Pantheon Report

Generated at 2018-01-10 11:26:42 (UTC).

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

Repeated the test of 14 congestion control schemes 10 times.

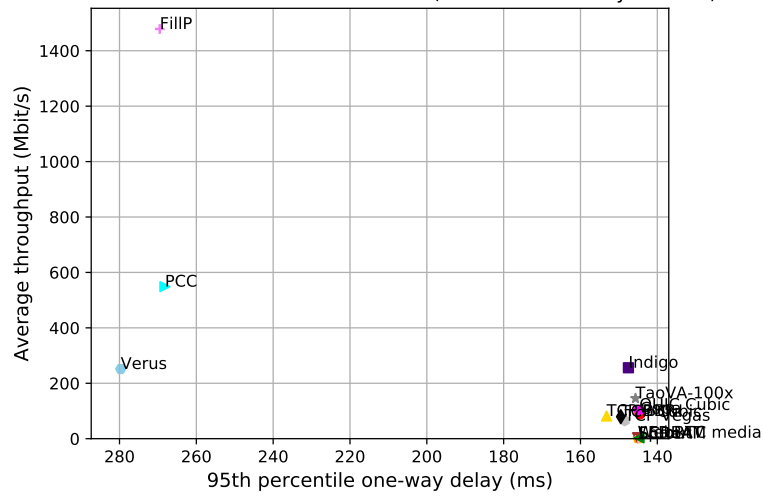Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

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

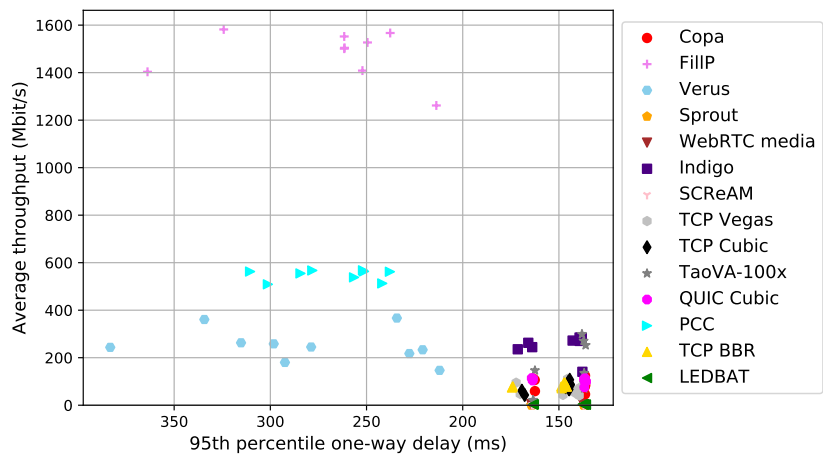Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

```
Git summary:
branch: master @ 56d1792c316a5efca3f2d21342905405fedffb48
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/fillp @ ec9585325218d5048c4d4152fa42240af54c6e67
third_party/genericCC @ 80b516c448f795fd6e9675f7177b69c622f07da8
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ fb1053193c2861da659ba9013db26744ccfcf993
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 Sydney Ethernet to GCE London Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

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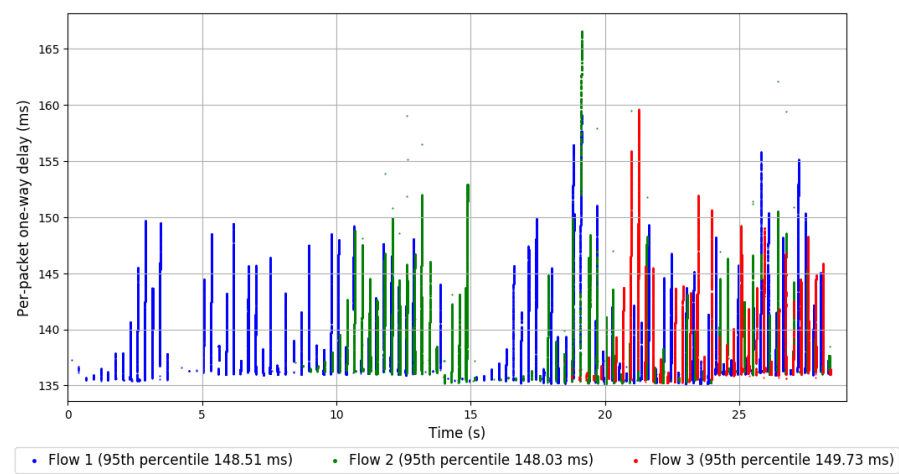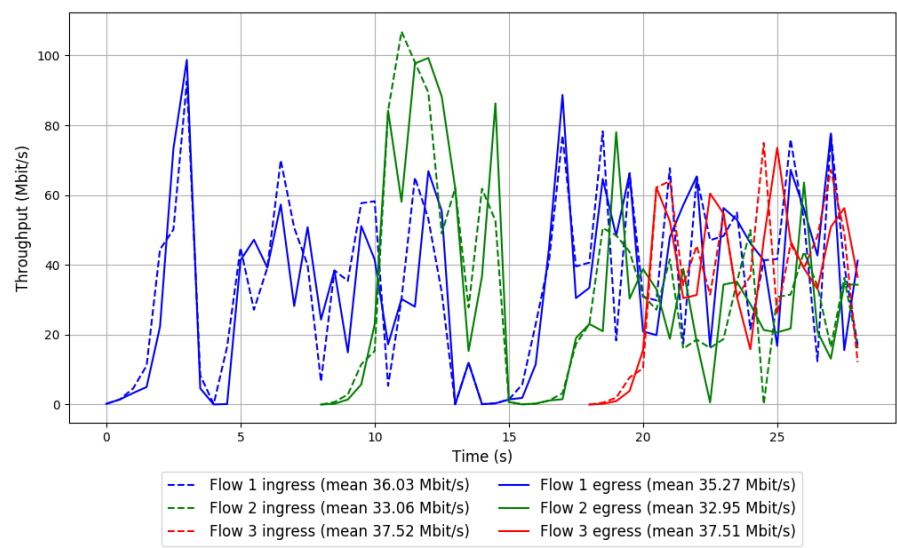3 flows with 10s interval between flows

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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	9	39.70	41.58	44.09	152.77	153.08	154.74	0.31	0.28	0.67
TCP Cubic	10	38.86	42.60	37.43	147.54	149.25	150.40	0.20	0.10	0.01
LEDBAT	10	1.90	1.27	0.87	144.77	144.58	144.67	0.71	0.03	0.05
PCC	9	485.79	77.45	34.74	271.43	256.75	240.84	3.06	1.37	1.21
QUIC Cubic	10	57.08	52.43	37.21	144.34	144.61	144.36	0.03	0.01	0.01
SCReAM	10	0.21	0.21	0.22	144.88	141.68	141.98	0.00	0.00	0.00
WebRTC media	10	2.00	1.22	0.40	144.43	142.39	144.68	0.00	0.00	0.01
Sprout	10	0.38	0.39	0.45	144.67	144.41	144.75	0.00	0.00	0.00
TaoVA-100x	9	104.46	37.86	59.68	145.40	146.44	146.65	0.04	0.06	0.05
TCP Vegas	10	29.72	35.99	33.67	147.68	146.55	150.07	0.34	0.22	0.48
Verus	10	147.23	115.65	89.11	252.94	261.60	276.79	1.41	3.71	8.77
Copa	10	43.91	59.26	29.35	144.24	144.51	144.07	0.02	0.01	0.15
FillP	9	796.91	728.93	595.89	255.48	266.44	278.02	5.18	9.46	12.55
Indigo	10	130.44	136.39	110.66	146.12	148.35	152.31	0.04	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2018-01-10 06:31:03
End at: 2018-01-10 06:31:33

# Below is generated by plot.py at 2018-01-10 10:21:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.50 Mbit/s
95th percentile per-packet one-way delay: 148.560 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 35.27 Mbit/s
95th percentile per-packet one-way delay: 148.513 ms
Loss rate: 2.10%
-- Flow 2:
Average throughput: 32.95 Mbit/s
95th percentile per-packet one-way delay: 148.027 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 37.51 Mbit/s
95th percentile per-packet one-way delay: 149.726 ms
Loss rate: 0.04%
```

Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-01-10 06:47:11
End at: 2018-01-10 06:47:41

# Below is generated by plot.py at 2018-01-10 10:22:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.72 Mbit/s
95th percentile per-packet one-way delay: 146.396 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 41.35 Mbit/s
95th percentile per-packet one-way delay: 146.009 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 42.43 Mbit/s
95th percentile per-packet one-way delay: 145.446 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 50.13 Mbit/s
95th percentile per-packet one-way delay: 149.603 ms
Loss rate: 0.00%
```
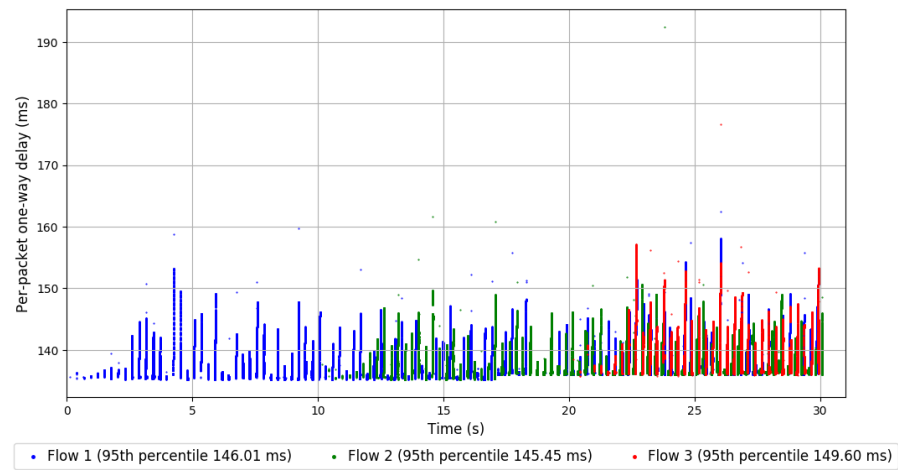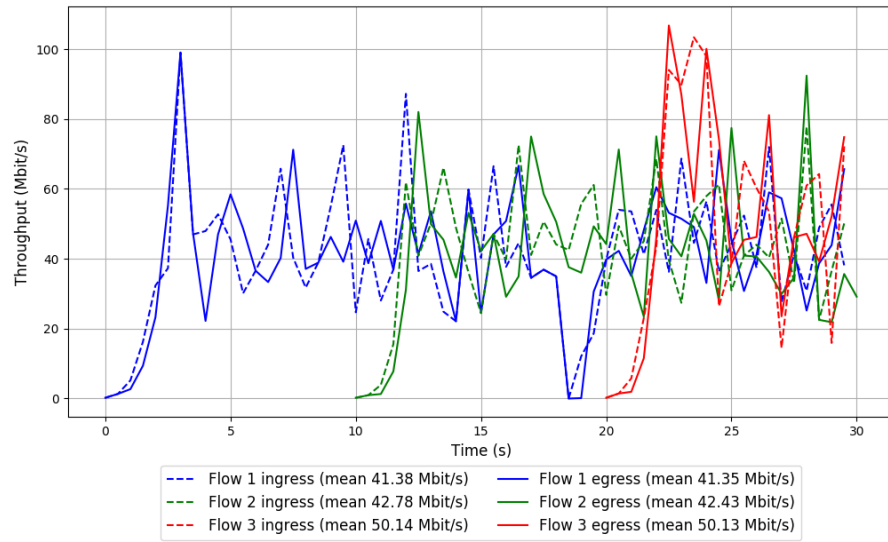
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2018-01-10 07:03:08
End at: 2018-01-10 07:03:38

# Below is generated by plot.py at 2018-01-10 10:22:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.99 Mbit/s
95th percentile per-packet one-way delay: 146.948 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 49.36 Mbit/s
95th percentile per-packet one-way delay: 148.105 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 51.16 Mbit/s
95th percentile per-packet one-way delay: 146.226 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 36.12 Mbit/s
95th percentile per-packet one-way delay: 145.614 ms
Loss rate: 4.26%
```
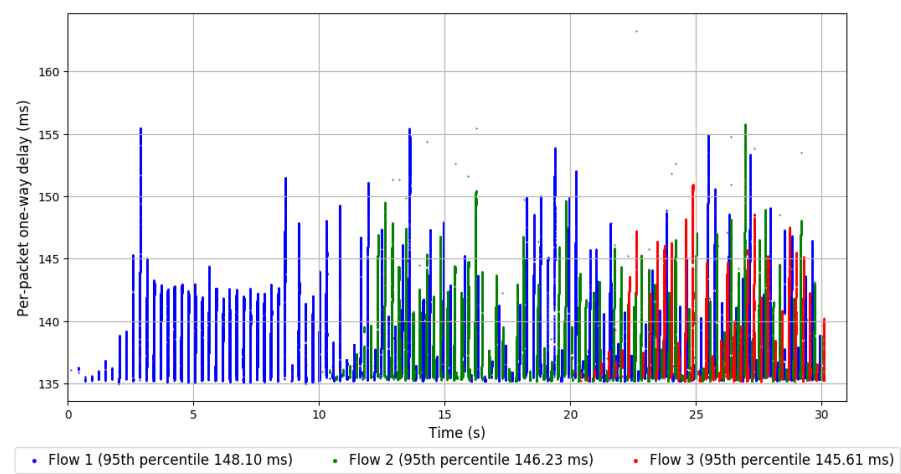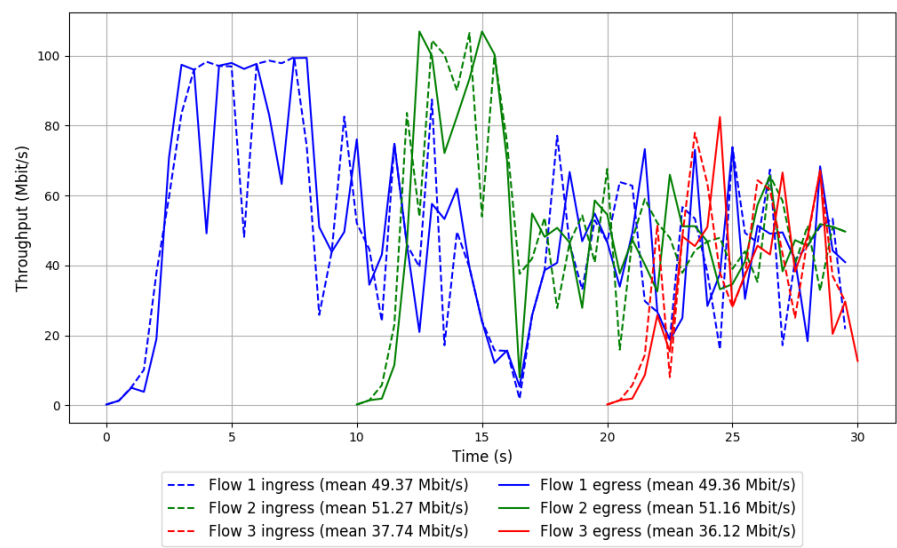
Run 3: Report of TCP BBR — Data Link

- - - - Flow 1 ingress (mean 49.37 Mbit/s) ——— Flow 1 egress (mean 49.36 Mbit/s)
- - - - Flow 2 ingress (mean 51.27 Mbit/s) ——— Flow 2 egress (mean 51.16 Mbit/s)
- - - - Flow 3 ingress (mean 37.74 Mbit/s) ——— Flow 3 egress (mean 36.12 Mbit/s)

• Flow 1 (95th percentile 148.10 ms)   • Flow 2 (95th percentile 146.23 ms)   • Flow 3 (95th percentile 145.61 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2018-01-10 07:19:11
End at: 2018-01-10 07:19:41

# Below is generated by plot.py at 2018-01-10 10:22:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.52 Mbit/s
95th percentile per-packet one-way delay: 148.766 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 38.73 Mbit/s
95th percentile per-packet one-way delay: 148.215 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 41.52 Mbit/s
95th percentile per-packet one-way delay: 149.248 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 36.97 Mbit/s
95th percentile per-packet one-way delay: 148.235 ms
Loss rate: 1.11%
```
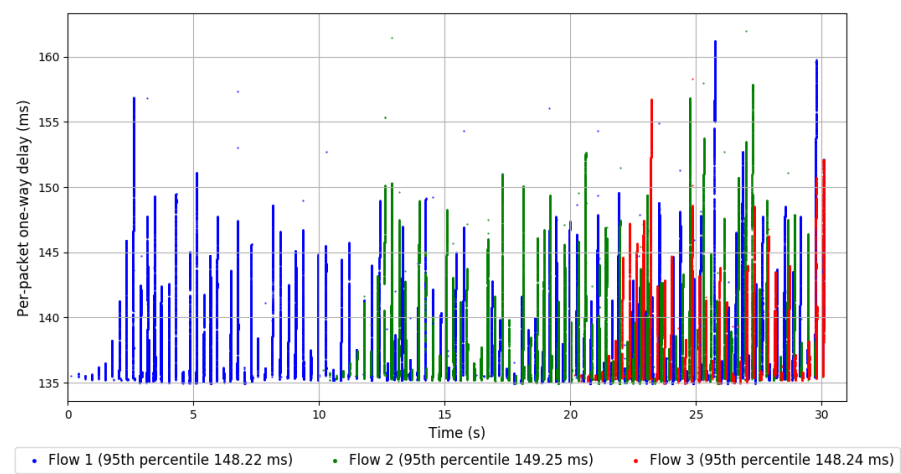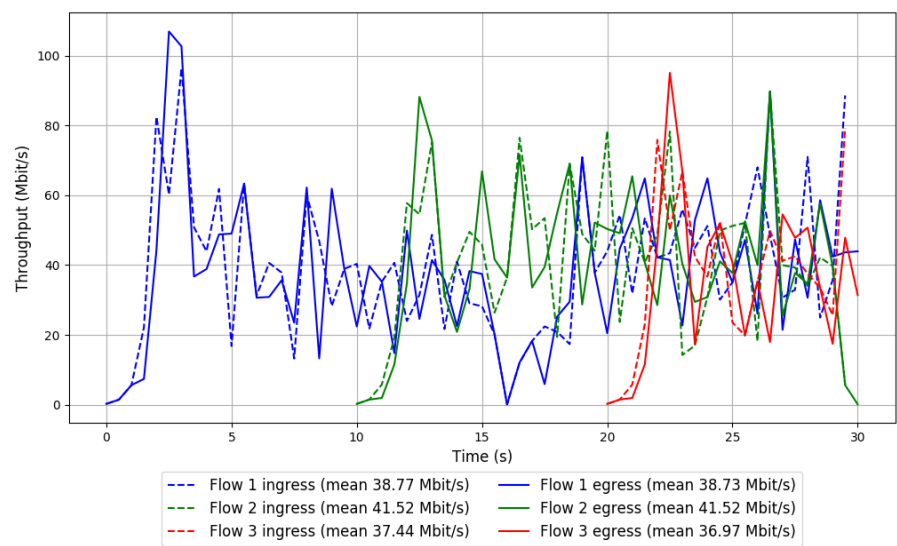
Run 4: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 38.77 Mbit/s)   —— Flow 1 egress (mean 38.73 Mbit/s)
- - - Flow 2 ingress (mean 41.52 Mbit/s)   —— Flow 2 egress (mean 41.52 Mbit/s)
- - - Flow 3 ingress (mean 37.44 Mbit/s)   —— Flow 3 egress (mean 36.97 Mbit/s)

• Flow 1 (95th percentile 148.22 ms)   • Flow 2 (95th percentile 149.25 ms)   • Flow 3 (95th percentile 148.24 ms)

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```
Run 5: Statistics of TCP BBR

Start at: 2018-01-10 07:35:26
End at: 2018-01-10 07:35:56

# Below is generated by plot.py at 2018-01-10 10:22:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.09 Mbit/s
95th percentile per-packet one-way delay: 145.843 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 35.21 Mbit/s
95th percentile per-packet one-way delay: 145.338 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 41.90 Mbit/s
95th percentile per-packet one-way delay: 145.650 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 45.91 Mbit/s
95th percentile per-packet one-way delay: 147.886 ms
Loss rate: 0.00%
```
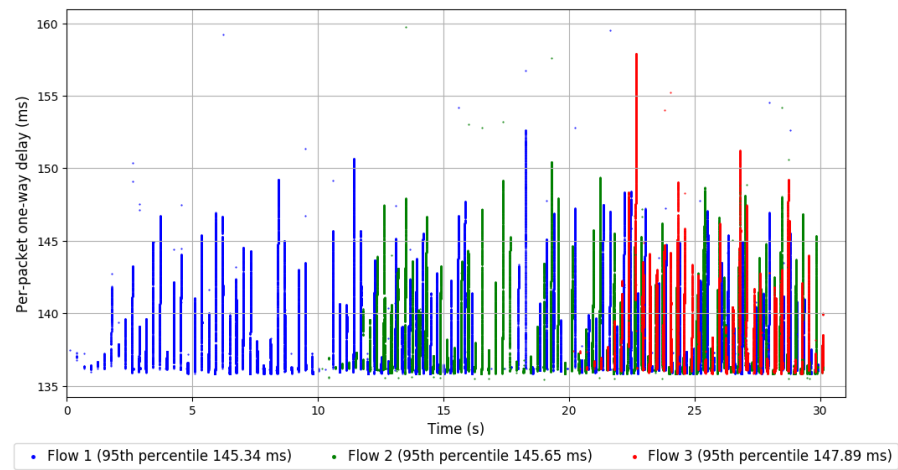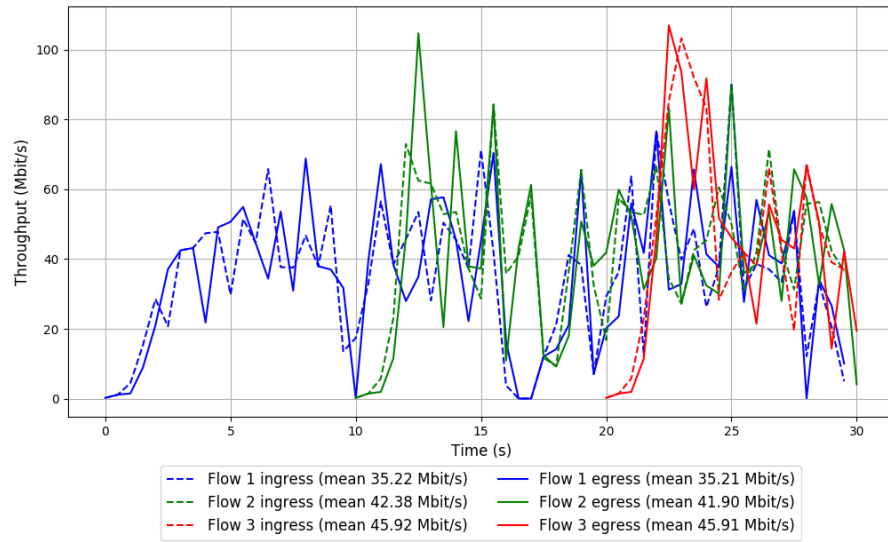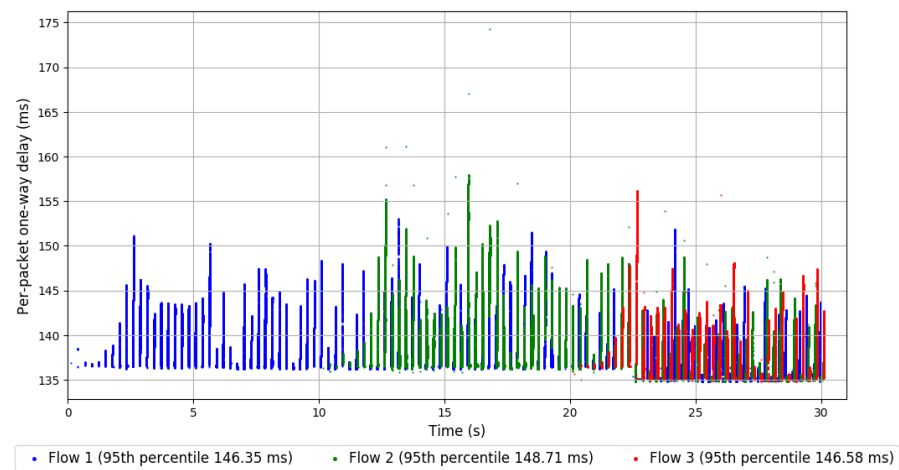
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 35.22 Mbit/s)   Flow 1 egress (mean 35.21 Mbit/s)
Flow 2 ingress (mean 42.38 Mbit/s)   Flow 2 egress (mean 41.90 Mbit/s)
Flow 3 ingress (mean 45.92 Mbit/s)   Flow 3 egress (mean 45.91 Mbit/s)

Flow 1 (95th percentile 145.34 ms)   Flow 2 (95th percentile 145.65 ms)   Flow 3 (95th percentile 147.89 ms)

```
Run 6: Statistics of TCP BBR

Start at: 2018-01-10 07:51:36
End at: 2018-01-10 07:52:06

# Below is generated by plot.py at 2018-01-10 10:22:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.03 Mbit/s
95th percentile per-packet one-way delay: 147.326 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 42.93 Mbit/s
95th percentile per-packet one-way delay: 146.349 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 51.16 Mbit/s
95th percentile per-packet one-way delay: 148.711 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 55.24 Mbit/s
95th percentile per-packet one-way delay: 146.582 ms
Loss rate: 0.60%
```
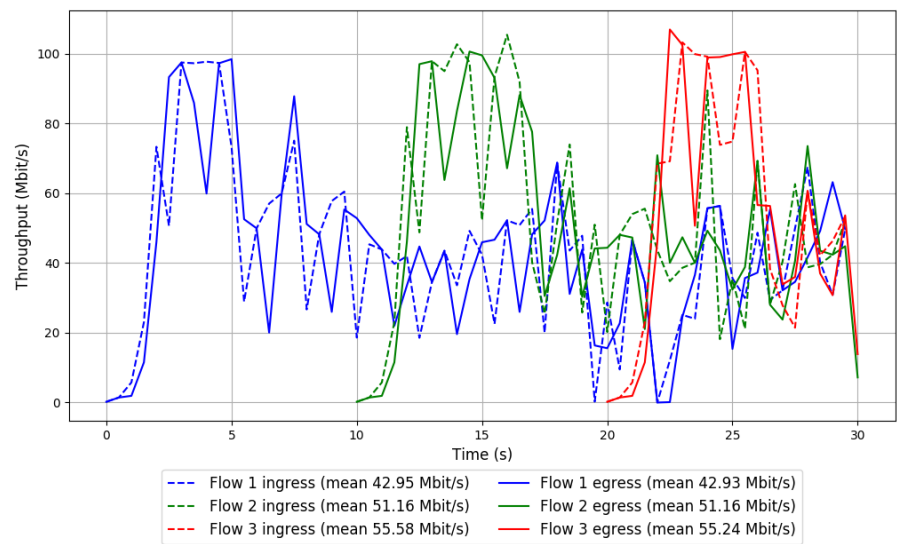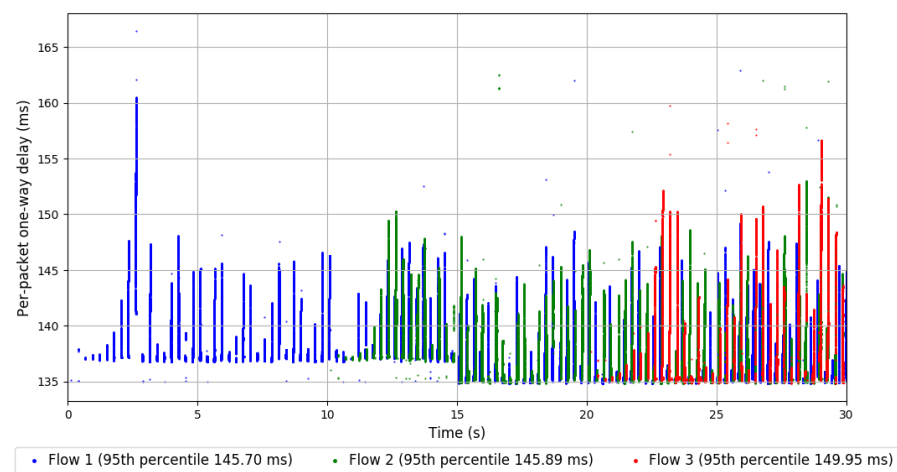
Run 6: Report of TCP BBR — Data Link

Flow 1 ingress (mean 42.95 Mbit/s) --- Flow 1 egress (mean 42.93 Mbit/s)
Flow 2 ingress (mean 51.16 Mbit/s) --- Flow 2 egress (mean 51.16 Mbit/s)
Flow 3 ingress (mean 55.58 Mbit/s) --- Flow 3 egress (mean 55.24 Mbit/s)

Flow 1 (95th percentile 146.35 ms) • Flow 2 (95th percentile 148.71 ms) • Flow 3 (95th percentile 146.58 ms)

```
Run 7: Statistics of TCP BBR

Start at: 2018-01-10 08:07:14
End at: 2018-01-10 08:07:44


# Below is generated by plot.py at 2018-01-10 10:22:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.33 Mbit/s
95th percentile per-packet one-way delay: 146.572 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 37.93 Mbit/s
95th percentile per-packet one-way delay: 145.704 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 44.73 Mbit/s
95th percentile per-packet one-way delay: 145.890 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 36.52 Mbit/s
95th percentile per-packet one-way delay: 149.946 ms
Loss rate: 0.00%
```
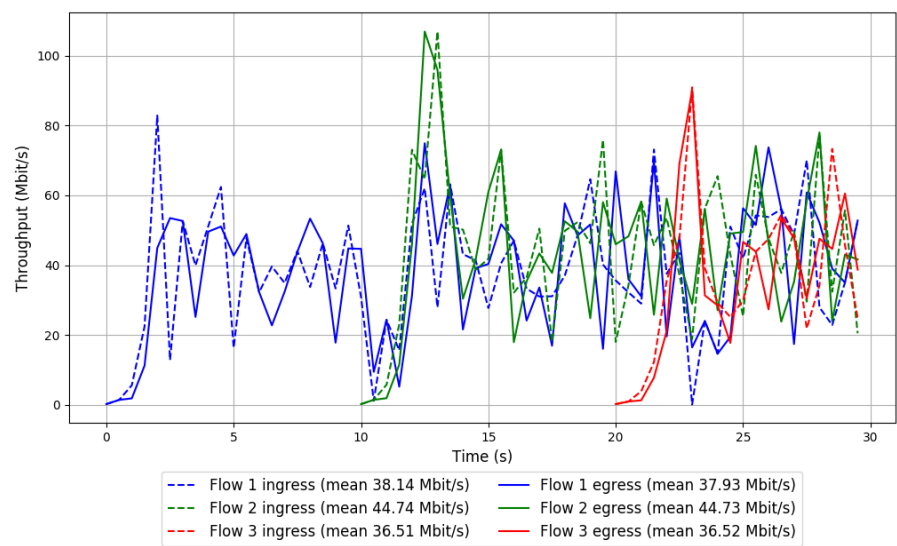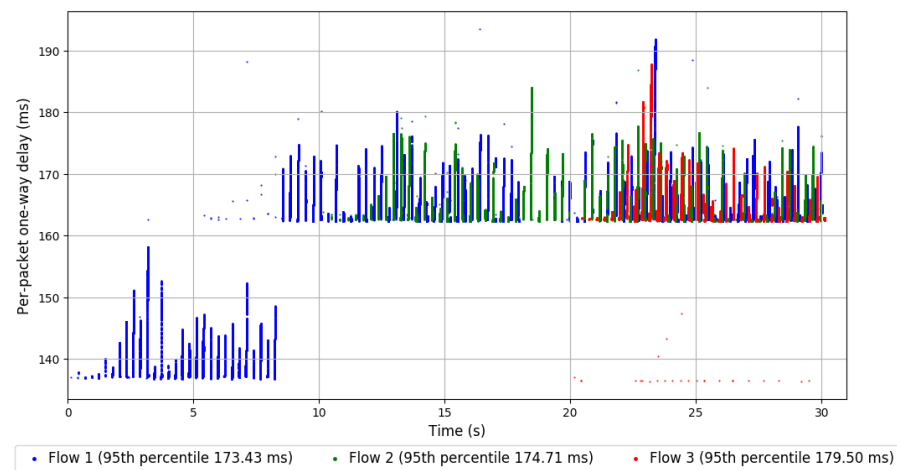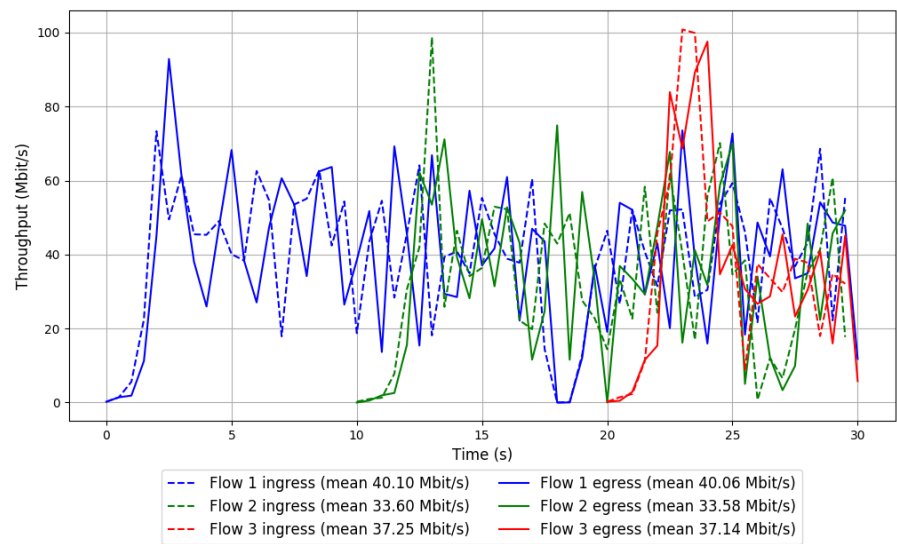
Run 7: Report of TCP BBR — Data Link

Flow 1 ingress (mean 38.14 Mbit/s) — — — Flow 1 egress (mean 37.93 Mbit/s)
Flow 2 ingress (mean 44.74 Mbit/s) — — — Flow 2 egress (mean 44.73 Mbit/s)
Flow 3 ingress (mean 36.51 Mbit/s) — — — Flow 3 egress (mean 36.52 Mbit/s)

Flow 1 (95th percentile 145.70 ms)   Flow 2 (95th percentile 145.89 ms)   Flow 3 (95th percentile 149.95 ms)

```
Run 8: Statistics of TCP BBR

Start at: 2018-01-10 08:23:00
End at: 2018-01-10 08:23:30


# Below is generated by plot.py at 2018-01-10 10:22:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.47 Mbit/s
95th percentile per-packet one-way delay: 174.406 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 40.06 Mbit/s
95th percentile per-packet one-way delay: 173.428 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.58 Mbit/s
95th percentile per-packet one-way delay: 174.712 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.14 Mbit/s
95th percentile per-packet one-way delay: 179.499 ms
Loss rate: 0.04%
```
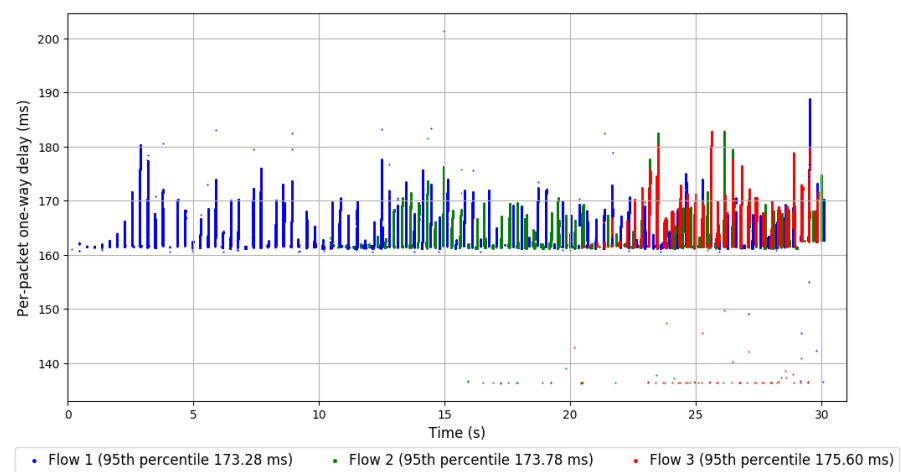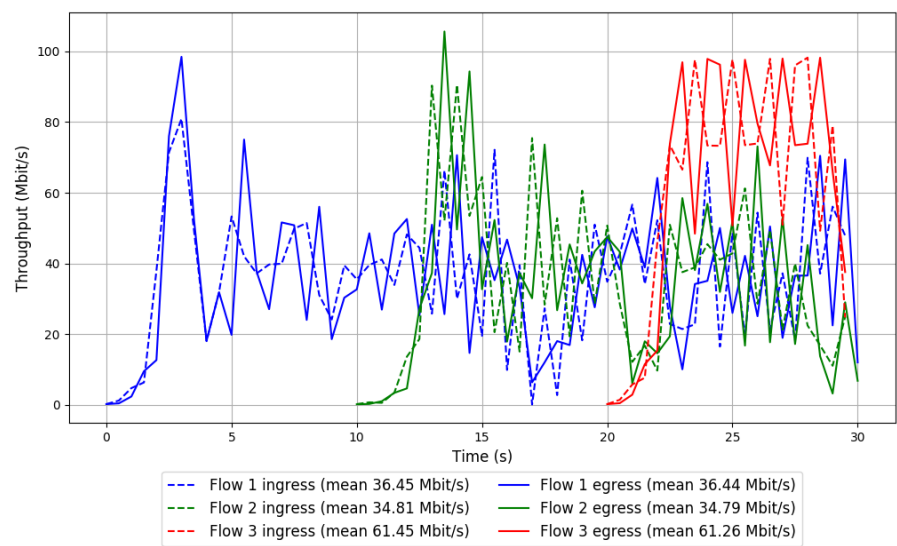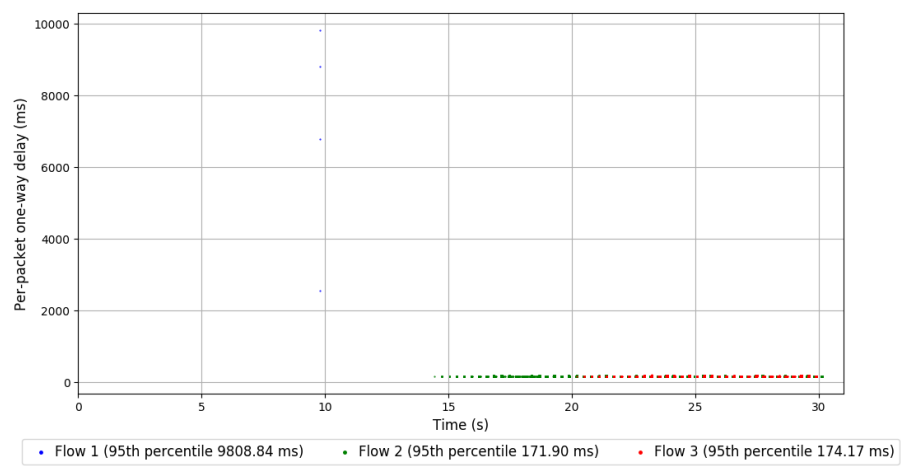
Run 8: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 40.10 Mbit/s) ——— Flow 1 egress (mean 40.06 Mbit/s)
- - - Flow 2 ingress (mean 33.60 Mbit/s) ——— Flow 2 egress (mean 33.58 Mbit/s)
- - - Flow 3 ingress (mean 37.25 Mbit/s) ——— Flow 3 egress (mean 37.14 Mbit/s)

- Flow 1 (95th percentile 173.43 ms) · Flow 2 (95th percentile 174.71 ms) · Flow 3 (95th percentile 179.50 ms)

```
Run 9: Statistics of TCP BBR

Start at: 2018-01-10 08:38:50
End at: 2018-01-10 08:39:20

# Below is generated by plot.py at 2018-01-10 10:23:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.29 Mbit/s
95th percentile per-packet one-way delay: 173.999 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 36.44 Mbit/s
95th percentile per-packet one-way delay: 173.280 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 34.79 Mbit/s
95th percentile per-packet one-way delay: 173.779 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 61.26 Mbit/s
95th percentile per-packet one-way delay: 175.599 ms
Loss rate: 0.01%
```
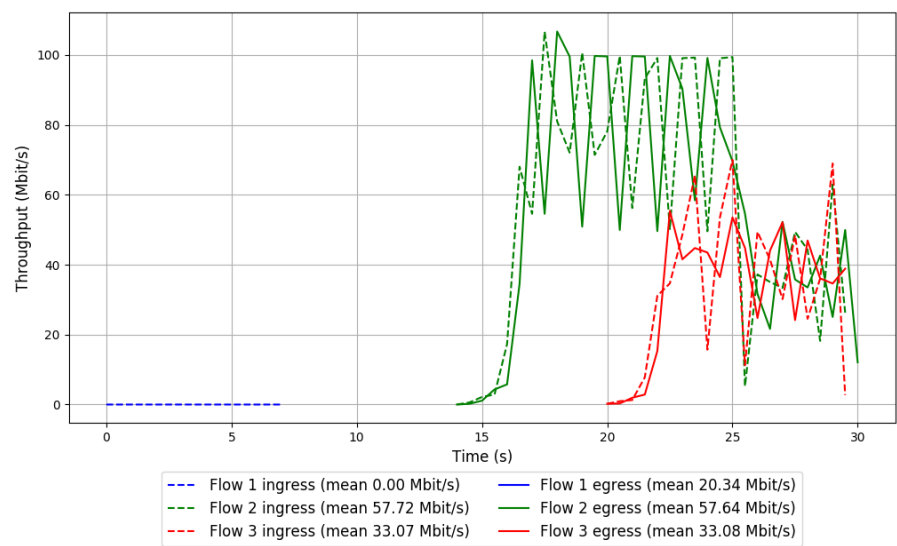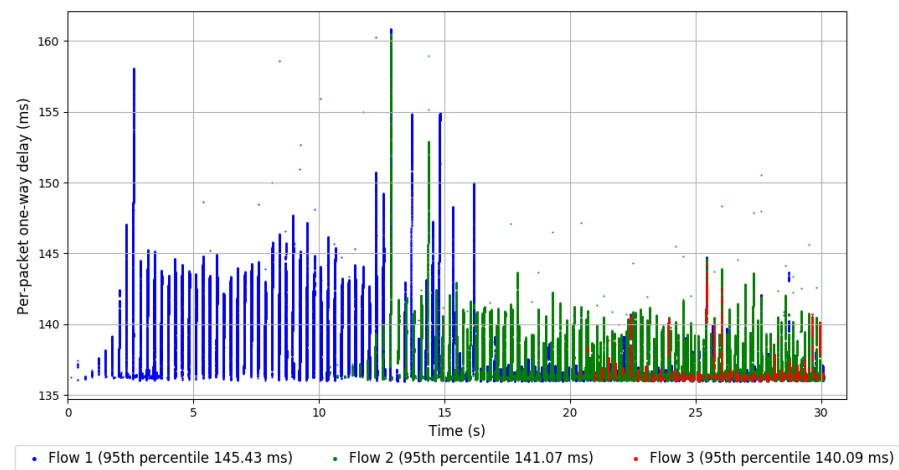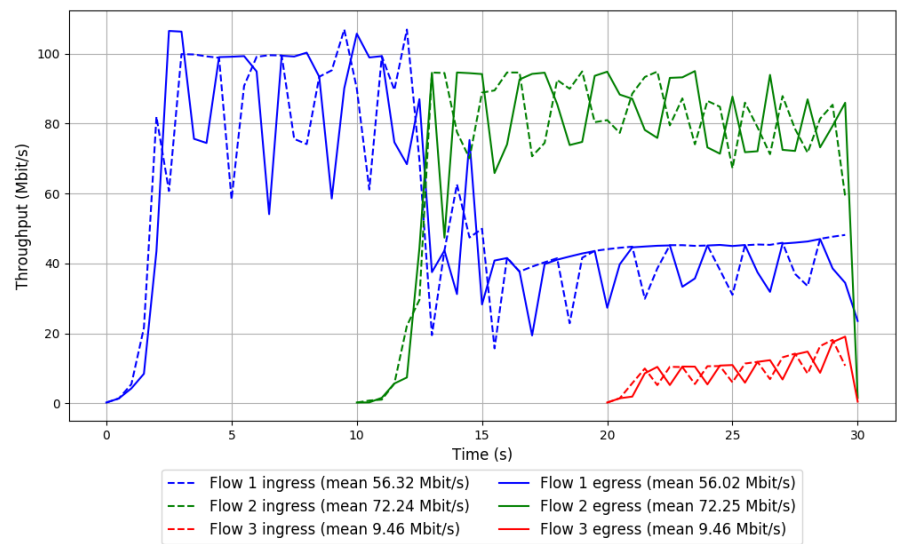
Run 9: Report of TCP BBR — Data Link

Run 10: Statistics of TCP BBR

Start at: 2018-01-10 08:54:53
End at: 2018-01-10 08:55:23

Run 10: Report of TCP BBR — Data Link

Throughput (Mbit/s) vs Time (s)

- Flow 1 ingress (mean 0.00 Mbit/s)
- Flow 2 ingress (mean 57.72 Mbit/s)
- Flow 3 ingress (mean 33.07 Mbit/s)
- Flow 1 egress (mean 20.34 Mbit/s)
- Flow 2 egress (mean 57.64 Mbit/s)
- Flow 3 egress (mean 33.08 Mbit/s)

Per-packet one-way delay (ms) vs Time (s)

- Flow 1 (95th percentile 9808.84 ms)
- Flow 2 (95th percentile 171.90 ms)
- Flow 3 (95th percentile 174.17 ms)

```
Run 1: Statistics of TCP Cubic

Start at: 2018-01-10 06:29:07
End at: 2018-01-10 06:29:37

# Below is generated by plot.py at 2018-01-10 10:23:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 107.24 Mbit/s
95th percentile per-packet one-way delay: 144.379 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 56.02 Mbit/s
95th percentile per-packet one-way delay: 145.434 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 72.25 Mbit/s
95th percentile per-packet one-way delay: 141.075 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.46 Mbit/s
95th percentile per-packet one-way delay: 140.087 ms
Loss rate: 0.00%
```
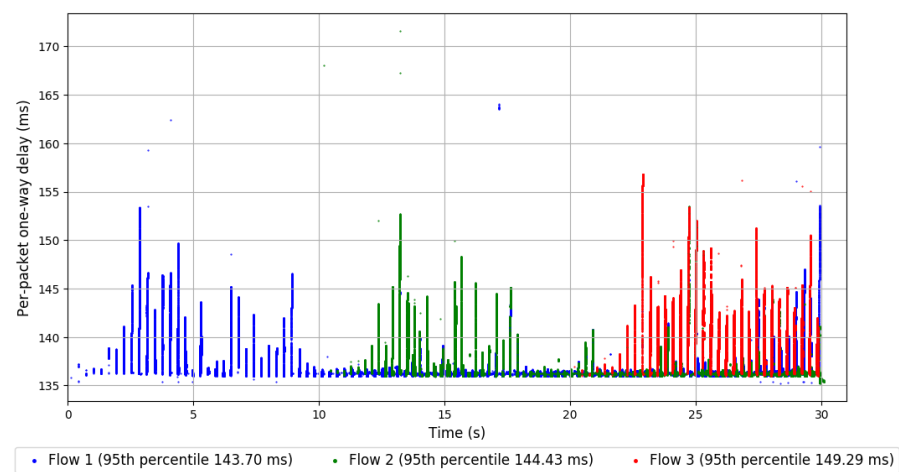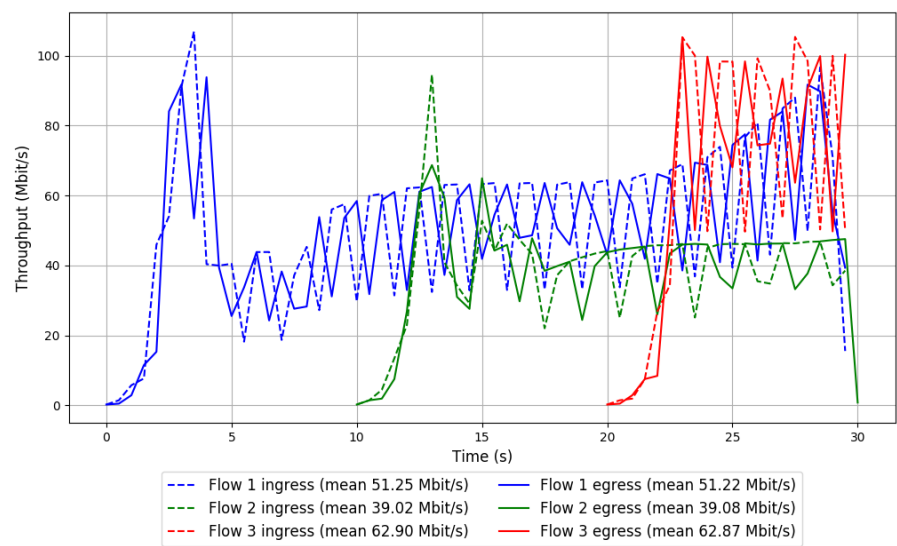
Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 56.32 Mbit/s) --- Flow 1 egress (mean 56.02 Mbit/s)
Flow 2 ingress (mean 72.24 Mbit/s) --- Flow 2 egress (mean 72.25 Mbit/s)
Flow 3 ingress (mean 9.46 Mbit/s) --- Flow 3 egress (mean 9.46 Mbit/s)

Flow 1 (95th percentile 145.43 ms) Flow 2 (95th percentile 141.07 ms) Flow 3 (95th percentile 140.09 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2018-01-10 06:45:09
End at: 2018-01-10 06:45:39


# Below is generated by plot.py at 2018-01-10 10:23:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.28 Mbit/s
95th percentile per-packet one-way delay: 145.208 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.22 Mbit/s
95th percentile per-packet one-way delay: 143.699 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.08 Mbit/s
95th percentile per-packet one-way delay: 144.434 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.87 Mbit/s
95th percentile per-packet one-way delay: 149.294 ms
Loss rate: 0.00%
```
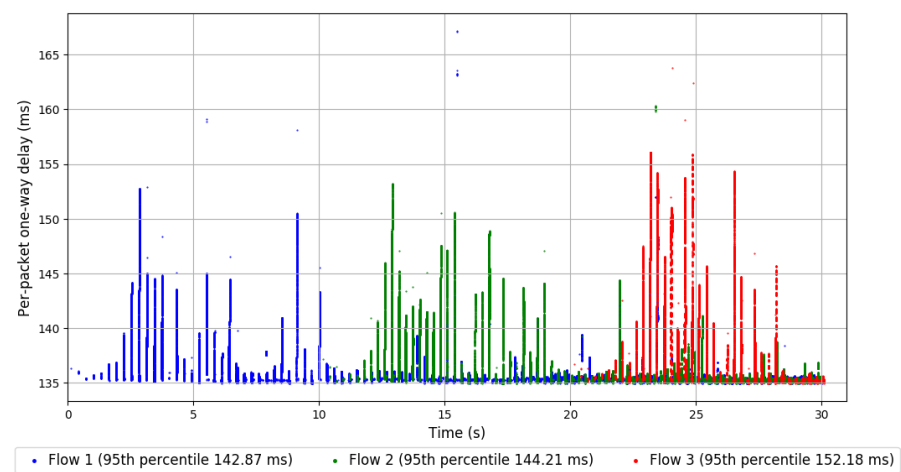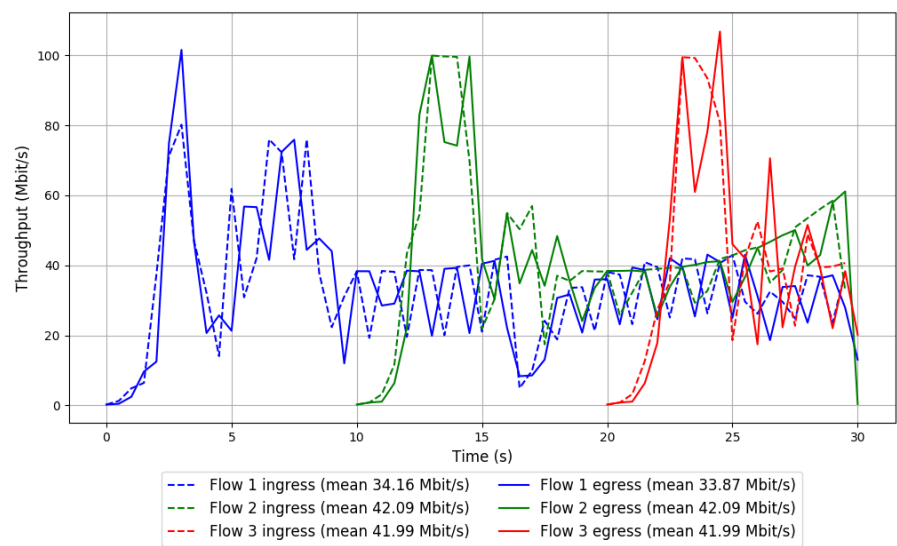
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2018-01-10 07:00:48
End at: 2018-01-10 07:01:18


# Below is generated by plot.py at 2018-01-10 10:23:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.76 Mbit/s
95th percentile per-packet one-way delay: 146.505 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 33.87 Mbit/s
95th percentile per-packet one-way delay: 142.867 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 42.09 Mbit/s
95th percentile per-packet one-way delay: 144.209 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 41.99 Mbit/s
95th percentile per-packet one-way delay: 152.175 ms
Loss rate: 0.02%
```
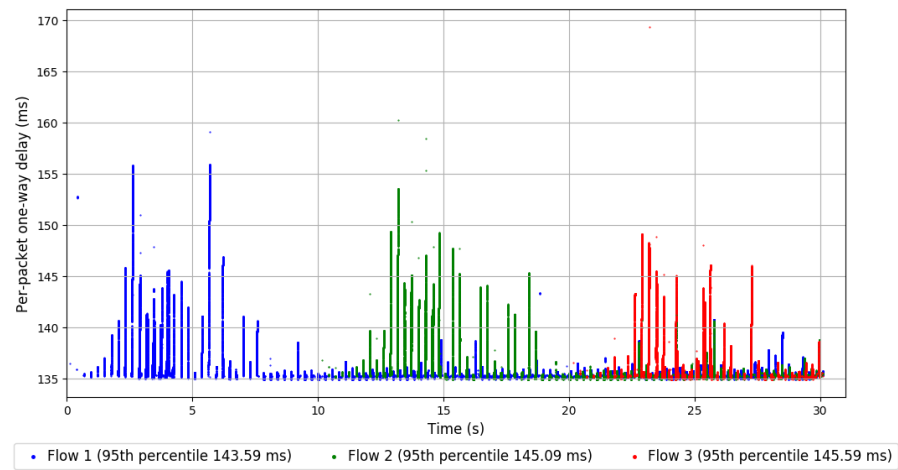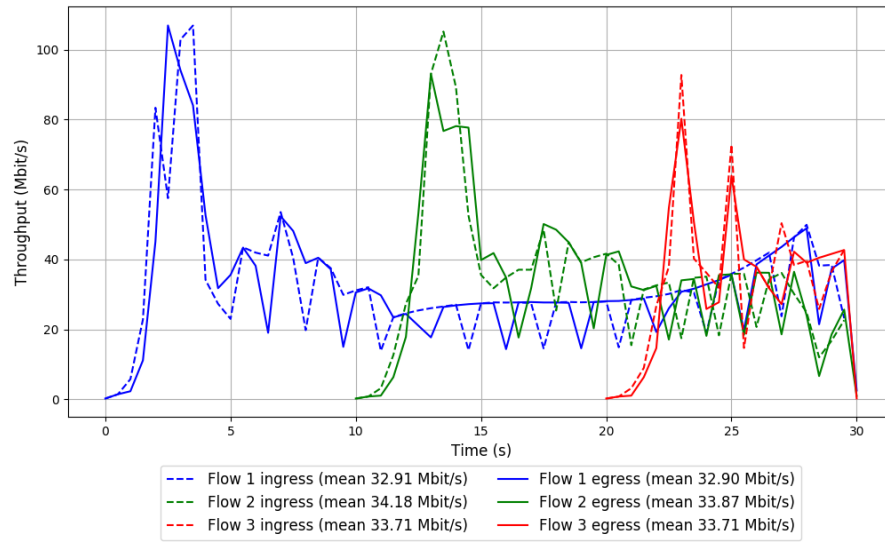
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 34.16 Mbit/s) ----- Flow 1 egress (mean 33.87 Mbit/s)
Flow 2 ingress (mean 42.09 Mbit/s) ----- Flow 2 egress (mean 42.09 Mbit/s)
Flow 3 ingress (mean 41.99 Mbit/s) ----- Flow 3 egress (mean 41.99 Mbit/s)

Flow 1 (95th percentile 142.87 ms)   Flow 2 (95th percentile 144.21 ms)   Flow 3 (95th percentile 152.18 ms)

29

```
Run 4: Statistics of TCP Cubic

Start at: 2018-01-10 07:16:59
End at: 2018-01-10 07:17:29


# Below is generated by plot.py at 2018-01-10 10:23:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.61 Mbit/s
95th percentile per-packet one-way delay: 144.704 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 32.90 Mbit/s
95th percentile per-packet one-way delay: 143.592 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 33.87 Mbit/s
95th percentile per-packet one-way delay: 145.089 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 33.71 Mbit/s
95th percentile per-packet one-way delay: 145.585 ms
Loss rate: 0.00%
```
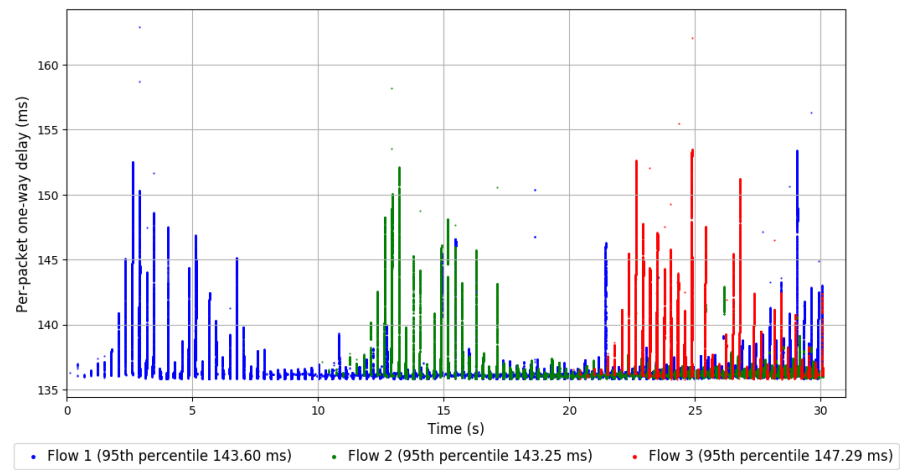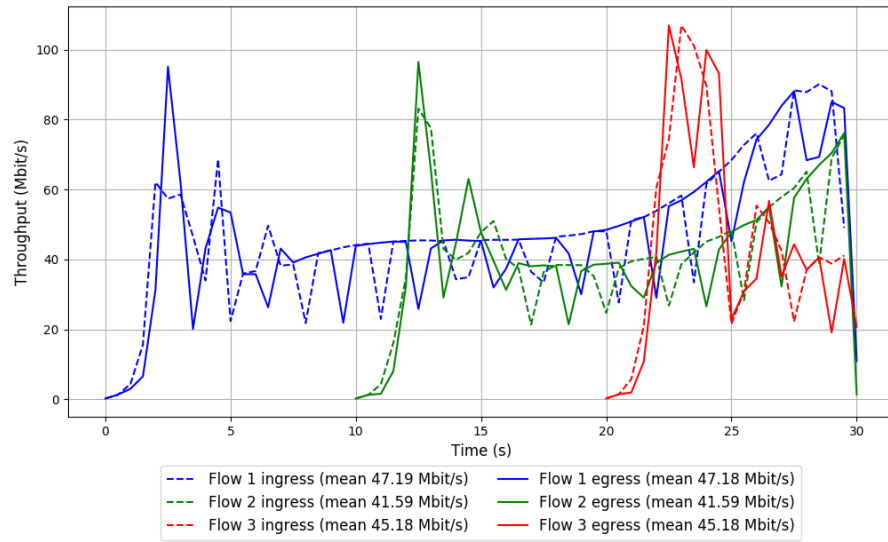
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-01-10 07:33:12
End at: 2018-01-10 07:33:42


# Below is generated by plot.py at 2018-01-10 10:23:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.77 Mbit/s
95th percentile per-packet one-way delay: 144.523 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 47.18 Mbit/s
95th percentile per-packet one-way delay: 143.599 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 41.59 Mbit/s
95th percentile per-packet one-way delay: 143.249 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 45.18 Mbit/s
95th percentile per-packet one-way delay: 147.291 ms
Loss rate: 0.01%
```
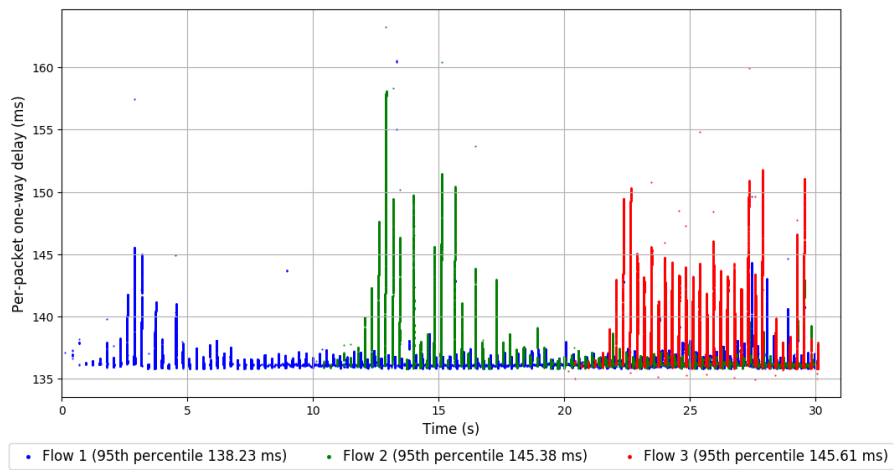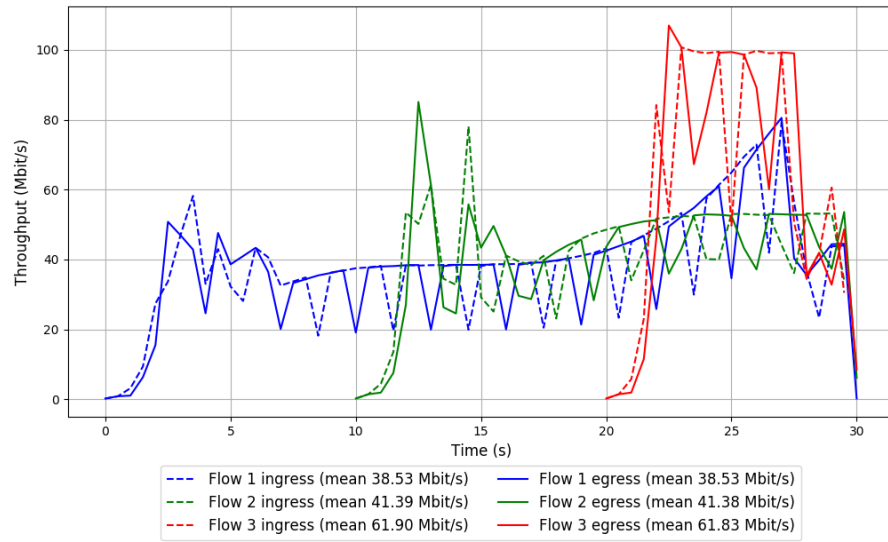
Run 5: Report of TCP Cubic — Data Link

```
Run 6: Statistics of TCP Cubic

Start at: 2018-01-10 07:49:23
End at: 2018-01-10 07:49:53


# Below is generated by plot.py at 2018-01-10 10:23:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.60 Mbit/s
95th percentile per-packet one-way delay: 143.931 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 38.53 Mbit/s
95th percentile per-packet one-way delay: 138.227 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.38 Mbit/s
95th percentile per-packet one-way delay: 145.376 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 61.83 Mbit/s
95th percentile per-packet one-way delay: 145.606 ms
Loss rate: 0.09%
```
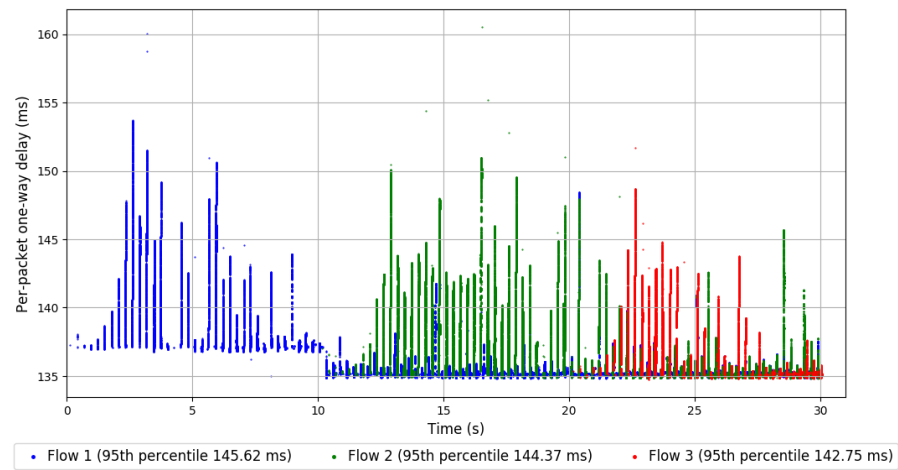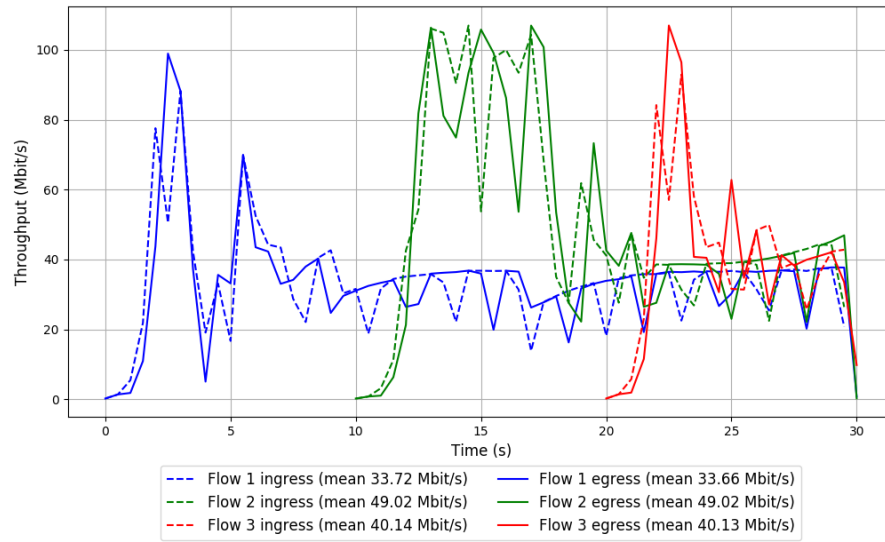
Run 6: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 38.53 Mbit/s) --- Flow 1 egress (mean 38.53 Mbit/s)
Flow 2 ingress (mean 41.39 Mbit/s) --- Flow 2 egress (mean 41.38 Mbit/s)
Flow 3 ingress (mean 61.90 Mbit/s) --- Flow 3 egress (mean 61.83 Mbit/s)

Flow 1 (95th percentile 138.23 ms) • Flow 2 (95th percentile 145.38 ms) • Flow 3 (95th percentile 145.61 ms)

```
Run 7: Statistics of TCP Cubic

Start at: 2018-01-10 08:05:18
End at: 2018-01-10 08:05:48


# Below is generated by plot.py at 2018-01-10 10:24:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.56 Mbit/s
95th percentile per-packet one-way delay: 144.622 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 33.66 Mbit/s
95th percentile per-packet one-way delay: 145.625 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 49.02 Mbit/s
95th percentile per-packet one-way delay: 144.367 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 40.13 Mbit/s
95th percentile per-packet one-way delay: 142.746 ms
Loss rate: 0.02%
```
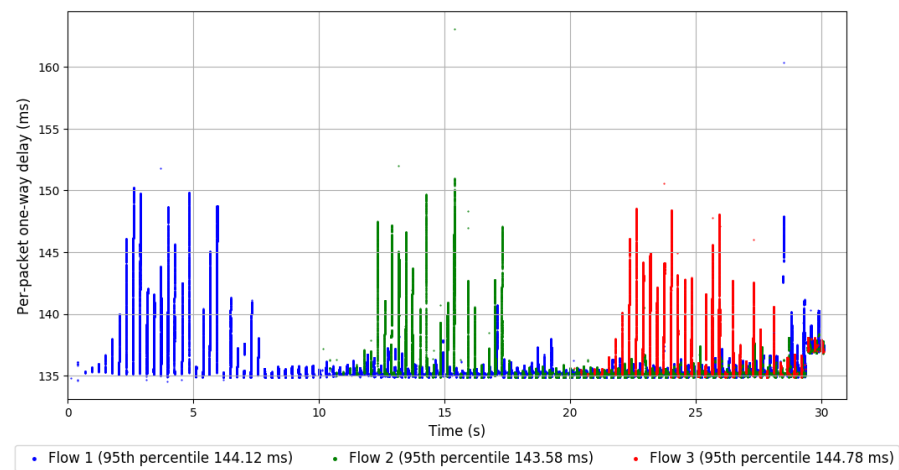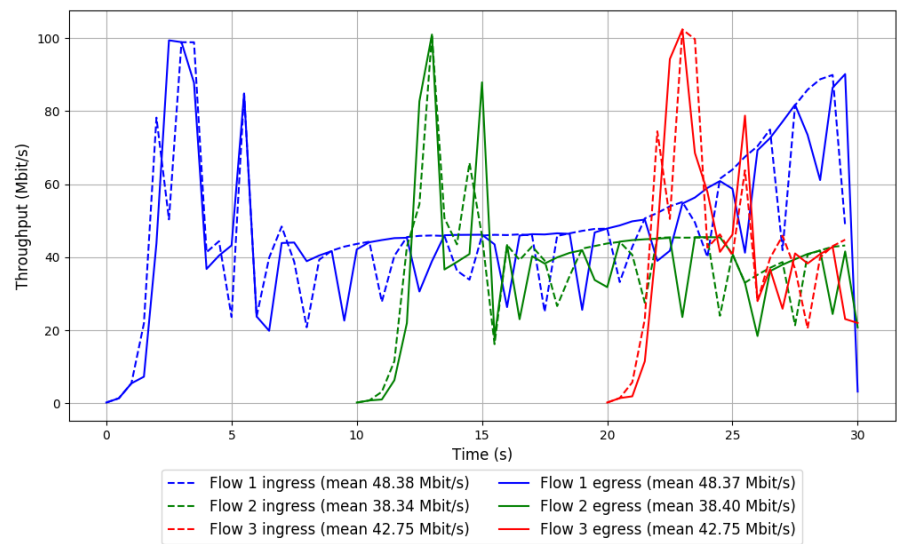
Run 7: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 33.72 Mbit/s) —— Flow 1 egress (mean 33.66 Mbit/s)
- - - Flow 2 ingress (mean 49.02 Mbit/s) —— Flow 2 egress (mean 49.02 Mbit/s)
- - - Flow 3 ingress (mean 40.14 Mbit/s) —— Flow 3 egress (mean 40.13 Mbit/s)

• Flow 1 (95th percentile 145.62 ms)   • Flow 2 (95th percentile 144.37 ms)   • Flow 3 (95th percentile 142.75 ms)

```
Run 8: Statistics of TCP Cubic

Start at: 2018-01-10 08:20:59
End at: 2018-01-10 08:21:29


# Below is generated by plot.py at 2018-01-10 10:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.08 Mbit/s
95th percentile per-packet one-way delay: 144.235 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.37 Mbit/s
95th percentile per-packet one-way delay: 144.124 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.40 Mbit/s
95th percentile per-packet one-way delay: 143.583 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 42.75 Mbit/s
95th percentile per-packet one-way delay: 144.775 ms
Loss rate: 0.00%
```
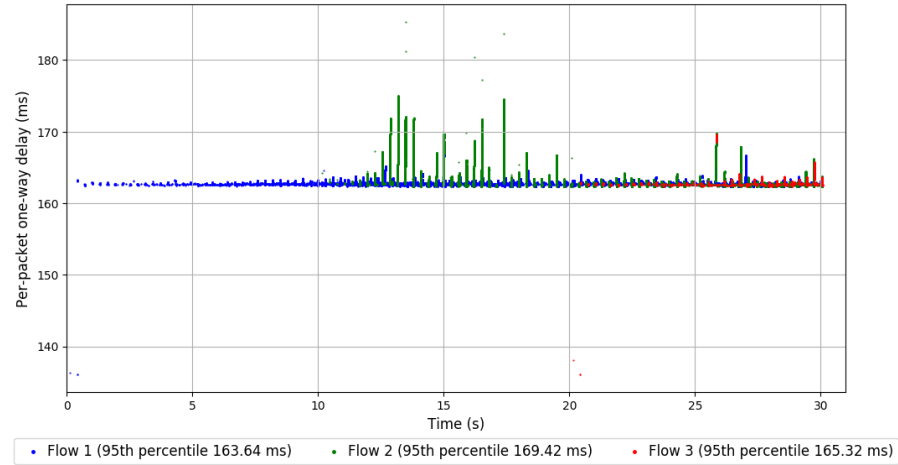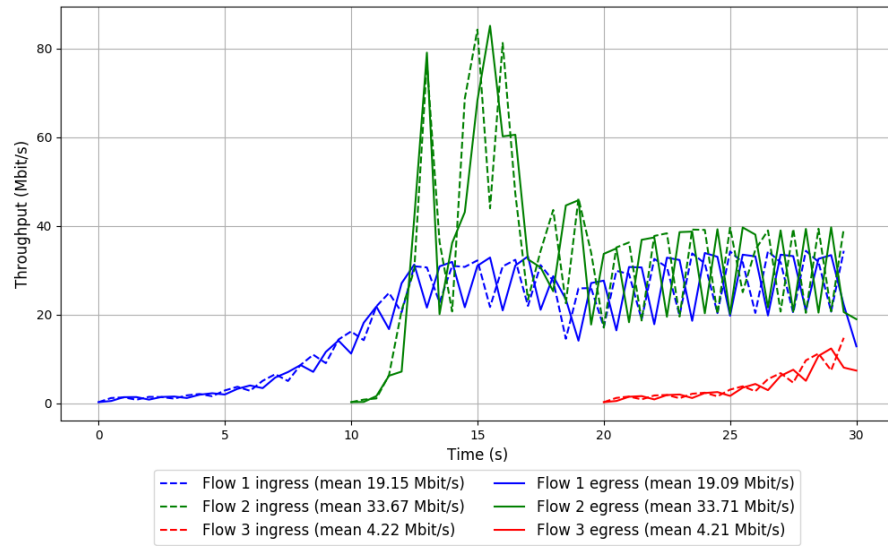
Run 8: Report of TCP Cubic — Data Link

```
Run 9: Statistics of TCP Cubic

Start at: 2018-01-10 08:37:04
End at: 2018-01-10 08:37:34


# Below is generated by plot.py at 2018-01-10 10:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 42.89 Mbit/s
95th percentile per-packet one-way delay: 167.807 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 19.09 Mbit/s
95th percentile per-packet one-way delay: 163.639 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 33.71 Mbit/s
95th percentile per-packet one-way delay: 169.421 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 165.318 ms
Loss rate: 0.00%
```
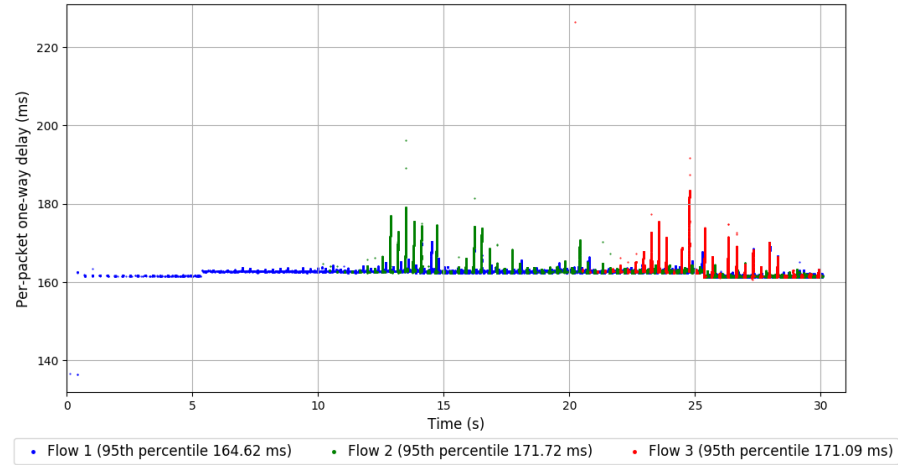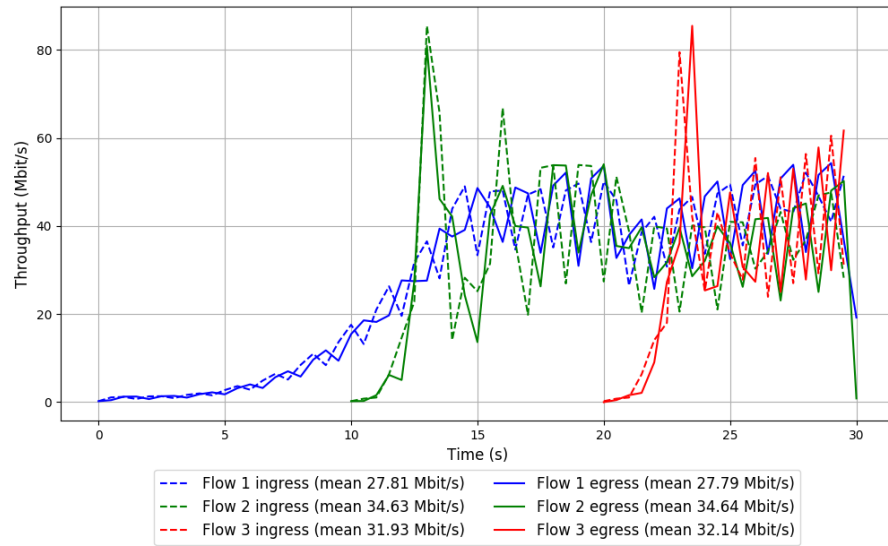
Run 9: Report of TCP Cubic — Data Link

```
Run 10: Statistics of TCP Cubic

Start at: 2018-01-10 08:53:03
End at: 2018-01-10 08:53:33


# Below is generated by plot.py at 2018-01-10 10:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.26 Mbit/s
95th percentile per-packet one-way delay: 169.251 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 27.79 Mbit/s
95th percentile per-packet one-way delay: 164.615 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 34.64 Mbit/s
95th percentile per-packet one-way delay: 171.725 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 32.14 Mbit/s
95th percentile per-packet one-way delay: 171.095 ms
Loss rate: 0.00%
```

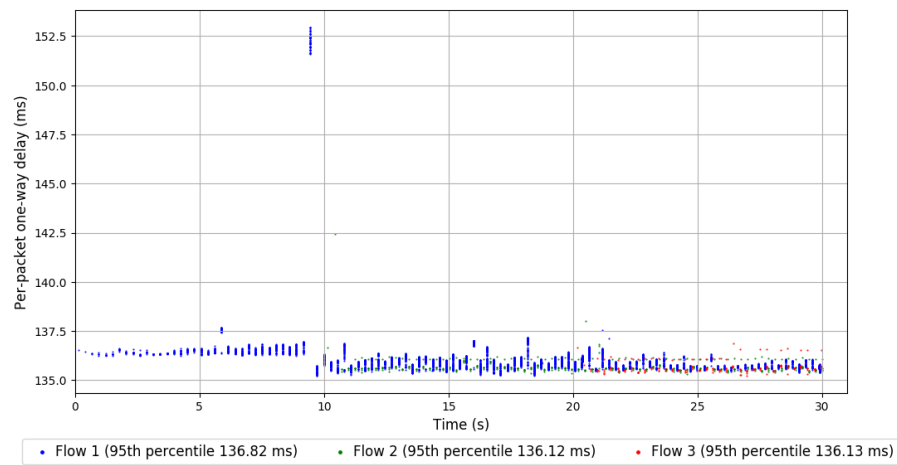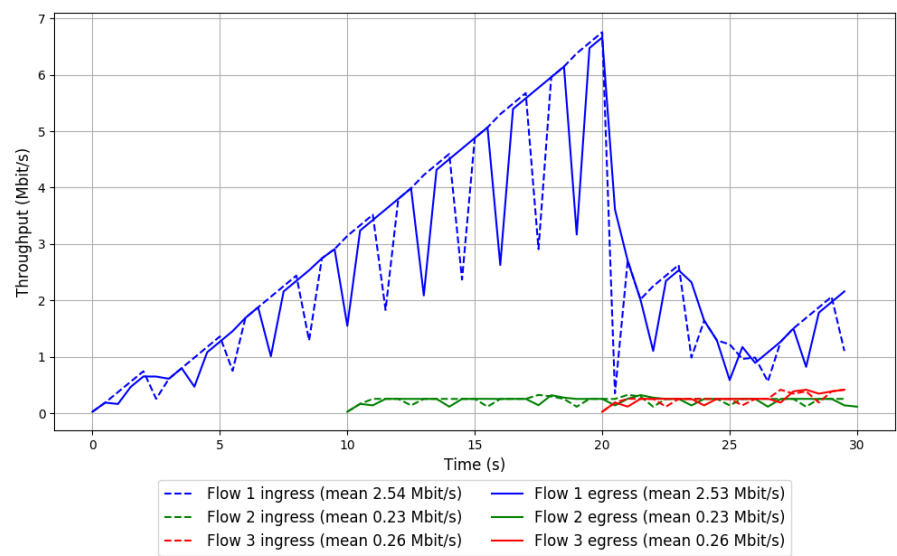Run 10: Report of TCP Cubic — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2018-01-10 06:38:09
End at: 2018-01-10 06:38:39

# Below is generated by plot.py at 2018-01-10 10:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.76 Mbit/s
95th percentile per-packet one-way delay: 136.799 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 2.53 Mbit/s
95th percentile per-packet one-way delay: 136.821 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 136.125 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 136.132 ms
Loss rate: 0.00%
```
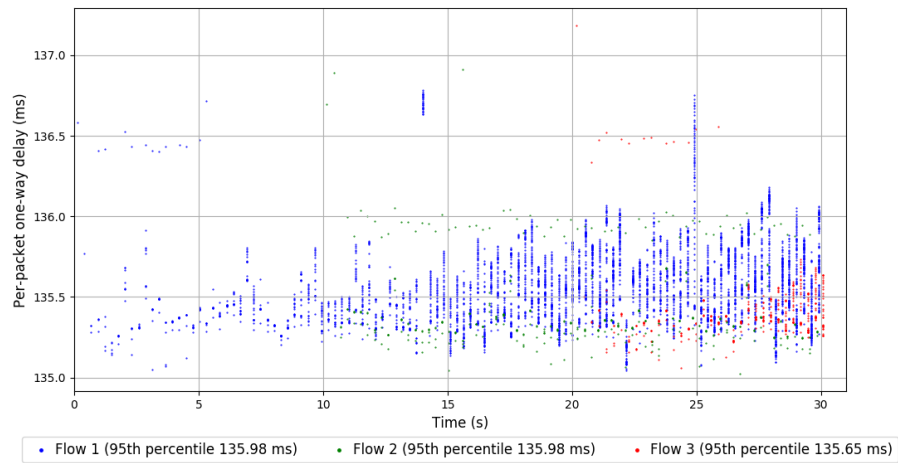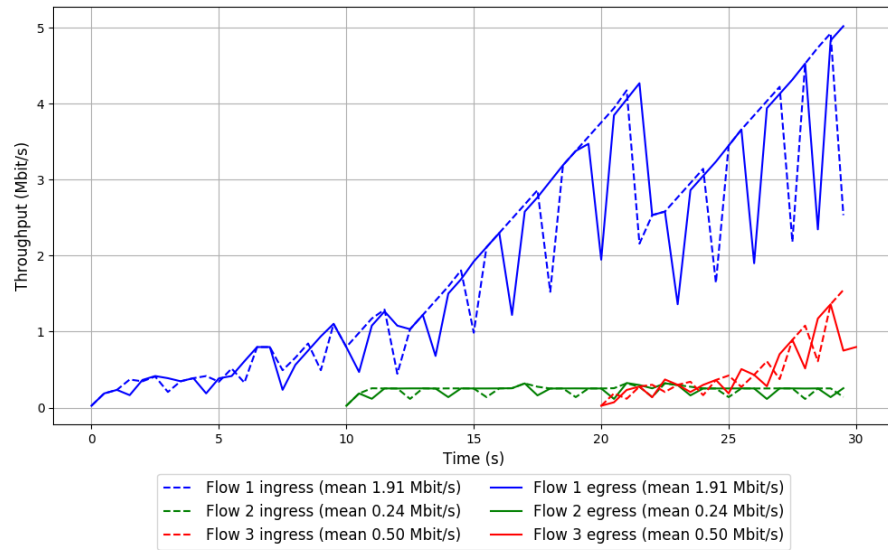
Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 2.54 Mbit/s) ---- Flow 1 egress (mean 2.53 Mbit/s) ——
Flow 2 ingress (mean 0.23 Mbit/s) ---- Flow 2 egress (mean 0.23 Mbit/s) ——
Flow 3 ingress (mean 0.26 Mbit/s) ---- Flow 3 egress (mean 0.26 Mbit/s) ——

• Flow 1 (95th percentile 136.82 ms)   • Flow 2 (95th percentile 136.12 ms)   • Flow 3 (95th percentile 136.13 ms)

```
Run 2: Statistics of LEDBAT

Start at: 2018-01-10 06:53:40
End at: 2018-01-10 06:54:10

# Below is generated by plot.py at 2018-01-10 10:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 135.972 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 135.980 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 135.977 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 135.646 ms
Loss rate: 0.00%
```
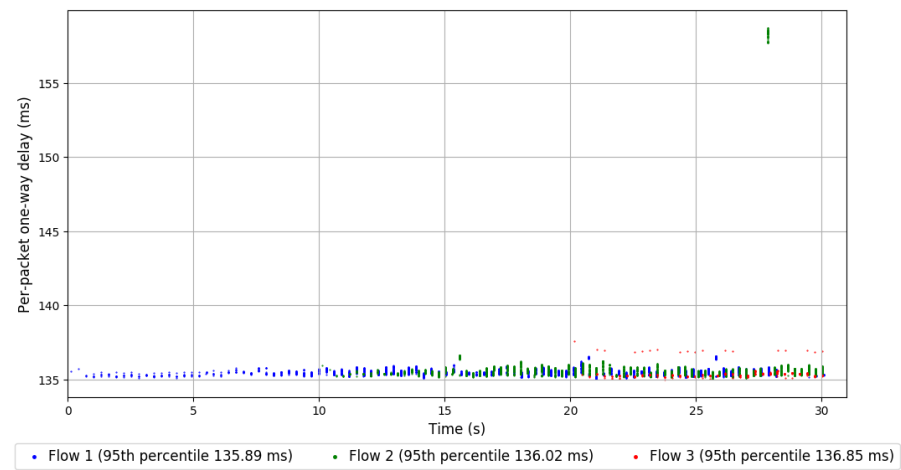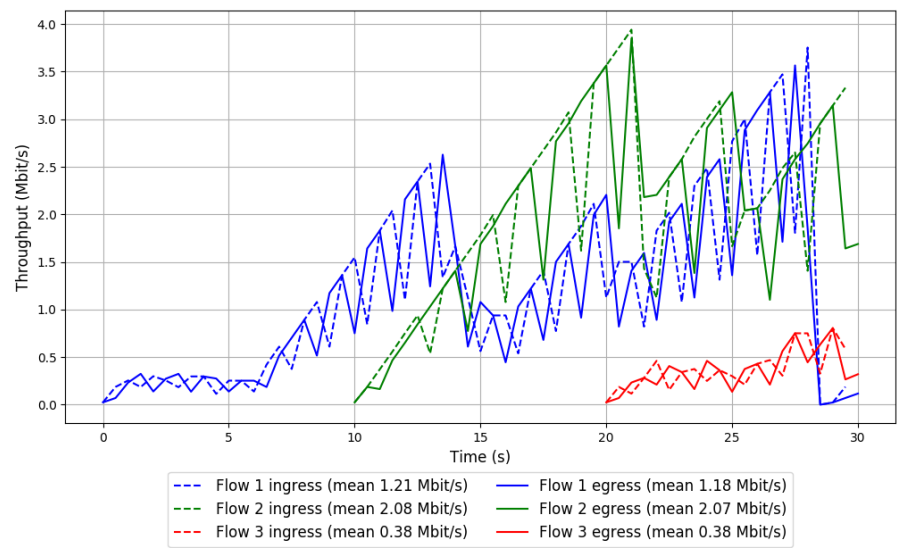
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-01-10 07:09:49
End at: 2018-01-10 07:10:19

# Below is generated by plot.py at 2018-01-10 10:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.68 Mbit/s
95th percentile per-packet one-way delay: 135.992 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 135.888 ms
Loss rate: 2.63%
-- Flow 2:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 136.024 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 136.851 ms
Loss rate: 0.00%
```
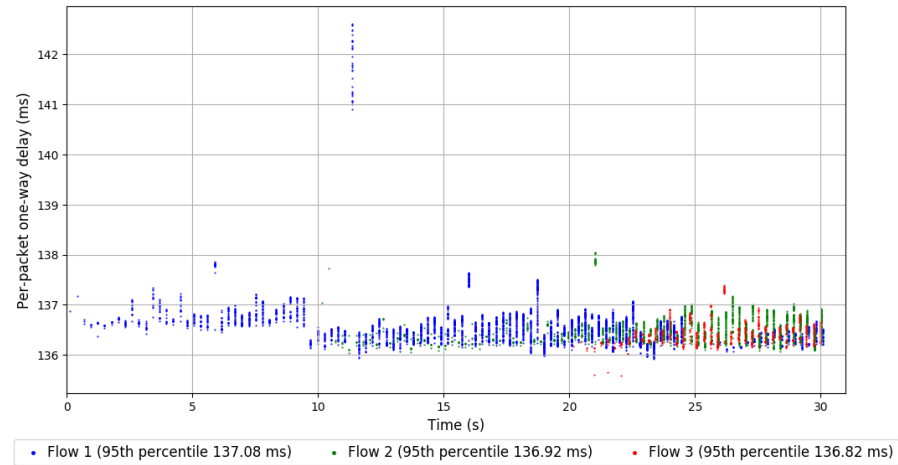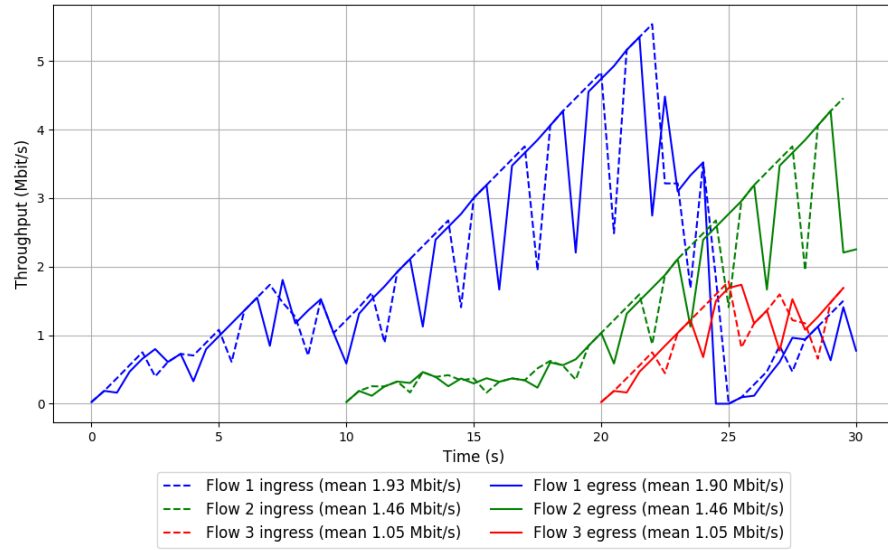
Run 3: Report of LEDBAT — Data Link

- Flow 1 ingress (mean 1.21 Mbit/s)
- Flow 1 egress (mean 1.18 Mbit/s)
- Flow 2 ingress (mean 2.08 Mbit/s)
- Flow 2 egress (mean 2.07 Mbit/s)
- Flow 3 ingress (mean 0.38 Mbit/s)
- Flow 3 egress (mean 0.38 Mbit/s)

- Flow 1 (95th percentile 135.89 ms)
- Flow 2 (95th percentile 136.02 ms)
- Flow 3 (95th percentile 136.85 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2018-01-10 07:26:19
End at: 2018-01-10 07:26:49

# Below is generated by plot.py at 2018-01-10 10:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.21 Mbit/s
95th percentile per-packet one-way delay: 136.992 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 137.077 ms
Loss rate: 1.58%
-- Flow 2:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 136.917 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 136.823 ms
Loss rate: 0.00%
```
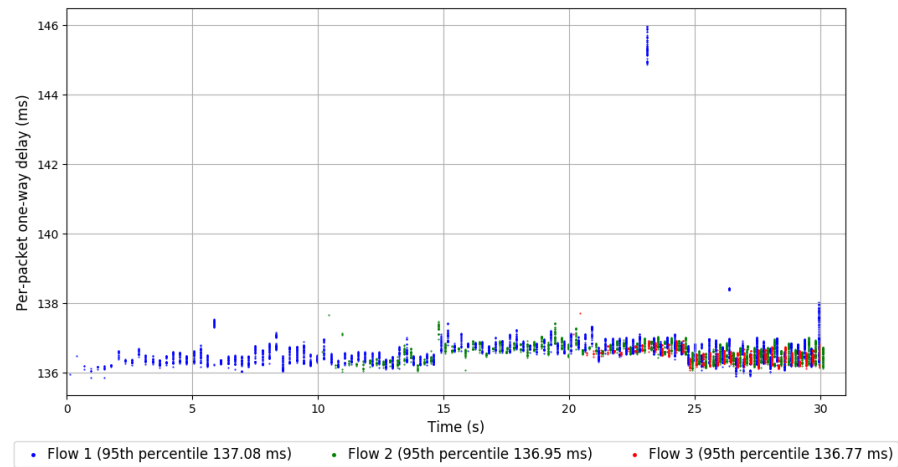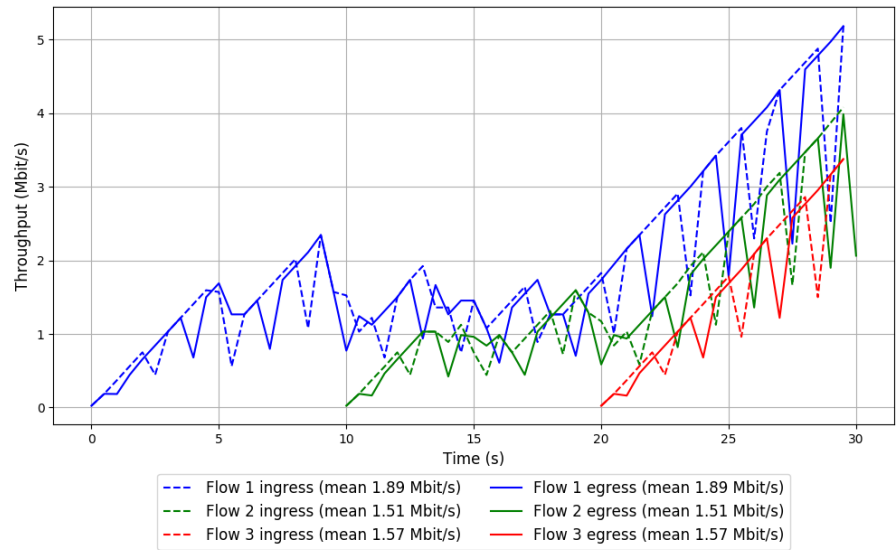
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2018-01-10 07:42:34
End at: 2018-01-10 07:43:04

# Below is generated by plot.py at 2018-01-10 10:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.40 Mbit/s
95th percentile per-packet one-way delay: 136.993 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 137.078 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 136.952 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 136.773 ms
Loss rate: 0.00%
```

Run 5: Report of LEDBAT — Data Link

```
Run 6: Statistics of LEDBAT

Start at: 2018-01-10 07:58:42
End at: 2018-01-10 07:59:12

# Below is generated by plot.py at 2018-01-10 10:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.81 Mbit/s
95th percentile per-packet one-way delay: 137.500 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 137.314 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 137.625 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.85 Mbit/s
95th percentile per-packet one-way delay: 137.507 ms
Loss rate: 0.28%
```
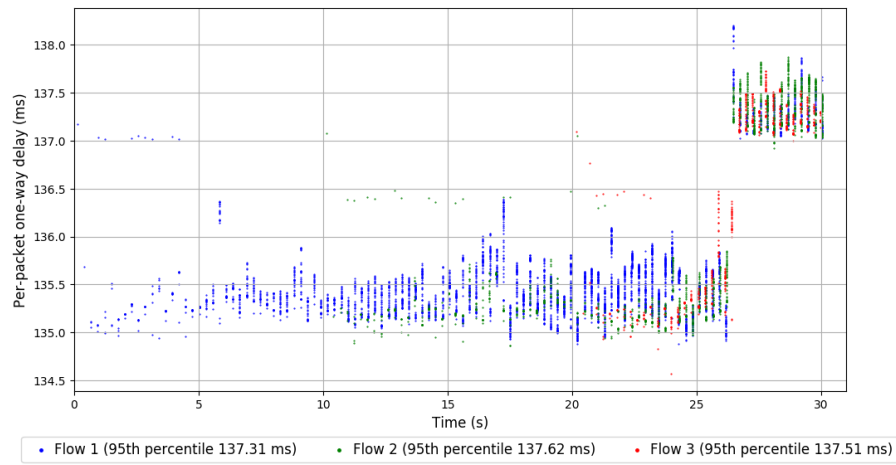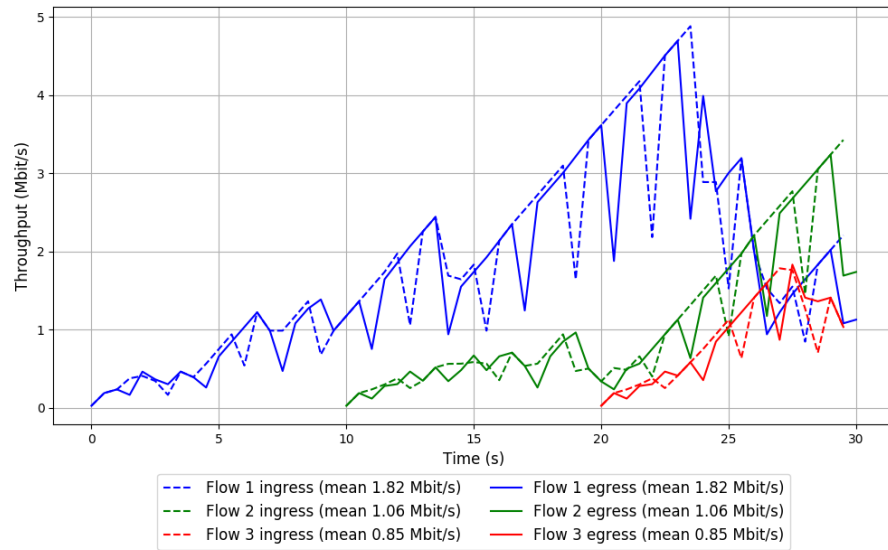
Run 6: Report of LEDBAT — Data Link

```
Run 7: Statistics of LEDBAT

Start at: 2018-01-10 08:14:16
End at: 2018-01-10 08:14:46


# Below is generated by plot.py at 2018-01-10 10:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 137.670 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 137.693 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.56 Mbit/s
95th percentile per-packet one-way delay: 137.594 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 137.596 ms
Loss rate: 0.00%
```
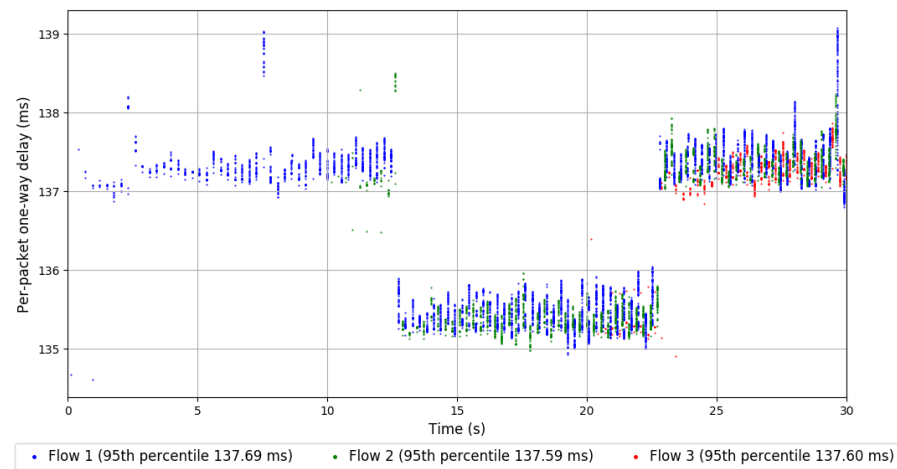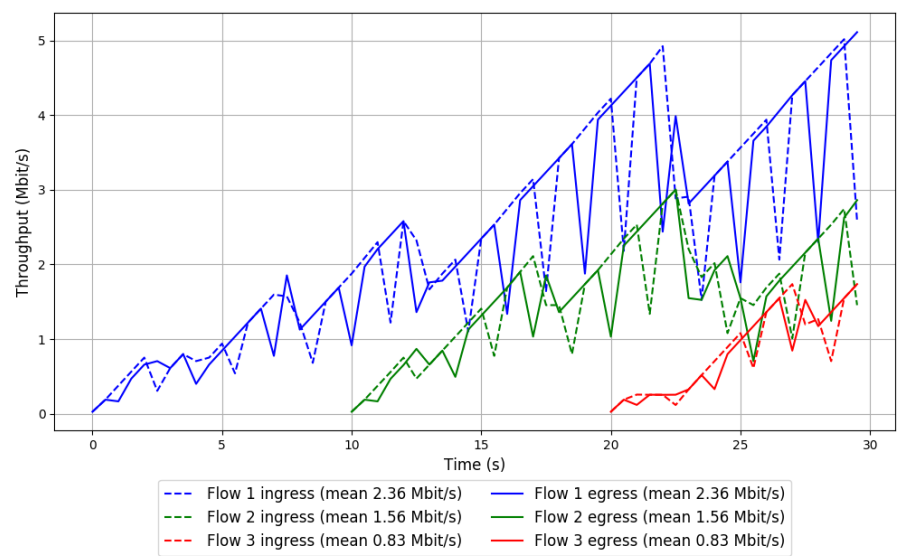
Run 7: Report of LEDBAT — Data Link

```
Run 8: Statistics of LEDBAT

Start at: 2018-01-10 08:30:10
End at: 2018-01-10 08:30:40

# Below is generated by plot.py at 2018-01-10 10:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.79 Mbit/s
95th percentile per-packet one-way delay: 163.317 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 163.244 ms
Loss rate: 2.55%
-- Flow 2:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 163.367 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 163.905 ms
Loss rate: 0.00%
```
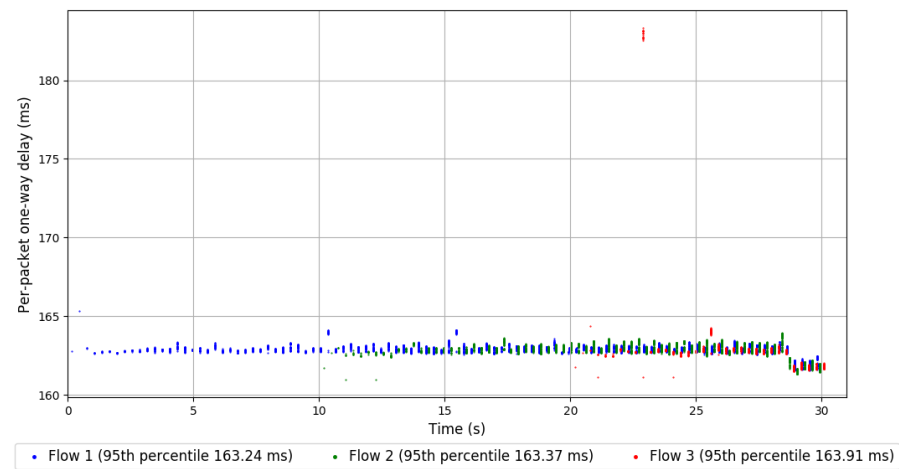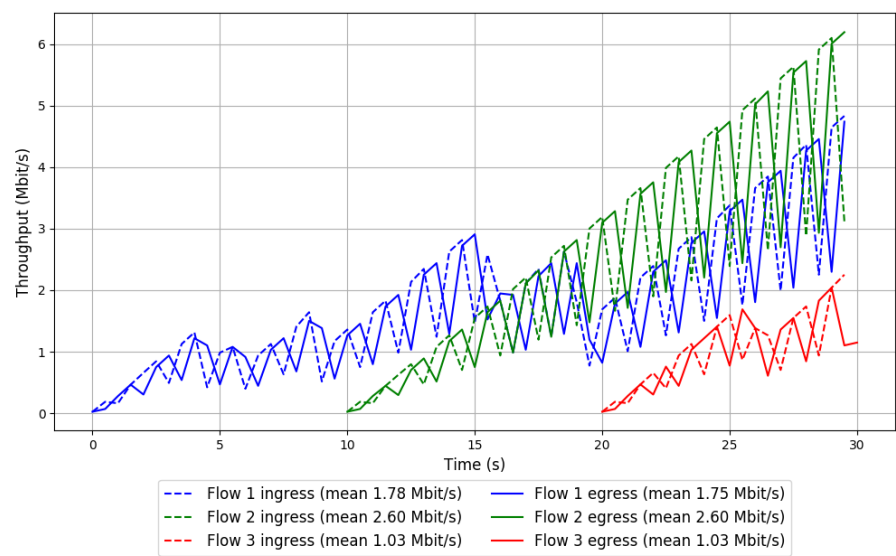
Run 8: Report of LEDBAT — Data Link

Flow 1 ingress (mean 1.78 Mbit/s)   Flow 1 egress (mean 1.75 Mbit/s)
Flow 2 ingress (mean 2.60 Mbit/s)   Flow 2 egress (mean 2.60 Mbit/s)
Flow 3 ingress (mean 1.03 Mbit/s)   Flow 3 egress (mean 1.03 Mbit/s)

Flow 1 (95th percentile 163.24 ms)   Flow 2 (95th percentile 163.37 ms)   Flow 3 (95th percentile 163.91 ms)

```
Run 9: Statistics of LEDBAT

Start at: 2018-01-10 08:46:03
End at: 2018-01-10 08:46:33


# Below is generated by plot.py at 2018-01-10 10:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 163.410 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 163.479 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 163.016 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 163.188 ms
Loss rate: 0.20%
```
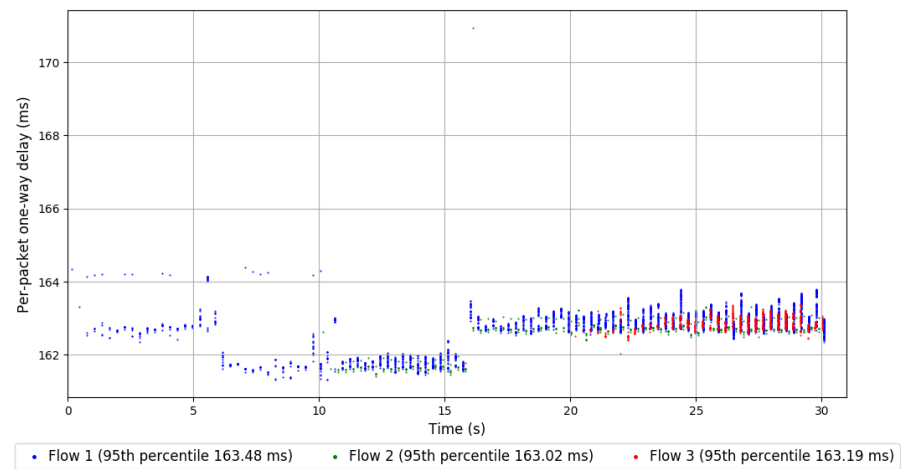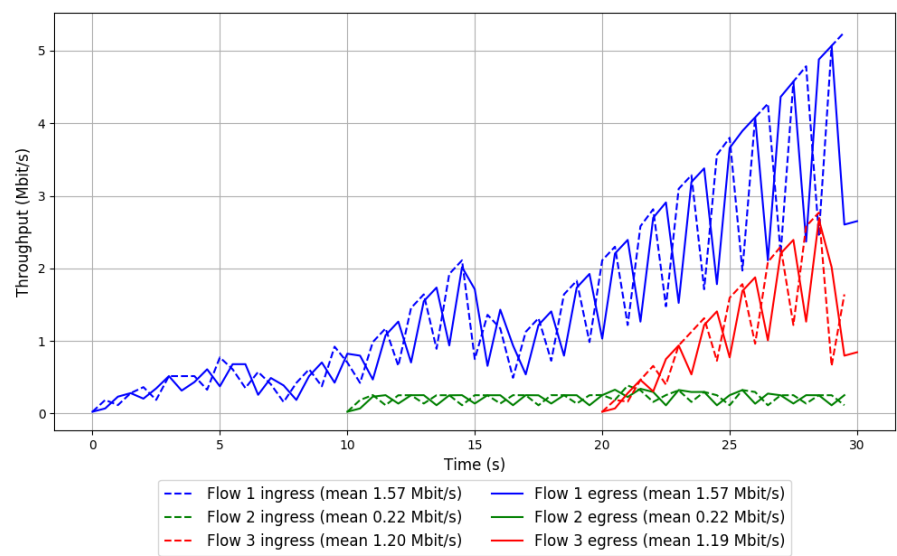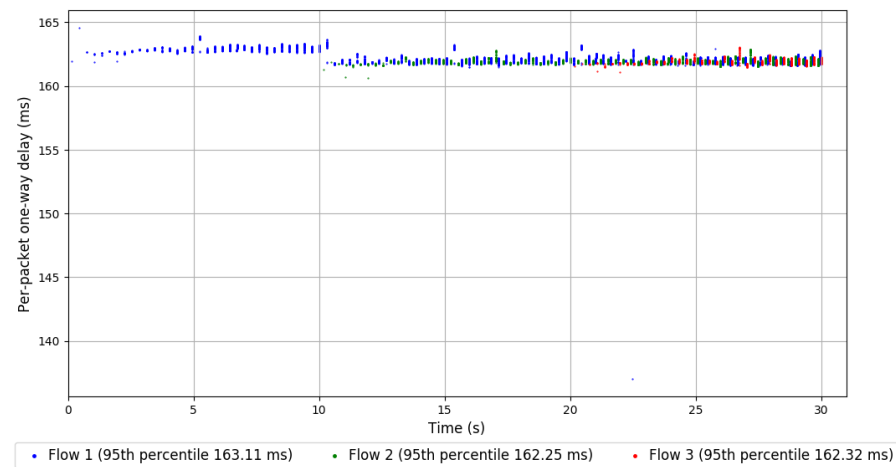
Run 9: Report of LEDBAT — Data Link

Flow 1 ingress (mean 1.57 Mbit/s)   Flow 1 egress (mean 1.57 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s)   Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 1.20 Mbit/s)   Flow 3 egress (mean 1.19 Mbit/s)

Flow 1 (95th percentile 163.48 ms)   Flow 2 (95th percentile 163.02 ms)   Flow 3 (95th percentile 163.19 ms)
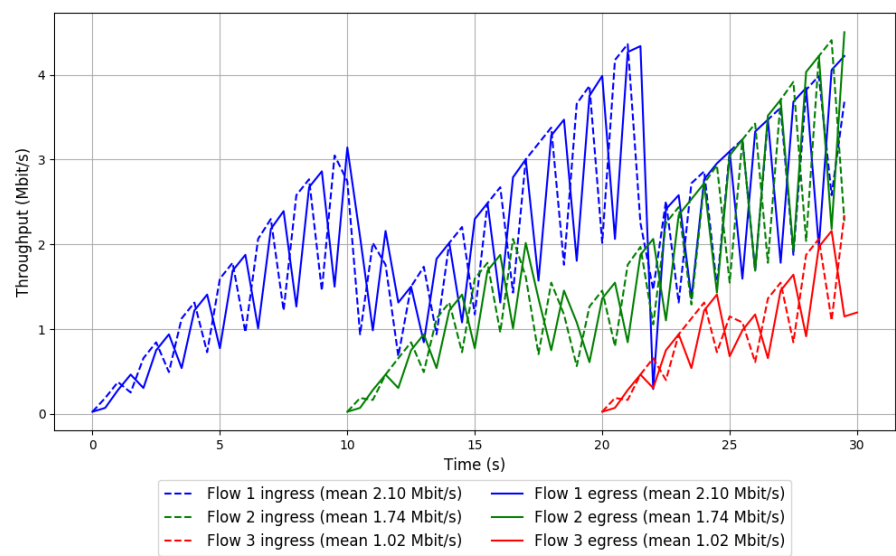
```
Run 10: Statistics of LEDBAT

Start at: 2018-01-10 09:01:58
End at: 2018-01-10 09:02:28

# Below is generated by plot.py at 2018-01-10 10:24:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.58 Mbit/s
95th percentile per-packet one-way delay: 163.027 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 163.111 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 162.249 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 162.321 ms
Loss rate: 0.00%
```
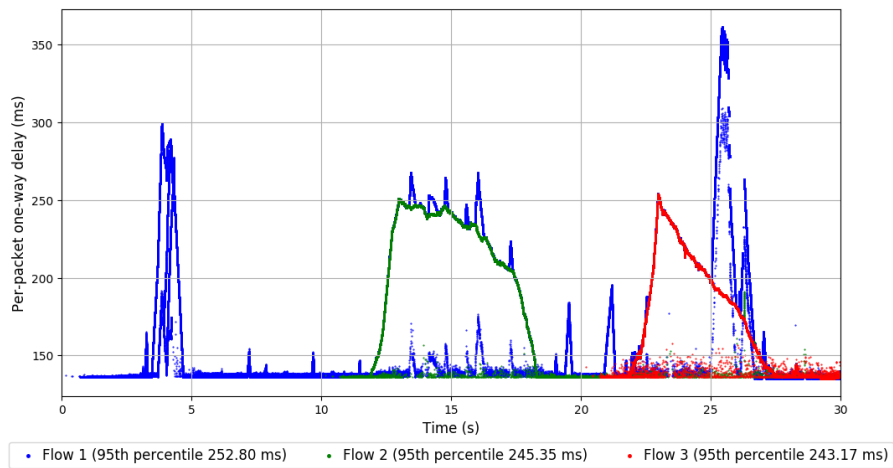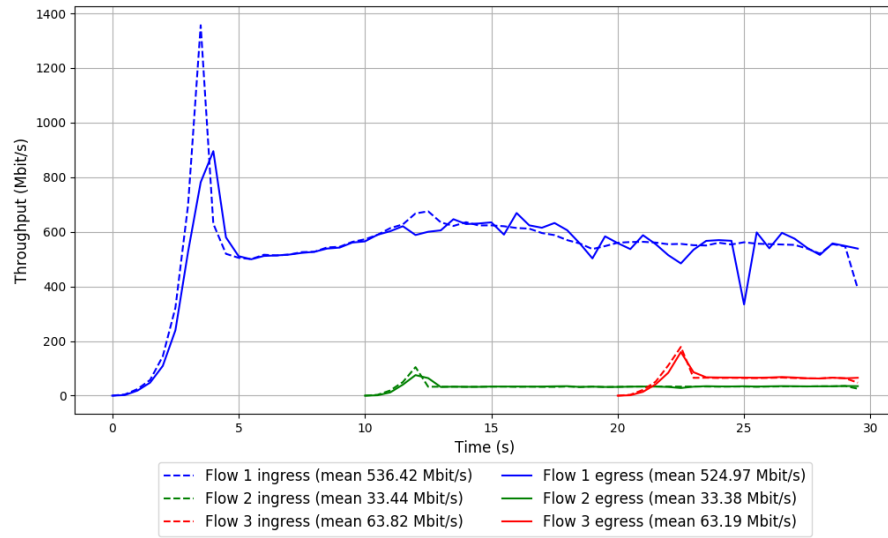
Run 10: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC

Start at: 2018-01-10 06:35:39
End at: 2018-01-10 06:36:09

# Below is generated by plot.py at 2018-01-10 10:32:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 567.88 Mbit/s
95th percentile per-packet one-way delay: 251.834 ms
Loss rate: 2.03%
-- Flow 1:
Average throughput: 524.97 Mbit/s
95th percentile per-packet one-way delay: 252.797 ms
Loss rate: 2.14%
-- Flow 2:
Average throughput: 33.38 Mbit/s
95th percentile per-packet one-way delay: 245.346 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 63.19 Mbit/s
95th percentile per-packet one-way delay: 243.170 ms
Loss rate: 1.04%
```
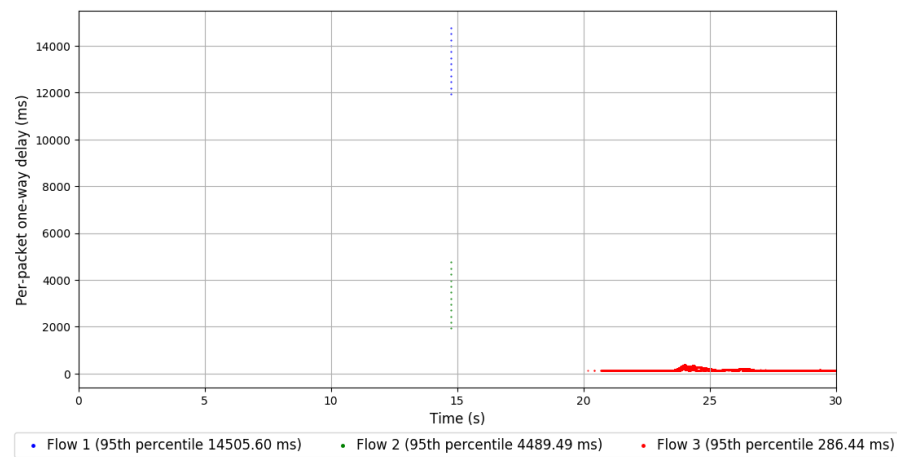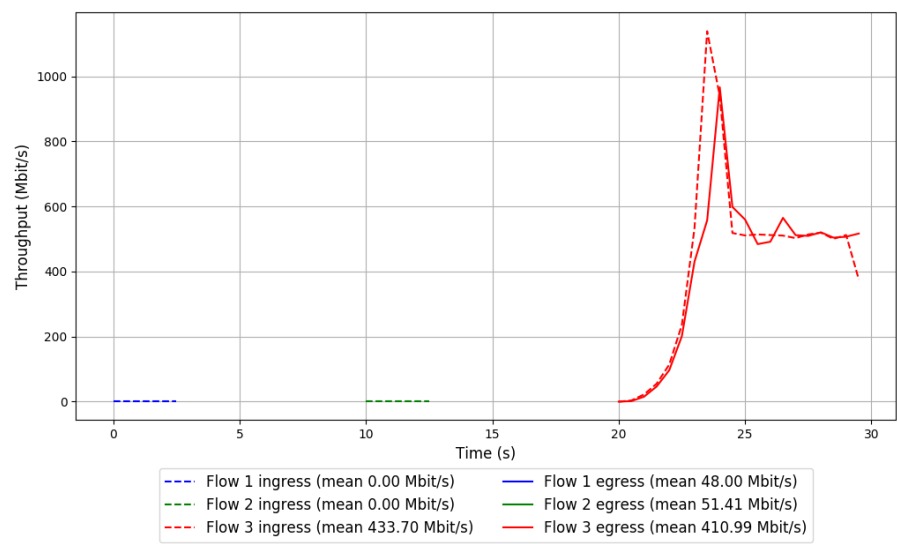
Run 1: Report of PCC — Data Link

Flow 1 ingress (mean 536.42 Mbit/s)   Flow 1 egress (mean 524.97 Mbit/s)
Flow 2 ingress (mean 33.44 Mbit/s)   Flow 2 egress (mean 33.38 Mbit/s)
Flow 3 ingress (mean 63.82 Mbit/s)   Flow 3 egress (mean 63.19 Mbit/s)

Flow 1 (95th percentile 252.80 ms)   Flow 2 (95th percentile 245.35 ms)   Flow 3 (95th percentile 243.17 ms)

```
Run 2: Statistics of PCC

Start at: 2018-01-10 06:51:41
End at: 2018-01-10 06:52:11
```

Run 2: Report of PCC — Data Link

Flow 1 ingress (mean 0.00 Mbit/s)   Flow 1 egress (mean 48.00 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s)   Flow 2 egress (mean 51.41 Mbit/s)
Flow 3 ingress (mean 433.70 Mbit/s)   Flow 3 egress (mean 410.99 Mbit/s)

Flow 1 (95th percentile 14505.60 ms)   Flow 2 (95th percentile 4489.49 ms)   Flow 3 (95th percentile 286.44 ms)

```
Run 3: Statistics of PCC

Start at: 2018-01-10 07:07:20
End at: 2018-01-10 07:07:50


# Below is generated by plot.py at 2018-01-10 10:32:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 508.93 Mbit/s
95th percentile per-packet one-way delay: 301.271 ms
Loss rate: 4.76%
-- Flow 1:
Average throughput: 449.40 Mbit/s
95th percentile per-packet one-way delay: 301.575 ms
Loss rate: 5.03%
-- Flow 2:
Average throughput: 58.86 Mbit/s
95th percentile per-packet one-way delay: 301.214 ms
Loss rate: 2.50%
-- Flow 3:
Average throughput: 62.19 Mbit/s
95th percentile per-packet one-way delay: 250.729 ms
Loss rate: 3.01%
```
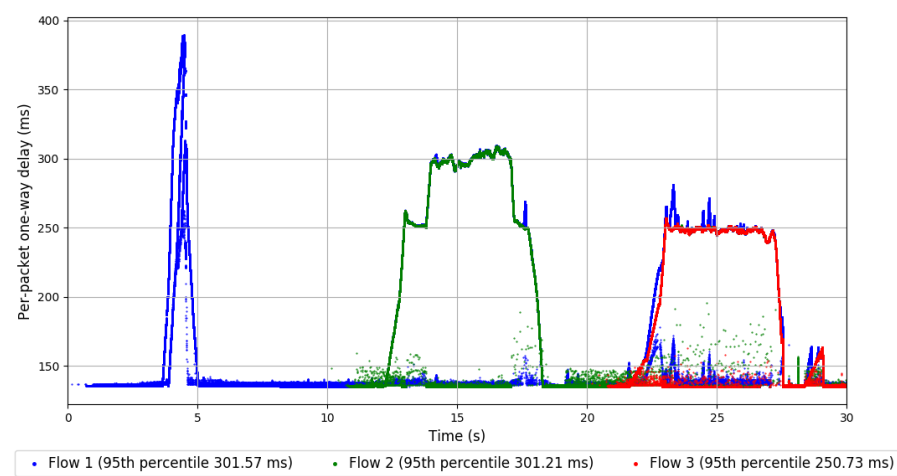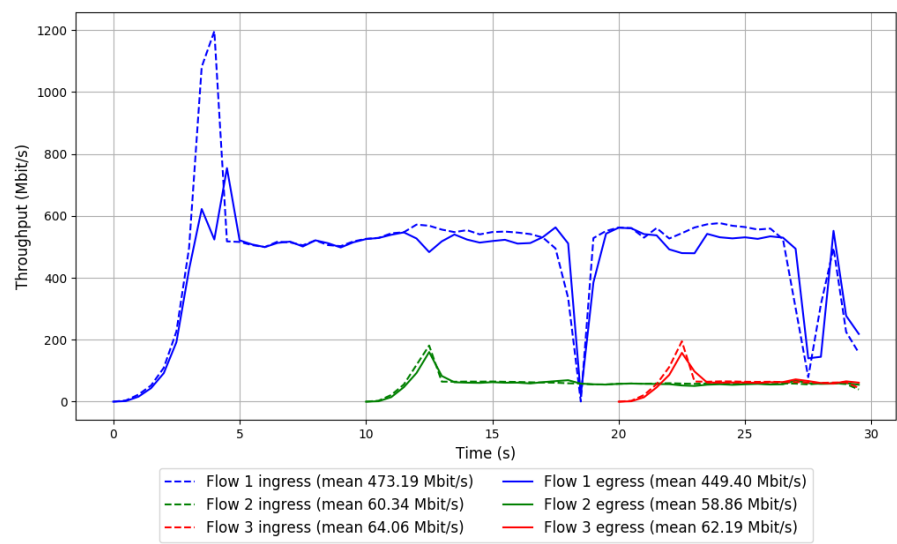
Run 3: Report of PCC — Data Link

```
Run 4: Statistics of PCC

Start at: 2018-01-10 07:23:50
End at: 2018-01-10 07:24:20


# Below is generated by plot.py at 2018-01-10 10:32:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 562.66 Mbit/s
95th percentile per-packet one-way delay: 310.529 ms
Loss rate: 5.51%
-- Flow 1:
Average throughput: 465.53 Mbit/s
95th percentile per-packet one-way delay: 323.917 ms
Loss rate: 5.72%
-- Flow 2:
Average throughput: 115.33 Mbit/s
95th percentile per-packet one-way delay: 257.190 ms
Loss rate: 4.80%
-- Flow 3:
Average throughput: 62.21 Mbit/s
95th percentile per-packet one-way delay: 249.151 ms
Loss rate: 3.31%
```
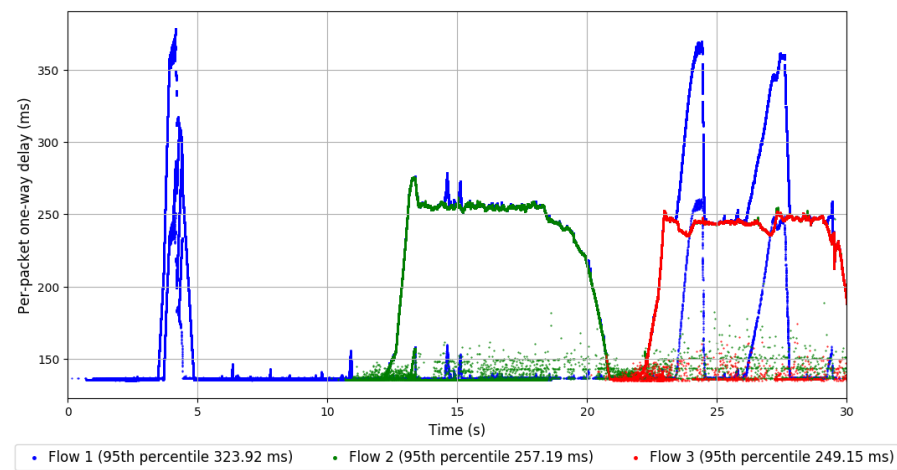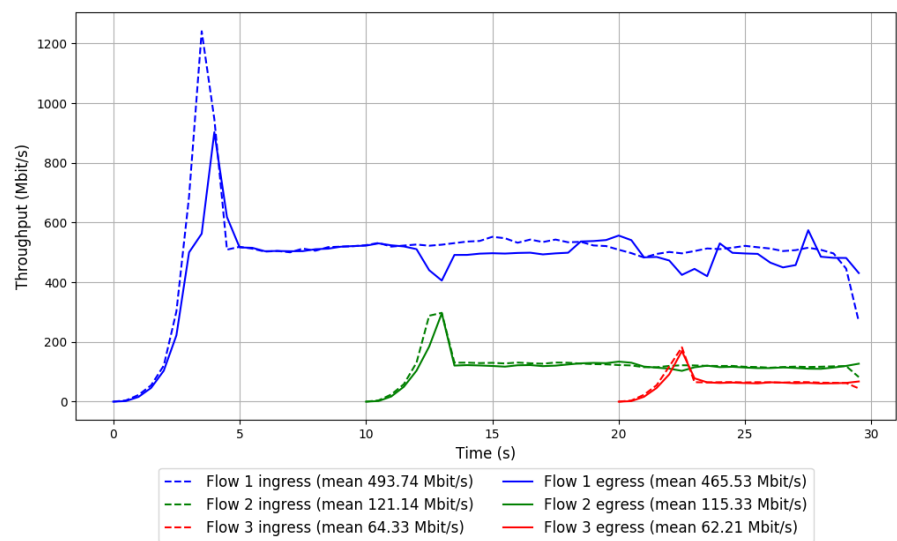
Run 4: Report of PCC — Data Link

Flow 1 ingress (mean 493.74 Mbit/s)   Flow 1 egress (mean 465.53 Mbit/s)
Flow 2 ingress (mean 121.14 Mbit/s)   Flow 2 egress (mean 115.33 Mbit/s)
Flow 3 ingress (mean 64.33 Mbit/s)   Flow 3 egress (mean 62.21 Mbit/s)

Flow 1 (95th percentile 323.92 ms)   Flow 2 (95th percentile 257.19 ms)   Flow 3 (95th percentile 249.15 ms)

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```
Run 5: Statistics of PCC

Start at: 2018-01-10 07:40:06
End at: 2018-01-10 07:40:36

# Below is generated by plot.py at 2018-01-10 10:32:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 538.20 Mbit/s
95th percentile per-packet one-way delay: 256.487 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 514.71 Mbit/s
95th percentile per-packet one-way delay: 256.505 ms
Loss rate: 1.69%
-- Flow 2:
Average throughput: 34.12 Mbit/s
95th percentile per-packet one-way delay: 256.149 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 2.45 Mbit/s
95th percentile per-packet one-way delay: 228.734 ms
Loss rate: 0.00%
```
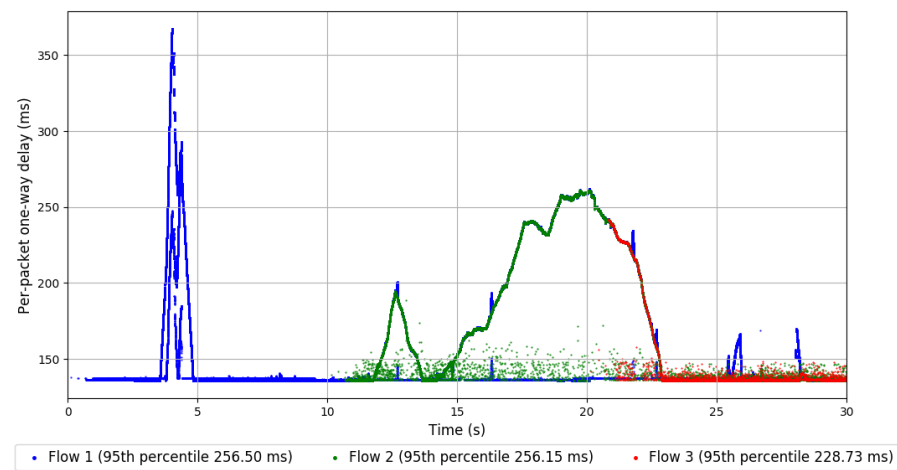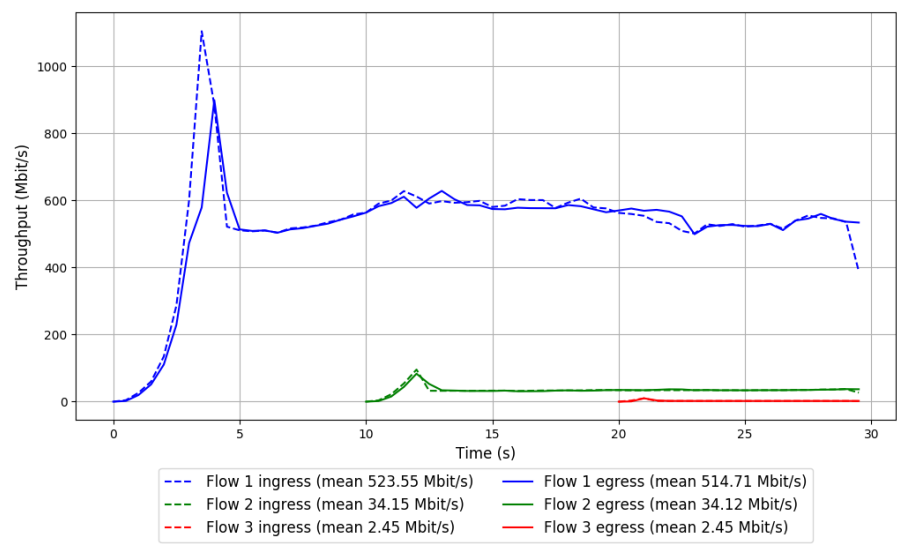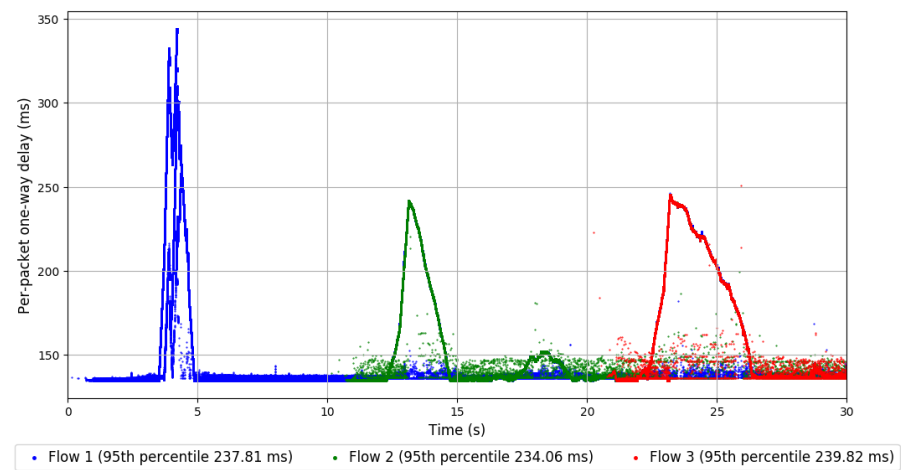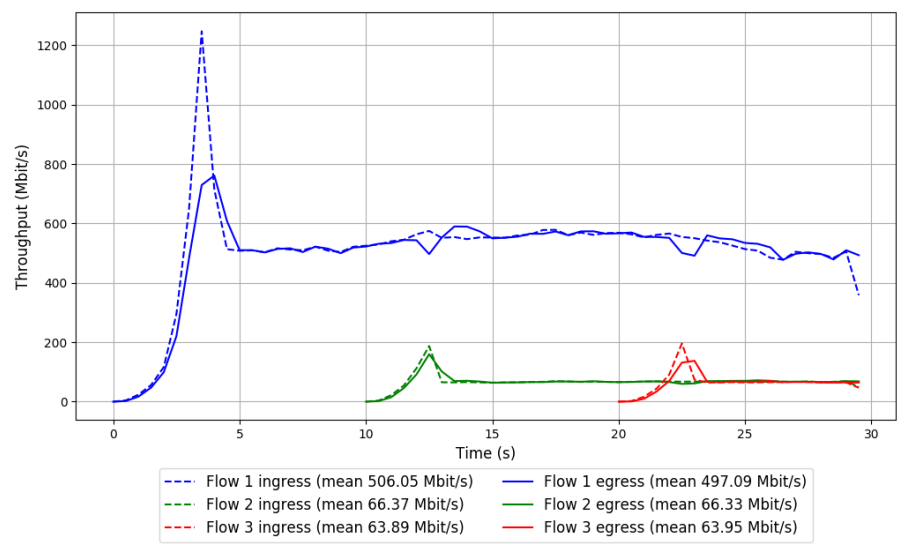
Run 5: Report of PCC — Data Link

Flow 1 ingress (mean 523.55 Mbit/s)   Flow 1 egress (mean 514.71 Mbit/s)
Flow 2 ingress (mean 34.15 Mbit/s)   Flow 2 egress (mean 34.12 Mbit/s)
Flow 3 ingress (mean 2.45 Mbit/s)   Flow 3 egress (mean 2.45 Mbit/s)

Flow 1 (95th percentile 256.50 ms)   Flow 2 (95th percentile 256.15 ms)   Flow 3 (95th percentile 228.73 ms)

```
Run 6: Statistics of PCC

Start at: 2018-01-10 07:56:13
End at: 2018-01-10 07:56:43


# Below is generated by plot.py at 2018-01-10 10:32:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 561.95 Mbit/s
95th percentile per-packet one-way delay: 237.858 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 497.09 Mbit/s
95th percentile per-packet one-way delay: 237.812 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 66.33 Mbit/s
95th percentile per-packet one-way delay: 234.058 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 63.95 Mbit/s
95th percentile per-packet one-way delay: 239.822 ms
Loss rate: 0.77%
```
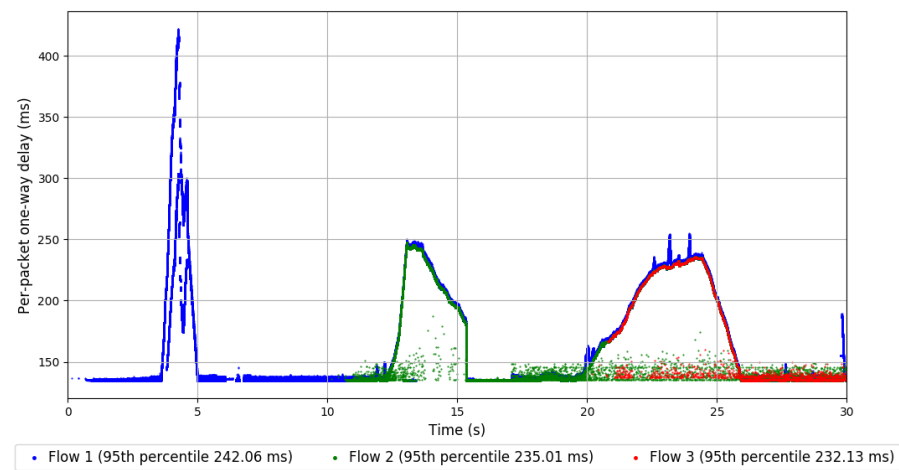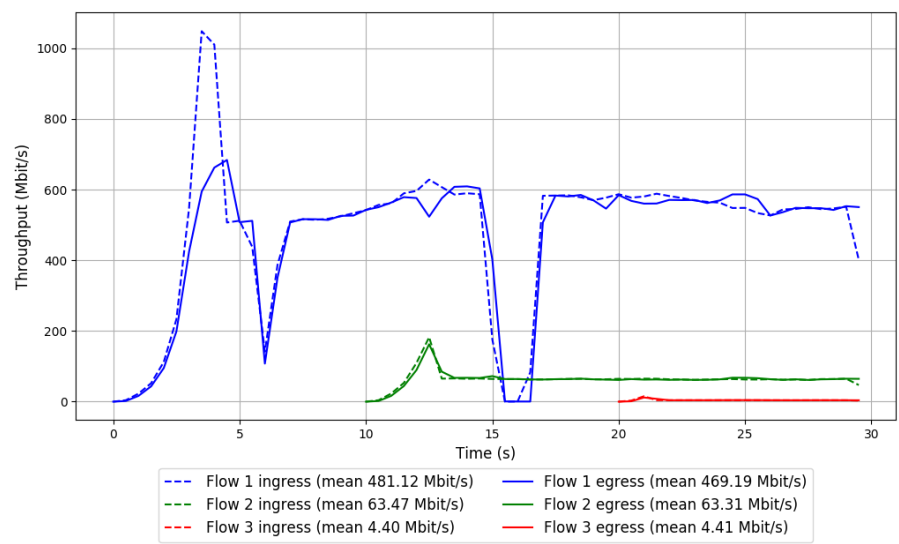
Run 6: Report of PCC — Data Link

- Flow 1 ingress (mean 506.05 Mbit/s)
- Flow 2 ingress (mean 66.37 Mbit/s)
- Flow 3 ingress (mean 63.89 Mbit/s)
- Flow 1 egress (mean 497.09 Mbit/s)
- Flow 2 egress (mean 66.33 Mbit/s)
- Flow 3 egress (mean 63.95 Mbit/s)

- Flow 1 (95th percentile 237.81 ms)
- Flow 2 (95th percentile 234.06 ms)
- Flow 3 (95th percentile 239.82 ms)

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```
Run 7: Statistics of PCC

Start at: 2018-01-10 08:11:49
End at: 2018-01-10 08:12:19


# Below is generated by plot.py at 2018-01-10 10:32:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 512.72 Mbit/s
95th percentile per-packet one-way delay: 241.815 ms
Loss rate: 2.30%
-- Flow 1:
Average throughput: 469.19 Mbit/s
95th percentile per-packet one-way delay: 242.056 ms
Loss rate: 2.48%
-- Flow 2:
Average throughput: 63.31 Mbit/s
95th percentile per-packet one-way delay: 235.013 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 232.127 ms
Loss rate: 0.00%
```
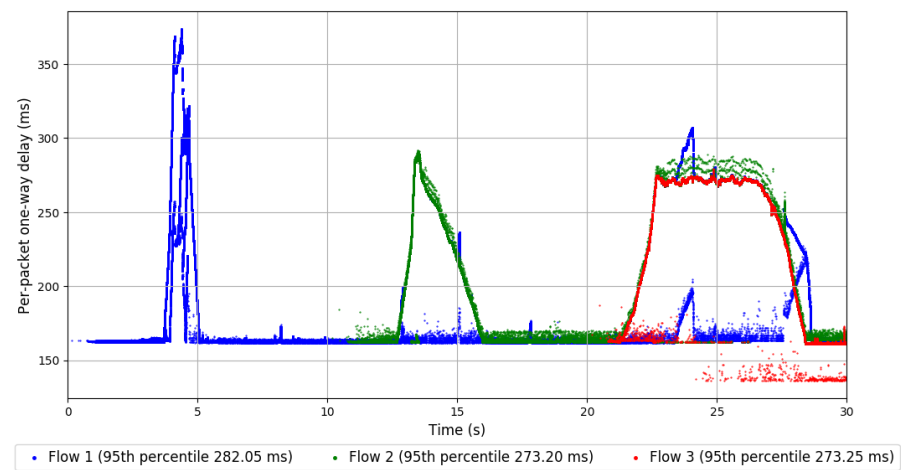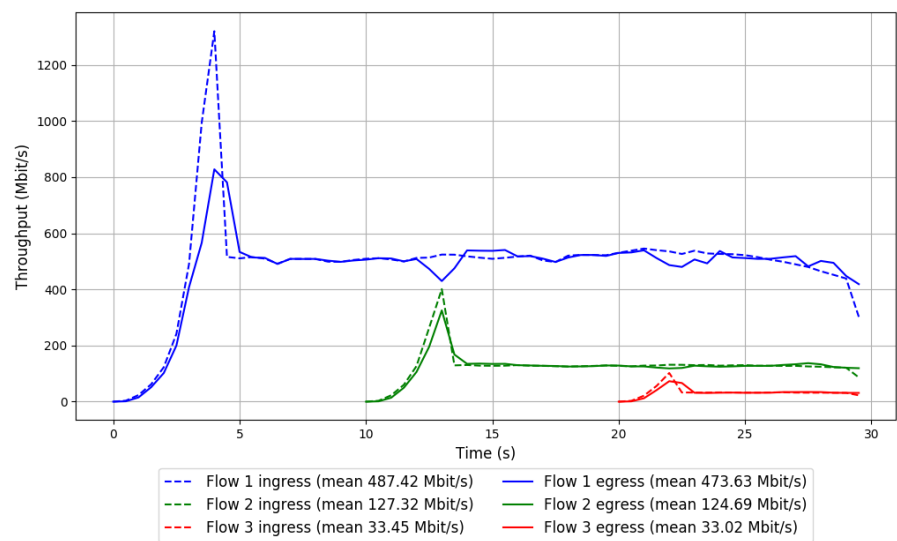
Run 7: Report of PCC — Data Link

Flow 1 ingress (mean 481.12 Mbit/s)   Flow 1 egress (mean 469.19 Mbit/s)
Flow 2 ingress (mean 63.47 Mbit/s)   Flow 2 egress (mean 63.31 Mbit/s)
Flow 3 ingress (mean 4.40 Mbit/s)   Flow 3 egress (mean 4.41 Mbit/s)

Flow 1 (95th percentile 242.06 ms)   Flow 2 (95th percentile 235.01 ms)   Flow 3 (95th percentile 232.13 ms)

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```
Run 8: Statistics of PCC

Start at: 2018-01-10 08:27:41
End at: 2018-01-10 08:28:11


# Below is generated by plot.py at 2018-01-10 10:33:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 567.28 Mbit/s
95th percentile per-packet one-way delay: 278.177 ms
Loss rate: 2.79%
-- Flow 1:
Average throughput: 473.63 Mbit/s
95th percentile per-packet one-way delay: 282.047 ms
Loss rate: 2.92%
-- Flow 2:
Average throughput: 124.69 Mbit/s
95th percentile per-packet one-way delay: 273.205 ms
Loss rate: 2.18%
-- Flow 3:
Average throughput: 33.02 Mbit/s
95th percentile per-packet one-way delay: 273.255 ms
Loss rate: 1.59%
```
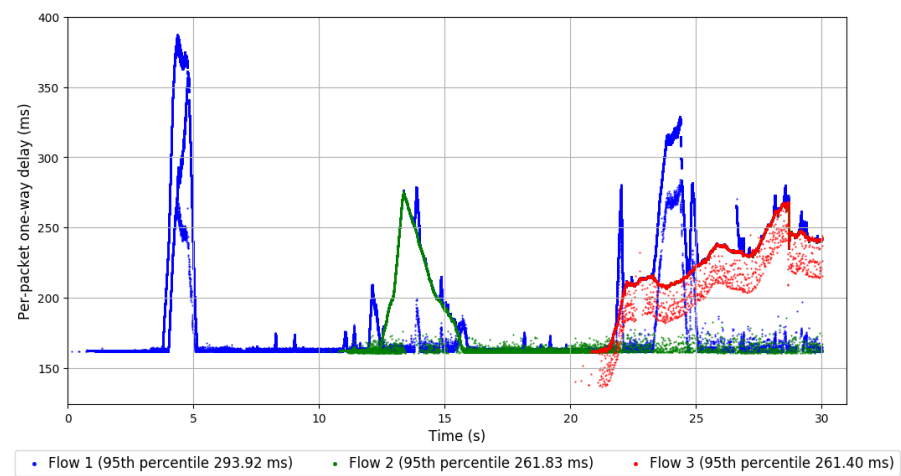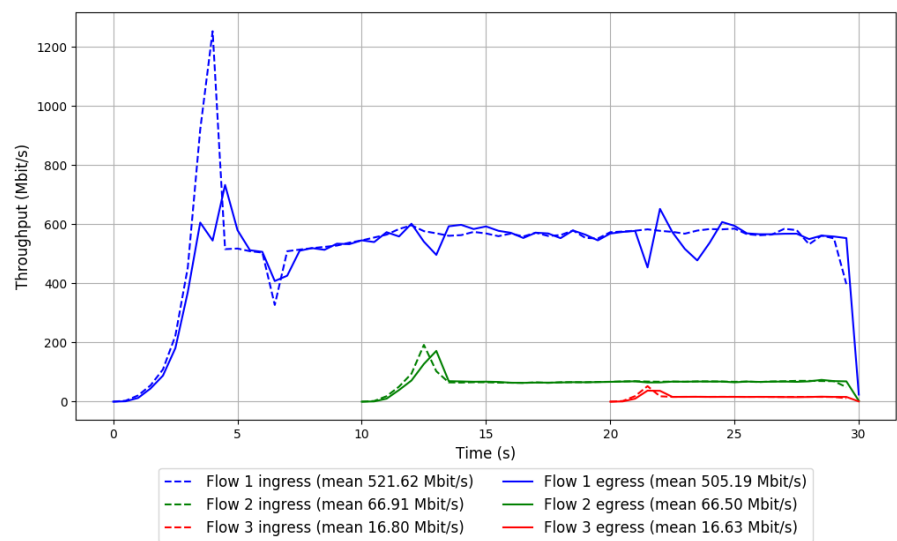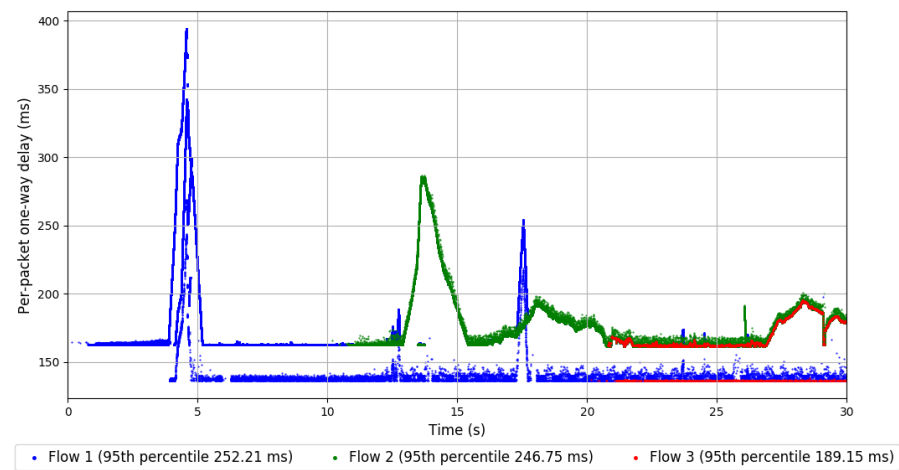
Run 8: Report of PCC — Data Link

Flow 1 ingress (mean 487.42 Mbit/s)   Flow 1 egress (mean 473.63 Mbit/s)
Flow 2 ingress (mean 127.32 Mbit/s)   Flow 2 egress (mean 124.69 Mbit/s)
Flow 3 ingress (mean 33.45 Mbit/s)   Flow 3 egress (mean 33.02 Mbit/s)

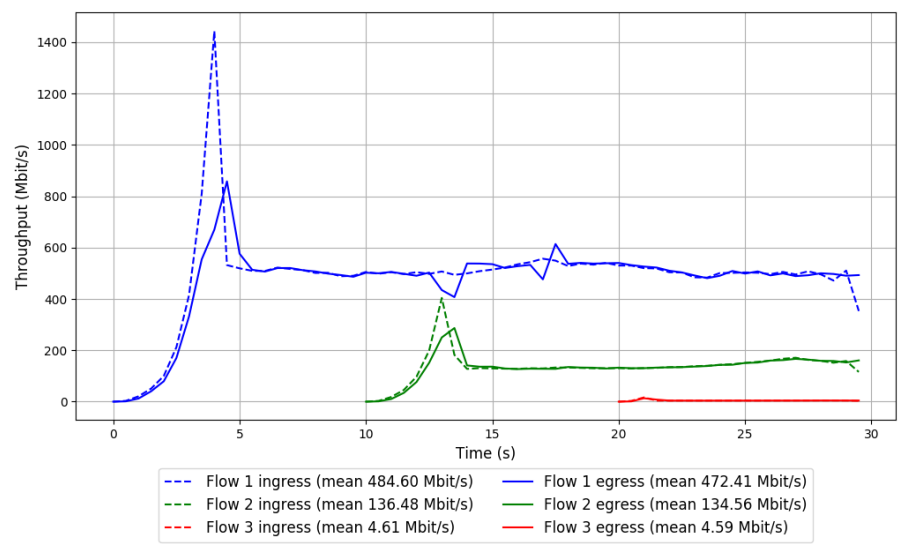Flow 1 (95th percentile 282.05 ms)   Flow 2 (95th percentile 273.20 ms)   Flow 3 (95th percentile 273.25 ms)

```
Run 9: Statistics of PCC

Start at: 2018-01-10 08:43:33
End at: 2018-01-10 08:44:03


# Below is generated by plot.py at 2018-01-10 10:36:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 554.84 Mbit/s
95th percentile per-packet one-way delay: 284.330 ms
Loss rate: 2.93%
-- Flow 1:
Average throughput: 505.19 Mbit/s
95th percentile per-packet one-way delay: 293.918 ms
Loss rate: 3.15%
-- Flow 2:
Average throughput: 66.50 Mbit/s
95th percentile per-packet one-way delay: 261.833 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 16.63 Mbit/s
95th percentile per-packet one-way delay: 261.404 ms
Loss rate: 0.78%
```
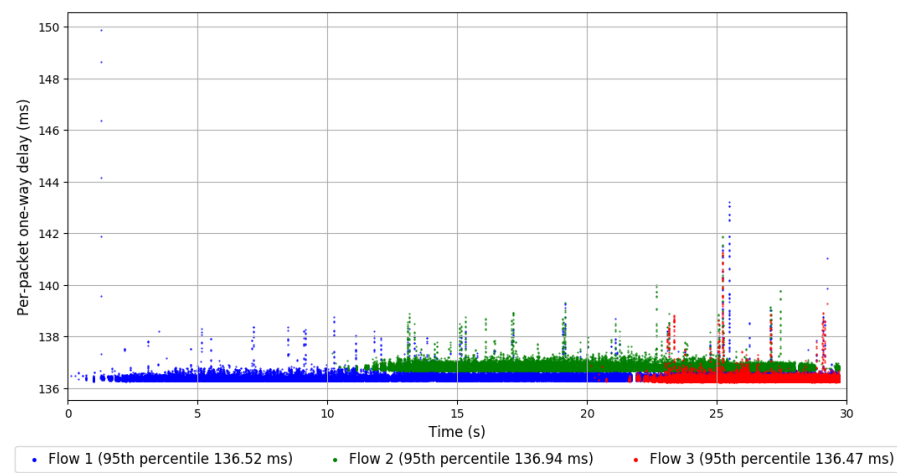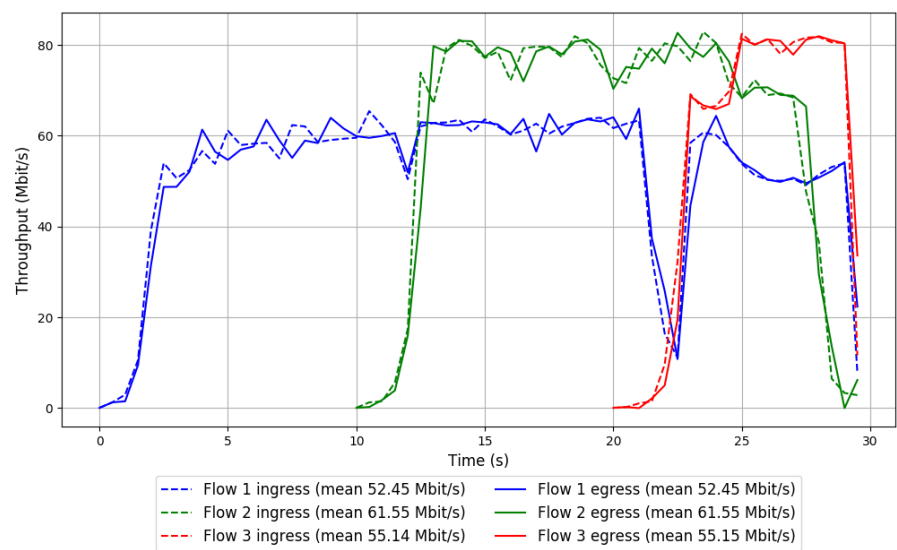
Run 9: Report of PCC — Data Link

Flow 1 ingress (mean 521.62 Mbit/s) ---- Flow 1 egress (mean 505.19 Mbit/s)
Flow 2 ingress (mean 66.91 Mbit/s) ---- Flow 2 egress (mean 66.50 Mbit/s)
Flow 3 ingress (mean 16.80 Mbit/s) ---- Flow 3 egress (mean 16.63 Mbit/s)

Flow 1 (95th percentile 293.92 ms)   Flow 2 (95th percentile 261.83 ms)   Flow 3 (95th percentile 261.40 ms)

```
Run 10: Statistics of PCC

Start at: 2018-01-10 08:59:31
End at: 2018-01-10 09:00:01


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 563.31 Mbit/s
95th percentile per-packet one-way delay: 251.297 ms
Loss rate: 2.44%
-- Flow 1:
Average throughput: 472.41 Mbit/s
95th percentile per-packet one-way delay: 252.206 ms
Loss rate: 2.61%
-- Flow 2:
Average throughput: 134.56 Mbit/s
95th percentile per-packet one-way delay: 246.754 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 4.59 Mbit/s
95th percentile per-packet one-way delay: 189.150 ms
Loss rate: 0.42%
```

Run 10: Report of PCC — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-01-10 06:41:13
End at: 2018-01-10 06:41:43

# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 110.95 Mbit/s
95th percentile per-packet one-way delay: 136.867 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.45 Mbit/s
95th percentile per-packet one-way delay: 136.524 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 61.55 Mbit/s
95th percentile per-packet one-way delay: 136.935 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 55.15 Mbit/s
95th percentile per-packet one-way delay: 136.469 ms
Loss rate: 0.00%
```
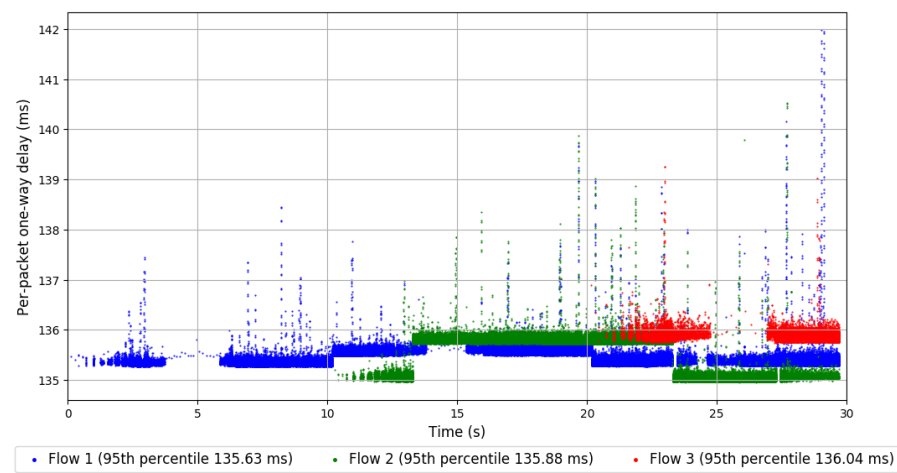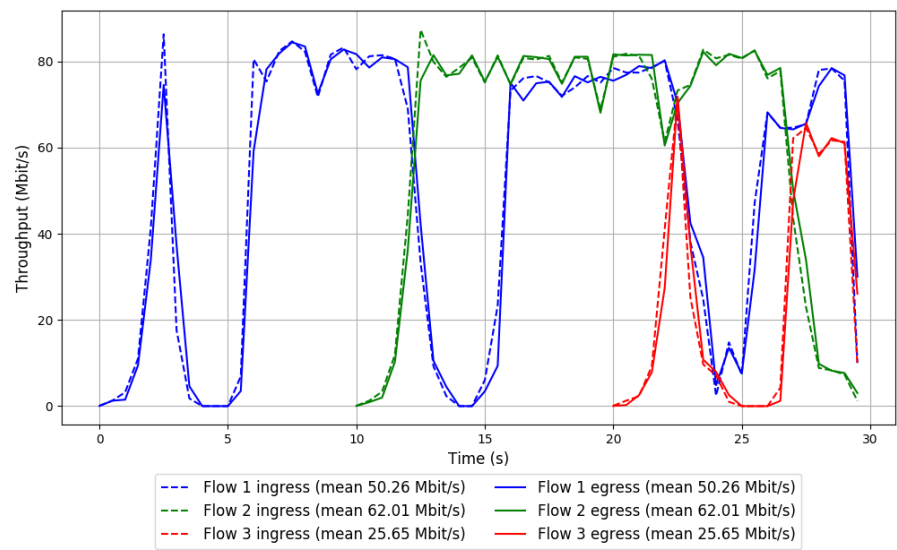
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-01-10 06:56:55
End at: 2018-01-10 06:57:25


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.57 Mbit/s
95th percentile per-packet one-way delay: 135.887 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.26 Mbit/s
95th percentile per-packet one-way delay: 135.632 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 62.01 Mbit/s
95th percentile per-packet one-way delay: 135.885 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 25.65 Mbit/s
95th percentile per-packet one-way delay: 136.045 ms
Loss rate: 0.00%
```
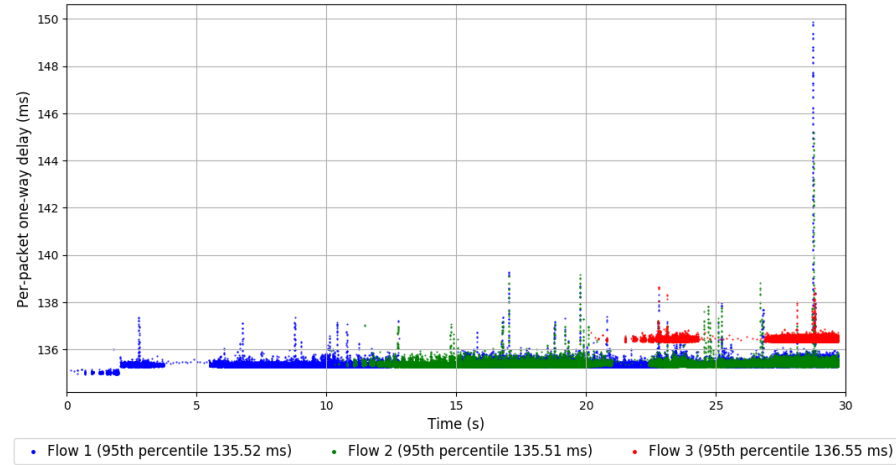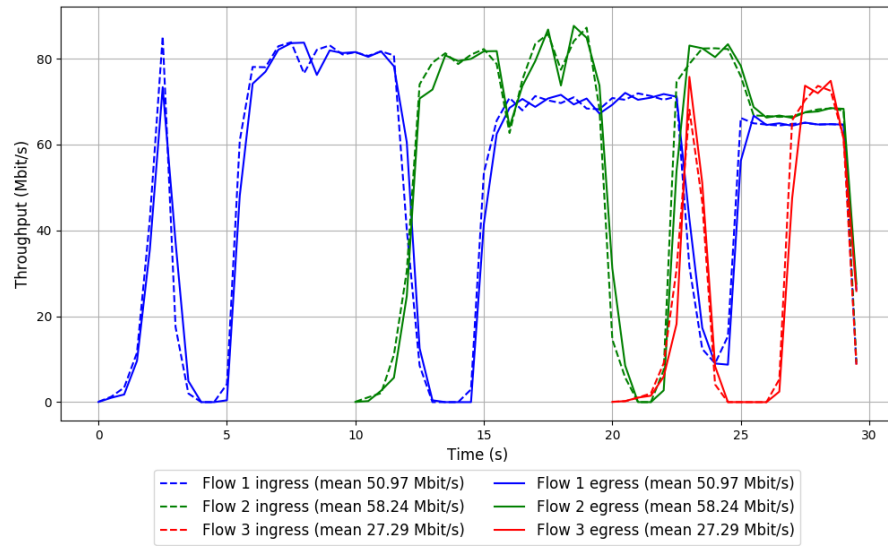
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-01-10 07:13:03
End at: 2018-01-10 07:13:33


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.23 Mbit/s
95th percentile per-packet one-way delay: 136.393 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.97 Mbit/s
95th percentile per-packet one-way delay: 135.518 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 58.24 Mbit/s
95th percentile per-packet one-way delay: 135.514 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 27.29 Mbit/s
95th percentile per-packet one-way delay: 136.547 ms
Loss rate: 0.00%
```
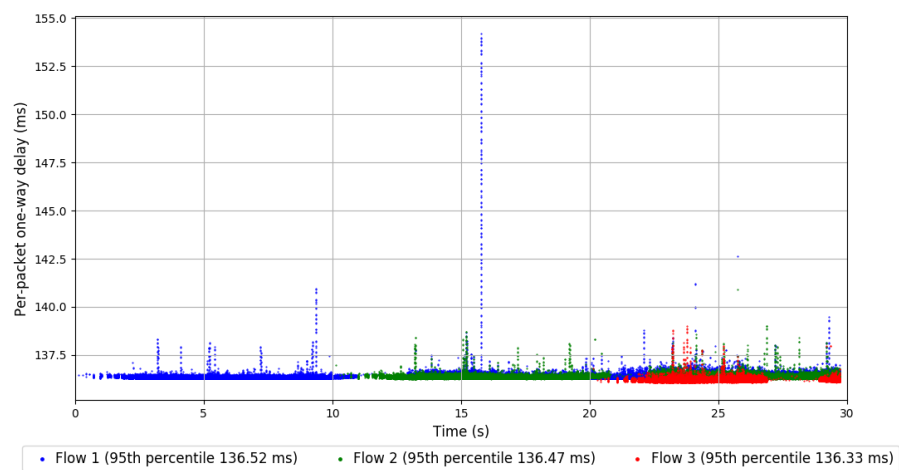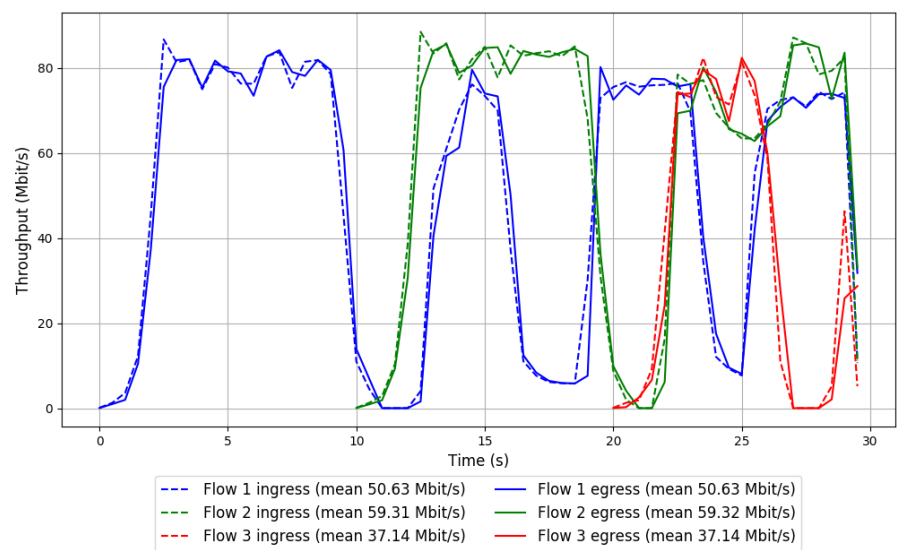
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 50.97 Mbit/s)   Flow 1 egress (mean 50.97 Mbit/s)
Flow 2 ingress (mean 58.24 Mbit/s)   Flow 2 egress (mean 58.24 Mbit/s)
Flow 3 ingress (mean 27.29 Mbit/s)   Flow 3 egress (mean 27.29 Mbit/s)

Flow 1 (95th percentile 135.52 ms)   Flow 2 (95th percentile 135.51 ms)   Flow 3 (95th percentile 136.55 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-01-10 07:29:23
End at: 2018-01-10 07:29:53


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 101.87 Mbit/s
95th percentile per-packet one-way delay: 136.495 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.63 Mbit/s
95th percentile per-packet one-way delay: 136.524 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 59.32 Mbit/s
95th percentile per-packet one-way delay: 136.475 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.14 Mbit/s
95th percentile per-packet one-way delay: 136.331 ms
Loss rate: 0.00%
```
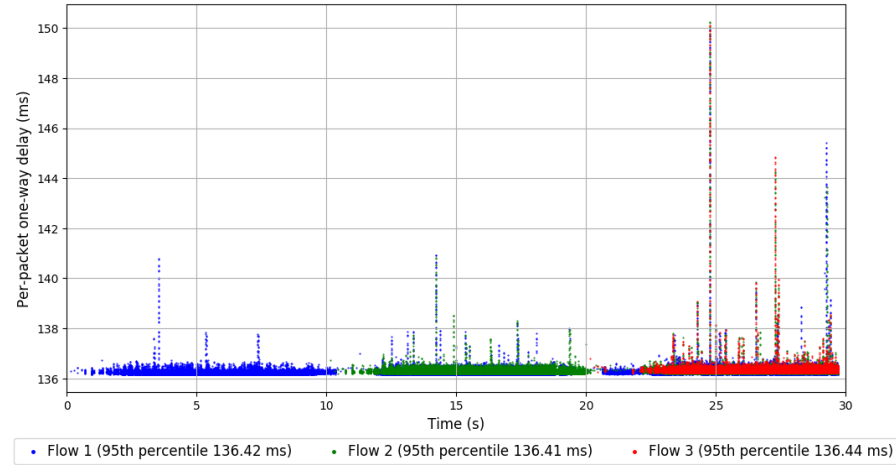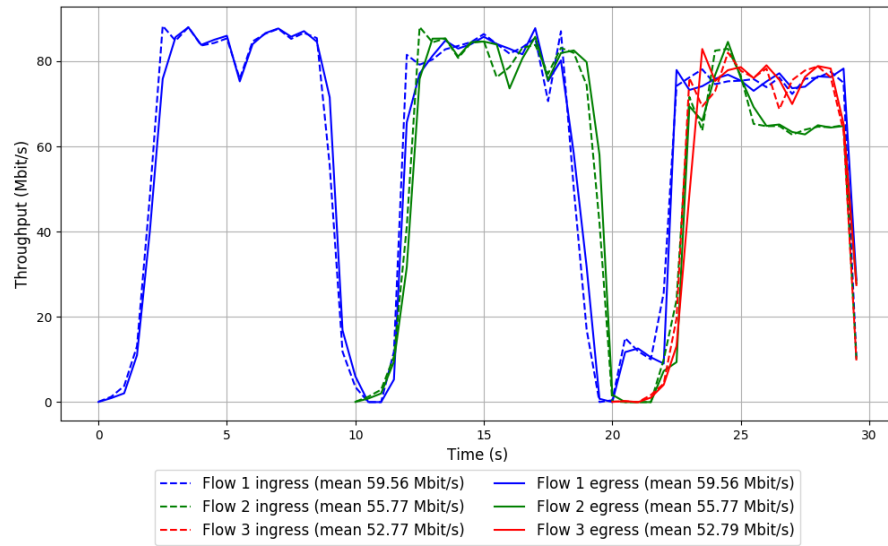
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 50.63 Mbit/s) — Flow 1 egress (mean 50.63 Mbit/s)
Flow 2 ingress (mean 59.31 Mbit/s) — Flow 2 egress (mean 59.32 Mbit/s)
Flow 3 ingress (mean 37.14 Mbit/s) — Flow 3 egress (mean 37.14 Mbit/s)

Flow 1 (95th percentile 136.52 ms)   Flow 2 (95th percentile 136.47 ms)   Flow 3 (95th percentile 136.33 ms)

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```
Run 5: Statistics of QUIC Cubic

Start at: 2018-01-10 07:45:32
End at: 2018-01-10 07:46:02


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 113.50 Mbit/s
95th percentile per-packet one-way delay: 136.422 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.56 Mbit/s
95th percentile per-packet one-way delay: 136.420 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 55.77 Mbit/s
95th percentile per-packet one-way delay: 136.413 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 52.79 Mbit/s
95th percentile per-packet one-way delay: 136.442 ms
Loss rate: 0.00%
```
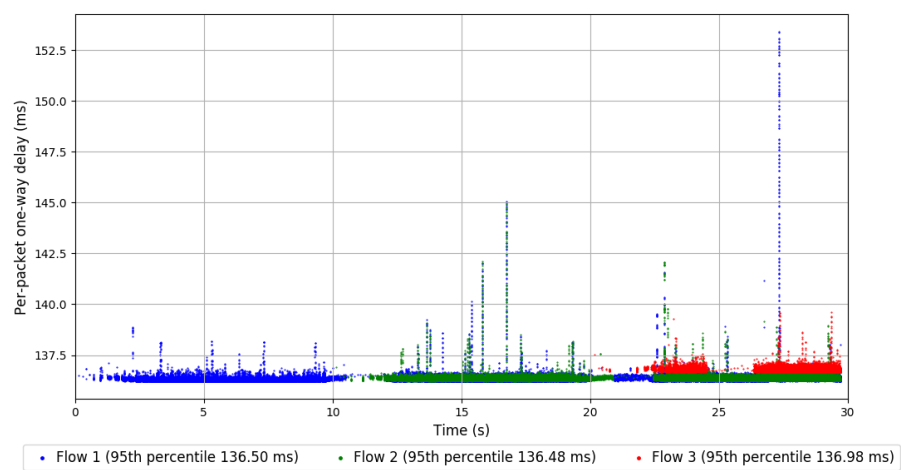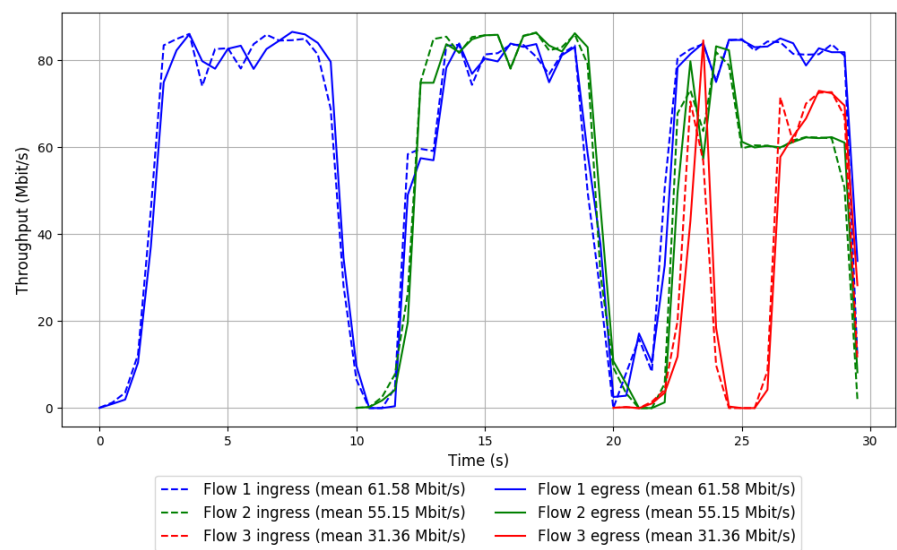
Run 5: Report of QUIC Cubic — Data Link

```
Run 6: Statistics of QUIC Cubic

Start at: 2018-01-10 08:01:28
End at: 2018-01-10 08:01:58


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.17 Mbit/s
95th percentile per-packet one-way delay: 136.764 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 61.58 Mbit/s
95th percentile per-packet one-way delay: 136.496 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 55.15 Mbit/s
95th percentile per-packet one-way delay: 136.477 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.36 Mbit/s
95th percentile per-packet one-way delay: 136.978 ms
Loss rate: 0.05%
```
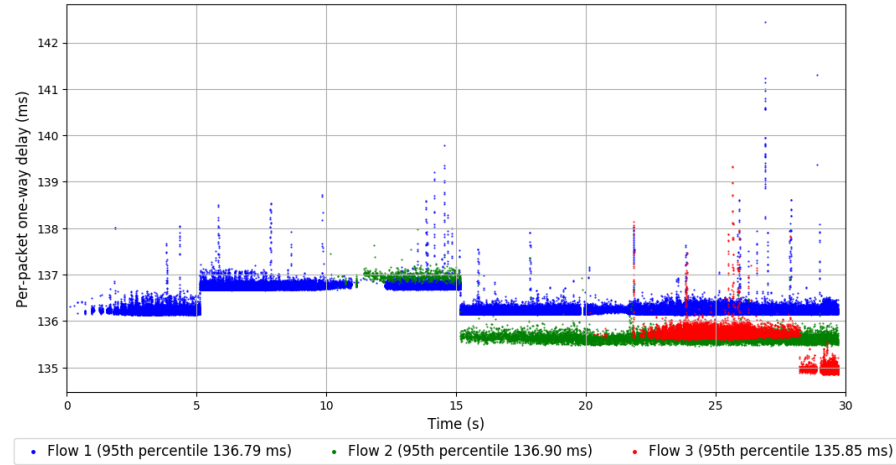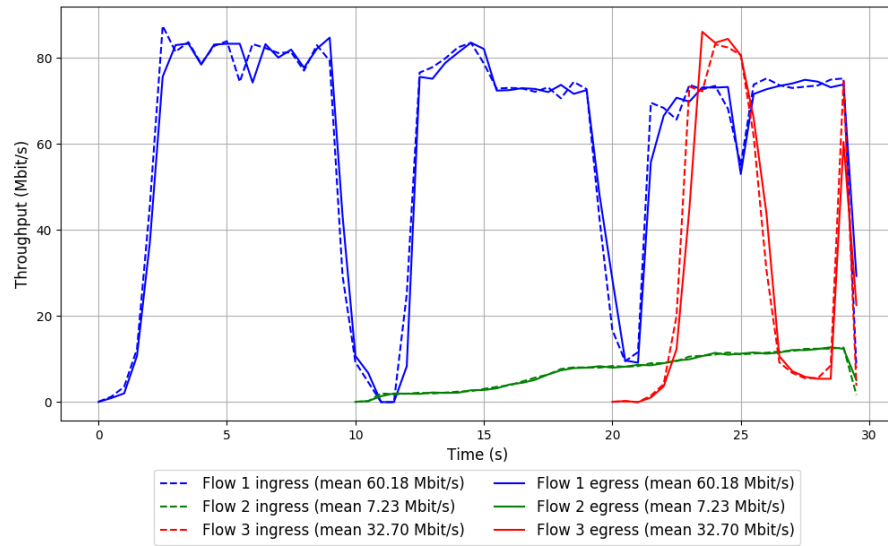
Run 6: Report of QUIC Cubic — Data Link

```
Run 7: Statistics of QUIC Cubic

Start at: 2018-01-10 08:17:10
End at: 2018-01-10 08:17:40


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.51 Mbit/s
95th percentile per-packet one-way delay: 136.786 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.18 Mbit/s
95th percentile per-packet one-way delay: 136.792 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.23 Mbit/s
95th percentile per-packet one-way delay: 136.904 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 32.70 Mbit/s
95th percentile per-packet one-way delay: 135.849 ms
Loss rate: 0.00%
```
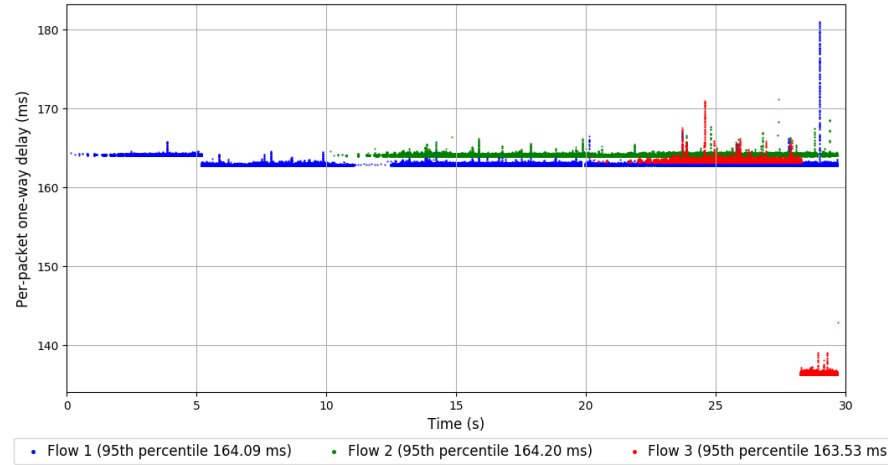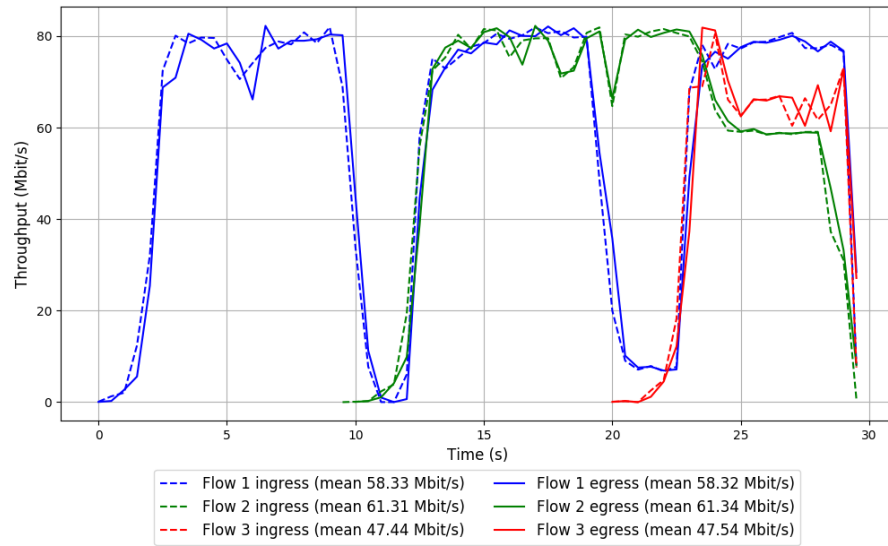
Run 7: Report of QUIC Cubic — Data Link

```
Run 8: Statistics of QUIC Cubic

Start at: 2018-01-10 08:33:10
End at: 2018-01-10 08:33:40


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 114.23 Mbit/s
95th percentile per-packet one-way delay: 164.140 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 58.32 Mbit/s
95th percentile per-packet one-way delay: 164.088 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 61.34 Mbit/s
95th percentile per-packet one-way delay: 164.199 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 47.54 Mbit/s
95th percentile per-packet one-way delay: 163.533 ms
Loss rate: 0.05%
```
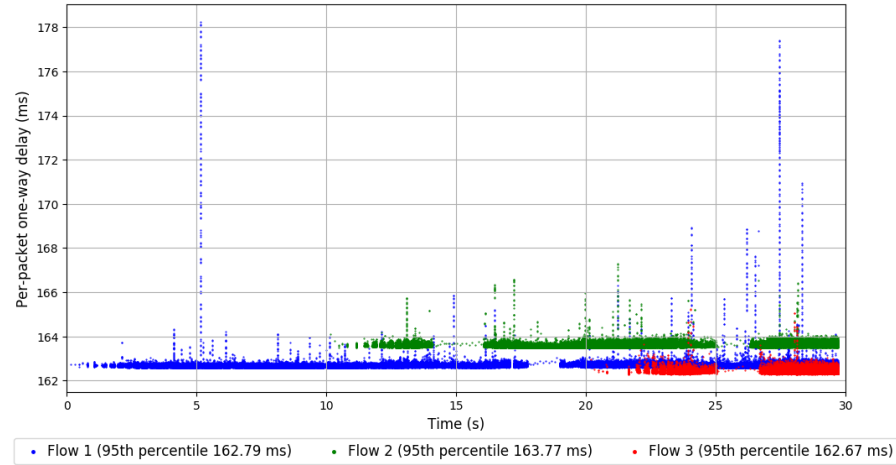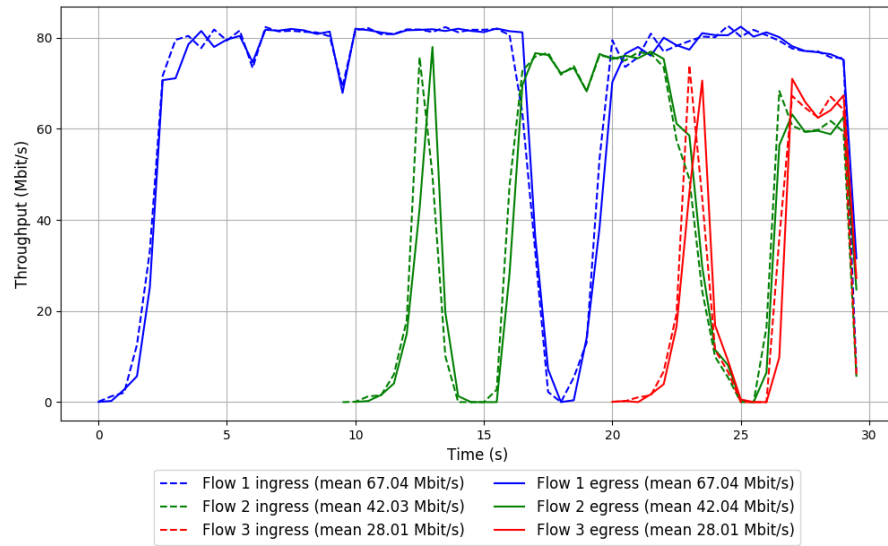
Run 8: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 58.33 Mbit/s) --- Flow 1 egress (mean 58.32 Mbit/s)
Flow 2 ingress (mean 61.31 Mbit/s) --- Flow 2 egress (mean 61.34 Mbit/s)
Flow 3 ingress (mean 47.44 Mbit/s) --- Flow 3 egress (mean 47.54 Mbit/s)

Flow 1 (95th percentile 164.09 ms) · Flow 2 (95th percentile 164.20 ms) · Flow 3 (95th percentile 163.53 ms)

```
Run 9: Statistics of QUIC Cubic

Start at: 2018-01-10 08:49:10
End at: 2018-01-10 08:49:40


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 103.88 Mbit/s
95th percentile per-packet one-way delay: 163.661 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 67.04 Mbit/s
95th percentile per-packet one-way delay: 162.789 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.04 Mbit/s
95th percentile per-packet one-way delay: 163.770 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 28.01 Mbit/s
95th percentile per-packet one-way delay: 162.667 ms
Loss rate: 0.00%
```
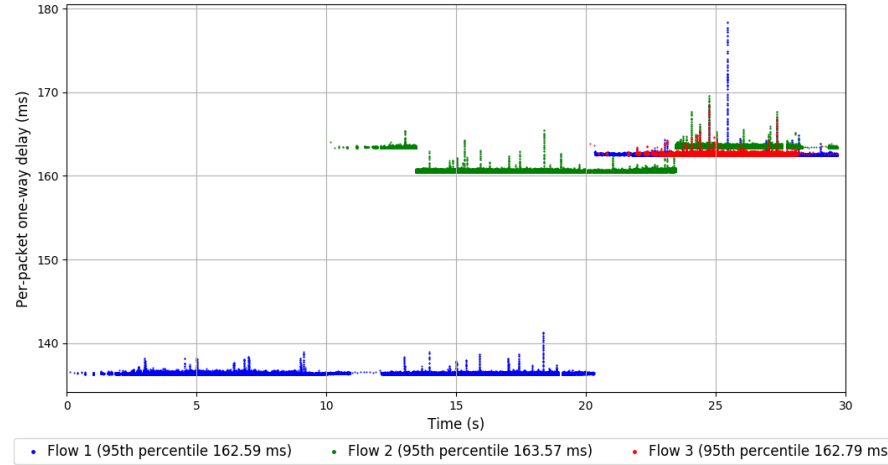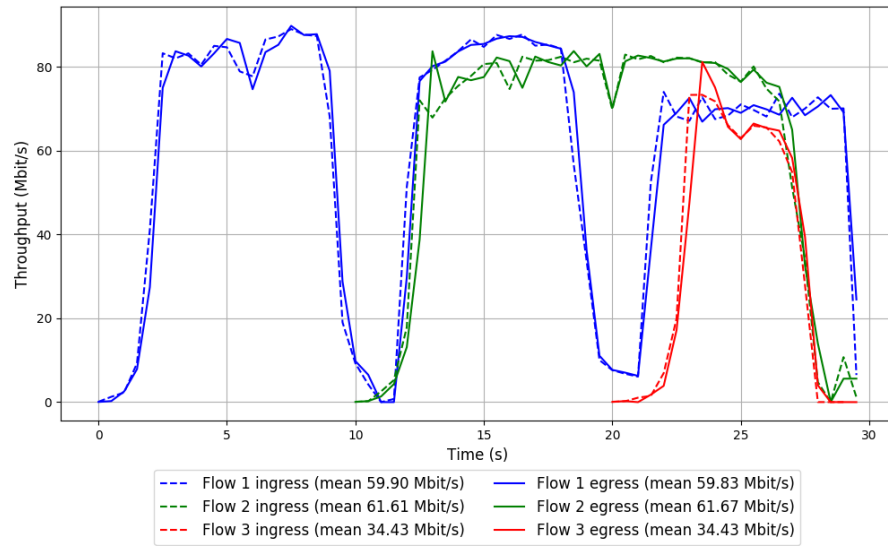
Run 9: Report of QUIC Cubic — Data Link

```
Run 10: Statistics of QUIC Cubic

Start at: 2018-01-10 09:05:05
End at: 2018-01-10 09:05:35


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 111.61 Mbit/s
95th percentile per-packet one-way delay: 163.448 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 59.83 Mbit/s
95th percentile per-packet one-way delay: 162.594 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 61.67 Mbit/s
95th percentile per-packet one-way delay: 163.571 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 34.43 Mbit/s
95th percentile per-packet one-way delay: 162.789 ms
Loss rate: 0.00%
```

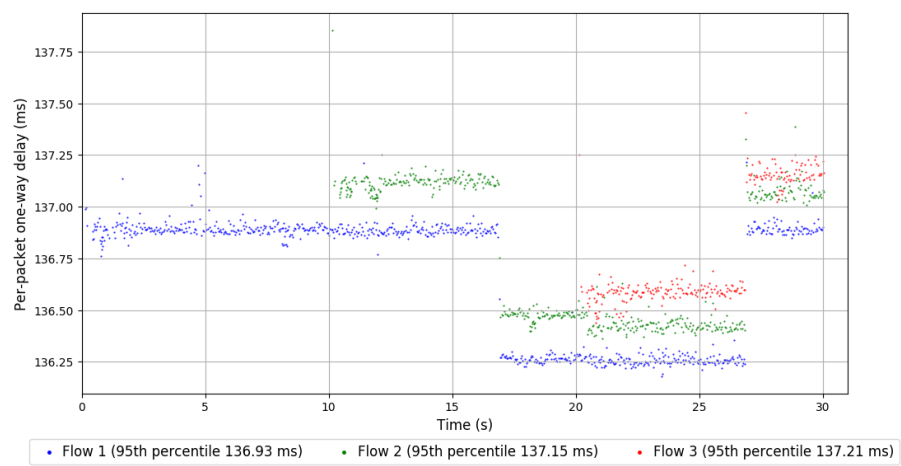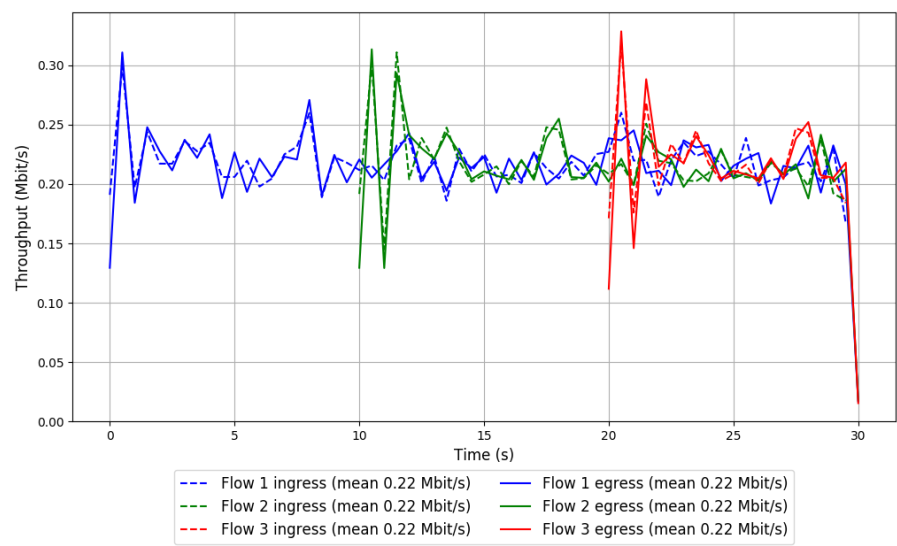Run 10: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 59.90 Mbit/s) ---- Flow 1 egress (mean 59.83 Mbit/s)
Flow 2 ingress (mean 61.61 Mbit/s) ---- Flow 2 egress (mean 61.67 Mbit/s)
Flow 3 ingress (mean 34.43 Mbit/s) ---- Flow 3 egress (mean 34.43 Mbit/s)

• Flow 1 (95th percentile 162.59 ms) • Flow 2 (95th percentile 163.57 ms) • Flow 3 (95th percentile 162.79 ms)
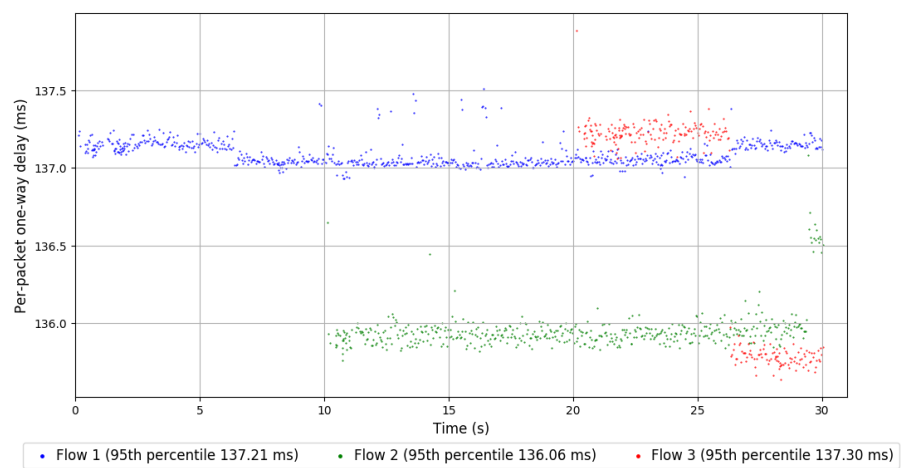
```
Run 1: Statistics of SCReAM

Start at: 2018-01-10 06:31:58
End at: 2018-01-10 06:32:28

# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 137.153 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.928 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.151 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.213 ms
Loss rate: 0.00%
```
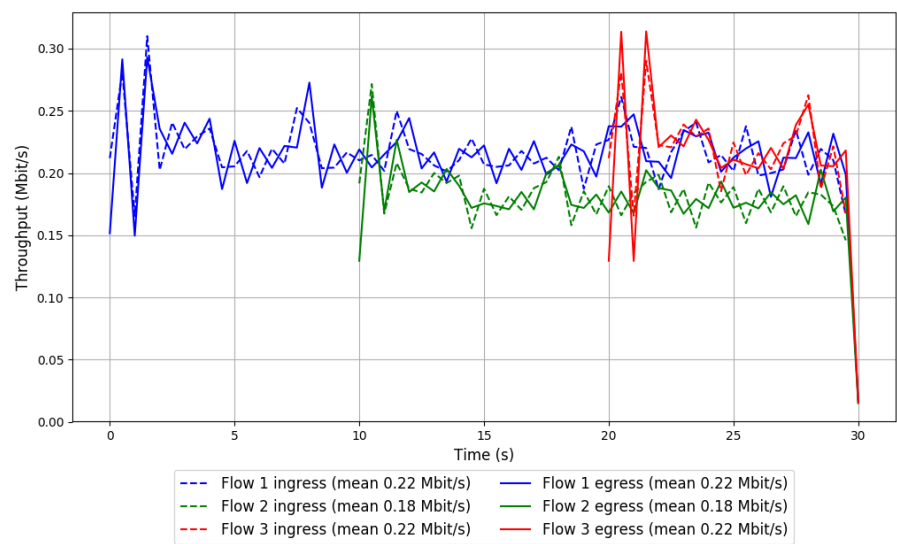
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-01-10 06:48:09
End at: 2018-01-10 06:48:39


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 137.245 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.211 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 136.065 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.298 ms
Loss rate: 0.00%
```
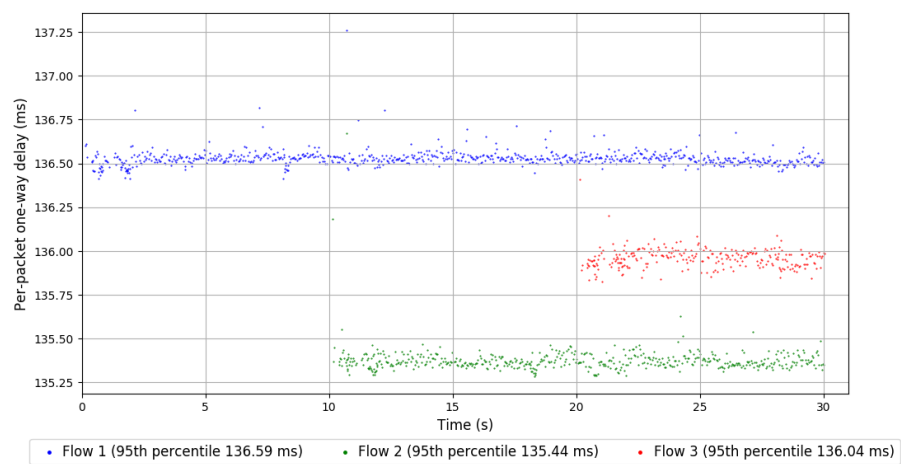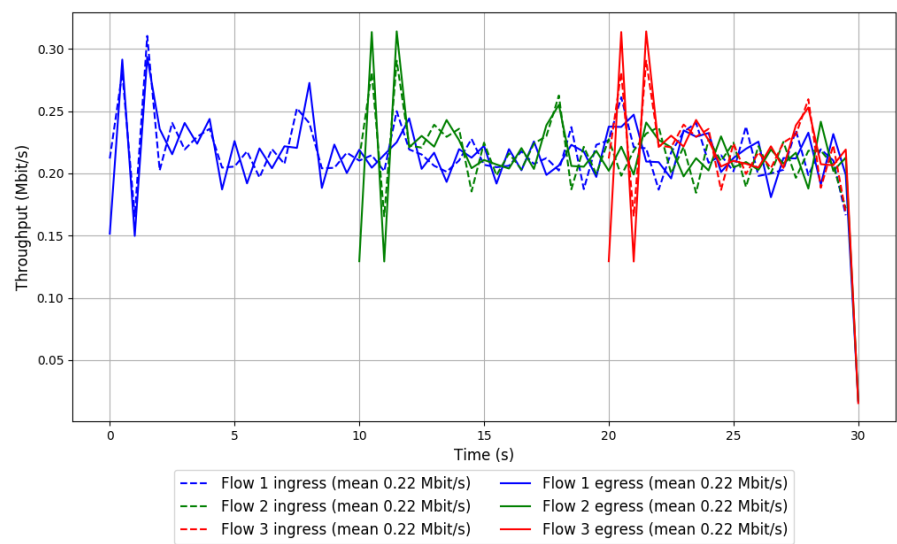
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-01-10 07:04:05
End at: 2018-01-10 07:04:35


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.563 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.585 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 135.435 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.036 ms
Loss rate: 0.00%
```
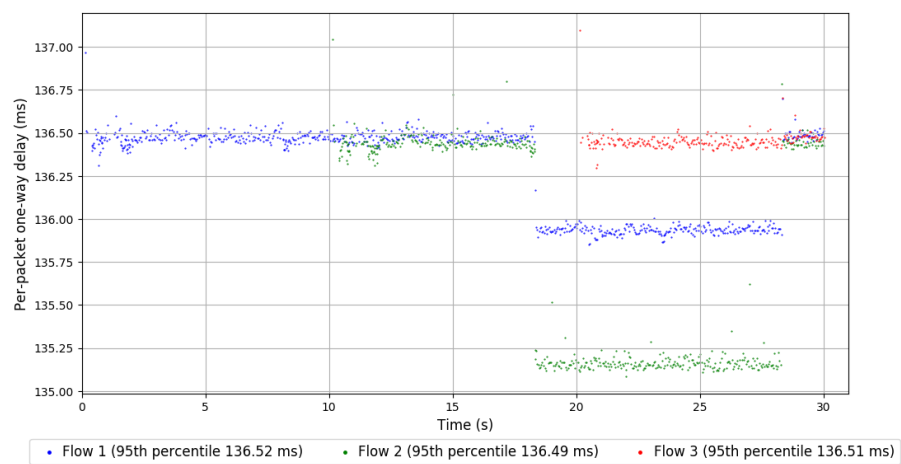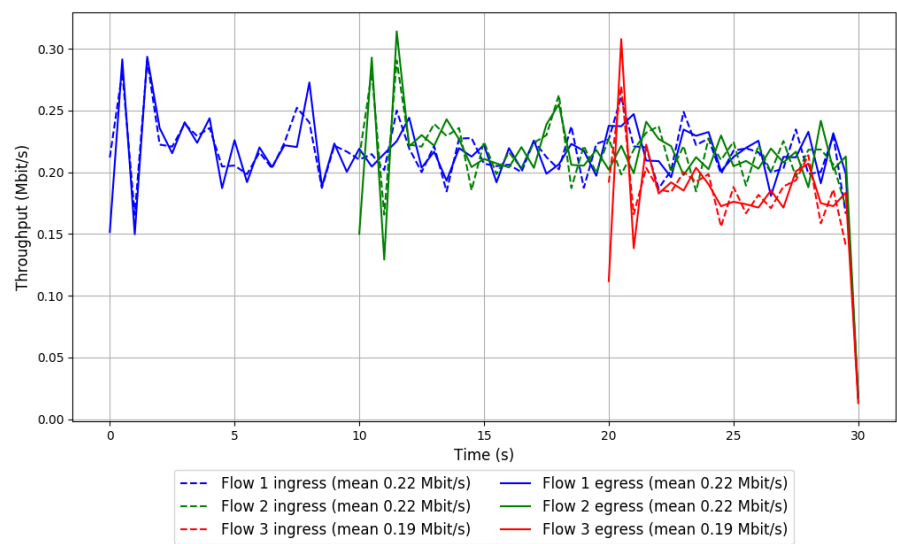
Run 3: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 136.59 ms)   Flow 2 (95th percentile 135.44 ms)   Flow 3 (95th percentile 136.04 ms)

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```
Run 4: Statistics of SCReAM

Start at: 2018-01-10 07:20:07
End at: 2018-01-10 07:20:37


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 136.514 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.519 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.487 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 136.509 ms
Loss rate: 0.00%
```
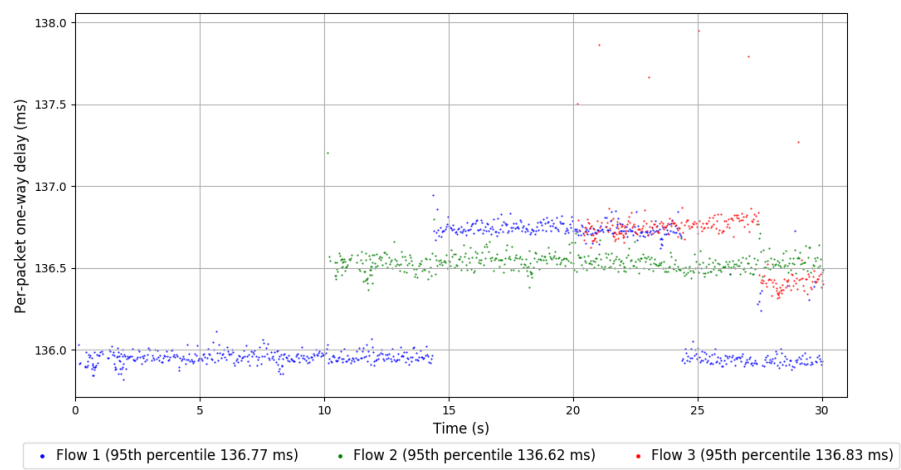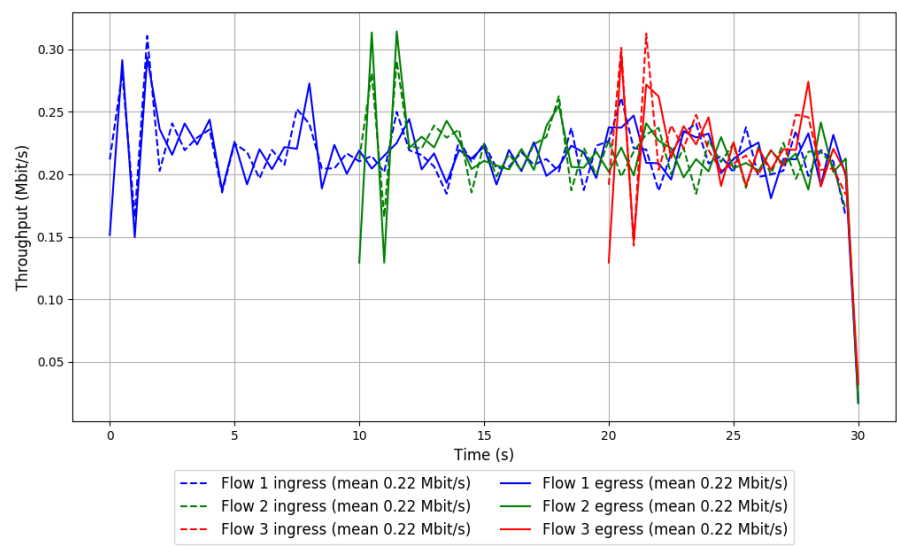
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-01-10 07:36:21
End at: 2018-01-10 07:36:51


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.786 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.773 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.621 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.828 ms
Loss rate: 0.00%
```
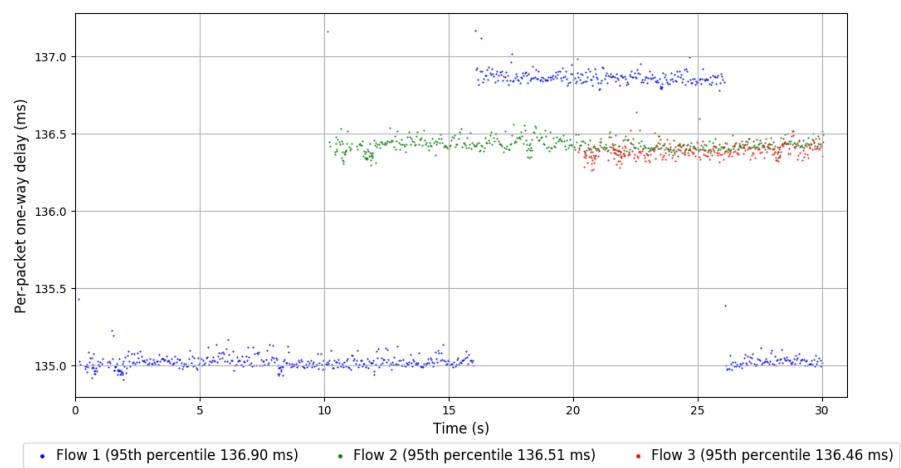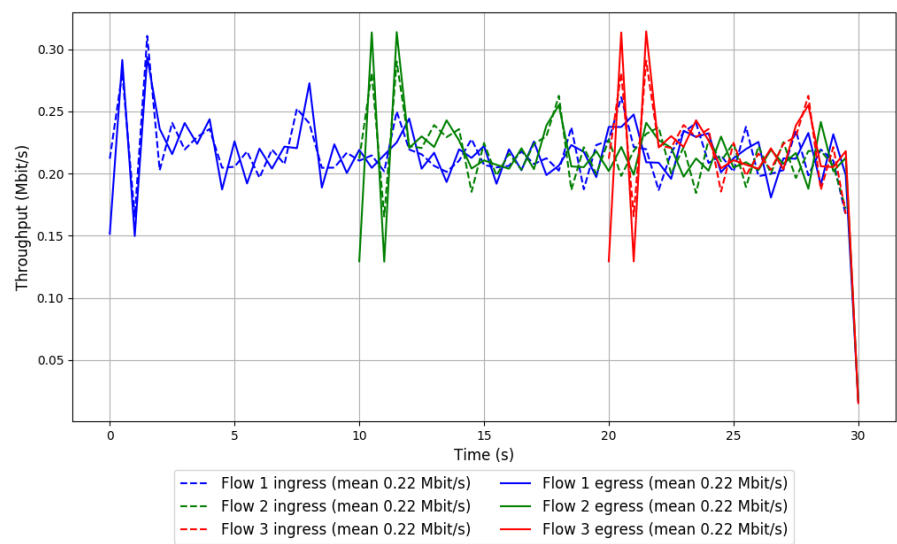
Run 5: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 136.77 ms)   Flow 2 (95th percentile 136.62 ms)   Flow 3 (95th percentile 136.83 ms)

```
Run 6: Statistics of SCReAM

Start at: 2018-01-10 07:52:32
End at: 2018-01-10 07:53:02


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.877 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.897 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.509 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.459 ms
Loss rate: 0.00%
```
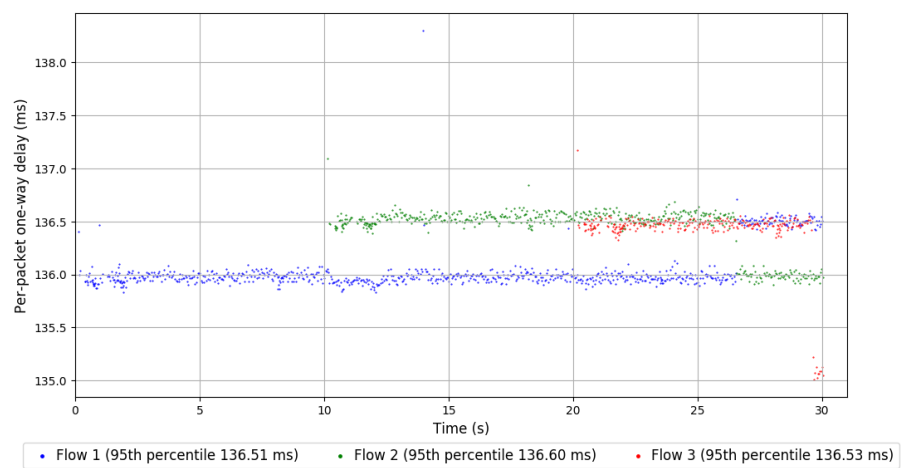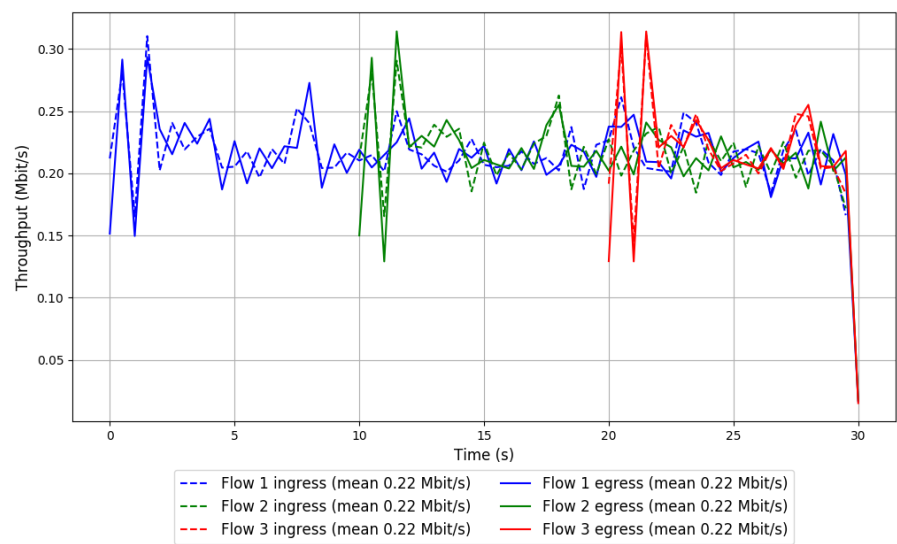
Run 6: Report of SCReAM — Data Link

```
Run 7: Statistics of SCReAM

Start at: 2018-01-10 08:08:09
End at: 2018-01-10 08:08:39


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.577 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.506 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.602 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.532 ms
Loss rate: 0.00%
```

Run 7: Report of SCReAM — Data Link

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```
Run 8: Statistics of SCReAM

Start at: 2018-01-10 08:23:56
End at: 2018-01-10 08:24:26


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 163.370 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 163.380 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.106 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 164.160 ms
Loss rate: 0.00%
```
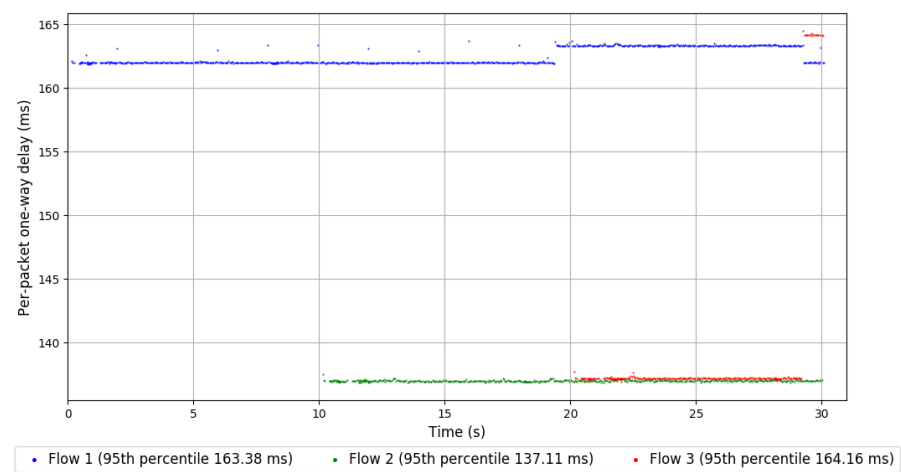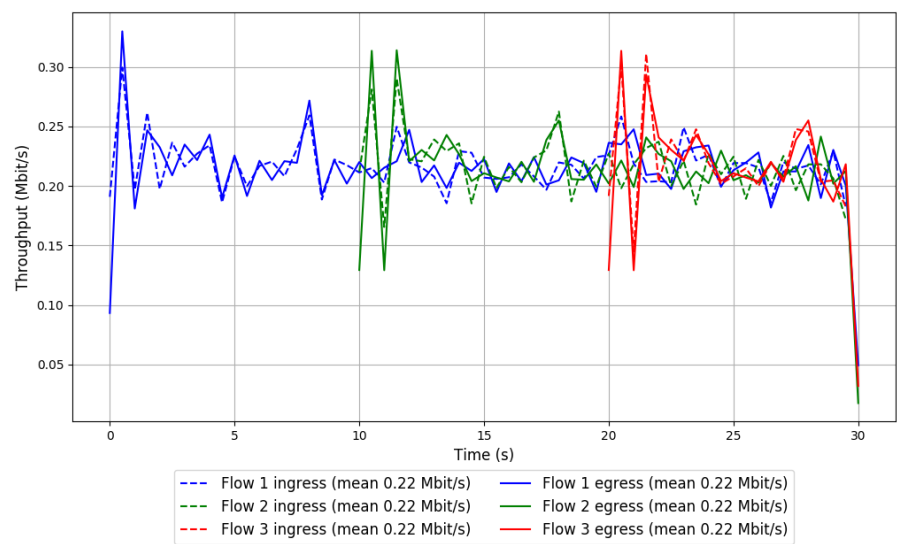
Run 8: Report of SCReAM — Data Link

```
Run 9: Statistics of SCReAM

Start at: 2018-01-10 08:39:46
End at: 2018-01-10 08:40:16


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 163.844 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 163.867 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 163.380 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 162.105 ms
Loss rate: 0.00%
```
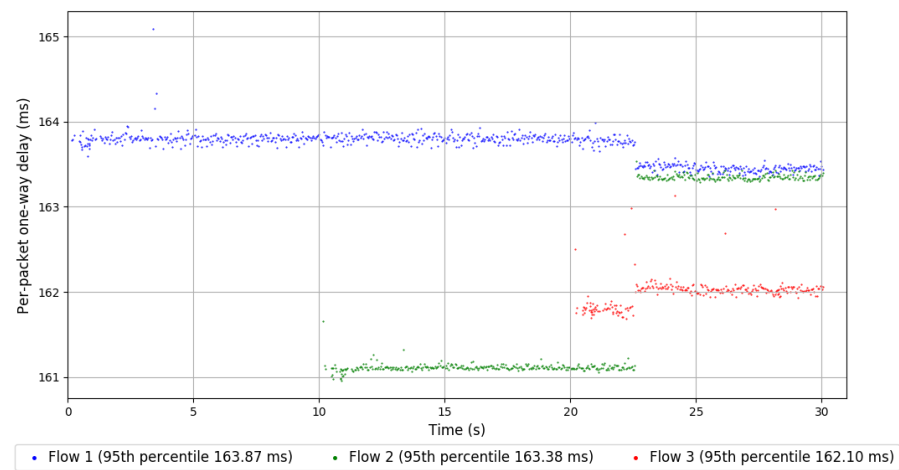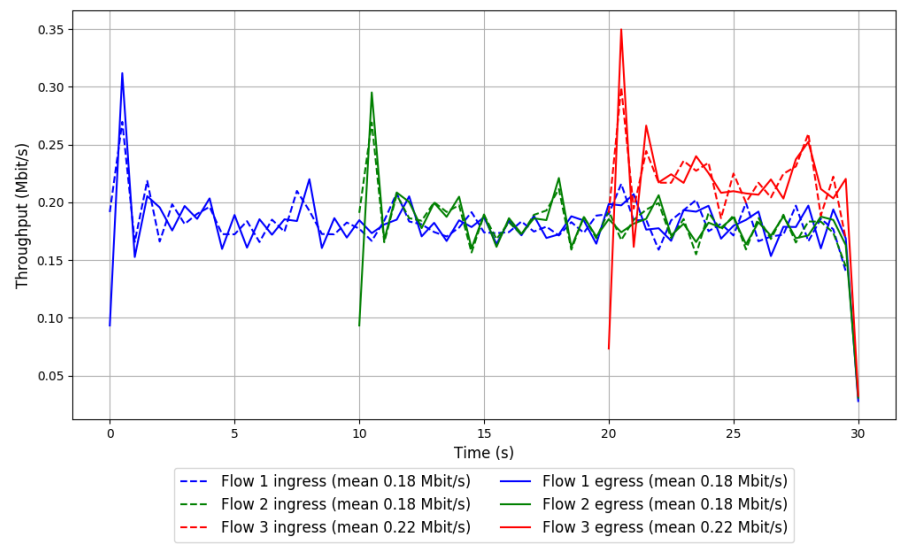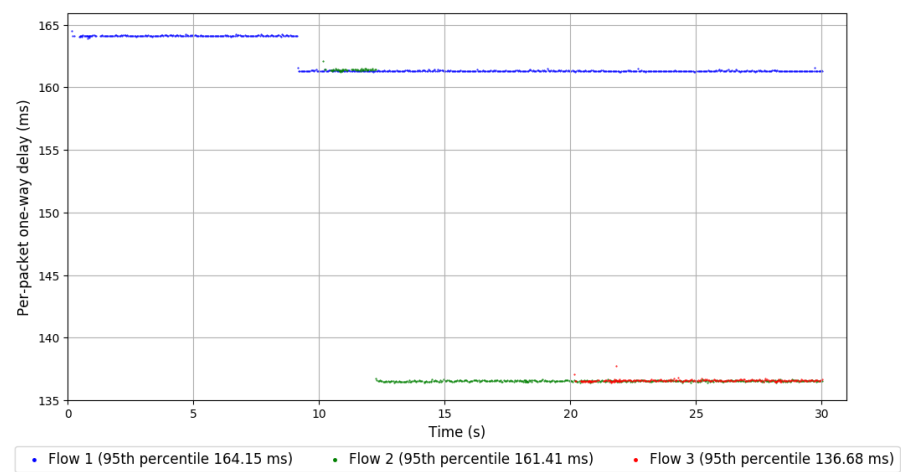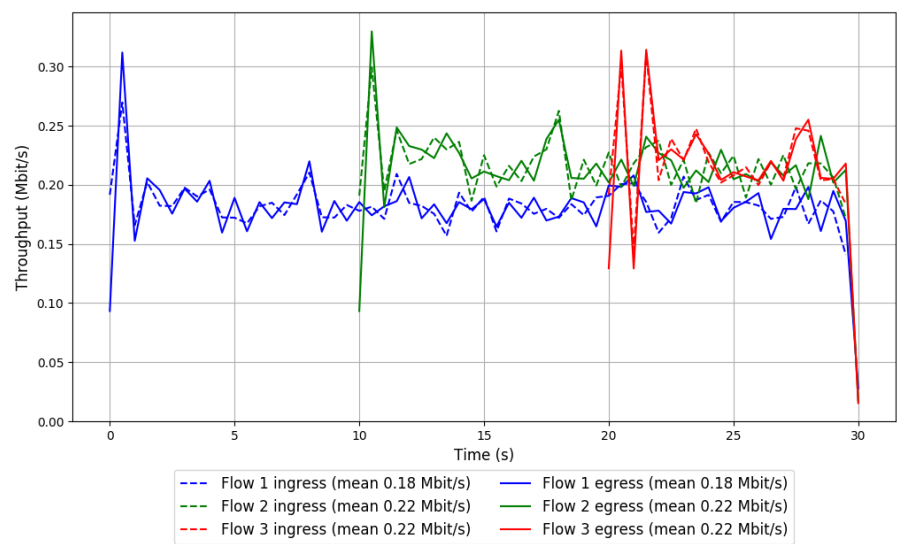
Run 9: Report of SCReAM — Data Link

```
Run 10: Statistics of SCReAM

Start at: 2018-01-10 08:55:46
End at: 2018-01-10 08:56:16

# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 164.124 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 164.152 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 161.407 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.675 ms
Loss rate: 0.00%
```
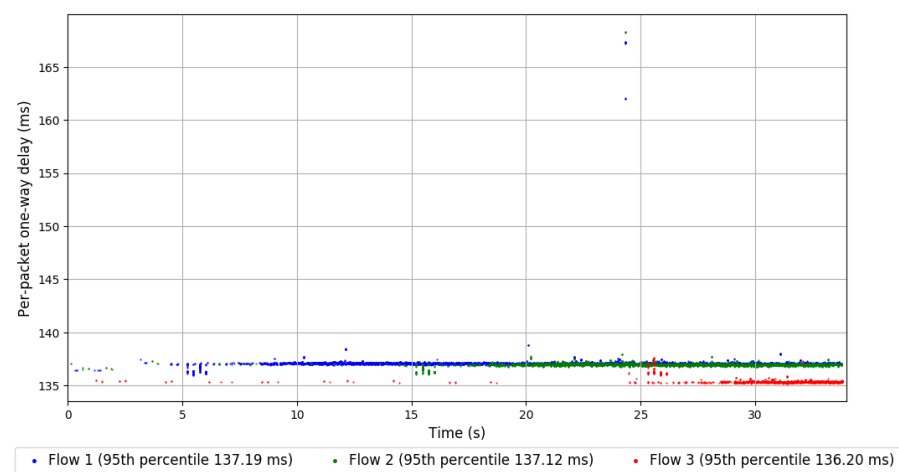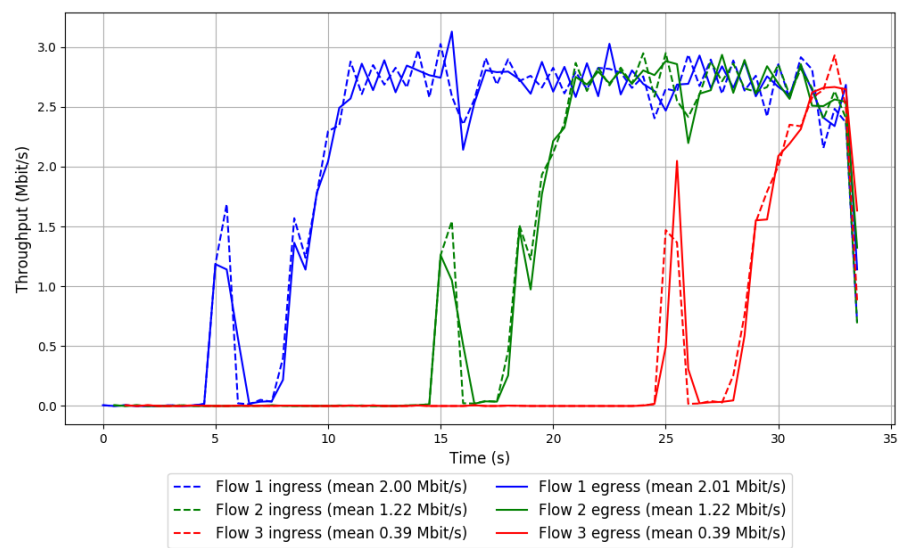
Run 10: Report of SCReAM — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2018-01-10 06:42:10
End at: 2018-01-10 06:42:40

# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.58 Mbit/s
95th percentile per-packet one-way delay: 137.171 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 137.189 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 137.125 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.204 ms
Loss rate: 0.01%
```

Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-01-10 06:57:53
End at: 2018-01-10 06:58:23


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.61 Mbit/s
95th percentile per-packet one-way delay: 137.074 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 136.677 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 137.128 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 136.609 ms
Loss rate: 0.00%
```
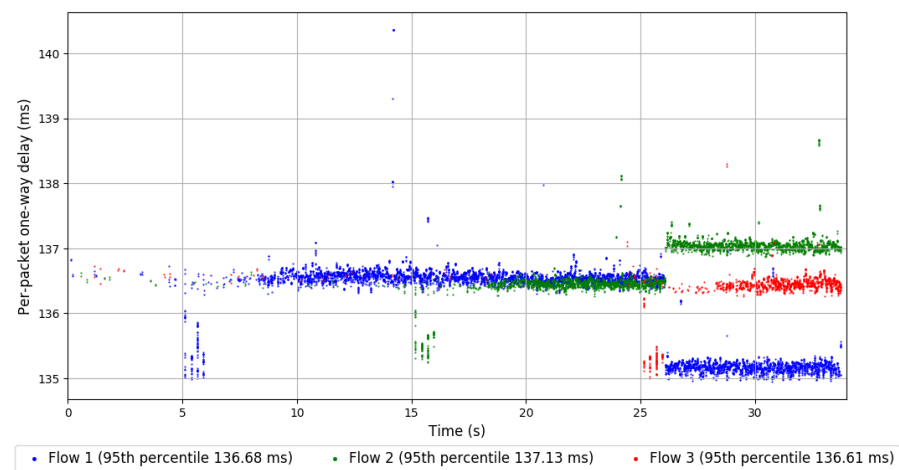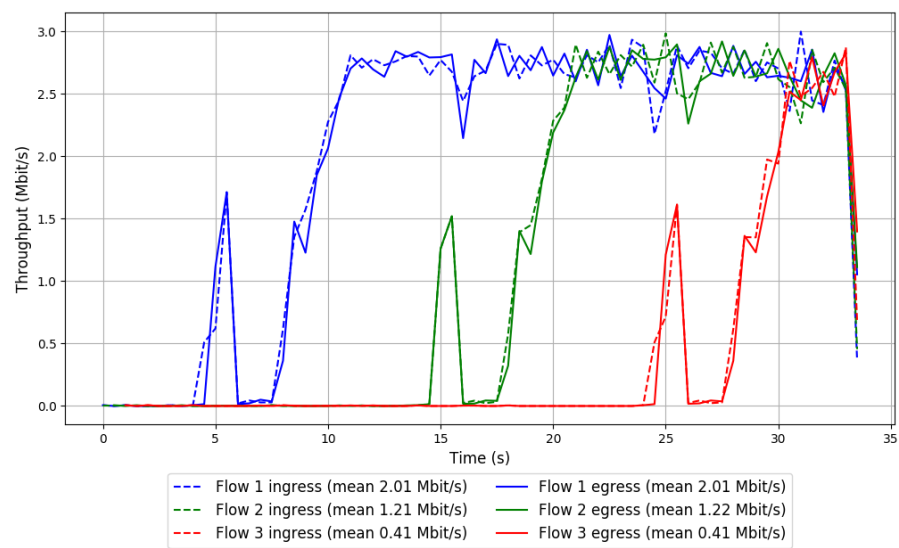
Run 2: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.01 Mbit/s)   Flow 1 egress (mean 2.01 Mbit/s)
Flow 2 ingress (mean 1.21 Mbit/s)   Flow 2 egress (mean 1.22 Mbit/s)
Flow 3 ingress (mean 0.41 Mbit/s)   Flow 3 egress (mean 0.41 Mbit/s)

Flow 1 (95th percentile 136.68 ms)   Flow 2 (95th percentile 137.13 ms)   Flow 3 (95th percentile 136.61 ms)

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```
Run 3: Statistics of WebRTC media

Start at: 2018-01-10 07:14:00
End at: 2018-01-10 07:14:30


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.58 Mbit/s
95th percentile per-packet one-way delay: 136.570 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 135.907 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 136.614 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 136.314 ms
Loss rate: 0.07%
```
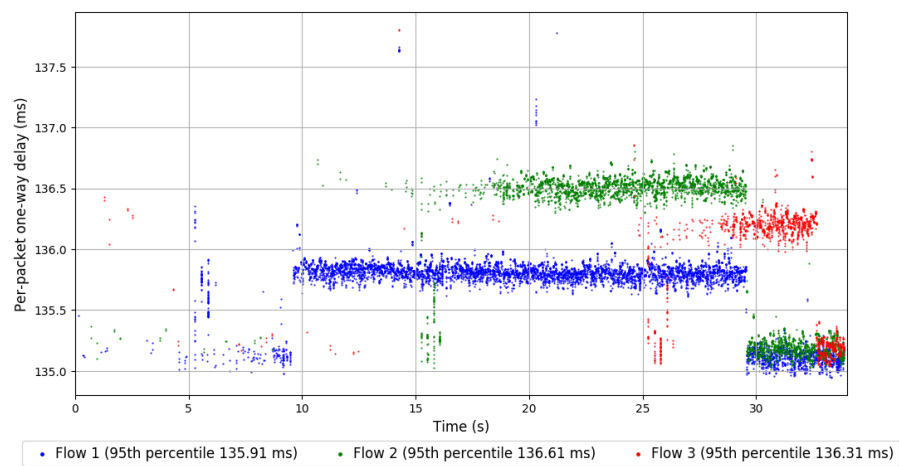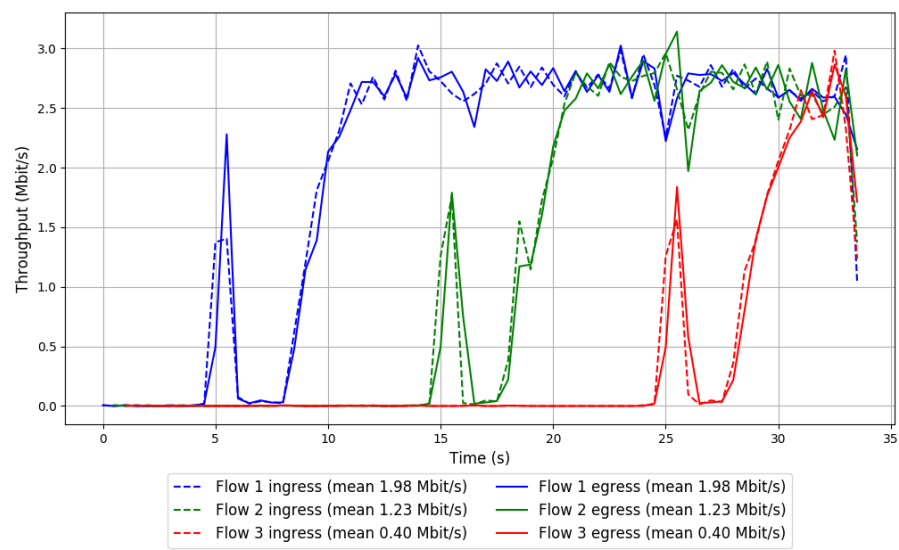
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-01-10 07:30:19
End at: 2018-01-10 07:30:49


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.61 Mbit/s
95th percentile per-packet one-way delay: 137.020 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 135.590 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 137.074 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 136.460 ms
Loss rate: 0.00%
```
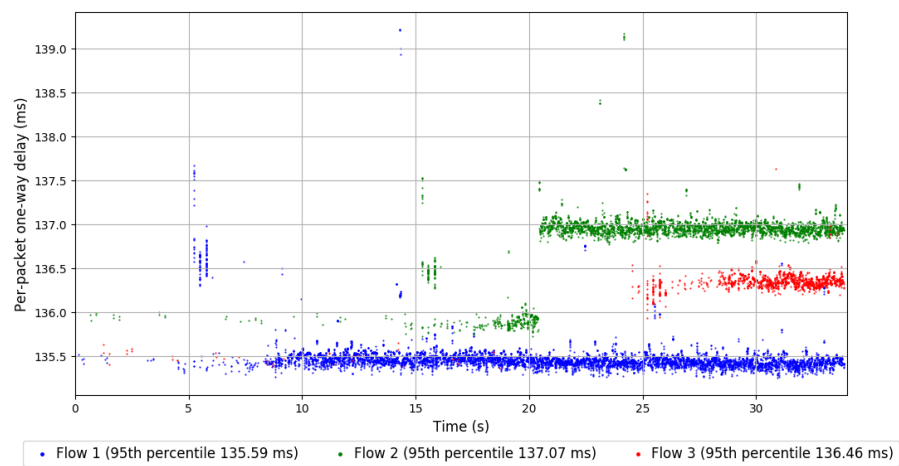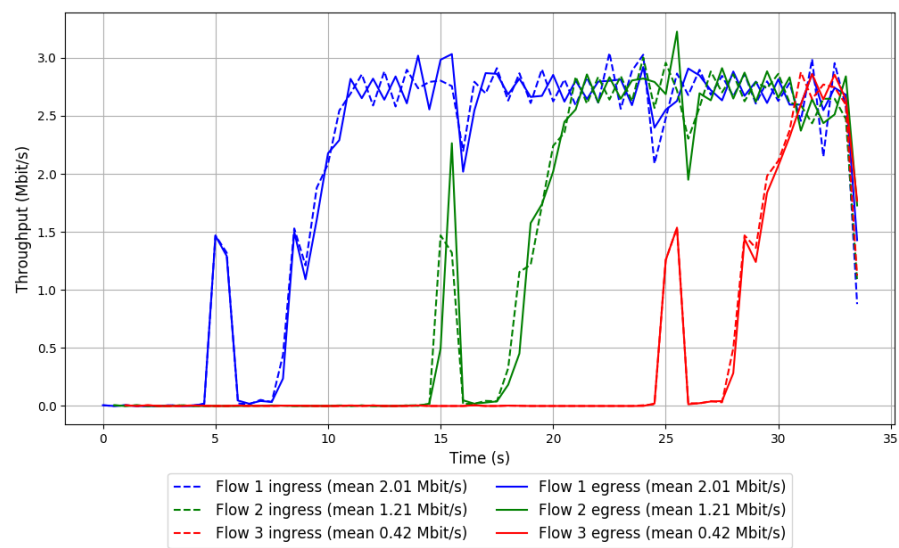
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-01-10 07:46:30
End at: 2018-01-10 07:47:00

# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.64 Mbit/s
95th percentile per-packet one-way delay: 136.996 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 136.979 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 137.022 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 136.716 ms
Loss rate: 0.00%
```
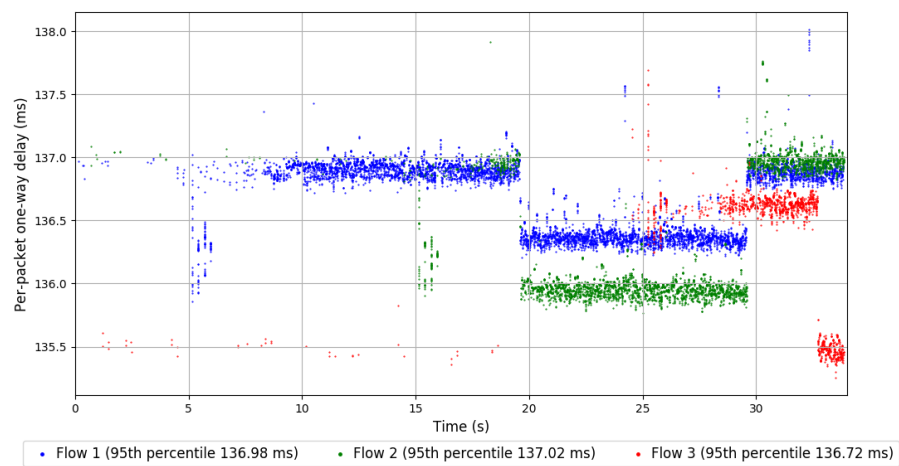
Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2018-01-10 08:02:25
End at: 2018-01-10 08:02:55


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.62 Mbit/s
95th percentile per-packet one-way delay: 137.283 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 136.477 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 137.326 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 137.164 ms
Loss rate: 0.00%
```
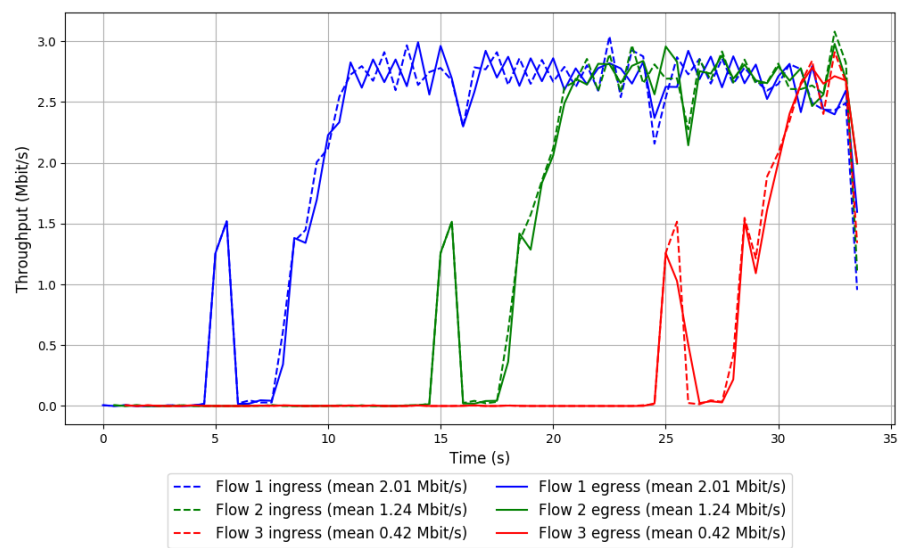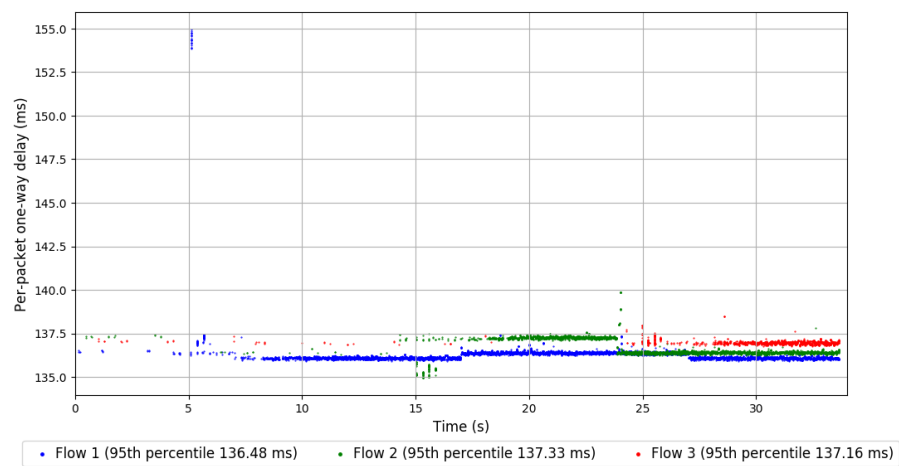
Run 6: Report of WebRTC media — Data Link

Throughput (Mbit/s) vs Time (s)

- Flow 1 ingress (mean 2.01 Mbit/s)
- Flow 1 egress (mean 2.01 Mbit/s)
- Flow 2 ingress (mean 1.22 Mbit/s)
- Flow 2 egress (mean 1.22 Mbit/s)
- Flow 3 ingress (mean 0.41 Mbit/s)
- Flow 3 egress (mean 0.41 Mbit/s)

Per-packet one-way delay (ms) vs Time (s)

- Flow 1 (95th percentile 136.48 ms)
- Flow 2 (95th percentile 137.33 ms)
- Flow 3 (95th percentile 137.16 ms)

```
Run 7: Statistics of WebRTC media

Start at: 2018-01-10 08:18:04
End at: 2018-01-10 08:18:34


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.60 Mbit/s
95th percentile per-packet one-way delay: 137.111 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 136.658 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 137.158 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 136.498 ms
Loss rate: 0.00%
```
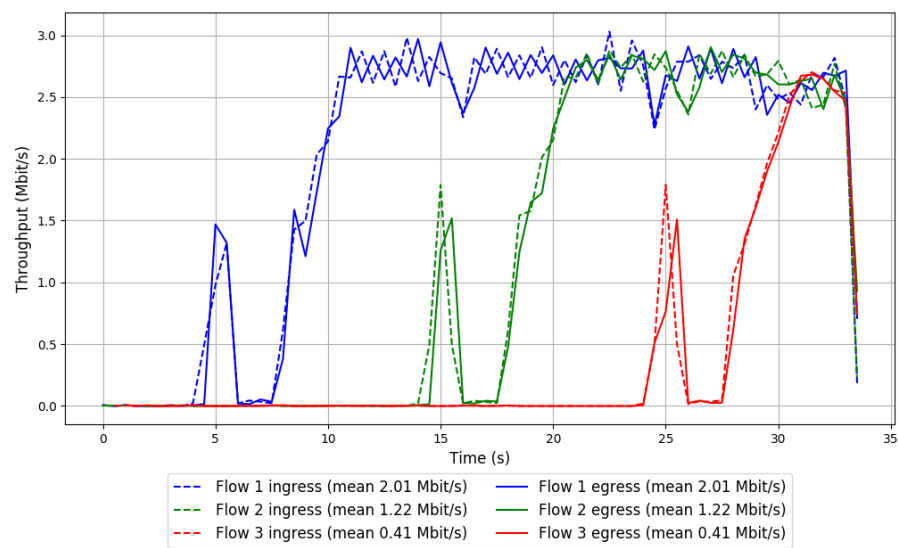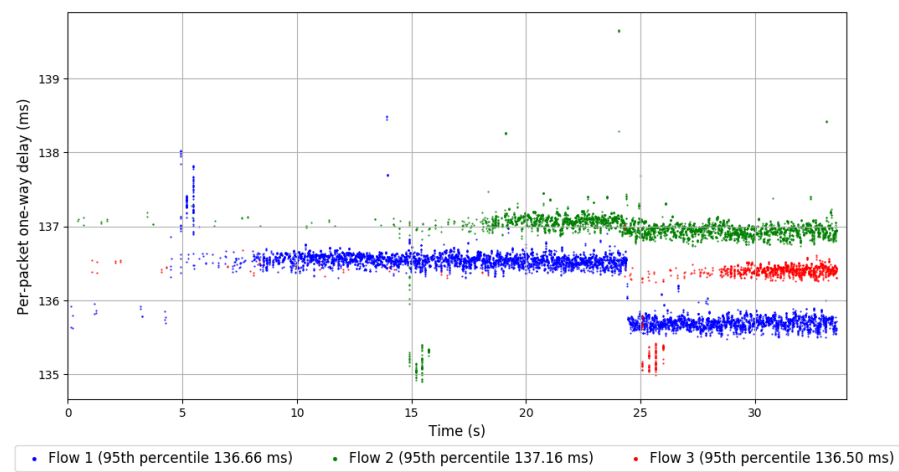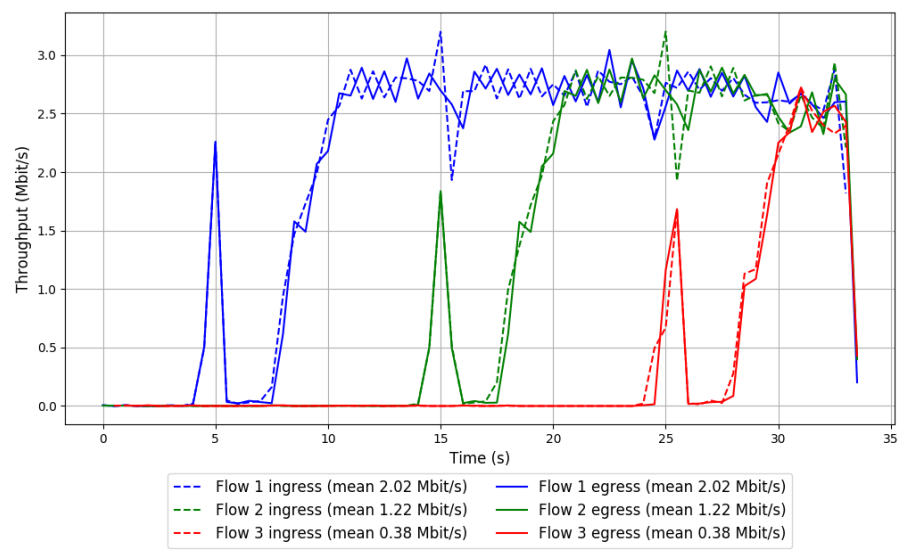
Run 7: Report of WebRTC media — Data Link

```
Run 8: Statistics of WebRTC media

Start at: 2018-01-10 08:34:08
End at: 2018-01-10 08:34:38

# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.55 Mbit/s
95th percentile per-packet one-way delay: 164.257 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 163.790 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 136.601 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 164.374 ms
Loss rate: 0.01%
```
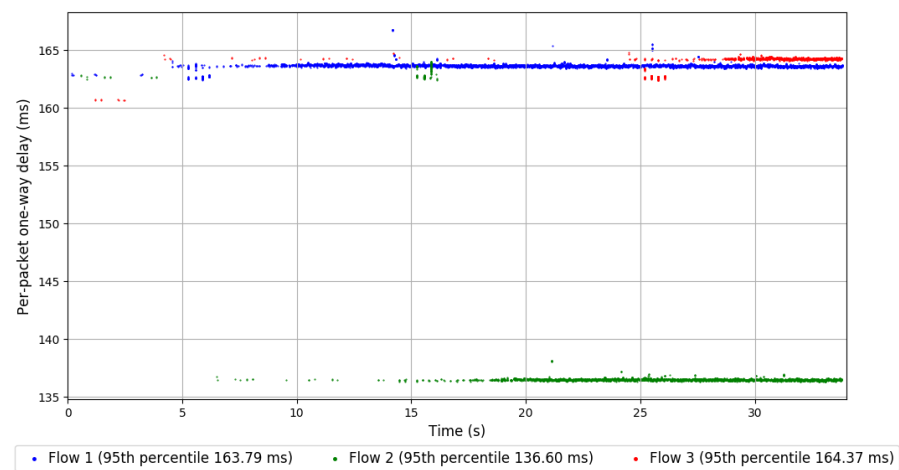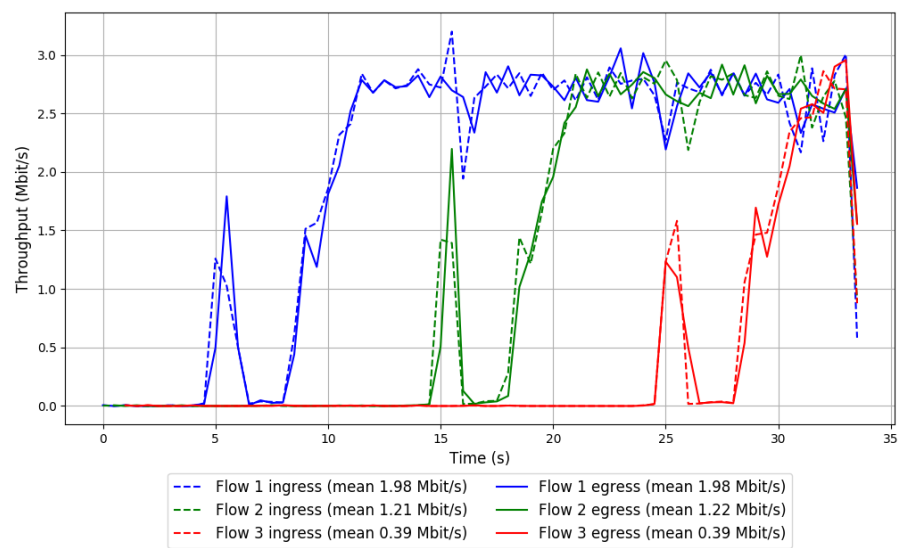
Run 8: Report of WebRTC media — Data Link

```
Run 9: Statistics of WebRTC media

Start at: 2018-01-10 08:50:07
End at: 2018-01-10 08:50:37


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.53 Mbit/s
95th percentile per-packet one-way delay: 164.149 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 161.513 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 164.201 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 163.759 ms
Loss rate: 0.00%
```
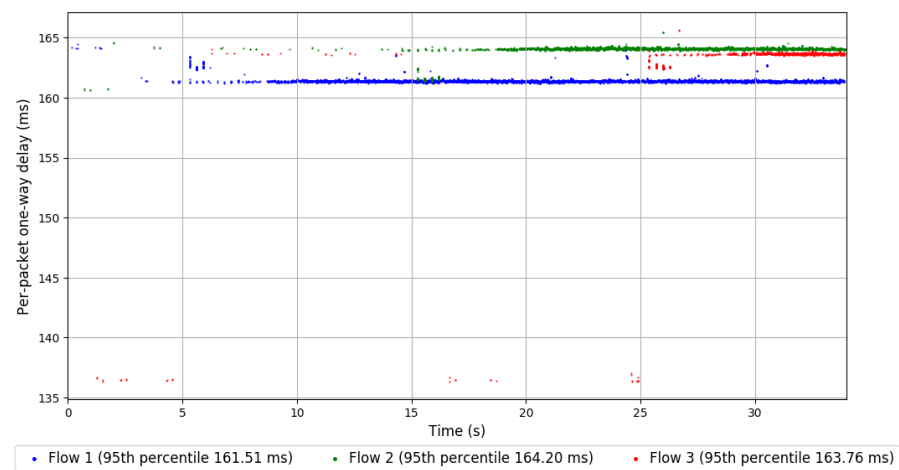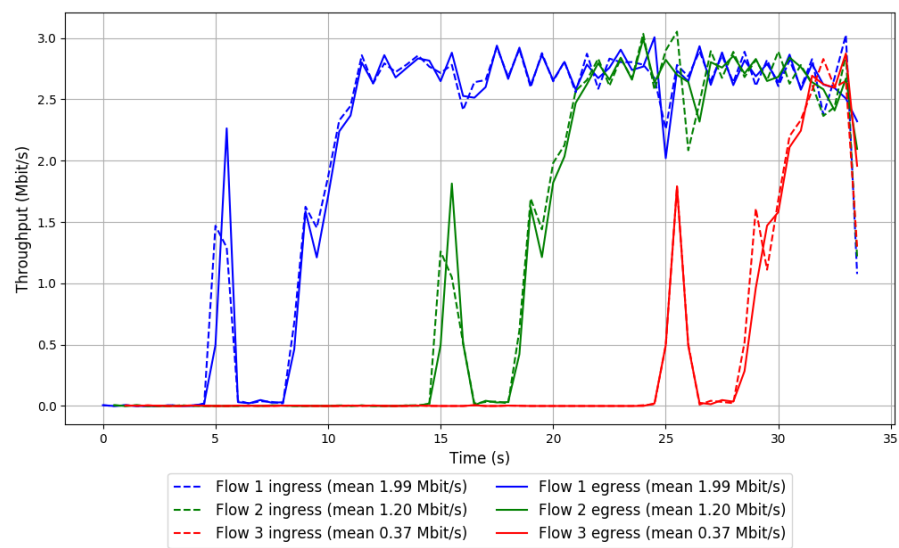
Run 9: Report of WebRTC media — Data Link

```
Run 10: Statistics of WebRTC media

Start at: 2018-01-10 09:06:03
End at: 2018-01-10 09:06:33

# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.55 Mbit/s
95th percentile per-packet one-way delay: 163.657 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 163.504 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 163.700 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 162.661 ms
Loss rate: 0.00%
```
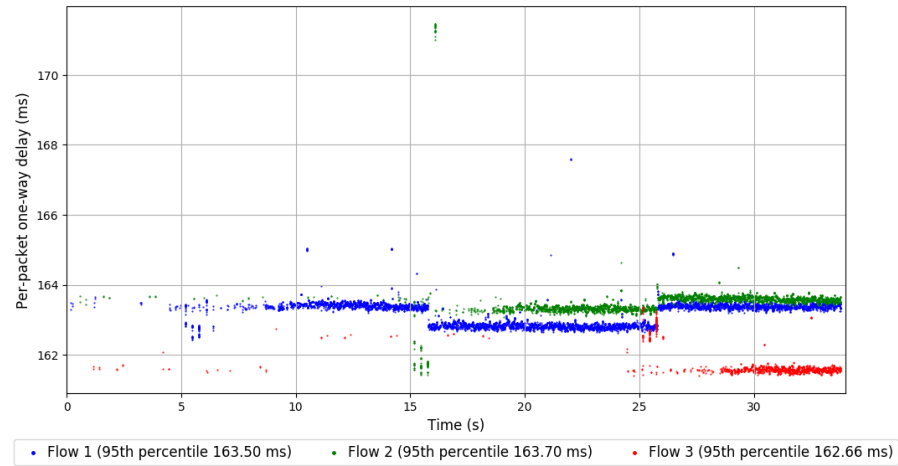
Run 10: Report of WebRTC media — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-01-10 06:32:49
End at: 2018-01-10 06:33:19


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 137.041 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 137.070 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 136.285 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 136.540 ms
Loss rate: 0.00%
```
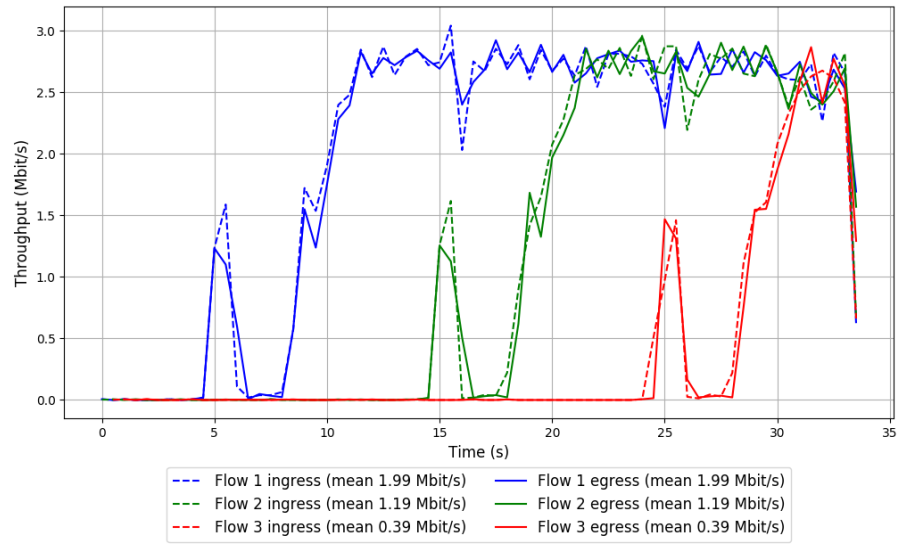
Run 1: Report of Sprout — Data Link

- - - Flow 1 ingress (mean 0.39 Mbit/s) — Flow 1 egress (mean 0.39 Mbit/s)
- - - Flow 2 ingress (mean 0.34 Mbit/s) — Flow 2 egress (mean 0.34 Mbit/s)
- - - Flow 3 ingress (mean 0.43 Mbit/s) — Flow 3 egress (mean 0.43 Mbit/s)

- Flow 1 (95th percentile 137.07 ms)   • Flow 2 (95th percentile 136.28 ms)   • Flow 3 (95th percentile 136.54 ms)
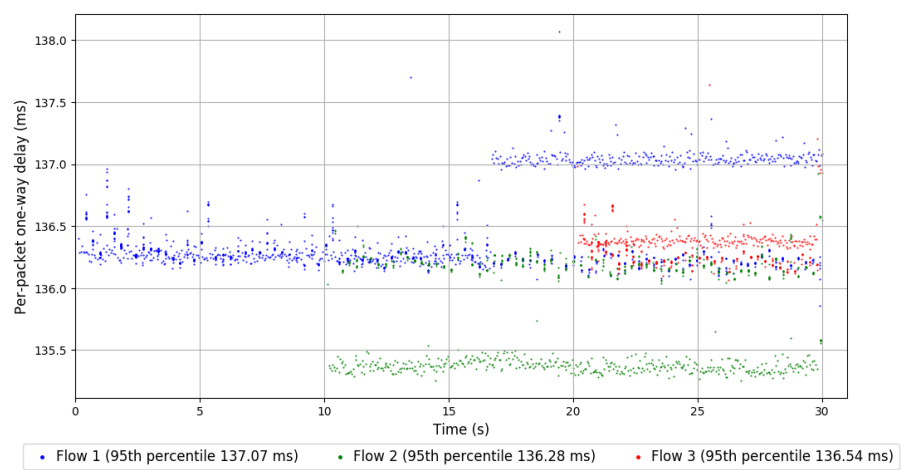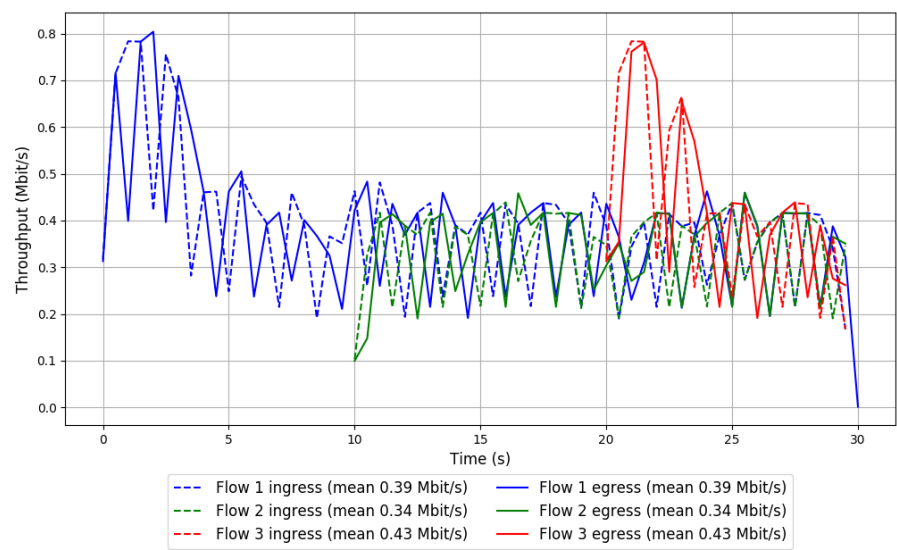
```
Run 2: Statistics of Sprout

Start at: 2018-01-10 06:48:58
End at: 2018-01-10 06:49:28


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 136.681 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 136.702 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.417 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 137.127 ms
Loss rate: 0.00%
```
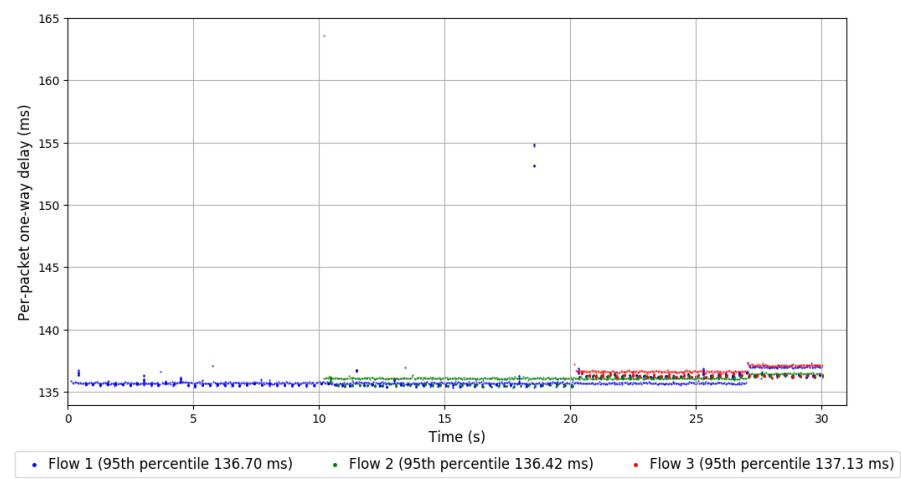
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-01-10 07:04:55
End at: 2018-01-10 07:05:25


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 136.454 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 136.469 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 136.438 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 136.433 ms
Loss rate: 0.00%
```
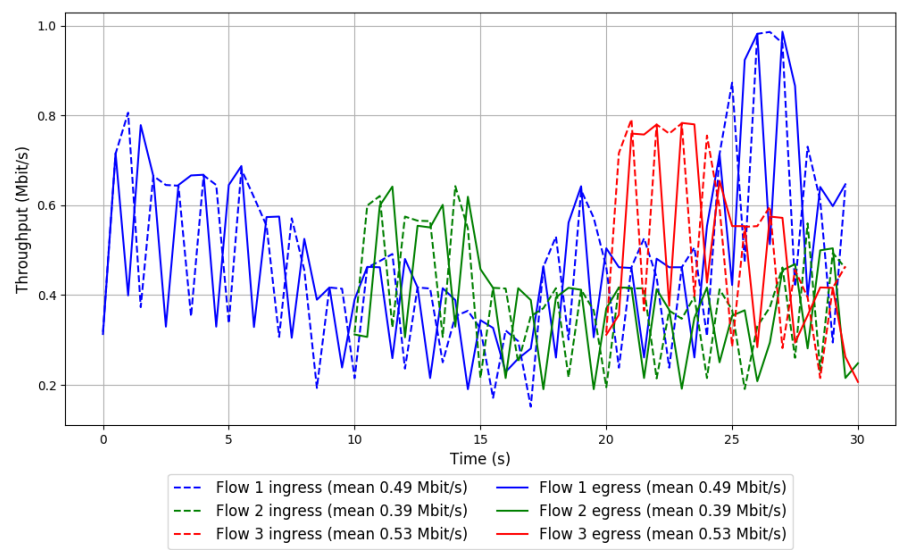
Run 3: Report of Sprout — Data Link

Flow 1 ingress (mean 0.37 Mbit/s) Flow 1 egress (mean 0.37 Mbit/s)
Flow 2 ingress (mean 0.45 Mbit/s) Flow 2 egress (mean 0.45 Mbit/s)
Flow 3 ingress (mean 0.49 Mbit/s) Flow 3 egress (mean 0.49 Mbit/s)

Flow 1 (95th percentile 136.47 ms)   Flow 2 (95th percentile 136.44 ms)   Flow 3 (95th percentile 136.43 ms)

149

```
Run 4: Statistics of Sprout

Start at: 2018-01-10 07:20:56
End at: 2018-01-10 07:21:26


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 136.470 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 135.607 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 136.512 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 136.419 ms
Loss rate: 0.00%
```
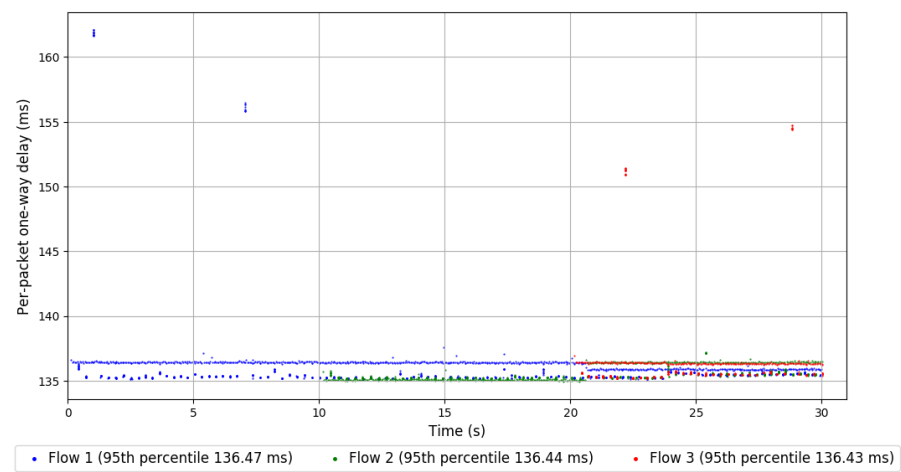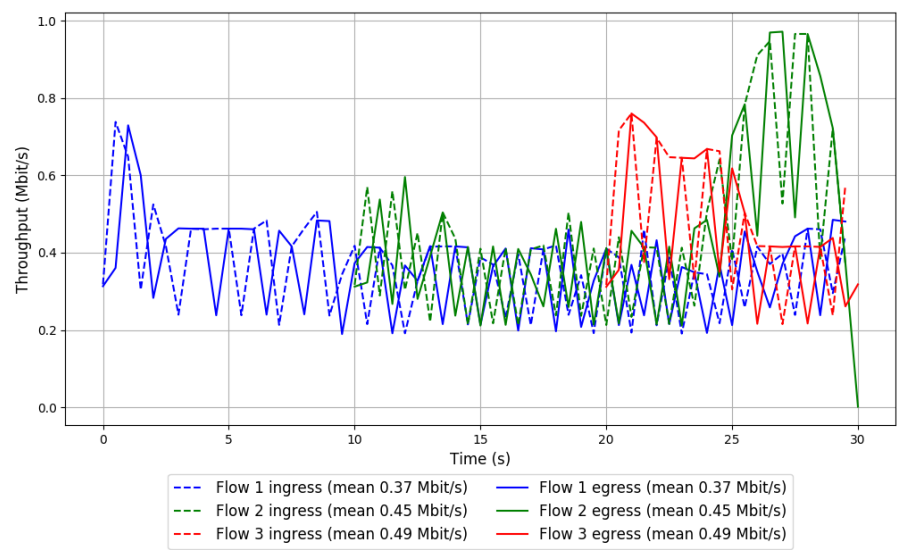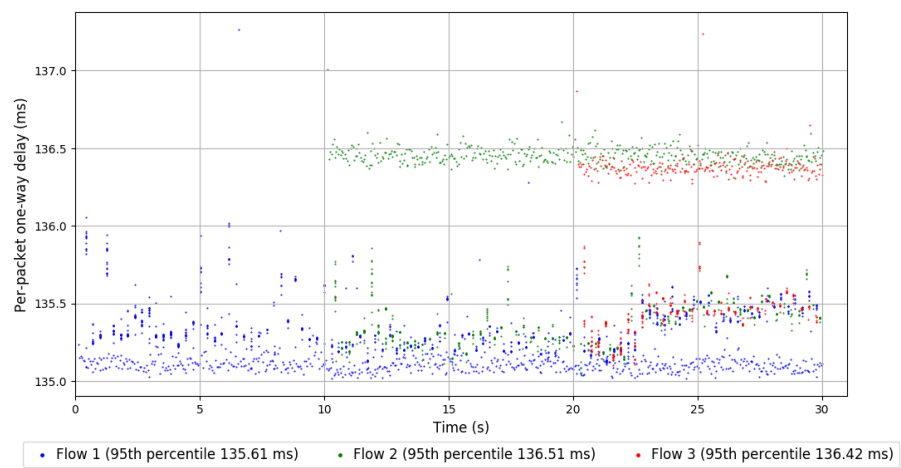
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-01-10 07:37:10
End at: 2018-01-10 07:37:40


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 137.189 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 136.406 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 136.448 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 137.278 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link

153

```
Run 6: Statistics of Sprout

Start at: 2018-01-10 07:53:21
End at: 2018-01-10 07:53:51


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 136.688 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 136.703 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 136.633 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 136.713 ms
Loss rate: 0.00%
```
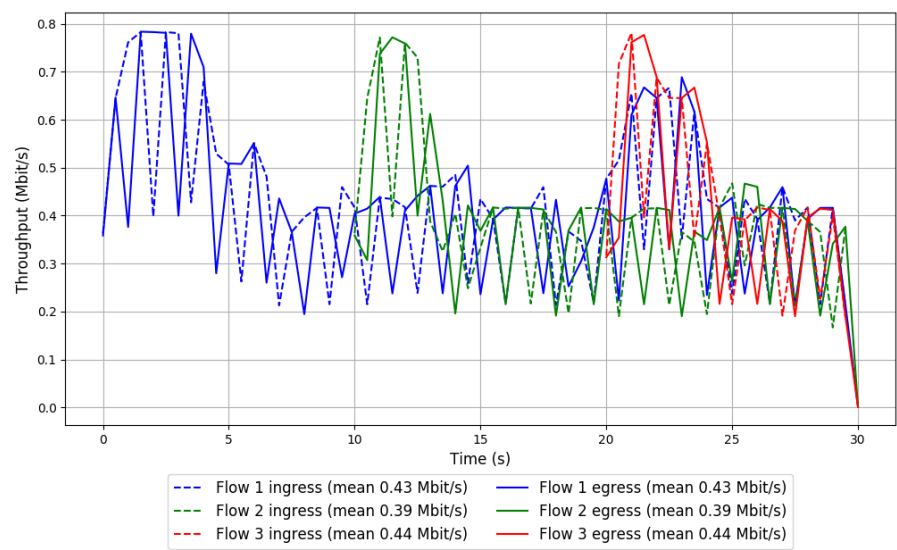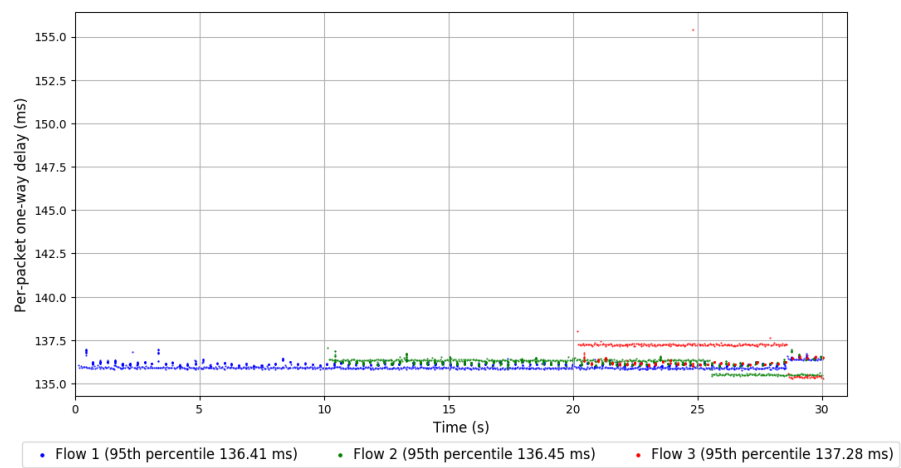
Run 6: Report of Sprout — Data Link

Flow 1 ingress (mean 0.47 Mbit/s)   Flow 1 egress (mean 0.47 Mbit/s)
Flow 2 ingress (mean 0.41 Mbit/s)   Flow 2 egress (mean 0.41 Mbit/s)
Flow 3 ingress (mean 0.42 Mbit/s)   Flow 3 egress (mean 0.42 Mbit/s)

Flow 1 (95th percentile 136.70 ms)   Flow 2 (95th percentile 136.63 ms)   Flow 3 (95th percentile 136.71 ms)

155

```
Run 7: Statistics of Sprout

Start at: 2018-01-10 08:08:58
End at: 2018-01-10 08:09:28


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 136.900 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 135.493 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 136.429 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 136.988 ms
Loss rate: 0.00%
```
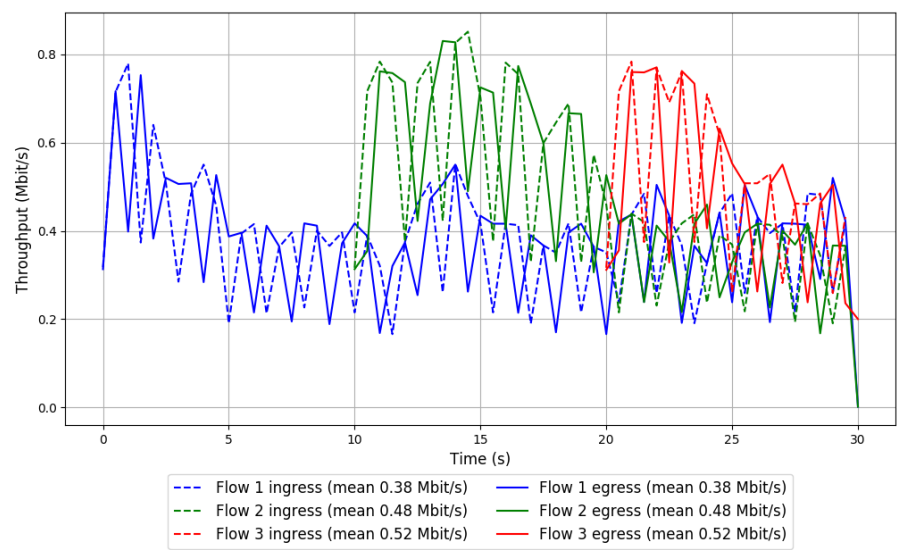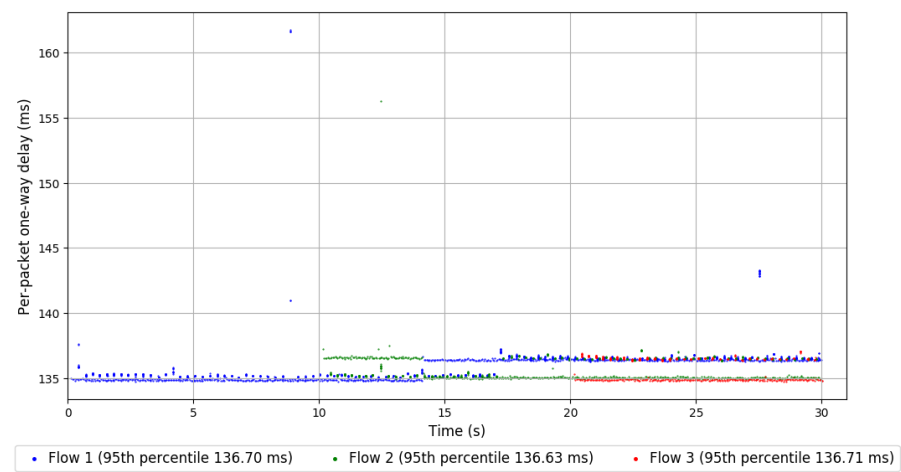
Run 7: Report of Sprout — Data Link

Flow 1 (95th percentile 135.49 ms)   Flow 2 (95th percentile 136.43 ms)   Flow 3 (95th percentile 136.99 ms)

157

```
Run 8: Statistics of Sprout

Start at: 2018-01-10 08:24:46
End at: 2018-01-10 08:25:16


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 164.230 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 163.656 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 162.631 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 164.332 ms
Loss rate: 0.00%
```
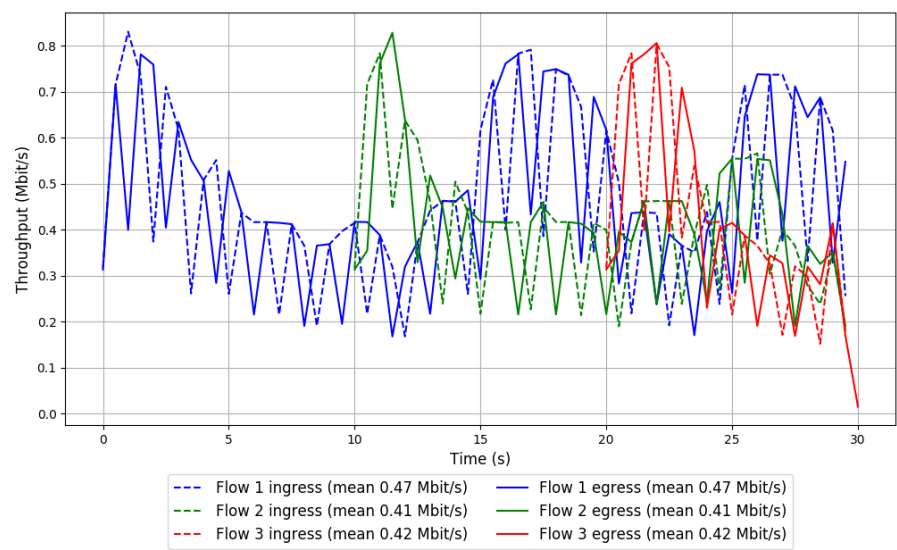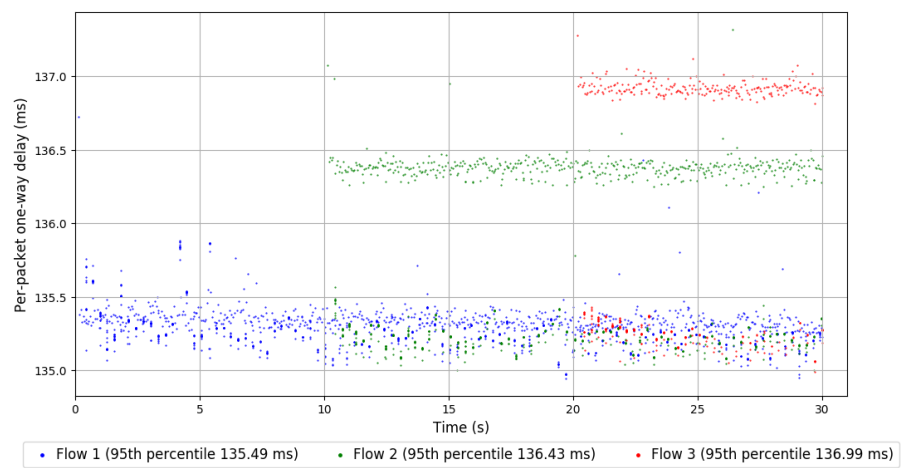
Run 8: Report of Sprout — Data Link

```
Run 9: Statistics of Sprout

Start at: 2018-01-10 08:40:36
End at: 2018-01-10 08:41:06


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 164.179 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 164.210 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 162.699 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 162.873 ms
Loss rate: 0.00%
```
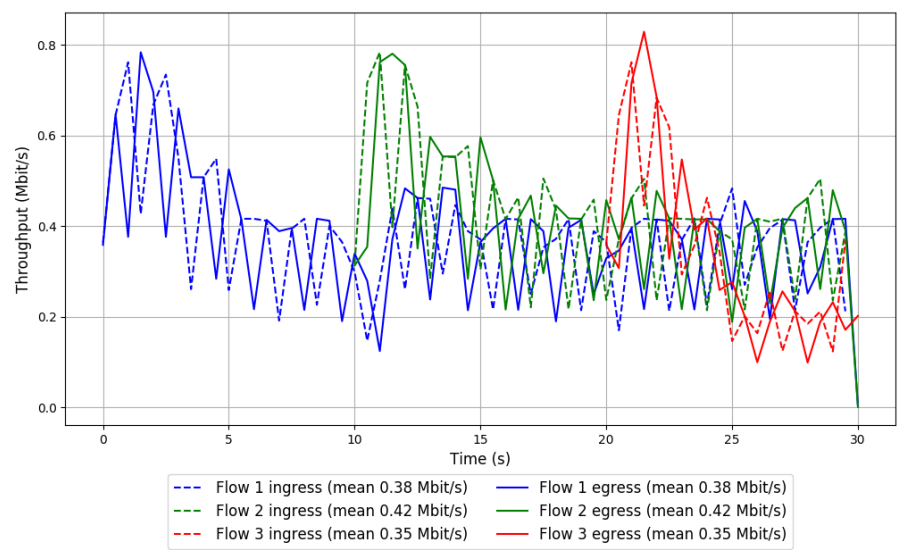
Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2018-01-10 08:56:37
End at: 2018-01-10 08:57:07


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 164.368 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 164.400 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 163.575 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 162.814 ms
Loss rate: 0.00%
```
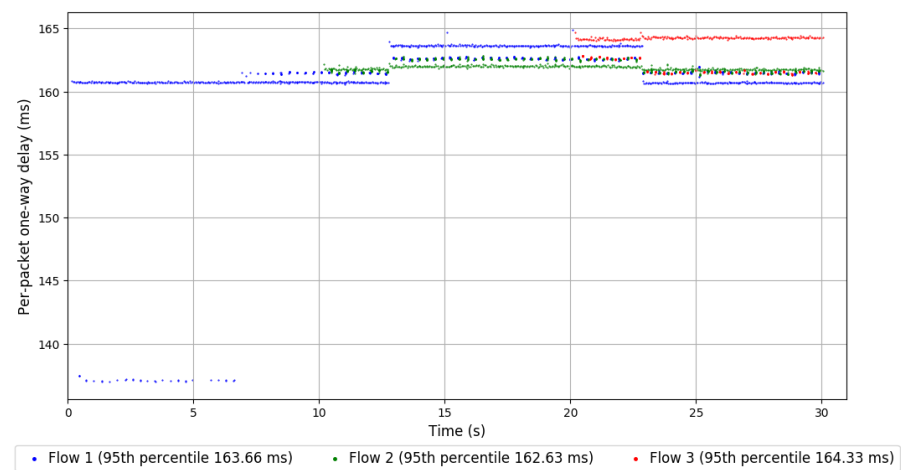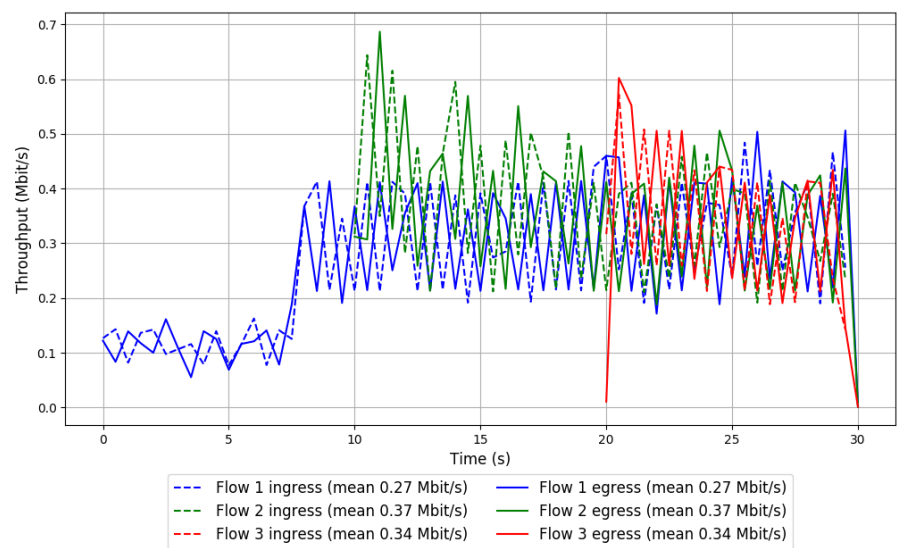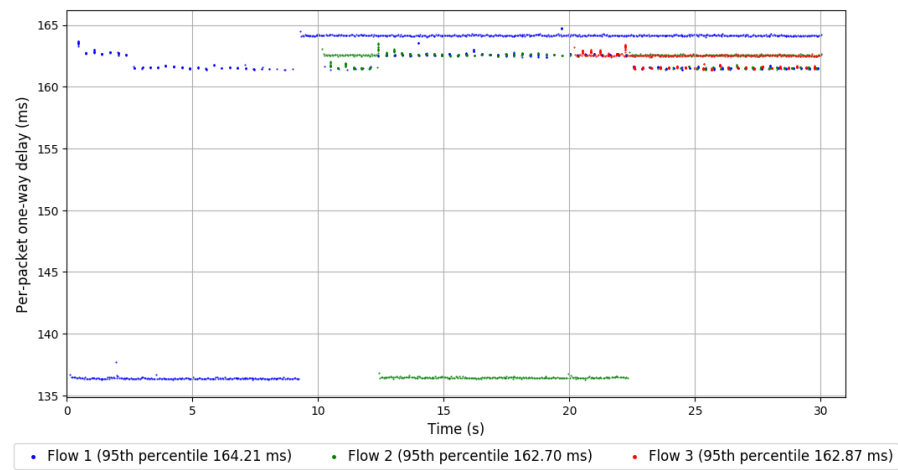
Run 10: Report of Sprout — Data Link

Flow 1 ingress (mean 0.33 Mbit/s) — — — Flow 1 egress (mean 0.33 Mbit/s)
Flow 2 ingress (mean 0.33 Mbit/s) — — — Flow 2 egress (mean 0.33 Mbit/s)
Flow 3 ingress (mean 0.48 Mbit/s) — — — Flow 3 egress (mean 0.48 Mbit/s)

Flow 1 (95th percentile 164.40 ms)   Flow 2 (95th percentile 163.57 ms)   Flow 3 (95th percentile 162.81 ms)

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

Start at: 2018-01-10 06:30:04
End at: 2018-01-10 06:30:34


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.56 Mbit/s
95th percentile per-packet one-way delay: 136.885 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 137.011 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 12.58 Mbit/s
95th percentile per-packet one-way delay: 137.026 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 177.57 Mbit/s
95th percentile per-packet one-way delay: 136.140 ms
Loss rate: 0.02%
```
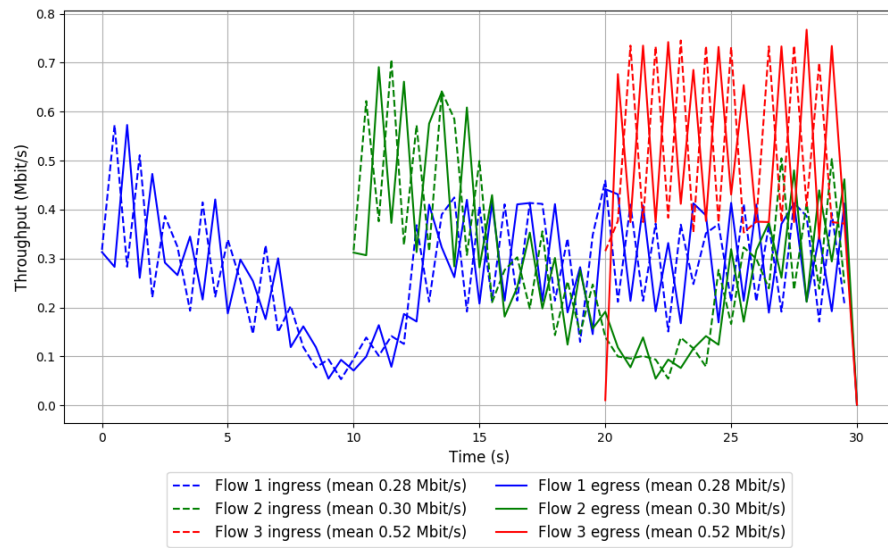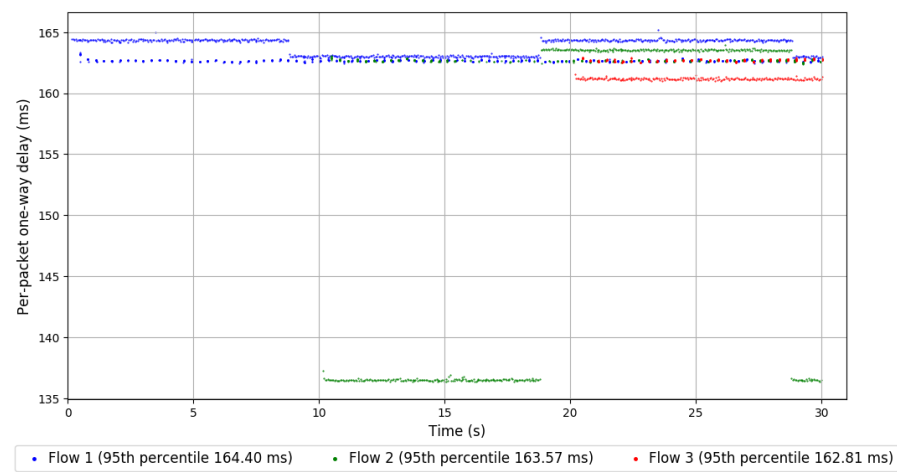
Run 1: Report of TaoVA-100x — Data Link

- Flow 1 ingress (mean 12.13 Mbit/s)
- Flow 1 egress (mean 12.13 Mbit/s)
- Flow 2 ingress (mean 12.58 Mbit/s)
- Flow 2 egress (mean 12.58 Mbit/s)
- Flow 3 ingress (mean 177.60 Mbit/s)
- Flow 3 egress (mean 177.57 Mbit/s)

- Flow 1 (95th percentile 137.01 ms)
- Flow 2 (95th percentile 137.03 ms)
- Flow 3 (95th percentile 136.14 ms)

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

Start at: 2018-01-10 06:46:05
End at: 2018-01-10 06:46:35


# Below is generated by plot.py at 2018-01-10 10:41:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 135.60 Mbit/s
95th percentile per-packet one-way delay: 136.880 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 103.40 Mbit/s
95th percentile per-packet one-way delay: 136.480 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 44.51 Mbit/s
95th percentile per-packet one-way delay: 136.968 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.74 Mbit/s
95th percentile per-packet one-way delay: 136.175 ms
Loss rate: 0.00%
```
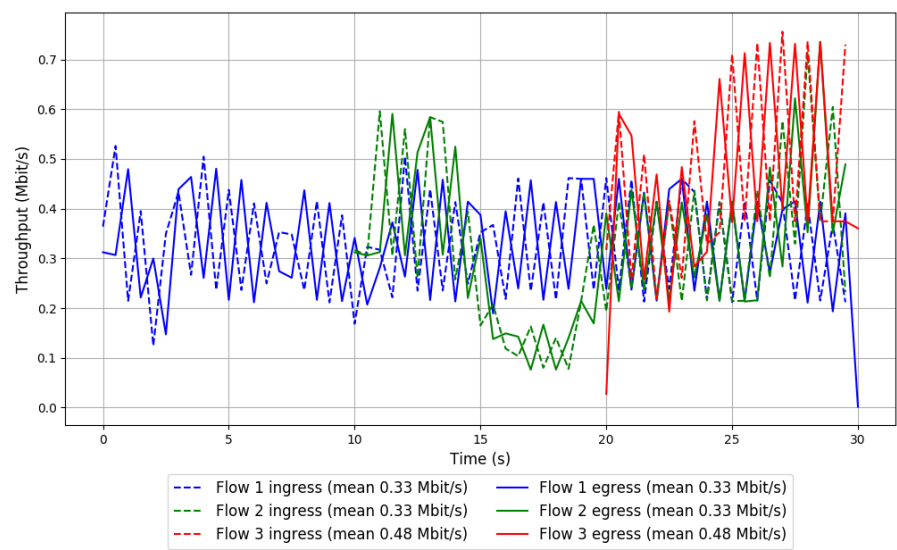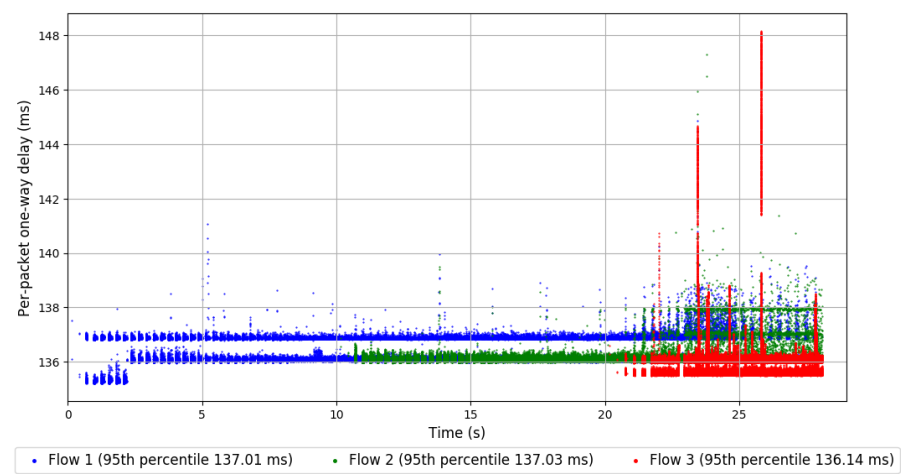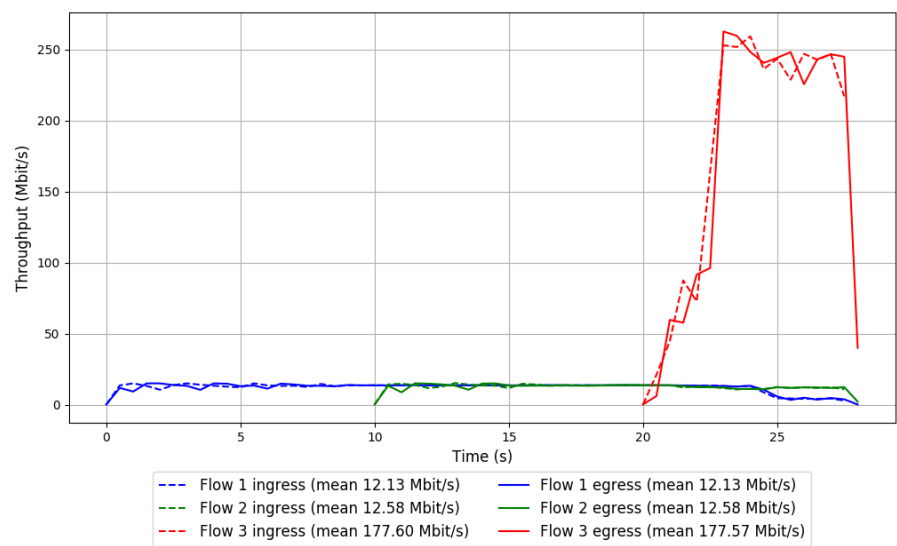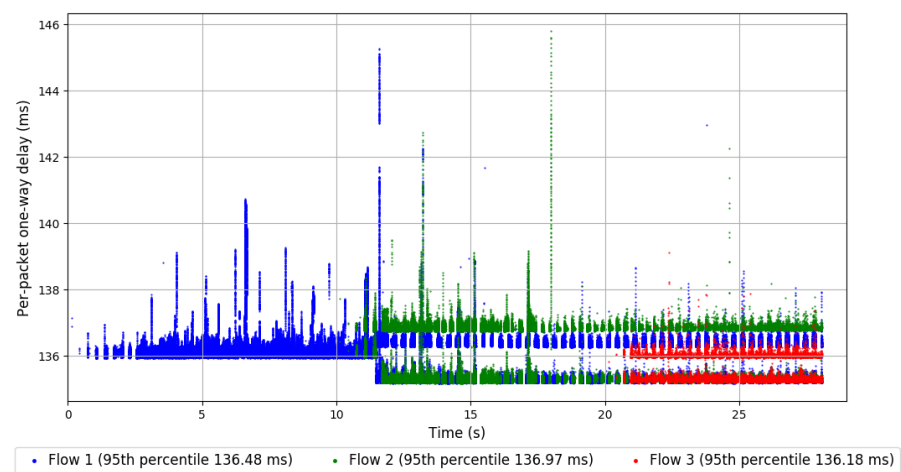
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 103.40 Mbit/s)   Flow 1 egress (mean 103.40 Mbit/s)
Flow 2 ingress (mean 44.51 Mbit/s)   Flow 2 egress (mean 44.51 Mbit/s)
Flow 3 ingress (mean 12.74 Mbit/s)   Flow 3 egress (mean 12.74 Mbit/s)

Flow 1 (95th percentile 136.48 ms)   Flow 2 (95th percentile 136.97 ms)   Flow 3 (95th percentile 136.18 ms)

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

Start at: 2018-01-10 07:01:44
End at: 2018-01-10 07:02:14


# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.49 Mbit/s
95th percentile per-packet one-way delay: 138.020 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 187.34 Mbit/s
95th percentile per-packet one-way delay: 137.438 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 138.40 Mbit/s
95th percentile per-packet one-way delay: 136.531 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 87.16 Mbit/s
95th percentile per-packet one-way delay: 145.216 ms
Loss rate: 0.00%
```

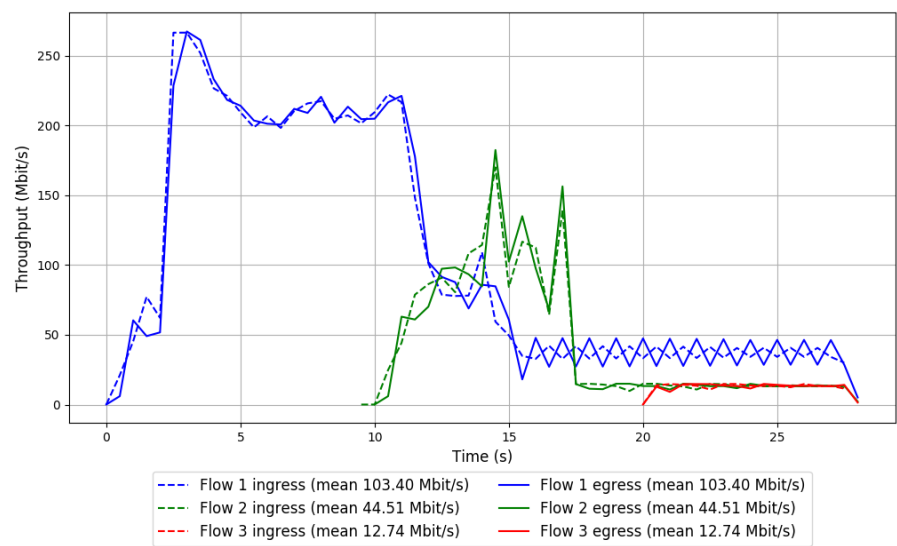## Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 187.59 Mbit/s)   Flow 1 egress (mean 187.34 Mbit/s)
Flow 2 ingress (mean 138.83 Mbit/s)   Flow 2 egress (mean 138.40 Mbit/s)
Flow 3 ingress (mean 87.16 Mbit/s)   Flow 3 egress (mean 87.16 Mbit/s)

Flow 1 (95th percentile 137.44 ms)   Flow 2 (95th percentile 136.53 ms)   Flow 3 (95th percentile 145.22 ms)
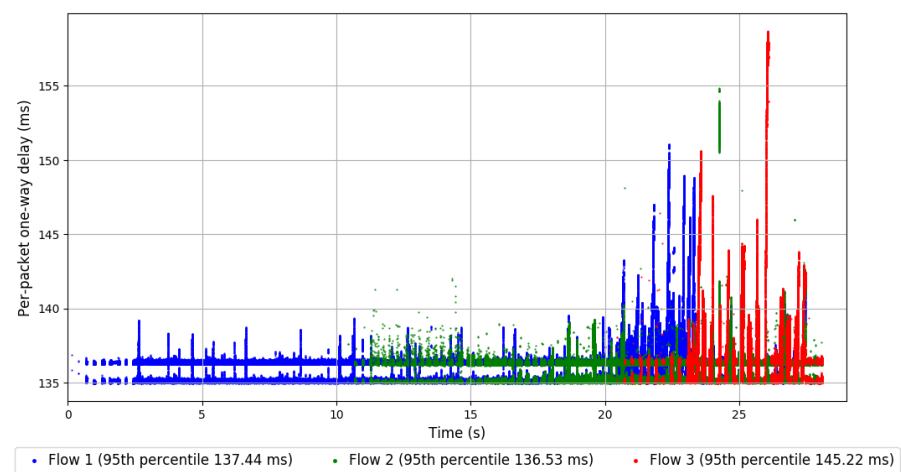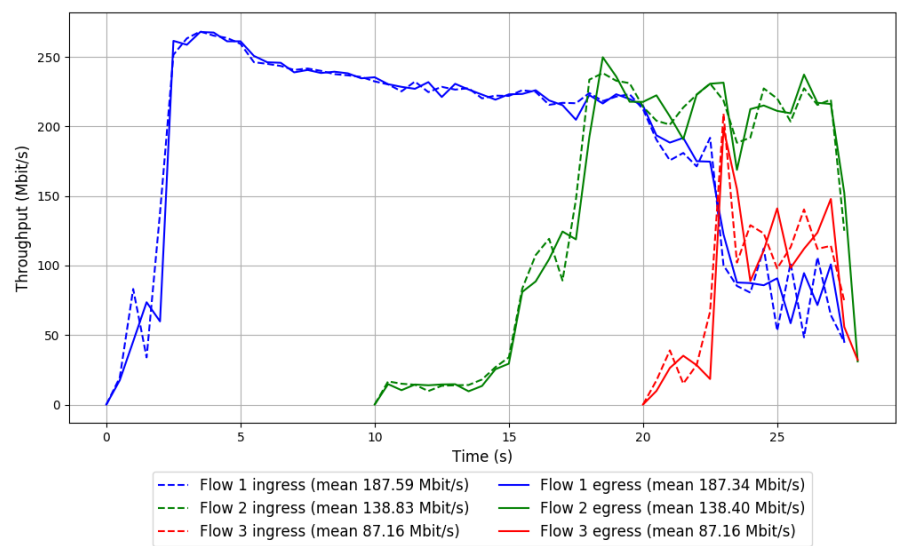
169

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

Start at: 2018-01-10 07:17:53
End at: 2018-01-10 07:18:23

# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 252.42 Mbit/s
95th percentile per-packet one-way delay: 136.105 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 209.15 Mbit/s
95th percentile per-packet one-way delay: 136.086 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 62.02 Mbit/s
95th percentile per-packet one-way delay: 136.001 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.64 Mbit/s
95th percentile per-packet one-way delay: 137.355 ms
Loss rate: 0.00%
```
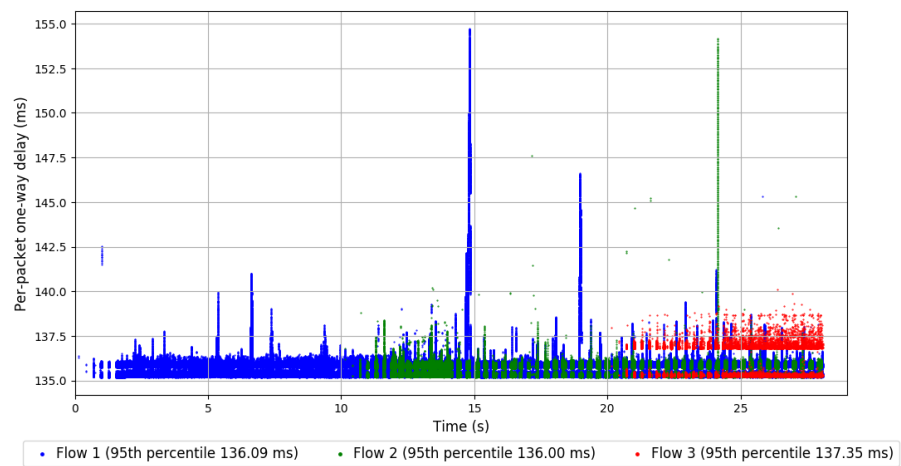
Run 4: Report of TaoVA-100x — Data Link

Run 5: Statistics of TaoVA-100x

Start at: 2018-01-10 07:34:07
End at: 2018-01-10 07:34:37

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

Flow 1 ingress (mean 155.92 Mbit/s) ---- Flow 1 egress (mean 155.92 Mbit/s)
Flow 2 ingress (mean 153.62 Mbit/s) ---- Flow 2 egress (mean 153.63 Mbit/s)
Flow 3 ingress (mean 158.28 Mbit/s) ---- Flow 3 egress (mean 158.08 Mbit/s)

Flow 1 (95th percentile 137.82 ms)   Flow 2 (95th percentile 138.54 ms)   Flow 3 (95th percentile 140.33 ms)

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

Start at: 2018-01-10 07:50:18
End at: 2018-01-10 07:50:48

# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 270.85 Mbit/s
95th percentile per-packet one-way delay: 137.145 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 201.03 Mbit/s
95th percentile per-packet one-way delay: 136.429 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 42.58 Mbit/s
95th percentile per-packet one-way delay: 146.616 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 149.66 Mbit/s
95th percentile per-packet one-way delay: 138.018 ms
Loss rate: 0.04%
```
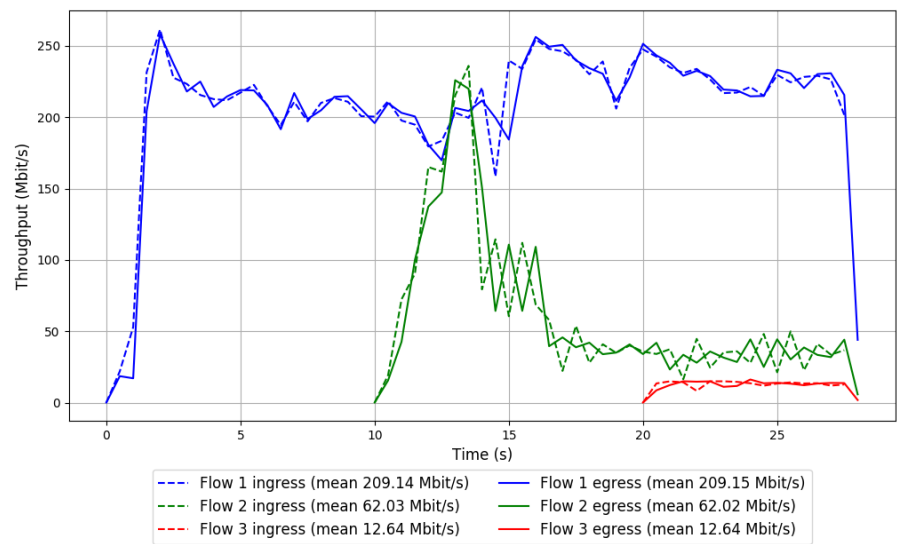
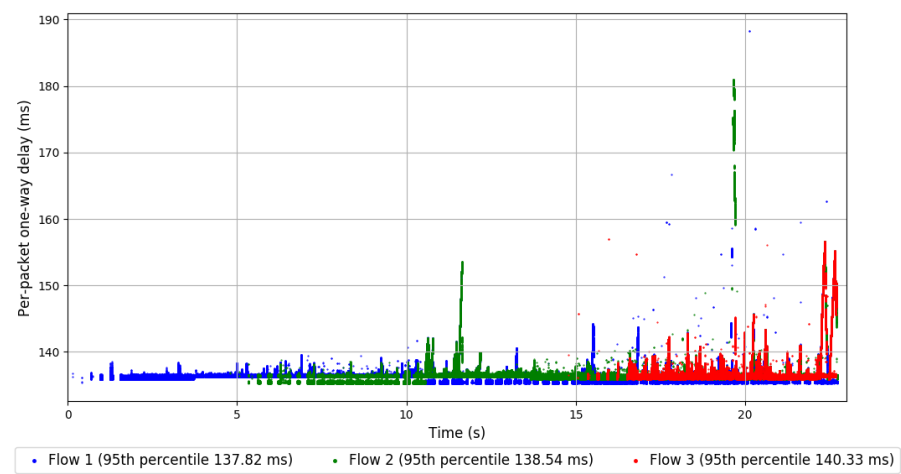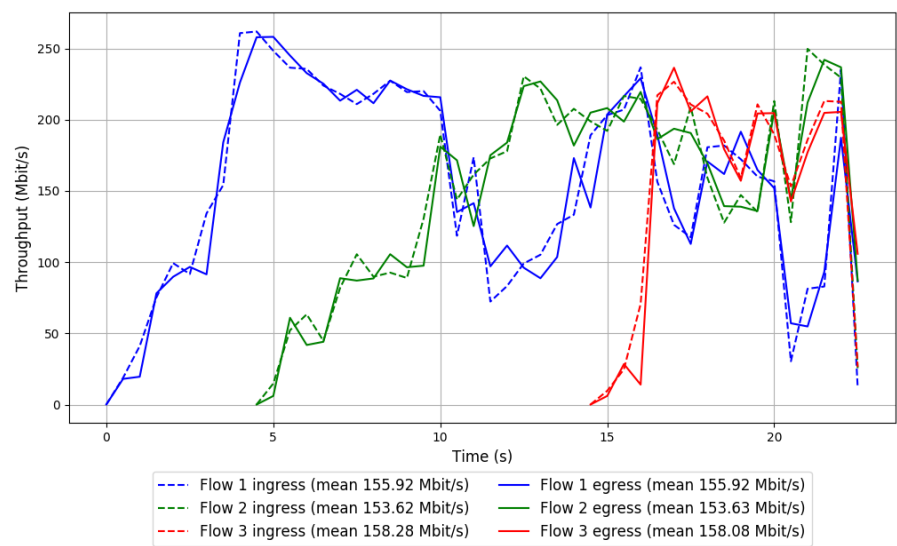# Run 6: Report of TaoVA-100x — Data Link

- - - Flow 1 ingress (mean 201.06 Mbit/s) —— Flow 1 egress (mean 201.03 Mbit/s)
- - - Flow 2 ingress (mean 42.61 Mbit/s) —— Flow 2 egress (mean 42.58 Mbit/s)
- - - Flow 3 ingress (mean 149.73 Mbit/s) —— Flow 3 egress (mean 149.66 Mbit/s)

• Flow 1 (95th percentile 136.43 ms) • Flow 2 (95th percentile 146.62 ms) • Flow 3 (95th percentile 138.02 ms)

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

Start at: 2018-01-10 08:06:13
End at: 2018-01-10 08:06:43


# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.16 Mbit/s
95th percentile per-packet one-way delay: 136.949 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 64.00 Mbit/s
95th percentile per-packet one-way delay: 136.831 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 12.42 Mbit/s
95th percentile per-packet one-way delay: 137.029 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 75.24 Mbit/s
95th percentile per-packet one-way delay: 137.019 ms
Loss rate: 0.00%
```
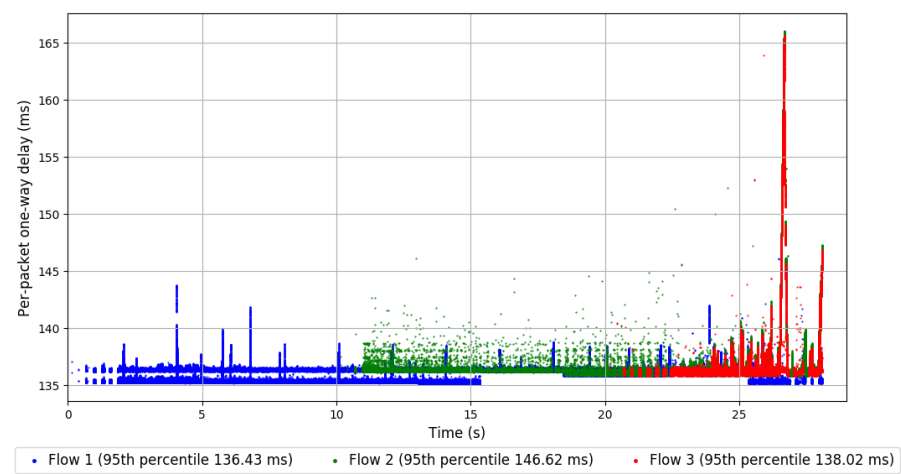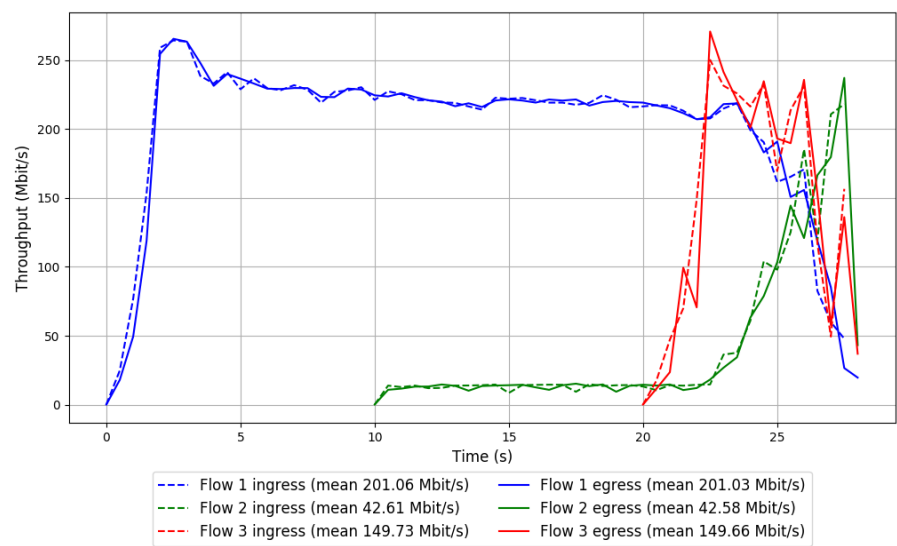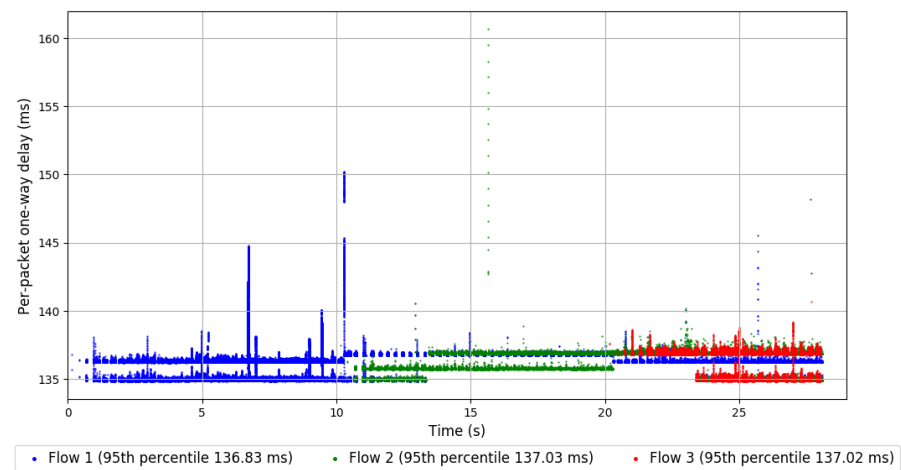
Run 7: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 64.00 Mbit/s) --- Flow 1 egress (mean 64.00 Mbit/s)
Flow 2 ingress (mean 12.45 Mbit/s) --- Flow 2 egress (mean 12.42 Mbit/s)
Flow 3 ingress (mean 75.24 Mbit/s) --- Flow 3 egress (mean 75.24 Mbit/s)

Flow 1 (95th percentile 136.83 ms)   Flow 2 (95th percentile 137.03 ms)   Flow 3 (95th percentile 137.02 ms)

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

Start at: 2018-01-10 08:21:54
End at: 2018-01-10 08:22:24


# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 146.48 Mbit/s
95th percentile per-packet one-way delay: 162.466 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 140.75 Mbit/s
95th percentile per-packet one-way delay: 162.462 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 7.21 Mbit/s
95th percentile per-packet one-way delay: 162.648 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 162.535 ms
Loss rate: 0.00%
```
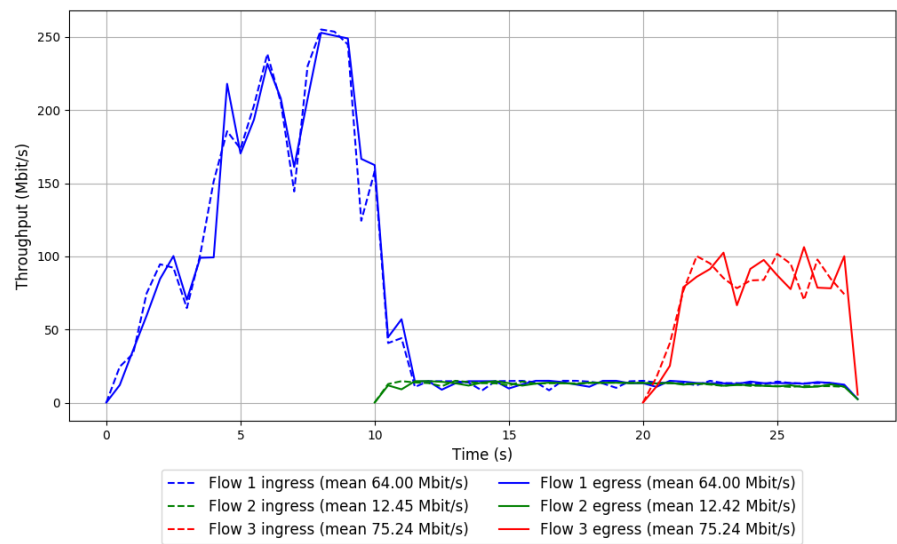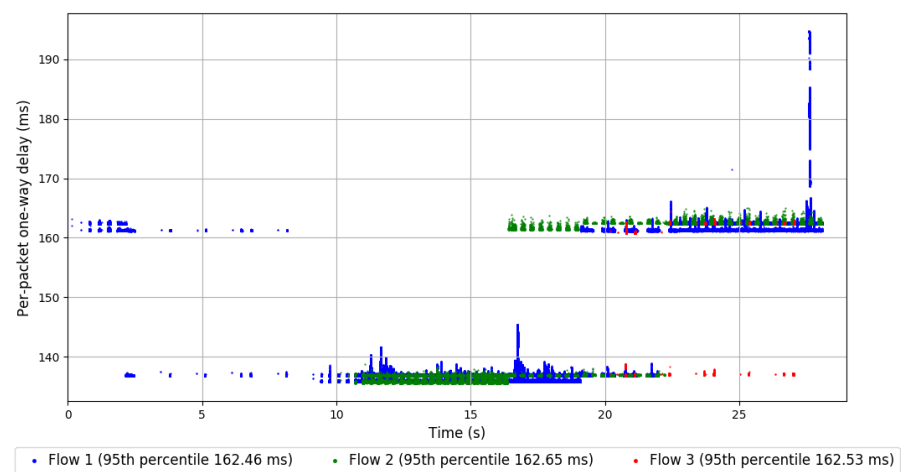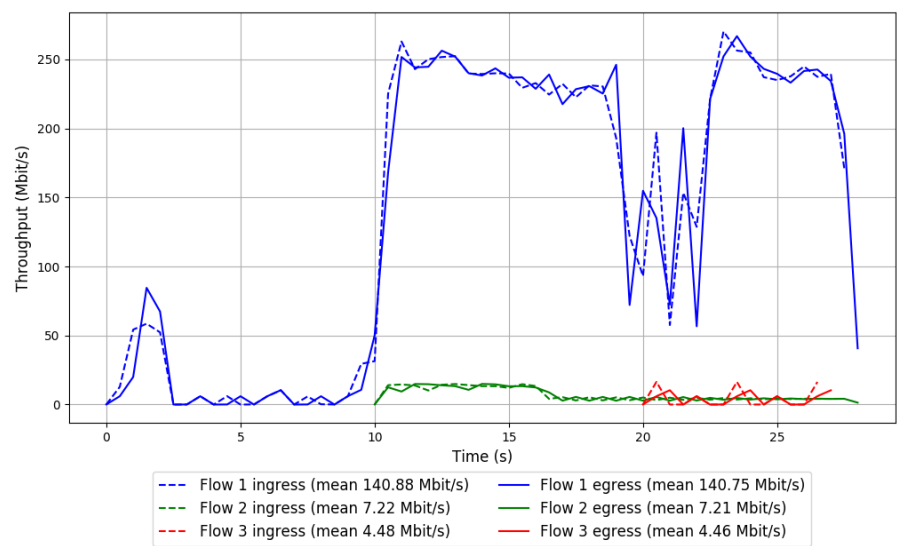
Run 8: Report of TaoVA-100x — Data Link

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

Start at: 2018-01-10 08:37:57
End at: 2018-01-10 08:38:27


# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.72 Mbit/s
95th percentile per-packet one-way delay: 163.232 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 10.22 Mbit/s
95th percentile per-packet one-way delay: 162.439 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.93 Mbit/s
95th percentile per-packet one-way delay: 162.450 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.99 Mbit/s
95th percentile per-packet one-way delay: 163.343 ms
Loss rate: 0.42%
```
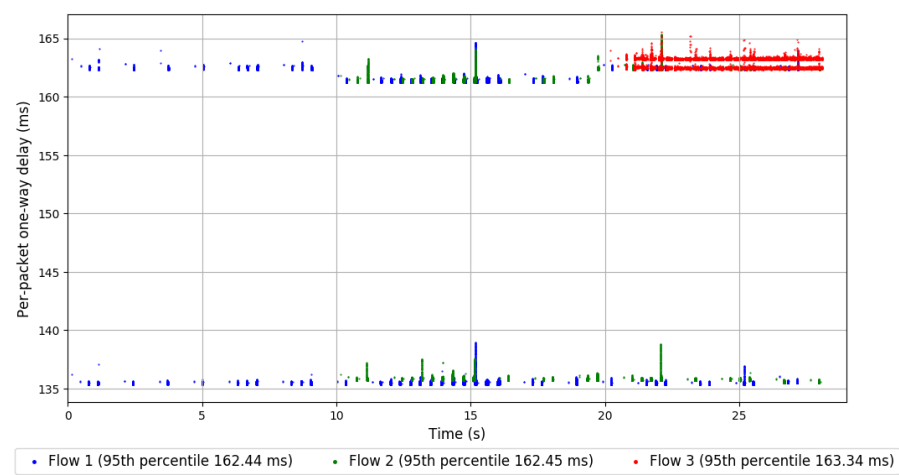
Run 9: Report of TaoVA-100x — Data Link

- - - Flow 1 ingress (mean 10.23 Mbit/s) ——— Flow 1 egress (mean 10.22 Mbit/s)
- - - Flow 2 ingress (mean 8.94 Mbit/s) ——— Flow 2 egress (mean 8.93 Mbit/s)
- - - Flow 3 ingress (mean 11.00 Mbit/s) ——— Flow 3 egress (mean 10.99 Mbit/s)

• Flow 1 (95th percentile 162.44 ms)   • Flow 2 (95th percentile 162.45 ms)   • Flow 3 (95th percentile 163.34 ms)

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

Start at: 2018-01-10 08:53:58
End at: 2018-01-10 08:54:28

# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.79 Mbit/s
95th percentile per-packet one-way delay: 163.457 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.11 Mbit/s
95th percentile per-packet one-way delay: 163.400 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 12.12 Mbit/s
95th percentile per-packet one-way delay: 162.730 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.66 Mbit/s
95th percentile per-packet one-way delay: 164.074 ms
Loss rate: 0.00%
```
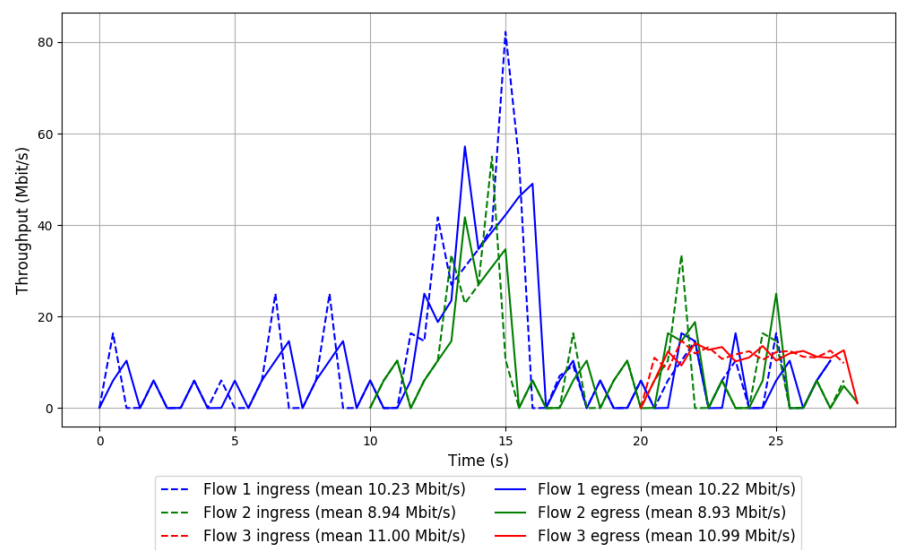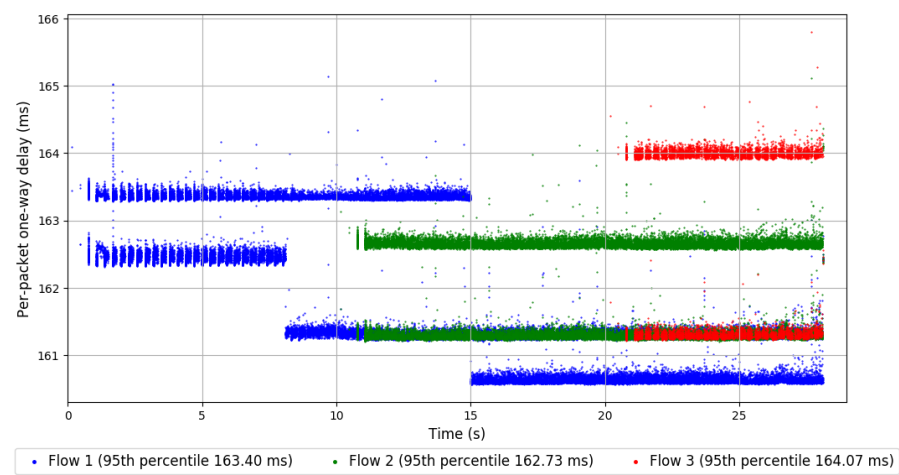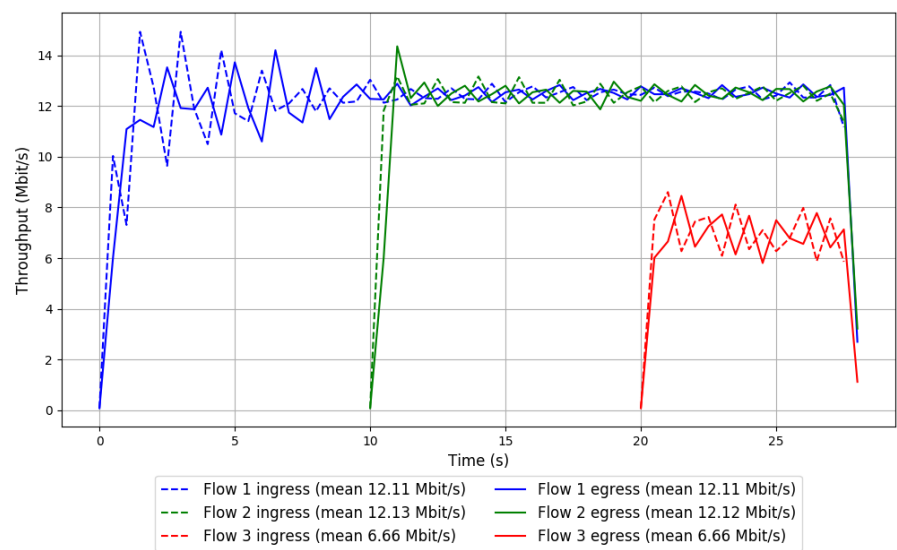
Run 10: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2018-01-10 06:28:14
End at: 2018-01-10 06:28:44

# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.22 Mbit/s
95th percentile per-packet one-way delay: 147.887 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 24.83 Mbit/s
95th percentile per-packet one-way delay: 150.646 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 15.06 Mbit/s
95th percentile per-packet one-way delay: 137.621 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 25.29 Mbit/s
95th percentile per-packet one-way delay: 140.224 ms
Loss rate: 4.42%
```
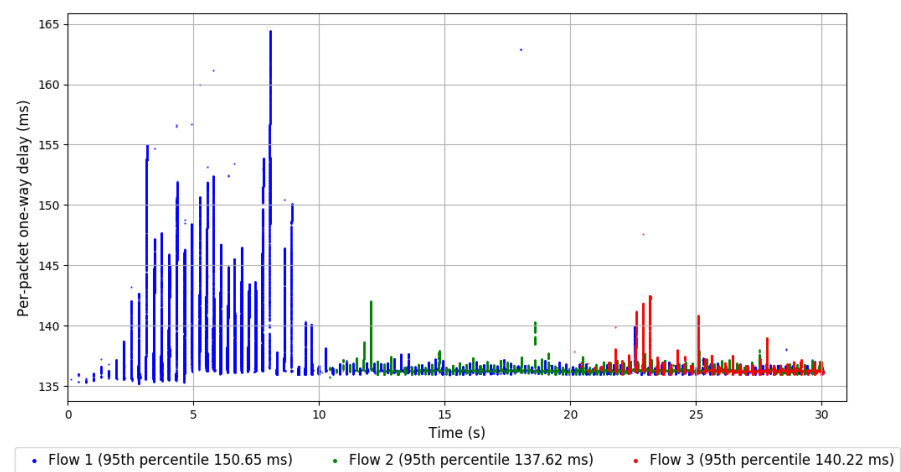
Run 1: Report of TCP Vegas — Data Link

- Flow 1 ingress (mean 24.99 Mbit/s)
- Flow 1 egress (mean 24.83 Mbit/s)
- Flow 2 ingress (mean 15.07 Mbit/s)
- Flow 2 egress (mean 15.06 Mbit/s)
- Flow 3 ingress (mean 26.45 Mbit/s)
- Flow 3 egress (mean 25.29 Mbit/s)

- Flow 1 (95th percentile 150.65 ms)
- Flow 2 (95th percentile 137.62 ms)
- Flow 3 (95th percentile 140.22 ms)

185

```
Run 2: Statistics of TCP Vegas

Start at: 2018-01-10 06:44:13
End at: 2018-01-10 06:44:43

# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.01 Mbit/s
95th percentile per-packet one-way delay: 139.018 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 28.73 Mbit/s
95th percentile per-packet one-way delay: 137.969 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 46.46 Mbit/s
95th percentile per-packet one-way delay: 139.119 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.32 Mbit/s
95th percentile per-packet one-way delay: 141.596 ms
Loss rate: 0.00%
```
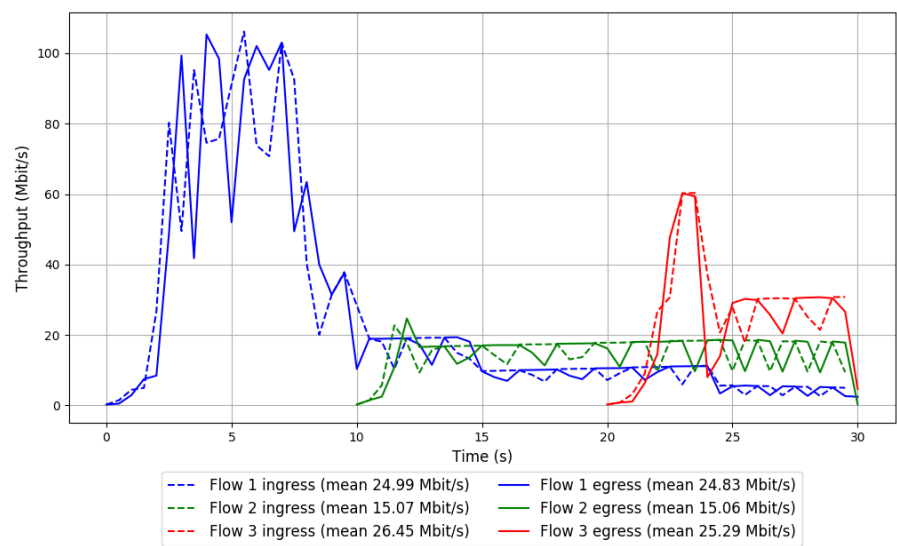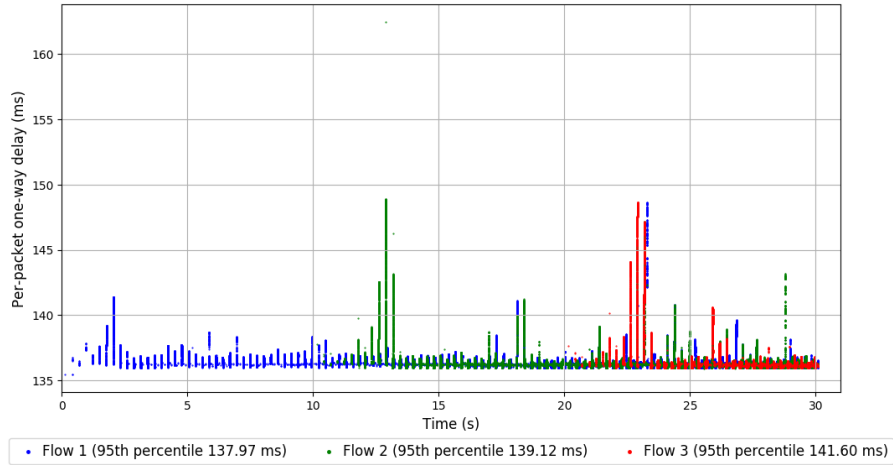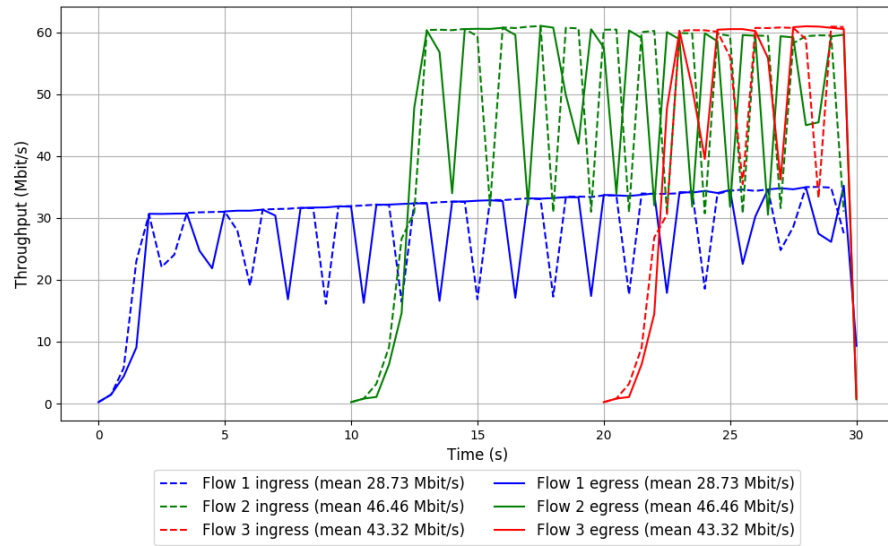
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-01-10 06:59:55
End at: 2018-01-10 07:00:25


# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.58 Mbit/s
95th percentile per-packet one-way delay: 144.295 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 28.82 Mbit/s
95th percentile per-packet one-way delay: 143.721 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 25.95 Mbit/s
95th percentile per-packet one-way delay: 142.738 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 43.71 Mbit/s
95th percentile per-packet one-way delay: 147.615 ms
Loss rate: 0.01%
```
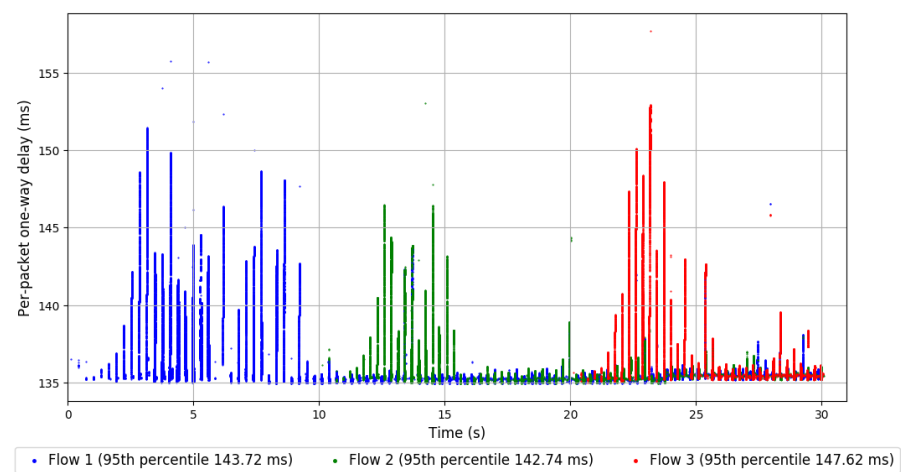
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 28.86 Mbit/s)   Flow 1 egress (mean 28.82 Mbit/s)
Flow 2 ingress (mean 25.96 Mbit/s)   Flow 2 egress (mean 25.95 Mbit/s)
Flow 3 ingress (mean 43.72 Mbit/s)   Flow 3 egress (mean 43.71 Mbit/s)

Flow 1 (95th percentile 143.72 ms)   Flow 2 (95th percentile 142.74 ms)   Flow 3 (95th percentile 147.62 ms)

189

```
Run 4: Statistics of TCP Vegas

Start at: 2018-01-10 07:16:02
End at: 2018-01-10 07:16:32


# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 110.82 Mbit/s
95th percentile per-packet one-way delay: 145.511 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.62 Mbit/s
95th percentile per-packet one-way delay: 143.239 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 60.67 Mbit/s
95th percentile per-packet one-way delay: 147.998 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 63.38 Mbit/s
95th percentile per-packet one-way delay: 148.562 ms
Loss rate: 0.00%
```
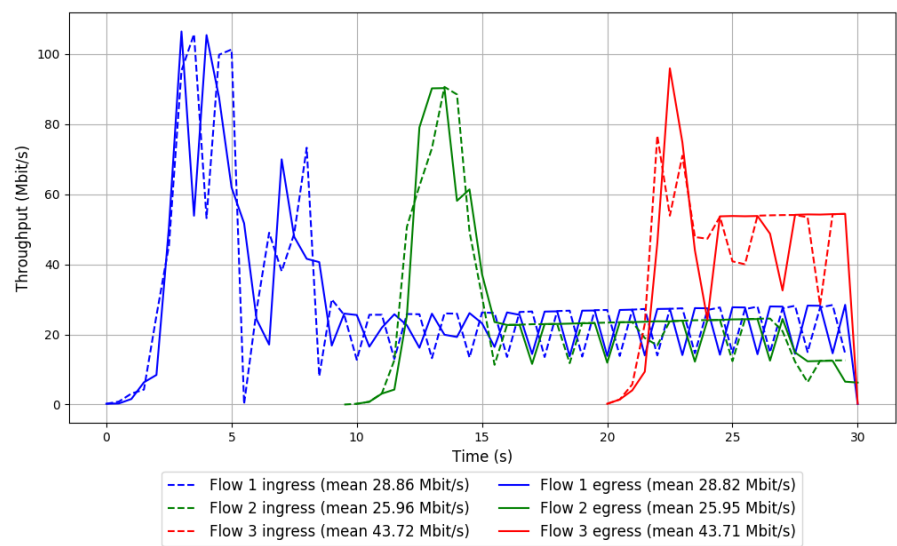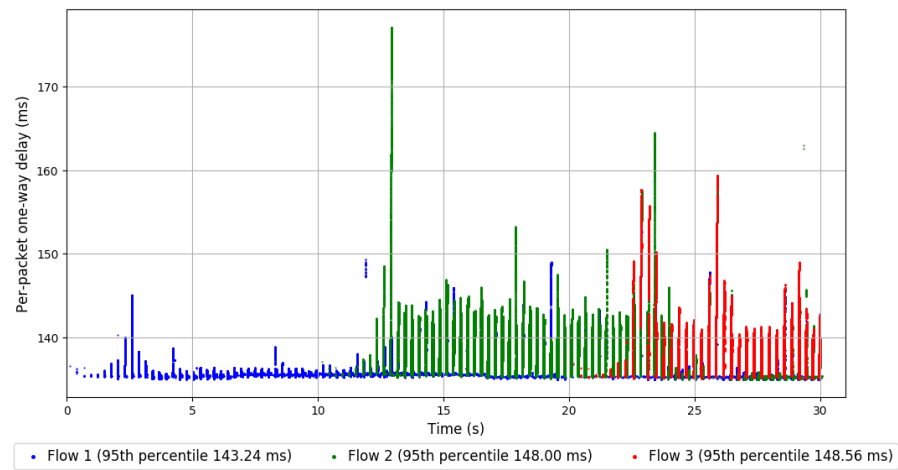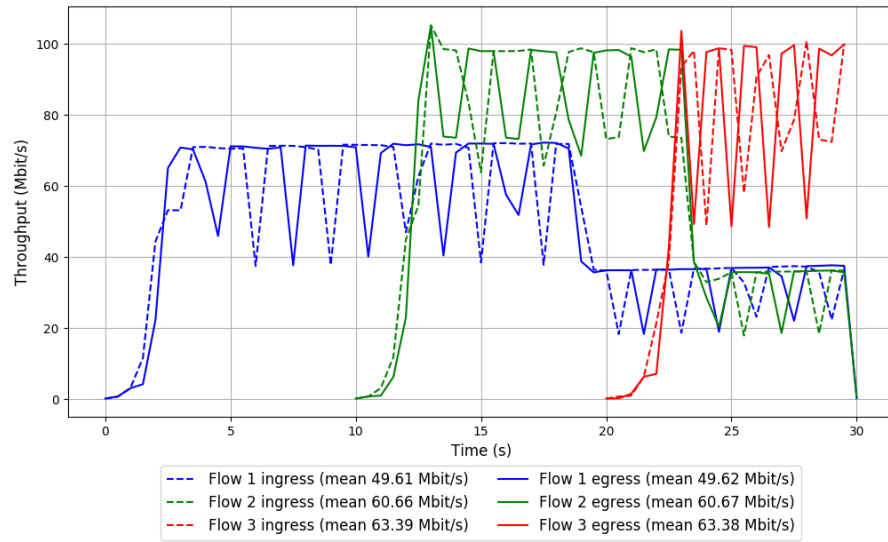
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-01-10 07:32:19
End at: 2018-01-10 07:32:49

# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 50.61 Mbit/s
95th percentile per-packet one-way delay: 141.241 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 12.38 Mbit/s
95th percentile per-packet one-way delay: 142.718 ms
Loss rate: 1.75%
-- Flow 2:
Average throughput: 46.72 Mbit/s
95th percentile per-packet one-way delay: 138.107 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.61 Mbit/s
95th percentile per-packet one-way delay: 146.623 ms
Loss rate: 0.02%
```
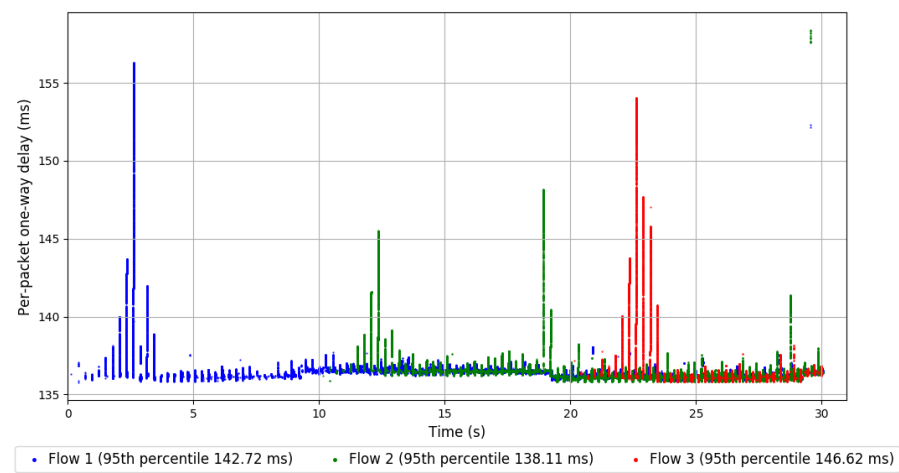
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 12.60 Mbit/s) --- Flow 1 egress (mean 12.38 Mbit/s)
Flow 2 ingress (mean 46.72 Mbit/s) --- Flow 2 egress (mean 46.72 Mbit/s)
Flow 3 ingress (mean 21.62 Mbit/s) --- Flow 3 egress (mean 21.61 Mbit/s)

Flow 1 (95th percentile 142.72 ms)   Flow 2 (95th percentile 138.11 ms)   Flow 3 (95th percentile 146.62 ms)

193

```
Run 6: Statistics of TCP Vegas

Start at: 2018-01-10 07:48:30
End at: 2018-01-10 07:49:00

# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.96 Mbit/s
95th percentile per-packet one-way delay: 142.793 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 37.50 Mbit/s
95th percentile per-packet one-way delay: 137.435 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 26.80 Mbit/s
95th percentile per-packet one-way delay: 145.577 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 32.16 Mbit/s
95th percentile per-packet one-way delay: 143.589 ms
Loss rate: 0.00%
```
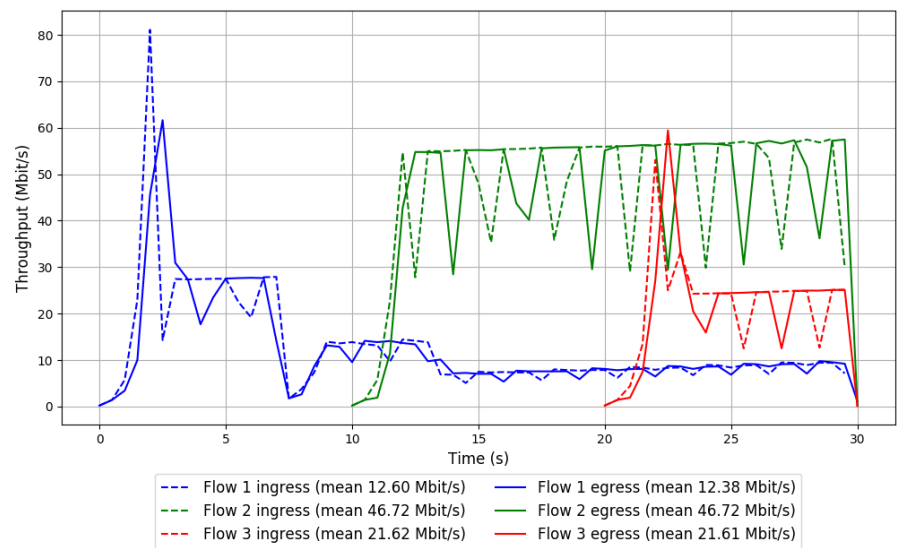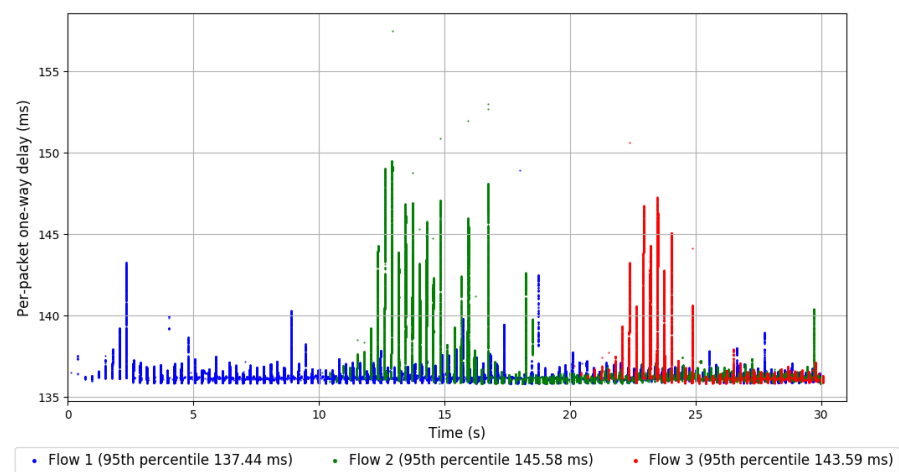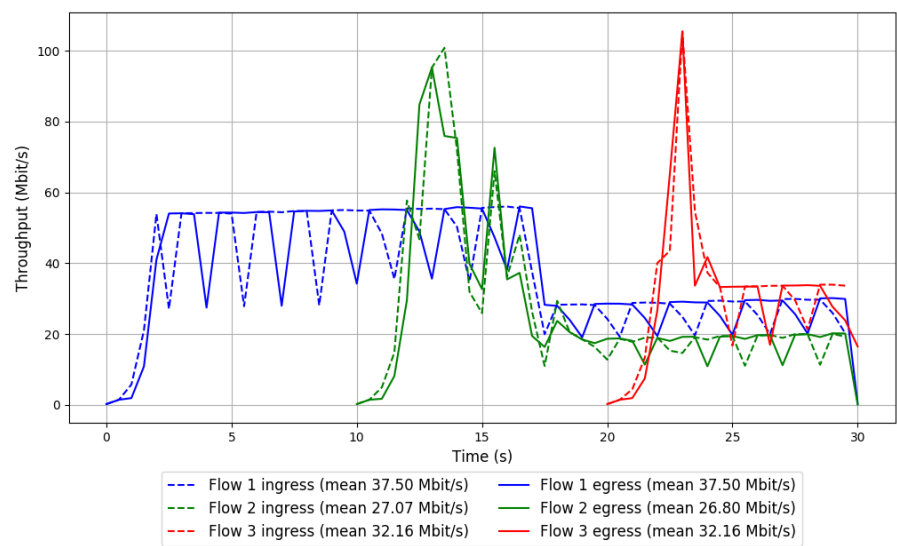
Run 6: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 37.50 Mbit/s) --- Flow 1 egress (mean 37.50 Mbit/s)
Flow 2 ingress (mean 27.07 Mbit/s) --- Flow 2 egress (mean 26.80 Mbit/s)
Flow 3 ingress (mean 32.16 Mbit/s) --- Flow 3 egress (mean 32.16 Mbit/s)

Flow 1 (95th percentile 137.44 ms) Flow 2 (95th percentile 145.58 ms) Flow 3 (95th percentile 143.59 ms)

195

```
Run 7: Statistics of TCP Vegas

Start at: 2018-01-10 08:04:26
End at: 2018-01-10 08:04:56

# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 40.87 Mbit/s
95th percentile per-packet one-way delay: 139.460 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 11.99 Mbit/s
95th percentile per-packet one-way delay: 137.871 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 35.52 Mbit/s
95th percentile per-packet one-way delay: 139.443 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 15.86 Mbit/s
95th percentile per-packet one-way delay: 143.647 ms
Loss rate: 0.04%
```
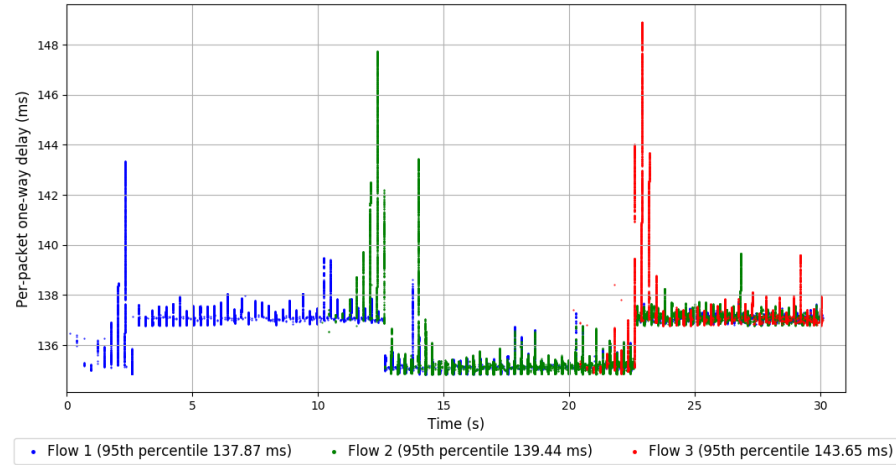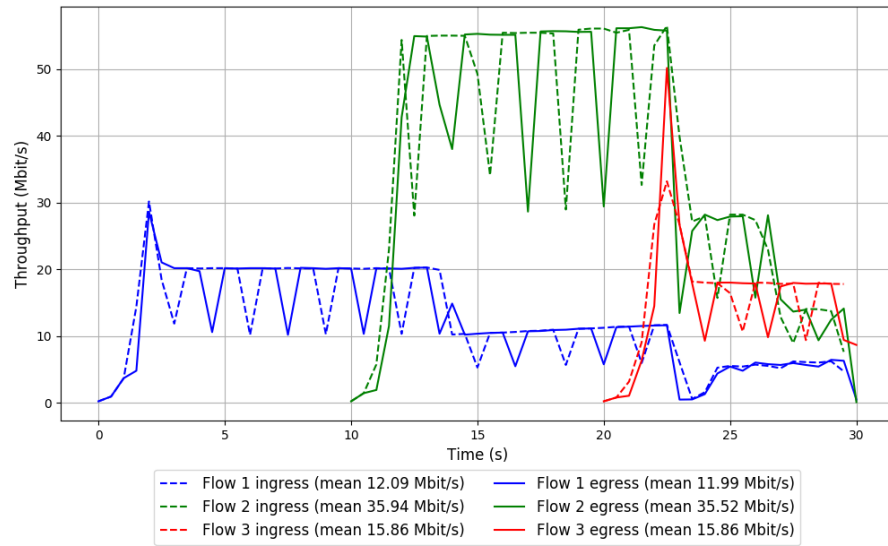
Run 7: Report of TCP Vegas — Data Link

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```
Run 8: Statistics of TCP Vegas

Start at: 2018-01-10 08:20:05
End at: 2018-01-10 08:20:35


# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.65 Mbit/s
95th percentile per-packet one-way delay: 142.330 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 30.55 Mbit/s
95th percentile per-packet one-way delay: 142.591 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 30.64 Mbit/s
95th percentile per-packet one-way delay: 138.477 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 26.32 Mbit/s
95th percentile per-packet one-way delay: 144.882 ms
Loss rate: 0.00%
```
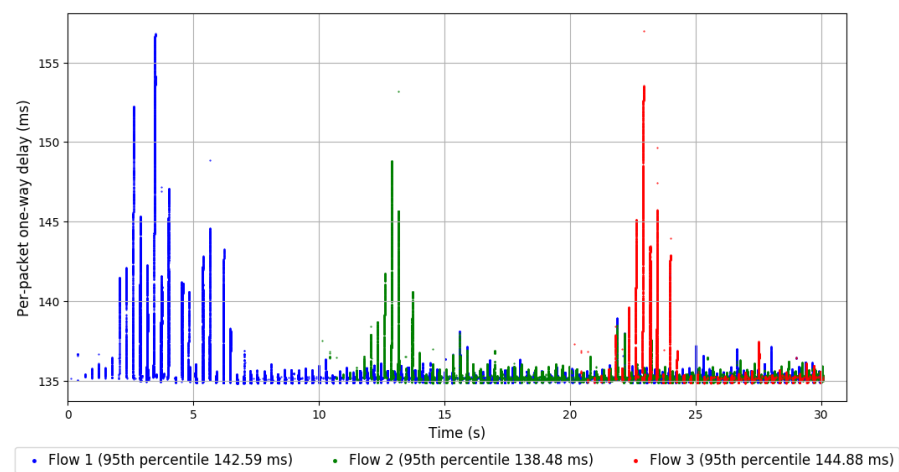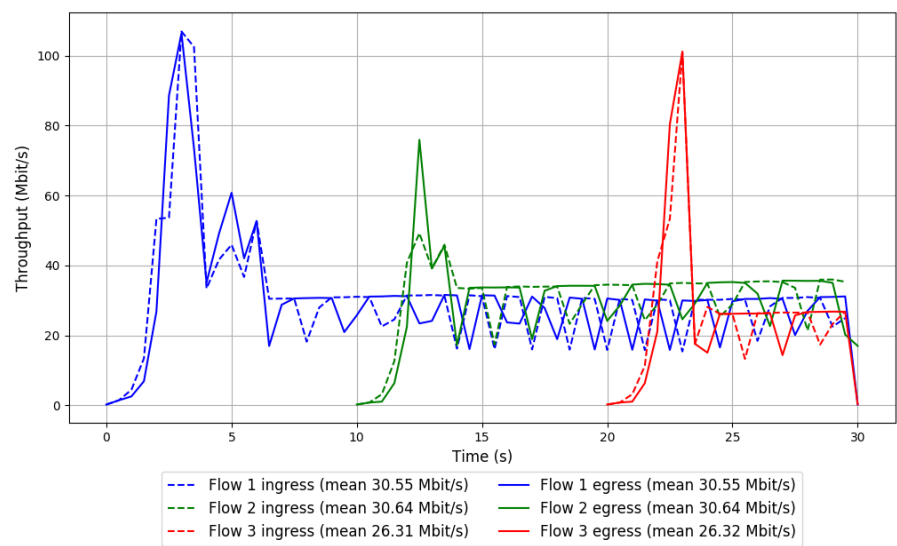
Run 8: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 30.55 Mbit/s)   Flow 1 egress (mean 30.55 Mbit/s)
Flow 2 ingress (mean 30.64 Mbit/s)   Flow 2 egress (mean 30.64 Mbit/s)
Flow 3 ingress (mean 26.31 Mbit/s)   Flow 3 egress (mean 26.32 Mbit/s)

Flow 1 (95th percentile 142.59 ms)   Flow 2 (95th percentile 138.48 ms)   Flow 3 (95th percentile 144.88 ms)

```
Run 9: Statistics of TCP Vegas

Start at: 2018-01-10 08:36:10
End at: 2018-01-10 08:36:40


# Below is generated by plot.py at 2018-01-10 10:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.26 Mbit/s
95th percentile per-packet one-way delay: 170.120 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 25.71 Mbit/s
95th percentile per-packet one-way delay: 171.776 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 24.00 Mbit/s
95th percentile per-packet one-way delay: 163.611 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 17.03 Mbit/s
95th percentile per-packet one-way delay: 167.868 ms
Loss rate: 0.28%
```
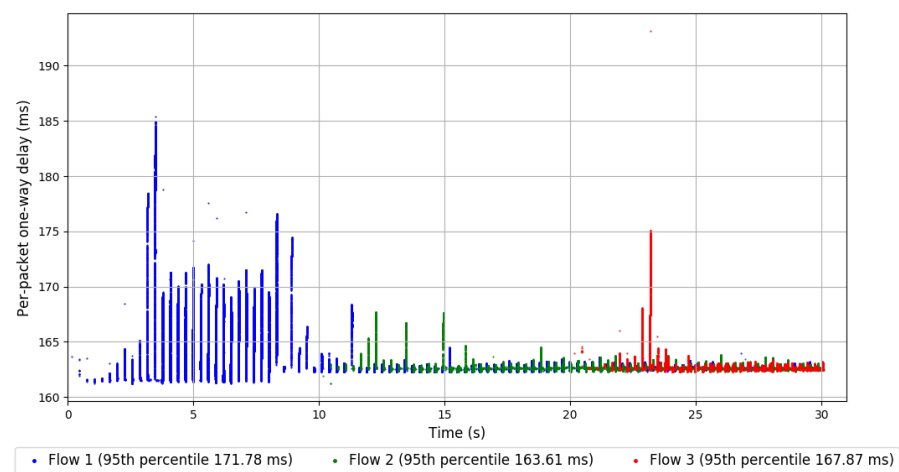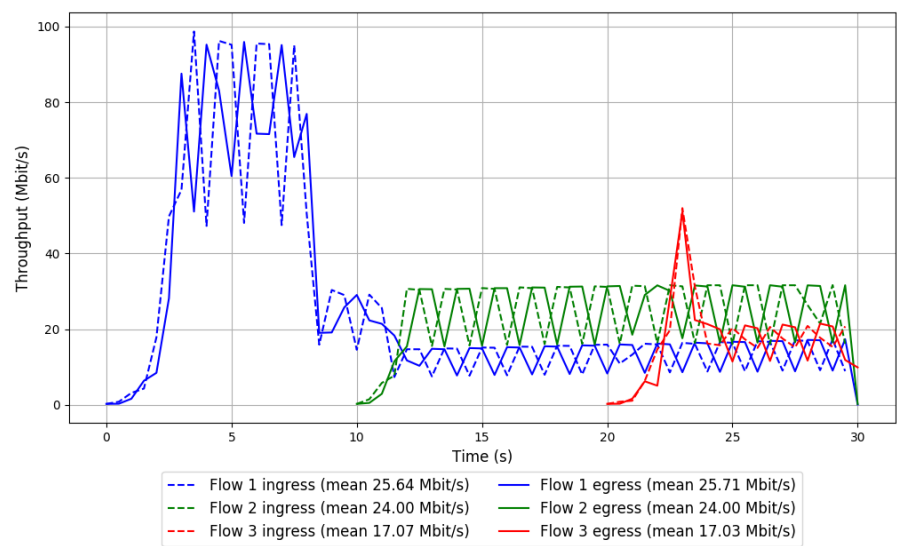
Run 9: Report of TCP Vegas — Data Link

- Flow 1 ingress (mean 25.64 Mbit/s)
- Flow 1 egress (mean 25.71 Mbit/s)
- Flow 2 ingress (mean 24.00 Mbit/s)
- Flow 2 egress (mean 24.00 Mbit/s)
- Flow 3 ingress (mean 17.07 Mbit/s)
- Flow 3 egress (mean 17.03 Mbit/s)

- Flow 1 (95th percentile 171.78 ms)
- Flow 2 (95th percentile 163.61 ms)
- Flow 3 (95th percentile 167.87 ms)

```
Run 10: Statistics of TCP Vegas

Start at: 2018-01-10 08:52:08
End at: 2018-01-10 08:52:38


# Below is generated by plot.py at 2018-01-10 10:44:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.86 Mbit/s
95th percentile per-packet one-way delay: 172.240 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 47.04 Mbit/s
95th percentile per-packet one-way delay: 168.797 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 48.12 Mbit/s
95th percentile per-packet one-way delay: 172.829 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 48.07 Mbit/s
95th percentile per-packet one-way delay: 176.136 ms
Loss rate: 0.04%
```
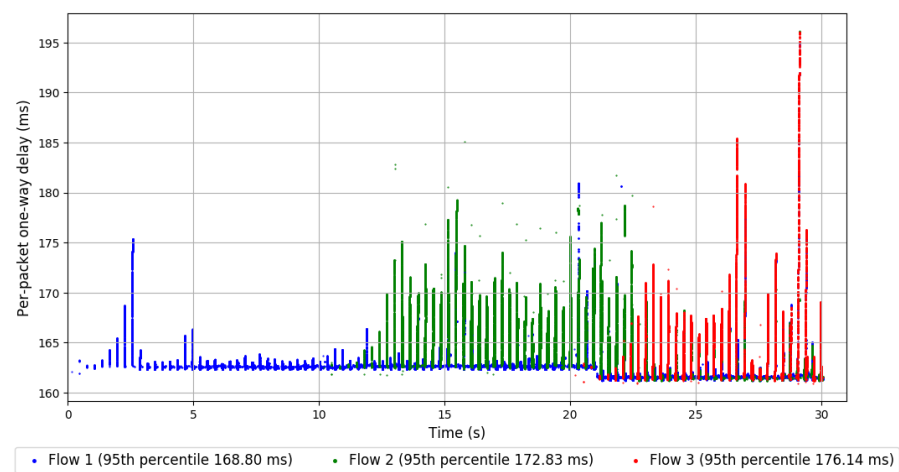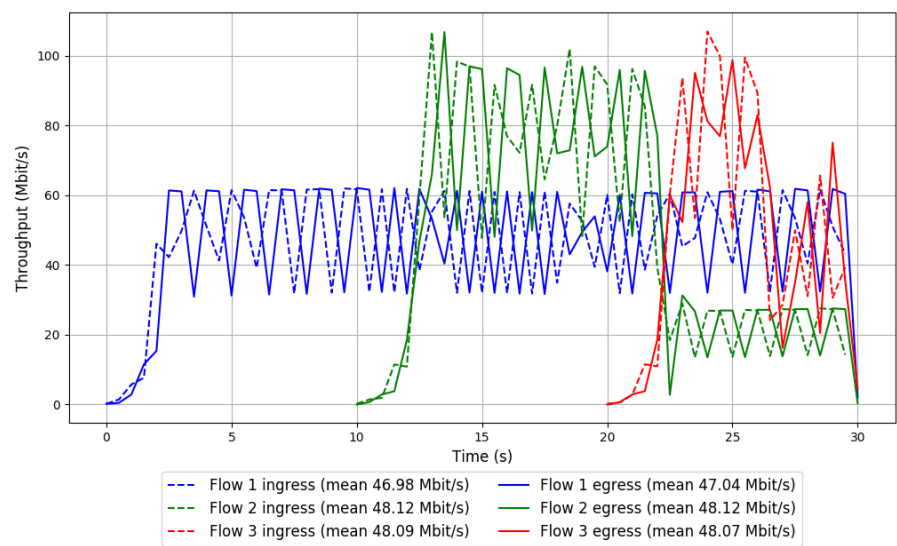
Run 10: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 46.98 Mbit/s) --- Flow 1 egress (mean 47.04 Mbit/s)
Flow 2 ingress (mean 48.12 Mbit/s) --- Flow 2 egress (mean 48.12 Mbit/s)
Flow 3 ingress (mean 48.09 Mbit/s) --- Flow 3 egress (mean 48.07 Mbit/s)

Flow 1 (95th percentile 168.80 ms) • Flow 2 (95th percentile 172.83 ms) • Flow 3 (95th percentile 176.14 ms)

```
Run 1: Statistics of Verus

Start at: 2018-01-10 06:38:59
End at: 2018-01-10 06:39:29

# Below is generated by plot.py at 2018-01-10 10:47:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 258.34 Mbit/s
95th percentile per-packet one-way delay: 298.230 ms
Loss rate: 2.55%
-- Flow 1:
Average throughput: 161.91 Mbit/s
95th percentile per-packet one-way delay: 218.055 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 136.91 Mbit/s
95th percentile per-packet one-way delay: 352.943 ms
Loss rate: 5.77%
-- Flow 3:
Average throughput: 24.85 Mbit/s
95th percentile per-packet one-way delay: 151.345 ms
Loss rate: 0.01%
```
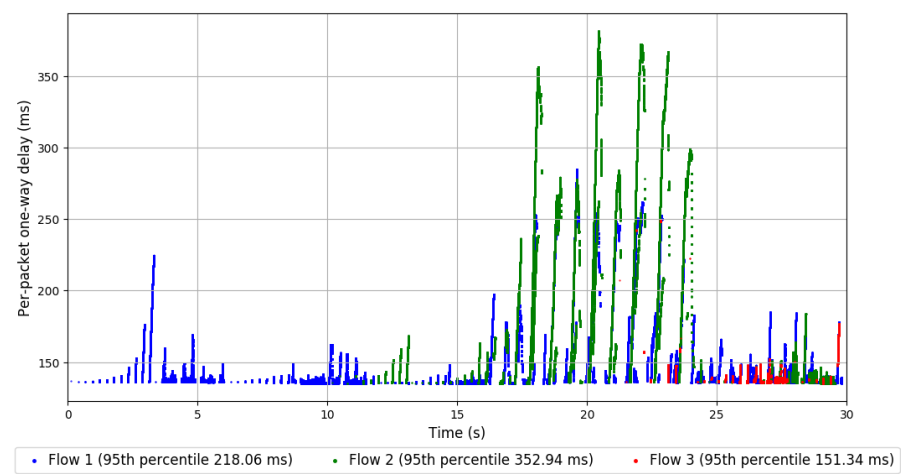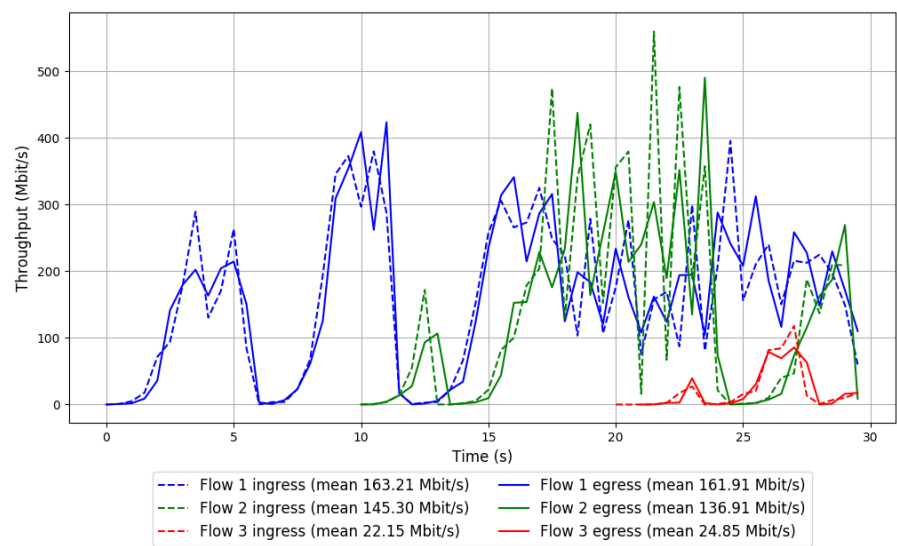
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 163.21 Mbit/s)   Flow 1 egress (mean 161.91 Mbit/s)
Flow 2 ingress (mean 145.30 Mbit/s)   Flow 2 egress (mean 136.91 Mbit/s)
Flow 3 ingress (mean 22.15 Mbit/s)   Flow 3 egress (mean 24.85 Mbit/s)

Flow 1 (95th percentile 218.06 ms)   Flow 2 (95th percentile 352.94 ms)   Flow 3 (95th percentile 151.34 ms)

```
Run 2: Statistics of Verus

Start at: 2018-01-10 06:54:30
End at: 2018-01-10 06:55:00


# Below is generated by plot.py at 2018-01-10 10:48:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 366.88 Mbit/s
95th percentile per-packet one-way delay: 234.235 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 211.00 Mbit/s
95th percentile per-packet one-way delay: 209.523 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 184.24 Mbit/s
95th percentile per-packet one-way delay: 238.151 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 104.51 Mbit/s
95th percentile per-packet one-way delay: 255.571 ms
Loss rate: 4.04%
```
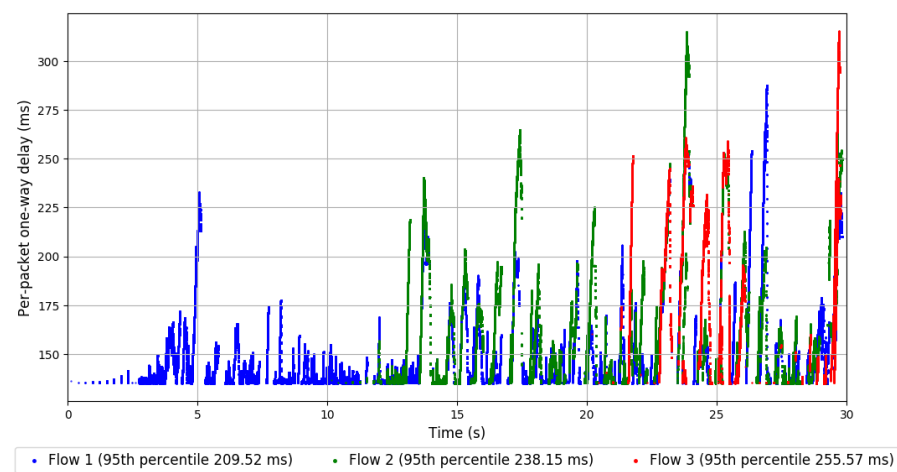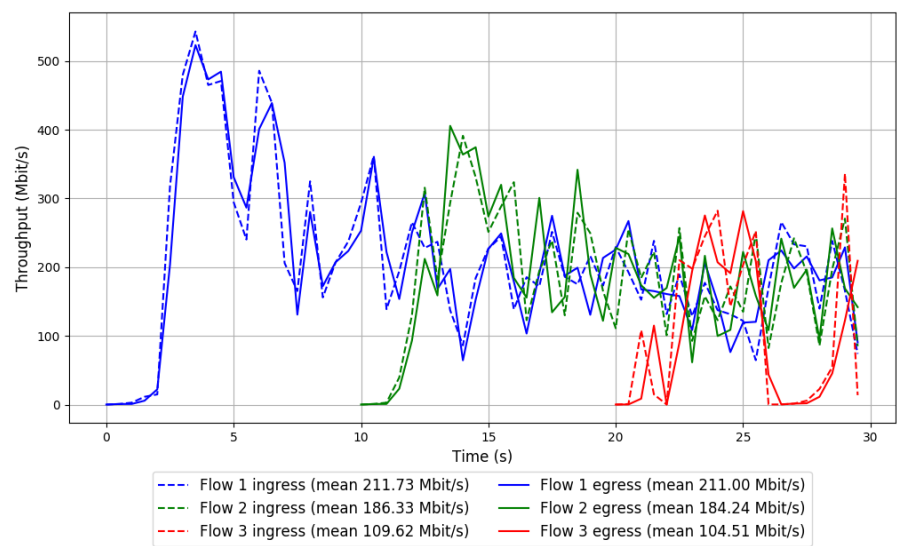
Run 2: Report of Verus — Data Link

Flow 1 ingress (mean 211.73 Mbit/s)   Flow 1 egress (mean 211.00 Mbit/s)
Flow 2 ingress (mean 186.33 Mbit/s)   Flow 2 egress (mean 184.24 Mbit/s)
Flow 3 ingress (mean 109.62 Mbit/s)   Flow 3 egress (mean 104.51 Mbit/s)

Flow 1 (95th percentile 209.52 ms)   Flow 2 (95th percentile 238.15 ms)   Flow 3 (95th percentile 255.57 ms)

```
Run 3: Statistics of Verus

Start at: 2018-01-10 07:10:40
End at: 2018-01-10 07:11:10


# Below is generated by plot.py at 2018-01-10 10:49:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 360.85 Mbit/s
95th percentile per-packet one-way delay: 334.306 ms
Loss rate: 9.49%
-- Flow 1:
Average throughput: 196.34 Mbit/s
95th percentile per-packet one-way delay: 249.057 ms
Loss rate: 1.99%
-- Flow 2:
Average throughput: 177.50 Mbit/s
95th percentile per-packet one-way delay: 359.337 ms
Loss rate: 12.89%
-- Flow 3:
Average throughput: 147.44 Mbit/s
95th percentile per-packet one-way delay: 379.307 ms
Loss rate: 25.67%
```
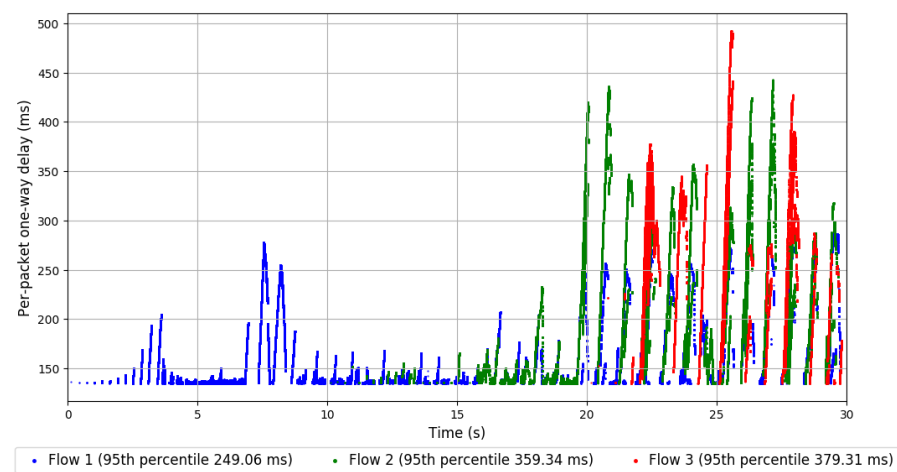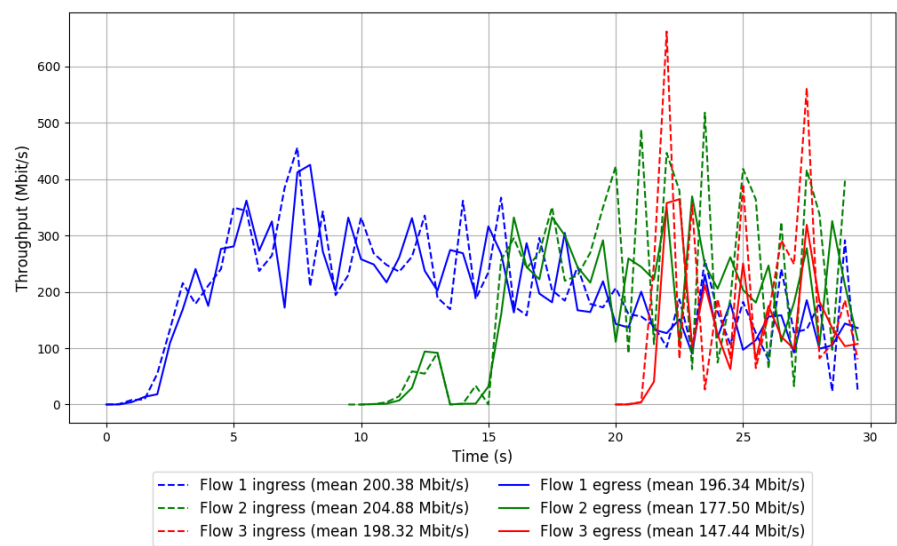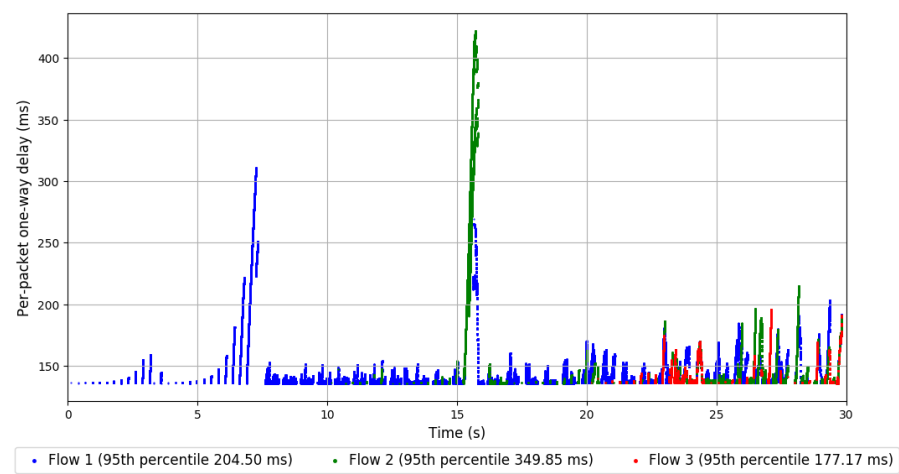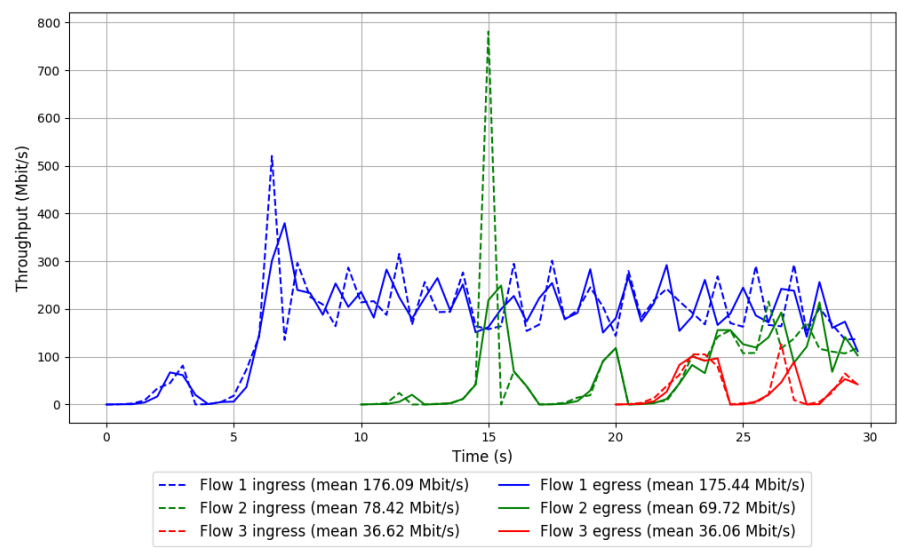
Run 3: Report of Verus — Data Link

Flow 1 ingress (mean 200.38 Mbit/s) — Flow 1 egress (mean 196.34 Mbit/s)
Flow 2 ingress (mean 204.88 Mbit/s) — Flow 2 egress (mean 177.50 Mbit/s)
Flow 3 ingress (mean 198.32 Mbit/s) — Flow 3 egress (mean 147.44 Mbit/s)

Flow 1 (95th percentile 249.06 ms)   Flow 2 (95th percentile 359.34 ms)   Flow 3 (95th percentile 379.31 ms)

```
Run 4: Statistics of Verus

Start at: 2018-01-10 07:27:09
End at: 2018-01-10 07:27:39


# Below is generated by plot.py at 2018-01-10 10:49:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 233.39 Mbit/s
95th percentile per-packet one-way delay: 220.828 ms
Loss rate: 2.73%
-- Flow 1:
Average throughput: 175.44 Mbit/s
95th percentile per-packet one-way delay: 204.496 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 69.72 Mbit/s
95th percentile per-packet one-way delay: 349.853 ms
Loss rate: 11.07%
-- Flow 3:
Average throughput: 36.06 Mbit/s
95th percentile per-packet one-way delay: 177.169 ms
Loss rate: 1.50%
```
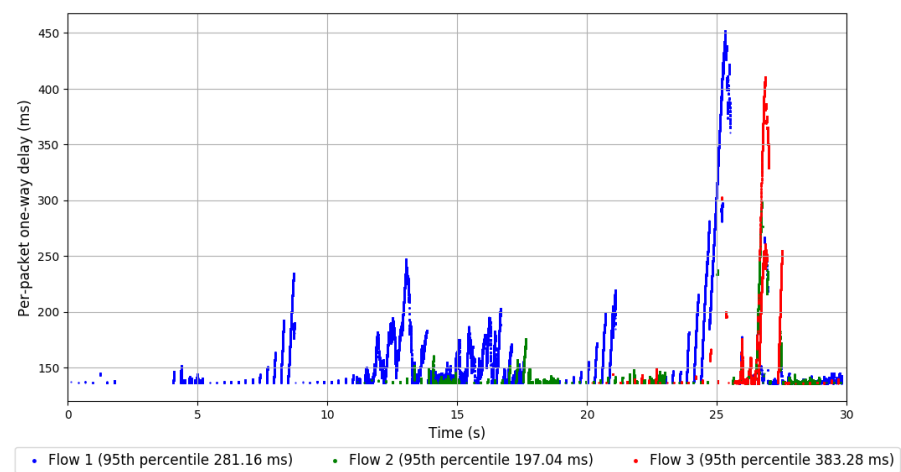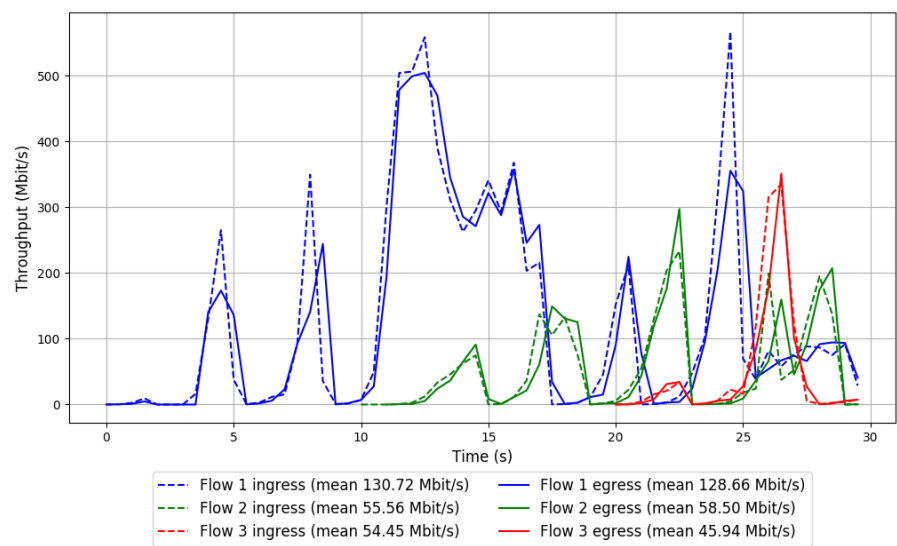
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-01-10 07:43:23
End at: 2018-01-10 07:43:53


# Below is generated by plot.py at 2018-01-10 10:49:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 180.12 Mbit/s
95th percentile per-packet one-way delay: 292.415 ms
Loss rate: 2.61%
-- Flow 1:
Average throughput: 128.66 Mbit/s
95th percentile per-packet one-way delay: 281.161 ms
Loss rate: 1.58%
-- Flow 2:
Average throughput: 58.50 Mbit/s
95th percentile per-packet one-way delay: 197.045 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 45.94 Mbit/s
95th percentile per-packet one-way delay: 383.276 ms
Loss rate: 15.60%
```
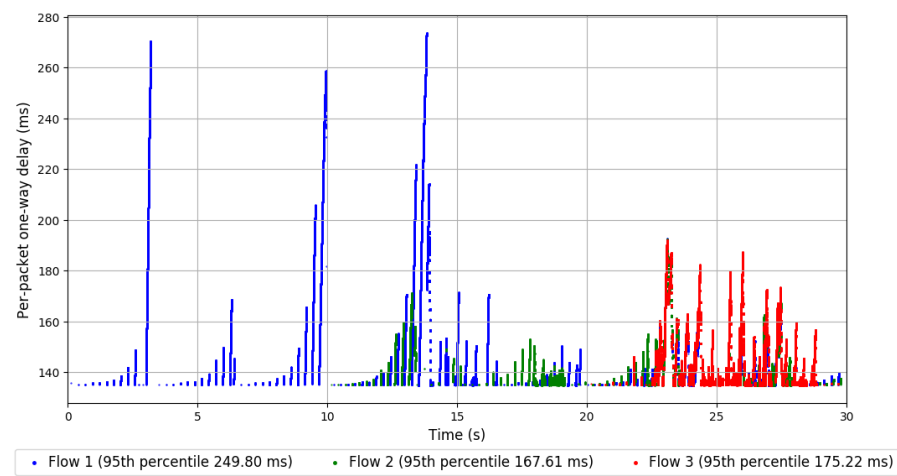
Run 5: Report of Verus — Data Link

Flow 1 ingress (mean 130.72 Mbit/s) --- Flow 1 egress (mean 128.66 Mbit/s)
Flow 2 ingress (mean 55.56 Mbit/s) --- Flow 2 egress (mean 58.50 Mbit/s)
Flow 3 ingress (mean 54.45 Mbit/s) --- Flow 3 egress (mean 45.94 Mbit/s)

Flow 1 (95th percentile 281.16 ms) • Flow 2 (95th percentile 197.04 ms) • Flow 3 (95th percentile 383.28 ms)

```
Run 6: Statistics of Verus

Start at: 2018-01-10 07:59:32
End at: 2018-01-10 08:00:02


# Below is generated by plot.py at 2018-01-10 10:49:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 146.79 Mbit/s
95th percentile per-packet one-way delay: 212.015 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 58.12 Mbit/s
95th percentile per-packet one-way delay: 249.797 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 53.81 Mbit/s
95th percentile per-packet one-way delay: 167.607 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 165.76 Mbit/s
95th percentile per-packet one-way delay: 175.224 ms
Loss rate: 0.01%
```
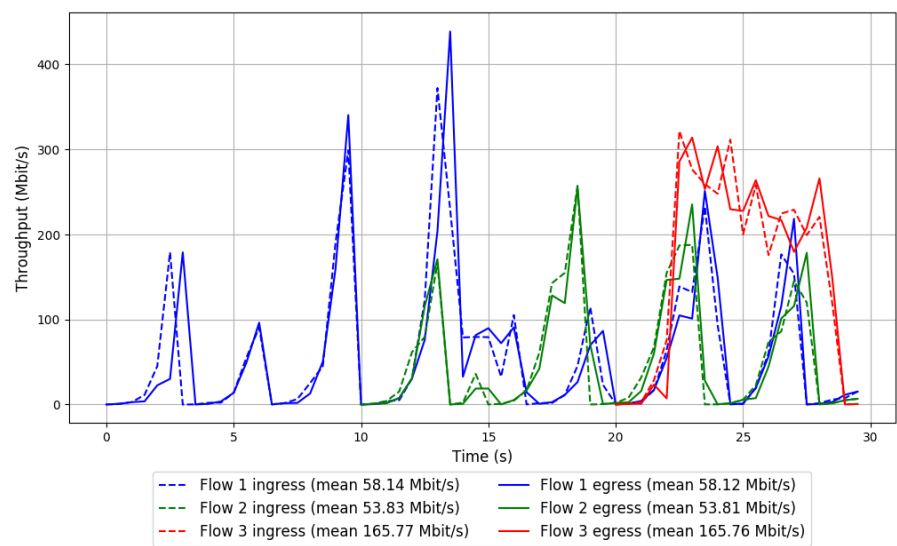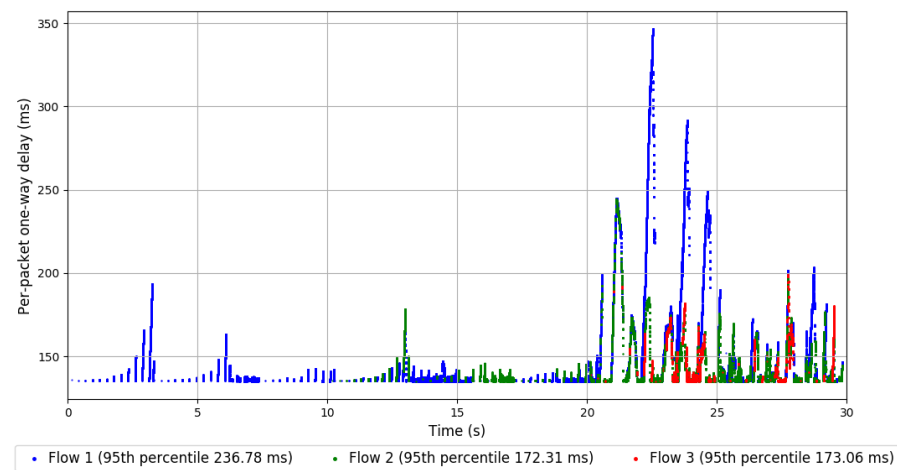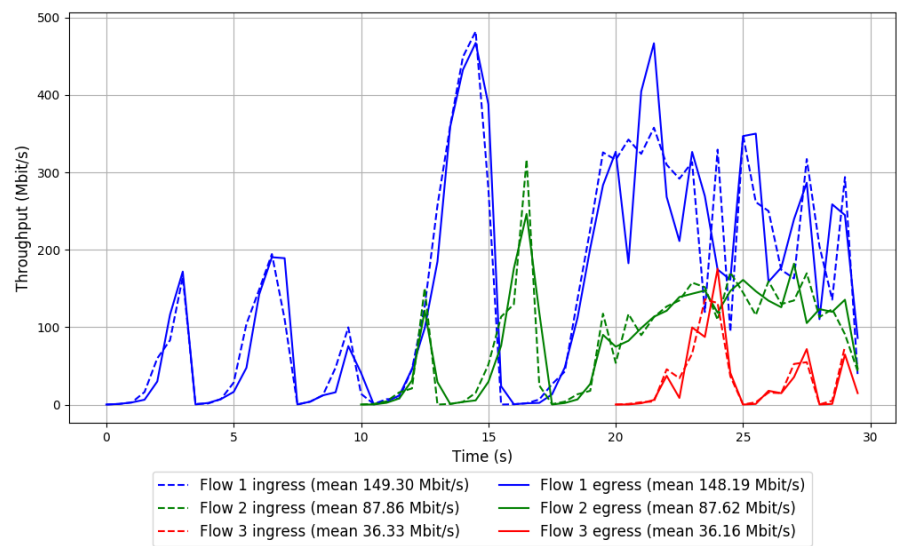
Run 6: Report of Verus — Data Link

```
Run 7: Statistics of Verus

Start at: 2018-01-10 08:15:05
End at: 2018-01-10 08:15:35


# Below is generated by plot.py at 2018-01-10 10:49:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 217.52 Mbit/s
95th percentile per-packet one-way delay: 227.744 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 148.19 Mbit/s
95th percentile per-packet one-way delay: 236.780 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 87.62 Mbit/s
95th percentile per-packet one-way delay: 172.314 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 36.16 Mbit/s
95th percentile per-packet one-way delay: 173.056 ms
Loss rate: 0.02%
```

Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2018-01-10 08:31:00
End at: 2018-01-10 08:31:30


# Below is generated by plot.py at 2018-01-10 10:49:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 245.03 Mbit/s
95th percentile per-packet one-way delay: 278.776 ms
Loss rate: 1.88%
-- Flow 1:
Average throughput: 97.19 Mbit/s
95th percentile per-packet one-way delay: 323.179 ms
Loss rate: 2.95%
-- Flow 2:
Average throughput: 181.04 Mbit/s
95th percentile per-packet one-way delay: 243.897 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 95.77 Mbit/s
95th percentile per-packet one-way delay: 279.995 ms
Loss rate: 2.82%
```
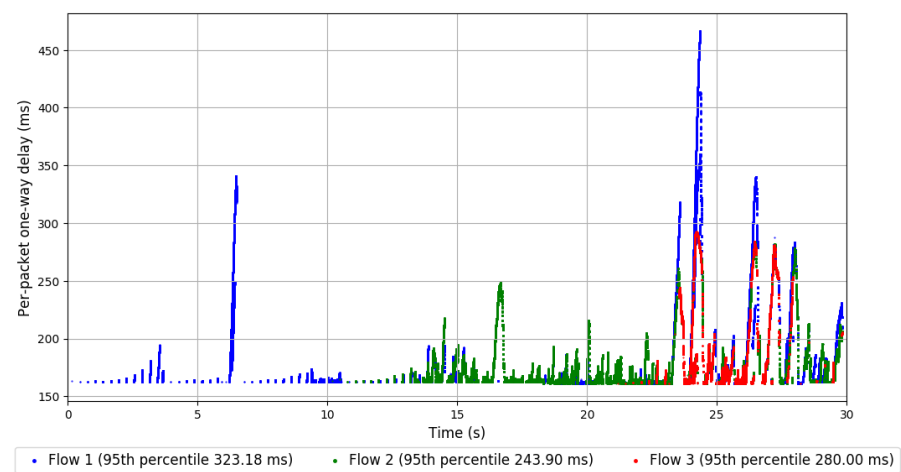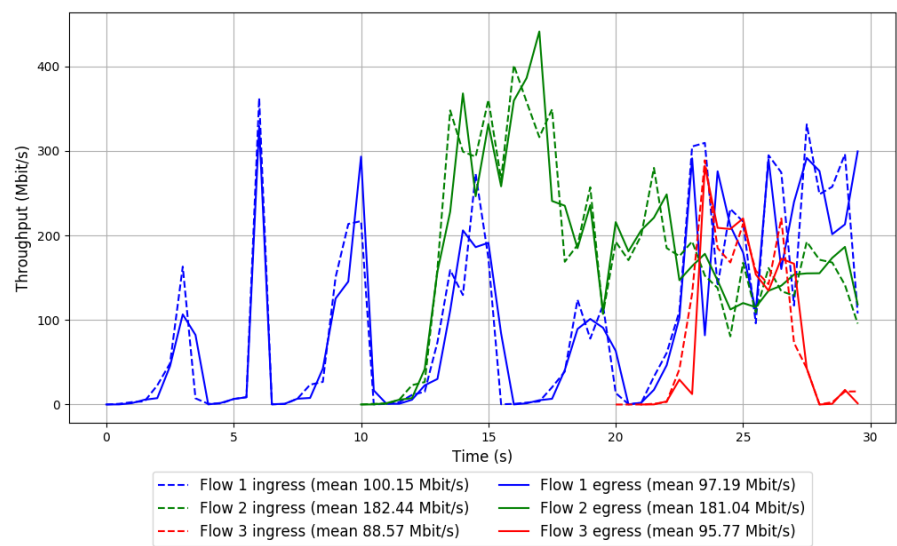
Run 8: Report of Verus — Data Link

```
Run 9: Statistics of Verus

Start at: 2018-01-10 08:46:53
End at: 2018-01-10 08:47:23


# Below is generated by plot.py at 2018-01-10 10:50:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 262.82 Mbit/s
95th percentile per-packet one-way delay: 315.232 ms
Loss rate: 3.38%
-- Flow 1:
Average throughput: 161.72 Mbit/s
95th percentile per-packet one-way delay: 271.458 ms
Loss rate: 2.00%
-- Flow 2:
Average throughput: 138.75 Mbit/s
95th percentile per-packet one-way delay: 331.563 ms
Loss rate: 4.61%
-- Flow 3:
Average throughput: 29.99 Mbit/s
95th percentile per-packet one-way delay: 374.708 ms
Loss rate: 13.20%
```
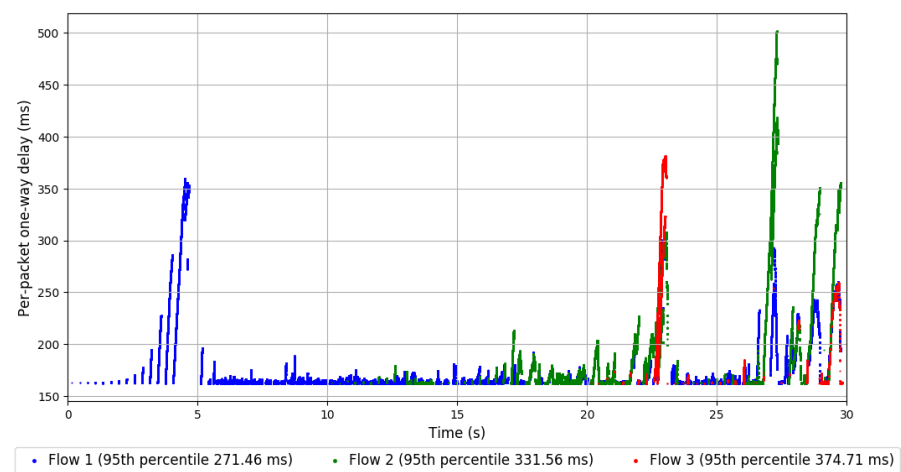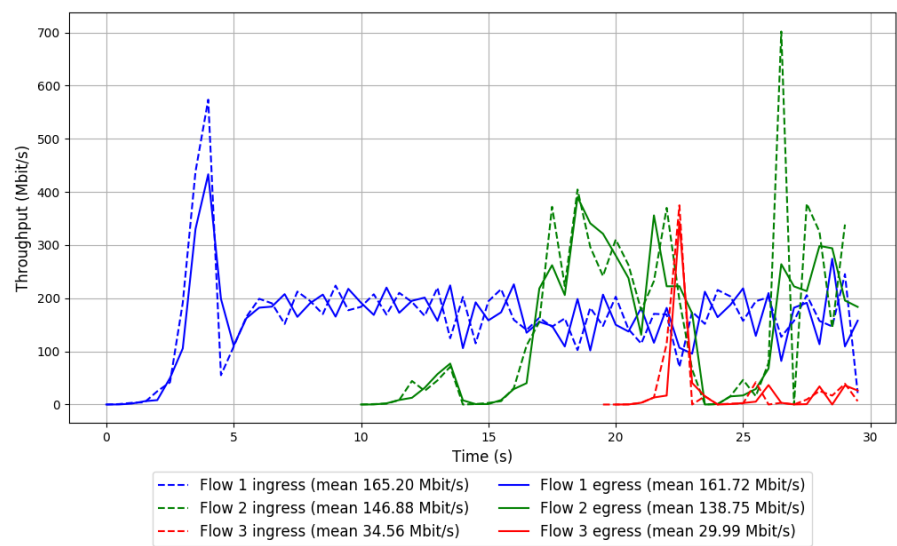
Run 9: Report of Verus — Data Link

- Flow 1 ingress (mean 165.20 Mbit/s)
- Flow 1 egress (mean 161.72 Mbit/s)
- Flow 2 ingress (mean 146.88 Mbit/s)
- Flow 2 egress (mean 138.75 Mbit/s)
- Flow 3 ingress (mean 34.56 Mbit/s)
- Flow 3 egress (mean 29.99 Mbit/s)

- Flow 1 (95th percentile 271.46 ms)
- Flow 2 (95th percentile 331.56 ms)
- Flow 3 (95th percentile 374.71 ms)

```
Run 10: Statistics of Verus

Start at: 2018-01-10 09:02:49
End at: 2018-01-10 09:03:19


# Below is generated by plot.py at 2018-01-10 10:50:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 243.60 Mbit/s
95th percentile per-packet one-way delay: 383.220 ms
Loss rate: 9.80%
-- Flow 1:
Average throughput: 133.74 Mbit/s
95th percentile per-packet one-way delay: 285.905 ms
Loss rate: 3.34%
-- Flow 2:
Average throughput: 68.39 Mbit/s
95th percentile per-packet one-way delay: 203.246 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 204.65 Mbit/s
95th percentile per-packet one-way delay: 418.271 ms
Loss rate: 24.87%
```
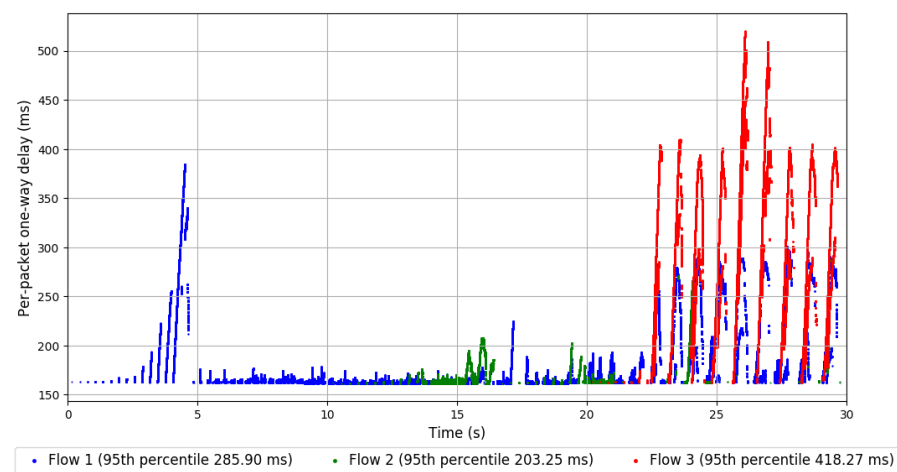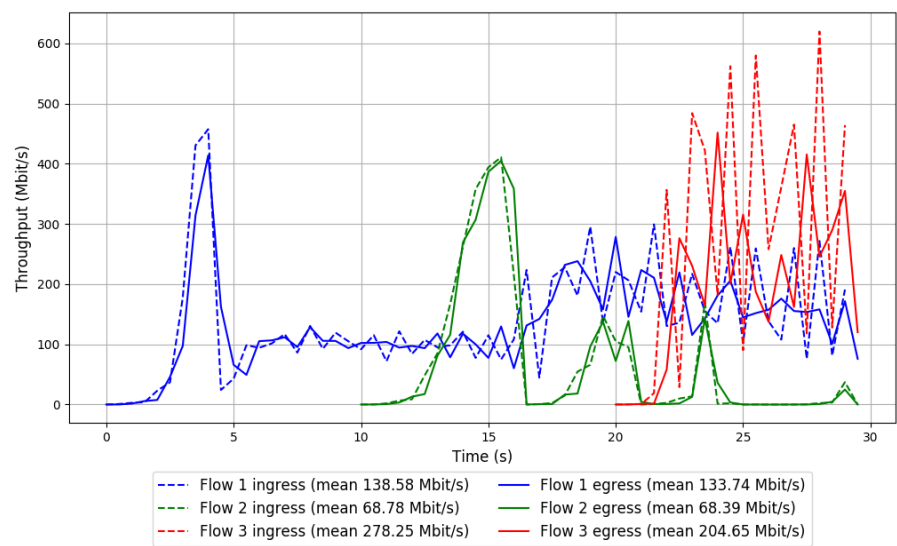
Run 10: Report of Verus — Data Link

```
Run 1: Statistics of Copa

Start at: 2018-01-10 06:40:13
End at: 2018-01-10 06:40:43


# Below is generated by plot.py at 2018-01-10 10:50:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.41 Mbit/s
95th percentile per-packet one-way delay: 136.606 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.02 Mbit/s
95th percentile per-packet one-way delay: 136.808 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 59.28 Mbit/s
95th percentile per-packet one-way delay: 136.548 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 54.12 Mbit/s
95th percentile per-packet one-way delay: 136.144 ms
Loss rate: 0.00%
```
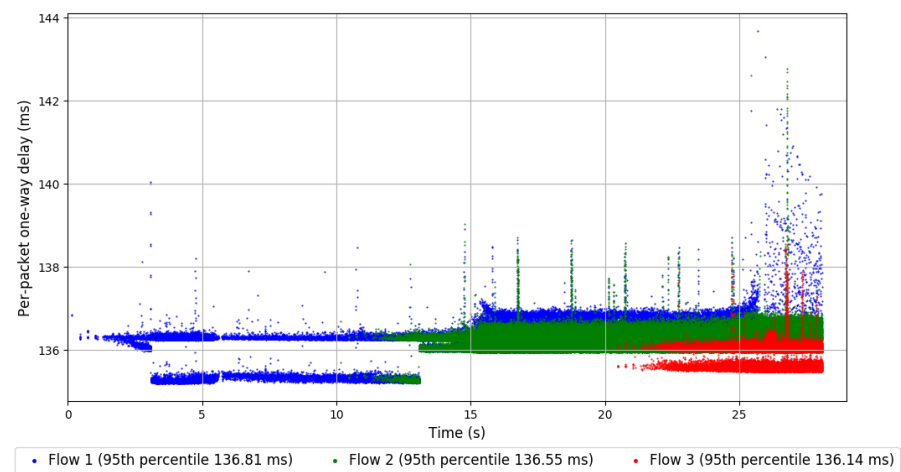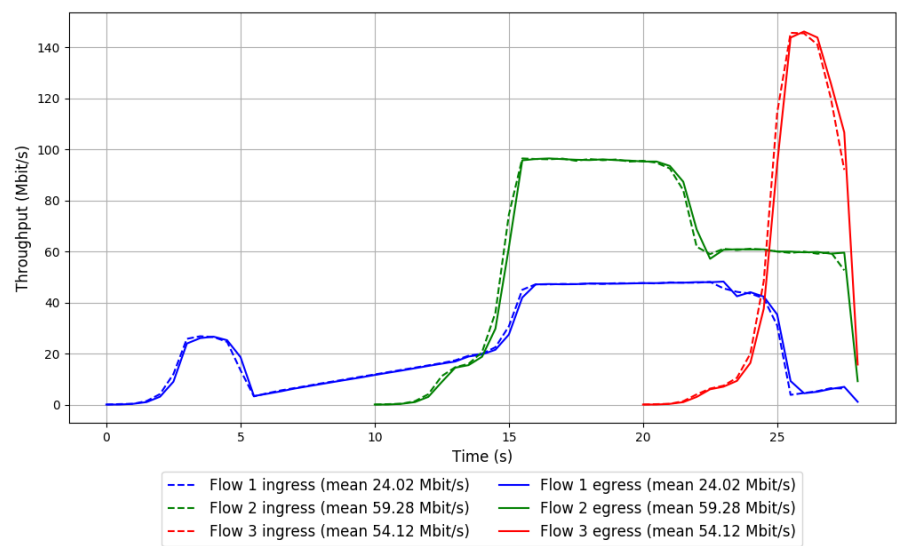
Run 1: Report of Copa — Data Link

225

```
Run 2: Statistics of Copa

Start at: 2018-01-10 06:55:53
End at: 2018-01-10 06:56:23

# Below is generated by plot.py at 2018-01-10 10:50:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 109.54 Mbit/s
95th percentile per-packet one-way delay: 136.614 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 64.12 Mbit/s
95th percentile per-packet one-way delay: 136.644 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 58.53 Mbit/s
95th percentile per-packet one-way delay: 136.595 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 27.61 Mbit/s
95th percentile per-packet one-way delay: 136.163 ms
Loss rate: 0.00%
```
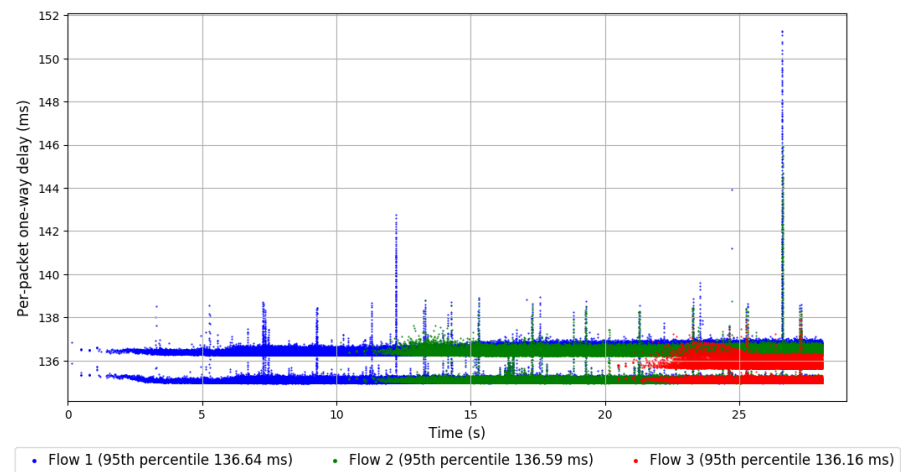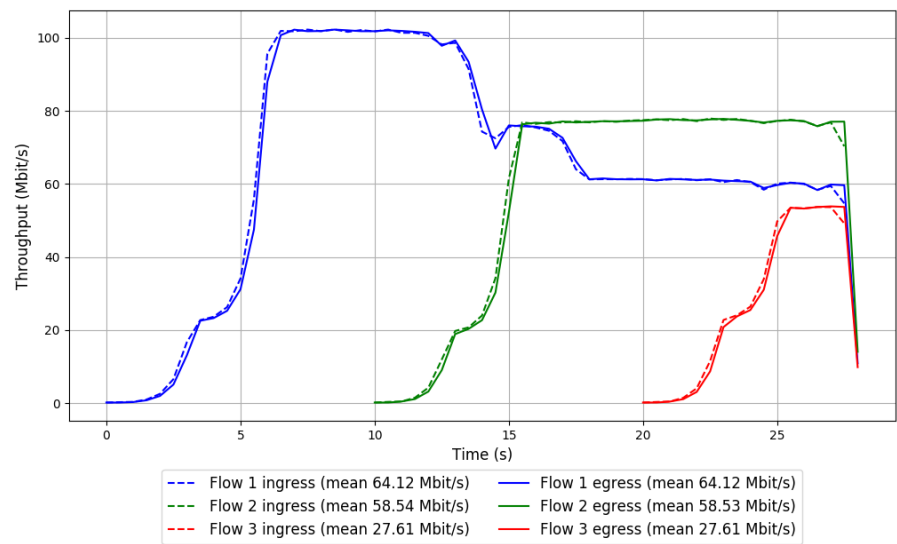
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-01-10 07:12:02
End at: 2018-01-10 07:12:32


# Below is generated by plot.py at 2018-01-10 10:50:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.94 Mbit/s
95th percentile per-packet one-way delay: 136.323 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 64.60 Mbit/s
95th percentile per-packet one-way delay: 135.864 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 10.78 Mbit/s
95th percentile per-packet one-way delay: 136.552 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.76 Mbit/s
95th percentile per-packet one-way delay: 136.423 ms
Loss rate: 0.00%
```
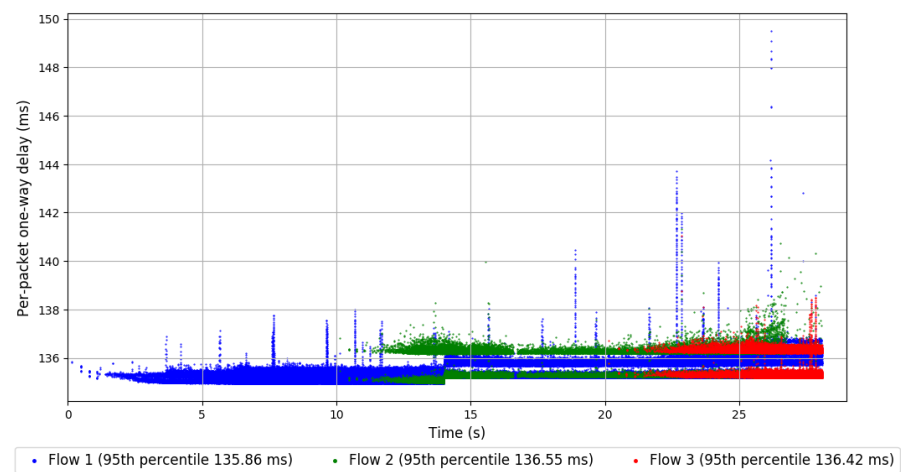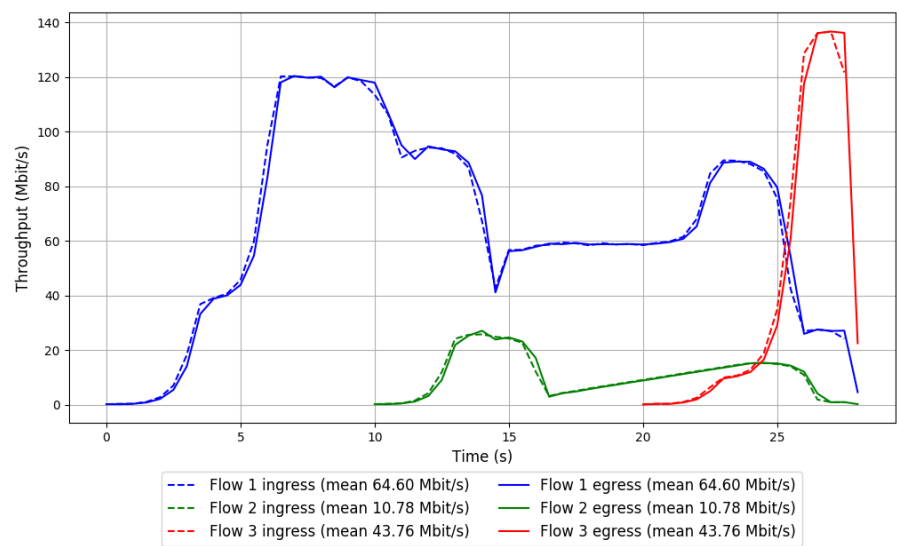
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-01-10 07:28:19
End at: 2018-01-10 07:28:49


# Below is generated by plot.py at 2018-01-10 10:51:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 126.49 Mbit/s
95th percentile per-packet one-way delay: 136.811 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 69.87 Mbit/s
95th percentile per-packet one-way delay: 136.387 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 67.21 Mbit/s
95th percentile per-packet one-way delay: 136.864 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.48 Mbit/s
95th percentile per-packet one-way delay: 136.023 ms
Loss rate: 0.00%
```
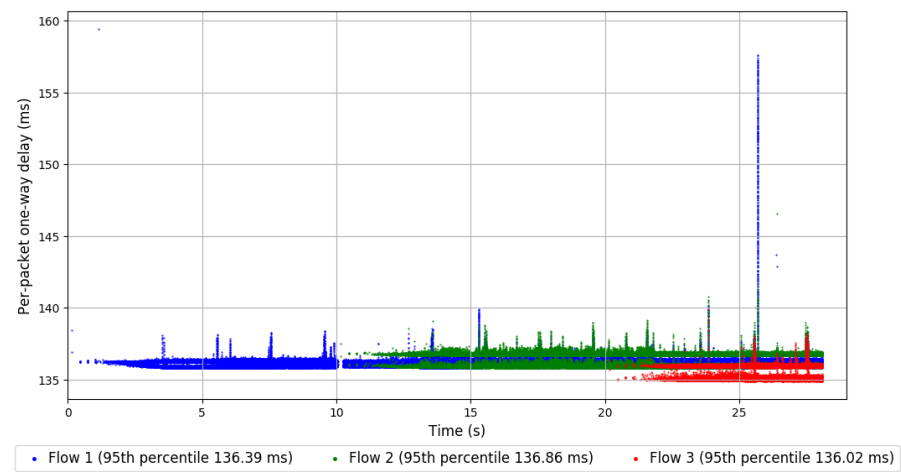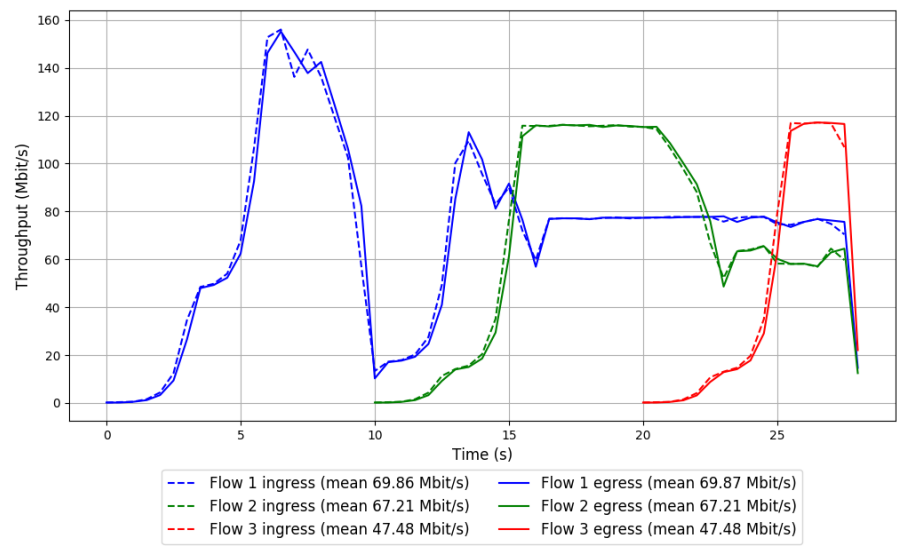
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2018-01-10 07:44:29
End at: 2018-01-10 07:44:59


# Below is generated by plot.py at 2018-01-10 10:52:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 124.29 Mbit/s
95th percentile per-packet one-way delay: 136.434 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 77.81 Mbit/s
95th percentile per-packet one-way delay: 136.453 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 72.39 Mbit/s
95th percentile per-packet one-way delay: 136.383 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 136.373 ms
Loss rate: 0.00%
```
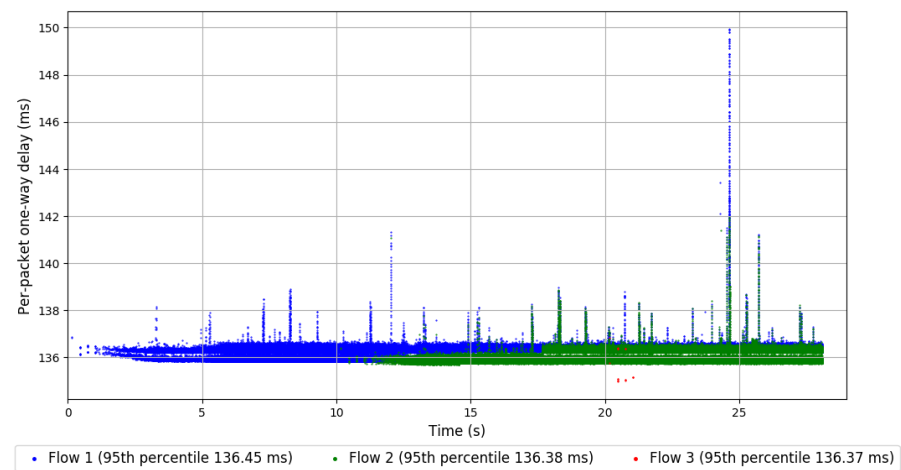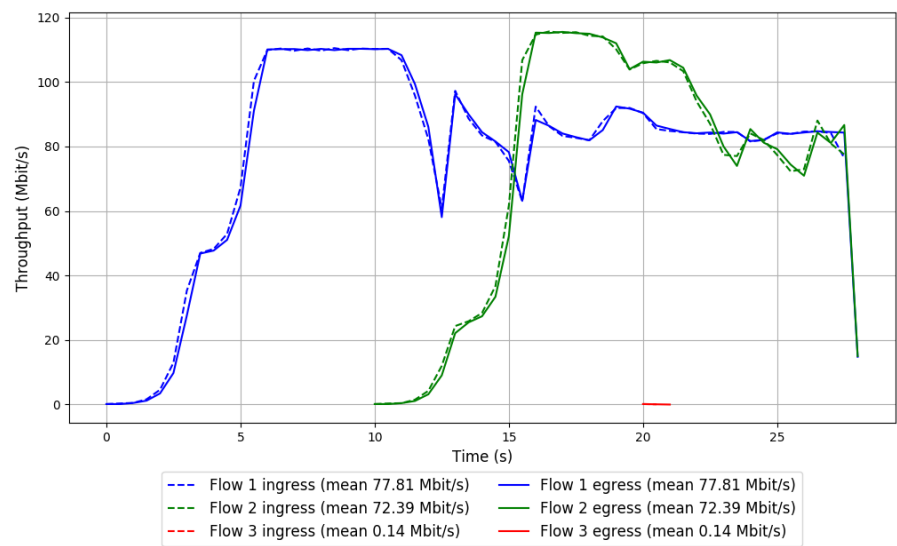
Run 5: Report of Copa — Data Link

```
Run 6: Statistics of Copa

Start at: 2018-01-10 08:00:34
End at: 2018-01-10 08:01:04


# Below is generated by plot.py at 2018-01-10 10:52:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.97 Mbit/s
95th percentile per-packet one-way delay: 136.422 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 137.068 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 71.59 Mbit/s
95th percentile per-packet one-way delay: 136.422 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 135.597 ms
Loss rate: 0.00%
```

Run 6: Report of Copa — Data Link

- Flow 1 ingress (mean 0.12 Mbit/s)
- Flow 1 egress (mean 0.12 Mbit/s)
- Flow 2 ingress (mean 71.60 Mbit/s)
- Flow 2 egress (mean 71.59 Mbit/s)
- Flow 3 ingress (mean 0.14 Mbit/s)
- Flow 3 egress (mean 0.14 Mbit/s)

- Flow 1 (95th percentile 137.07 ms)
- Flow 2 (95th percentile 136.42 ms)
- Flow 3 (95th percentile 135.60 ms)

```
Run 7: Statistics of Copa

Start at: 2018-01-10 08:16:14
End at: 2018-01-10 08:16:44


# Below is generated by plot.py at 2018-01-10 10:52:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.80 Mbit/s
95th percentile per-packet one-way delay: 137.295 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 135.551 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 66.63 Mbit/s
95th percentile per-packet one-way delay: 137.326 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.38 Mbit/s
95th percentile per-packet one-way delay: 136.981 ms
Loss rate: 0.00%
```
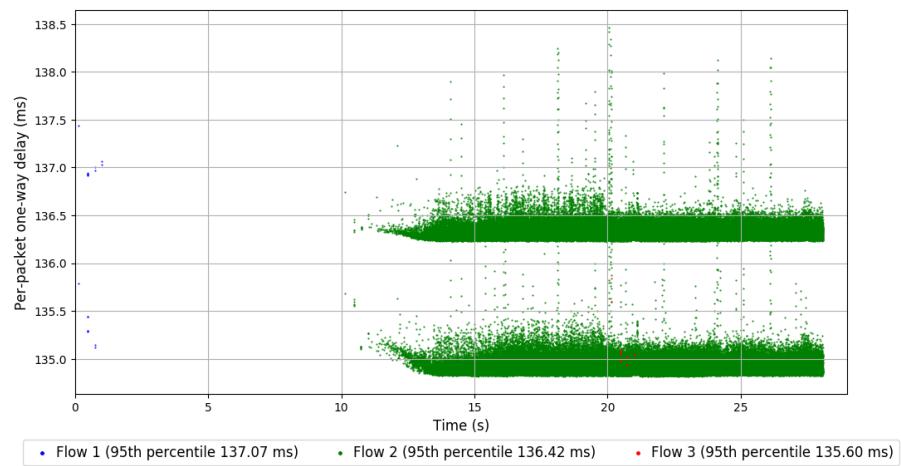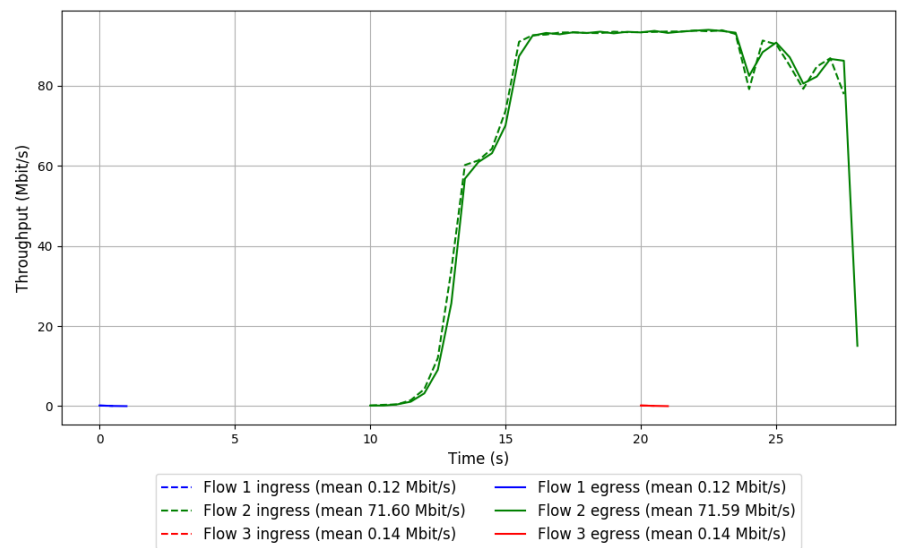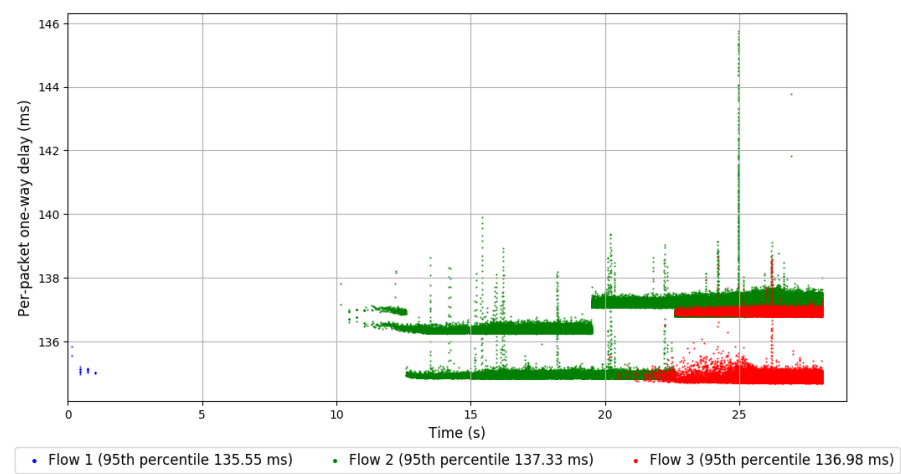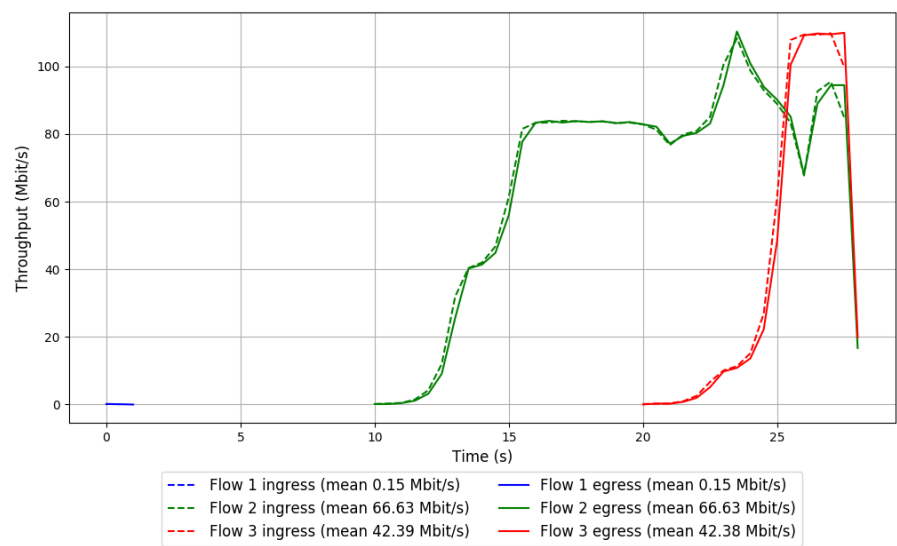
Run 7: Report of Copa — Data Link

- - - Flow 1 ingress (mean 0.15 Mbit/s) ——— Flow 1 egress (mean 0.15 Mbit/s)
- - - Flow 2 ingress (mean 66.63 Mbit/s) ——— Flow 2 egress (mean 66.63 Mbit/s)
- - - Flow 3 ingress (mean 42.39 Mbit/s) ——— Flow 3 egress (mean 42.38 Mbit/s)

• Flow 1 (95th percentile 135.55 ms)   • Flow 2 (95th percentile 137.33 ms)   • Flow 3 (95th percentile 136.98 ms)

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```
Run 8: Statistics of Copa

Start at: 2018-01-10 08:32:13
End at: 2018-01-10 08:32:43


# Below is generated by plot.py at 2018-01-10 10:52:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.24 Mbit/s
95th percentile per-packet one-way delay: 162.470 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 10.27 Mbit/s
95th percentile per-packet one-way delay: 162.523 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 72.31 Mbit/s
95th percentile per-packet one-way delay: 162.460 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 9.23 Mbit/s
95th percentile per-packet one-way delay: 162.481 ms
Loss rate: 0.00%
```
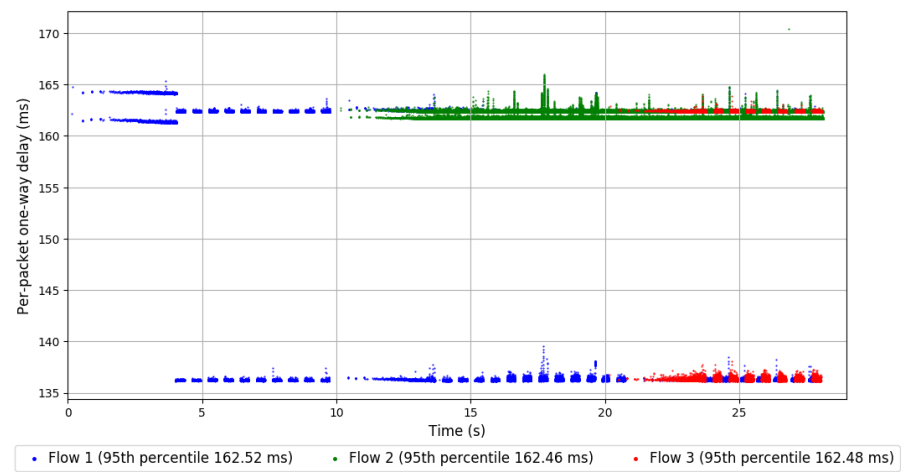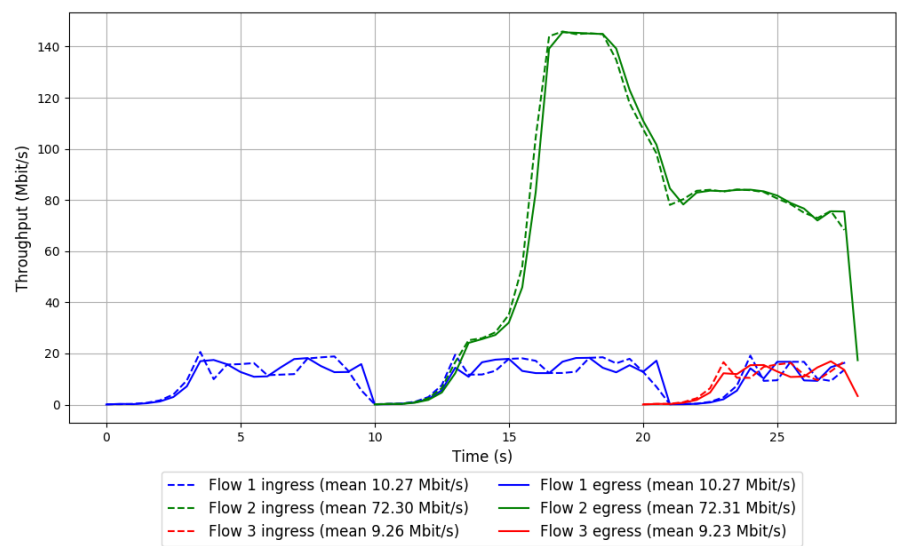
Run 8: Report of Copa — Data Link

Flow 1 ingress (mean 10.27 Mbit/s) --- Flow 1 egress (mean 10.27 Mbit/s)
Flow 2 ingress (mean 72.30 Mbit/s) --- Flow 2 egress (mean 72.31 Mbit/s)
Flow 3 ingress (mean 9.26 Mbit/s) --- Flow 3 egress (mean 9.23 Mbit/s)

Flow 1 (95th percentile 162.52 ms) • Flow 2 (95th percentile 162.46 ms) • Flow 3 (95th percentile 162.48 ms)

```
Run 9: Statistics of Copa

Start at: 2018-01-10 08:48:07
End at: 2018-01-10 08:48:37


# Below is generated by plot.py at 2018-01-10 10:53:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 106.21 Mbit/s
95th percentile per-packet one-way delay: 162.577 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 64.33 Mbit/s
95th percentile per-packet one-way delay: 162.611 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 46.46 Mbit/s
95th percentile per-packet one-way delay: 162.510 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.32 Mbit/s
95th percentile per-packet one-way delay: 162.522 ms
Loss rate: 0.78%
```
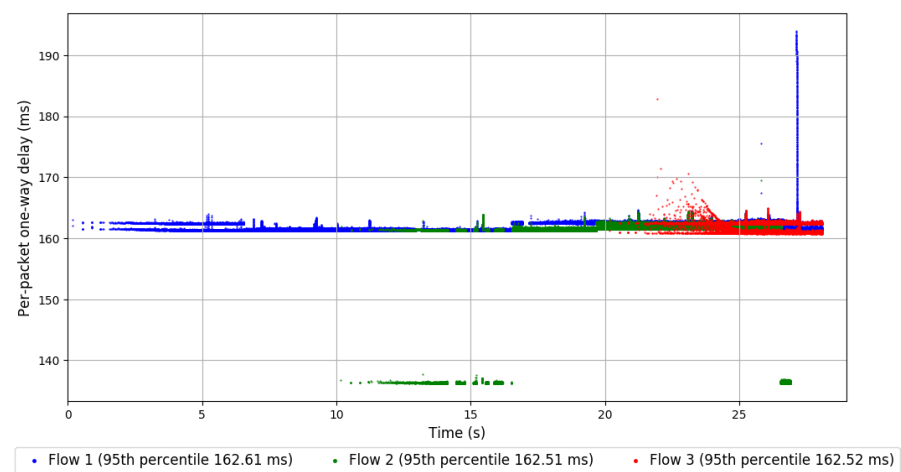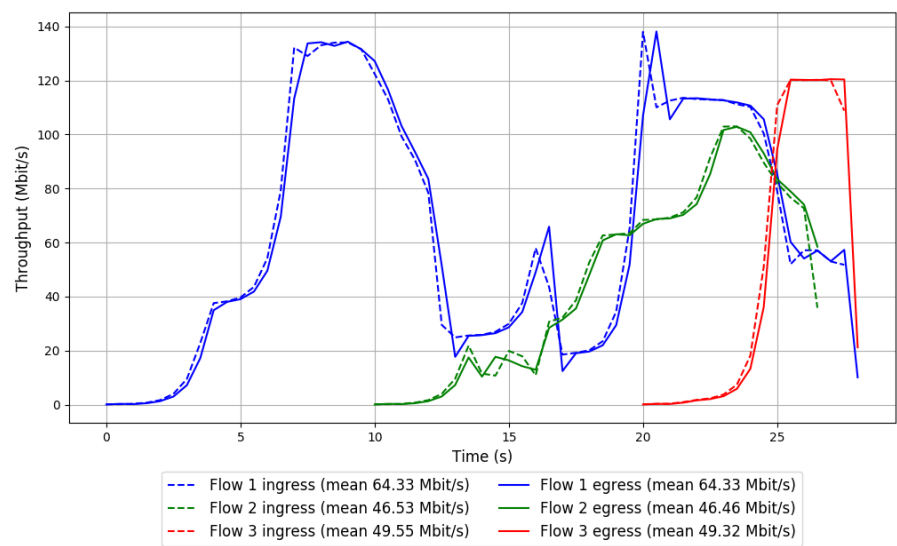
Run 9: Report of Copa — Data Link

Flow 1 ingress (mean 64.33 Mbit/s) --- Flow 1 egress (mean 64.33 Mbit/s)
Flow 2 ingress (mean 46.53 Mbit/s) --- Flow 2 egress (mean 46.46 Mbit/s)
Flow 3 ingress (mean 49.55 Mbit/s) --- Flow 3 egress (mean 49.32 Mbit/s)

Flow 1 (95th percentile 162.61 ms)   Flow 2 (95th percentile 162.51 ms)   Flow 3 (95th percentile 162.52 ms)

```
Run 10: Statistics of Copa

Start at: 2018-01-10 09:04:01
End at: 2018-01-10 09:04:31


# Below is generated by plot.py at 2018-01-10 10:53:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 112.48 Mbit/s
95th percentile per-packet one-way delay: 163.407 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 63.80 Mbit/s
95th percentile per-packet one-way delay: 162.476 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 67.38 Mbit/s
95th percentile per-packet one-way delay: 163.484 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 19.37 Mbit/s
95th percentile per-packet one-way delay: 162.015 ms
Loss rate: 0.71%
```
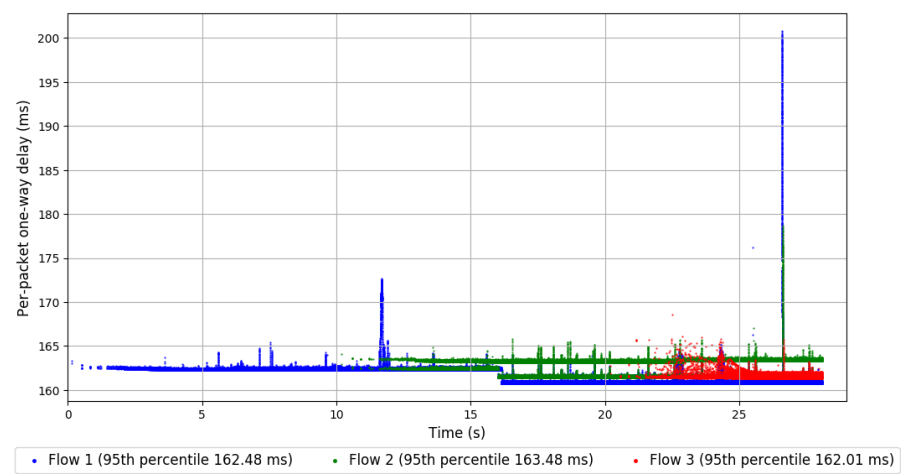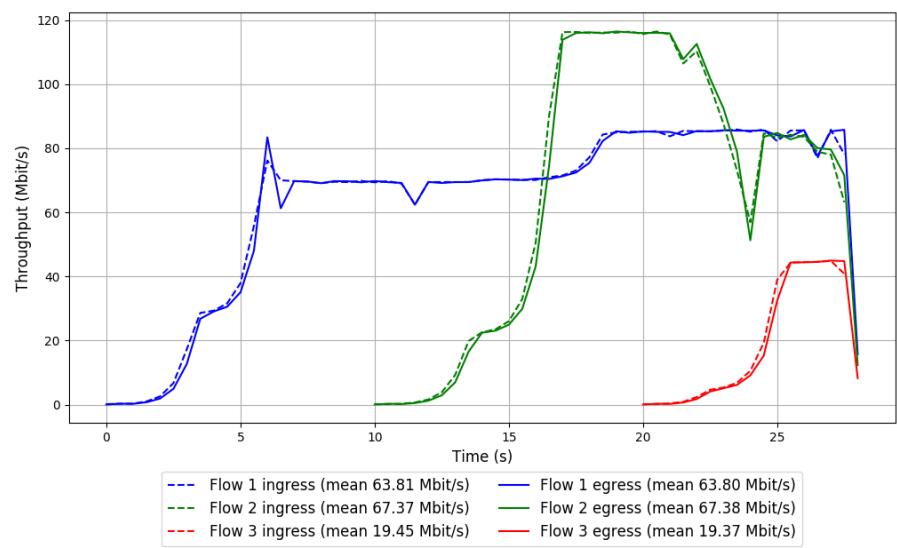
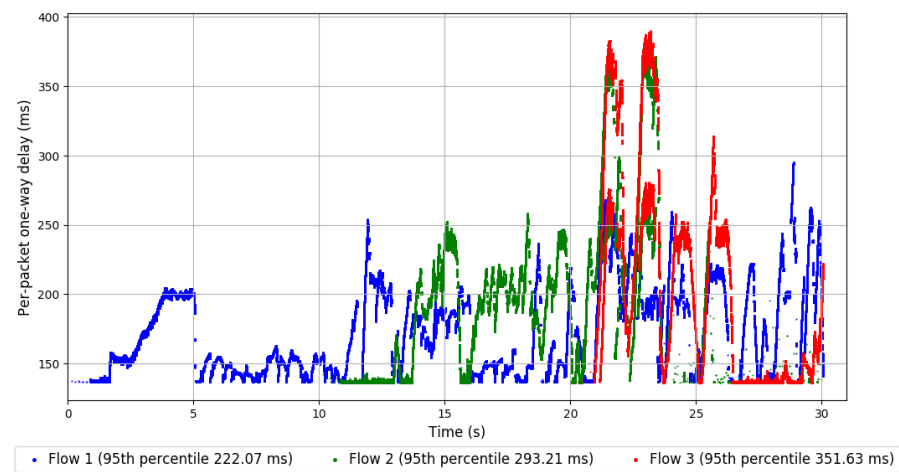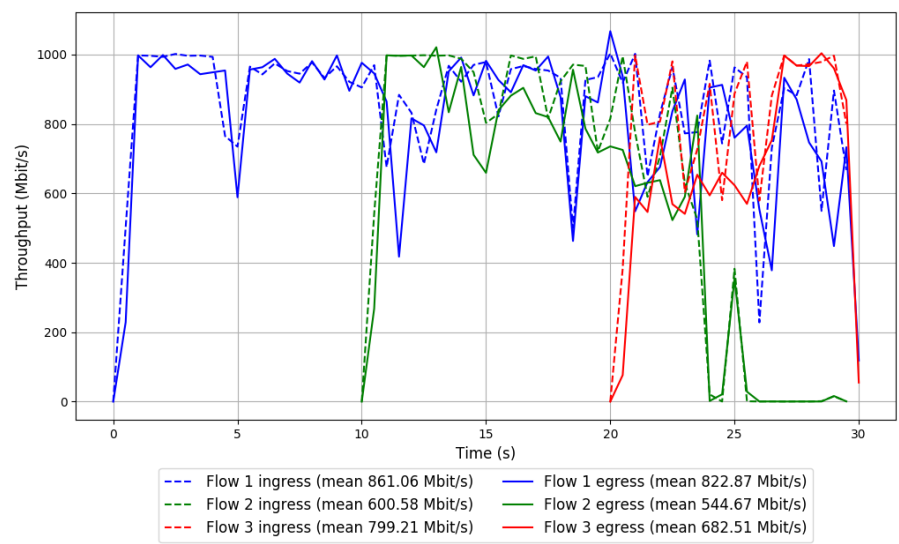## Run 10: Report of Copa — Data Link

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```
Run 1: Statistics of FillP

Start at: 2018-01-10 06:33:39
End at: 2018-01-10 06:34:09

# Below is generated by plot.py at 2018-01-10 11:14:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1408.59 Mbit/s
95th percentile per-packet one-way delay: 252.127 ms
Loss rate: 7.57%
-- Flow 1:
Average throughput: 822.87 Mbit/s
95th percentile per-packet one-way delay: 222.074 ms
Loss rate: 4.43%
-- Flow 2:
Average throughput: 544.67 Mbit/s
95th percentile per-packet one-way delay: 293.212 ms
Loss rate: 9.33%
-- Flow 3:
Average throughput: 682.51 Mbit/s
95th percentile per-packet one-way delay: 351.627 ms
Loss rate: 15.14%
```

Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 861.06 Mbit/s) — — —   Flow 1 egress (mean 822.87 Mbit/s)
Flow 2 ingress (mean 600.58 Mbit/s) — — —   Flow 2 egress (mean 544.67 Mbit/s)
Flow 3 ingress (mean 799.21 Mbit/s) — — —   Flow 3 egress (mean 682.51 Mbit/s)

Flow 1 (95th percentile 222.07 ms)   Flow 2 (95th percentile 293.21 ms)   Flow 3 (95th percentile 351.63 ms)

```
Run 2: Statistics of FillP

Start at: 2018-01-10 06:49:50
End at: 2018-01-10 06:50:20

# Below is generated by plot.py at 2018-01-10 11:14:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1261.79 Mbit/s
95th percentile per-packet one-way delay: 213.717 ms
Loss rate: 3.79%
-- Flow 1:
Average throughput: 655.97 Mbit/s
95th percentile per-packet one-way delay: 215.706 ms
Loss rate: 3.27%
-- Flow 2:
Average throughput: 836.27 Mbit/s
95th percentile per-packet one-way delay: 211.055 ms
Loss rate: 4.47%
-- Flow 3:
Average throughput: 153.47 Mbit/s
95th percentile per-packet one-way delay: 212.568 ms
Loss rate: 3.11%
```
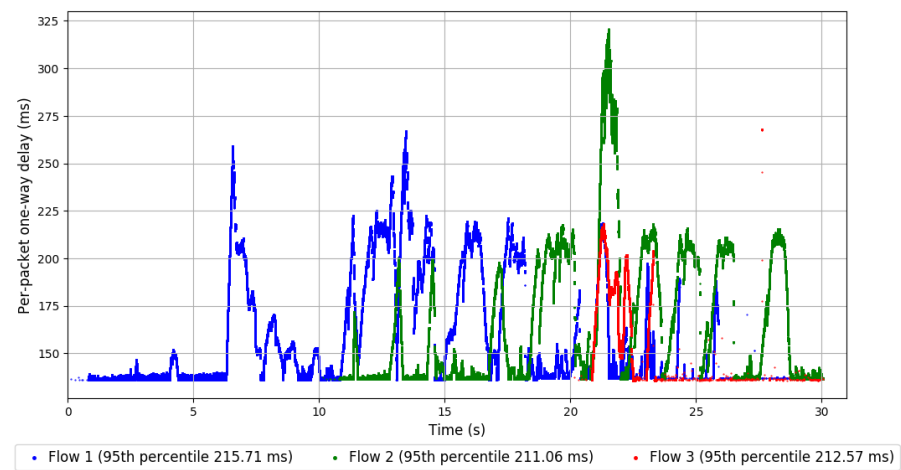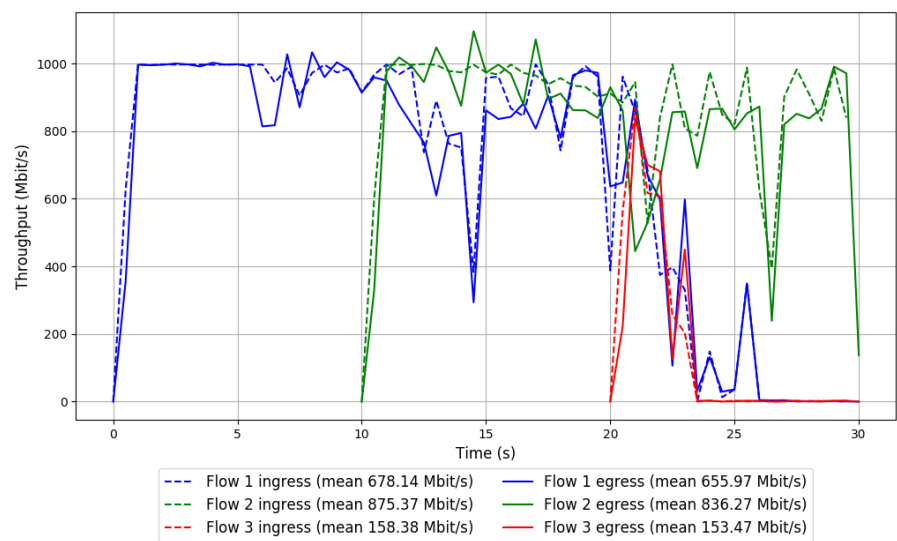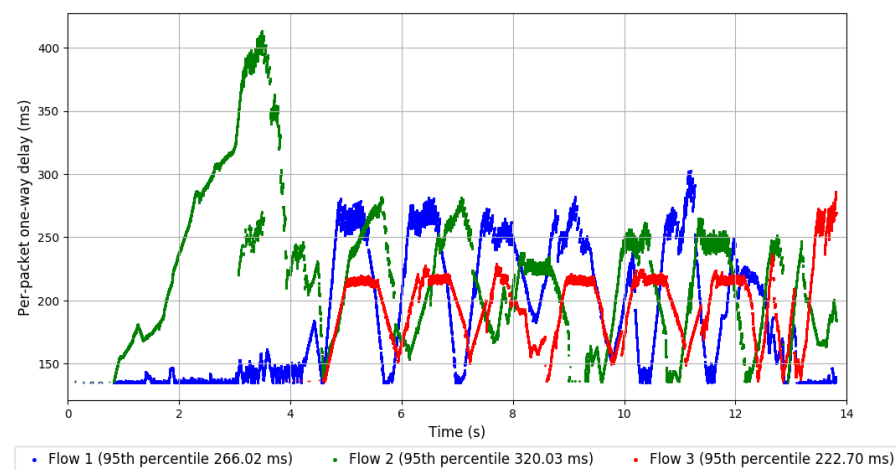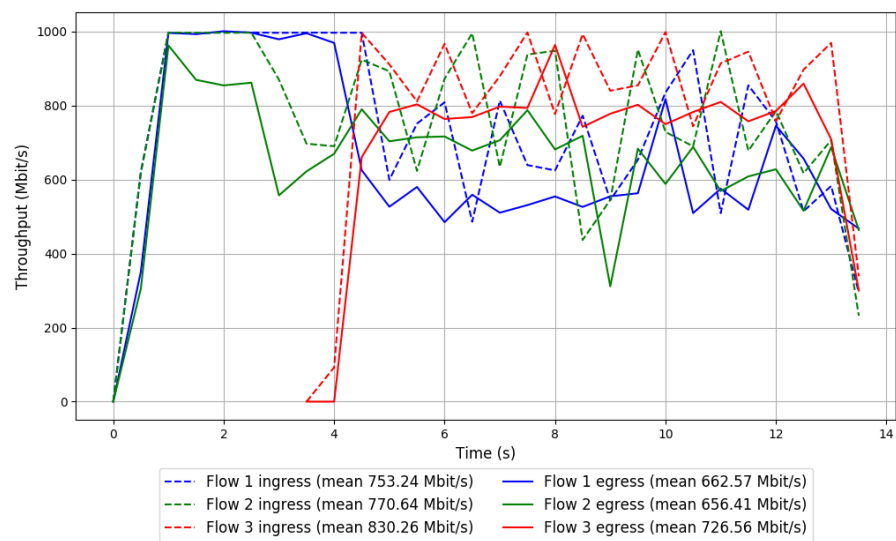
Run 2: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 678.14 Mbit/s)   —— Flow 1 egress (mean 655.97 Mbit/s)
- - - - Flow 2 ingress (mean 875.37 Mbit/s)   —— Flow 2 egress (mean 836.27 Mbit/s)
- - - - Flow 3 ingress (mean 158.38 Mbit/s)   —— Flow 3 egress (mean 153.47 Mbit/s)

• Flow 1 (95th percentile 215.71 ms)   • Flow 2 (95th percentile 211.06 ms)   • Flow 3 (95th percentile 212.57 ms)

Run 3: Statistics of FillP

Start at: 2018-01-10 07:05:46
End at: 2018-01-10 07:06:16

Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 753.24 Mbit/s) ---- Flow 1 egress (mean 662.57 Mbit/s)
Flow 2 ingress (mean 770.64 Mbit/s) ---- Flow 2 egress (mean 656.41 Mbit/s)
Flow 3 ingress (mean 830.26 Mbit/s) ---- Flow 3 egress (mean 726.56 Mbit/s)

Flow 1 (95th percentile 266.02 ms)   Flow 2 (95th percentile 320.03 ms)   Flow 3 (95th percentile 222.70 ms)

249

```
Run 4: Statistics of FillP

Start at: 2018-01-10 07:21:46
End at: 2018-01-10 07:22:16


# Below is generated by plot.py at 2018-01-10 11:18:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1566.86 Mbit/s
95th percentile per-packet one-way delay: 237.706 ms
Loss rate: 7.49%
-- Flow 1:
Average throughput: 840.10 Mbit/s
95th percentile per-packet one-way delay: 232.020 ms
Loss rate: 4.46%
-- Flow 2:
Average throughput: 749.08 Mbit/s
95th percentile per-packet one-way delay: 238.044 ms
Loss rate: 10.66%
-- Flow 3:
Average throughput: 690.17 Mbit/s
95th percentile per-packet one-way delay: 311.949 ms
Loss rate: 10.98%
```
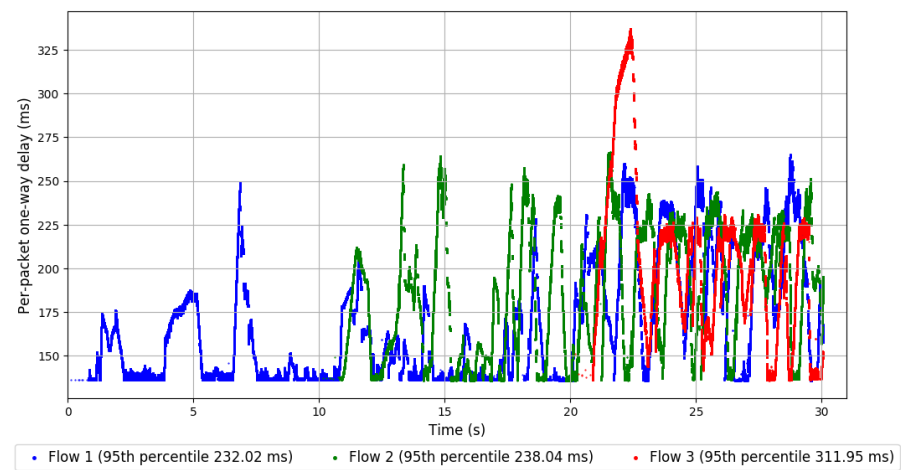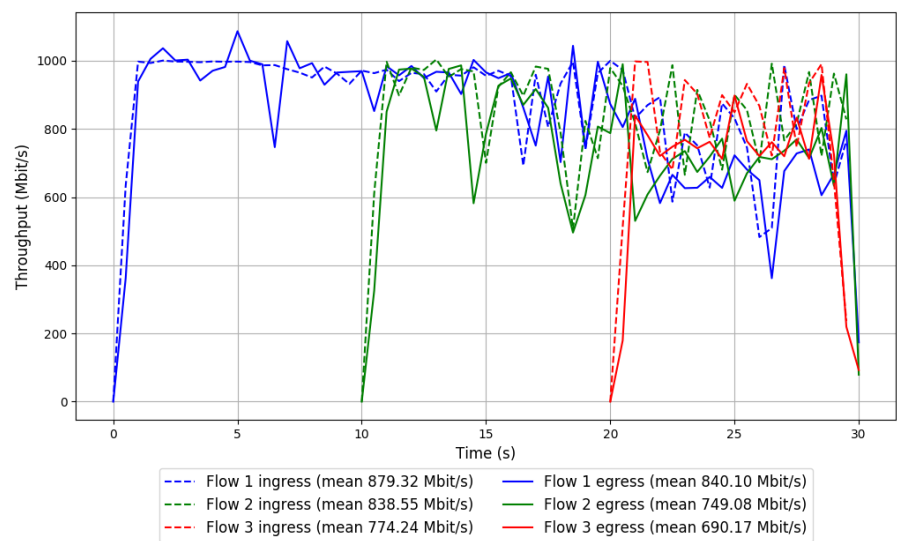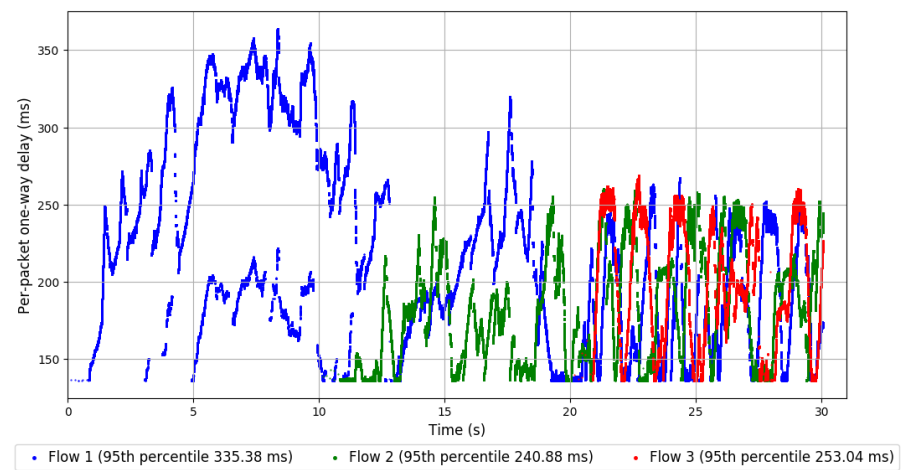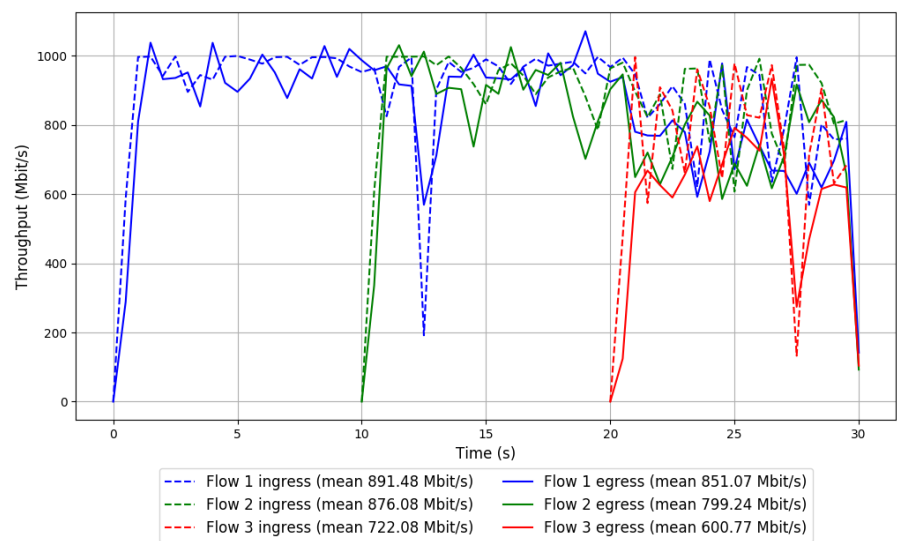
Run 4: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 879.32 Mbit/s)   —— Flow 1 egress (mean 840.10 Mbit/s)
- - - - Flow 2 ingress (mean 838.55 Mbit/s)   —— Flow 2 egress (mean 749.08 Mbit/s)
- - - - Flow 3 ingress (mean 774.24 Mbit/s)   —— Flow 3 egress (mean 690.17 Mbit/s)

• Flow 1 (95th percentile 232.02 ms)   • Flow 2 (95th percentile 238.04 ms)   • Flow 3 (95th percentile 311.95 ms)

```
Run 5: Statistics of FillP

Start at: 2018-01-10 07:38:00
End at: 2018-01-10 07:38:30


# Below is generated by plot.py at 2018-01-10 11:18:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1581.85 Mbit/s
95th percentile per-packet one-way delay: 324.238 ms
Loss rate: 7.68%
-- Flow 1:
Average throughput: 851.07 Mbit/s
95th percentile per-packet one-way delay: 335.385 ms
Loss rate: 4.52%
-- Flow 2:
Average throughput: 799.24 Mbit/s
95th percentile per-packet one-way delay: 240.878 ms
Loss rate: 8.77%
-- Flow 3:
Average throughput: 600.77 Mbit/s
95th percentile per-packet one-way delay: 253.045 ms
Loss rate: 16.81%
```
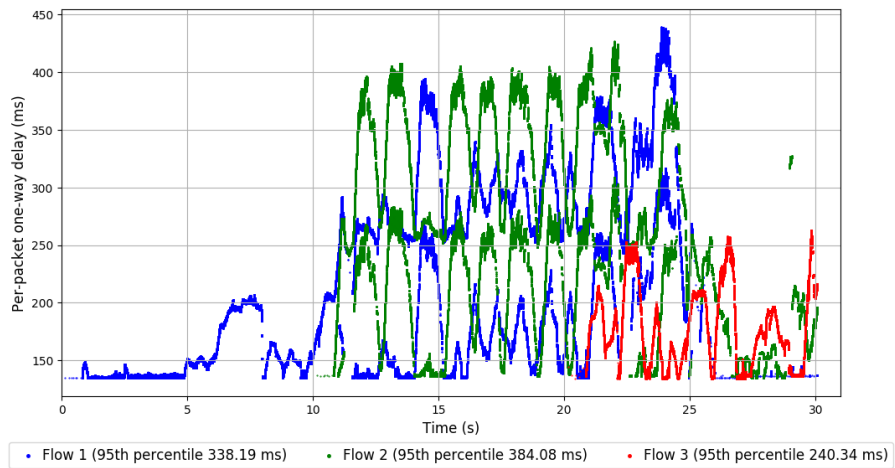
Run 5: Report of FillP — Data Link

```
Run 6: Statistics of FillP

Start at: 2018-01-10 07:54:11
End at: 2018-01-10 07:54:41

# Below is generated by plot.py at 2018-01-10 11:18:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1403.51 Mbit/s
95th percentile per-packet one-way delay: 363.845 ms
Loss rate: 8.85%
-- Flow 1:
Average throughput: 706.31 Mbit/s
95th percentile per-packet one-way delay: 338.192 ms
Loss rate: 4.68%
-- Flow 2:
Average throughput: 671.80 Mbit/s
95th percentile per-packet one-way delay: 384.076 ms
Loss rate: 14.80%
-- Flow 3:
Average throughput: 755.58 Mbit/s
95th percentile per-packet one-way delay: 240.342 ms
Loss rate: 8.76%
```
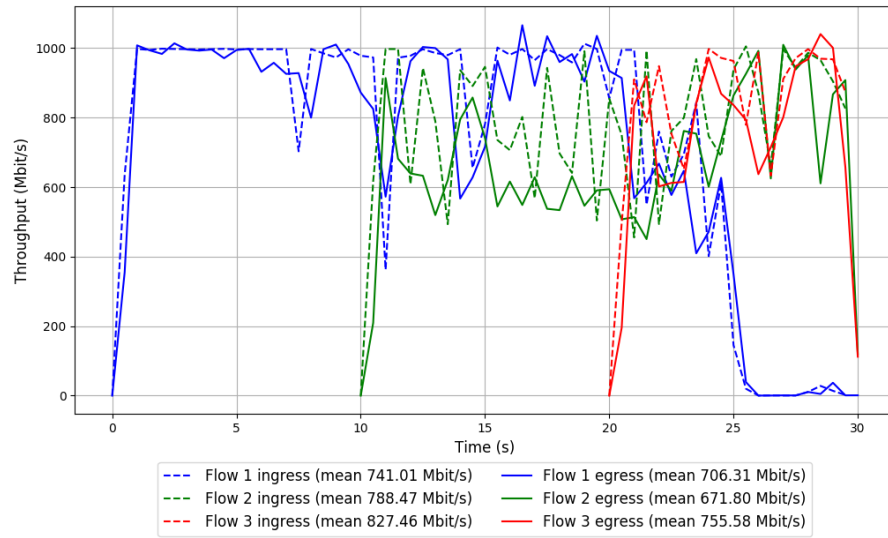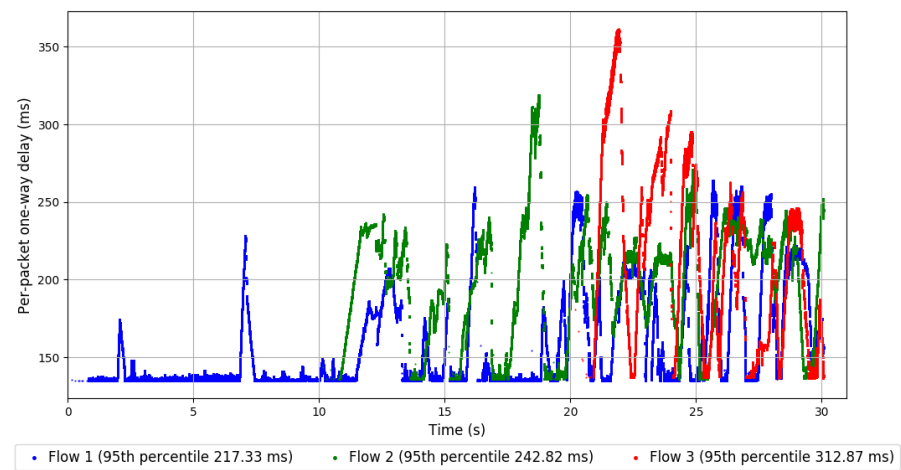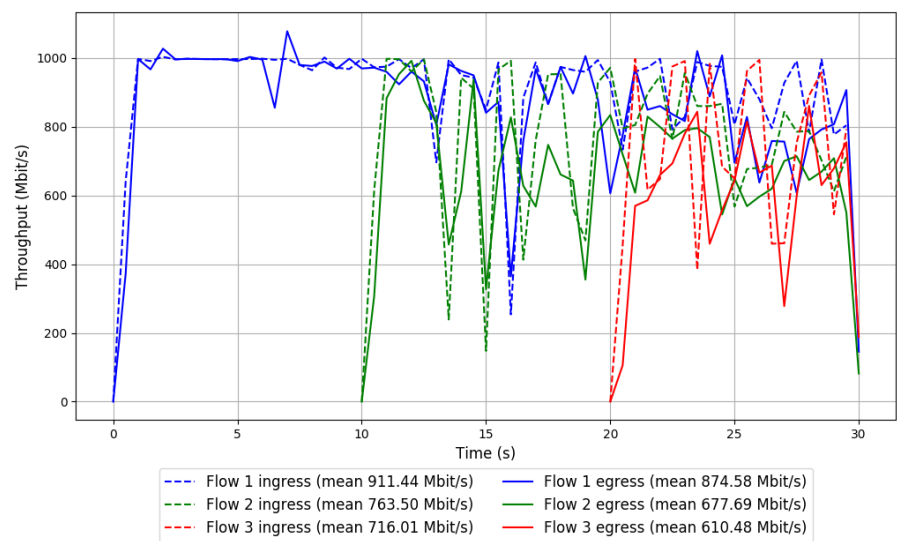
Run 6: Report of FillP — Data Link

Flow 1 ingress (mean 741.01 Mbit/s) — Flow 1 egress (mean 706.31 Mbit/s)
Flow 2 ingress (mean 788.47 Mbit/s) — Flow 2 egress (mean 671.80 Mbit/s)
Flow 3 ingress (mean 827.46 Mbit/s) — Flow 3 egress (mean 755.58 Mbit/s)

Flow 1 (95th percentile 338.19 ms) — Flow 2 (95th percentile 384.08 ms) — Flow 3 (95th percentile 240.34 ms)

255

```
Run 7: Statistics of FillP

Start at: 2018-01-10 08:09:48
End at: 2018-01-10 08:10:18

# Below is generated by plot.py at 2018-01-10 11:19:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1527.01 Mbit/s
95th percentile per-packet one-way delay: 249.503 ms
Loss rate: 7.84%
-- Flow 1:
Average throughput: 874.58 Mbit/s
95th percentile per-packet one-way delay: 217.333 ms
Loss rate: 4.04%
-- Flow 2:
Average throughput: 677.69 Mbit/s
95th percentile per-packet one-way delay: 242.820 ms
Loss rate: 11.26%
-- Flow 3:
Average throughput: 610.48 Mbit/s
95th percentile per-packet one-way delay: 312.868 ms
Loss rate: 15.13%
```
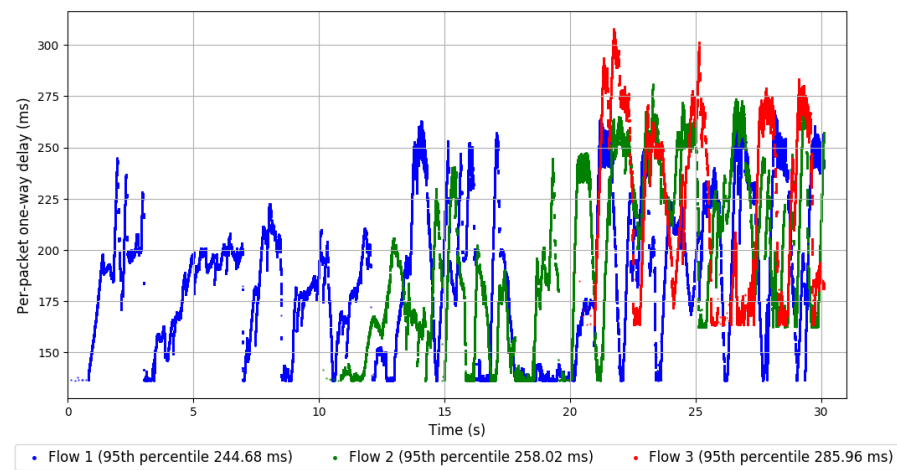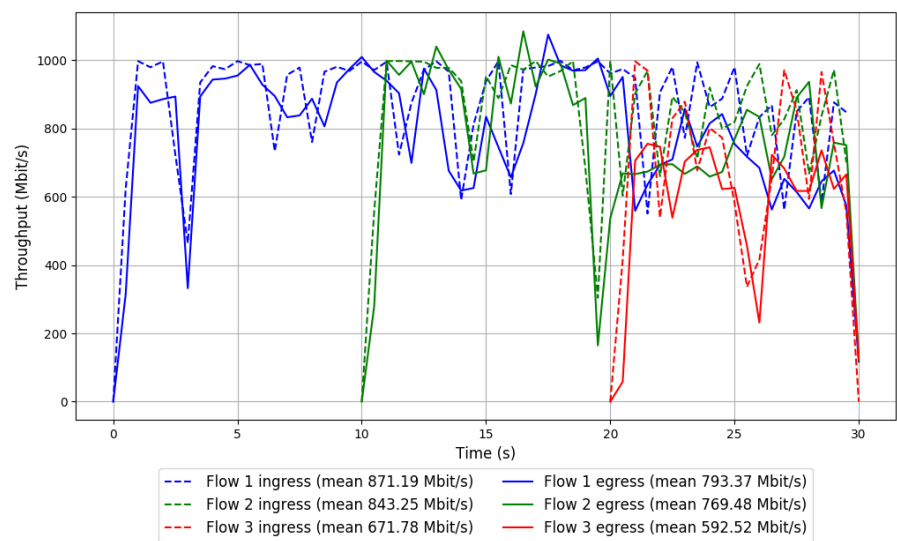
Run 7: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 911.44 Mbit/s) ——— Flow 1 egress (mean 874.58 Mbit/s)
- - - - Flow 2 ingress (mean 763.50 Mbit/s) ——— Flow 2 egress (mean 677.69 Mbit/s)
- - - - Flow 3 ingress (mean 716.01 Mbit/s) ——— Flow 3 egress (mean 610.48 Mbit/s)

- Flow 1 (95th percentile 217.33 ms)   • Flow 2 (95th percentile 242.82 ms)   • Flow 3 (95th percentile 312.87 ms)

```
Run 8: Statistics of FillP

Start at: 2018-01-10 08:25:37
End at: 2018-01-10 08:26:07

# Below is generated by plot.py at 2018-01-10 11:19:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1500.89 Mbit/s
95th percentile per-packet one-way delay: 261.573 ms
Loss rate: 9.43%
-- Flow 1:
Average throughput: 793.37 Mbit/s
95th percentile per-packet one-way delay: 244.677 ms
Loss rate: 8.85%
-- Flow 2:
Average throughput: 769.48 Mbit/s
95th percentile per-packet one-way delay: 258.019 ms
Loss rate: 8.62%
-- Flow 3:
Average throughput: 592.52 Mbit/s
95th percentile per-packet one-way delay: 285.965 ms
Loss rate: 13.62%
```
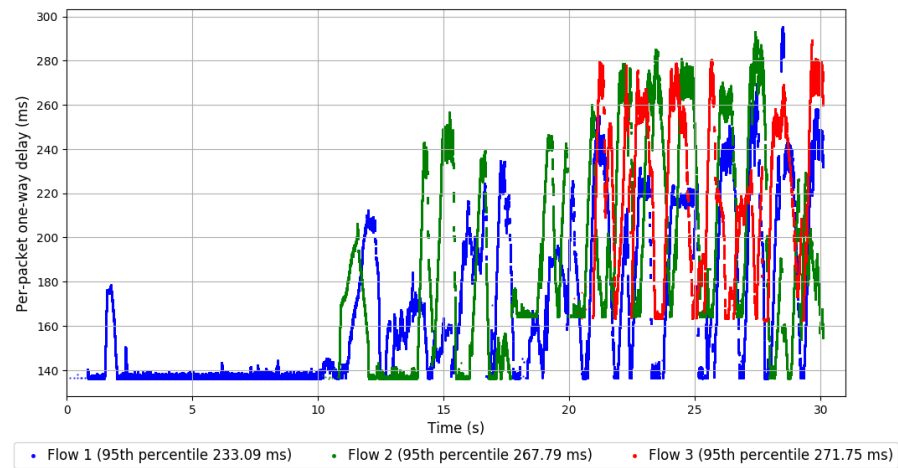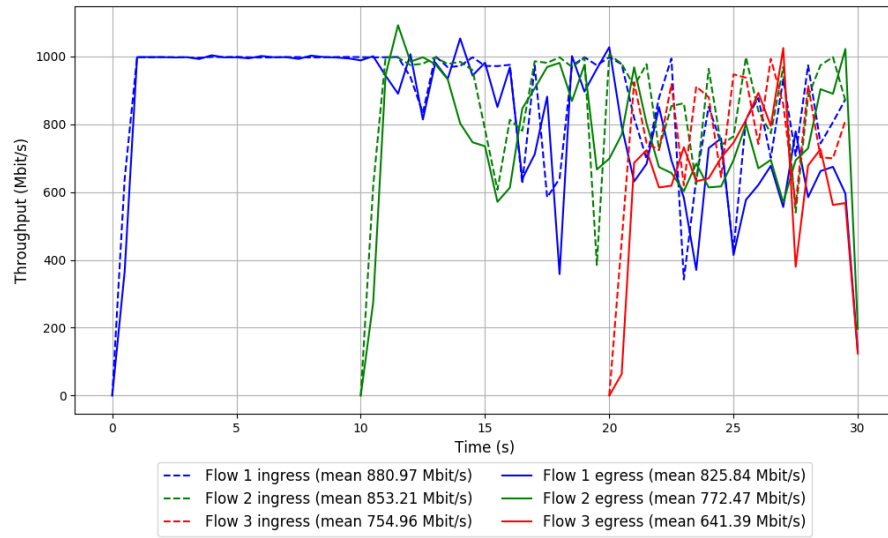
Run 8: Report of FillP — Data Link

```
Run 9: Statistics of FillP

Start at: 2018-01-10 08:41:28
End at: 2018-01-10 08:41:58


# Below is generated by plot.py at 2018-01-10 11:25:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1552.25 Mbit/s
95th percentile per-packet one-way delay: 261.597 ms
Loss rate: 8.57%
-- Flow 1:
Average throughput: 825.84 Mbit/s
95th percentile per-packet one-way delay: 233.089 ms
Loss rate: 6.17%
-- Flow 2:
Average throughput: 772.47 Mbit/s
95th percentile per-packet one-way delay: 267.791 ms
Loss rate: 9.38%
-- Flow 3:
Average throughput: 641.39 Mbit/s
95th percentile per-packet one-way delay: 271.755 ms
Loss rate: 15.13%
```
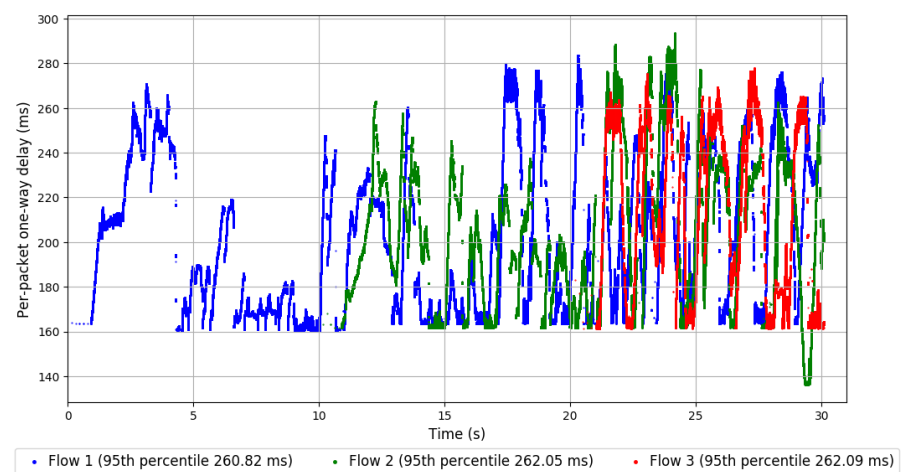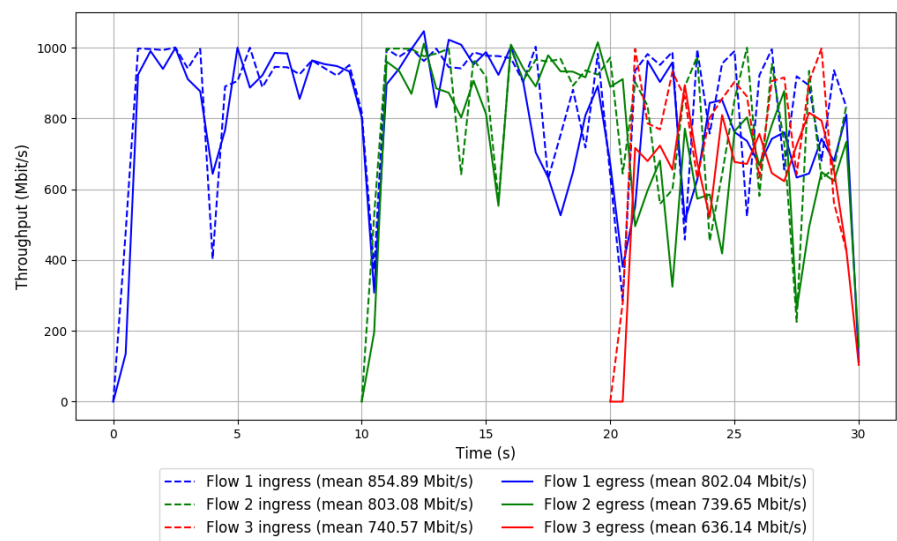
Run 9: Report of FillP — Data Link

Flow 1 ingress (mean 880.97 Mbit/s) Flow 1 egress (mean 825.84 Mbit/s)
Flow 2 ingress (mean 853.21 Mbit/s) Flow 2 egress (mean 772.47 Mbit/s)
Flow 3 ingress (mean 754.96 Mbit/s) Flow 3 egress (mean 641.39 Mbit/s)

Flow 1 (95th percentile 233.09 ms)   Flow 2 (95th percentile 267.79 ms)   Flow 3 (95th percentile 271.75 ms)
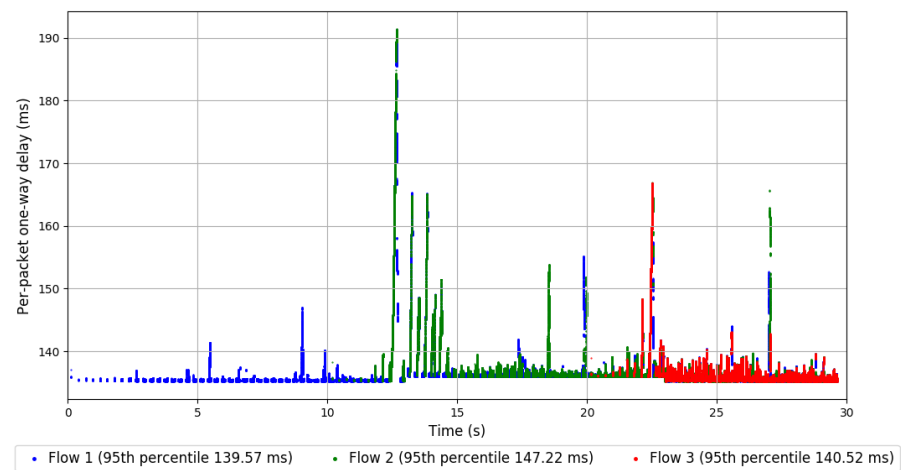
```
Run 10: Statistics of FillP

Start at: 2018-01-10 08:57:27
End at: 2018-01-10 08:57:57


# Below is generated by plot.py at 2018-01-10 11:26:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1504.45 Mbit/s
95th percentile per-packet one-way delay: 261.444 ms
Loss rate: 7.95%
-- Flow 1:
Average throughput: 802.04 Mbit/s
95th percentile per-packet one-way delay: 260.821 ms
Loss rate: 6.18%
-- Flow 2:
Average throughput: 739.65 Mbit/s
95th percentile per-packet one-way delay: 262.049 ms
Loss rate: 7.89%
-- Flow 3:
Average throughput: 636.14 Mbit/s
95th percentile per-packet one-way delay: 262.086 ms
Loss rate: 14.29%
```
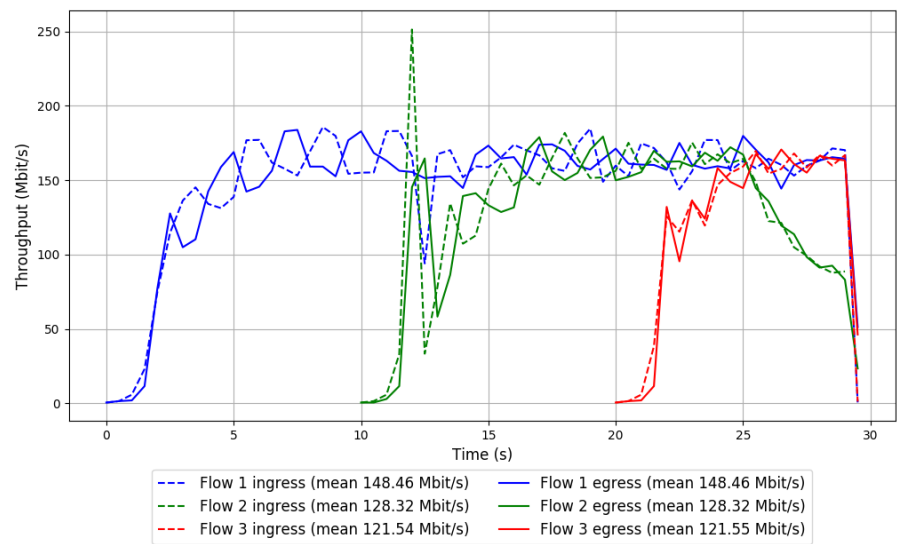
Run 10: Report of FillP — Data Link

Flow 1 ingress (mean 854.89 Mbit/s)   Flow 1 egress (mean 802.04 Mbit/s)
Flow 2 ingress (mean 803.08 Mbit/s)   Flow 2 egress (mean 739.65 Mbit/s)
Flow 3 ingress (mean 740.57 Mbit/s)   Flow 3 egress (mean 636.14 Mbit/s)

Flow 1 (95th percentile 260.82 ms)   Flow 2 (95th percentile 262.05 ms)   Flow 3 (95th percentile 262.09 ms)

```
Run 1: Statistics of Indigo

Start at: 2018-01-10 06:36:55
End at: 2018-01-10 06:37:25


# Below is generated by plot.py at 2018-01-10 11:26:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 272.11 Mbit/s
95th percentile per-packet one-way delay: 142.888 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 148.46 Mbit/s
95th percentile per-packet one-way delay: 139.570 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 128.32 Mbit/s
95th percentile per-packet one-way delay: 147.225 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 121.55 Mbit/s
95th percentile per-packet one-way delay: 140.522 ms
Loss rate: 0.00%
```
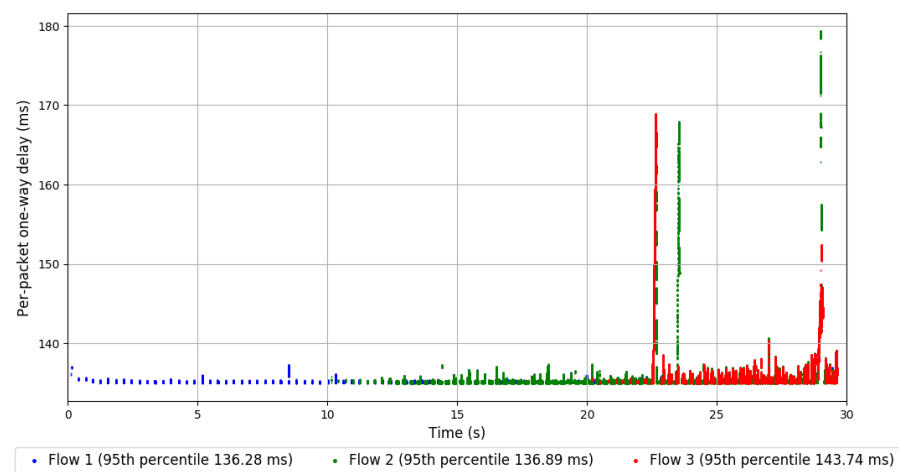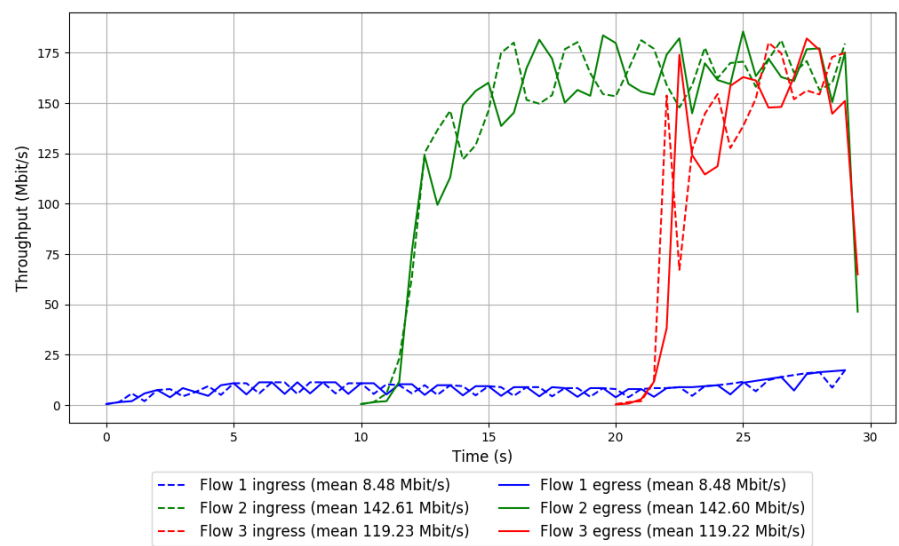
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-01-10 06:52:37
End at: 2018-01-10 06:53:07


# Below is generated by plot.py at 2018-01-10 11:26:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.63 Mbit/s
95th percentile per-packet one-way delay: 137.805 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.48 Mbit/s
95th percentile per-packet one-way delay: 136.280 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 142.60 Mbit/s
95th percentile per-packet one-way delay: 136.893 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 119.22 Mbit/s
95th percentile per-packet one-way delay: 143.736 ms
Loss rate: 0.00%
```
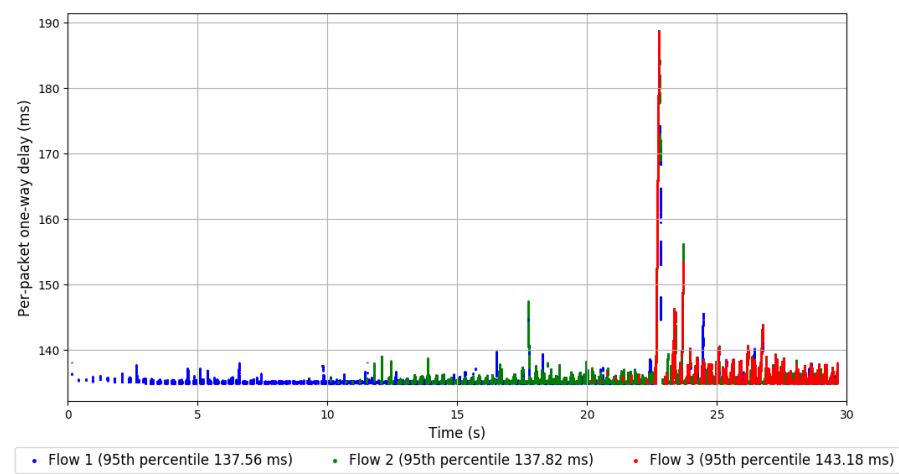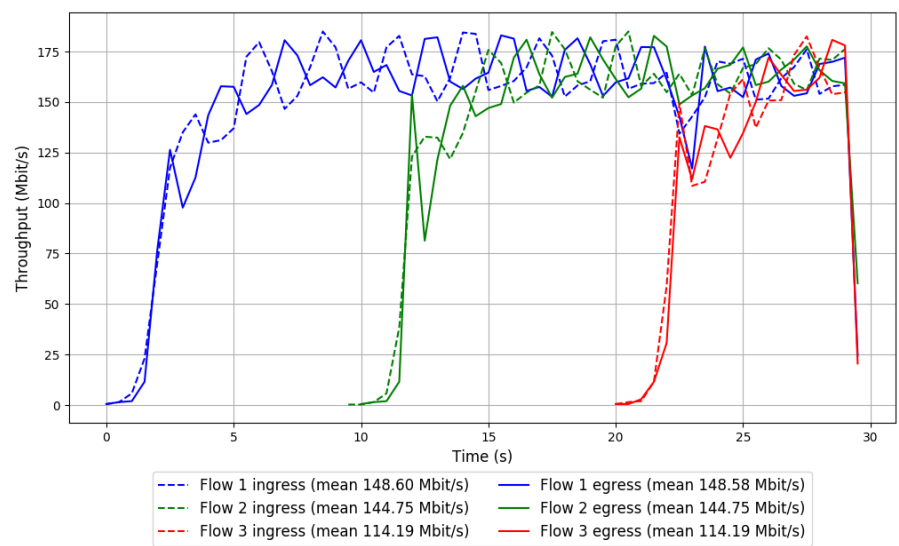
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-01-10 07:08:35
End at: 2018-01-10 07:09:05

# Below is generated by plot.py at 2018-01-10 11:26:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 280.92 Mbit/s
95th percentile per-packet one-way delay: 138.186 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 148.58 Mbit/s
95th percentile per-packet one-way delay: 137.563 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 144.75 Mbit/s
95th percentile per-packet one-way delay: 137.822 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 114.19 Mbit/s
95th percentile per-packet one-way delay: 143.178 ms
Loss rate: 0.01%
```
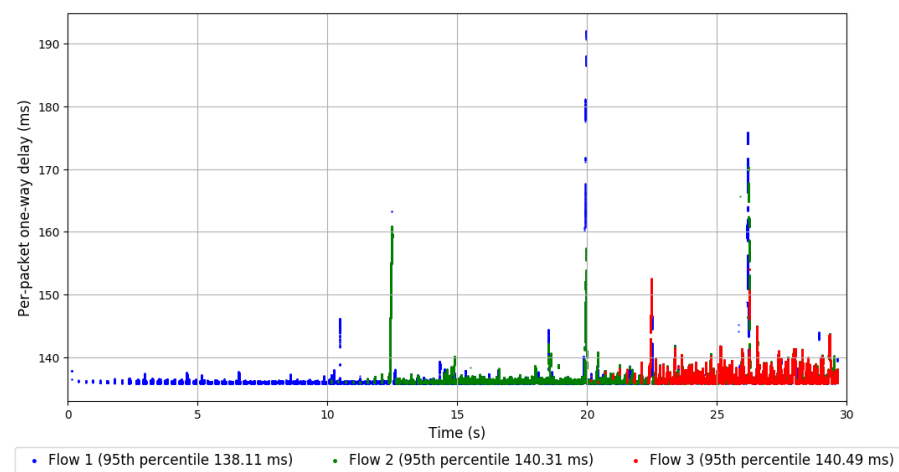
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-01-10 07:25:05
End at: 2018-01-10 07:25:35


# Below is generated by plot.py at 2018-01-10 11:26:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 284.87 Mbit/s
95th percentile per-packet one-way delay: 139.279 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 150.75 Mbit/s
95th percentile per-packet one-way delay: 138.113 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 143.31 Mbit/s
95th percentile per-packet one-way delay: 140.306 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 122.50 Mbit/s
95th percentile per-packet one-way delay: 140.486 ms
Loss rate: 0.00%
```
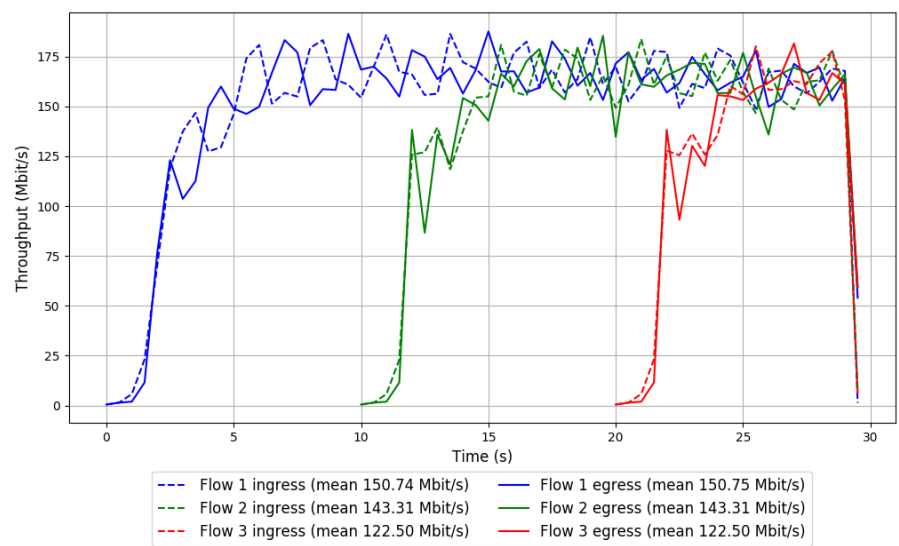
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2018-01-10 07:41:20
End at: 2018-01-10 07:41:50

# Below is generated by plot.py at 2018-01-10 11:26:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 284.39 Mbit/s
95th percentile per-packet one-way delay: 138.562 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 150.36 Mbit/s
95th percentile per-packet one-way delay: 137.695 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 144.90 Mbit/s
95th percentile per-packet one-way delay: 138.968 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 119.39 Mbit/s
95th percentile per-packet one-way delay: 143.323 ms
Loss rate: 0.00%
```
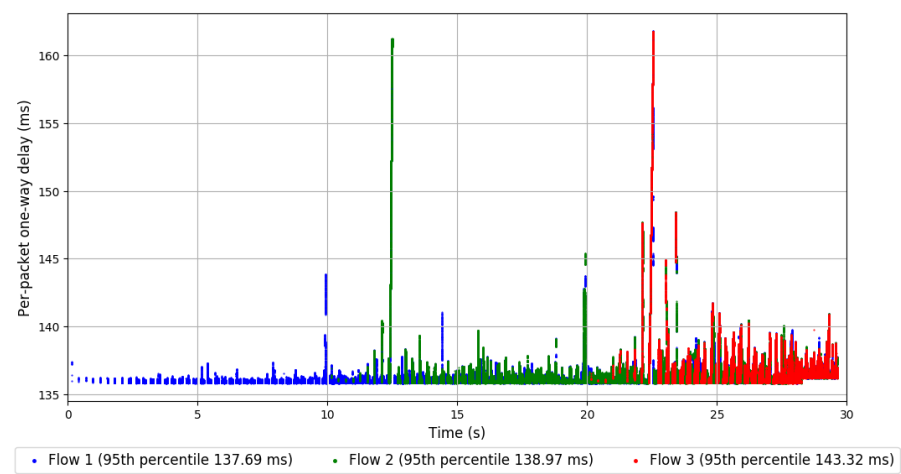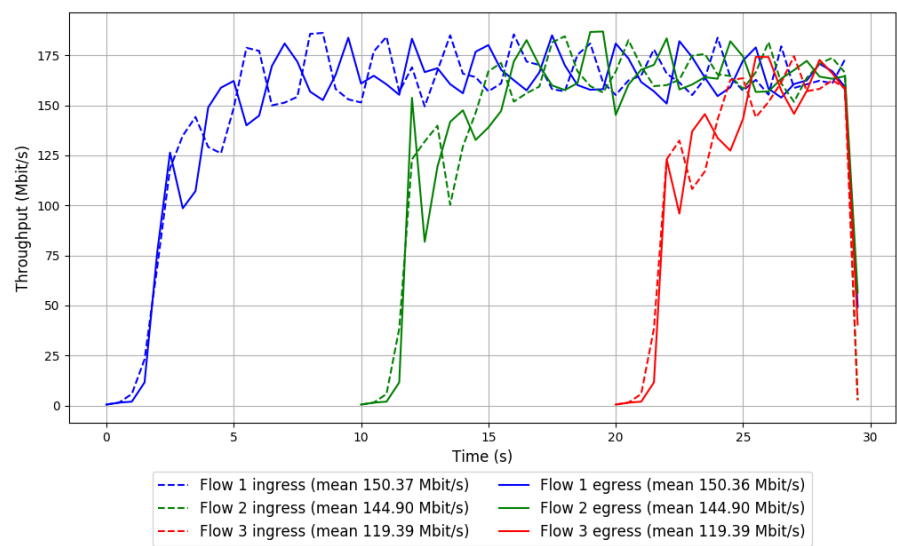
Run 5: Report of Indigo — Data Link

```
Run 6: Statistics of Indigo

Start at: 2018-01-10 07:57:28
End at: 2018-01-10 07:57:58

# Below is generated by plot.py at 2018-01-10 11:26:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 283.53 Mbit/s
95th percentile per-packet one-way delay: 138.126 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 150.80 Mbit/s
95th percentile per-packet one-way delay: 137.151 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 144.30 Mbit/s
95th percentile per-packet one-way delay: 139.125 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 116.32 Mbit/s
95th percentile per-packet one-way delay: 139.575 ms
Loss rate: 0.00%
```
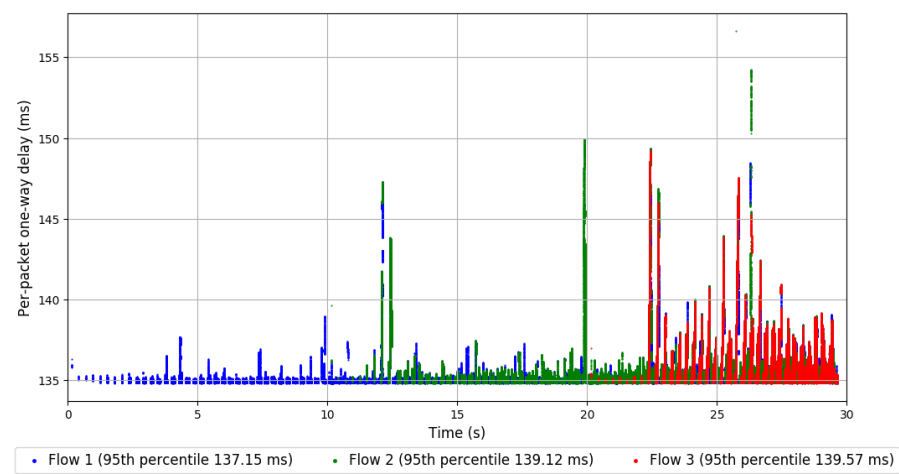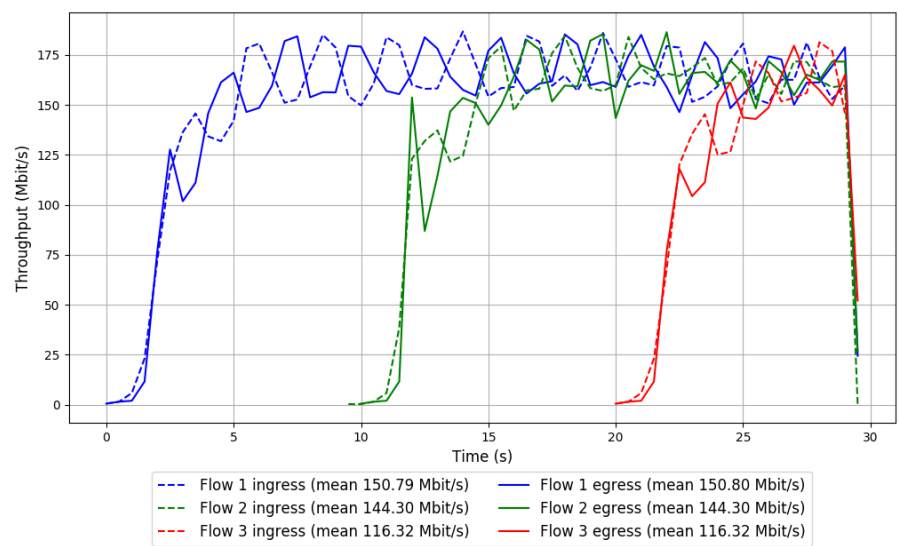
Run 6: Report of Indigo — Data Link

```
Run 7: Statistics of Indigo

Start at: 2018-01-10 08:13:03
End at: 2018-01-10 08:13:33


# Below is generated by plot.py at 2018-01-10 11:26:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 270.63 Mbit/s
95th percentile per-packet one-way delay: 139.164 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 150.80 Mbit/s
95th percentile per-packet one-way delay: 137.142 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 132.29 Mbit/s
95th percentile per-packet one-way delay: 140.808 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 101.52 Mbit/s
95th percentile per-packet one-way delay: 144.420 ms
Loss rate: 0.01%
```
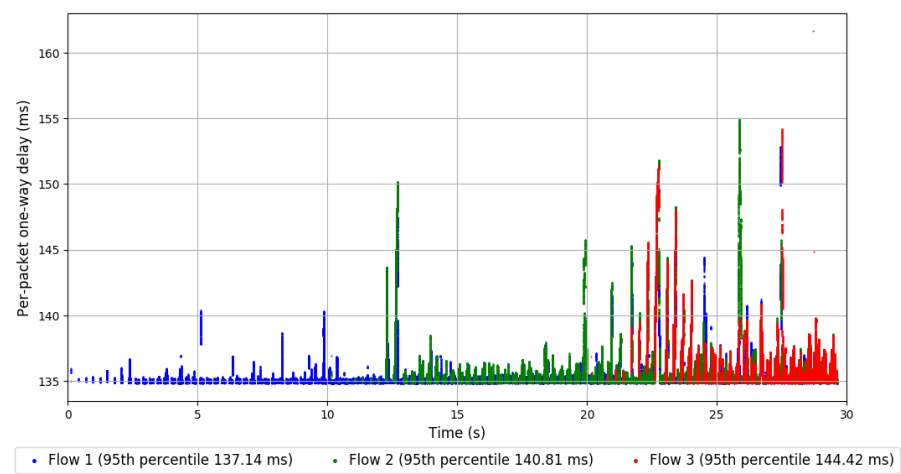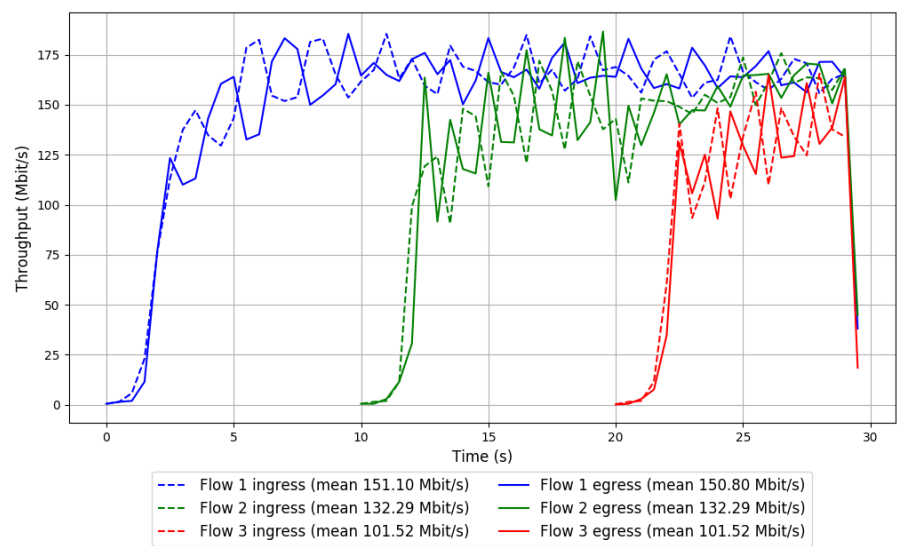
Run 7: Report of Indigo — Data Link

Flow 1 ingress (mean 151.10 Mbit/s) --- Flow 1 egress (mean 150.80 Mbit/s)
Flow 2 ingress (mean 132.29 Mbit/s) --- Flow 2 egress (mean 132.29 Mbit/s)
Flow 3 ingress (mean 101.52 Mbit/s) --- Flow 3 egress (mean 101.52 Mbit/s)

Flow 1 (95th percentile 137.14 ms) • Flow 2 (95th percentile 140.81 ms) • Flow 3 (95th percentile 144.42 ms)

```
Run 8: Statistics of Indigo

Start at: 2018-01-10 08:28:58
End at: 2018-01-10 08:29:28

# Below is generated by plot.py at 2018-01-10 11:26:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 235.48 Mbit/s
95th percentile per-packet one-way delay: 171.393 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 130.38 Mbit/s
95th percentile per-packet one-way delay: 169.545 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 119.64 Mbit/s
95th percentile per-packet one-way delay: 172.137 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 82.55 Mbit/s
95th percentile per-packet one-way delay: 191.102 ms
Loss rate: 0.00%
```
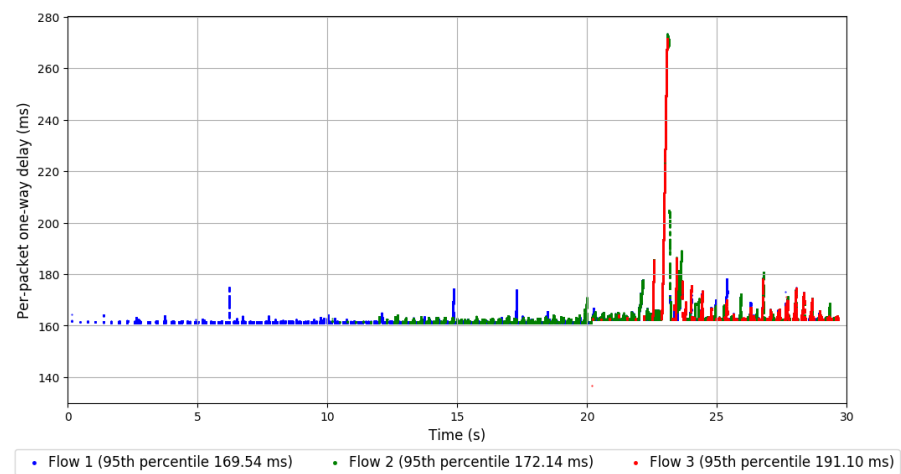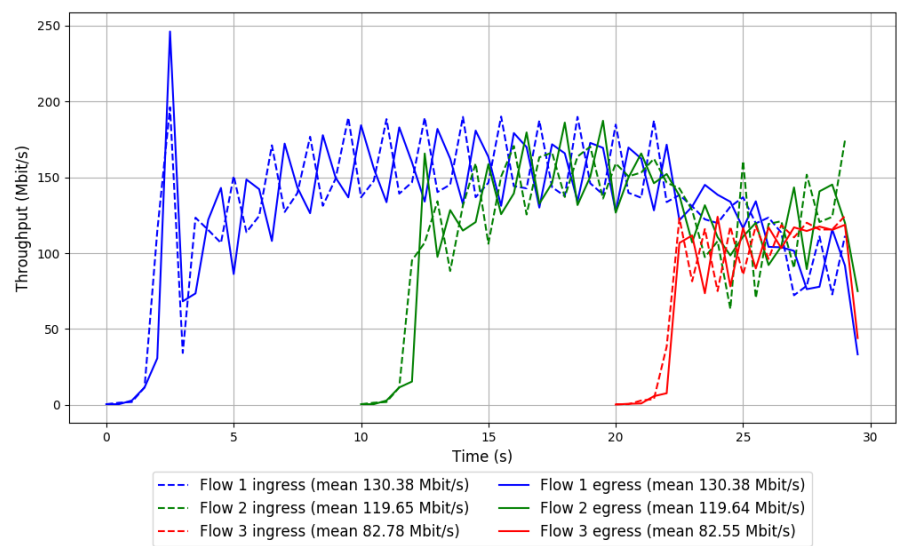
Run 8: Report of Indigo — Data Link

```
Run 9: Statistics of Indigo

Start at: 2018-01-10 08:44:49
End at: 2018-01-10 08:45:19


# Below is generated by plot.py at 2018-01-10 11:26:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 262.76 Mbit/s
95th percentile per-packet one-way delay: 165.925 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 139.27 Mbit/s
95th percentile per-packet one-way delay: 165.057 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 134.73 Mbit/s
95th percentile per-packet one-way delay: 166.783 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 107.56 Mbit/s
95th percentile per-packet one-way delay: 170.280 ms
Loss rate: 0.00%
```
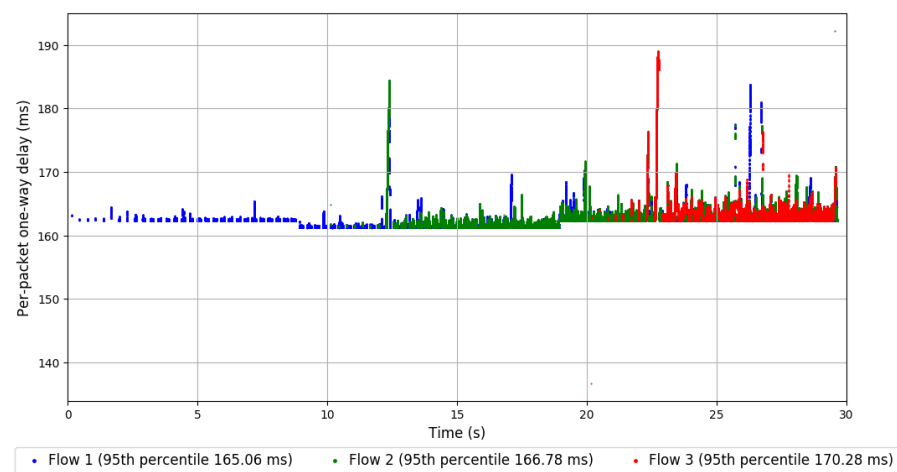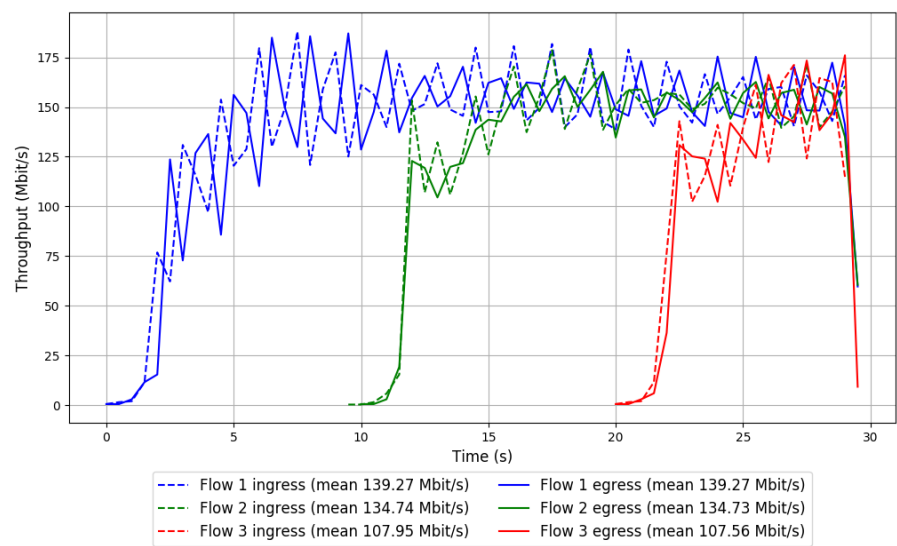
Run 9: Report of Indigo — Data Link

```
Run 10: Statistics of Indigo

Start at: 2018-01-10 09:00:47
End at: 2018-01-10 09:01:17


# Below is generated by plot.py at 2018-01-10 11:26:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 244.44 Mbit/s
95th percentile per-packet one-way delay: 163.889 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 126.53 Mbit/s
95th percentile per-packet one-way delay: 163.129 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 129.04 Mbit/s
95th percentile per-packet one-way delay: 163.407 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 101.82 Mbit/s
95th percentile per-packet one-way delay: 166.444 ms
Loss rate: 0.01%
```

Run 10: Report of Indigo — Data Link