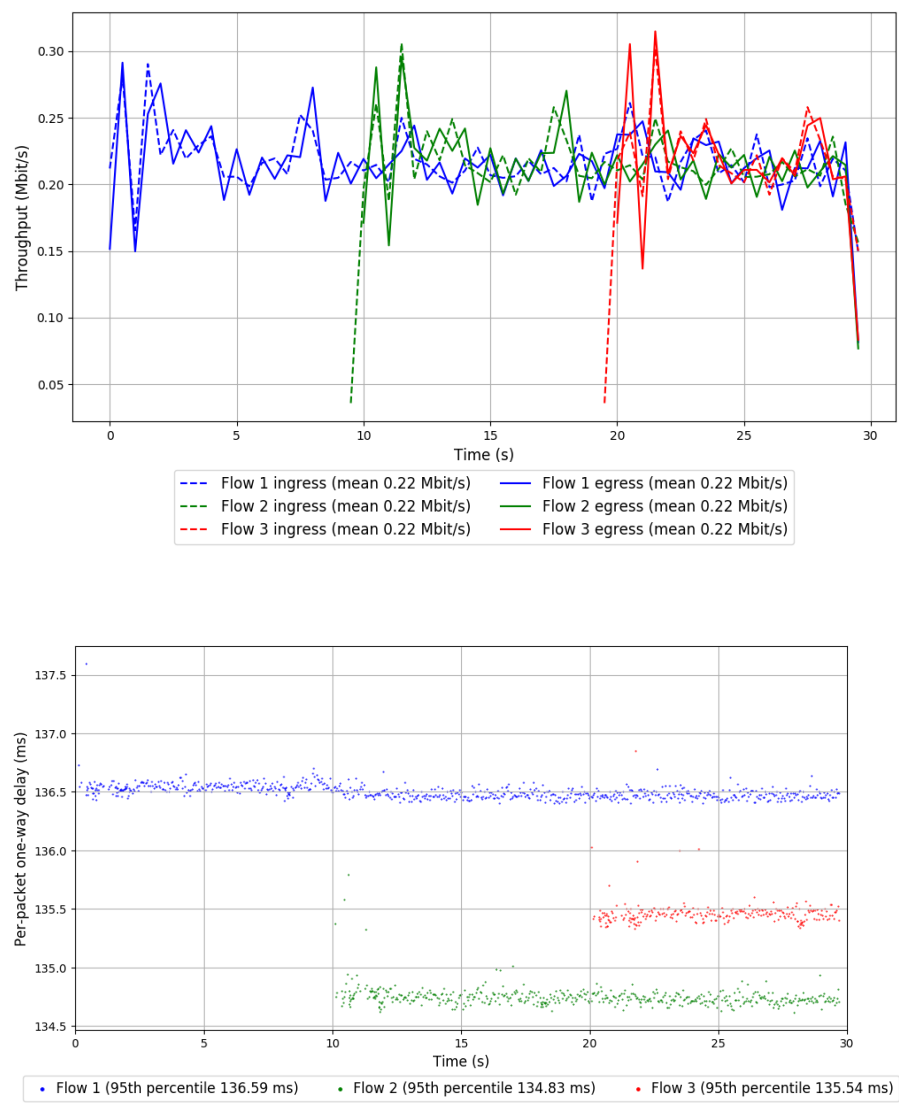
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2017-09-01 01:48:12
End at: 2017-09-01 01:48:42

# Below is generated by plot.py at 2017-09-01 07:24:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.436 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.459 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.397 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.049 ms
Loss rate: 2.63%
```
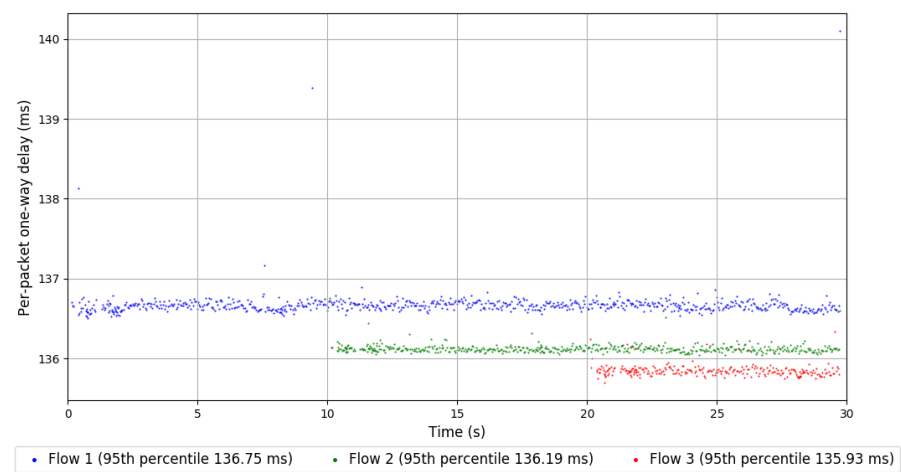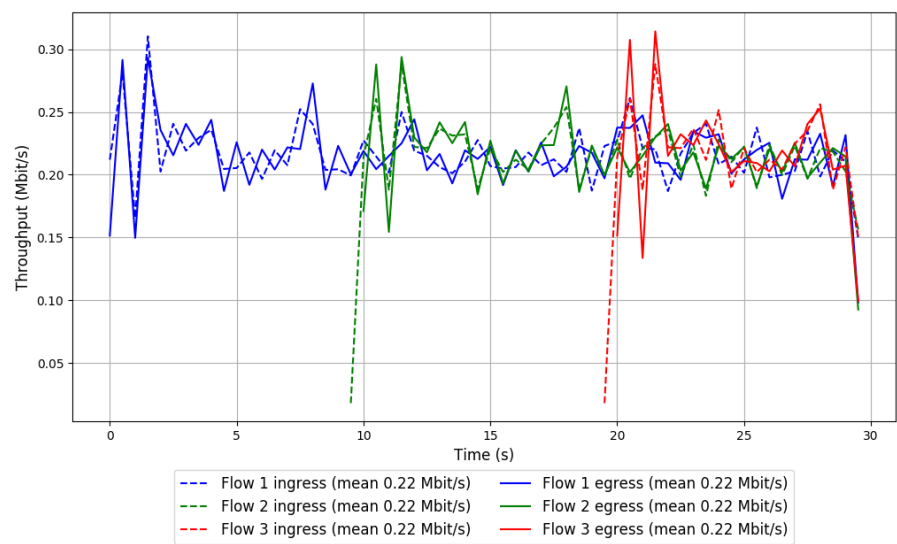
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2017-09-01 02:02:13
End at: 2017-09-01 02:02:43

# Below is generated by plot.py at 2017-09-01 07:24:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.444 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.330 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.456 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.969 ms
Loss rate: 2.63%
```
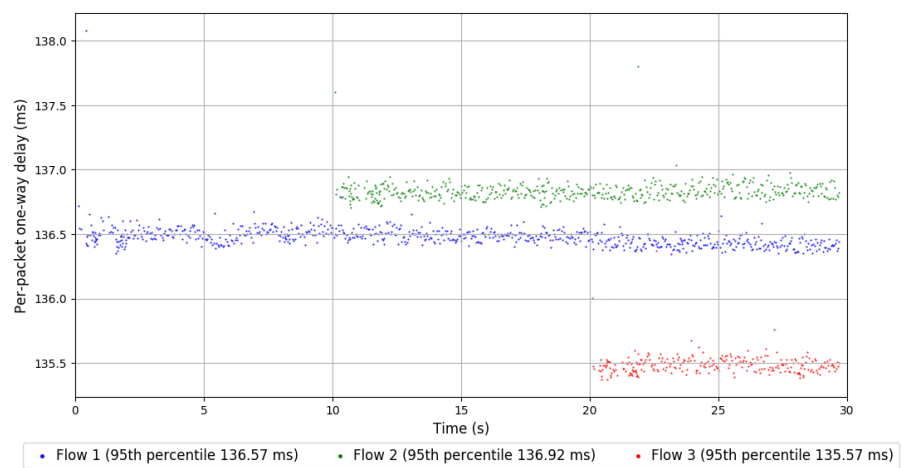
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2017-09-01 02:16:20
End at: 2017-09-01 02:16:50

# Below is generated by plot.py at 2017-09-01 07:24:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.572 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.588 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 134.829 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.537 ms
Loss rate: 2.63%
```
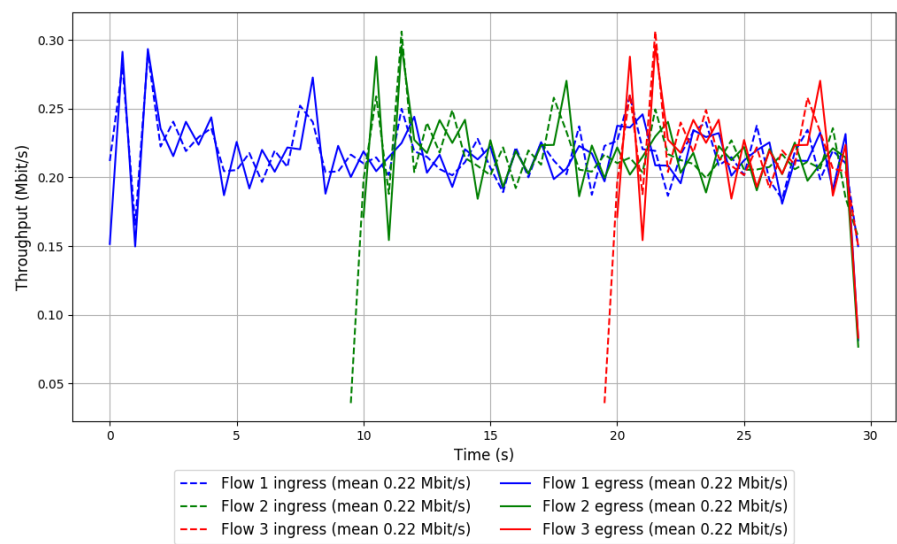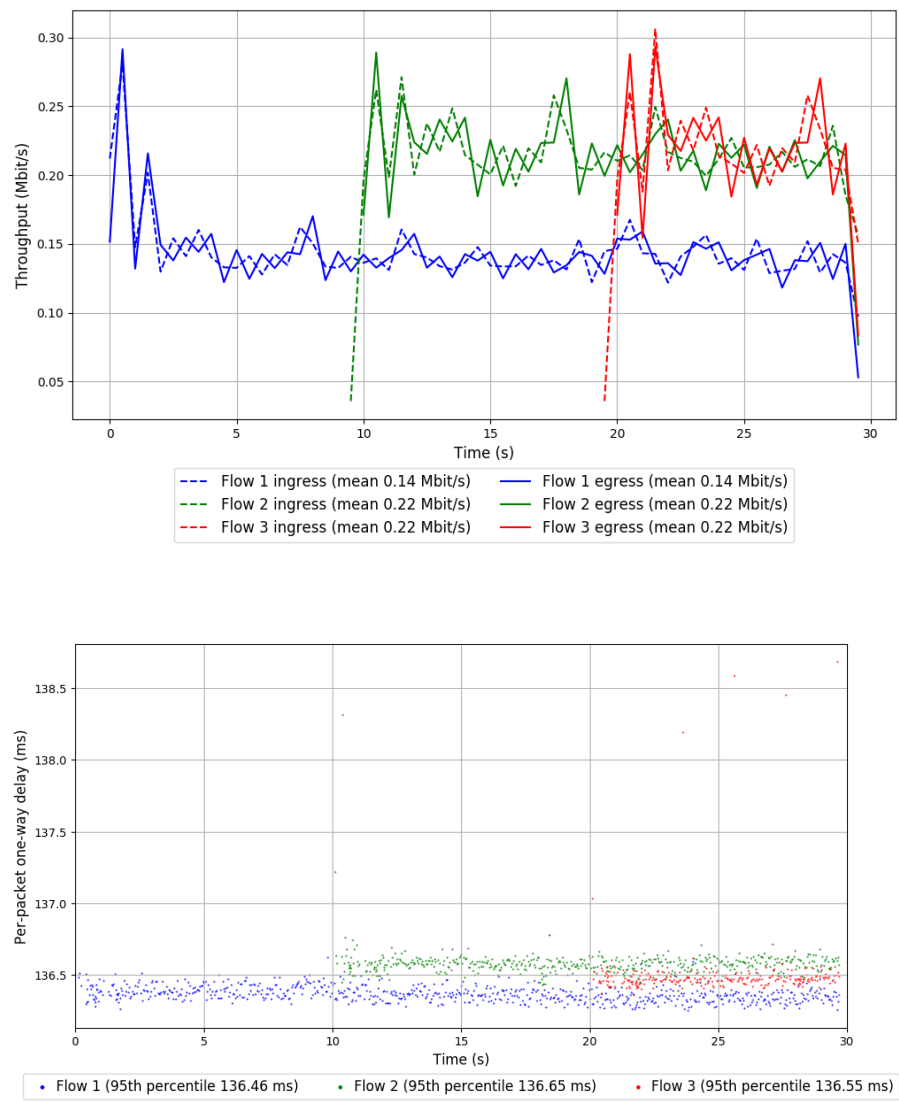
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2017-09-01 02:30:26
End at: 2017-09-01 02:30:56


# Below is generated by plot.py at 2017-09-01 07:24:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.729 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.752 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.190 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.925 ms
Loss rate: 2.63%
```
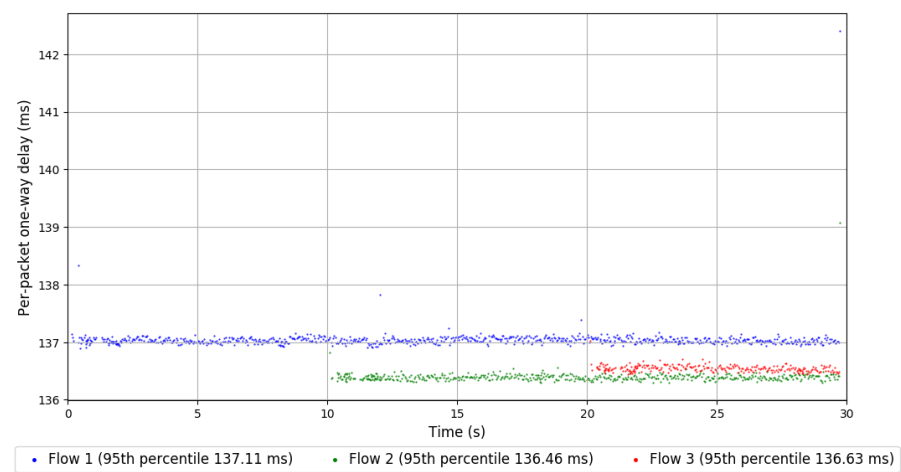
Run 5: Report of SCReAM — Data Link

```
Run 6: Statistics of SCReAM

Start at: 2017-09-01 02:44:29
End at: 2017-09-01 02:44:59

# Below is generated by plot.py at 2017-09-01 07:24:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.885 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.572 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.921 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.574 ms
Loss rate: 2.63%
```
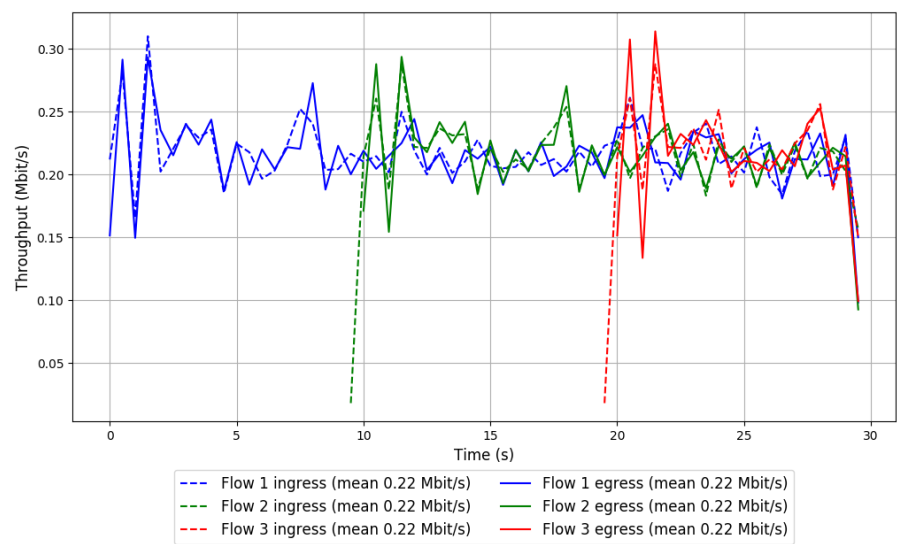
Run 6: Report of SCReAM — Data Link

```
Run 7: Statistics of SCReAM

Start at: 2017-09-01 02:58:36
End at: 2017-09-01 02:59:06


# Below is generated by plot.py at 2017-09-01 07:24:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 136.623 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 136.461 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.647 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.546 ms
Loss rate: 2.63%
```
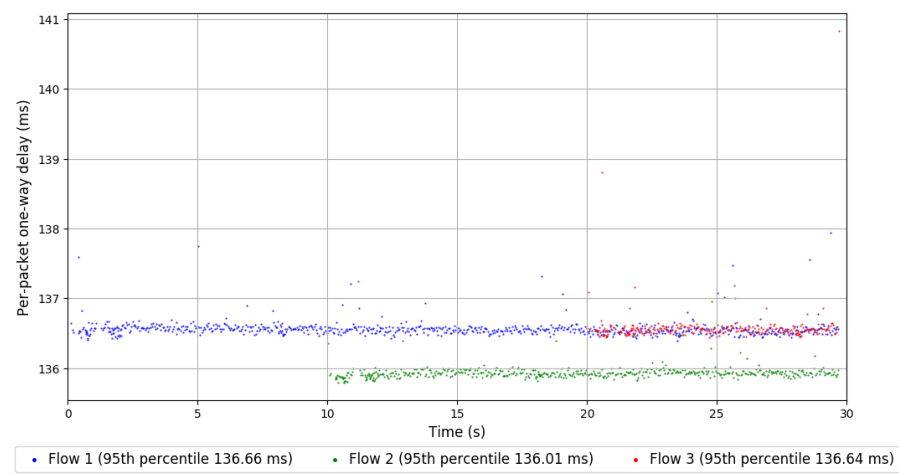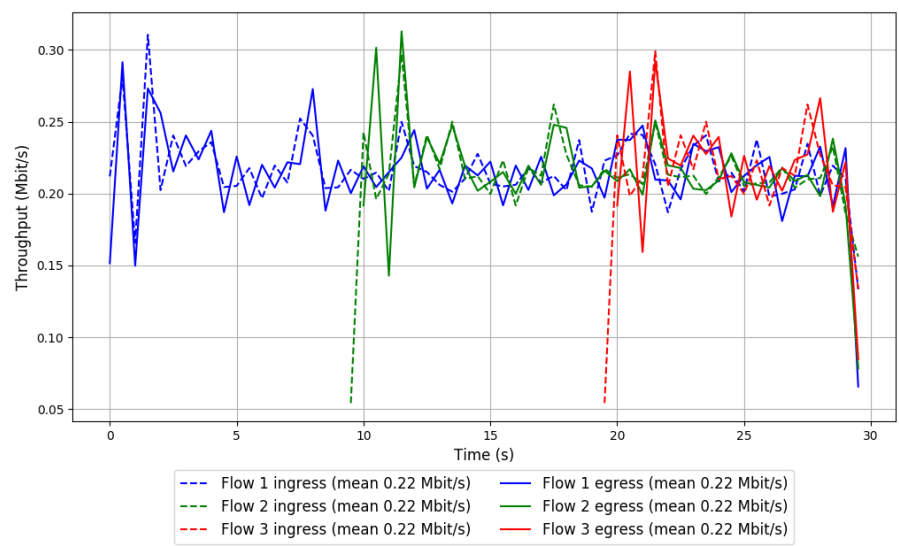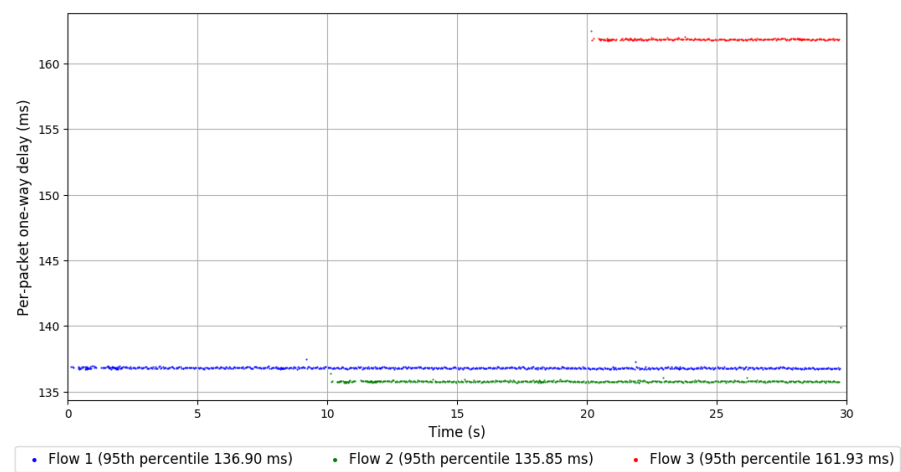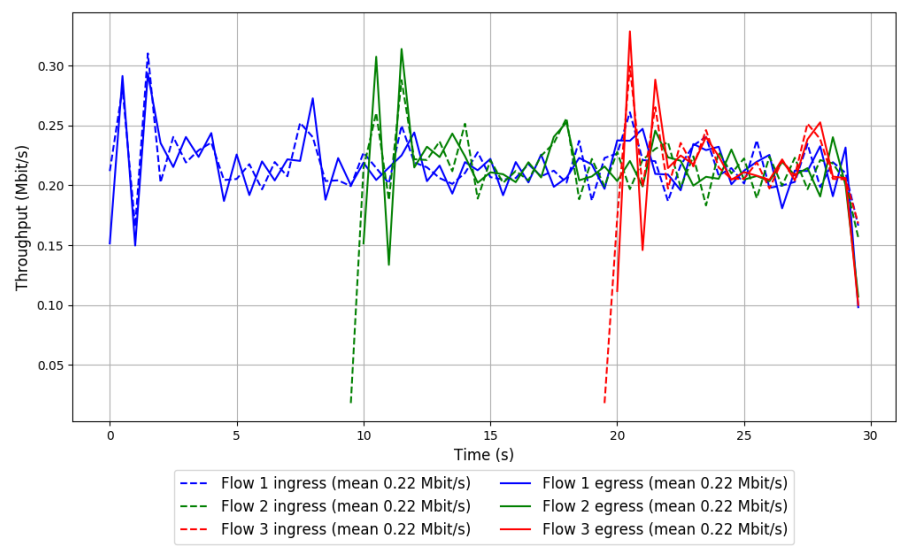
Run 7: Report of SCReAM — Data Link

```
Run 8: Statistics of SCReAM

Start at: 2017-09-01 03:12:44
End at: 2017-09-01 03:13:14

# Below is generated by plot.py at 2017-09-01 07:24:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 137.094 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.111 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.462 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.628 ms
Loss rate: 2.63%
```
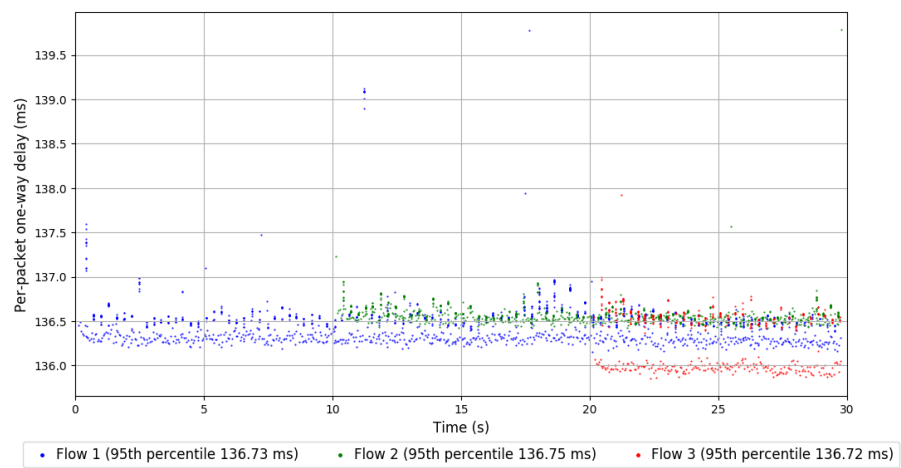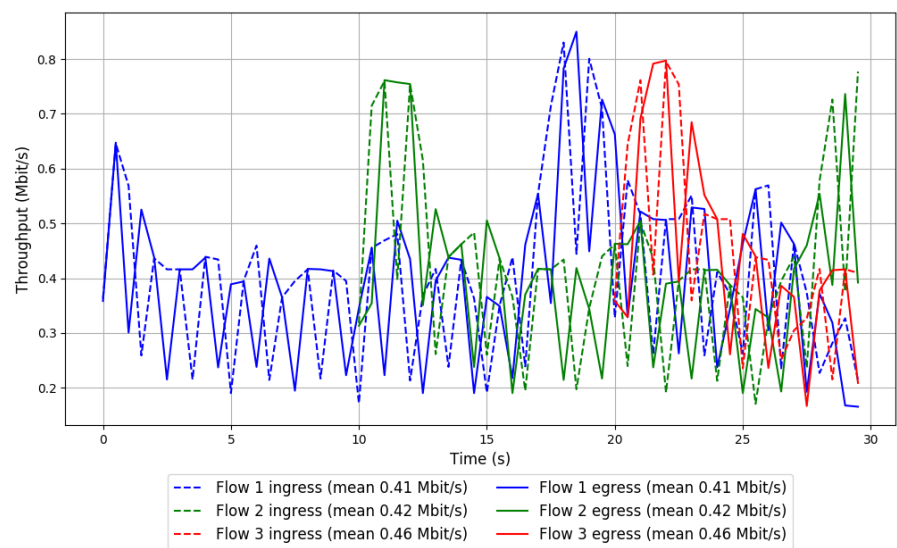
Run 8: Report of SCReAM — Data Link

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```
Run 9: Statistics of SCReAM

Start at: 2017-09-01 03:26:48
End at: 2017-09-01 03:27:18

# Below is generated by plot.py at 2017-09-01 07:24:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.634 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.655 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.008 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.640 ms
Loss rate: 2.25%
```

Run 9: Report of SCReAM — Data Link

```
Run 10: Statistics of SCReAM

Start at: 2017-09-01 03:41:10
End at: 2017-09-01 03:41:40

# Below is generated by plot.py at 2017-09-01 07:24:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 161.869 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.895 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.851 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 161.928 ms
Loss rate: 3.05%
```
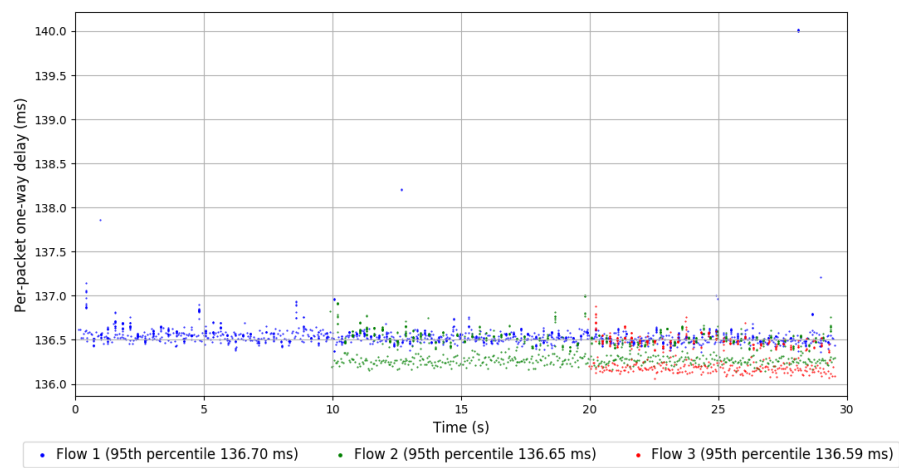
Run 10: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2017-09-01 01:30:11
End at: 2017-09-01 01:30:41

# Below is generated by plot.py at 2017-09-01 07:24:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 136.737 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 136.726 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 136.749 ms
Loss rate: 2.33%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 136.723 ms
Loss rate: 2.27%
```
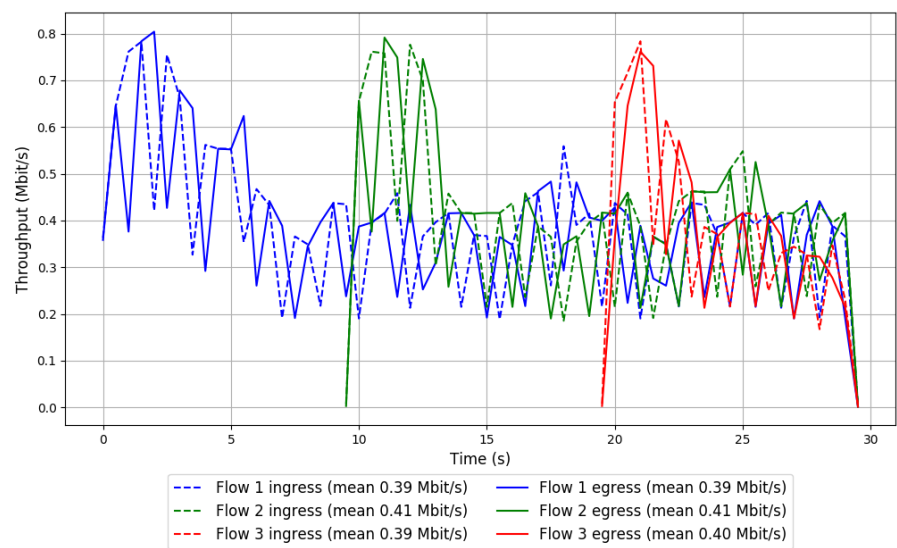
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2017-09-01 01:44:21
End at: 2017-09-01 01:44:51


# Below is generated by plot.py at 2017-09-01 07:24:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 136.658 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.697 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 136.649 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 136.589 ms
Loss rate: 1.24%
```
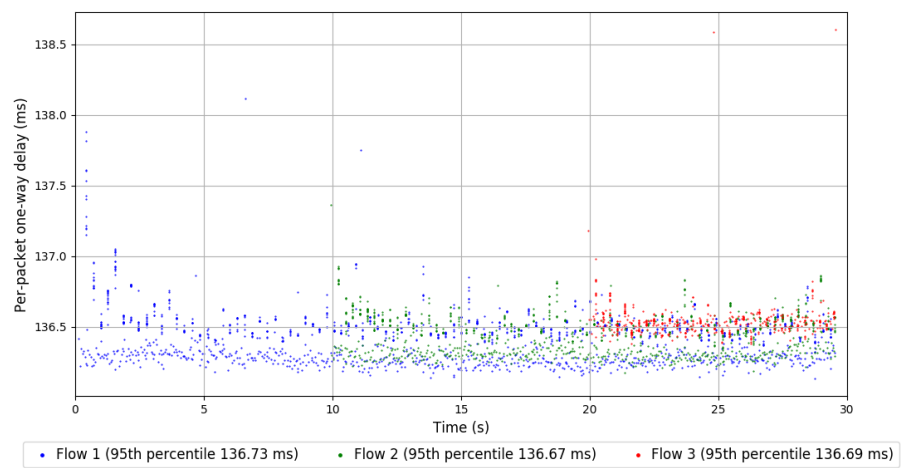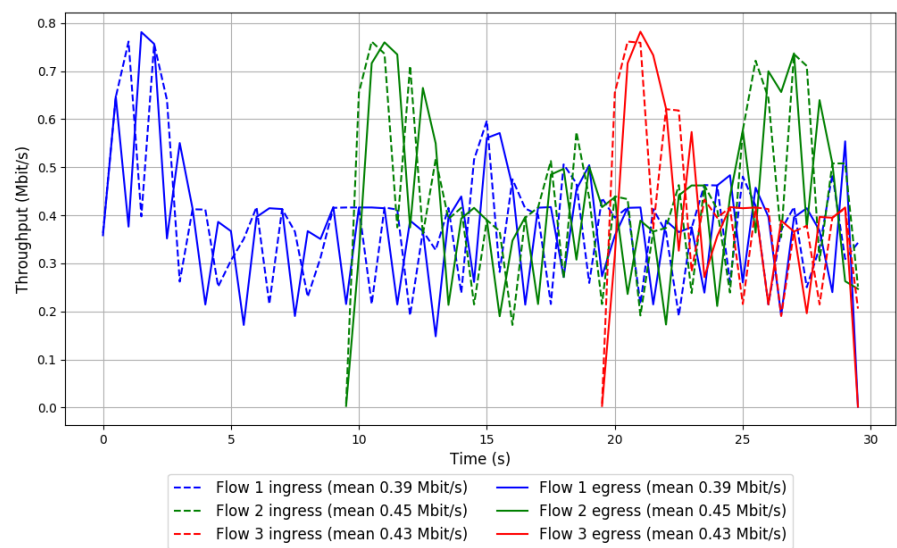
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2017-09-01 01:58:33
End at: 2017-09-01 01:59:03

# Below is generated by plot.py at 2017-09-01 07:24:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 136.703 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.726 ms
Loss rate: 1.50%
-- Flow 2:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 136.670 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 136.694 ms
Loss rate: 2.43%
```
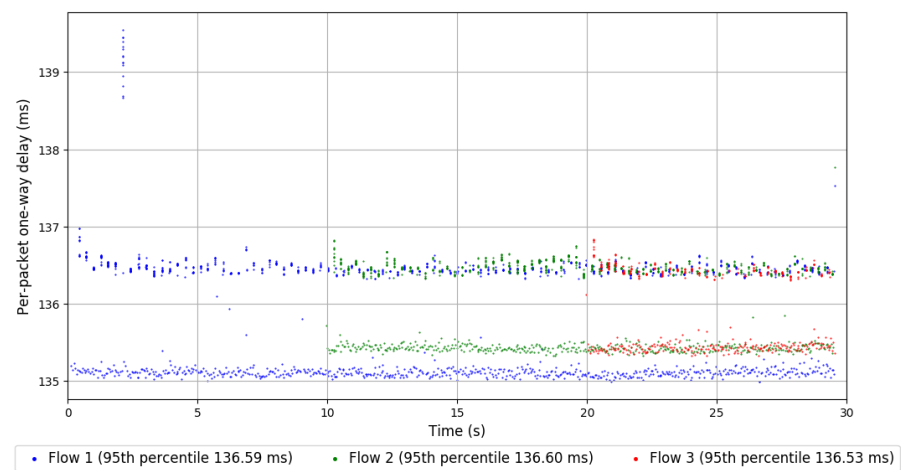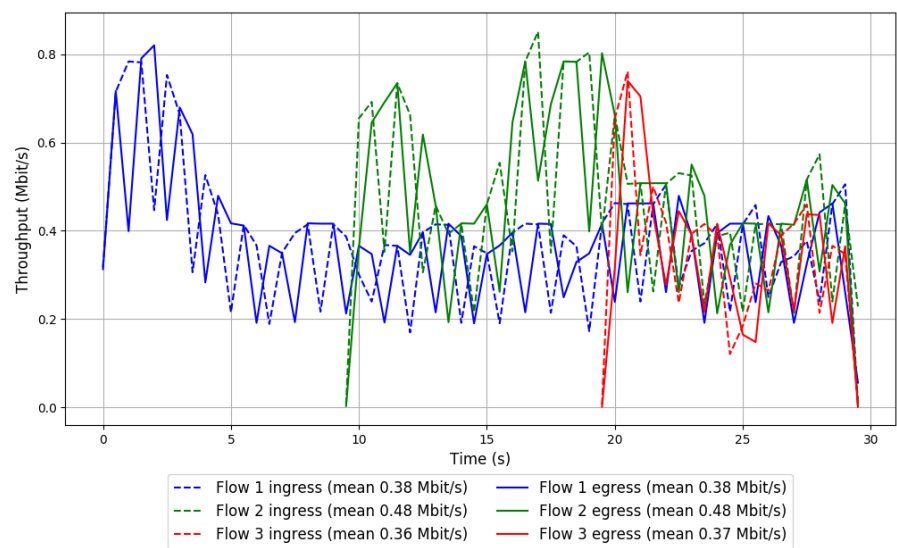
Run 3: Report of Sprout — Data Link

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```
Run 4: Statistics of Sprout

Start at: 2017-09-01 02:12:32
End at: 2017-09-01 02:13:02


# Below is generated by plot.py at 2017-09-01 07:24:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 136.590 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 136.593 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 136.596 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 136.535 ms
Loss rate: 2.32%
```
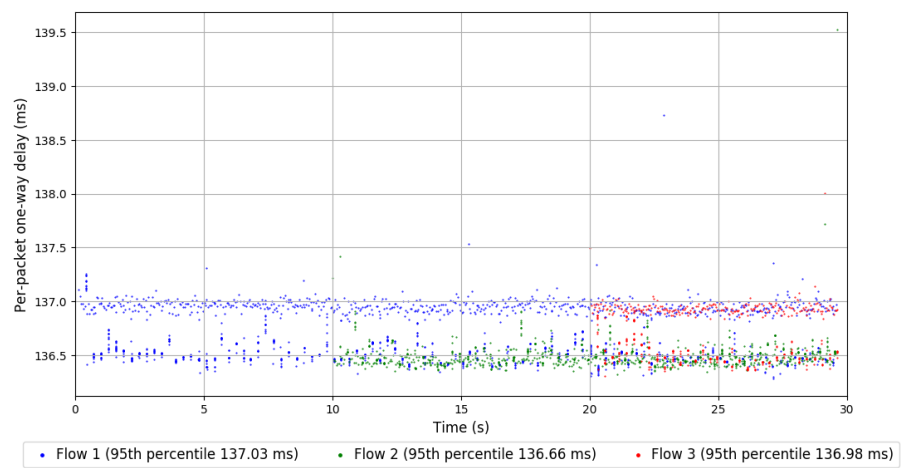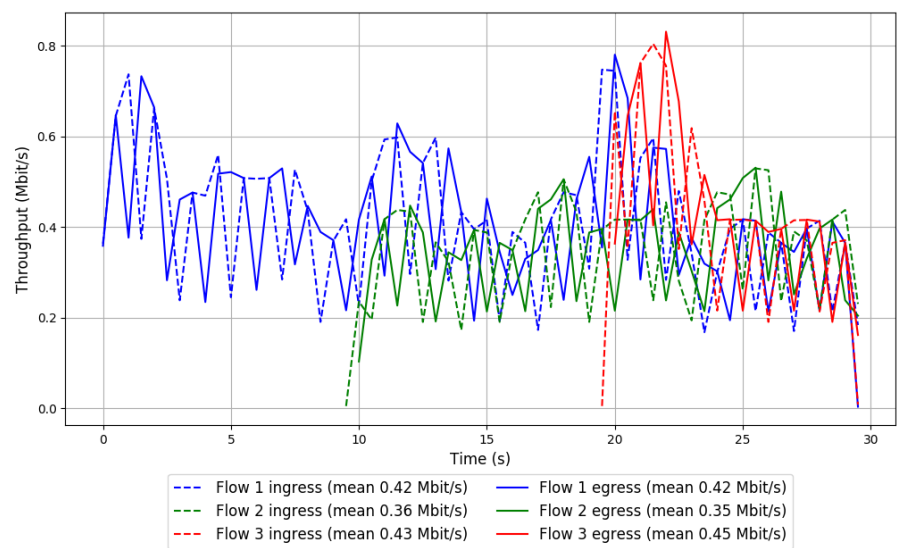
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2017-09-01 02:26:43
End at: 2017-09-01 02:27:13


# Below is generated by plot.py at 2017-09-01 07:24:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 137.002 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 137.025 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 136.665 ms
Loss rate: 1.63%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 136.978 ms
Loss rate: 0.37%
```
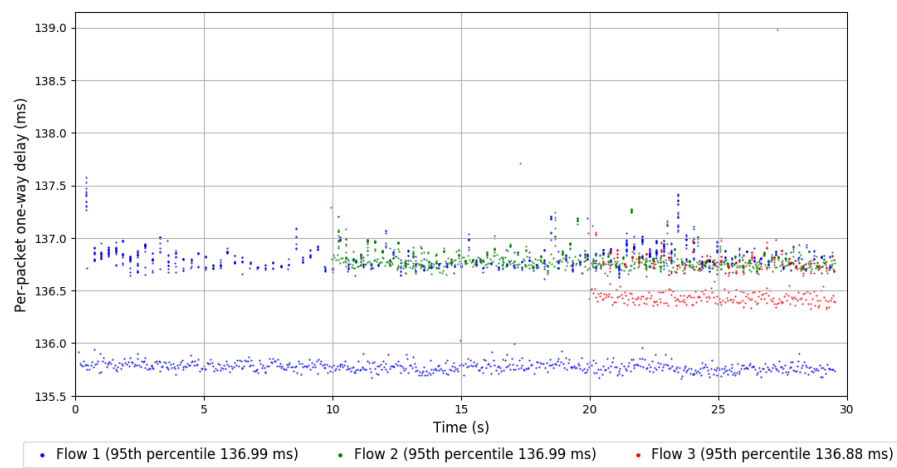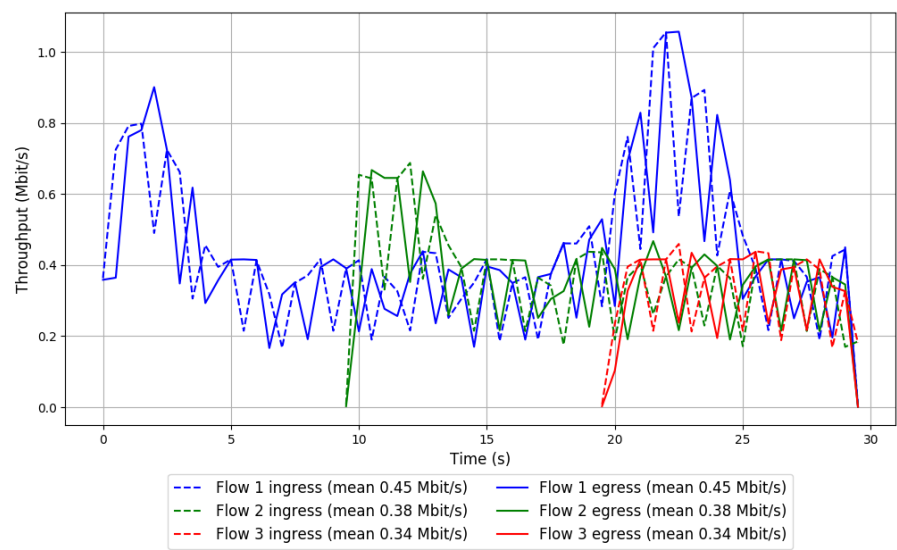
Run 5: Report of Sprout — Data Link

Flow 1 ingress (mean 0.42 Mbit/s)   Flow 1 egress (mean 0.42 Mbit/s)
Flow 2 ingress (mean 0.36 Mbit/s)   Flow 2 egress (mean 0.35 Mbit/s)
Flow 3 ingress (mean 0.43 Mbit/s)   Flow 3 egress (mean 0.45 Mbit/s)

Flow 1 (95th percentile 137.03 ms)   Flow 2 (95th percentile 136.66 ms)   Flow 3 (95th percentile 136.98 ms)

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```
Run 6: Statistics of Sprout

Start at: 2017-09-01 02:40:49
End at: 2017-09-01 02:41:19


# Below is generated by plot.py at 2017-09-01 07:24:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 136.982 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 136.988 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 136.994 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 136.880 ms
Loss rate: 2.76%
```
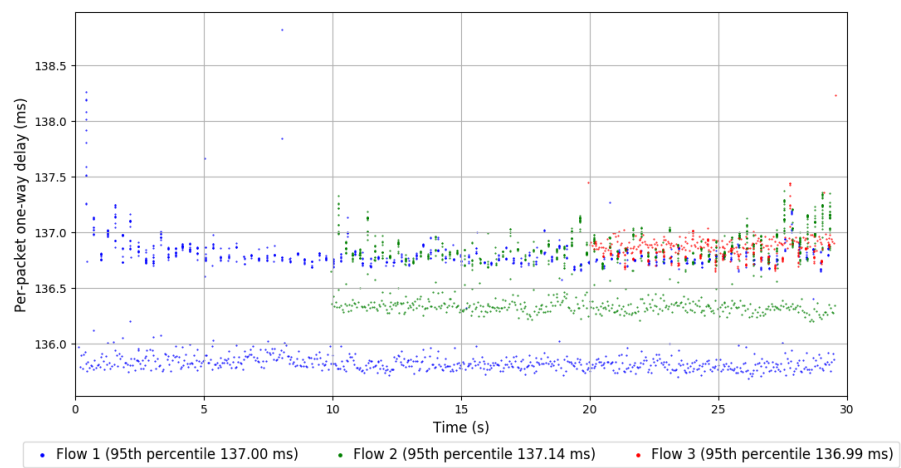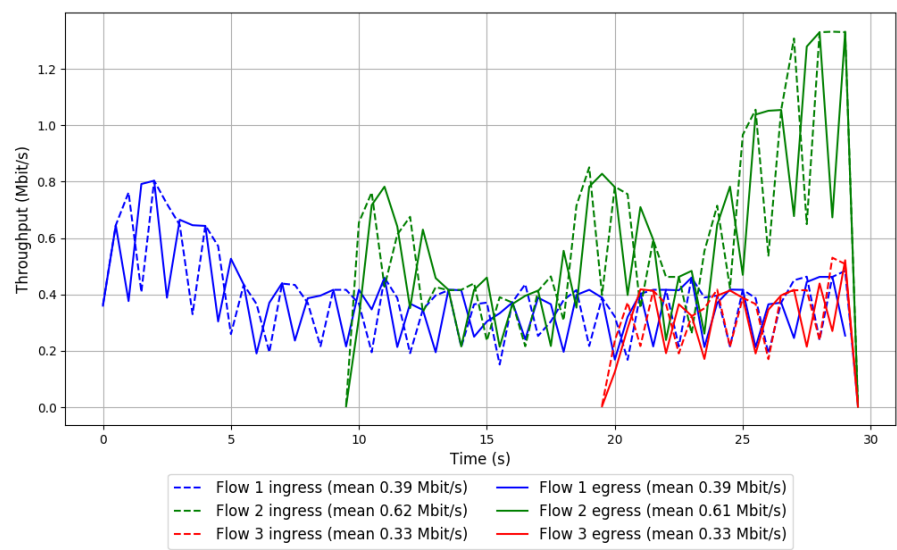
Run 6: Report of Sprout — Data Link

```
Run 7: Statistics of Sprout

Start at: 2017-09-01 02:54:53
End at: 2017-09-01 02:55:23


# Below is generated by plot.py at 2017-09-01 07:24:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 137.098 ms
Loss rate: 2.15%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.995 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 137.139 ms
Loss rate: 2.73%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 136.992 ms
Loss rate: 3.87%
```
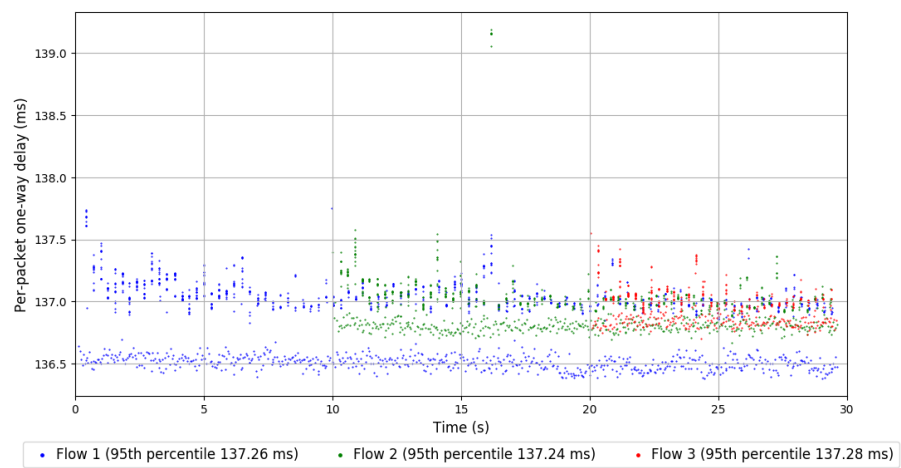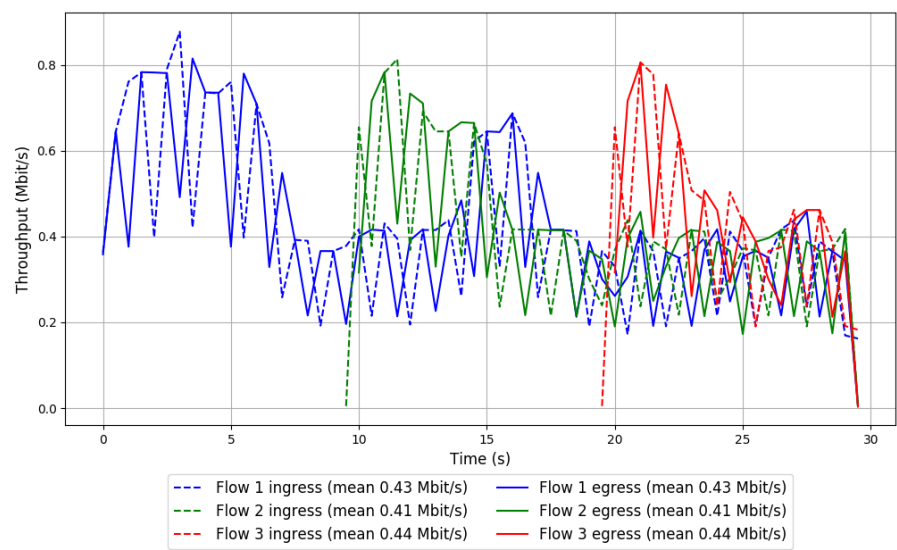
Run 7: Report of Sprout — Data Link

```
Run 8: Statistics of Sprout

Start at: 2017-09-01 03:09:00
End at: 2017-09-01 03:09:30


# Below is generated by plot.py at 2017-09-01 07:24:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 137.250 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 137.260 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 137.237 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 137.277 ms
Loss rate: 2.13%
```
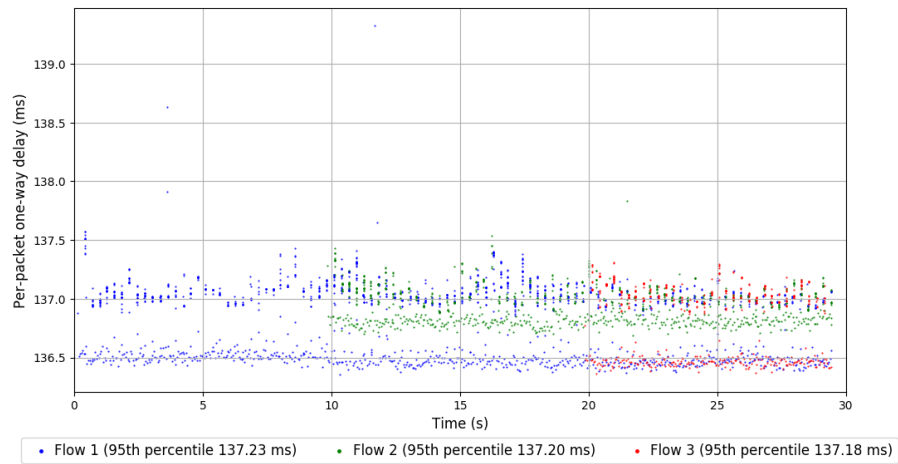
Run 8: Report of Sprout — Data Link

```
Run 9: Statistics of Sprout

Start at: 2017-09-01 03:23:04
End at: 2017-09-01 03:23:34


# Below is generated by plot.py at 2017-09-01 07:24:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 137.205 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 137.228 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 137.201 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 137.184 ms
Loss rate: 2.36%
```
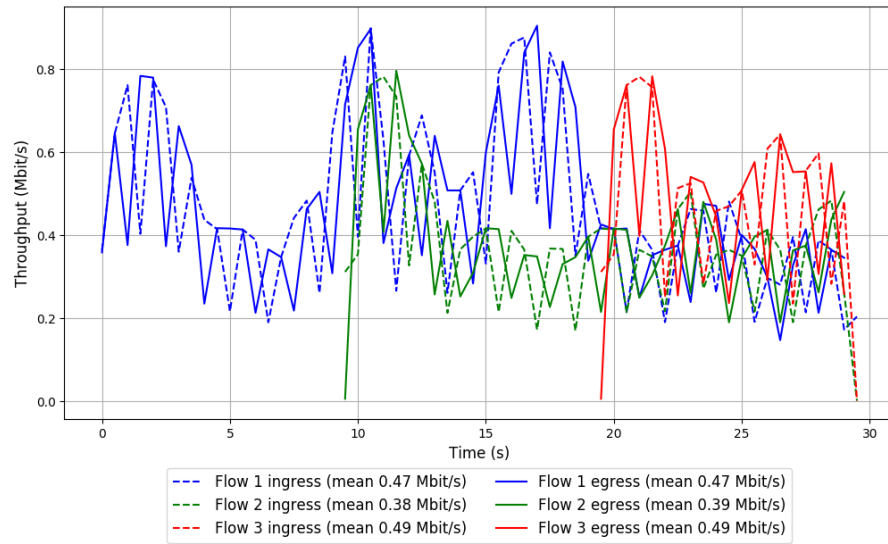
Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2017-09-01 03:37:15
End at: 2017-09-01 03:37:45


# Below is generated by plot.py at 2017-09-01 07:24:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 137.199 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 137.159 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 137.169 ms
Loss rate: 1.32%
-- Flow 3:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 137.231 ms
Loss rate: 2.40%
```
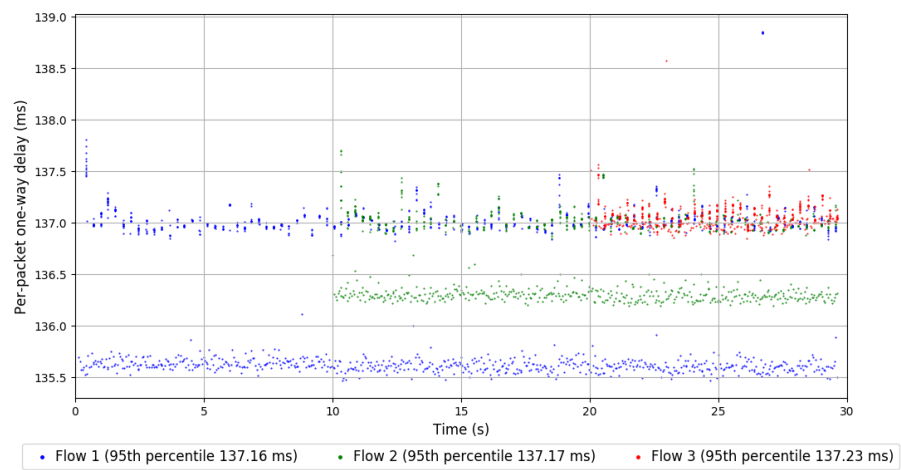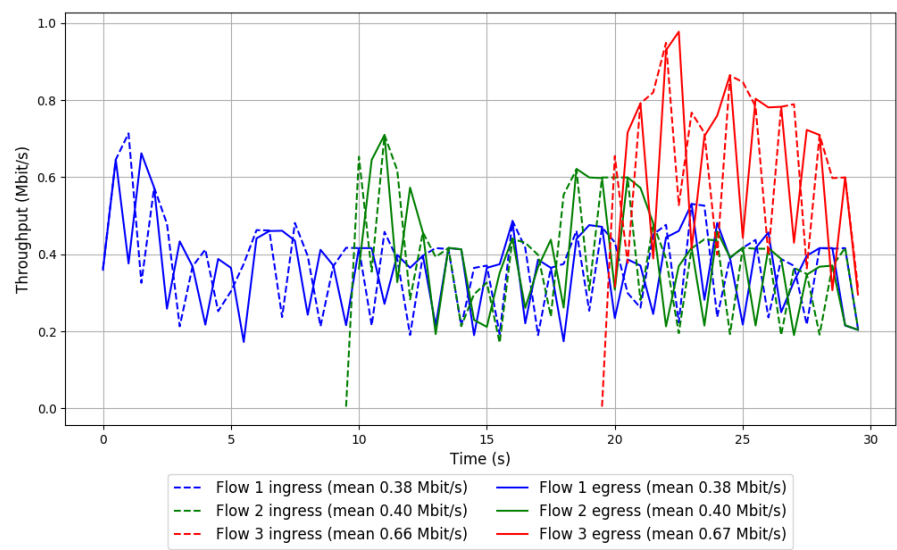
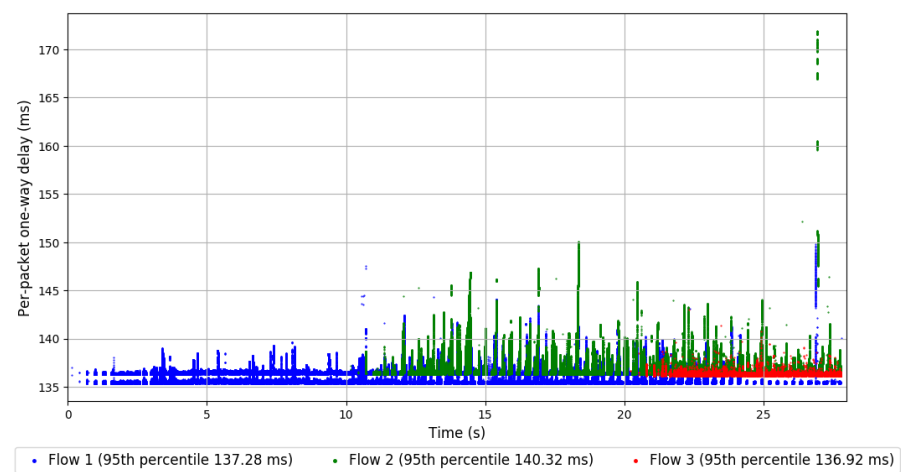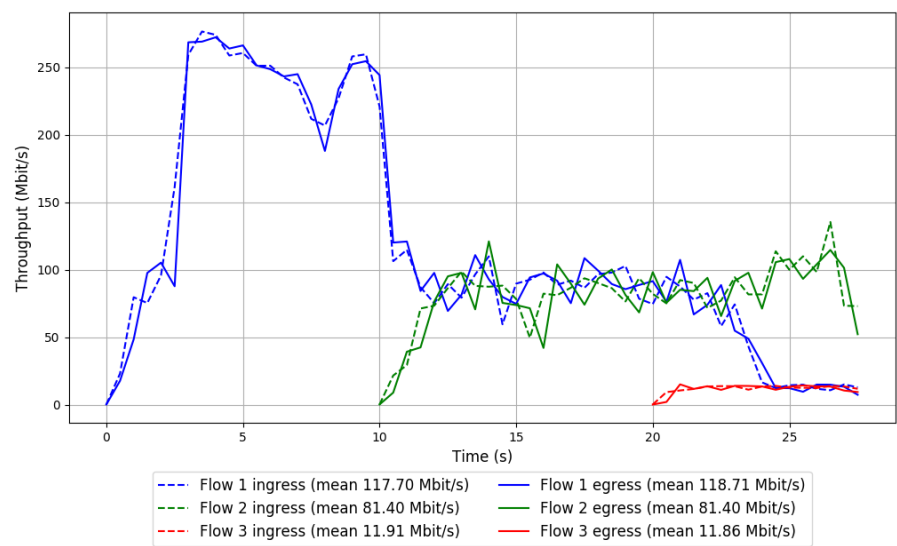## Run 10: Report of Sprout — Data Link

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

Start at: 2017-09-01 01:32:51
End at: 2017-09-01 01:33:21

# Below is generated by plot.py at 2017-09-01 07:25:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 173.78 Mbit/s
95th percentile per-packet one-way delay: 138.535 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 118.71 Mbit/s
95th percentile per-packet one-way delay: 137.281 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 81.40 Mbit/s
95th percentile per-packet one-way delay: 140.320 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 11.86 Mbit/s
95th percentile per-packet one-way delay: 136.919 ms
Loss rate: 3.94%
```

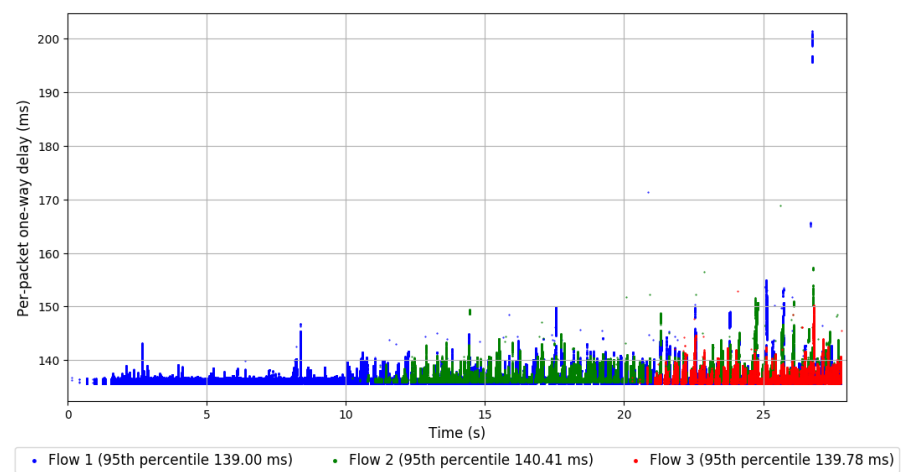# Run 1: Report of TaoVA-100x — Data Link
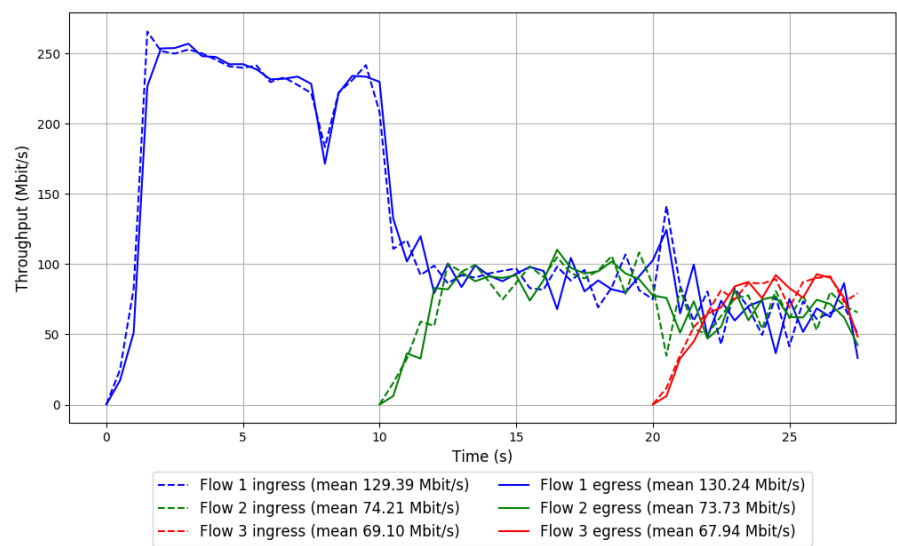

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```
Run 2: Statistics of TaoVA-100x

Start at: 2017-09-01 01:47:00
End at: 2017-09-01 01:47:30

# Below is generated by plot.py at 2017-09-01 07:25:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 195.47 Mbit/s
95th percentile per-packet one-way delay: 139.530 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 130.24 Mbit/s
95th percentile per-packet one-way delay: 138.996 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 73.73 Mbit/s
95th percentile per-packet one-way delay: 140.413 ms
Loss rate: 1.94%
-- Flow 3:
Average throughput: 67.94 Mbit/s
95th percentile per-packet one-way delay: 139.777 ms
Loss rate: 4.87%
```

Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 129.39 Mbit/s)   Flow 1 egress (mean 130.24 Mbit/s)
Flow 2 ingress (mean 74.21 Mbit/s)   Flow 2 egress (mean 73.73 Mbit/s)
Flow 3 ingress (mean 69.10 Mbit/s)   Flow 3 egress (mean 67.94 Mbit/s)

Flow 1 (95th percentile 139.00 ms)   Flow 2 (95th percentile 140.41 ms)   Flow 3 (95th percentile 139.78 ms)

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

Start at: 2017-09-01 02:01:08
End at: 2017-09-01 02:01:38

# Below is generated by plot.py at 2017-09-01 07:26:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 139.56 Mbit/s
95th percentile per-packet one-way delay: 137.730 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 128.24 Mbit/s
95th percentile per-packet one-way delay: 137.777 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 12.72 Mbit/s
95th percentile per-packet one-way delay: 136.736 ms
Loss rate: 1.59%
-- Flow 3:
Average throughput: 11.90 Mbit/s
95th percentile per-packet one-way delay: 136.946 ms
Loss rate: 3.30%
```
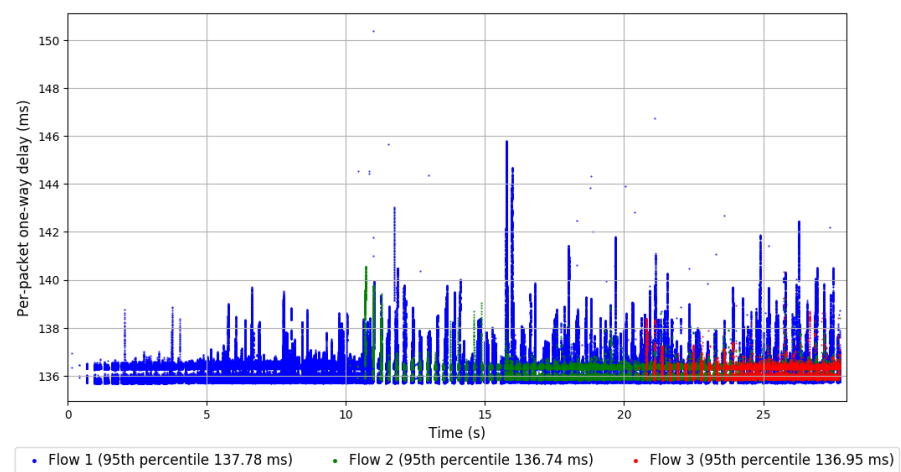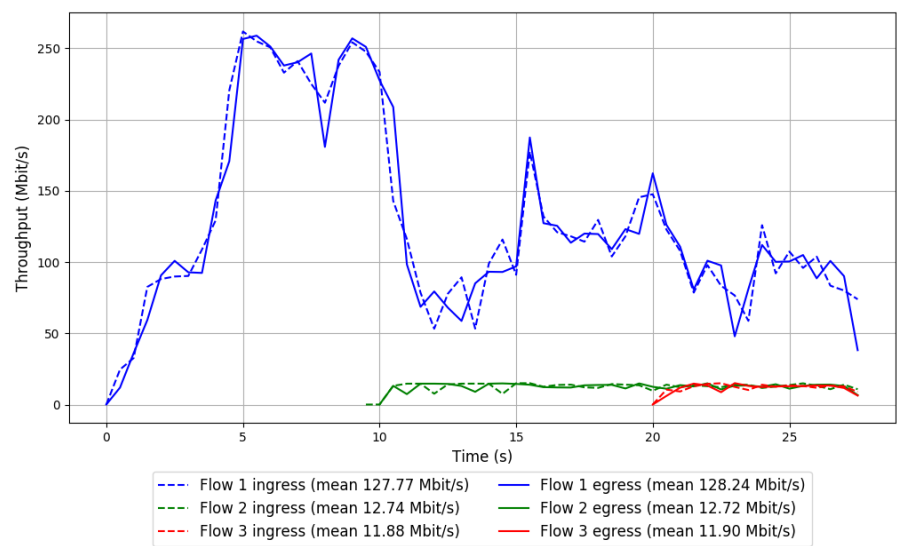
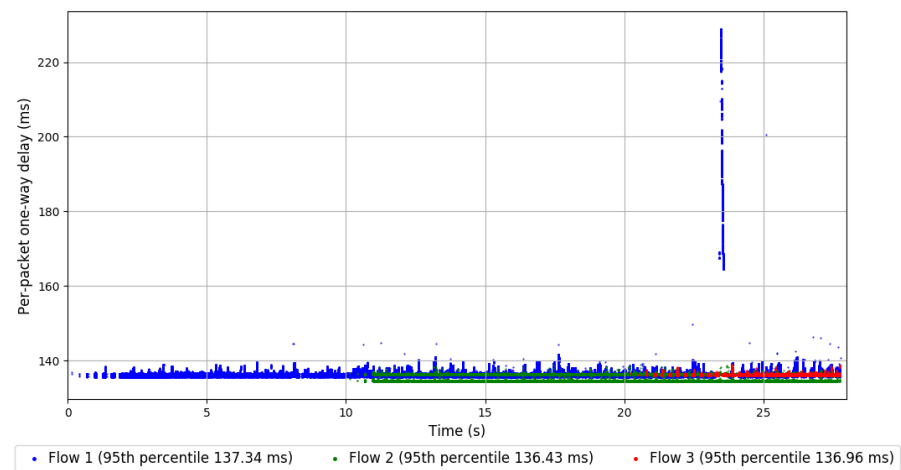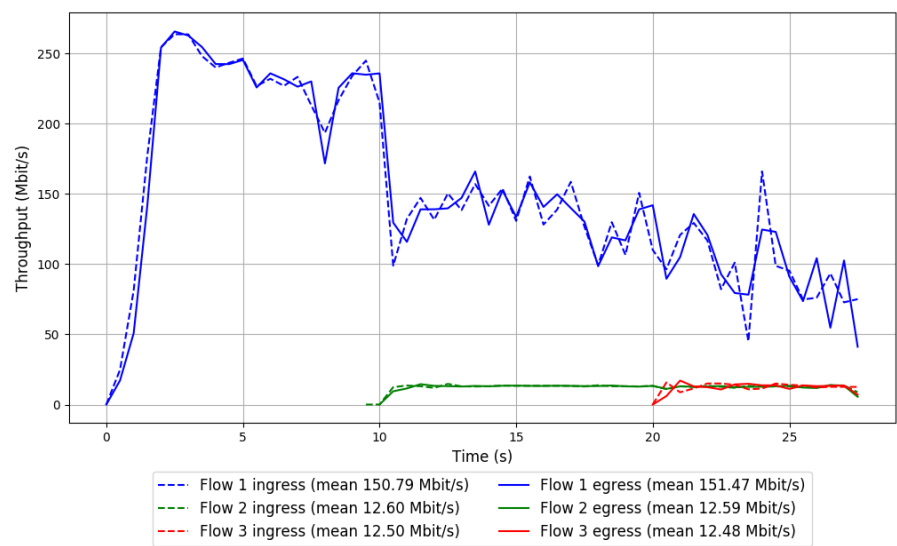## Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 127.77 Mbit/s) --- Flow 1 egress (mean 128.24 Mbit/s)
Flow 2 ingress (mean 12.74 Mbit/s) --- Flow 2 egress (mean 12.72 Mbit/s)
Flow 3 ingress (mean 11.88 Mbit/s) --- Flow 3 egress (mean 11.90 Mbit/s)

Flow 1 (95th percentile 137.78 ms)   Flow 2 (95th percentile 136.74 ms)   Flow 3 (95th percentile 136.95 ms)

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

Start at: 2017-09-01 02:15:13
End at: 2017-09-01 02:15:43

# Below is generated by plot.py at 2017-09-01 07:26:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 162.90 Mbit/s
95th percentile per-packet one-way delay: 137.273 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 151.47 Mbit/s
95th percentile per-packet one-way delay: 137.337 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 136.434 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 12.48 Mbit/s
95th percentile per-packet one-way delay: 136.956 ms
Loss rate: 3.76%
```

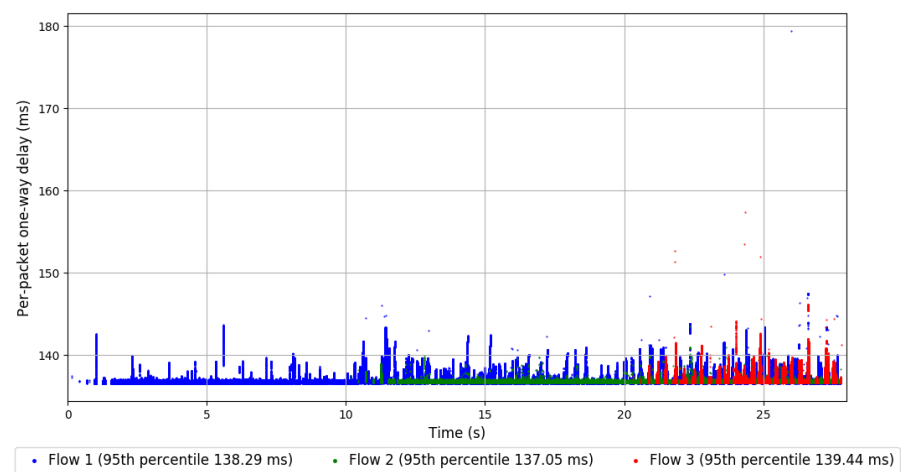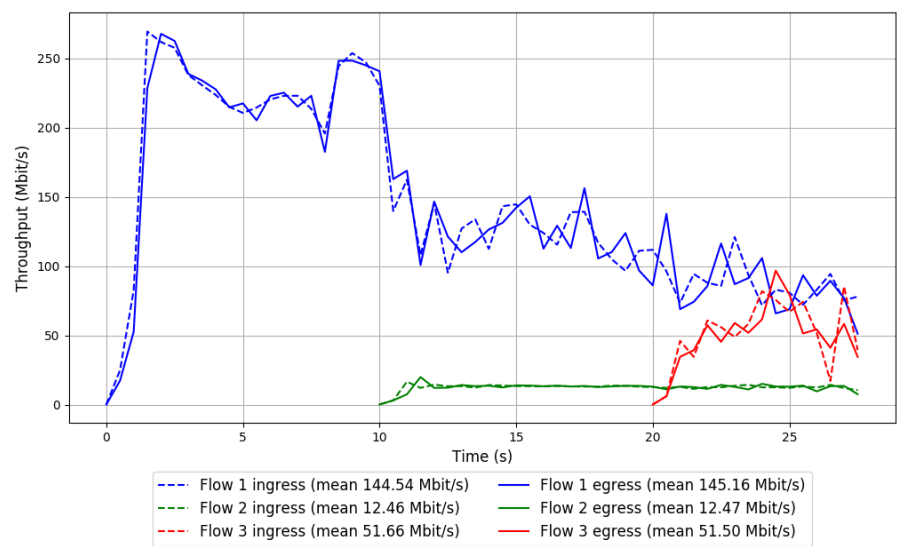# Run 4: Report of TaoVA-100x — Data Link

- --- Flow 1 ingress (mean 150.79 Mbit/s) ——— Flow 1 egress (mean 151.47 Mbit/s)
- --- Flow 2 ingress (mean 12.60 Mbit/s) ——— Flow 2 egress (mean 12.59 Mbit/s)
- --- Flow 3 ingress (mean 12.50 Mbit/s) ——— Flow 3 egress (mean 12.48 Mbit/s)

- Flow 1 (95th percentile 137.34 ms)　　• Flow 2 (95th percentile 136.43 ms)　　• Flow 3 (95th percentile 136.96 ms)

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

Start at: 2017-09-01 02:29:18
End at: 2017-09-01 02:29:48


# Below is generated by plot.py at 2017-09-01 07:27:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 166.81 Mbit/s
95th percentile per-packet one-way delay: 138.393 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 145.16 Mbit/s
95th percentile per-packet one-way delay: 138.289 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 12.47 Mbit/s
95th percentile per-packet one-way delay: 137.052 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 51.50 Mbit/s
95th percentile per-packet one-way delay: 139.444 ms
Loss rate: 3.99%
```
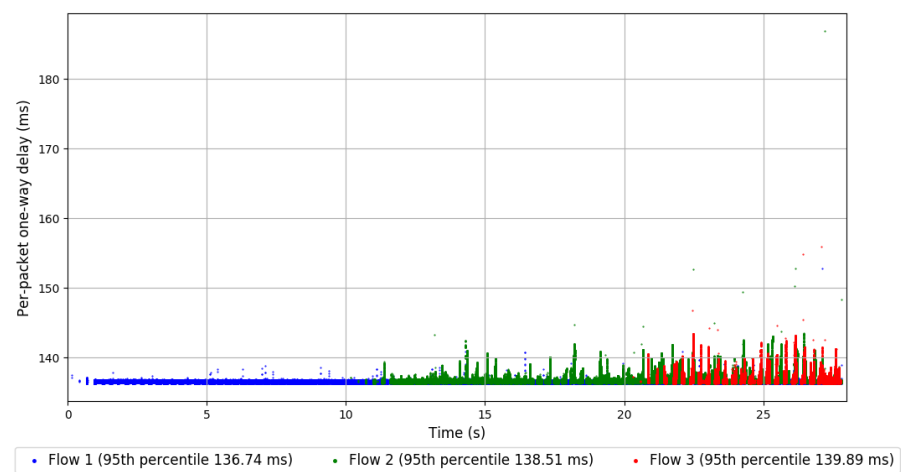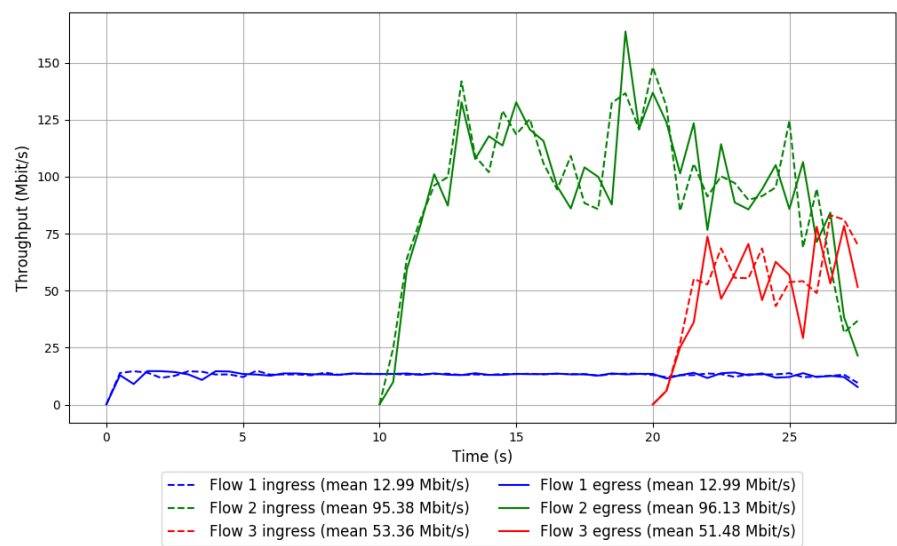
Run 5: Report of TaoVA-100x — Data Link

- --- Flow 1 ingress (mean 144.54 Mbit/s)
- —— Flow 1 egress (mean 145.16 Mbit/s)
- --- Flow 2 ingress (mean 12.46 Mbit/s)
- —— Flow 2 egress (mean 12.47 Mbit/s)
- --- Flow 3 ingress (mean 51.66 Mbit/s)
- —— Flow 3 egress (mean 51.50 Mbit/s)

- • Flow 1 (95th percentile 138.29 ms)
- • Flow 2 (95th percentile 137.05 ms)
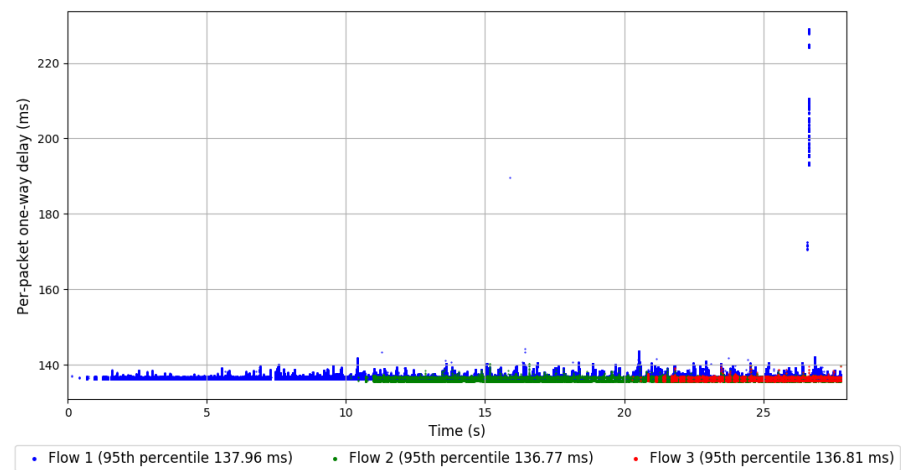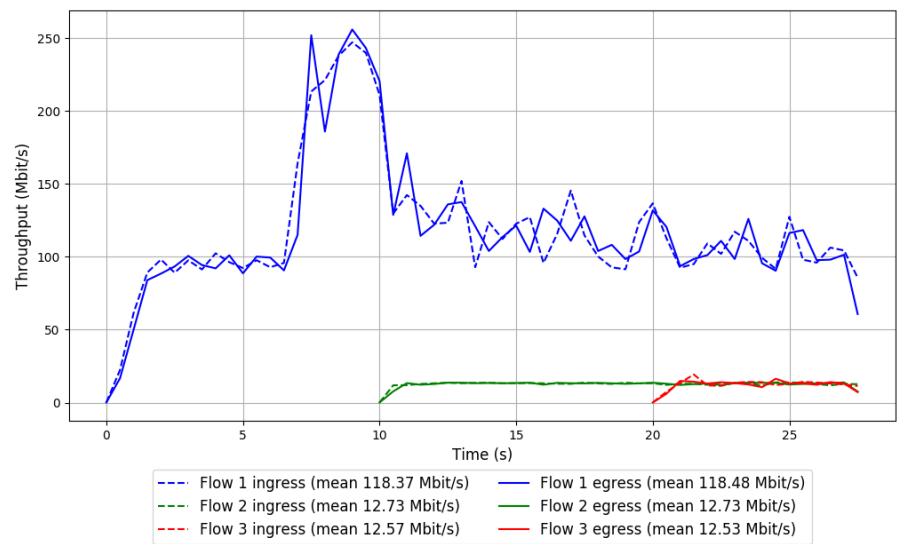- • Flow 3 (95th percentile 139.44 ms)

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```
Run 6: Statistics of TaoVA-100x

Start at: 2017-09-01 02:43:29
End at: 2017-09-01 02:43:59

# Below is generated by plot.py at 2017-09-01 07:27:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.24 Mbit/s
95th percentile per-packet one-way delay: 138.585 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 12.99 Mbit/s
95th percentile per-packet one-way delay: 136.744 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 96.13 Mbit/s
95th percentile per-packet one-way delay: 138.511 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 51.48 Mbit/s
95th percentile per-packet one-way delay: 139.889 ms
Loss rate: 6.39%
```

Run 6: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 12.99 Mbit/s) --- Flow 1 egress (mean 12.99 Mbit/s)
Flow 2 ingress (mean 95.38 Mbit/s) --- Flow 2 egress (mean 96.13 Mbit/s)
Flow 3 ingress (mean 53.36 Mbit/s) --- Flow 3 egress (mean 51.48 Mbit/s)

Flow 1 (95th percentile 136.74 ms) • Flow 2 (95th percentile 138.51 ms) • Flow 3 (95th percentile 139.89 ms)

```
Run 7: Statistics of TaoVA-100x

Start at: 2017-09-01 02:57:33
End at: 2017-09-01 02:58:03

# Below is generated by plot.py at 2017-09-01 07:27:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 129.99 Mbit/s
95th percentile per-packet one-way delay: 137.865 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 118.48 Mbit/s
95th percentile per-packet one-way delay: 137.961 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 136.769 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 136.813 ms
Loss rate: 3.73%
```
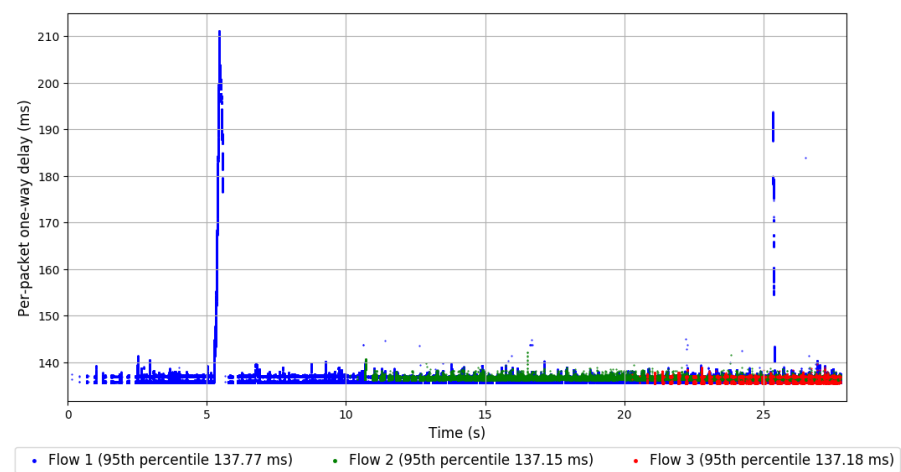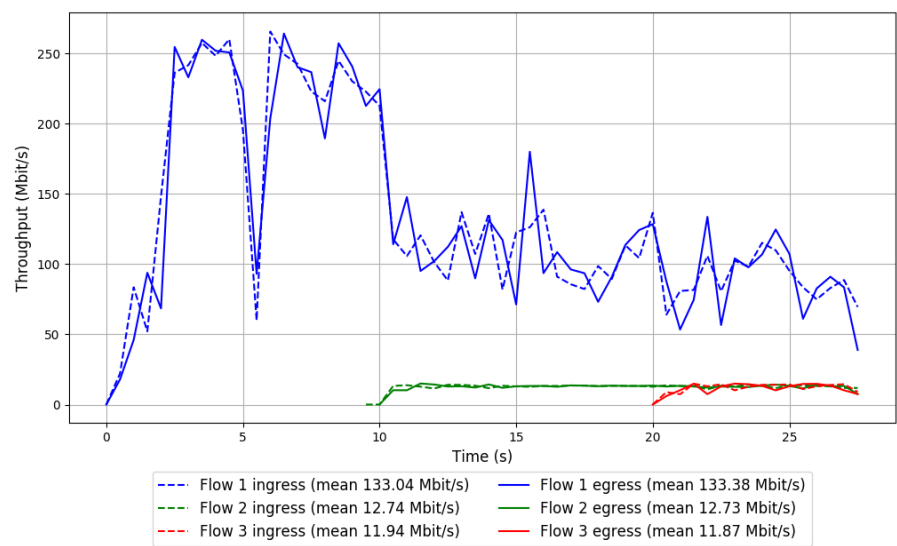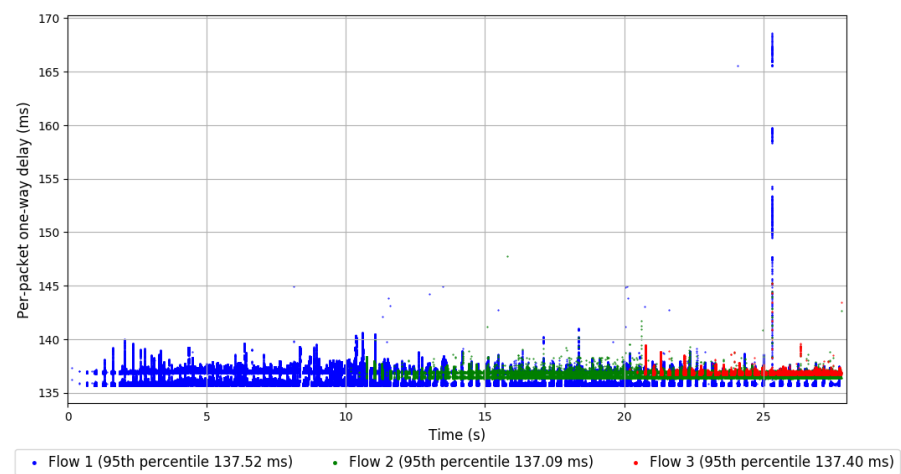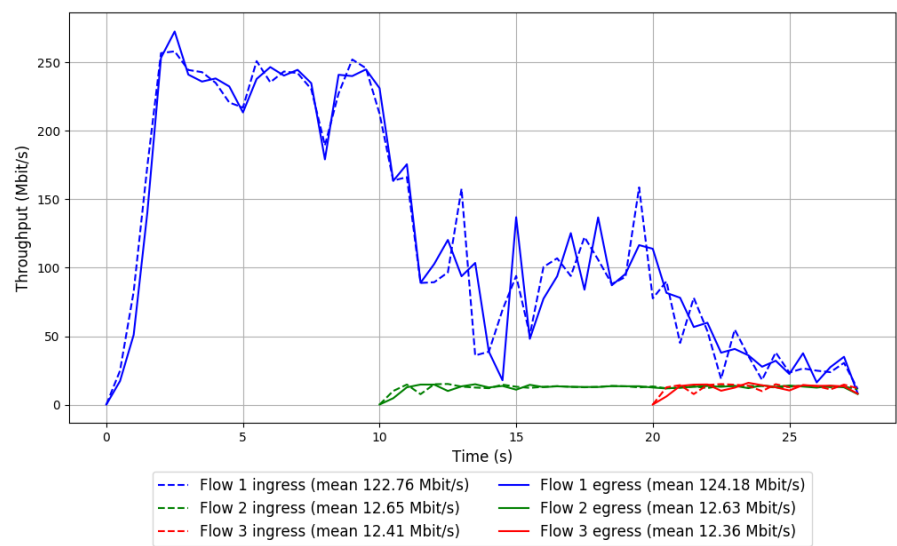
Run 7: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 118.37 Mbit/s)   —— Flow 1 egress (mean 118.48 Mbit/s)
- - - - Flow 2 ingress (mean 12.73 Mbit/s)   —— Flow 2 egress (mean 12.73 Mbit/s)
- - - - Flow 3 ingress (mean 12.57 Mbit/s)   —— Flow 3 egress (mean 12.53 Mbit/s)

- Flow 1 (95th percentile 137.96 ms)   • Flow 2 (95th percentile 136.77 ms)   • Flow 3 (95th percentile 136.81 ms)

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```
Run 8: Statistics of TaoVA-100x

Start at: 2017-09-01 03:11:39
End at: 2017-09-01 03:12:09

# Below is generated by plot.py at 2017-09-01 07:27:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 144.70 Mbit/s
95th percentile per-packet one-way delay: 137.715 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 133.38 Mbit/s
95th percentile per-packet one-way delay: 137.771 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 137.149 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 11.87 Mbit/s
95th percentile per-packet one-way delay: 137.176 ms
Loss rate: 4.05%
```

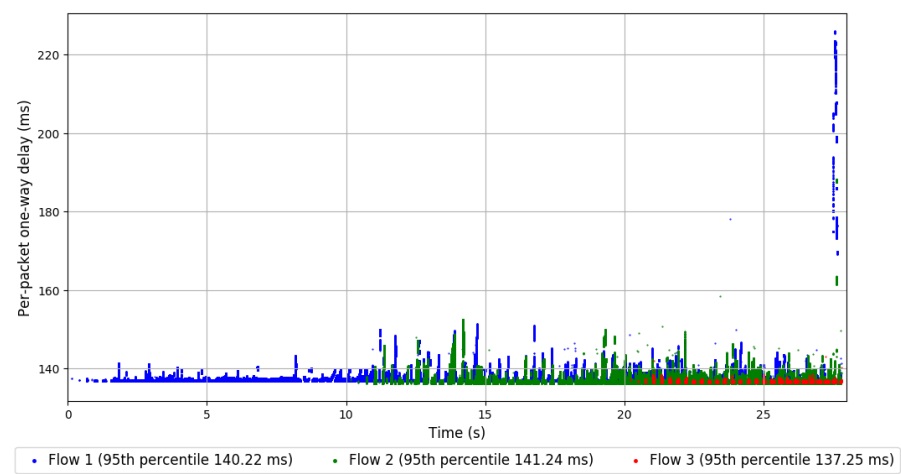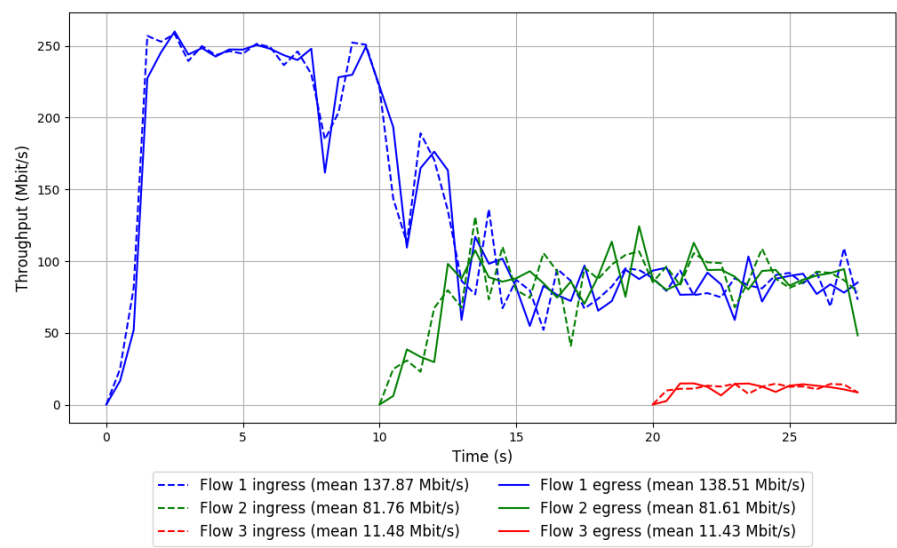Run 8: Report of TaoVA-100x — Data Link

```
Run 9: Statistics of TaoVA-100x

Start at: 2017-09-01 03:25:44
End at: 2017-09-01 03:26:14


# Below is generated by plot.py at 2017-09-01 07:28:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 135.32 Mbit/s
95th percentile per-packet one-way delay: 137.508 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 124.18 Mbit/s
95th percentile per-packet one-way delay: 137.519 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 12.63 Mbit/s
95th percentile per-packet one-way delay: 137.090 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 12.36 Mbit/s
95th percentile per-packet one-way delay: 137.402 ms
Loss rate: 3.81%
```

Run 9: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 122.76 Mbit/s) --- Flow 1 egress (mean 124.18 Mbit/s)
Flow 2 ingress (mean 12.65 Mbit/s) --- Flow 2 egress (mean 12.63 Mbit/s)
Flow 3 ingress (mean 12.41 Mbit/s) --- Flow 3 egress (mean 12.36 Mbit/s)

Flow 1 (95th percentile 137.52 ms) Flow 2 (95th percentile 137.09 ms) Flow 3 (95th percentile 137.40 ms)

```
Run 10: Statistics of TaoVA-100x

Start at: 2017-09-01 03:39:56
End at: 2017-09-01 03:40:26

# Below is generated by plot.py at 2017-09-01 07:28:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 193.65 Mbit/s
95th percentile per-packet one-way delay: 140.505 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 138.51 Mbit/s
95th percentile per-packet one-way delay: 140.221 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 81.61 Mbit/s
95th percentile per-packet one-way delay: 141.239 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 11.43 Mbit/s
95th percentile per-packet one-way delay: 137.252 ms
Loss rate: 3.69%
```
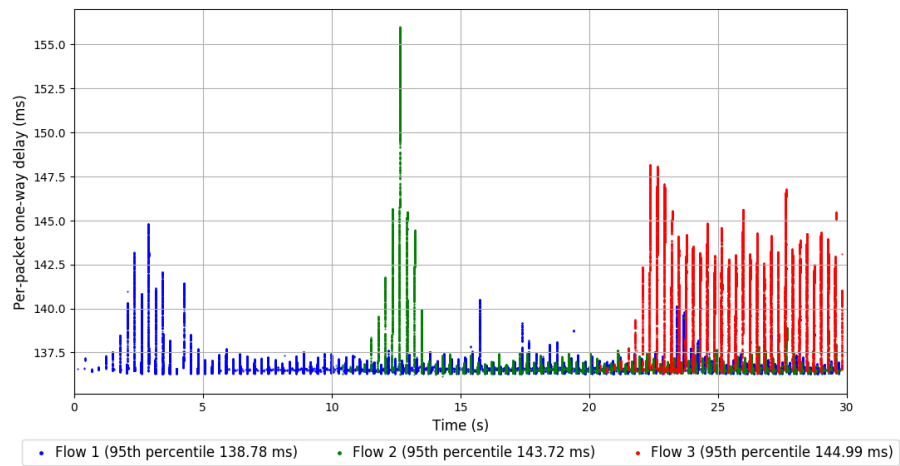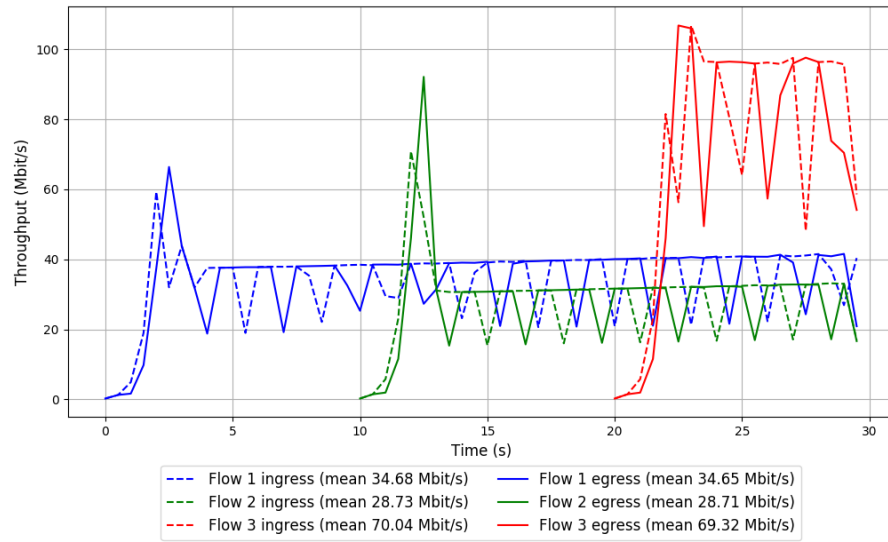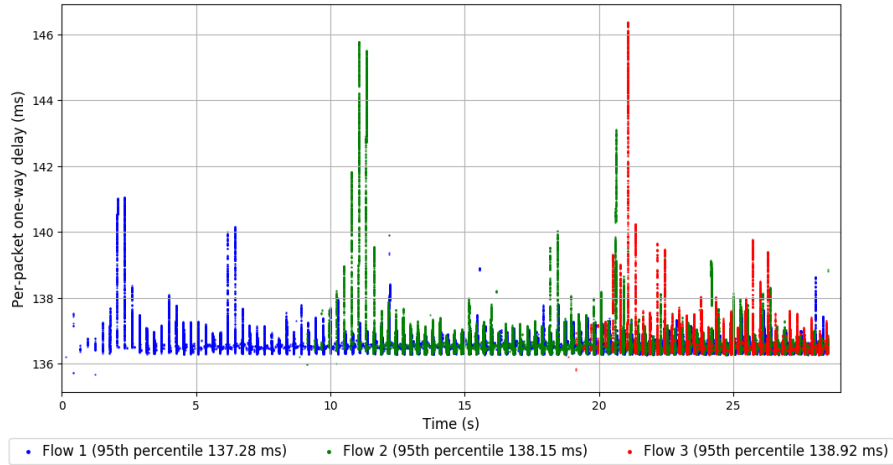
Run 10: Report of TaoVA-100x — Data Link

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```
Run 1: Statistics of TCP Vegas

Start at: 2017-09-01 01:38:37
End at: 2017-09-01 01:39:07

# Below is generated by plot.py at 2017-09-01 07:28:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.14 Mbit/s
95th percentile per-packet one-way delay: 143.699 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 34.65 Mbit/s
95th percentile per-packet one-way delay: 138.782 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 28.71 Mbit/s
95th percentile per-packet one-way delay: 143.720 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 69.32 Mbit/s
95th percentile per-packet one-way delay: 144.990 ms
Loss rate: 3.76%
```
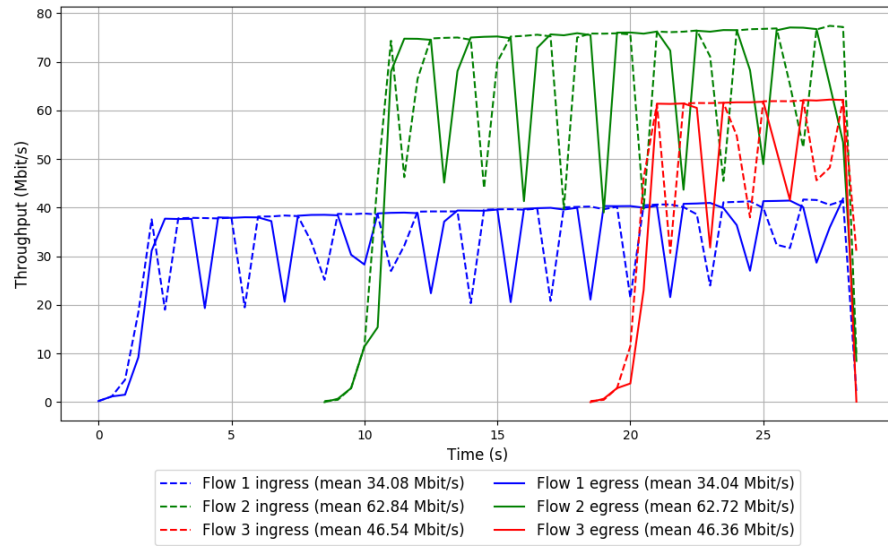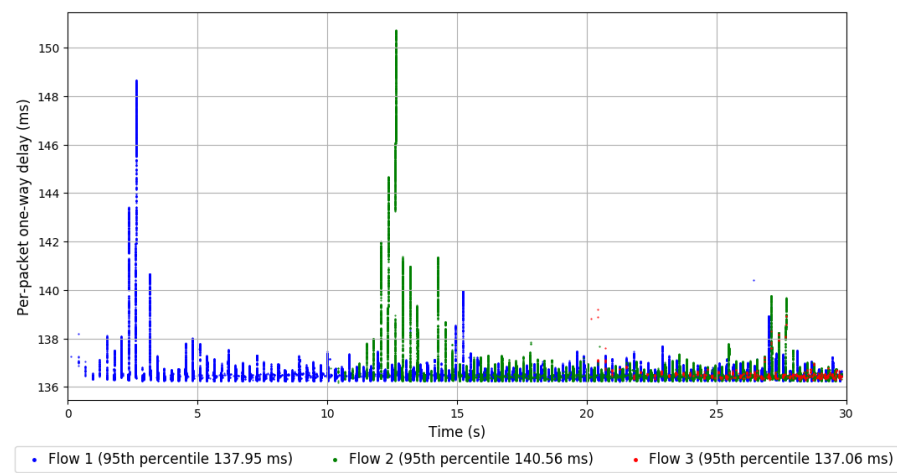
Run 1: Report of TCP Vegas — Data Link

- - - Flow 1 ingress (mean 34.68 Mbit/s) —— Flow 1 egress (mean 34.65 Mbit/s)
- - - Flow 2 ingress (mean 28.73 Mbit/s) —— Flow 2 egress (mean 28.71 Mbit/s)
- - - Flow 3 ingress (mean 70.04 Mbit/s) —— Flow 3 egress (mean 69.32 Mbit/s)

• Flow 1 (95th percentile 138.78 ms)   • Flow 2 (95th percentile 143.72 ms)   • Flow 3 (95th percentile 144.99 ms)

Run 2: Statistics of TCP Vegas

Start at: 2017-09-01 01:52:51
End at: 2017-09-01 01:53:21

Below is generated by plot.py at 2017-09-01 07:29:01
Datalink statistics
-- Total of 3 flows:
Average throughput: 93.25 Mbit/s
95th percentile per-packet one-way delay: 137.903 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 34.04 Mbit/s
95th percentile per-packet one-way delay: 137.282 ms
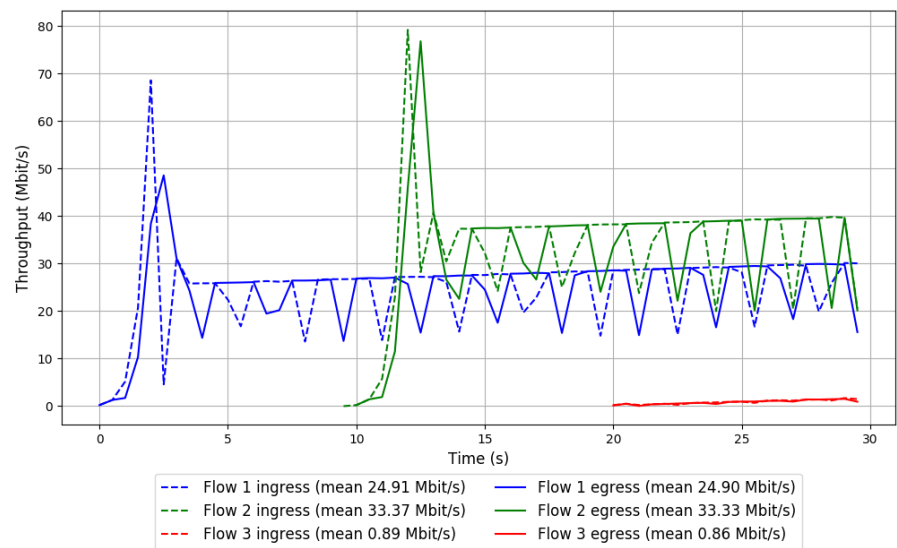Loss rate: 1.08%
-- Flow 2:
Average throughput: 62.72 Mbit/s
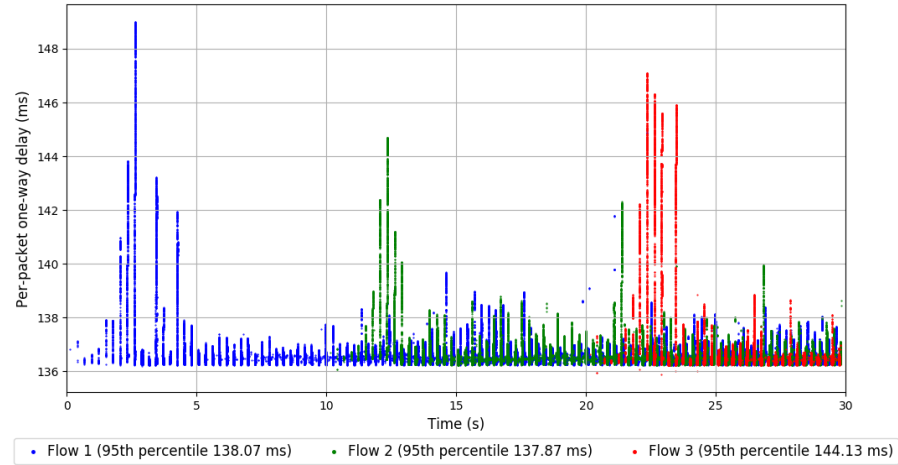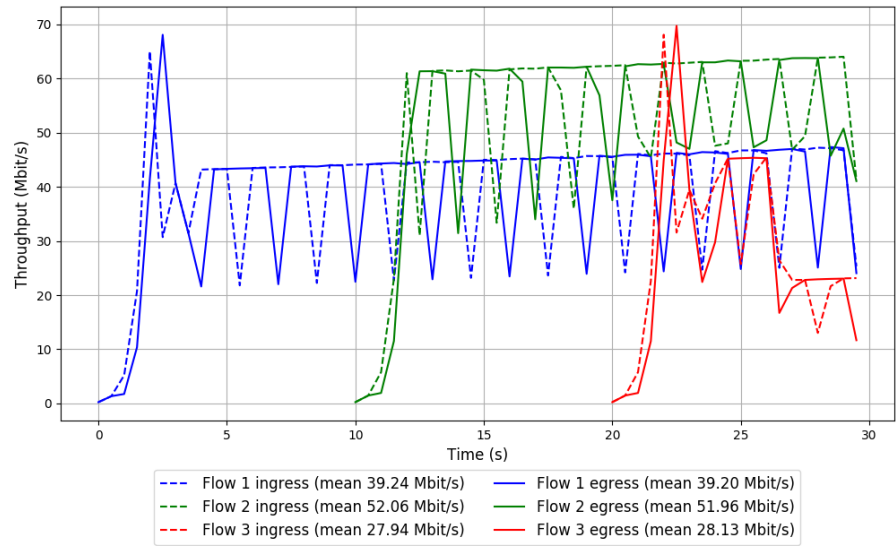95th percentile per-packet one-way delay: 138.145 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 46.36 Mbit/s
95th percentile per-packet one-way delay: 138.924 ms
Loss rate: 3.37%

Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2017-09-01 02:06:51
End at: 2017-09-01 02:07:21

# Below is generated by plot.py at 2017-09-01 07:29:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.27 Mbit/s
95th percentile per-packet one-way delay: 139.450 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 24.90 Mbit/s
95th percentile per-packet one-way delay: 137.954 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 33.33 Mbit/s
95th percentile per-packet one-way delay: 140.564 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 137.064 ms
Loss rate: 5.58%
```
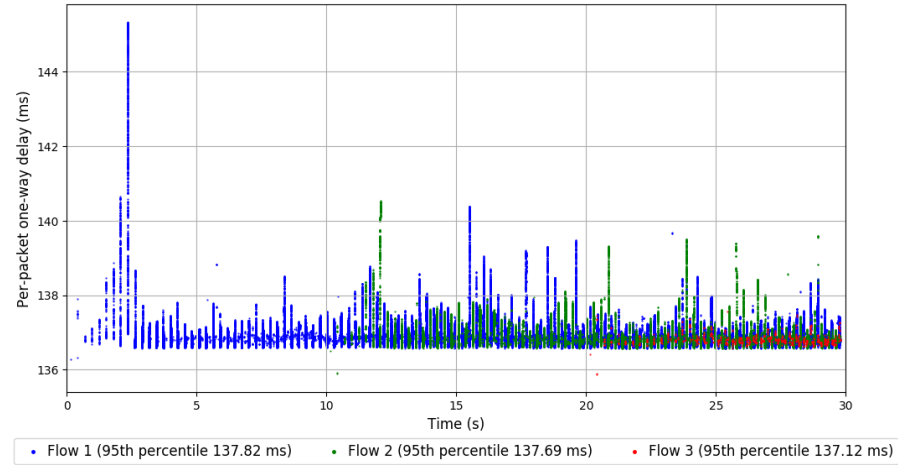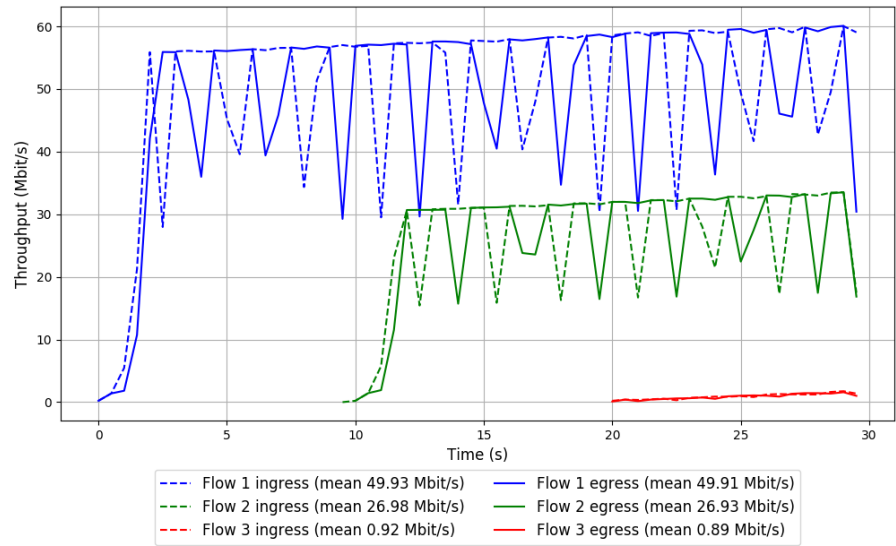
Run 3: Report of TCP Vegas — Data Link

- - - Flow 1 ingress (mean 24.91 Mbit/s) ——— Flow 1 egress (mean 24.90 Mbit/s)
- - - Flow 2 ingress (mean 33.37 Mbit/s) ——— Flow 2 egress (mean 33.33 Mbit/s)
- - - Flow 3 ingress (mean 0.89 Mbit/s) ——— Flow 3 egress (mean 0.86 Mbit/s)

- Flow 1 (95th percentile 137.95 ms)   - Flow 2 (95th percentile 140.56 ms)   - Flow 3 (95th percentile 137.06 ms)

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```
Run 4: Statistics of TCP Vegas

Start at: 2017-09-01 02:20:58
End at: 2017-09-01 02:21:28


# Below is generated by plot.py at 2017-09-01 07:29:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.81 Mbit/s
95th percentile per-packet one-way delay: 138.597 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 39.20 Mbit/s
95th percentile per-packet one-way delay: 138.075 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 51.96 Mbit/s
95th percentile per-packet one-way delay: 137.865 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 28.13 Mbit/s
95th percentile per-packet one-way delay: 144.131 ms
Loss rate: 2.10%
```
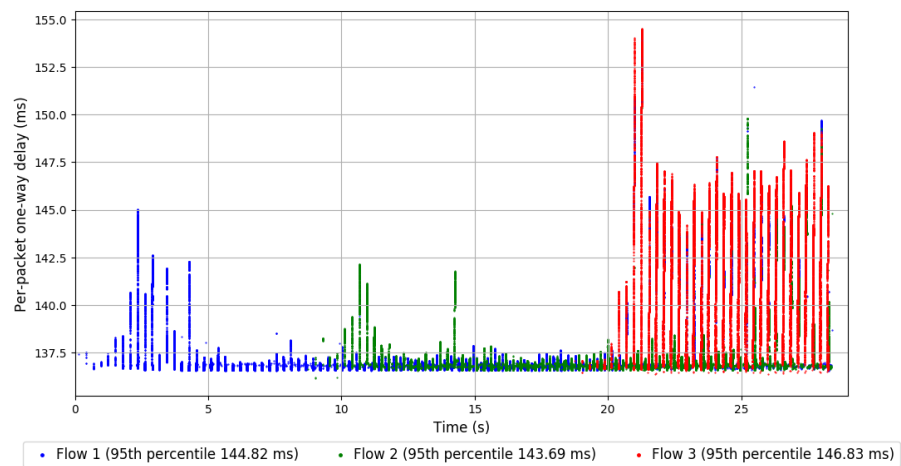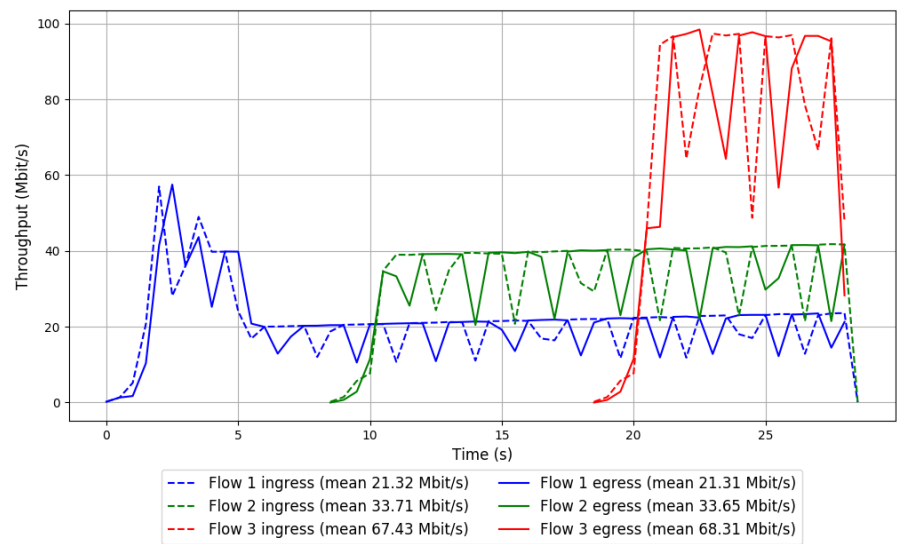
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2017-09-01 02:35:04
End at: 2017-09-01 02:35:34

# Below is generated by plot.py at 2017-09-01 07:29:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.04 Mbit/s
95th percentile per-packet one-way delay: 137.766 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 49.91 Mbit/s
95th percentile per-packet one-way delay: 137.824 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 26.93 Mbit/s
95th percentile per-packet one-way delay: 137.685 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 0.89 Mbit/s
95th percentile per-packet one-way delay: 137.122 ms
Loss rate: 5.65%
```
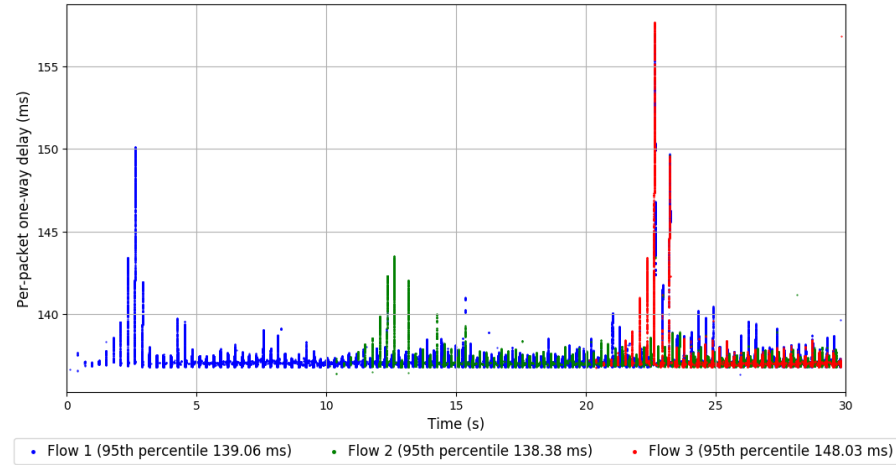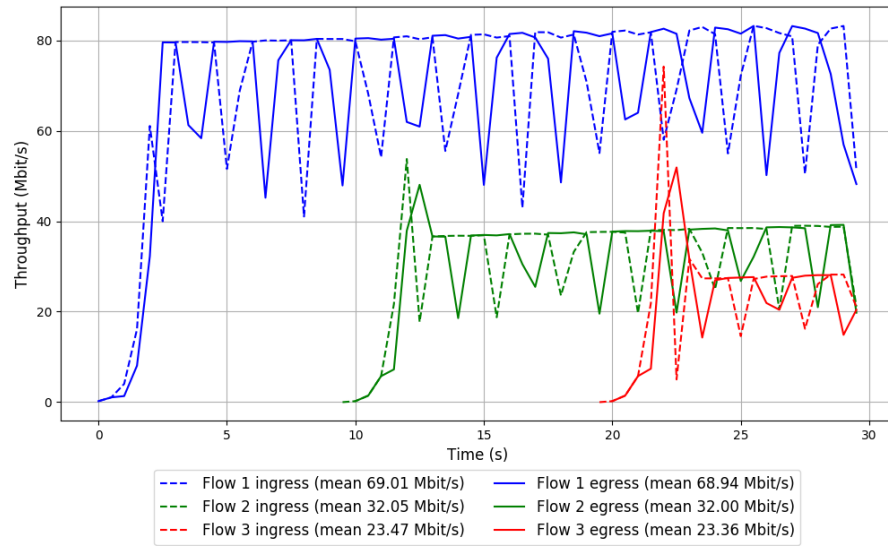
Run 5: Report of TCP Vegas — Data Link

```
Run 6: Statistics of TCP Vegas

Start at: 2017-09-01 02:49:09
End at: 2017-09-01 02:49:39


# Below is generated by plot.py at 2017-09-01 07:29:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.68 Mbit/s
95th percentile per-packet one-way delay: 145.779 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 21.31 Mbit/s
95th percentile per-packet one-way delay: 144.825 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 33.65 Mbit/s
95th percentile per-packet one-way delay: 143.688 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 68.31 Mbit/s
95th percentile per-packet one-way delay: 146.828 ms
Loss rate: 1.54%
```

Run 6: Report of TCP Vegas — Data Link

```
Run 7: Statistics of TCP Vegas

Start at: 2017-09-01 03:03:16
End at: 2017-09-01 03:03:46

# Below is generated by plot.py at 2017-09-01 07:29:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.75 Mbit/s
95th percentile per-packet one-way delay: 139.438 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 68.94 Mbit/s
95th percentile per-packet one-way delay: 139.064 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 32.00 Mbit/s
95th percentile per-packet one-way delay: 138.380 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 23.36 Mbit/s
95th percentile per-packet one-way delay: 148.033 ms
Loss rate: 3.03%
```
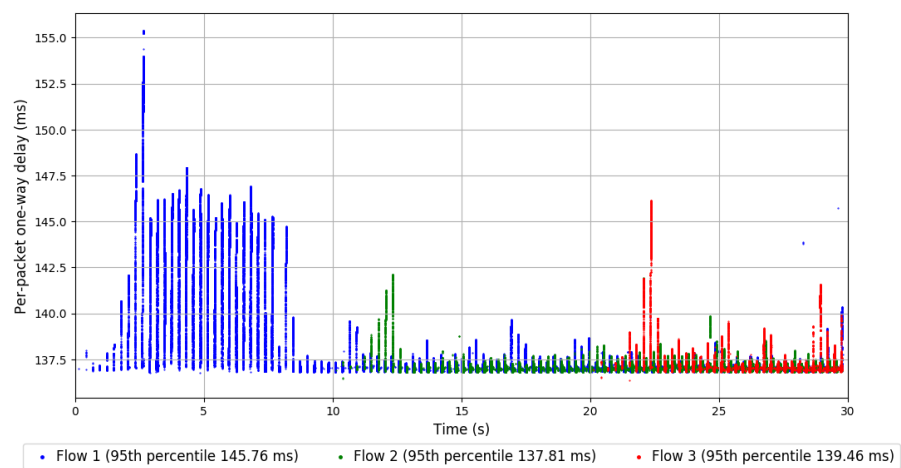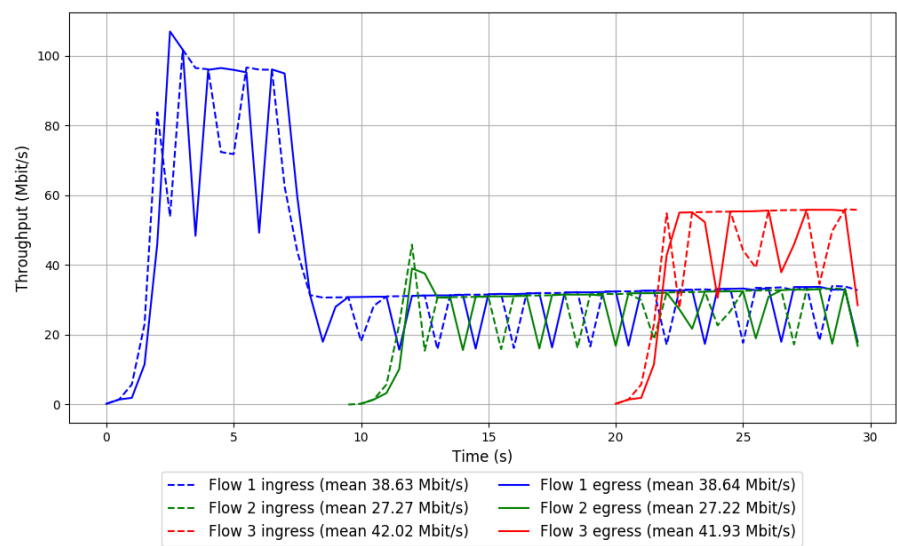
Run 7: Report of TCP Vegas — Data Link

```
Run 8: Statistics of TCP Vegas

Start at: 2017-09-01 03:17:23
End at: 2017-09-01 03:17:53

# Below is generated by plot.py at 2017-09-01 07:29:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.27 Mbit/s
95th percentile per-packet one-way delay: 145.051 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 38.64 Mbit/s
95th percentile per-packet one-way delay: 145.759 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 27.22 Mbit/s
95th percentile per-packet one-way delay: 137.810 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 41.93 Mbit/s
95th percentile per-packet one-way delay: 139.460 ms
Loss rate: 3.36%
```
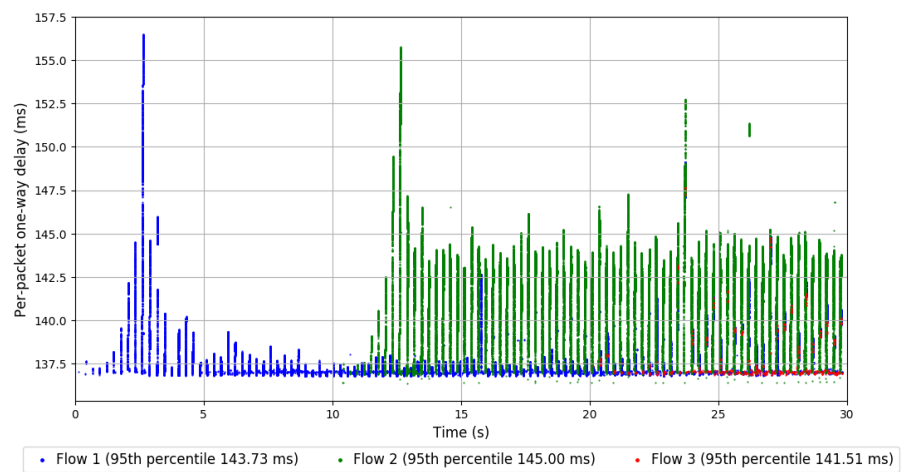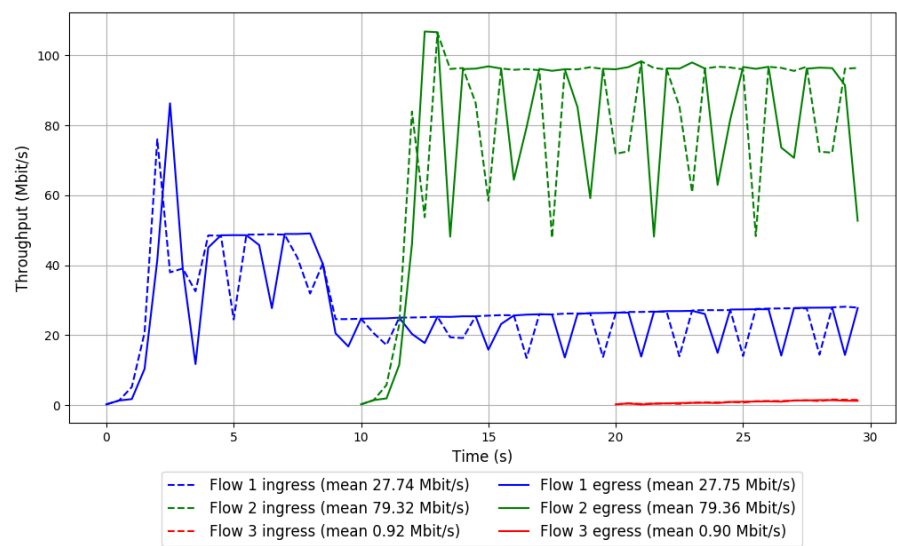
Run 8: Report of TCP Vegas — Data Link

```
Run 9: Statistics of TCP Vegas

Start at: 2017-09-01 03:31:25
End at: 2017-09-01 03:31:55


# Below is generated by plot.py at 2017-09-01 07:30:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.58 Mbit/s
95th percentile per-packet one-way delay: 144.760 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 27.75 Mbit/s
95th percentile per-packet one-way delay: 143.726 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 79.36 Mbit/s
95th percentile per-packet one-way delay: 145.004 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 141.510 ms
Loss rate: 5.13%
```
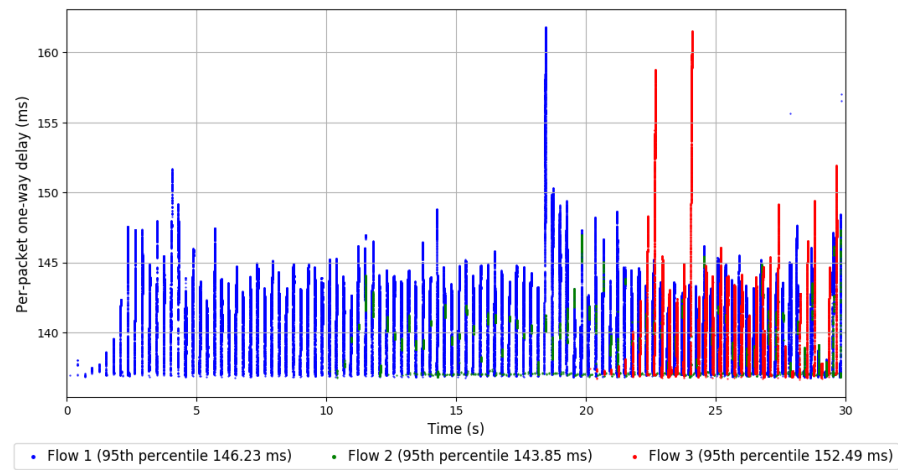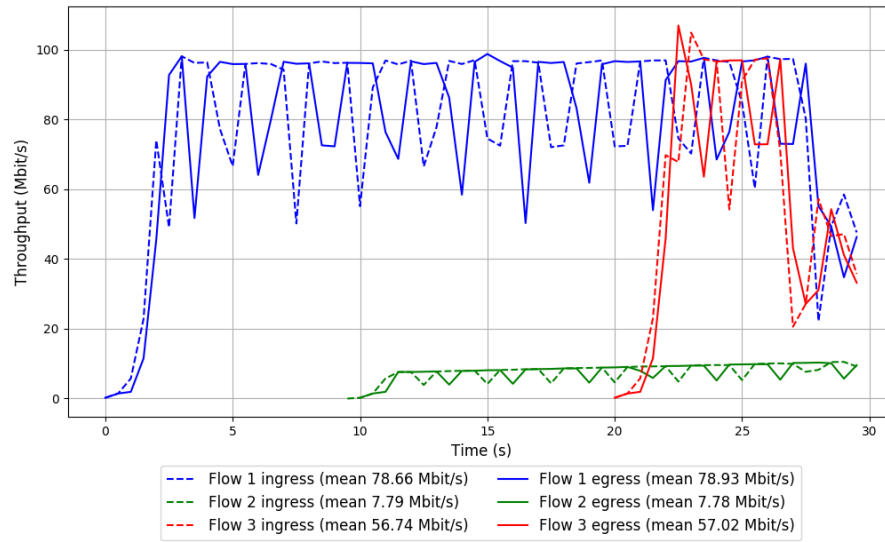
Run 9: Report of TCP Vegas — Data Link

```
Run 10: Statistics of TCP Vegas

Start at: 2017-09-01 03:45:59
End at: 2017-09-01 03:46:29


# Below is generated by plot.py at 2017-09-01 07:30:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 102.36 Mbit/s
95th percentile per-packet one-way delay: 146.659 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 78.93 Mbit/s
95th percentile per-packet one-way delay: 146.233 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 143.847 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 57.02 Mbit/s
95th percentile per-packet one-way delay: 152.488 ms
Loss rate: 2.42%
```
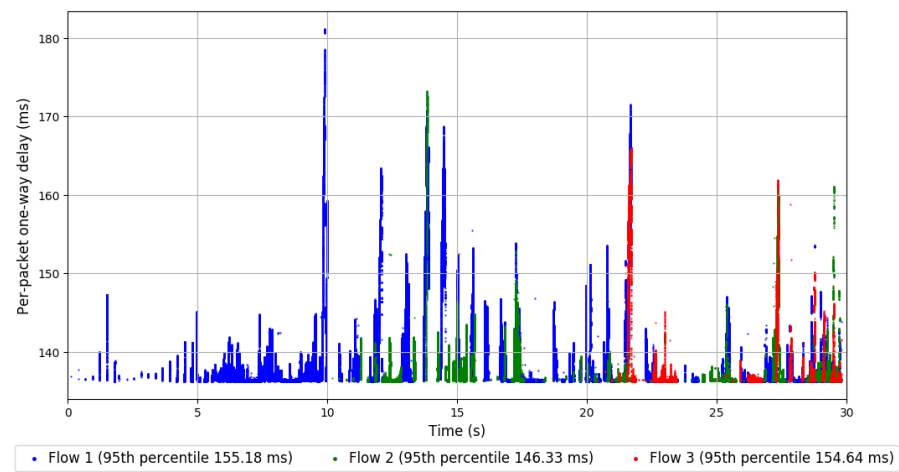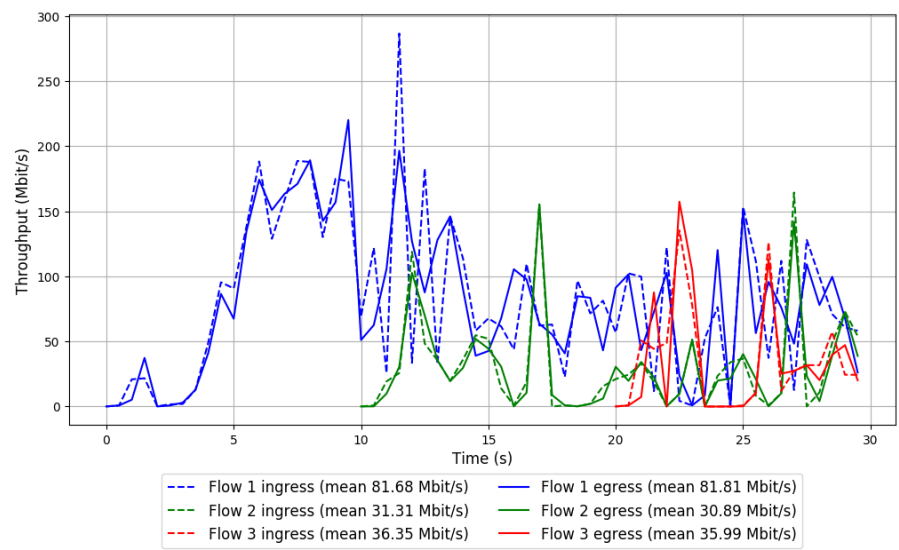
Run 10: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 78.66 Mbit/s)   Flow 1 egress (mean 78.93 Mbit/s)
Flow 2 ingress (mean 7.79 Mbit/s)   Flow 2 egress (mean 7.78 Mbit/s)
Flow 3 ingress (mean 56.74 Mbit/s)   Flow 3 egress (mean 57.02 Mbit/s)

Flow 1 (95th percentile 146.23 ms)   Flow 2 (95th percentile 143.85 ms)   Flow 3 (95th percentile 152.49 ms)

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```
Run 1: Statistics of Verus

Start at: 2017-09-01 01:42:31
End at: 2017-09-01 01:43:01

# Below is generated by plot.py at 2017-09-01 07:30:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 113.95 Mbit/s
95th percentile per-packet one-way delay: 153.364 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 81.81 Mbit/s
95th percentile per-packet one-way delay: 155.176 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 30.89 Mbit/s
95th percentile per-packet one-way delay: 146.326 ms
Loss rate: 2.59%
-- Flow 3:
Average throughput: 35.99 Mbit/s
95th percentile per-packet one-way delay: 154.638 ms
Loss rate: 1.48%
```
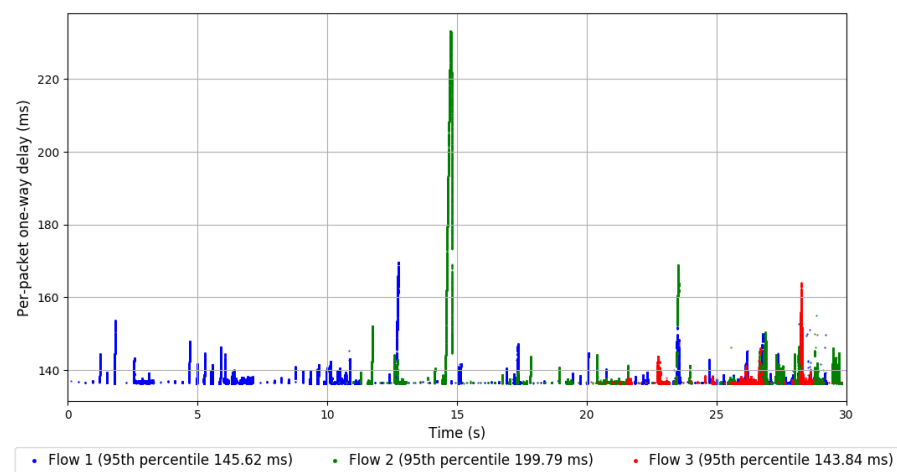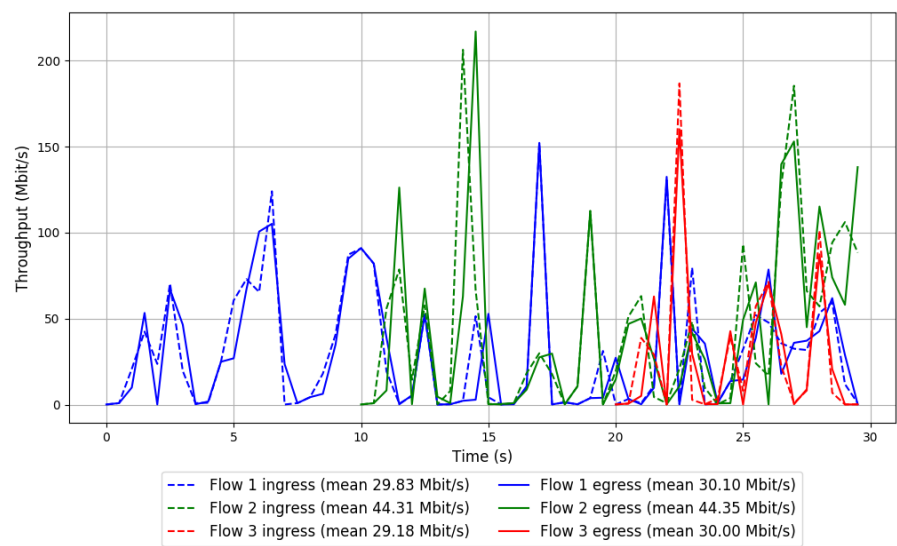
Run 1: Report of Verus — Data Link

- - - Flow 1 ingress (mean 81.68 Mbit/s)   —— Flow 1 egress (mean 81.81 Mbit/s)
- - - Flow 2 ingress (mean 31.31 Mbit/s)   —— Flow 2 egress (mean 30.89 Mbit/s)
- - - Flow 3 ingress (mean 36.35 Mbit/s)   —— Flow 3 egress (mean 35.99 Mbit/s)

• Flow 1 (95th percentile 155.18 ms)   • Flow 2 (95th percentile 146.33 ms)   • Flow 3 (95th percentile 154.64 ms)

```
Run 2: Statistics of Verus

Start at: 2017-09-01 01:56:48
End at: 2017-09-01 01:57:18


# Below is generated by plot.py at 2017-09-01 07:30:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.12 Mbit/s
95th percentile per-packet one-way delay: 158.505 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 30.10 Mbit/s
95th percentile per-packet one-way delay: 145.618 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 44.35 Mbit/s
95th percentile per-packet one-way delay: 199.790 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 30.00 Mbit/s
95th percentile per-packet one-way delay: 143.845 ms
Loss rate: 0.02%
```
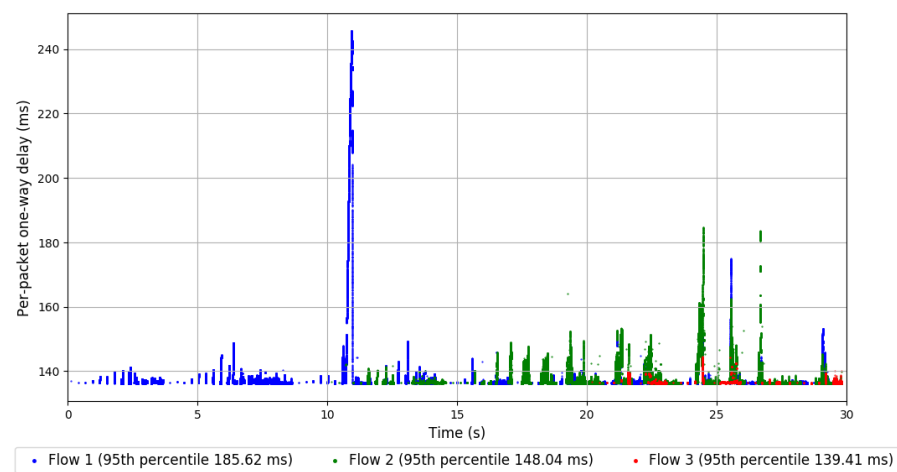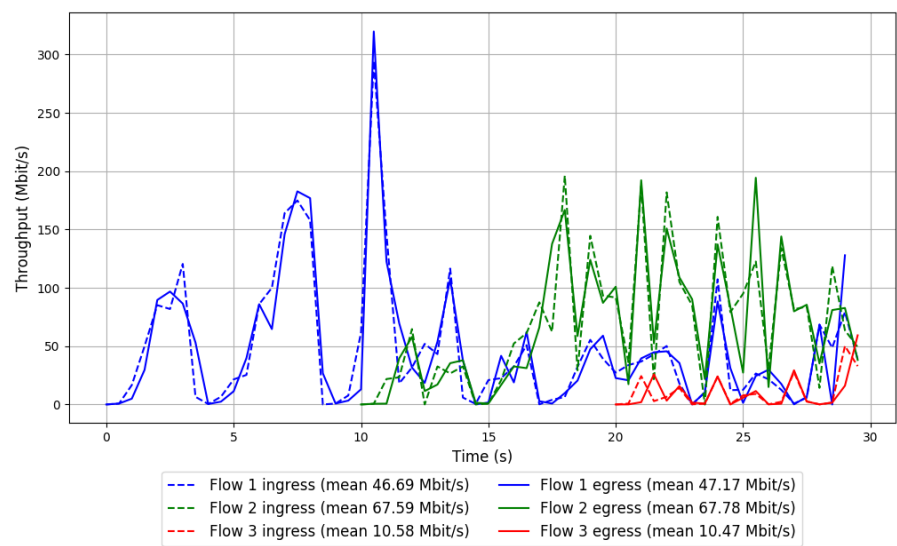
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2017-09-01 02:10:44
End at: 2017-09-01 02:11:14


# Below is generated by plot.py at 2017-09-01 07:30:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.76 Mbit/s
95th percentile per-packet one-way delay: 152.282 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 47.17 Mbit/s
95th percentile per-packet one-way delay: 185.624 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 67.78 Mbit/s
95th percentile per-packet one-way delay: 148.045 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 10.47 Mbit/s
95th percentile per-packet one-way delay: 139.405 ms
Loss rate: 3.63%
```
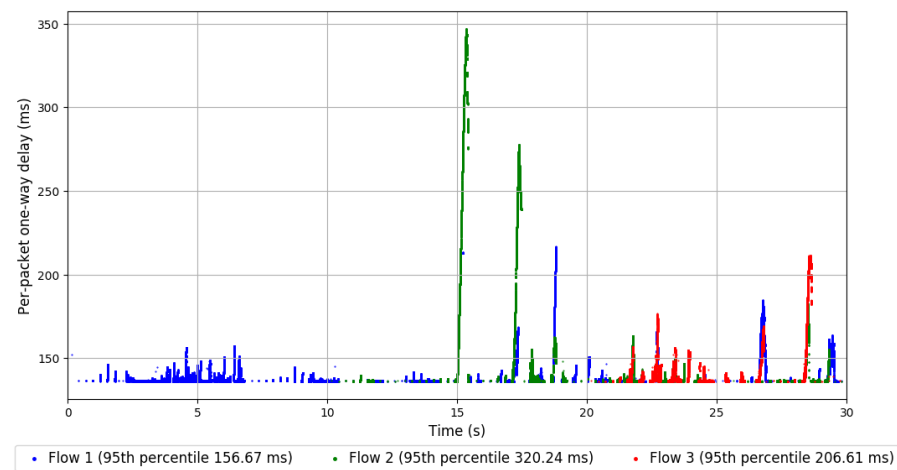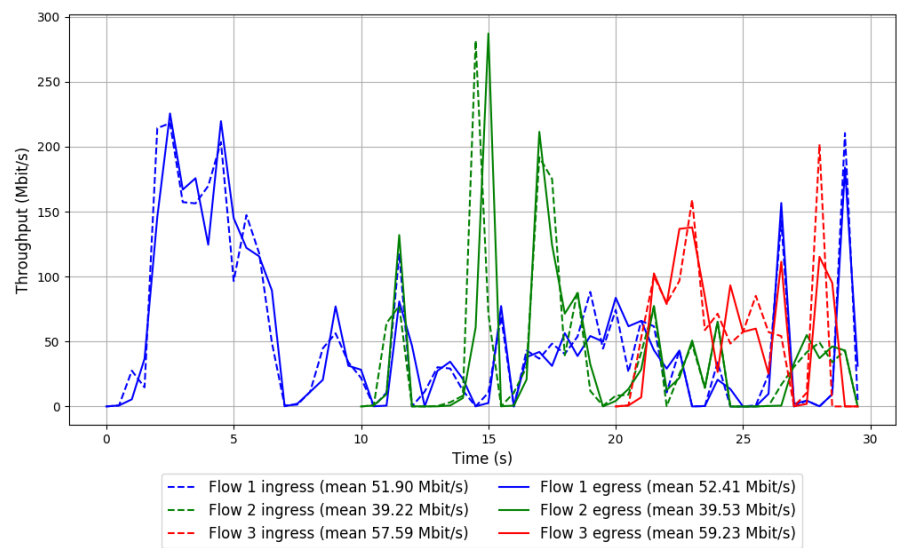
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2017-09-01 02:24:55
End at: 2017-09-01 02:25:25


# Below is generated by plot.py at 2017-09-01 07:30:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.72 Mbit/s
95th percentile per-packet one-way delay: 223.115 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 52.41 Mbit/s
95th percentile per-packet one-way delay: 156.674 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.53 Mbit/s
95th percentile per-packet one-way delay: 320.236 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 59.23 Mbit/s
95th percentile per-packet one-way delay: 206.610 ms
Loss rate: 0.01%
```
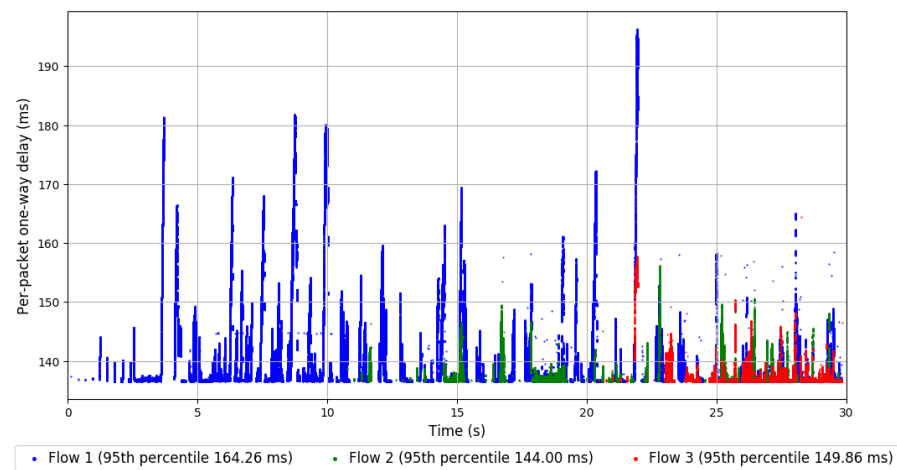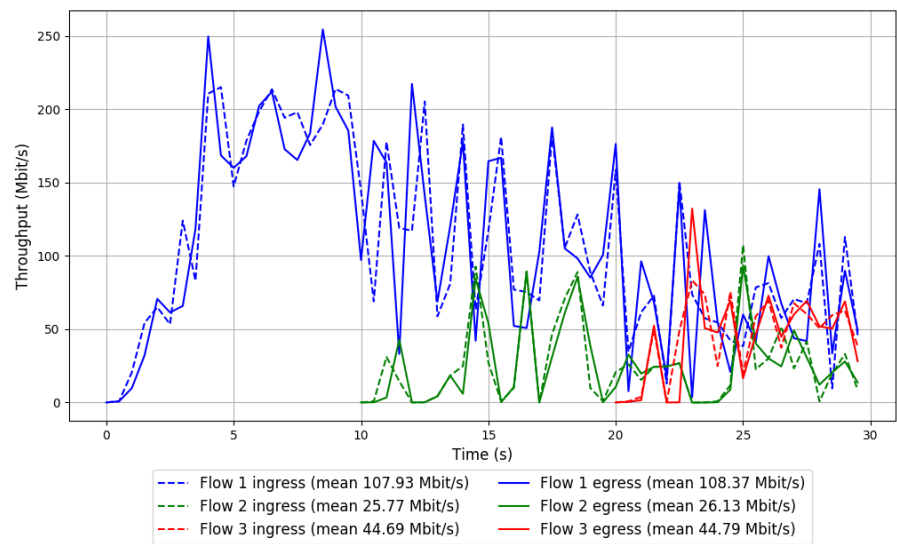
Run 4: Report of Verus — Data Link

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```
Run 5: Statistics of Verus

Start at: 2017-09-01 02:38:56
End at: 2017-09-01 02:39:26


# Below is generated by plot.py at 2017-09-01 07:31:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.11 Mbit/s
95th percentile per-packet one-way delay: 161.378 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 108.37 Mbit/s
95th percentile per-packet one-way delay: 164.258 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 26.13 Mbit/s
95th percentile per-packet one-way delay: 143.997 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 44.79 Mbit/s
95th percentile per-packet one-way delay: 149.860 ms
Loss rate: 2.44%
```
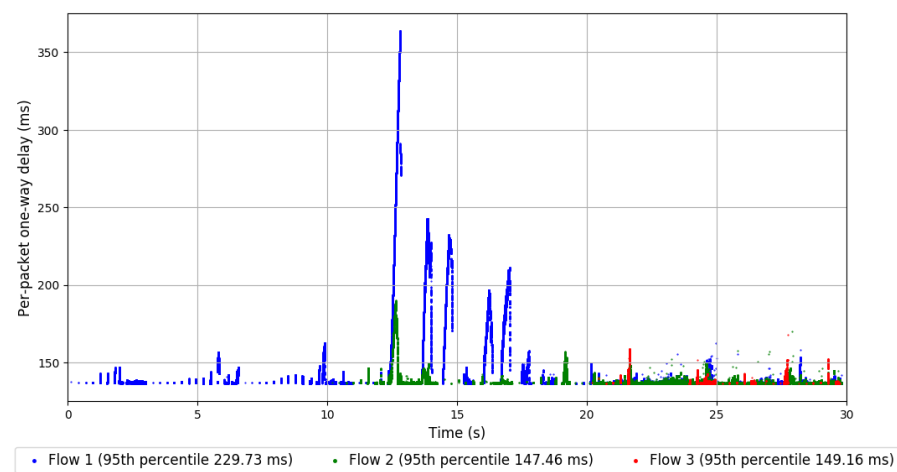
Run 5: Report of Verus — Data Link

```
Run 6: Statistics of Verus

Start at: 2017-09-01 02:53:05
End at: 2017-09-01 02:53:35


# Below is generated by plot.py at 2017-09-01 07:31:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.88 Mbit/s
95th percentile per-packet one-way delay: 219.741 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 60.74 Mbit/s
95th percentile per-packet one-way delay: 229.729 ms
Loss rate: 1.34%
-- Flow 2:
Average throughput: 50.62 Mbit/s
95th percentile per-packet one-way delay: 147.462 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 11.46 Mbit/s
95th percentile per-packet one-way delay: 149.155 ms
Loss rate: 0.26%
```
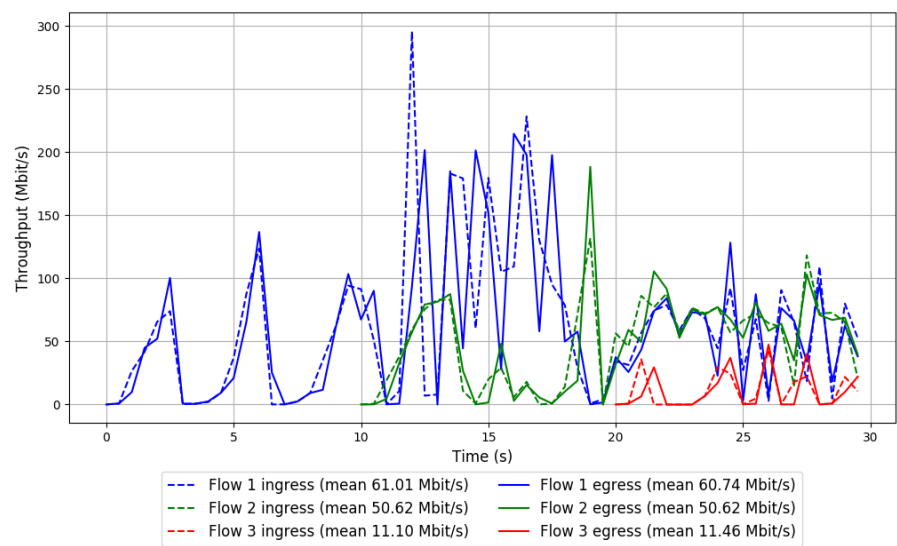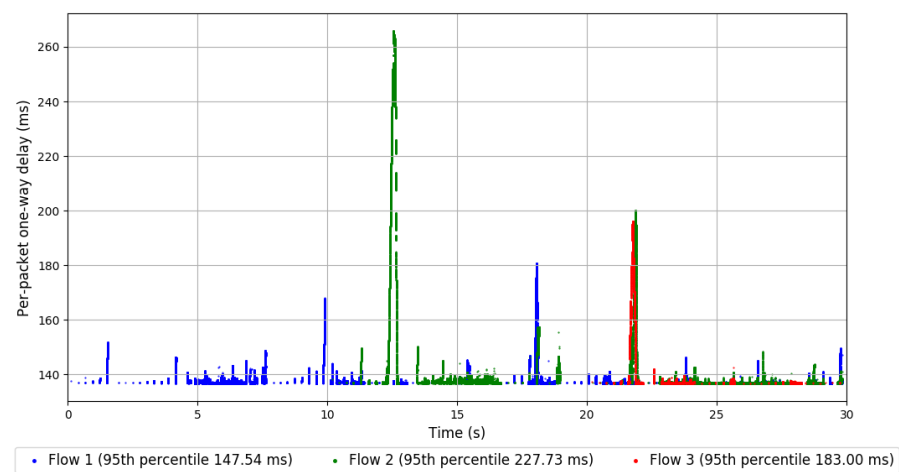
Run 6: Report of Verus — Data Link

```
Run 7: Statistics of Verus

Start at: 2017-09-01 03:07:12
End at: 2017-09-01 03:07:42


# Below is generated by plot.py at 2017-09-01 07:31:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.99 Mbit/s
95th percentile per-packet one-way delay: 176.036 ms
Loss rate: 2.39%
-- Flow 1:
Average throughput: 40.57 Mbit/s
95th percentile per-packet one-way delay: 147.543 ms
Loss rate: 1.67%
-- Flow 2:
Average throughput: 54.59 Mbit/s
95th percentile per-packet one-way delay: 227.731 ms
Loss rate: 3.56%
-- Flow 3:
Average throughput: 19.66 Mbit/s
95th percentile per-packet one-way delay: 183.003 ms
Loss rate: 0.19%
```
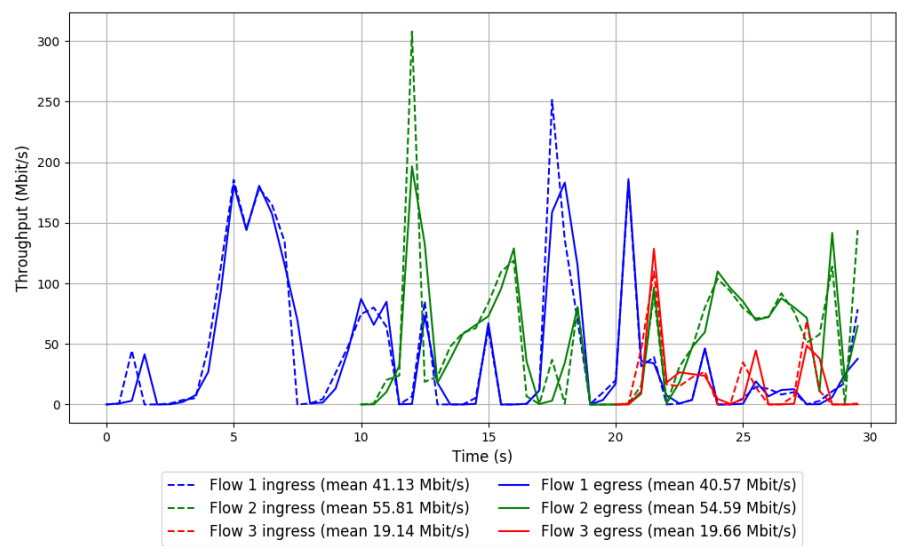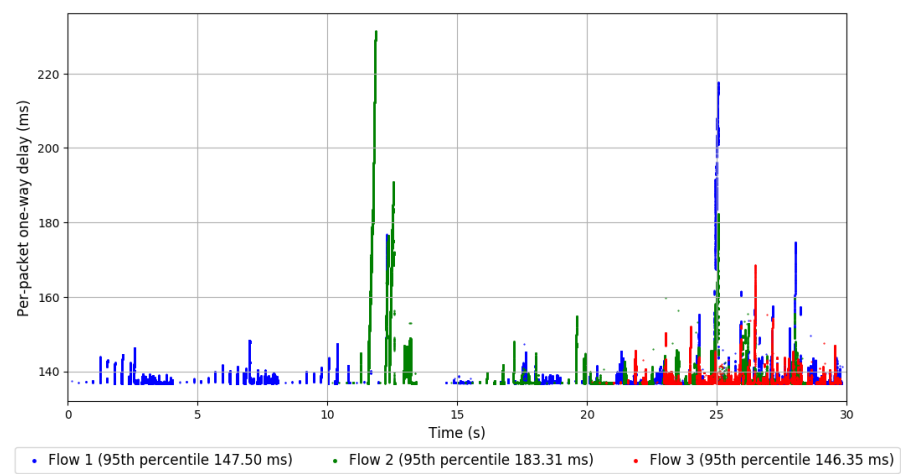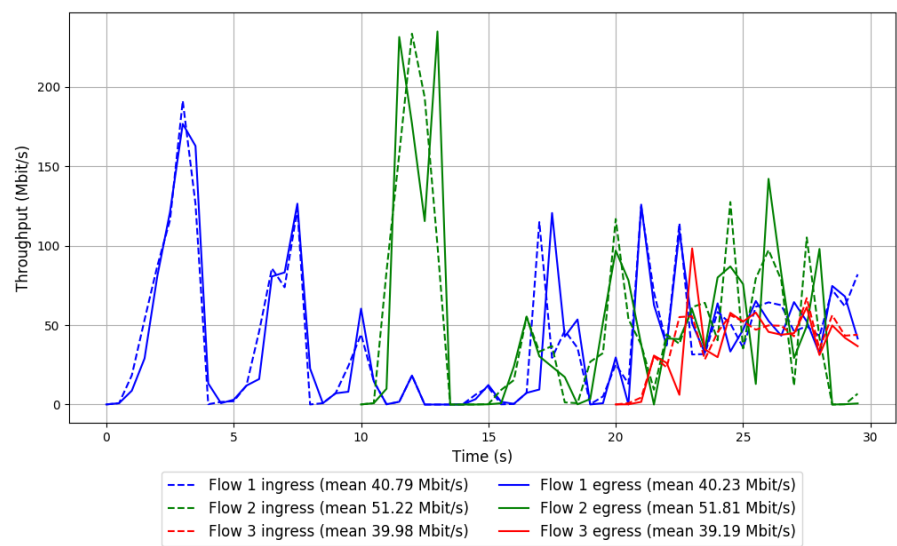
Run 7: Report of Verus — Data Link

Flow 1 ingress (mean 41.13 Mbit/s) --- Flow 1 egress (mean 40.57 Mbit/s)
Flow 2 ingress (mean 55.81 Mbit/s) --- Flow 2 egress (mean 54.59 Mbit/s)
Flow 3 ingress (mean 19.14 Mbit/s) --- Flow 3 egress (mean 19.66 Mbit/s)

Flow 1 (95th percentile 147.54 ms) · Flow 2 (95th percentile 227.73 ms) · Flow 3 (95th percentile 183.00 ms)

```
Run 8: Statistics of Verus

Start at: 2017-09-01 03:21:17
End at: 2017-09-01 03:21:47

# Below is generated by plot.py at 2017-09-01 07:31:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.99 Mbit/s
95th percentile per-packet one-way delay: 172.002 ms
Loss rate: 1.84%
-- Flow 1:
Average throughput: 40.23 Mbit/s
95th percentile per-packet one-way delay: 147.497 ms
Loss rate: 2.25%
-- Flow 2:
Average throughput: 51.81 Mbit/s
95th percentile per-packet one-way delay: 183.307 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 39.19 Mbit/s
95th percentile per-packet one-way delay: 146.350 ms
Loss rate: 4.56%
```
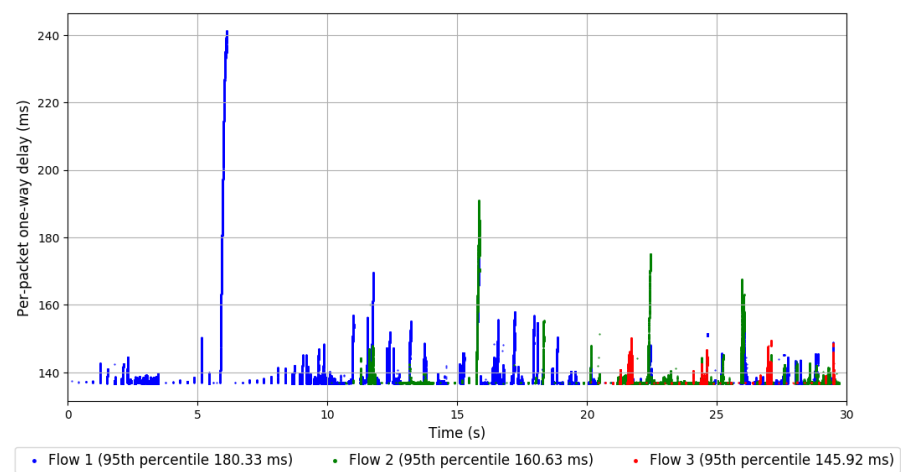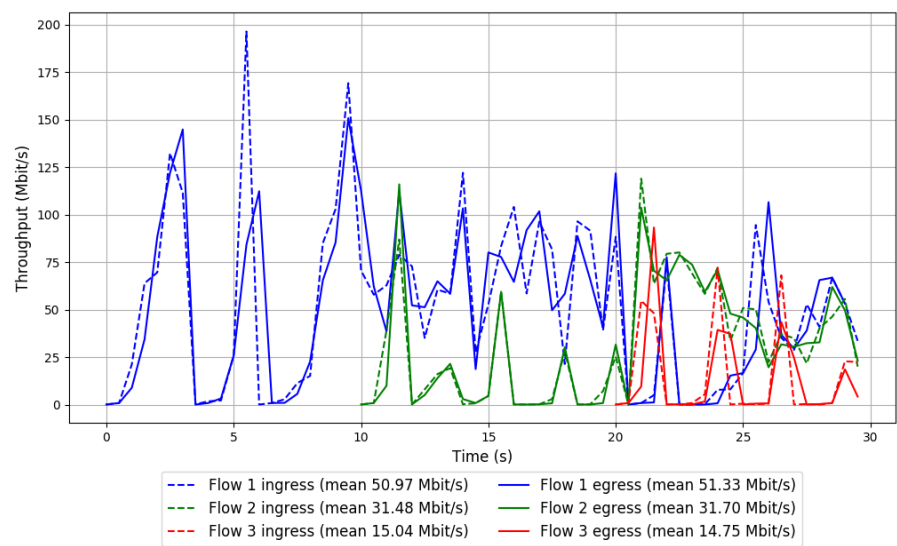
Run 8: Report of Verus — Data Link

Flow 1 ingress (mean 40.79 Mbit/s)   Flow 1 egress (mean 40.23 Mbit/s)
Flow 2 ingress (mean 51.22 Mbit/s)   Flow 2 egress (mean 51.81 Mbit/s)
Flow 3 ingress (mean 39.98 Mbit/s)   Flow 3 egress (mean 39.19 Mbit/s)

Flow 1 (95th percentile 147.50 ms)   Flow 2 (95th percentile 183.31 ms)   Flow 3 (95th percentile 146.35 ms)

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```
Run 9: Statistics of Verus

Start at: 2017-09-01 03:35:26
End at: 2017-09-01 03:35:56


# Below is generated by plot.py at 2017-09-01 07:31:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.60 Mbit/s
95th percentile per-packet one-way delay: 167.811 ms
Loss rate: 1.57%
-- Flow 1:
Average throughput: 51.33 Mbit/s
95th percentile per-packet one-way delay: 180.332 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 31.70 Mbit/s
95th percentile per-packet one-way delay: 160.634 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 14.75 Mbit/s
95th percentile per-packet one-way delay: 145.916 ms
Loss rate: 7.51%
```
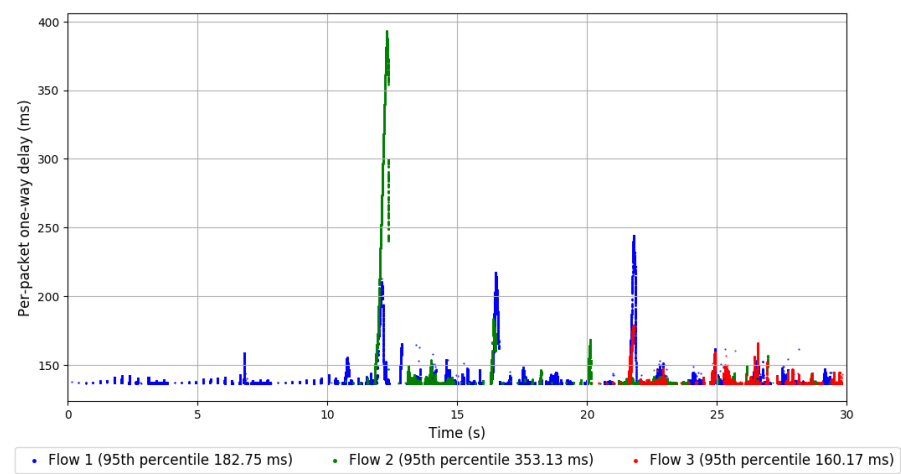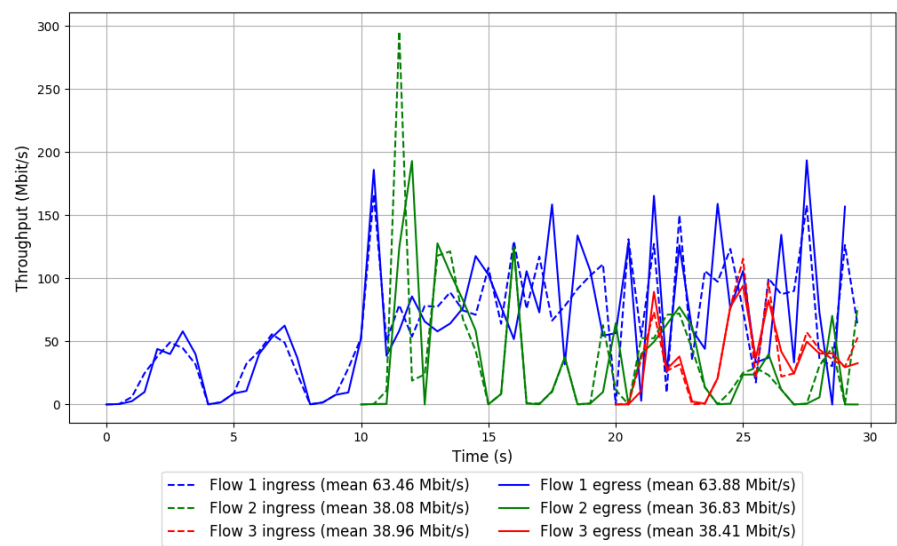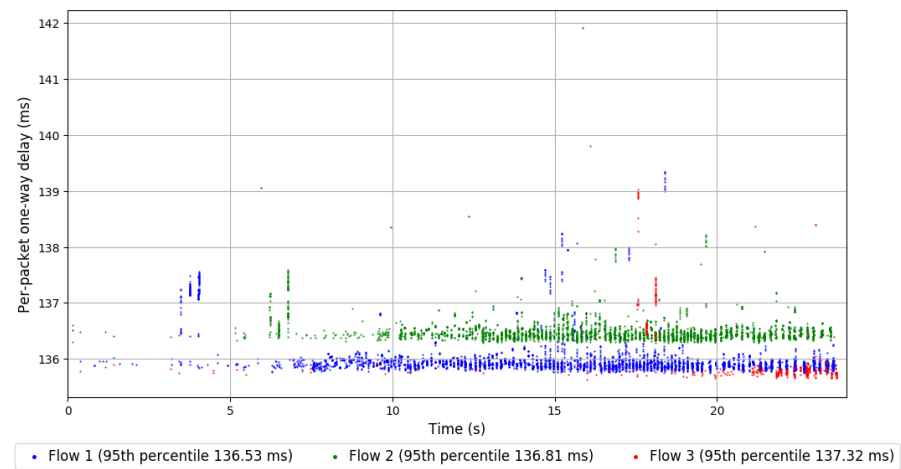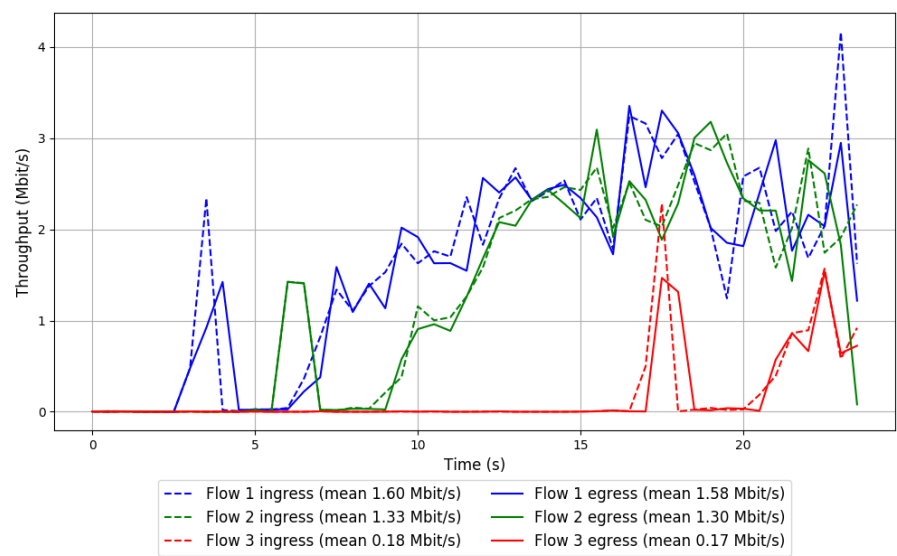
Run 9: Report of Verus — Data Link

Flow 1 ingress (mean 50.97 Mbit/s)   Flow 1 egress (mean 51.33 Mbit/s)
Flow 2 ingress (mean 31.48 Mbit/s)   Flow 2 egress (mean 31.70 Mbit/s)
Flow 3 ingress (mean 15.04 Mbit/s)   Flow 3 egress (mean 14.75 Mbit/s)

Flow 1 (95th percentile 180.33 ms)   Flow 2 (95th percentile 160.63 ms)   Flow 3 (95th percentile 145.92 ms)

```
Run 10: Statistics of Verus

Start at: 2017-09-01 03:50:02
End at: 2017-09-01 03:50:32


# Below is generated by plot.py at 2017-09-01 07:31:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.60 Mbit/s
95th percentile per-packet one-way delay: 205.613 ms
Loss rate: 2.87%
-- Flow 1:
Average throughput: 63.88 Mbit/s
95th percentile per-packet one-way delay: 182.750 ms
Loss rate: 1.64%
-- Flow 2:
Average throughput: 36.83 Mbit/s
95th percentile per-packet one-way delay: 353.135 ms
Loss rate: 5.61%
-- Flow 3:
Average throughput: 38.41 Mbit/s
95th percentile per-packet one-way delay: 160.173 ms
Loss rate: 3.51%
```

Run 10: Report of Verus — Data Link

Run 1: Statistics of WebRTC media

Start at: 2017-09-01 01:34:48
End at: 2017-09-01 01:35:18
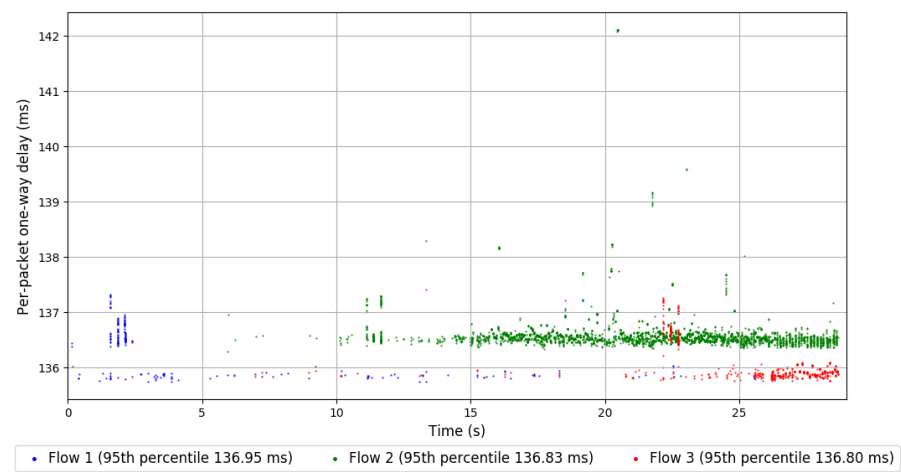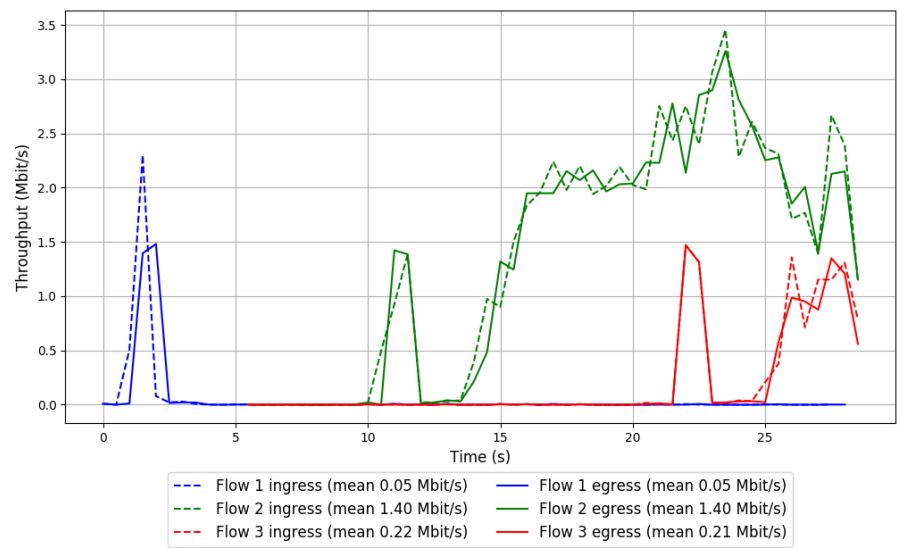
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2017-09-01 01:49:00
End at: 2017-09-01 01:49:30

# Below is generated by plot.py at 2017-09-01 07:31:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 136.859 ms
Loss rate: 2.15%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 136.949 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 136.832 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 136.804 ms
Loss rate: 5.36%
```
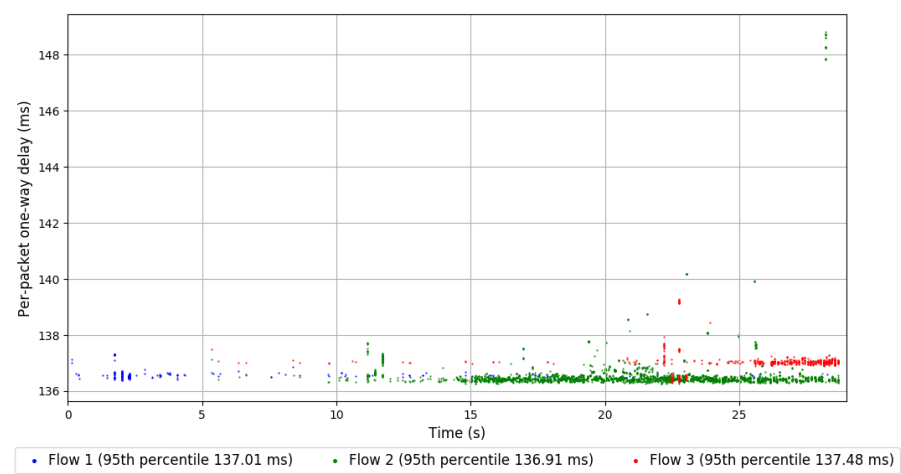
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2017-09-01 02:03:02
End at: 2017-09-01 02:03:32

# Below is generated by plot.py at 2017-09-01 07:31:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 137.121 ms
Loss rate: 2.03%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 137.010 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 136.912 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.482 ms
Loss rate: 7.90%
```
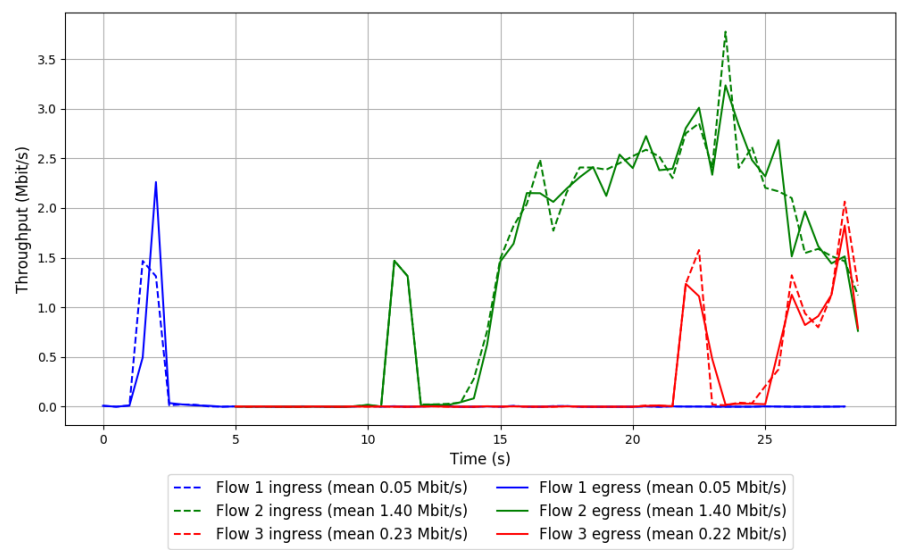
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2017-09-01 02:17:09
End at: 2017-09-01 02:17:39


# Below is generated by plot.py at 2017-09-01 07:31:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 137.049 ms
Loss rate: 3.81%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 137.081 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 137.055 ms
Loss rate: 2.63%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.800 ms
Loss rate: 11.92%
```
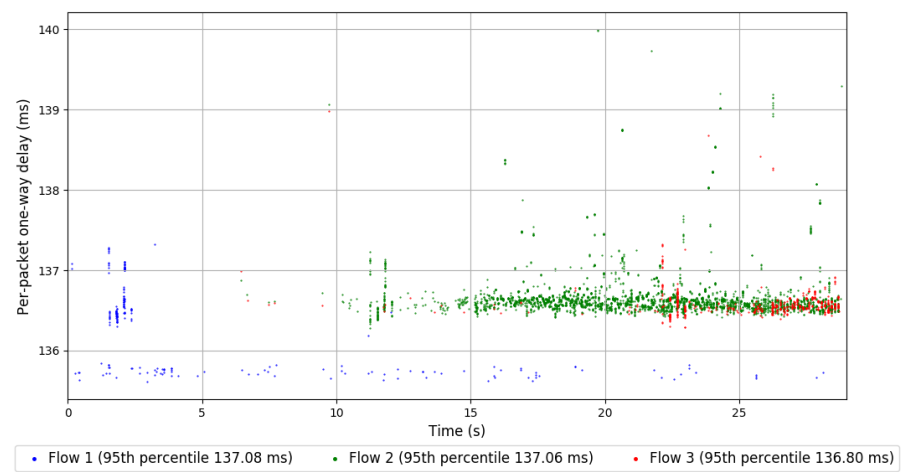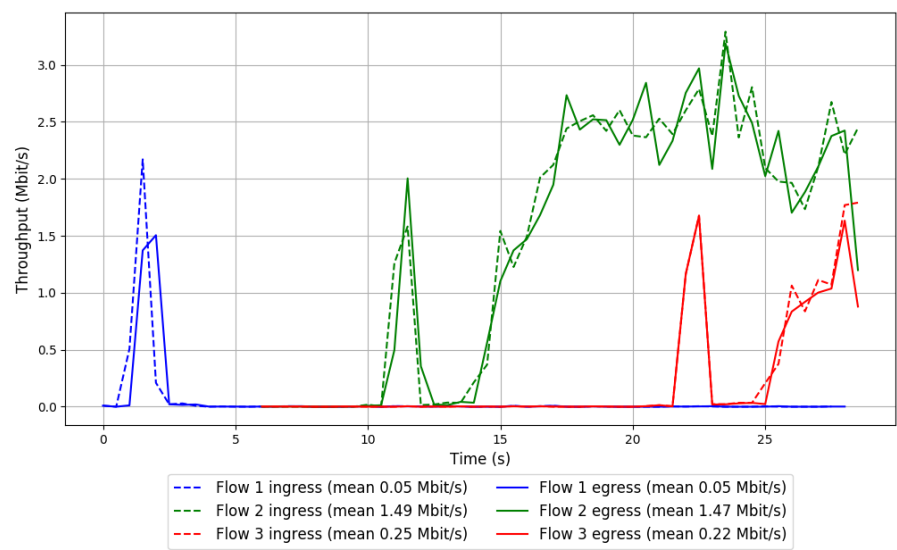
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2017-09-01 02:31:15
End at: 2017-09-01 02:31:45

# Below is generated by plot.py at 2017-09-01 07:31:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 137.082 ms
Loss rate: 3.10%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 137.223 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.49 Mbit/s
95th percentile per-packet one-way delay: 136.894 ms
Loss rate: 1.84%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 140.814 ms
Loss rate: 11.56%
```
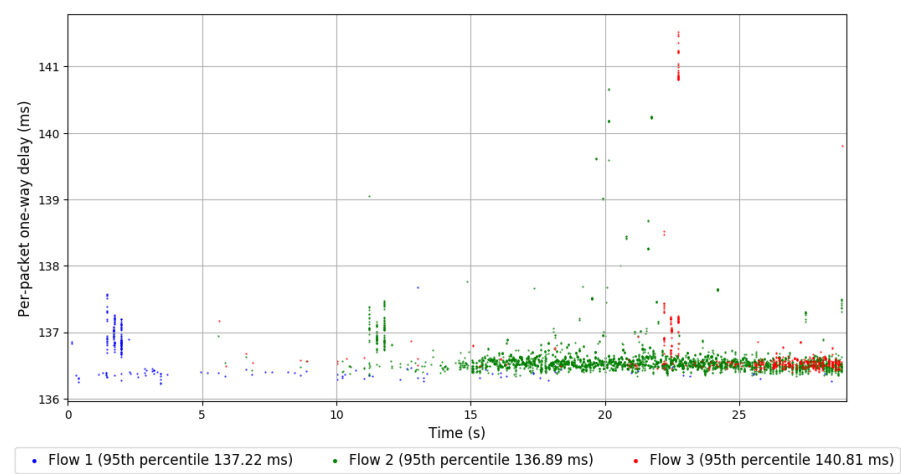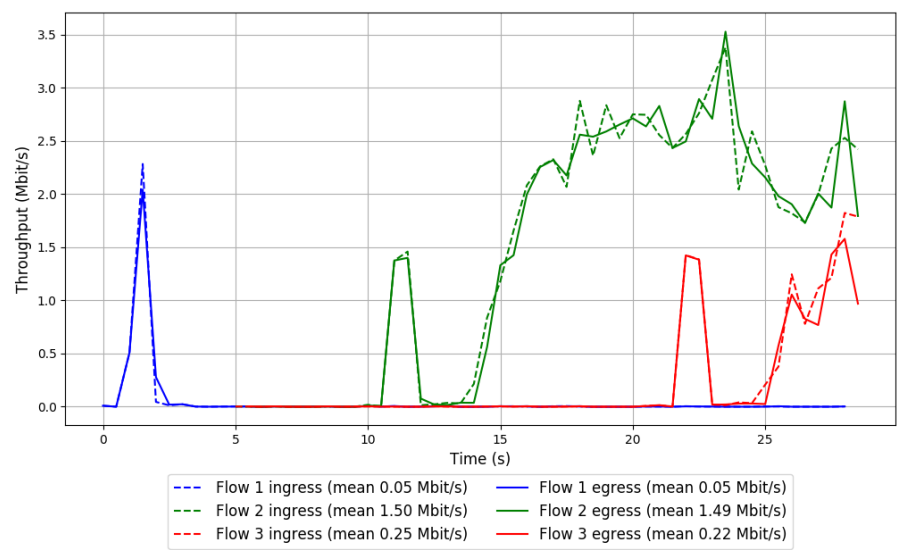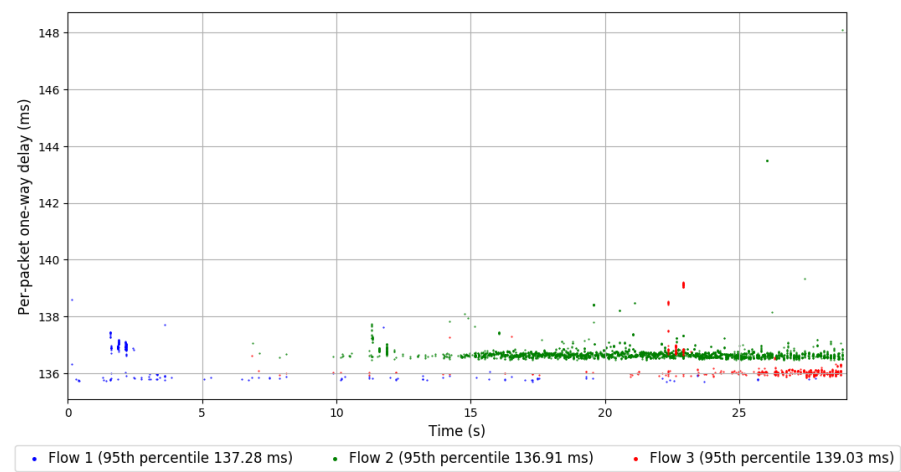
Run 5: Report of WebRTC media — Data Link

Flow 1 ingress (mean 0.05 Mbit/s) ---- Flow 1 egress (mean 0.05 Mbit/s) ——
Flow 2 ingress (mean 1.50 Mbit/s) ---- Flow 2 egress (mean 1.49 Mbit/s) ——
Flow 3 ingress (mean 0.25 Mbit/s) ---- Flow 3 egress (mean 0.22 Mbit/s) ——

Flow 1 (95th percentile 137.22 ms)   Flow 2 (95th percentile 136.89 ms)   Flow 3 (95th percentile 140.81 ms)

```
Run 6: Statistics of WebRTC media

Start at: 2017-09-01 02:45:18
End at: 2017-09-01 02:45:48


# Below is generated by plot.py at 2017-09-01 07:31:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 137.016 ms
Loss rate: 3.62%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 137.280 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 136.910 ms
Loss rate: 2.44%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 139.032 ms
Loss rate: 11.58%
```
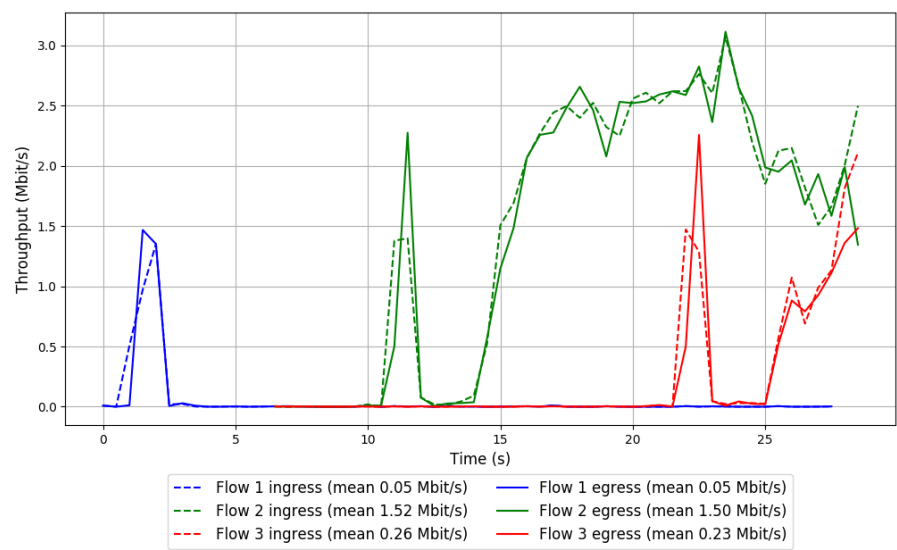
Run 6: Report of WebRTC media — Data Link

```
Run 7: Statistics of WebRTC media

Start at: 2017-09-01 02:59:25
End at: 2017-09-01 02:59:55


# Below is generated by plot.py at 2017-09-01 07:31:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.38 Mbit/s
95th percentile per-packet one-way delay: 137.268 ms
Loss rate: 2.92%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 137.685 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 137.202 ms
Loss rate: 1.77%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 138.061 ms
Loss rate: 10.16%
```
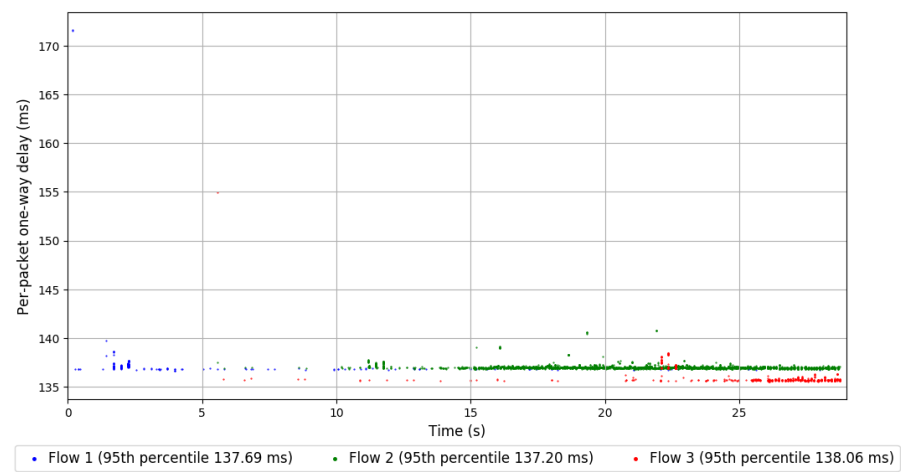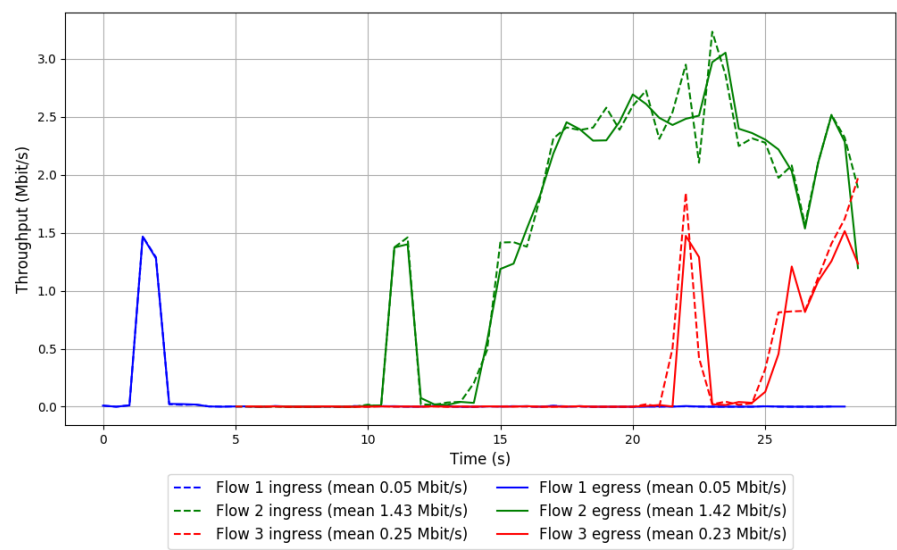
Run 7: Report of WebRTC media — Data Link

```
Run 8: Statistics of WebRTC media

Start at: 2017-09-01 03:13:33
End at: 2017-09-01 03:14:03

# Below is generated by plot.py at 2017-09-01 07:31:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 137.245 ms
Loss rate: 2.09%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 137.578 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 136.958 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 137.451 ms
Loss rate: 6.08%
```
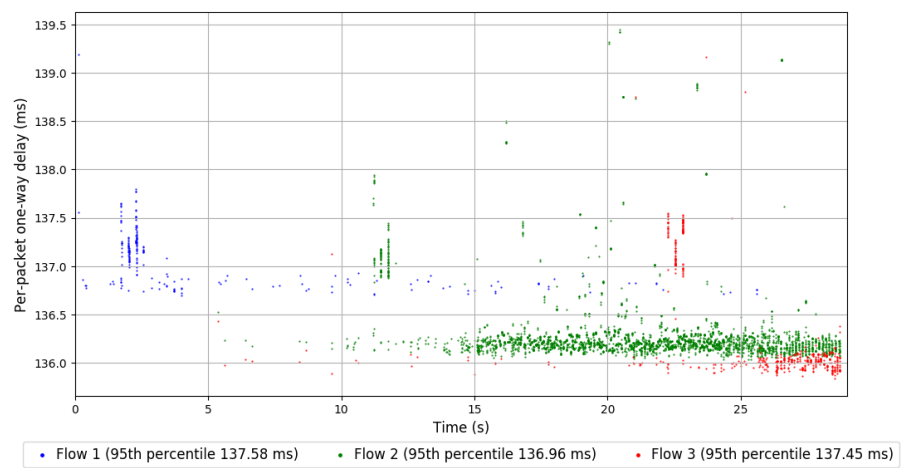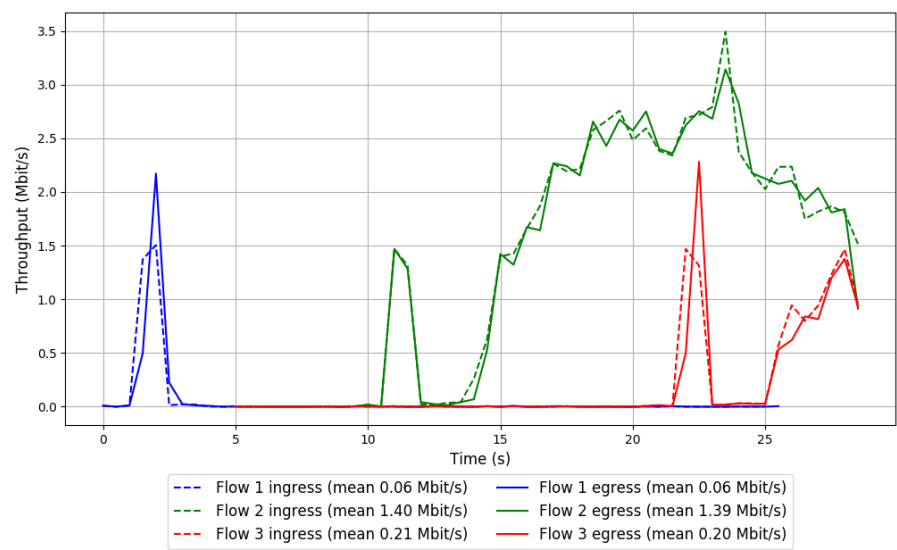
Run 8: Report of WebRTC media — Data Link

```
Run 9: Statistics of WebRTC media

Start at: 2017-09-01 03:27:37
End at: 2017-09-01 03:28:07


# Below is generated by plot.py at 2017-09-01 07:31:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 137.269 ms
Loss rate: 3.03%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 137.495 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 137.238 ms
Loss rate: 1.67%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 137.185 ms
Loss rate: 11.94%
```
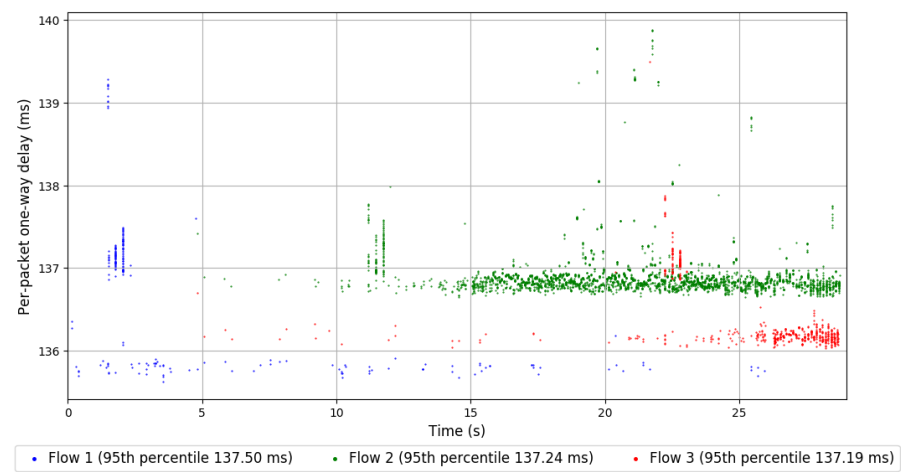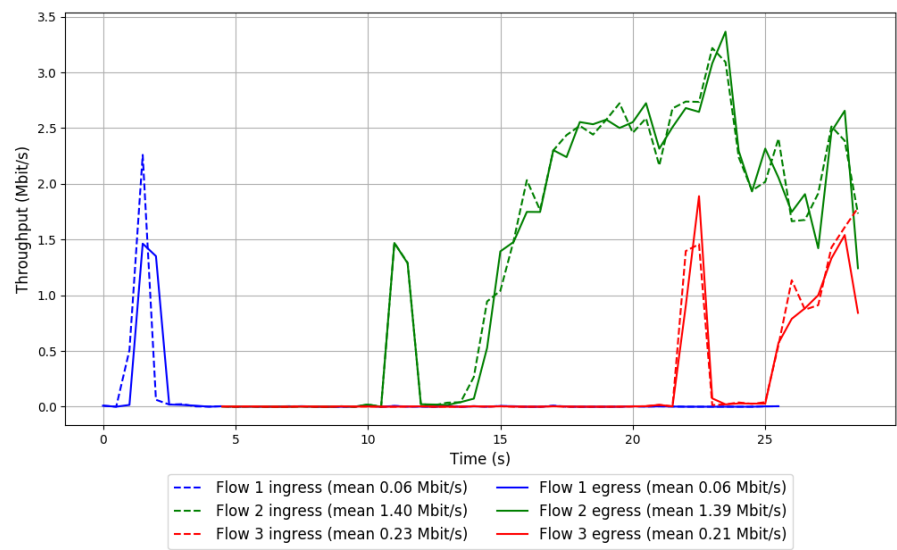
Run 9: Report of WebRTC media — Data Link

```
Run 10: Statistics of WebRTC media

Start at: 2017-09-01 03:42:00
End at: 2017-09-01 03:42:30

# Below is generated by plot.py at 2017-09-01 07:31:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 164.203 ms
Loss rate: 2.77%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 161.962 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 136.891 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 164.404 ms
Loss rate: 11.07%
```

Run 10: Report of WebRTC media — Data Link