Pantheon Report

Generated at 2018-02-14 16:28:59 (UTC).

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

Repeated the test of 17 congestion control schemes 10 times.

Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
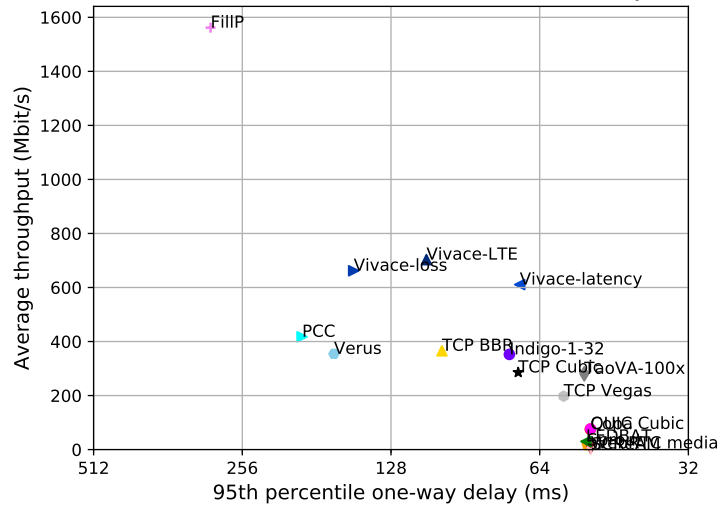
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

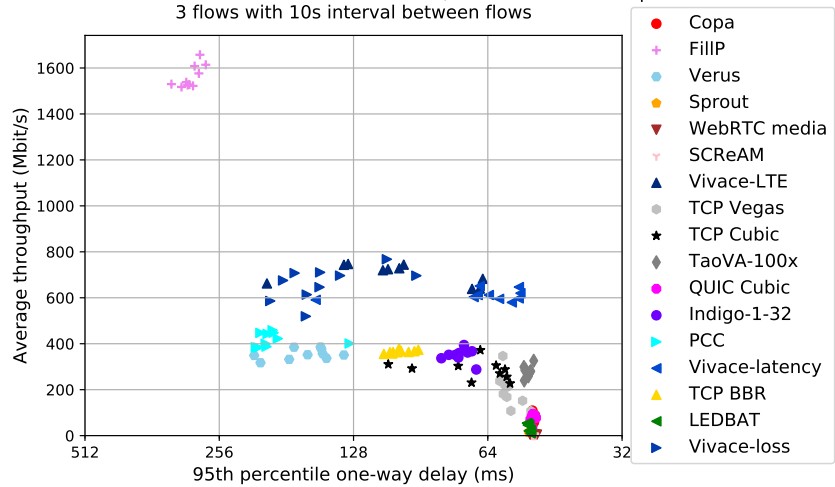Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

```
Git summary:
branch: master @ 2efdadc57c2c56a9458b0d01ff33345e11732665
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/fillp @ 828bbf95fd4941149b5cec90f281d1c69ae1a5c6
third_party/genericCC @ 80b516c448f795fd6e9675f7177b69c622f07da8
third_party/indigo @ a9b2060d39e4da2e8987e893e3eca2a6c7cd0ab9
third_party/indigo-1-layer-128-unit @ 3ae9e4ef4230db7484501f82ce8b377695f2f66d
third_party/indigo-1-layer-32-unit @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-1-layer-32-unit-no-calib @ 1f3a7f75b41135ed5b540c0fd3505939528e2a5f
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/vivace @ 7a4ba531e75b4a6f66f5c4580192120401784ce3
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

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

scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	10	194.80	182.40	149.20	98.24	100.70	106.18	0.16	0.17	0.39
TCP Cubic	10	150.55	143.64	119.25	68.59	69.74	72.39	0.10	0.12	0.26
LEDBAT	10	17.56	14.73	8.12	51.61	51.52	51.48	0.78	0.54	0.62
PCC	10	395.16	19.78	27.93	193.58	193.73	187.90	1.06	1.19	2.03
QUIC Cubic	10	47.40	33.42	21.82	50.35	50.45	49.99	0.00	0.00	0.00
SCReAM	10	0.22	0.22	0.22	50.30	50.02	50.28	0.00	0.00	0.00
WebRTC media	10	2.26	1.48	0.65	50.17	50.42	50.26	0.01	0.00	0.01
Sprout	10	7.87	7.69	7.56	51.34	51.13	51.10	0.21	0.36	0.01
TaoVA-100x	10	169.28	121.82	101.66	51.22	53.27	53.01	0.00	0.00	0.00
TCP Vegas	10	92.23	108.51	99.88	56.03	57.01	56.76	0.02	0.01	0.03
Verus	10	223.39	150.92	95.16	159.96	162.50	182.17	1.02	1.71	2.76
Copa	10	35.89	38.03	42.64	50.53	50.47	51.44	0.03	0.01	0.03
FillP	10	803.62	774.21	733.20	291.34	297.20	295.09	9.04	9.80	10.26
Indigo-1-32	10	199.60	174.54	114.65	71.68	74.26	77.99	0.03	0.07	0.03
Vivace-latency	10	358.65	327.48	104.88	66.53	74.66	67.02	0.04	0.10	0.10
Vivace-loss	10	372.35	322.42	228.80	146.12	112.15	124.88	1.45	0.54	1.20
Vivace-LTE	10	384.49	349.94	261.66	106.34	107.83	106.29	0.10	0.24	0.20

```
Run 1: Statistics of TCP BBR

Start at: 2018-02-14 08:36:43
End at: 2018-02-14 08:37:13

# Below is generated by plot.py at 2018-02-14 14:25:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 355.70 Mbit/s
95th percentile per-packet one-way delay: 109.463 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 188.02 Mbit/s
95th percentile per-packet one-way delay: 105.120 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 176.68 Mbit/s
95th percentile per-packet one-way delay: 108.773 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 151.22 Mbit/s
95th percentile per-packet one-way delay: 116.171 ms
Loss rate: 0.41%
```
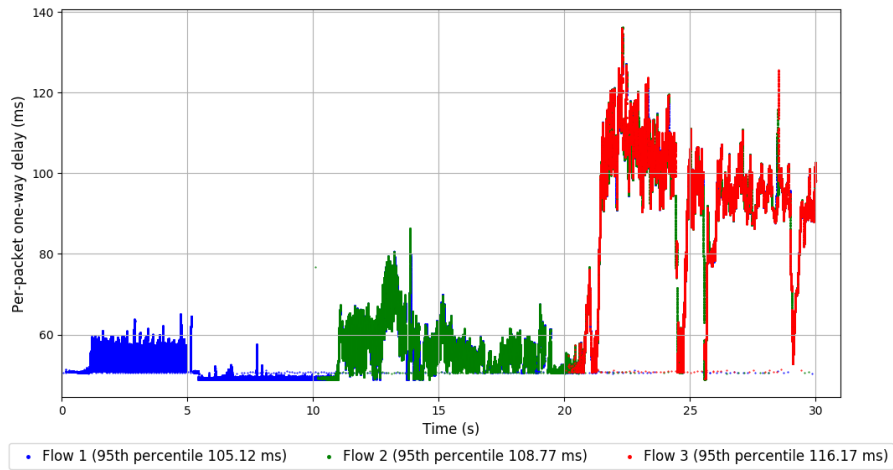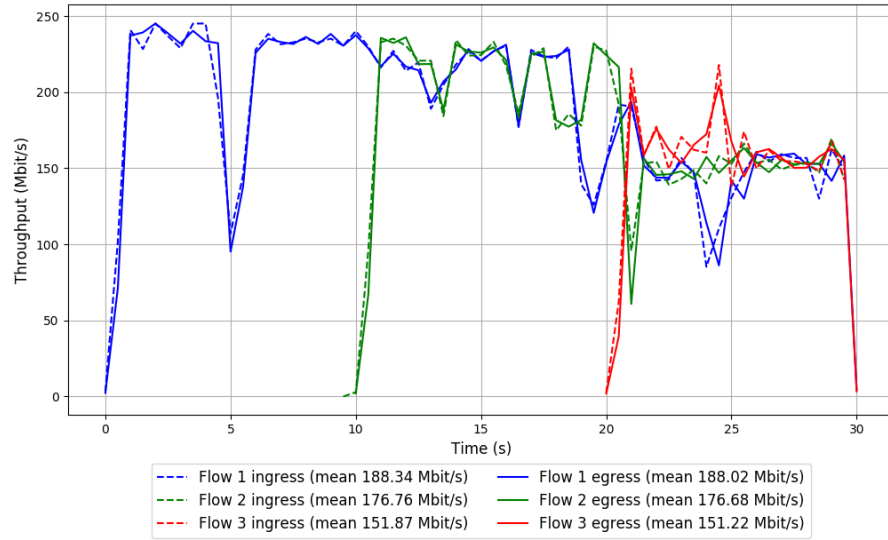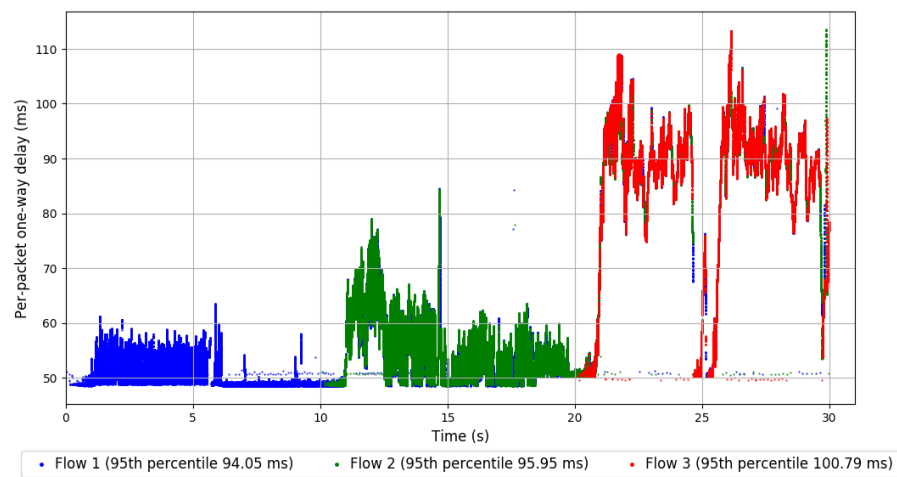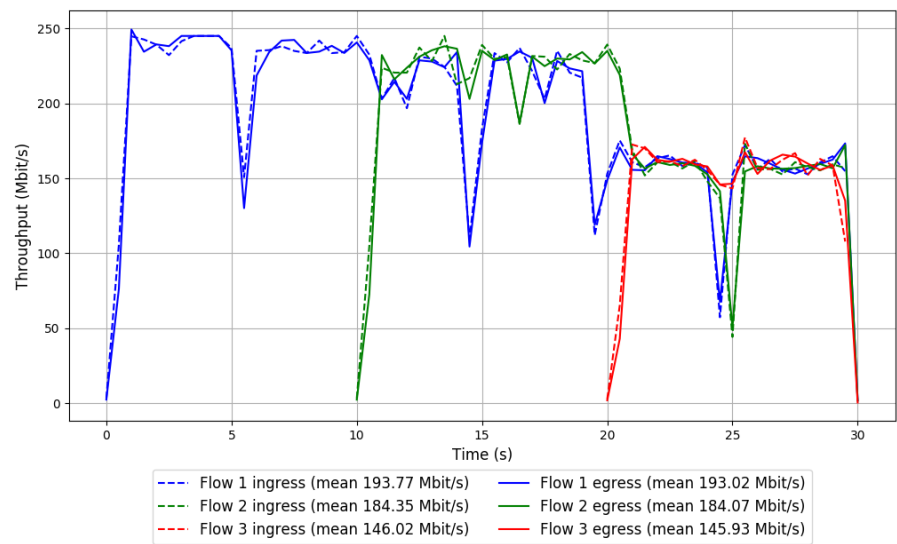
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 188.34 Mbit/s)   Flow 1 egress (mean 188.02 Mbit/s)
Flow 2 ingress (mean 176.76 Mbit/s)   Flow 2 egress (mean 176.68 Mbit/s)
Flow 3 ingress (mean 151.87 Mbit/s)   Flow 3 egress (mean 151.22 Mbit/s)

Flow 1 (95th percentile 105.12 ms)   Flow 2 (95th percentile 108.77 ms)   Flow 3 (95th percentile 116.17 ms)

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Run 2: Statistics of TCP BBR

Start at: 2018-02-14 08:54:20
End at: 2018-02-14 08:54:50

# Below is generated by plot.py at 2018-02-14 14:26:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.96 Mbit/s
95th percentile per-packet one-way delay: 96.339 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 193.02 Mbit/s
95th percentile per-packet one-way delay: 94.047 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 184.07 Mbit/s
95th percentile per-packet one-way delay: 95.948 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 145.93 Mbit/s
95th percentile per-packet one-way delay: 100.793 ms
Loss rate: 0.08%
```
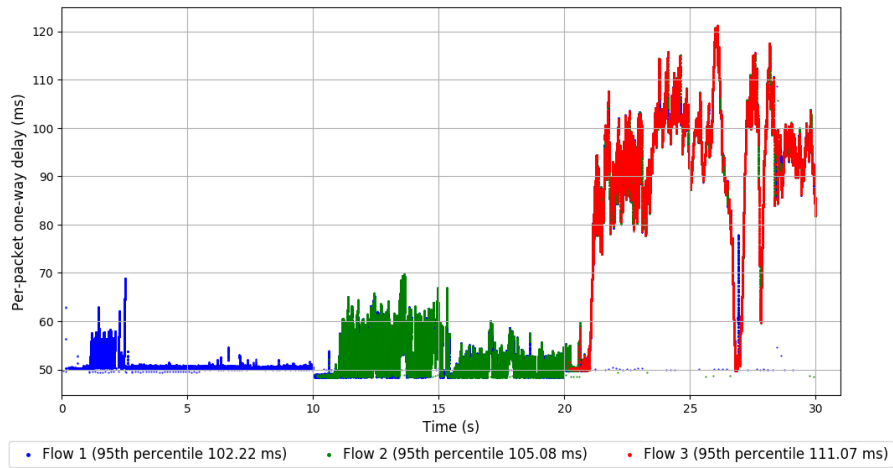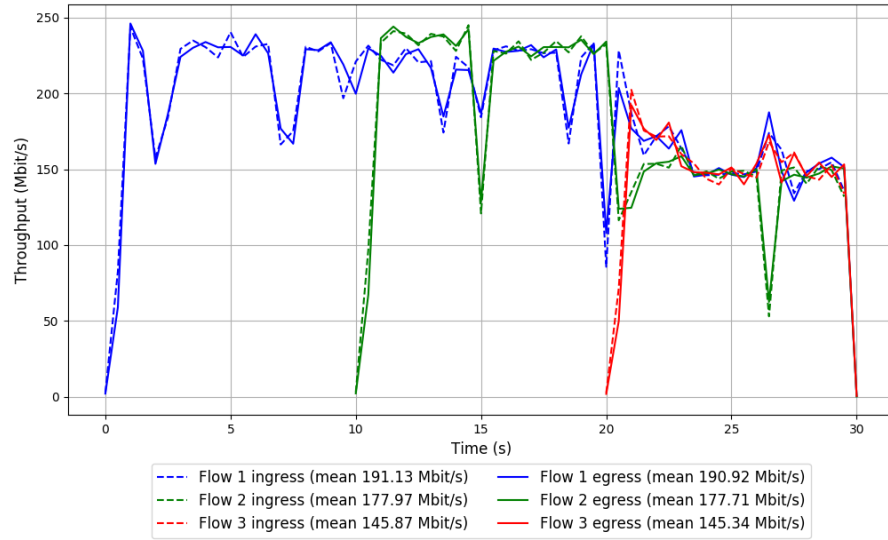
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 193.77 Mbit/s) --- Flow 1 egress (mean 193.02 Mbit/s)
Flow 2 ingress (mean 184.35 Mbit/s) --- Flow 2 egress (mean 184.07 Mbit/s)
Flow 3 ingress (mean 146.02 Mbit/s) --- Flow 3 egress (mean 145.93 Mbit/s)

Flow 1 (95th percentile 94.05 ms)   Flow 2 (95th percentile 95.95 ms)   Flow 3 (95th percentile 100.79 ms)

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Run 3: Statistics of TCP BBR

Start at: 2018-02-14 09:11:48
End at: 2018-02-14 09:12:18


# Below is generated by plot.py at 2018-02-14 14:26:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 357.36 Mbit/s
95th percentile per-packet one-way delay: 104.734 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 190.92 Mbit/s
95th percentile per-packet one-way delay: 102.216 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 177.71 Mbit/s
95th percentile per-packet one-way delay: 105.078 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 145.34 Mbit/s
95th percentile per-packet one-way delay: 111.073 ms
Loss rate: 0.36%
```
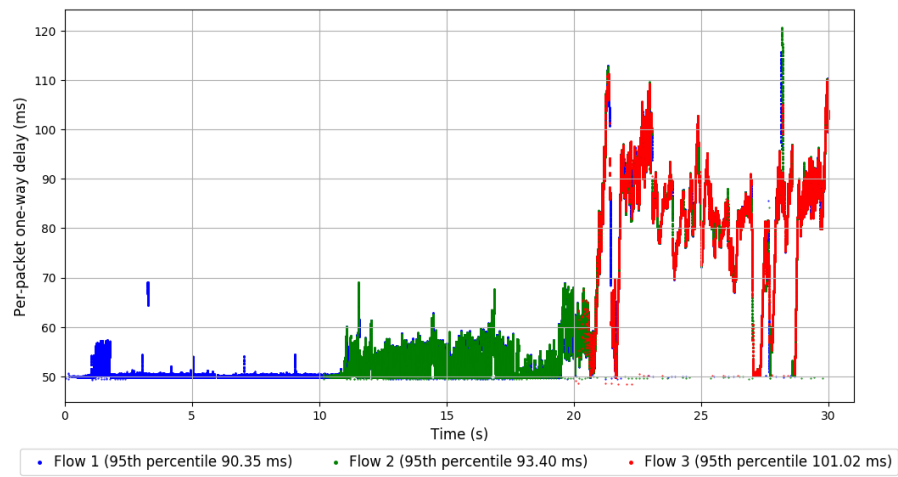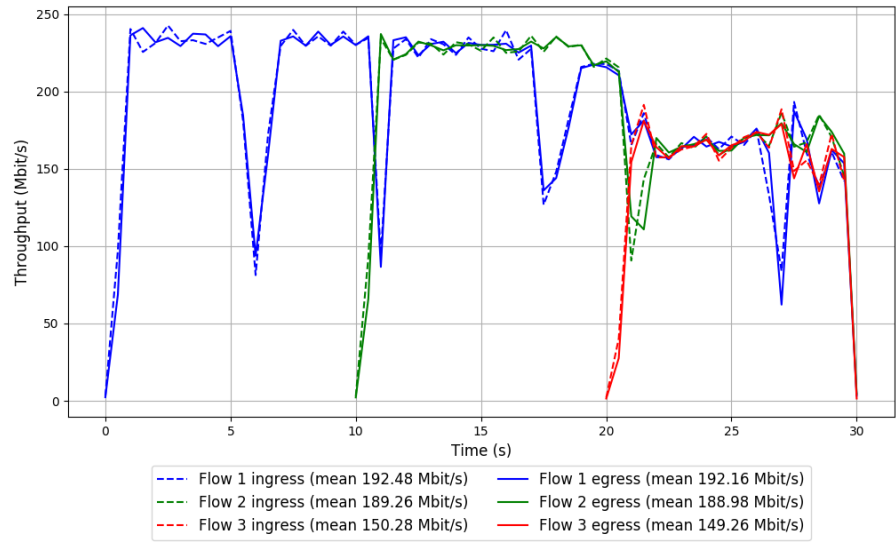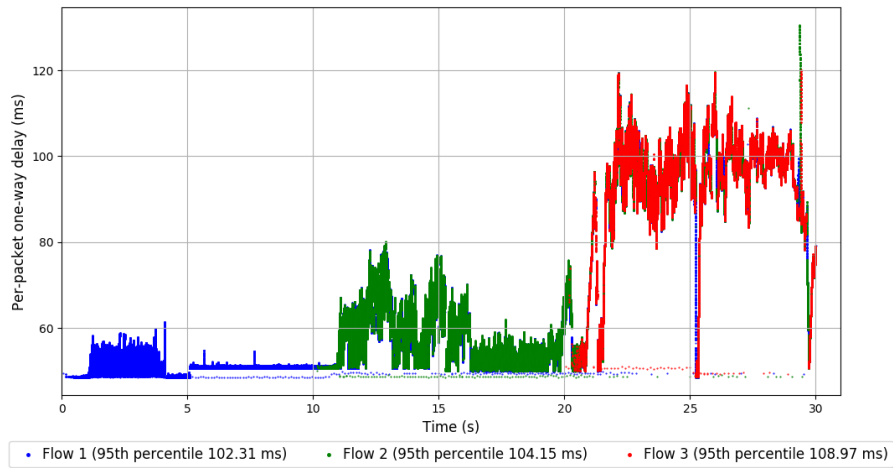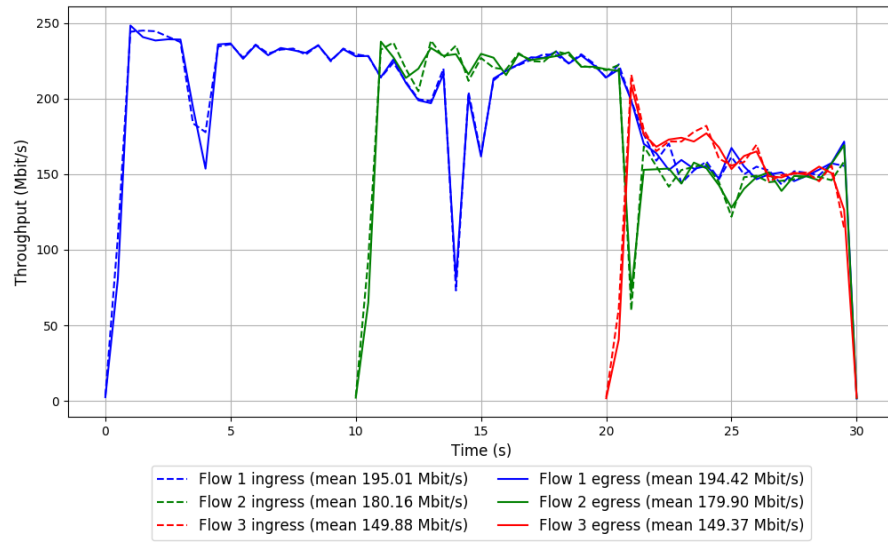
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 191.13 Mbit/s) --- Flow 1 egress (mean 190.92 Mbit/s)
Flow 2 ingress (mean 177.97 Mbit/s) --- Flow 2 egress (mean 177.71 Mbit/s)
Flow 3 ingress (mean 145.87 Mbit/s) --- Flow 3 egress (mean 145.34 Mbit/s)

Flow 1 (95th percentile 102.22 ms) Flow 2 (95th percentile 105.08 ms) Flow 3 (95th percentile 111.07 ms)

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Run 4: Statistics of TCP BBR

Start at: 2018-02-14 09:29:26
End at: 2018-02-14 09:29:56


# Below is generated by plot.py at 2018-02-14 14:26:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 367.50 Mbit/s
95th percentile per-packet one-way delay: 93.465 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 192.16 Mbit/s
95th percentile per-packet one-way delay: 90.352 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 188.98 Mbit/s
95th percentile per-packet one-way delay: 93.401 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 149.26 Mbit/s
95th percentile per-packet one-way delay: 101.019 ms
Loss rate: 0.67%
```
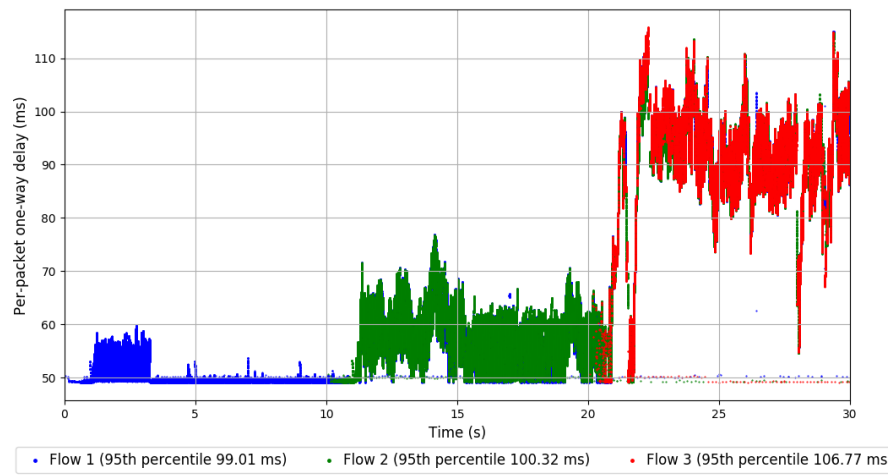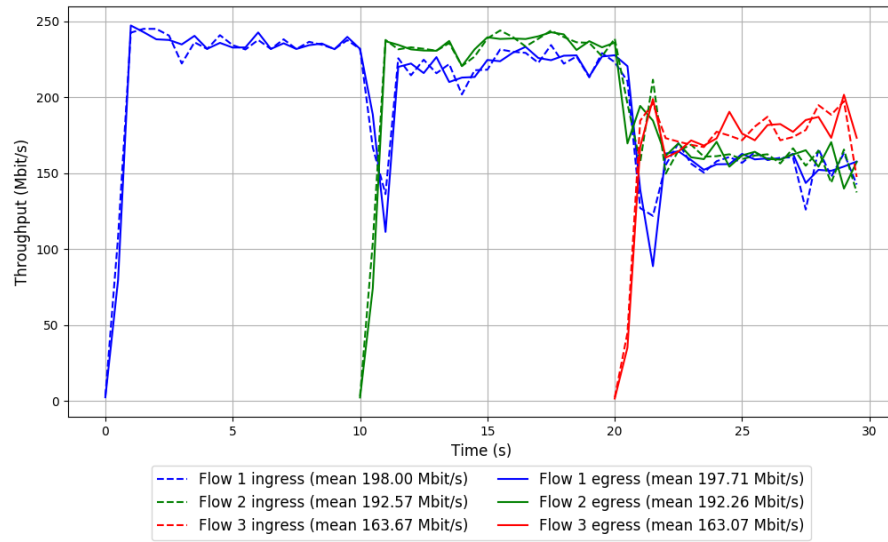
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 192.48 Mbit/s) — — — Flow 1 egress (mean 192.16 Mbit/s)
Flow 2 ingress (mean 189.26 Mbit/s) — — — Flow 2 egress (mean 188.98 Mbit/s)
Flow 3 ingress (mean 150.28 Mbit/s) — — — Flow 3 egress (mean 149.26 Mbit/s)

Flow 1 (95th percentile 90.35 ms)   Flow 2 (95th percentile 93.40 ms)   Flow 3 (95th percentile 101.02 ms)

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Run 5: Statistics of TCP BBR

Start at: 2018-02-14 09:47:03
End at: 2018-02-14 09:47:33

# Below is generated by plot.py at 2018-02-14 14:26:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.75 Mbit/s
95th percentile per-packet one-way delay: 104.340 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 194.42 Mbit/s
95th percentile per-packet one-way delay: 102.305 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 179.90 Mbit/s
95th percentile per-packet one-way delay: 104.151 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 149.37 Mbit/s
95th percentile per-packet one-way delay: 108.974 ms
Loss rate: 0.36%
```
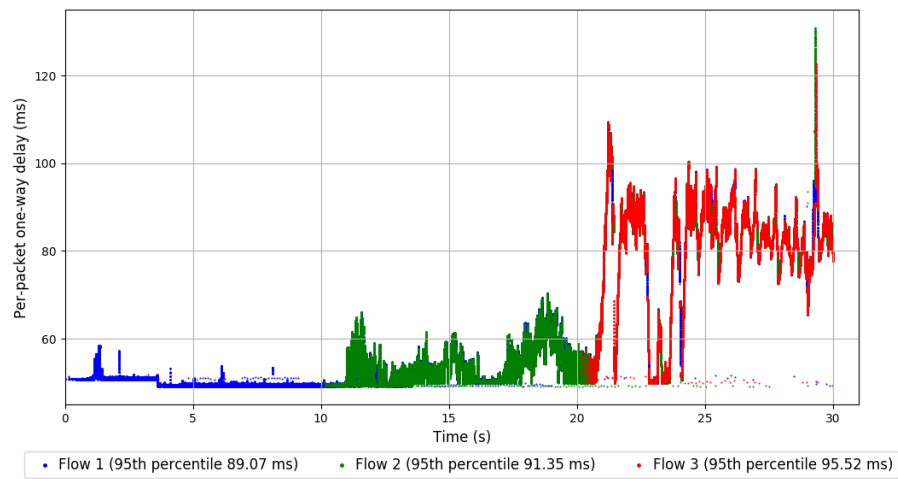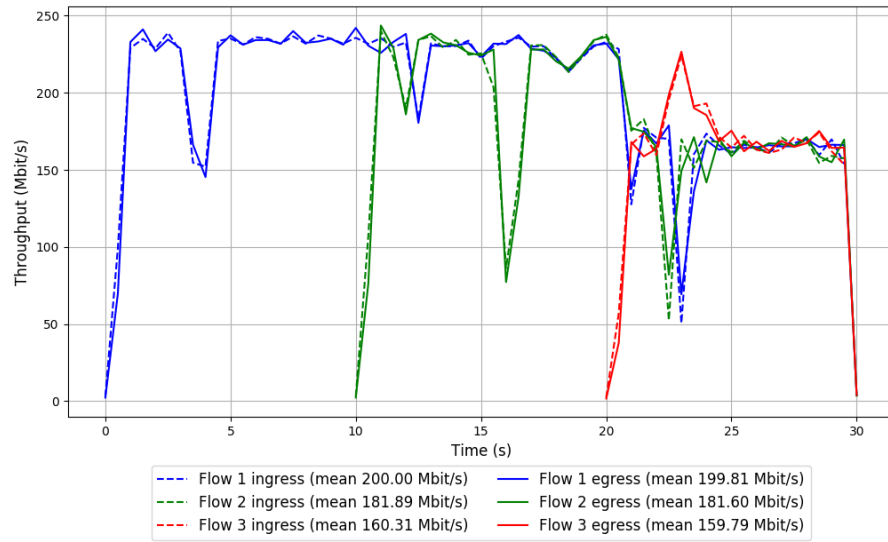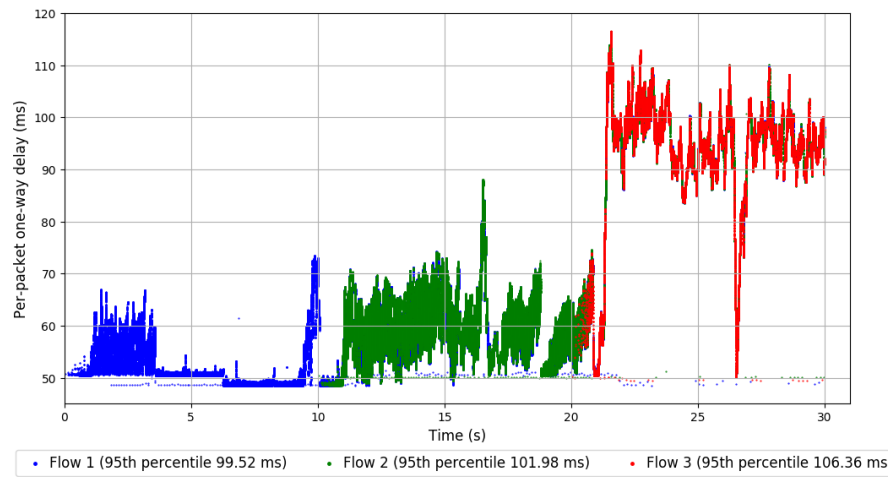
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 195.01 Mbit/s) --- Flow 1 egress (mean 194.42 Mbit/s)
Flow 2 ingress (mean 180.16 Mbit/s) --- Flow 2 egress (mean 179.90 Mbit/s)
Flow 3 ingress (mean 149.88 Mbit/s) --- Flow 3 egress (mean 149.37 Mbit/s)

Flow 1 (95th percentile 102.31 ms)   Flow 2 (95th percentile 104.15 ms)   Flow 3 (95th percentile 108.97 ms)

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Run 6: Statistics of TCP BBR

Start at: 2018-02-14 10:04:54
End at: 2018-02-14 10:05:24


# Below is generated by plot.py at 2018-02-14 14:26:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 379.81 Mbit/s
95th percentile per-packet one-way delay: 101.158 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 197.71 Mbit/s
95th percentile per-packet one-way delay: 99.009 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 192.26 Mbit/s
95th percentile per-packet one-way delay: 100.323 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 163.07 Mbit/s
95th percentile per-packet one-way delay: 106.773 ms
Loss rate: 0.35%
```
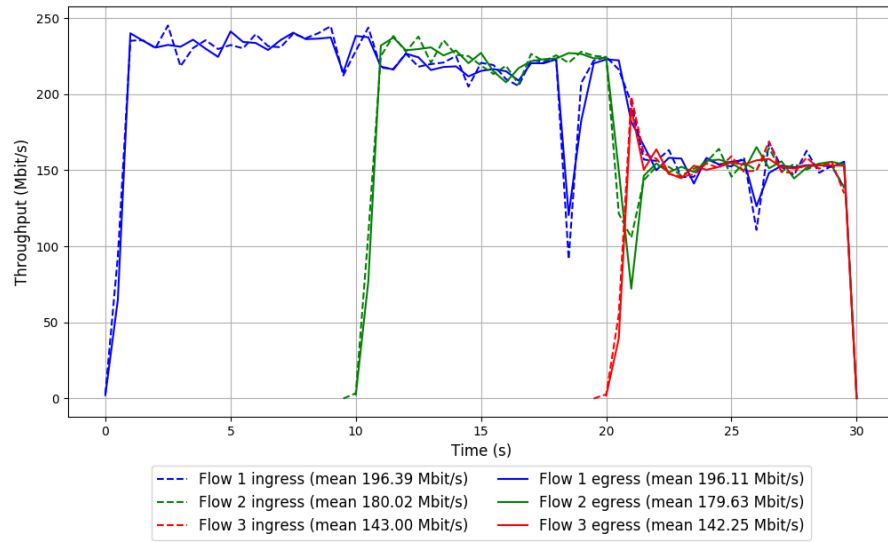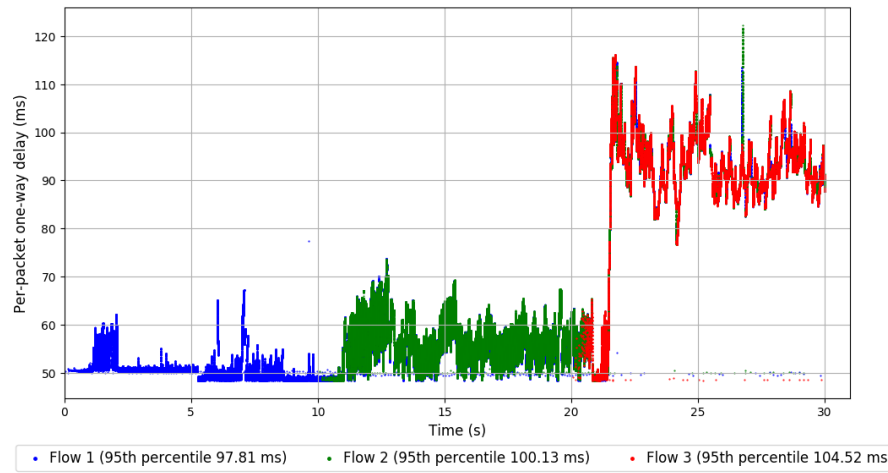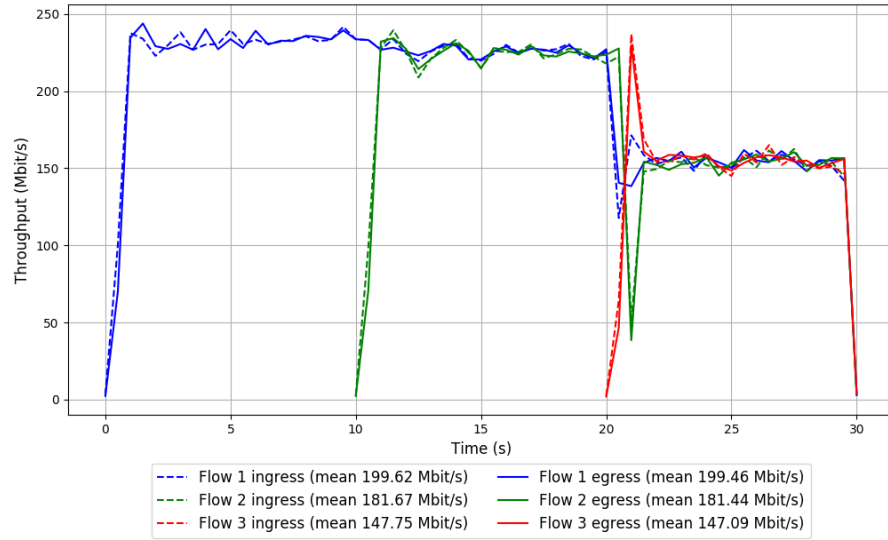
Run 6: Report of TCP BBR — Data Link

Flow 1 ingress (mean 198.00 Mbit/s)   Flow 1 egress (mean 197.71 Mbit/s)
Flow 2 ingress (mean 192.57 Mbit/s)   Flow 2 egress (mean 192.26 Mbit/s)
Flow 3 ingress (mean 163.67 Mbit/s)   Flow 3 egress (mean 163.07 Mbit/s)

Flow 1 (95th percentile 99.01 ms)   Flow 2 (95th percentile 100.32 ms)   Flow 3 (95th percentile 106.77 ms)

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```
Run 7: Statistics of TCP BBR

Start at: 2018-02-14 10:22:35
End at: 2018-02-14 10:23:05


# Below is generated by plot.py at 2018-02-14 14:26:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 373.72 Mbit/s
95th percentile per-packet one-way delay: 91.600 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 199.81 Mbit/s
95th percentile per-packet one-way delay: 89.072 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 181.60 Mbit/s
95th percentile per-packet one-way delay: 91.349 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 159.79 Mbit/s
95th percentile per-packet one-way delay: 95.521 ms
Loss rate: 0.34%
```
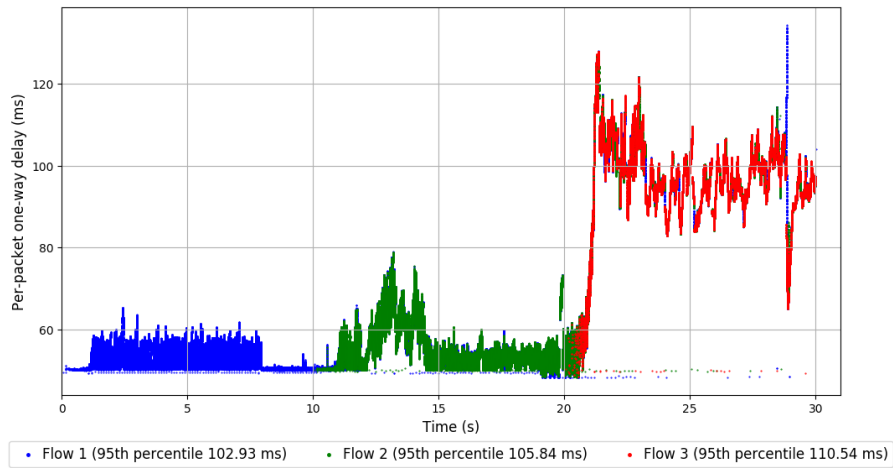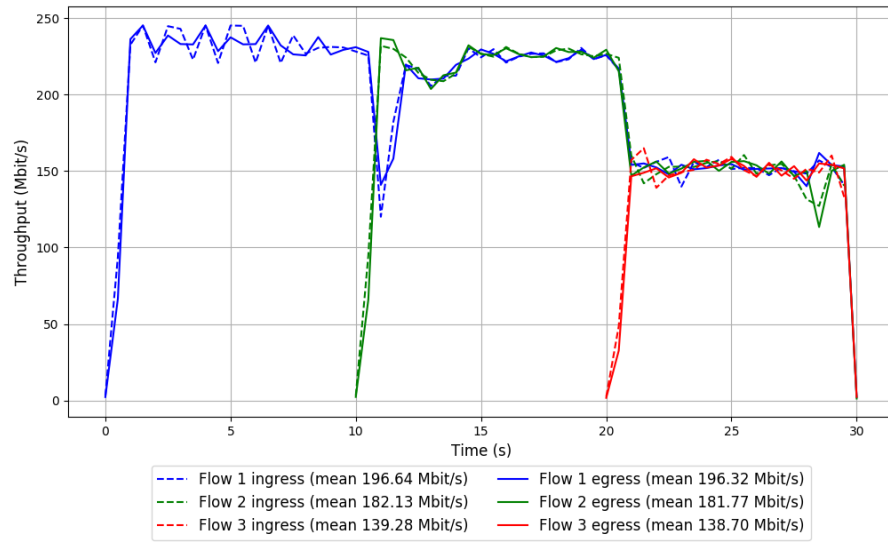
Run 7: Report of TCP BBR — Data Link

Flow 1 ingress (mean 200.00 Mbit/s) ---- Flow 1 egress (mean 199.81 Mbit/s)
Flow 2 ingress (mean 181.89 Mbit/s) ---- Flow 2 egress (mean 181.60 Mbit/s)
Flow 3 ingress (mean 160.31 Mbit/s) ---- Flow 3 egress (mean 159.79 Mbit/s)

Flow 1 (95th percentile 89.07 ms)   Flow 2 (95th percentile 91.35 ms)   Flow 3 (95th percentile 95.52 ms)

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Run 8: Statistics of TCP BBR

Start at: 2018-02-14 10:40:32
End at: 2018-02-14 10:41:02


# Below is generated by plot.py at 2018-02-14 14:26:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.08 Mbit/s
95th percentile per-packet one-way delay: 101.930 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 196.11 Mbit/s
95th percentile per-packet one-way delay: 99.516 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 179.63 Mbit/s
95th percentile per-packet one-way delay: 101.982 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 142.25 Mbit/s
95th percentile per-packet one-way delay: 106.362 ms
Loss rate: 0.44%
```
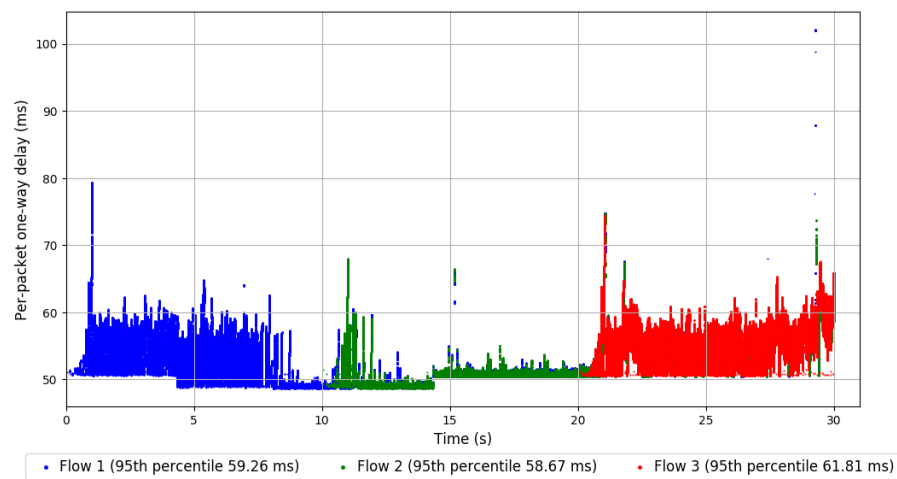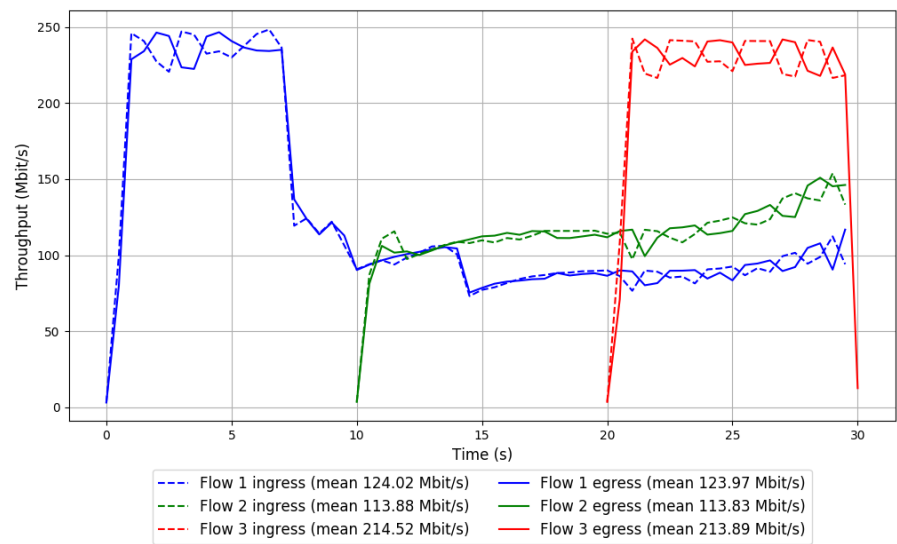
Run 8: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 196.39 Mbit/s)   — Flow 1 egress (mean 196.11 Mbit/s)
- - - Flow 2 ingress (mean 180.02 Mbit/s)   — Flow 2 egress (mean 179.63 Mbit/s)
- - - Flow 3 ingress (mean 143.00 Mbit/s)   — Flow 3 egress (mean 142.25 Mbit/s)

• Flow 1 (95th percentile 99.52 ms)   • Flow 2 (95th percentile 101.98 ms)   • Flow 3 (95th percentile 106.36 ms)

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```
Run 9: Statistics of TCP BBR

Start at: 2018-02-14 10:58:23
End at: 2018-02-14 10:58:53


# Below is generated by plot.py at 2018-02-14 14:31:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 369.07 Mbit/s
95th percentile per-packet one-way delay: 100.212 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 199.46 Mbit/s
95th percentile per-packet one-way delay: 97.813 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 181.44 Mbit/s
95th percentile per-packet one-way delay: 100.131 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 147.09 Mbit/s
95th percentile per-packet one-way delay: 104.524 ms
Loss rate: 0.43%
```
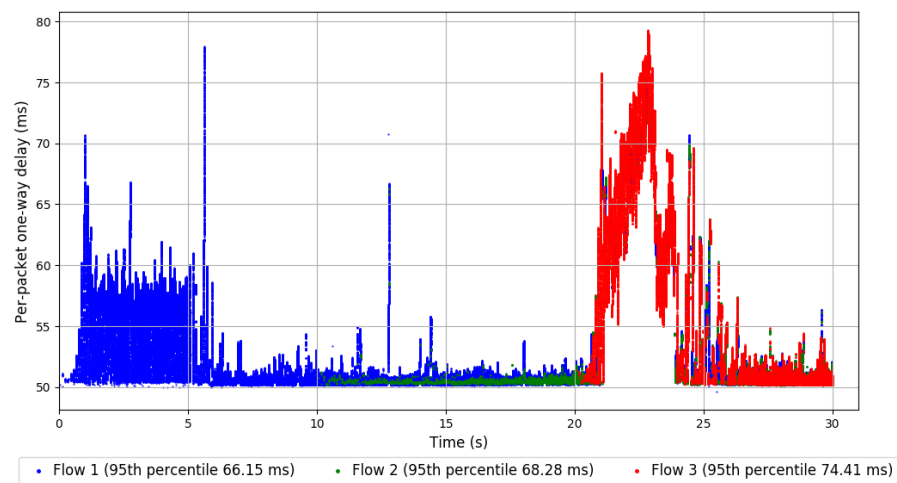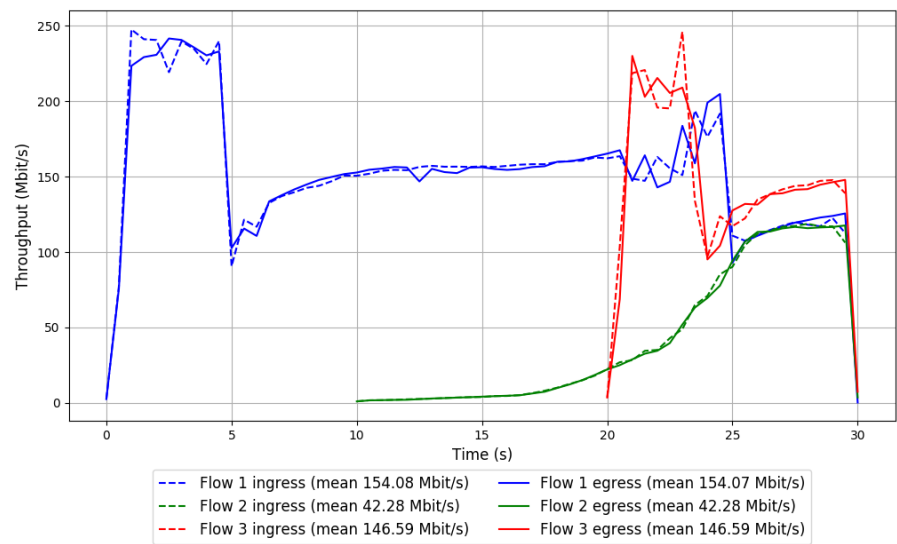
Run 9: Report of TCP BBR — Data Link

Flow 1 ingress (mean 199.62 Mbit/s) — Flow 1 egress (mean 199.46 Mbit/s)
Flow 2 ingress (mean 181.67 Mbit/s) — Flow 2 egress (mean 181.44 Mbit/s)
Flow 3 ingress (mean 147.75 Mbit/s) — Flow 3 egress (mean 147.09 Mbit/s)

Flow 1 (95th percentile 97.81 ms)   Flow 2 (95th percentile 100.13 ms)   Flow 3 (95th percentile 104.52 ms)

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Run 10: Statistics of TCP BBR

Start at: 2018-02-14 11:16:09
End at: 2018-02-14 11:16:39


# Below is generated by plot.py at 2018-02-14 14:31:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.37 Mbit/s
95th percentile per-packet one-way delay: 106.062 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 196.32 Mbit/s
95th percentile per-packet one-way delay: 102.928 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 181.77 Mbit/s
95th percentile per-packet one-way delay: 105.839 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 138.70 Mbit/s
95th percentile per-packet one-way delay: 110.543 ms
Loss rate: 0.42%
```
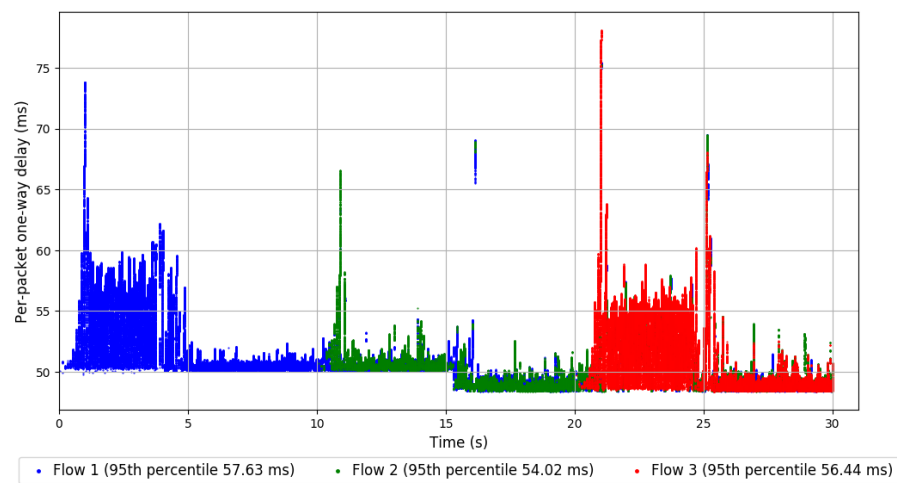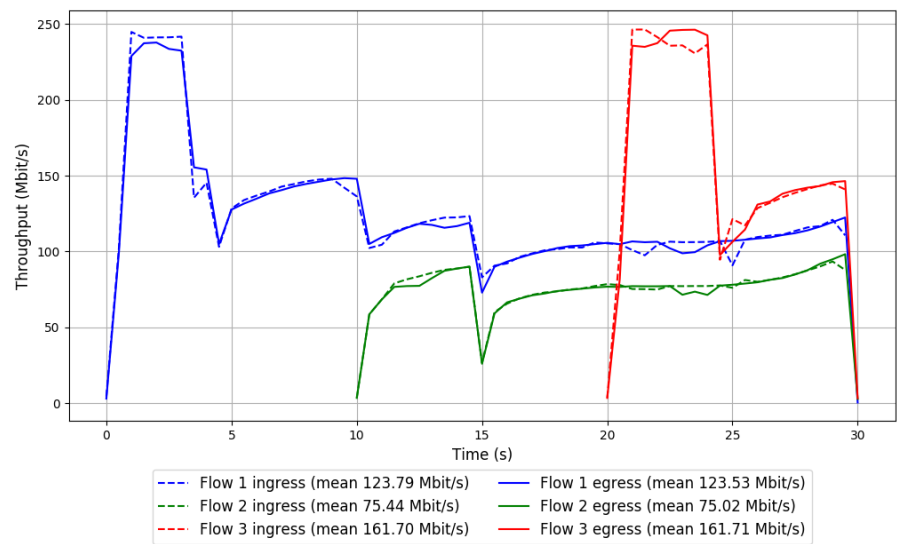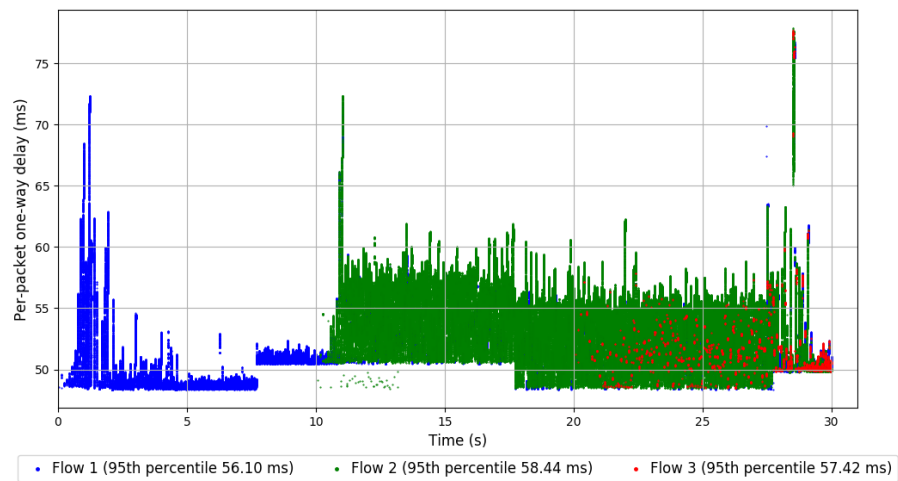
Run 10: Report of TCP BBR — Data Link

Flow 1 ingress (mean 196.64 Mbit/s) --- Flow 1 egress (mean 196.32 Mbit/s)
Flow 2 ingress (mean 182.13 Mbit/s) --- Flow 2 egress (mean 181.77 Mbit/s)
Flow 3 ingress (mean 139.28 Mbit/s) --- Flow 3 egress (mean 138.70 Mbit/s)

Flow 1 (95th percentile 102.93 ms)   Flow 2 (95th percentile 105.84 ms)   Flow 3 (95th percentile 110.54 ms)

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```
Run 1: Statistics of TCP Cubic

Start at: 2018-02-14 08:44:14
End at: 2018-02-14 08:44:44


# Below is generated by plot.py at 2018-02-14 14:31:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 270.54 Mbit/s
95th percentile per-packet one-way delay: 60.145 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 123.97 Mbit/s
95th percentile per-packet one-way delay: 59.256 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 113.83 Mbit/s
95th percentile per-packet one-way delay: 58.669 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 213.89 Mbit/s
95th percentile per-packet one-way delay: 61.811 ms
Loss rate: 0.26%
```
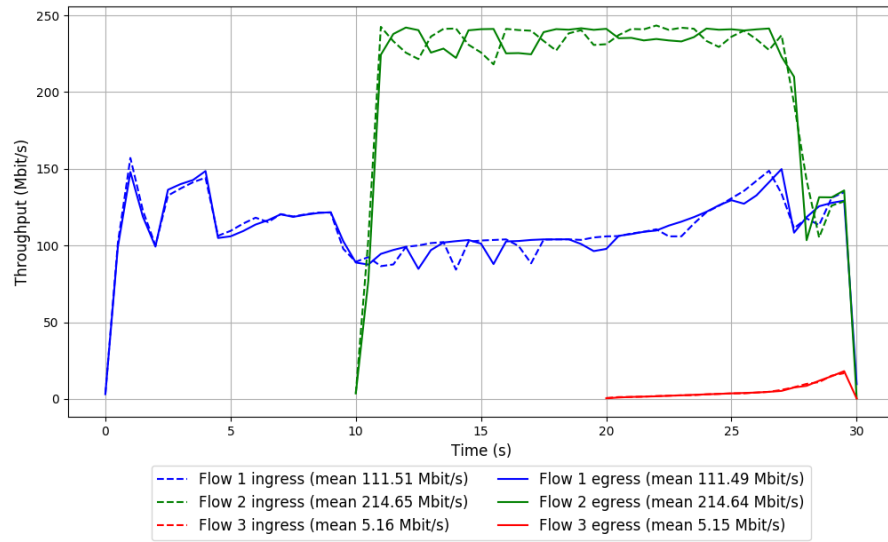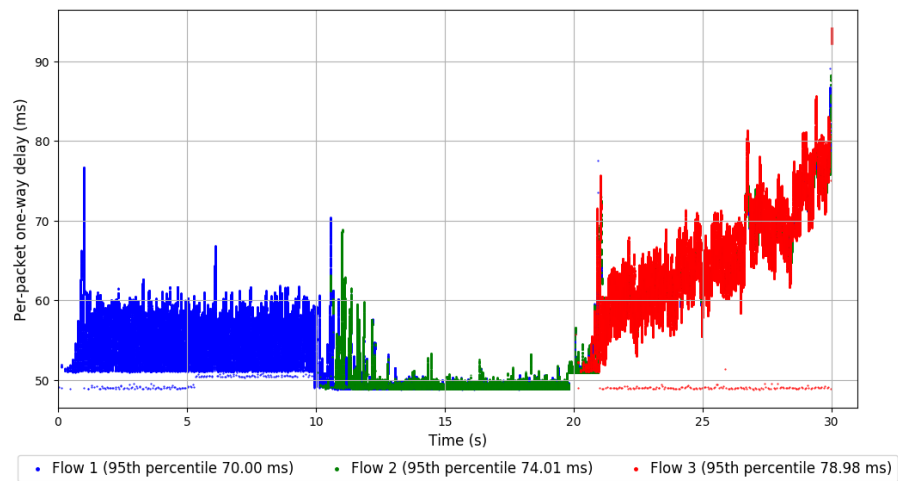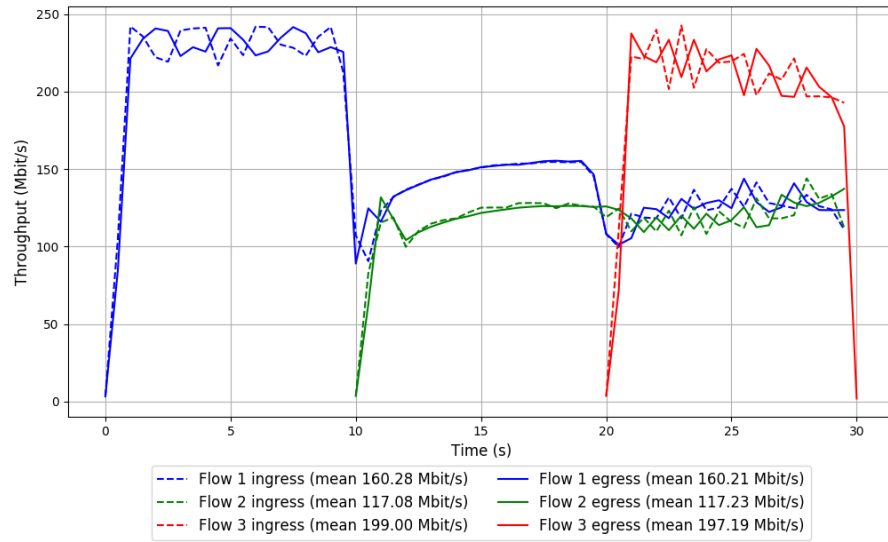
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2018-02-14 09:01:41
End at: 2018-02-14 09:02:11


# Below is generated by plot.py at 2018-02-14 14:31:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 230.80 Mbit/s
95th percentile per-packet one-way delay: 69.614 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 154.07 Mbit/s
95th percentile per-packet one-way delay: 66.154 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.28 Mbit/s
95th percentile per-packet one-way delay: 68.276 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 146.59 Mbit/s
95th percentile per-packet one-way delay: 74.414 ms
Loss rate: 0.01%
```
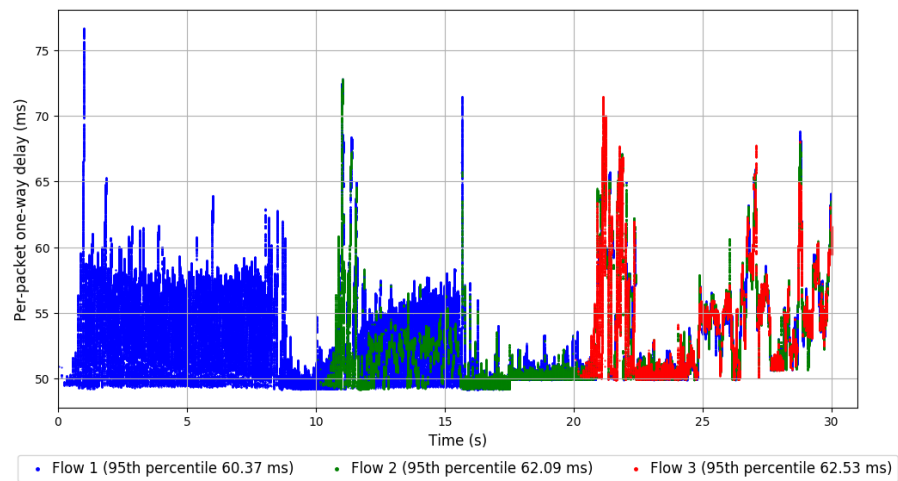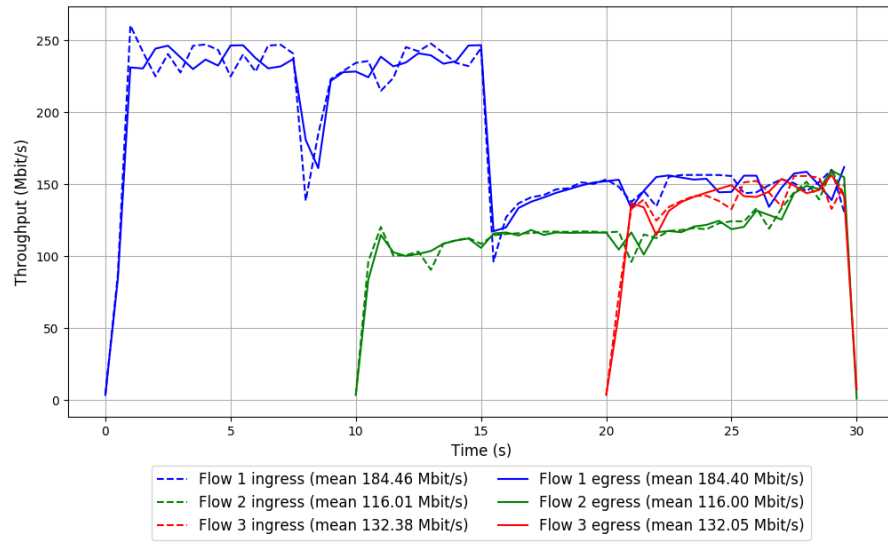
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 154.08 Mbit/s)   Flow 1 egress (mean 154.07 Mbit/s)
Flow 2 ingress (mean 42.28 Mbit/s)   Flow 2 egress (mean 42.28 Mbit/s)
Flow 3 ingress (mean 146.59 Mbit/s)   Flow 3 egress (mean 146.59 Mbit/s)

Flow 1 (95th percentile 66.15 ms)   Flow 2 (95th percentile 68.28 ms)   Flow 3 (95th percentile 74.41 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2018-02-14 09:19:13
End at: 2018-02-14 09:19:43


# Below is generated by plot.py at 2018-02-14 14:31:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 227.13 Mbit/s
95th percentile per-packet one-way delay: 57.052 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 123.53 Mbit/s
95th percentile per-packet one-way delay: 57.628 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 75.02 Mbit/s
95th percentile per-packet one-way delay: 54.016 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 161.71 Mbit/s
95th percentile per-packet one-way delay: 56.436 ms
Loss rate: 0.00%
```
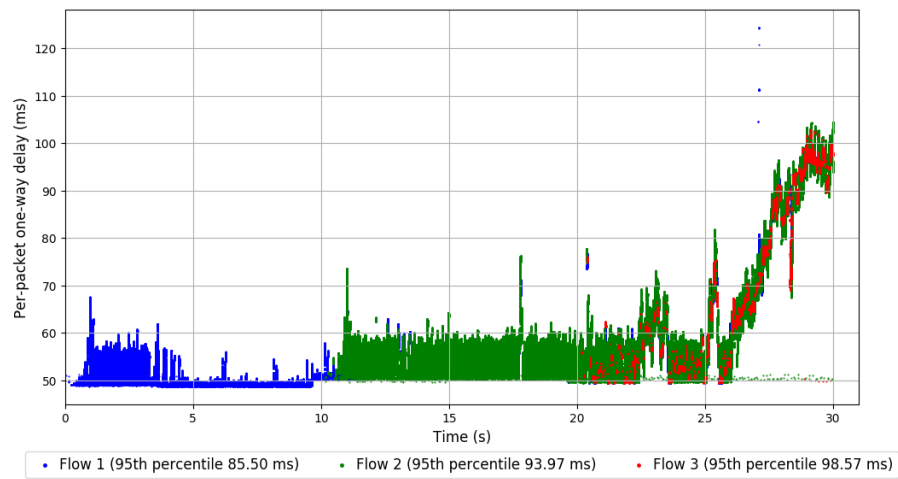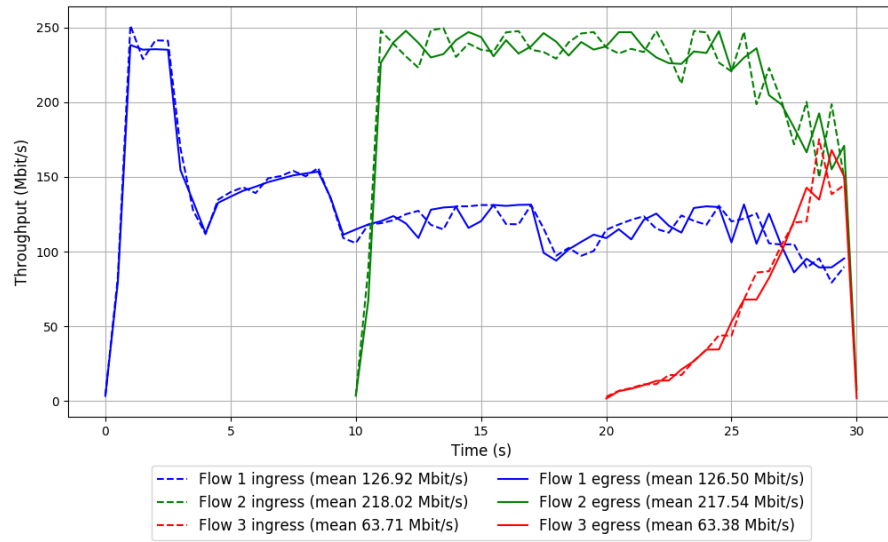
Run 3: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 123.79 Mbit/s)   —— Flow 1 egress (mean 123.53 Mbit/s)
- - - Flow 2 ingress (mean 75.44 Mbit/s)   —— Flow 2 egress (mean 75.02 Mbit/s)
- - - Flow 3 ingress (mean 161.70 Mbit/s)   —— Flow 3 egress (mean 161.71 Mbit/s)

• Flow 1 (95th percentile 57.63 ms)   • Flow 2 (95th percentile 54.02 ms)   • Flow 3 (95th percentile 56.44 ms)

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```
Run 4: Statistics of TCP Cubic

Start at: 2018-02-14 09:37:01
End at: 2018-02-14 09:37:31


# Below is generated by plot.py at 2018-02-14 14:31:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 256.12 Mbit/s
95th percentile per-packet one-way delay: 58.042 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 111.49 Mbit/s
95th percentile per-packet one-way delay: 56.103 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 214.64 Mbit/s
95th percentile per-packet one-way delay: 58.435 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 5.15 Mbit/s
95th percentile per-packet one-way delay: 57.421 ms
Loss rate: 0.21%
```
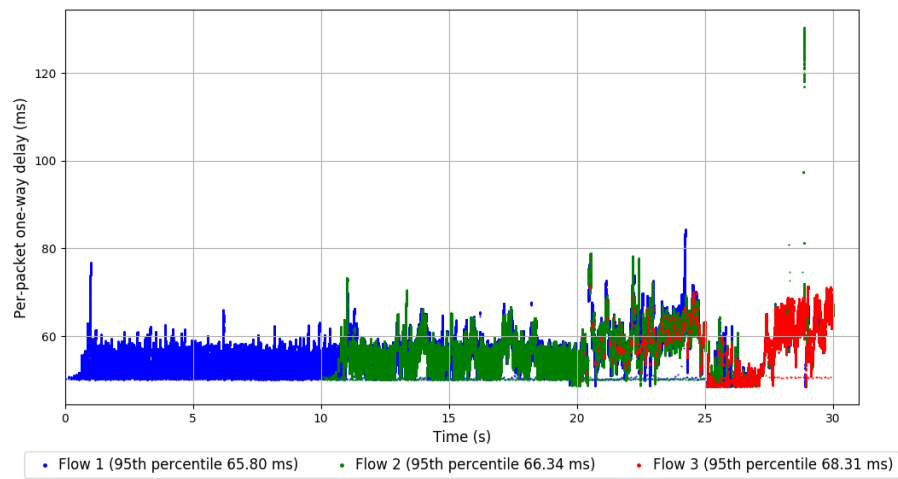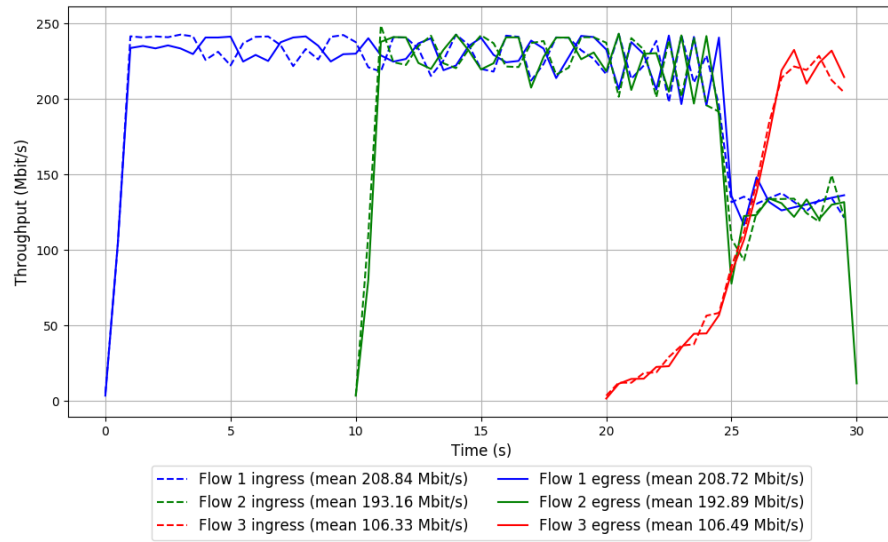
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-02-14 09:54:38
End at: 2018-02-14 09:55:08

# Below is generated by plot.py at 2018-02-14 14:31:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 303.42 Mbit/s
95th percentile per-packet one-way delay: 74.566 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 160.21 Mbit/s
95th percentile per-packet one-way delay: 69.997 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 117.23 Mbit/s
95th percentile per-packet one-way delay: 74.006 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 197.19 Mbit/s
95th percentile per-packet one-way delay: 78.984 ms
Loss rate: 0.95%
```
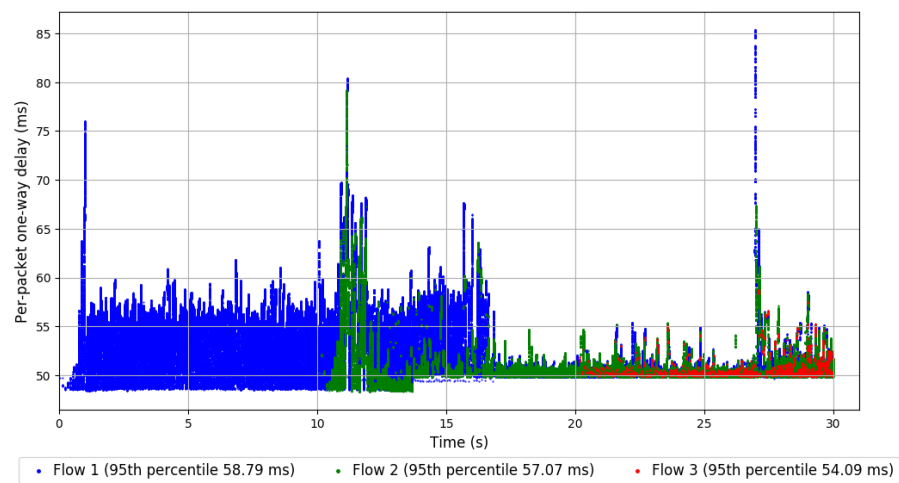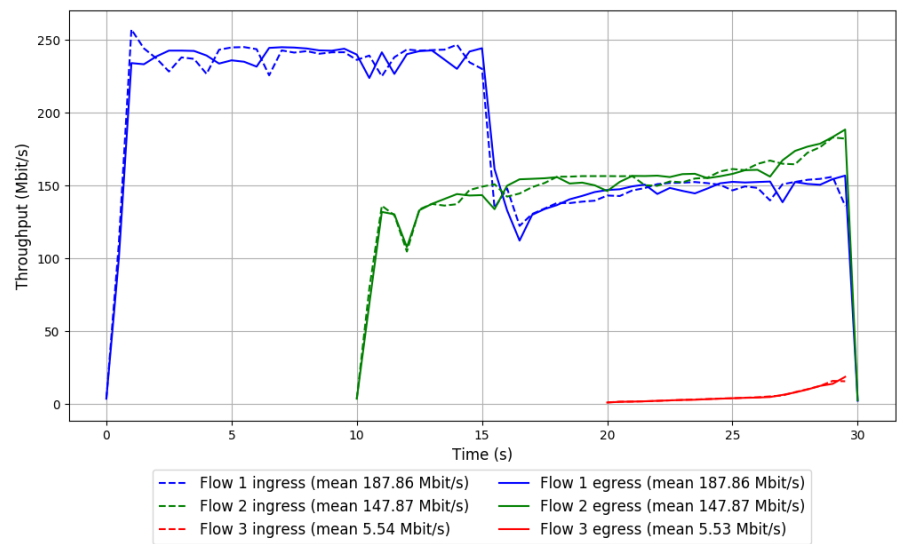
Run 5: Report of TCP Cubic — Data Link

```
Run 6: Statistics of TCP Cubic

Start at: 2018-02-14 10:12:31
End at: 2018-02-14 10:13:01

# Below is generated by plot.py at 2018-02-14 14:31:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 305.32 Mbit/s
95th percentile per-packet one-way delay: 61.316 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 184.40 Mbit/s
95th percentile per-packet one-way delay: 60.365 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 116.00 Mbit/s
95th percentile per-packet one-way delay: 62.095 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 132.05 Mbit/s
95th percentile per-packet one-way delay: 62.529 ms
Loss rate: 0.25%
```
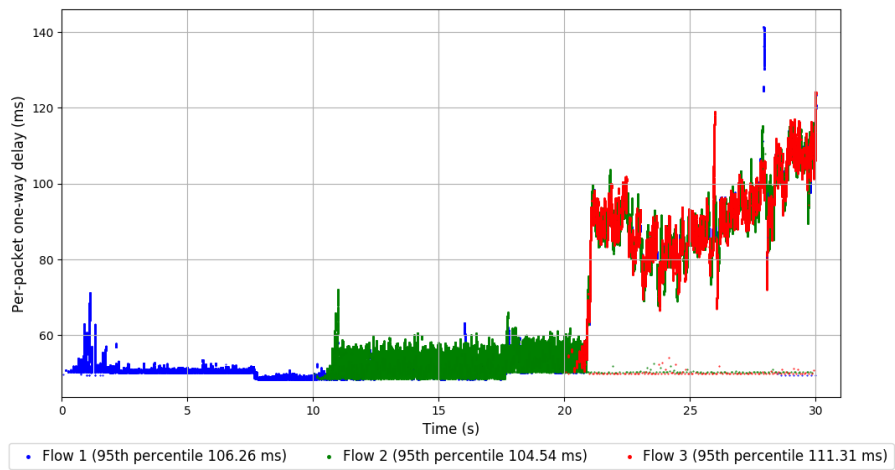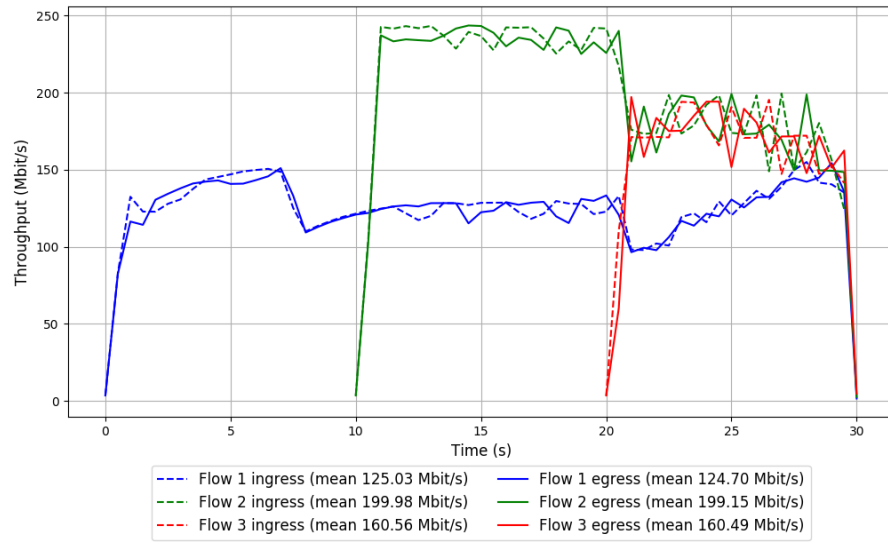
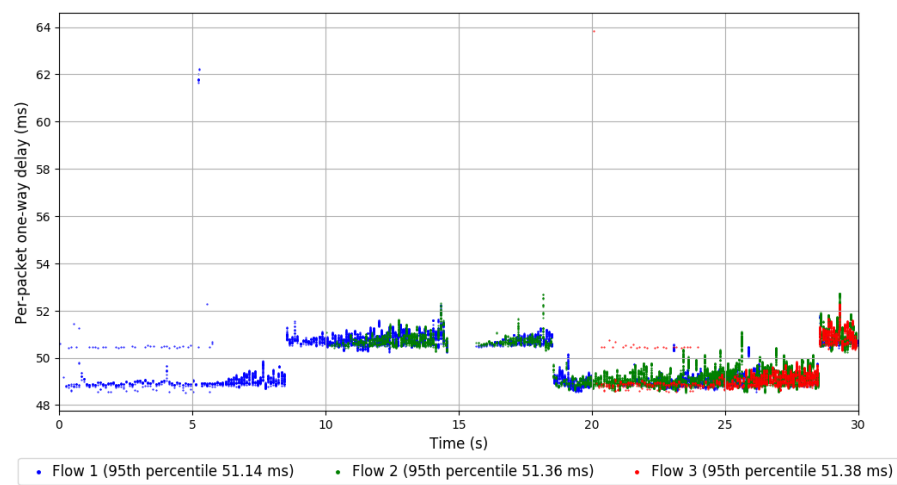Run 6: Report of TCP Cubic — Data Link

```
Run 7: Statistics of TCP Cubic

Start at: 2018-02-14 10:30:09
End at: 2018-02-14 10:30:39


# Below is generated by plot.py at 2018-02-14 14:34:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 292.23 Mbit/s
95th percentile per-packet one-way delay: 94.638 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 126.50 Mbit/s
95th percentile per-packet one-way delay: 85.502 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 217.54 Mbit/s
95th percentile per-packet one-way delay: 93.969 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 63.38 Mbit/s
95th percentile per-packet one-way delay: 98.567 ms
Loss rate: 0.59%
```
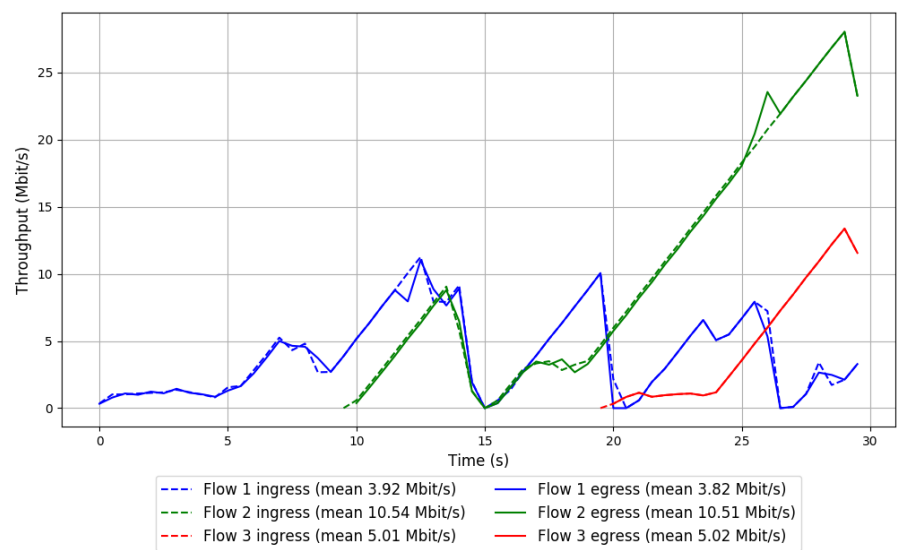
Run 7: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 126.92 Mbit/s) — Flow 1 egress (mean 126.50 Mbit/s)
Flow 2 ingress (mean 218.02 Mbit/s) — Flow 2 egress (mean 217.54 Mbit/s)
Flow 3 ingress (mean 63.71 Mbit/s) — Flow 3 egress (mean 63.38 Mbit/s)

Flow 1 (95th percentile 85.50 ms)   Flow 2 (95th percentile 93.97 ms)   Flow 3 (95th percentile 98.57 ms)
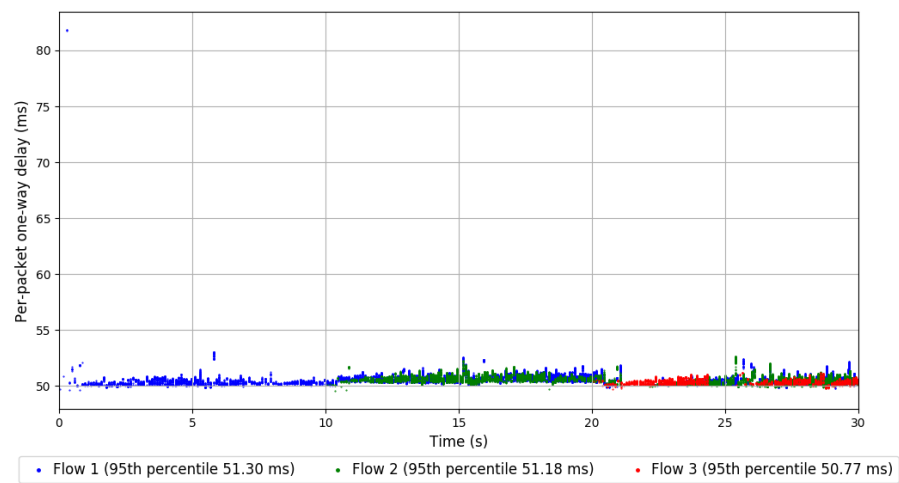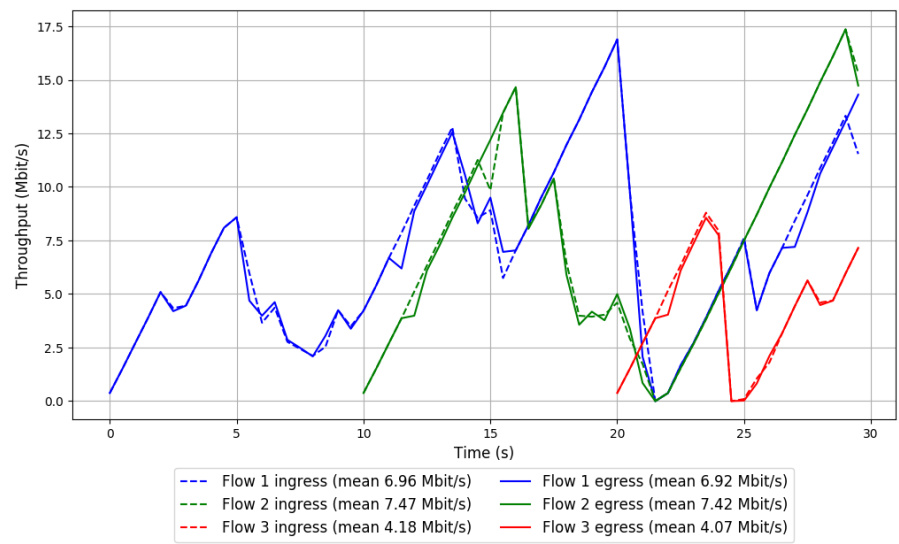
```
Run 8: Statistics of TCP Cubic

Start at: 2018-02-14 10:48:09
End at: 2018-02-14 10:48:39


# Below is generated by plot.py at 2018-02-14 14:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 372.21 Mbit/s
95th percentile per-packet one-way delay: 66.531 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 208.72 Mbit/s
95th percentile per-packet one-way delay: 65.798 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 192.89 Mbit/s
95th percentile per-packet one-way delay: 66.340 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 106.49 Mbit/s
95th percentile per-packet one-way delay: 68.313 ms
Loss rate: 0.25%
```

Run 8: Report of TCP Cubic — Data Link

```
Run 9: Statistics of TCP Cubic

Start at: 2018-02-14 11:05:55
End at: 2018-02-14 11:06:25


# Below is generated by plot.py at 2018-02-14 14:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 288.11 Mbit/s
95th percentile per-packet one-way delay: 58.569 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 187.86 Mbit/s
95th percentile per-packet one-way delay: 58.793 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 147.87 Mbit/s
95th percentile per-packet one-way delay: 57.066 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 5.53 Mbit/s
95th percentile per-packet one-way delay: 54.092 ms
Loss rate: 0.04%
```
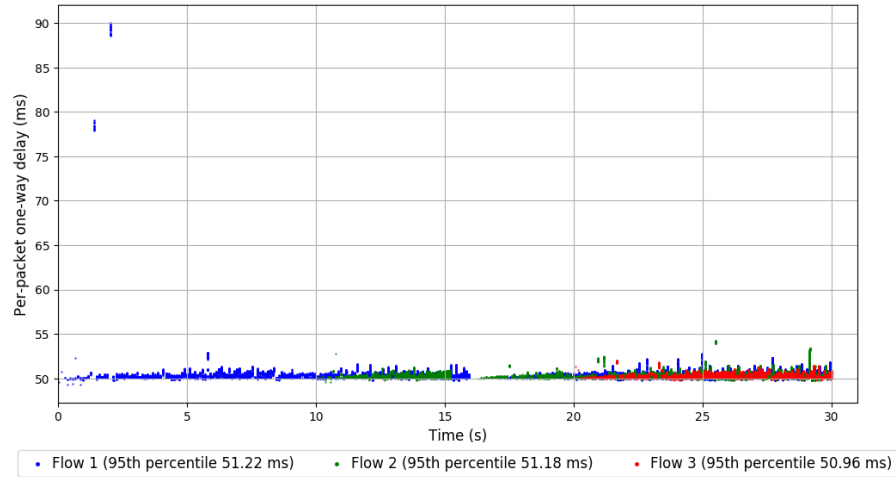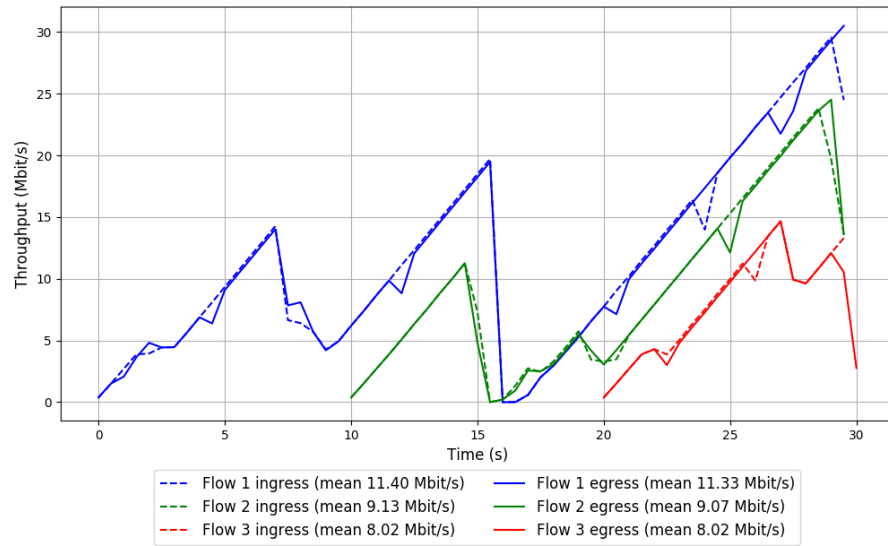
Run 9: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 187.86 Mbit/s) --- Flow 1 egress (mean 187.86 Mbit/s)
Flow 2 ingress (mean 147.87 Mbit/s) --- Flow 2 egress (mean 147.87 Mbit/s)
Flow 3 ingress (mean 5.54 Mbit/s) --- Flow 3 egress (mean 5.53 Mbit/s)

Flow 1 (95th percentile 58.79 ms) · Flow 2 (95th percentile 57.07 ms) · Flow 3 (95th percentile 54.09 ms)

```
Run 10: Statistics of TCP Cubic

Start at: 2018-02-14 11:23:31
End at: 2018-02-14 11:24:01


# Below is generated by plot.py at 2018-02-14 14:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 310.54 Mbit/s
95th percentile per-packet one-way delay: 106.983 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 124.70 Mbit/s
95th percentile per-packet one-way delay: 106.263 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 199.15 Mbit/s
95th percentile per-packet one-way delay: 104.542 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 160.49 Mbit/s
95th percentile per-packet one-way delay: 111.313 ms
Loss rate: 0.00%
```
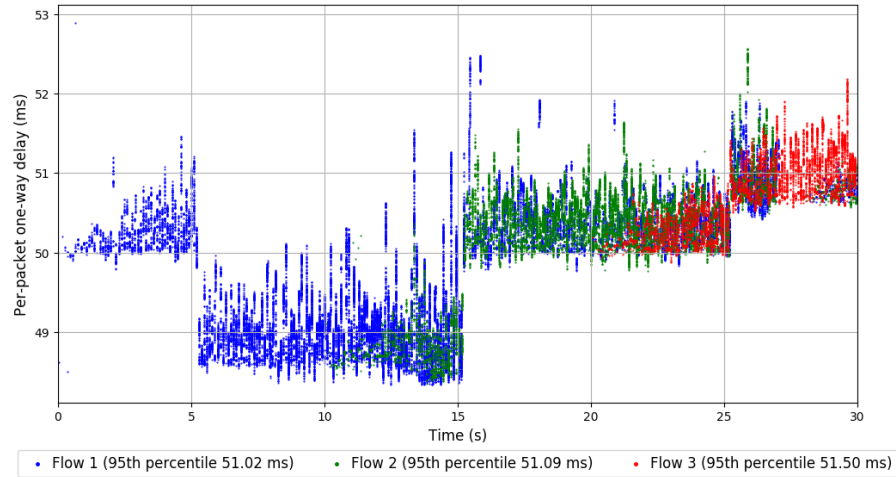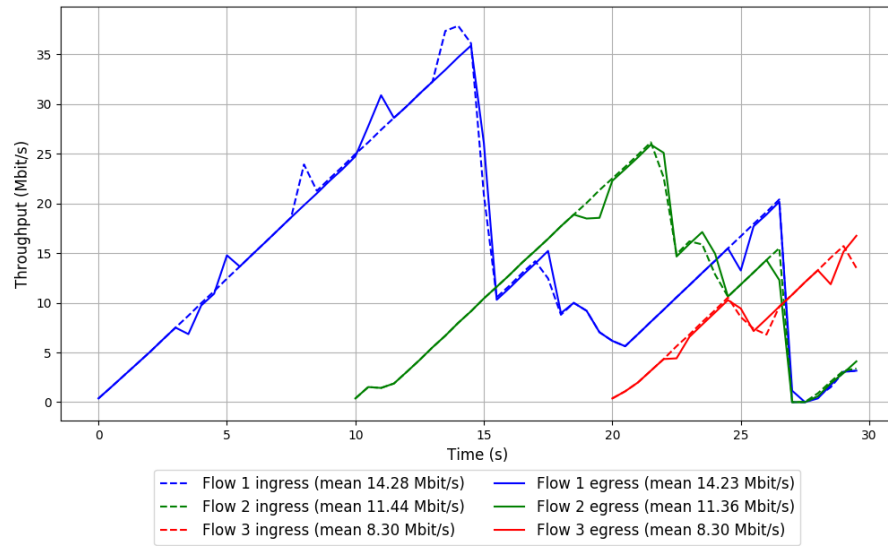
Run 10: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 125.03 Mbit/s) — Flow 1 egress (mean 124.70 Mbit/s)
Flow 2 ingress (mean 199.98 Mbit/s) — Flow 2 egress (mean 199.15 Mbit/s)
Flow 3 ingress (mean 160.56 Mbit/s) — Flow 3 egress (mean 160.49 Mbit/s)

Flow 1 (95th percentile 106.26 ms)   Flow 2 (95th percentile 104.54 ms)   Flow 3 (95th percentile 111.31 ms)

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```
Run 1: Statistics of LEDBAT

Start at: 2018-02-14 08:52:40
End at: 2018-02-14 08:53:10

# Below is generated by plot.py at 2018-02-14 14:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.44 Mbit/s
95th percentile per-packet one-way delay: 51.269 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 3.82 Mbit/s
95th percentile per-packet one-way delay: 51.142 ms
Loss rate: 2.56%
-- Flow 2:
Average throughput: 10.51 Mbit/s
95th percentile per-packet one-way delay: 51.359 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 51.375 ms
Loss rate: 0.00%
```
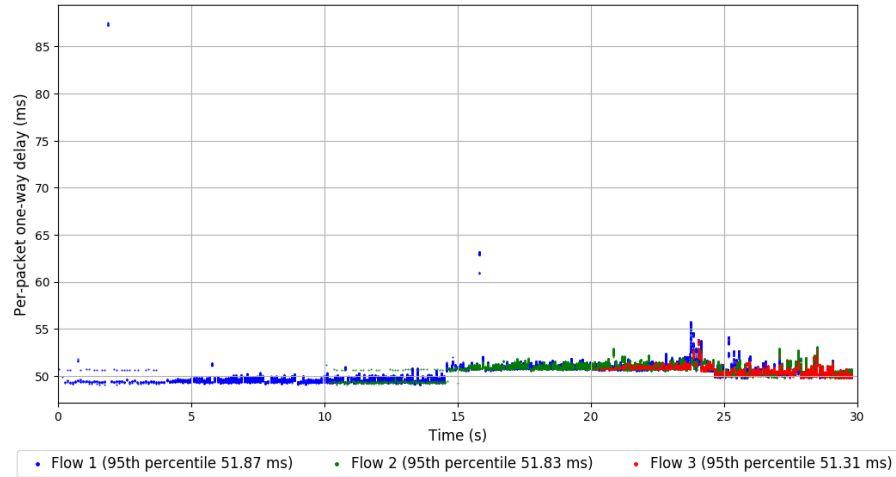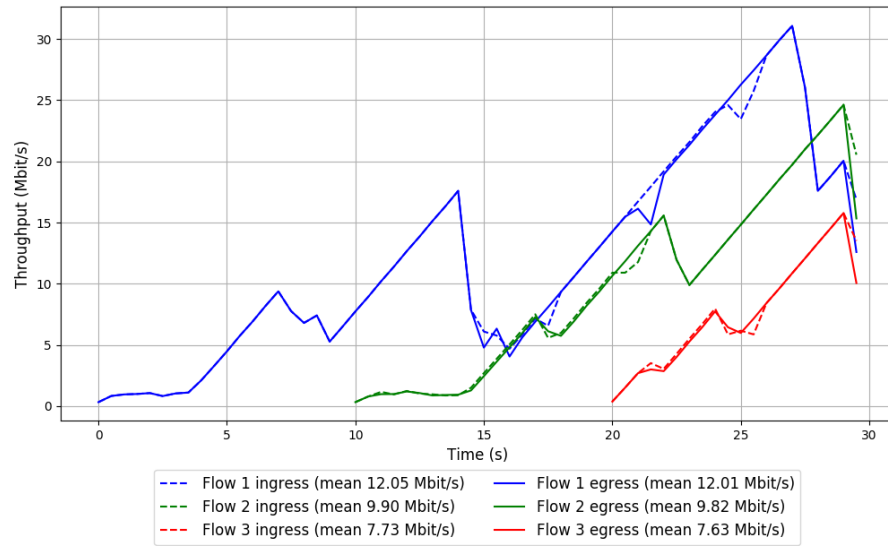
Run 1: Report of LEDBAT — Data Link

45

```
Run 2: Statistics of LEDBAT

Start at: 2018-02-14 09:10:08
End at: 2018-02-14 09:10:38

# Below is generated by plot.py at 2018-02-14 14:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.19 Mbit/s
95th percentile per-packet one-way delay: 51.210 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 6.92 Mbit/s
95th percentile per-packet one-way delay: 51.302 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 7.42 Mbit/s
95th percentile per-packet one-way delay: 51.182 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 4.07 Mbit/s
95th percentile per-packet one-way delay: 50.773 ms
Loss rate: 2.63%
```
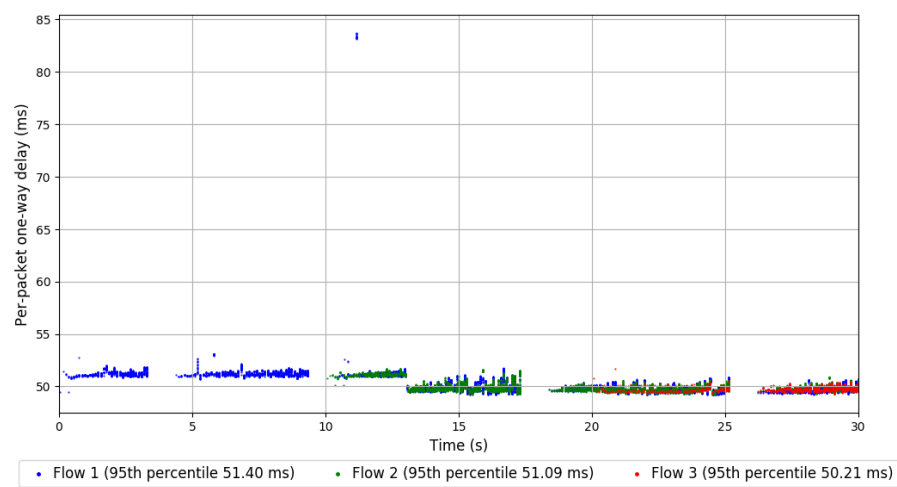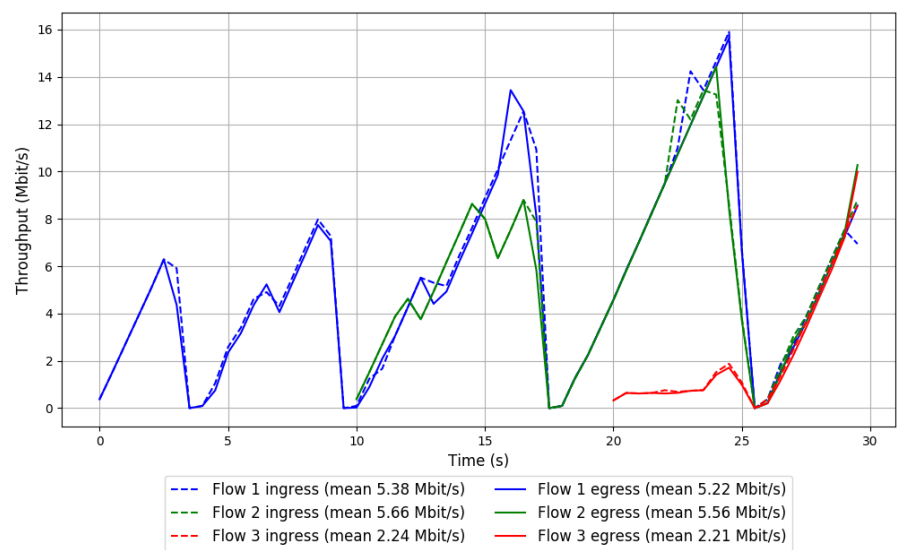
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-02-14 09:27:45
End at: 2018-02-14 09:28:15

# Below is generated by plot.py at 2018-02-14 14:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.98 Mbit/s
95th percentile per-packet one-way delay: 51.186 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 11.33 Mbit/s
95th percentile per-packet one-way delay: 51.223 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 9.07 Mbit/s
95th percentile per-packet one-way delay: 51.184 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 8.02 Mbit/s
95th percentile per-packet one-way delay: 50.956 ms
Loss rate: 0.00%
```
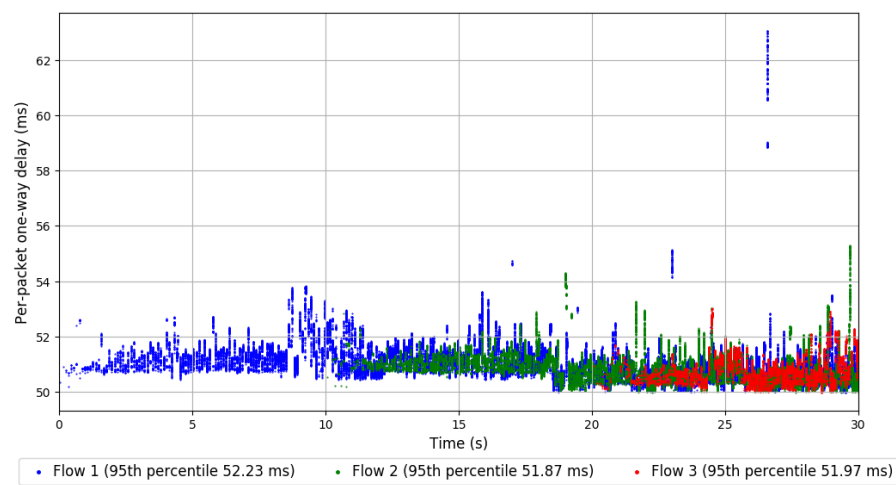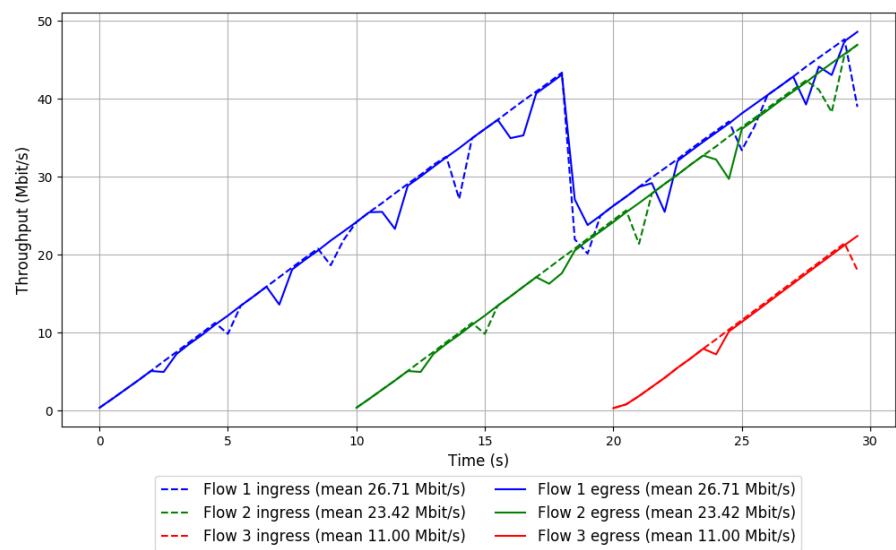
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2018-02-14 09:45:23
End at: 2018-02-14 09:45:53


# Below is generated by plot.py at 2018-02-14 14:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 24.51 Mbit/s
95th percentile per-packet one-way delay: 51.216 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 14.23 Mbit/s
95th percentile per-packet one-way delay: 51.015 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 11.36 Mbit/s
95th percentile per-packet one-way delay: 51.086 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 8.30 Mbit/s
95th percentile per-packet one-way delay: 51.502 ms
Loss rate: 0.00%
```
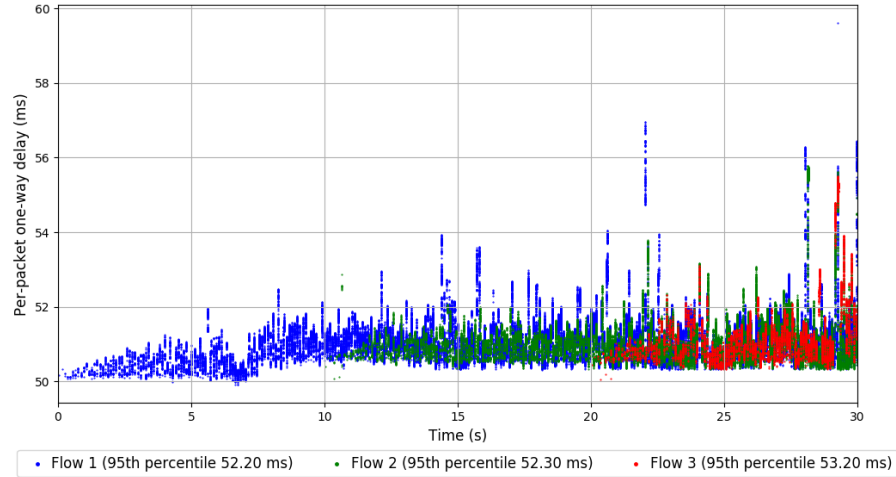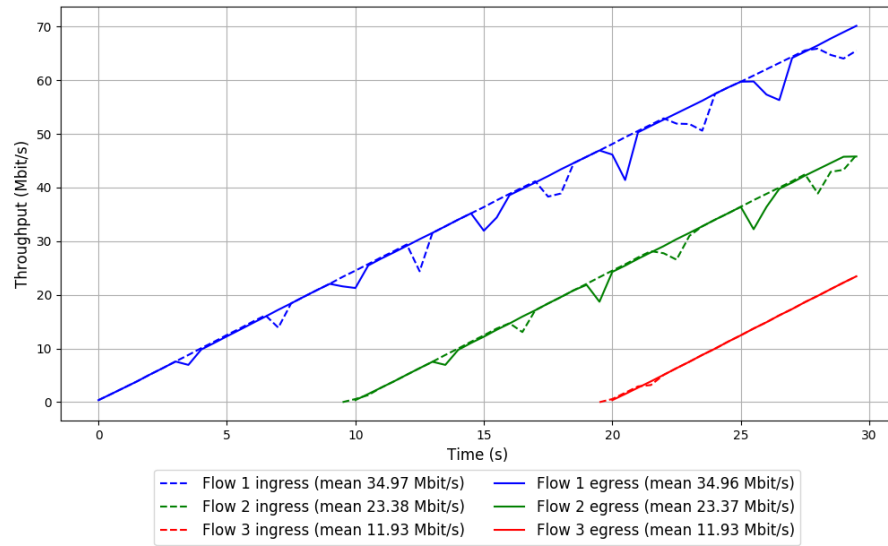
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2018-02-14 10:03:14
End at: 2018-02-14 10:03:44


# Below is generated by plot.py at 2018-02-14 14:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 21.02 Mbit/s
95th percentile per-packet one-way delay: 51.824 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 12.01 Mbit/s
95th percentile per-packet one-way delay: 51.874 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 9.82 Mbit/s
95th percentile per-packet one-way delay: 51.825 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 7.63 Mbit/s
95th percentile per-packet one-way delay: 51.308 ms
Loss rate: 2.27%
```
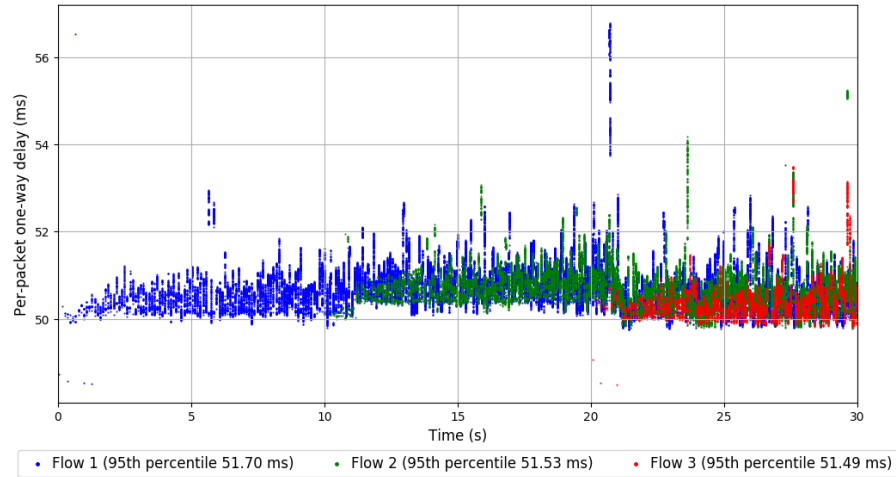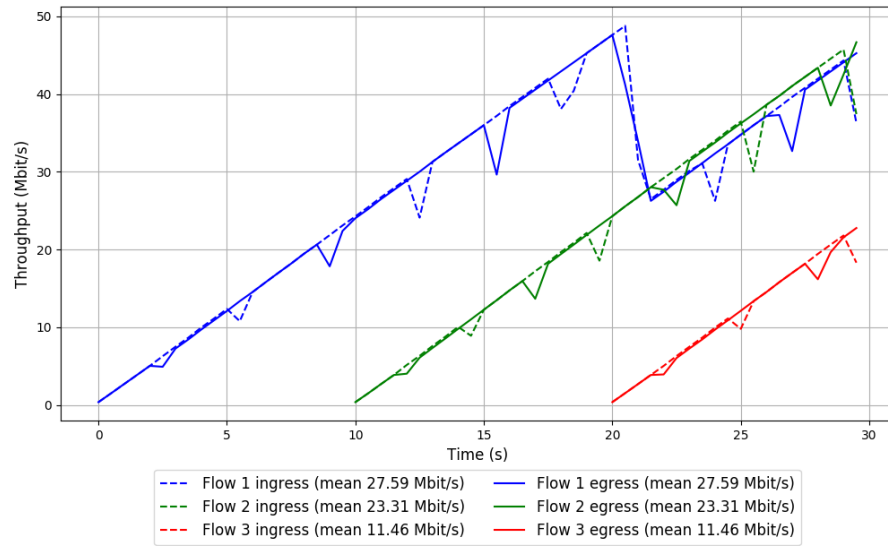
Run 5: Report of LEDBAT — Data Link

```
Run 6: Statistics of LEDBAT

Start at: 2018-02-14 10:20:55
End at: 2018-02-14 10:21:25


# Below is generated by plot.py at 2018-02-14 14:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.64 Mbit/s
95th percentile per-packet one-way delay: 51.315 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 5.22 Mbit/s
95th percentile per-packet one-way delay: 51.395 ms
Loss rate: 3.00%
-- Flow 2:
Average throughput: 5.56 Mbit/s
95th percentile per-packet one-way delay: 51.089 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 50.211 ms
Loss rate: 1.27%
```
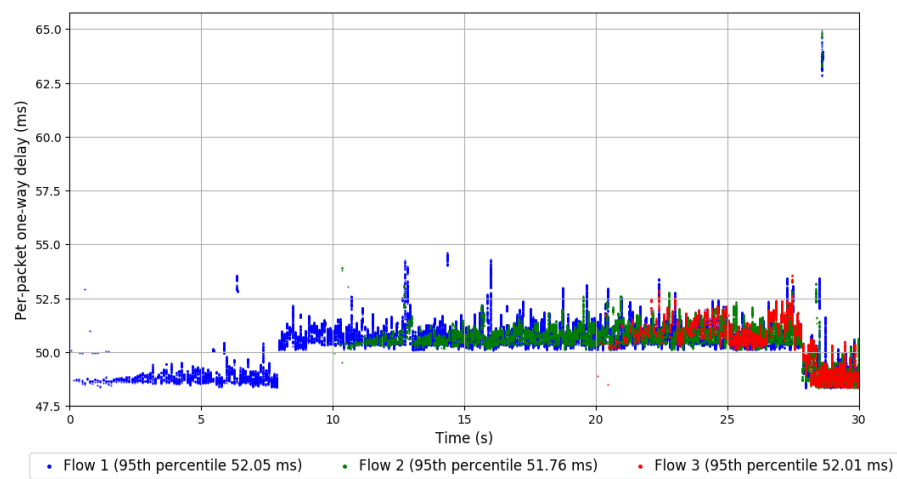
Run 6: Report of LEDBAT — Data Link

```
Run 7: Statistics of LEDBAT

Start at: 2018-02-14 10:38:50
End at: 2018-02-14 10:39:20


# Below is generated by plot.py at 2018-02-14 14:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 45.88 Mbit/s
95th percentile per-packet one-way delay: 52.078 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 26.71 Mbit/s
95th percentile per-packet one-way delay: 52.229 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.42 Mbit/s
95th percentile per-packet one-way delay: 51.871 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.00 Mbit/s
95th percentile per-packet one-way delay: 51.973 ms
Loss rate: 0.00%
```
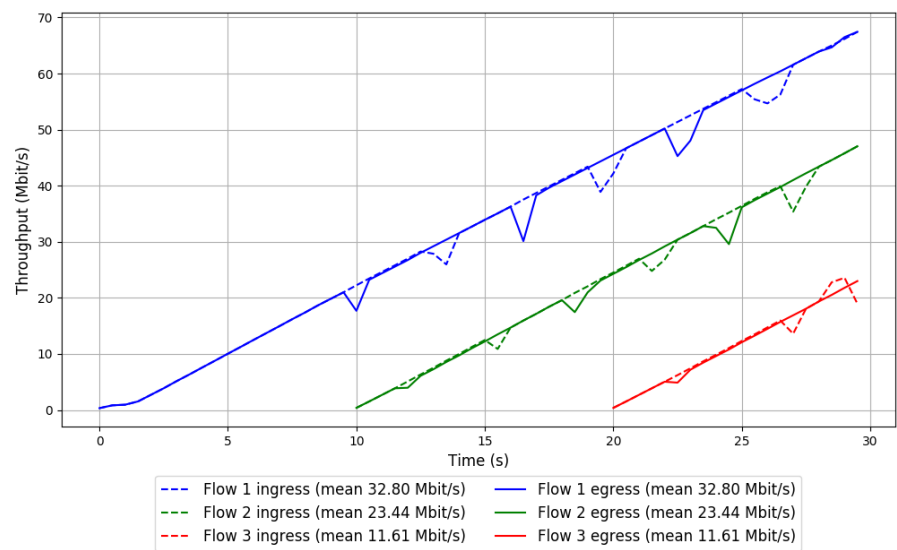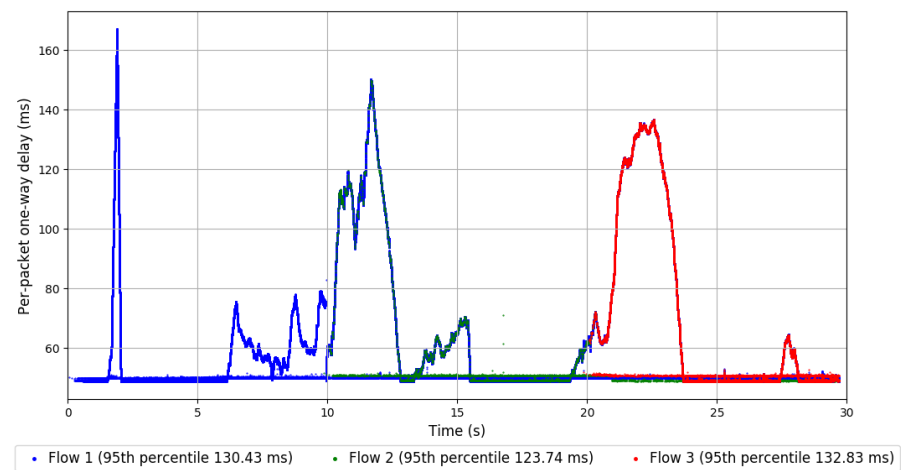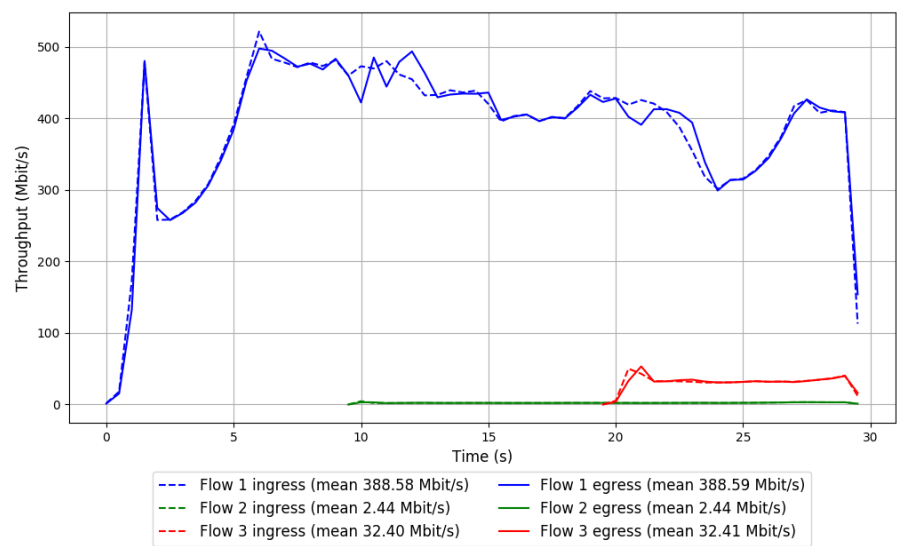
Run 7: Report of LEDBAT — Data Link

Flow 1 ingress (mean 26.71 Mbit/s)   Flow 1 egress (mean 26.71 Mbit/s)
Flow 2 ingress (mean 23.42 Mbit/s)   Flow 2 egress (mean 23.42 Mbit/s)
Flow 3 ingress (mean 11.00 Mbit/s)   Flow 3 egress (mean 11.00 Mbit/s)

Flow 1 (95th percentile 52.23 ms)   Flow 2 (95th percentile 51.87 ms)   Flow 3 (95th percentile 51.97 ms)

```
Run 8: Statistics of LEDBAT

Start at: 2018-02-14 10:56:41
End at: 2018-02-14 10:57:11

# Below is generated by plot.py at 2018-02-14 14:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.50 Mbit/s
95th percentile per-packet one-way delay: 52.312 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 34.96 Mbit/s
95th percentile per-packet one-way delay: 52.205 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.37 Mbit/s
95th percentile per-packet one-way delay: 52.301 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 11.93 Mbit/s
95th percentile per-packet one-way delay: 53.196 ms
Loss rate: 0.00%
```
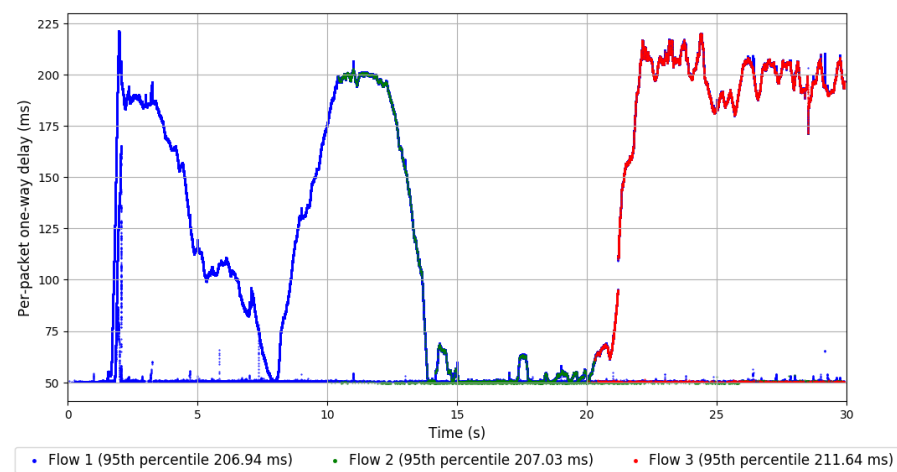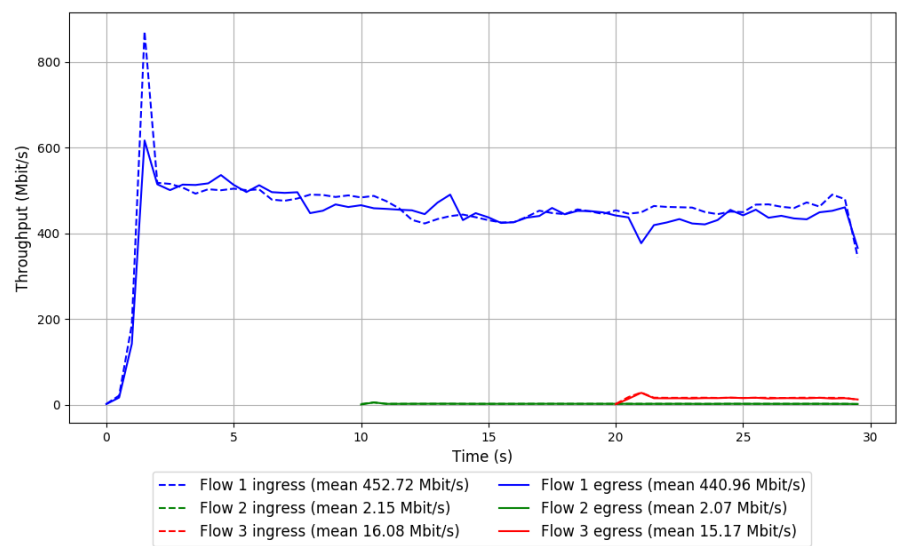
Run 8: Report of LEDBAT — Data Link

Flow 1 ingress (mean 34.97 Mbit/s)   Flow 1 egress (mean 34.96 Mbit/s)
Flow 2 ingress (mean 23.38 Mbit/s)   Flow 2 egress (mean 23.37 Mbit/s)
Flow 3 ingress (mean 11.93 Mbit/s)   Flow 3 egress (mean 11.93 Mbit/s)

Flow 1 (95th percentile 52.20 ms)   Flow 2 (95th percentile 52.30 ms)   Flow 3 (95th percentile 53.20 ms)

59

```
Run 9: Statistics of LEDBAT

Start at: 2018-02-14 11:14:27
End at: 2018-02-14 11:14:57

# Below is generated by plot.py at 2018-02-14 14:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.85 Mbit/s
95th percentile per-packet one-way delay: 51.651 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 27.59 Mbit/s
95th percentile per-packet one-way delay: 51.704 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.31 Mbit/s
95th percentile per-packet one-way delay: 51.528 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.46 Mbit/s
95th percentile per-packet one-way delay: 51.491 ms
Loss rate: 0.00%
```
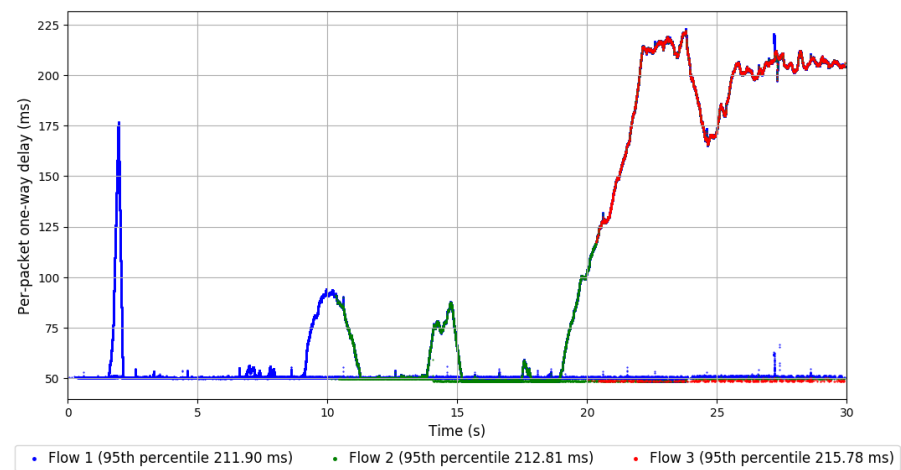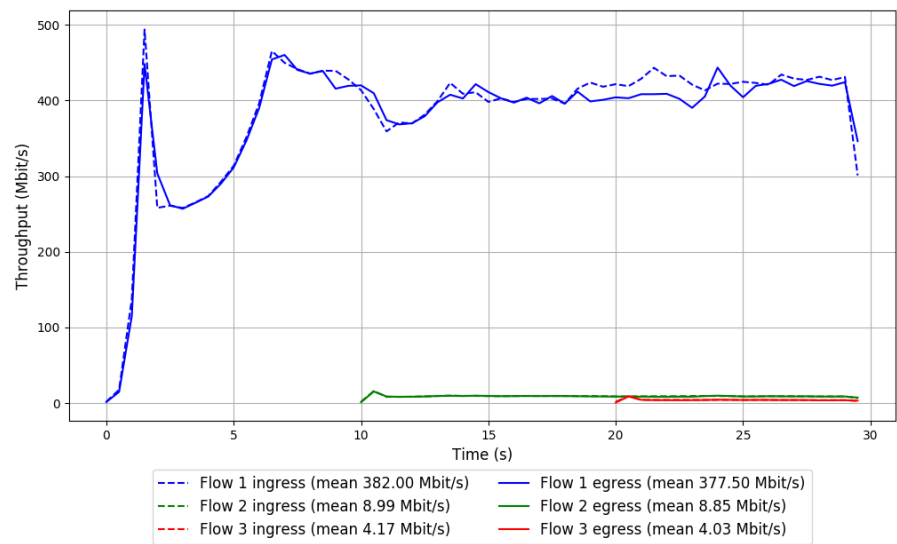
Run 9: Report of LEDBAT — Data Link

```
Run 10: Statistics of LEDBAT

Start at: 2018-02-14 11:32:00
End at: 2018-02-14 11:32:30


# Below is generated by plot.py at 2018-02-14 14:35:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 52.24 Mbit/s
95th percentile per-packet one-way delay: 51.929 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 32.80 Mbit/s
95th percentile per-packet one-way delay: 52.052 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.44 Mbit/s
95th percentile per-packet one-way delay: 51.761 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.61 Mbit/s
95th percentile per-packet one-way delay: 52.011 ms
Loss rate: 0.00%
```
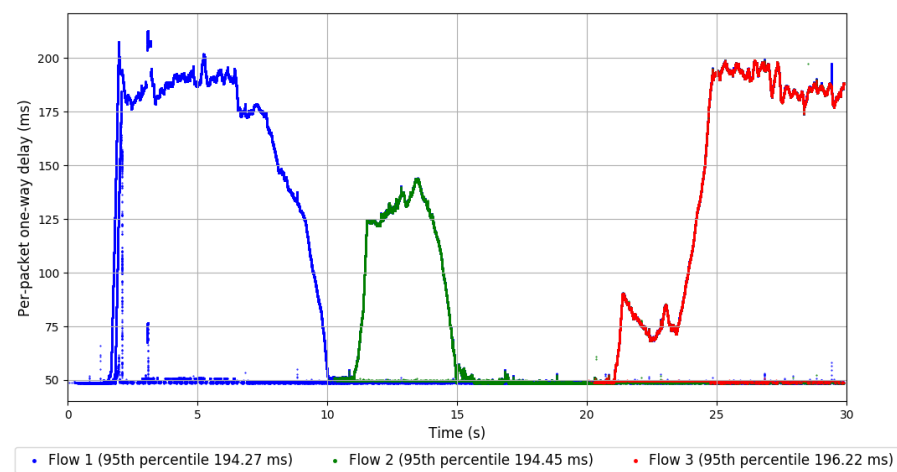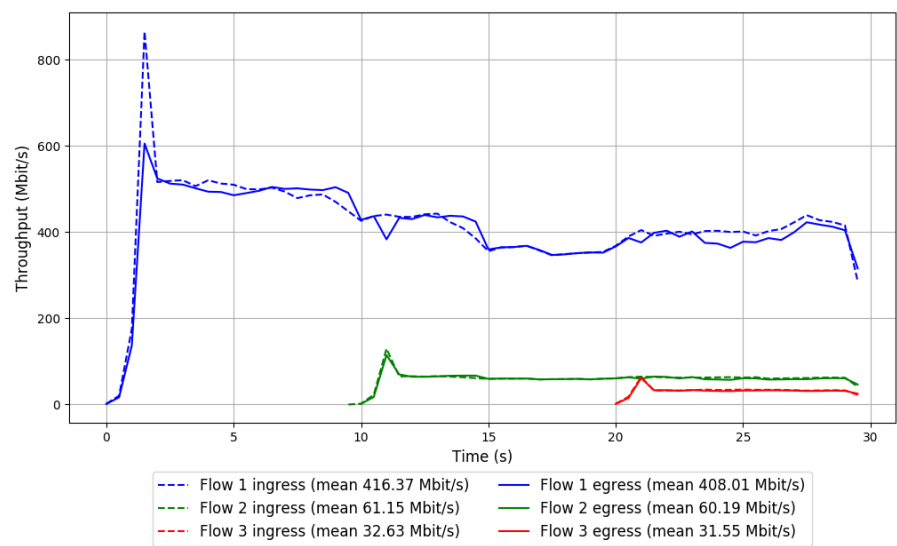
Run 10: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC

Start at: 2018-02-14 08:40:43
End at: 2018-02-14 08:41:13


# Below is generated by plot.py at 2018-02-14 14:38:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 400.97 Mbit/s
95th percentile per-packet one-way delay: 130.605 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 388.59 Mbit/s
95th percentile per-packet one-way delay: 130.429 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.44 Mbit/s
95th percentile per-packet one-way delay: 123.743 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 32.41 Mbit/s
95th percentile per-packet one-way delay: 132.828 ms
Loss rate: 0.00%
```
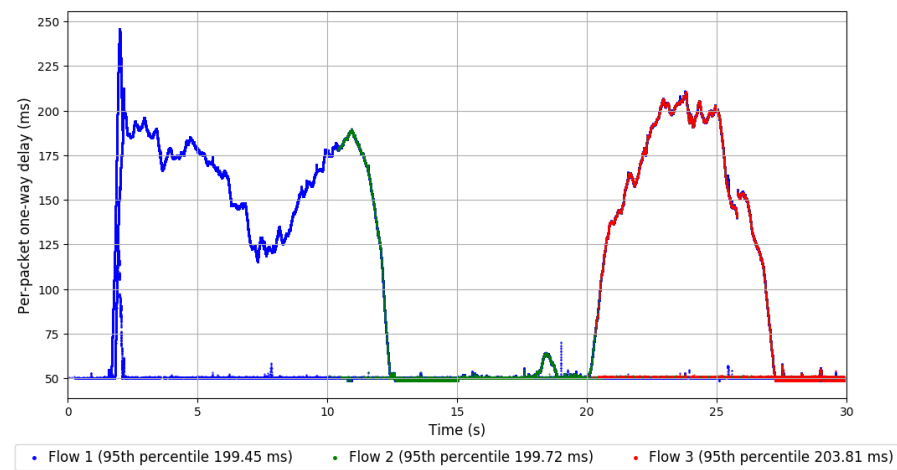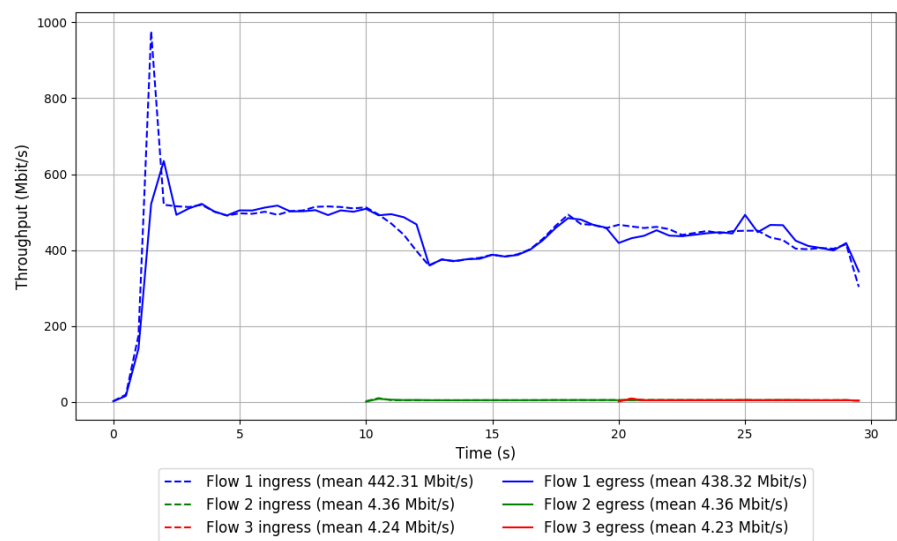
Run 1: Report of PCC — Data Link

Flow 1 ingress (mean 388.58 Mbit/s) --- Flow 1 egress (mean 388.59 Mbit/s)
Flow 2 ingress (mean 2.44 Mbit/s) --- Flow 2 egress (mean 2.44 Mbit/s)
Flow 3 ingress (mean 32.40 Mbit/s) --- Flow 3 egress (mean 32.41 Mbit/s)

Flow 1 (95th percentile 130.43 ms)   Flow 2 (95th percentile 123.74 ms)   Flow 3 (95th percentile 132.83 ms)

65

```
Run 2: Statistics of PCC

Start at: 2018-02-14 08:58:08
End at: 2018-02-14 08:58:38


# Below is generated by plot.py at 2018-02-14 14:39:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 447.28 Mbit/s
95th percentile per-packet one-way delay: 206.998 ms
Loss rate: 2.64%
-- Flow 1:
Average throughput: 440.96 Mbit/s
95th percentile per-packet one-way delay: 206.942 ms
Loss rate: 2.60%
-- Flow 2:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 207.032 ms
Loss rate: 3.40%
-- Flow 3:
Average throughput: 15.17 Mbit/s
95th percentile per-packet one-way delay: 211.640 ms
Loss rate: 5.65%
```
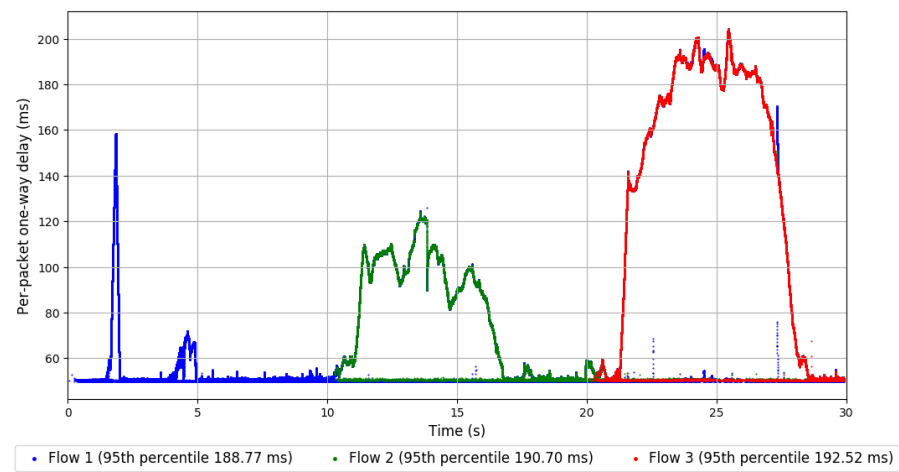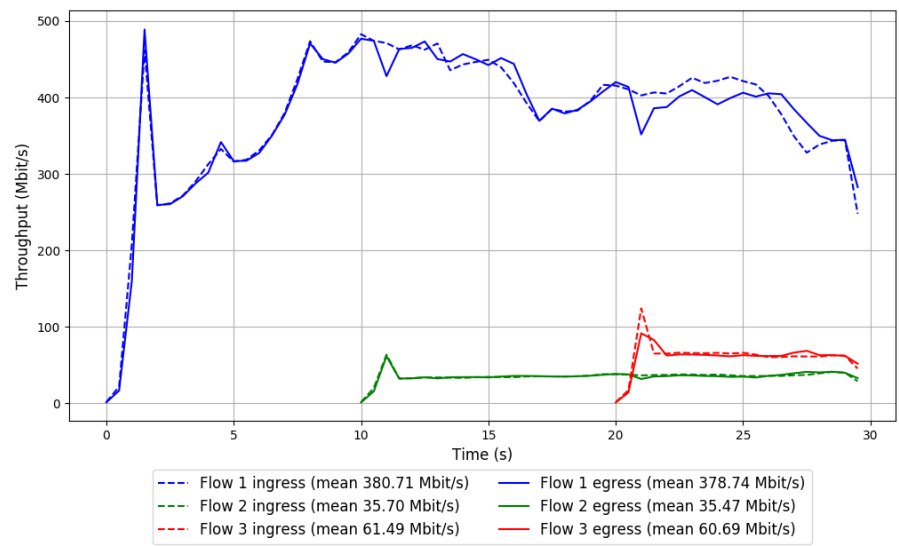
Run 2: Report of PCC — Data Link

Flow 1 ingress (mean 452.72 Mbit/s) ---- Flow 1 egress (mean 440.96 Mbit/s)
Flow 2 ingress (mean 2.15 Mbit/s) ---- Flow 2 egress (mean 2.07 Mbit/s)
Flow 3 ingress (mean 16.08 Mbit/s) ---- Flow 3 egress (mean 15.17 Mbit/s)

Flow 1 (95th percentile 206.94 ms)   Flow 2 (95th percentile 207.03 ms)   Flow 3 (95th percentile 211.64 ms)
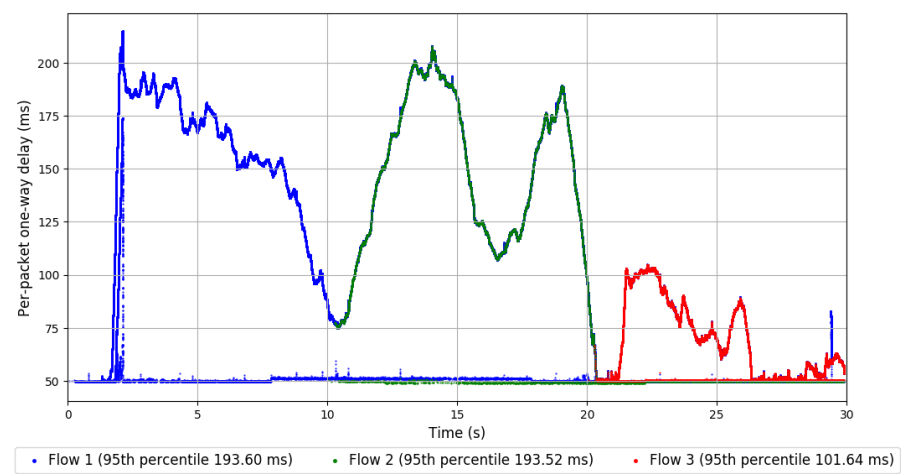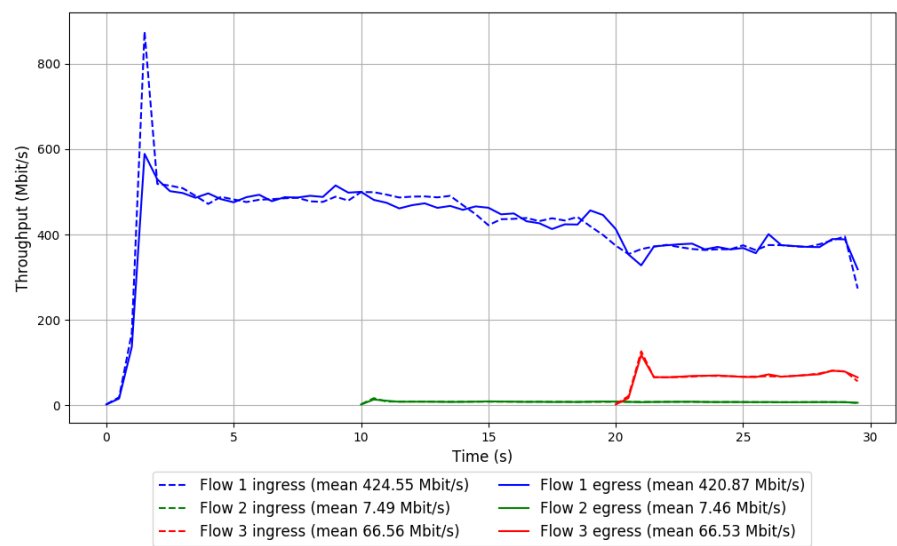
```
Run 3: Statistics of PCC

Start at: 2018-02-14 09:15:44
End at: 2018-02-14 09:16:14


# Below is generated by plot.py at 2018-02-14 14:39:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 384.68 Mbit/s
95th percentile per-packet one-way delay: 211.934 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 377.50 Mbit/s
95th percentile per-packet one-way delay: 211.897 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 8.85 Mbit/s
95th percentile per-packet one-way delay: 212.809 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 4.03 Mbit/s
95th percentile per-packet one-way delay: 215.778 ms
Loss rate: 3.42%
```
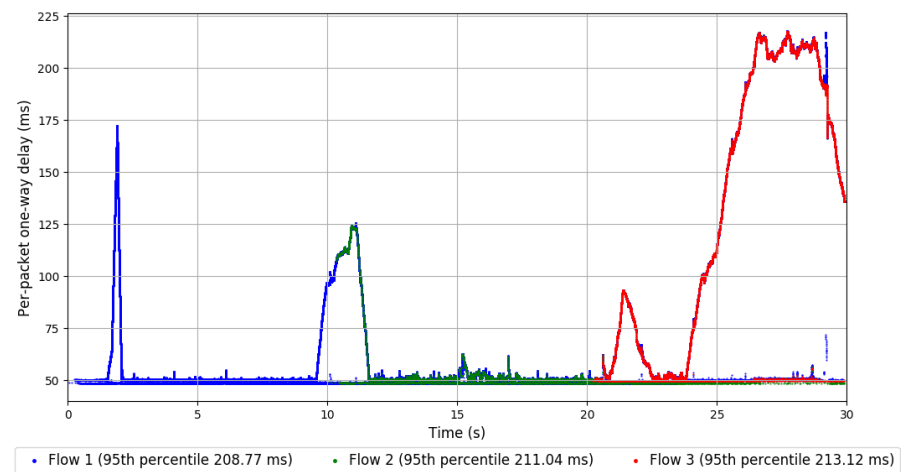
Run 3: Report of PCC — Data Link

Flow 1 ingress (mean 382.00 Mbit/s) —— Flow 1 egress (mean 377.50 Mbit/s)
Flow 2 ingress (mean 8.99 Mbit/s) —— Flow 2 egress (mean 8.85 Mbit/s)
Flow 3 ingress (mean 4.17 Mbit/s) —— Flow 3 egress (mean 4.03 Mbit/s)

· Flow 1 (95th percentile 211.90 ms)   · Flow 2 (95th percentile 212.81 ms)   · Flow 3 (95th percentile 215.78 ms)

69

```
Run 4: Statistics of PCC

Start at: 2018-02-14 09:33:26
End at: 2018-02-14 09:33:56


# Below is generated by plot.py at 2018-02-14 14:40:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 458.44 Mbit/s
95th percentile per-packet one-way delay: 194.348 ms
Loss rate: 2.00%
-- Flow 1:
Average throughput: 408.01 Mbit/s
95th percentile per-packet one-way delay: 194.273 ms
Loss rate: 2.01%
-- Flow 2:
Average throughput: 60.19 Mbit/s
95th percentile per-packet one-way delay: 194.451 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 31.55 Mbit/s
95th percentile per-packet one-way delay: 196.221 ms
Loss rate: 3.32%
```
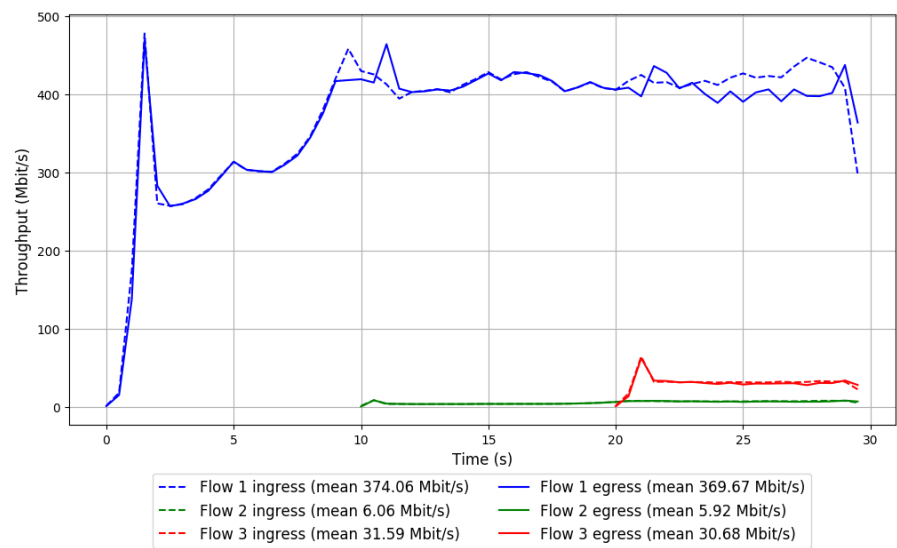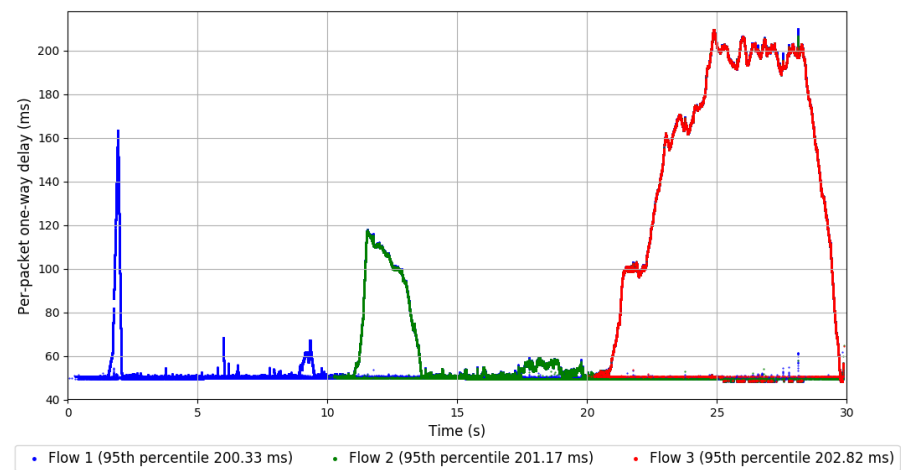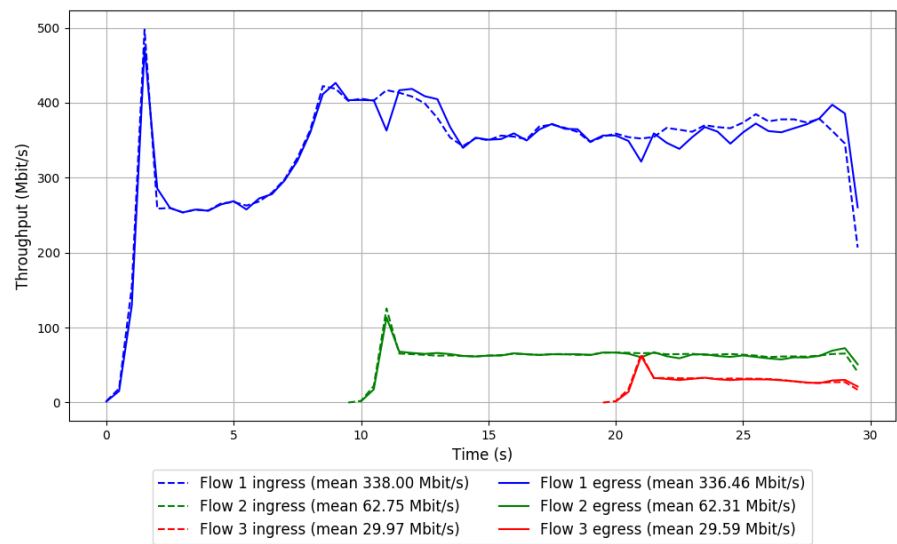
Run 4: Report of PCC — Data Link

- - - Flow 1 ingress (mean 416.37 Mbit/s) ——— Flow 1 egress (mean 408.01 Mbit/s)
- - - Flow 2 ingress (mean 61.15 Mbit/s) ——— Flow 2 egress (mean 60.19 Mbit/s)
- - - Flow 3 ingress (mean 32.63 Mbit/s) ——— Flow 3 egress (mean 31.55 Mbit/s)

- Flow 1 (95th percentile 194.27 ms)   - Flow 2 (95th percentile 194.45 ms)   - Flow 3 (95th percentile 196.22 ms)
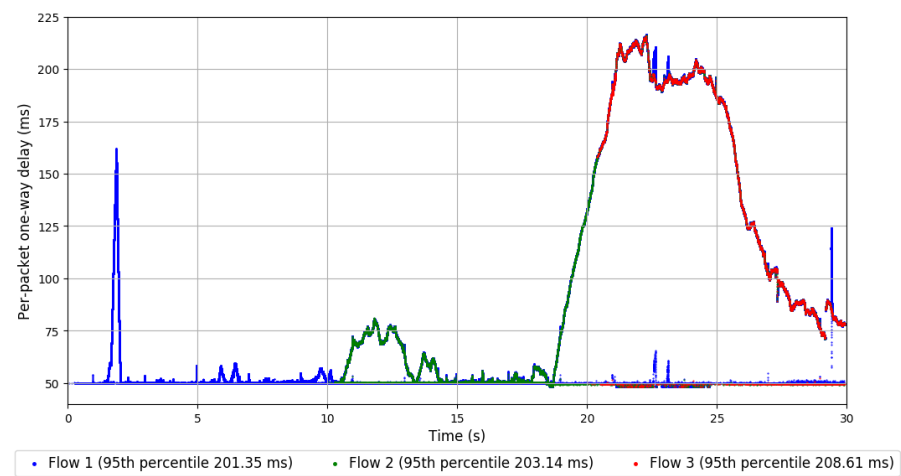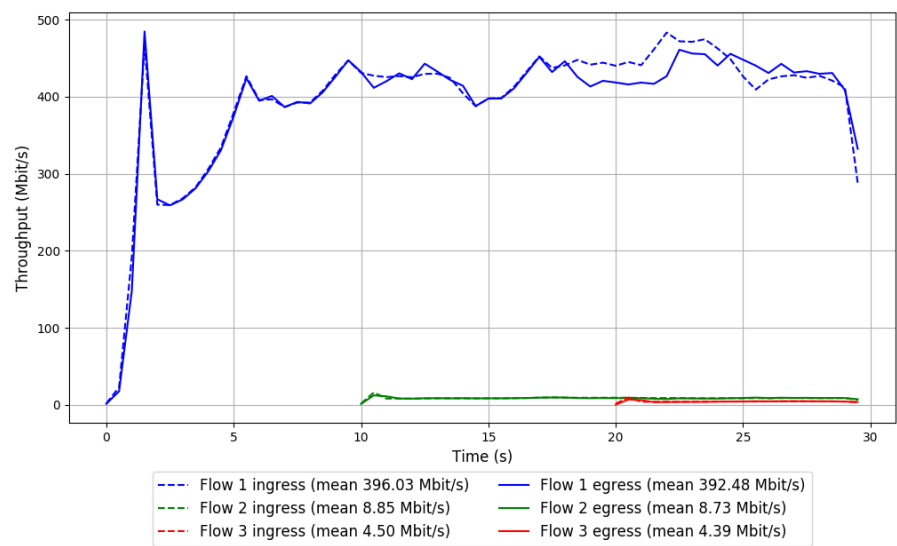
```
Run 5: Statistics of PCC

Start at: 2018-02-14 09:51:03
End at: 2018-02-14 09:51:33


# Below is generated by plot.py at 2018-02-14 14:41:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 442.61 Mbit/s
95th percentile per-packet one-way delay: 199.474 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 438.32 Mbit/s
95th percentile per-packet one-way delay: 199.454 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 4.36 Mbit/s
95th percentile per-packet one-way delay: 199.717 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 203.805 ms
Loss rate: 0.03%
```
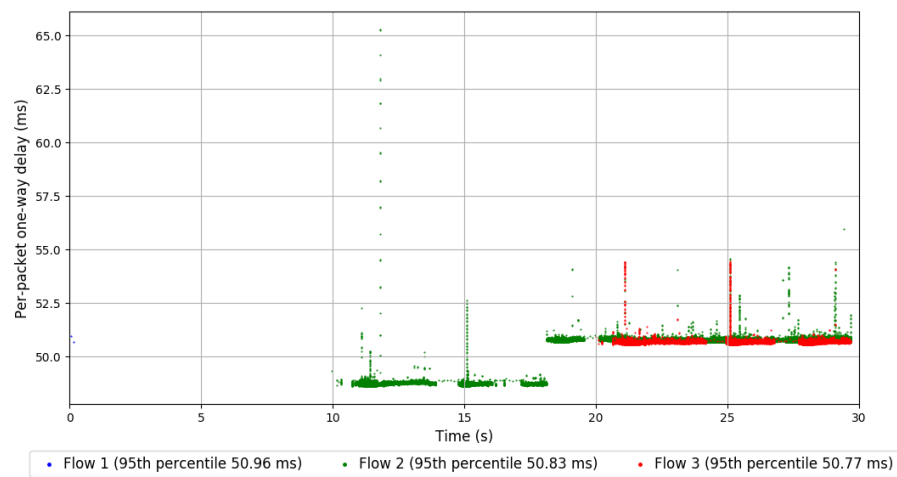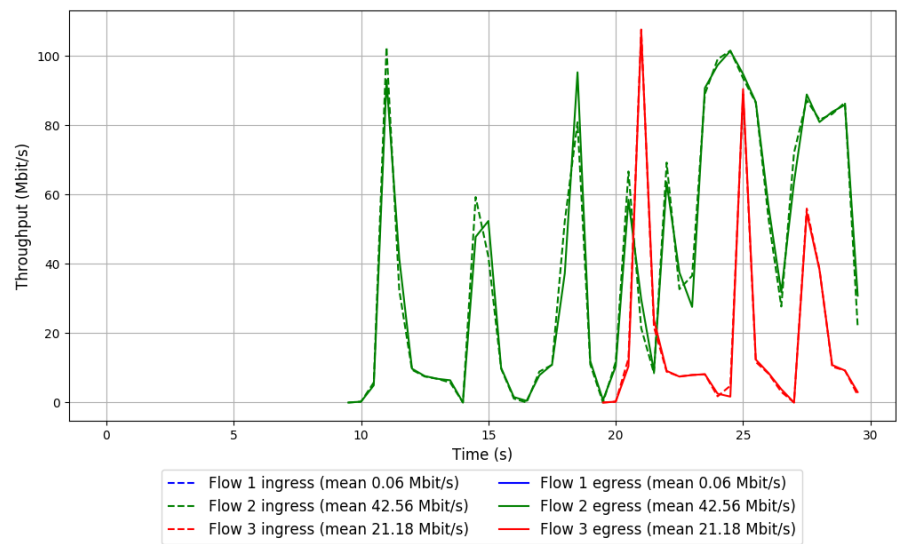
Run 5: Report of PCC — Data Link

- - - Flow 1 ingress (mean 442.31 Mbit/s)   —— Flow 1 egress (mean 438.32 Mbit/s)
- - - Flow 2 ingress (mean 4.36 Mbit/s)   —— Flow 2 egress (mean 4.36 Mbit/s)
- - - Flow 3 ingress (mean 4.24 Mbit/s)   —— Flow 3 egress (mean 4.23 Mbit/s)

- Flow 1 (95th percentile 199.45 ms)   • Flow 2 (95th percentile 199.72 ms)   • Flow 3 (95th percentile 203.81 ms)

```
Run 6: Statistics of PCC

Start at: 2018-02-14 10:08:59
End at: 2018-02-14 10:09:29


# Below is generated by plot.py at 2018-02-14 14:41:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 422.30 Mbit/s
95th percentile per-packet one-way delay: 189.208 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 378.74 Mbit/s
95th percentile per-packet one-way delay: 188.771 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 35.47 Mbit/s
95th percentile per-packet one-way delay: 190.698 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 60.69 Mbit/s
95th percentile per-packet one-way delay: 192.518 ms
Loss rate: 1.30%
```

Run 6: Report of PCC — Data Link

Flow 1 ingress (mean 380.71 Mbit/s)   Flow 1 egress (mean 378.74 Mbit/s)
Flow 2 ingress (mean 35.70 Mbit/s)   Flow 2 egress (mean 35.47 Mbit/s)
Flow 3 ingress (mean 61.49 Mbit/s)   Flow 3 egress (mean 60.69 Mbit/s)

Flow 1 (95th percentile 188.77 ms)   Flow 2 (95th percentile 190.70 ms)   Flow 3 (95th percentile 192.52 ms)

```
Run 7: Statistics of PCC

Start at: 2018-02-14 10:26:36
End at: 2018-02-14 10:27:06


# Below is generated by plot.py at 2018-02-14 14:42:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 447.78 Mbit/s
95th percentile per-packet one-way delay: 193.379 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 420.87 Mbit/s
95th percentile per-packet one-way delay: 193.600 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 7.46 Mbit/s
95th percentile per-packet one-way delay: 193.519 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 66.53 Mbit/s
95th percentile per-packet one-way delay: 101.640 ms
Loss rate: 0.04%
```
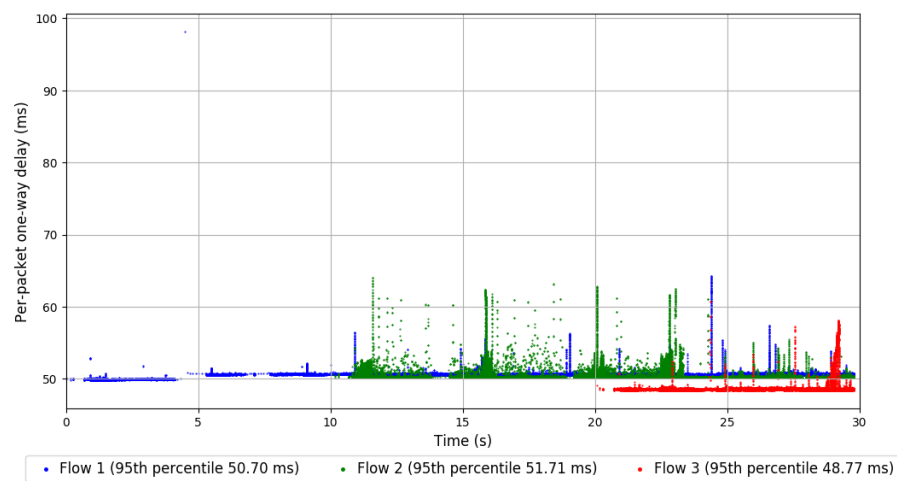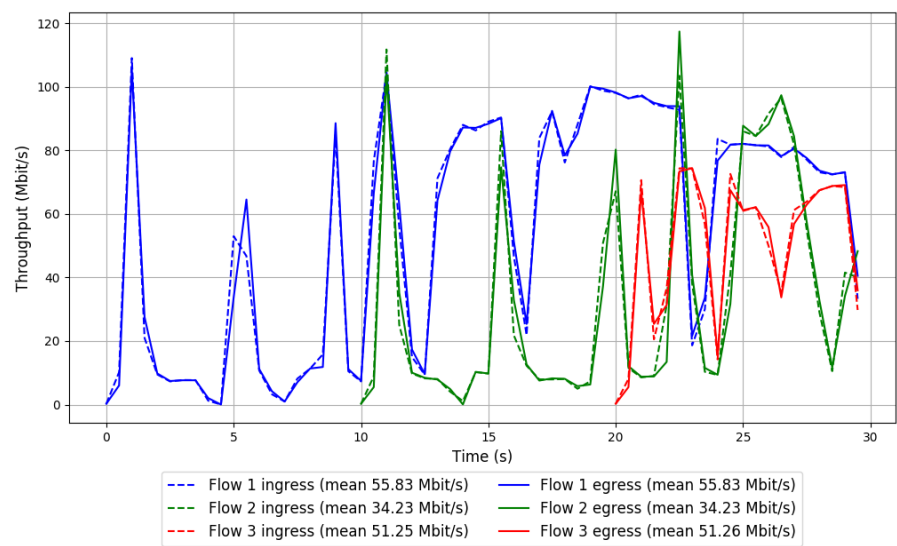
Run 7: Report of PCC — Data Link

```
Run 8: Statistics of PCC

Start at: 2018-02-14 10:44:35
End at: 2018-02-14 10:45:05


# Below is generated by plot.py at 2018-02-14 14:42:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 383.68 Mbit/s
95th percentile per-packet one-way delay: 209.265 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 369.67 Mbit/s
95th percentile per-packet one-way delay: 208.767 ms
Loss rate: 1.17%
-- Flow 2:
Average throughput: 5.92 Mbit/s
95th percentile per-packet one-way delay: 211.037 ms
Loss rate: 2.19%
-- Flow 3:
Average throughput: 30.68 Mbit/s
95th percentile per-packet one-way delay: 213.121 ms
Loss rate: 2.86%
```
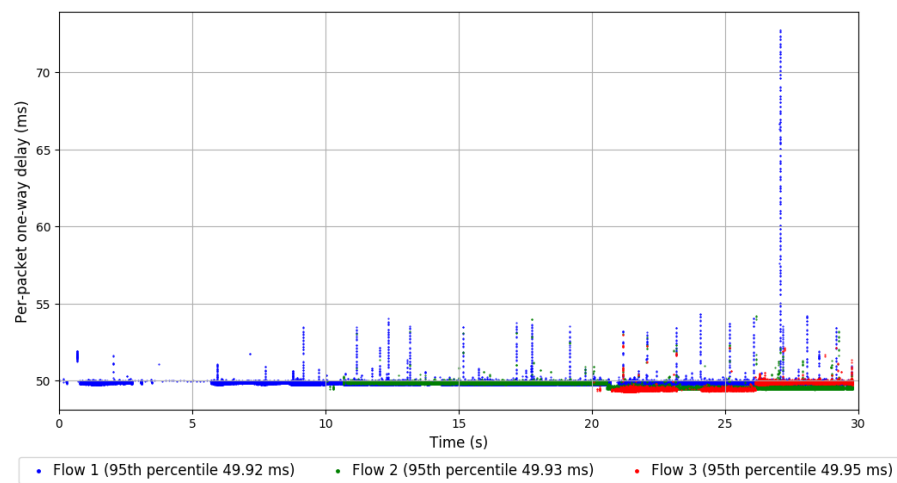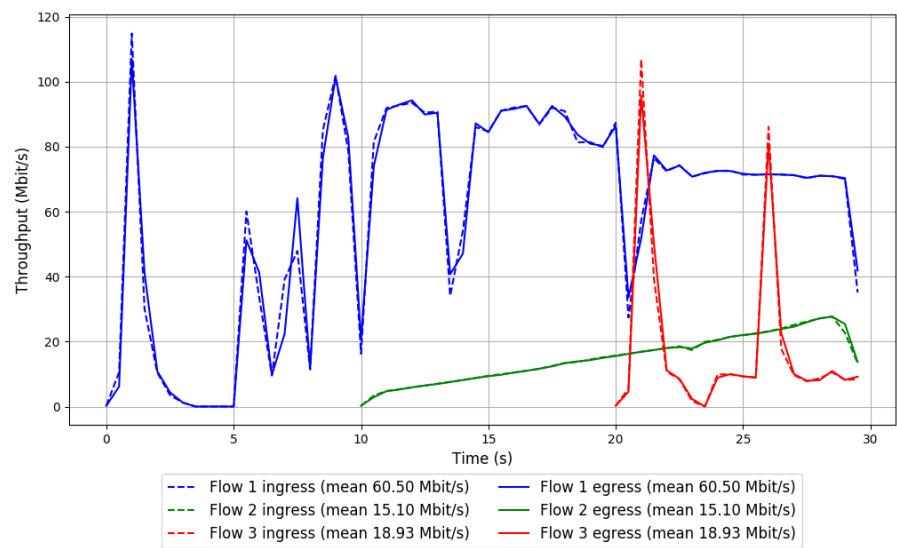
Run 8: Report of PCC — Data Link

Flow 1 ingress (mean 374.06 Mbit/s) --- Flow 1 egress (mean 369.67 Mbit/s)
Flow 2 ingress (mean 6.06 Mbit/s) --- Flow 2 egress (mean 5.92 Mbit/s)
Flow 3 ingress (mean 31.59 Mbit/s) --- Flow 3 egress (mean 30.68 Mbit/s)

Flow 1 (95th percentile 208.77 ms) · Flow 2 (95th percentile 211.04 ms) · Flow 3 (95th percentile 213.12 ms)

```
Run 9: Statistics of PCC

Start at: 2018-02-14 11:02:23
End at: 2018-02-14 11:02:53


# Below is generated by plot.py at 2018-02-14 14:45:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 387.60 Mbit/s
95th percentile per-packet one-way delay: 200.536 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 336.46 Mbit/s
95th percentile per-packet one-way delay: 200.331 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 62.31 Mbit/s
95th percentile per-packet one-way delay: 201.174 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 29.59 Mbit/s
95th percentile per-packet one-way delay: 202.818 ms
Loss rate: 1.17%
```
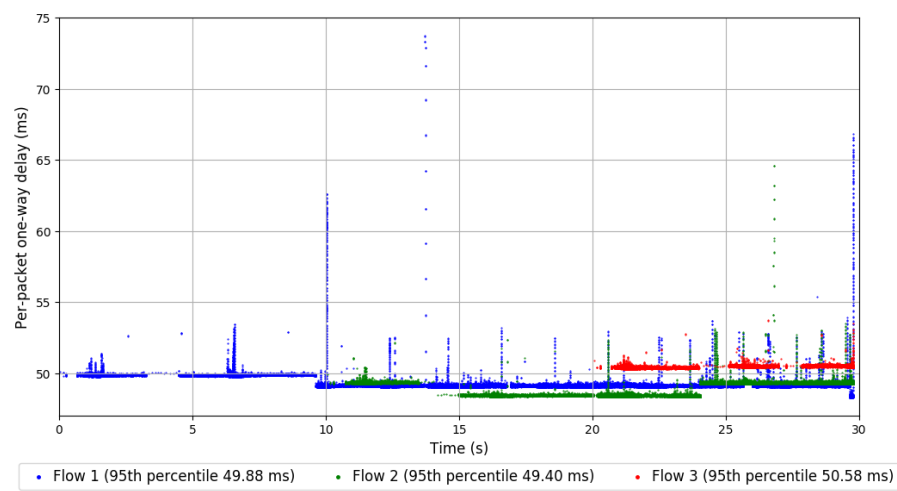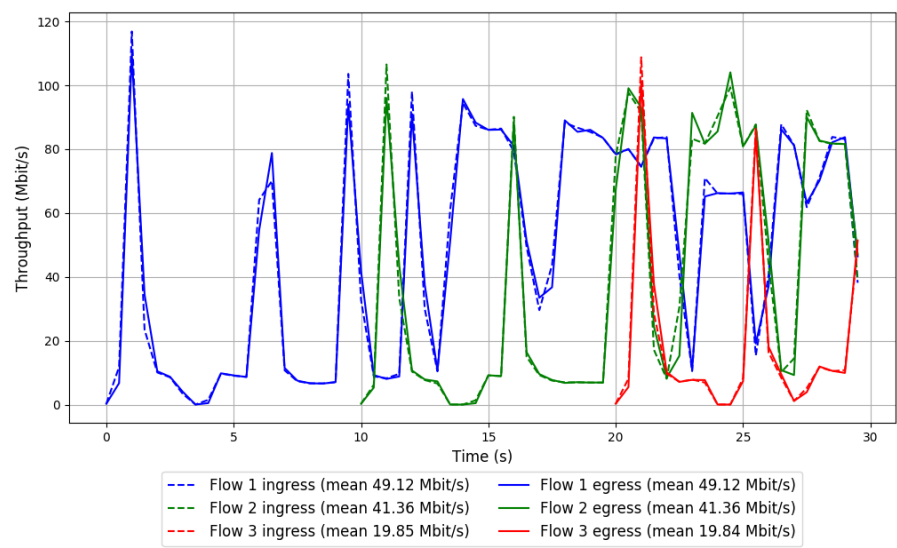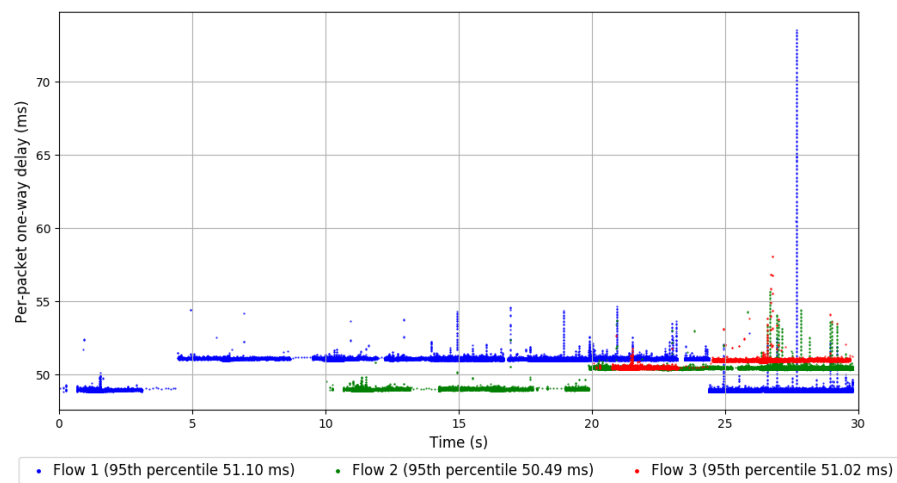
Run 9: Report of PCC — Data Link

- - - - Flow 1 ingress (mean 338.00 Mbit/s) ——— Flow 1 egress (mean 336.46 Mbit/s)
- - - - Flow 2 ingress (mean 62.75 Mbit/s) ——— Flow 2 egress (mean 62.31 Mbit/s)
- - - - Flow 3 ingress (mean 29.97 Mbit/s) ——— Flow 3 egress (mean 29.59 Mbit/s)

- Flow 1 (95th percentile 200.33 ms)   - Flow 2 (95th percentile 201.17 ms)   - Flow 3 (95th percentile 202.82 ms)

```
Run 10: Statistics of PCC

Start at: 2018-02-14 11:20:00
End at: 2018-02-14 11:20:30

# Below is generated by plot.py at 2018-02-14 14:45:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 399.72 Mbit/s
95th percentile per-packet one-way delay: 201.471 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 392.48 Mbit/s
95th percentile per-packet one-way delay: 201.348 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 8.73 Mbit/s
95th percentile per-packet one-way delay: 203.142 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 4.39 Mbit/s
95th percentile per-packet one-way delay: 208.613 ms
Loss rate: 2.49%
```
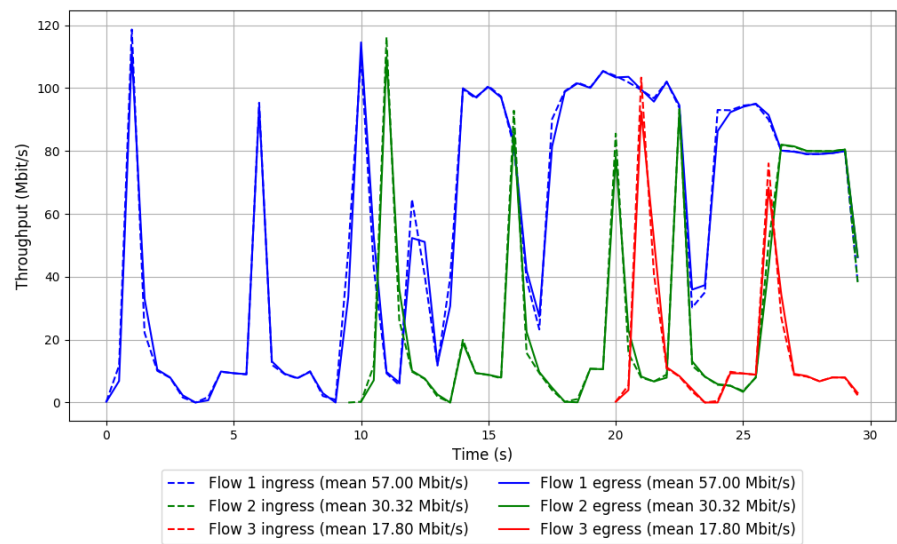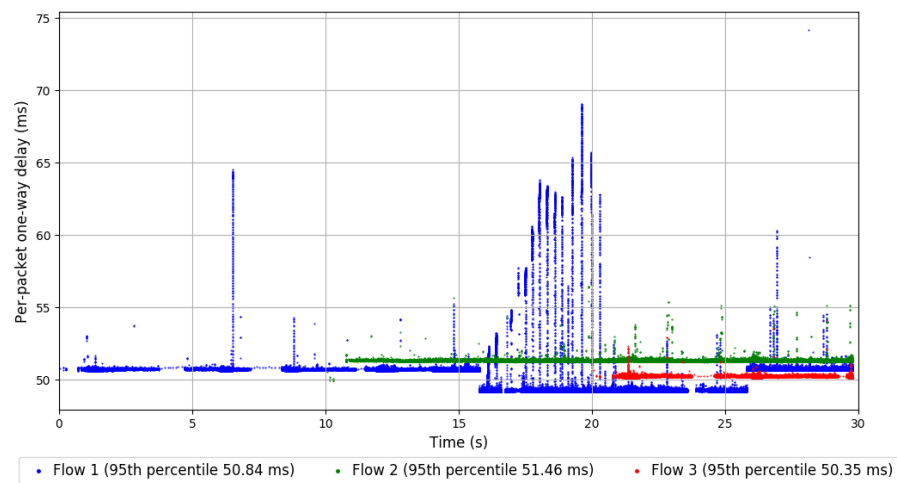
Run 10: Report of PCC — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-02-14 08:46:05
End at: 2018-02-14 08:46:35

# Below is generated by plot.py at 2018-02-14 14:45:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 35.23 Mbit/s
95th percentile per-packet one-way delay: 50.825 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 50.964 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.56 Mbit/s
95th percentile per-packet one-way delay: 50.831 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.18 Mbit/s
95th percentile per-packet one-way delay: 50.771 ms
Loss rate: 0.00%
```
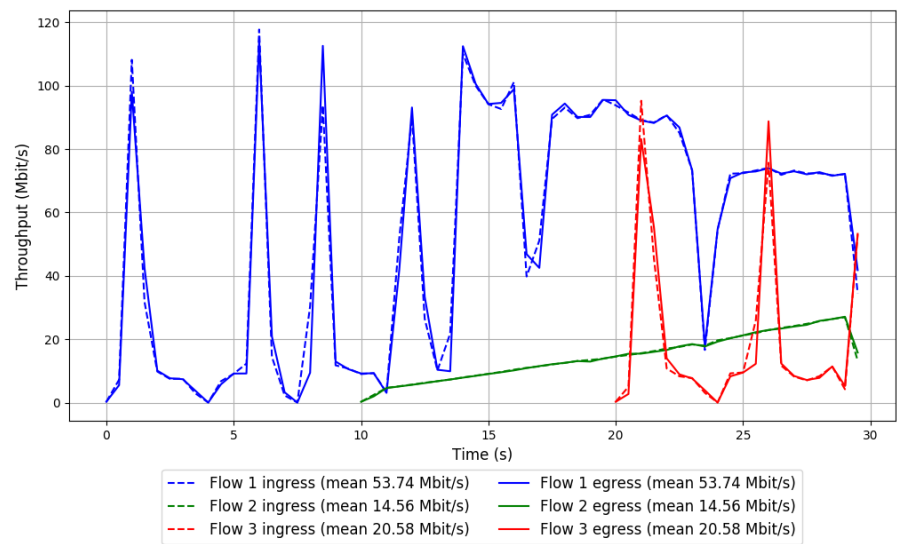
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-02-14 09:03:34
End at: 2018-02-14 09:04:04


# Below is generated by plot.py at 2018-02-14 14:45:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.29 Mbit/s
95th percentile per-packet one-way delay: 50.737 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.83 Mbit/s
95th percentile per-packet one-way delay: 50.705 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 34.23 Mbit/s
95th percentile per-packet one-way delay: 51.708 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 51.26 Mbit/s
95th percentile per-packet one-way delay: 48.773 ms
Loss rate: 0.00%
```
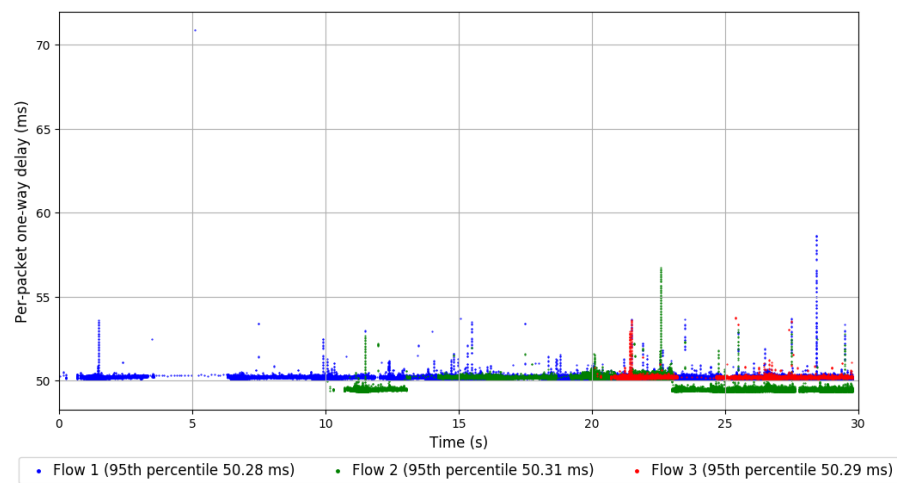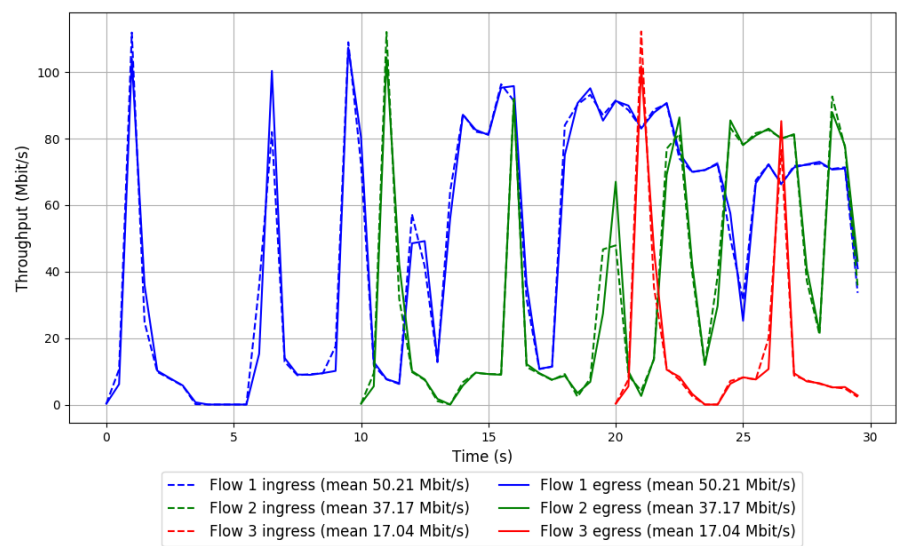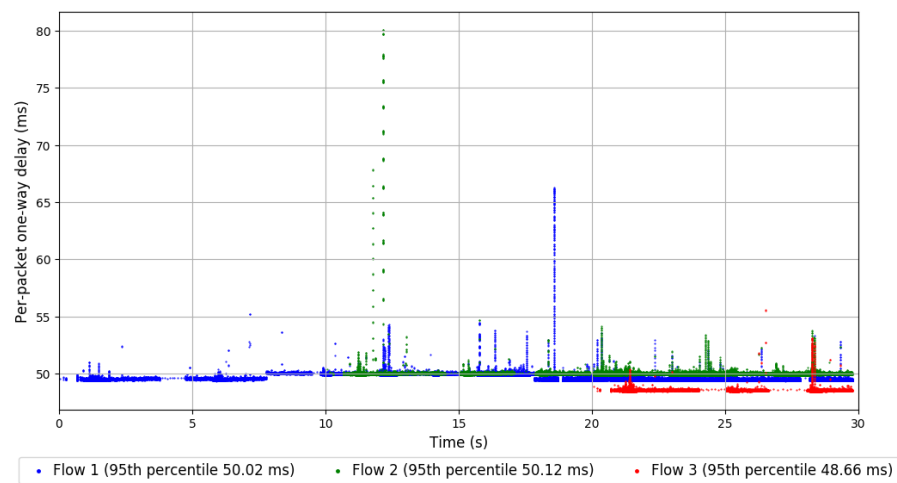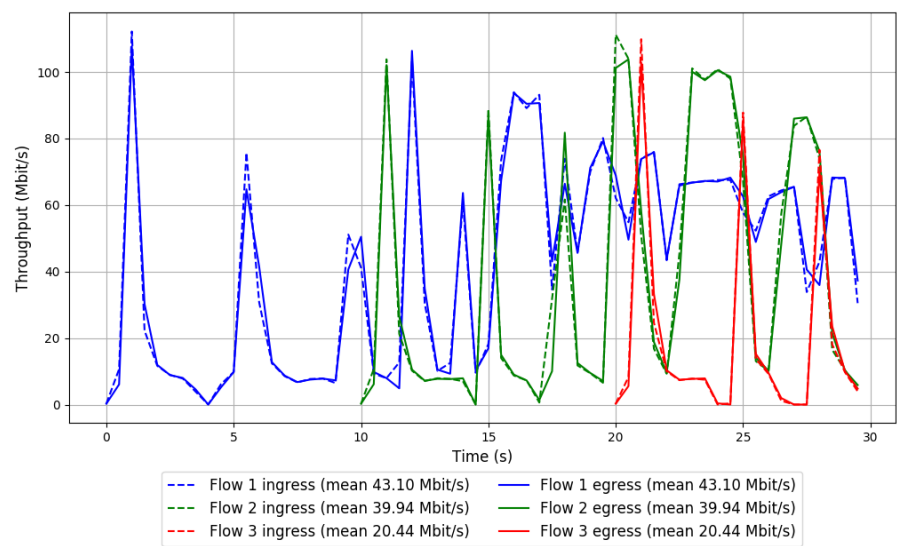
Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 55.83 Mbit/s)   Flow 1 egress (mean 55.83 Mbit/s)
Flow 2 ingress (mean 34.23 Mbit/s)   Flow 2 egress (mean 34.23 Mbit/s)
Flow 3 ingress (mean 51.25 Mbit/s)   Flow 3 egress (mean 51.26 Mbit/s)

Flow 1 (95th percentile 50.70 ms)   Flow 2 (95th percentile 51.71 ms)   Flow 3 (95th percentile 48.77 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-02-14 09:21:07
End at: 2018-02-14 09:21:37


# Below is generated by plot.py at 2018-02-14 14:45:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.71 Mbit/s
95th percentile per-packet one-way delay: 49.923 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.50 Mbit/s
95th percentile per-packet one-way delay: 49.920 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 15.10 Mbit/s
95th percentile per-packet one-way delay: 49.927 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 18.93 Mbit/s
95th percentile per-packet one-way delay: 49.945 ms
Loss rate: 0.01%
```
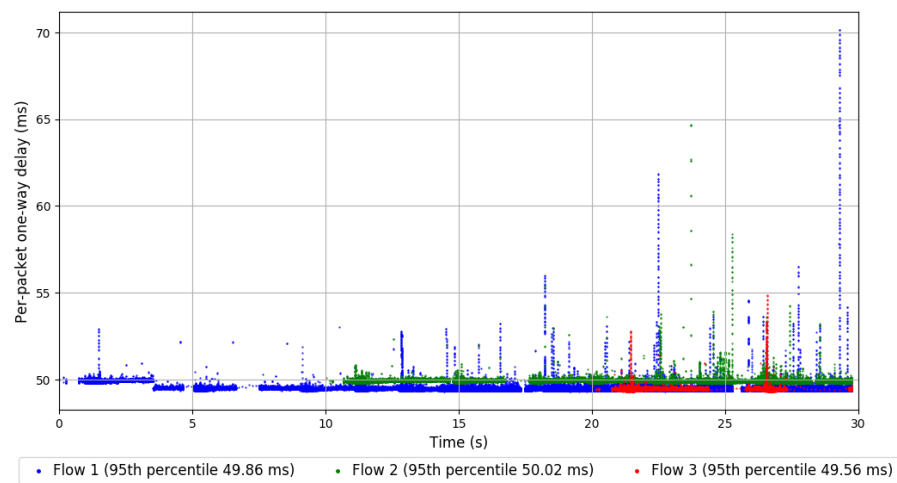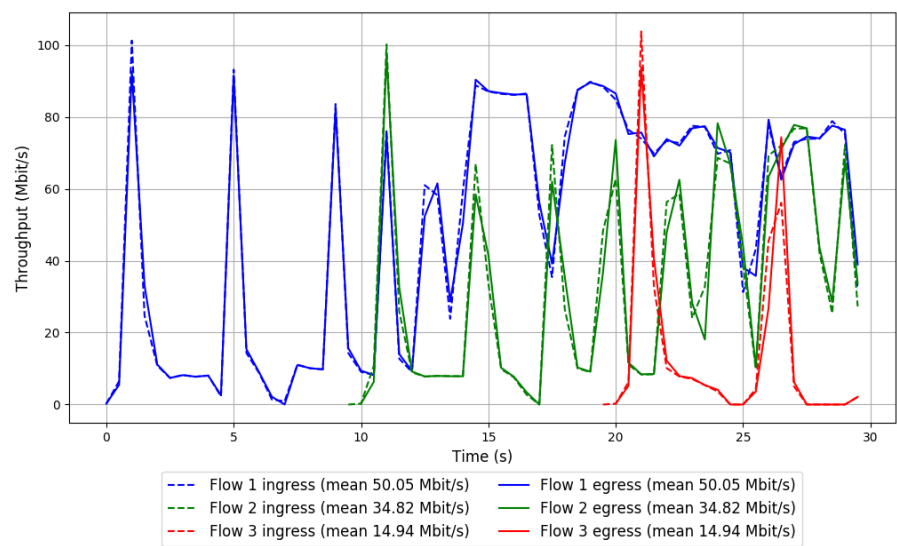
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 60.50 Mbit/s)   Flow 1 egress (mean 60.50 Mbit/s)
Flow 2 ingress (mean 15.10 Mbit/s)   Flow 2 egress (mean 15.10 Mbit/s)
Flow 3 ingress (mean 18.93 Mbit/s)   Flow 3 egress (mean 18.93 Mbit/s)

Flow 1 (95th percentile 49.92 ms)   Flow 2 (95th percentile 49.93 ms)   Flow 3 (95th percentile 49.95 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-02-14 09:38:54
End at: 2018-02-14 09:39:24


# Below is generated by plot.py at 2018-02-14 14:45:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.04 Mbit/s
95th percentile per-packet one-way delay: 50.450 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 49.12 Mbit/s
95th percentile per-packet one-way delay: 49.880 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.36 Mbit/s
95th percentile per-packet one-way delay: 49.398 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 19.84 Mbit/s
95th percentile per-packet one-way delay: 50.581 ms
Loss rate: 0.01%
```
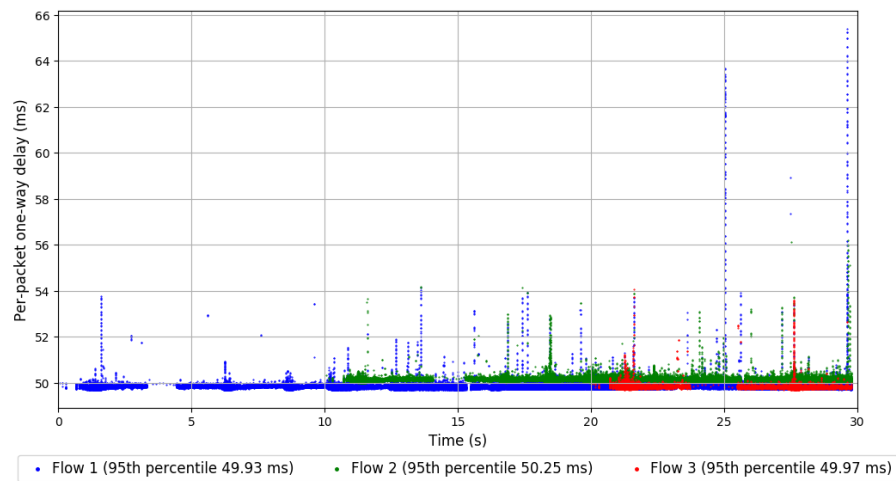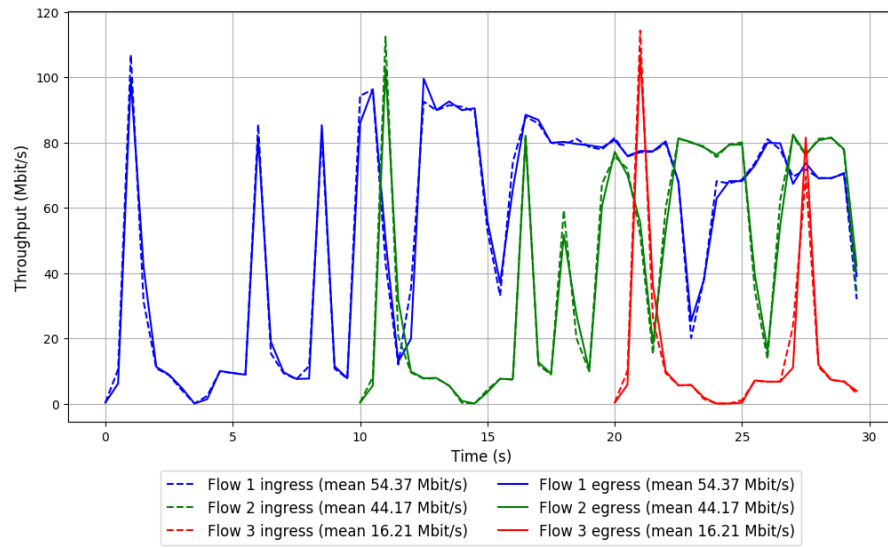
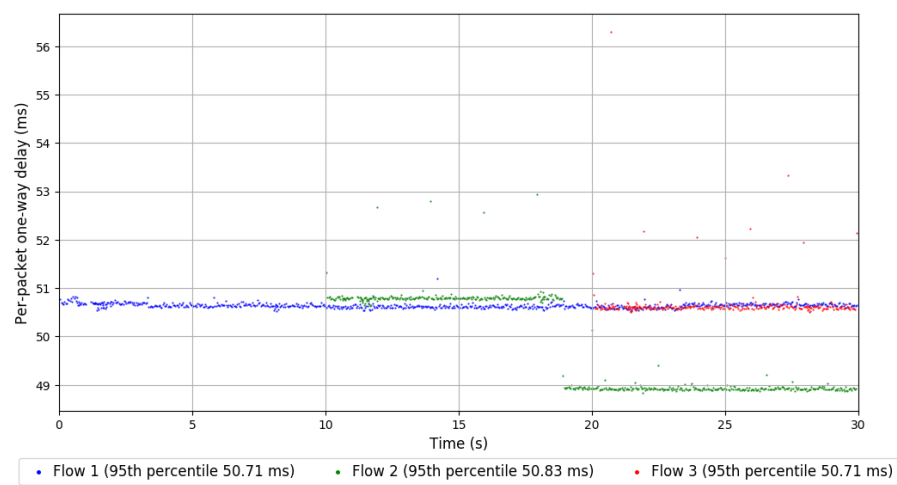Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-02-14 09:56:34
End at: 2018-02-14 09:57:04


# Below is generated by plot.py at 2018-02-14 14:45:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.94 Mbit/s
95th percentile per-packet one-way delay: 51.085 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.00 Mbit/s
95th percentile per-packet one-way delay: 51.097 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.32 Mbit/s
95th percentile per-packet one-way delay: 50.489 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 17.80 Mbit/s
95th percentile per-packet one-way delay: 51.023 ms
Loss rate: 0.00%
```
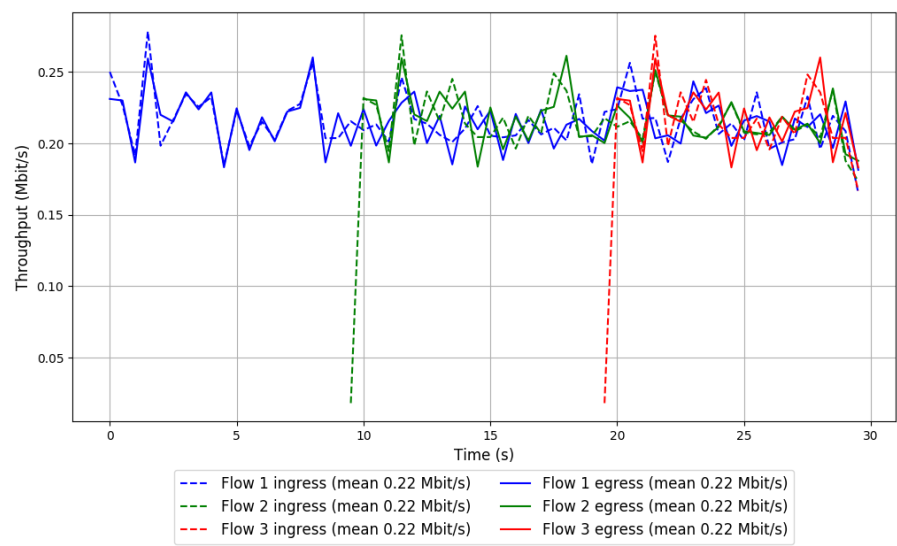
Run 5: Report of QUIC Cubic — Data Link

```
Run 6: Statistics of QUIC Cubic

Start at: 2018-02-14 10:14:28
End at: 2018-02-14 10:14:58


# Below is generated by plot.py at 2018-02-14 14:45:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.13 Mbit/s
95th percentile per-packet one-way delay: 51.386 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.74 Mbit/s
95th percentile per-packet one-way delay: 50.837 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 14.56 Mbit/s
95th percentile per-packet one-way delay: 51.460 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.58 Mbit/s
95th percentile per-packet one-way delay: 50.347 ms
Loss rate: 0.00%
```
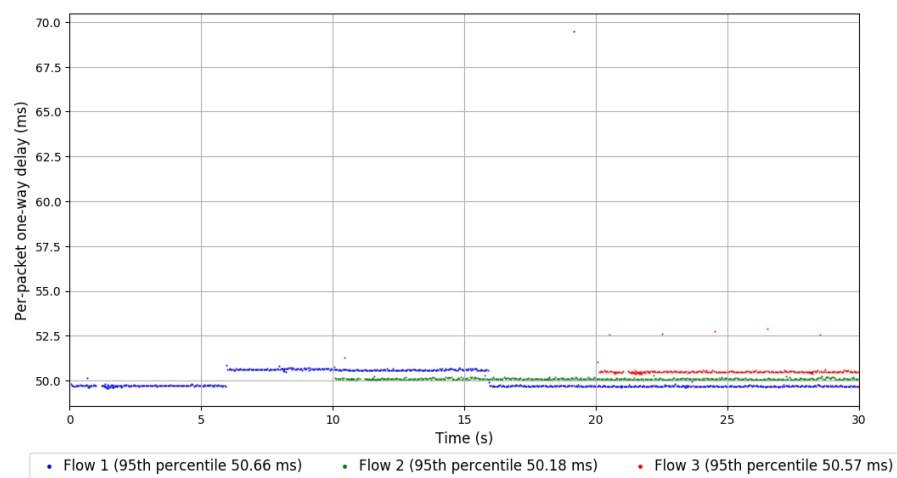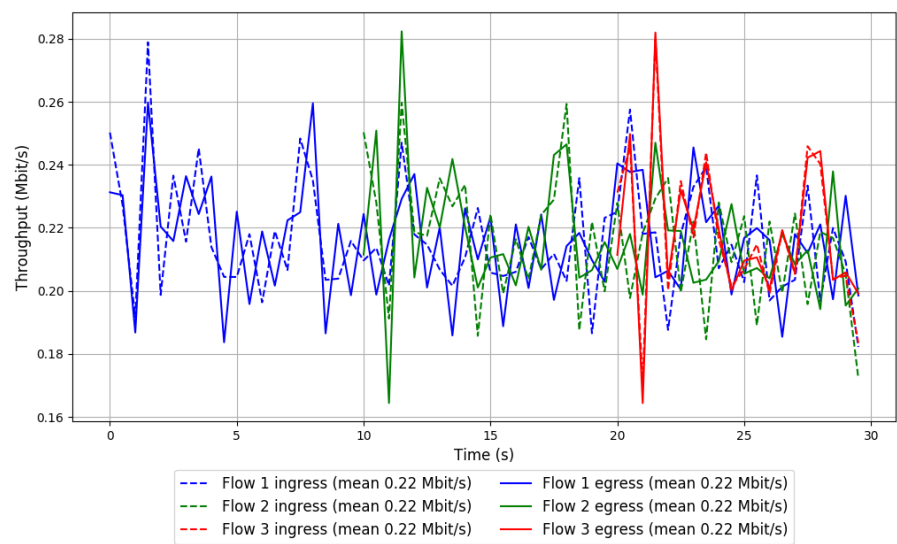
Run 6: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 53.74 Mbit/s) — — — Flow 1 egress (mean 53.74 Mbit/s)
Flow 2 ingress (mean 14.56 Mbit/s) — — — Flow 2 egress (mean 14.56 Mbit/s)
Flow 3 ingress (mean 20.58 Mbit/s) — — — Flow 3 egress (mean 20.58 Mbit/s)

Flow 1 (95th percentile 50.84 ms)   Flow 2 (95th percentile 51.46 ms)   Flow 3 (95th percentile 50.35 ms)

```
Run 7: Statistics of QUIC Cubic

Start at: 2018-02-14 10:32:05
End at: 2018-02-14 10:32:35


# Below is generated by plot.py at 2018-02-14 14:45:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.41 Mbit/s
95th percentile per-packet one-way delay: 50.283 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.21 Mbit/s
95th percentile per-packet one-way delay: 50.276 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.17 Mbit/s
95th percentile per-packet one-way delay: 50.306 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 17.04 Mbit/s
95th percentile per-packet one-way delay: 50.288 ms
Loss rate: 0.00%
```
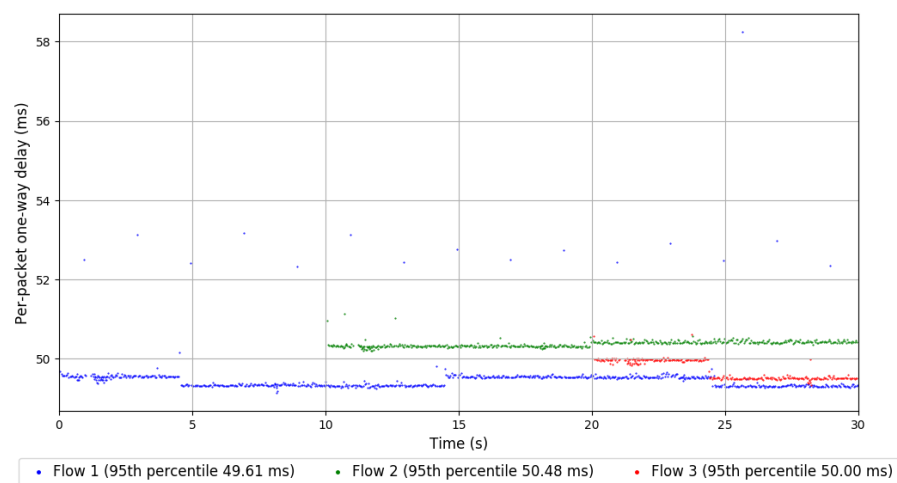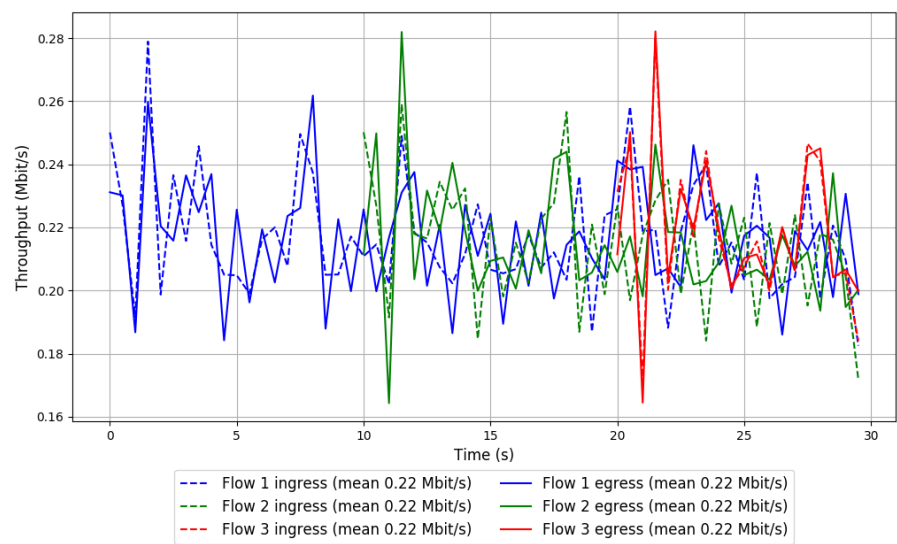
Run 7: Report of QUIC Cubic — Data Link

```
Run 8: Statistics of QUIC Cubic

Start at: 2018-02-14 10:50:10
End at: 2018-02-14 10:50:40

# Below is generated by plot.py at 2018-02-14 14:45:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.26 Mbit/s
95th percentile per-packet one-way delay: 50.065 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.10 Mbit/s
95th percentile per-packet one-way delay: 50.025 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 39.94 Mbit/s
95th percentile per-packet one-way delay: 50.115 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.44 Mbit/s
95th percentile per-packet one-way delay: 48.657 ms
Loss rate: 0.00%
```
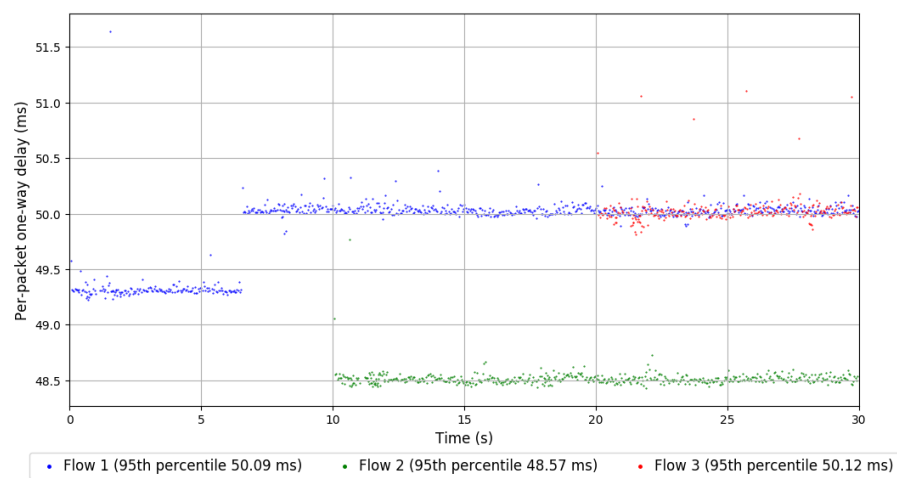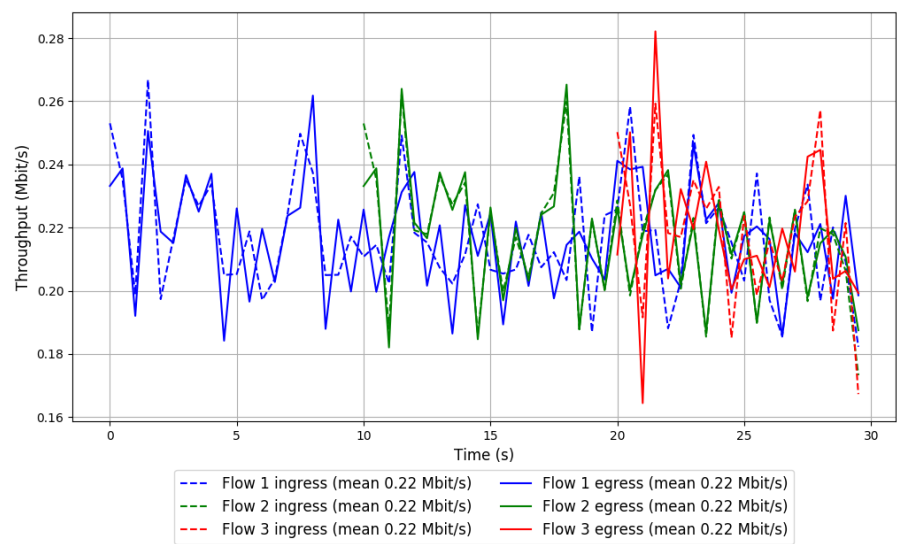
Run 8: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 43.10 Mbit/s) --- Flow 1 egress (mean 43.10 Mbit/s)
Flow 2 ingress (mean 39.94 Mbit/s) --- Flow 2 egress (mean 39.94 Mbit/s)
Flow 3 ingress (mean 20.44 Mbit/s) --- Flow 3 egress (mean 20.44 Mbit/s)

Flow 1 (95th percentile 50.02 ms)   Flow 2 (95th percentile 50.12 ms)   Flow 3 (95th percentile 48.66 ms)

99

```
Run 9: Statistics of QUIC Cubic

Start at: 2018-02-14 11:07:50
End at: 2018-02-14 11:08:20


# Below is generated by plot.py at 2018-02-14 14:45:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.04 Mbit/s
95th percentile per-packet one-way delay: 49.966 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.05 Mbit/s
95th percentile per-packet one-way delay: 49.857 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 34.82 Mbit/s
95th percentile per-packet one-way delay: 50.025 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 14.94 Mbit/s
95th percentile per-packet one-way delay: 49.561 ms
Loss rate: 0.00%
```
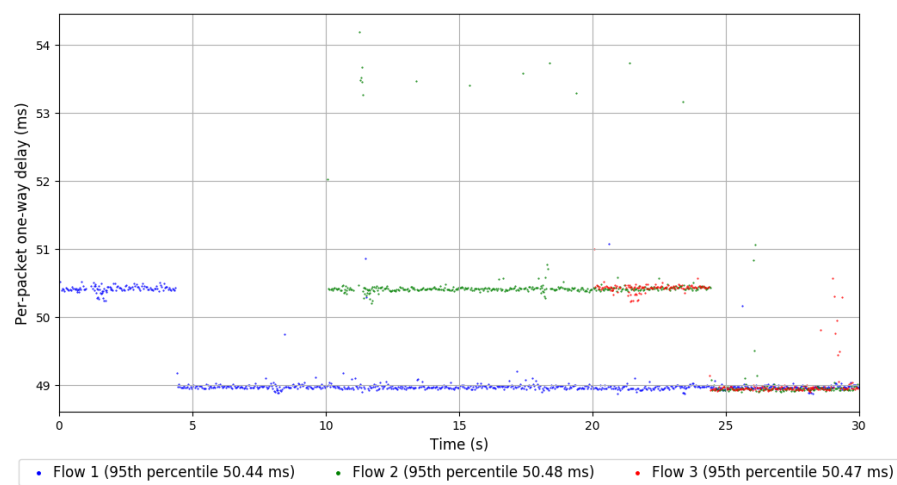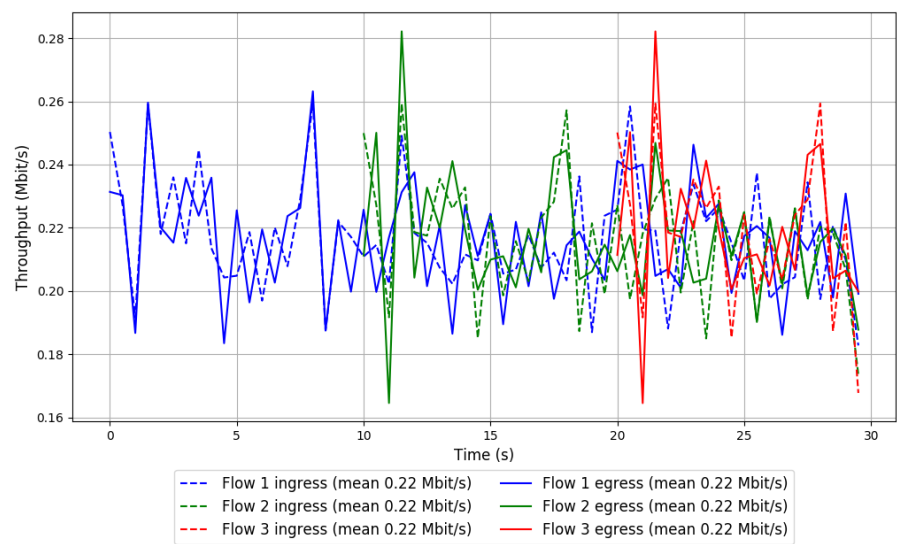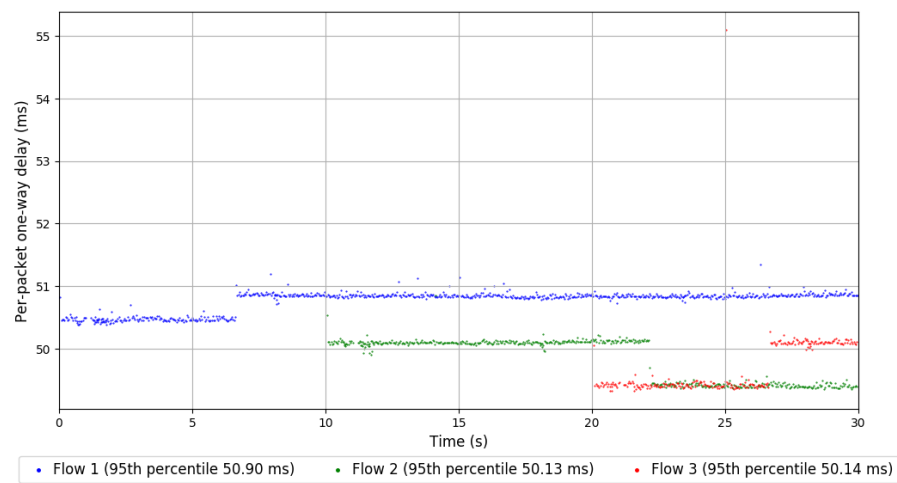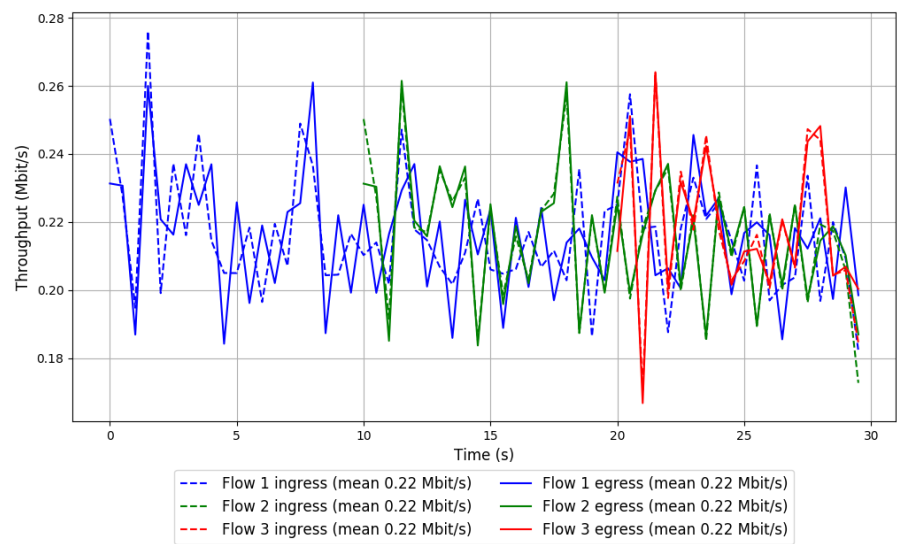
Run 9: Report of QUIC Cubic — Data Link

```
Run 10: Statistics of QUIC Cubic

Start at: 2018-02-14 11:25:27
End at: 2018-02-14 11:25:57


# Below is generated by plot.py at 2018-02-14 14:45:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.98 Mbit/s
95th percentile per-packet one-way delay: 50.189 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 54.37 Mbit/s
95th percentile per-packet one-way delay: 49.933 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 44.17 Mbit/s
95th percentile per-packet one-way delay: 50.252 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 16.21 Mbit/s
95th percentile per-packet one-way delay: 49.969 ms
Loss rate: 0.00%
```

Run 10: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 54.37 Mbit/s)   Flow 1 egress (mean 54.37 Mbit/s)
Flow 2 ingress (mean 44.17 Mbit/s)   Flow 2 egress (mean 44.17 Mbit/s)
Flow 3 ingress (mean 16.21 Mbit/s)   Flow 3 egress (mean 16.21 Mbit/s)

Flow 1 (95th percentile 49.93 ms)   Flow 2 (95th percentile 50.25 ms)   Flow 3 (95th percentile 49.97 ms)
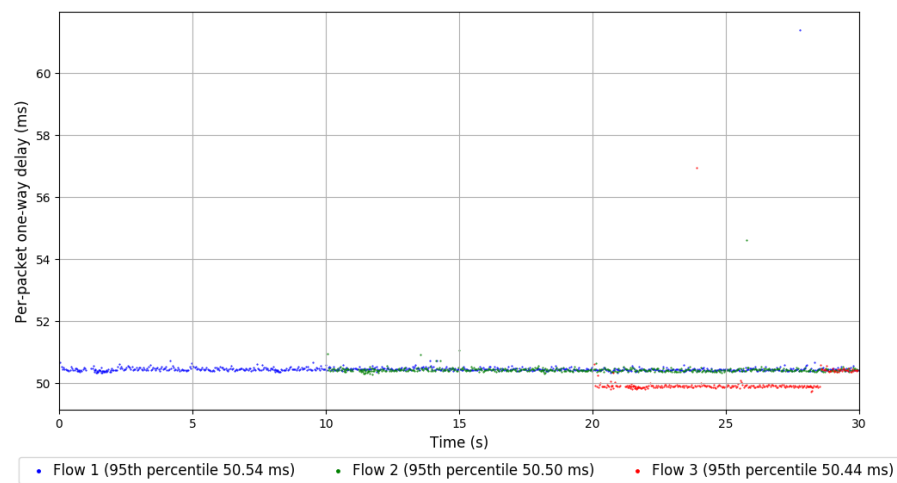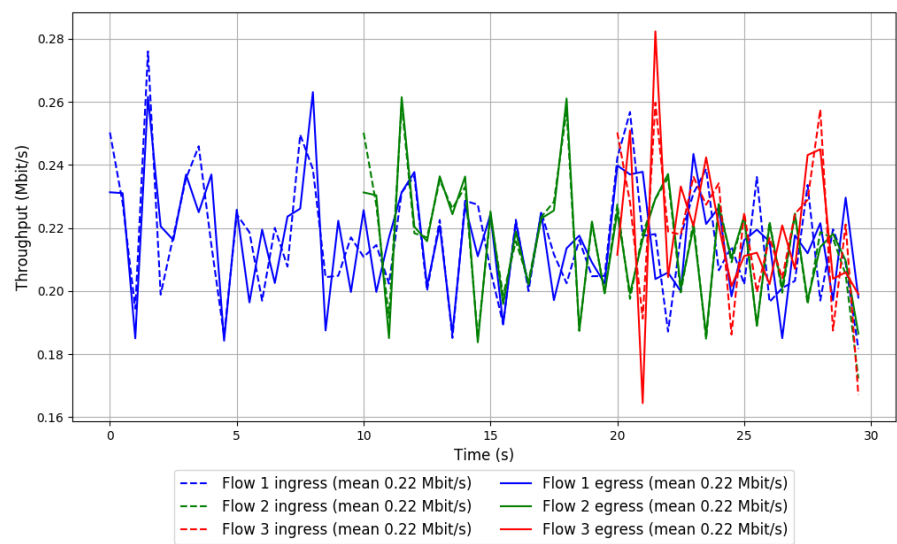
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```
Run 1: Statistics of SCReAM

Start at: 2018-02-14 08:42:55
End at: 2018-02-14 08:43:25


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.806 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.711 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.830 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.712 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-02-14 09:00:22
End at: 2018-02-14 09:00:52


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.640 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.661 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.179 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.569 ms
Loss rate: 0.00%
```
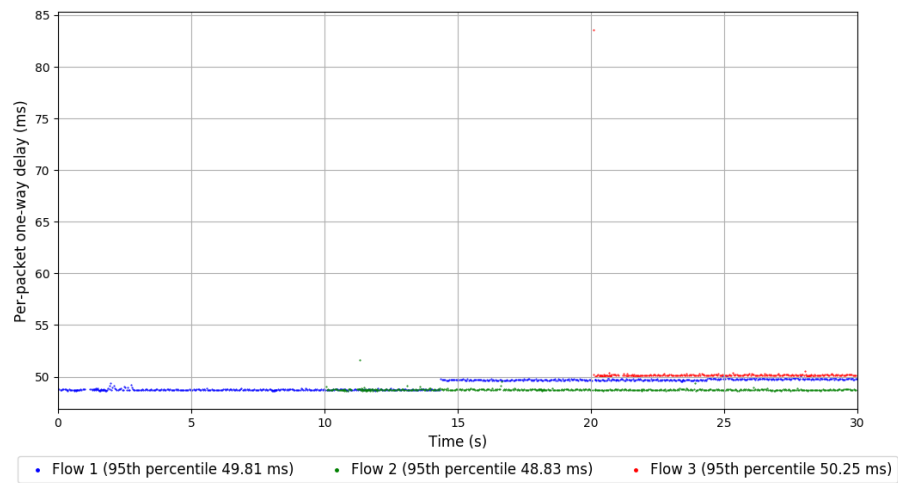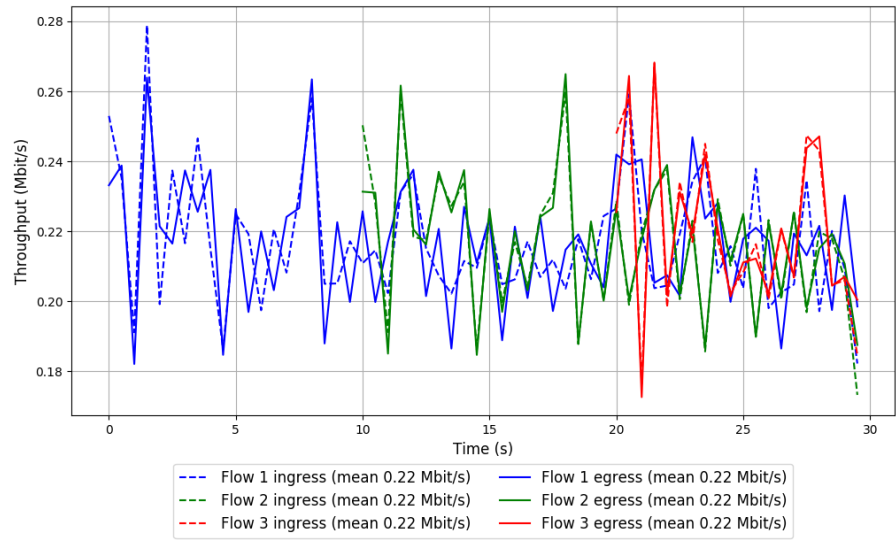
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-02-14 09:17:54
End at: 2018-02-14 09:18:24


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.452 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.612 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.483 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.003 ms
Loss rate: 0.00%
```
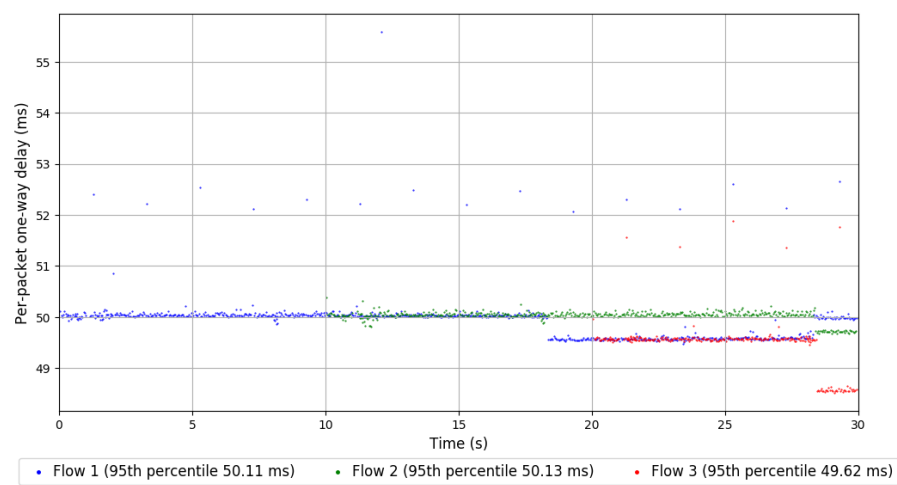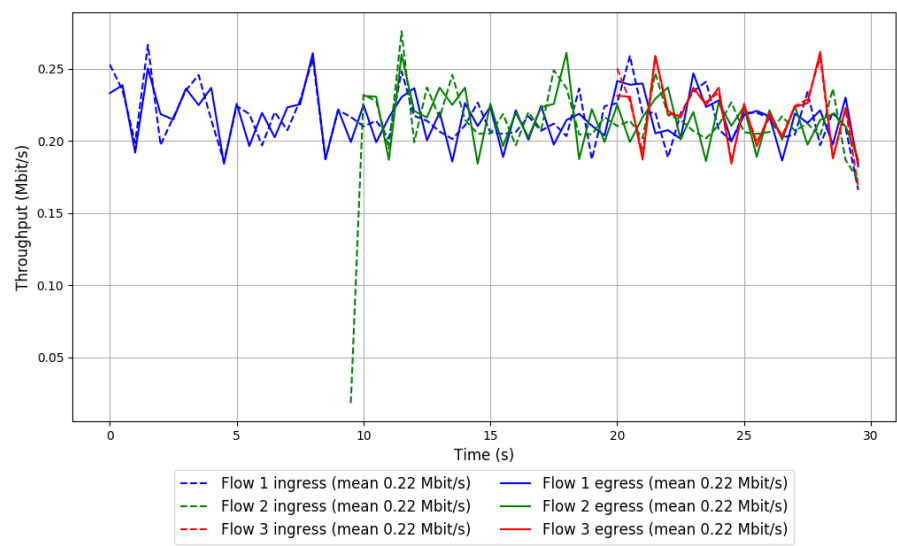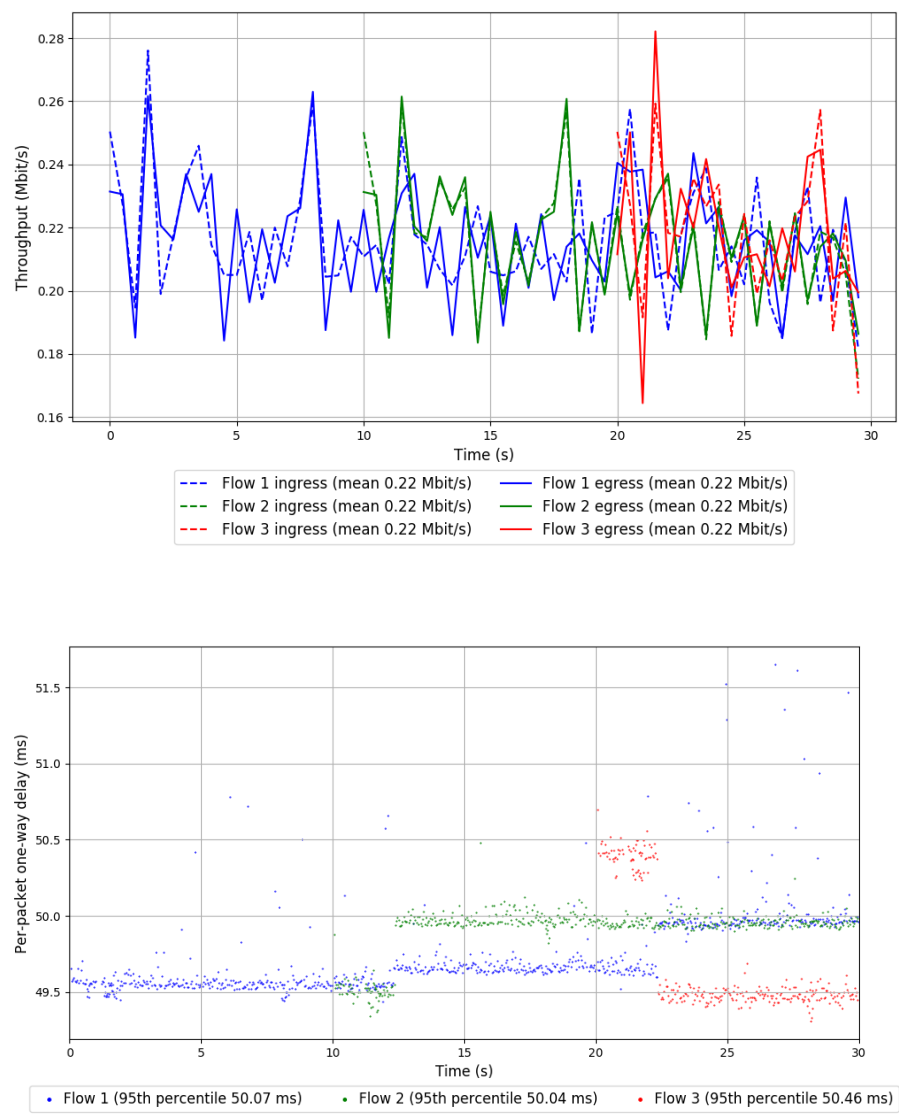
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-02-14 09:35:42
End at: 2018-02-14 09:36:12


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 50.082 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.094 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 48.571 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.117 ms
Loss rate: 0.00%
```
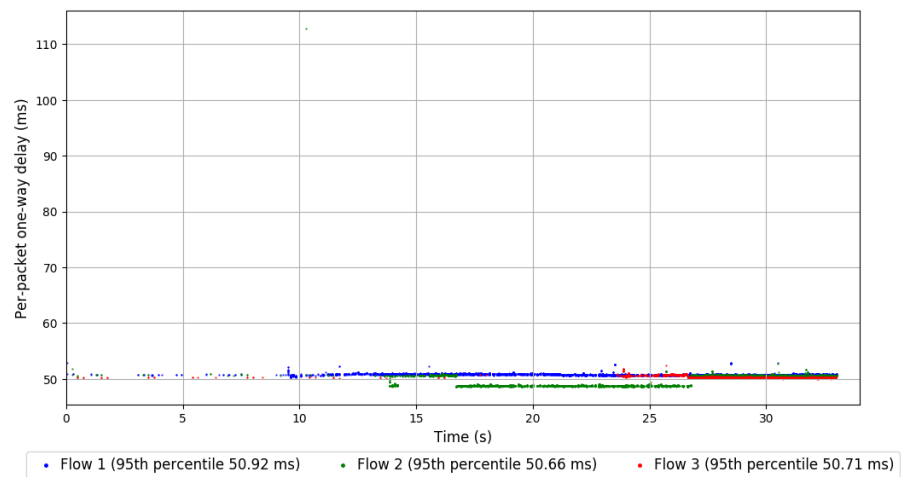
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-02-14 09:53:19
End at: 2018-02-14 09:53:49


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.460 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.441 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.485 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.472 ms
Loss rate: 0.00%
```
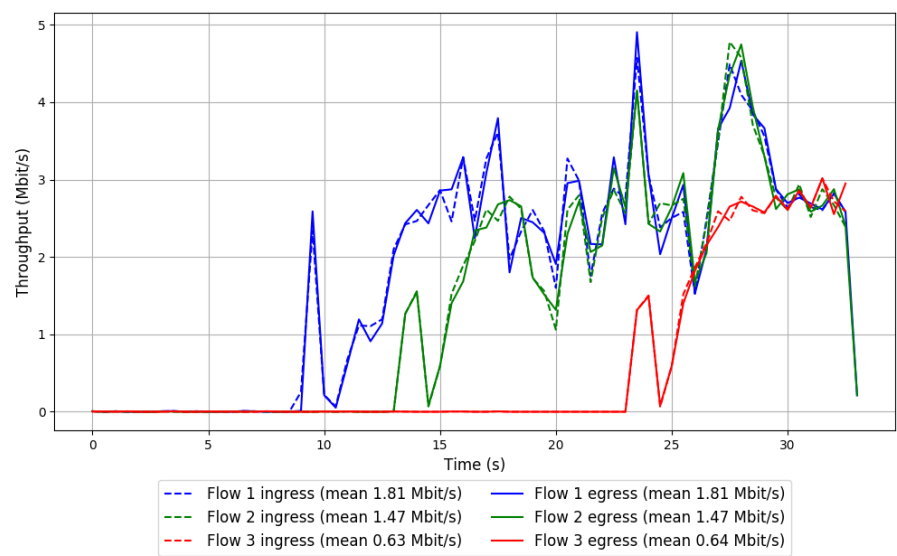
Run 5: Report of SCReAM — Data Link

```
Run 6: Statistics of SCReAM

Start at: 2018-02-14 10:11:12
End at: 2018-02-14 10:11:42


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.876 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.899 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.135 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.138 ms
Loss rate: 0.00%
```
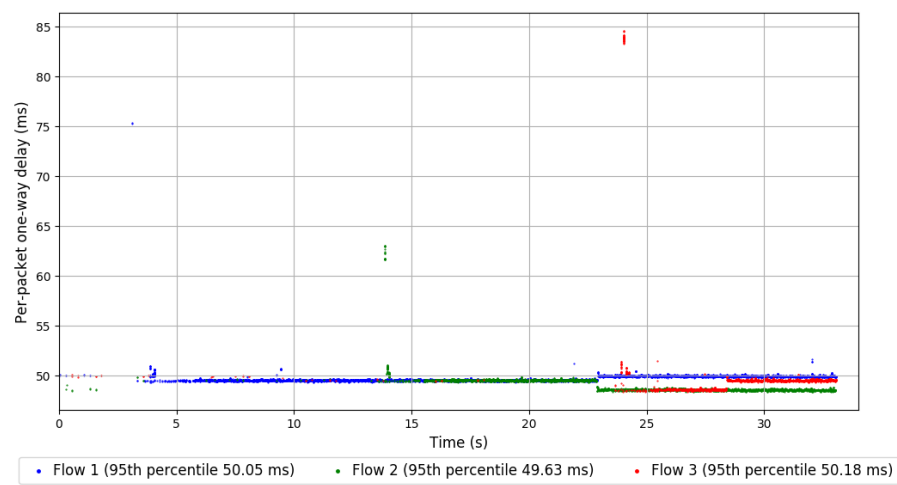
Run 6: Report of SCReAM — Data Link

```
Run 7: Statistics of SCReAM

Start at: 2018-02-14 10:28:50
End at: 2018-02-14 10:29:20


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.527 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.538 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.501 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.440 ms
Loss rate: 0.00%
```
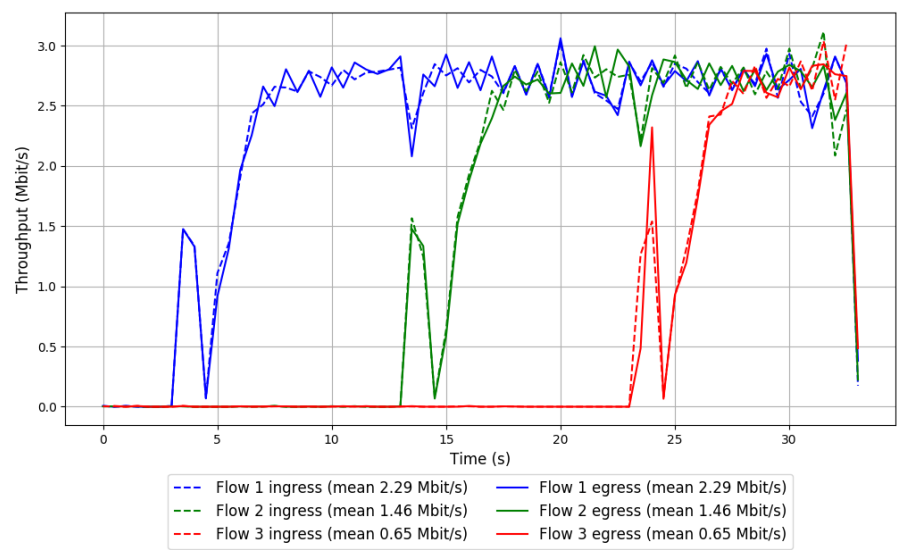
Run 7: Report of SCReAM — Data Link

```
Run 8: Statistics of SCReAM

Start at: 2018-02-14 10:46:49
End at: 2018-02-14 10:47:19


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 50.176 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.809 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 48.829 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.253 ms
Loss rate: 0.00%
```
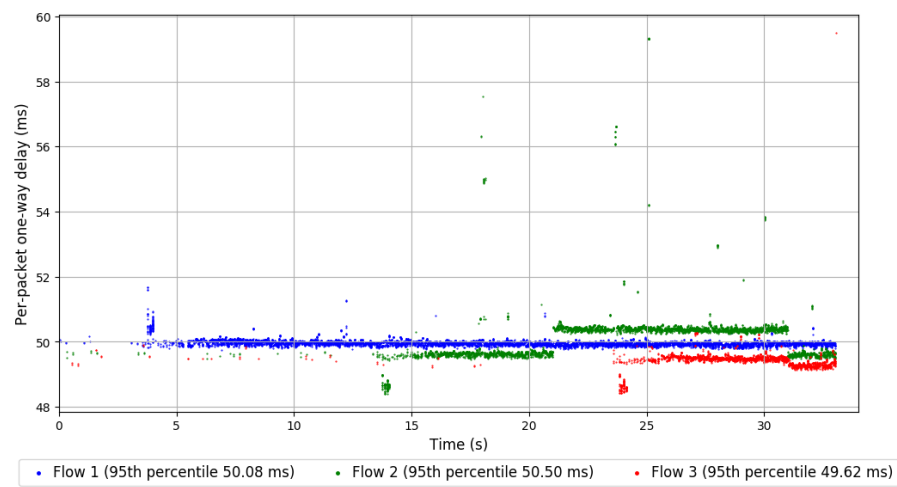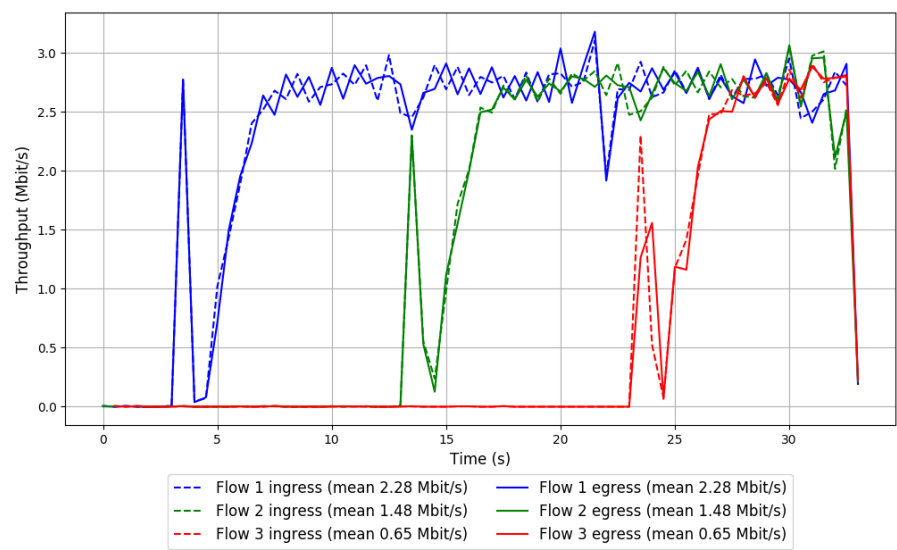
Run 8: Report of SCReAM — Data Link

```
Run 9: Statistics of SCReAM

Start at: 2018-02-14 11:04:35
End at: 2018-02-14 11:05:05


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.114 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.111 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.126 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.620 ms
Loss rate: 0.00%
```
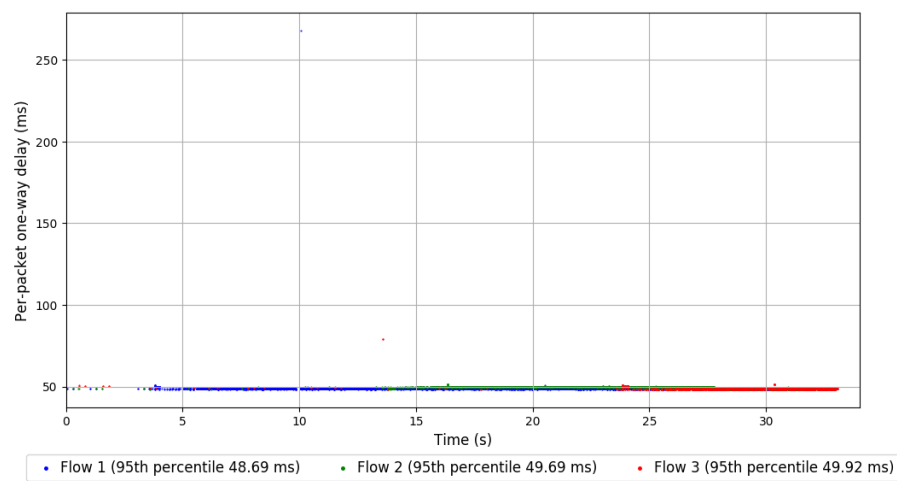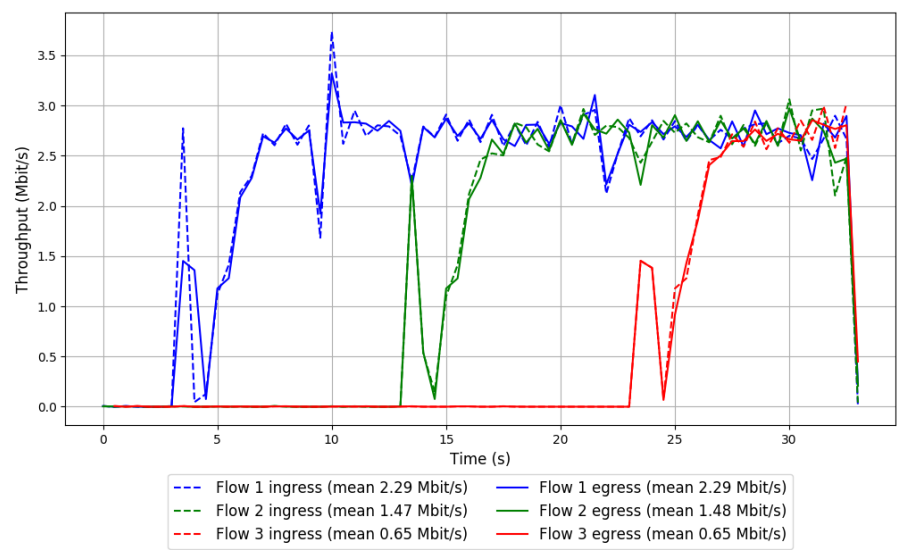
Run 9: Report of SCReAM — Data Link

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 50.11 ms)   Flow 2 (95th percentile 50.13 ms)   Flow 3 (95th percentile 49.62 ms)

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```
Run 10: Statistics of SCReAM

Start at: 2018-02-14 11:22:11
End at: 2018-02-14 11:22:41


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 50.365 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.074 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.039 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.460 ms
Loss rate: 0.00%
```
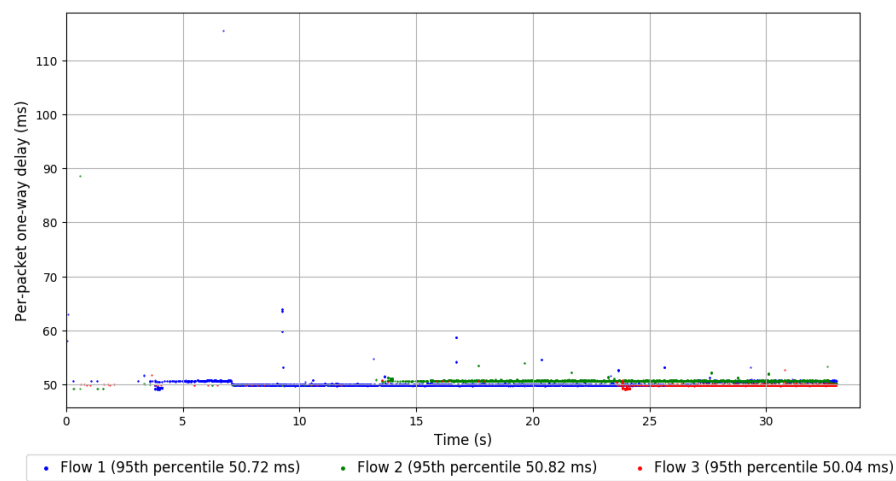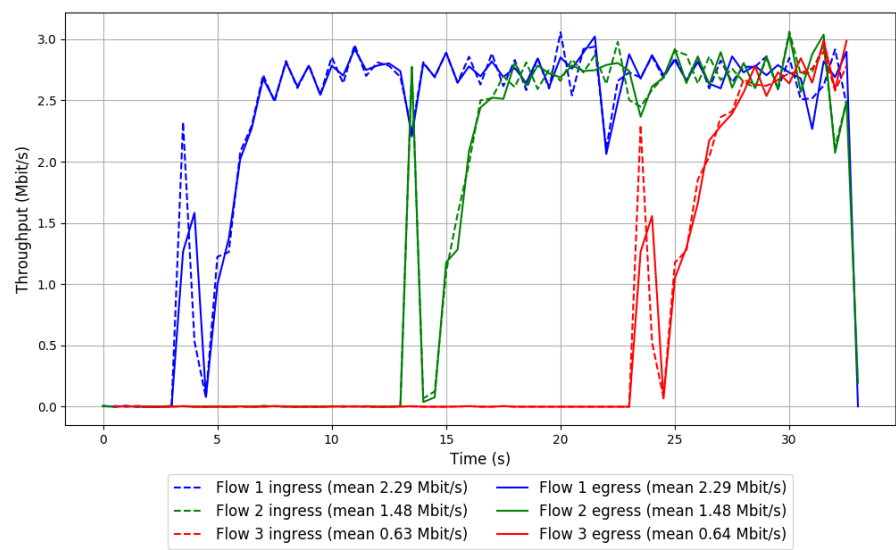
Run 10: Report of SCReAM — Data Link

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 50.07 ms)   Flow 2 (95th percentile 50.04 ms)   Flow 3 (95th percentile 50.46 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2018-02-14 08:52:00
End at: 2018-02-14 08:52:30

# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.90 Mbit/s
95th percentile per-packet one-way delay: 50.889 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 50.923 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 50.663 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 50.709 ms
Loss rate: 0.04%
```
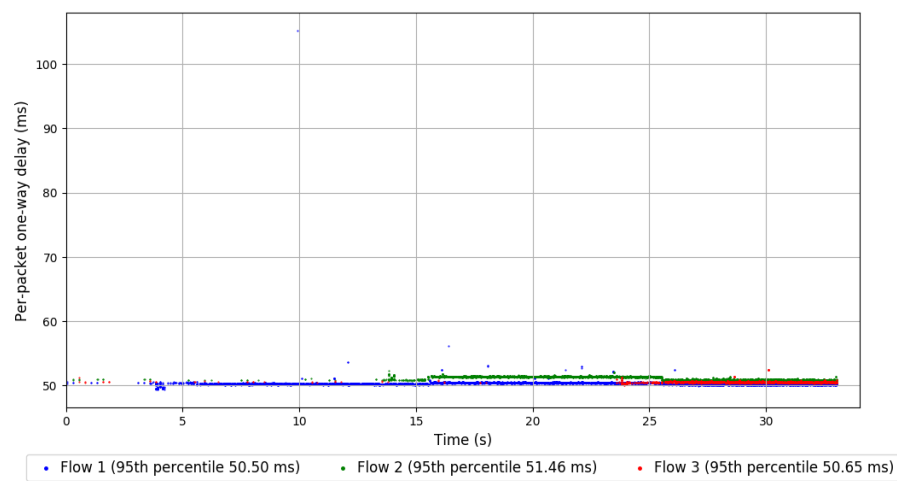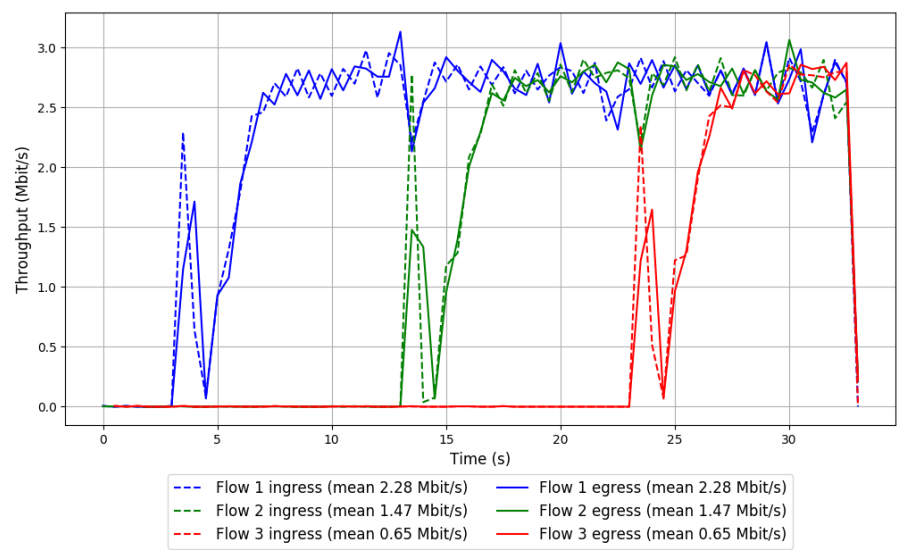
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-02-14 09:09:28
End at: 2018-02-14 09:09:58


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.37 Mbit/s
95th percentile per-packet one-way delay: 50.032 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 50.047 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 49.628 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 50.181 ms
Loss rate: 0.00%
```
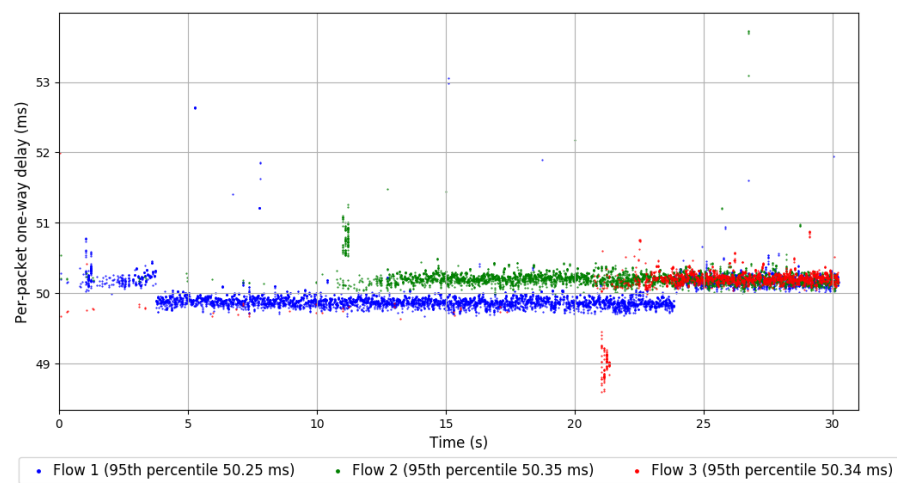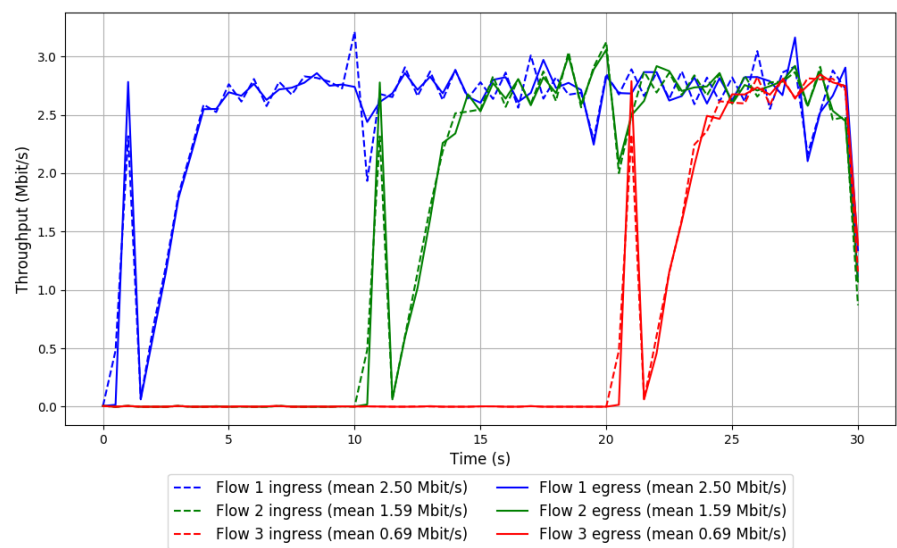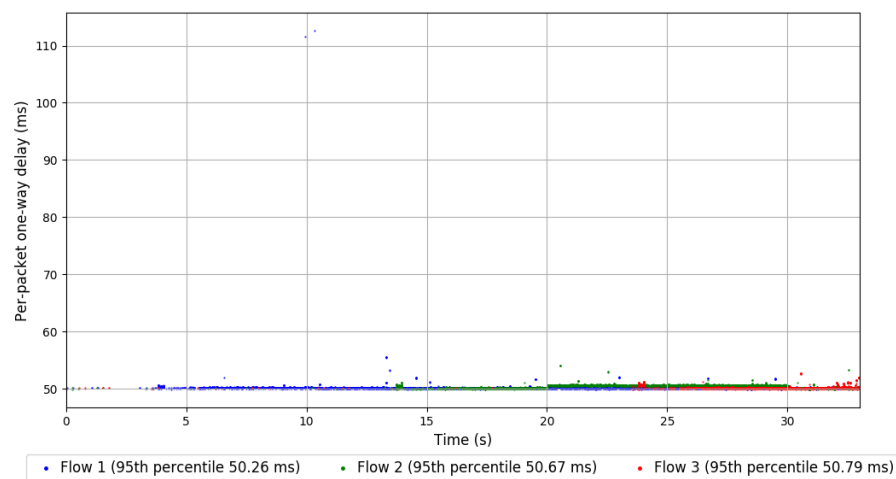
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-02-14 09:27:06
End at: 2018-02-14 09:27:36


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.39 Mbit/s
95th percentile per-packet one-way delay: 50.438 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 50.076 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 50.496 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 49.619 ms
Loss rate: 0.00%
```
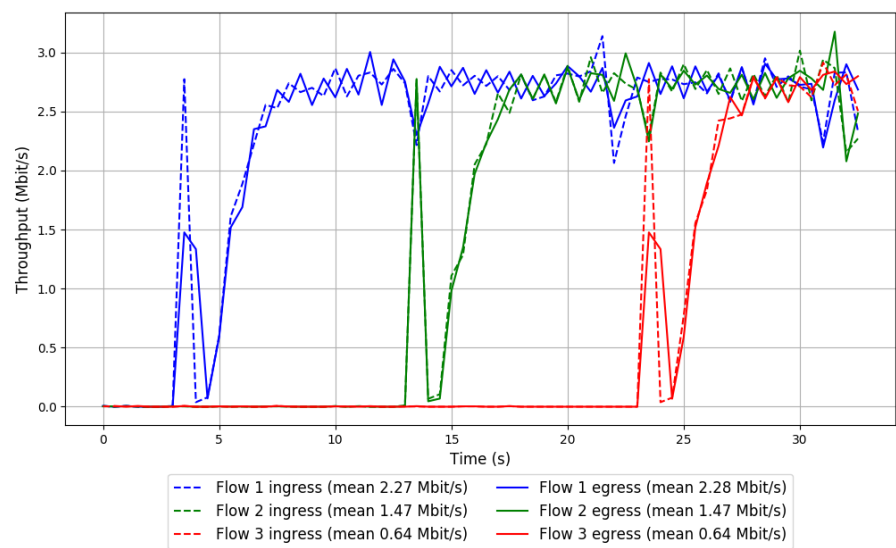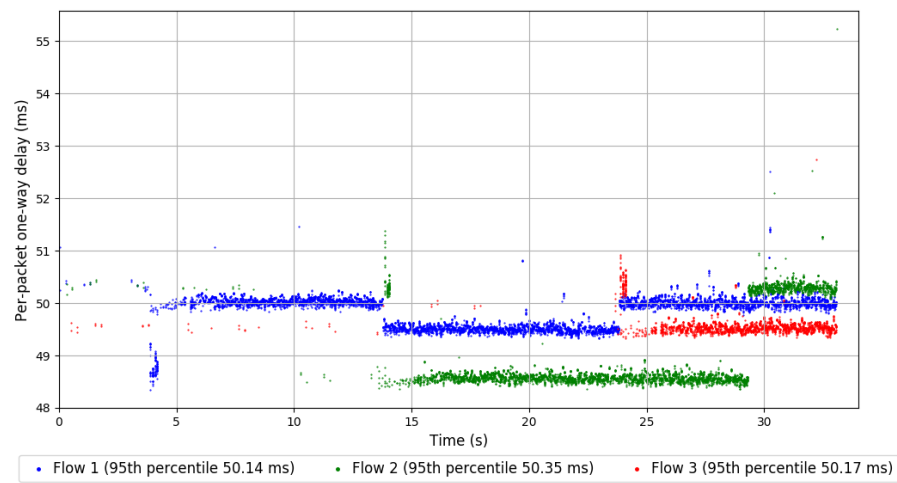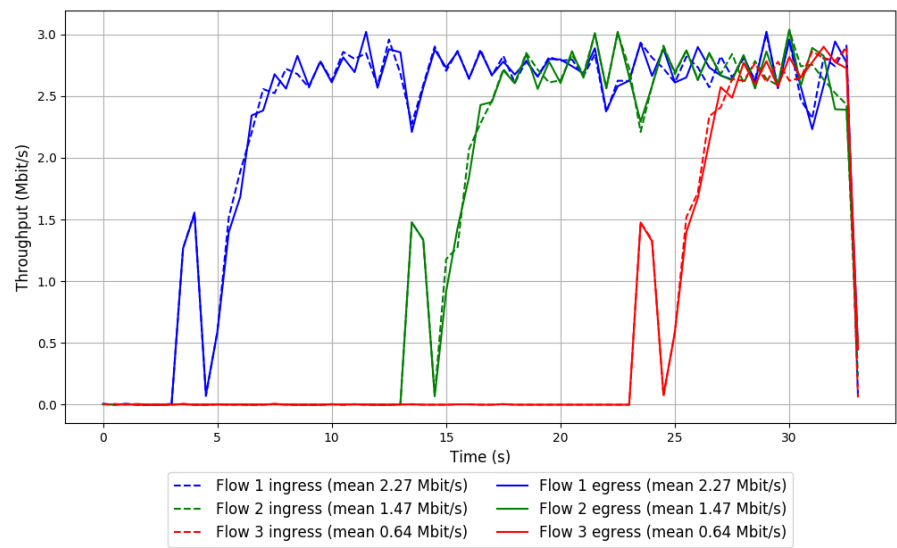
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-02-14 09:44:43
End at: 2018-02-14 09:45:13


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.40 Mbit/s
95th percentile per-packet one-way delay: 49.660 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 48.685 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 49.685 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 49.920 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-02-14 10:02:34
End at: 2018-02-14 10:03:04


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.38 Mbit/s
95th percentile per-packet one-way delay: 50.777 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 50.720 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 50.816 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 50.037 ms
Loss rate: 0.04%
```
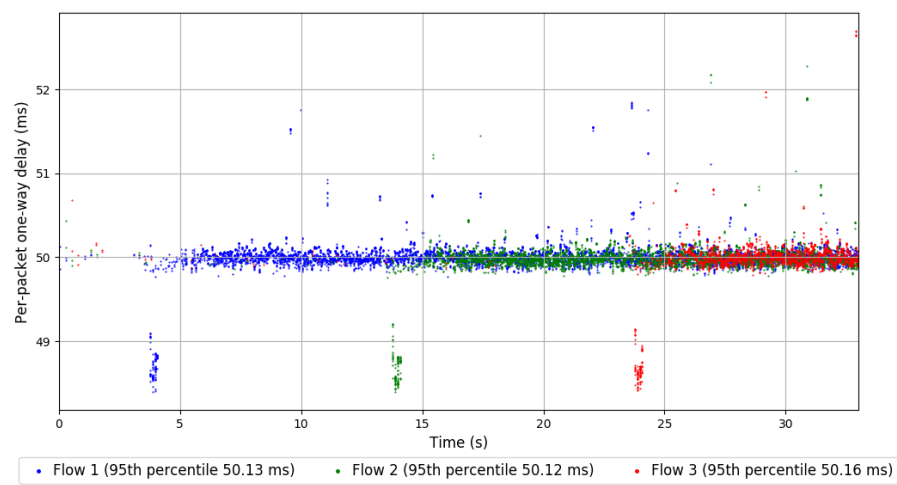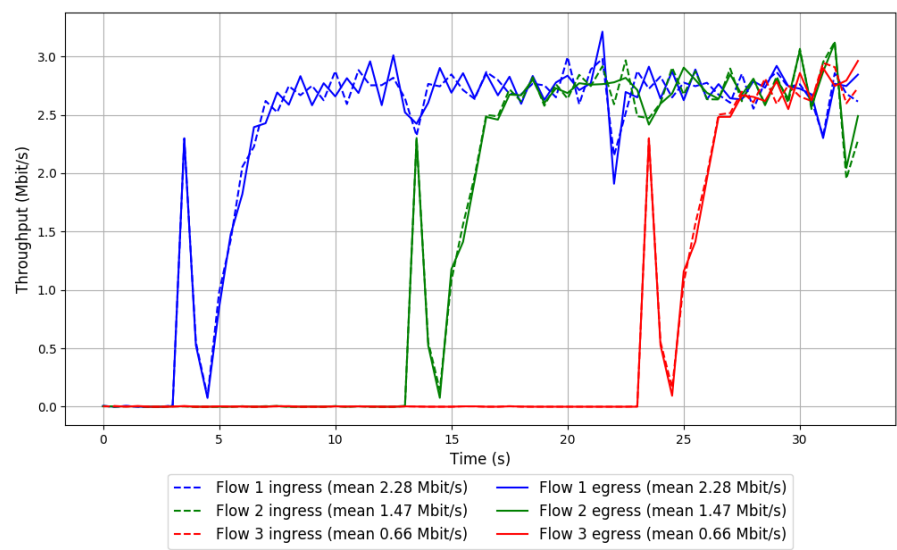
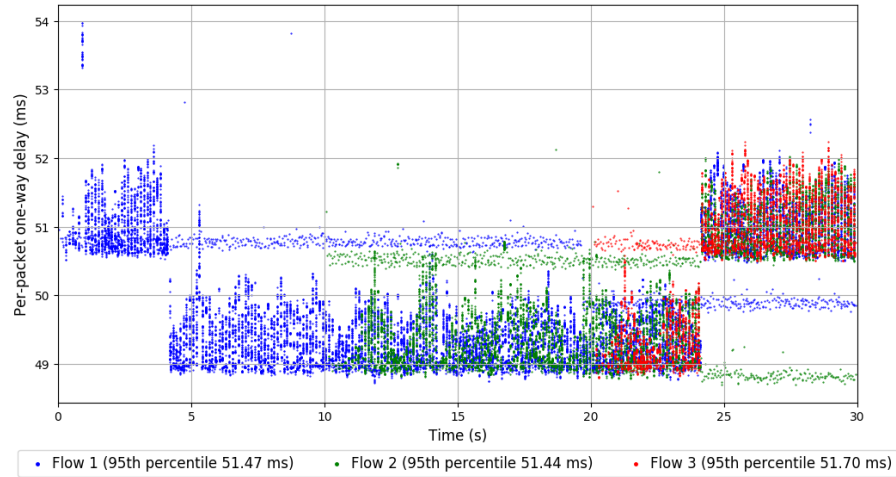Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2018-02-14 10:20:16
End at: 2018-02-14 10:20:46


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.38 Mbit/s
95th percentile per-packet one-way delay: 51.412 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 50.496 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 51.462 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 50.648 ms
Loss rate: 0.05%
```
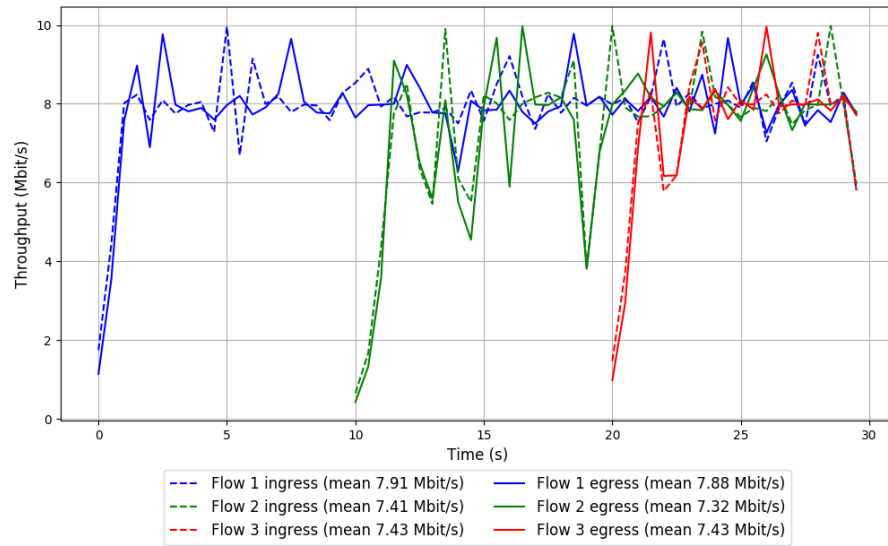
Run 6: Report of WebRTC media — Data Link

```
Run 7: Statistics of WebRTC media

Start at: 2018-02-14 10:38:10
End at: 2018-02-14 10:38:40


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.78 Mbit/s
95th percentile per-packet one-way delay: 50.308 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.50 Mbit/s
95th percentile per-packet one-way delay: 50.251 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 50.349 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 50.342 ms
Loss rate: 0.00%
```
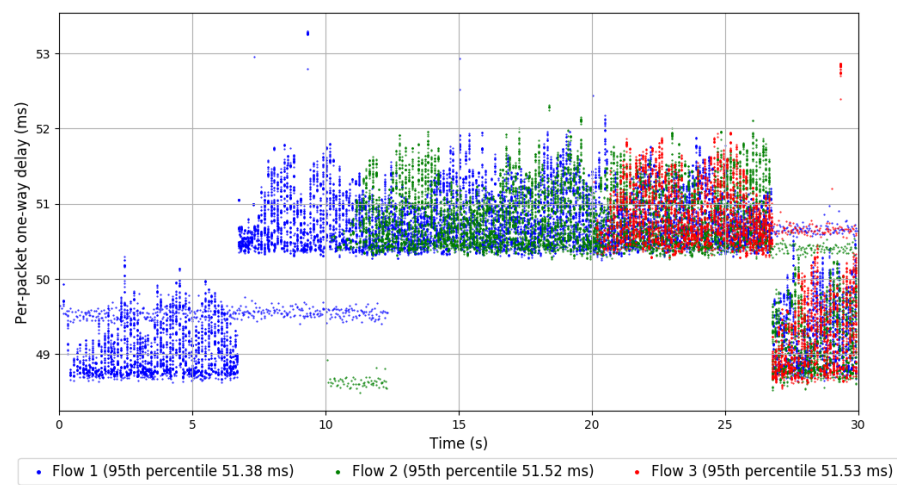
Run 7: Report of WebRTC media — Data Link

```
Run 8: Statistics of WebRTC media

Start at: 2018-02-14 10:56:01
End at: 2018-02-14 10:56:31

# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.36 Mbit/s
95th percentile per-packet one-way delay: 50.624 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 50.255 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 50.669 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 50.788 ms
Loss rate: 0.00%
```
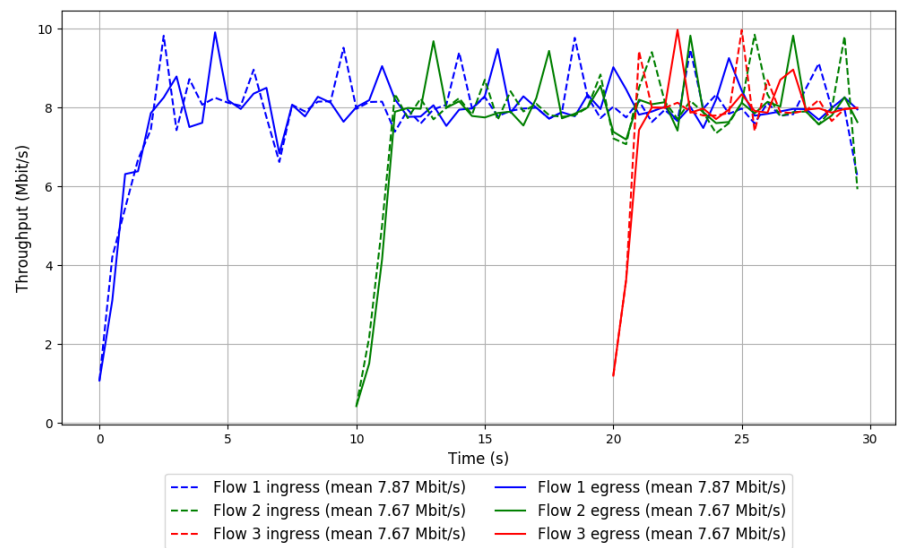
Run 8: Report of WebRTC media — Data Link

```
Run 9: Statistics of WebRTC media

Start at: 2018-02-14 11:13:48
End at: 2018-02-14 11:14:18


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.36 Mbit/s
95th percentile per-packet one-way delay: 50.289 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 50.137 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 50.347 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 50.173 ms
Loss rate: 0.00%
```
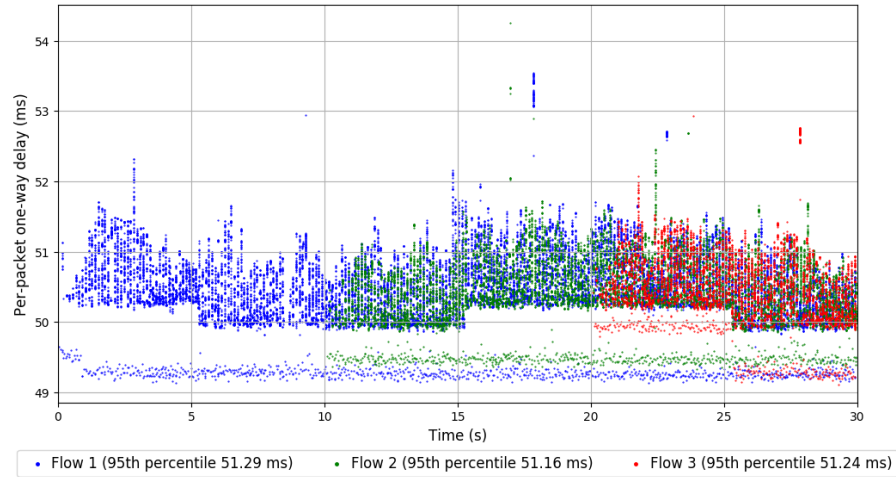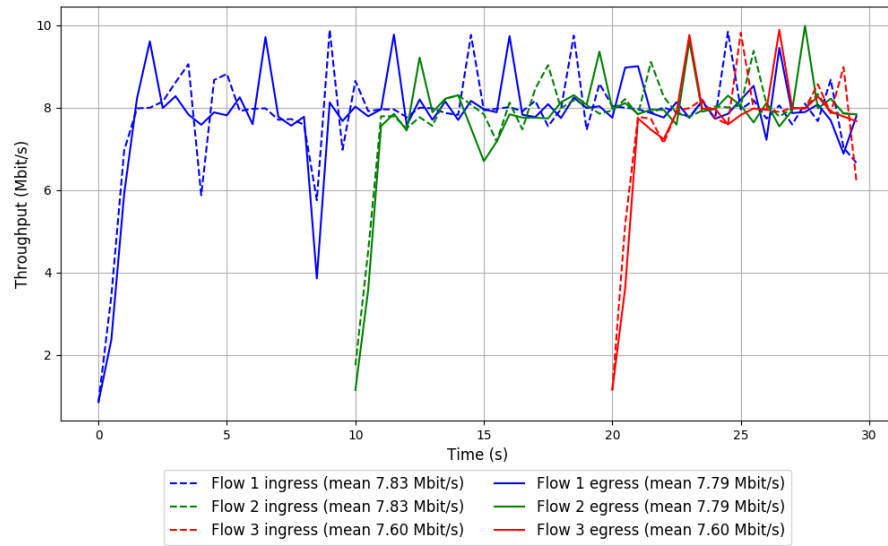
Run 9: Report of WebRTC media — Data Link

```
Run 10: Statistics of WebRTC media

Start at: 2018-02-14 11:31:21
End at: 2018-02-14 11:31:51

# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.39 Mbit/s
95th percentile per-packet one-way delay: 50.131 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 50.128 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 50.117 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 50.161 ms
Loss rate: 0.00%
```
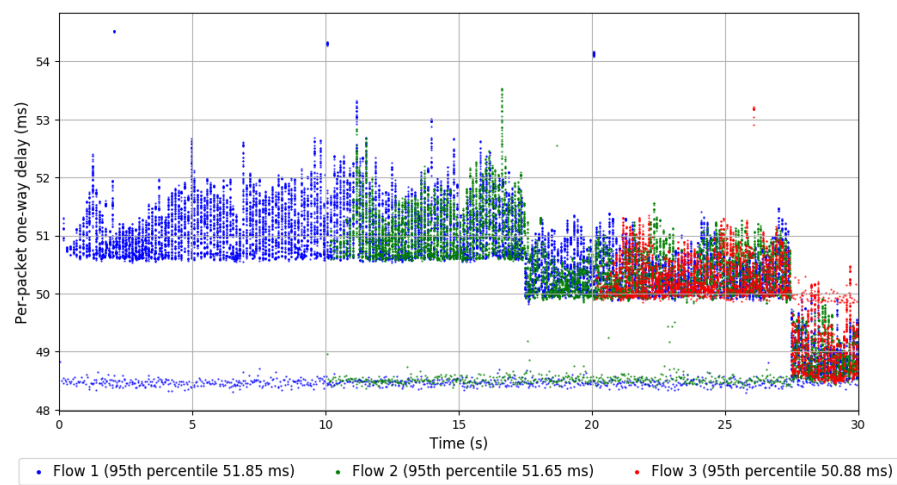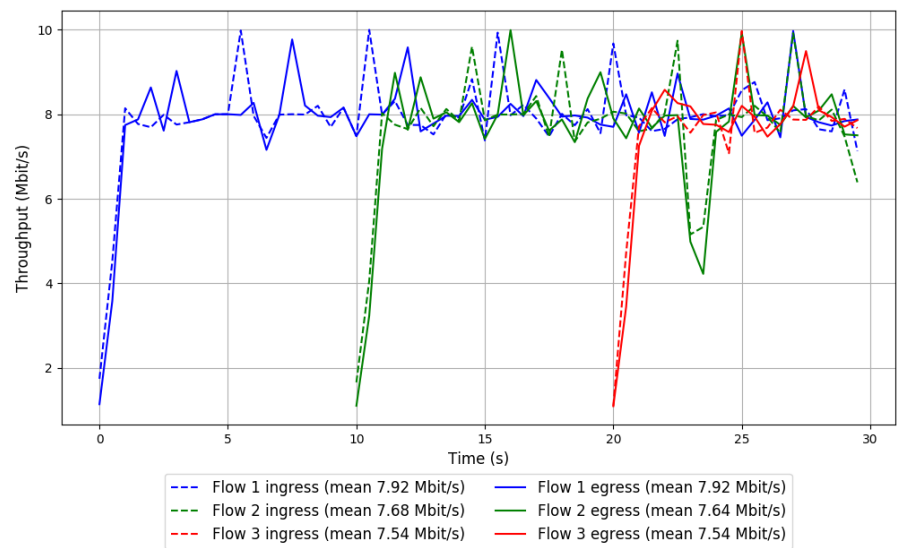
Run 10: Report of WebRTC media — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-02-14 08:43:34
End at: 2018-02-14 08:44:04

# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.19 Mbit/s
95th percentile per-packet one-way delay: 51.538 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 7.88 Mbit/s
95th percentile per-packet one-way delay: 51.472 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 7.32 Mbit/s
95th percentile per-packet one-way delay: 51.435 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 7.43 Mbit/s
95th percentile per-packet one-way delay: 51.696 ms
Loss rate: 0.00%
```
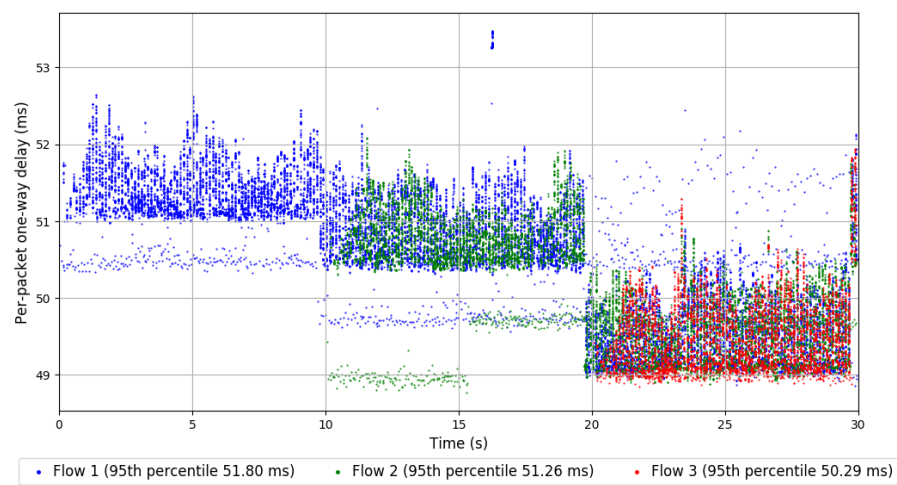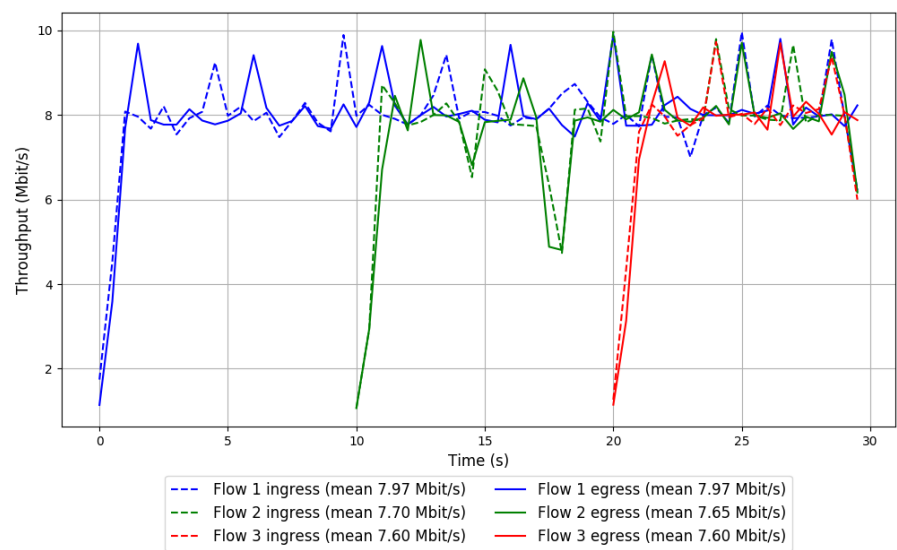
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-02-14 09:01:01
End at: 2018-02-14 09:01:31


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.50 Mbit/s
95th percentile per-packet one-way delay: 51.462 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.87 Mbit/s
95th percentile per-packet one-way delay: 51.385 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.67 Mbit/s
95th percentile per-packet one-way delay: 51.517 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.67 Mbit/s
95th percentile per-packet one-way delay: 51.529 ms
Loss rate: 0.00%
```
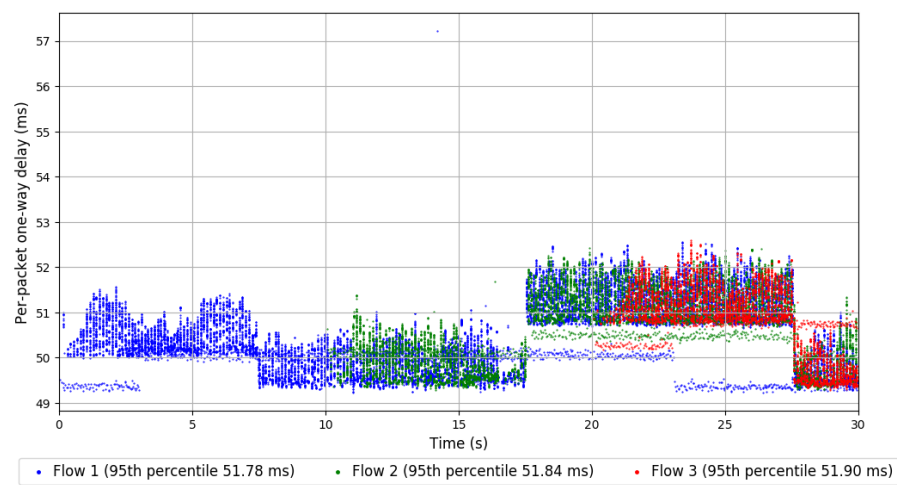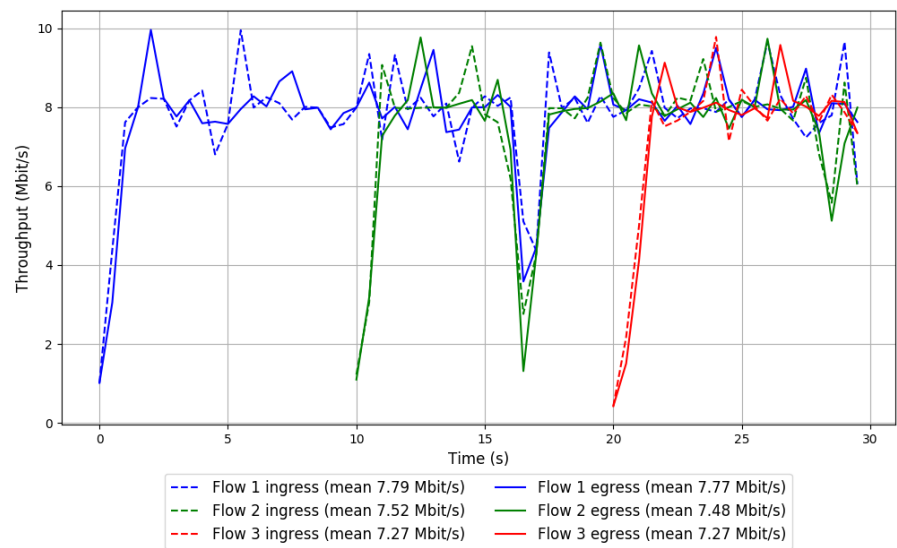
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-02-14 09:18:33
End at: 2018-02-14 09:19:03


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.47 Mbit/s
95th percentile per-packet one-way delay: 51.250 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 7.79 Mbit/s
95th percentile per-packet one-way delay: 51.294 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 7.79 Mbit/s
95th percentile per-packet one-way delay: 51.158 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 51.242 ms
Loss rate: 0.00%
```
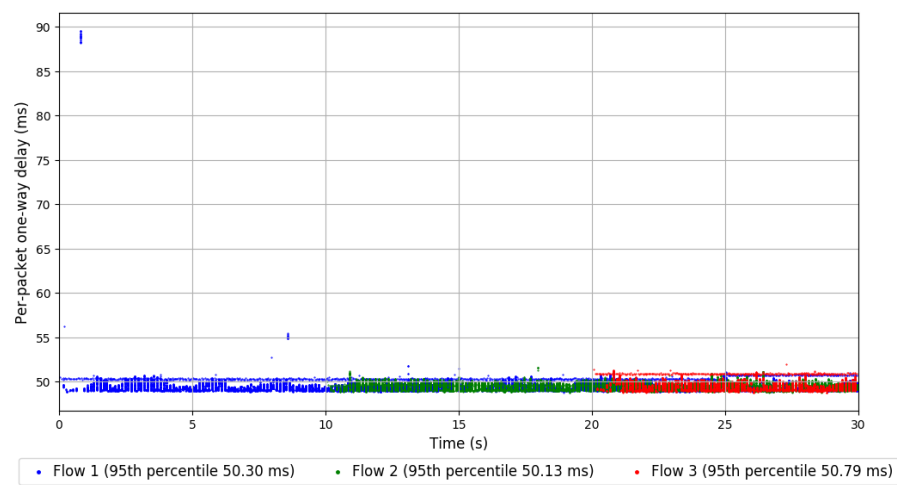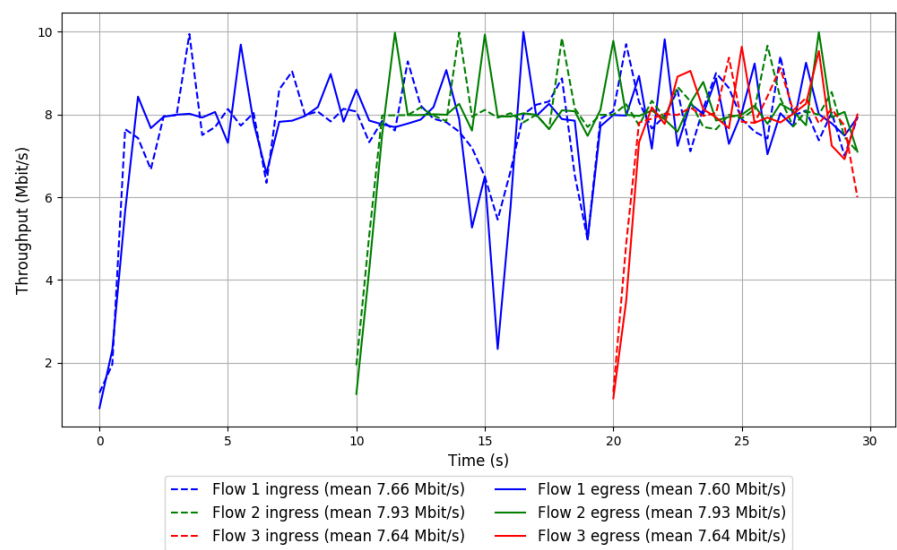
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-02-14 09:36:21
End at: 2018-02-14 09:36:51


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.48 Mbit/s
95th percentile per-packet one-way delay: 51.739 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 7.92 Mbit/s
95th percentile per-packet one-way delay: 51.851 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.64 Mbit/s
95th percentile per-packet one-way delay: 51.647 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 7.54 Mbit/s
95th percentile per-packet one-way delay: 50.876 ms
Loss rate: 0.06%
```
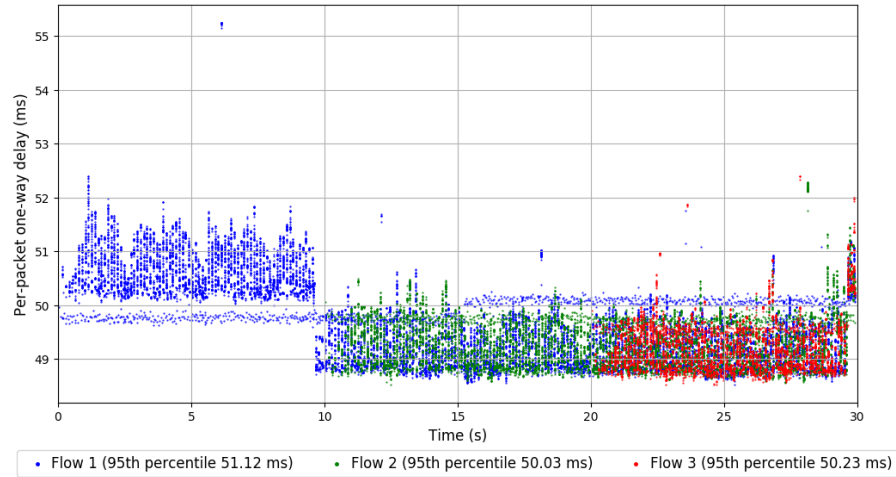
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-02-14 09:53:58
End at: 2018-02-14 09:54:28


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.55 Mbit/s
95th percentile per-packet one-way delay: 51.620 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 51.801 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.65 Mbit/s
95th percentile per-packet one-way delay: 51.256 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 50.289 ms
Loss rate: 0.00%
```
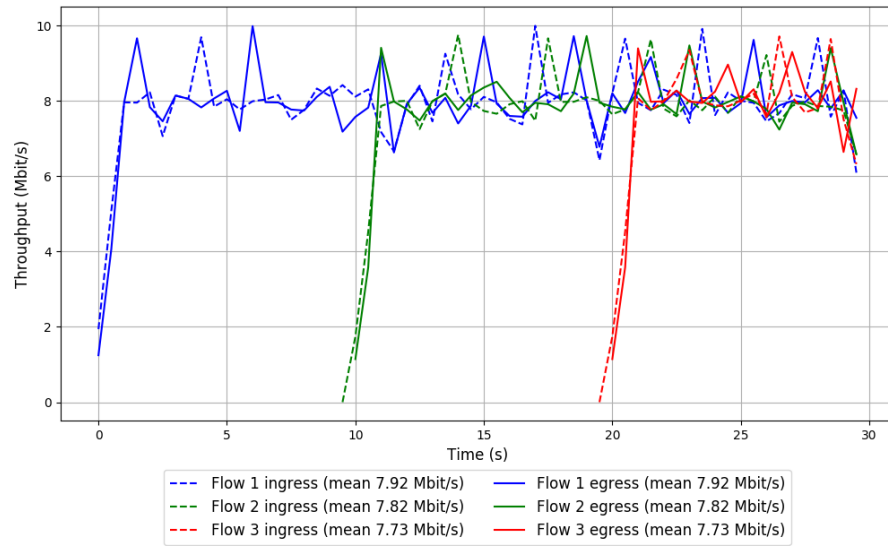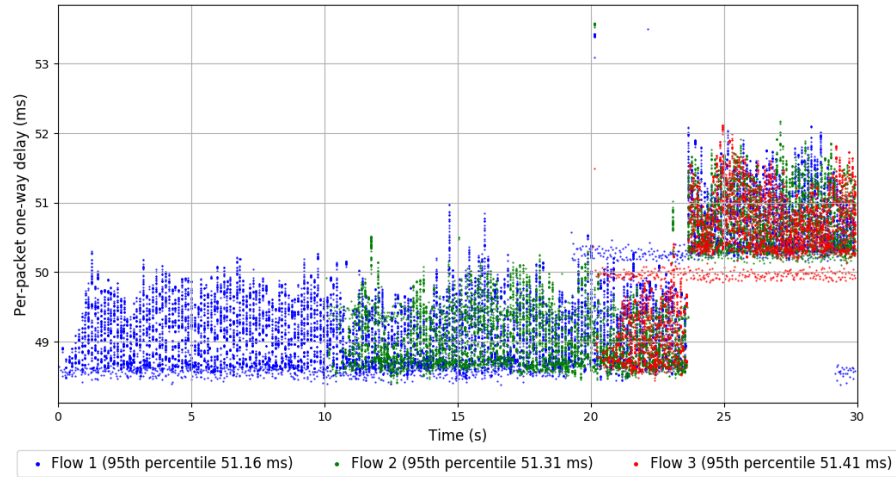
Run 5: Report of Sprout — Data Link

Run 6: Statistics of Sprout

Start at: 2018-02-14 10:11:51
End at: 2018-02-14 10:12:21

Below is generated by plot.py at 2018-02-14 14:45:30
Datalink statistics
-- Total of 3 flows:
Average throughput: 15.13 Mbit/s
95th percentile per-packet one-way delay: 51.832 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 7.77 Mbit/s
95th percentile per-packet one-way delay: 51.784 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 7.48 Mbit/s
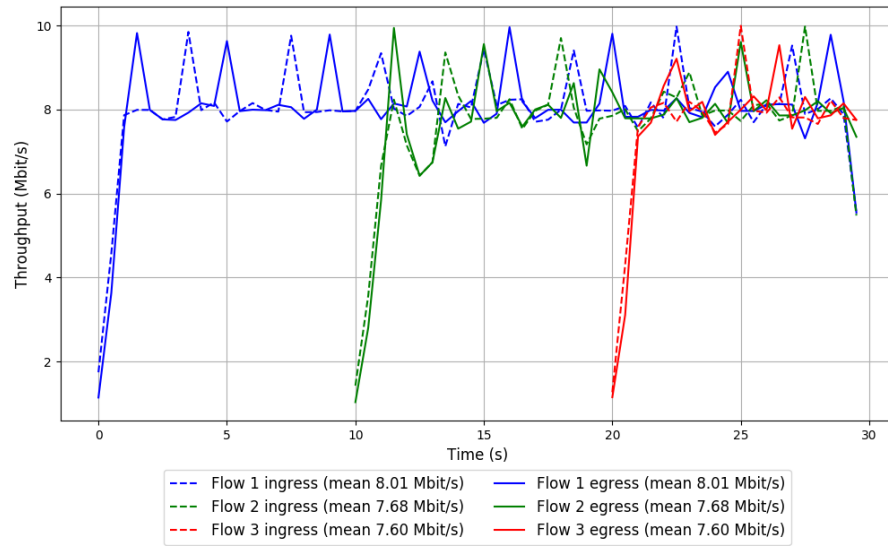95th percentile per-packet one-way delay: 51.840 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 7.27 Mbit/s
95th percentile per-packet one-way delay: 51.903 ms
Loss rate: 0.00%

Run 6: Report of Sprout — Data Link

```
Run 7: Statistics of Sprout

Start at: 2018-02-14 10:29:29
End at: 2018-02-14 10:29:59


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.38 Mbit/s
95th percentile per-packet one-way delay: 50.273 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 50.298 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 7.93 Mbit/s
95th percentile per-packet one-way delay: 50.126 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 7.64 Mbit/s
95th percentile per-packet one-way delay: 50.789 ms
Loss rate: 0.00%
```
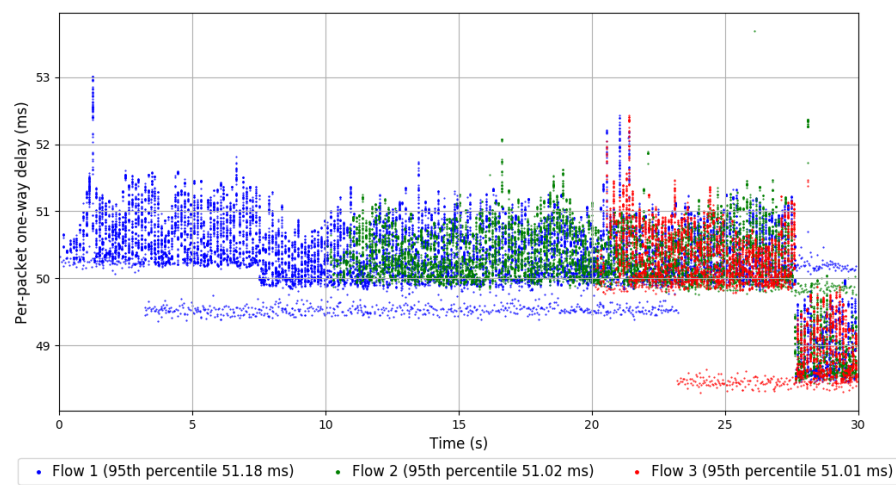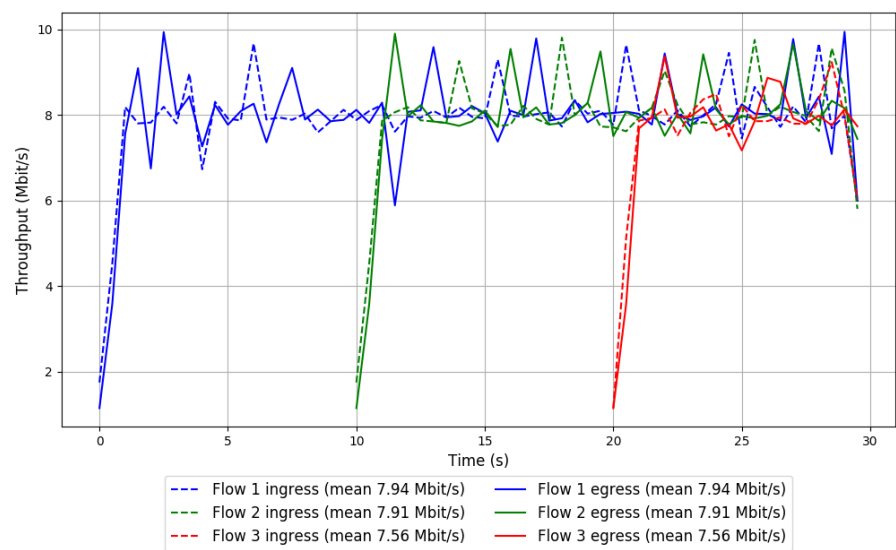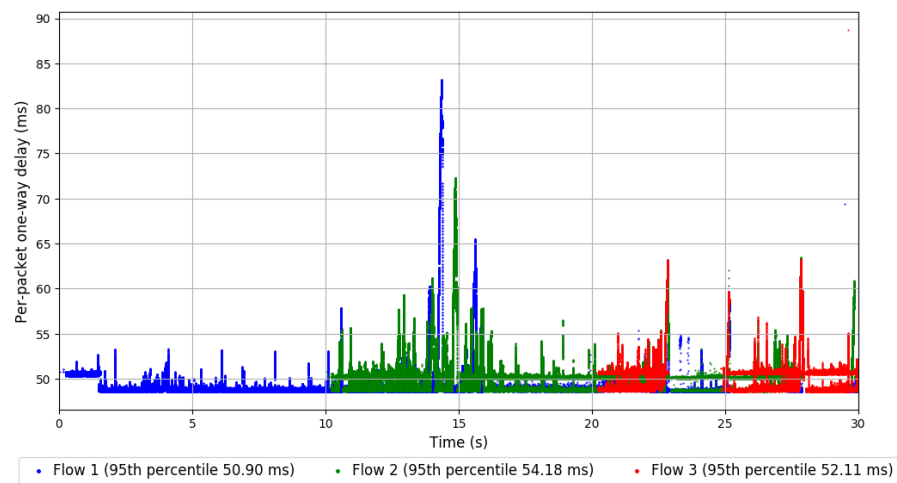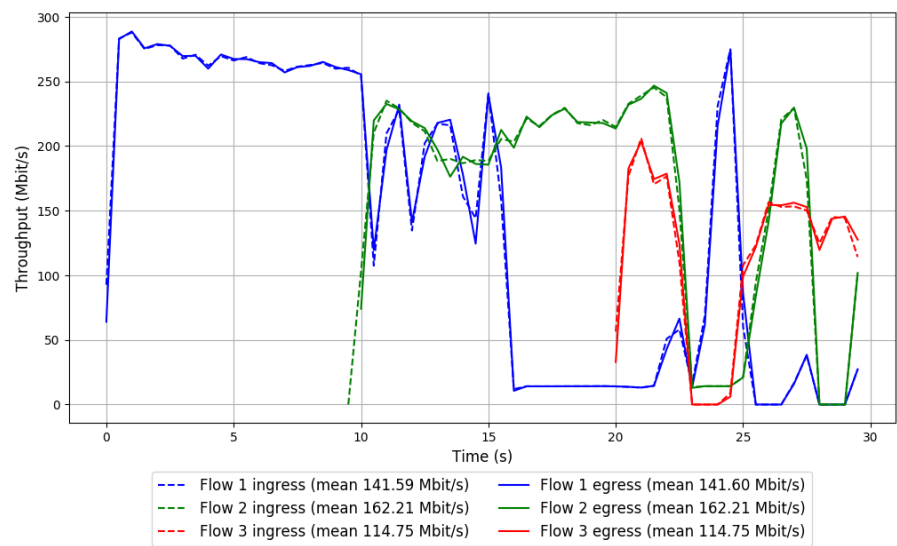
Run 7: Report of Sprout — Data Link

```
Run 8: Statistics of Sprout

Start at: 2018-02-14 10:47:29
End at: 2018-02-14 10:47:59


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.67 Mbit/s
95th percentile per-packet one-way delay: 50.943 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.92 Mbit/s
95th percentile per-packet one-way delay: 51.125 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.82 Mbit/s
95th percentile per-packet one-way delay: 50.028 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 50.233 ms
Loss rate: 0.00%
```
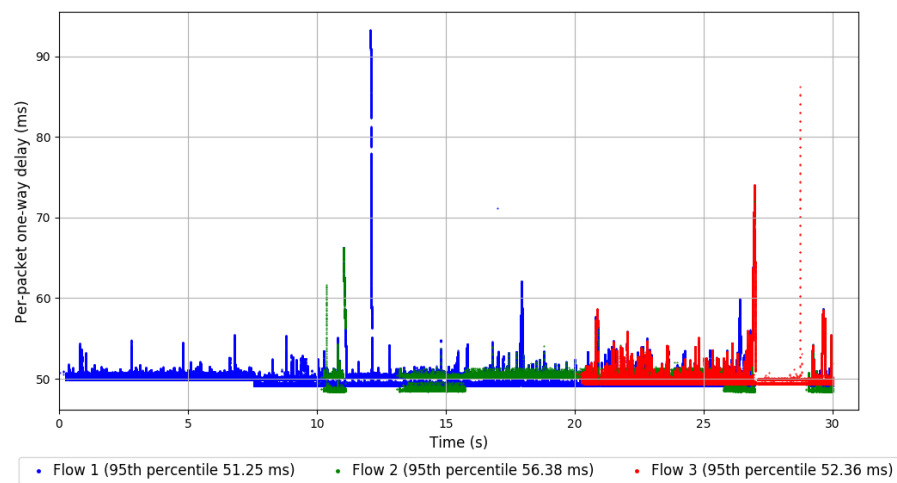
Run 8: Report of Sprout — Data Link

```
Run 9: Statistics of Sprout

Start at: 2018-02-14 11:05:15
End at: 2018-02-14 11:05:45


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.61 Mbit/s
95th percentile per-packet one-way delay: 51.284 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.01 Mbit/s
95th percentile per-packet one-way delay: 51.163 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.68 Mbit/s
95th percentile per-packet one-way delay: 51.308 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 51.410 ms
Loss rate: 0.00%
```
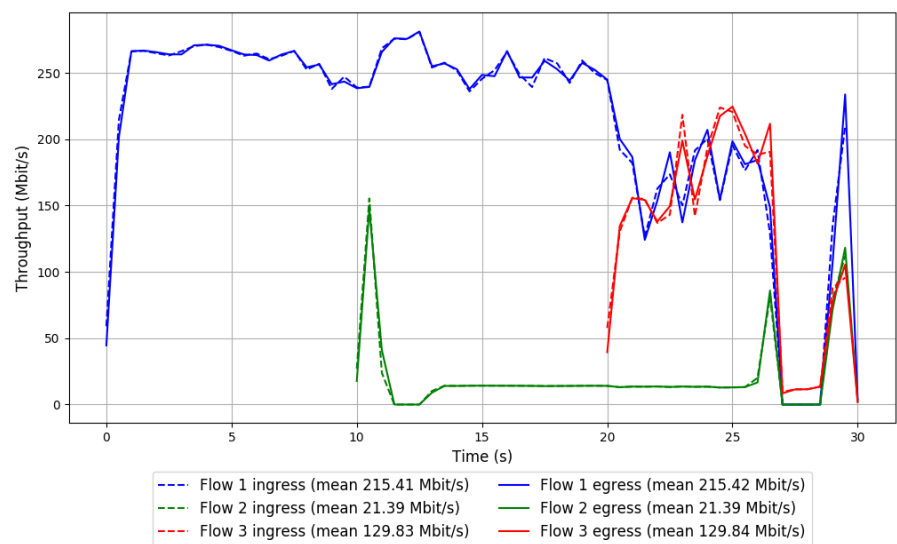
Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2018-02-14 11:22:51
End at: 2018-02-14 11:23:21


# Below is generated by plot.py at 2018-02-14 14:45:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.69 Mbit/s
95th percentile per-packet one-way delay: 51.108 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.94 Mbit/s
95th percentile per-packet one-way delay: 51.180 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.91 Mbit/s
95th percentile per-packet one-way delay: 51.015 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.56 Mbit/s
95th percentile per-packet one-way delay: 51.013 ms
Loss rate: 0.00%
```
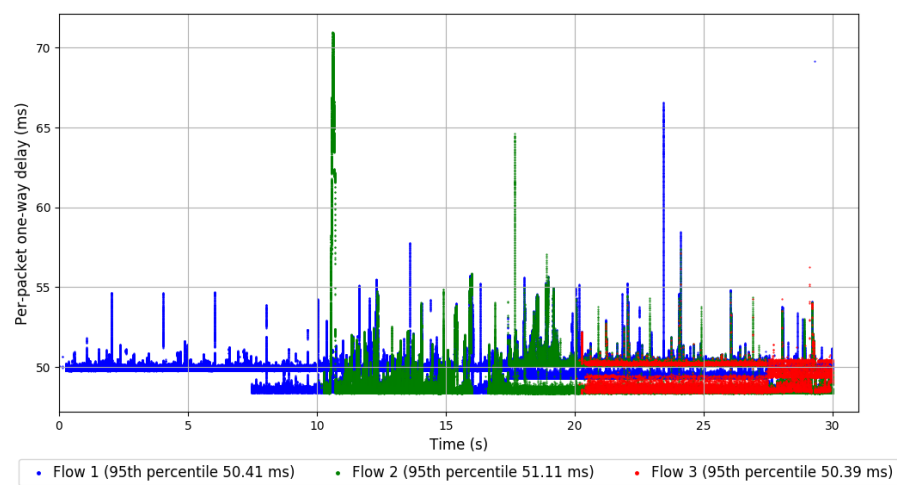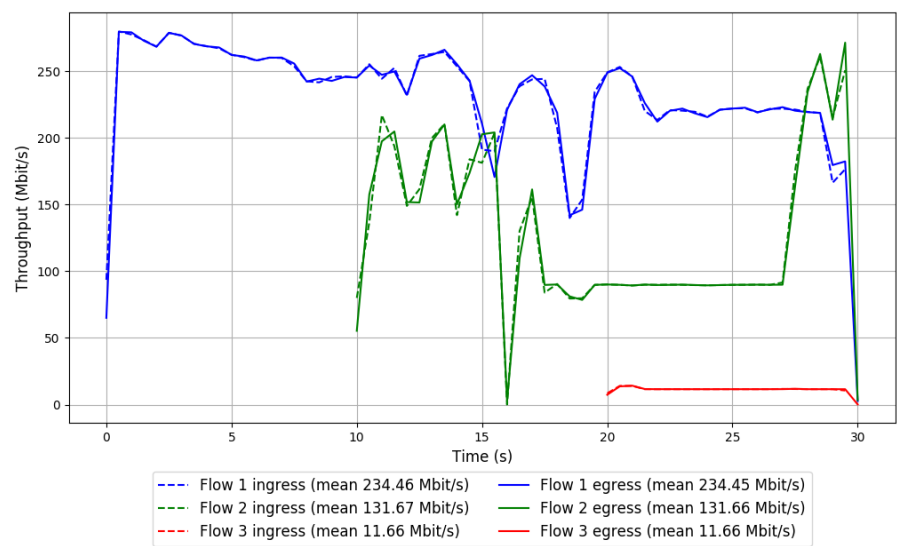
Run 10: Report of Sprout — Data Link

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

Start at: 2018-02-14 08:46:47
End at: 2018-02-14 08:47:17


# Below is generated by plot.py at 2018-02-14 14:52:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 287.75 Mbit/s
95th percentile per-packet one-way delay: 52.684 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 141.60 Mbit/s
95th percentile per-packet one-way delay: 50.900 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 162.21 Mbit/s
95th percentile per-packet one-way delay: 54.177 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 114.75 Mbit/s
95th percentile per-packet one-way delay: 52.113 ms
Loss rate: 0.00%
```

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

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

Start at: 2018-02-14 09:04:18
End at: 2018-02-14 09:04:48


# Below is generated by plot.py at 2018-02-14 14:52:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 272.72 Mbit/s
95th percentile per-packet one-way delay: 51.596 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 215.42 Mbit/s
95th percentile per-packet one-way delay: 51.249 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.39 Mbit/s
95th percentile per-packet one-way delay: 56.378 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 129.84 Mbit/s
95th percentile per-packet one-way delay: 52.360 ms
Loss rate: 0.00%
```
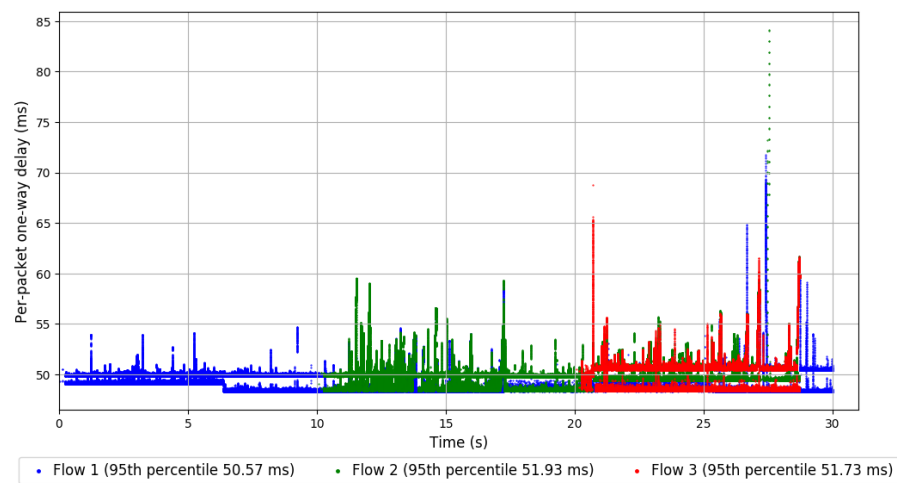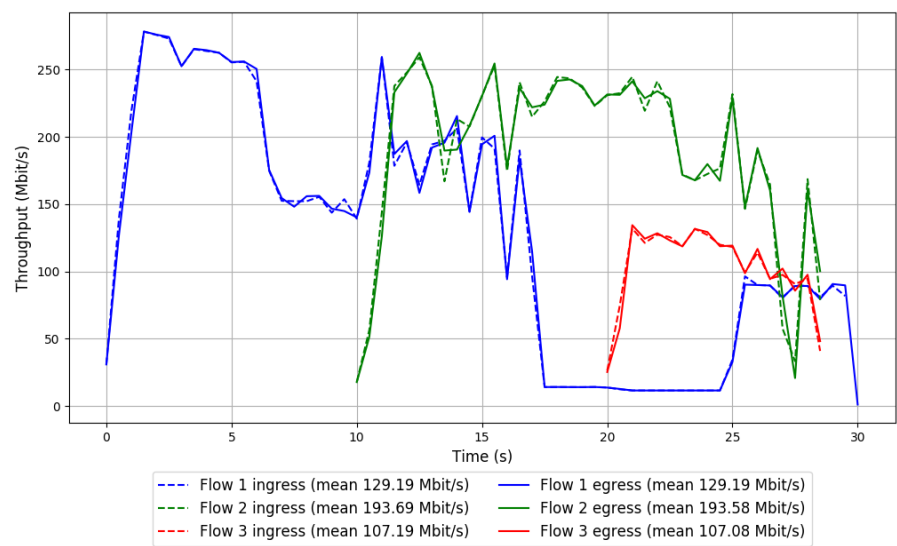
Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2018-02-14 09:21:51
End at: 2018-02-14 09:22:21

# Below is generated by plot.py at 2018-02-14 14:53:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 325.99 Mbit/s
95th percentile per-packet one-way delay: 50.496 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 234.45 Mbit/s
95th percentile per-packet one-way delay: 50.407 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 131.66 Mbit/s
95th percentile per-packet one-way delay: 51.109 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 11.66 Mbit/s
95th percentile per-packet one-way delay: 50.387 ms
Loss rate: 0.00%
```
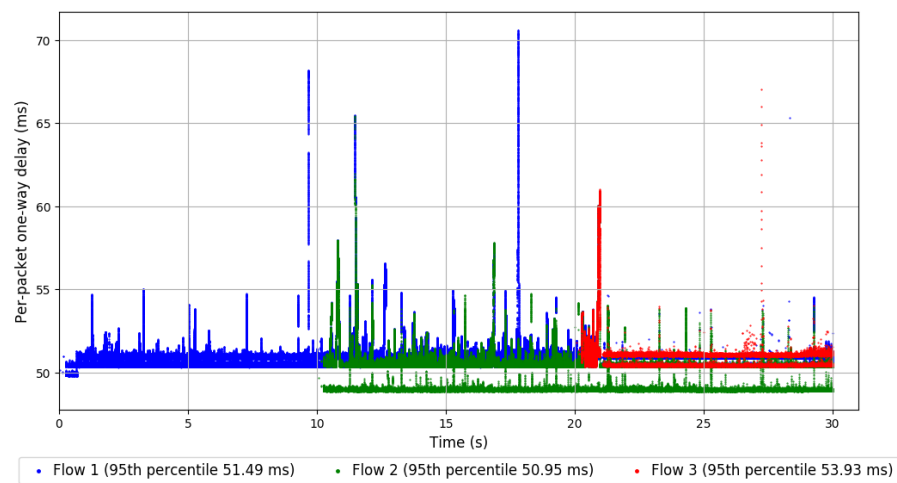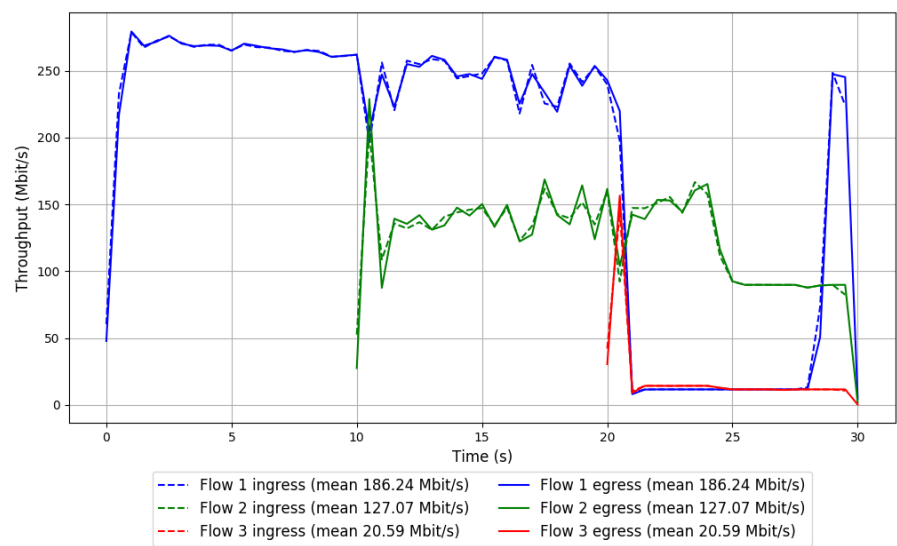
Run 3: Report of TaoVA-100x — Data Link

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

Start at: 2018-02-14 09:39:38
End at: 2018-02-14 09:40:08

# Below is generated by plot.py at 2018-02-14 14:53:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 280.76 Mbit/s
95th percentile per-packet one-way delay: 51.277 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 129.19 Mbit/s
95th percentile per-packet one-way delay: 50.570 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 193.58 Mbit/s
95th percentile per-packet one-way delay: 51.927 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 107.08 Mbit/s
95th percentile per-packet one-way delay: 51.735 ms
Loss rate: 0.00%
```
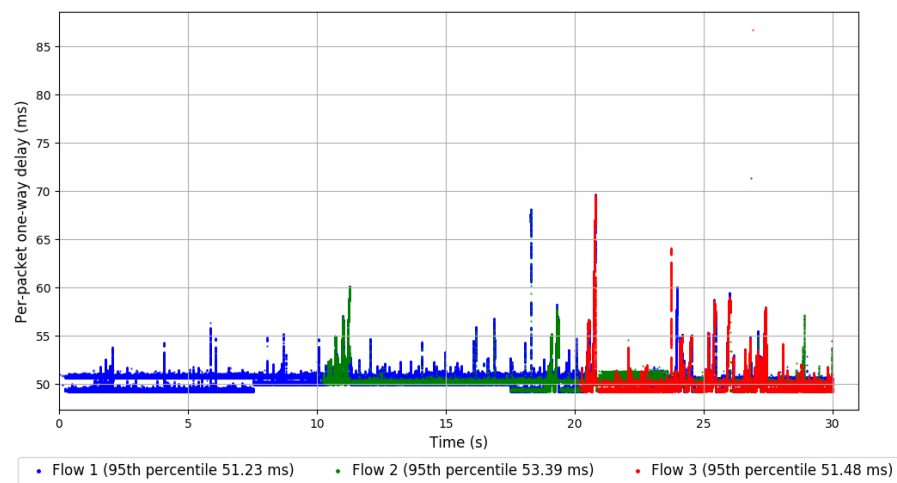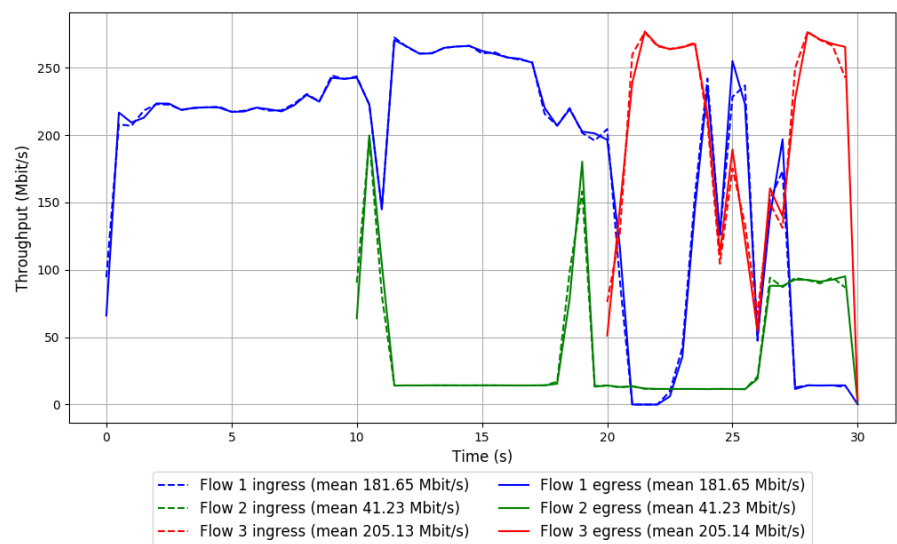
Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2018-02-14 09:57:18
End at: 2018-02-14 09:57:48

# Below is generated by plot.py at 2018-02-14 14:53:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 277.67 Mbit/s
95th percentile per-packet one-way delay: 51.401 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 186.24 Mbit/s
95th percentile per-packet one-way delay: 51.487 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 127.07 Mbit/s
95th percentile per-packet one-way delay: 50.950 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.59 Mbit/s
95th percentile per-packet one-way delay: 53.930 ms
Loss rate: 0.00%
```
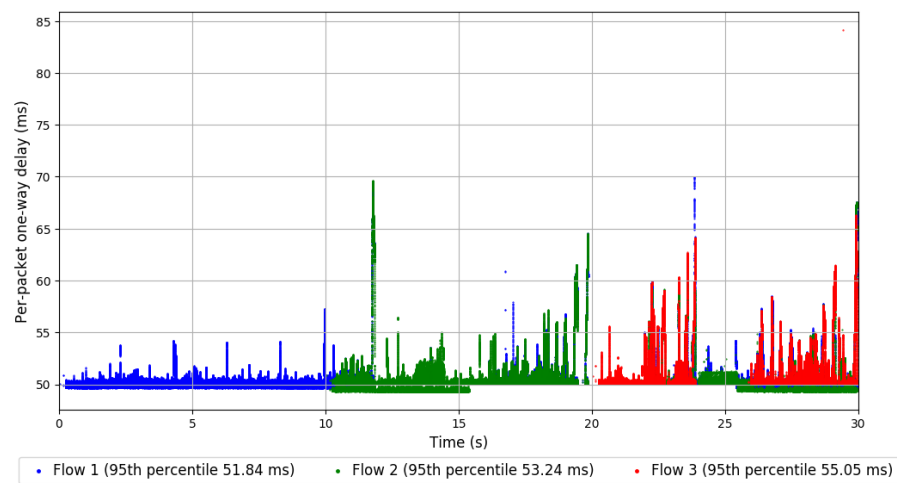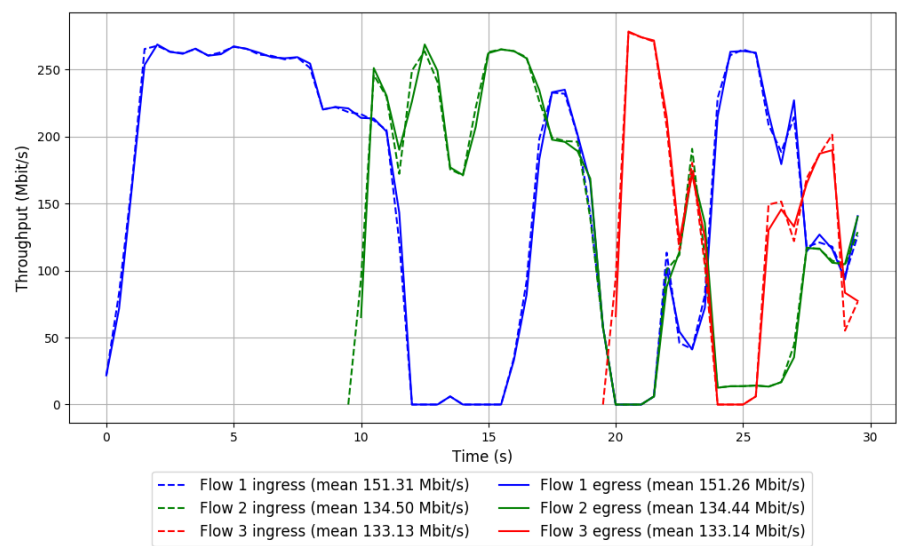
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 186.24 Mbit/s)   Flow 1 egress (mean 186.24 Mbit/s)
Flow 2 ingress (mean 127.07 Mbit/s)   Flow 2 egress (mean 127.07 Mbit/s)
Flow 3 ingress (mean 20.59 Mbit/s)   Flow 3 egress (mean 20.59 Mbit/s)

Flow 1 (95th percentile 51.49 ms)   Flow 2 (95th percentile 50.95 ms)   Flow 3 (95th percentile 53.93 ms)

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

Start at: 2018-02-14 10:15:11
End at: 2018-02-14 10:15:41


# Below is generated by plot.py at 2018-02-14 14:53:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 277.18 Mbit/s
95th percentile per-packet one-way delay: 51.492 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 181.65 Mbit/s
95th percentile per-packet one-way delay: 51.225 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.23 Mbit/s
95th percentile per-packet one-way delay: 53.386 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 205.14 Mbit/s
95th percentile per-packet one-way delay: 51.481 ms
Loss rate: 0.00%
```
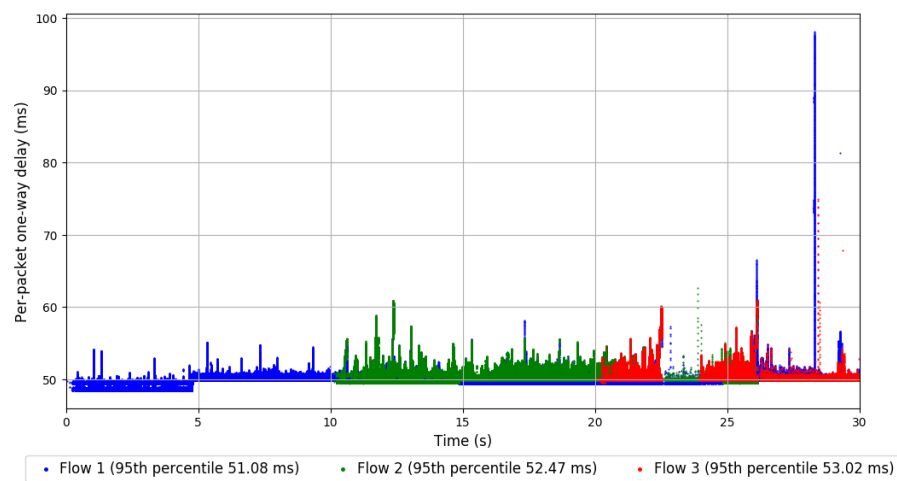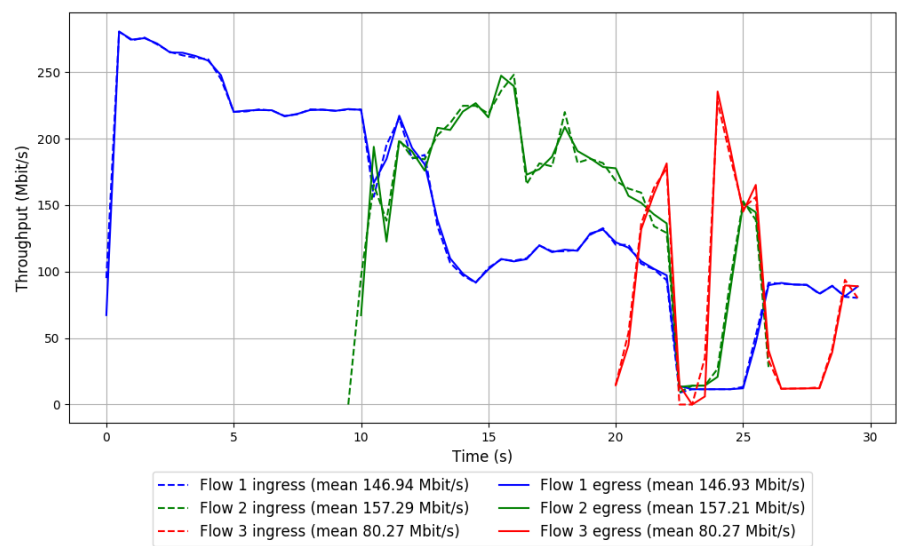
Run 6: Report of TaoVA-100x — Data Link

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

Start at: 2018-02-14 10:32:48
End at: 2018-02-14 10:33:18


# Below is generated by plot.py at 2018-02-14 14:53:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 284.72 Mbit/s
95th percentile per-packet one-way delay: 52.873 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 151.26 Mbit/s
95th percentile per-packet one-way delay: 51.841 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 134.44 Mbit/s
95th percentile per-packet one-way delay: 53.236 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 133.14 Mbit/s
95th percentile per-packet one-way delay: 55.045 ms
Loss rate: 0.00%
```
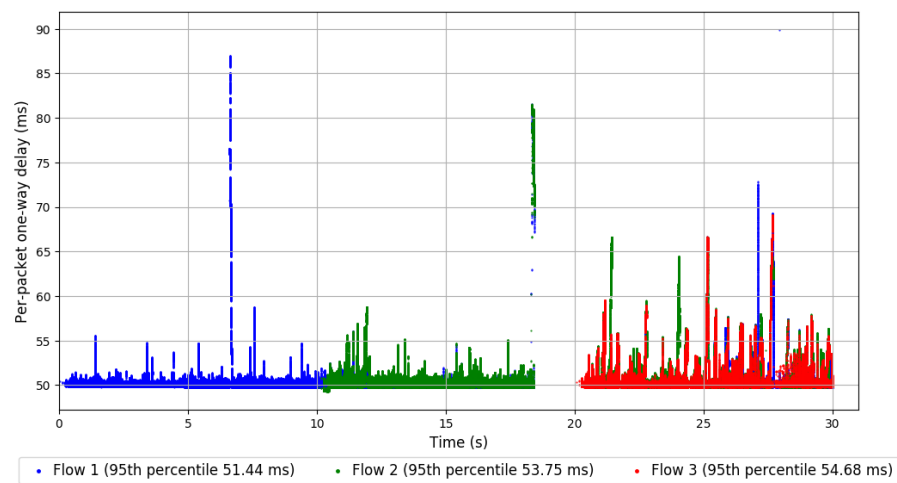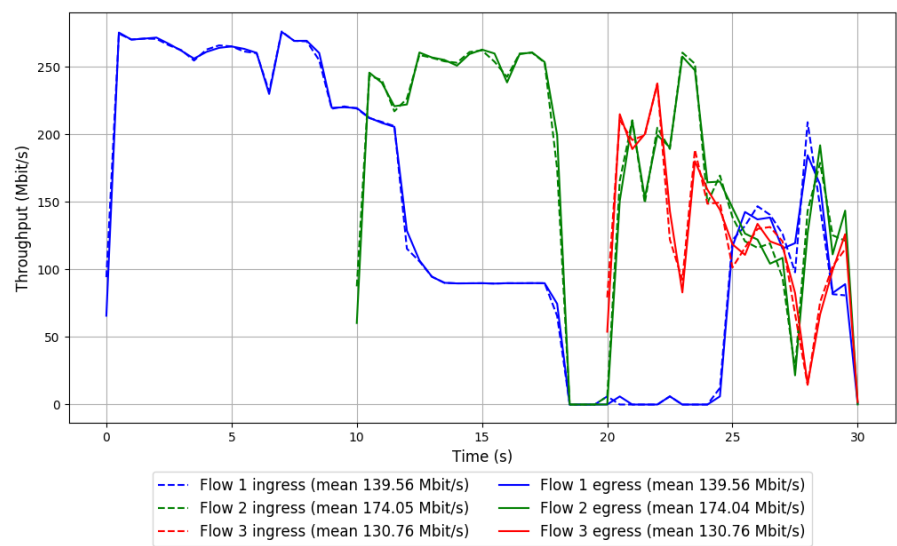
Run 7: Report of TaoVA-100x — Data Link

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

Start at: 2018-02-14 10:50:53
End at: 2018-02-14 10:51:23


# Below is generated by plot.py at 2018-02-14 14:53:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 258.09 Mbit/s
95th percentile per-packet one-way delay: 51.906 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 146.93 Mbit/s
95th percentile per-packet one-way delay: 51.077 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 157.21 Mbit/s
95th percentile per-packet one-way delay: 52.472 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 80.27 Mbit/s
95th percentile per-packet one-way delay: 53.016 ms
Loss rate: 0.00%
```
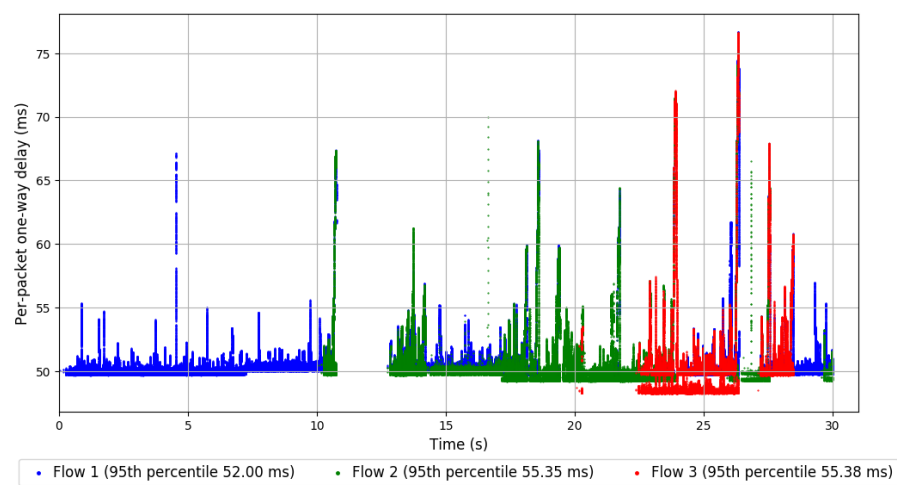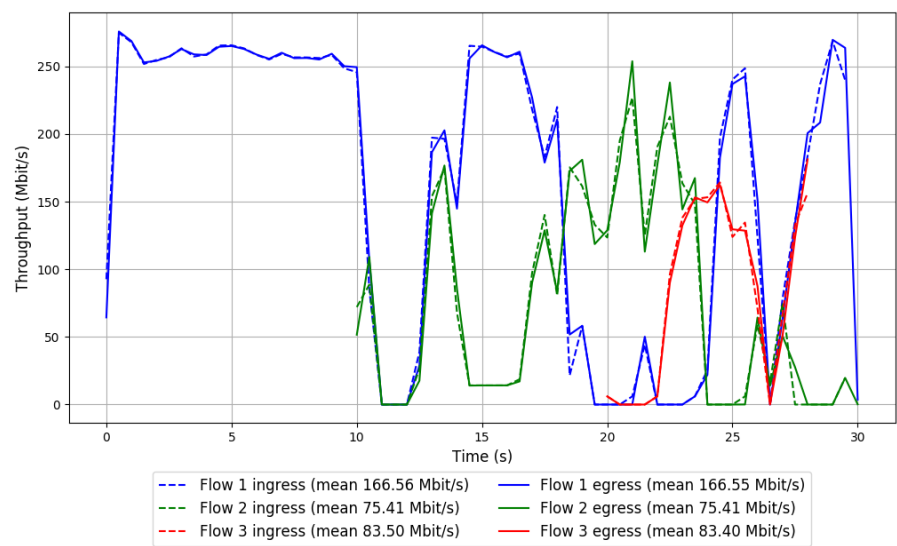
Run 8: Report of TaoVA-100x — Data Link

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

Start at: 2018-02-14 11:08:33
End at: 2018-02-14 11:09:03

# Below is generated by plot.py at 2018-02-14 15:00:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 298.82 Mbit/s
95th percentile per-packet one-way delay: 53.122 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 139.56 Mbit/s
95th percentile per-packet one-way delay: 51.441 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 174.04 Mbit/s
95th percentile per-packet one-way delay: 53.747 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 130.76 Mbit/s
95th percentile per-packet one-way delay: 54.681 ms
Loss rate: 0.00%
```

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

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

Start at: 2018-02-14 11:26:11
End at: 2018-02-14 11:26:41


# Below is generated by plot.py at 2018-02-14 15:00:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 240.15 Mbit/s
95th percentile per-packet one-way delay: 53.024 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 166.55 Mbit/s
95th percentile per-packet one-way delay: 52.002 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 75.41 Mbit/s
95th percentile per-packet one-way delay: 55.348 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 83.40 Mbit/s
95th percentile per-packet one-way delay: 55.379 ms
Loss rate: 0.00%
```
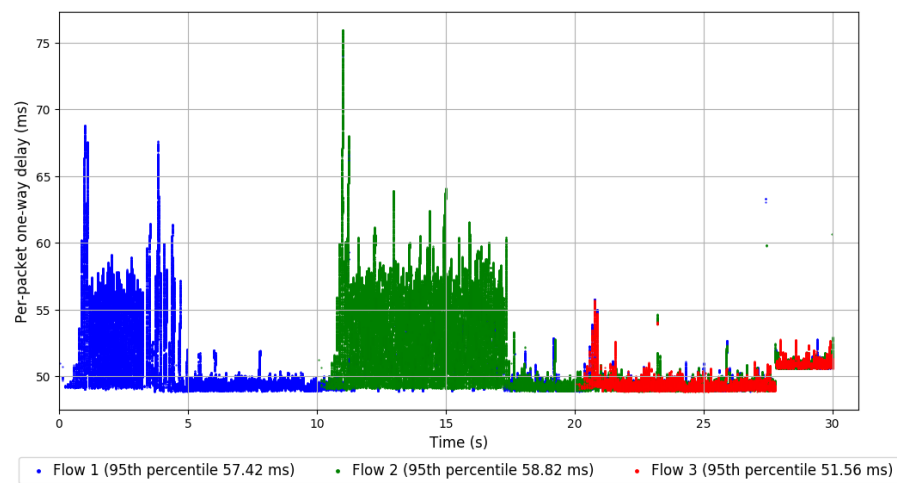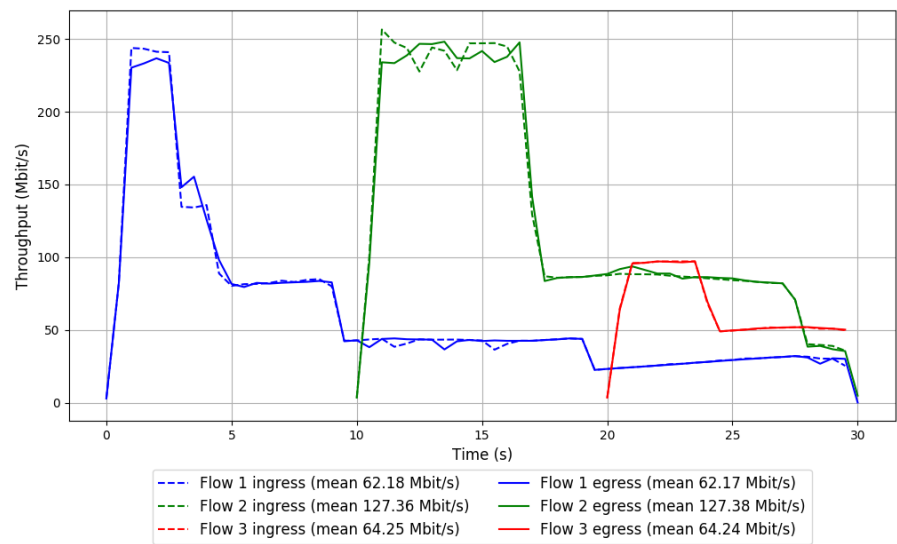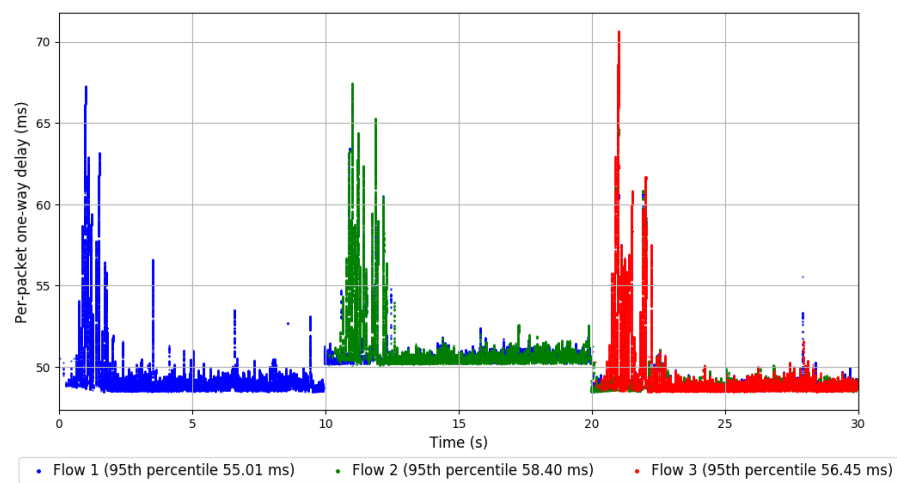
Run 10: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 166.56 Mbit/s) --- Flow 1 egress (mean 166.55 Mbit/s)
Flow 2 ingress (mean 75.41 Mbit/s) --- Flow 2 egress (mean 75.41 Mbit/s)
Flow 3 ingress (mean 83.50 Mbit/s) --- Flow 3 egress (mean 83.40 Mbit/s)

Flow 1 (95th percentile 52.00 ms)   •   Flow 2 (95th percentile 55.35 ms)   •   Flow 3 (95th percentile 55.38 ms)

183

```
Run 1: Statistics of TCP Vegas

Start at: 2018-02-14 08:37:40
End at: 2018-02-14 08:38:10


# Below is generated by plot.py at 2018-02-14 15:00:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 168.30 Mbit/s
95th percentile per-packet one-way delay: 58.021 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 62.17 Mbit/s
95th percentile per-packet one-way delay: 57.422 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 127.38 Mbit/s
95th percentile per-packet one-way delay: 58.817 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 64.24 Mbit/s
95th percentile per-packet one-way delay: 51.563 ms
Loss rate: 0.01%
```
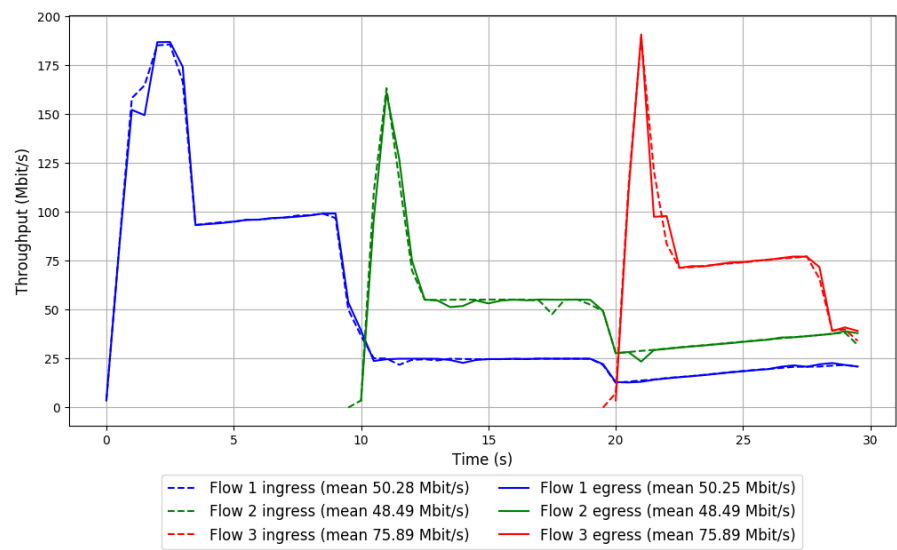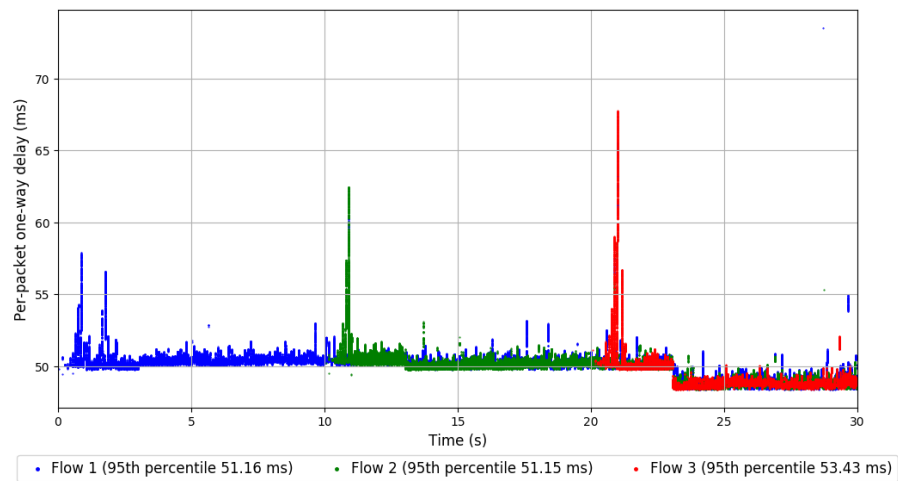
Run 1: Report of TCP Vegas — Data Link

185

```
Run 2: Statistics of TCP Vegas

Start at: 2018-02-14 08:55:18
End at: 2018-02-14 08:55:48

# Below is generated by plot.py at 2018-02-14 15:00:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 107.77 Mbit/s
95th percentile per-packet one-way delay: 56.816 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 50.25 Mbit/s
95th percentile per-packet one-way delay: 55.013 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 48.49 Mbit/s
95th percentile per-packet one-way delay: 58.399 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 75.89 Mbit/s
95th percentile per-packet one-way delay: 56.450 ms
Loss rate: 0.01%
```
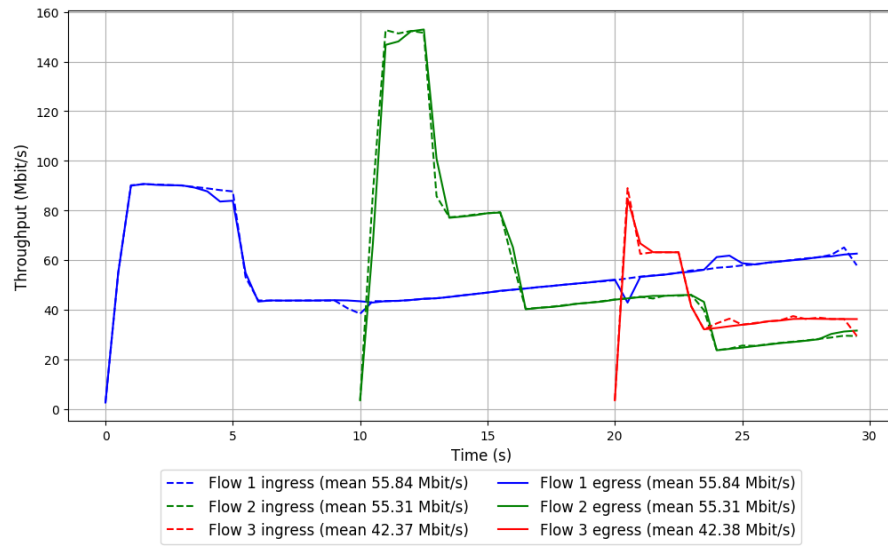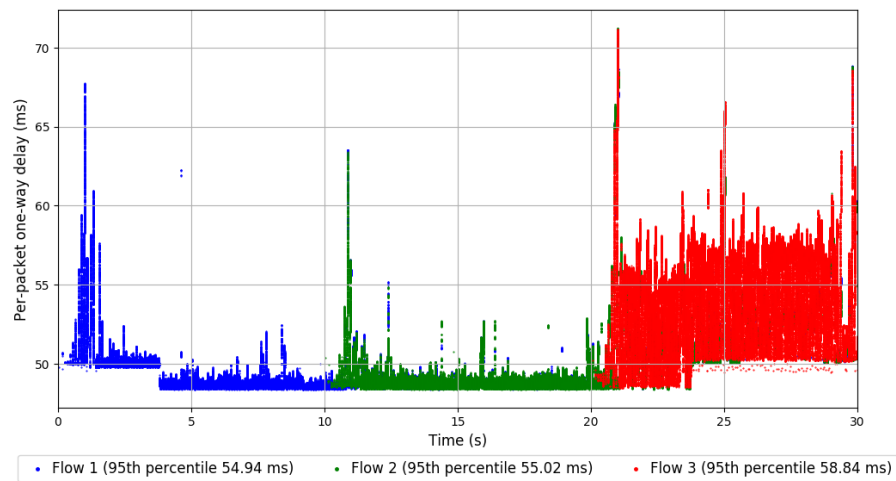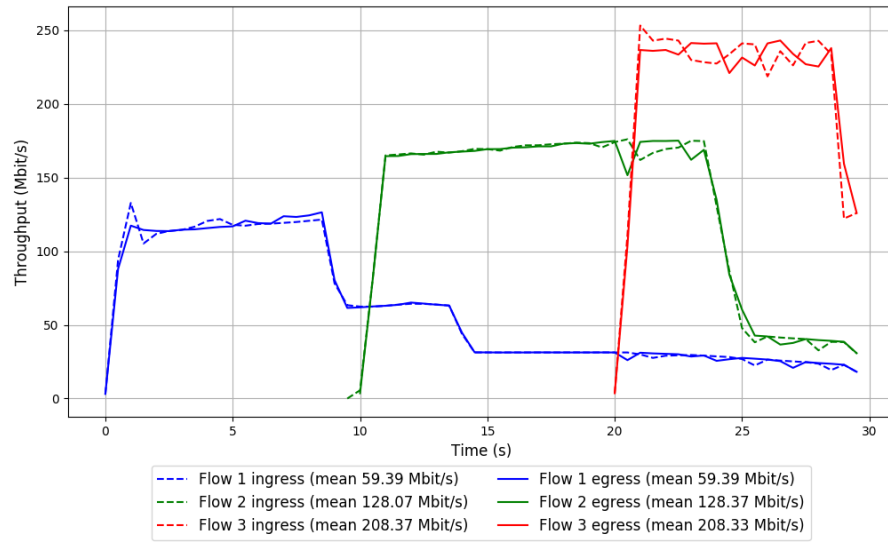
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-02-14 09:12:45
End at: 2018-02-14 09:13:15


# Below is generated by plot.py at 2018-02-14 15:00:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 106.72 Mbit/s
95th percentile per-packet one-way delay: 51.228 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 55.84 Mbit/s
95th percentile per-packet one-way delay: 51.163 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 55.31 Mbit/s
95th percentile per-packet one-way delay: 51.145 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 42.38 Mbit/s
95th percentile per-packet one-way delay: 53.433 ms
Loss rate: 0.00%
```
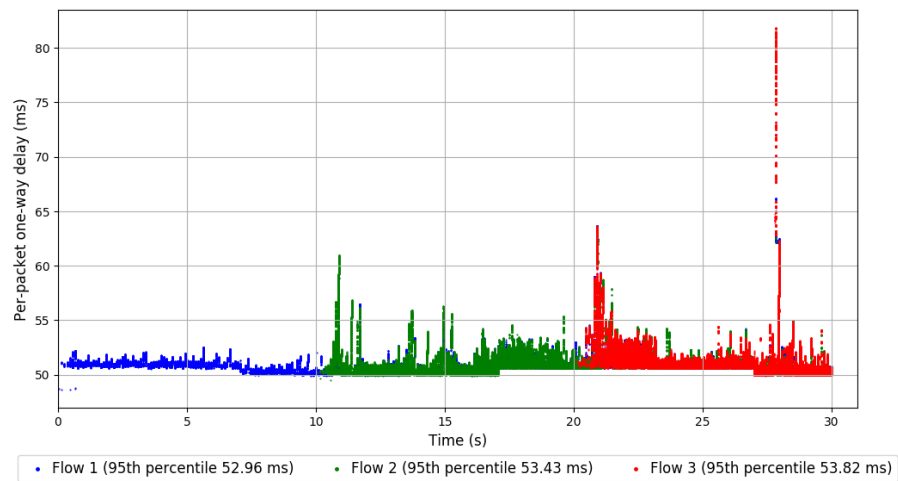
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2018-02-14 09:30:24
End at: 2018-02-14 09:30:54


# Below is generated by plot.py at 2018-02-14 15:00:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 213.84 Mbit/s
95th percentile per-packet one-way delay: 57.645 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.39 Mbit/s
95th percentile per-packet one-way delay: 54.944 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 128.37 Mbit/s
95th percentile per-packet one-way delay: 55.021 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 208.33 Mbit/s
95th percentile per-packet one-way delay: 58.840 ms
Loss rate: 0.01%
```
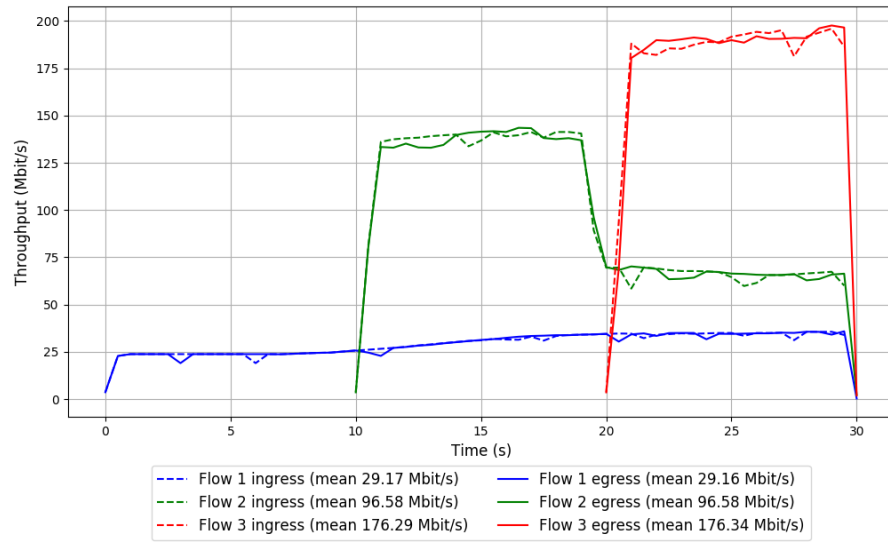
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-02-14 09:48:01
End at: 2018-02-14 09:48:31


# Below is generated by plot.py at 2018-02-14 15:00:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 151.95 Mbit/s
95th percentile per-packet one-way delay: 53.487 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 29.16 Mbit/s
95th percentile per-packet one-way delay: 52.957 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 96.58 Mbit/s
95th percentile per-packet one-way delay: 53.426 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 176.34 Mbit/s
95th percentile per-packet one-way delay: 53.822 ms
Loss rate: 0.00%
```
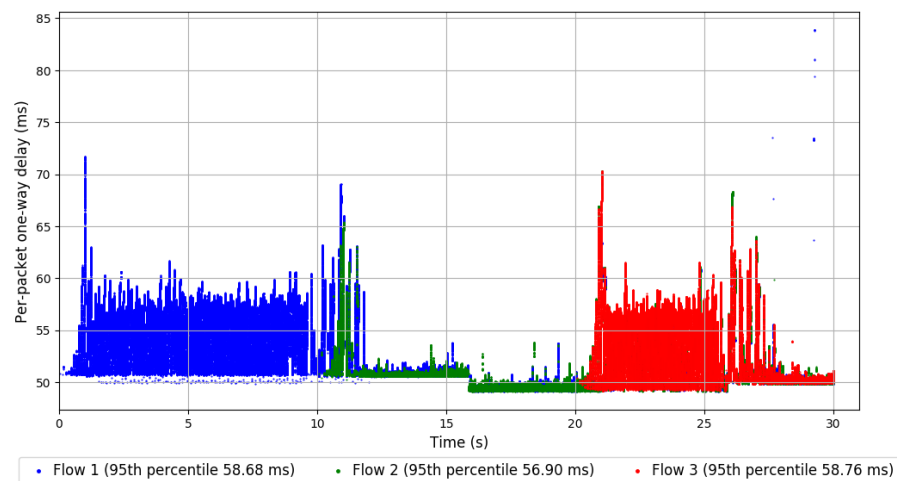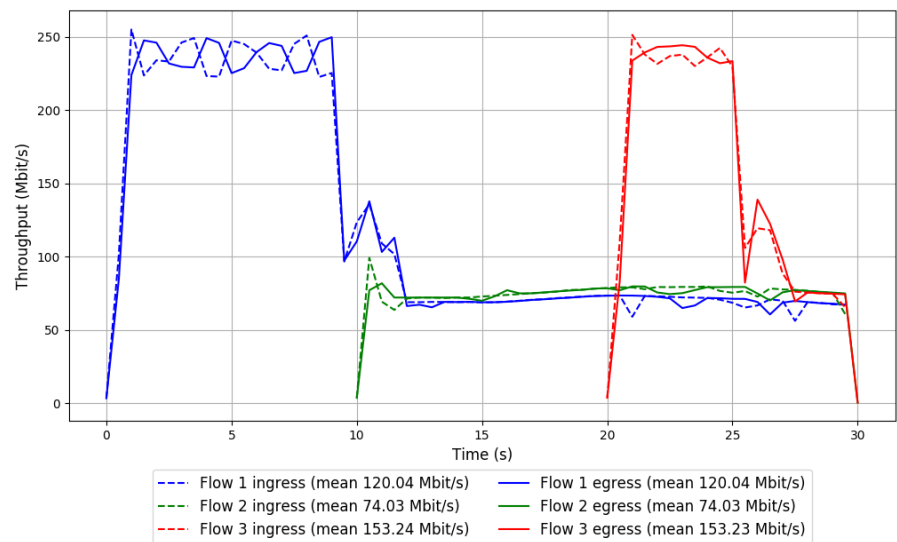
Run 5: Report of TCP Vegas — Data Link

```
Run 6: Statistics of TCP Vegas

Start at: 2018-02-14 10:05:52
End at: 2018-02-14 10:06:22


# Below is generated by plot.py at 2018-02-14 15:00:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 220.06 Mbit/s
95th percentile per-packet one-way delay: 58.565 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 120.04 Mbit/s
95th percentile per-packet one-way delay: 58.677 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 74.03 Mbit/s
95th percentile per-packet one-way delay: 56.903 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 153.23 Mbit/s
95th percentile per-packet one-way delay: 58.760 ms
Loss rate: 0.01%
```
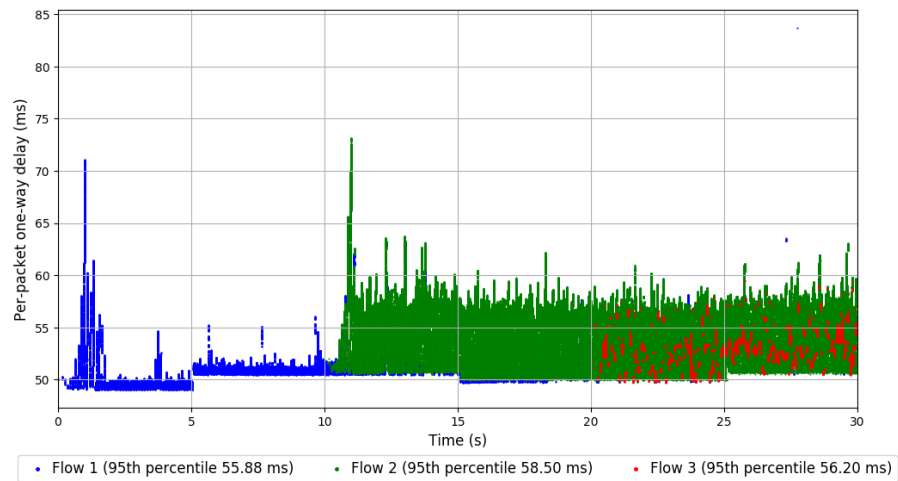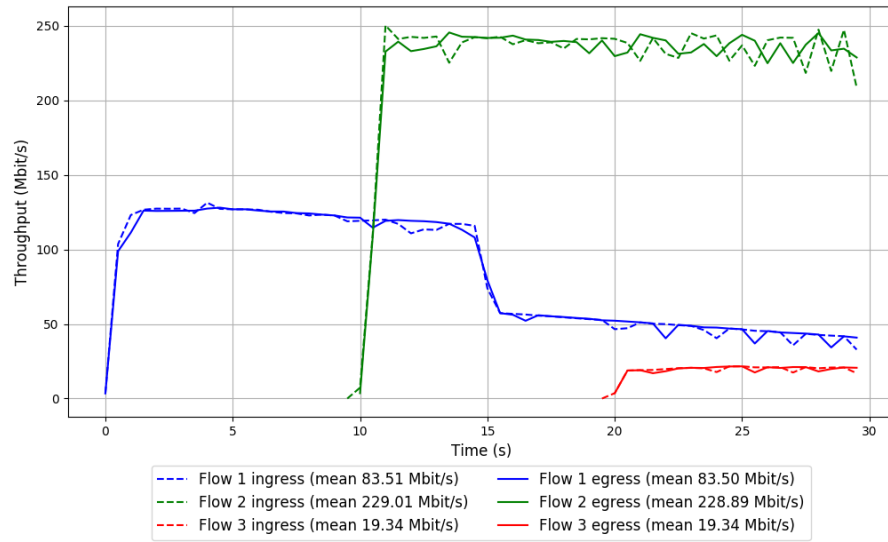
Run 6: Report of TCP Vegas — Data Link

```
Run 7: Statistics of TCP Vegas

Start at: 2018-02-14 10:23:33
End at: 2018-02-14 10:24:03

# Below is generated by plot.py at 2018-02-14 15:00:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 242.24 Mbit/s
95th percentile per-packet one-way delay: 58.169 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 83.50 Mbit/s
95th percentile per-packet one-way delay: 55.877 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 228.89 Mbit/s
95th percentile per-packet one-way delay: 58.502 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 19.34 Mbit/s
95th percentile per-packet one-way delay: 56.195 ms
Loss rate: 0.00%
```
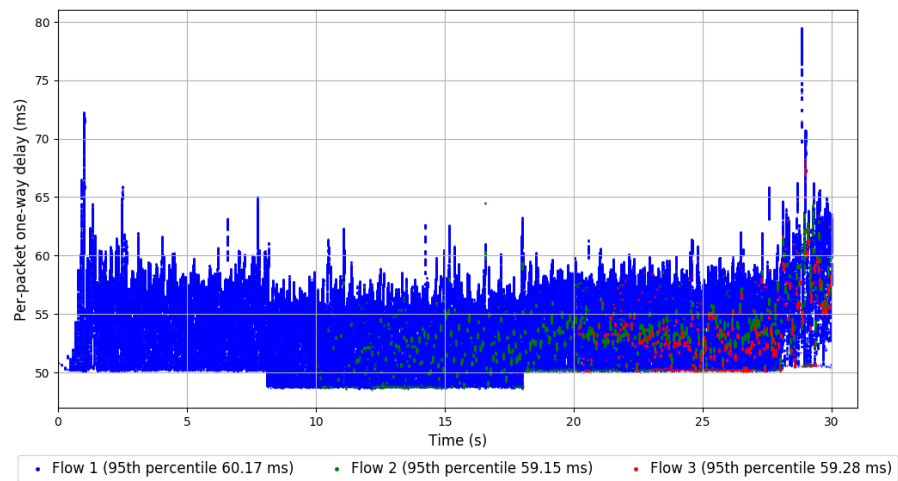
Run 7: Report of TCP Vegas — Data Link

```
Run 8: Statistics of TCP Vegas

Start at: 2018-02-14 10:41:30
End at: 2018-02-14 10:42:00


# Below is generated by plot.py at 2018-02-14 15:00:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 237.31 Mbit/s
95th percentile per-packet one-way delay: 60.147 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 229.75 Mbit/s
95th percentile per-packet one-way delay: 60.171 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 8.70 Mbit/s
95th percentile per-packet one-way delay: 59.154 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 5.40 Mbit/s
95th percentile per-packet one-way delay: 59.285 ms
Loss rate: 0.16%
```
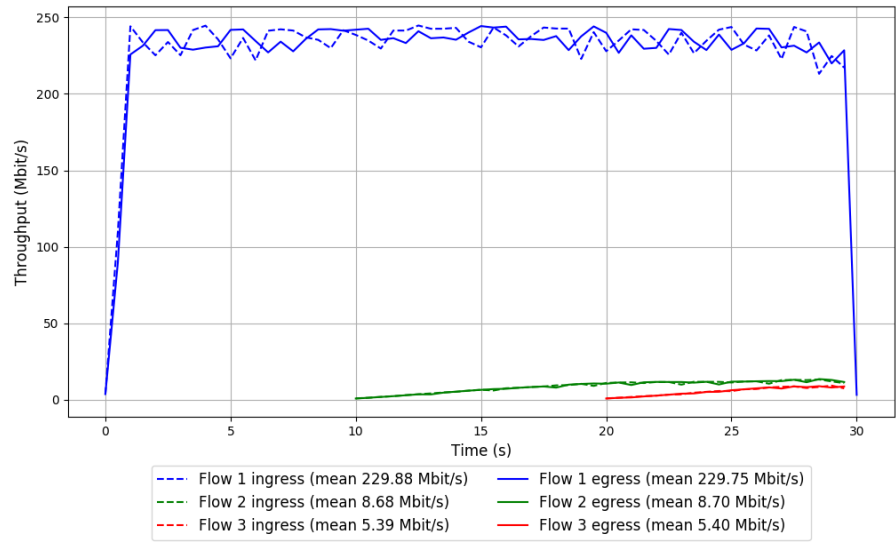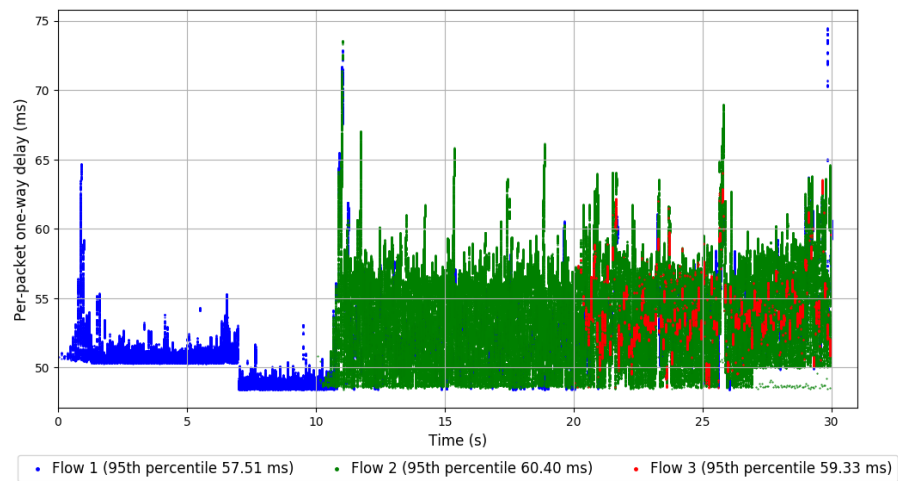
Run 8: Report of TCP Vegas — Data Link

```
Run 9: Statistics of TCP Vegas

Start at: 2018-02-14 10:59:21
End at: 2018-02-14 10:59:51


# Below is generated by plot.py at 2018-02-14 15:00:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 346.52 Mbit/s
95th percentile per-packet one-way delay: 59.217 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 182.66 Mbit/s
95th percentile per-packet one-way delay: 57.513 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 227.85 Mbit/s
95th percentile per-packet one-way delay: 60.397 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.26 Mbit/s
95th percentile per-packet one-way delay: 59.325 ms
Loss rate: 0.01%
```
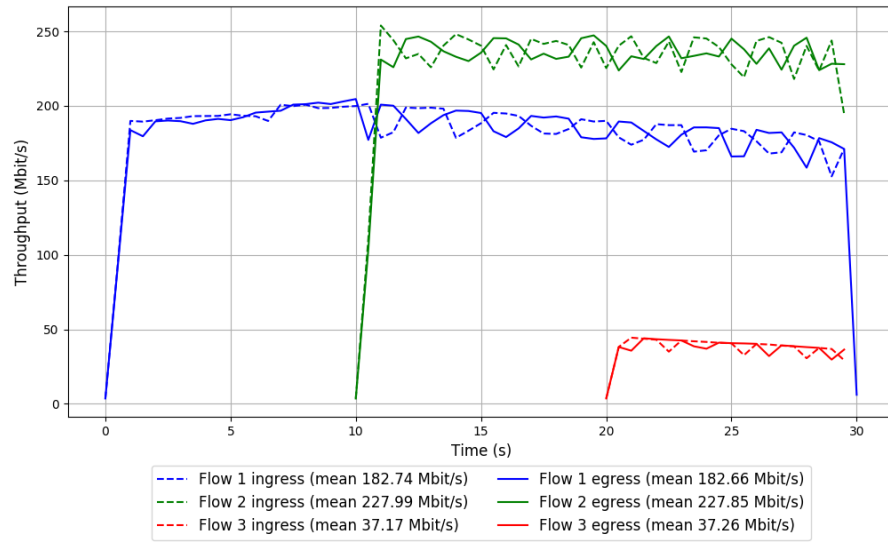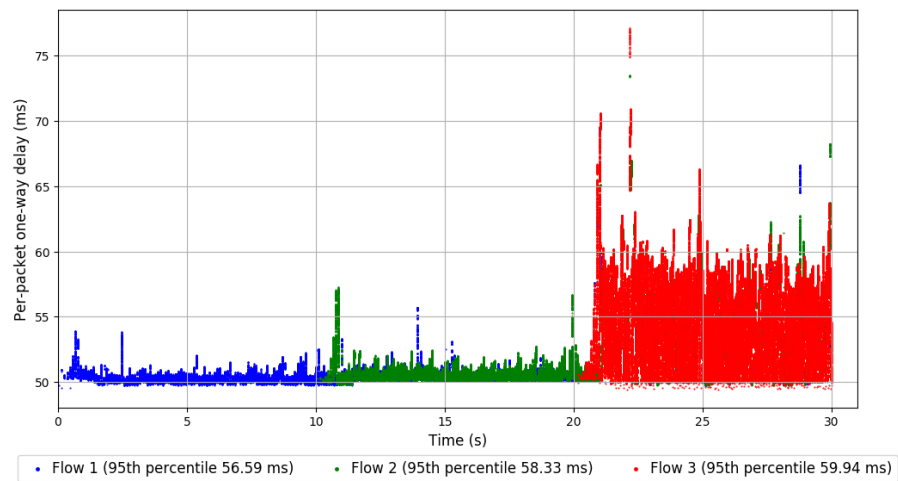
Run 9: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 182.74 Mbit/s) Flow 1 egress (mean 182.66 Mbit/s)
Flow 2 ingress (mean 227.99 Mbit/s) Flow 2 egress (mean 227.85 Mbit/s)
Flow 3 ingress (mean 37.17 Mbit/s) Flow 3 egress (mean 37.26 Mbit/s)

Flow 1 (95th percentile 57.51 ms) Flow 2 (95th percentile 60.40 ms) Flow 3 (95th percentile 59.33 ms)

```
Run 10: Statistics of TCP Vegas

Start at: 2018-02-14 11:17:07
End at: 2018-02-14 11:17:37


# Below is generated by plot.py at 2018-02-14 15:00:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 180.90 Mbit/s
95th percentile per-packet one-way delay: 59.080 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 49.59 Mbit/s
95th percentile per-packet one-way delay: 56.588 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 89.47 Mbit/s
95th percentile per-packet one-way delay: 58.328 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 216.43 Mbit/s
95th percentile per-packet one-way delay: 59.944 ms
Loss rate: 0.13%
```
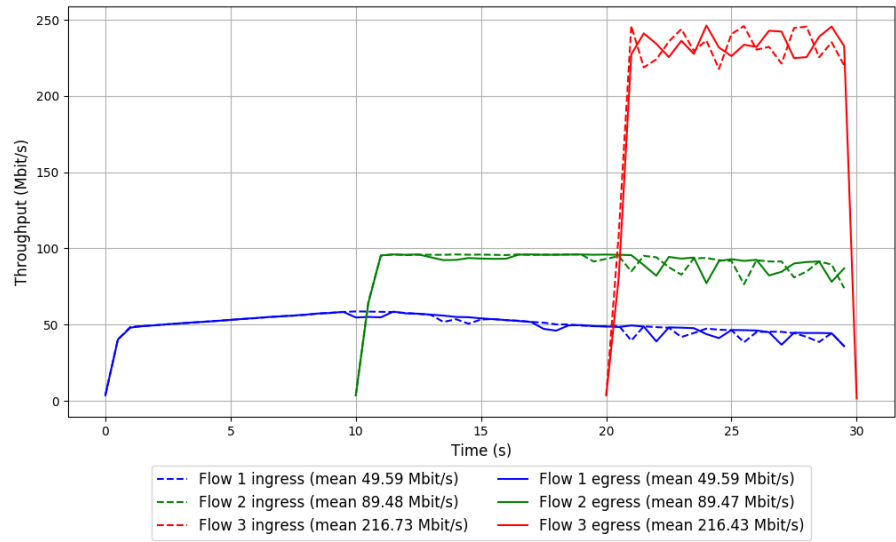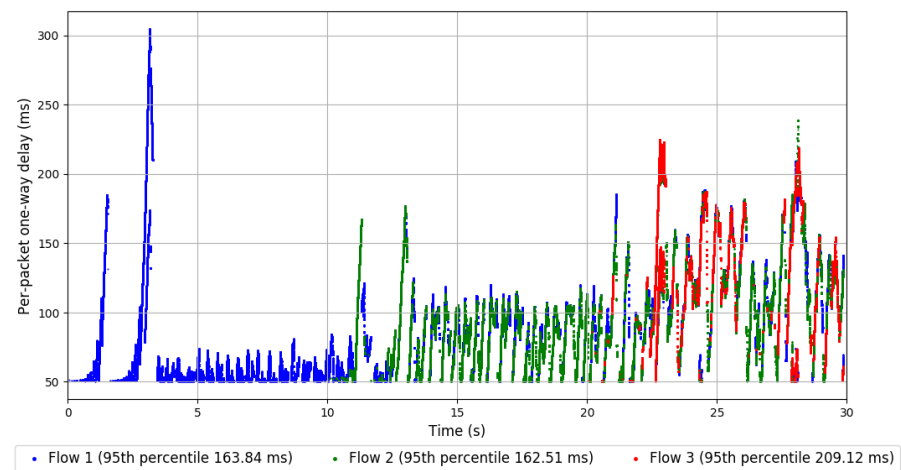
Run 10: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2018-02-14 08:47:51
End at: 2018-02-14 08:48:21

# Below is generated by plot.py at 2018-02-14 15:02:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 384.88 Mbit/s
95th percentile per-packet one-way delay: 174.003 ms
Loss rate: 2.22%
-- Flow 1:
Average throughput: 239.39 Mbit/s
95th percentile per-packet one-way delay: 163.842 ms
Loss rate: 1.79%
-- Flow 2:
Average throughput: 170.47 Mbit/s
95th percentile per-packet one-way delay: 162.514 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 97.39 Mbit/s
95th percentile per-packet one-way delay: 209.124 ms
Loss rate: 7.92%
```
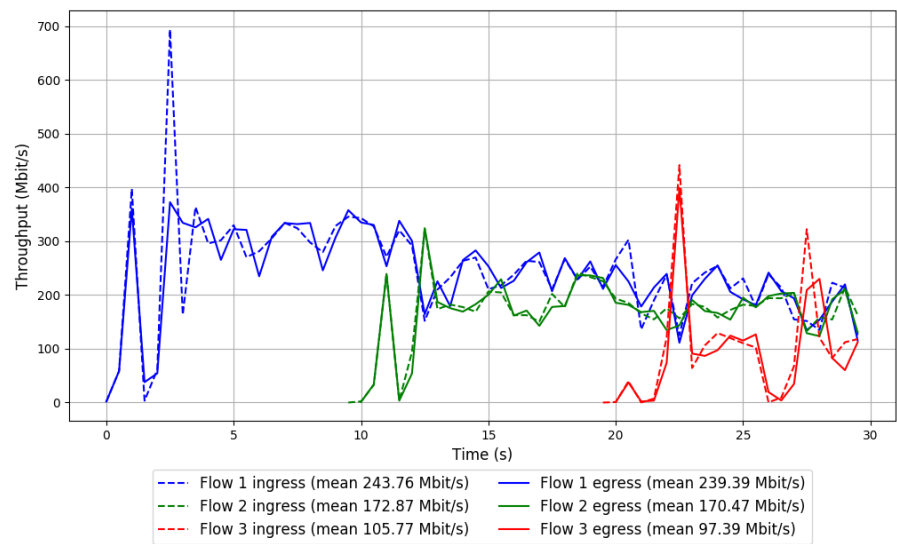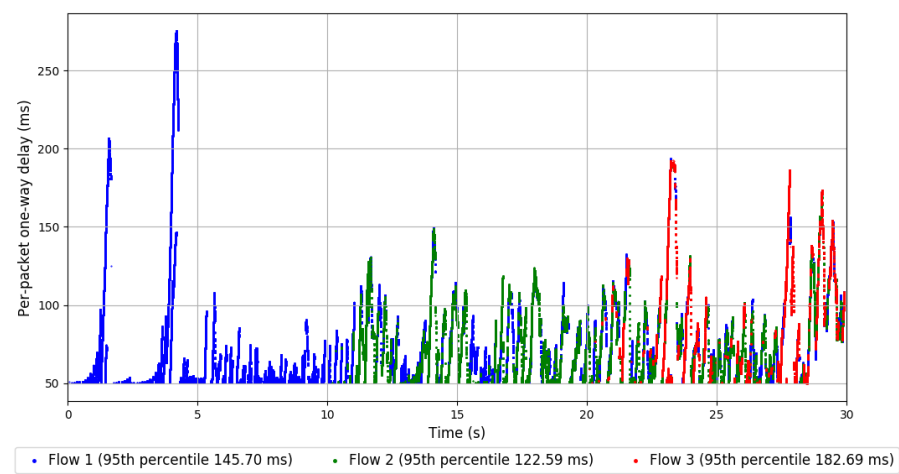
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-02-14 09:05:20
End at: 2018-02-14 09:05:50


# Below is generated by plot.py at 2018-02-14 15:02:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 336.55 Mbit/s
95th percentile per-packet one-way delay: 147.175 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 213.07 Mbit/s
95th percentile per-packet one-way delay: 145.696 ms
Loss rate: 1.13%
-- Flow 2:
Average throughput: 134.63 Mbit/s
95th percentile per-packet one-way delay: 122.591 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 104.35 Mbit/s
95th percentile per-packet one-way delay: 182.685 ms
Loss rate: 2.62%
```
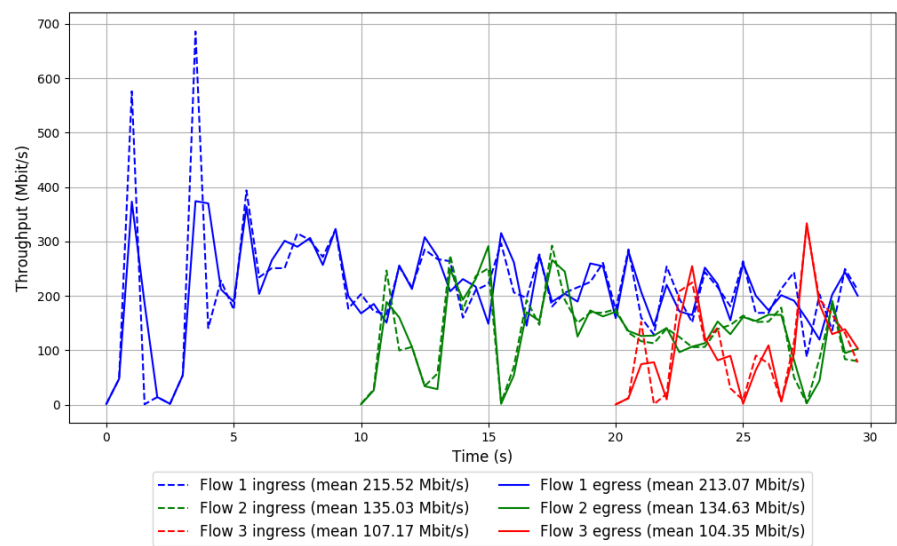
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-02-14 09:22:58
End at: 2018-02-14 09:23:28


# Below is generated by plot.py at 2018-02-14 15:02:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 348.91 Mbit/s
95th percentile per-packet one-way delay: 213.730 ms
Loss rate: 2.89%
-- Flow 1:
Average throughput: 162.10 Mbit/s
95th percentile per-packet one-way delay: 178.653 ms
Loss rate: 1.66%
-- Flow 2:
Average throughput: 260.38 Mbit/s
95th percentile per-packet one-way delay: 221.040 ms
Loss rate: 4.01%
-- Flow 3:
Average throughput: 45.50 Mbit/s
95th percentile per-packet one-way delay: 192.417 ms
Loss rate: 2.71%
```
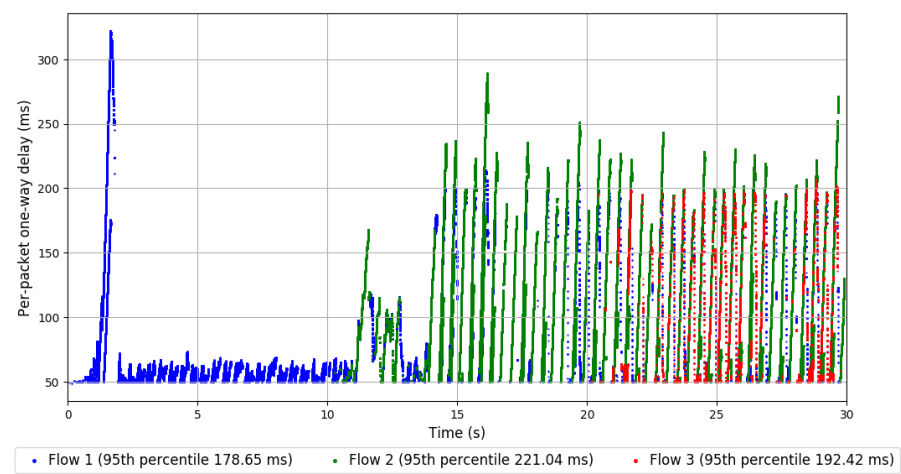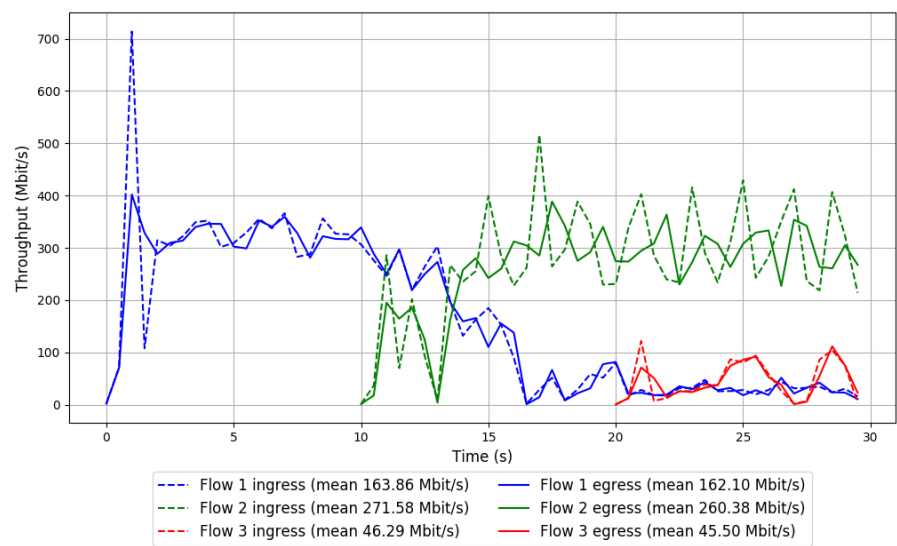
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-02-14 09:40:41
End at: 2018-02-14 09:41:11


# Below is generated by plot.py at 2018-02-14 15:03:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 352.10 Mbit/s
95th percentile per-packet one-way delay: 162.225 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 229.94 Mbit/s
95th percentile per-packet one-way delay: 155.663 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 144.38 Mbit/s
95th percentile per-packet one-way delay: 162.057 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 88.74 Mbit/s
95th percentile per-packet one-way delay: 185.407 ms
Loss rate: 1.89%
```
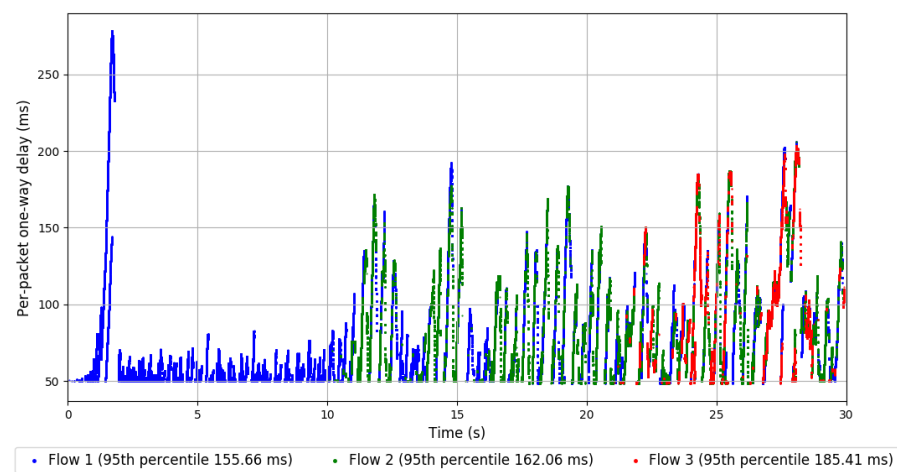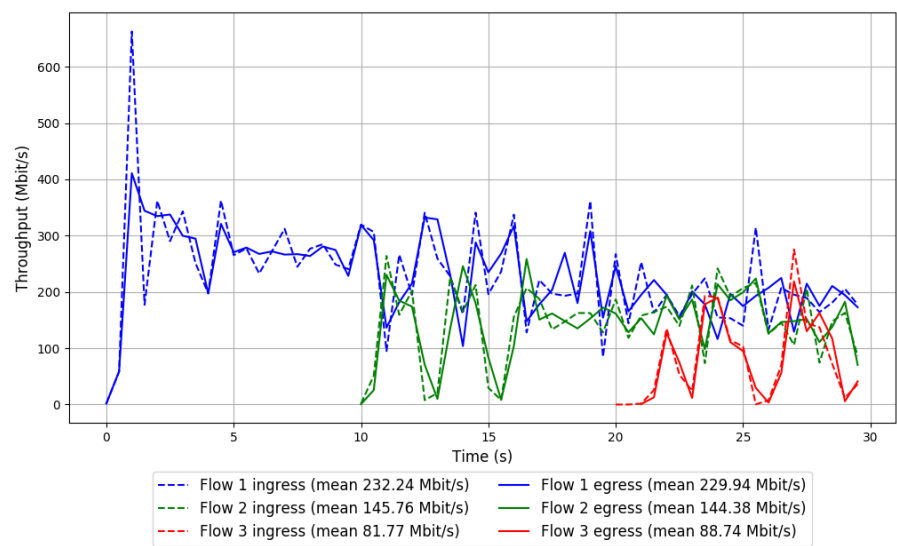
Run 4: Report of Verus — Data Link

Flow 1 ingress (mean 232.24 Mbit/s) -- Flow 1 egress (mean 229.94 Mbit/s)
Flow 2 ingress (mean 145.76 Mbit/s) -- Flow 2 egress (mean 144.38 Mbit/s)
Flow 3 ingress (mean 81.77 Mbit/s) -- Flow 3 egress (mean 88.74 Mbit/s)

Flow 1 (95th percentile 155.66 ms)   Flow 2 (95th percentile 162.06 ms)   Flow 3 (95th percentile 185.41 ms)

```
Run 5: Statistics of Verus

Start at: 2018-02-14 09:58:21
End at: 2018-02-14 09:58:51

# Below is generated by plot.py at 2018-02-14 15:04:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 357.10 Mbit/s
95th percentile per-packet one-way delay: 150.107 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 249.97 Mbit/s
95th percentile per-packet one-way delay: 136.526 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 107.77 Mbit/s
95th percentile per-packet one-way delay: 147.204 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 108.84 Mbit/s
95th percentile per-packet one-way delay: 188.020 ms
Loss rate: 0.63%
```
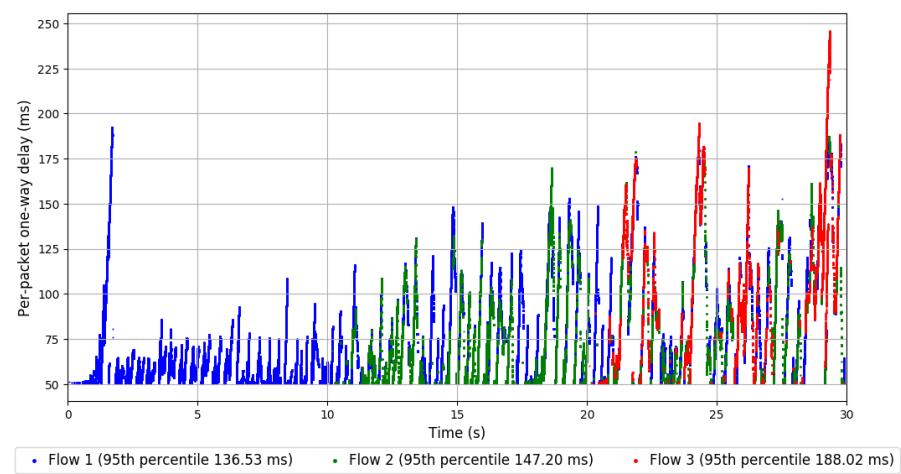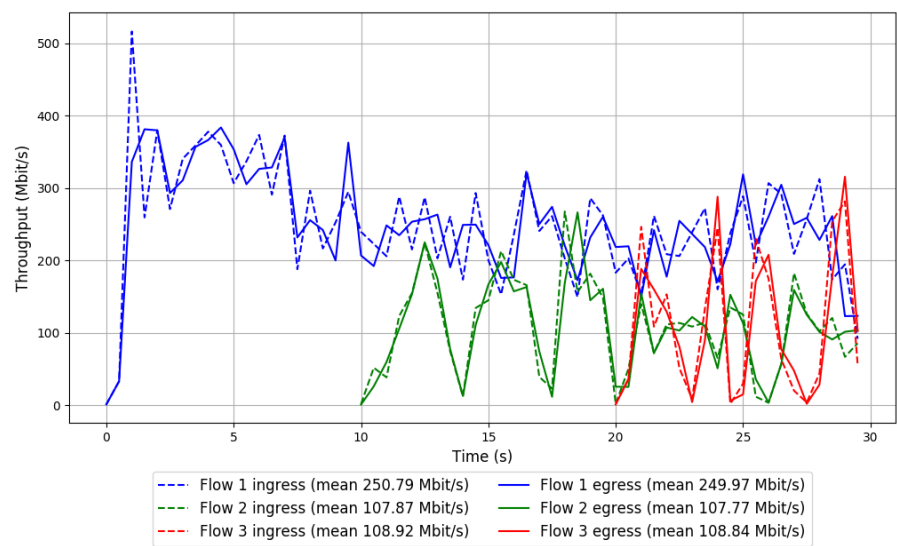
Run 5: Report of Verus — Data Link

213

```
Run 6: Statistics of Verus

Start at: 2018-02-14 10:16:13
End at: 2018-02-14 10:16:43


# Below is generated by plot.py at 2018-02-14 15:04:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 317.21 Mbit/s
95th percentile per-packet one-way delay: 206.916 ms
Loss rate: 2.59%
-- Flow 1:
Average throughput: 257.48 Mbit/s
95th percentile per-packet one-way delay: 209.998 ms
Loss rate: 2.06%
-- Flow 2:
Average throughput: 49.84 Mbit/s
95th percentile per-packet one-way delay: 199.356 ms
Loss rate: 8.09%
-- Flow 3:
Average throughput: 86.35 Mbit/s
95th percentile per-packet one-way delay: 179.721 ms
Loss rate: 0.49%
```
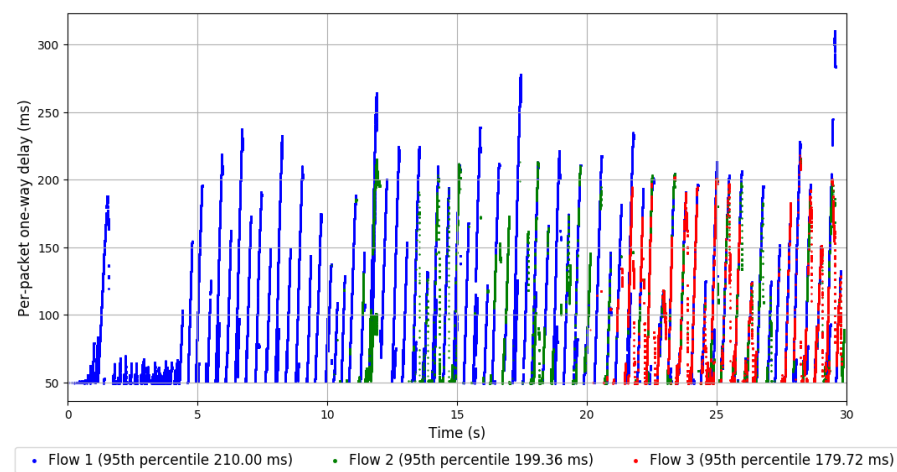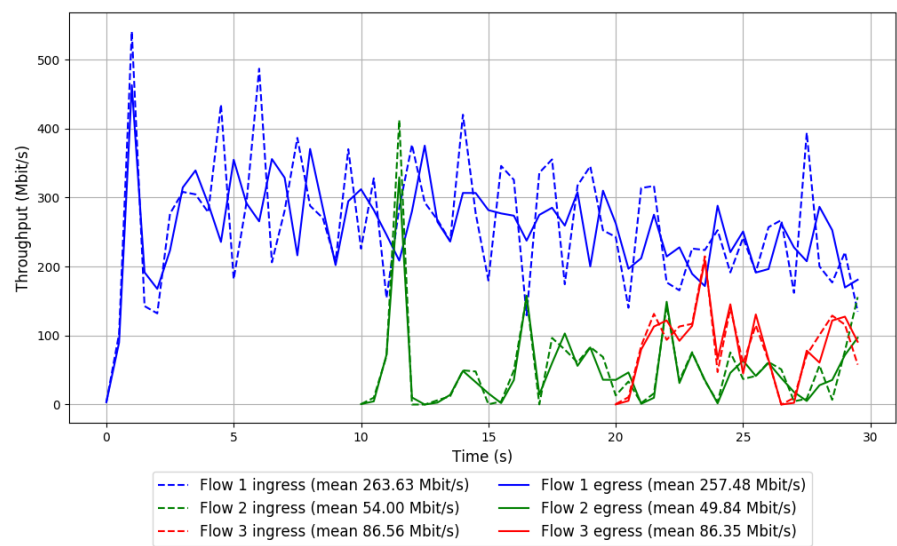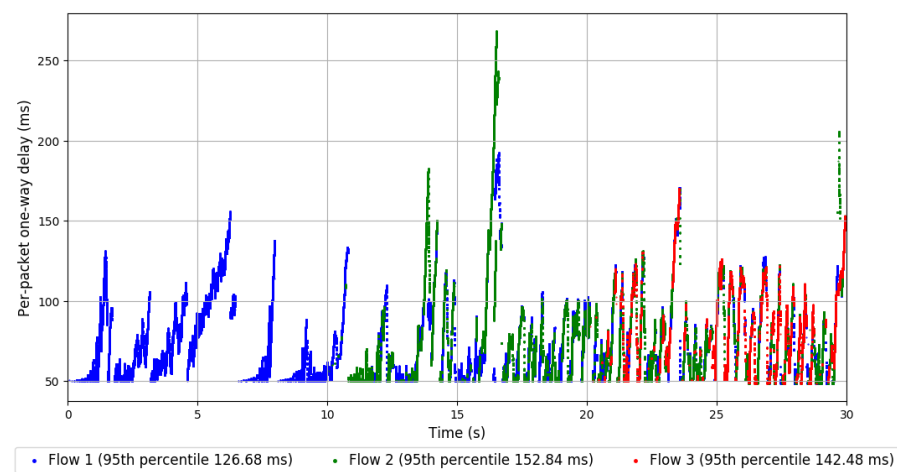
Run 6: Report of Verus — Data Link

Flow 1 ingress (mean 263.63 Mbit/s) --- Flow 1 egress (mean 257.48 Mbit/s)
Flow 2 ingress (mean 54.00 Mbit/s) --- Flow 2 egress (mean 49.84 Mbit/s)
Flow 3 ingress (mean 86.56 Mbit/s) --- Flow 3 egress (mean 86.35 Mbit/s)

Flow 1 (95th percentile 210.00 ms) ・ Flow 2 (95th percentile 199.36 ms) ・ Flow 3 (95th percentile 179.72 ms)

```
Run 7: Statistics of Verus

Start at: 2018-02-14 10:33:52
End at: 2018-02-14 10:34:22


# Below is generated by plot.py at 2018-02-14 15:05:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 350.86 Mbit/s
95th percentile per-packet one-way delay: 134.530 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 226.81 Mbit/s
95th percentile per-packet one-way delay: 126.677 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 143.89 Mbit/s
95th percentile per-packet one-way delay: 152.845 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 87.87 Mbit/s
95th percentile per-packet one-way delay: 142.481 ms
Loss rate: 2.58%
```
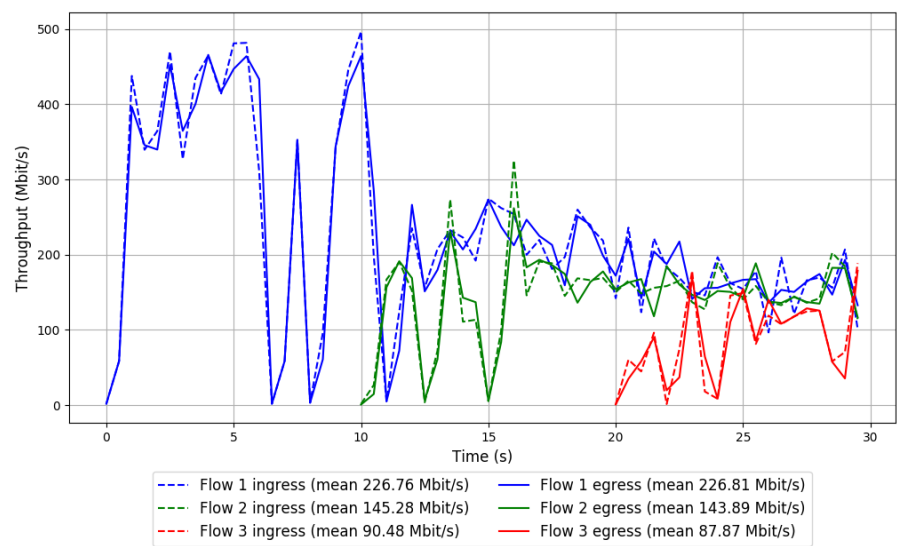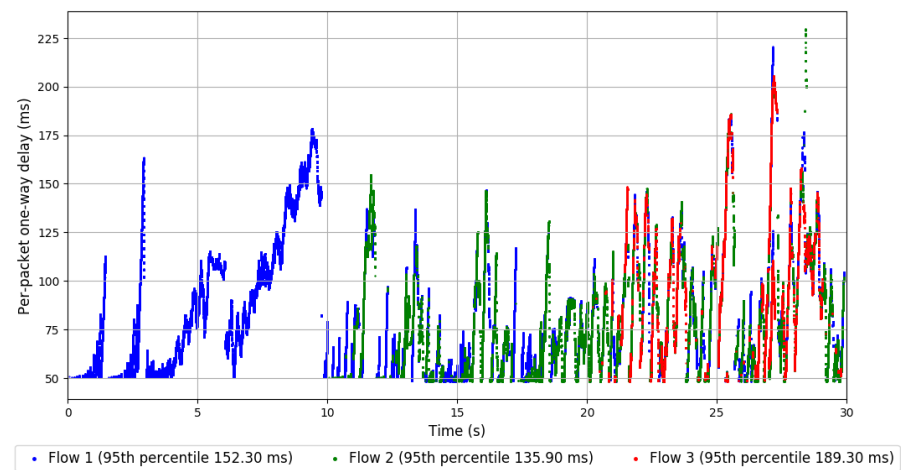
Run 7: Report of Verus — Data Link

Flow 1 ingress (mean 226.76 Mbit/s) --- Flow 1 egress (mean 226.81 Mbit/s)
Flow 2 ingress (mean 145.28 Mbit/s) --- Flow 2 egress (mean 143.89 Mbit/s)
Flow 3 ingress (mean 90.48 Mbit/s) --- Flow 3 egress (mean 87.87 Mbit/s)

Flow 1 (95th percentile 126.68 ms)   Flow 2 (95th percentile 152.84 ms)   Flow 3 (95th percentile 142.48 ms)

217

```
Run 8: Statistics of Verus

Start at: 2018-02-14 10:51:55
End at: 2018-02-14 10:52:25


# Below is generated by plot.py at 2018-02-14 15:06:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 385.80 Mbit/s
95th percentile per-packet one-way delay: 151.733 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 244.49 Mbit/s
95th percentile per-packet one-way delay: 152.298 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 165.17 Mbit/s
95th percentile per-packet one-way delay: 135.904 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 97.23 Mbit/s
95th percentile per-packet one-way delay: 189.298 ms
Loss rate: 4.42%
```
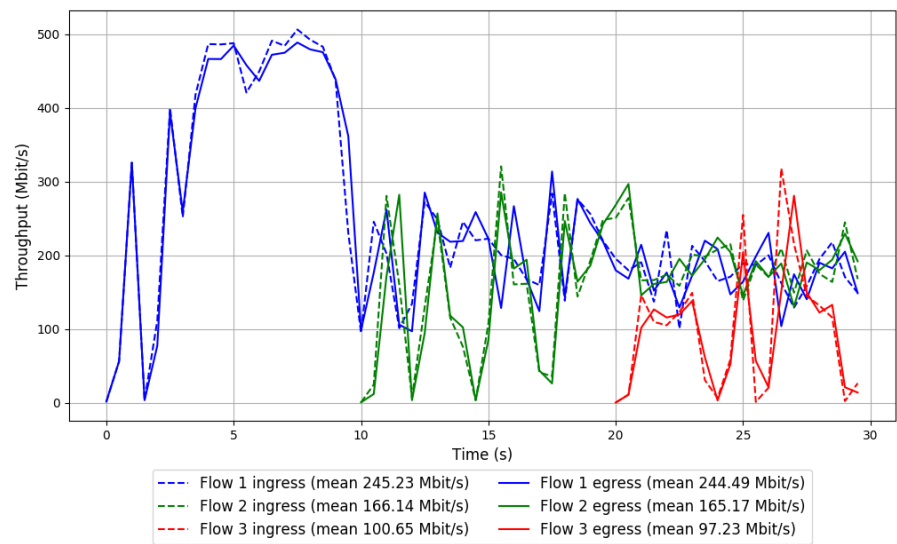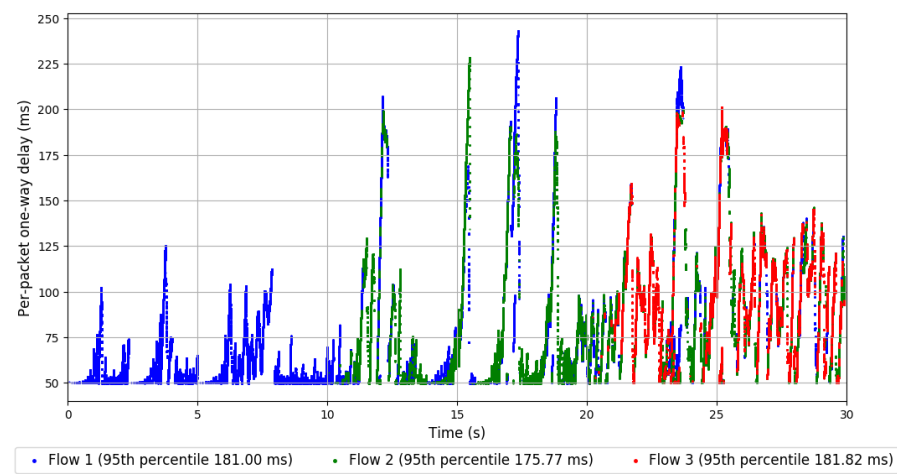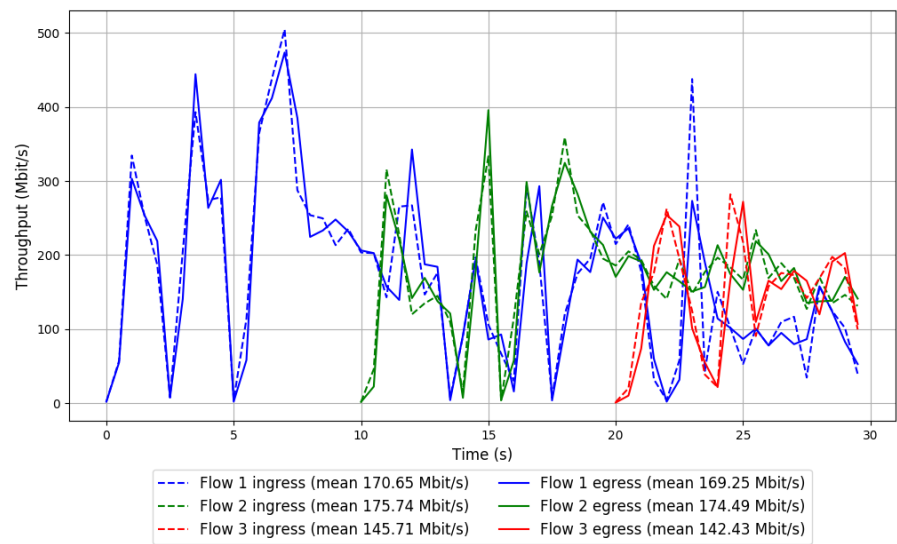
Run 8: Report of Verus — Data Link

Flow 1 ingress (mean 245.23 Mbit/s) — Flow 1 egress (mean 244.49 Mbit/s)
Flow 2 ingress (mean 166.14 Mbit/s) — Flow 2 egress (mean 165.17 Mbit/s)
Flow 3 ingress (mean 100.65 Mbit/s) — Flow 3 egress (mean 97.23 Mbit/s)

Flow 1 (95th percentile 152.30 ms)   Flow 2 (95th percentile 135.90 ms)   Flow 3 (95th percentile 189.30 ms)

```
Run 9: Statistics of Verus

Start at: 2018-02-14 11:09:38
End at: 2018-02-14 11:10:08


# Below is generated by plot.py at 2018-02-14 15:07:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 332.01 Mbit/s
95th percentile per-packet one-way delay: 178.414 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 169.25 Mbit/s
95th percentile per-packet one-way delay: 181.003 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 174.49 Mbit/s
95th percentile per-packet one-way delay: 175.772 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 142.43 Mbit/s
95th percentile per-packet one-way delay: 181.825 ms
Loss rate: 2.23%
```
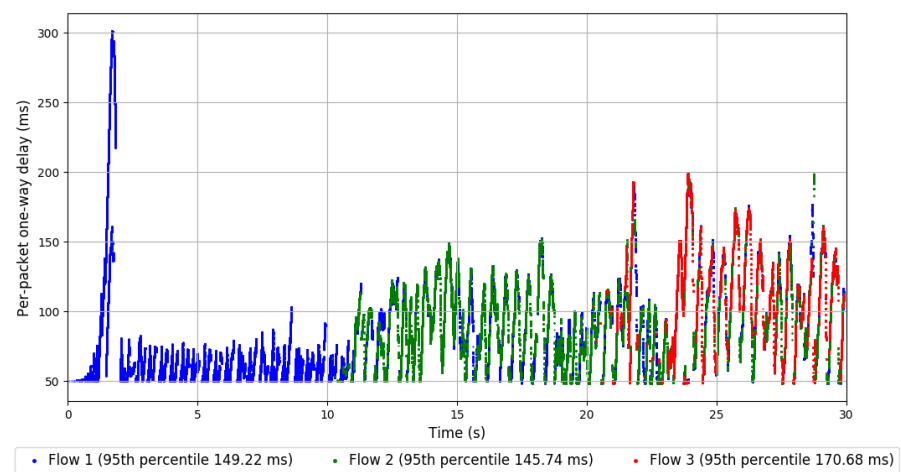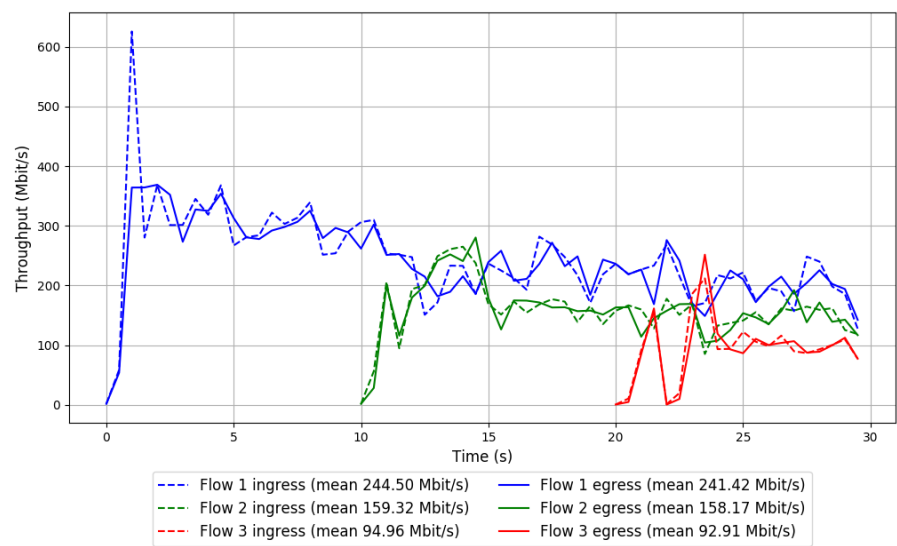
Run 9: Report of Verus — Data Link

221

```
Run 10: Statistics of Verus

Start at: 2018-02-14 11:27:11
End at: 2018-02-14 11:27:41

# Below is generated by plot.py at 2018-02-14 15:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 377.09 Mbit/s
95th percentile per-packet one-way delay: 151.150 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 241.42 Mbit/s
95th percentile per-packet one-way delay: 149.221 ms
Loss rate: 1.26%
-- Flow 2:
Average throughput: 158.17 Mbit/s
95th percentile per-packet one-way delay: 145.740 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 92.91 Mbit/s
95th percentile per-packet one-way delay: 170.683 ms
Loss rate: 2.11%
```

Run 10: Report of Verus — Data Link

223

```
Run 1: Statistics of Copa

Start at: 2018-02-14 08:39:53
End at: 2018-02-14 08:40:23


# Below is generated by plot.py at 2018-02-14 15:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.90 Mbit/s
95th percentile per-packet one-way delay: 50.832 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 82.62 Mbit/s
95th percentile per-packet one-way delay: 50.836 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 19.28 Mbit/s
95th percentile per-packet one-way delay: 50.865 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 40.25 Mbit/s
95th percentile per-packet one-way delay: 49.907 ms
Loss rate: 0.00%
```
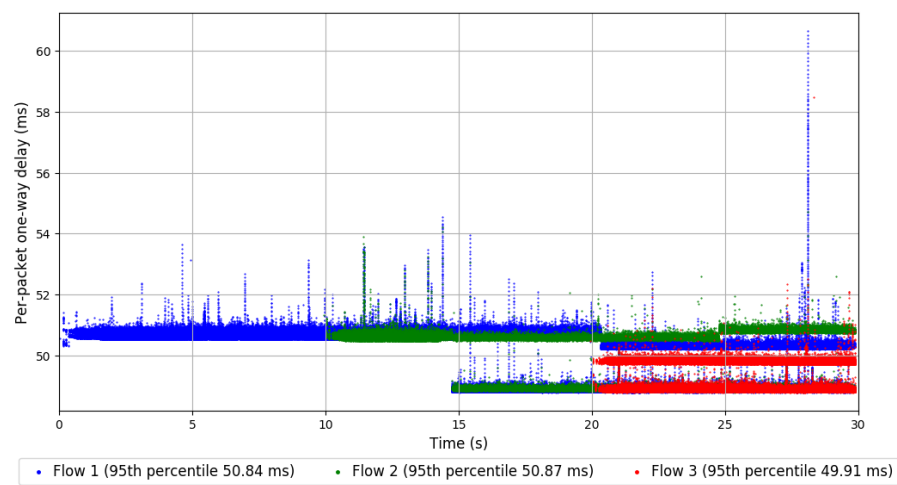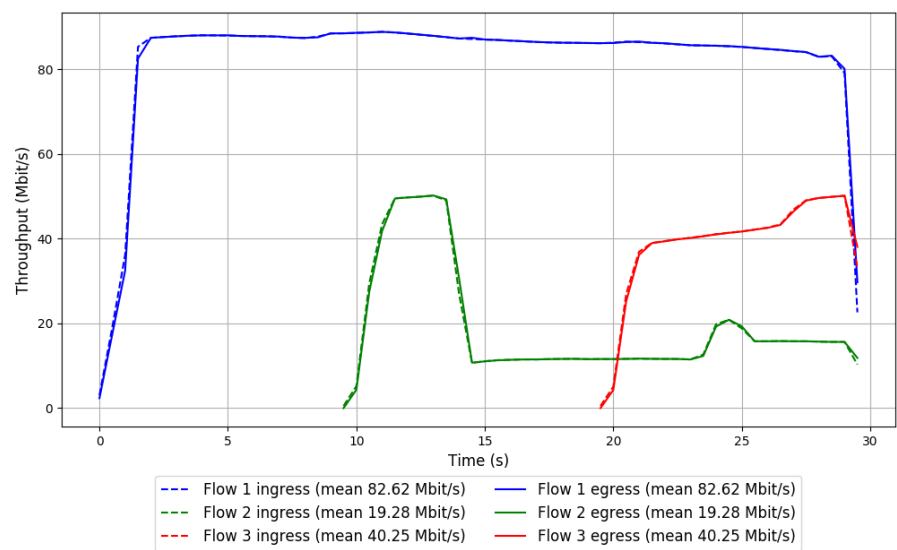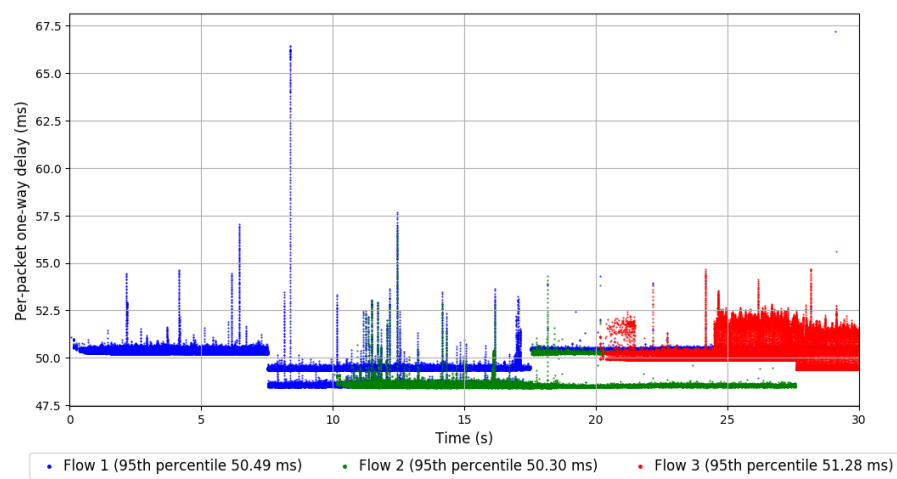
Run 1: Report of Copa — Data Link

225

```
Run 2: Statistics of Copa

Start at: 2018-02-14 08:57:21
End at: 2018-02-14 08:57:51


# Below is generated by plot.py at 2018-02-14 15:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.93 Mbit/s
95th percentile per-packet one-way delay: 50.495 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.48 Mbit/s
95th percentile per-packet one-way delay: 50.490 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 22.86 Mbit/s
95th percentile per-packet one-way delay: 50.302 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 79.07 Mbit/s
95th percentile per-packet one-way delay: 51.282 ms
Loss rate: 0.00%
```
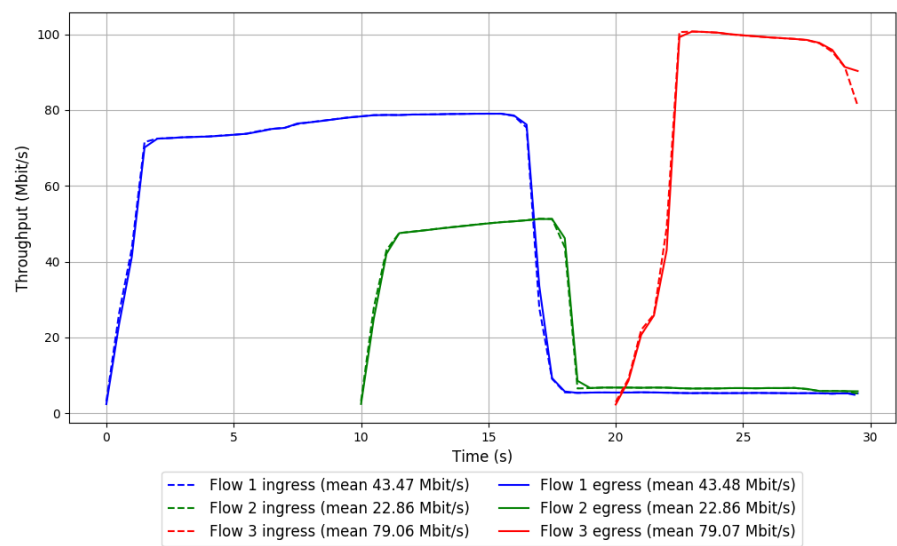
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-02-14 09:14:57
End at: 2018-02-14 09:15:27


# Below is generated by plot.py at 2018-02-14 15:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.84 Mbit/s
95th percentile per-packet one-way delay: 50.171 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 29.84 Mbit/s
95th percentile per-packet one-way delay: 50.212 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 66.38 Mbit/s
95th percentile per-packet one-way delay: 50.081 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 38.72 Mbit/s
95th percentile per-packet one-way delay: 50.155 ms
Loss rate: 0.00%
```
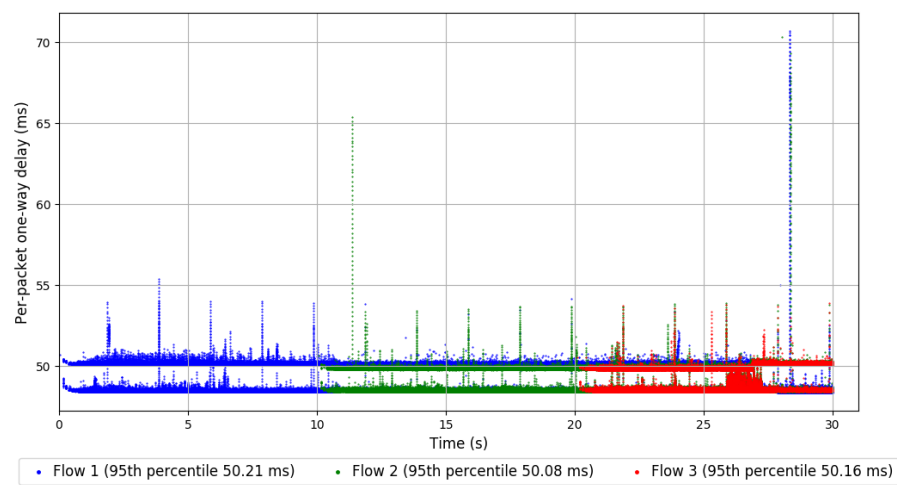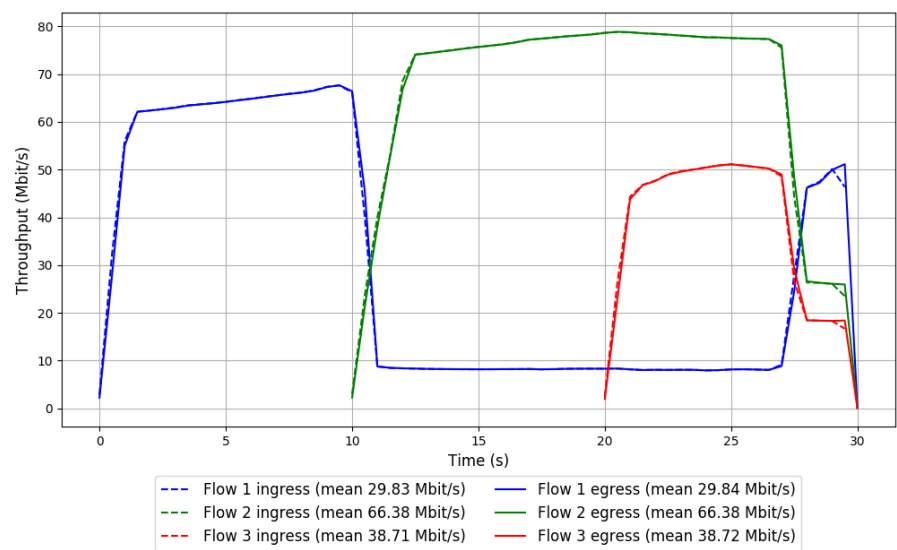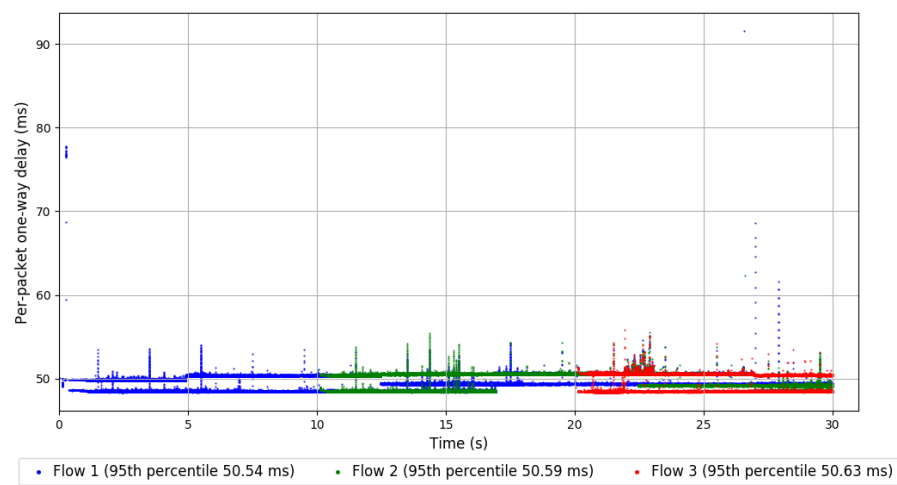
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 29.83 Mbit/s) Flow 1 egress (mean 29.84 Mbit/s)
Flow 2 ingress (mean 66.38 Mbit/s) Flow 2 egress (mean 66.38 Mbit/s)
Flow 3 ingress (mean 38.71 Mbit/s) Flow 3 egress (mean 38.72 Mbit/s)

Flow 1 (95th percentile 50.21 ms) Flow 2 (95th percentile 50.08 ms) Flow 3 (95th percentile 50.16 ms)

```
Run 4: Statistics of Copa

Start at: 2018-02-14 09:32:41
End at: 2018-02-14 09:33:11


# Below is generated by plot.py at 2018-02-14 15:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.75 Mbit/s
95th percentile per-packet one-way delay: 50.572 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 32.60 Mbit/s
95th percentile per-packet one-way delay: 50.536 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 29.12 Mbit/s
95th percentile per-packet one-way delay: 50.588 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.25 Mbit/s
95th percentile per-packet one-way delay: 50.631 ms
Loss rate: 0.00%
```
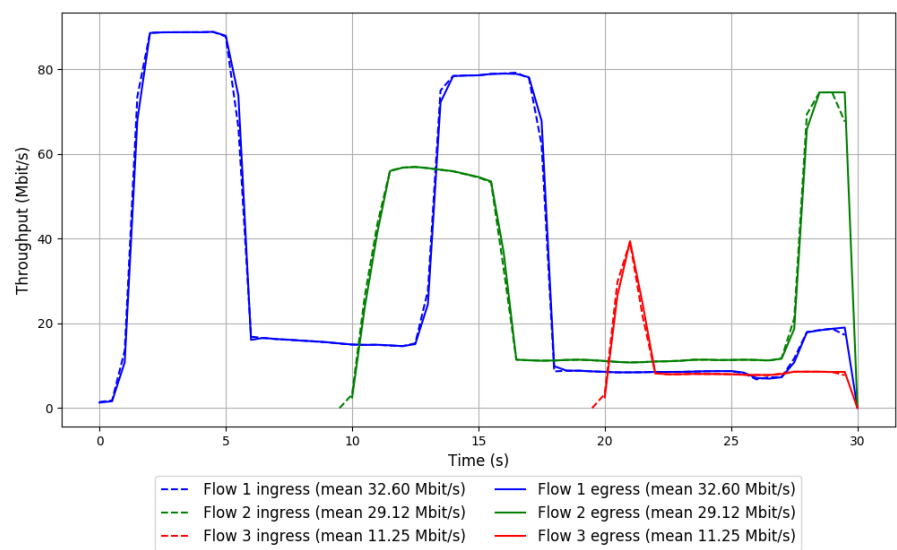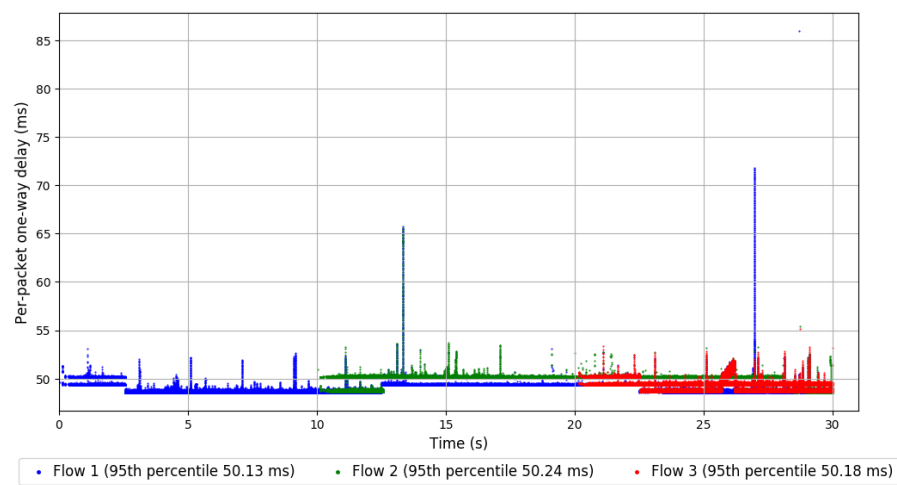
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2018-02-14 09:50:16
End at: 2018-02-14 09:50:46


# Below is generated by plot.py at 2018-02-14 15:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.42 Mbit/s
95th percentile per-packet one-way delay: 50.192 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.72 Mbit/s
95th percentile per-packet one-way delay: 50.135 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 29.40 Mbit/s
95th percentile per-packet one-way delay: 50.236 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 63.61 Mbit/s
95th percentile per-packet one-way delay: 50.180 ms
Loss rate: 0.00%
```
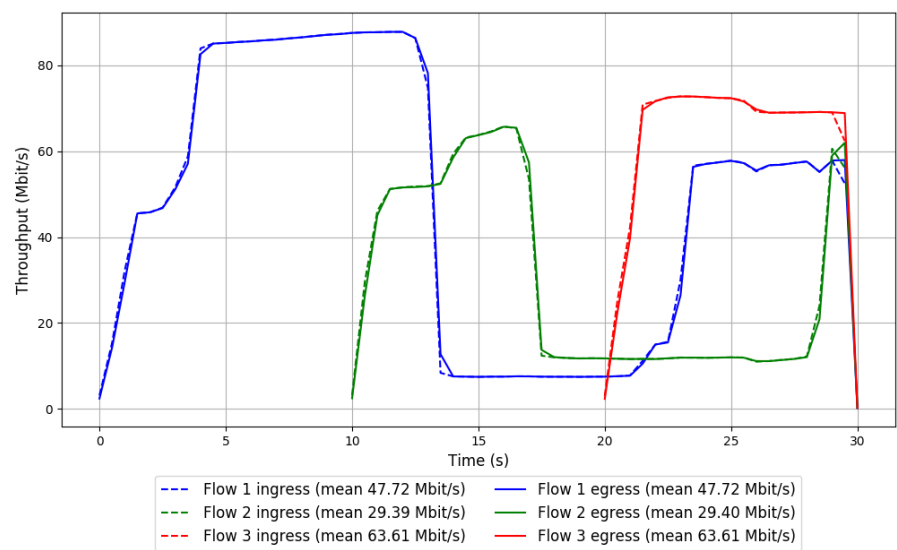
Run 5: Report of Copa — Data Link

```
Run 6: Statistics of Copa

Start at: 2018-02-14 10:08:13
End at: 2018-02-14 10:08:43


# Below is generated by plot.py at 2018-02-14 15:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.15 Mbit/s
95th percentile per-packet one-way delay: 51.062 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.50 Mbit/s
95th percentile per-packet one-way delay: 51.139 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 57.23 Mbit/s
95th percentile per-packet one-way delay: 50.710 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 28.85 Mbit/s
95th percentile per-packet one-way delay: 50.701 ms
Loss rate: 0.00%
```
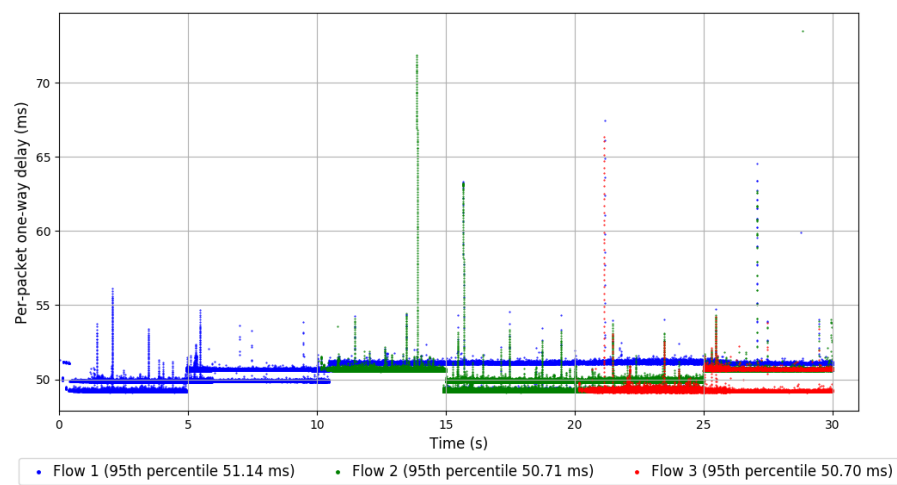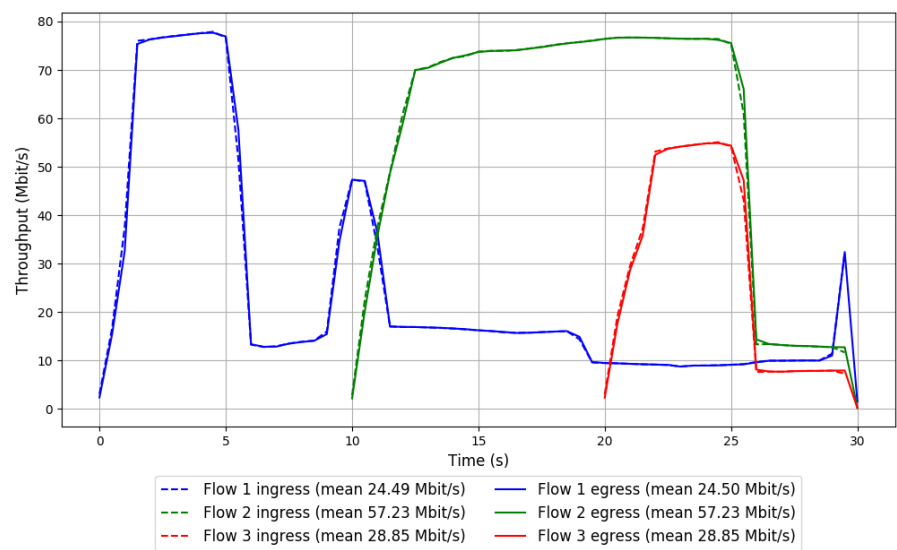
Run 6: Report of Copa — Data Link

Flow 1 ingress (mean 24.49 Mbit/s) --- Flow 1 egress (mean 24.50 Mbit/s)
Flow 2 ingress (mean 57.23 Mbit/s) --- Flow 2 egress (mean 57.23 Mbit/s)
Flow 3 ingress (mean 28.85 Mbit/s) --- Flow 3 egress (mean 28.85 Mbit/s)

Flow 1 (95th percentile 51.14 ms)   Flow 2 (95th percentile 50.71 ms)   Flow 3 (95th percentile 50.70 ms)

235

```
Run 7: Statistics of Copa

Start at: 2018-02-14 10:25:52
End at: 2018-02-14 10:26:22


# Below is generated by plot.py at 2018-02-14 15:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.57 Mbit/s
95th percentile per-packet one-way delay: 50.976 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 31.17 Mbit/s
95th percentile per-packet one-way delay: 50.988 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 19.49 Mbit/s
95th percentile per-packet one-way delay: 50.845 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 10.34 Mbit/s
95th percentile per-packet one-way delay: 60.664 ms
Loss rate: 0.35%
```
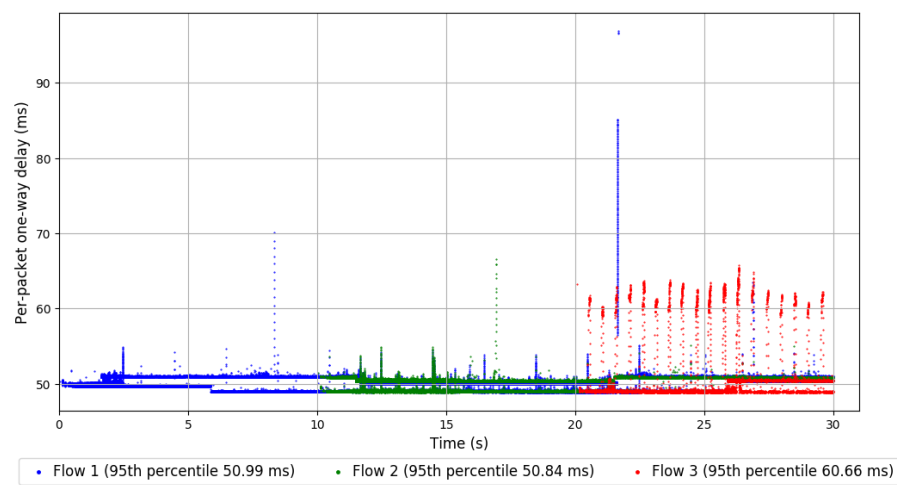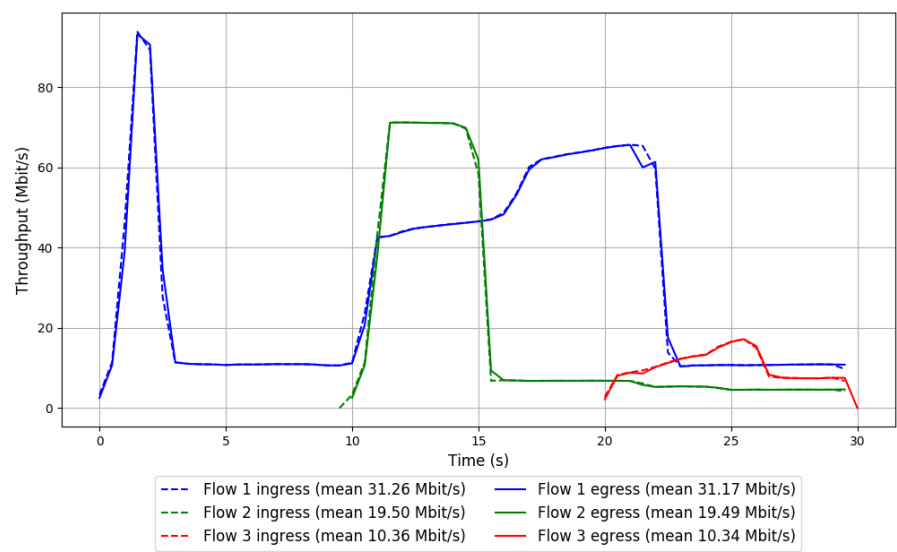
Run 7: Report of Copa — Data Link

```
Run 8: Statistics of Copa

Start at: 2018-02-14 10:43:49
End at: 2018-02-14 10:44:19


# Below is generated by plot.py at 2018-02-14 15:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.76 Mbit/s
95th percentile per-packet one-way delay: 50.564 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 21.11 Mbit/s
95th percentile per-packet one-way delay: 50.586 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 48.37 Mbit/s
95th percentile per-packet one-way delay: 50.521 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 52.57 Mbit/s
95th percentile per-packet one-way delay: 50.594 ms
Loss rate: 0.00%
```
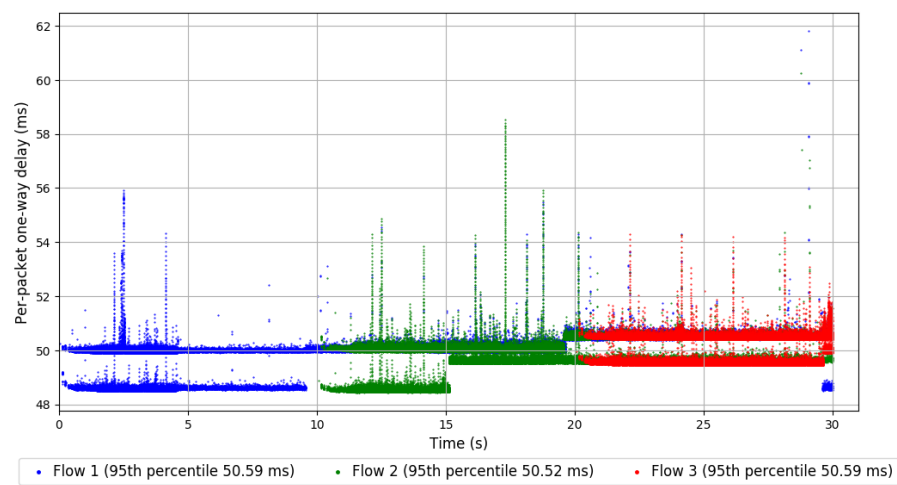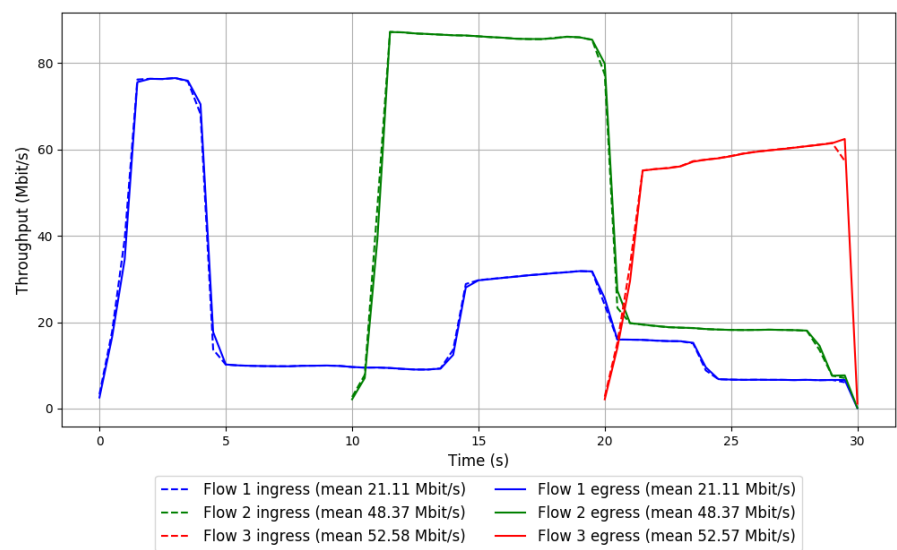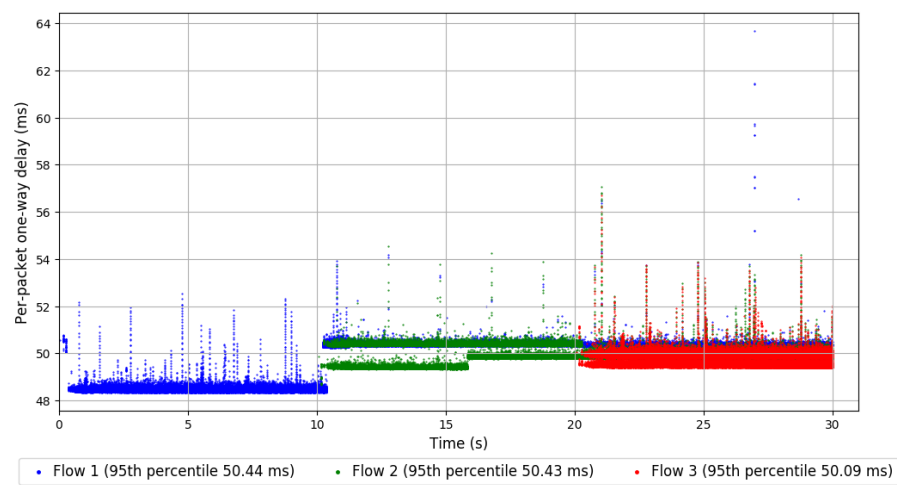
Run 8: Report of Copa — Data Link

Flow 1 ingress (mean 21.11 Mbit/s) --- Flow 1 egress (mean 21.11 Mbit/s)
Flow 2 ingress (mean 48.37 Mbit/s) --- Flow 2 egress (mean 48.37 Mbit/s)
Flow 3 ingress (mean 52.58 Mbit/s) --- Flow 3 egress (mean 52.57 Mbit/s)

Flow 1 (95th percentile 50.59 ms)   Flow 2 (95th percentile 50.52 ms)   Flow 3 (95th percentile 50.59 ms)

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```
Run 9: Statistics of Copa

Start at: 2018-02-14 11:01:38
End at: 2018-02-14 11:02:08


# Below is generated by plot.py at 2018-02-14 15:08:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.55 Mbit/s
95th percentile per-packet one-way delay: 50.415 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 21.61 Mbit/s
95th percentile per-packet one-way delay: 50.435 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.37 Mbit/s
95th percentile per-packet one-way delay: 50.434 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 53.42 Mbit/s
95th percentile per-packet one-way delay: 50.090 ms
Loss rate: 0.00%
```
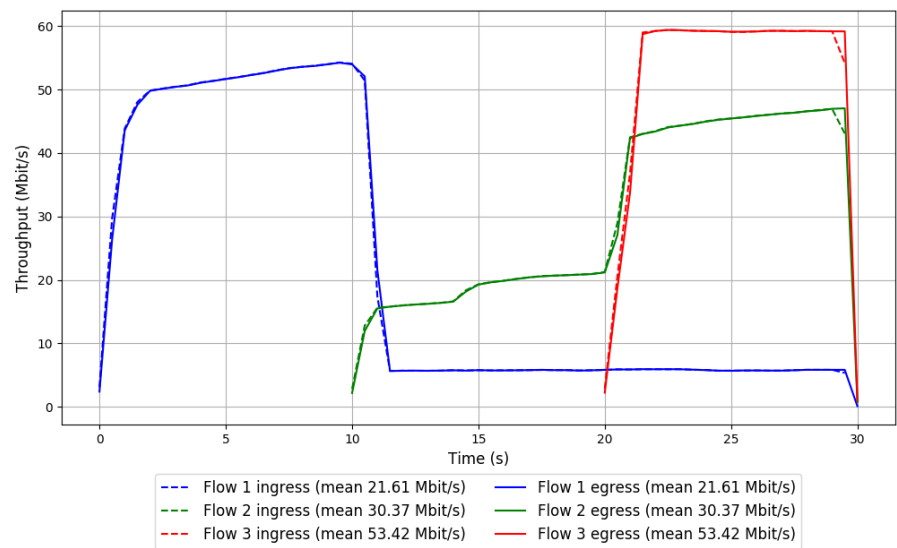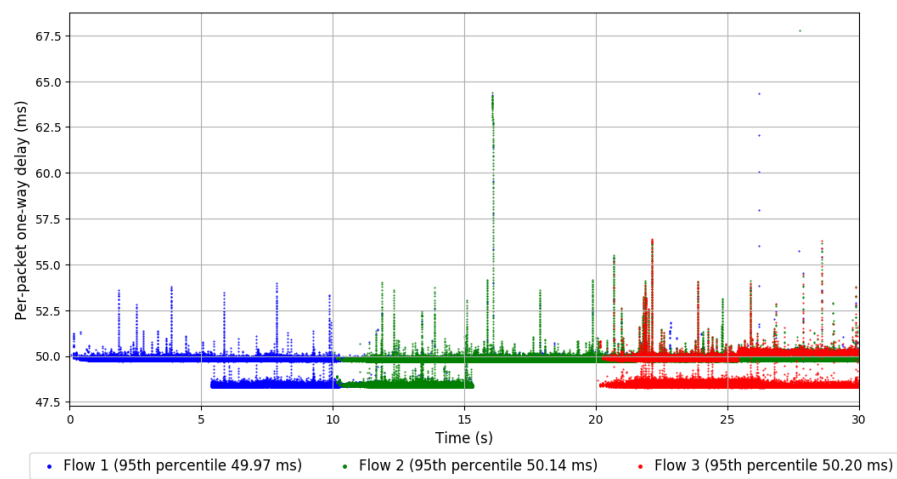
Run 9: Report of Copa — Data Link

```
Run 10: Statistics of Copa

Start at: 2018-02-14 11:19:13
End at: 2018-02-14 11:19:43

# Below is generated by plot.py at 2018-02-14 15:09:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.85 Mbit/s
95th percentile per-packet one-way delay: 50.151 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.29 Mbit/s
95th percentile per-packet one-way delay: 49.970 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 57.83 Mbit/s
95th percentile per-packet one-way delay: 50.144 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 48.28 Mbit/s
95th percentile per-packet one-way delay: 50.202 ms
Loss rate: 0.00%
```
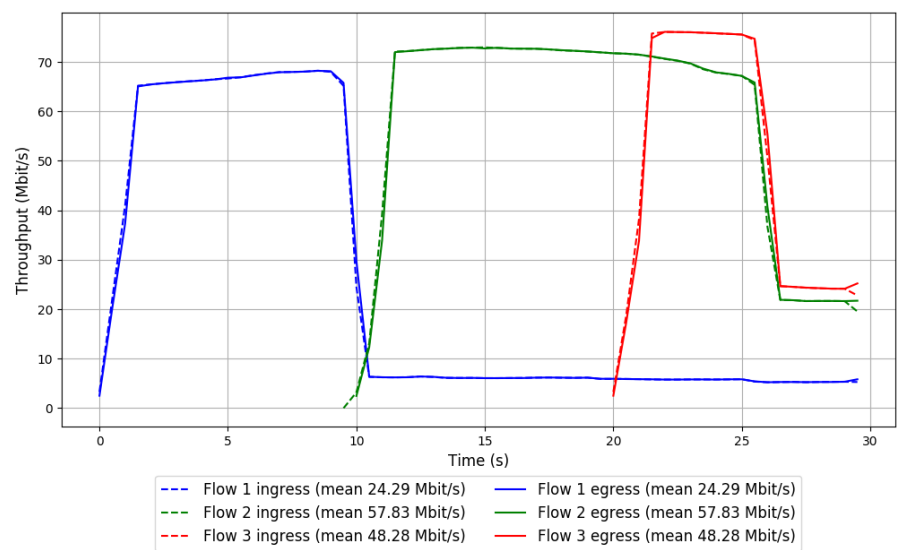
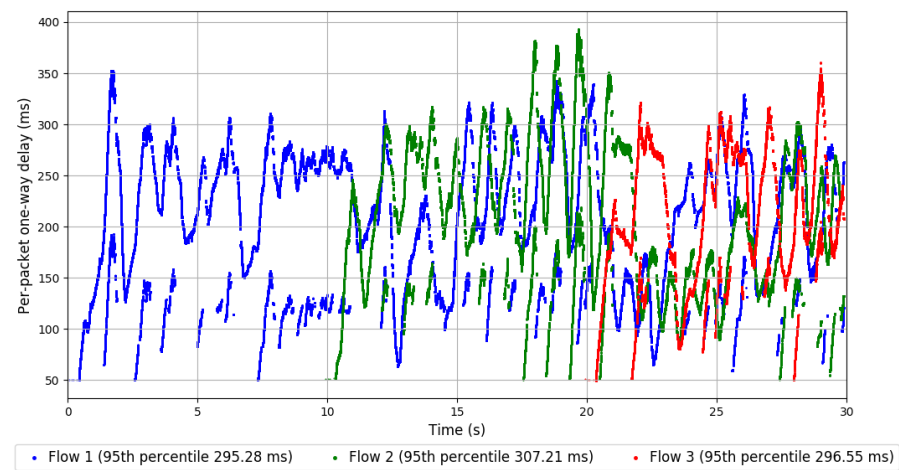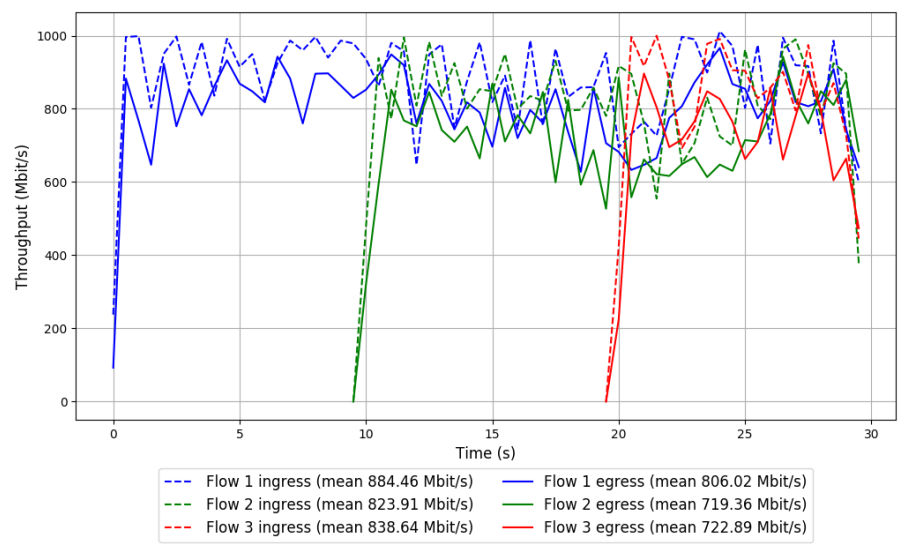Run 10: Report of Copa — Data Link

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```
Run 1: Statistics of FillP

Start at: 2018-02-14 08:50:22
End at: 2018-02-14 08:50:52

# Below is generated by plot.py at 2018-02-14 15:33:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1527.85 Mbit/s
95th percentile per-packet one-way delay: 298.716 ms
Loss rate: 10.77%
-- Flow 1:
Average throughput: 806.02 Mbit/s
95th percentile per-packet one-way delay: 295.279 ms
Loss rate: 8.78%
-- Flow 2:
Average throughput: 719.36 Mbit/s
95th percentile per-packet one-way delay: 307.215 ms
Loss rate: 12.57%
-- Flow 3:
Average throughput: 722.89 Mbit/s
95th percentile per-packet one-way delay: 296.552 ms
Loss rate: 13.55%
```
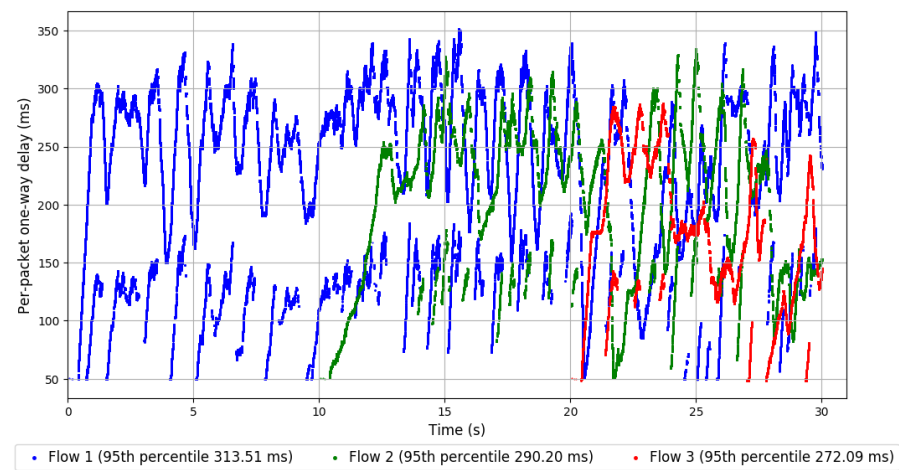
Run 1: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 884.46 Mbit/s) ——— Flow 1 egress (mean 806.02 Mbit/s)
- - - - Flow 2 ingress (mean 823.91 Mbit/s) ——— Flow 2 egress (mean 719.36 Mbit/s)
- - - - Flow 3 ingress (mean 838.64 Mbit/s) ——— Flow 3 egress (mean 722.89 Mbit/s)

- Flow 1 (95th percentile 295.28 ms)   - Flow 2 (95th percentile 307.21 ms)   - Flow 3 (95th percentile 296.55 ms)

```
Run 2: Statistics of FillP

Start at: 2018-02-14 09:07:48
End at: 2018-02-14 09:08:18

# Below is generated by plot.py at 2018-02-14 15:33:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1538.14 Mbit/s
95th percentile per-packet one-way delay: 303.502 ms
Loss rate: 10.60%
-- Flow 1:
Average throughput: 747.63 Mbit/s
95th percentile per-packet one-way delay: 313.506 ms
Loss rate: 12.39%
-- Flow 2:
Average throughput: 792.21 Mbit/s
95th percentile per-packet one-way delay: 290.203 ms
Loss rate: 9.99%
-- Flow 3:
Average throughput: 792.26 Mbit/s
95th percentile per-packet one-way delay: 272.091 ms
Loss rate: 6.39%
```
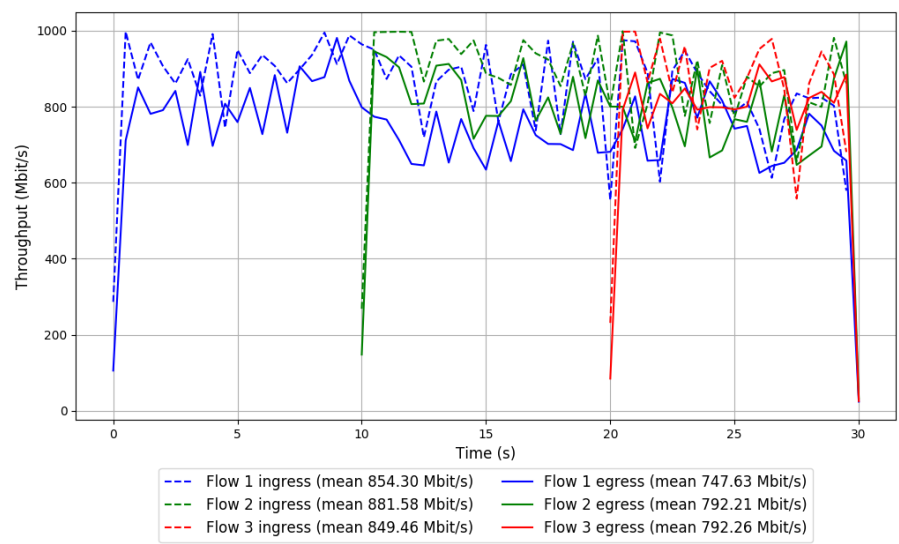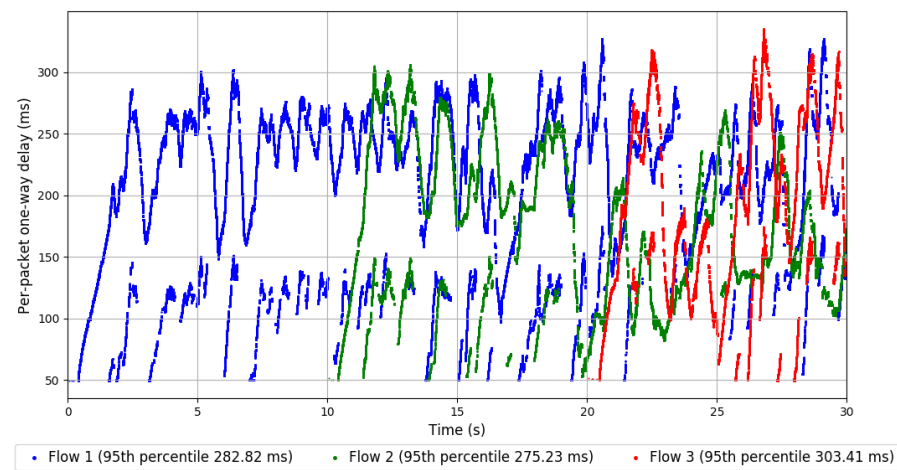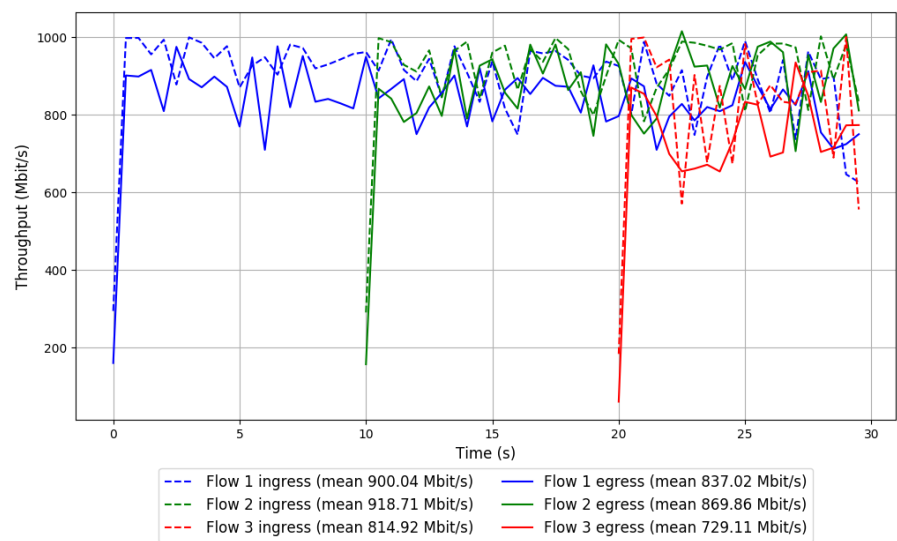
Run 2: Report of FillP — Data Link

Legend:
- Flow 1 ingress (mean 854.30 Mbit/s)
- Flow 1 egress (mean 747.63 Mbit/s)
- Flow 2 ingress (mean 881.58 Mbit/s)
- Flow 2 egress (mean 792.21 Mbit/s)
- Flow 3 ingress (mean 849.46 Mbit/s)
- Flow 3 egress (mean 792.26 Mbit/s)

Legend:
- Flow 1 (95th percentile 313.51 ms)
- Flow 2 (95th percentile 290.20 ms)
- Flow 3 (95th percentile 272.09 ms)

```
Run 3: Statistics of FillP

Start at: 2018-02-14 09:25:22
End at: 2018-02-14 09:25:52


# Below is generated by plot.py at 2018-02-14 15:36:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1657.56 Mbit/s
95th percentile per-packet one-way delay: 282.876 ms
Loss rate: 6.96%
-- Flow 1:
Average throughput: 837.02 Mbit/s
95th percentile per-packet one-way delay: 282.816 ms
Loss rate: 7.00%
-- Flow 2:
Average throughput: 869.86 Mbit/s
95th percentile per-packet one-way delay: 275.228 ms
Loss rate: 5.32%
-- Flow 3:
Average throughput: 729.11 Mbit/s
95th percentile per-packet one-way delay: 303.408 ms
Loss rate: 10.55%
```
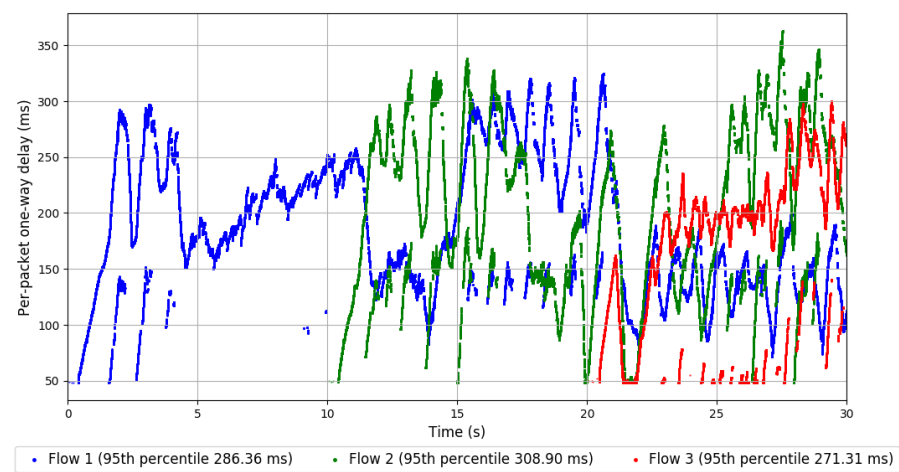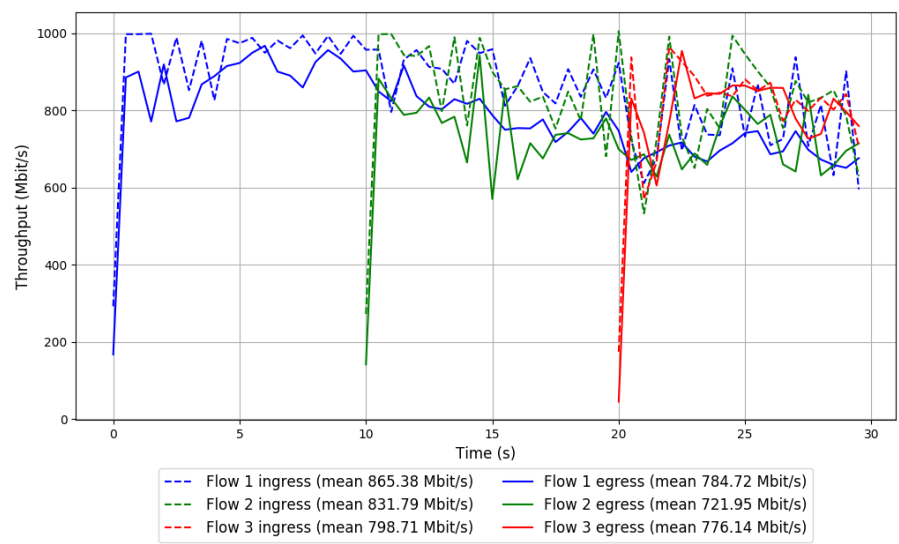
Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 900.04 Mbit/s) --- Flow 1 egress (mean 837.02 Mbit/s)
Flow 2 ingress (mean 918.71 Mbit/s) --- Flow 2 egress (mean 869.86 Mbit/s)
Flow 3 ingress (mean 814.92 Mbit/s) --- Flow 3 egress (mean 729.11 Mbit/s)

Flow 1 (95th percentile 282.82 ms) • Flow 2 (95th percentile 275.23 ms) • Flow 3 (95th percentile 303.41 ms)

```
Run 4: Statistics of FillP

Start at: 2018-02-14 09:43:06
End at: 2018-02-14 09:43:36

# Below is generated by plot.py at 2018-02-14 15:36:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1522.21 Mbit/s
95th percentile per-packet one-way delay: 293.154 ms
Loss rate: 9.57%
-- Flow 1:
Average throughput: 784.72 Mbit/s
95th percentile per-packet one-way delay: 286.363 ms
Loss rate: 9.32%
-- Flow 2:
Average throughput: 721.95 Mbit/s
95th percentile per-packet one-way delay: 308.905 ms
Loss rate: 13.21%
-- Flow 3:
Average throughput: 776.14 Mbit/s
95th percentile per-packet one-way delay: 271.305 ms
Loss rate: 2.80%
```
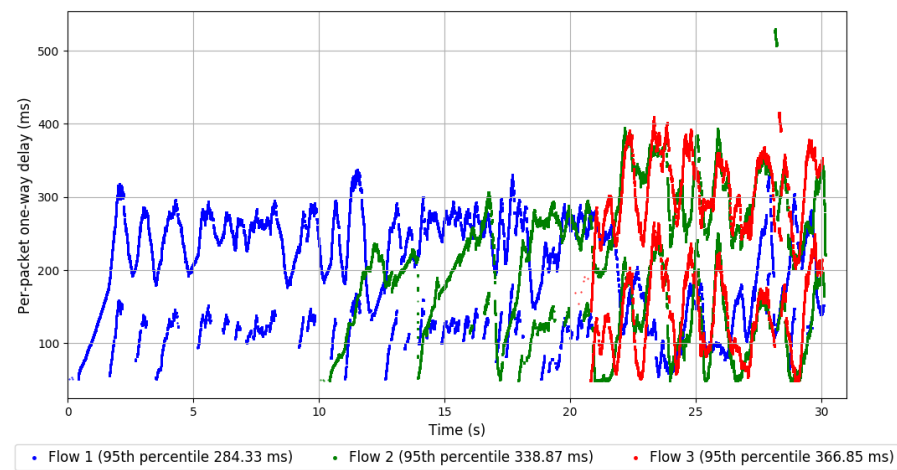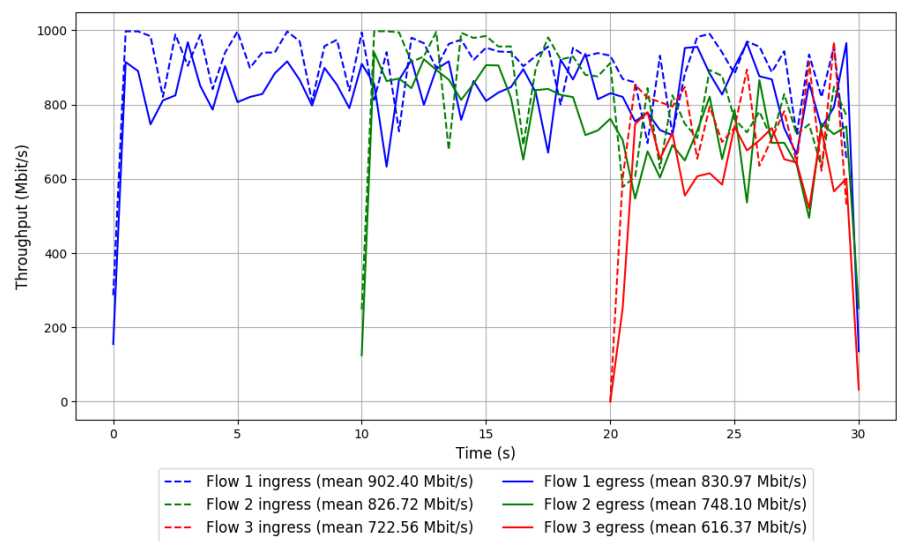
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 865.38 Mbit/s)   Flow 1 egress (mean 784.72 Mbit/s)
Flow 2 ingress (mean 831.79 Mbit/s)   Flow 2 egress (mean 721.95 Mbit/s)
Flow 3 ingress (mean 798.71 Mbit/s)   Flow 3 egress (mean 776.14 Mbit/s)

Flow 1 (95th percentile 286.36 ms)   Flow 2 (95th percentile 308.90 ms)   Flow 3 (95th percentile 271.31 ms)

```
Run 5: Statistics of FillP

Start at: 2018-02-14 10:00:51
End at: 2018-02-14 10:01:21


# Below is generated by plot.py at 2018-02-14 15:36:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1529.83 Mbit/s
95th percentile per-packet one-way delay: 327.723 ms
Loss rate: 9.05%
-- Flow 1:
Average throughput: 830.97 Mbit/s
95th percentile per-packet one-way delay: 284.326 ms
Loss rate: 7.61%
-- Flow 2:
Average throughput: 748.10 Mbit/s
95th percentile per-packet one-way delay: 338.866 ms
Loss rate: 8.74%
-- Flow 3:
Average throughput: 616.37 Mbit/s
95th percentile per-packet one-way delay: 366.848 ms
Loss rate: 15.26%
```
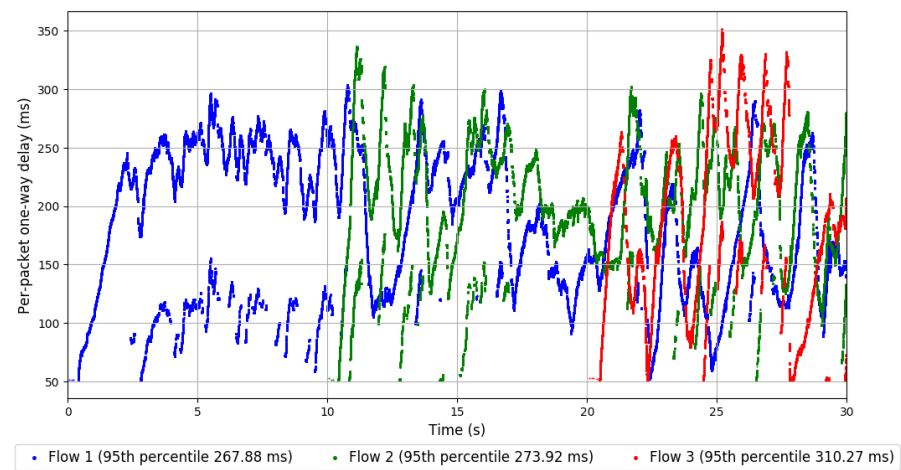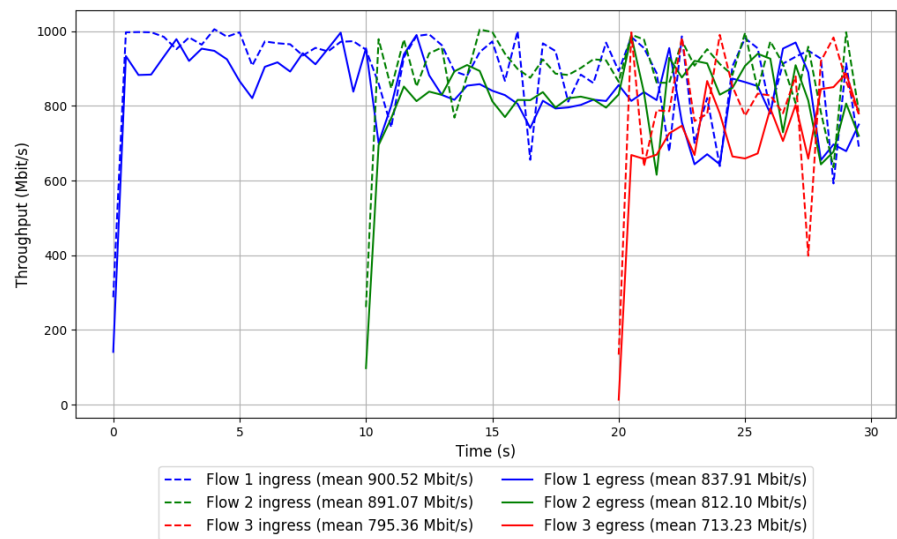
Run 5: Report of FillP — Data Link

```
Run 6: Statistics of FillP

Start at: 2018-02-14 10:18:35
End at: 2018-02-14 10:19:05


# Below is generated by plot.py at 2018-02-14 15:36:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1614.04 Mbit/s
95th percentile per-packet one-way delay: 274.467 ms
Loss rate: 8.11%
-- Flow 1:
Average throughput: 837.91 Mbit/s
95th percentile per-packet one-way delay: 267.877 ms
Loss rate: 6.96%
-- Flow 2:
Average throughput: 812.10 Mbit/s
95th percentile per-packet one-way delay: 273.918 ms
Loss rate: 8.87%
-- Flow 3:
Average throughput: 713.23 Mbit/s
95th percentile per-packet one-way delay: 310.267 ms
Loss rate: 10.35%
```
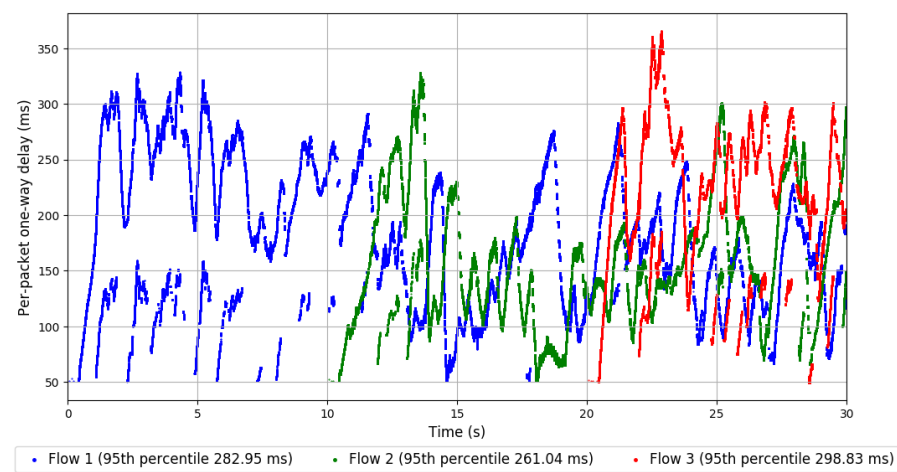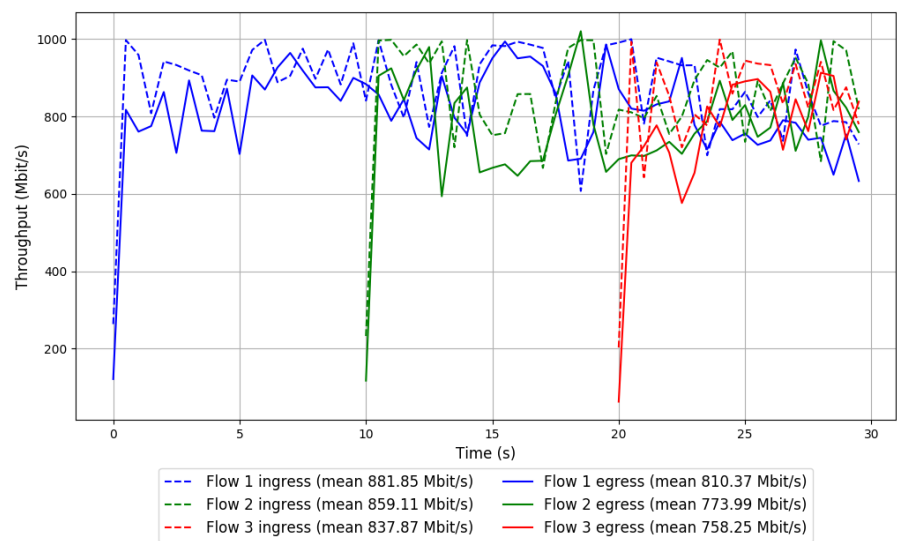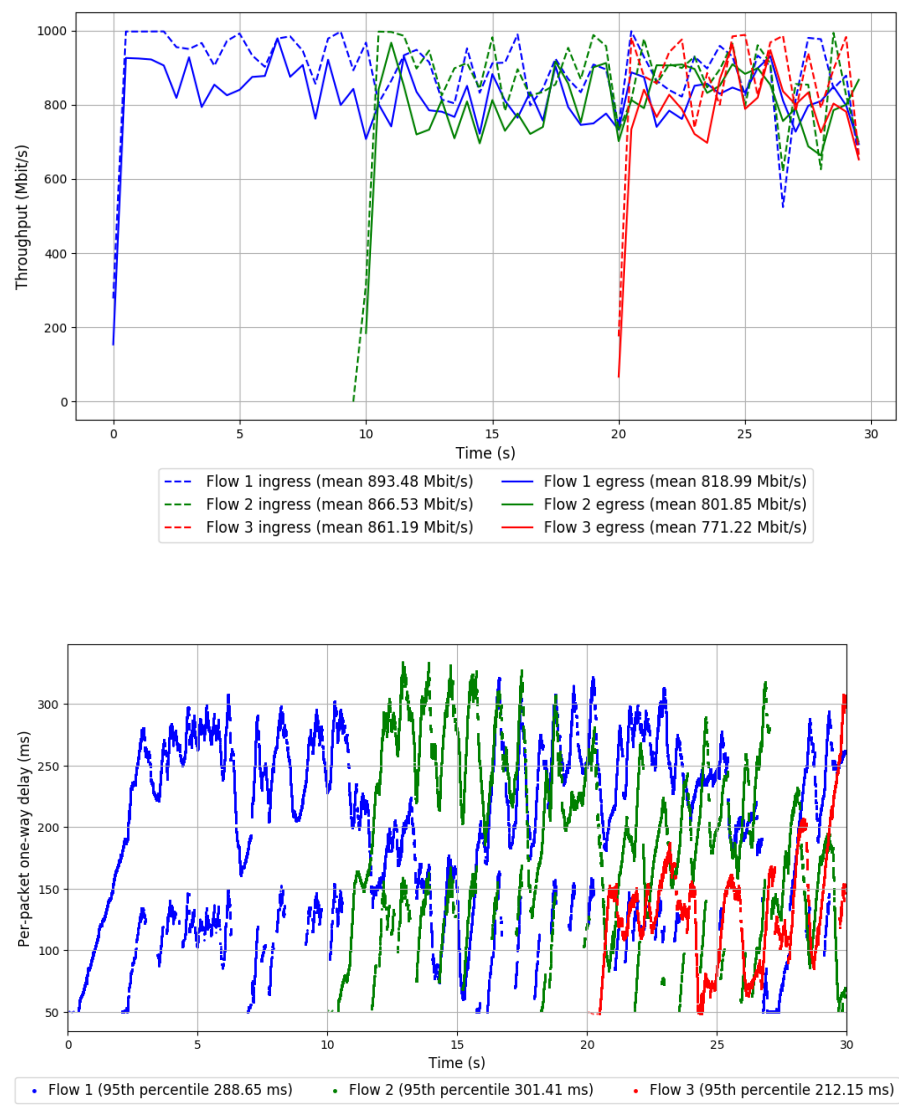
Run 6: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 900.52 Mbit/s)   —— Flow 1 egress (mean 837.91 Mbit/s)
- - - - Flow 2 ingress (mean 891.07 Mbit/s)   —— Flow 2 egress (mean 812.10 Mbit/s)
- - - - Flow 3 ingress (mean 795.36 Mbit/s)   —— Flow 3 egress (mean 713.23 Mbit/s)

• Flow 1 (95th percentile 267.88 ms)   • Flow 2 (95th percentile 273.92 ms)   • Flow 3 (95th percentile 310.27 ms)

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```
Run 7: Statistics of FillP

Start at: 2018-02-14 10:36:21
End at: 2018-02-14 10:36:51


# Below is generated by plot.py at 2018-02-14 15:36:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1576.43 Mbit/s
95th percentile per-packet one-way delay: 284.445 ms
Loss rate: 8.93%
-- Flow 1:
Average throughput: 810.37 Mbit/s
95th percentile per-packet one-way delay: 282.951 ms
Loss rate: 8.11%
-- Flow 2:
Average throughput: 773.99 Mbit/s
95th percentile per-packet one-way delay: 261.035 ms
Loss rate: 9.91%
-- Flow 3:
Average throughput: 758.25 Mbit/s
95th percentile per-packet one-way delay: 298.829 ms
Loss rate: 9.51%
```
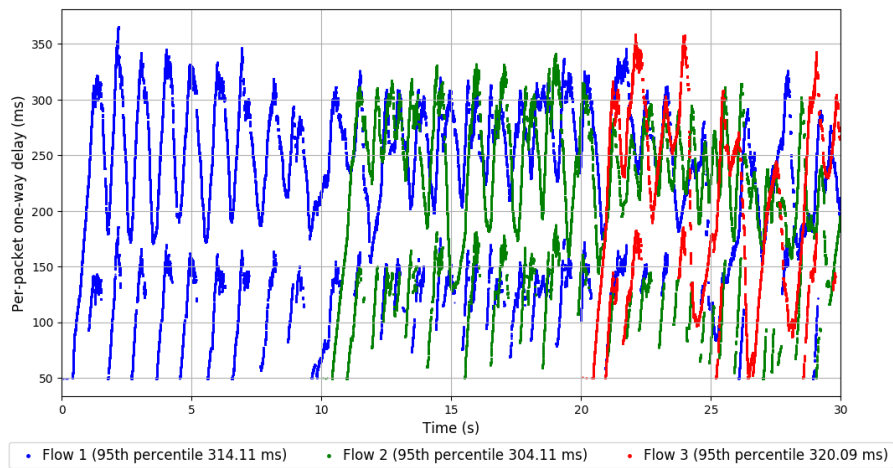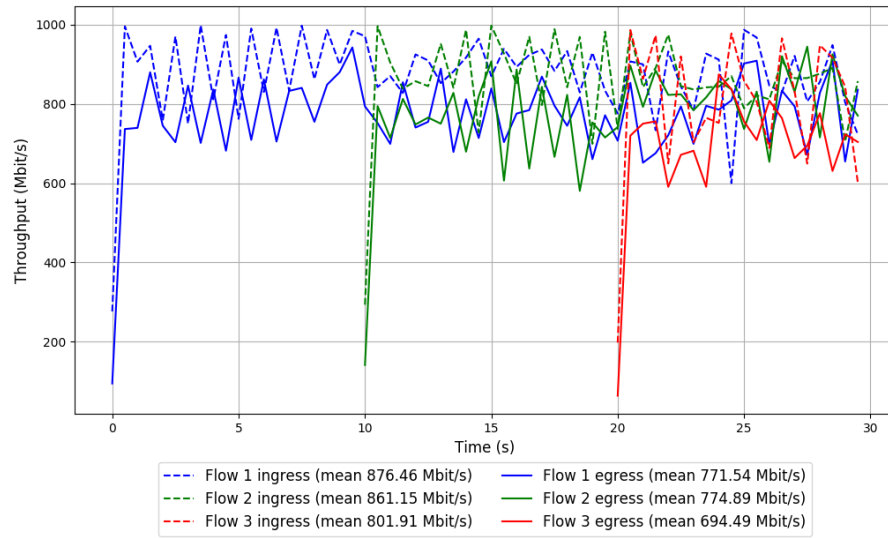
Run 7: Report of FillP — Data Link

Flow 1 ingress (mean 881.85 Mbit/s) --- Flow 1 egress (mean 810.37 Mbit/s)
Flow 2 ingress (mean 859.11 Mbit/s) --- Flow 2 egress (mean 773.99 Mbit/s)
Flow 3 ingress (mean 837.87 Mbit/s) --- Flow 3 egress (mean 758.25 Mbit/s)

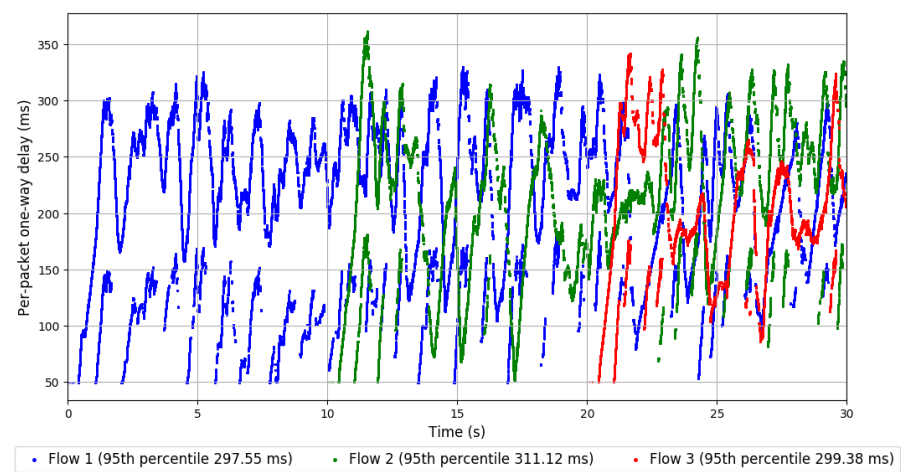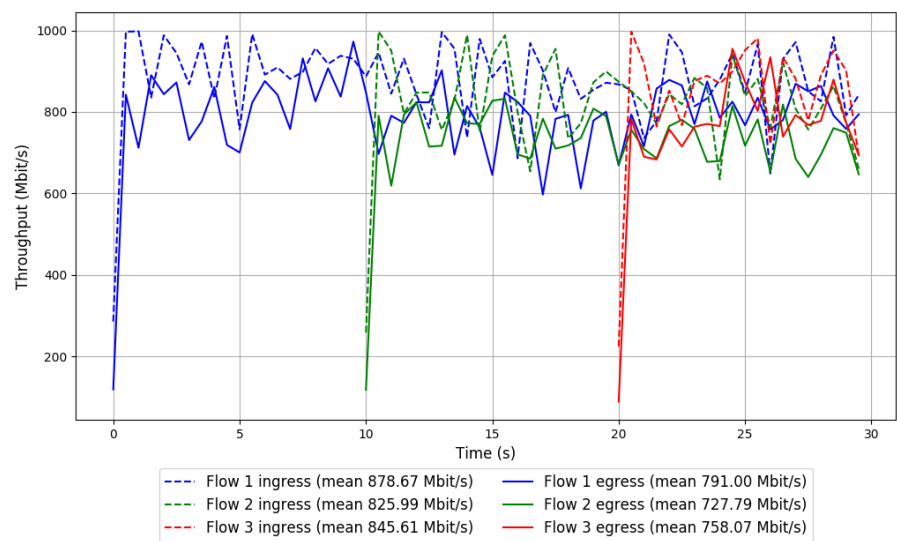Flow 1 (95th percentile 282.95 ms)   Flow 2 (95th percentile 261.04 ms)   Flow 3 (95th percentile 298.83 ms)

```
Run 8: Statistics of FillP

Start at: 2018-02-14 10:54:21
End at: 2018-02-14 10:54:51


# Below is generated by plot.py at 2018-02-14 15:36:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1608.19 Mbit/s
95th percentile per-packet one-way delay: 290.730 ms
Loss rate: 8.39%
-- Flow 1:
Average throughput: 818.99 Mbit/s
95th percentile per-packet one-way delay: 288.647 ms
Loss rate: 8.34%
-- Flow 2:
Average throughput: 801.85 Mbit/s
95th percentile per-packet one-way delay: 301.412 ms
Loss rate: 7.47%
-- Flow 3:
Average throughput: 771.22 Mbit/s
95th percentile per-packet one-way delay: 212.152 ms
Loss rate: 10.44%
```
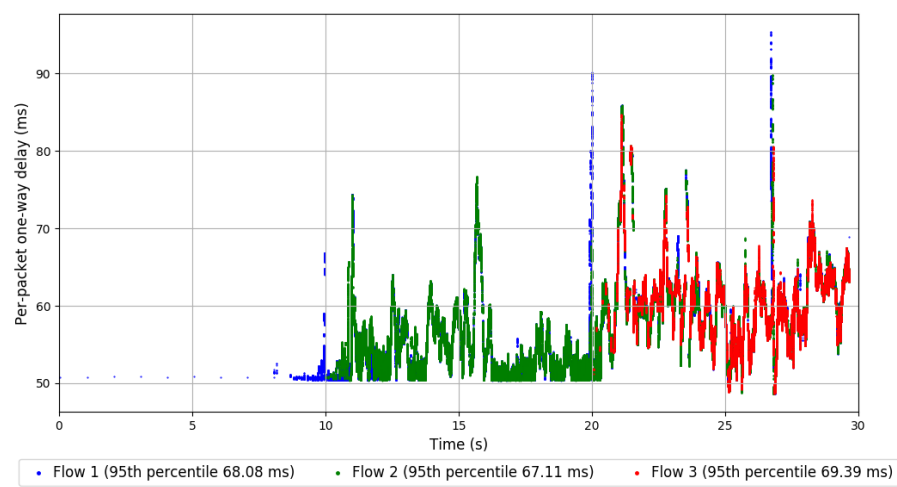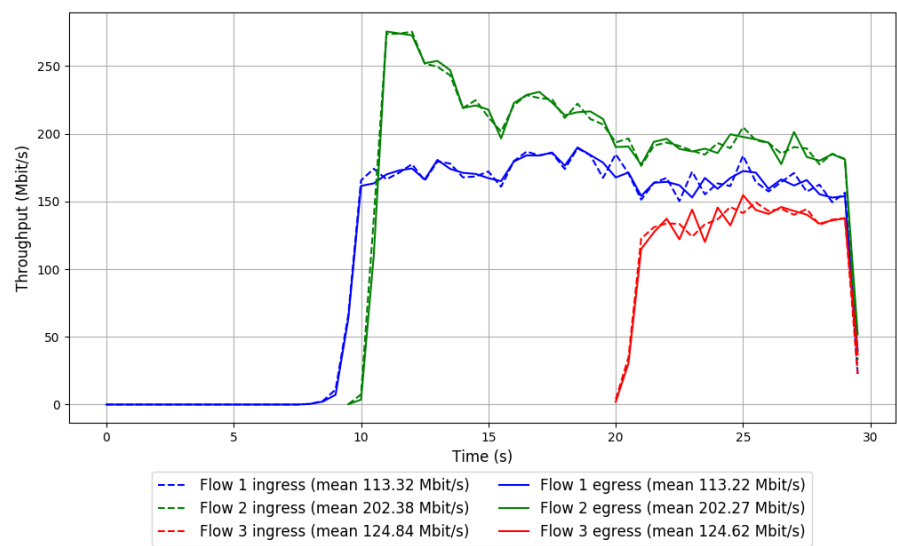
Run 8: Report of FillP — Data Link

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```
Run 9: Statistics of FillP

Start at: 2018-02-14 11:12:05
End at: 2018-02-14 11:12:35


# Below is generated by plot.py at 2018-02-14 15:59:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1517.37 Mbit/s
95th percentile per-packet one-way delay: 311.099 ms
Loss rate: 11.54%
-- Flow 1:
Average throughput: 771.54 Mbit/s
95th percentile per-packet one-way delay: 314.109 ms
Loss rate: 11.97%
-- Flow 2:
Average throughput: 774.89 Mbit/s
95th percentile per-packet one-way delay: 304.114 ms
Loss rate: 10.01%
-- Flow 3:
Average throughput: 694.49 Mbit/s
95th percentile per-packet one-way delay: 320.091 ms
Loss rate: 13.40%
```

Run 9: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 876.46 Mbit/s) —— Flow 1 egress (mean 771.54 Mbit/s)
- - - - Flow 2 ingress (mean 861.15 Mbit/s) —— Flow 2 egress (mean 774.89 Mbit/s)
- - - - Flow 3 ingress (mean 801.91 Mbit/s) —— Flow 3 egress (mean 694.49 Mbit/s)

- Flow 1 (95th percentile 314.11 ms)   - Flow 2 (95th percentile 304.11 ms)   - Flow 3 (95th percentile 320.09 ms)

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```
Run 10: Statistics of FillP

Start at: 2018-02-14 11:29:42
End at: 2018-02-14 11:30:12


# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1526.00 Mbit/s
95th percentile per-packet one-way delay: 301.332 ms
Loss rate: 10.65%
-- Flow 1:
Average throughput: 791.00 Mbit/s
95th percentile per-packet one-way delay: 297.553 ms
Loss rate: 9.97%
-- Flow 2:
Average throughput: 727.79 Mbit/s
95th percentile per-packet one-way delay: 311.123 ms
Loss rate: 11.89%
-- Flow 3:
Average throughput: 758.07 Mbit/s
95th percentile per-packet one-way delay: 299.384 ms
Loss rate: 10.35%
```
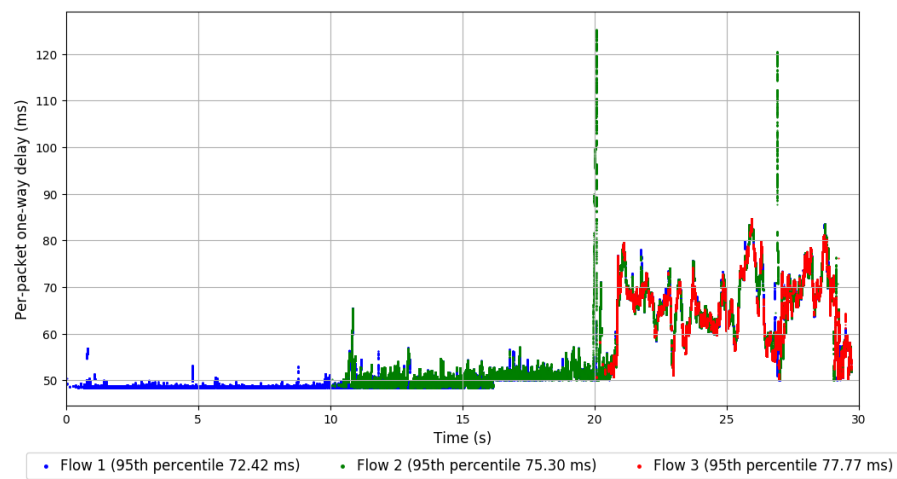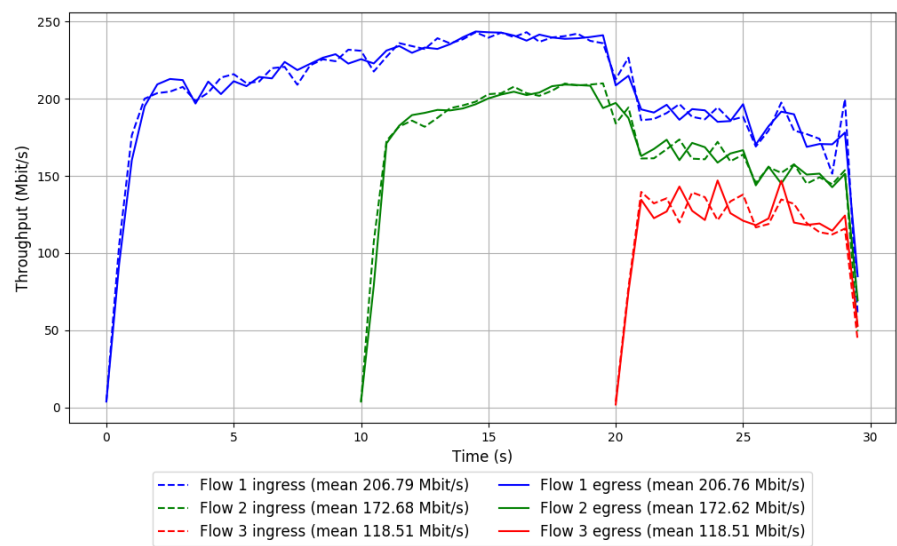
Run 10: Report of FillP — Data Link

```
Run 1: Statistics of Indigo-1-32

Start at: 2018-02-14 08:45:07
End at: 2018-02-14 08:45:37


# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 287.86 Mbit/s
95th percentile per-packet one-way delay: 67.927 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 113.22 Mbit/s
95th percentile per-packet one-way delay: 68.085 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 202.27 Mbit/s
95th percentile per-packet one-way delay: 67.110 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 124.62 Mbit/s
95th percentile per-packet one-way delay: 69.393 ms
Loss rate: 0.17%
```
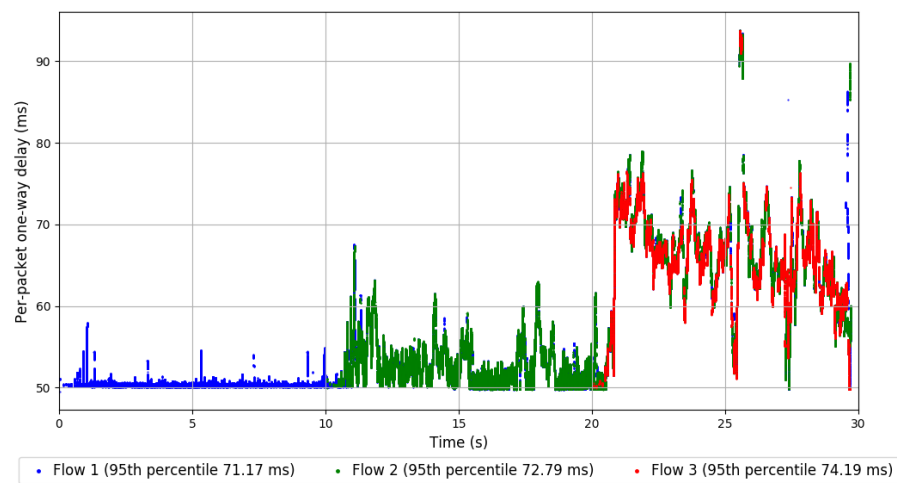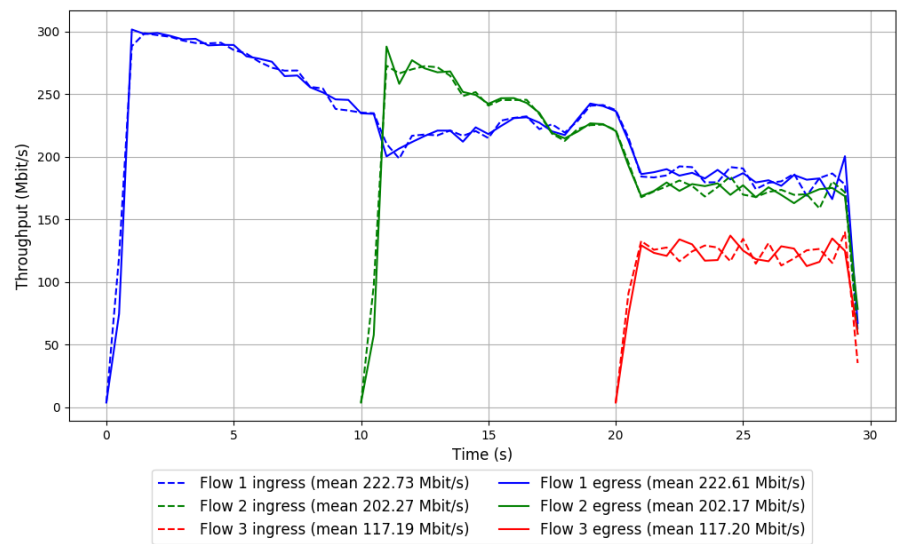
Run 1: Report of Indigo-1-32 — Data Link

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```
Run 2: Statistics of Indigo-1-32

Start at: 2018-02-14 09:02:32
End at: 2018-02-14 09:03:02

# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 359.51 Mbit/s
95th percentile per-packet one-way delay: 74.249 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 206.76 Mbit/s
95th percentile per-packet one-way delay: 72.422 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 172.62 Mbit/s
95th percentile per-packet one-way delay: 75.301 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 118.51 Mbit/s
95th percentile per-packet one-way delay: 77.769 ms
Loss rate: 0.01%
```
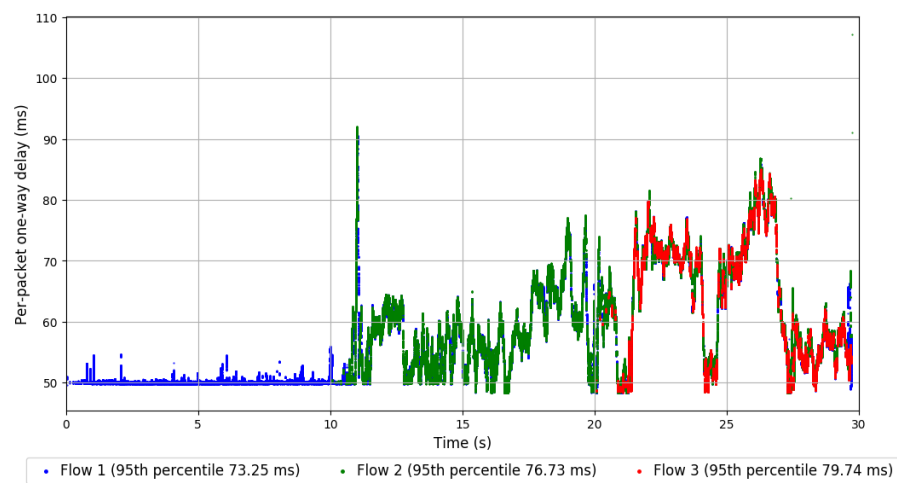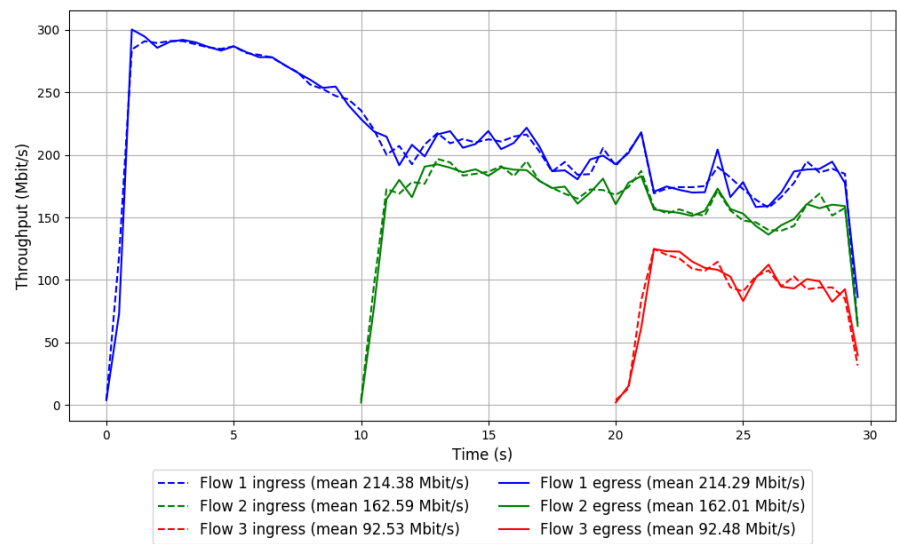
Run 2: Report of Indigo-1-32 — Data Link

```
Run 3: Statistics of Indigo-1-32

Start at: 2018-02-14 09:20:03
End at: 2018-02-14 09:20:33


# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 394.45 Mbit/s
95th percentile per-packet one-way delay: 72.376 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 222.61 Mbit/s
95th percentile per-packet one-way delay: 71.166 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 202.17 Mbit/s
95th percentile per-packet one-way delay: 72.786 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 117.20 Mbit/s
95th percentile per-packet one-way delay: 74.189 ms
Loss rate: 0.00%
```
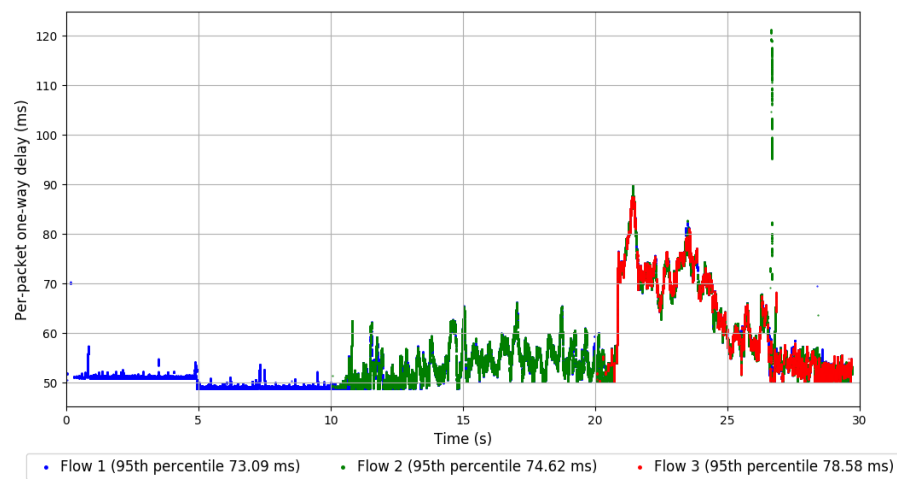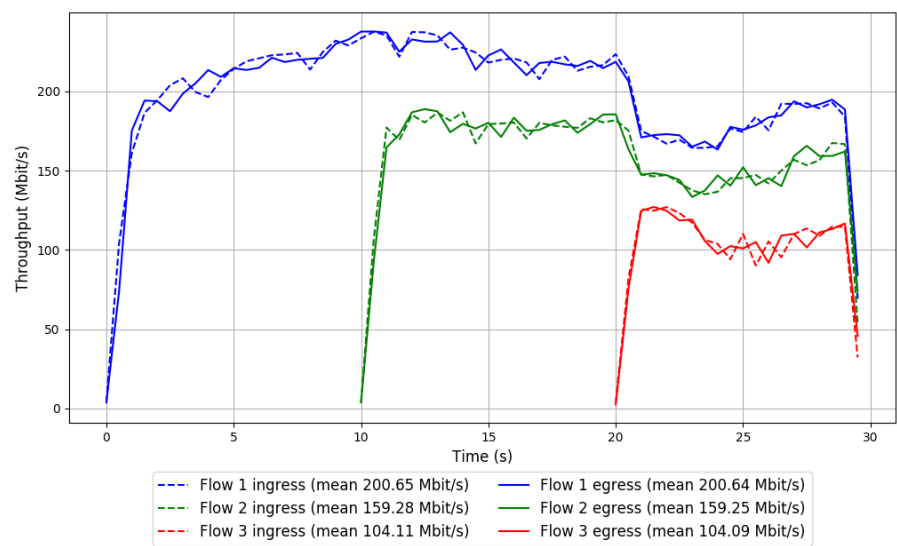
Run 3: Report of Indigo-1-32 — Data Link

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```
Run 4: Statistics of Indigo-1-32

Start at: 2018-02-14 09:37:52
End at: 2018-02-14 09:38:22

# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 351.42 Mbit/s
95th percentile per-packet one-way delay: 75.670 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 214.29 Mbit/s
95th percentile per-packet one-way delay: 73.248 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 162.01 Mbit/s
95th percentile per-packet one-way delay: 76.730 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 92.48 Mbit/s
95th percentile per-packet one-way delay: 79.742 ms
Loss rate: 0.00%
```
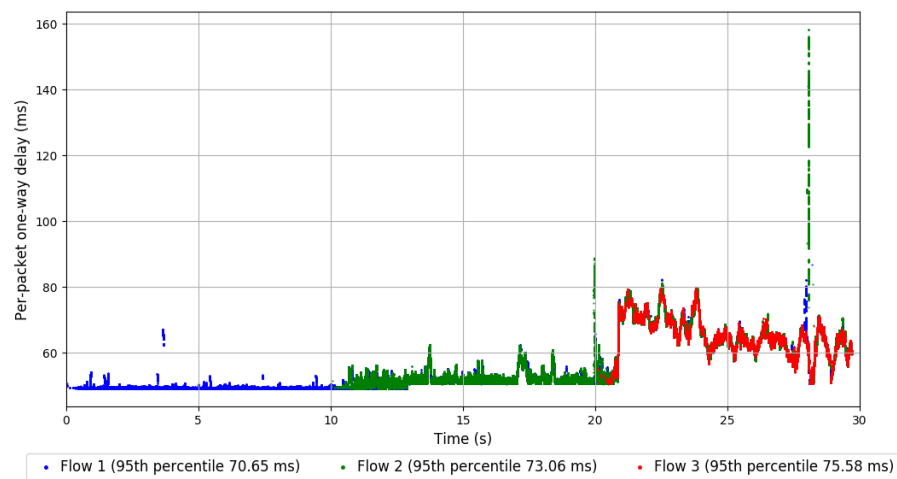
Run 4: Report of Indigo-1-32 — Data Link

```
Run 5: Statistics of Indigo-1-32

Start at: 2018-02-14 09:55:33
End at: 2018-02-14 09:56:03

# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 339.92 Mbit/s
95th percentile per-packet one-way delay: 74.501 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 200.64 Mbit/s
95th percentile per-packet one-way delay: 73.086 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 159.25 Mbit/s
95th percentile per-packet one-way delay: 74.625 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 104.09 Mbit/s
95th percentile per-packet one-way delay: 78.576 ms
Loss rate: 0.00%
```
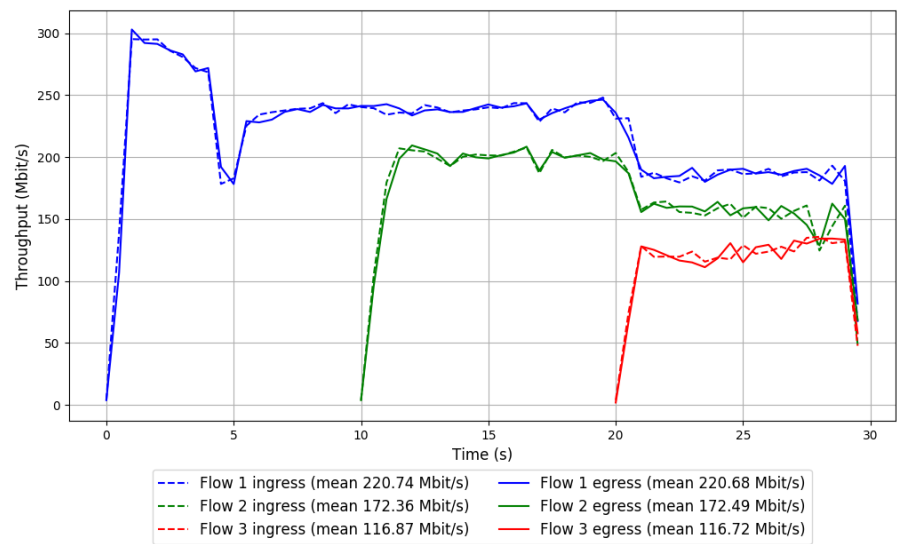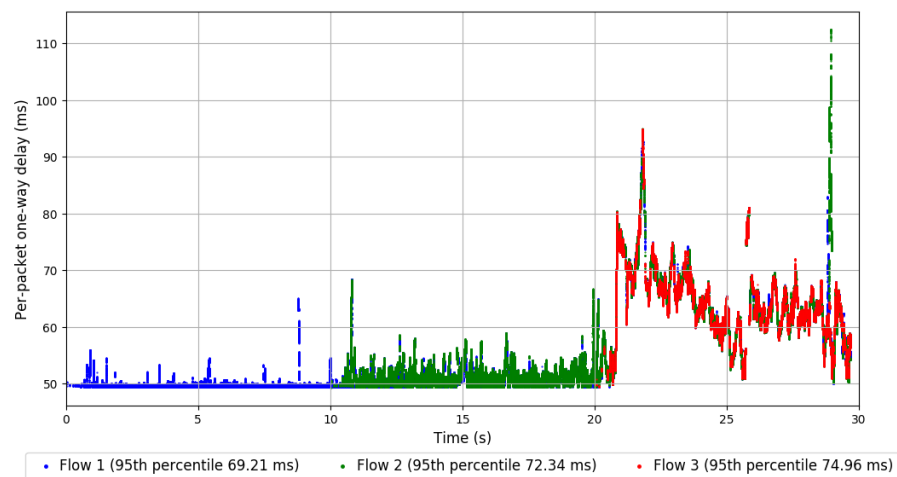
Run 5: Report of Indigo-1-32 — Data Link

```
Run 6: Statistics of Indigo-1-32

Start at: 2018-02-14 10:13:25
End at: 2018-02-14 10:13:55


# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 372.72 Mbit/s
95th percentile per-packet one-way delay: 72.226 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 220.68 Mbit/s
95th percentile per-packet one-way delay: 70.648 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 172.49 Mbit/s
95th percentile per-packet one-way delay: 73.059 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 116.72 Mbit/s
95th percentile per-packet one-way delay: 75.582 ms
Loss rate: 0.07%
```
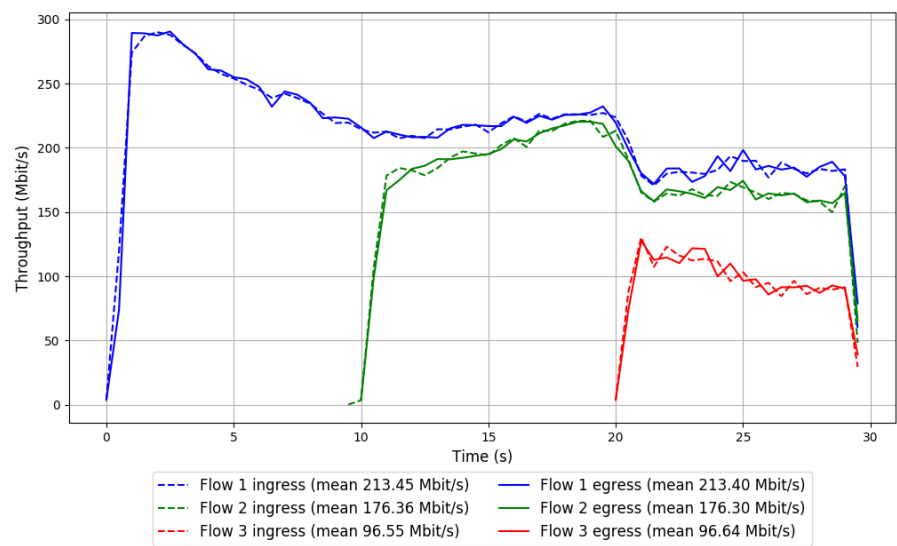
Run 6: Report of Indigo-1-32 — Data Link

```
Run 7: Statistics of Indigo-1-32

Start at: 2018-02-14 10:31:03
End at: 2018-02-14 10:31:33


# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 361.73 Mbit/s
95th percentile per-packet one-way delay: 71.041 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 213.40 Mbit/s
95th percentile per-packet one-way delay: 69.209 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 176.30 Mbit/s
95th percentile per-packet one-way delay: 72.337 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 96.64 Mbit/s
95th percentile per-packet one-way delay: 74.957 ms
Loss rate: 0.00%
```
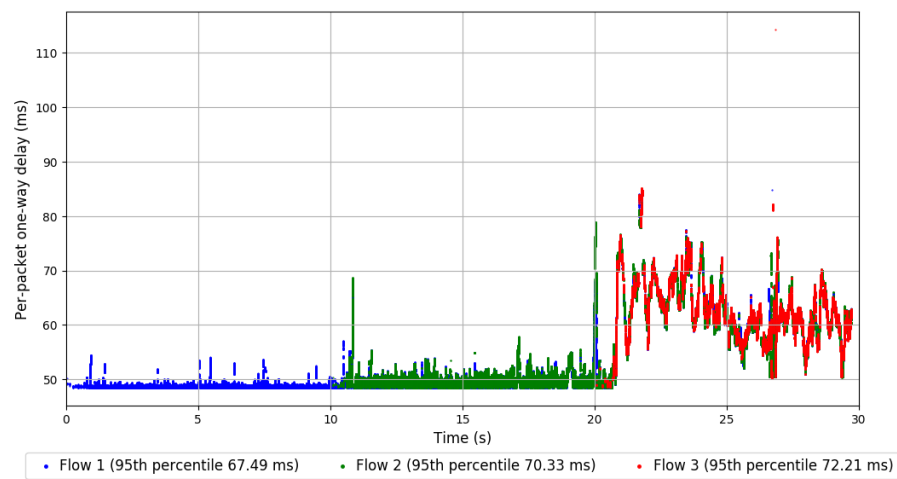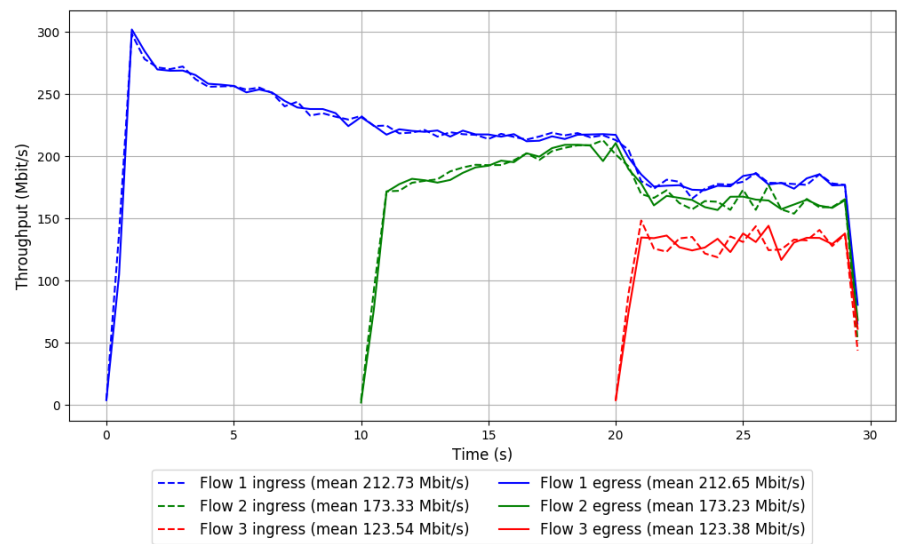
Run 7: Report of Indigo-1-32 — Data Link

```
Run 8: Statistics of Indigo-1-32

Start at: 2018-02-14 10:49:07
End at: 2018-02-14 10:49:37

# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 367.28 Mbit/s
95th percentile per-packet one-way delay: 69.464 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 212.65 Mbit/s
95th percentile per-packet one-way delay: 67.487 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 173.23 Mbit/s
95th percentile per-packet one-way delay: 70.332 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 123.38 Mbit/s
95th percentile per-packet one-way delay: 72.211 ms
Loss rate: 0.00%
```
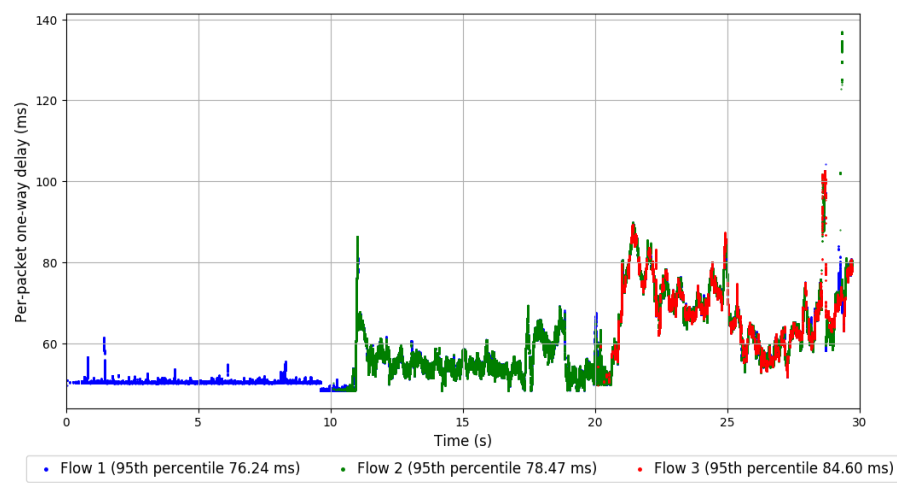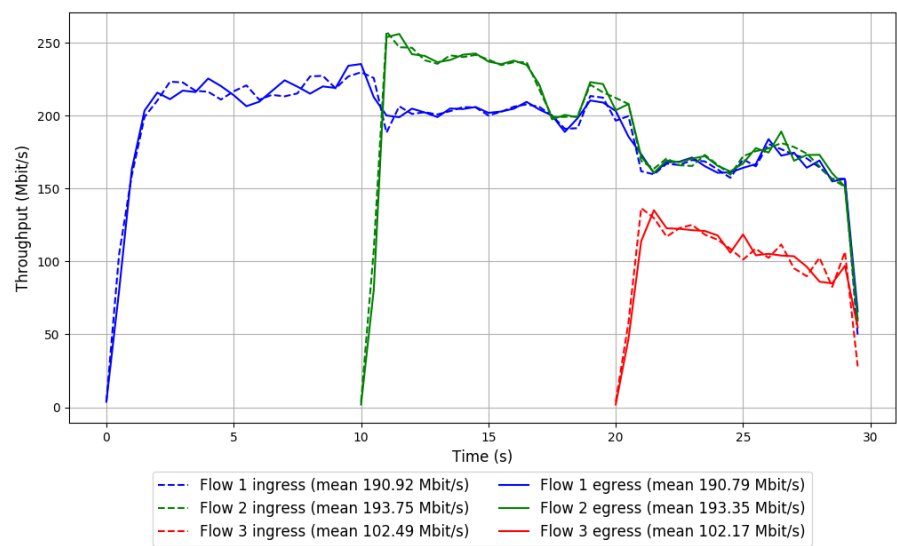
Run 8: Report of Indigo-1-32 — Data Link

```
Run 9: Statistics of Indigo-1-32

Start at: 2018-02-14 11:06:48
End at: 2018-02-14 11:07:18


# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 351.76 Mbit/s
95th percentile per-packet one-way delay: 78.267 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 190.79 Mbit/s
95th percentile per-packet one-way delay: 76.243 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 193.35 Mbit/s
95th percentile per-packet one-way delay: 78.472 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 102.17 Mbit/s
95th percentile per-packet one-way delay: 84.603 ms
Loss rate: 0.00%
```
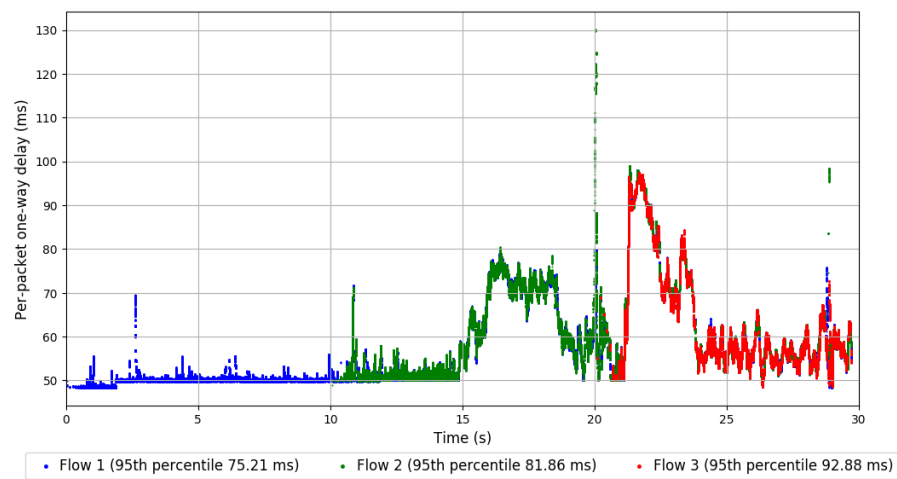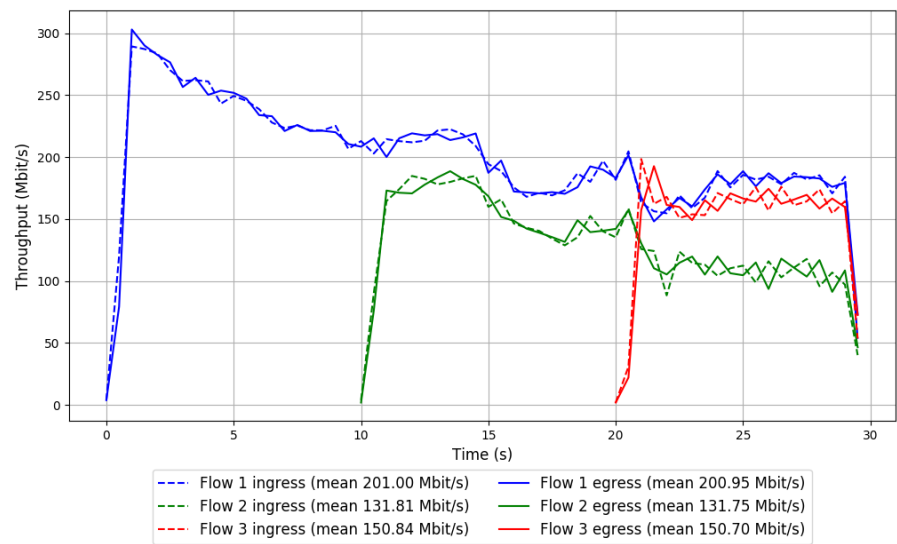
Run 9: Report of Indigo-1-32 — Data Link

```
Run 10: Statistics of Indigo-1-32

Start at: 2018-02-14 11:24:26
End at: 2018-02-14 11:24:56

# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 336.90 Mbit/s
95th percentile per-packet one-way delay: 81.344 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 200.95 Mbit/s
95th percentile per-packet one-way delay: 75.208 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 131.75 Mbit/s
95th percentile per-packet one-way delay: 81.860 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 150.70 Mbit/s
95th percentile per-packet one-way delay: 92.882 ms
Loss rate: 0.09%
```

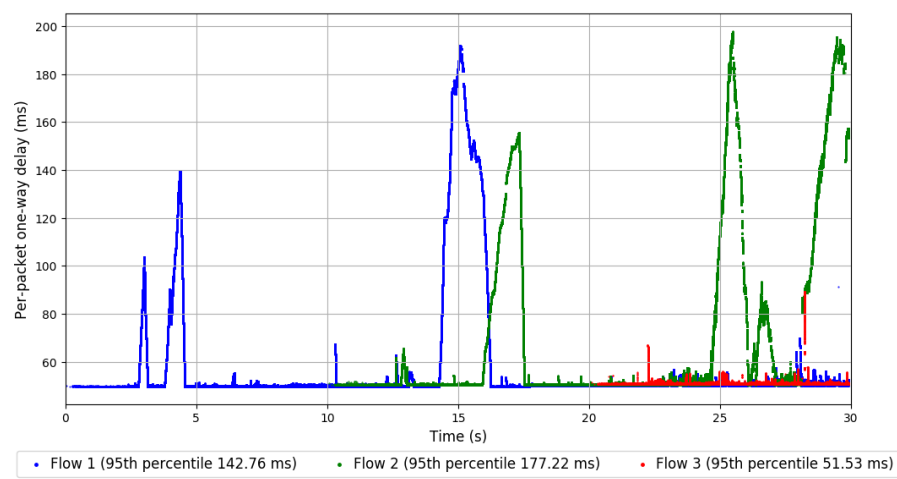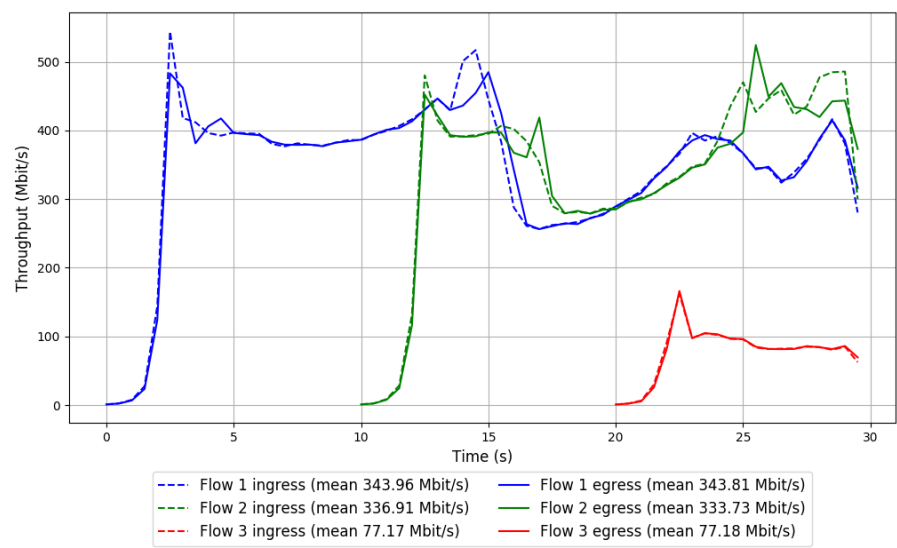# Run 10: Report of Indigo-1-32 — Data Link

```
Run 1: Statistics of Vivace-latency

Start at: 2018-02-14 08:41:36
End at: 2018-02-14 08:42:06


# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 591.00 Mbit/s
95th percentile per-packet one-way delay: 155.660 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 343.81 Mbit/s
95th percentile per-packet one-way delay: 142.761 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 333.73 Mbit/s
95th percentile per-packet one-way delay: 177.217 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 77.18 Mbit/s
95th percentile per-packet one-way delay: 51.526 ms
Loss rate: 0.00%
```
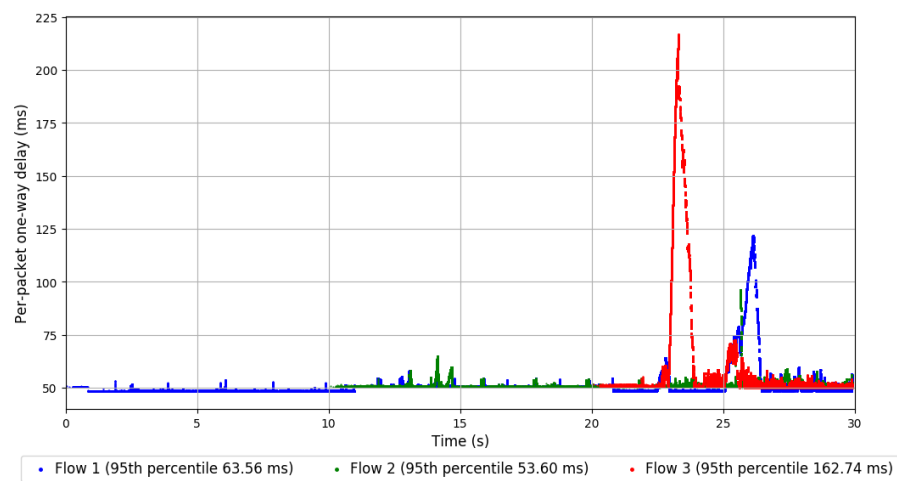
Run 1: Report of Vivace-latency — Data Link

```
Run 2: Statistics of Vivace-latency

Start at: 2018-02-14 08:59:03
End at: 2018-02-14 08:59:33


# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 611.81 Mbit/s
95th percentile per-packet one-way delay: 67.424 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 326.27 Mbit/s
95th percentile per-packet one-way delay: 63.556 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 301.40 Mbit/s
95th percentile per-packet one-way delay: 53.604 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 258.94 Mbit/s
95th percentile per-packet one-way delay: 162.736 ms
Loss rate: 0.71%
```
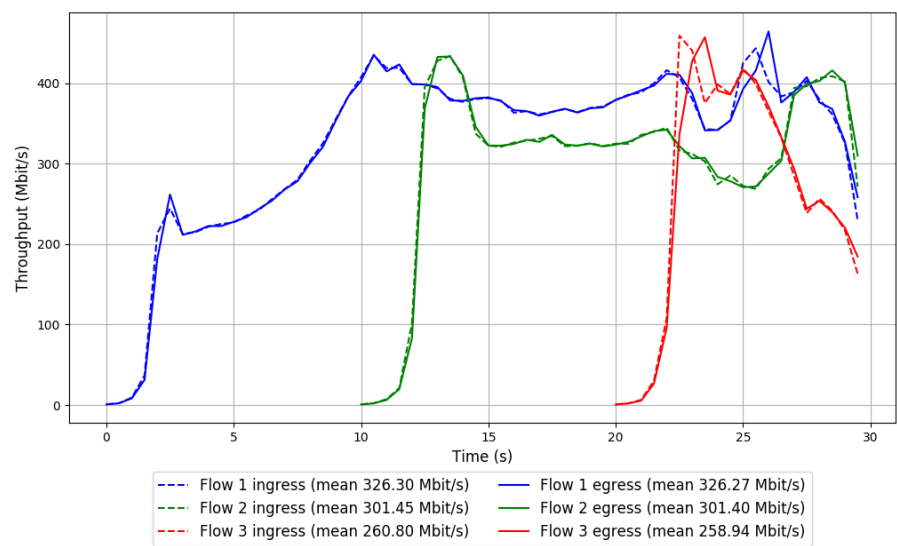
Run 2: Report of Vivace-latency — Data Link

```
Run 3: Statistics of Vivace-latency

Start at: 2018-02-14 09:16:37
End at: 2018-02-14 09:17:07

# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 579.74 Mbit/s
95th percentile per-packet one-way delay: 56.549 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 344.31 Mbit/s
95th percentile per-packet one-way delay: 57.653 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 309.82 Mbit/s
95th percentile per-packet one-way delay: 58.182 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 90.77 Mbit/s
95th percentile per-packet one-way delay: 51.123 ms
Loss rate: 0.00%
```
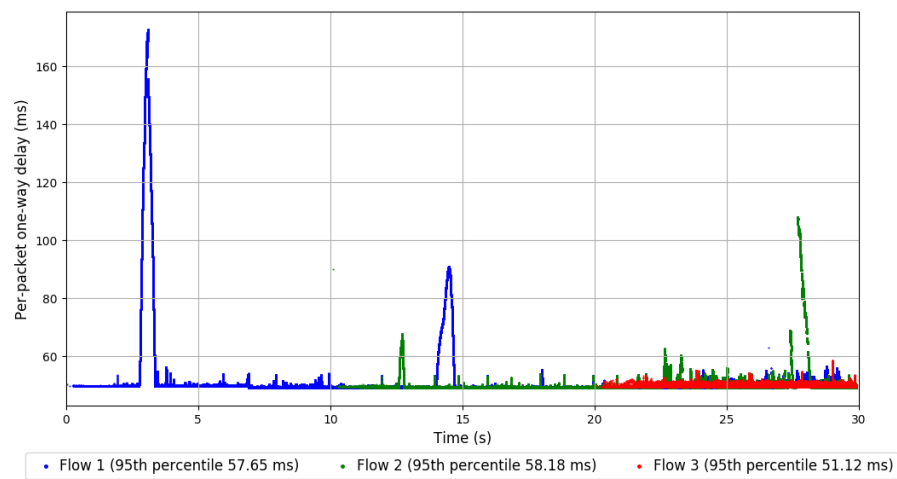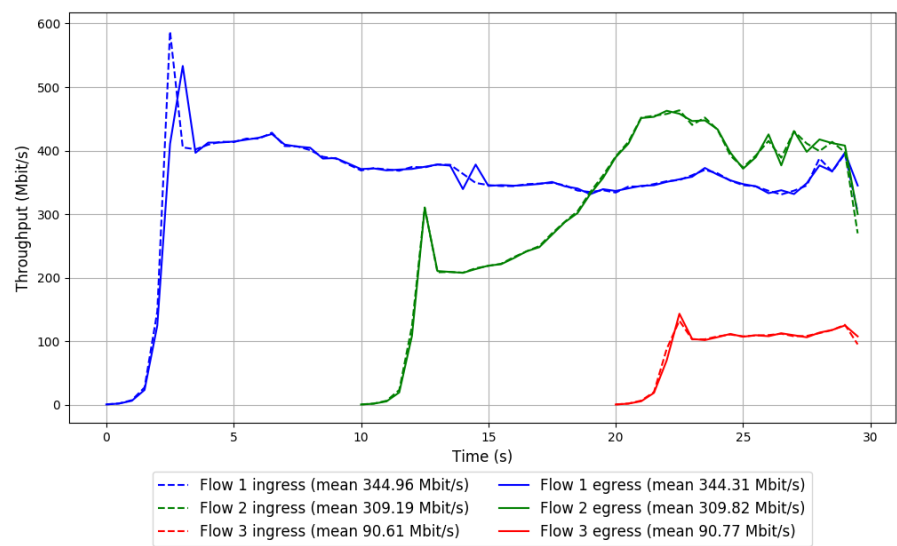
Run 3: Report of Vivace-latency — Data Link

```
Run 4: Statistics of Vivace-latency

Start at: 2018-02-14 09:34:21
End at: 2018-02-14 09:34:51


# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 619.76 Mbit/s
95th percentile per-packet one-way delay: 54.089 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 372.98 Mbit/s
95th percentile per-packet one-way delay: 53.330 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 348.23 Mbit/s
95th percentile per-packet one-way delay: 57.862 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 46.51 Mbit/s
95th percentile per-packet one-way delay: 50.931 ms
Loss rate: 0.02%
```
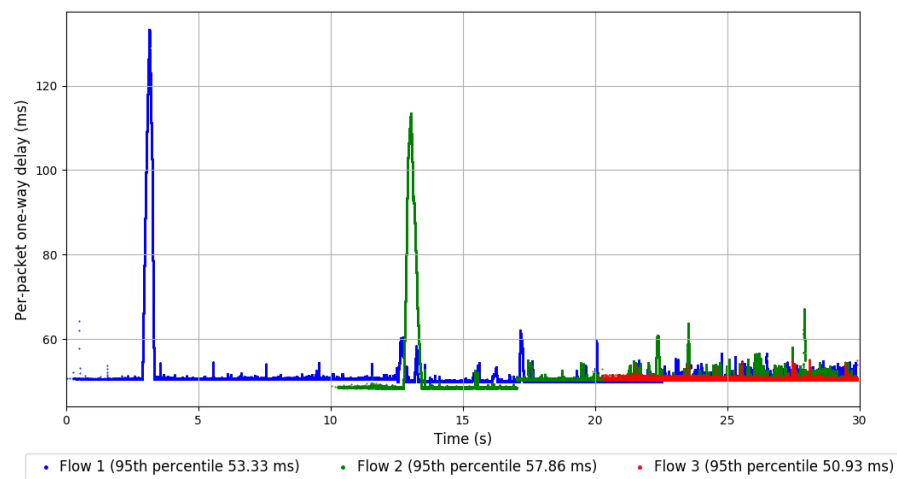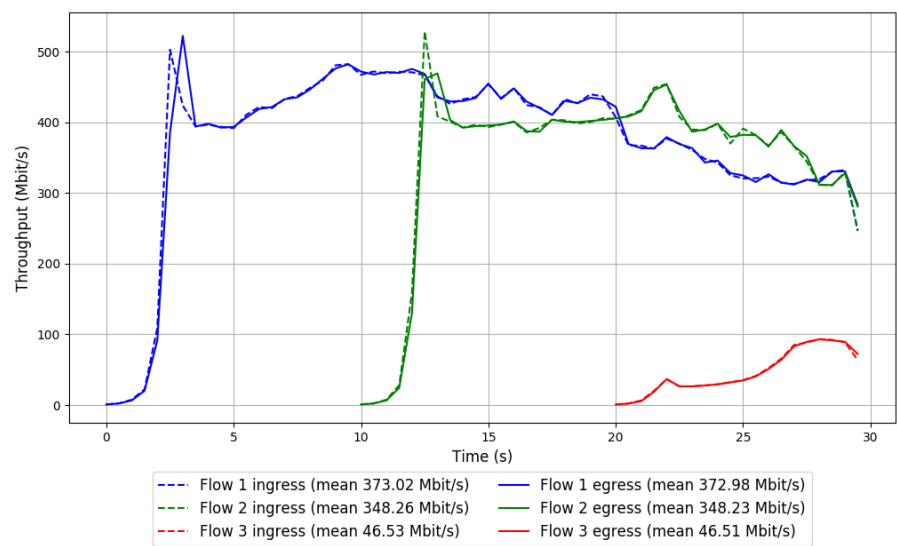
Run 4: Report of Vivace-latency — Data Link

```
Run 5: Statistics of Vivace-latency

Start at: 2018-02-14 09:51:57
End at: 2018-02-14 09:52:27


# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 646.65 Mbit/s
95th percentile per-packet one-way delay: 54.520 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 378.16 Mbit/s
95th percentile per-packet one-way delay: 53.930 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 315.40 Mbit/s
95th percentile per-packet one-way delay: 60.092 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 179.29 Mbit/s
95th percentile per-packet one-way delay: 52.788 ms
Loss rate: 0.01%
```
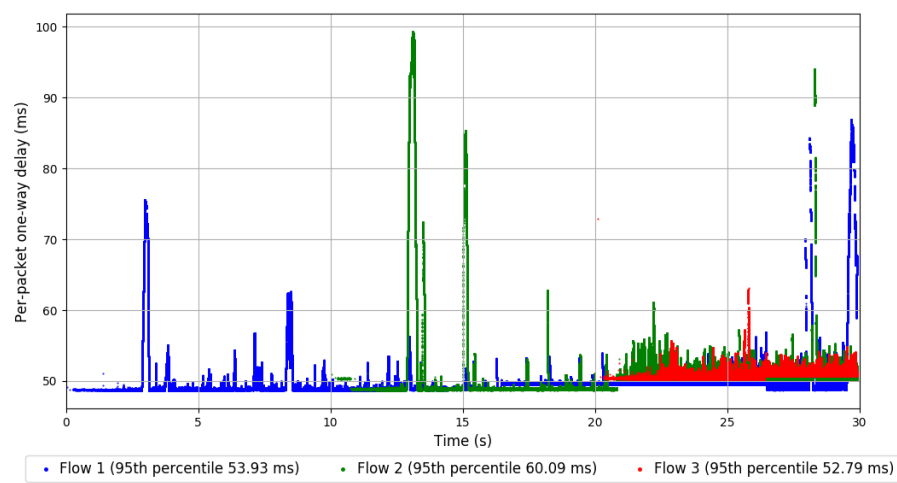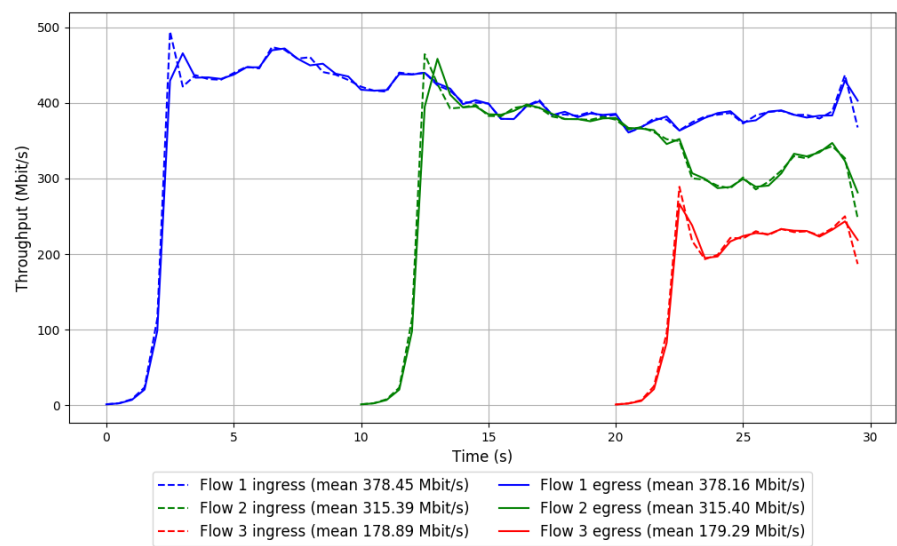
Run 5: Report of Vivace-latency — Data Link

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```
Run 6: Statistics of Vivace-latency

Start at: 2018-02-14 10:09:53
End at: 2018-02-14 10:10:23


# Below is generated by plot.py at 2018-02-14 16:00:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 597.22 Mbit/s
95th percentile per-packet one-way delay: 54.564 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 381.70 Mbit/s
95th percentile per-packet one-way delay: 53.206 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 318.55 Mbit/s
95th percentile per-packet one-way delay: 57.996 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.11 Mbit/s
95th percentile per-packet one-way delay: 64.211 ms
Loss rate: 0.24%
```
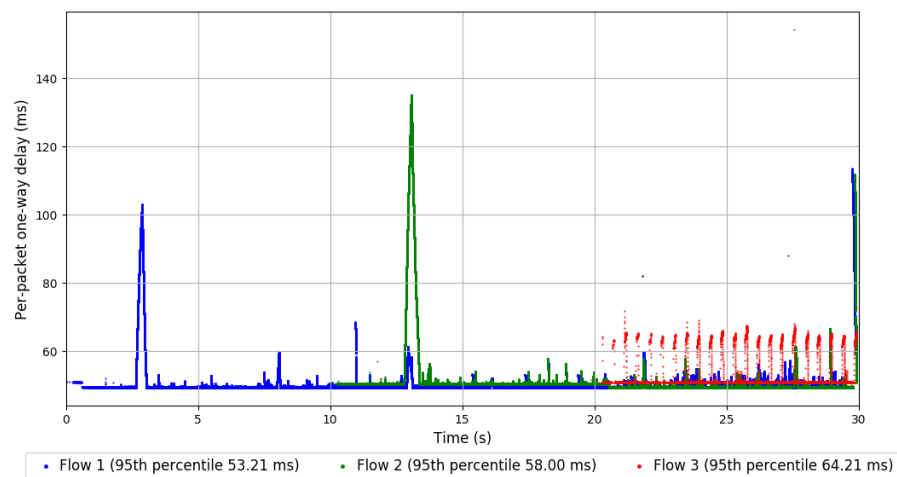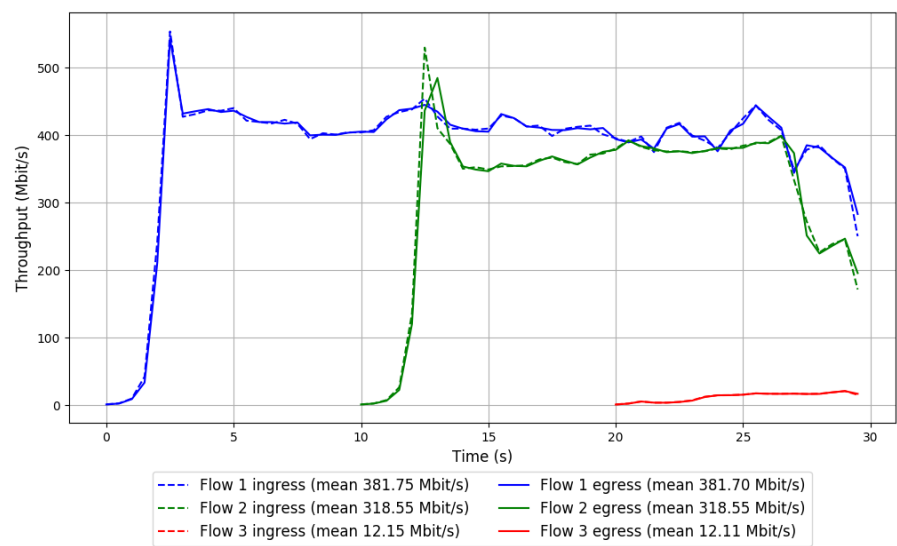
Run 6: Report of Vivace-latency — Data Link

```
Run 7: Statistics of Vivace-latency

Start at: 2018-02-14 10:27:30
End at: 2018-02-14 10:28:00

# Below is generated by plot.py at 2018-02-14 16:01:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 612.05 Mbit/s
95th percentile per-packet one-way delay: 63.664 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 369.66 Mbit/s
95th percentile per-packet one-way delay: 53.998 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 352.46 Mbit/s
95th percentile per-packet one-way delay: 67.215 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.63 Mbit/s
95th percentile per-packet one-way delay: 50.140 ms
Loss rate: 0.00%
```
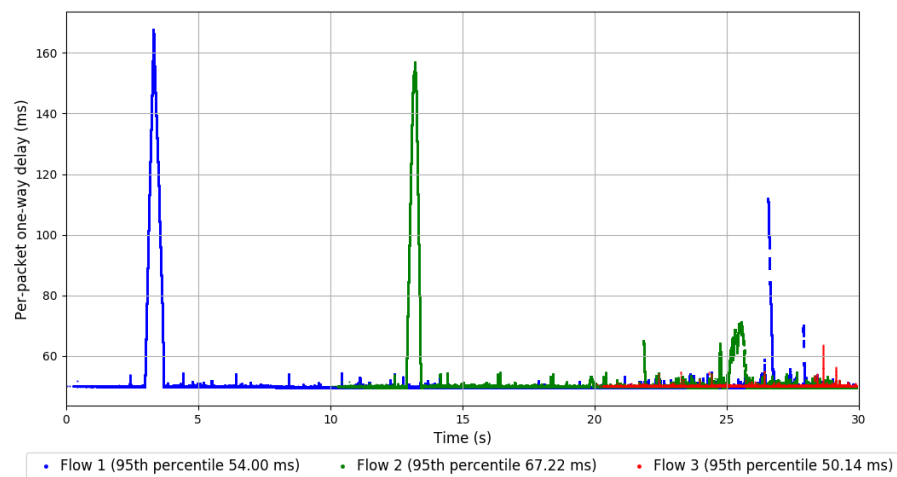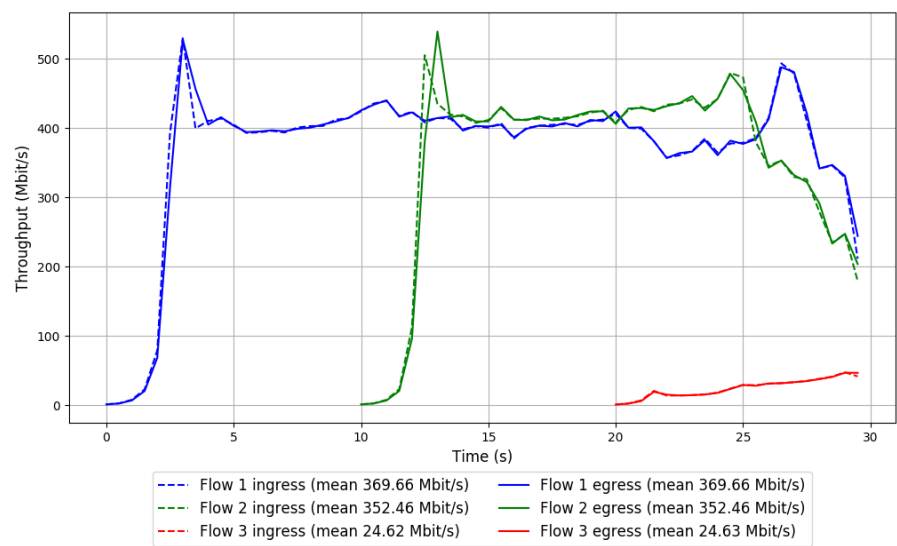
Run 7: Report of Vivace-latency — Data Link

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```
Run 8: Statistics of Vivace-latency

Start at: 2018-02-14 10:45:27
End at: 2018-02-14 10:45:57


# Below is generated by plot.py at 2018-02-14 16:03:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 651.21 Mbit/s
95th percentile per-packet one-way delay: 66.730 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 353.85 Mbit/s
95th percentile per-packet one-way delay: 61.964 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 328.16 Mbit/s
95th percentile per-packet one-way delay: 77.807 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 240.86 Mbit/s
95th percentile per-packet one-way delay: 86.095 ms
Loss rate: 0.02%
```
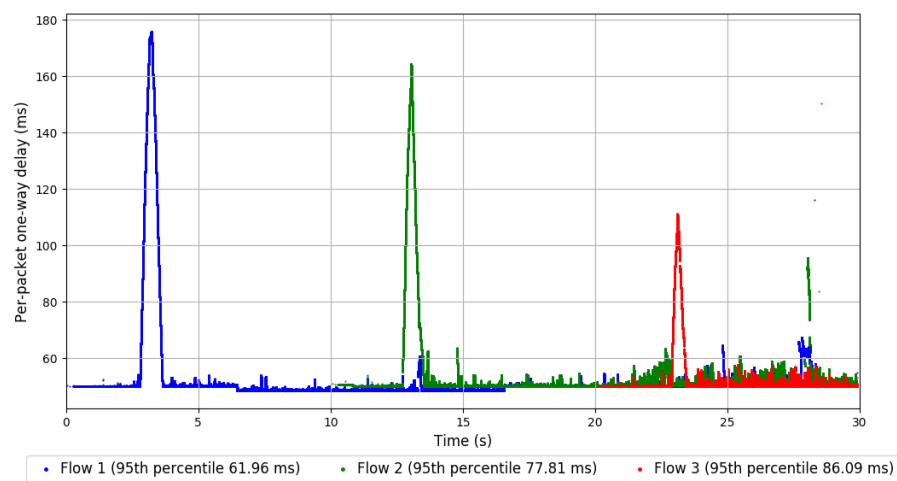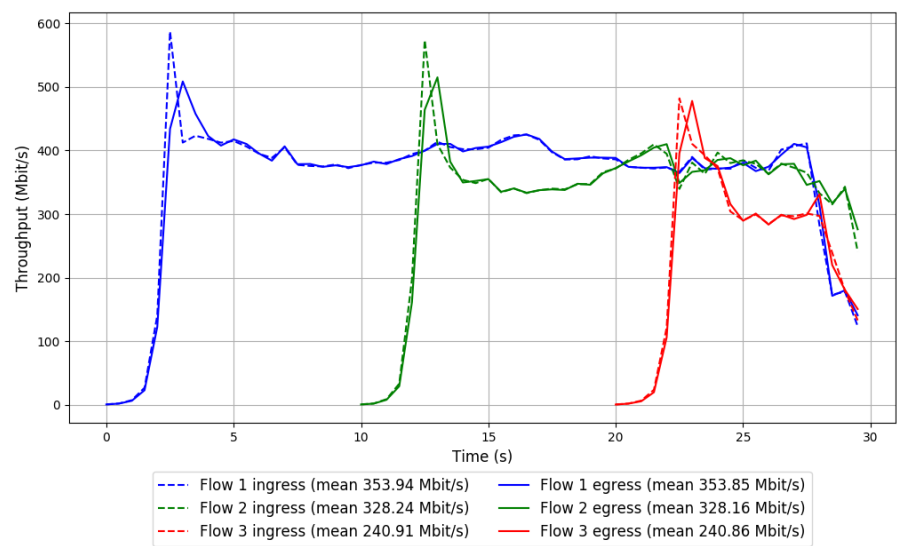
Run 8: Report of Vivace-latency — Data Link

```
Run 9: Statistics of Vivace-latency

Start at: 2018-02-14 11:03:16
End at: 2018-02-14 11:03:46


# Below is generated by plot.py at 2018-02-14 16:03:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 603.06 Mbit/s
95th percentile per-packet one-way delay: 68.866 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 352.05 Mbit/s
95th percentile per-packet one-way delay: 53.464 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 351.29 Mbit/s
95th percentile per-packet one-way delay: 82.847 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 53.01 Mbit/s
95th percentile per-packet one-way delay: 49.929 ms
Loss rate: 0.00%
```
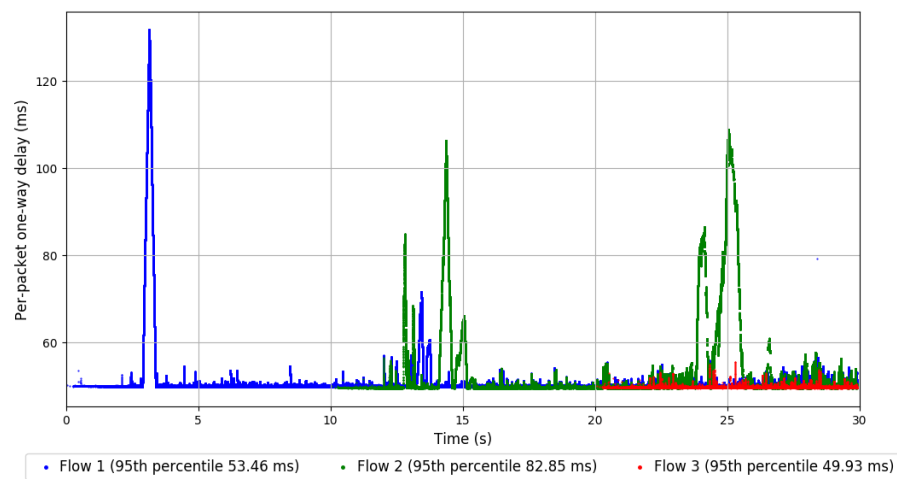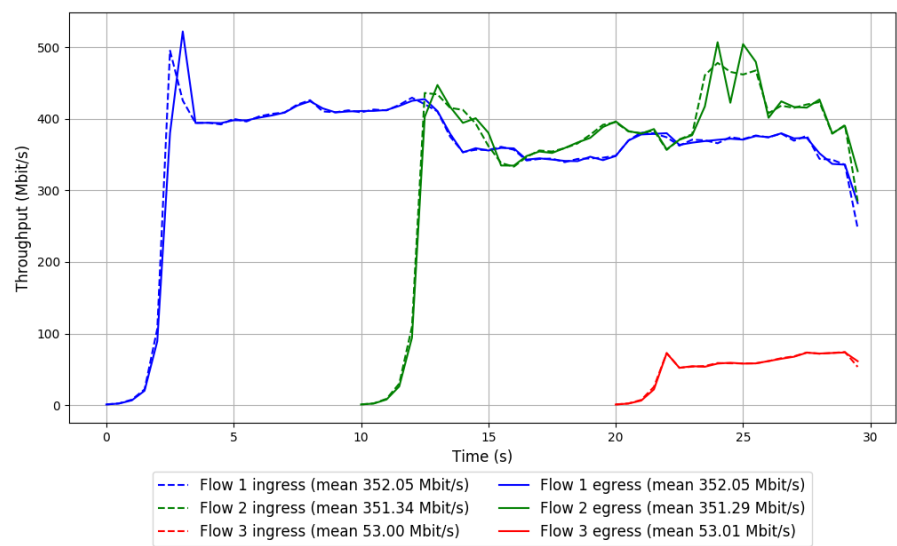
Run 9: Report of Vivace-latency — Data Link

```
Run 10: Statistics of Vivace-latency

Start at: 2018-02-14 11:20:53
End at: 2018-02-14 11:21:23


# Below is generated by plot.py at 2018-02-14 16:05:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 595.21 Mbit/s
95th percentile per-packet one-way delay: 60.383 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 363.74 Mbit/s
95th percentile per-packet one-way delay: 71.397 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 315.75 Mbit/s
95th percentile per-packet one-way delay: 53.751 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 65.51 Mbit/s
95th percentile per-packet one-way delay: 50.764 ms
Loss rate: 0.00%
```
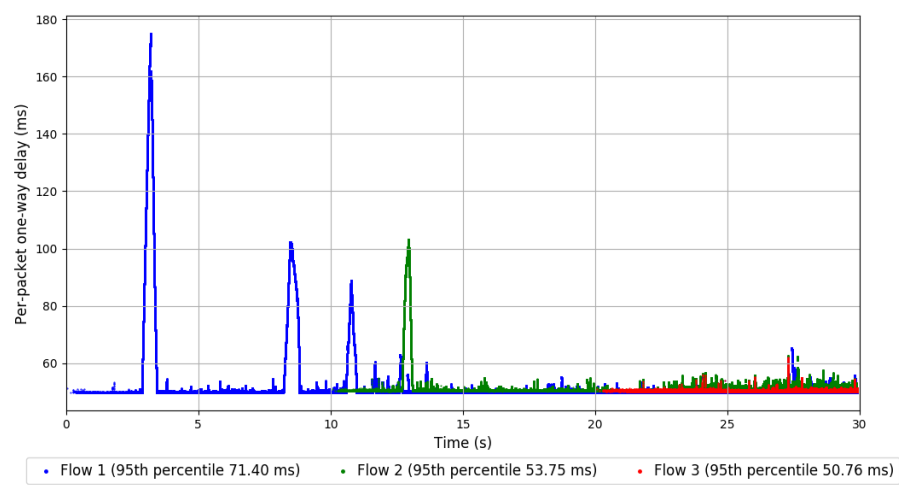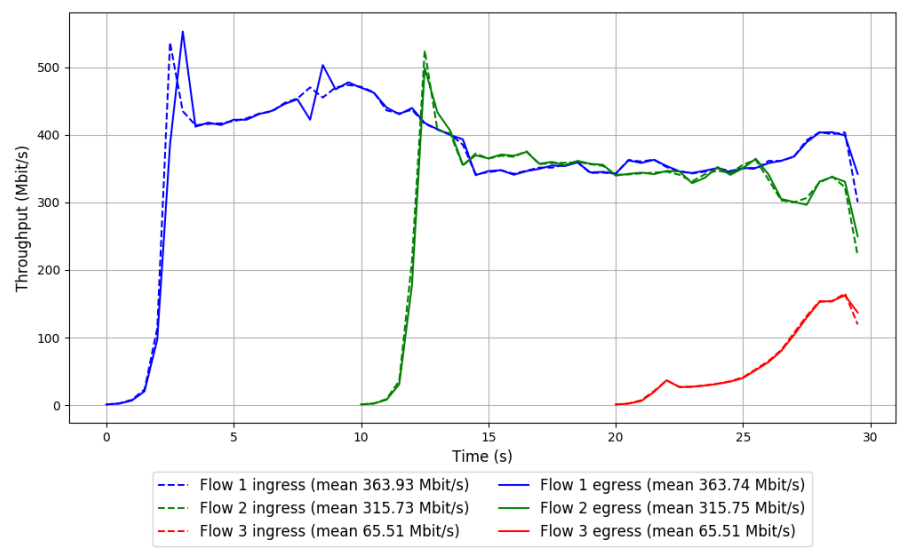
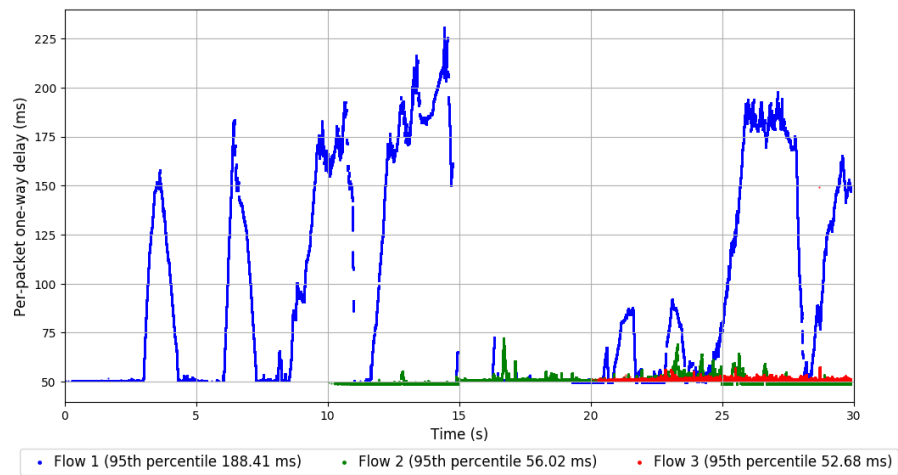Run 10: Report of Vivace-latency — Data Link

```
Run 1: Statistics of Vivace-loss

Start at: 2018-02-14 08:38:29
End at: 2018-02-14 08:38:59


# Below is generated by plot.py at 2018-02-14 16:07:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 675.36 Mbit/s
95th percentile per-packet one-way delay: 184.153 ms
Loss rate: 2.79%
-- Flow 1:
Average throughput: 397.58 Mbit/s
95th percentile per-packet one-way delay: 188.408 ms
Loss rate: 4.65%
-- Flow 2:
Average throughput: 336.04 Mbit/s
95th percentile per-packet one-way delay: 56.016 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 165.10 Mbit/s
95th percentile per-packet one-way delay: 52.680 ms
Loss rate: 0.00%
```

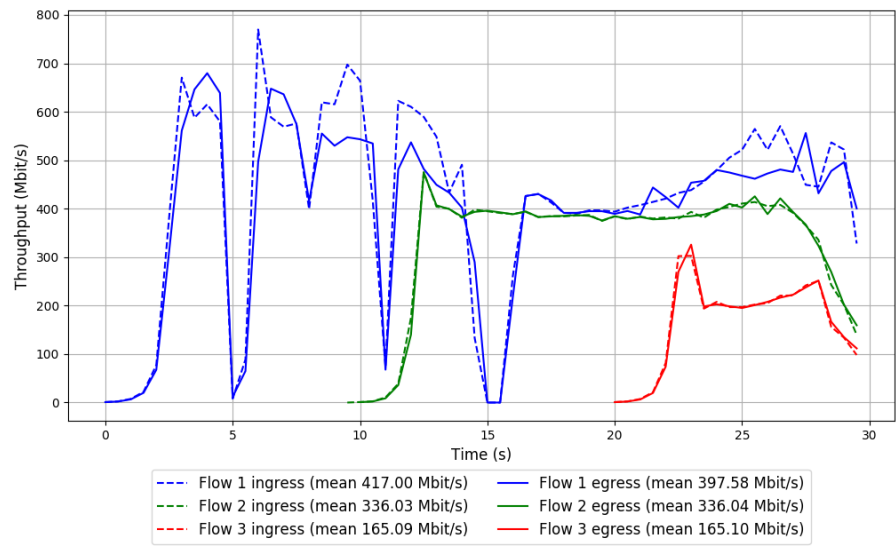# Run 1: Report of Vivace-loss — Data Link

```
Run 2: Statistics of Vivace-loss

Start at: 2018-02-14 08:56:03
End at: 2018-02-14 08:56:33


# Below is generated by plot.py at 2018-02-14 16:07:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 519.23 Mbit/s
95th percentile per-packet one-way delay: 163.708 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 281.10 Mbit/s
95th percentile per-packet one-way delay: 180.612 ms
Loss rate: 2.29%
-- Flow 2:
Average throughput: 264.17 Mbit/s
95th percentile per-packet one-way delay: 57.949 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 189.99 Mbit/s
95th percentile per-packet one-way delay: 54.514 ms
Loss rate: 0.02%
```
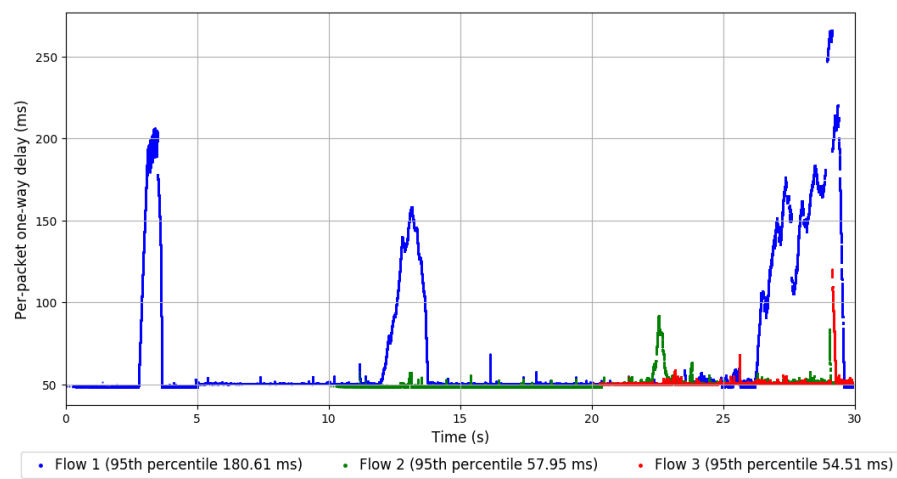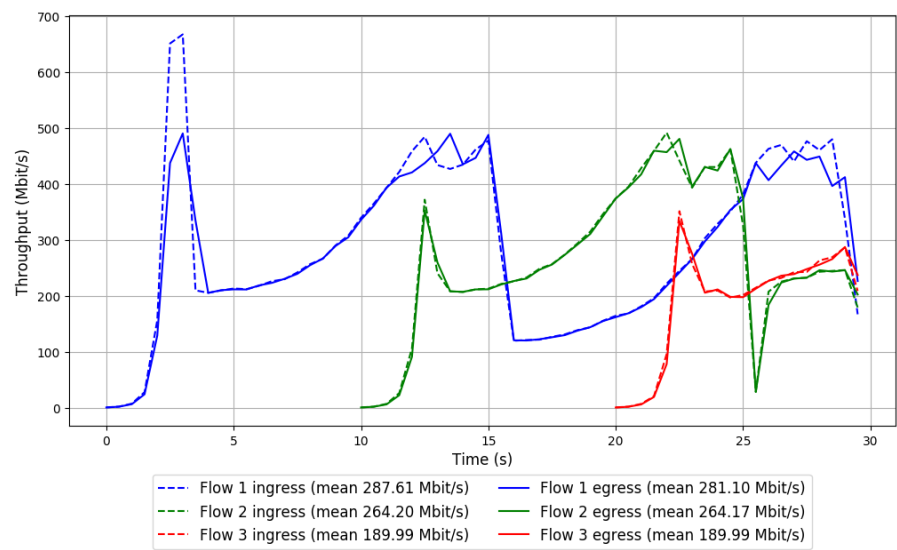
Run 2: Report of Vivace-loss — Data Link

```
Run 3: Statistics of Vivace-loss

Start at: 2018-02-14 09:13:30
End at: 2018-02-14 09:14:00


# Below is generated by plot.py at 2018-02-14 16:11:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 707.37 Mbit/s
95th percentile per-packet one-way delay: 173.467 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 352.72 Mbit/s
95th percentile per-packet one-way delay: 154.540 ms
Loss rate: 2.22%
-- Flow 2:
Average throughput: 375.18 Mbit/s
95th percentile per-packet one-way delay: 182.319 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 321.58 Mbit/s
95th percentile per-packet one-way delay: 65.876 ms
Loss rate: 0.06%
```

Run 3: Report of Vivace-loss — Data Link

- - - Flow 1 ingress (mean 360.75 Mbit/s) —— Flow 1 egress (mean 352.72 Mbit/s)
- - - Flow 2 ingress (mean 379.16 Mbit/s) —— Flow 2 egress (mean 375.18 Mbit/s)
- - - Flow 3 ingress (mean 321.81 Mbit/s) —— Flow 3 egress (mean 321.58 Mbit/s)

· Flow 1 (95th percentile 154.54 ms)   · Flow 2 (95th percentile 182.32 ms)   · Flow 3 (95th percentile 65.88 ms)

309

```
Run 4: Statistics of Vivace-loss

Start at: 2018-02-14 09:31:15
End at: 2018-02-14 09:31:45

# Below is generated by plot.py at 2018-02-14 16:11:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 646.10 Mbit/s
95th percentile per-packet one-way delay: 152.541 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 379.38 Mbit/s
95th percentile per-packet one-way delay: 155.437 ms
Loss rate: 2.17%
-- Flow 2:
Average throughput: 300.95 Mbit/s
95th percentile per-packet one-way delay: 52.896 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 203.03 Mbit/s
95th percentile per-packet one-way delay: 171.582 ms
Loss rate: 1.54%
```
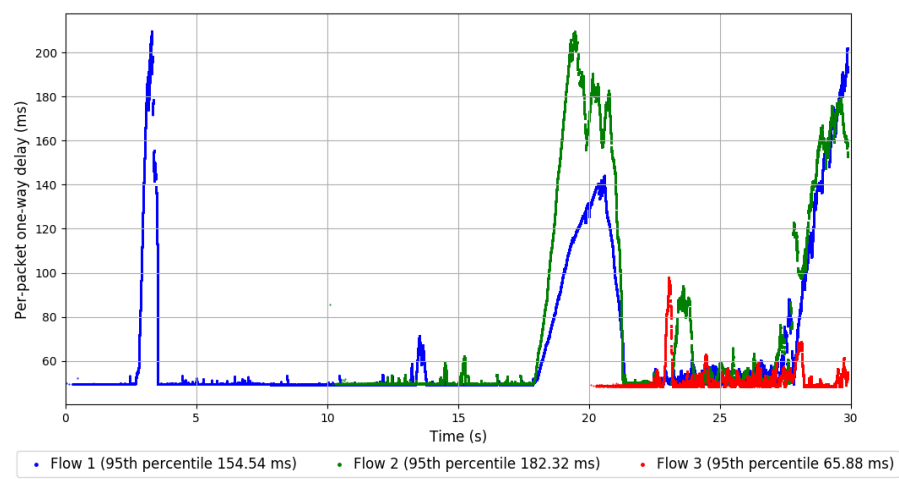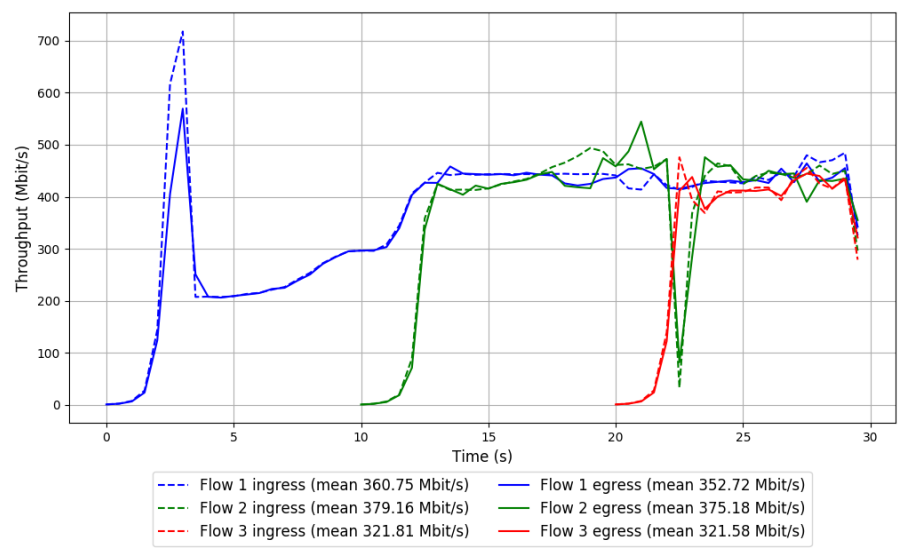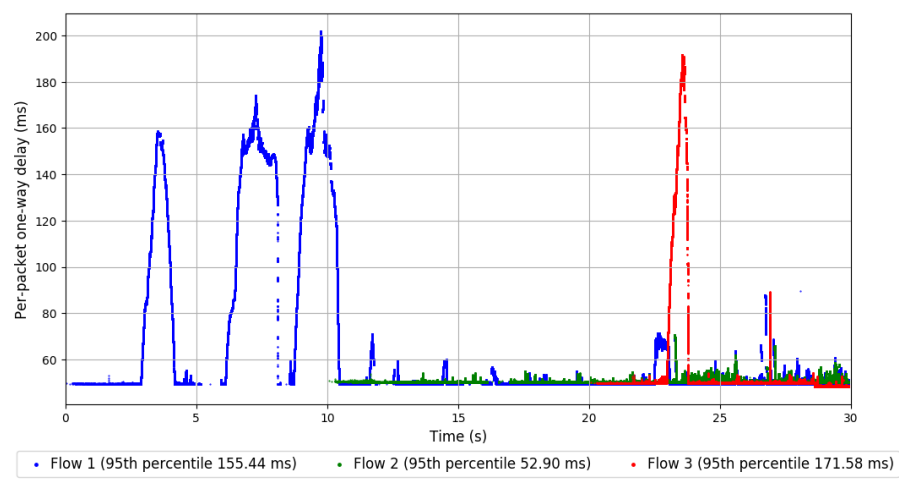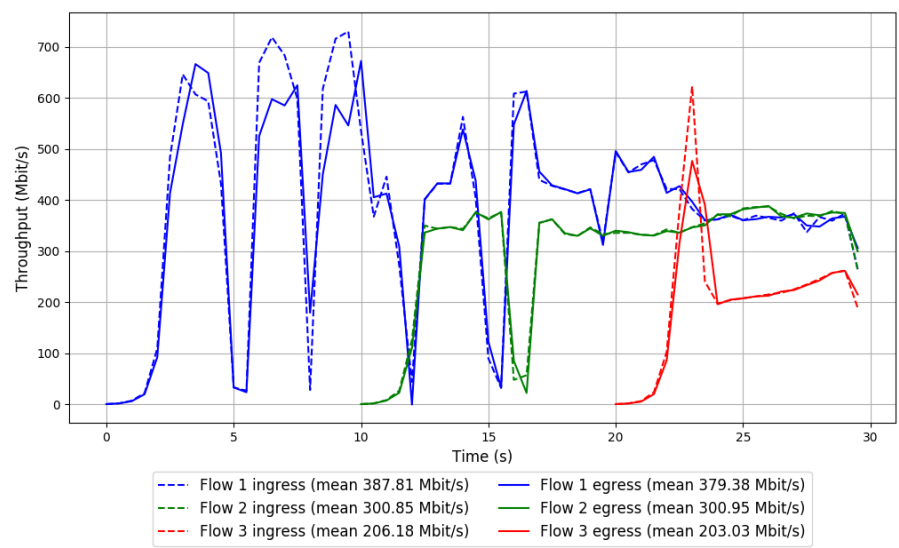
Run 4: Report of Vivace-loss — Data Link

```
Run 5: Statistics of Vivace-loss

Start at: 2018-02-14 09:48:48
End at: 2018-02-14 09:49:18


# Below is generated by plot.py at 2018-02-14 16:12:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 710.50 Mbit/s
95th percentile per-packet one-way delay: 152.060 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 393.88 Mbit/s
95th percentile per-packet one-way delay: 97.042 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 325.81 Mbit/s
95th percentile per-packet one-way delay: 175.555 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 304.01 Mbit/s
95th percentile per-packet one-way delay: 184.131 ms
Loss rate: 0.89%
```
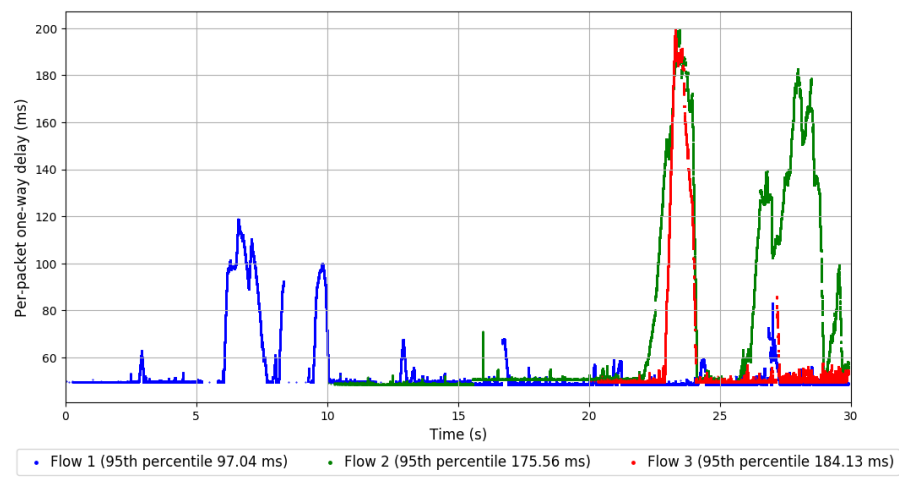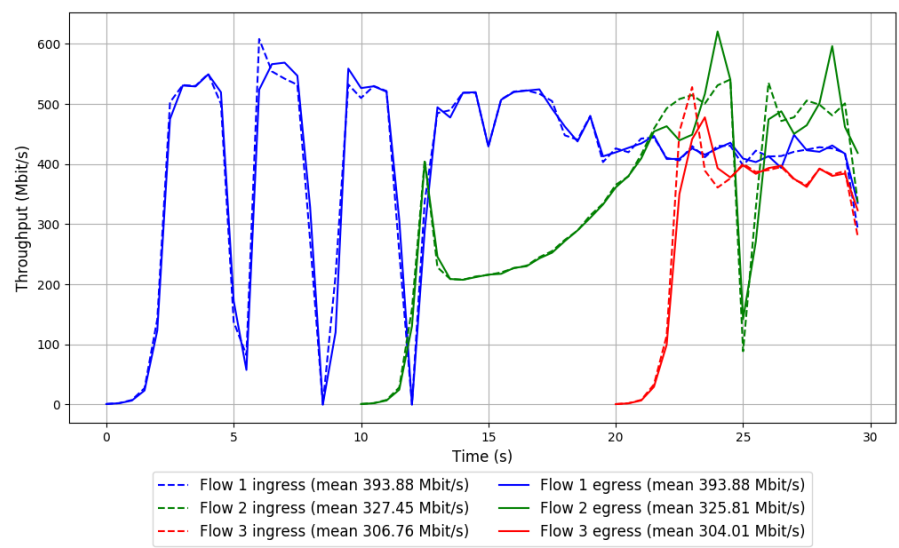
Run 5: Report of Vivace-loss — Data Link

313

```
Run 6: Statistics of Vivace-loss

Start at: 2018-02-14 10:06:43
End at: 2018-02-14 10:07:13


# Below is generated by plot.py at 2018-02-14 16:16:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 767.62 Mbit/s
95th percentile per-packet one-way delay: 107.761 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 423.97 Mbit/s
95th percentile per-packet one-way delay: 111.134 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 360.91 Mbit/s
95th percentile per-packet one-way delay: 59.189 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 315.66 Mbit/s
95th percentile per-packet one-way delay: 187.653 ms
Loss rate: 1.53%
```
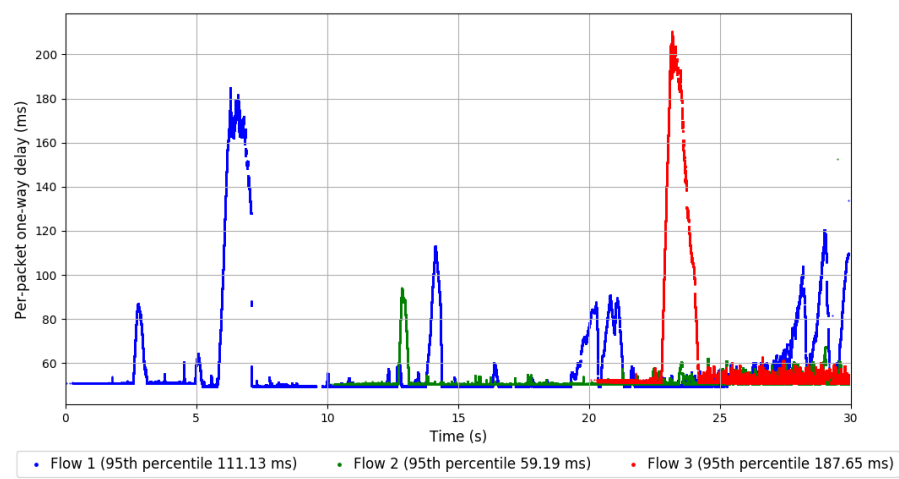
Run 6: Report of Vivace-loss — Data Link

315

```
Run 7: Statistics of Vivace-loss

Start at: 2018-02-14 10:24:25
End at: 2018-02-14 10:24:55


# Below is generated by plot.py at 2018-02-14 16:16:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 696.47 Mbit/s
95th percentile per-packet one-way delay: 137.199 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 392.30 Mbit/s
95th percentile per-packet one-way delay: 84.399 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 317.26 Mbit/s
95th percentile per-packet one-way delay: 153.445 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 283.95 Mbit/s
95th percentile per-packet one-way delay: 204.755 ms
Loss rate: 0.51%
```

Run 7: Report of Vivace-loss — Data Link

317

```
Run 8: Statistics of Vivace-loss

Start at: 2018-02-14 10:42:22
End at: 2018-02-14 10:42:52


# Below is generated by plot.py at 2018-02-14 16:16:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 696.20 Mbit/s
95th percentile per-packet one-way delay: 92.534 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 388.94 Mbit/s
95th percentile per-packet one-way delay: 87.346 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 371.74 Mbit/s
95th percentile per-packet one-way delay: 117.752 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 182.98 Mbit/s
95th percentile per-packet one-way delay: 51.792 ms
Loss rate: 0.01%
```
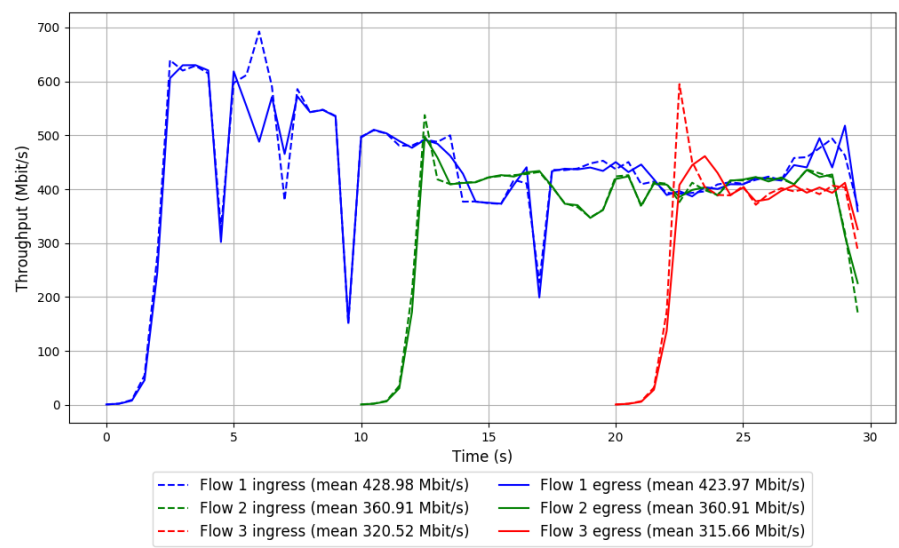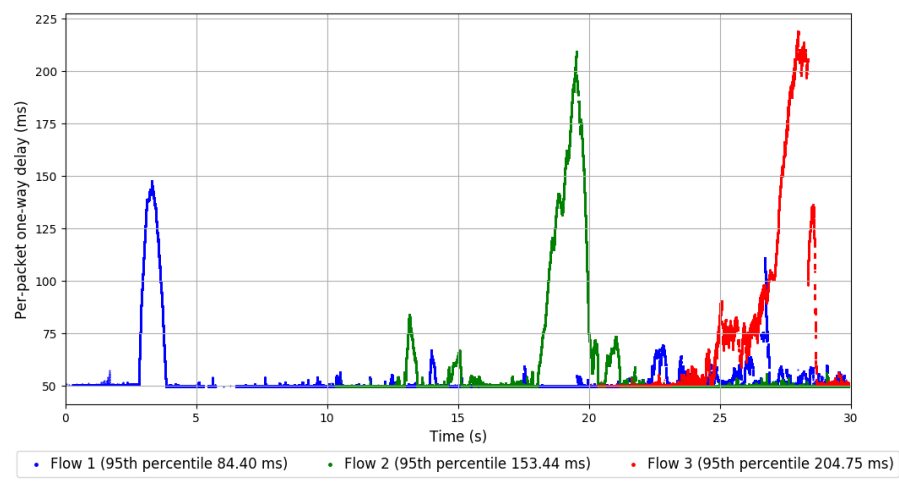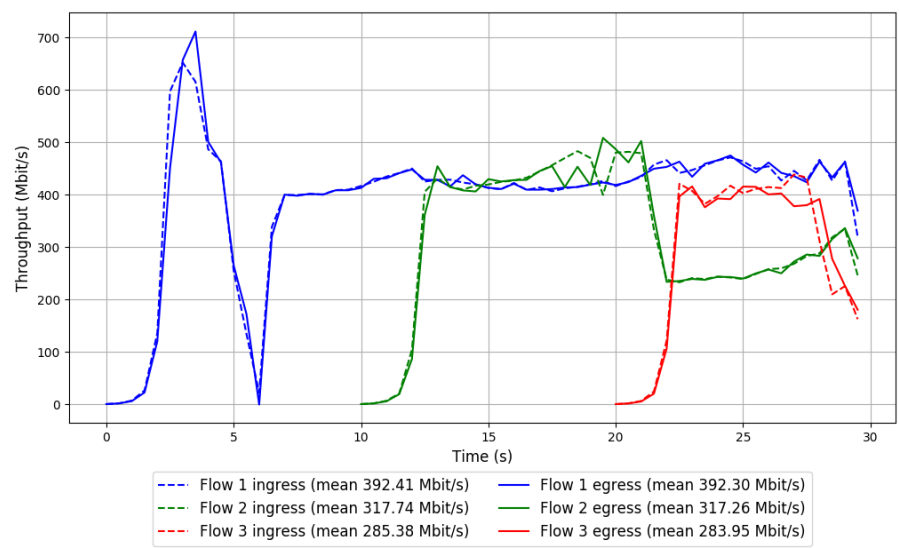
Run 8: Report of Vivace-loss — Data Link

319

```
Run 9: Statistics of Vivace-loss

Start at: 2018-02-14 11:00:18
End at: 2018-02-14 11:00:48


# Below is generated by plot.py at 2018-02-14 16:16:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 613.64 Mbit/s
95th percentile per-packet one-way delay: 162.960 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 348.58 Mbit/s
95th percentile per-packet one-way delay: 199.635 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 305.48 Mbit/s
95th percentile per-packet one-way delay: 109.274 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 189.05 Mbit/s
95th percentile per-packet one-way delay: 64.885 ms
Loss rate: 0.01%
```
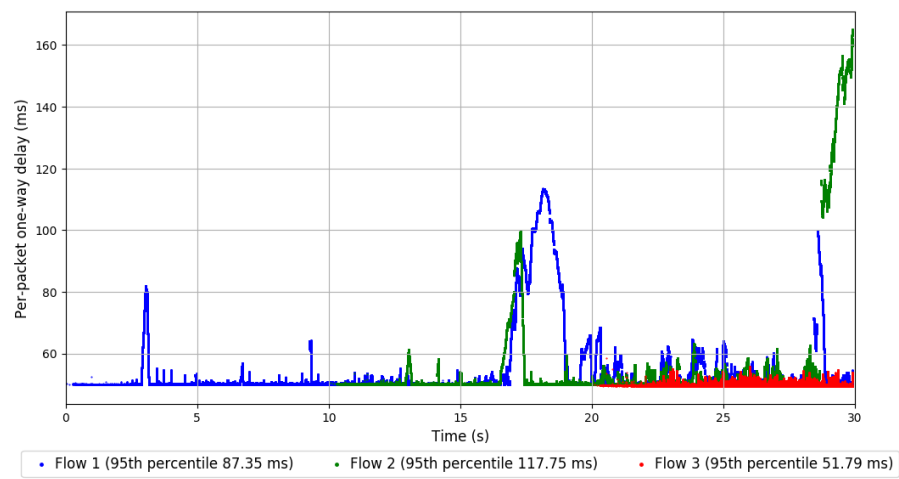
Run 9: Report of Vivace-loss — Data Link

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```
Run 10: Statistics of Vivace-loss

Start at: 2018-02-14 11:17:55
End at: 2018-02-14 11:18:25


# Below is generated by plot.py at 2018-02-14 16:17:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 586.02 Mbit/s
95th percentile per-packet one-way delay: 196.772 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 365.07 Mbit/s
95th percentile per-packet one-way delay: 202.624 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 266.65 Mbit/s
95th percentile per-packet one-way delay: 157.068 ms
Loss rate: 2.19%
-- Flow 3:
Average throughput: 132.69 Mbit/s
95th percentile per-packet one-way delay: 210.889 ms
Loss rate: 7.47%
```
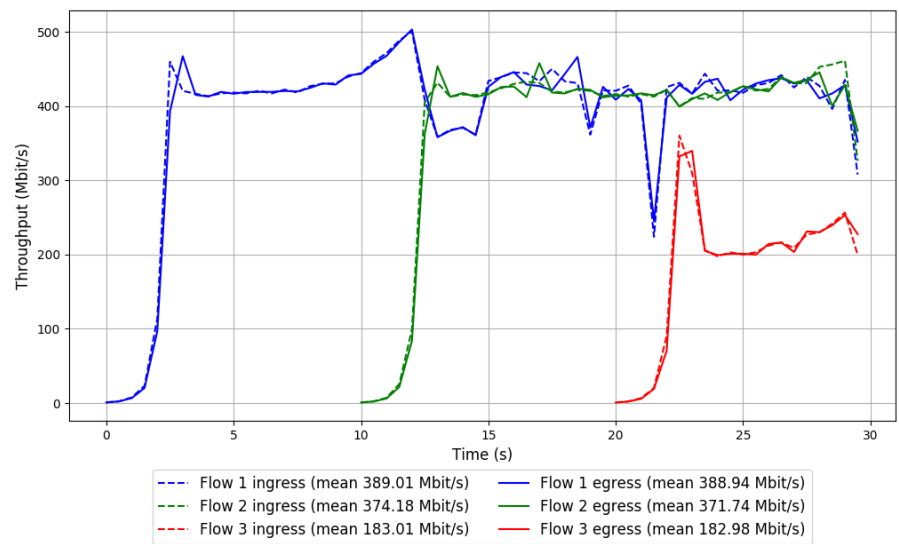
Run 10: Report of Vivace-loss — Data Link

```
Run 1: Statistics of Vivace-LTE

Start at: 2018-02-14 08:48:55
End at: 2018-02-14 08:49:25


# Below is generated by plot.py at 2018-02-14 16:22:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 728.54 Mbit/s
95th percentile per-packet one-way delay: 101.075 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 400.91 Mbit/s
95th percentile per-packet one-way delay: 151.194 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 369.61 Mbit/s
95th percentile per-packet one-way delay: 76.738 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 249.13 Mbit/s
95th percentile per-packet one-way delay: 127.142 ms
Loss rate: 0.00%
```
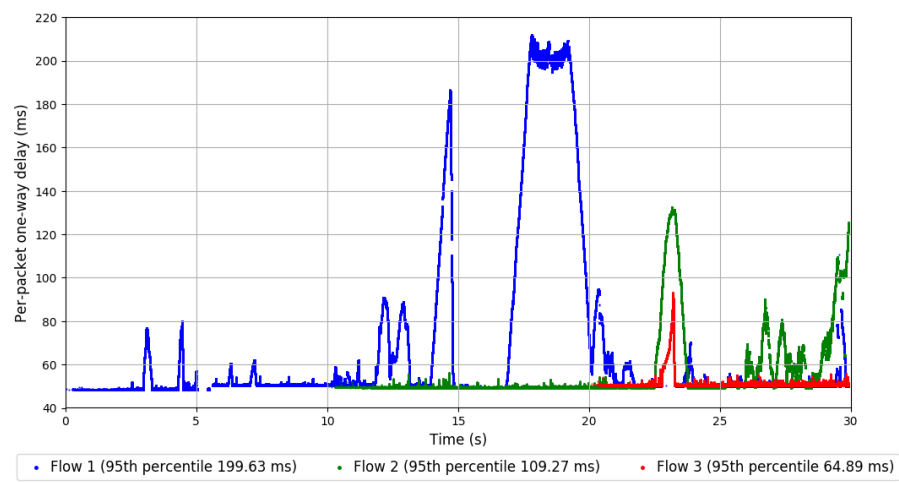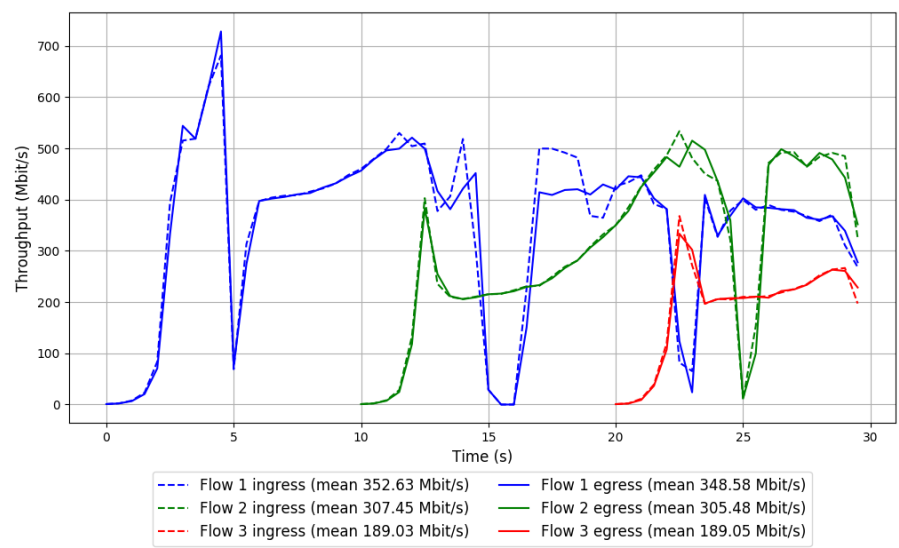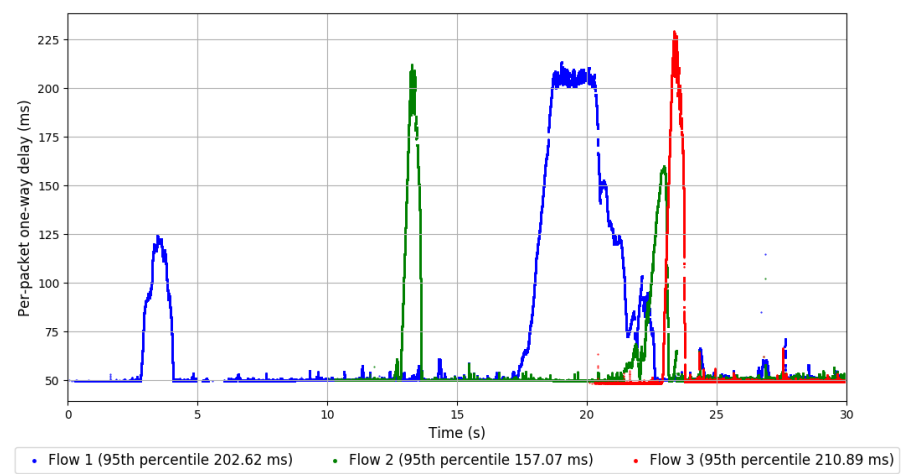
Run 1: Report of Vivace-LTE — Data Link

- - - Flow 1 ingress (mean 402.50 Mbit/s) —— Flow 1 egress (mean 400.91 Mbit/s)
- - - Flow 2 ingress (mean 369.75 Mbit/s) —— Flow 2 egress (mean 369.61 Mbit/s)
- - - Flow 3 ingress (mean 249.14 Mbit/s) —— Flow 3 egress (mean 249.13 Mbit/s)

• Flow 1 (95th percentile 151.19 ms)   • Flow 2 (95th percentile 76.74 ms)   • Flow 3 (95th percentile 127.14 ms)

```
Run 2: Statistics of Vivace-LTE

Start at: 2018-02-14 09:06:21
End at: 2018-02-14 09:06:51


# Below is generated by plot.py at 2018-02-14 16:24:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 743.51 Mbit/s
95th percentile per-packet one-way delay: 134.537 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 409.72 Mbit/s
95th percentile per-packet one-way delay: 136.183 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 352.01 Mbit/s
95th percentile per-packet one-way delay: 131.757 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 303.14 Mbit/s
95th percentile per-packet one-way delay: 125.760 ms
Loss rate: 0.99%
```
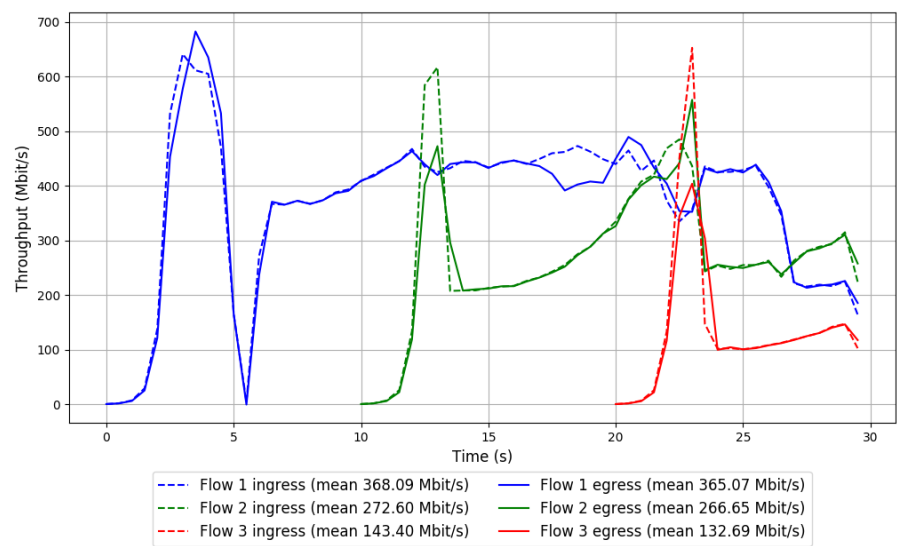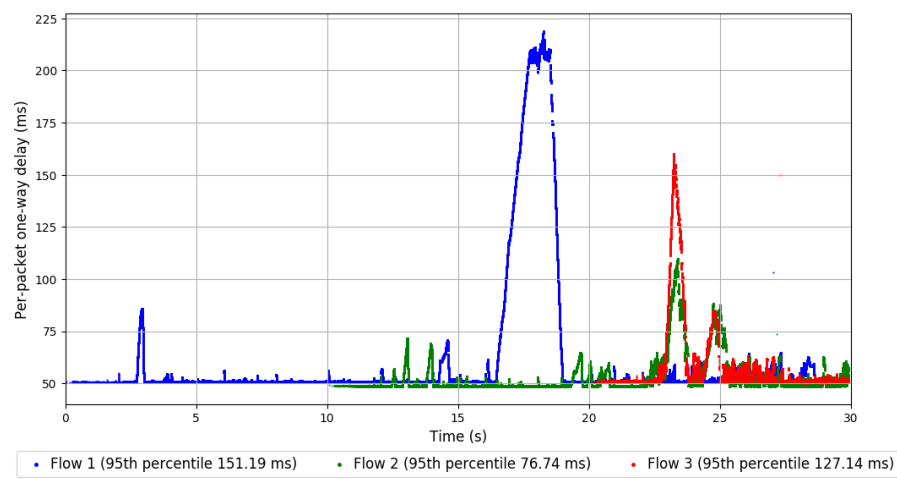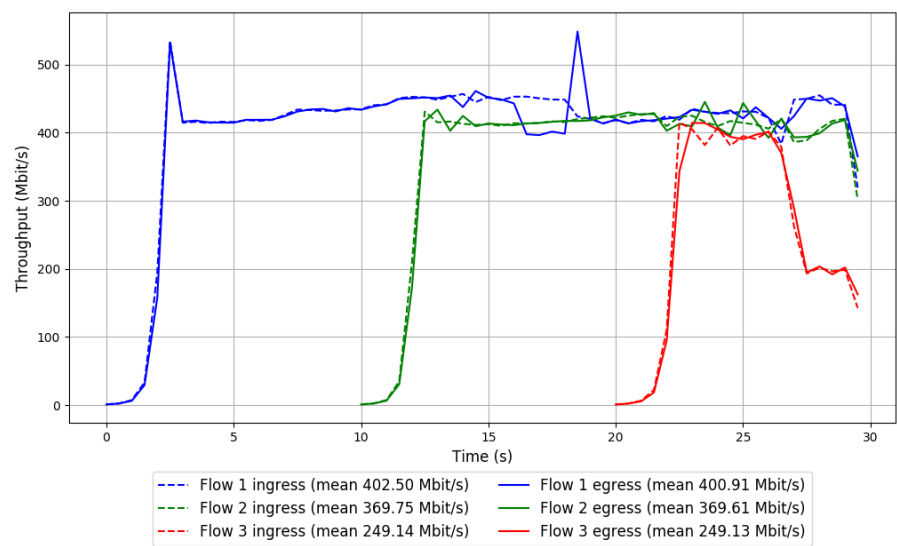
Run 2: Report of Vivace-LTE — Data Link

Flow 1 ingress (mean 409.79 Mbit/s)   Flow 1 egress (mean 409.72 Mbit/s)
Flow 2 ingress (mean 354.07 Mbit/s)   Flow 2 egress (mean 352.01 Mbit/s)
Flow 3 ingress (mean 306.18 Mbit/s)   Flow 3 egress (mean 303.14 Mbit/s)

Flow 1 (95th percentile 136.18 ms)   Flow 2 (95th percentile 131.76 ms)   Flow 3 (95th percentile 125.76 ms)

```
Run 3: Statistics of Vivace-LTE

Start at: 2018-02-14 09:24:00
End at: 2018-02-14 09:24:30

# Below is generated by plot.py at 2018-02-14 16:24:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 640.24 Mbit/s
95th percentile per-packet one-way delay: 66.718 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 403.37 Mbit/s
95th percentile per-packet one-way delay: 56.009 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 204.95 Mbit/s
95th percentile per-packet one-way delay: 71.437 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 307.12 Mbit/s
95th percentile per-packet one-way delay: 53.992 ms
Loss rate: 0.42%
```
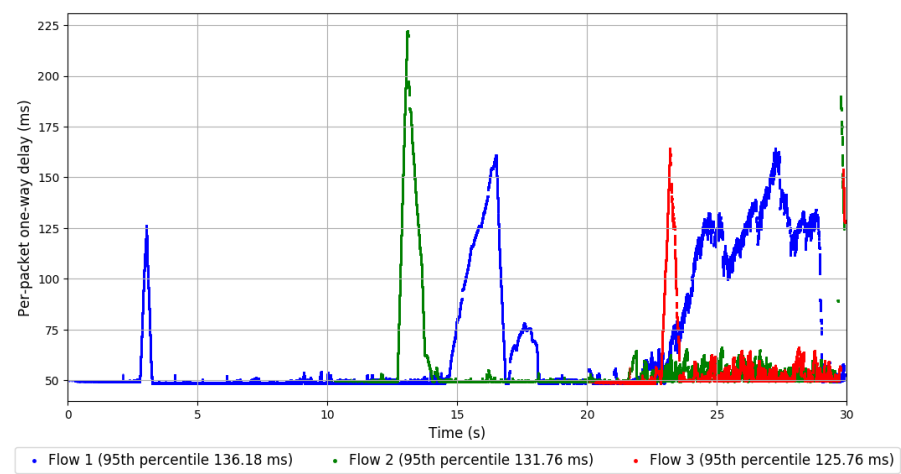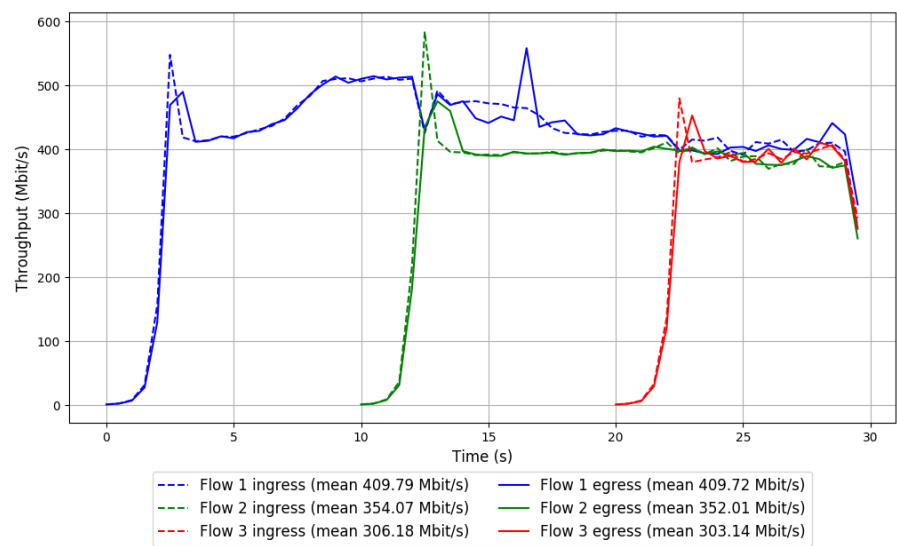
Run 3: Report of Vivace-LTE — Data Link

```
Run 4: Statistics of Vivace-LTE

Start at: 2018-02-14 09:41:42
End at: 2018-02-14 09:42:12


# Below is generated by plot.py at 2018-02-14 16:26:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 682.53 Mbit/s
95th percentile per-packet one-way delay: 65.693 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 369.04 Mbit/s
95th percentile per-packet one-way delay: 58.832 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 346.51 Mbit/s
95th percentile per-packet one-way delay: 66.784 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 252.97 Mbit/s
95th percentile per-packet one-way delay: 151.751 ms
Loss rate: 0.00%
```
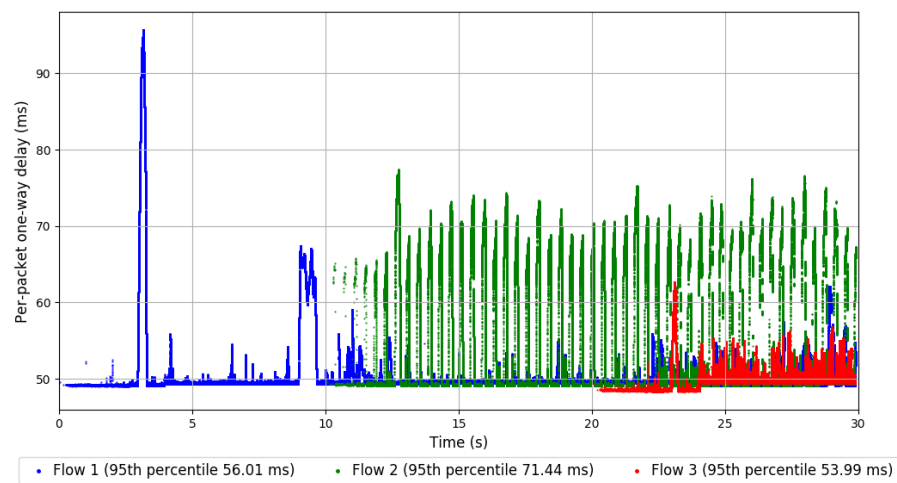
Run 4: Report of Vivace-LTE — Data Link

```
Run 5: Statistics of Vivace-LTE

Start at: 2018-02-14 09:59:23
End at: 2018-02-14 09:59:53

# Below is generated by plot.py at 2018-02-14 16:27:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 747.08 Mbit/s
95th percentile per-packet one-way delay: 131.623 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 397.03 Mbit/s
95th percentile per-packet one-way delay: 149.456 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 393.46 Mbit/s
95th percentile per-packet one-way delay: 98.805 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 269.09 Mbit/s
95th percentile per-packet one-way delay: 58.413 ms
Loss rate: 0.00%
```
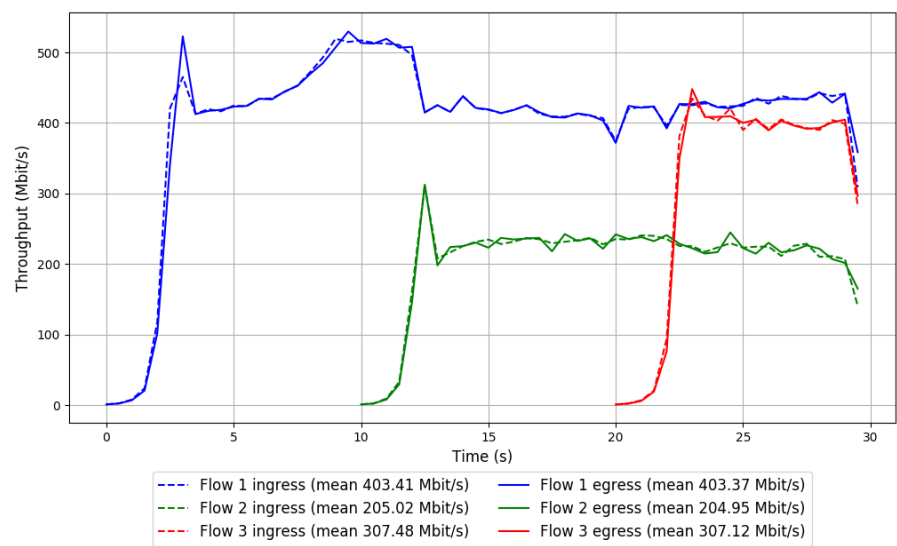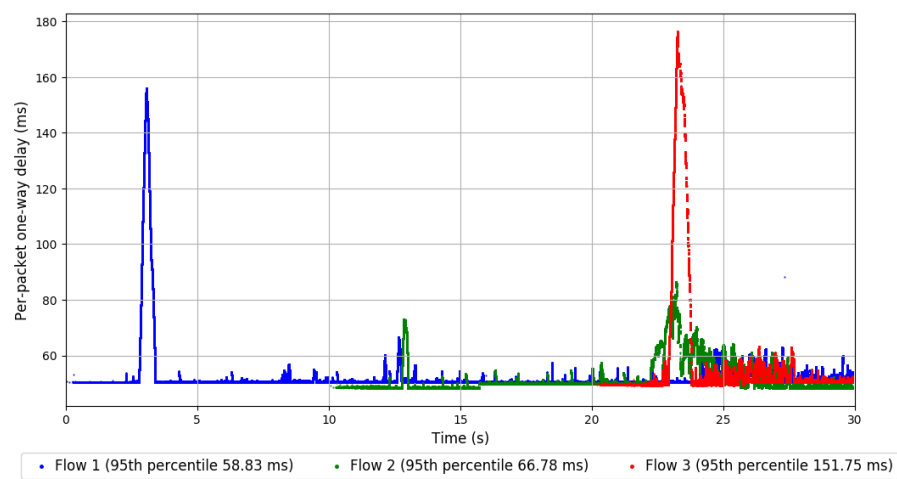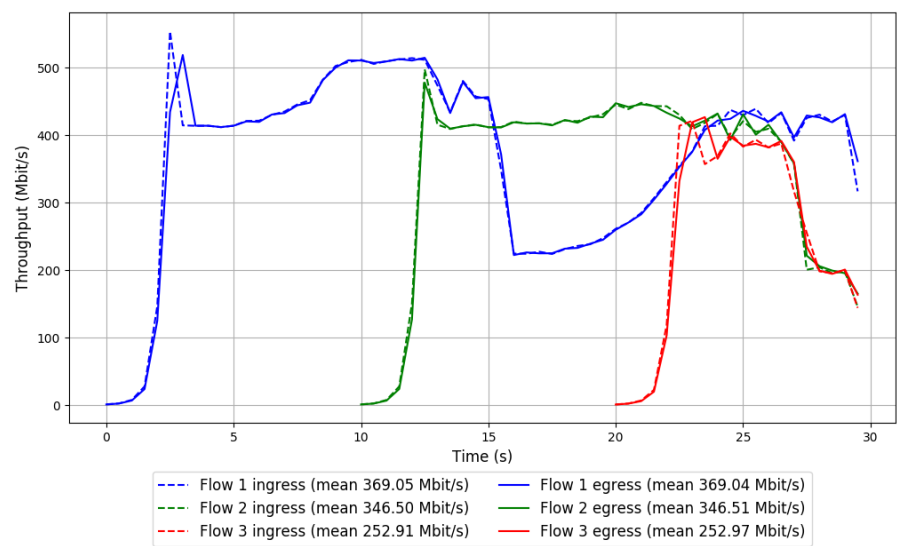
Run 5: Report of Vivace-LTE — Data Link

Flow 1 ingress (mean 397.64 Mbit/s)   Flow 1 egress (mean 397.03 Mbit/s)
Flow 2 ingress (mean 395.07 Mbit/s)   Flow 2 egress (mean 393.46 Mbit/s)
Flow 3 ingress (mean 269.07 Mbit/s)   Flow 3 egress (mean 269.09 Mbit/s)

Flow 1 (95th percentile 149.46 ms)   Flow 2 (95th percentile 98.81 ms)   Flow 3 (95th percentile 58.41 ms)

```
Run 6: Statistics of Vivace-LTE

Start at: 2018-02-14 10:17:13
End at: 2018-02-14 10:17:43


# Below is generated by plot.py at 2018-02-14 16:27:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 662.48 Mbit/s
95th percentile per-packet one-way delay: 200.153 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 388.81 Mbit/s
95th percentile per-packet one-way delay: 163.807 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 372.06 Mbit/s
95th percentile per-packet one-way delay: 212.142 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 80.13 Mbit/s
95th percentile per-packet one-way delay: 51.123 ms
Loss rate: 0.01%
```
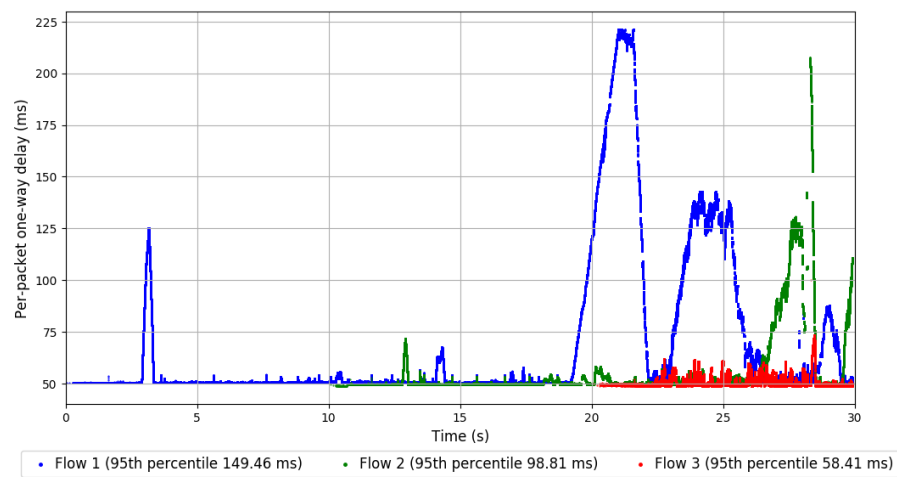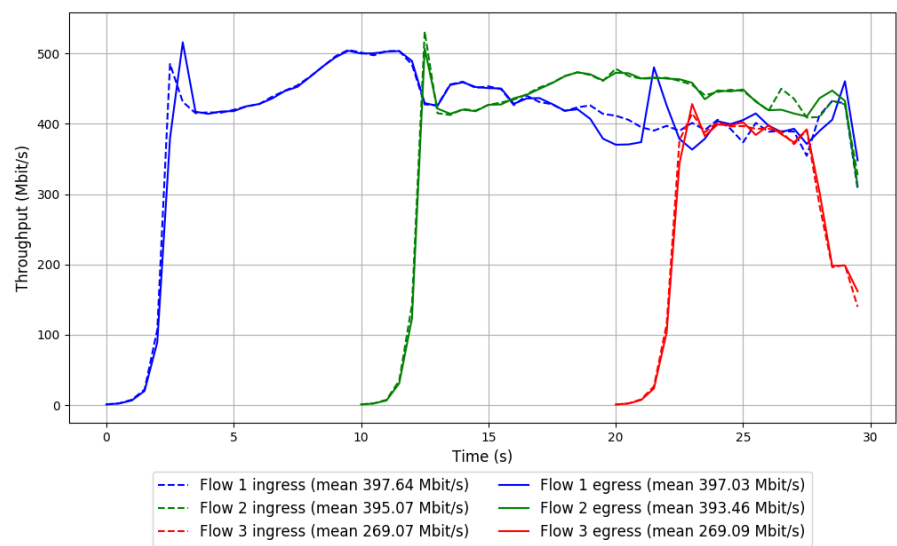
Run 6: Report of Vivace-LTE — Data Link

- Flow 1 ingress (mean 390.04 Mbit/s)
- Flow 1 egress (mean 388.81 Mbit/s)
- Flow 2 ingress (mean 376.62 Mbit/s)
- Flow 2 egress (mean 372.06 Mbit/s)
- Flow 3 ingress (mean 80.13 Mbit/s)
- Flow 3 egress (mean 80.13 Mbit/s)

- Flow 1 (95th percentile 163.81 ms)
- Flow 2 (95th percentile 212.14 ms)
- Flow 3 (95th percentile 51.12 ms)

```
Run 7: Statistics of Vivace-LTE

Start at: 2018-02-14 10:34:54
End at: 2018-02-14 10:35:24


# Below is generated by plot.py at 2018-02-14 16:27:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 724.41 Mbit/s
95th percentile per-packet one-way delay: 107.142 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 382.01 Mbit/s
95th percentile per-packet one-way delay: 110.256 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 369.79 Mbit/s
95th percentile per-packet one-way delay: 100.413 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 294.11 Mbit/s
95th percentile per-packet one-way delay: 86.383 ms
Loss rate: 0.02%
```
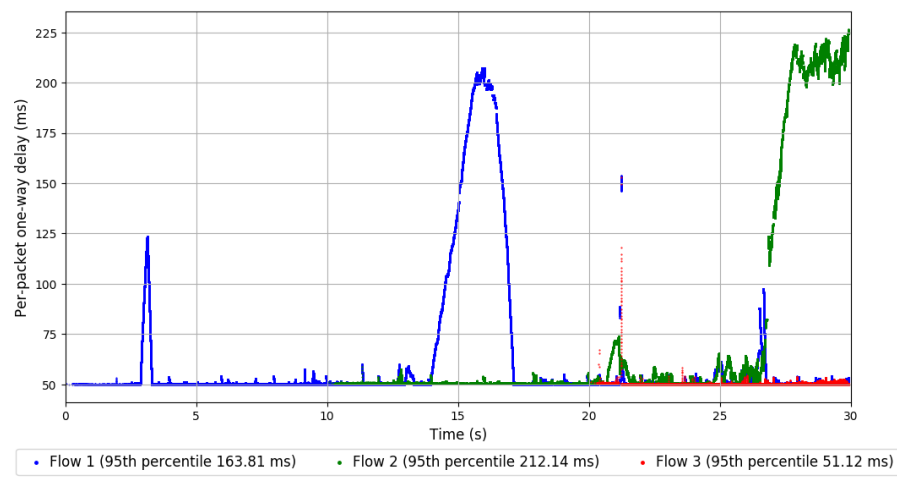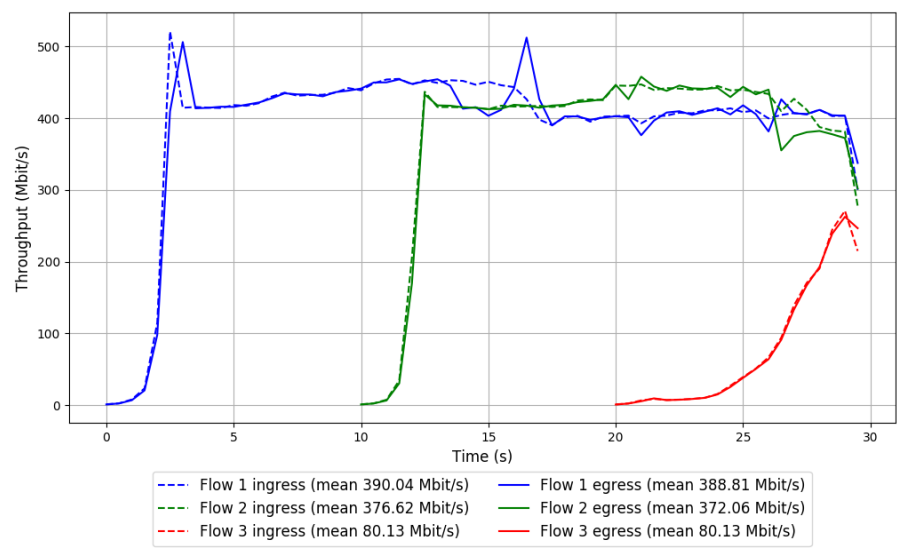
Run 7: Report of Vivace-LTE — Data Link

Flow 1 ingress (mean 381.44 Mbit/s) Flow 1 egress (mean 382.01 Mbit/s)
Flow 2 ingress (mean 368.99 Mbit/s) Flow 2 egress (mean 369.79 Mbit/s)
Flow 3 ingress (mean 293.60 Mbit/s) Flow 3 egress (mean 294.11 Mbit/s)

Flow 1 (95th percentile 110.26 ms) Flow 2 (95th percentile 100.41 ms) Flow 3 (95th percentile 86.38 ms)

```
Run 8: Statistics of Vivace-LTE

Start at: 2018-02-14 10:52:59
End at: 2018-02-14 10:53:29


# Below is generated by plot.py at 2018-02-14 16:27:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 638.68 Mbit/s
95th percentile per-packet one-way delay: 69.415 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 304.33 Mbit/s
95th percentile per-packet one-way delay: 53.523 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 354.96 Mbit/s
95th percentile per-packet one-way delay: 115.081 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 297.54 Mbit/s
95th percentile per-packet one-way delay: 55.677 ms
Loss rate: 0.00%
```
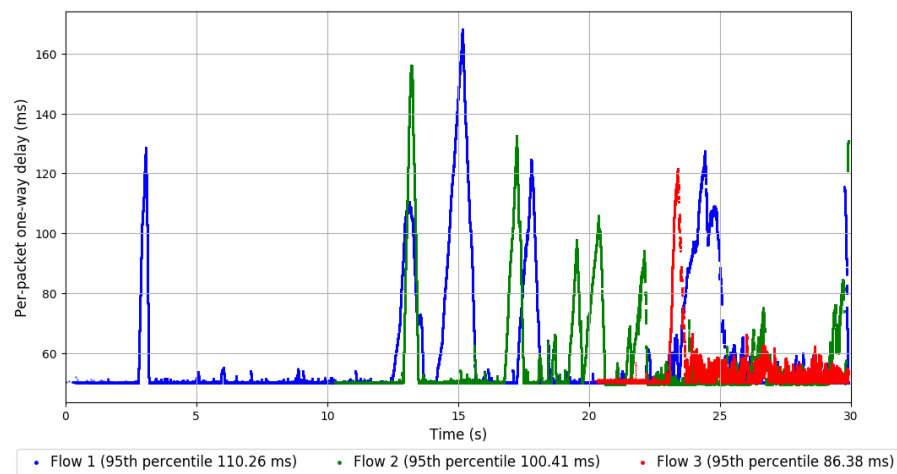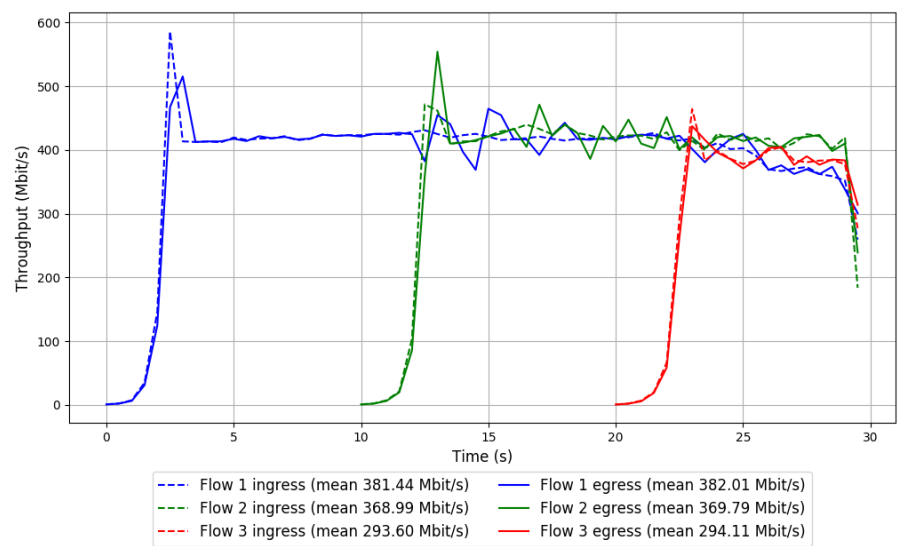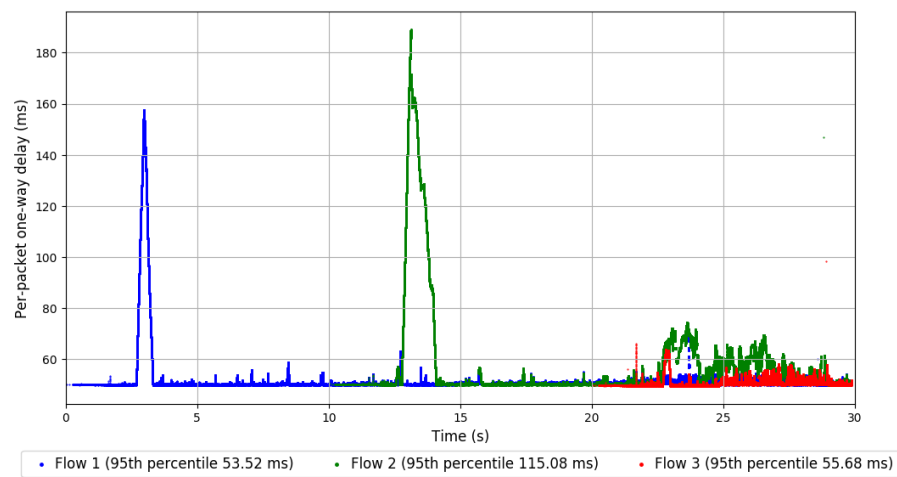
Run 8: Report of Vivace-LTE — Data Link

Flow 1 ingress (mean 304.33 Mbit/s)   Flow 1 egress (mean 304.33 Mbit/s)
Flow 2 ingress (mean 355.30 Mbit/s)   Flow 2 egress (mean 354.96 Mbit/s)
Flow 3 ingress (mean 297.54 Mbit/s)   Flow 3 egress (mean 297.54 Mbit/s)

Flow 1 (95th percentile 53.52 ms)   Flow 2 (95th percentile 115.08 ms)   Flow 3 (95th percentile 55.68 ms)

339

```
Run 9: Statistics of Vivace-LTE

Start at: 2018-02-14 11:10:39
End at: 2018-02-14 11:11:09


# Below is generated by plot.py at 2018-02-14 16:28:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 719.97 Mbit/s
95th percentile per-packet one-way delay: 109.993 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 393.92 Mbit/s
95th percentile per-packet one-way delay: 104.719 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 366.72 Mbit/s
95th percentile per-packet one-way delay: 113.775 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 250.47 Mbit/s
95th percentile per-packet one-way delay: 170.516 ms
Loss rate: 0.14%
```
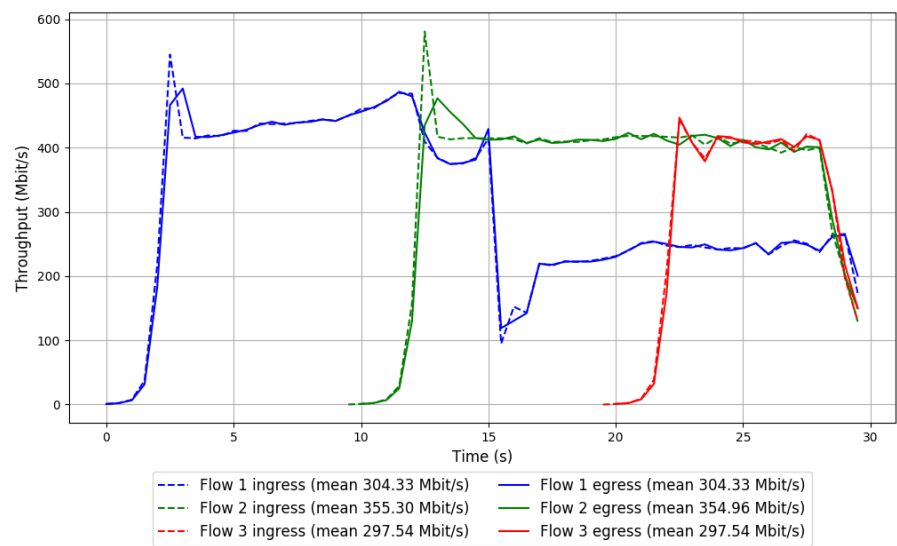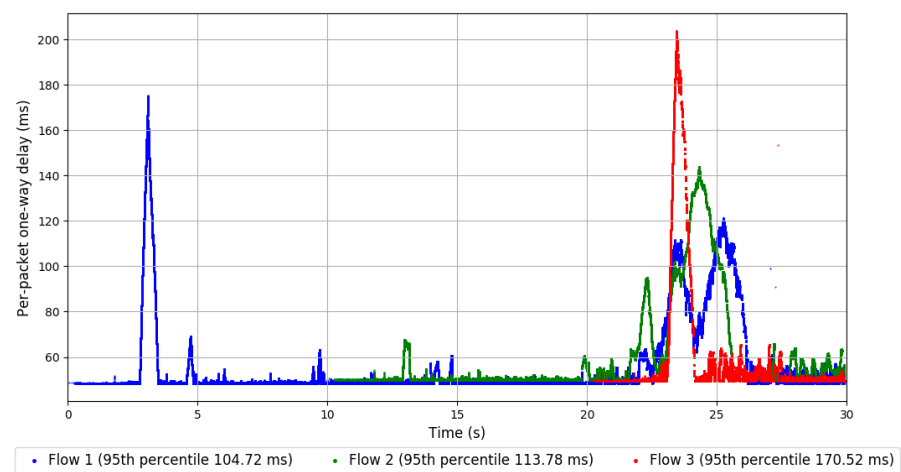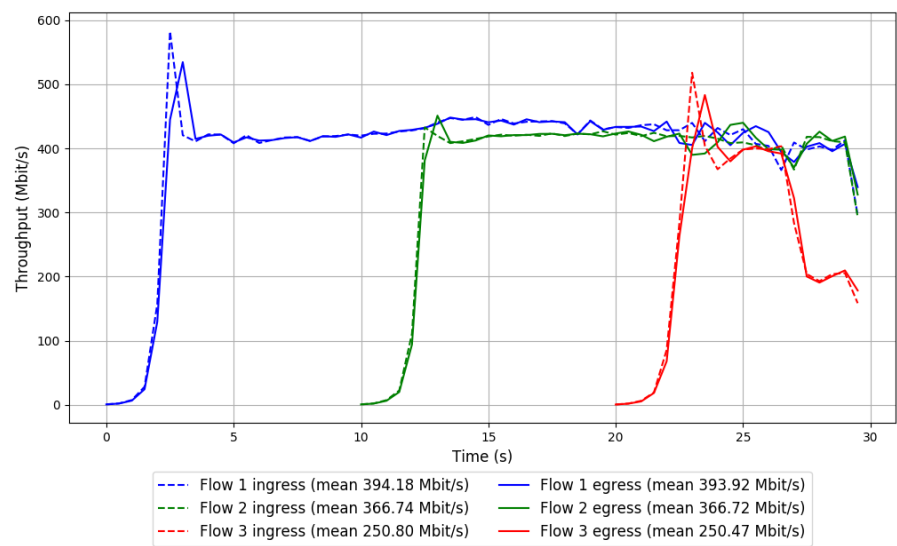
Run 9: Report of Vivace-LTE — Data Link

- Flow 1 ingress (mean 394.18 Mbit/s)
- Flow 1 egress (mean 393.92 Mbit/s)
- Flow 2 ingress (mean 366.74 Mbit/s)
- Flow 2 egress (mean 366.72 Mbit/s)
- Flow 3 ingress (mean 250.80 Mbit/s)
- Flow 3 egress (mean 250.47 Mbit/s)

- Flow 1 (95th percentile 104.72 ms)
- Flow 2 (95th percentile 113.78 ms)
- Flow 3 (95th percentile 170.52 ms)

```
Run 10: Statistics of Vivace-LTE

Start at: 2018-02-14 11:28:14
End at: 2018-02-14 11:28:44


# Below is generated by plot.py at 2018-02-14 16:28:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 744.26 Mbit/s
95th percentile per-packet one-way delay: 98.786 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 395.74 Mbit/s
95th percentile per-packet one-way delay: 79.464 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 369.36 Mbit/s
95th percentile per-packet one-way delay: 91.409 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 312.92 Mbit/s
95th percentile per-packet one-way delay: 182.166 ms
Loss rate: 0.40%
```

Run 10: Report of Vivace-LTE — Data Link