Pantheon Report

Generated at 2018-08-09 13:04:25 (UTC).

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

Repeated the test of 17 congestion control schemes 10 times.

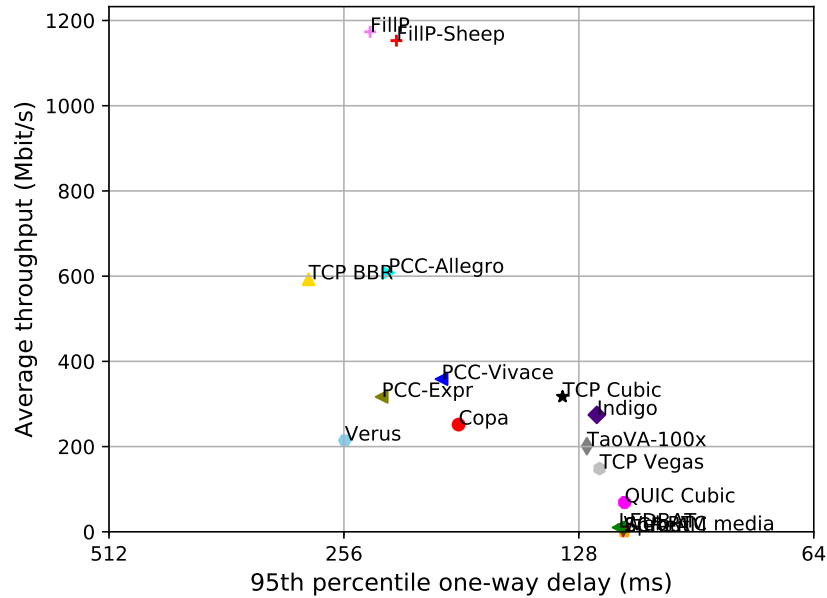Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

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

NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.
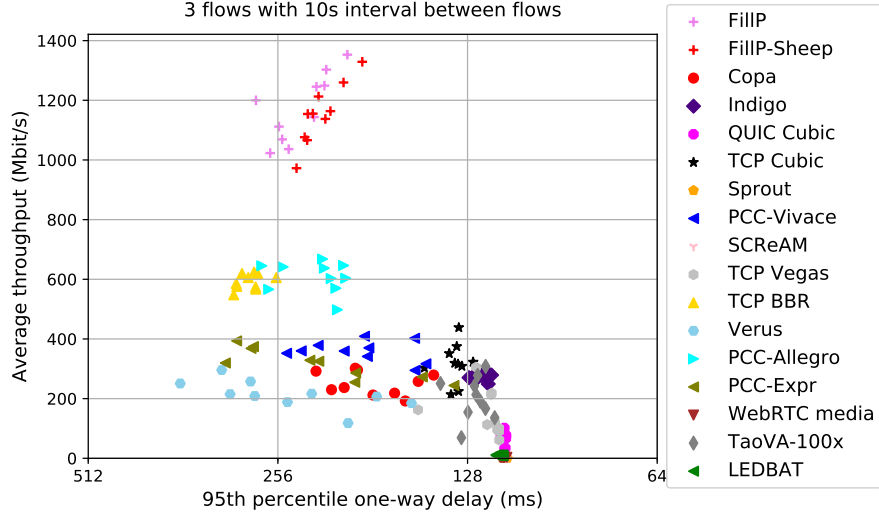
```
Git summary:
branch: master @ 7772df3413f4b07ba0096dfdd8e9d4c6dca623e3
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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

FillP
FillP-Sheep

TCP BBR
PCC-Allegro

PCC-Vivace
PCC-Expr
TCP Cubic
Copa
Indigo
Verus
TaoVA-100x
TCP Vegas
QUIC Cubic
LEDBAT
WebRTC media

Average throughput (Mbit/s)
1200
1000
800
600
400
200
0

95th percentile one-way delay (ms)
512   256   128   64

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

Average throughput (Mbit/s)
1400
1200
1000
800
600
400
200
0

95th percentile one-way delay (ms)
512   256   128   64

FillP
FillP-Sheep
Copa
Indigo
QUIC Cubic
TCP Cubic
Sprout
PCC-Vivace
SCReAM
TCP Vegas
TCP BBR
Verus
PCC-Allegro
PCC-Expr
WebRTC media
TaoVA-100x
LEDBAT

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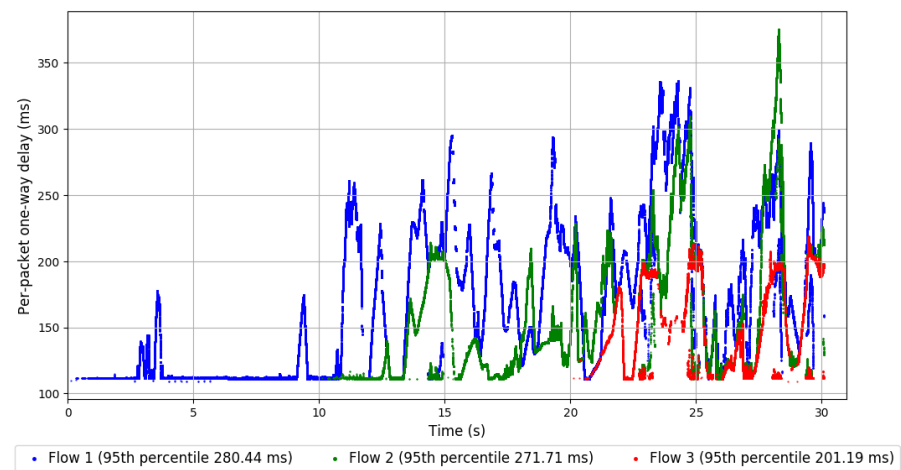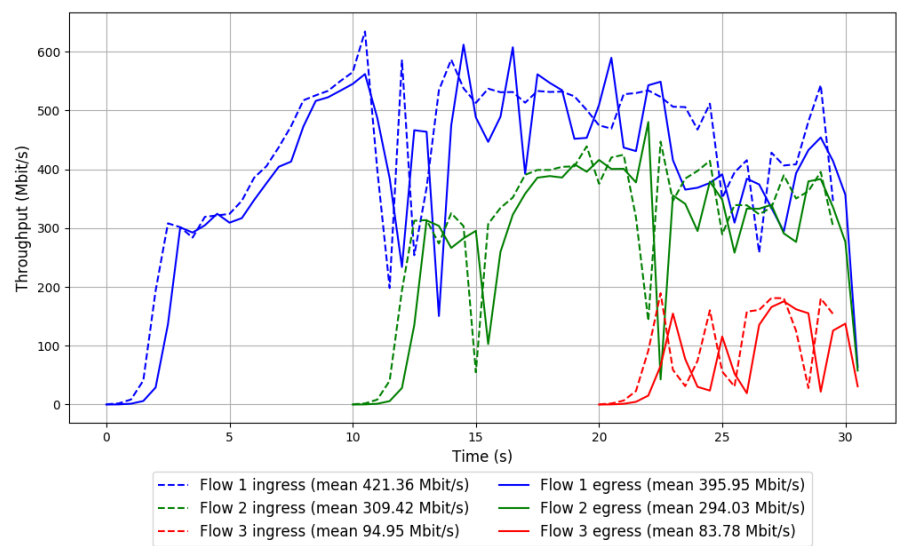| scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	10	372.16	290.41	81.21	284.37	261.56	201.19	8.35	5.87	6.27
Copa	10	143.91	106.27	111.62	171.79	170.58	176.55	0.33	0.36	0.81
TCP Cubic	10	176.33	183.82	55.13	126.60	134.97	124.38	0.06	0.07	0.55
FillP	10	607.15	590.16	522.33	236.15	231.57	237.99	12.18	10.92	10.01
FillP-Sheep	10	624.06	558.31	473.82	215.98	218.70	221.66	9.24	7.66	6.37
Indigo	10	142.43	138.38	126.65	120.21	121.75	124.83	0.10	0.15	0.42
LEDBAT	10	6.80	4.08	2.07	114.04	113.46	113.01	0.00	0.00	0.00
PCC-Allegro	10	396.06	273.13	91.36	224.15	203.37	190.56	3.37	3.10	2.60
PCC-Expr	10	191.50	139.27	98.71	233.39	198.78	193.59	1.63	1.53	0.52
QUIC Cubic	10	35.54	37.24	27.19	111.42	111.66	111.39	0.00	0.00	0.00
SCReAM	10	0.22	0.22	0.19	111.77	111.86	111.66	0.00	0.00	0.00
Sprout	10	0.21	0.22	0.28	111.78	111.99	111.88	0.00	0.00	0.00
TaoVA-100x	10	101.50	94.74	109.08	121.64	122.74	126.98	0.01	0.02	0.02
TCP Vegas	10	64.05	108.87	35.24	115.60	122.80	115.70	0.01	0.01	0.08
Verus	10	123.82	103.81	69.16	269.85	223.70	225.12	7.56	5.60	2.81
PCC-Vivace	10	209.74	164.23	119.39	173.15	169.59	216.57	0.54	0.34	1.63
WebRTC media	10	1.87	1.12	0.39	111.96	112.00	111.87	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2018-08-09 06:08:44
End at: 2018-08-09 06:09:14
Local clock offset: -0.211 ms
Remote clock offset: -0.541 ms


# Below is generated by plot.py at 2018-08-09 10:53:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 605.89 Mbit/s
95th percentile per-packet one-way delay: 285.274 ms
Loss rate: 7.53%
-- Flow 1:
Average throughput: 367.37 Mbit/s
95th percentile per-packet one-way delay: 298.496 ms
Loss rate: 9.26%
-- Flow 2:
Average throughput: 281.77 Mbit/s
95th percentile per-packet one-way delay: 265.284 ms
Loss rate: 4.35%
-- Flow 3:
Average throughput: 152.96 Mbit/s
95th percentile per-packet one-way delay: 217.949 ms
Loss rate: 6.11%
```
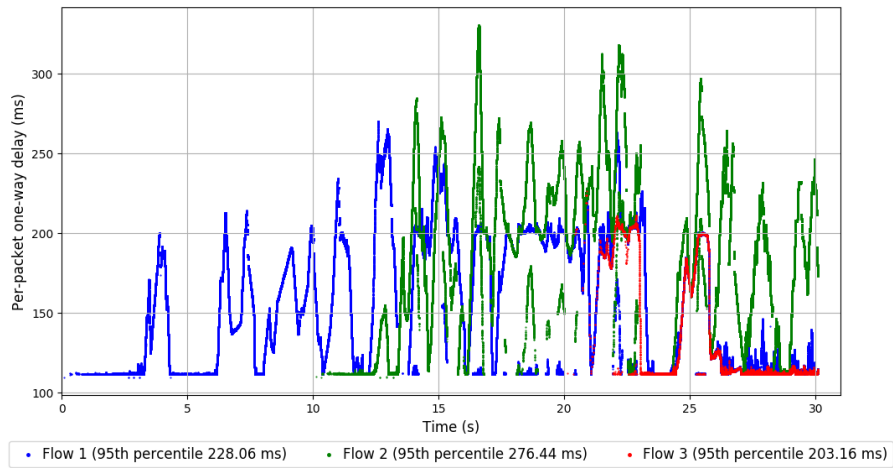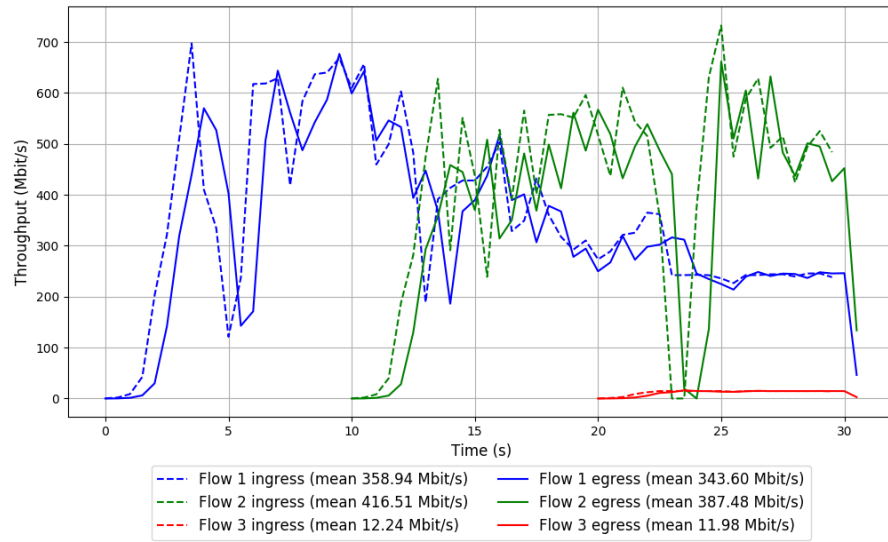
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-08-09 06:35:27
End at: 2018-08-09 06:35:57
Local clock offset: -0.024 ms
Remote clock offset: -0.253 ms


# Below is generated by plot.py at 2018-08-09 10:53:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 619.55 Mbit/s
95th percentile per-packet one-way delay: 275.650 ms
Loss rate: 5.97%
-- Flow 1:
Average throughput: 395.95 Mbit/s
95th percentile per-packet one-way delay: 280.440 ms
Loss rate: 6.02%
-- Flow 2:
Average throughput: 294.03 Mbit/s
95th percentile per-packet one-way delay: 271.715 ms
Loss rate: 4.98%
-- Flow 3:
Average throughput: 83.78 Mbit/s
95th percentile per-packet one-way delay: 201.189 ms
Loss rate: 11.77%
```
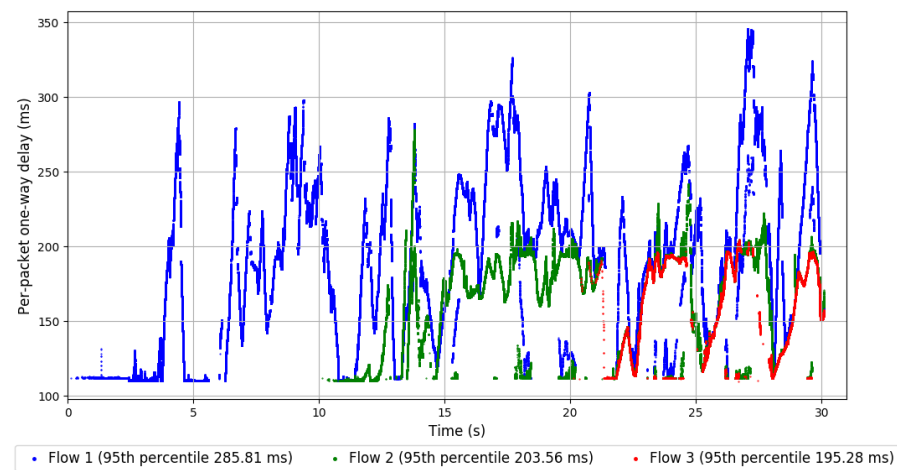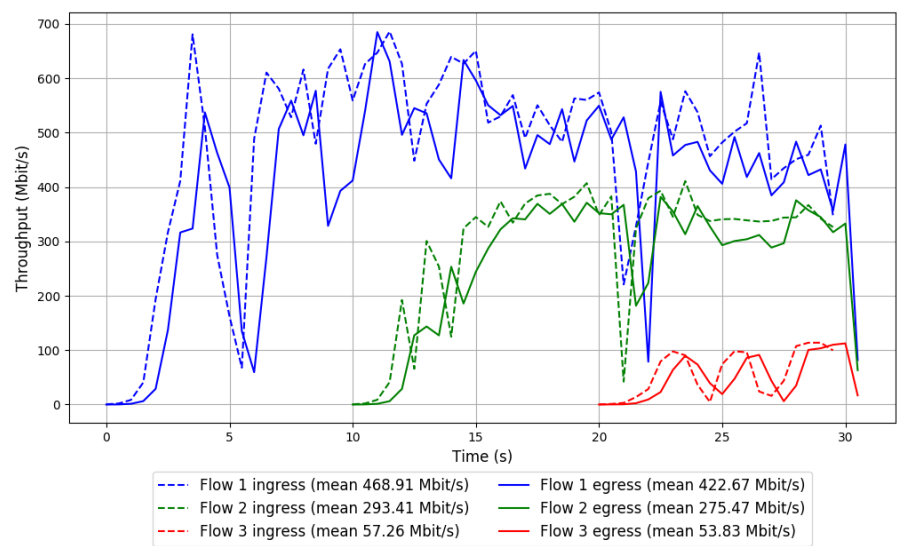
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 421.36 Mbit/s) --- Flow 1 egress (mean 395.95 Mbit/s)
Flow 2 ingress (mean 309.42 Mbit/s) --- Flow 2 egress (mean 294.03 Mbit/s)
Flow 3 ingress (mean 94.95 Mbit/s) --- Flow 3 egress (mean 83.78 Mbit/s)

• Flow 1 (95th percentile 280.44 ms)   • Flow 2 (95th percentile 271.71 ms)   • Flow 3 (95th percentile 201.19 ms)

```
Run 3: Statistics of TCP BBR

Start at: 2018-08-09 07:02:01
End at: 2018-08-09 07:02:31
Local clock offset: -0.272 ms
Remote clock offset: -0.078 ms


# Below is generated by plot.py at 2018-08-09 10:53:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 605.71 Mbit/s
95th percentile per-packet one-way delay: 257.525 ms
Loss rate: 5.42%
-- Flow 1:
Average throughput: 343.60 Mbit/s
95th percentile per-packet one-way delay: 228.056 ms
Loss rate: 4.26%
-- Flow 2:
Average throughput: 387.48 Mbit/s
95th percentile per-packet one-way delay: 276.443 ms
Loss rate: 6.96%
-- Flow 3:
Average throughput: 11.98 Mbit/s
95th percentile per-packet one-way delay: 203.157 ms
Loss rate: 2.09%
```
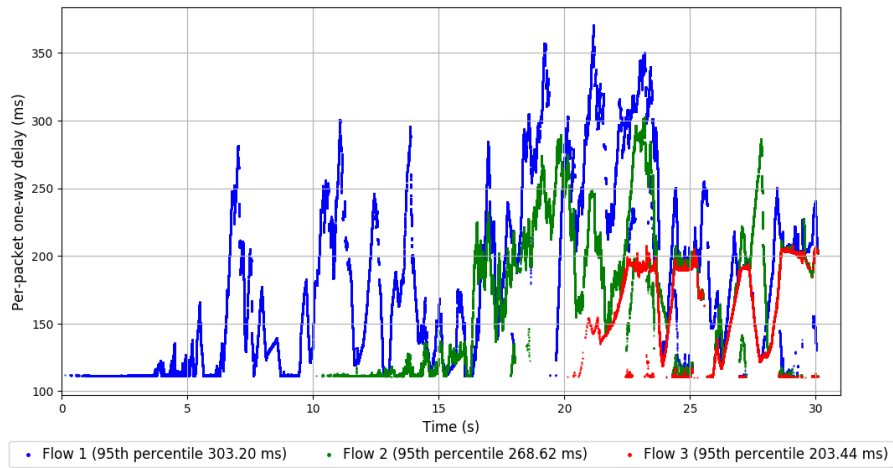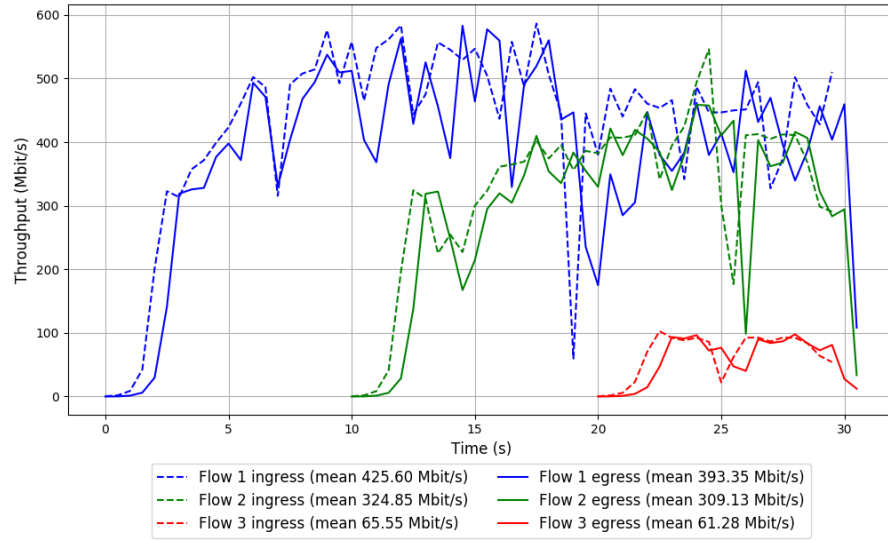
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 358.94 Mbit/s)   Flow 1 egress (mean 343.60 Mbit/s)
Flow 2 ingress (mean 416.51 Mbit/s)   Flow 2 egress (mean 387.48 Mbit/s)
Flow 3 ingress (mean 12.24 Mbit/s)   Flow 3 egress (mean 11.98 Mbit/s)

Flow 1 (95th percentile 228.06 ms)   Flow 2 (95th percentile 276.44 ms)   Flow 3 (95th percentile 203.16 ms)

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```
Run 4: Statistics of TCP BBR

Start at: 2018-08-09 07:28:41
End at: 2018-08-09 07:29:11
Local clock offset: -0.065 ms
Remote clock offset: -0.092 ms


# Below is generated by plot.py at 2018-08-09 10:53:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 624.08 Mbit/s
95th percentile per-packet one-way delay: 279.277 ms
Loss rate: 8.67%
-- Flow 1:
Average throughput: 422.67 Mbit/s
95th percentile per-packet one-way delay: 285.811 ms
Loss rate: 9.85%
-- Flow 2:
Average throughput: 275.47 Mbit/s
95th percentile per-packet one-way delay: 203.562 ms
Loss rate: 6.10%
-- Flow 3:
Average throughput: 53.83 Mbit/s
95th percentile per-packet one-way delay: 195.276 ms
Loss rate: 5.97%
```
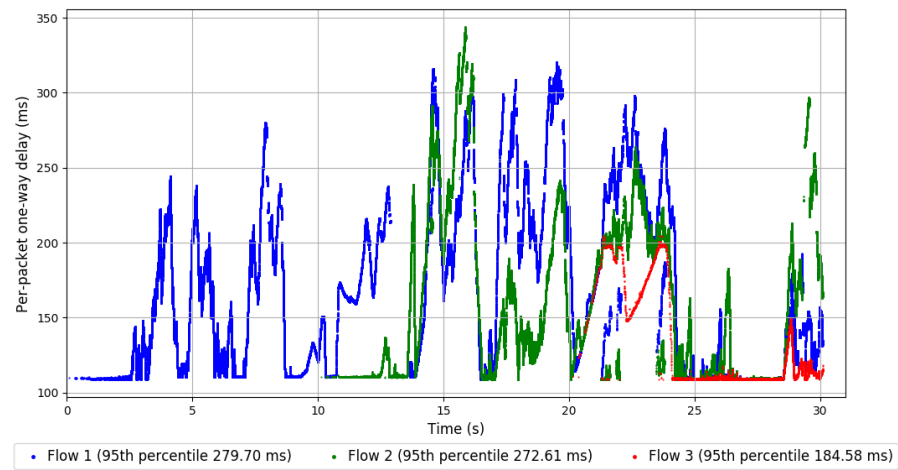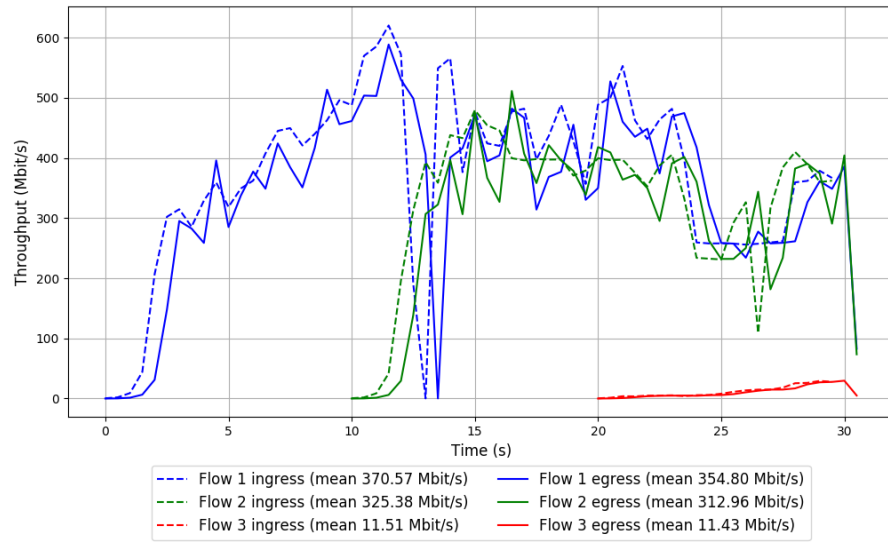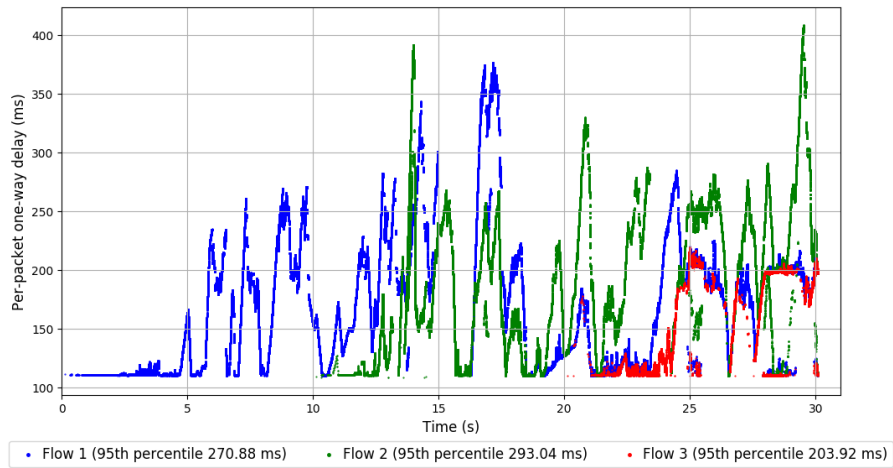
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 468.91 Mbit/s) --- Flow 1 egress (mean 422.67 Mbit/s)
Flow 2 ingress (mean 293.41 Mbit/s) --- Flow 2 egress (mean 275.47 Mbit/s)
Flow 3 ingress (mean 57.26 Mbit/s) --- Flow 3 egress (mean 53.83 Mbit/s)

Flow 1 (95th percentile 285.81 ms) Flow 2 (95th percentile 203.56 ms) Flow 3 (95th percentile 195.28 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2018-08-09 07:55:27
End at: 2018-08-09 07:55:57
Local clock offset: 0.115 ms
Remote clock offset: -0.142 ms


# Below is generated by plot.py at 2018-08-09 10:53:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 619.57 Mbit/s
95th percentile per-packet one-way delay: 291.825 ms
Loss rate: 6.65%
-- Flow 1:
Average throughput: 393.35 Mbit/s
95th percentile per-packet one-way delay: 303.199 ms
Loss rate: 7.58%
-- Flow 2:
Average throughput: 309.13 Mbit/s
95th percentile per-packet one-way delay: 268.618 ms
Loss rate: 4.83%
-- Flow 3:
Average throughput: 61.28 Mbit/s
95th percentile per-packet one-way delay: 203.443 ms
Loss rate: 6.50%
```
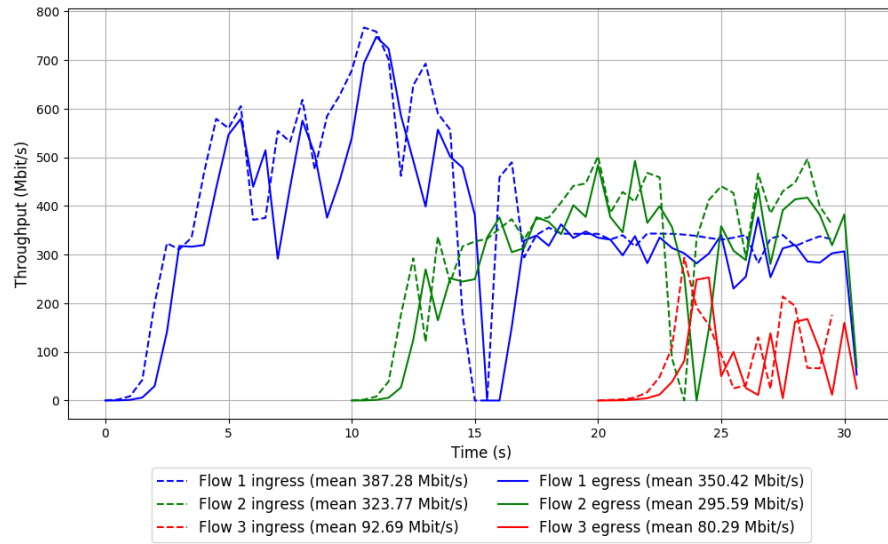
Run 5: Report of TCP BBR — Data Link

```
Run 6: Statistics of TCP BBR

Start at: 2018-08-09 08:22:19
End at: 2018-08-09 08:22:49
Local clock offset: 1.269 ms
Remote clock offset: 0.19 ms


# Below is generated by plot.py at 2018-08-09 10:53:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 567.01 Mbit/s
95th percentile per-packet one-way delay: 277.601 ms
Loss rate: 4.07%
-- Flow 1:
Average throughput: 354.80 Mbit/s
95th percentile per-packet one-way delay: 279.705 ms
Loss rate: 4.25%
-- Flow 2:
Average throughput: 312.96 Mbit/s
95th percentile per-packet one-way delay: 272.610 ms
Loss rate: 3.81%
-- Flow 3:
Average throughput: 11.43 Mbit/s
95th percentile per-packet one-way delay: 184.582 ms
Loss rate: 0.65%
```
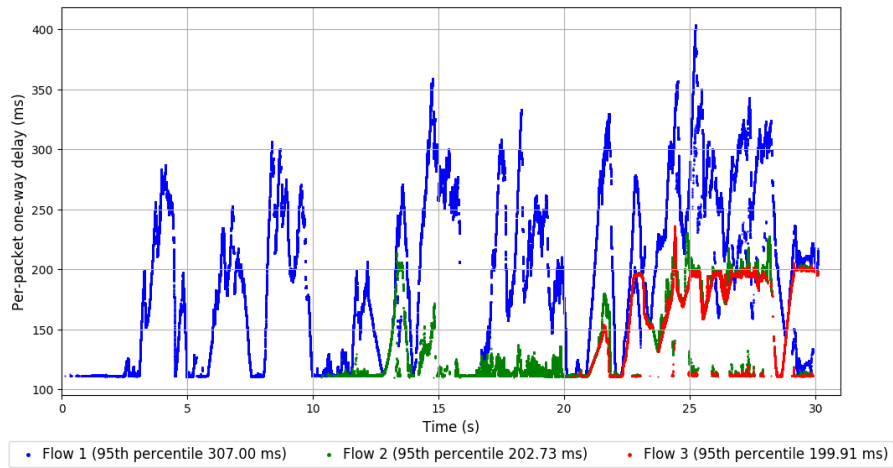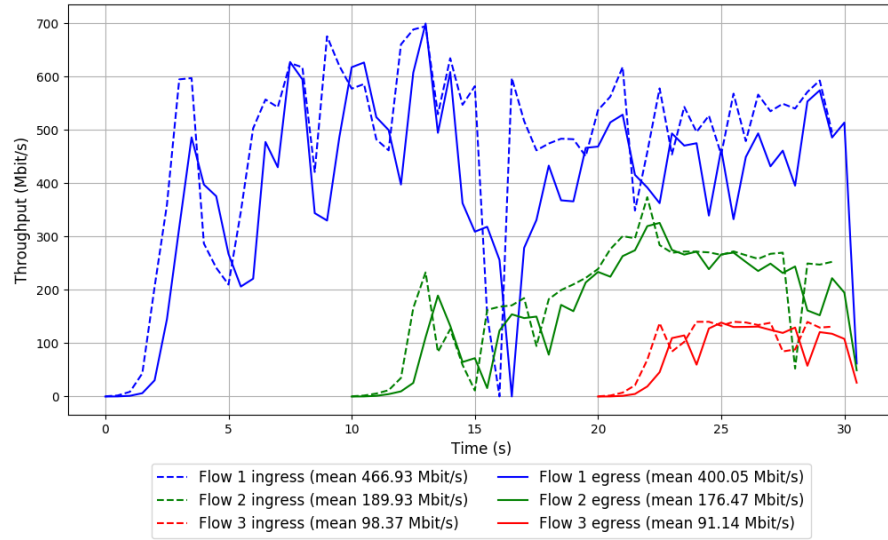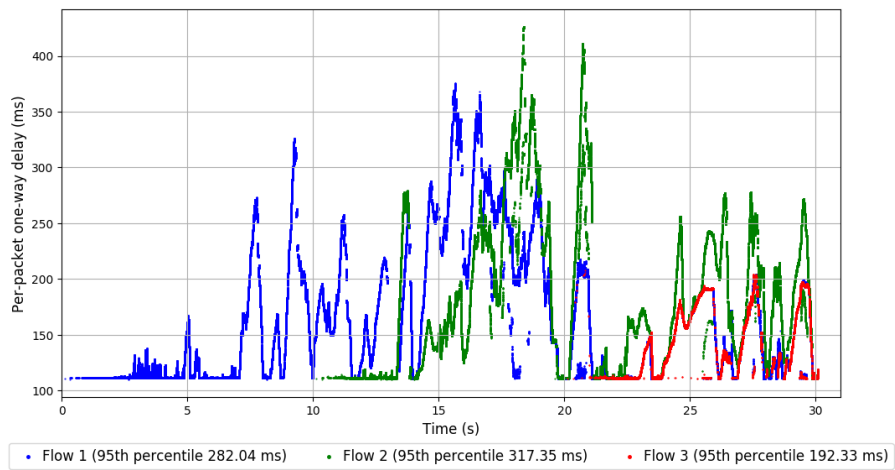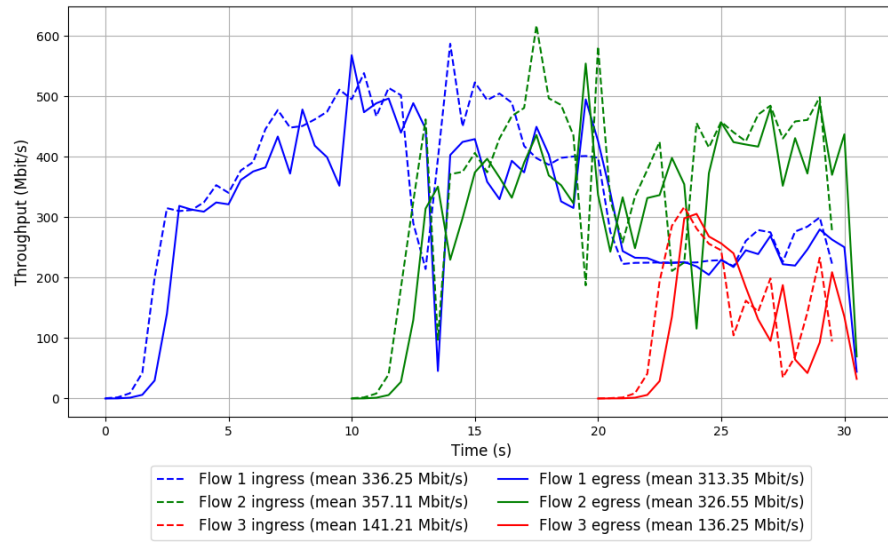
Run 6: Report of TCP BBR — Data Link

Flow 1 ingress (mean 370.57 Mbit/s) ---- Flow 1 egress (mean 354.80 Mbit/s) ——
Flow 2 ingress (mean 325.38 Mbit/s) ---- Flow 2 egress (mean 312.96 Mbit/s) ——
Flow 3 ingress (mean 11.51 Mbit/s) ---- Flow 3 egress (mean 11.43 Mbit/s) ——

Flow 1 (95th percentile 279.70 ms) · Flow 2 (95th percentile 272.61 ms) · Flow 3 (95th percentile 184.58 ms)

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```
Run 7: Statistics of TCP BBR

Start at: 2018-08-09 08:48:36
End at: 2018-08-09 08:49:06
Local clock offset: 0.309 ms
Remote clock offset: -0.092 ms


# Below is generated by plot.py at 2018-08-09 10:53:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 574.05 Mbit/s
95th percentile per-packet one-way delay: 277.734 ms
Loss rate: 9.43%
-- Flow 1:
Average throughput: 350.42 Mbit/s
95th percentile per-packet one-way delay: 270.877 ms
Loss rate: 9.52%
-- Flow 2:
Average throughput: 295.59 Mbit/s
95th percentile per-packet one-way delay: 293.041 ms
Loss rate: 8.69%
-- Flow 3:
Average throughput: 80.29 Mbit/s
95th percentile per-packet one-way delay: 203.916 ms
Loss rate: 13.37%
```
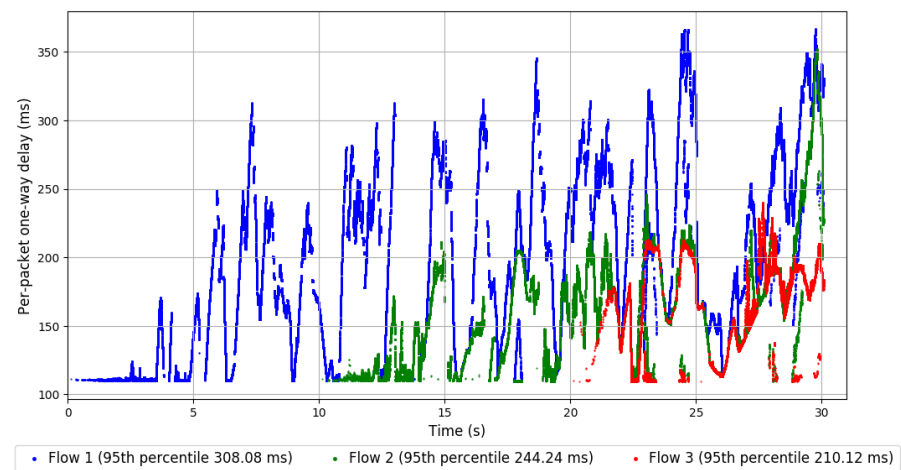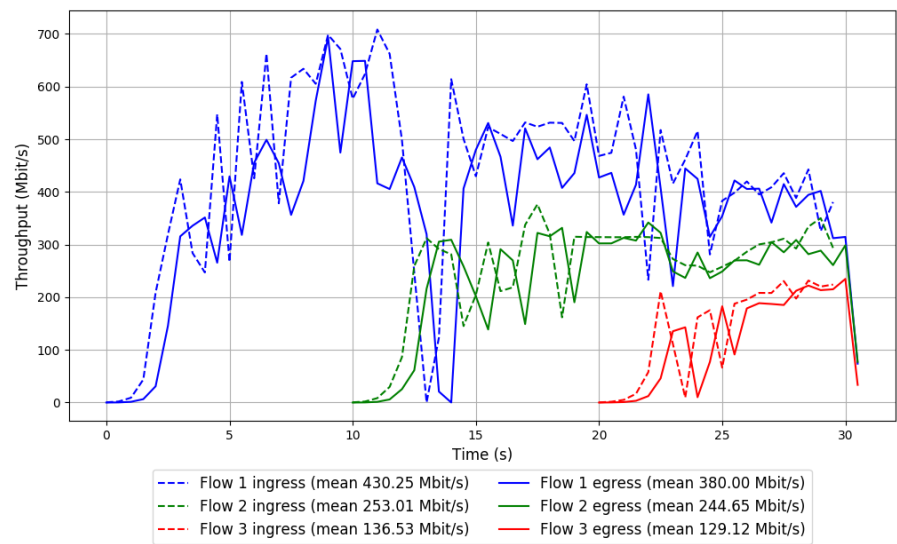
Run 7: Report of TCP BBR — Data Link

```
Run 8: Statistics of TCP BBR

Start at: 2018-08-09 09:15:14
End at: 2018-08-09 09:15:44
Local clock offset: -0.075 ms
Remote clock offset: -0.2 ms


# Below is generated by plot.py at 2018-08-09 10:53:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 547.91 Mbit/s
95th percentile per-packet one-way delay: 300.827 ms
Loss rate: 12.50%
-- Flow 1:
Average throughput: 400.05 Mbit/s
95th percentile per-packet one-way delay: 307.000 ms
Loss rate: 14.32%
-- Flow 2:
Average throughput: 176.47 Mbit/s
95th percentile per-packet one-way delay: 202.728 ms
Loss rate: 7.08%
-- Flow 3:
Average throughput: 91.14 Mbit/s
95th percentile per-packet one-way delay: 199.908 ms
Loss rate: 7.36%
```
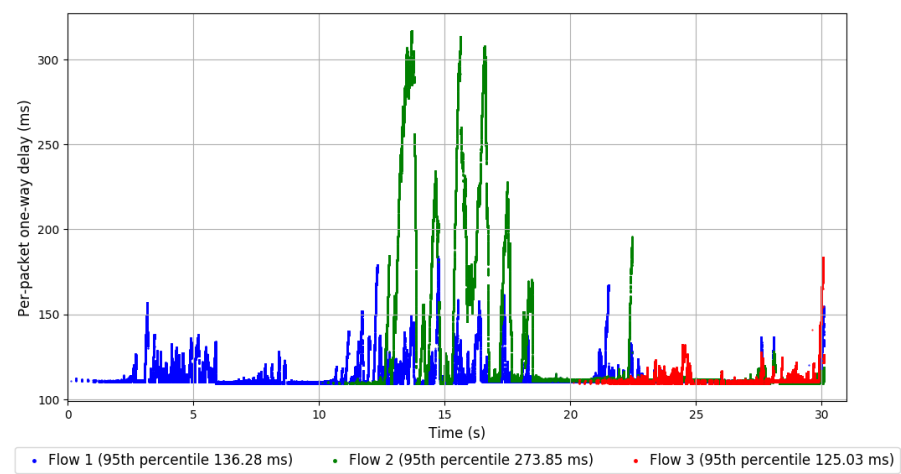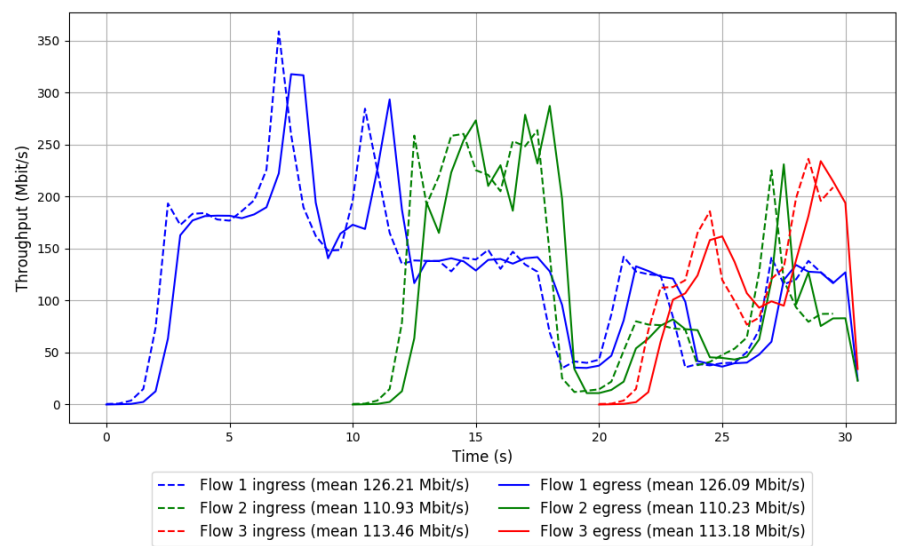
Run 8: Report of TCP BBR — Data Link

Flow 1 ingress (mean 466.93 Mbit/s) --- Flow 1 egress (mean 400.05 Mbit/s)
Flow 2 ingress (mean 189.93 Mbit/s) --- Flow 2 egress (mean 176.47 Mbit/s)
Flow 3 ingress (mean 98.37 Mbit/s) --- Flow 3 egress (mean 91.14 Mbit/s)

Flow 1 (95th percentile 307.00 ms)   Flow 2 (95th percentile 202.73 ms)   Flow 3 (95th percentile 199.91 ms)

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```
Run 9: Statistics of TCP BBR

Start at: 2018-08-09 09:41:33
End at: 2018-08-09 09:42:03
Local clock offset: 0.266 ms
Remote clock offset: -0.482 ms


# Below is generated by plot.py at 2018-08-09 11:01:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 576.17 Mbit/s
95th percentile per-packet one-way delay: 297.498 ms
Loss rate: 7.23%
-- Flow 1:
Average throughput: 313.35 Mbit/s
95th percentile per-packet one-way delay: 282.041 ms
Loss rate: 6.81%
-- Flow 2:
Average throughput: 326.55 Mbit/s
95th percentile per-packet one-way delay: 317.351 ms
Loss rate: 8.56%
-- Flow 3:
Average throughput: 136.25 Mbit/s
95th percentile per-packet one-way delay: 192.329 ms
Loss rate: 3.53%
```
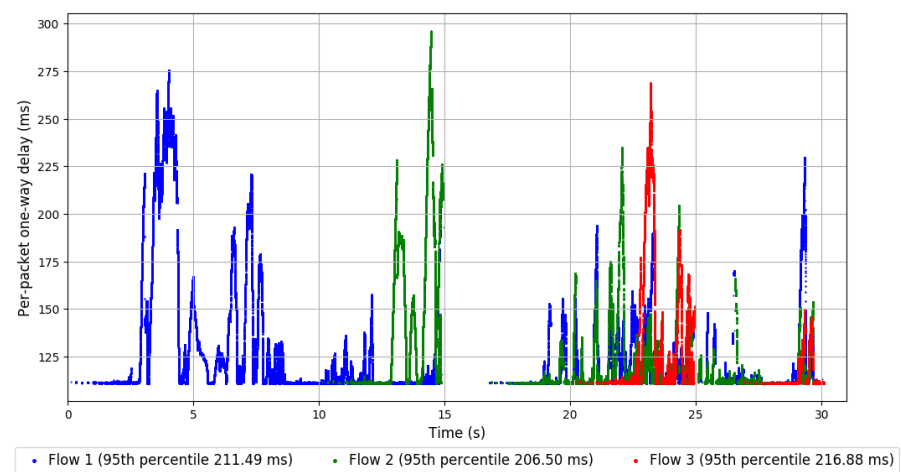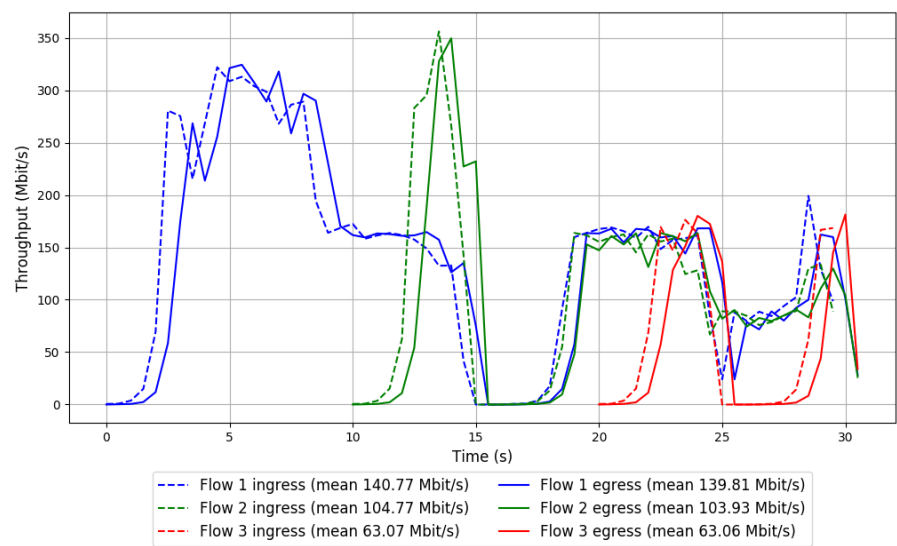
Run 9: Report of TCP BBR — Data Link

```
Run 10: Statistics of TCP BBR

Start at: 2018-08-09 10:08:06
End at: 2018-08-09 10:08:36
Local clock offset: -0.099 ms
Remote clock offset: -0.688 ms


# Below is generated by plot.py at 2018-08-09 11:02:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 585.87 Mbit/s
95th percentile per-packet one-way delay: 298.051 ms
Loss rate: 9.04%
-- Flow 1:
Average throughput: 380.00 Mbit/s
95th percentile per-packet one-way delay: 308.077 ms
Loss rate: 11.67%
-- Flow 2:
Average throughput: 244.65 Mbit/s
95th percentile per-packet one-way delay: 244.242 ms
Loss rate: 3.29%
-- Flow 3:
Average throughput: 129.12 Mbit/s
95th percentile per-packet one-way delay: 210.118 ms
Loss rate: 5.39%
```

Run 10: Report of TCP BBR — Data Link

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```
Run 1: Statistics of Copa

Start at: 2018-08-09 06:13:37
End at: 2018-08-09 06:14:07
Local clock offset: -0.231 ms
Remote clock offset: -0.209 ms


# Below is generated by plot.py at 2018-08-09 11:02:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 237.10 Mbit/s
95th percentile per-packet one-way delay: 200.917 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 126.09 Mbit/s
95th percentile per-packet one-way delay: 136.275 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 110.23 Mbit/s
95th percentile per-packet one-way delay: 273.849 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 113.18 Mbit/s
95th percentile per-packet one-way delay: 125.032 ms
Loss rate: 0.15%
```
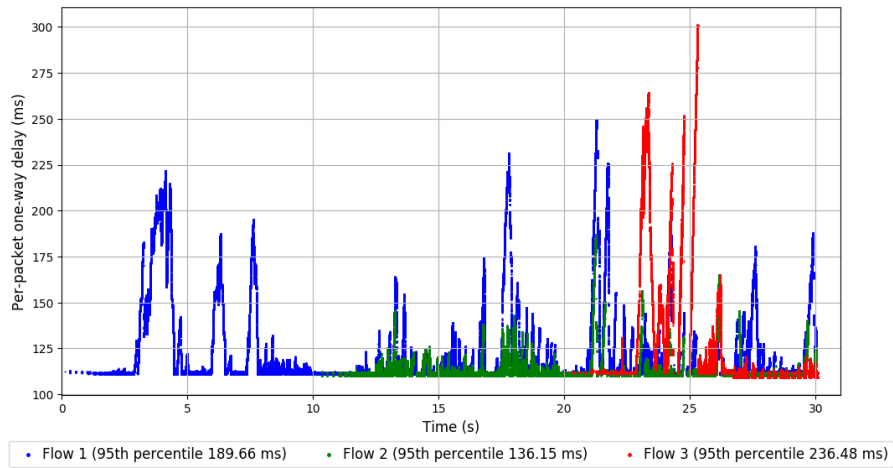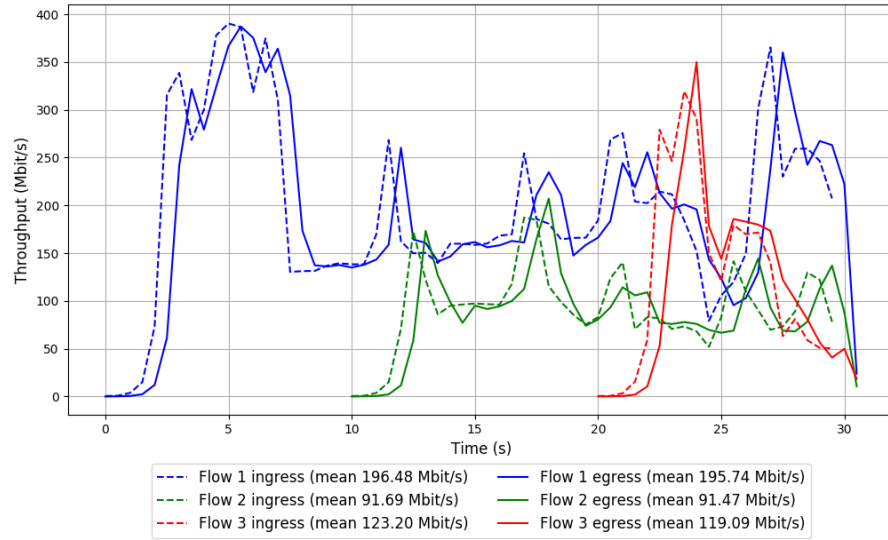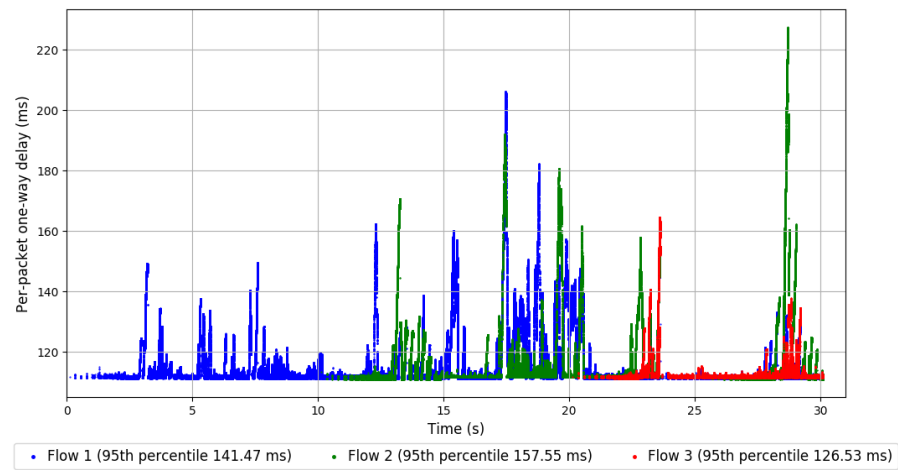
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2018-08-09 06:39:57
End at: 2018-08-09 06:40:27
Local clock offset: -0.168 ms
Remote clock offset: -0.529 ms


# Below is generated by plot.py at 2018-08-09 11:02:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 229.98 Mbit/s
95th percentile per-packet one-way delay: 210.436 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 139.81 Mbit/s
95th percentile per-packet one-way delay: 211.491 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 103.93 Mbit/s
95th percentile per-packet one-way delay: 206.495 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 63.06 Mbit/s
95th percentile per-packet one-way delay: 216.878 ms
Loss rate: 0.02%
```
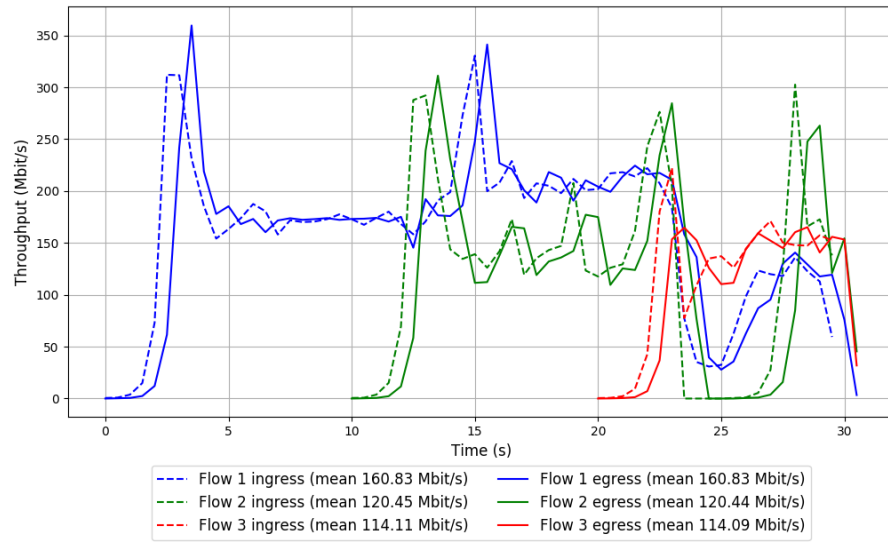
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-08-09 07:06:36
End at: 2018-08-09 07:07:06
Local clock offset: 0.13 ms
Remote clock offset: 0.298 ms


# Below is generated by plot.py at 2018-08-09 11:02:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.91 Mbit/s
95th percentile per-packet one-way delay: 191.353 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 195.74 Mbit/s
95th percentile per-packet one-way delay: 189.665 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 91.47 Mbit/s
95th percentile per-packet one-way delay: 136.153 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 119.09 Mbit/s
95th percentile per-packet one-way delay: 236.483 ms
Loss rate: 3.34%
```
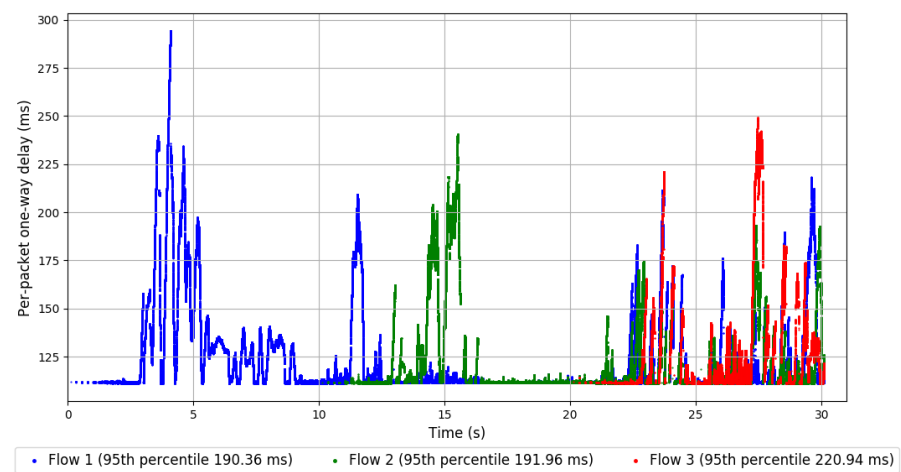
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-08-09 07:33:30
End at: 2018-08-09 07:34:00
Local clock offset: -0.246 ms
Remote clock offset: 0.27 ms


# Below is generated by plot.py at 2018-08-09 11:02:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 278.93 Mbit/s
95th percentile per-packet one-way delay: 144.865 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 160.83 Mbit/s
95th percentile per-packet one-way delay: 141.467 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 120.44 Mbit/s
95th percentile per-packet one-way delay: 157.548 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 114.09 Mbit/s
95th percentile per-packet one-way delay: 126.529 ms
Loss rate: 0.02%
```
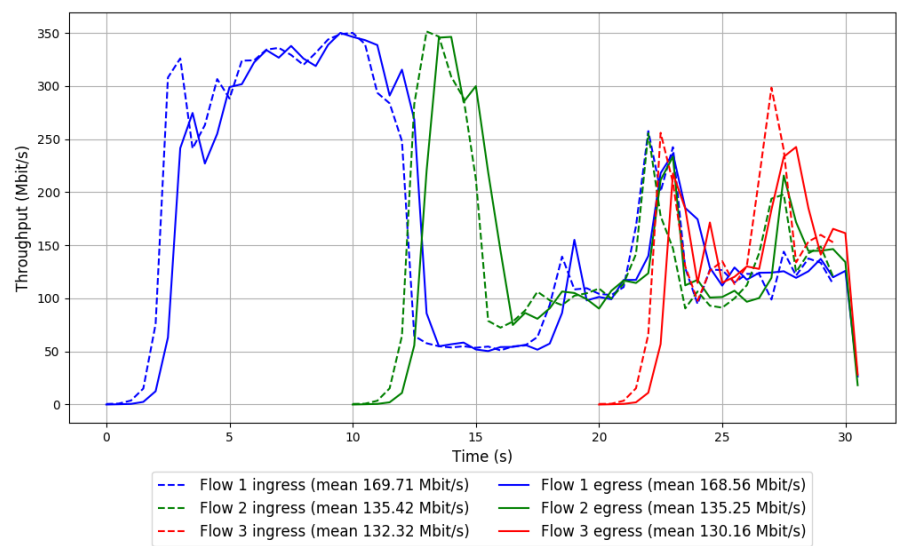
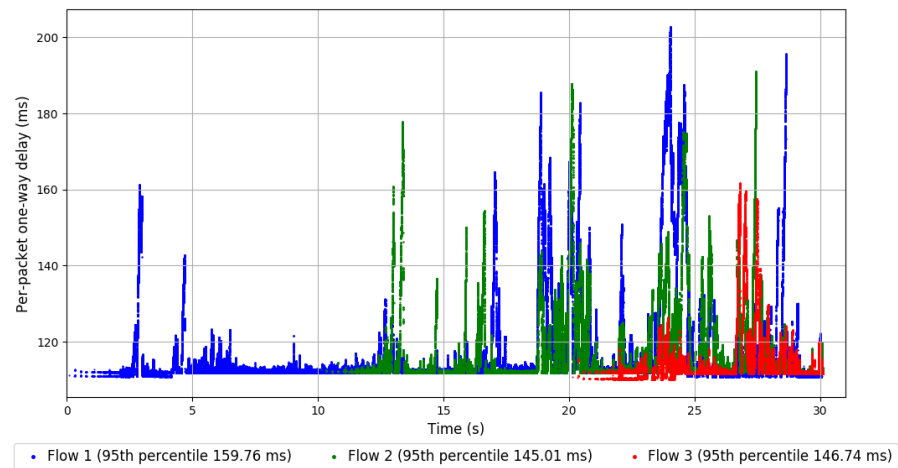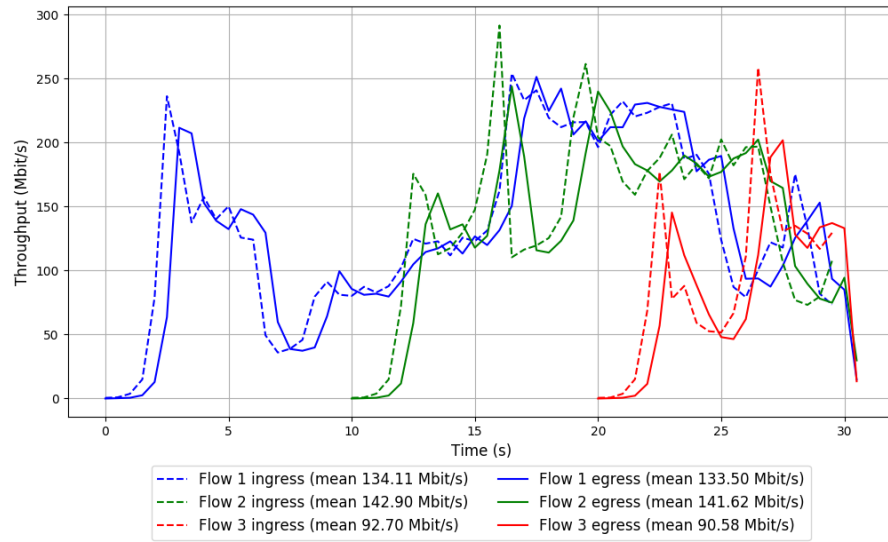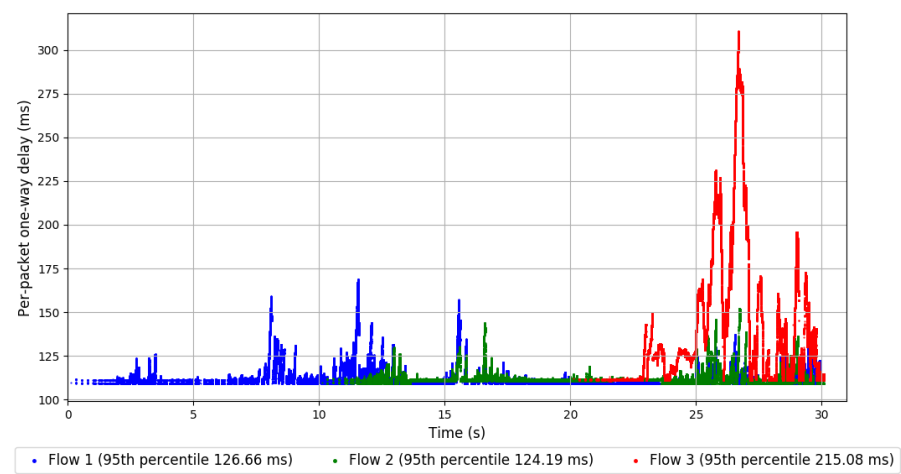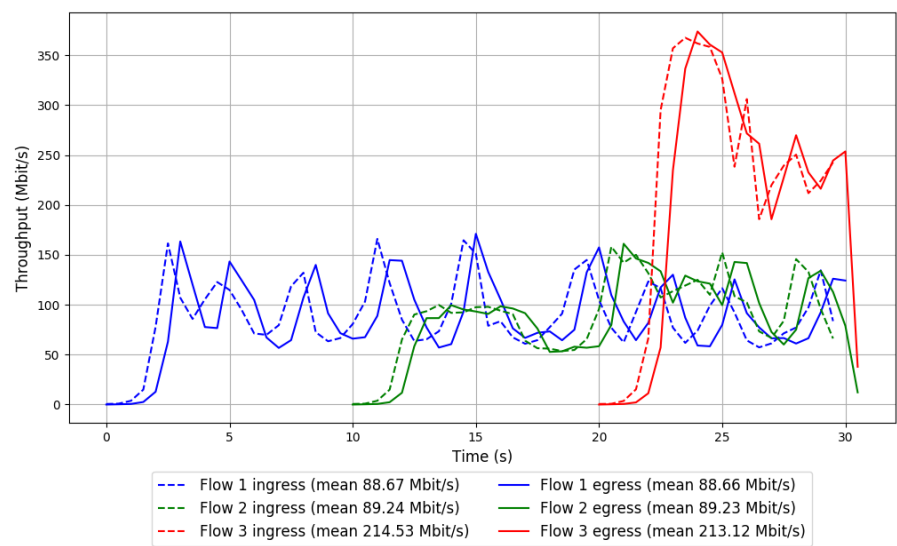Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2018-08-09 08:00:22
End at: 2018-08-09 08:00:52
Local clock offset: 0.025 ms
Remote clock offset: 0.179 ms


# Below is generated by plot.py at 2018-08-09 11:02:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 301.83 Mbit/s
95th percentile per-packet one-way delay: 192.947 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 168.56 Mbit/s
95th percentile per-packet one-way delay: 190.356 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 135.25 Mbit/s
95th percentile per-packet one-way delay: 191.961 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 130.16 Mbit/s
95th percentile per-packet one-way delay: 220.937 ms
Loss rate: 1.61%
```

Run 5: Report of Copa — Data Link

```
Run 6: Statistics of Copa

Start at: 2018-08-09 08:26:59
End at: 2018-08-09 08:27:29
Local clock offset: -1.542 ms
Remote clock offset: -0.496 ms


# Below is generated by plot.py at 2018-08-09 11:02:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 257.84 Mbit/s
95th percentile per-packet one-way delay: 153.280 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 133.50 Mbit/s
95th percentile per-packet one-way delay: 159.765 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 141.62 Mbit/s
95th percentile per-packet one-way delay: 145.012 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 90.58 Mbit/s
95th percentile per-packet one-way delay: 146.736 ms
Loss rate: 2.29%
```
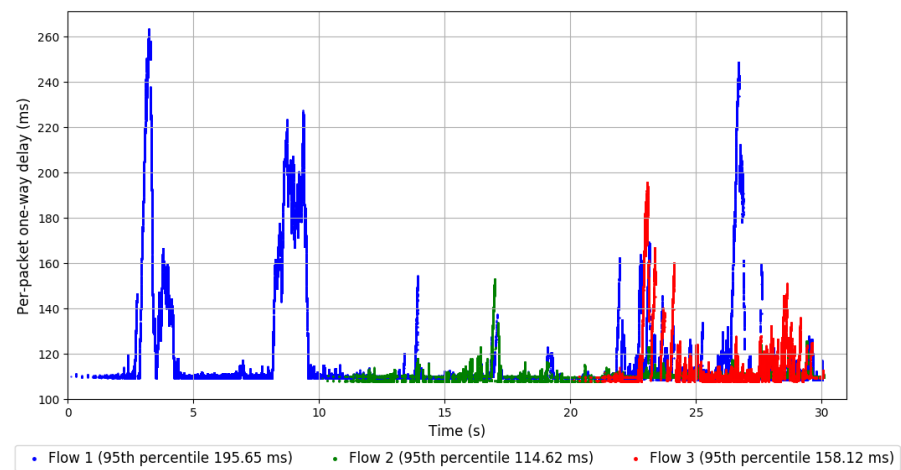
Run 6: Report of Copa — Data Link

```
Run 7: Statistics of Copa

Start at: 2018-08-09 08:53:22
End at: 2018-08-09 08:53:52
Local clock offset: 0.145 ms
Remote clock offset: -0.115 ms


# Below is generated by plot.py at 2018-08-09 11:06:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 218.39 Mbit/s
95th percentile per-packet one-way delay: 167.115 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 88.66 Mbit/s
95th percentile per-packet one-way delay: 126.662 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 89.23 Mbit/s
95th percentile per-packet one-way delay: 124.192 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 213.12 Mbit/s
95th percentile per-packet one-way delay: 215.078 ms
Loss rate: 0.66%
```

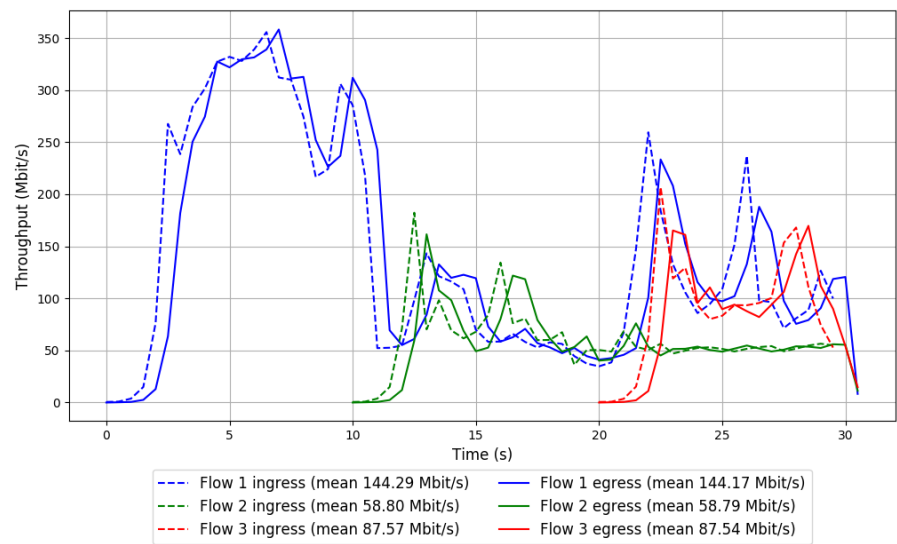## Run 7: Report of Copa — Data Link

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```
Run 8: Statistics of Copa

Start at: 2018-08-09 09:19:54
End at: 2018-08-09 09:20:24
Local clock offset: 1.249 ms
Remote clock offset: -0.308 ms


# Below is generated by plot.py at 2018-08-09 11:06:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 212.07 Mbit/s
95th percentile per-packet one-way delay: 180.858 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 144.17 Mbit/s
95th percentile per-packet one-way delay: 195.650 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 58.79 Mbit/s
95th percentile per-packet one-way delay: 114.621 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 87.54 Mbit/s
95th percentile per-packet one-way delay: 158.122 ms
Loss rate: 0.00%
```
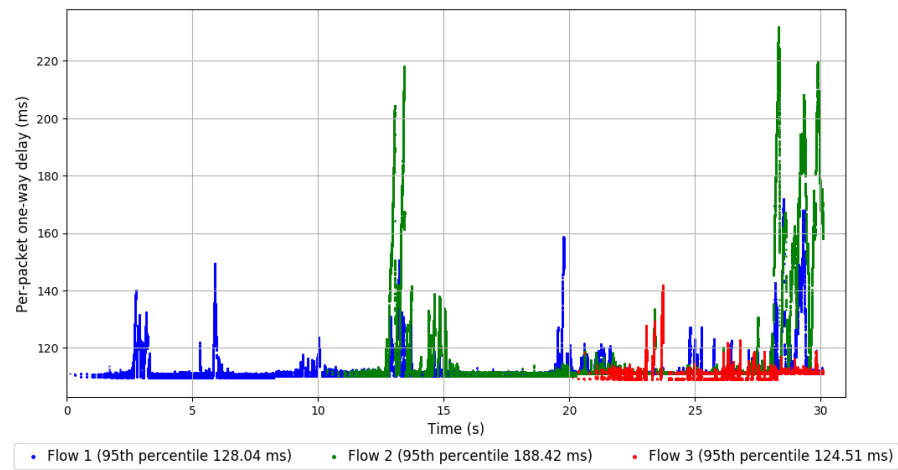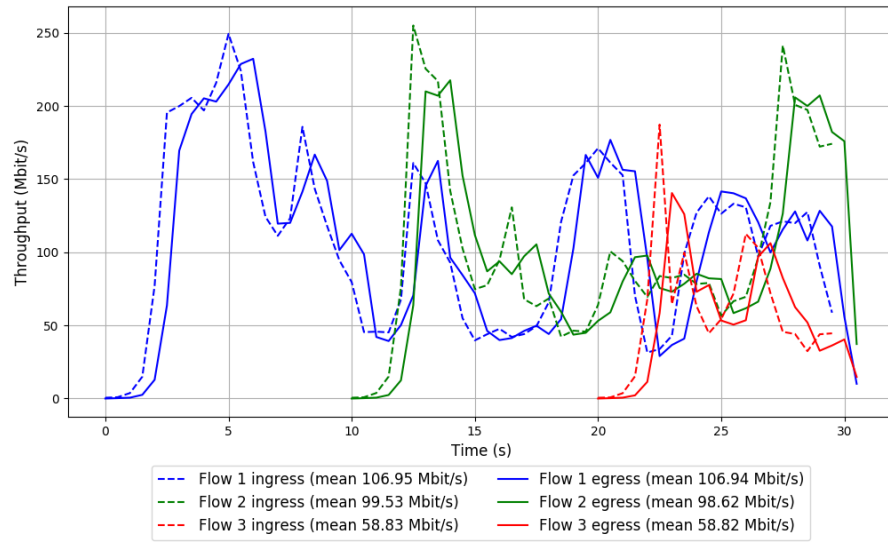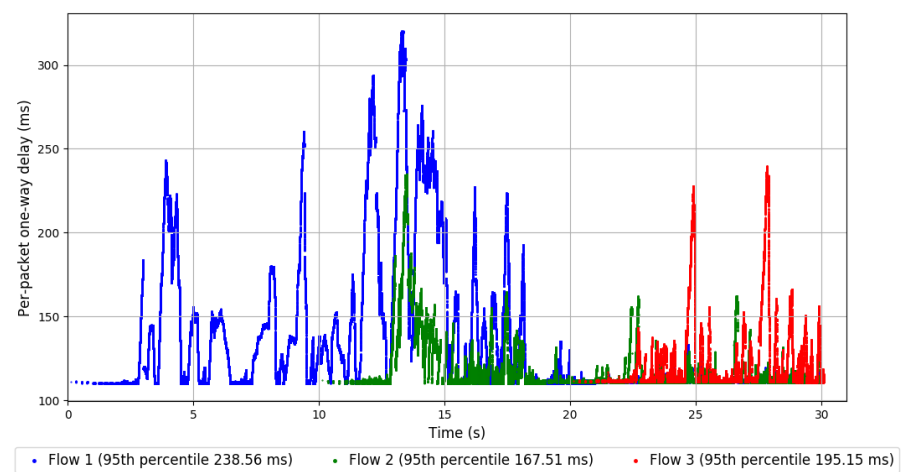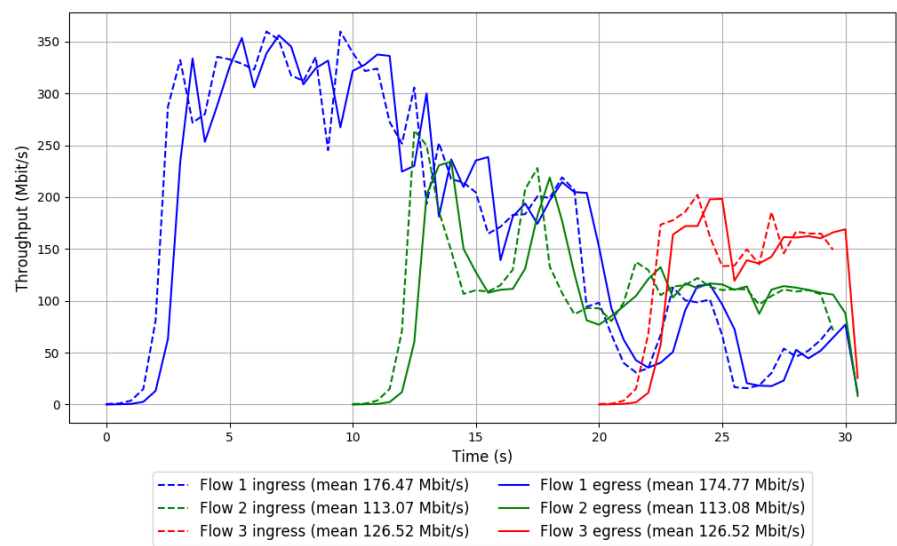
Run 8: Report of Copa — Data Link

Flow 1 ingress (mean 144.29 Mbit/s) ---- Flow 1 egress (mean 144.17 Mbit/s) ——
Flow 2 ingress (mean 58.80 Mbit/s) ---- Flow 2 egress (mean 58.79 Mbit/s) ——
Flow 3 ingress (mean 87.57 Mbit/s) ---- Flow 3 egress (mean 87.54 Mbit/s) ——

Flow 1 (95th percentile 195.65 ms)   Flow 2 (95th percentile 114.62 ms)   Flow 3 (95th percentile 158.12 ms)

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```
Run 9: Statistics of Copa

Start at: 2018-08-09 09:46:25
End at: 2018-08-09 09:46:55
Local clock offset: 0.071 ms
Remote clock offset: -0.544 ms


# Below is generated by plot.py at 2018-08-09 11:06:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 192.17 Mbit/s
95th percentile per-packet one-way delay: 160.691 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 106.94 Mbit/s
95th percentile per-packet one-way delay: 128.039 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 98.62 Mbit/s
95th percentile per-packet one-way delay: 188.418 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 58.82 Mbit/s
95th percentile per-packet one-way delay: 124.510 ms
Loss rate: 0.01%
```

Run 9: Report of Copa — Data Link

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```
Run 10: Statistics of Copa

Start at: 2018-08-09 10:13:14
End at: 2018-08-09 10:13:44
Local clock offset: -0.255 ms
Remote clock offset: -0.349 ms

# Below is generated by plot.py at 2018-08-09 11:09:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 292.09 Mbit/s
95th percentile per-packet one-way delay: 222.705 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 174.77 Mbit/s
95th percentile per-packet one-way delay: 238.559 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 113.08 Mbit/s
95th percentile per-packet one-way delay: 167.512 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 126.52 Mbit/s
95th percentile per-packet one-way delay: 195.151 ms
Loss rate: 0.00%
```
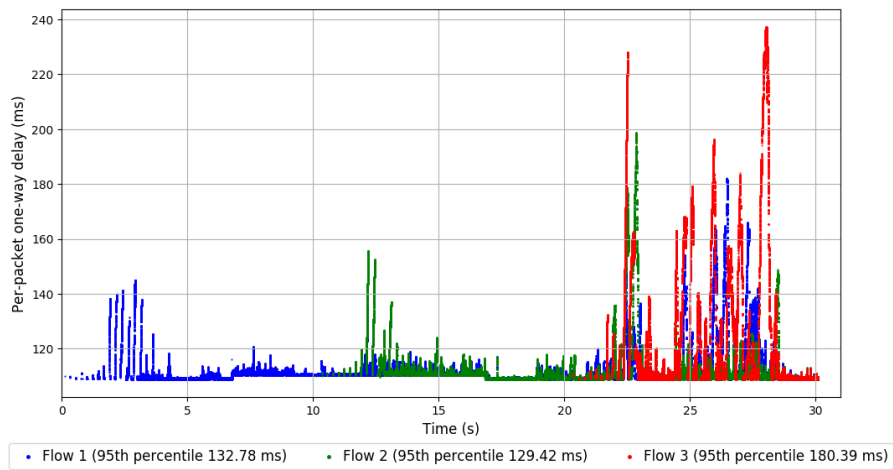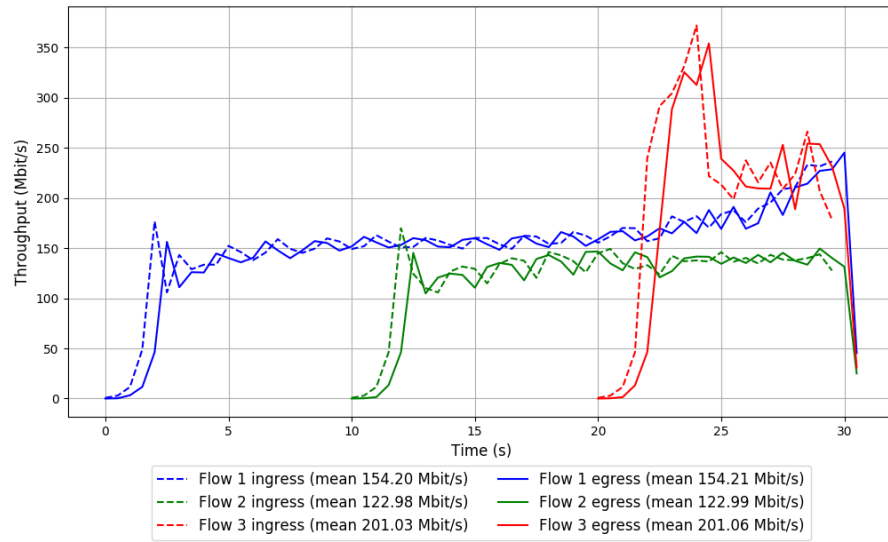
Run 10: Report of Copa — Data Link

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```
Run 1: Statistics of TCP Cubic

Start at: 2018-08-09 06:18:36
End at: 2018-08-09 06:19:06
Local clock offset: 0.001 ms
Remote clock offset: -0.57 ms


# Below is generated by plot.py at 2018-08-09 11:09:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 302.93 Mbit/s
95th percentile per-packet one-way delay: 149.852 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 154.21 Mbit/s
95th percentile per-packet one-way delay: 132.785 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 122.99 Mbit/s
95th percentile per-packet one-way delay: 129.424 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 201.06 Mbit/s
95th percentile per-packet one-way delay: 180.388 ms
Loss rate: 0.00%
```

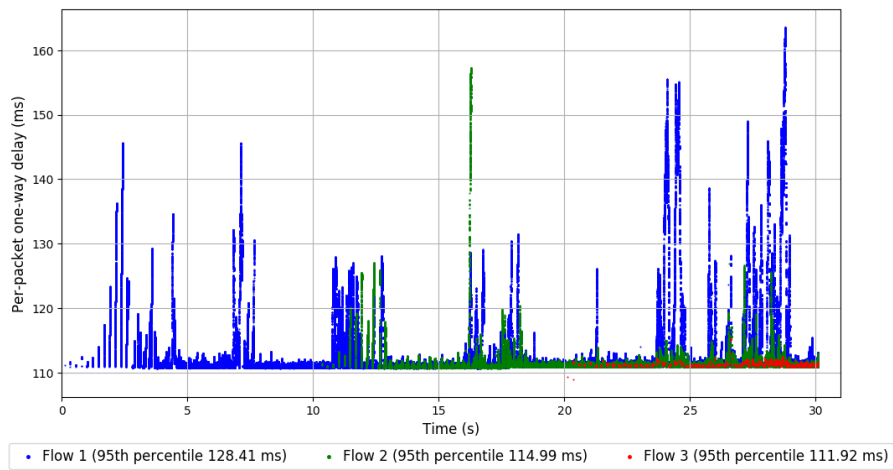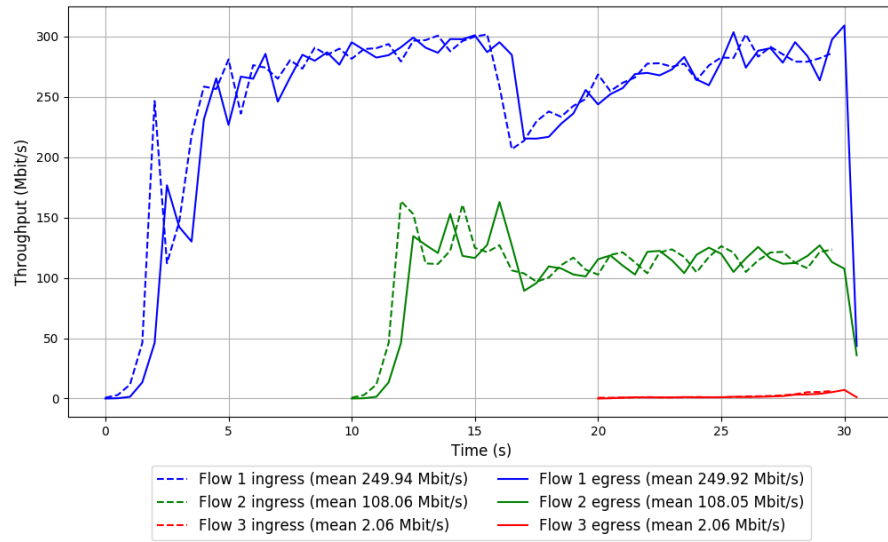# Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 154.20 Mbit/s)   Flow 1 egress (mean 154.21 Mbit/s)
Flow 2 ingress (mean 122.98 Mbit/s)   Flow 2 egress (mean 122.99 Mbit/s)
Flow 3 ingress (mean 201.03 Mbit/s)   Flow 3 egress (mean 201.06 Mbit/s)

Flow 1 (95th percentile 132.78 ms)   Flow 2 (95th percentile 129.42 ms)   Flow 3 (95th percentile 180.39 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2018-08-09 06:44:55
End at: 2018-08-09 06:45:25
Local clock offset: 0.008 ms
Remote clock offset: -0.643 ms


# Below is generated by plot.py at 2018-08-09 11:09:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 322.58 Mbit/s
95th percentile per-packet one-way delay: 125.410 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 249.92 Mbit/s
95th percentile per-packet one-way delay: 128.414 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 108.05 Mbit/s
95th percentile per-packet one-way delay: 114.990 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 111.921 ms
Loss rate: 0.06%
```
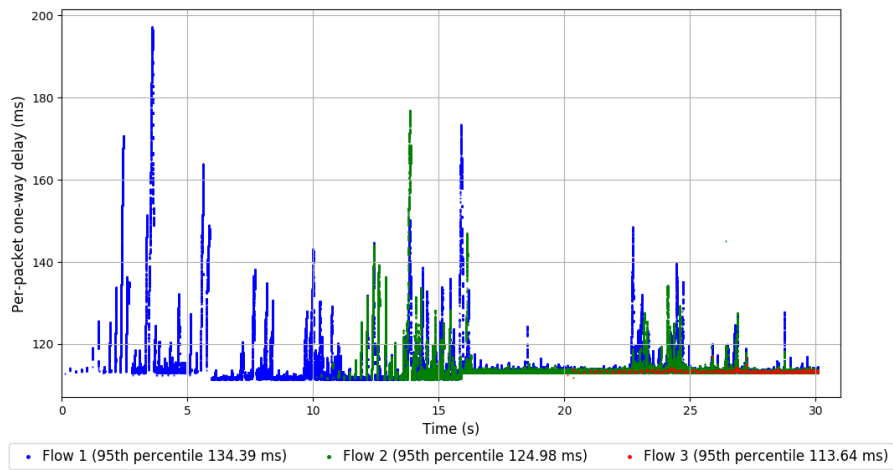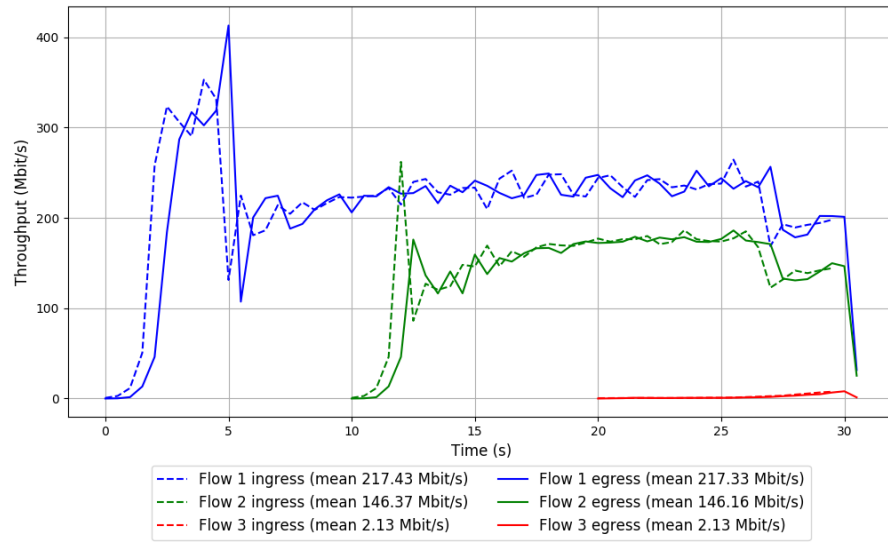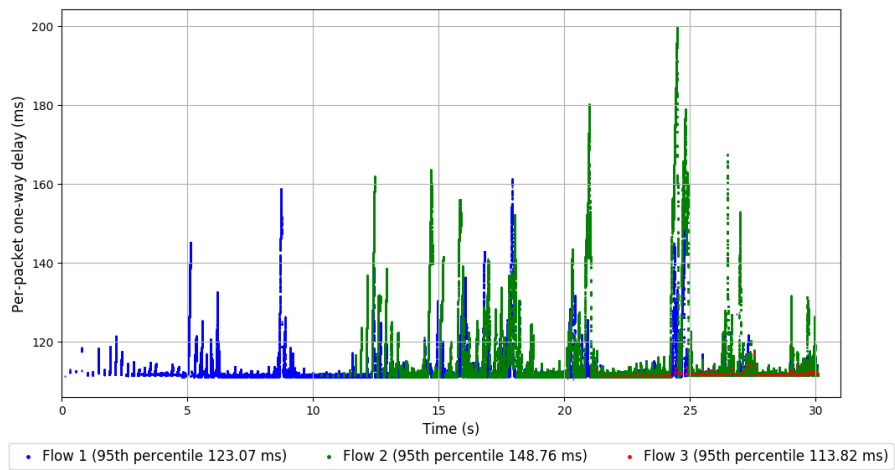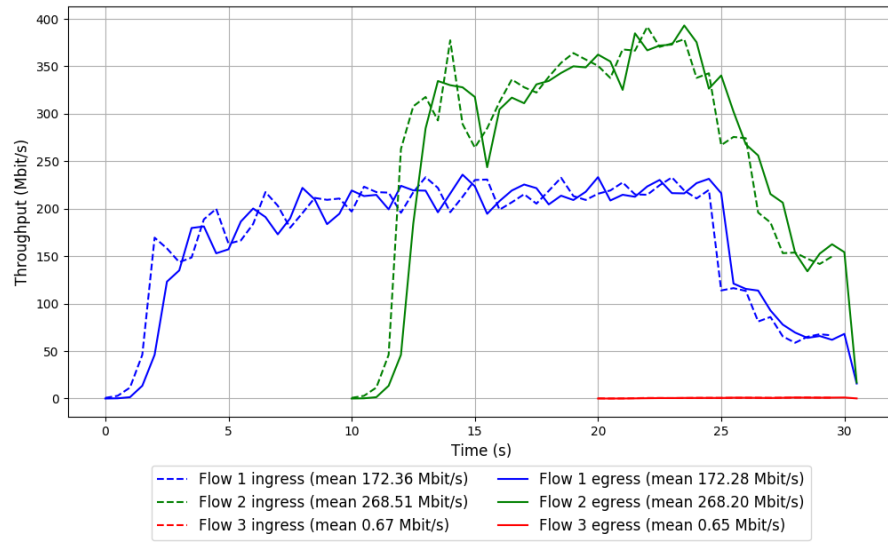
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 249.94 Mbit/s) — — — Flow 1 egress (mean 249.92 Mbit/s)
Flow 2 ingress (mean 108.06 Mbit/s) — — — Flow 2 egress (mean 108.05 Mbit/s)
Flow 3 ingress (mean 2.06 Mbit/s) — — — Flow 3 egress (mean 2.06 Mbit/s)

Flow 1 (95th percentile 128.41 ms)   •   Flow 2 (95th percentile 114.99 ms)   •   Flow 3 (95th percentile 111.92 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2018-08-09 07:11:47
End at: 2018-08-09 07:12:17
Local clock offset: -1.276 ms
Remote clock offset: 0.26 ms


# Below is generated by plot.py at 2018-08-09 11:09:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 315.44 Mbit/s
95th percentile per-packet one-way delay: 132.498 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 217.33 Mbit/s
95th percentile per-packet one-way delay: 134.386 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 146.16 Mbit/s
95th percentile per-packet one-way delay: 124.979 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 113.642 ms
Loss rate: 0.11%
```
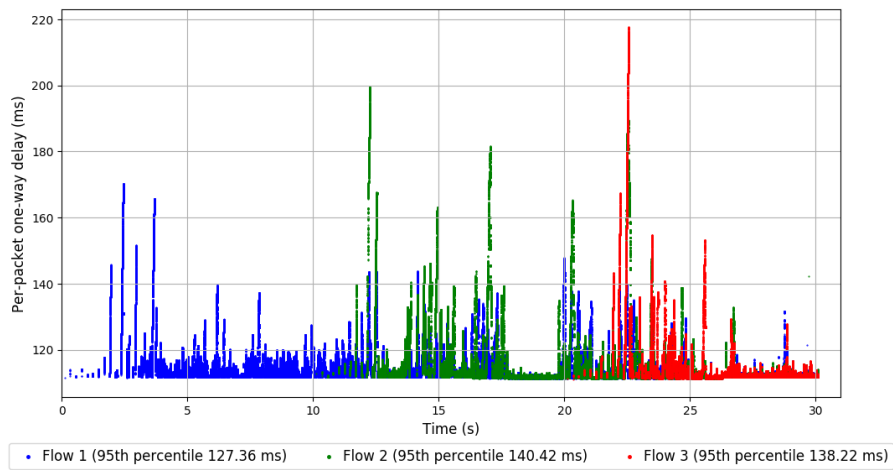
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 217.43 Mbit/s) --- Flow 1 egress (mean 217.33 Mbit/s)
Flow 2 ingress (mean 146.37 Mbit/s) --- Flow 2 egress (mean 146.16 Mbit/s)
Flow 3 ingress (mean 2.13 Mbit/s) --- Flow 3 egress (mean 2.13 Mbit/s)

Flow 1 (95th percentile 134.39 ms)   Flow 2 (95th percentile 124.98 ms)   Flow 3 (95th percentile 113.64 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2018-08-09 07:38:38
End at: 2018-08-09 07:39:08
Local clock offset: -0.113 ms
Remote clock offset: -0.133 ms


# Below is generated by plot.py at 2018-08-09 11:09:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 351.24 Mbit/s
95th percentile per-packet one-way delay: 136.860 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 172.28 Mbit/s
95th percentile per-packet one-way delay: 123.072 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 268.20 Mbit/s
95th percentile per-packet one-way delay: 148.764 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 113.819 ms
Loss rate: 2.87%
```
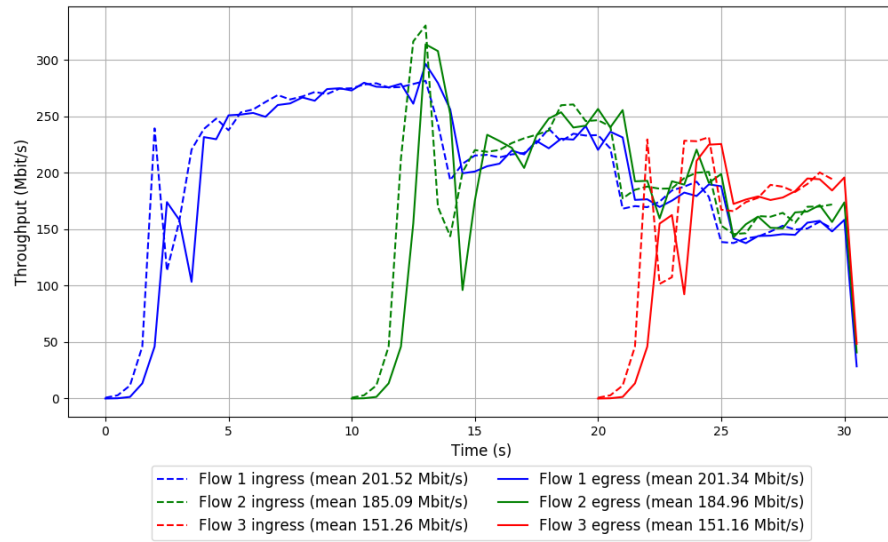
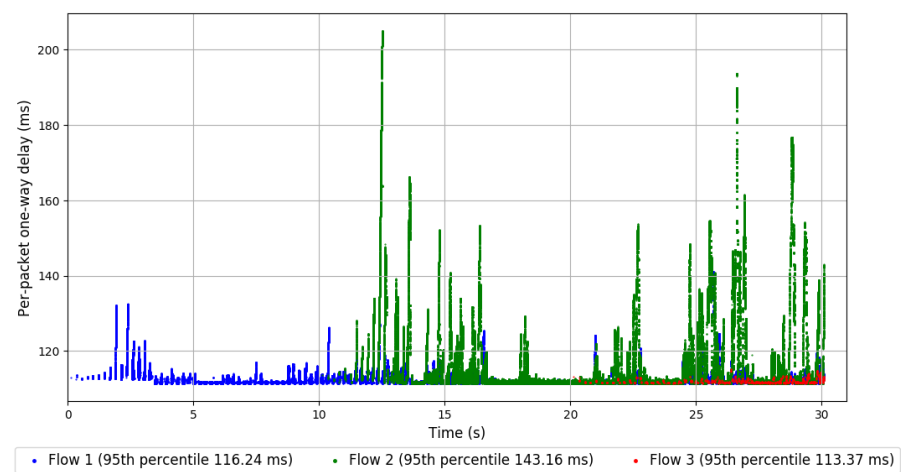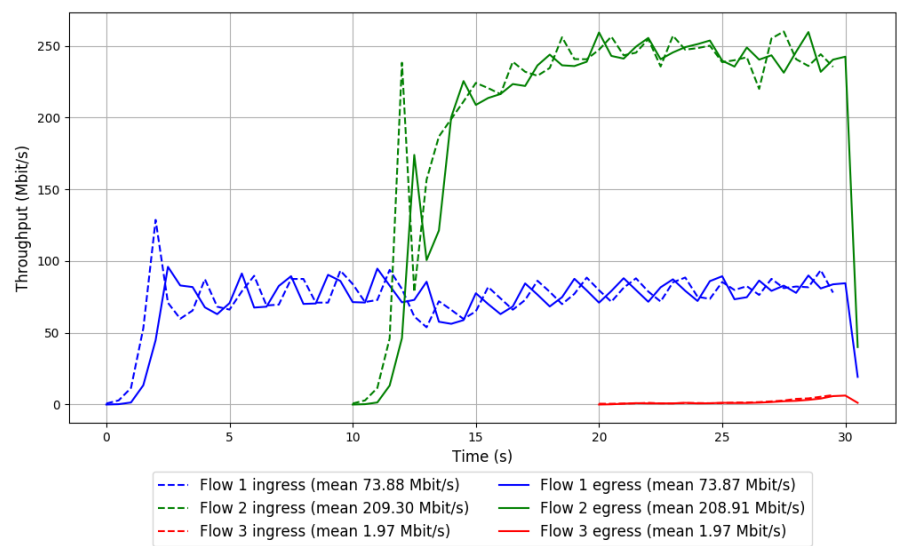Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-08-09 08:05:27
End at: 2018-08-09 08:05:57
Local clock offset: -0.052 ms
Remote clock offset: 0.266 ms


# Below is generated by plot.py at 2018-08-09 11:11:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 374.83 Mbit/s
95th percentile per-packet one-way delay: 133.151 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 201.34 Mbit/s
95th percentile per-packet one-way delay: 127.355 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 184.96 Mbit/s
95th percentile per-packet one-way delay: 140.423 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 151.16 Mbit/s
95th percentile per-packet one-way delay: 138.220 ms
Loss rate: 0.08%
```

Run 5: Report of TCP Cubic — Data Link

```
Run 6: Statistics of TCP Cubic

Start at: 2018-08-09 08:32:00
End at: 2018-08-09 08:32:30
Local clock offset: -1.326 ms
Remote clock offset: 0.254 ms


# Below is generated by plot.py at 2018-08-09 11:11:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 213.68 Mbit/s
95th percentile per-packet one-way delay: 135.986 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 73.87 Mbit/s
95th percentile per-packet one-way delay: 116.240 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 208.91 Mbit/s
95th percentile per-packet one-way delay: 143.159 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 113.370 ms
Loss rate: 0.18%
```
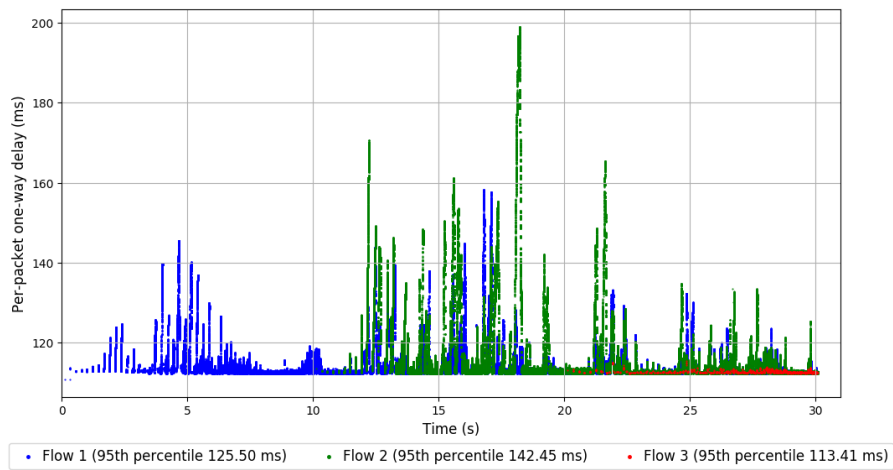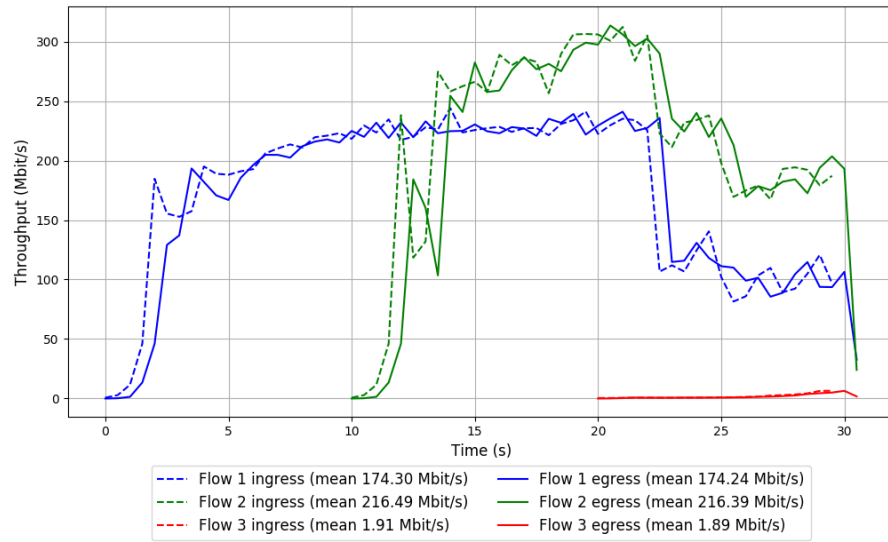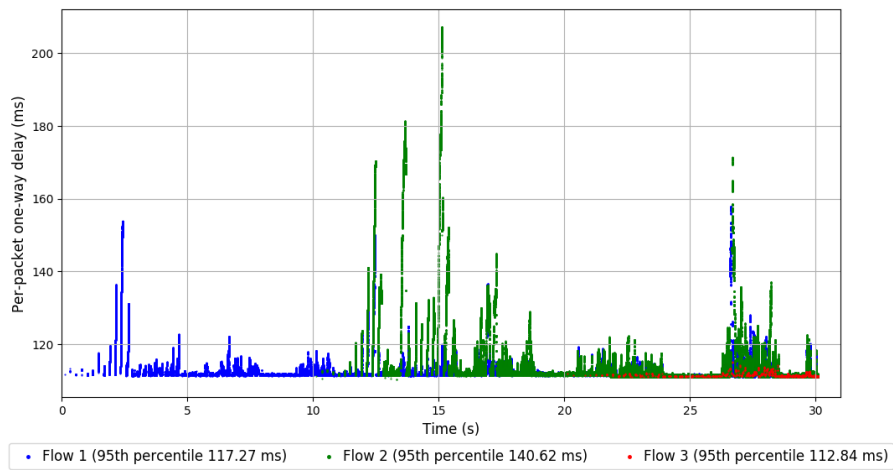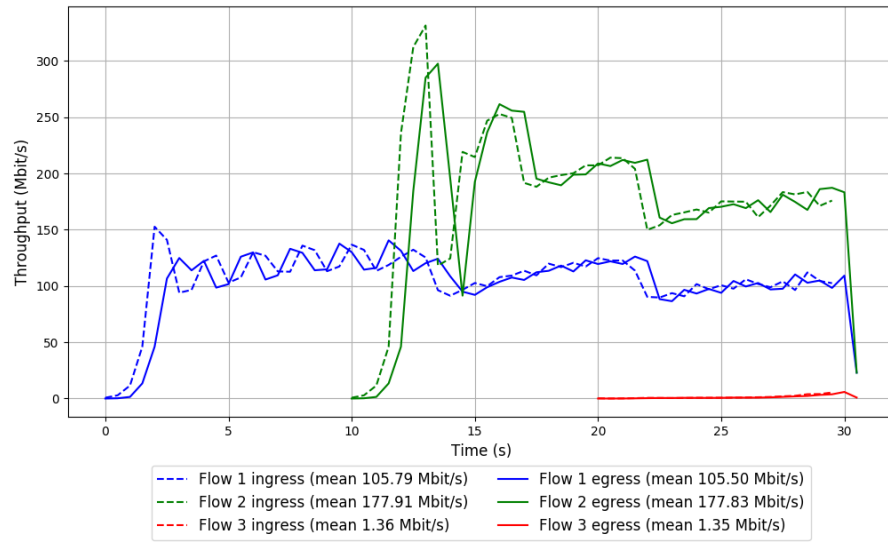
Run 6: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 73.88 Mbit/s) — Flow 1 egress (mean 73.87 Mbit/s)
- - - Flow 2 ingress (mean 209.30 Mbit/s) — Flow 2 egress (mean 208.91 Mbit/s)
- - - Flow 3 ingress (mean 1.97 Mbit/s) — Flow 3 egress (mean 1.97 Mbit/s)

• Flow 1 (95th percentile 116.24 ms) • Flow 2 (95th percentile 143.16 ms) • Flow 3 (95th percentile 113.37 ms)
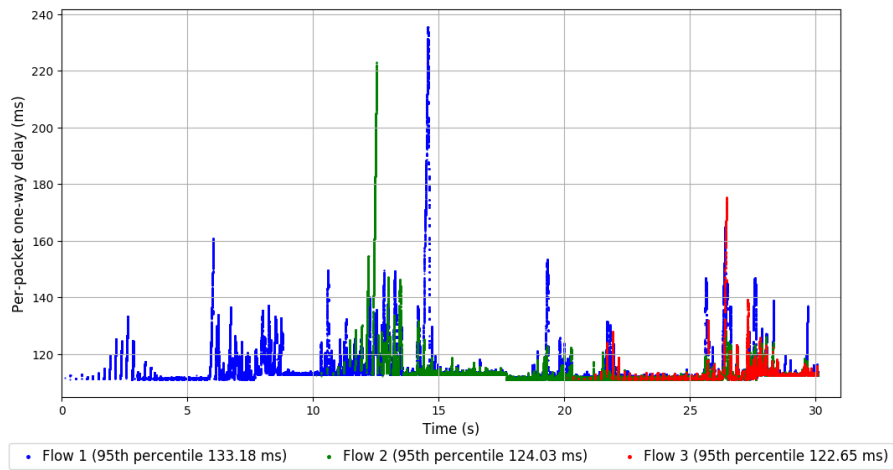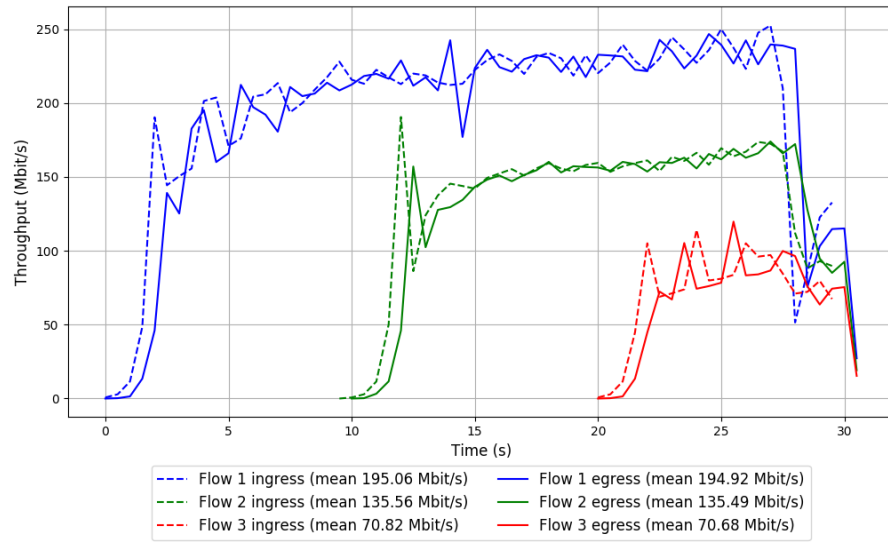
```
Run 7: Statistics of TCP Cubic

Start at: 2018-08-09 08:58:30
End at: 2018-08-09 08:59:00
Local clock offset: -1.14 ms
Remote clock offset: 0.2 ms


# Below is generated by plot.py at 2018-08-09 11:11:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 318.94 Mbit/s
95th percentile per-packet one-way delay: 134.111 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 174.24 Mbit/s
95th percentile per-packet one-way delay: 125.499 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 216.39 Mbit/s
95th percentile per-packet one-way delay: 142.451 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 113.408 ms
Loss rate: 0.88%
```

Run 7: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 174.30 Mbit/s)   Flow 1 egress (mean 174.24 Mbit/s)
Flow 2 ingress (mean 216.49 Mbit/s)   Flow 2 egress (mean 216.39 Mbit/s)
Flow 3 ingress (mean 1.91 Mbit/s)   Flow 3 egress (mean 1.89 Mbit/s)

Flow 1 (95th percentile 125.50 ms)   Flow 2 (95th percentile 142.45 ms)   Flow 3 (95th percentile 113.41 ms)

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```
Run 8: Statistics of TCP Cubic

Start at: 2018-08-09 09:24:51
End at: 2018-08-09 09:25:21
Local clock offset: -0.164 ms
Remote clock offset: -0.248 ms


# Below is generated by plot.py at 2018-08-09 11:11:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 224.40 Mbit/s
95th percentile per-packet one-way delay: 132.256 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 105.50 Mbit/s
95th percentile per-packet one-way delay: 117.273 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 177.83 Mbit/s
95th percentile per-packet one-way delay: 140.624 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 112.837 ms
Loss rate: 0.89%
```

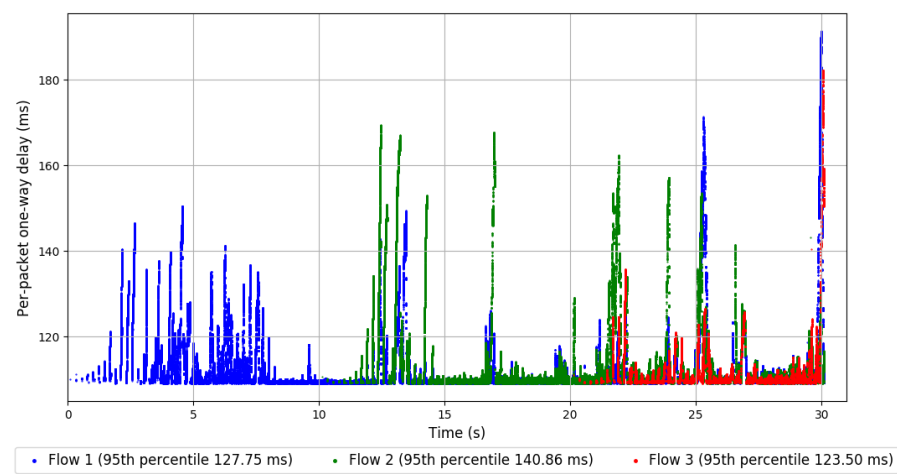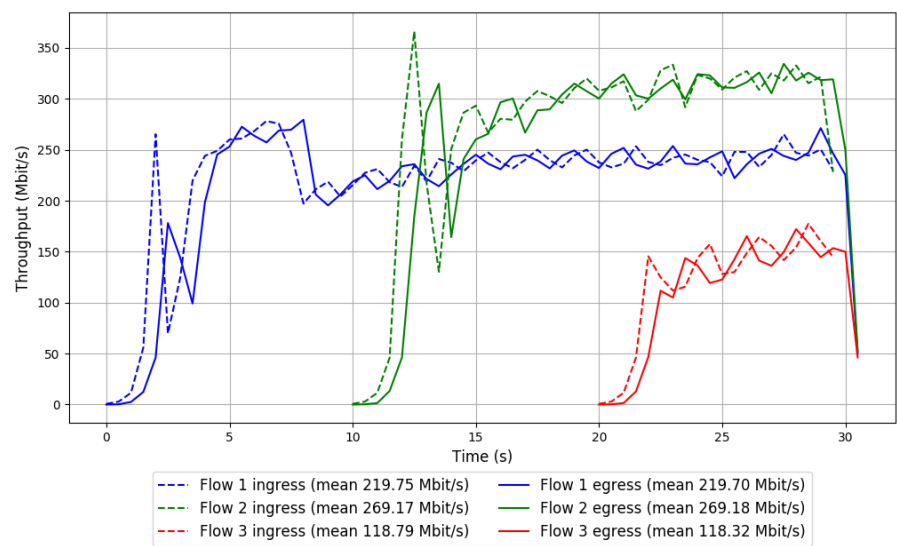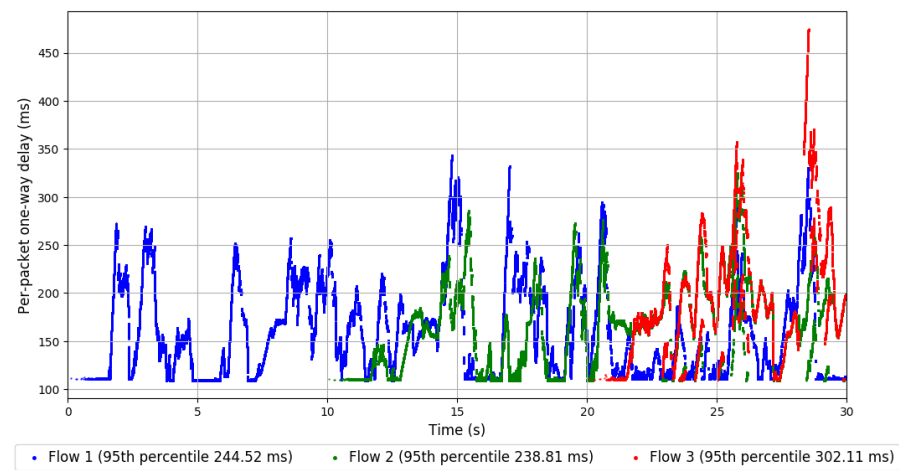Run 8: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 105.79 Mbit/s)   Flow 1 egress (mean 105.50 Mbit/s)
Flow 2 ingress (mean 177.91 Mbit/s)   Flow 2 egress (mean 177.83 Mbit/s)
Flow 3 ingress (mean 1.36 Mbit/s)   Flow 3 egress (mean 1.35 Mbit/s)

Flow 1 (95th percentile 117.27 ms)   Flow 2 (95th percentile 140.62 ms)   Flow 3 (95th percentile 112.84 ms)

```
Run 9: Statistics of TCP Cubic

Start at: 2018-08-09 09:51:26
End at: 2018-08-09 09:51:56
Local clock offset: -1.31 ms
Remote clock offset: -0.562 ms


# Below is generated by plot.py at 2018-08-09 11:11:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 308.71 Mbit/s
95th percentile per-packet one-way delay: 130.680 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 194.92 Mbit/s
95th percentile per-packet one-way delay: 133.184 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 135.49 Mbit/s
95th percentile per-packet one-way delay: 124.025 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 70.68 Mbit/s
95th percentile per-packet one-way delay: 122.651 ms
Loss rate: 0.18%
```

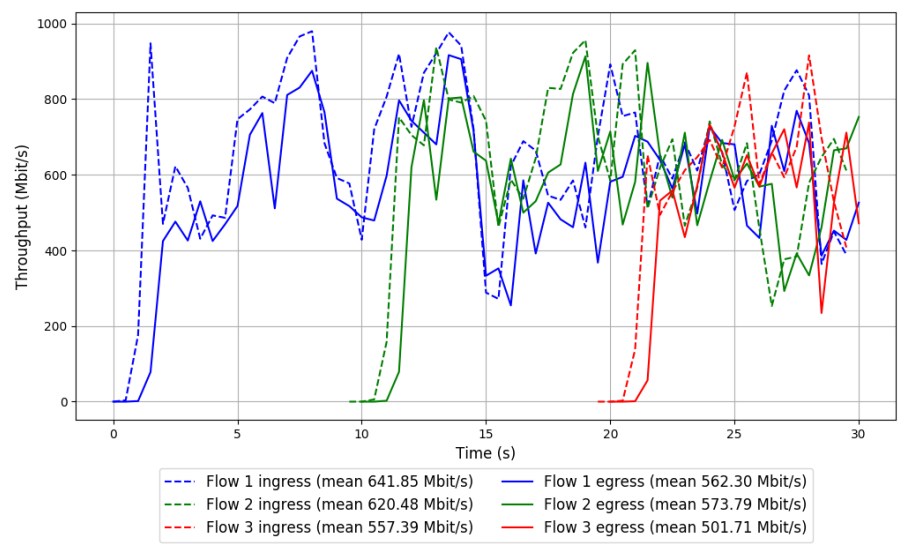Run 9: Report of TCP Cubic — Data Link

```
Run 10: Statistics of TCP Cubic

Start at: 2018-08-09 10:18:28
End at: 2018-08-09 10:18:58
Local clock offset: -0.1 ms
Remote clock offset: -1.108 ms


# Below is generated by plot.py at 2018-08-09 11:13:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 438.29 Mbit/s
95th percentile per-packet one-way delay: 132.152 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 219.70 Mbit/s
95th percentile per-packet one-way delay: 127.753 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 269.18 Mbit/s
95th percentile per-packet one-way delay: 140.863 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 118.32 Mbit/s
95th percentile per-packet one-way delay: 123.497 ms
Loss rate: 0.24%
```

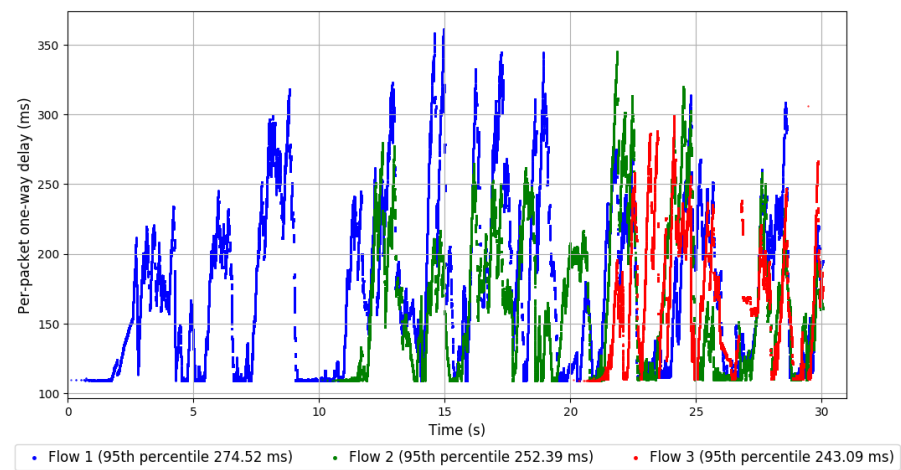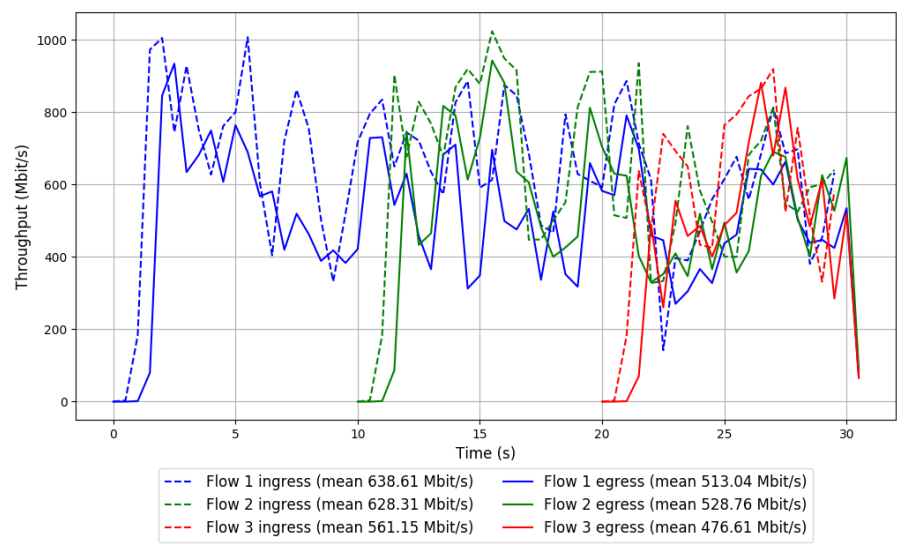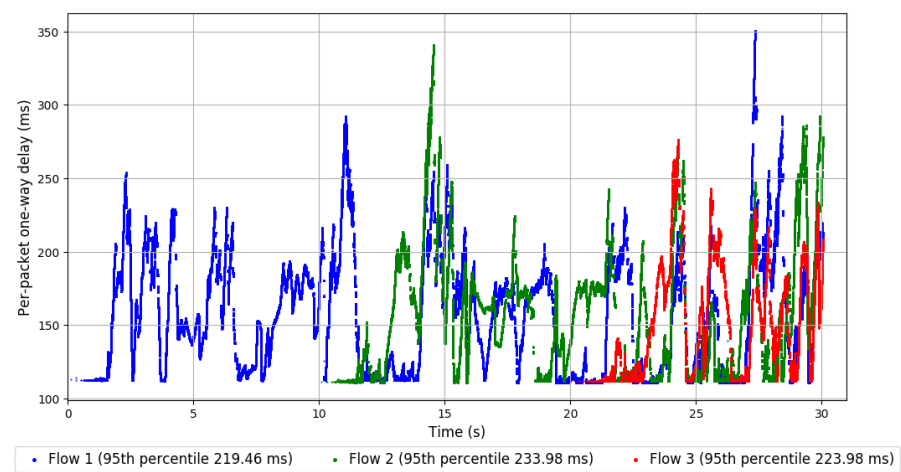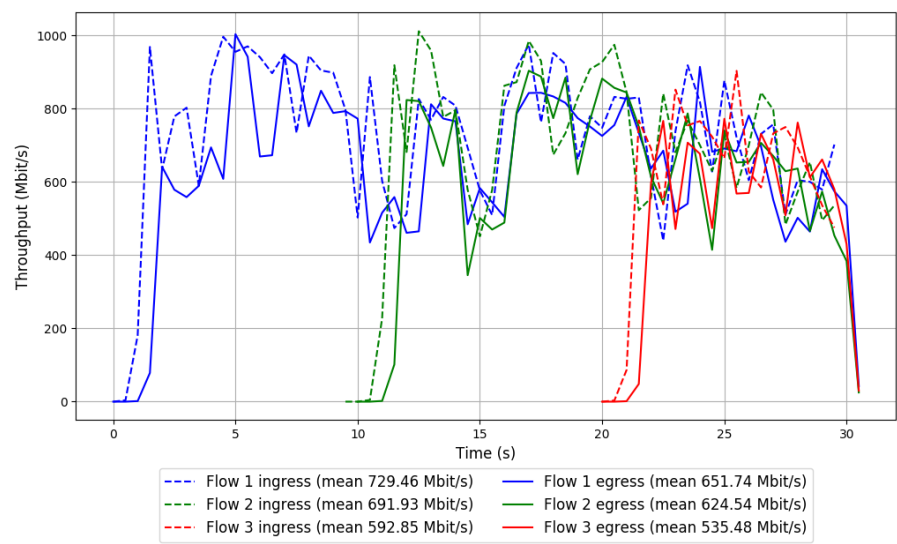Run 10: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2018-08-09 06:16:30
End at: 2018-08-09 06:17:00
Local clock offset: 0.269 ms
Remote clock offset: -0.176 ms


# Below is generated by plot.py at 2018-08-09 11:27:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1111.79 Mbit/s
95th percentile per-packet one-way delay: 254.981 ms
Loss rate: 10.41%
-- Flow 1:
Average throughput: 562.30 Mbit/s
95th percentile per-packet one-way delay: 244.521 ms
Loss rate: 12.40%
-- Flow 2:
Average throughput: 573.79 Mbit/s
95th percentile per-packet one-way delay: 238.815 ms
Loss rate: 7.52%
-- Flow 3:
Average throughput: 501.71 Mbit/s
95th percentile per-packet one-way delay: 302.109 ms
Loss rate: 9.98%
```

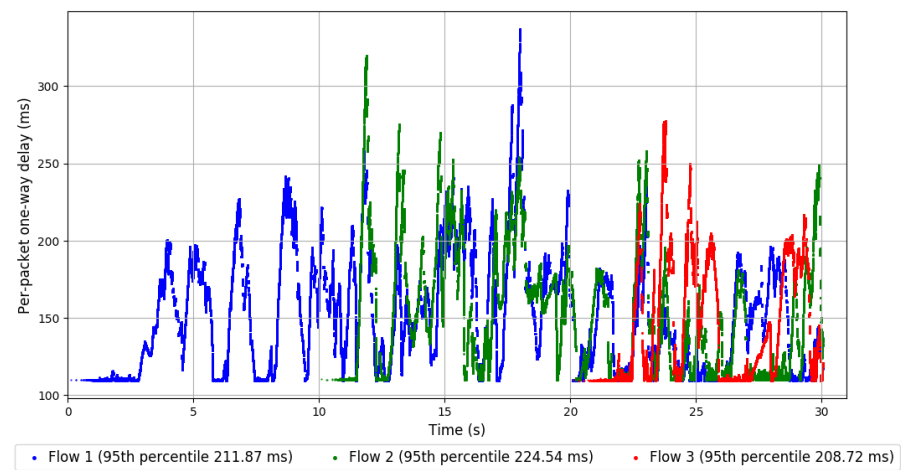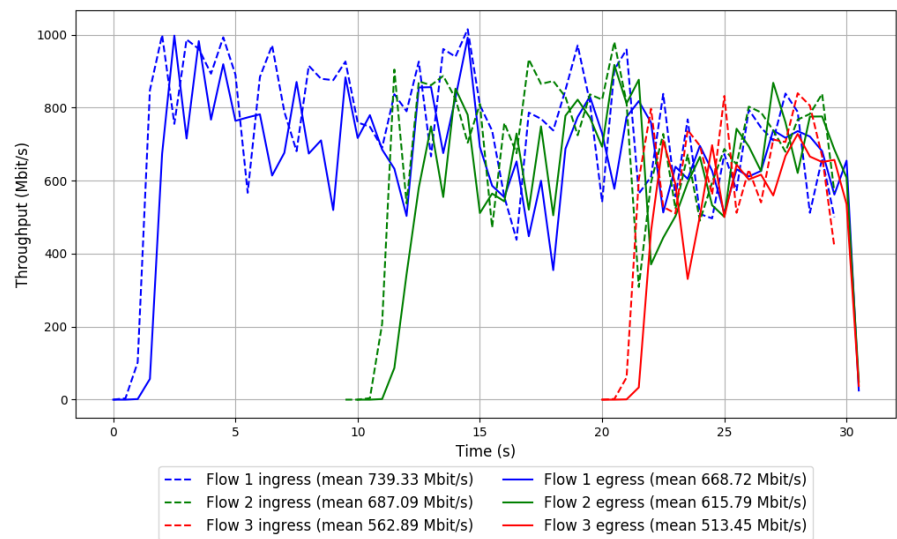## Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2018-08-09 06:42:52
End at: 2018-08-09 06:43:22
Local clock offset: -0.109 ms
Remote clock offset: -0.161 ms


# Below is generated by plot.py at 2018-08-09 11:28:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1022.98 Mbit/s
95th percentile per-packet one-way delay: 263.327 ms
Loss rate: 17.68%
-- Flow 1:
Average throughput: 513.04 Mbit/s
95th percentile per-packet one-way delay: 274.522 ms
Loss rate: 19.66%
-- Flow 2:
Average throughput: 528.76 Mbit/s
95th percentile per-packet one-way delay: 252.391 ms
Loss rate: 15.82%
-- Flow 3:
Average throughput: 476.61 Mbit/s
95th percentile per-packet one-way delay: 243.093 ms
Loss rate: 15.05%
```

Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 638.61 Mbit/s) --- Flow 1 egress (mean 513.04 Mbit/s)
Flow 2 ingress (mean 628.31 Mbit/s) --- Flow 2 egress (mean 528.76 Mbit/s)
Flow 3 ingress (mean 561.15 Mbit/s) --- Flow 3 egress (mean 476.61 Mbit/s)

Flow 1 (95th percentile 274.52 ms)   Flow 2 (95th percentile 252.39 ms)   Flow 3 (95th percentile 243.09 ms)

```
Run 3: Statistics of FillP

Start at: 2018-08-09 07:09:36
End at: 2018-08-09 07:10:06
Local clock offset: -1.365 ms
Remote clock offset: -0.396 ms


# Below is generated by plot.py at 2018-08-09 11:33:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1245.52 Mbit/s
95th percentile per-packet one-way delay: 222.329 ms
Loss rate: 10.21%
-- Flow 1:
Average throughput: 651.74 Mbit/s
95th percentile per-packet one-way delay: 219.456 ms
Loss rate: 10.66%
-- Flow 2:
Average throughput: 624.54 Mbit/s
95th percentile per-packet one-way delay: 233.981 ms
Loss rate: 9.74%
-- Flow 3:
Average throughput: 535.48 Mbit/s
95th percentile per-packet one-way delay: 223.977 ms
Loss rate: 9.66%
```
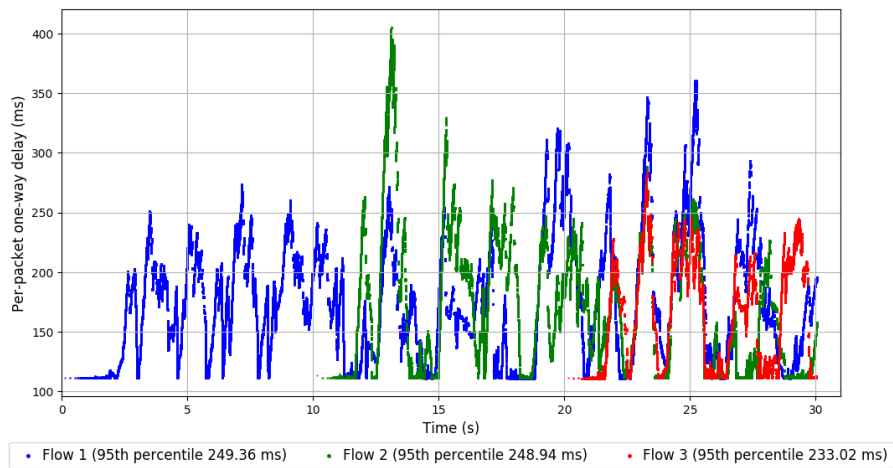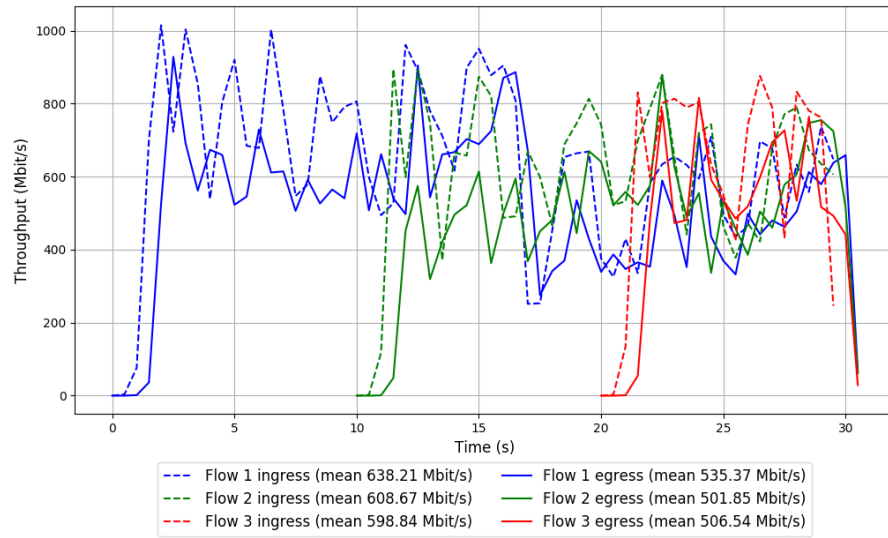
Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 729.46 Mbit/s) Flow 1 egress (mean 651.74 Mbit/s)
Flow 2 ingress (mean 691.93 Mbit/s) Flow 2 egress (mean 624.54 Mbit/s)
Flow 3 ingress (mean 592.85 Mbit/s) Flow 3 egress (mean 535.48 Mbit/s)

Flow 1 (95th percentile 219.46 ms) Flow 2 (95th percentile 233.98 ms) Flow 3 (95th percentile 223.98 ms)

```
Run 4: Statistics of FillP

Start at: 2018-08-09 07:36:27
End at: 2018-08-09 07:36:57
Local clock offset: 1.448 ms
Remote clock offset: -0.135 ms

# Below is generated by plot.py at 2018-08-09 11:33:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1249.12 Mbit/s
95th percentile per-packet one-way delay: 215.975 ms
Loss rate: 9.70%
-- Flow 1:
Average throughput: 668.72 Mbit/s
95th percentile per-packet one-way delay: 211.874 ms
Loss rate: 9.54%
-- Flow 2:
Average throughput: 615.79 Mbit/s
95th percentile per-packet one-way delay: 224.539 ms
Loss rate: 10.37%
-- Flow 3:
Average throughput: 513.45 Mbit/s
95th percentile per-packet one-way delay: 208.720 ms
Loss rate: 8.68%
```
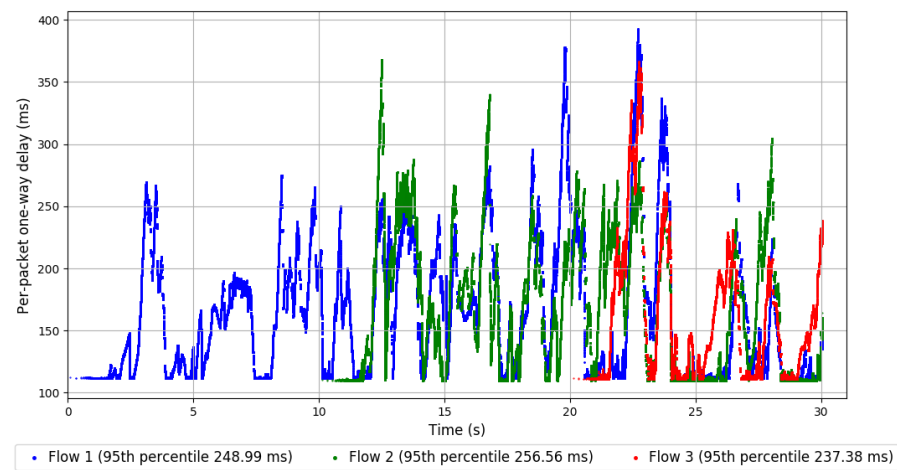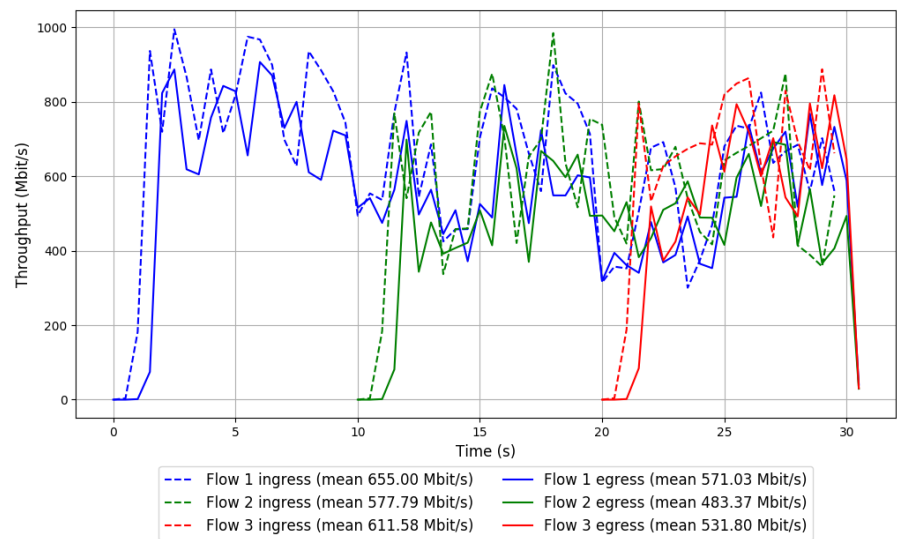
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 739.33 Mbit/s)   Flow 1 egress (mean 668.72 Mbit/s)
Flow 2 ingress (mean 687.09 Mbit/s)   Flow 2 egress (mean 615.79 Mbit/s)
Flow 3 ingress (mean 562.89 Mbit/s)   Flow 3 egress (mean 513.45 Mbit/s)

Flow 1 (95th percentile 211.87 ms)   Flow 2 (95th percentile 224.54 ms)   Flow 3 (95th percentile 208.72 ms)

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```
Run 5: Statistics of FillP

Start at: 2018-08-09 08:03:23
End at: 2018-08-09 08:03:53
Local clock offset: -0.108 ms
Remote clock offset: -0.531 ms

# Below is generated by plot.py at 2018-08-09 11:33:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1036.24 Mbit/s
95th percentile per-packet one-way delay: 246.102 ms
Loss rate: 16.47%
-- Flow 1:
Average throughput: 535.37 Mbit/s
95th percentile per-packet one-way delay: 249.364 ms
Loss rate: 16.11%
-- Flow 2:
Average throughput: 501.85 Mbit/s
95th percentile per-packet one-way delay: 248.942 ms
Loss rate: 17.55%
-- Flow 3:
Average throughput: 506.54 Mbit/s
95th percentile per-packet one-way delay: 233.018 ms
Loss rate: 15.41%
```
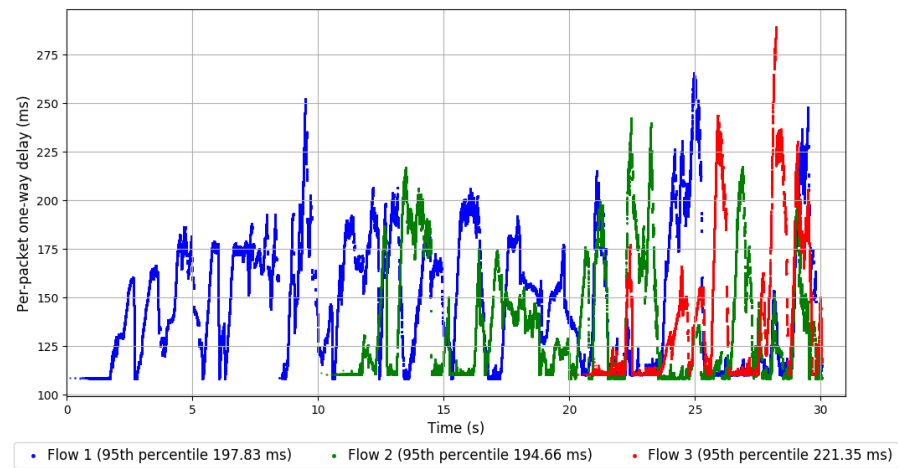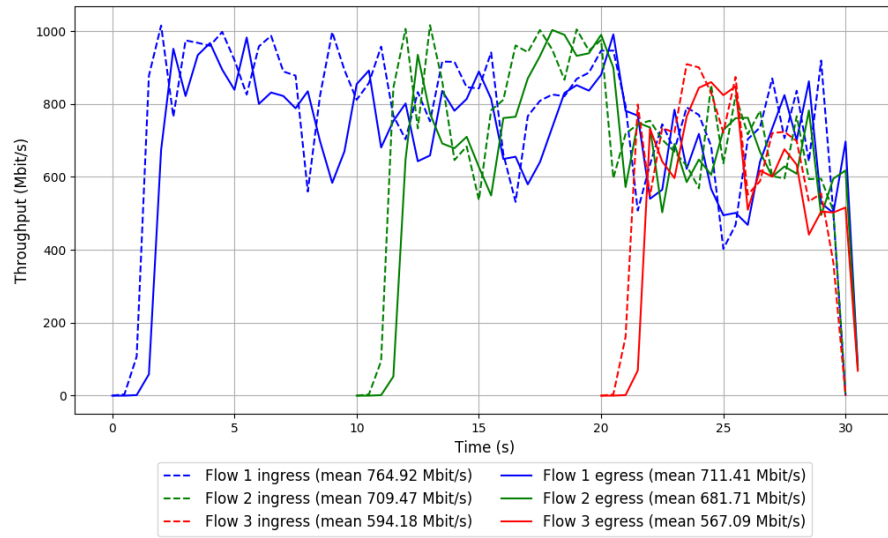
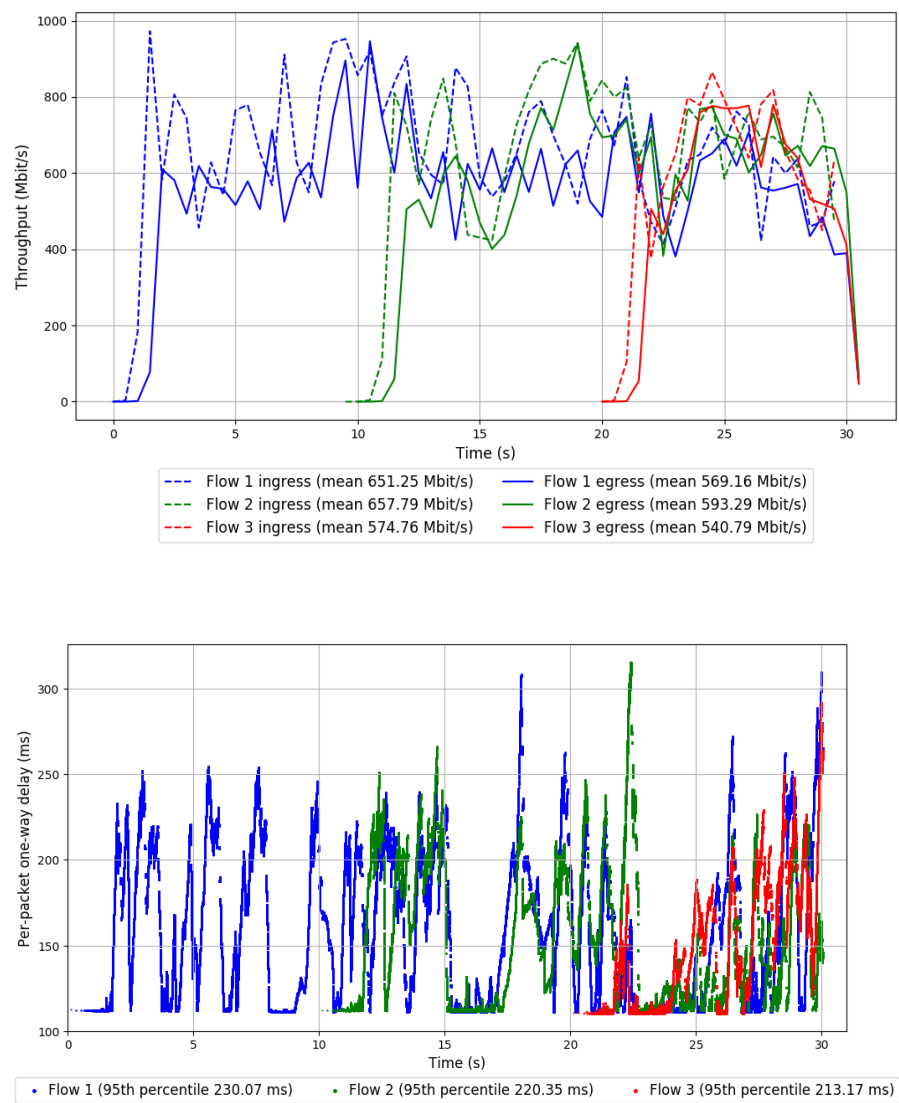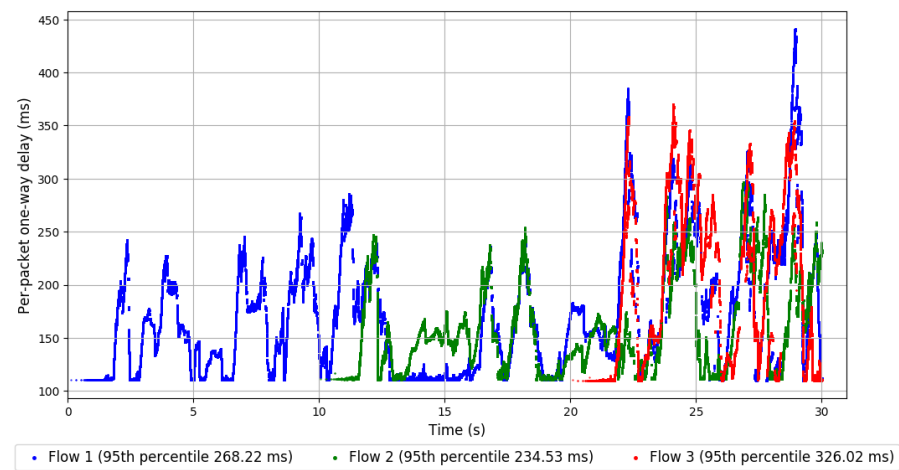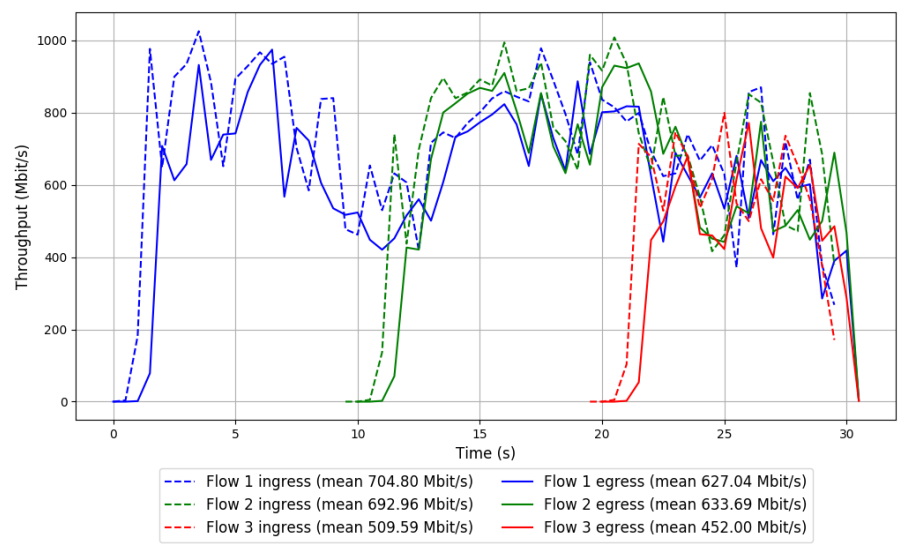Run 5: Report of FillP — Data Link

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```
Run 6: Statistics of FillP

Start at: 2018-08-09 08:29:56
End at: 2018-08-09 08:30:26
Local clock offset: -0.116 ms
Remote clock offset: 0.226 ms

# Below is generated by plot.py at 2018-08-09 11:33:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1069.03 Mbit/s
95th percentile per-packet one-way delay: 252.025 ms
Loss rate: 13.94%
-- Flow 1:
Average throughput: 571.03 Mbit/s
95th percentile per-packet one-way delay: 248.988 ms
Loss rate: 12.82%
-- Flow 2:
Average throughput: 483.37 Mbit/s
95th percentile per-packet one-way delay: 256.556 ms
Loss rate: 16.32%
-- Flow 3:
Average throughput: 531.80 Mbit/s
95th percentile per-packet one-way delay: 237.376 ms
Loss rate: 13.01%
```

Run 6: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 655.00 Mbit/s) ——— Flow 1 egress (mean 571.03 Mbit/s)
- - - - Flow 2 ingress (mean 577.79 Mbit/s) ——— Flow 2 egress (mean 483.37 Mbit/s)
- - - - Flow 3 ingress (mean 611.58 Mbit/s) ——— Flow 3 egress (mean 531.80 Mbit/s)

• Flow 1 (95th percentile 248.99 ms)   • Flow 2 (95th percentile 256.56 ms)   • Flow 3 (95th percentile 237.38 ms)
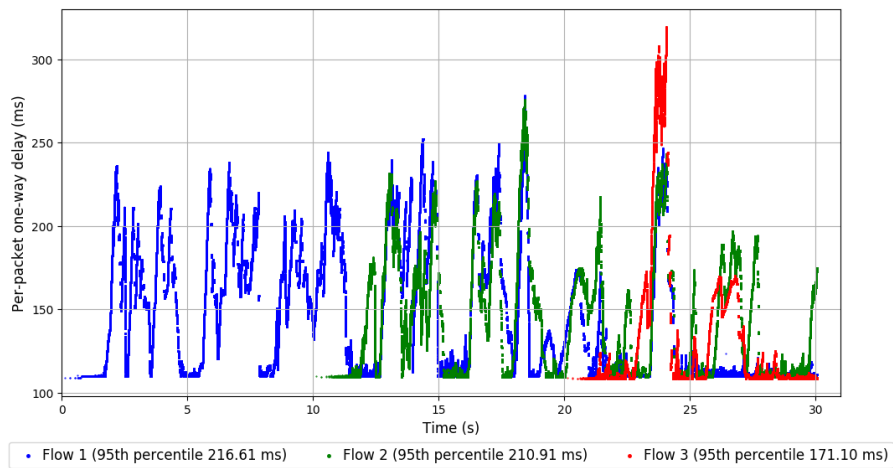
75

```
Run 7: Statistics of FillP

Start at: 2018-08-09 08:56:16
End at: 2018-08-09 08:56:46
Local clock offset: 1.096 ms
Remote clock offset: 0.22 ms


# Below is generated by plot.py at 2018-08-09 11:37:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1352.90 Mbit/s
95th percentile per-packet one-way delay: 198.595 ms
Loss rate: 6.29%
-- Flow 1:
Average throughput: 711.41 Mbit/s
95th percentile per-packet one-way delay: 197.831 ms
Loss rate: 7.37%
-- Flow 2:
Average throughput: 681.71 Mbit/s
95th percentile per-packet one-way delay: 194.657 ms
Loss rate: 4.78%
-- Flow 3:
Average throughput: 567.09 Mbit/s
95th percentile per-packet one-way delay: 221.353 ms
Loss rate: 5.72%
```
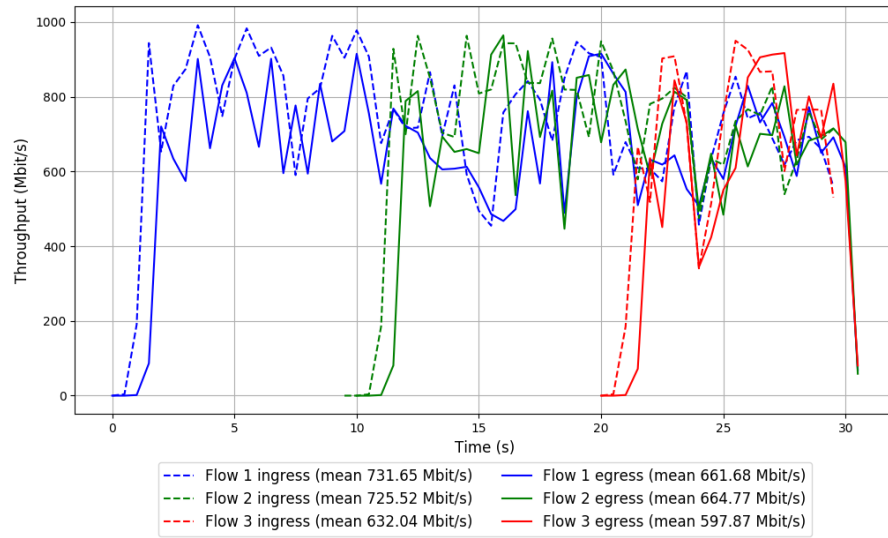
Run 7: Report of FillP — Data Link

```
Run 8: Statistics of FillP

Start at: 2018-08-09 09:22:45
End at: 2018-08-09 09:23:15
Local clock offset: -1.416 ms
Remote clock offset: -0.558 ms

# Below is generated by plot.py at 2018-08-09 11:37:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1143.79 Mbit/s
95th percentile per-packet one-way delay: 224.363 ms
Loss rate: 10.64%
-- Flow 1:
Average throughput: 569.16 Mbit/s
95th percentile per-packet one-way delay: 230.072 ms
Loss rate: 12.60%
-- Flow 2:
Average throughput: 593.29 Mbit/s
95th percentile per-packet one-way delay: 220.352 ms
Loss rate: 9.80%
-- Flow 3:
Average throughput: 540.79 Mbit/s
95th percentile per-packet one-way delay: 213.168 ms
Loss rate: 5.88%
```

Run 8: Report of FillP — Data Link

```
Run 9: Statistics of FillP

Start at: 2018-08-09 09:49:16
End at: 2018-08-09 09:49:46
Local clock offset: -0.046 ms
Remote clock offset: -0.576 ms


# Below is generated by plot.py at 2018-08-09 11:52:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1199.88 Mbit/s
95th percentile per-packet one-way delay: 277.345 ms
Loss rate: 10.33%
-- Flow 1:
Average throughput: 627.04 Mbit/s
95th percentile per-packet one-way delay: 268.222 ms
Loss rate: 11.03%
-- Flow 2:
Average throughput: 633.69 Mbit/s
95th percentile per-packet one-way delay: 234.532 ms
Loss rate: 8.90%
-- Flow 3:
Average throughput: 452.00 Mbit/s
95th percentile per-packet one-way delay: 326.016 ms
Loss rate: 11.30%
```
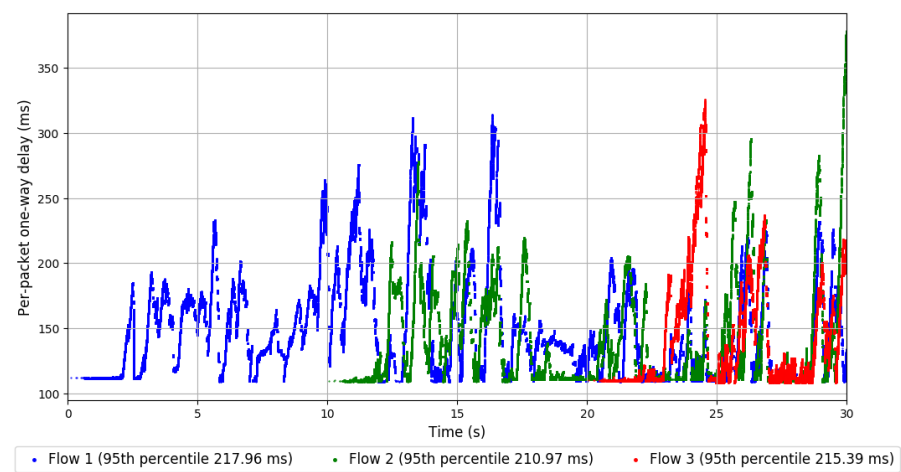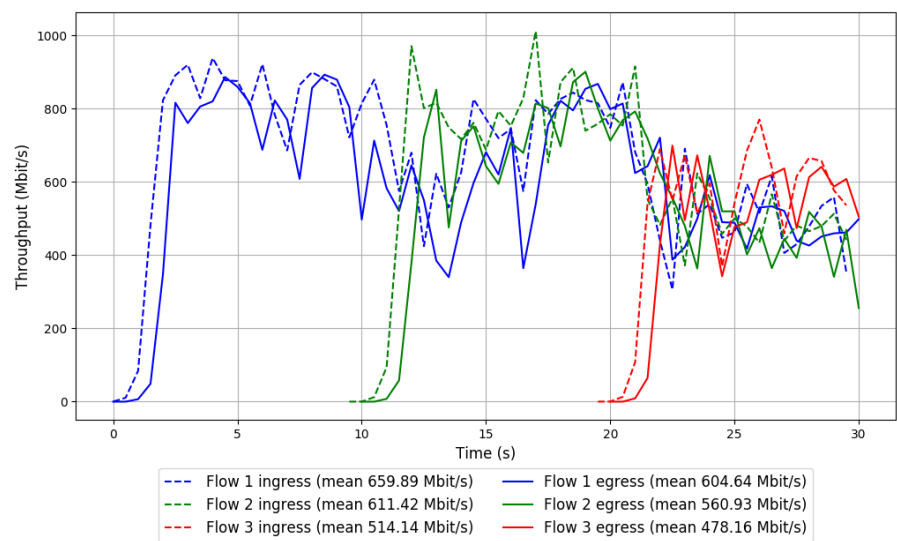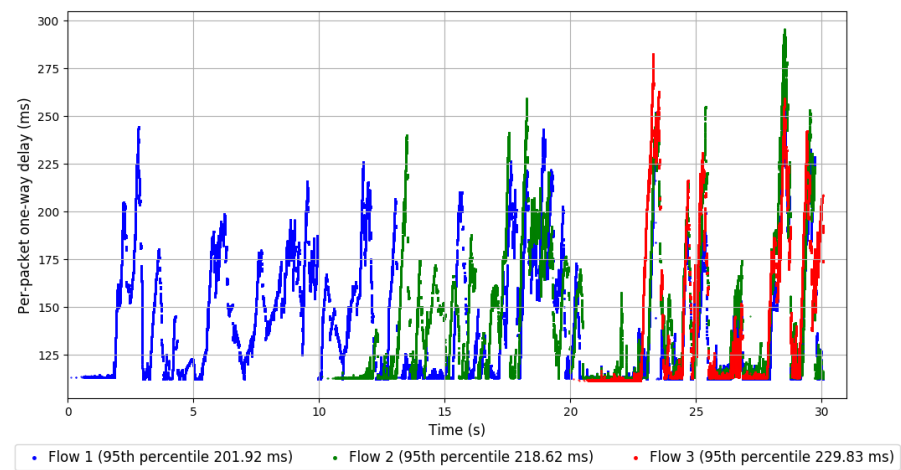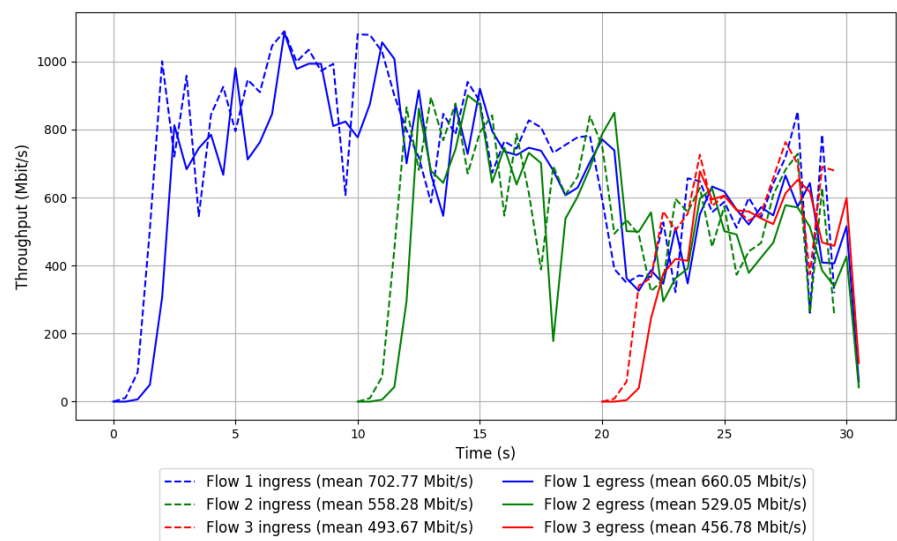
Run 9: Report of FillP — Data Link

Flow 1 ingress (mean 704.80 Mbit/s) --- Flow 1 egress (mean 627.04 Mbit/s)
Flow 2 ingress (mean 692.96 Mbit/s) --- Flow 2 egress (mean 633.69 Mbit/s)
Flow 3 ingress (mean 509.59 Mbit/s) --- Flow 3 egress (mean 452.00 Mbit/s)

Flow 1 (95th percentile 268.22 ms)   Flow 2 (95th percentile 234.53 ms)   Flow 3 (95th percentile 326.02 ms)

```
Run 10: Statistics of FillP

Start at: 2018-08-09 10:16:14
End at: 2018-08-09 10:16:44
Local clock offset: 1.378 ms
Remote clock offset: -0.746 ms


# Below is generated by plot.py at 2018-08-09 11:54:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1302.77 Mbit/s
95th percentile per-packet one-way delay: 214.509 ms
Loss rate: 8.55%
-- Flow 1:
Average throughput: 661.68 Mbit/s
95th percentile per-packet one-way delay: 216.610 ms
Loss rate: 9.56%
-- Flow 2:
Average throughput: 664.77 Mbit/s
95th percentile per-packet one-way delay: 210.915 ms
Loss rate: 8.38%
-- Flow 3:
Average throughput: 597.87 Mbit/s
95th percentile per-packet one-way delay: 171.103 ms
Loss rate: 5.41%
```

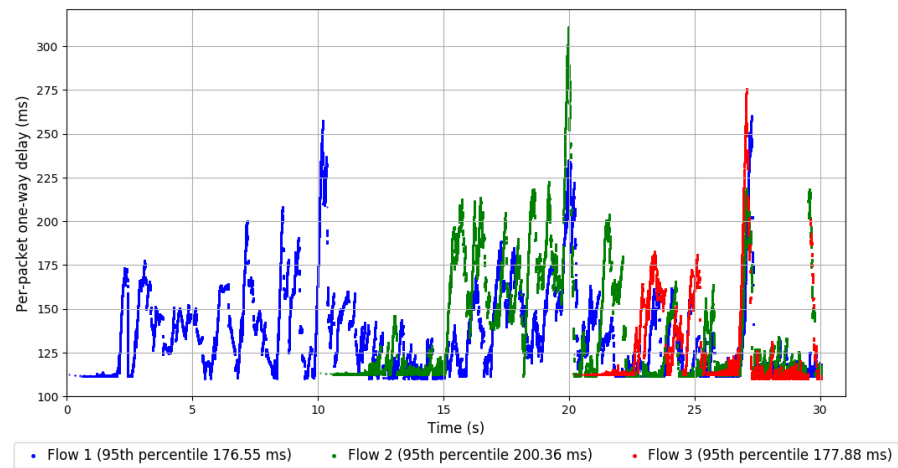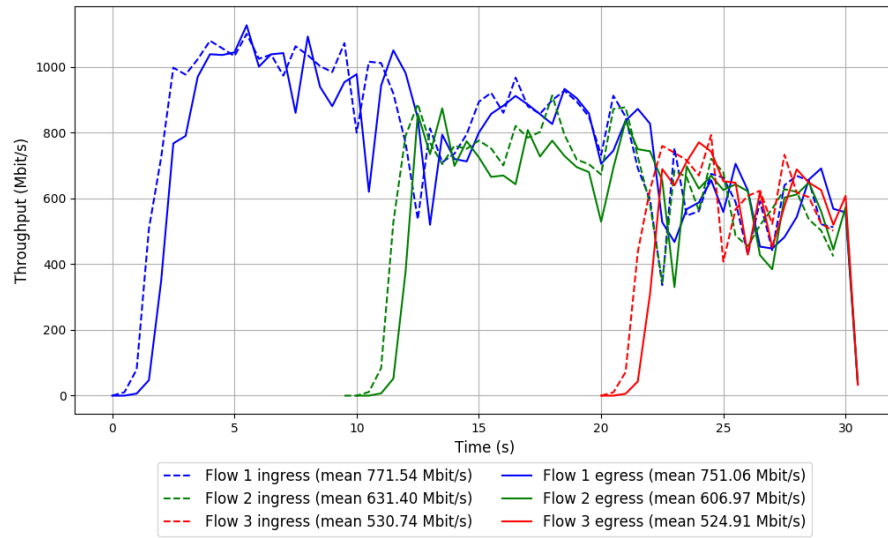# Run 10: Report of FillP — Data Link

Flow 1 ingress (mean 731.65 Mbit/s)   Flow 1 egress (mean 661.68 Mbit/s)
Flow 2 ingress (mean 725.52 Mbit/s)   Flow 2 egress (mean 664.77 Mbit/s)
Flow 3 ingress (mean 632.04 Mbit/s)   Flow 3 egress (mean 597.87 Mbit/s)

Flow 1 (95th percentile 216.61 ms)   Flow 2 (95th percentile 210.91 ms)   Flow 3 (95th percentile 171.10 ms)

```
Run 1: Statistics of FillP-Sheep

Start at: 2018-08-09 06:06:38
End at: 2018-08-09 06:07:08
Local clock offset: 1.097 ms
Remote clock offset: 0.214 ms


# Below is generated by plot.py at 2018-08-09 11:54:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1137.60 Mbit/s
95th percentile per-packet one-way delay: 215.230 ms
Loss rate: 8.10%
-- Flow 1:
Average throughput: 604.64 Mbit/s
95th percentile per-packet one-way delay: 217.959 ms
Loss rate: 8.37%
-- Flow 2:
Average throughput: 560.93 Mbit/s
95th percentile per-packet one-way delay: 210.973 ms
Loss rate: 8.12%
-- Flow 3:
Average throughput: 478.16 Mbit/s
95th percentile per-packet one-way delay: 215.393 ms
Loss rate: 6.97%
```
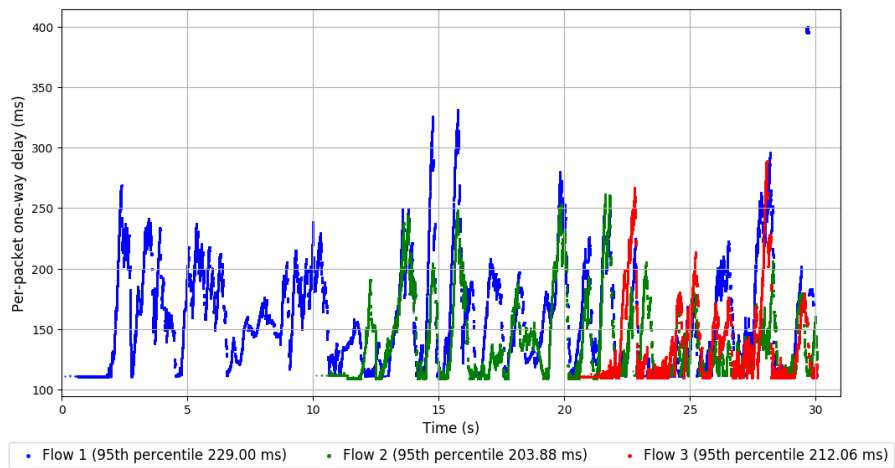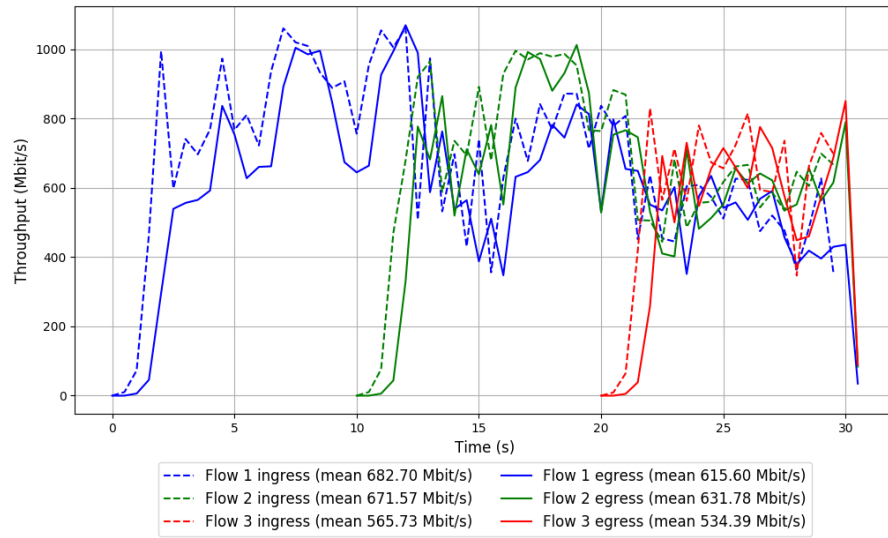
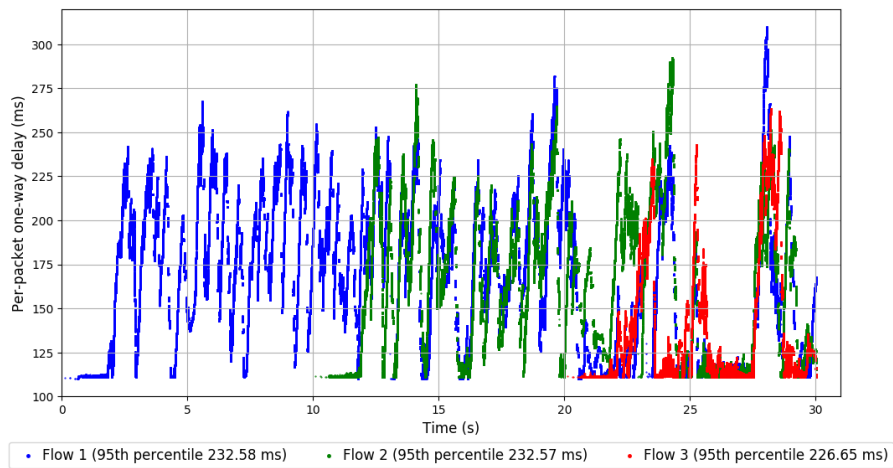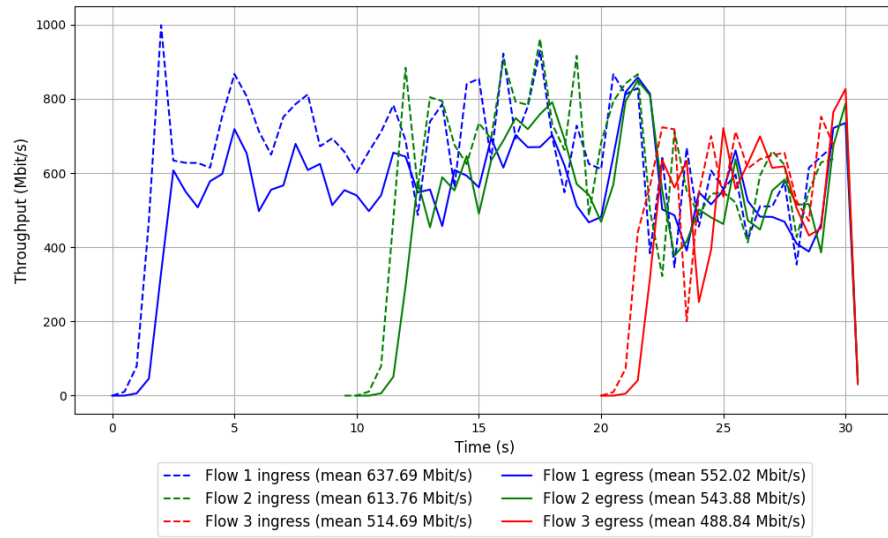Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2018-08-09 06:33:20
End at: 2018-08-09 06:33:50
Local clock offset: -1.419 ms
Remote clock offset: -0.221 ms


# Below is generated by plot.py at 2018-08-09 11:54:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1163.70 Mbit/s
95th percentile per-packet one-way delay: 211.268 ms
Loss rate: 6.02%
-- Flow 1:
Average throughput: 660.05 Mbit/s
95th percentile per-packet one-way delay: 201.916 ms
Loss rate: 6.08%
-- Flow 2:
Average throughput: 529.05 Mbit/s
95th percentile per-packet one-way delay: 218.623 ms
Loss rate: 5.27%
-- Flow 3:
Average throughput: 456.78 Mbit/s
95th percentile per-packet one-way delay: 229.828 ms
Loss rate: 7.46%
```

Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 702.77 Mbit/s)   Flow 1 egress (mean 660.05 Mbit/s)
Flow 2 ingress (mean 558.28 Mbit/s)   Flow 2 egress (mean 529.05 Mbit/s)
Flow 3 ingress (mean 493.67 Mbit/s)   Flow 3 egress (mean 456.78 Mbit/s)

Flow 1 (95th percentile 201.92 ms)   Flow 2 (95th percentile 218.62 ms)   Flow 3 (95th percentile 229.83 ms)
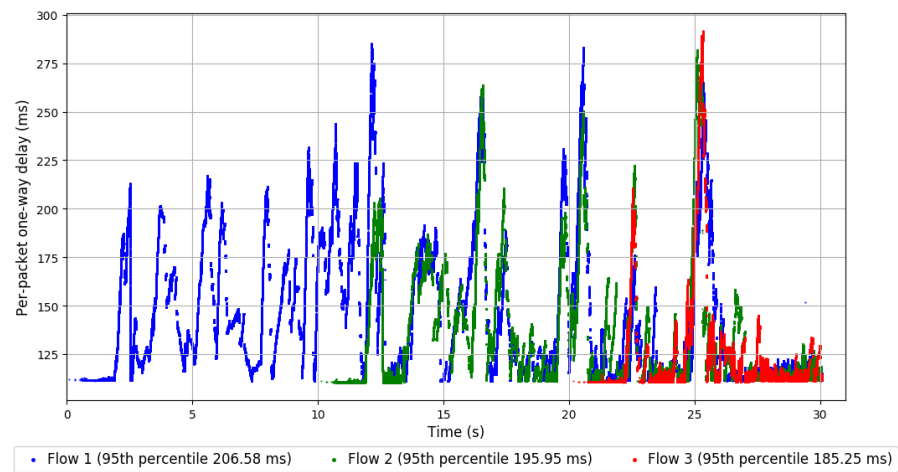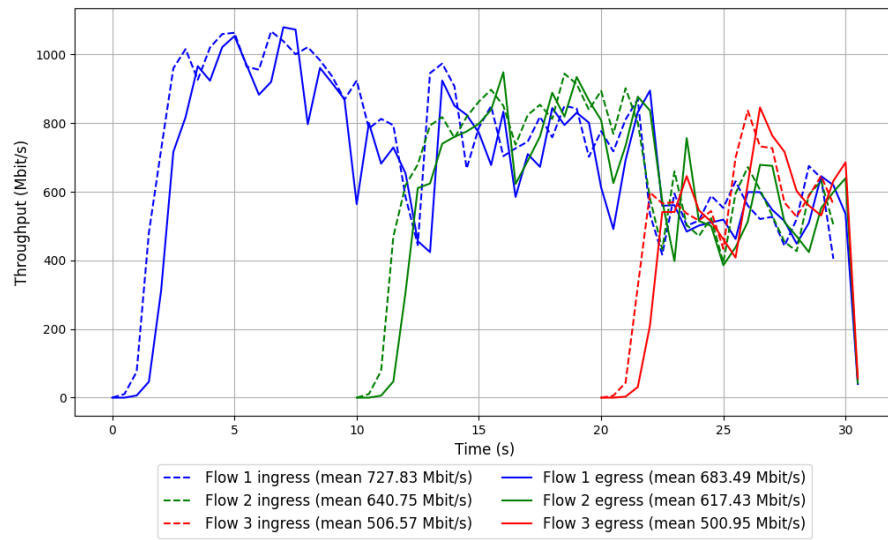
```
Run 3: Statistics of FillP-Sheep

Start at: 2018-08-09 06:59:48
End at: 2018-08-09 07:00:18
Local clock offset: -1.246 ms
Remote clock offset: -0.117 ms


# Below is generated by plot.py at 2018-08-09 11:59:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1329.05 Mbit/s
95th percentile per-packet one-way delay: 188.054 ms
Loss rate: 2.82%
-- Flow 1:
Average throughput: 751.06 Mbit/s
95th percentile per-packet one-way delay: 176.554 ms
Loss rate: 2.65%
-- Flow 2:
Average throughput: 606.97 Mbit/s
95th percentile per-packet one-way delay: 200.363 ms
Loss rate: 3.85%
-- Flow 3:
Average throughput: 524.91 Mbit/s
95th percentile per-packet one-way delay: 177.881 ms
Loss rate: 1.12%
```

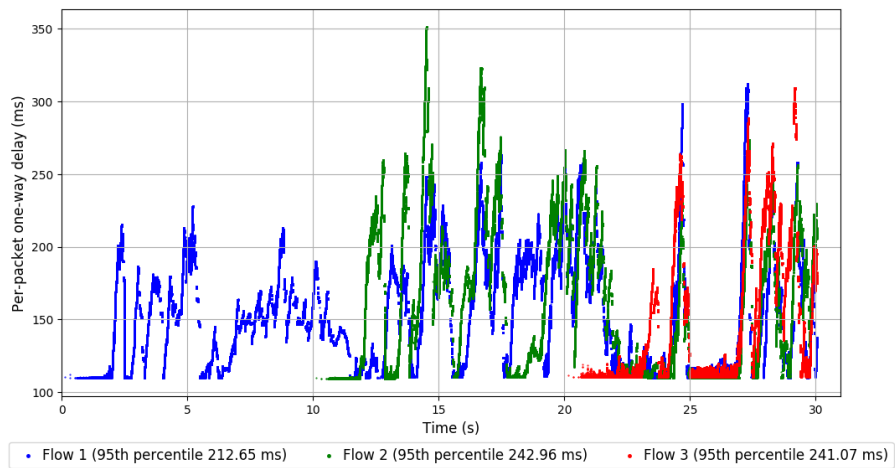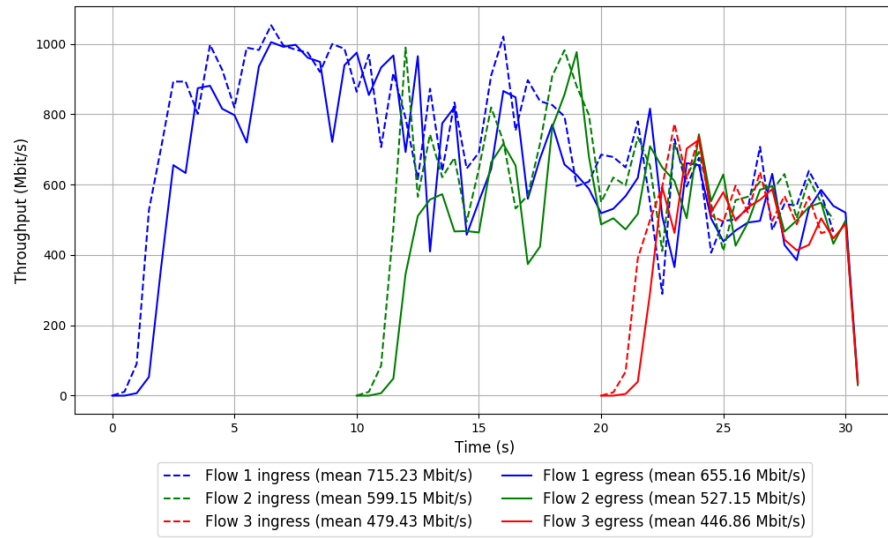# Run 3: Report of FillP-Sheep — Data Link

```
Run 4: Statistics of FillP-Sheep

Start at: 2018-08-09 07:26:32
End at: 2018-08-09 07:27:02
Local clock offset: -0.02 ms
Remote clock offset: -0.15 ms


# Below is generated by plot.py at 2018-08-09 11:59:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1212.61 Mbit/s
95th percentile per-packet one-way delay: 220.652 ms
Loss rate: 7.89%
-- Flow 1:
Average throughput: 615.60 Mbit/s
95th percentile per-packet one-way delay: 228.999 ms
Loss rate: 9.83%
-- Flow 2:
Average throughput: 631.78 Mbit/s
95th percentile per-packet one-way delay: 203.878 ms
Loss rate: 5.92%
-- Flow 3:
Average throughput: 534.39 Mbit/s
95th percentile per-packet one-way delay: 212.063 ms
Loss rate: 5.52%
```

Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 682.70 Mbit/s)   Flow 1 egress (mean 615.60 Mbit/s)
Flow 2 ingress (mean 671.57 Mbit/s)   Flow 2 egress (mean 631.78 Mbit/s)
Flow 3 ingress (mean 565.73 Mbit/s)   Flow 3 egress (mean 534.39 Mbit/s)

Flow 1 (95th percentile 229.00 ms)   Flow 2 (95th percentile 203.88 ms)   Flow 3 (95th percentile 212.06 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2018-08-09 07:53:22
End at: 2018-08-09 07:53:52
Local clock offset: -0.031 ms
Remote clock offset: -0.167 ms


# Below is generated by plot.py at 2018-08-09 11:59:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1076.27 Mbit/s
95th percentile per-packet one-way delay: 232.122 ms
Loss rate: 11.57%
-- Flow 1:
Average throughput: 552.02 Mbit/s
95th percentile per-packet one-way delay: 232.581 ms
Loss rate: 13.43%
-- Flow 2:
Average throughput: 543.88 Mbit/s
95th percentile per-packet one-way delay: 232.573 ms
Loss rate: 11.39%
-- Flow 3:
Average throughput: 488.84 Mbit/s
95th percentile per-packet one-way delay: 226.649 ms
Loss rate: 5.02%
```
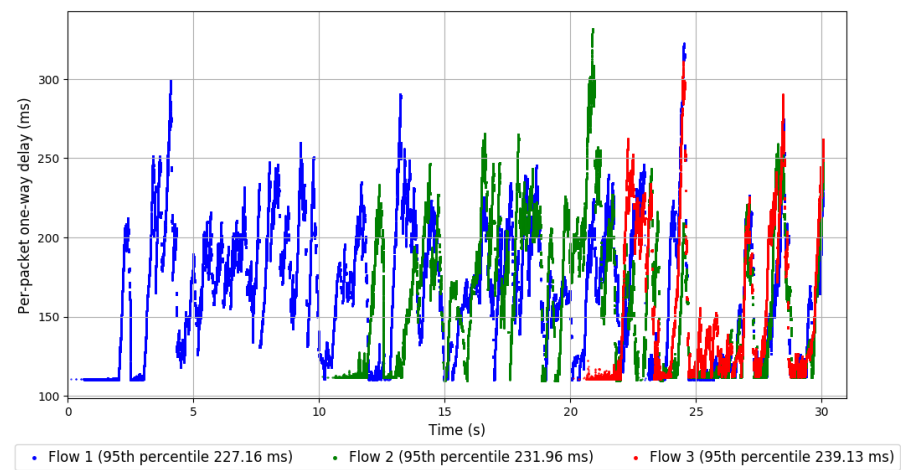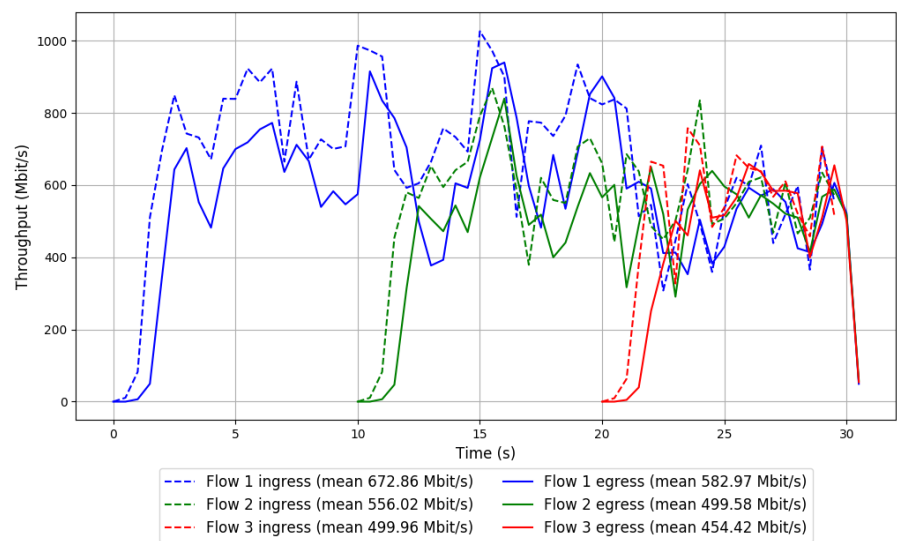
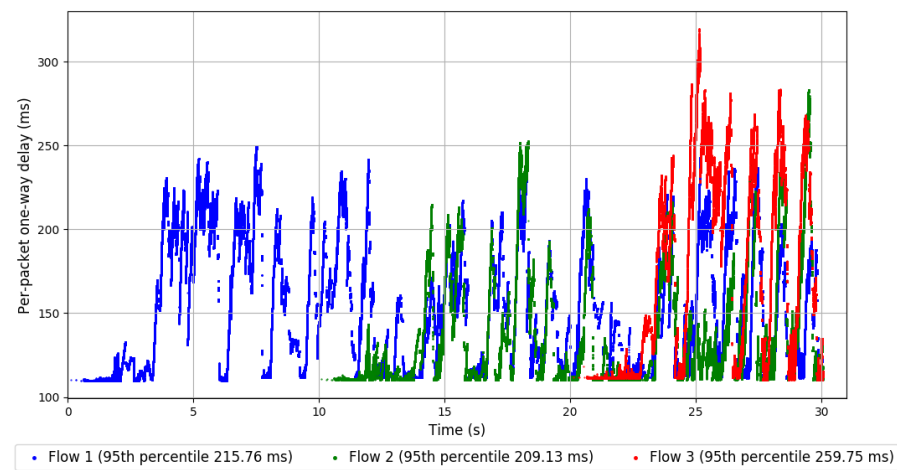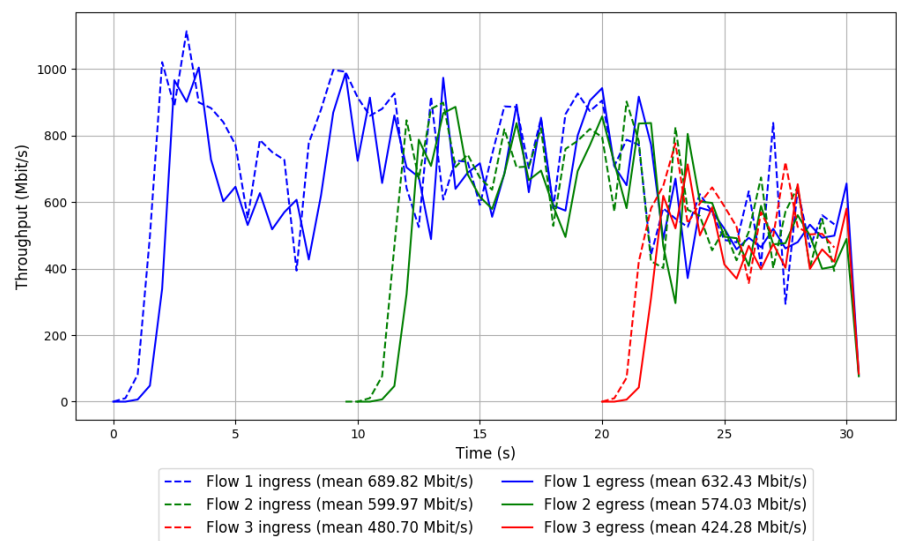Run 5: Report of FillP-Sheep — Data Link

```
Run 6: Statistics of FillP-Sheep

Start at: 2018-08-09 08:20:08
End at: 2018-08-09 08:20:38
Local clock offset: -0.138 ms
Remote clock offset: -0.141 ms


# Below is generated by plot.py at 2018-08-09 12:02:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1259.70 Mbit/s
95th percentile per-packet one-way delay: 201.388 ms
Loss rate: 4.66%
-- Flow 1:
Average throughput: 683.49 Mbit/s
95th percentile per-packet one-way delay: 206.583 ms
Loss rate: 6.09%
-- Flow 2:
Average throughput: 617.43 Mbit/s
95th percentile per-packet one-way delay: 195.947 ms
Loss rate: 3.62%
-- Flow 3:
Average throughput: 500.95 Mbit/s
95th percentile per-packet one-way delay: 185.247 ms
Loss rate: 1.08%
```

Run 6: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 727.83 Mbit/s) --- Flow 1 egress (mean 683.49 Mbit/s)
Flow 2 ingress (mean 640.75 Mbit/s) --- Flow 2 egress (mean 617.43 Mbit/s)
Flow 3 ingress (mean 506.57 Mbit/s) --- Flow 3 egress (mean 500.95 Mbit/s)

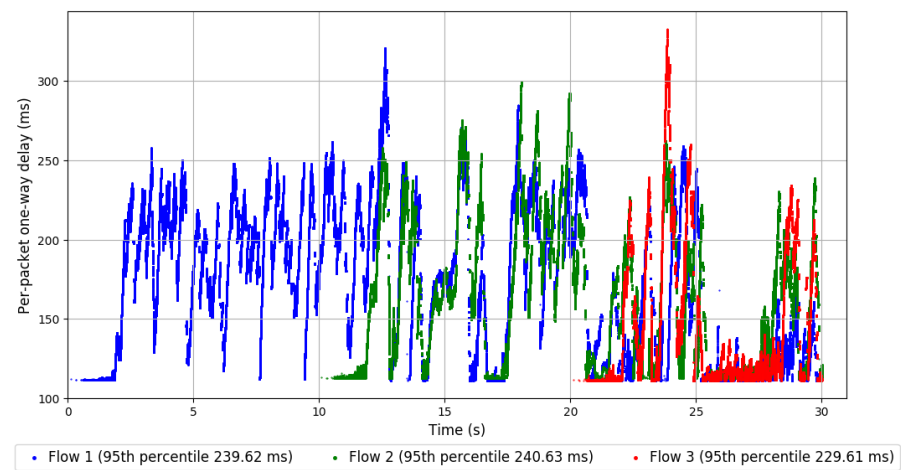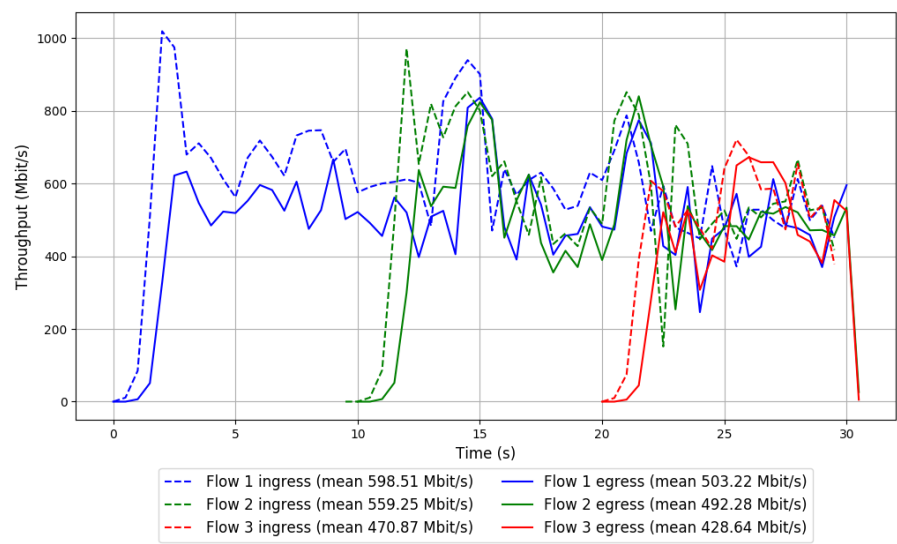Flow 1 (95th percentile 206.58 ms) · Flow 2 (95th percentile 195.95 ms) · Flow 3 (95th percentile 185.25 ms)

```
Run 7: Statistics of FillP-Sheep

Start at: 2018-08-09 08:46:30
End at: 2018-08-09 08:47:00
Local clock offset: 1.325 ms
Remote clock offset: 0.24 ms


# Below is generated by plot.py at 2018-08-09 12:16:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1154.13 Mbit/s
95th percentile per-packet one-way delay: 229.513 ms
Loss rate: 9.33%
-- Flow 1:
Average throughput: 655.16 Mbit/s
95th percentile per-packet one-way delay: 212.649 ms
Loss rate: 8.40%
-- Flow 2:
Average throughput: 527.15 Mbit/s
95th percentile per-packet one-way delay: 242.957 ms
Loss rate: 12.02%
-- Flow 3:
Average throughput: 446.86 Mbit/s
95th percentile per-packet one-way delay: 241.066 ms
Loss rate: 6.75%
```
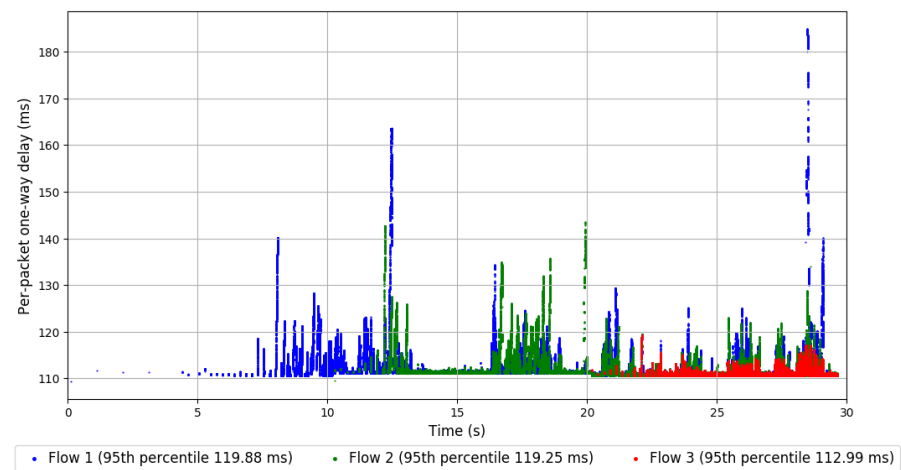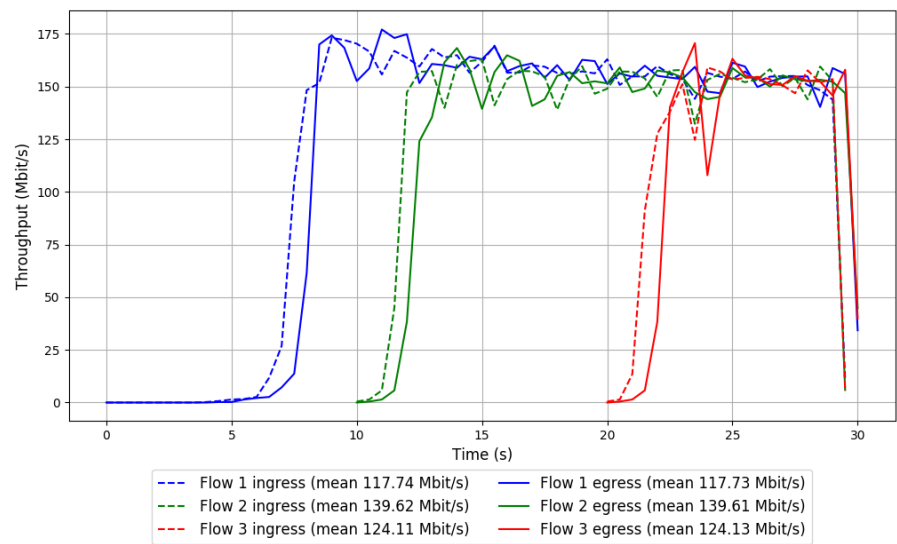
Run 7: Report of FillP-Sheep — Data Link

- - - - Flow 1 ingress (mean 715.23 Mbit/s)   —— Flow 1 egress (mean 655.16 Mbit/s)
- - - - Flow 2 ingress (mean 599.15 Mbit/s)   —— Flow 2 egress (mean 527.15 Mbit/s)
- - - - Flow 3 ingress (mean 479.43 Mbit/s)   —— Flow 3 egress (mean 446.86 Mbit/s)

• Flow 1 (95th percentile 212.65 ms)   • Flow 2 (95th percentile 242.96 ms)   • Flow 3 (95th percentile 241.07 ms)

```
Run 8: Statistics of FillP-Sheep

Start at: 2018-08-09 09:13:10
End at: 2018-08-09 09:13:40
Local clock offset: -0.104 ms
Remote clock offset: 0.169 ms


# Below is generated by plot.py at 2018-08-09 12:16:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1066.24 Mbit/s
95th percentile per-packet one-way delay: 230.016 ms
Loss rate: 11.79%
-- Flow 1:
Average throughput: 582.97 Mbit/s
95th percentile per-packet one-way delay: 227.161 ms
Loss rate: 13.36%
-- Flow 2:
Average throughput: 499.58 Mbit/s
95th percentile per-packet one-way delay: 231.963 ms
Loss rate: 10.15%
-- Flow 3:
Average throughput: 454.42 Mbit/s
95th percentile per-packet one-way delay: 239.132 ms
Loss rate: 9.10%
```

Run 8: Report of FillP-Sheep — Data Link
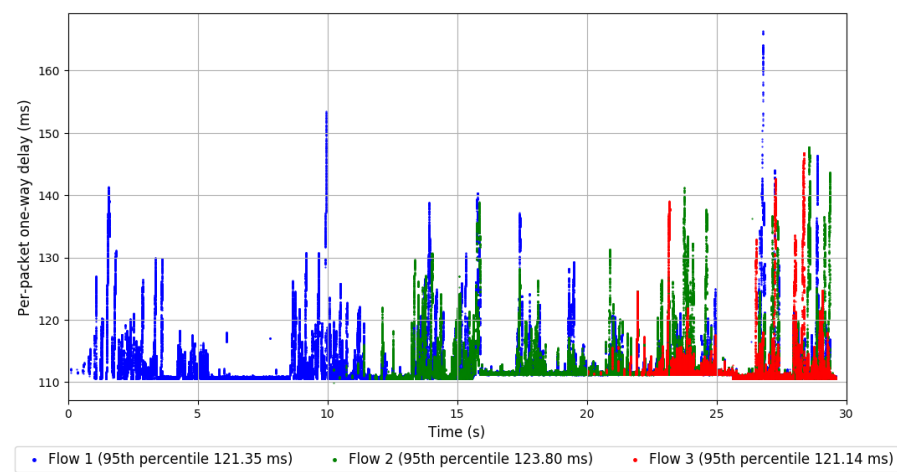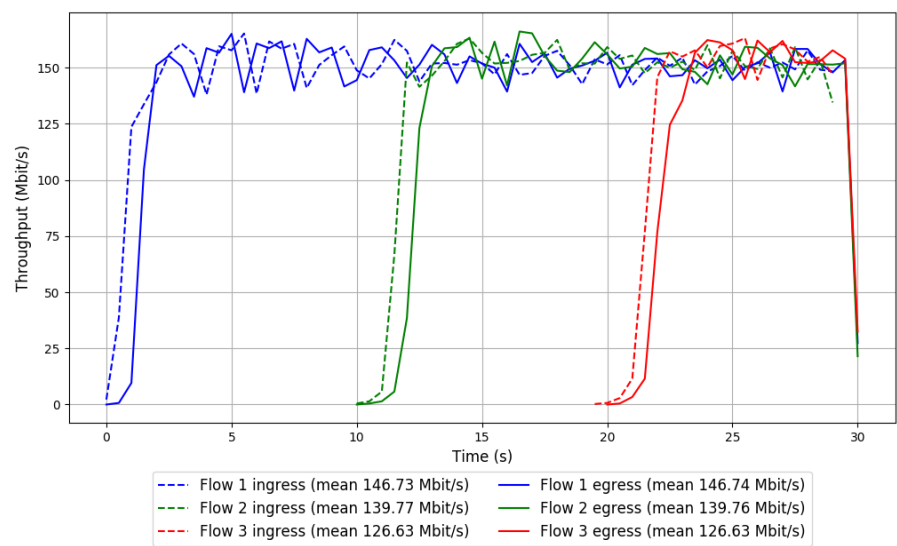
```
Run 9: Statistics of FillP-Sheep

Start at: 2018-08-09 09:39:26
End at: 2018-08-09 09:39:56
Local clock offset: -0.384 ms
Remote clock offset: -0.438 ms


# Below is generated by plot.py at 2018-08-09 12:18:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1155.29 Mbit/s
95th percentile per-packet one-way delay: 225.303 ms
Loss rate: 7.47%
-- Flow 1:
Average throughput: 632.43 Mbit/s
95th percentile per-packet one-way delay: 215.761 ms
Loss rate: 8.30%
-- Flow 2:
Average throughput: 574.03 Mbit/s
95th percentile per-packet one-way delay: 209.133 ms
Loss rate: 4.32%
-- Flow 3:
Average throughput: 424.28 Mbit/s
95th percentile per-packet one-way delay: 259.748 ms
Loss rate: 11.74%
```

Run 9: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 689.82 Mbit/s) --- Flow 1 egress (mean 632.43 Mbit/s)
Flow 2 ingress (mean 599.97 Mbit/s) --- Flow 2 egress (mean 574.03 Mbit/s)
Flow 3 ingress (mean 480.70 Mbit/s) --- Flow 3 egress (mean 424.28 Mbit/s)

Flow 1 (95th percentile 215.76 ms) Flow 2 (95th percentile 209.13 ms) Flow 3 (95th percentile 259.75 ms)

```
Run 10: Statistics of FillP-Sheep

Start at: 2018-08-09 10:06:05
End at: 2018-08-09 10:06:35
Local clock offset: -0.919 ms
Remote clock offset: -0.342 ms


# Below is generated by plot.py at 2018-08-09 12:18:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 972.44 Mbit/s
95th percentile per-packet one-way delay: 239.141 ms
Loss rate: 13.64%
-- Flow 1:
Average throughput: 503.22 Mbit/s
95th percentile per-packet one-way delay: 239.623 ms
Loss rate: 15.90%
-- Flow 2:
Average throughput: 492.28 Mbit/s
95th percentile per-packet one-way delay: 240.632 ms
Loss rate: 11.95%
-- Flow 3:
Average throughput: 428.64 Mbit/s
95th percentile per-packet one-way delay: 229.613 ms
Loss rate: 8.97%
```

Run 10: Report of FillP-Sheep — Data Link

```
Run 1: Statistics of Indigo

Start at: 2018-08-09 06:01:12
End at: 2018-08-09 06:01:42
Local clock offset: 0.063 ms
Remote clock offset: -0.131 ms


# Below is generated by plot.py at 2018-08-09 12:18:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 249.03 Mbit/s
95th percentile per-packet one-way delay: 118.652 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 117.73 Mbit/s
95th percentile per-packet one-way delay: 119.880 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 139.61 Mbit/s
95th percentile per-packet one-way delay: 119.247 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 124.13 Mbit/s
95th percentile per-packet one-way delay: 112.993 ms
Loss rate: 0.00%
```
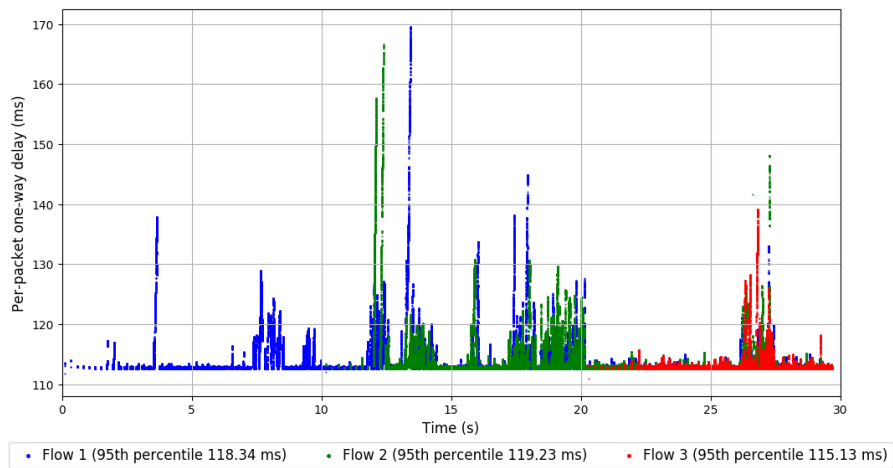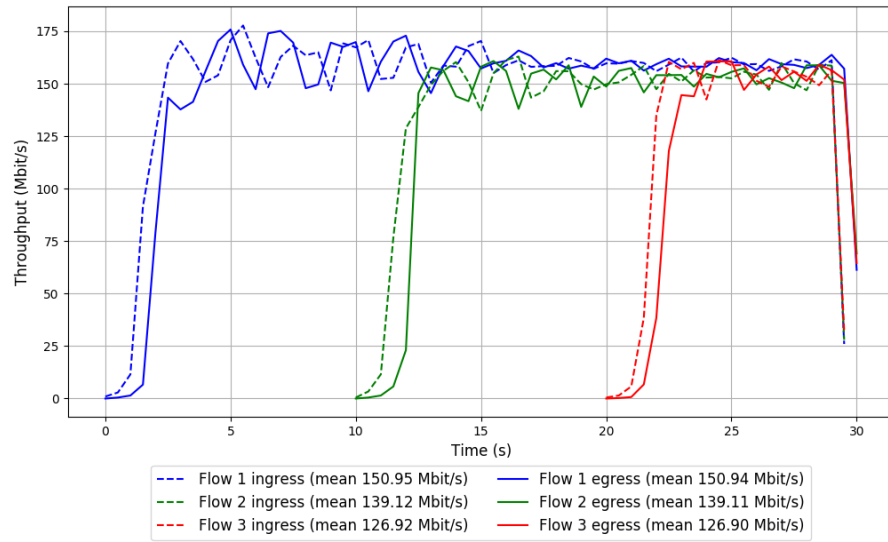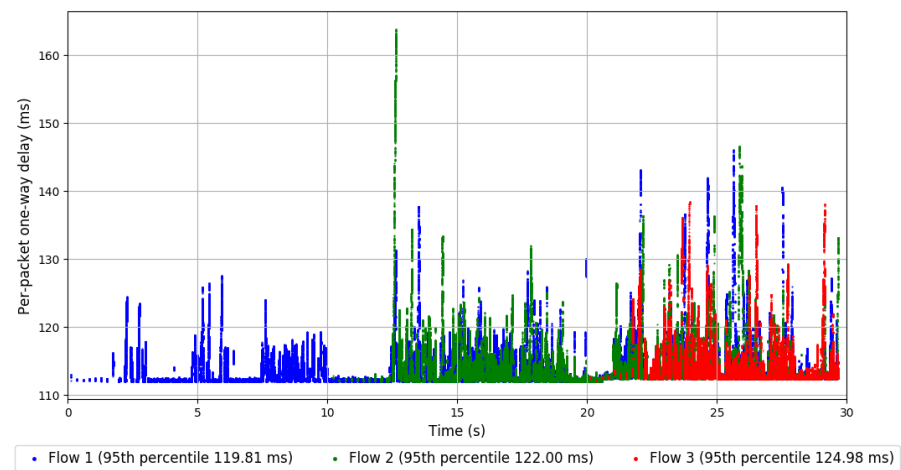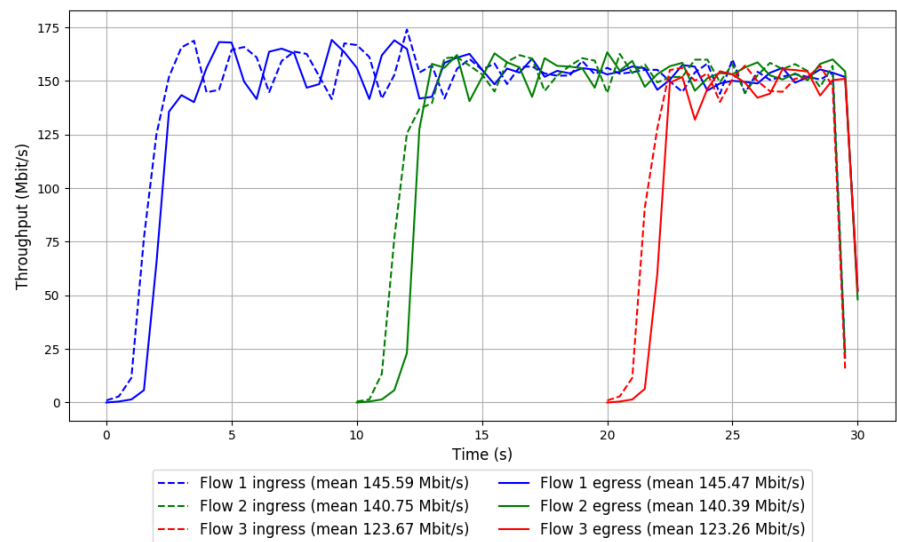
Run 1: Report of Indigo — Data Link

Flow 1 ingress (mean 117.74 Mbit/s)   Flow 1 egress (mean 117.73 Mbit/s)
Flow 2 ingress (mean 139.62 Mbit/s)   Flow 2 egress (mean 139.61 Mbit/s)
Flow 3 ingress (mean 124.11 Mbit/s)   Flow 3 egress (mean 124.13 Mbit/s)

Flow 1 (95th percentile 119.88 ms)   Flow 2 (95th percentile 119.25 ms)   Flow 3 (95th percentile 112.99 ms)

```
Run 2: Statistics of Indigo

Start at: 2018-08-09 06:27:47
End at: 2018-08-09 06:28:17
Local clock offset: -0.024 ms
Remote clock offset: -0.255 ms

# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 279.53 Mbit/s
95th percentile per-packet one-way delay: 122.404 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 146.74 Mbit/s
95th percentile per-packet one-way delay: 121.349 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 139.76 Mbit/s
95th percentile per-packet one-way delay: 123.795 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 126.63 Mbit/s
95th percentile per-packet one-way delay: 121.135 ms
Loss rate: 0.00%
```
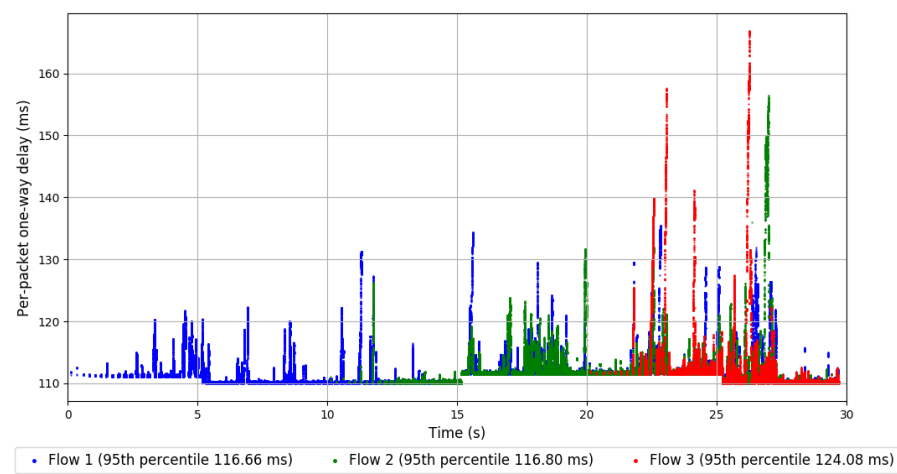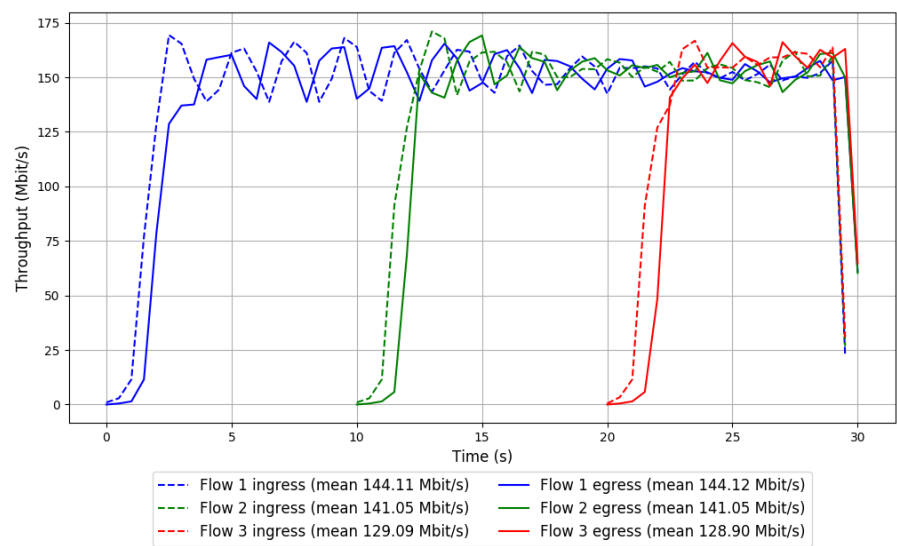
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-08-09 06:54:30
End at: 2018-08-09 06:55:00
Local clock offset: -0.038 ms
Remote clock offset: -0.107 ms


# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 270.42 Mbit/s
95th percentile per-packet one-way delay: 127.316 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 139.00 Mbit/s
95th percentile per-packet one-way delay: 123.610 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 137.16 Mbit/s
95th percentile per-packet one-way delay: 127.424 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 123.60 Mbit/s
95th percentile per-packet one-way delay: 137.627 ms
Loss rate: 0.21%
```
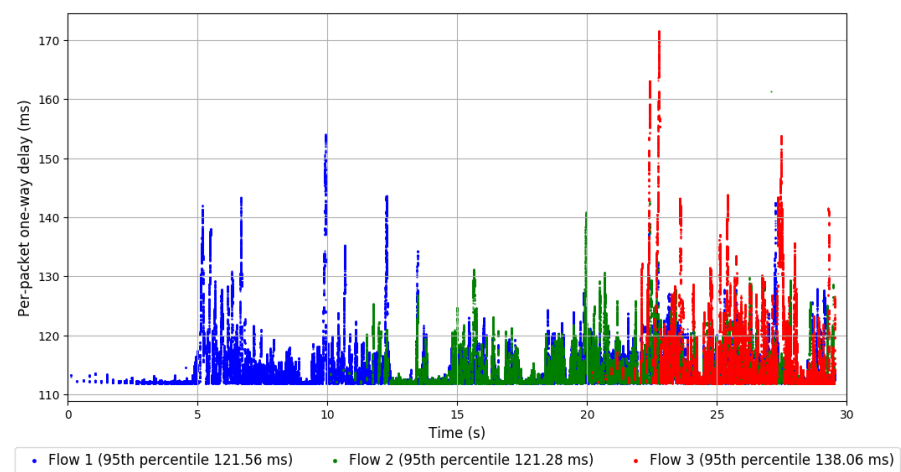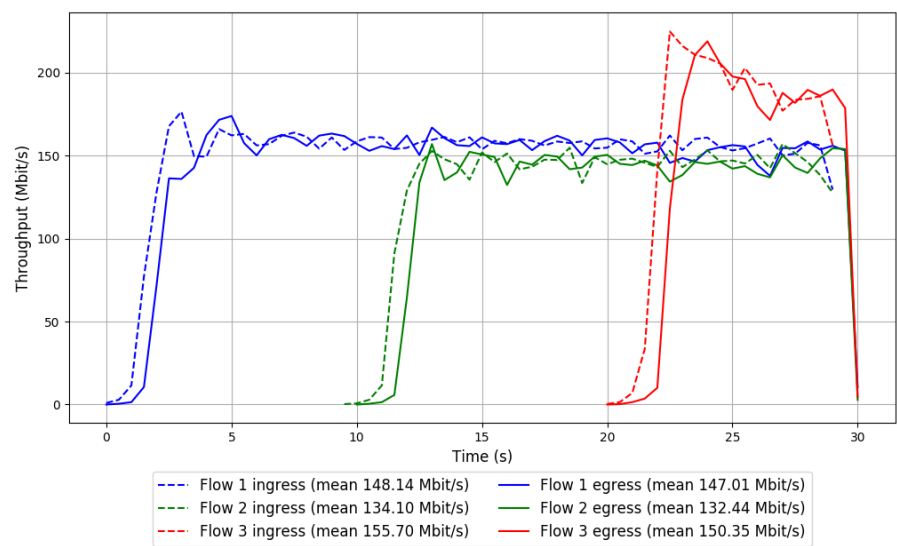
Run 3: Report of Indigo — Data Link

Flow 1 ingress (mean 139.17 Mbit/s) --- Flow 1 egress (mean 139.00 Mbit/s)
Flow 2 ingress (mean 137.19 Mbit/s) --- Flow 2 egress (mean 137.16 Mbit/s)
Flow 3 ingress (mean 123.89 Mbit/s) --- Flow 3 egress (mean 123.60 Mbit/s)

Flow 1 (95th percentile 123.61 ms)   Flow 2 (95th percentile 127.42 ms)   Flow 3 (95th percentile 137.63 ms)
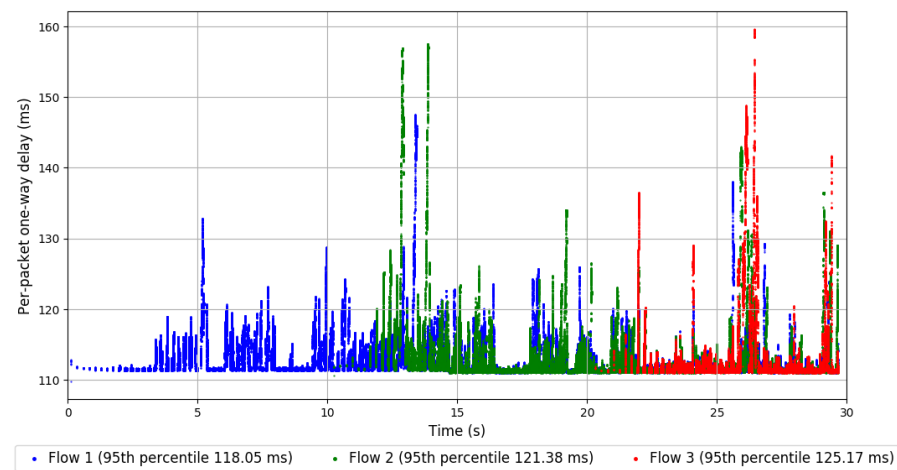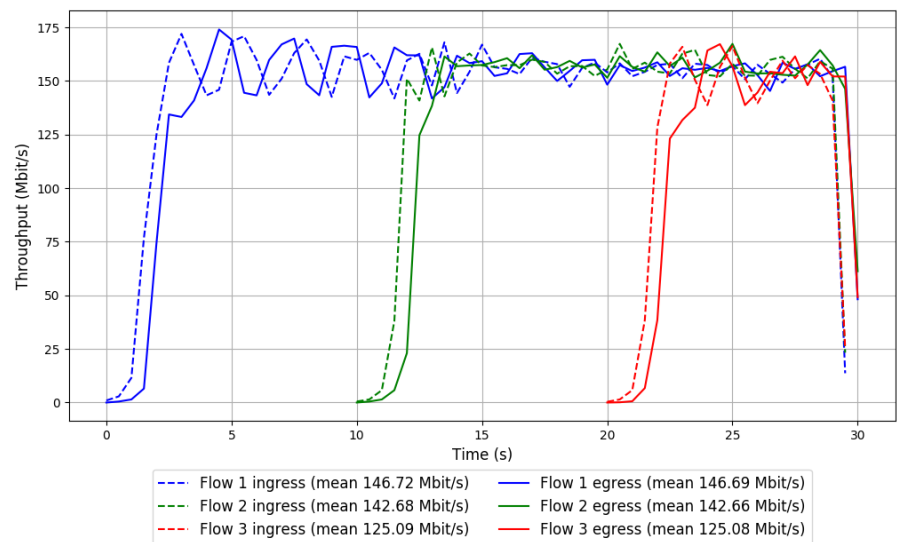
109

```
Run 4: Statistics of Indigo

Start at: 2018-08-09 07:21:09
End at: 2018-08-09 07:21:39
Local clock offset: -1.293 ms
Remote clock offset: -0.17 ms


# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 283.02 Mbit/s
95th percentile per-packet one-way delay: 118.391 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 150.94 Mbit/s
95th percentile per-packet one-way delay: 118.343 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 139.11 Mbit/s
95th percentile per-packet one-way delay: 119.232 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 126.90 Mbit/s
95th percentile per-packet one-way delay: 115.128 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2018-08-09 07:48:02
End at: 2018-08-09 07:48:32
Local clock offset: -1.488 ms
Remote clock offset: -0.485 ms


# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 277.69 Mbit/s
95th percentile per-packet one-way delay: 121.519 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 145.47 Mbit/s
95th percentile per-packet one-way delay: 119.805 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 140.39 Mbit/s
95th percentile per-packet one-way delay: 121.998 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 123.26 Mbit/s
95th percentile per-packet one-way delay: 124.977 ms
Loss rate: 0.33%
```

Run 5: Report of Indigo — Data Link

113

```
Run 6: Statistics of Indigo

Start at: 2018-08-09 08:14:48
End at: 2018-08-09 08:15:18
Local clock offset: -0.206 ms
Remote clock offset: -0.171 ms

# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 279.02 Mbit/s
95th percentile per-packet one-way delay: 117.231 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 144.12 Mbit/s
95th percentile per-packet one-way delay: 116.658 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 141.05 Mbit/s
95th percentile per-packet one-way delay: 116.802 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 128.90 Mbit/s
95th percentile per-packet one-way delay: 124.083 ms
Loss rate: 0.16%
```
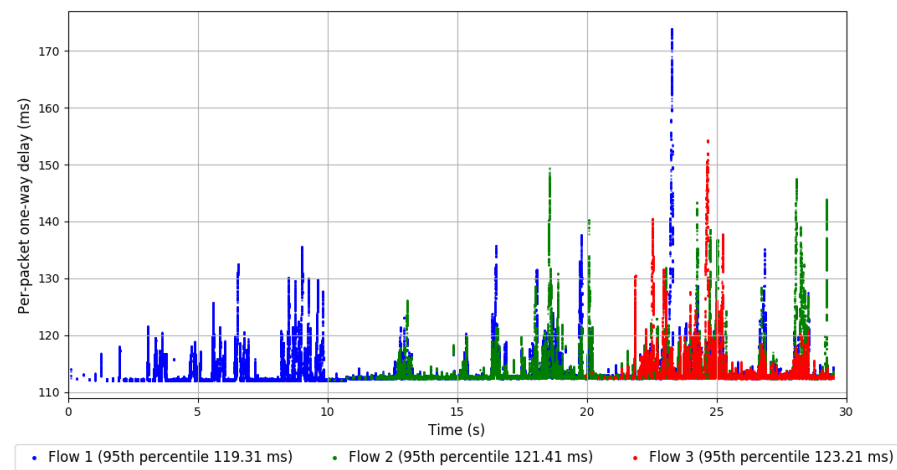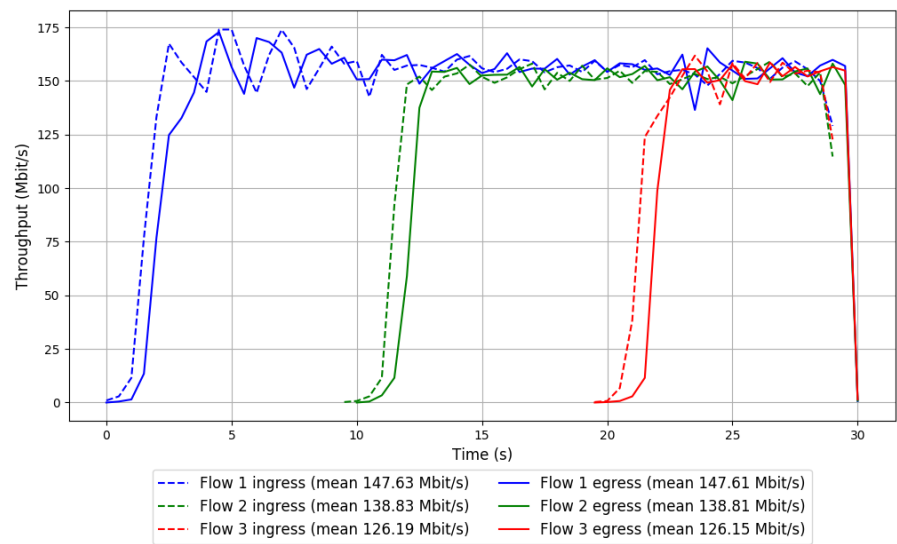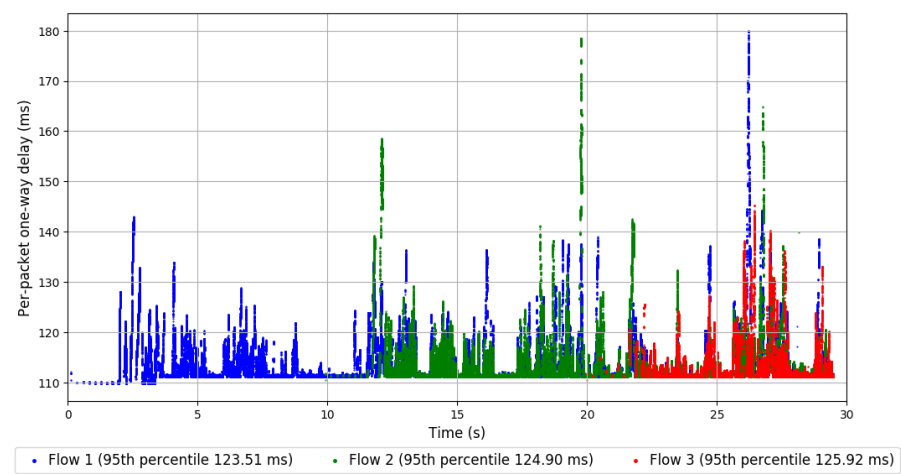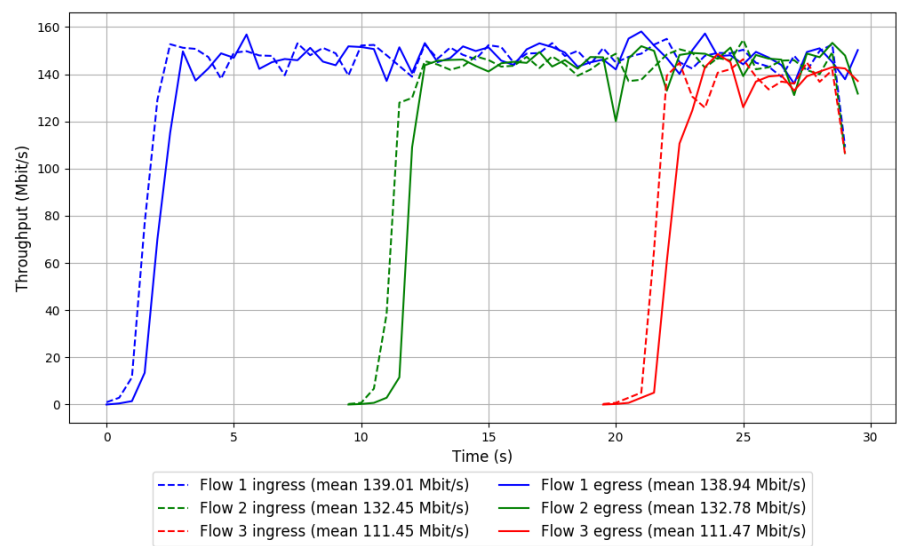
Run 6: Report of Indigo — Data Link

Flow 1 ingress (mean 144.11 Mbit/s) --- Flow 1 egress (mean 144.12 Mbit/s)
Flow 2 ingress (mean 141.05 Mbit/s) --- Flow 2 egress (mean 141.05 Mbit/s)
Flow 3 ingress (mean 129.09 Mbit/s) --- Flow 3 egress (mean 128.90 Mbit/s)

Flow 1 (95th percentile 116.66 ms)   Flow 2 (95th percentile 116.80 ms)   Flow 3 (95th percentile 124.08 ms)

```
Run 7: Statistics of Indigo

Start at: 2018-08-09 08:41:10
End at: 2018-08-09 08:41:40
Local clock offset: -1.194 ms
Remote clock offset: -0.146 ms

# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 282.13 Mbit/s
95th percentile per-packet one-way delay: 124.350 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 147.01 Mbit/s
95th percentile per-packet one-way delay: 121.562 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 132.44 Mbit/s
95th percentile per-packet one-way delay: 121.282 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 150.35 Mbit/s
95th percentile per-packet one-way delay: 138.064 ms
Loss rate: 3.42%
```
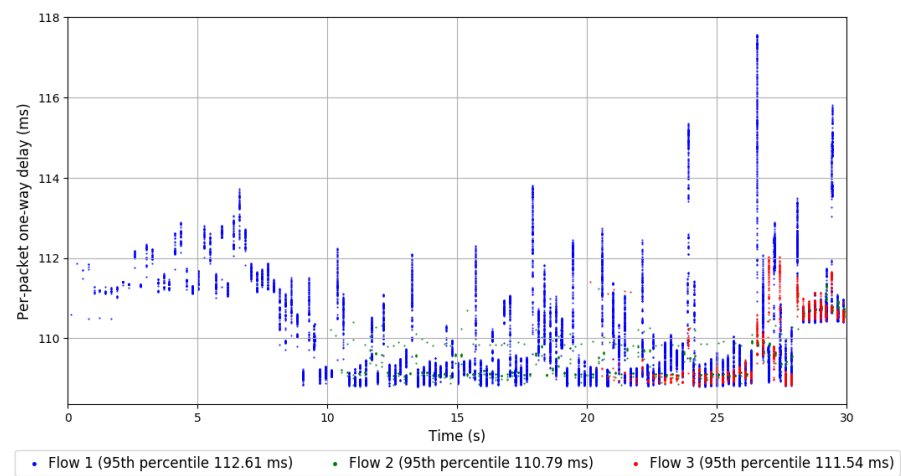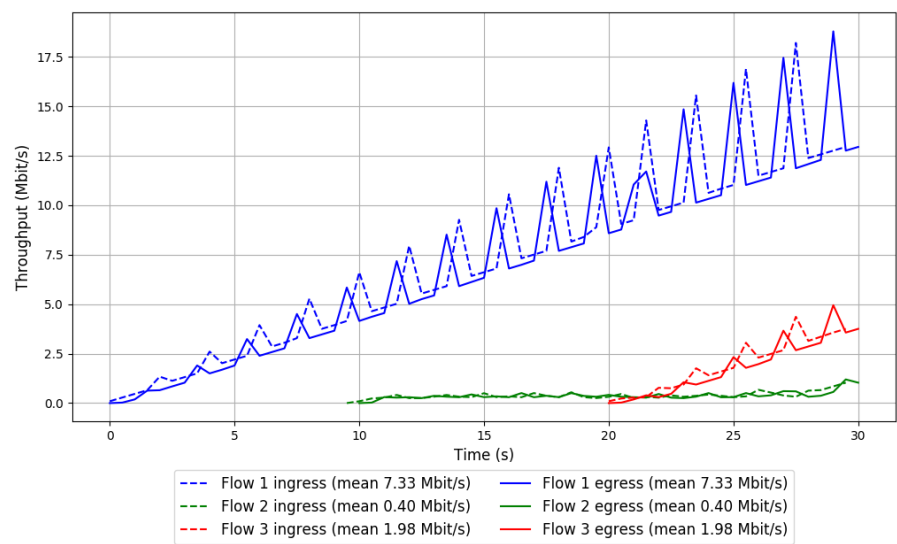
Run 7: Report of Indigo — Data Link

117

```
Run 8: Statistics of Indigo

Start at: 2018-08-09 09:07:48
End at: 2018-08-09 09:08:18
Local clock offset: -0.189 ms
Remote clock offset: -0.213 ms


# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 279.97 Mbit/s
95th percentile per-packet one-way delay: 119.528 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 146.69 Mbit/s
95th percentile per-packet one-way delay: 118.045 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 142.66 Mbit/s
95th percentile per-packet one-way delay: 121.379 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 125.08 Mbit/s
95th percentile per-packet one-way delay: 125.169 ms
Loss rate: 0.01%
```

Run 8: Report of Indigo — Data Link

```
Run 9: Statistics of Indigo

Start at: 2018-08-09 09:34:02
End at: 2018-08-09 09:34:32
Local clock offset: -1.146 ms
Remote clock offset: -0.44 ms

# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 280.49 Mbit/s
95th percentile per-packet one-way delay: 120.285 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 147.61 Mbit/s
95th percentile per-packet one-way delay: 119.309 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 138.81 Mbit/s
95th percentile per-packet one-way delay: 121.411 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 126.15 Mbit/s
95th percentile per-packet one-way delay: 123.213 ms
Loss rate: 0.05%
```
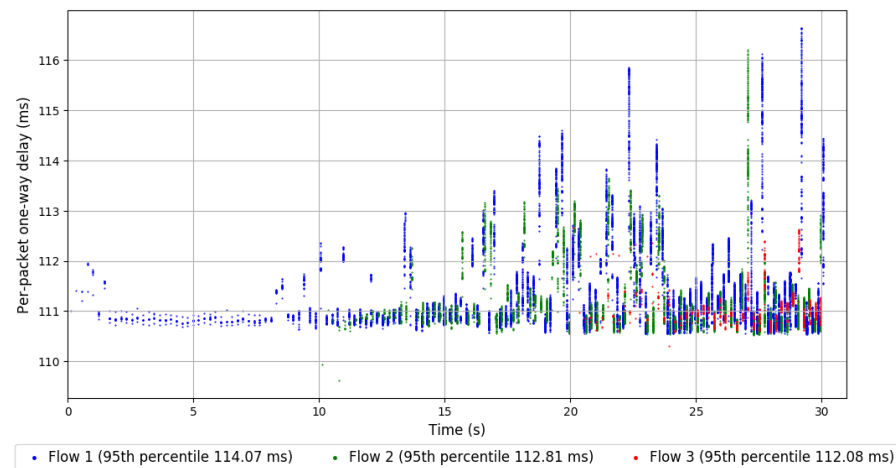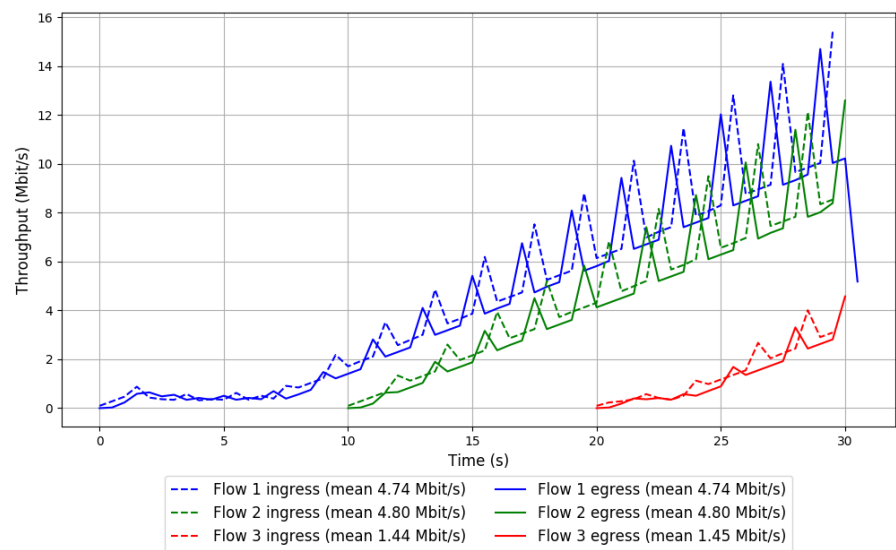
Run 9: Report of Indigo — Data Link

```
Run 10: Statistics of Indigo

Start at: 2018-08-09 10:00:39
End at: 2018-08-09 10:01:09
Local clock offset: -0.047 ms
Remote clock offset: -0.969 ms


# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 263.26 Mbit/s
95th percentile per-packet one-way delay: 124.265 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 138.94 Mbit/s
95th percentile per-packet one-way delay: 123.514 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 132.78 Mbit/s
95th percentile per-packet one-way delay: 124.901 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 111.47 Mbit/s
95th percentile per-packet one-way delay: 125.918 ms
Loss rate: 0.01%
```
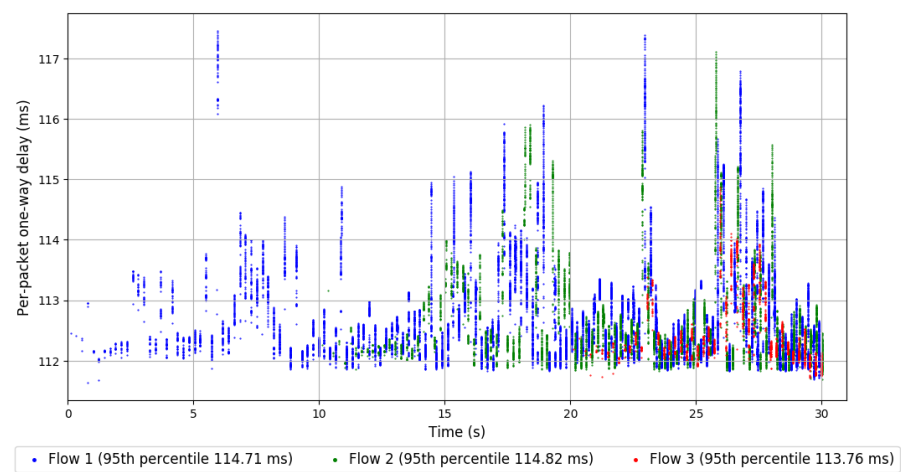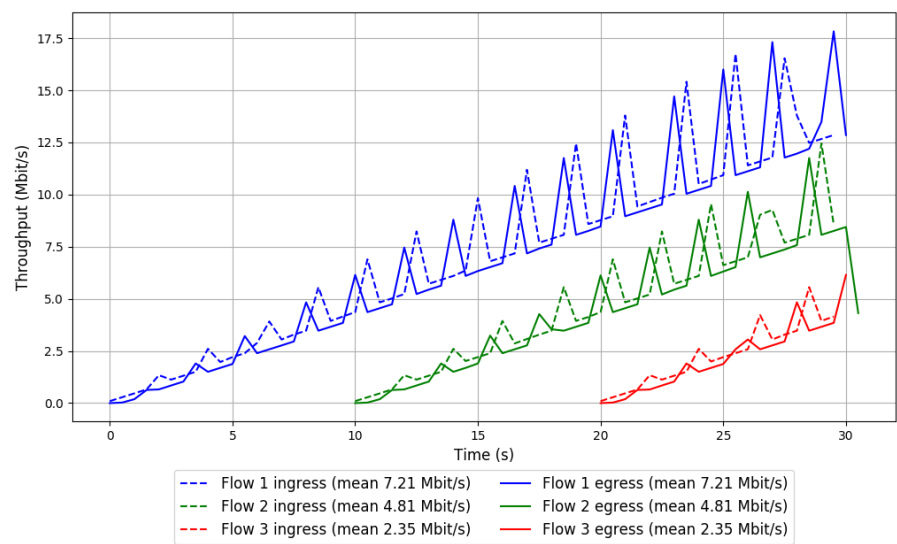
Run 10: Report of Indigo — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2018-08-09 06:02:45
End at: 2018-08-09 06:03:15
Local clock offset: -0.065 ms
Remote clock offset: -0.506 ms

# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.24 Mbit/s
95th percentile per-packet one-way delay: 112.509 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.33 Mbit/s
95th percentile per-packet one-way delay: 112.610 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 110.793 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 111.544 ms
Loss rate: 0.00%
```
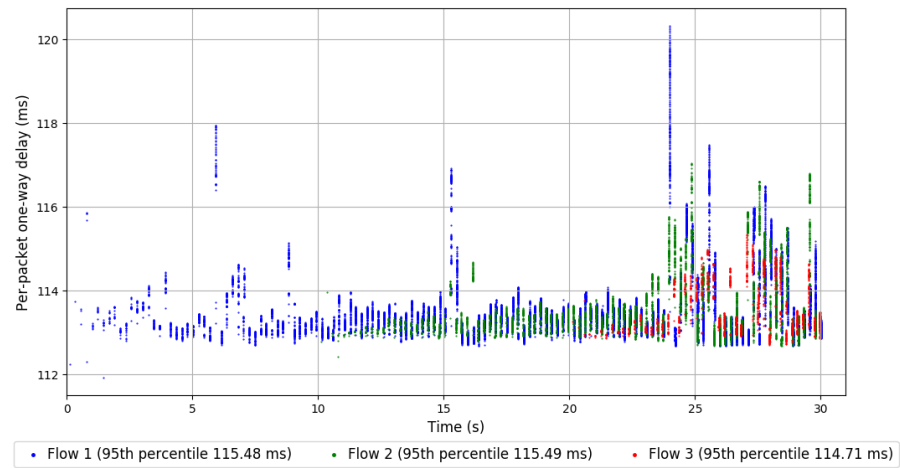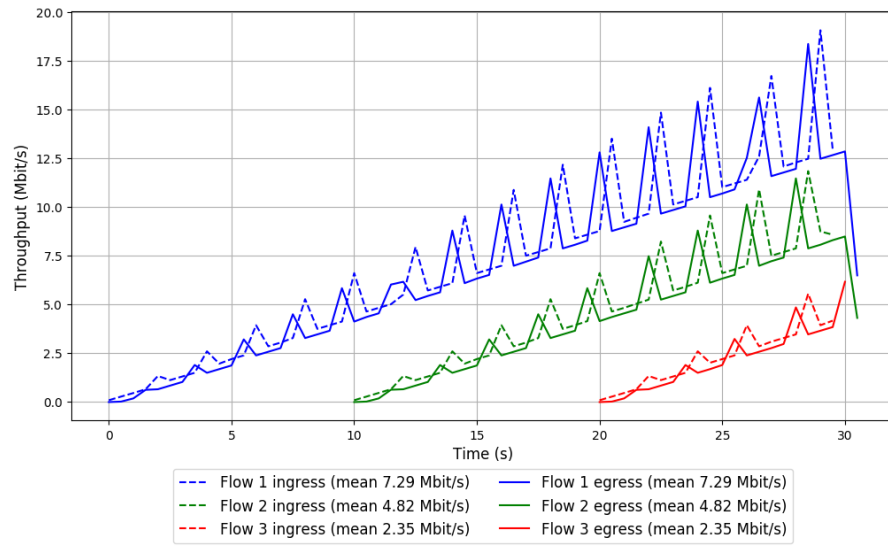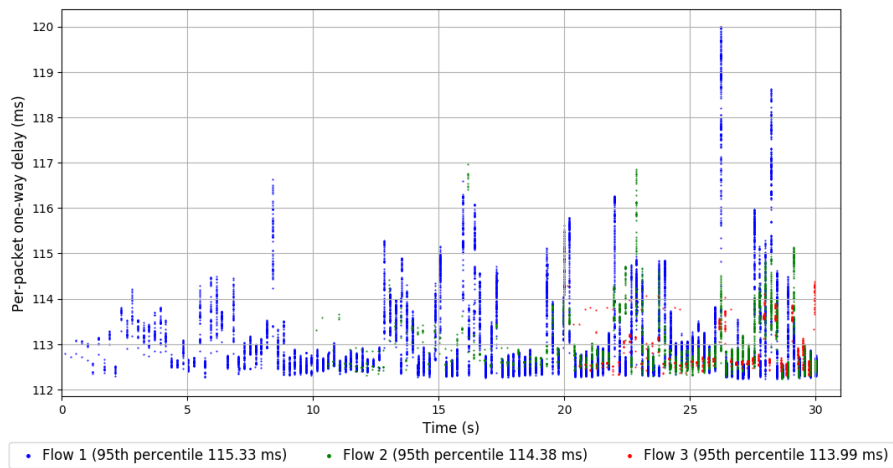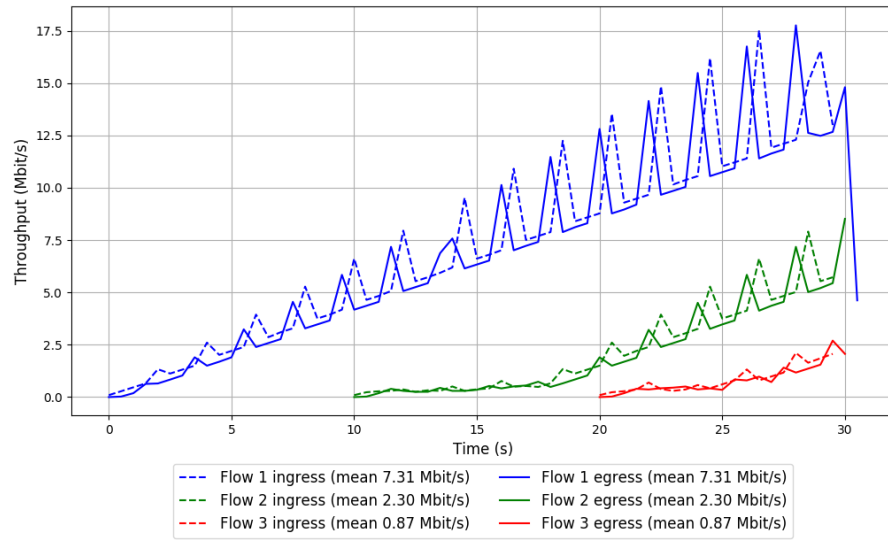
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-08-09 06:29:21
End at: 2018-08-09 06:29:51
Local clock offset: 1.051 ms
Remote clock offset: 0.164 ms


# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.39 Mbit/s
95th percentile per-packet one-way delay: 113.414 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.74 Mbit/s
95th percentile per-packet one-way delay: 114.066 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.80 Mbit/s
95th percentile per-packet one-way delay: 112.813 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 112.076 ms
Loss rate: 0.00%
```
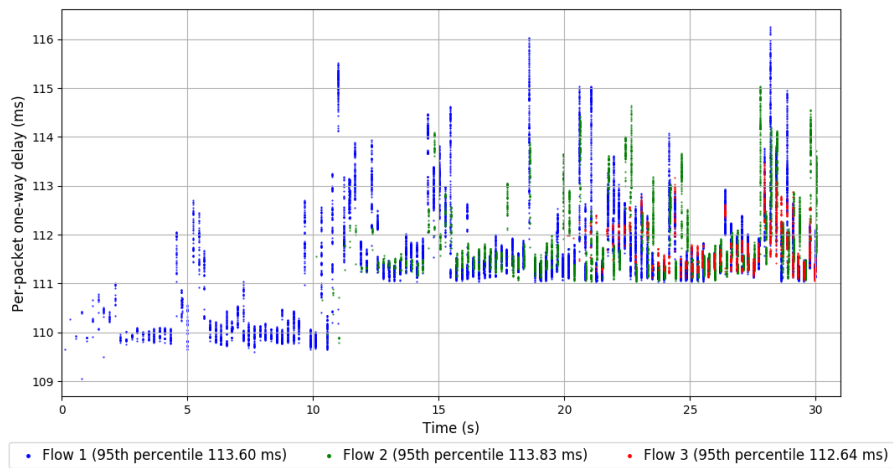
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-08-09 06:56:04
End at: 2018-08-09 06:56:34
Local clock offset: -0.068 ms
Remote clock offset: 0.307 ms


# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.15 Mbit/s
95th percentile per-packet one-way delay: 114.688 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.21 Mbit/s
95th percentile per-packet one-way delay: 114.711 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.81 Mbit/s
95th percentile per-packet one-way delay: 114.818 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 113.762 ms
Loss rate: 0.00%
```
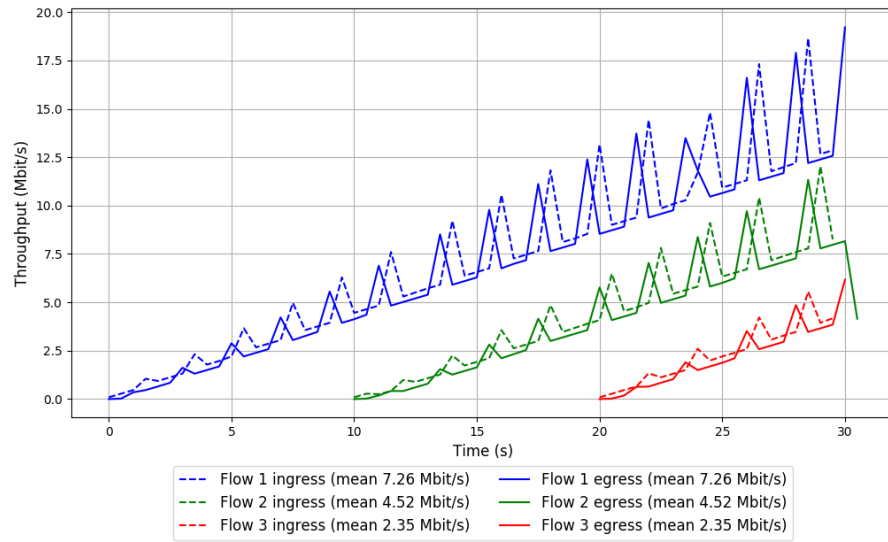
Run 3: Report of LEDBAT — Data Link

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```
Run 4: Statistics of LEDBAT

Start at: 2018-08-09 07:22:44
End at: 2018-08-09 07:23:14
Local clock offset: -1.112 ms
Remote clock offset: 0.255 ms


# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.27 Mbit/s
95th percentile per-packet one-way delay: 115.428 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.29 Mbit/s
95th percentile per-packet one-way delay: 115.484 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.82 Mbit/s
95th percentile per-packet one-way delay: 115.493 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 114.708 ms
Loss rate: 0.00%
```
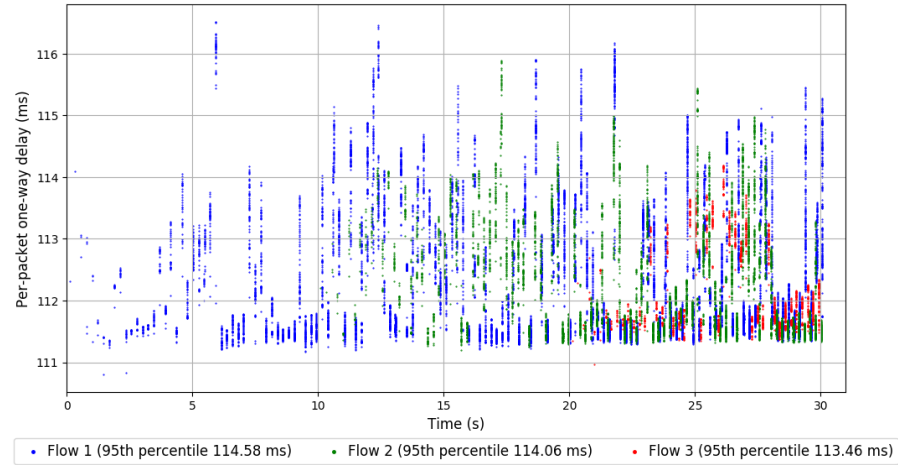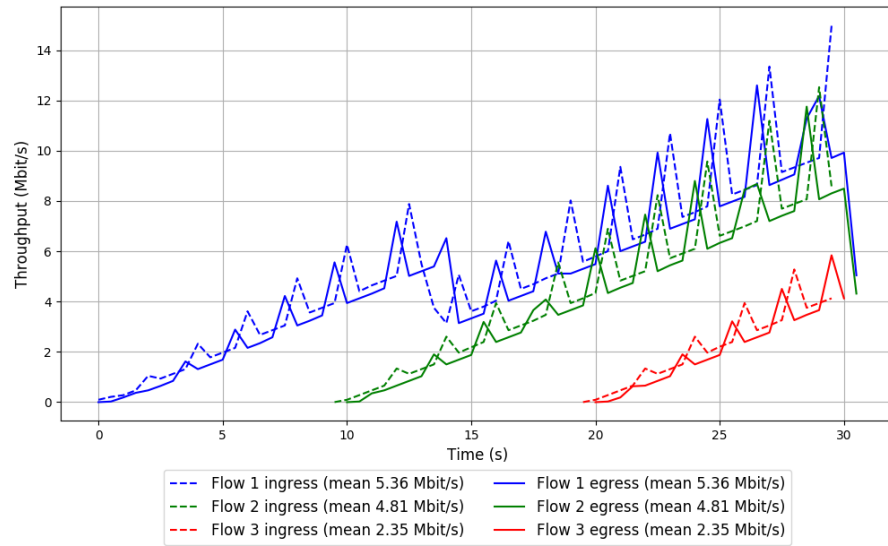
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2018-08-09 07:49:36
End at: 2018-08-09 07:50:06
Local clock offset: -1.442 ms
Remote clock offset: -0.184 ms

# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.12 Mbit/s
95th percentile per-packet one-way delay: 115.125 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.31 Mbit/s
95th percentile per-packet one-way delay: 115.332 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 114.378 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 113.991 ms
Loss rate: 0.00%
```
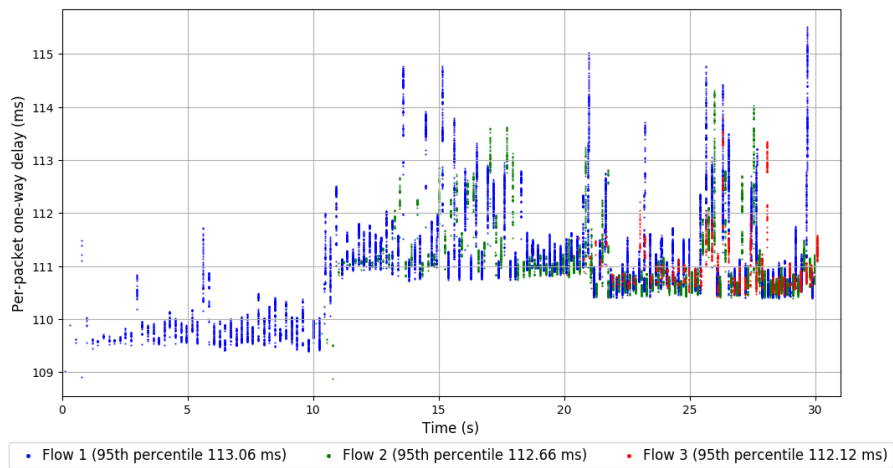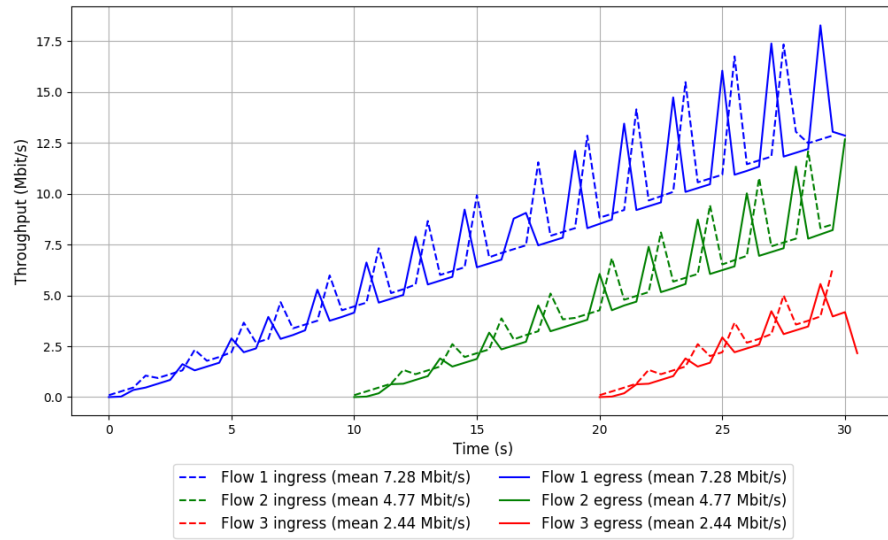
Run 5: Report of LEDBAT — Data Link

- Flow 1 ingress (mean 7.31 Mbit/s)
- Flow 1 egress (mean 7.31 Mbit/s)
- Flow 2 ingress (mean 2.30 Mbit/s)
- Flow 2 egress (mean 2.30 Mbit/s)
- Flow 3 ingress (mean 0.87 Mbit/s)
- Flow 3 egress (mean 0.87 Mbit/s)

- Flow 1 (95th percentile 115.33 ms)
- Flow 2 (95th percentile 114.38 ms)
- Flow 3 (95th percentile 113.99 ms)

```
Run 6: Statistics of LEDBAT

Start at: 2018-08-09 08:16:22
End at: 2018-08-09 08:16:52
Local clock offset: 0.181 ms
Remote clock offset: -0.176 ms


# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.03 Mbit/s
95th percentile per-packet one-way delay: 113.665 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.26 Mbit/s
95th percentile per-packet one-way delay: 113.600 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.52 Mbit/s
95th percentile per-packet one-way delay: 113.835 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 112.640 ms
Loss rate: 0.00%
```
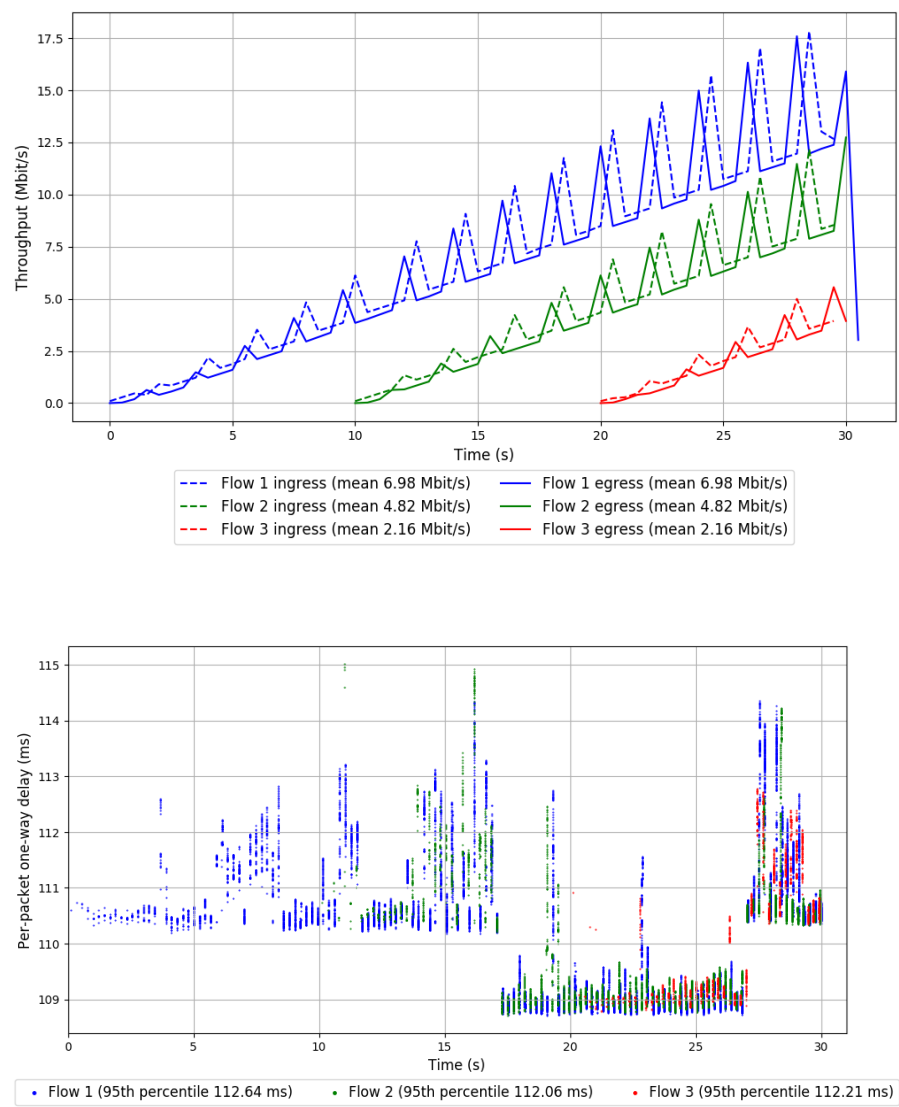
Run 6: Report of LEDBAT — Data Link

```
Run 7: Statistics of LEDBAT

Start at: 2018-08-09 08:42:44
End at: 2018-08-09 08:43:14
Local clock offset: -0.072 ms
Remote clock offset: 0.244 ms


# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 9.33 Mbit/s
95th percentile per-packet one-way delay: 114.393 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.36 Mbit/s
95th percentile per-packet one-way delay: 114.578 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.81 Mbit/s
95th percentile per-packet one-way delay: 114.055 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 113.456 ms
Loss rate: 0.00%
```
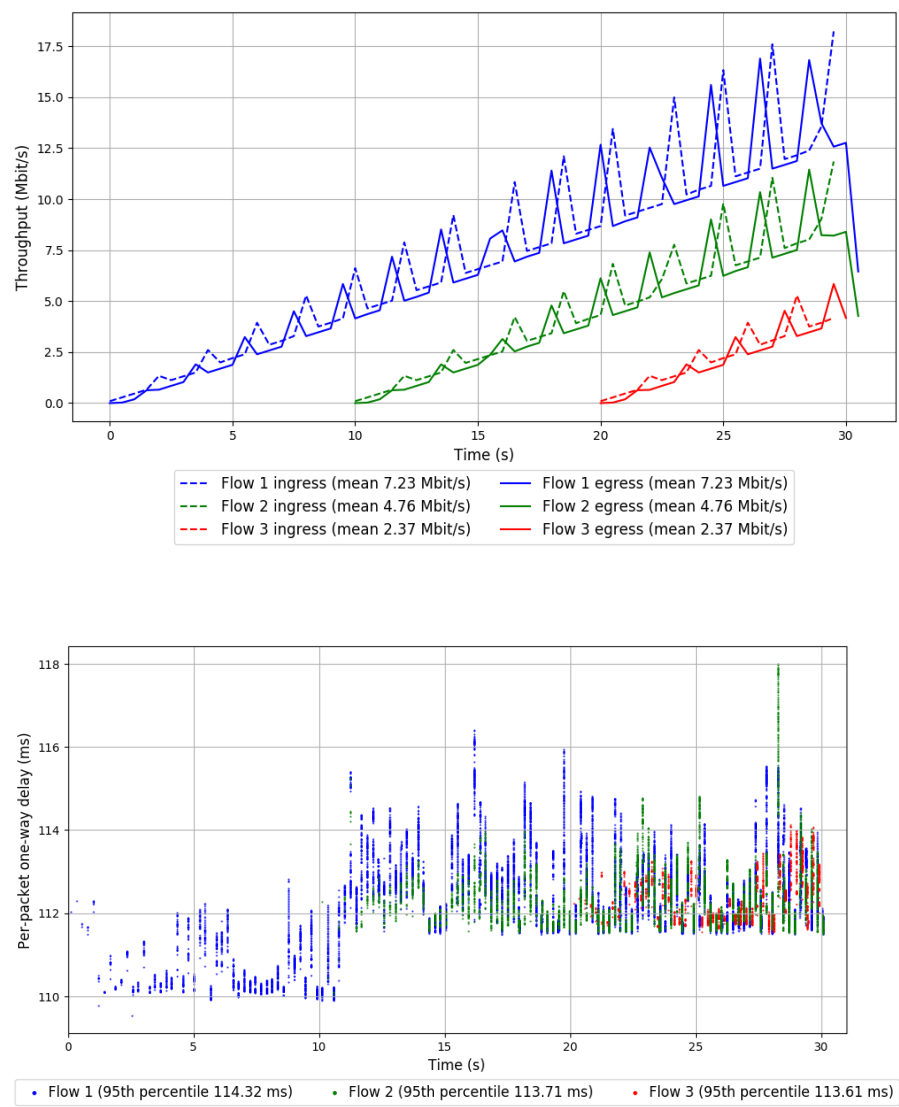
Run 7: Report of LEDBAT — Data Link

```
Run 8: Statistics of LEDBAT

Start at: 2018-08-09 09:09:22
End at: 2018-08-09 09:09:52
Local clock offset: 0.038 ms
Remote clock offset: -0.602 ms


# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.21 Mbit/s
95th percentile per-packet one-way delay: 112.845 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.28 Mbit/s
95th percentile per-packet one-way delay: 113.063 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.77 Mbit/s
95th percentile per-packet one-way delay: 112.659 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.44 Mbit/s
95th percentile per-packet one-way delay: 112.124 ms
Loss rate: 0.00%
```
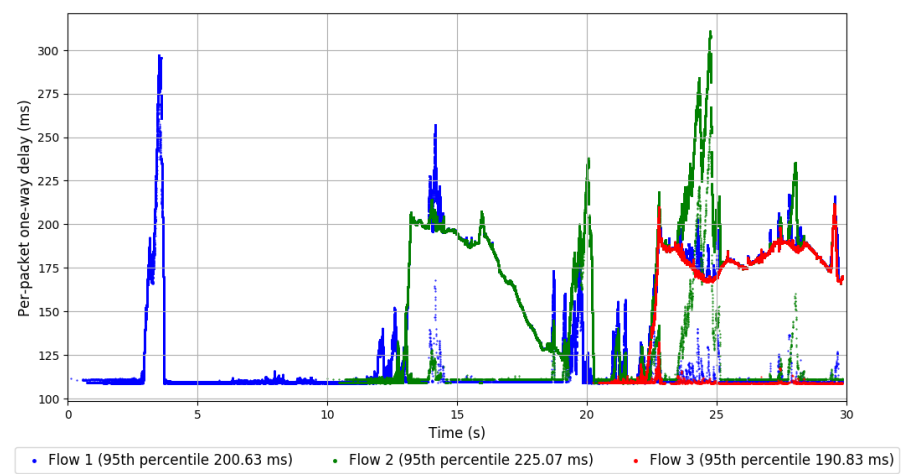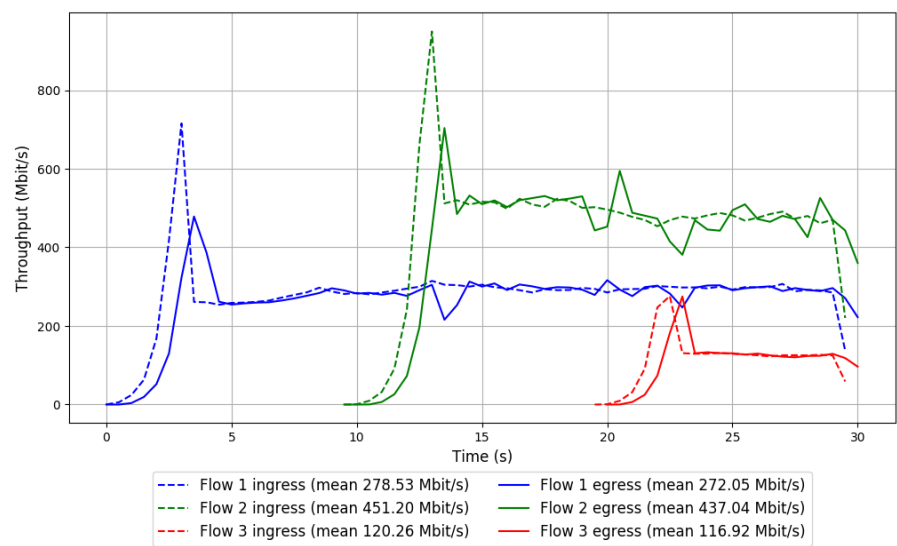
Run 8: Report of LEDBAT — Data Link

```
Run 9: Statistics of LEDBAT

Start at: 2018-08-09 09:35:36
End at: 2018-08-09 09:36:06
Local clock offset: 1.18 ms
Remote clock offset: -0.311 ms


# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.89 Mbit/s
95th percentile per-packet one-way delay: 112.413 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.98 Mbit/s
95th percentile per-packet one-way delay: 112.639 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.82 Mbit/s
95th percentile per-packet one-way delay: 112.059 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 112.214 ms
Loss rate: 0.00%
```
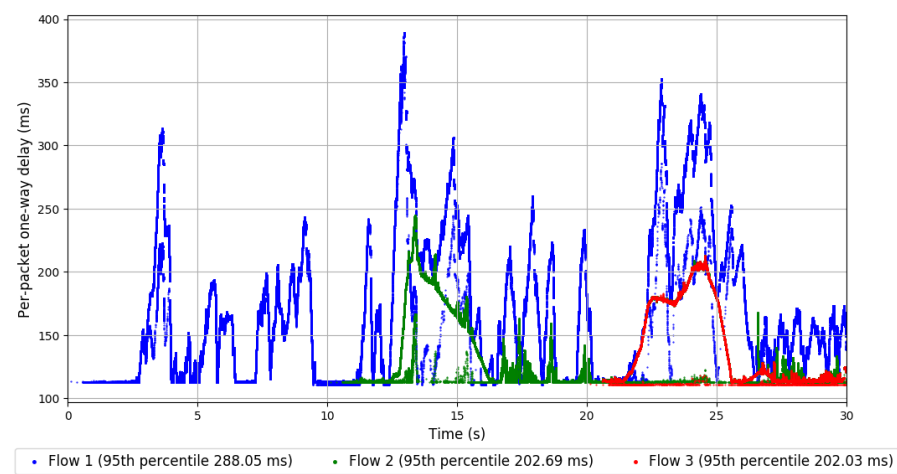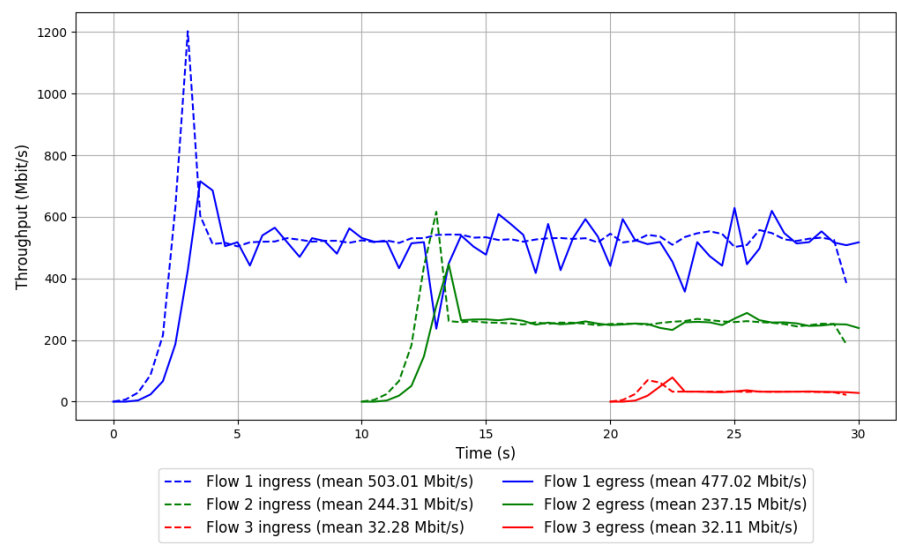
Run 9: Report of LEDBAT — Data Link

```
Run 10: Statistics of LEDBAT

Start at: 2018-08-09 10:02:12
End at: 2018-08-09 10:02:42
Local clock offset: -0.045 ms
Remote clock offset: -0.598 ms


# Below is generated by plot.py at 2018-08-09 12:18:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.18 Mbit/s
95th percentile per-packet one-way delay: 114.141 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.23 Mbit/s
95th percentile per-packet one-way delay: 114.323 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.76 Mbit/s
95th percentile per-packet one-way delay: 113.712 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 113.605 ms
Loss rate: 0.00%
```
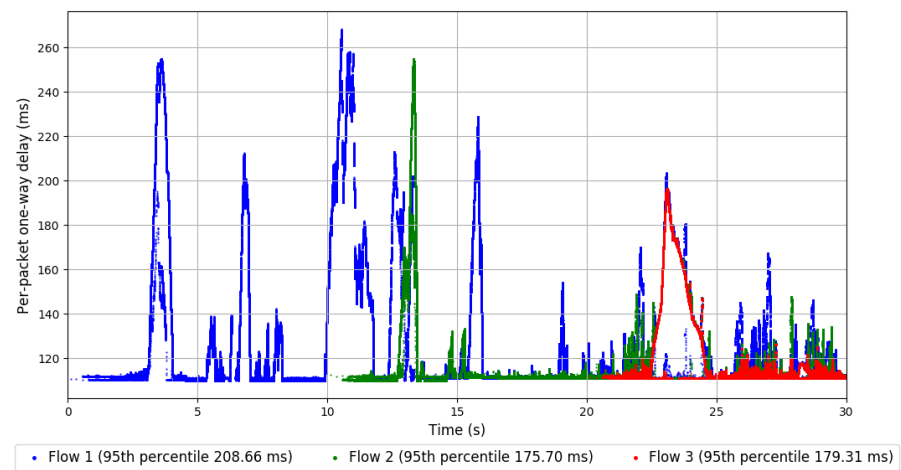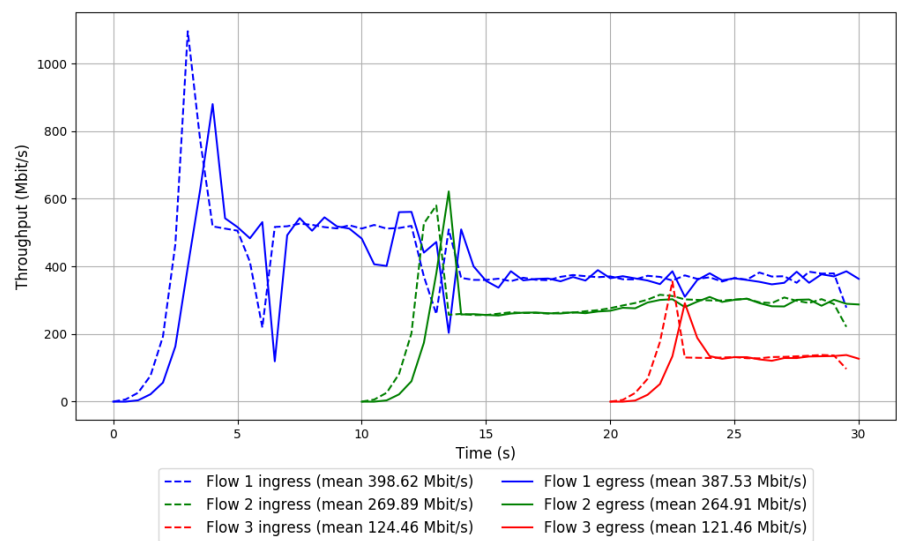
Run 10: Report of LEDBAT — Data Link

- - - Flow 1 ingress (mean 7.23 Mbit/s)   —— Flow 1 egress (mean 7.23 Mbit/s)
- - - Flow 2 ingress (mean 4.76 Mbit/s)   —— Flow 2 egress (mean 4.76 Mbit/s)
- - - Flow 3 ingress (mean 2.37 Mbit/s)   —— Flow 3 egress (mean 2.37 Mbit/s)

• Flow 1 (95th percentile 114.32 ms)   • Flow 2 (95th percentile 113.71 ms)   • Flow 3 (95th percentile 113.61 ms)
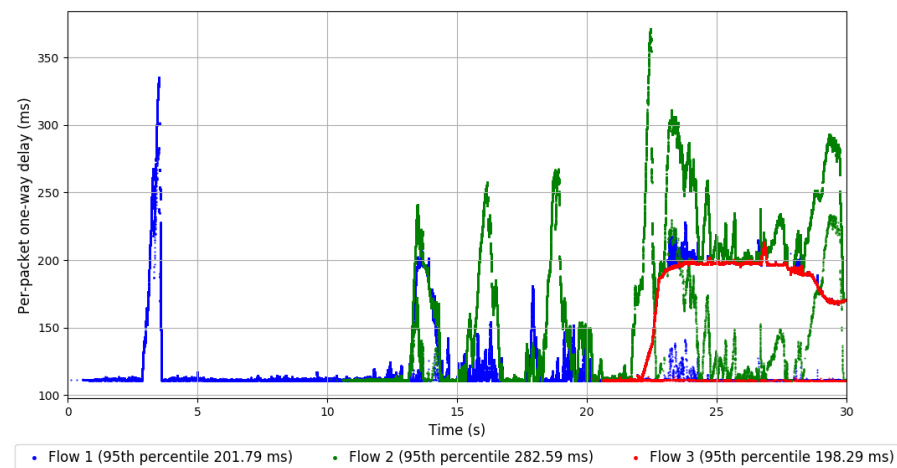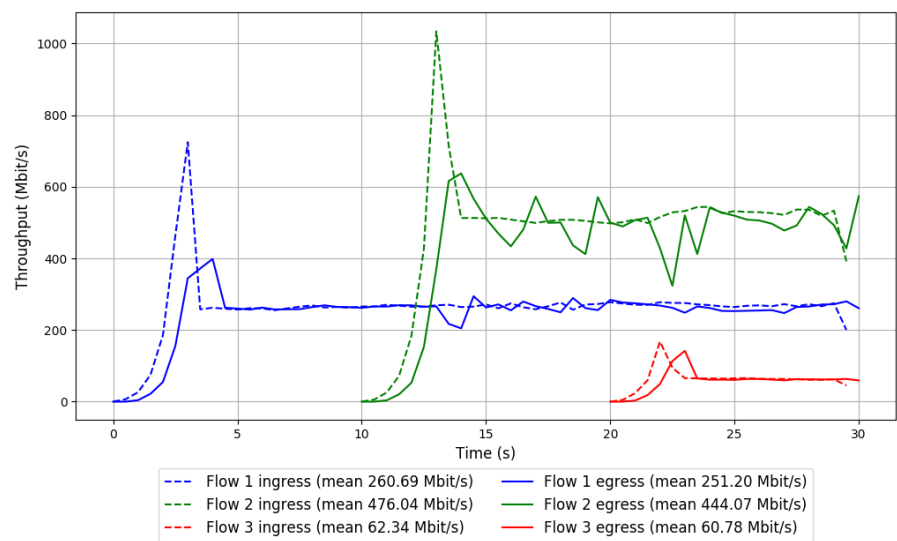
```
Run 1: Statistics of PCC-Allegro

Start at: 2018-08-09 06:23:02
End at: 2018-08-09 06:23:32
Local clock offset: 0.022 ms
Remote clock offset: -0.519 ms

# Below is generated by plot.py at 2018-08-09 12:20:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 602.53 Mbit/s
95th percentile per-packet one-way delay: 210.656 ms
Loss rate: 2.75%
-- Flow 1:
Average throughput: 272.05 Mbit/s
95th percentile per-packet one-way delay: 200.629 ms
Loss rate: 2.33%
-- Flow 2:
Average throughput: 437.04 Mbit/s
95th percentile per-packet one-way delay: 225.069 ms
Loss rate: 3.14%
-- Flow 3:
Average throughput: 116.92 Mbit/s
95th percentile per-packet one-way delay: 190.827 ms
Loss rate: 2.77%
```

Run 1: Report of PCC-Allegro — Data Link

- Flow 1 ingress (mean 278.53 Mbit/s)   — Flow 1 egress (mean 272.05 Mbit/s)
- Flow 2 ingress (mean 451.20 Mbit/s)   — Flow 2 egress (mean 437.04 Mbit/s)
- Flow 3 ingress (mean 120.26 Mbit/s)   — Flow 3 egress (mean 116.92 Mbit/s)

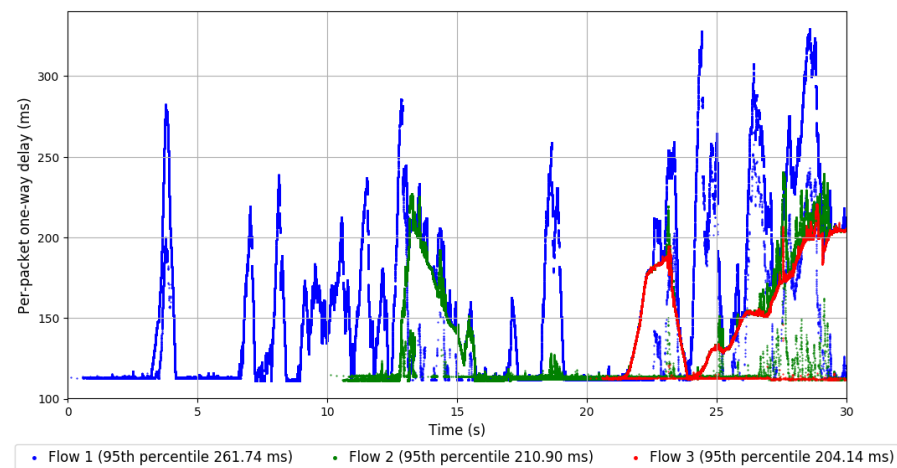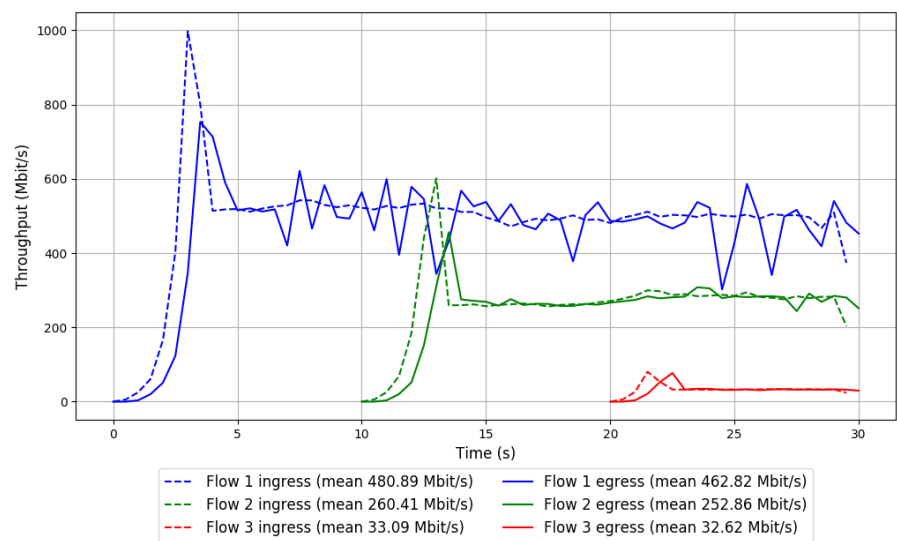- Flow 1 (95th percentile 200.63 ms)   • Flow 2 (95th percentile 225.07 ms)   • Flow 3 (95th percentile 190.83 ms)

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-08-09 06:49:25
End at: 2018-08-09 06:49:55
Local clock offset: -1.488 ms
Remote clock offset: -0.089 ms


# Below is generated by plot.py at 2018-08-09 12:21:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 645.26 Mbit/s
95th percentile per-packet one-way delay: 271.511 ms
Loss rate: 4.55%
-- Flow 1:
Average throughput: 477.02 Mbit/s
95th percentile per-packet one-way delay: 288.045 ms
Loss rate: 5.16%
-- Flow 2:
Average throughput: 237.15 Mbit/s
95th percentile per-packet one-way delay: 202.688 ms
Loss rate: 2.93%
-- Flow 3:
Average throughput: 32.11 Mbit/s
95th percentile per-packet one-way delay: 202.035 ms
Loss rate: 0.52%
```

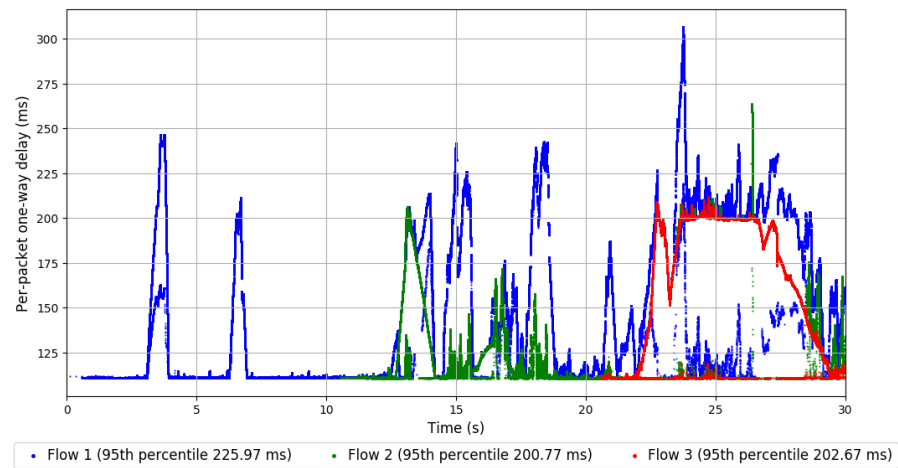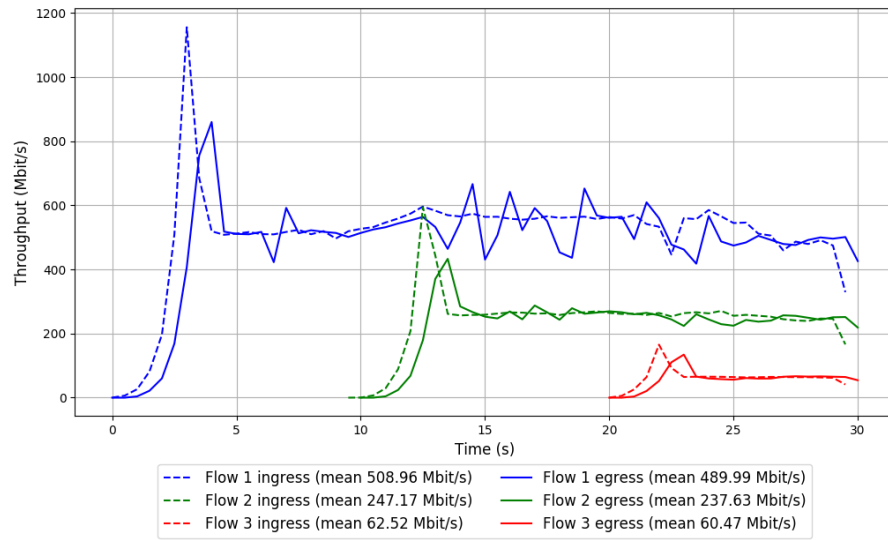Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-08-09 07:16:08
End at: 2018-08-09 07:16:38
Local clock offset: -0.062 ms
Remote clock offset: -0.084 ms


# Below is generated by plot.py at 2018-08-09 12:21:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 603.55 Mbit/s
95th percentile per-packet one-way delay: 199.769 ms
Loss rate: 2.49%
-- Flow 1:
Average throughput: 387.53 Mbit/s
95th percentile per-packet one-way delay: 208.665 ms
Loss rate: 2.79%
-- Flow 2:
Average throughput: 264.91 Mbit/s
95th percentile per-packet one-way delay: 175.704 ms
Loss rate: 1.85%
-- Flow 3:
Average throughput: 121.46 Mbit/s
95th percentile per-packet one-way delay: 179.307 ms
Loss rate: 2.42%
```

Run 3: Report of PCC-Allegro — Data Link

- - - Flow 1 ingress (mean 398.62 Mbit/s)   —— Flow 1 egress (mean 387.53 Mbit/s)
- - - Flow 2 ingress (mean 269.89 Mbit/s)   —— Flow 2 egress (mean 264.91 Mbit/s)
- - - Flow 3 ingress (mean 124.46 Mbit/s)   —— Flow 3 egress (mean 121.46 Mbit/s)

- Flow 1 (95th percentile 208.66 ms)   • Flow 2 (95th percentile 175.70 ms)   • Flow 3 (95th percentile 179.31 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-08-09 07:43:05
End at: 2018-08-09 07:43:35
Local clock offset: 0.022 ms
Remote clock offset: -0.103 ms


# Below is generated by plot.py at 2018-08-09 12:21:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 566.36 Mbit/s
95th percentile per-packet one-way delay: 264.720 ms
Loss rate: 5.23%
-- Flow 1:
Average throughput: 251.20 Mbit/s
95th percentile per-packet one-way delay: 201.794 ms
Loss rate: 3.64%
-- Flow 2:
Average throughput: 444.07 Mbit/s
95th percentile per-packet one-way delay: 282.592 ms
Loss rate: 6.72%
-- Flow 3:
Average throughput: 60.78 Mbit/s
95th percentile per-packet one-way delay: 198.286 ms
Loss rate: 2.50%
```
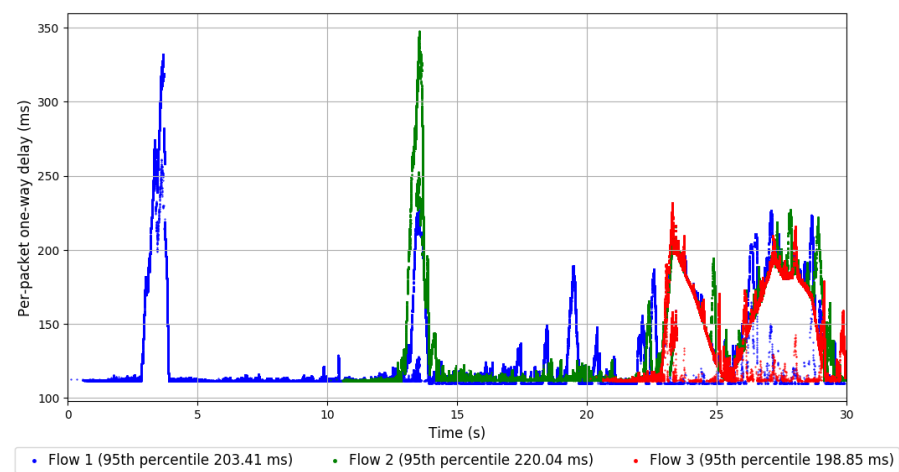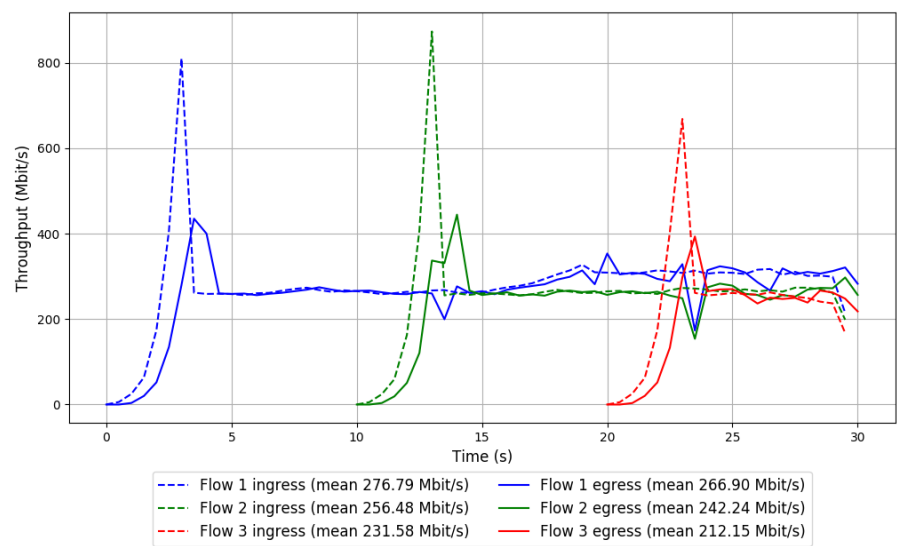
Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-08-09 08:09:56
End at: 2018-08-09 08:10:26
Local clock offset: -1.468 ms
Remote clock offset: -0.123 ms

# Below is generated by plot.py at 2018-08-09 12:25:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 641.55 Mbit/s
95th percentile per-packet one-way delay: 251.028 ms
Loss rate: 3.50%
-- Flow 1:
Average throughput: 462.82 Mbit/s
95th percentile per-packet one-way delay: 261.742 ms
Loss rate: 3.76%
-- Flow 2:
Average throughput: 252.86 Mbit/s
95th percentile per-packet one-way delay: 210.902 ms
Loss rate: 2.90%
-- Flow 3:
Average throughput: 32.62 Mbit/s
95th percentile per-packet one-way delay: 204.142 ms
Loss rate: 1.39%
```
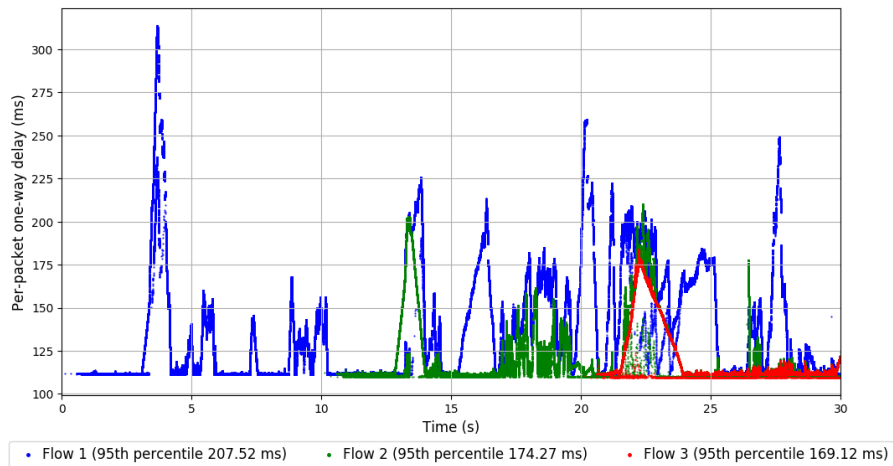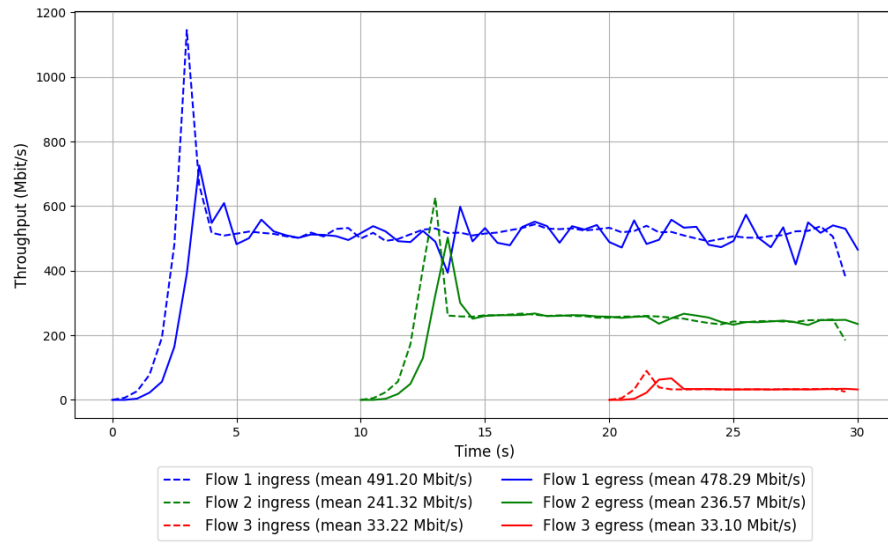
Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 480.89 Mbit/s) --- Flow 1 egress (mean 462.82 Mbit/s)
Flow 2 ingress (mean 260.41 Mbit/s) --- Flow 2 egress (mean 252.86 Mbit/s)
Flow 3 ingress (mean 33.09 Mbit/s) --- Flow 3 egress (mean 32.62 Mbit/s)

Flow 1 (95th percentile 261.74 ms) • Flow 2 (95th percentile 210.90 ms) • Flow 3 (95th percentile 204.14 ms)
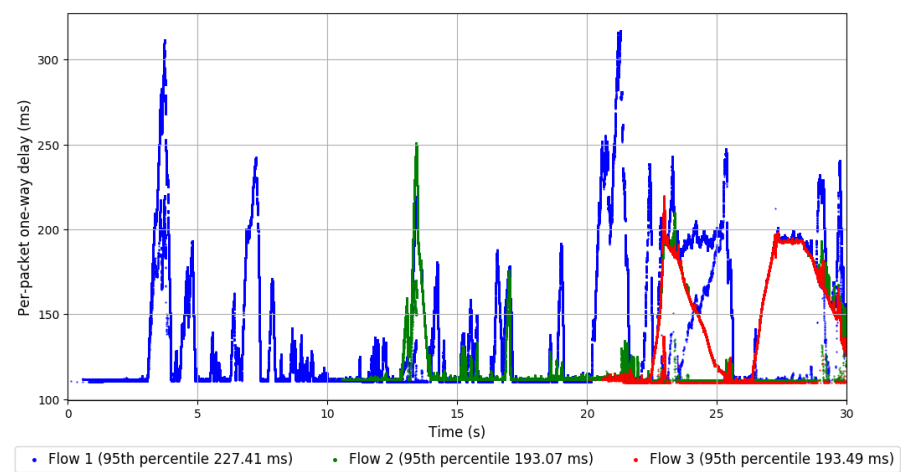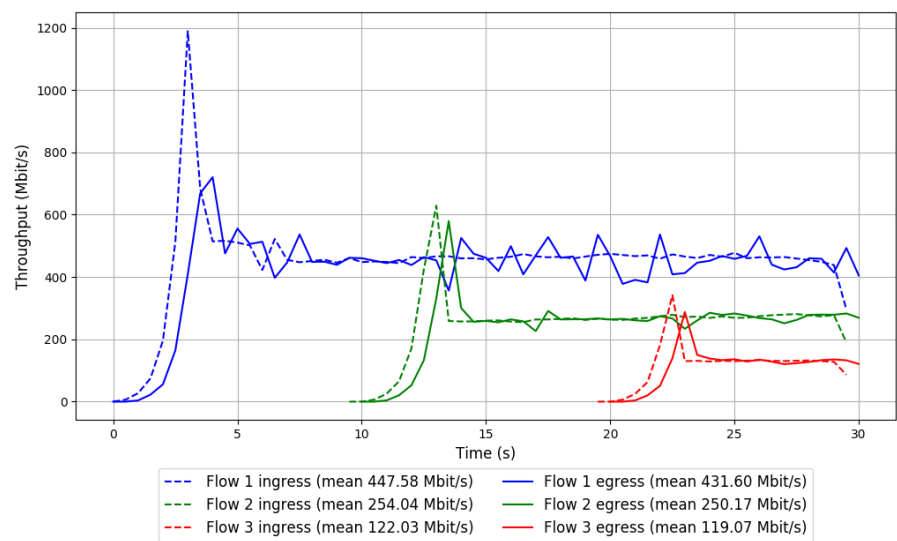
153

```
Run 6: Statistics of PCC-Allegro

Start at: 2018-08-09 08:36:22
End at: 2018-08-09 08:36:52
Local clock offset: -0.308 ms
Remote clock offset: -0.478 ms

# Below is generated by plot.py at 2018-08-09 12:26:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 667.92 Mbit/s
95th percentile per-packet one-way delay: 217.456 ms
Loss rate: 3.75%
-- Flow 1:
Average throughput: 489.99 Mbit/s
95th percentile per-packet one-way delay: 225.971 ms
Loss rate: 3.73%
-- Flow 2:
Average throughput: 237.63 Mbit/s
95th percentile per-packet one-way delay: 200.766 ms
Loss rate: 3.86%
-- Flow 3:
Average throughput: 60.47 Mbit/s
95th percentile per-packet one-way delay: 202.668 ms
Loss rate: 3.23%
```
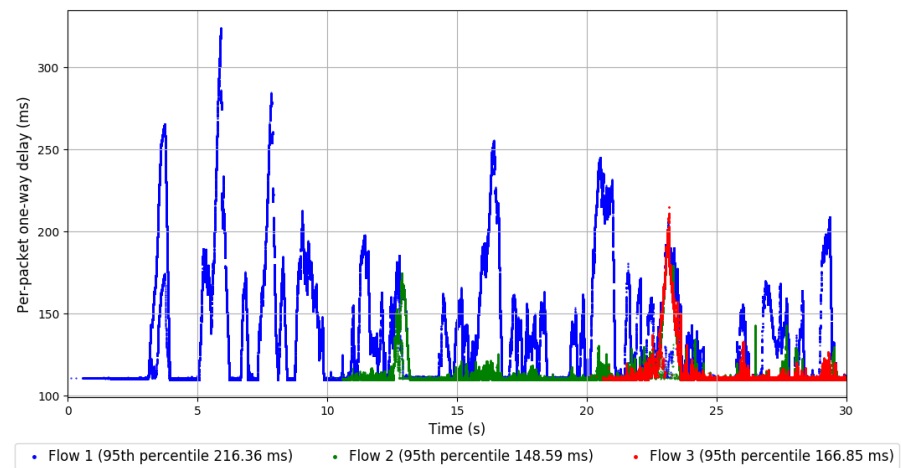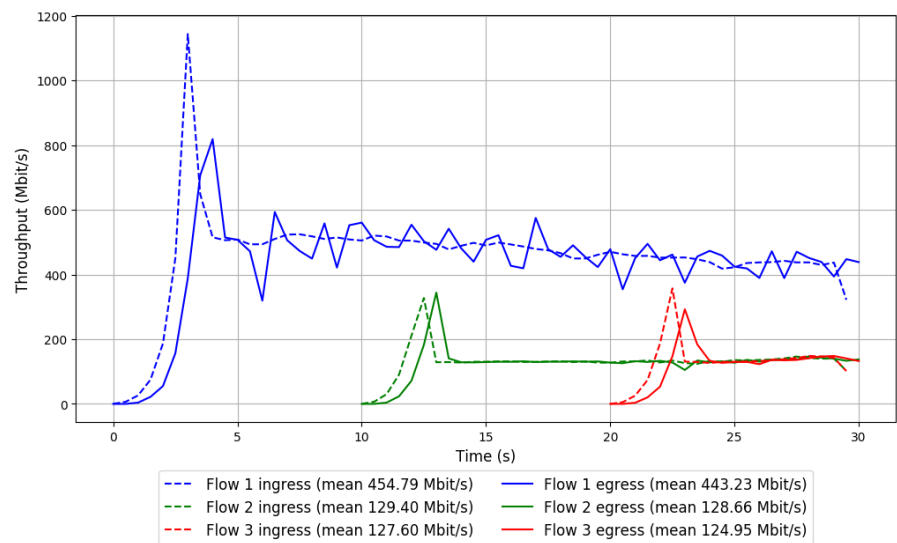
Run 6: Report of PCC-Allegro — Data Link

```
Run 7: Statistics of PCC-Allegro

Start at: 2018-08-09 09:02:59
End at: 2018-08-09 09:03:29
Local clock offset: -0.455 ms
Remote clock offset: -0.17 ms


# Below is generated by plot.py at 2018-08-09 12:26:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 497.85 Mbit/s
95th percentile per-packet one-way delay: 205.910 ms
Loss rate: 4.91%
-- Flow 1:
Average throughput: 266.90 Mbit/s
95th percentile per-packet one-way delay: 203.411 ms
Loss rate: 3.57%
-- Flow 2:
Average throughput: 242.24 Mbit/s
95th percentile per-packet one-way delay: 220.045 ms
Loss rate: 5.53%
-- Flow 3:
Average throughput: 212.15 Mbit/s
95th percentile per-packet one-way delay: 198.846 ms
Loss rate: 8.36%
```
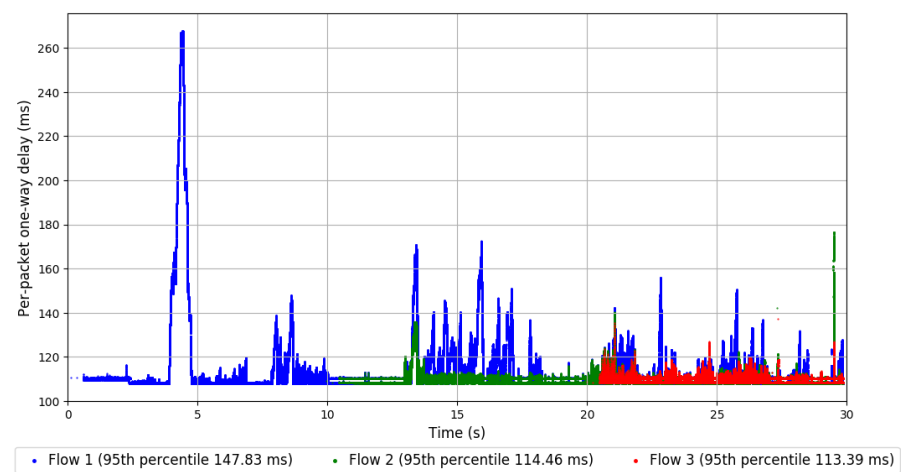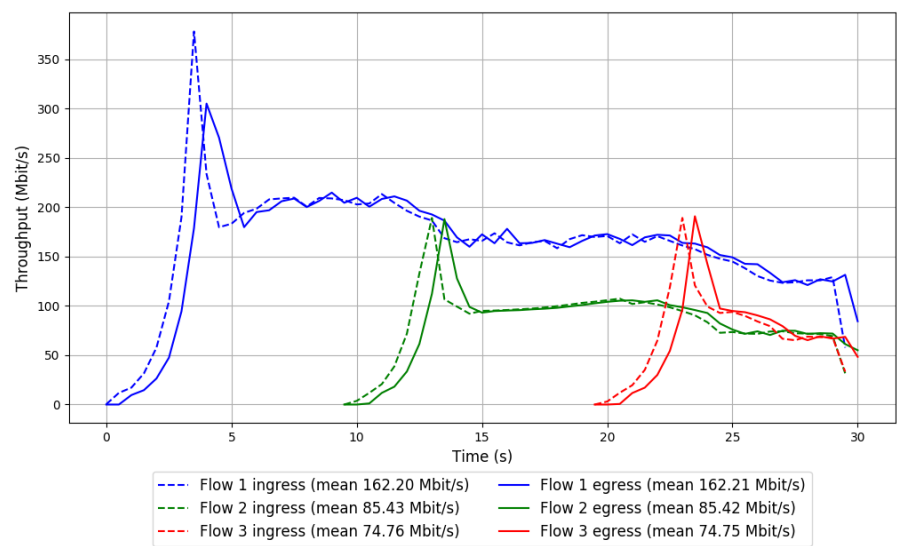
Run 7: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 276.79 Mbit/s)   Flow 1 egress (mean 266.90 Mbit/s)
Flow 2 ingress (mean 256.48 Mbit/s)   Flow 2 egress (mean 242.24 Mbit/s)
Flow 3 ingress (mean 231.58 Mbit/s)   Flow 3 egress (mean 212.15 Mbit/s)

Flow 1 (95th percentile 203.41 ms)   Flow 2 (95th percentile 220.04 ms)   Flow 3 (95th percentile 198.85 ms)

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```
Run 8: Statistics of PCC-Allegro

Start at: 2018-08-09 09:29:08
End at: 2018-08-09 09:29:38
Local clock offset: 0.117 ms
Remote clock offset: 0.057 ms

# Below is generated by plot.py at 2018-08-09 12:29:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 646.38 Mbit/s
95th percentile per-packet one-way delay: 201.358 ms
Loss rate: 2.44%
-- Flow 1:
Average throughput: 478.29 Mbit/s
95th percentile per-packet one-way delay: 207.516 ms
Loss rate: 2.64%
-- Flow 2:
Average throughput: 236.57 Mbit/s
95th percentile per-packet one-way delay: 174.274 ms
Loss rate: 1.97%
-- Flow 3:
Average throughput: 33.10 Mbit/s
95th percentile per-packet one-way delay: 169.115 ms
Loss rate: 0.34%
```

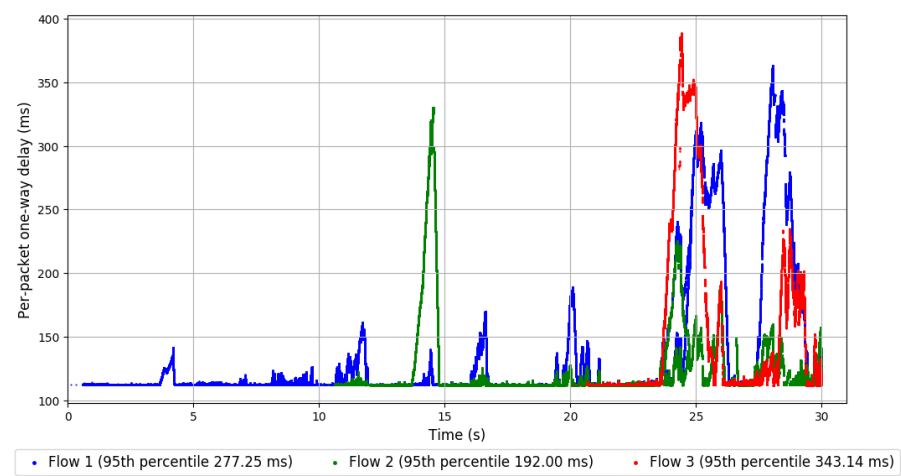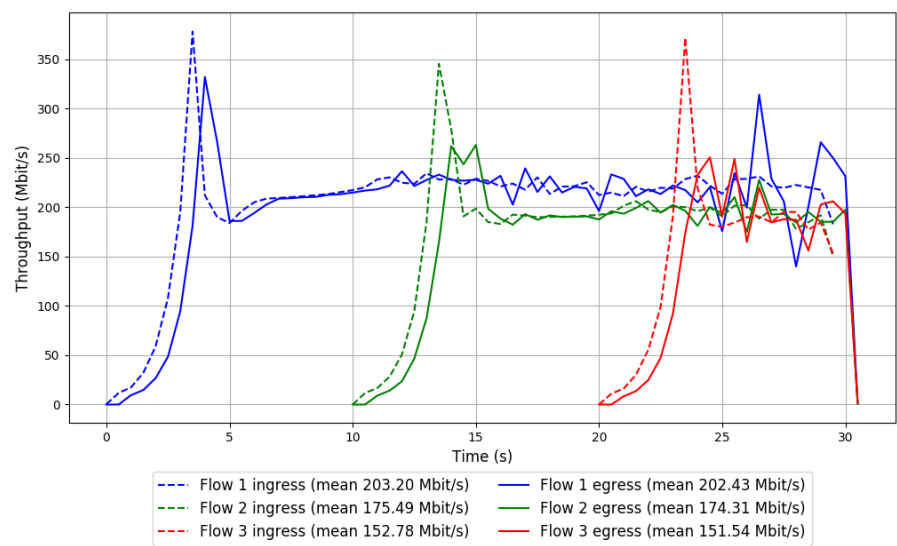# Run 8: Report of PCC-Allegro — Data Link

- Flow 1 ingress (mean 491.20 Mbit/s)
- Flow 1 egress (mean 478.29 Mbit/s)
- Flow 2 ingress (mean 241.32 Mbit/s)
- Flow 2 egress (mean 236.57 Mbit/s)
- Flow 3 ingress (mean 33.22 Mbit/s)
- Flow 3 egress (mean 33.10 Mbit/s)

- Flow 1 (95th percentile 207.52 ms)
- Flow 2 (95th percentile 174.27 ms)
- Flow 3 (95th percentile 169.12 ms)

```
Run 9: Statistics of PCC-Allegro

Start at: 2018-08-09 09:55:52
End at: 2018-08-09 09:56:22
Local clock offset: -0.093 ms
Remote clock offset: -0.593 ms


# Below is generated by plot.py at 2018-08-09 12:30:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 637.31 Mbit/s
95th percentile per-packet one-way delay: 215.985 ms
Loss rate: 2.96%
-- Flow 1:
Average throughput: 431.60 Mbit/s
95th percentile per-packet one-way delay: 227.415 ms
Loss rate: 3.56%
-- Flow 2:
Average throughput: 250.17 Mbit/s
95th percentile per-packet one-way delay: 193.073 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 119.07 Mbit/s
95th percentile per-packet one-way delay: 193.486 ms
Loss rate: 2.40%
```

Run 9: Report of PCC-Allegro — Data Link

```
Run 10: Statistics of PCC-Allegro

Start at: 2018-08-09 10:23:00
End at: 2018-08-09 10:23:30
Local clock offset: -0.24 ms
Remote clock offset: -0.739 ms


# Below is generated by plot.py at 2018-08-09 12:30:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 569.90 Mbit/s
95th percentile per-packet one-way delay: 207.080 ms
Loss rate: 2.22%
-- Flow 1:
Average throughput: 443.23 Mbit/s
95th percentile per-packet one-way delay: 216.360 ms
Loss rate: 2.54%
-- Flow 2:
Average throughput: 128.66 Mbit/s
95th percentile per-packet one-way delay: 148.586 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 124.95 Mbit/s
95th percentile per-packet one-way delay: 166.846 ms
Loss rate: 2.10%
```
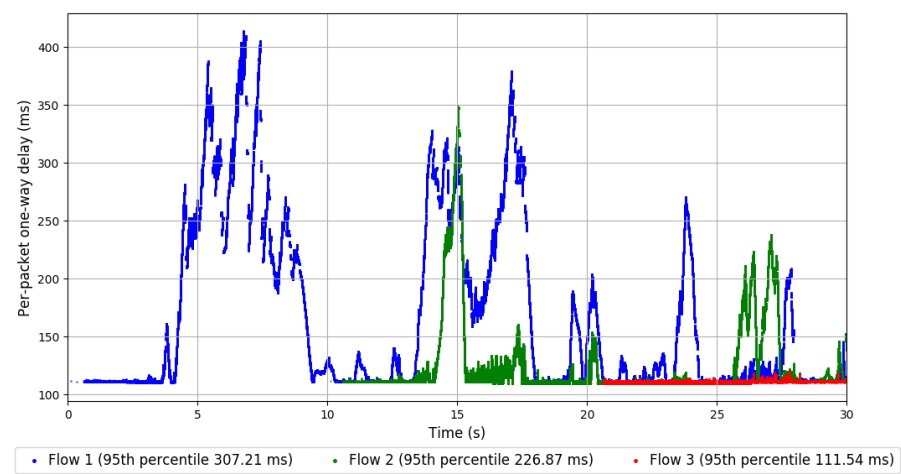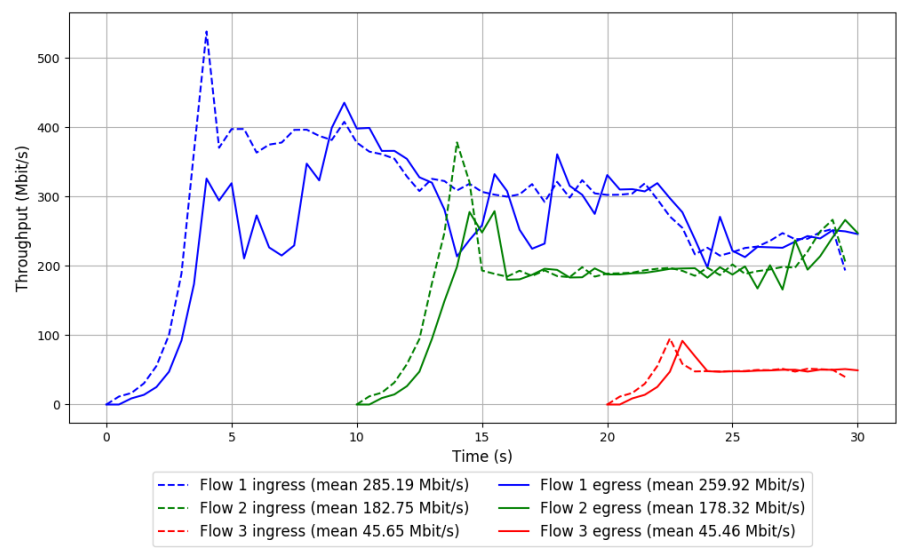
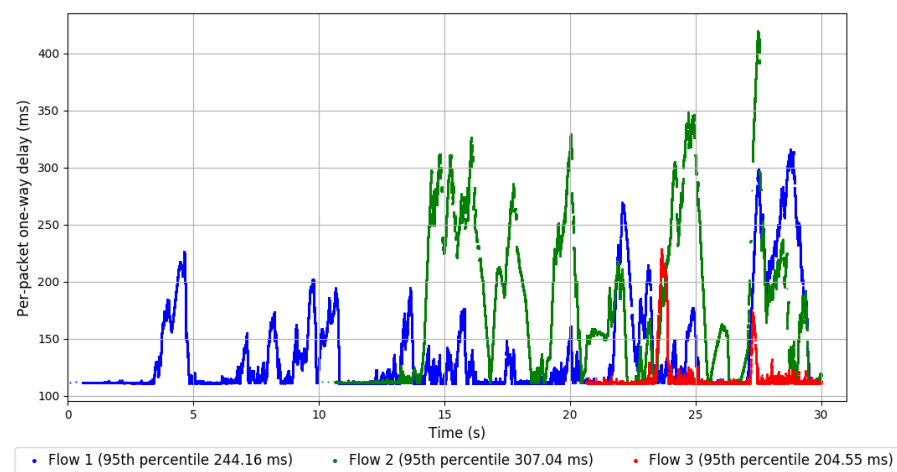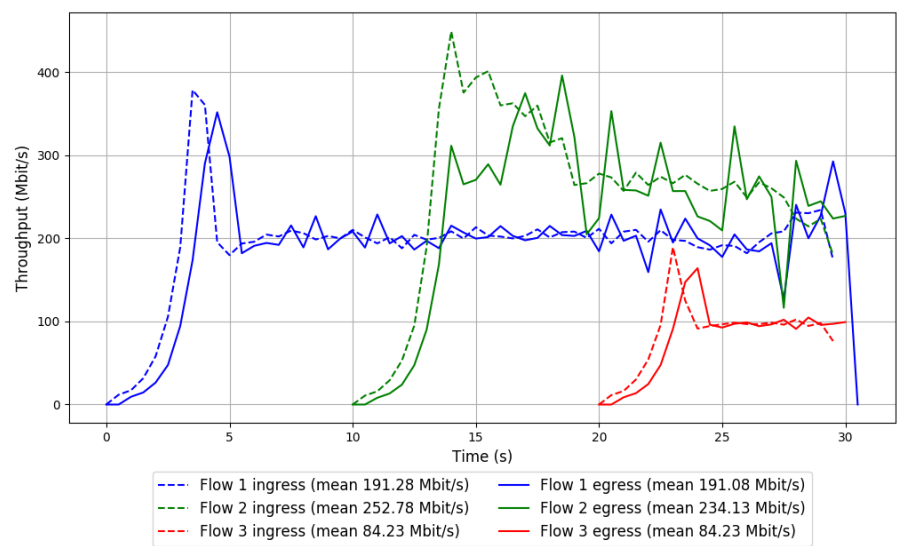Run 10: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2018-08-09 06:24:41
End at: 2018-08-09 06:25:11
Local clock offset: 1.423 ms
Remote clock offset: 0.163 ms


# Below is generated by plot.py at 2018-08-09 12:30:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 244.07 Mbit/s
95th percentile per-packet one-way delay: 134.531 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 162.21 Mbit/s
95th percentile per-packet one-way delay: 147.826 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 85.42 Mbit/s
95th percentile per-packet one-way delay: 114.456 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 74.75 Mbit/s
95th percentile per-packet one-way delay: 113.386 ms
Loss rate: 0.00%
```
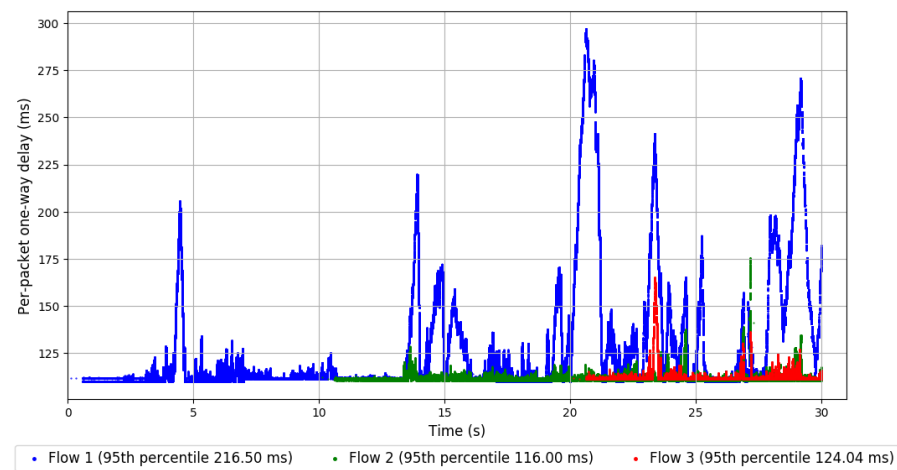
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 162.20 Mbit/s) --- Flow 1 egress (mean 162.21 Mbit/s)
Flow 2 ingress (mean 85.43 Mbit/s) --- Flow 2 egress (mean 85.42 Mbit/s)
Flow 3 ingress (mean 74.76 Mbit/s) --- Flow 3 egress (mean 74.75 Mbit/s)

Flow 1 (95th percentile 147.83 ms) • Flow 2 (95th percentile 114.46 ms) • Flow 3 (95th percentile 113.39 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2018-08-09 06:51:05
End at: 2018-08-09 06:51:35
Local clock offset: -1.44 ms
Remote clock offset: -0.486 ms


# Below is generated by plot.py at 2018-08-09 12:33:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 368.33 Mbit/s
95th percentile per-packet one-way delay: 282.448 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 202.43 Mbit/s
95th percentile per-packet one-way delay: 277.253 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 174.31 Mbit/s
95th percentile per-packet one-way delay: 192.004 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 151.54 Mbit/s
95th percentile per-packet one-way delay: 343.143 ms
Loss rate: 0.81%
```
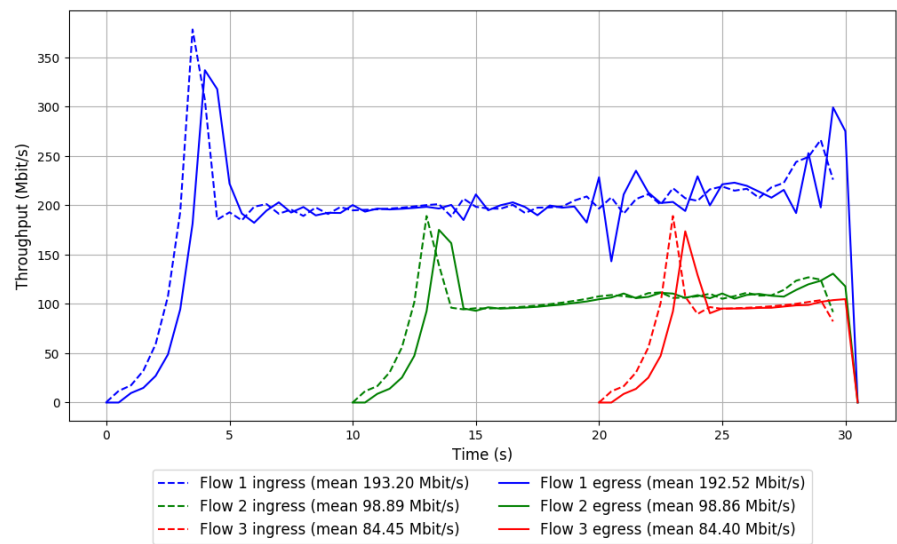
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-08-09 07:17:47
End at: 2018-08-09 07:18:17
Local clock offset: 0.062 ms
Remote clock offset: -0.47 ms

# Below is generated by plot.py at 2018-08-09 12:37:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 393.49 Mbit/s
95th percentile per-packet one-way delay: 297.690 ms
Loss rate: 6.71%
-- Flow 1:
Average throughput: 259.92 Mbit/s
95th percentile per-packet one-way delay: 307.208 ms
Loss rate: 8.86%
-- Flow 2:
Average throughput: 178.32 Mbit/s
95th percentile per-packet one-way delay: 226.866 ms
Loss rate: 2.43%
-- Flow 3:
Average throughput: 45.46 Mbit/s
95th percentile per-packet one-way delay: 111.538 ms
Loss rate: 0.39%
```
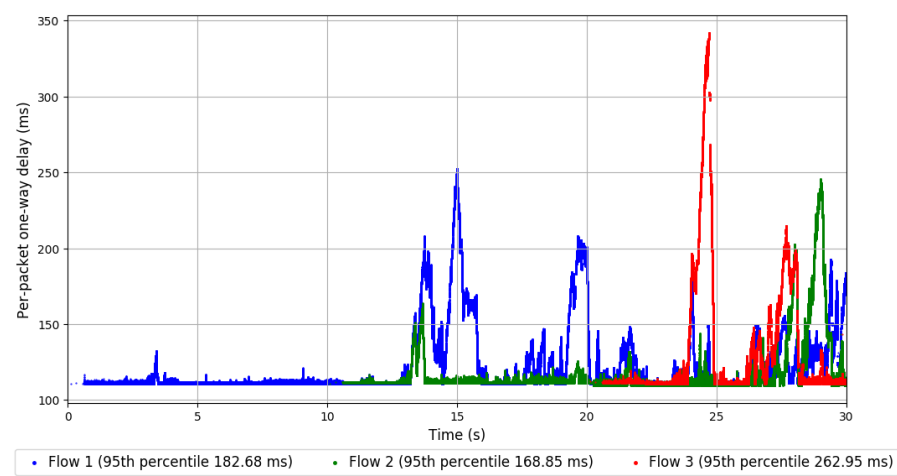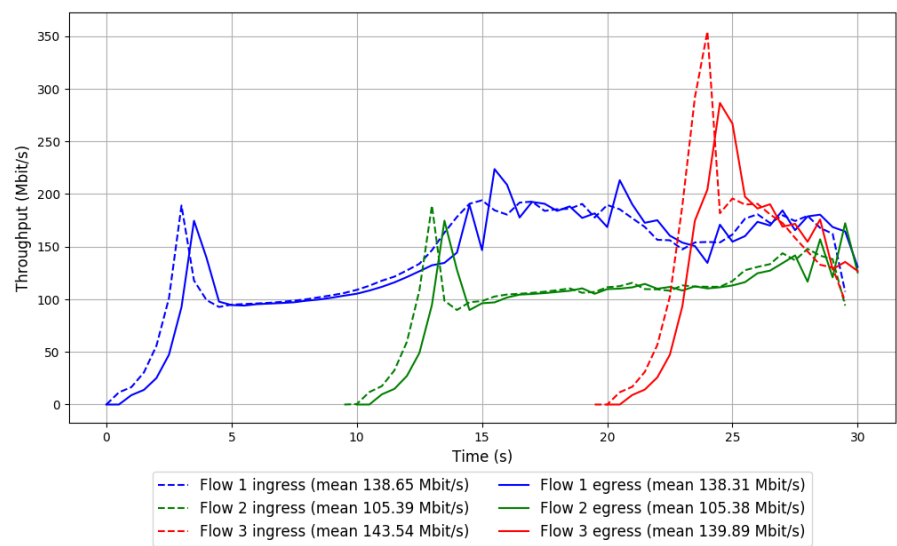
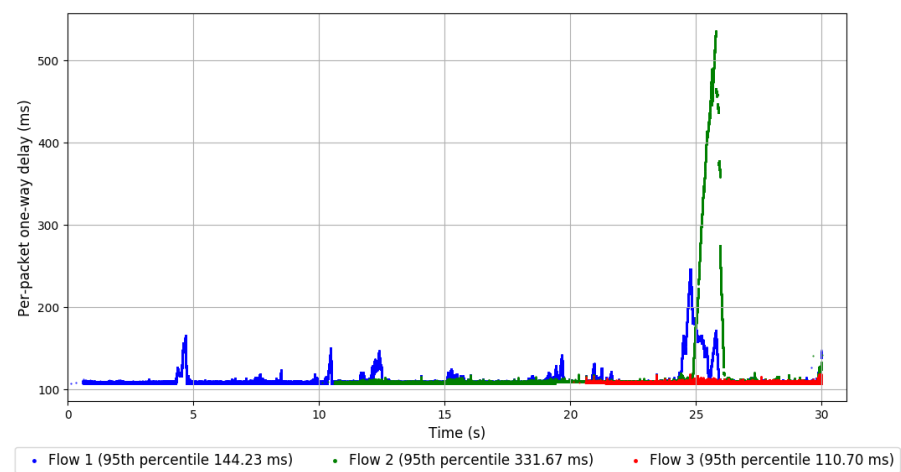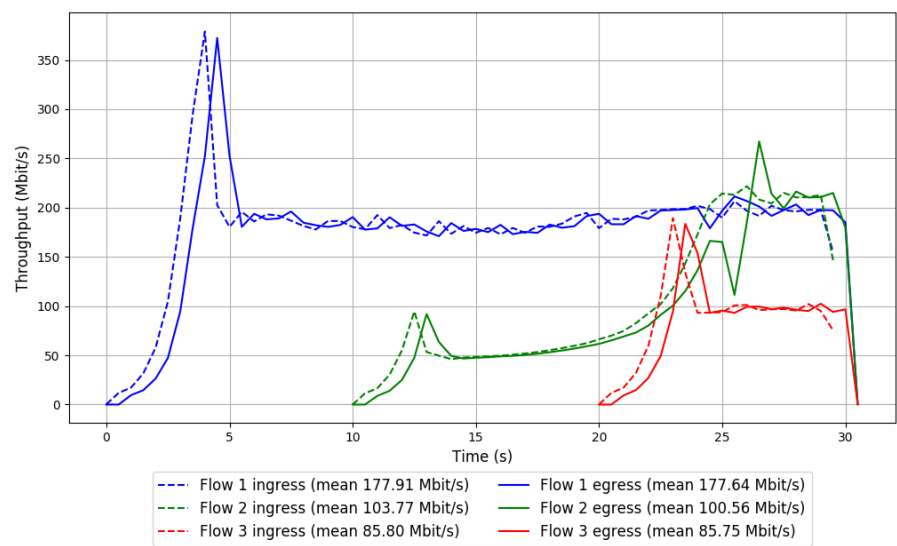Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2018-08-09 07:44:43
End at: 2018-08-09 07:45:13
Local clock offset: -0.262 ms
Remote clock offset: -0.129 ms


# Below is generated by plot.py at 2018-08-09 12:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 374.50 Mbit/s
95th percentile per-packet one-way delay: 279.956 ms
Loss rate: 3.26%
-- Flow 1:
Average throughput: 191.08 Mbit/s
95th percentile per-packet one-way delay: 244.156 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 234.13 Mbit/s
95th percentile per-packet one-way delay: 307.038 ms
Loss rate: 7.38%
-- Flow 3:
Average throughput: 84.23 Mbit/s
95th percentile per-packet one-way delay: 204.551 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 191.28 Mbit/s)   Flow 1 egress (mean 191.08 Mbit/s)
Flow 2 ingress (mean 252.78 Mbit/s)   Flow 2 egress (mean 234.13 Mbit/s)
Flow 3 ingress (mean 84.23 Mbit/s)   Flow 3 egress (mean 84.23 Mbit/s)

Flow 1 (95th percentile 244.16 ms)   Flow 2 (95th percentile 307.04 ms)   Flow 3 (95th percentile 204.55 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2018-08-09 08:11:36
End at: 2018-08-09 08:12:06
Local clock offset: -0.1 ms
Remote clock offset: -0.162 ms


# Below is generated by plot.py at 2018-08-09 12:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 286.12 Mbit/s
95th percentile per-packet one-way delay: 192.669 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 192.52 Mbit/s
95th percentile per-packet one-way delay: 216.500 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 98.86 Mbit/s
95th percentile per-packet one-way delay: 116.001 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 84.40 Mbit/s
95th percentile per-packet one-way delay: 124.039 ms
Loss rate: 0.05%
```
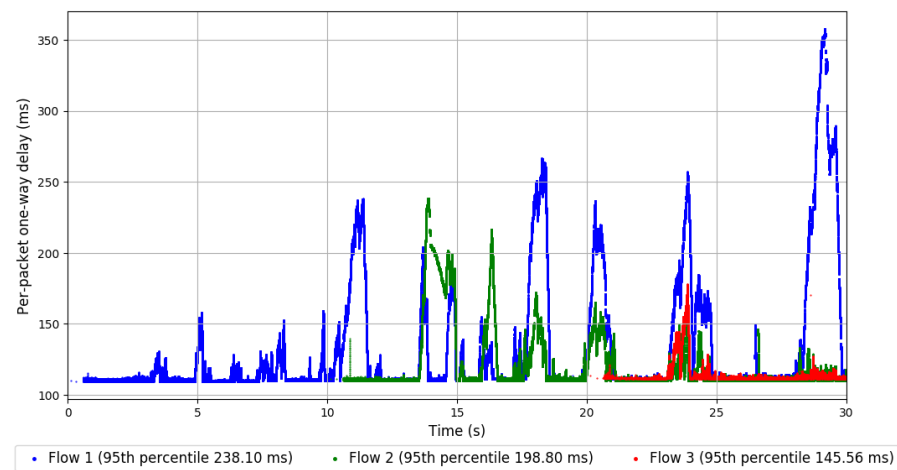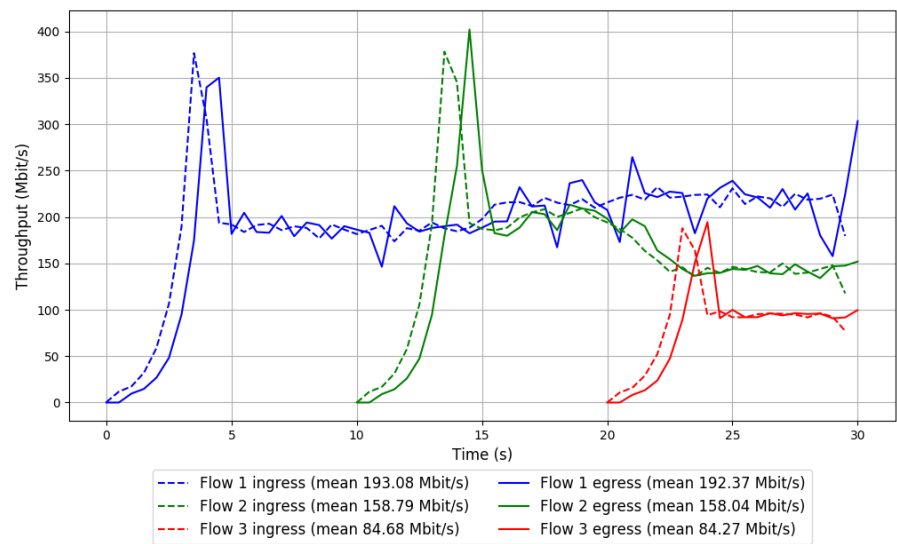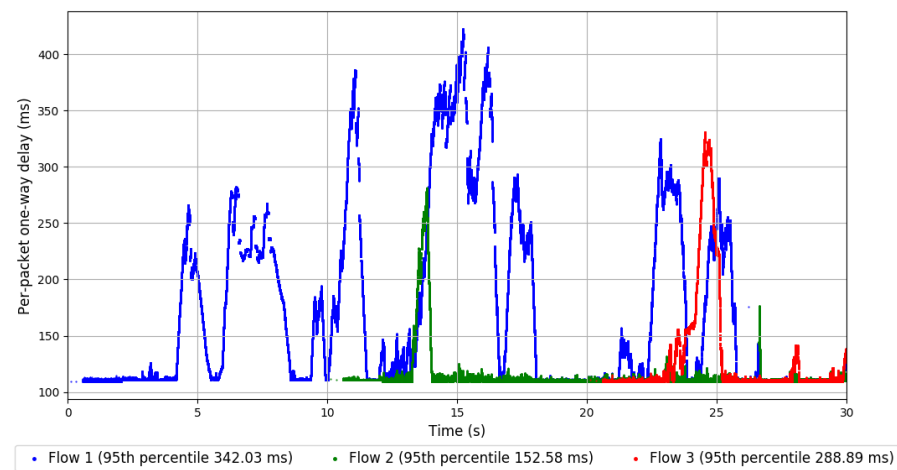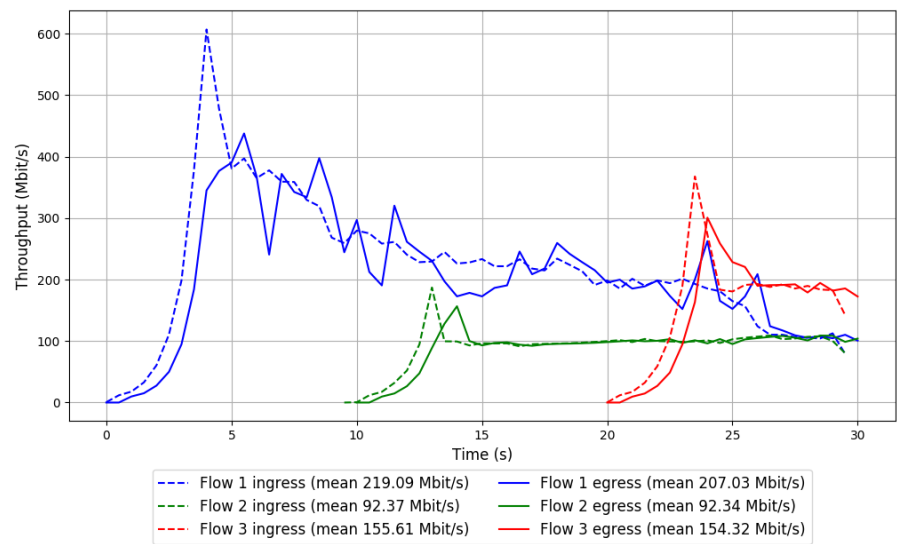
Run 5: Report of PCC-Expr — Data Link

```
Run 6: Statistics of PCC-Expr

Start at: 2018-08-09 08:38:03
End at: 2018-08-09 08:38:33
Local clock offset: -0.244 ms
Remote clock offset: 0.253 ms

# Below is generated by plot.py at 2018-08-09 12:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 254.64 Mbit/s
95th percentile per-packet one-way delay: 193.304 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 138.31 Mbit/s
95th percentile per-packet one-way delay: 182.680 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 105.38 Mbit/s
95th percentile per-packet one-way delay: 168.851 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 139.89 Mbit/s
95th percentile per-packet one-way delay: 262.951 ms
Loss rate: 2.55%
```
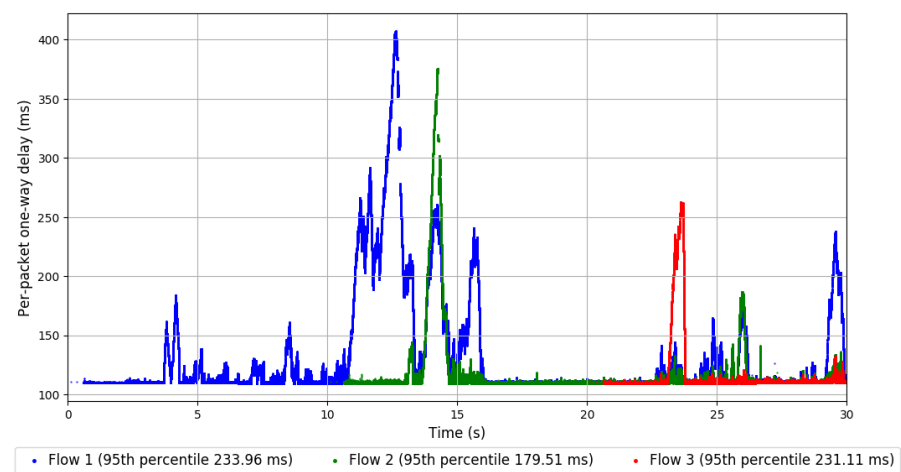
Run 6: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 138.65 Mbit/s)   Flow 1 egress (mean 138.31 Mbit/s)
Flow 2 ingress (mean 105.39 Mbit/s)   Flow 2 egress (mean 105.38 Mbit/s)
Flow 3 ingress (mean 143.54 Mbit/s)   Flow 3 egress (mean 139.89 Mbit/s)

Flow 1 (95th percentile 182.68 ms)   Flow 2 (95th percentile 168.85 ms)   Flow 3 (95th percentile 262.95 ms)
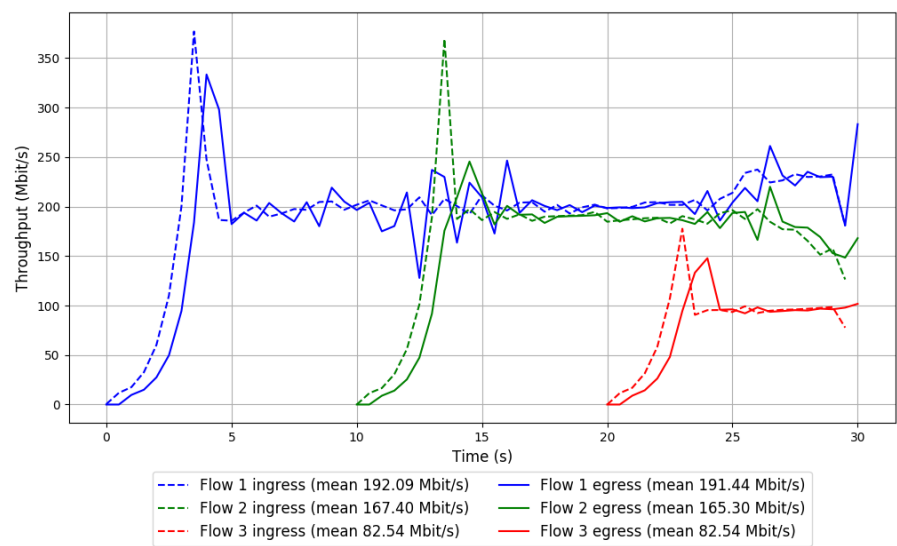
```
Run 7: Statistics of PCC-Expr

Start at: 2018-08-09 09:04:34
End at: 2018-08-09 09:05:04
Local clock offset: 1.023 ms
Remote clock offset: -0.495 ms


# Below is generated by plot.py at 2018-08-09 12:38:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 272.84 Mbit/s
95th percentile per-packet one-way delay: 151.017 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 177.64 Mbit/s
95th percentile per-packet one-way delay: 144.231 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 100.56 Mbit/s
95th percentile per-packet one-way delay: 331.665 ms
Loss rate: 3.05%
-- Flow 3:
Average throughput: 85.75 Mbit/s
95th percentile per-packet one-way delay: 110.700 ms
Loss rate: 0.03%
```
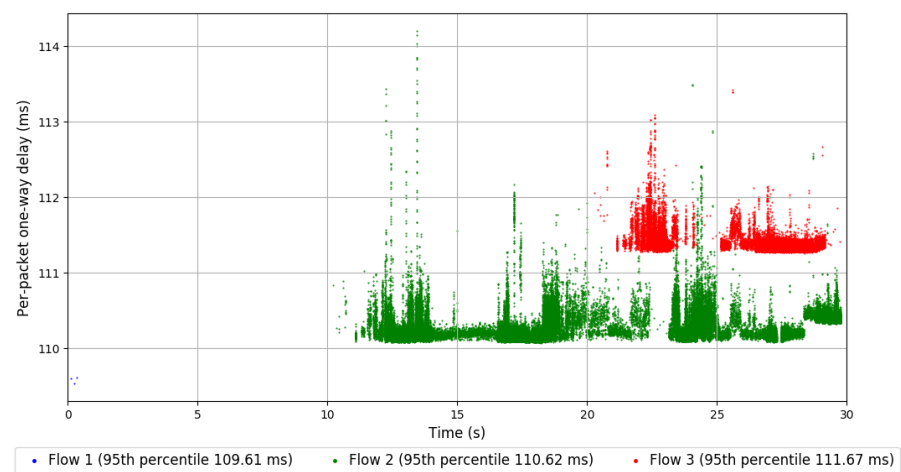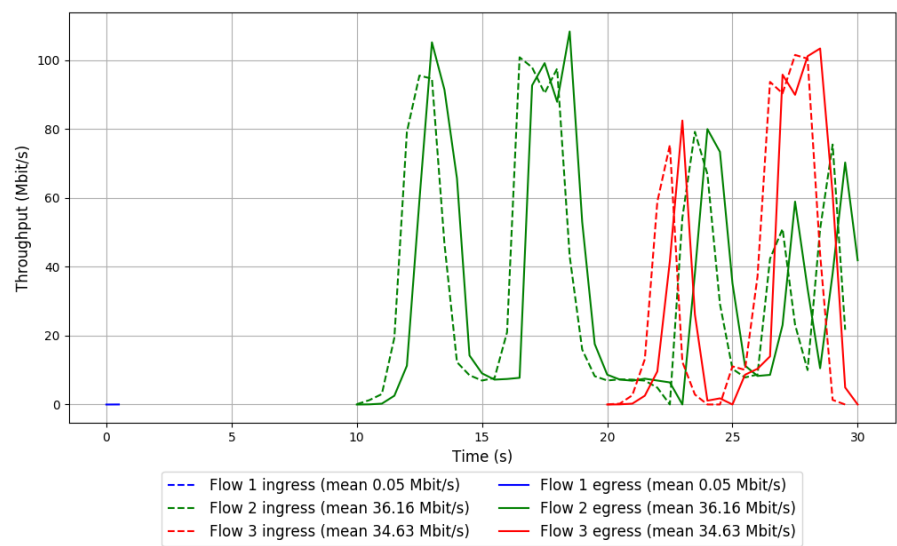
Run 7: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 177.91 Mbit/s)   Flow 1 egress (mean 177.64 Mbit/s)
Flow 2 ingress (mean 103.77 Mbit/s)   Flow 2 egress (mean 100.56 Mbit/s)
Flow 3 ingress (mean 85.80 Mbit/s)   Flow 3 egress (mean 85.75 Mbit/s)

Flow 1 (95th percentile 144.23 ms)   Flow 2 (95th percentile 331.67 ms)   Flow 3 (95th percentile 110.70 ms)

```
Run 8: Statistics of PCC-Expr

Start at: 2018-08-09 09:30:48
End at: 2018-08-09 09:31:18
Local clock offset: 0.167 ms
Remote clock offset: 0.003 ms


# Below is generated by plot.py at 2018-08-09 12:41:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 325.25 Mbit/s
95th percentile per-packet one-way delay: 220.461 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 192.37 Mbit/s
95th percentile per-packet one-way delay: 238.103 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 158.04 Mbit/s
95th percentile per-packet one-way delay: 198.800 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 84.27 Mbit/s
95th percentile per-packet one-way delay: 145.564 ms
Loss rate: 0.53%
```

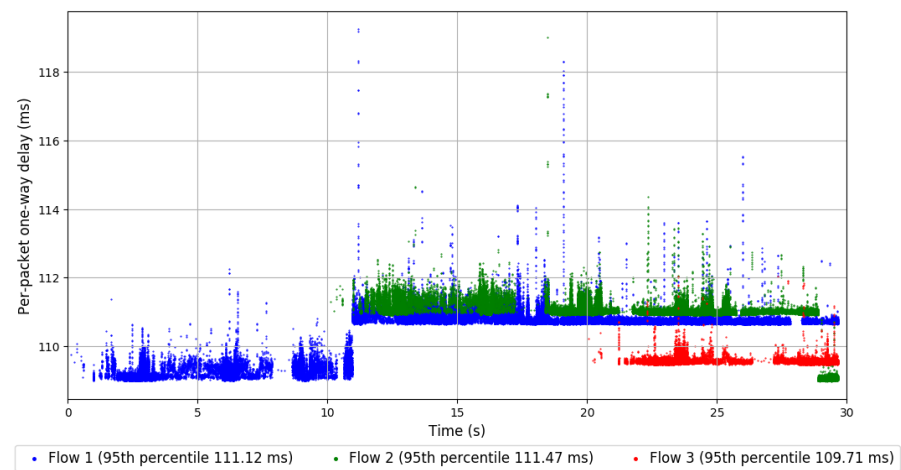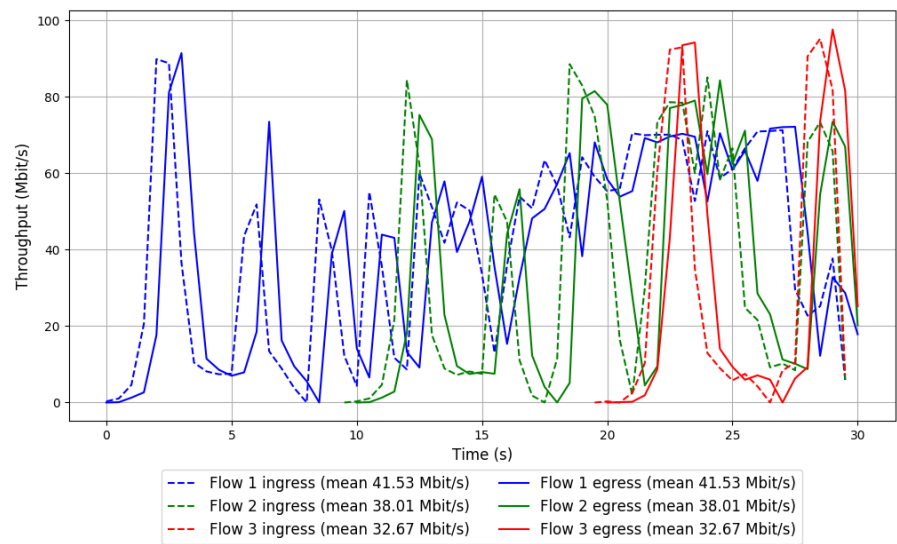# Run 8: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 193.08 Mbit/s) — Flow 1 egress (mean 192.37 Mbit/s)
Flow 2 ingress (mean 158.79 Mbit/s) — Flow 2 egress (mean 158.04 Mbit/s)
Flow 3 ingress (mean 84.68 Mbit/s) — Flow 3 egress (mean 84.27 Mbit/s)

Flow 1 (95th percentile 238.10 ms) — Flow 2 (95th percentile 198.80 ms) — Flow 3 (95th percentile 145.56 ms)

```
Run 9: Statistics of PCC-Expr

Start at: 2018-08-09 09:57:31
End at: 2018-08-09 09:58:01
Local clock offset: 0.644 ms
Remote clock offset: -0.502 ms


# Below is generated by plot.py at 2018-08-09 12:41:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 319.40 Mbit/s
95th percentile per-packet one-way delay: 310.226 ms
Loss rate: 3.76%
-- Flow 1:
Average throughput: 207.03 Mbit/s
95th percentile per-packet one-way delay: 342.028 ms
Loss rate: 5.50%
-- Flow 2:
Average throughput: 92.34 Mbit/s
95th percentile per-packet one-way delay: 152.582 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 154.32 Mbit/s
95th percentile per-packet one-way delay: 288.886 ms
Loss rate: 0.82%
```

Run 9: Report of PCC-Expr — Data Link

```
Run 10: Statistics of PCC-Expr

Start at: 2018-08-09 10:24:37
End at: 2018-08-09 10:25:07
Local clock offset: 0.031 ms
Remote clock offset: -0.771 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 328.59 Mbit/s
95th percentile per-packet one-way delay: 227.783 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 191.44 Mbit/s
95th percentile per-packet one-way delay: 233.957 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 165.30 Mbit/s
95th percentile per-packet one-way delay: 179.512 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 82.54 Mbit/s
95th percentile per-packet one-way delay: 231.107 ms
Loss rate: 0.00%
```
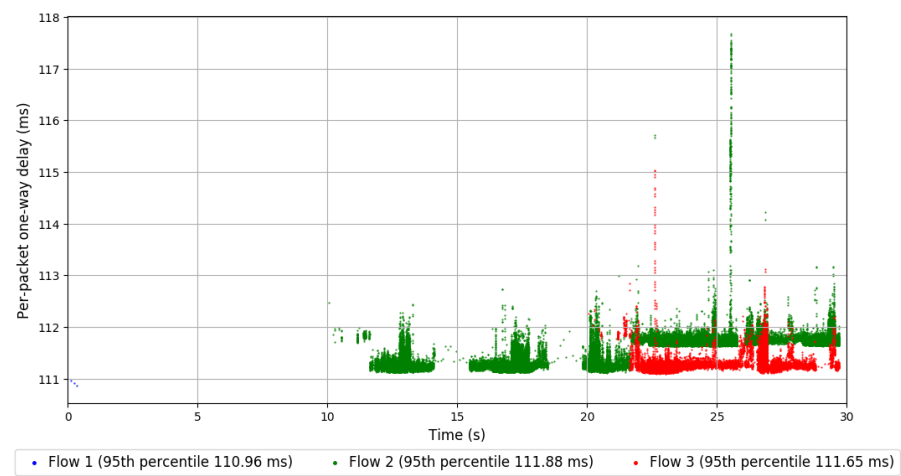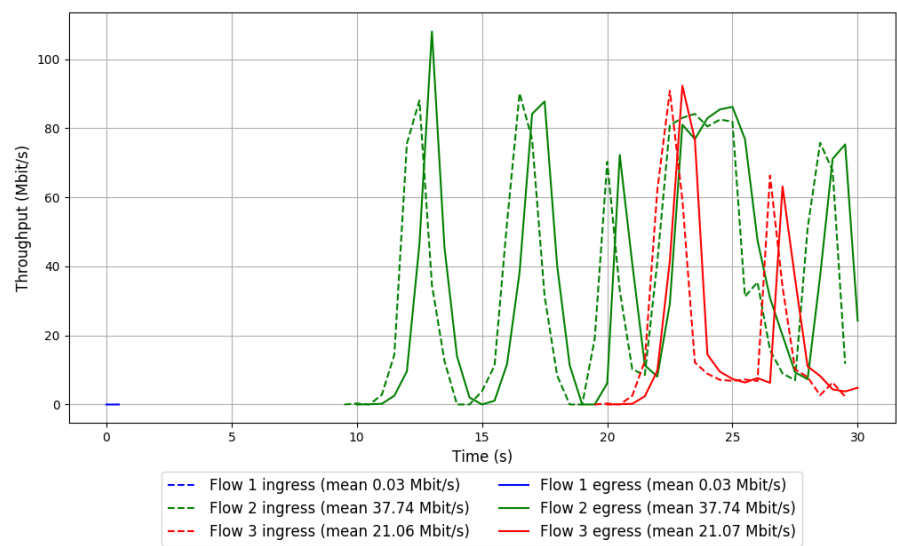
Run 10: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 192.09 Mbit/s)   Flow 1 egress (mean 191.44 Mbit/s)
Flow 2 ingress (mean 167.40 Mbit/s)   Flow 2 egress (mean 165.30 Mbit/s)
Flow 3 ingress (mean 82.54 Mbit/s)   Flow 3 egress (mean 82.54 Mbit/s)

Flow 1 (95th percentile 233.96 ms)   Flow 2 (95th percentile 179.51 ms)   Flow 3 (95th percentile 231.11 ms)
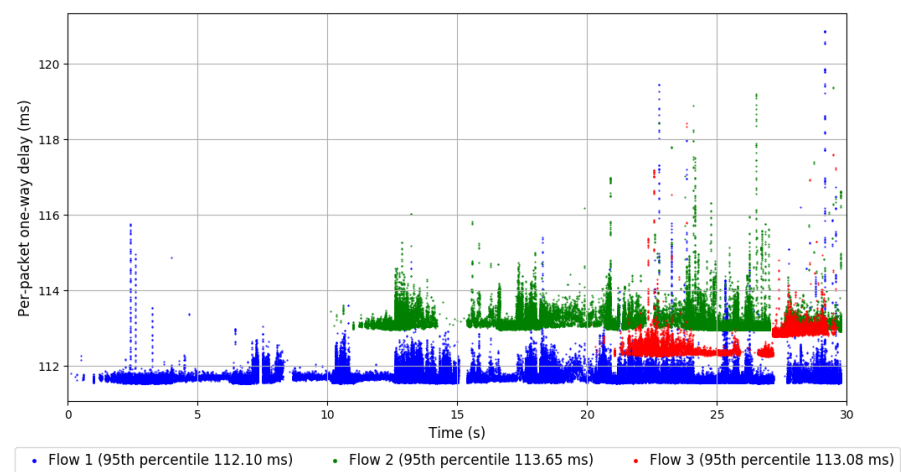
```
Run 1: Statistics of QUIC Cubic

Start at: 2018-08-09 06:15:14
End at: 2018-08-09 06:15:44
Local clock offset: -0.386 ms
Remote clock offset: -0.216 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 34.90 Mbit/s
95th percentile per-packet one-way delay: 111.460 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 109.613 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.16 Mbit/s
95th percentile per-packet one-way delay: 110.621 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.63 Mbit/s
95th percentile per-packet one-way delay: 111.672 ms
Loss rate: 0.00%
```

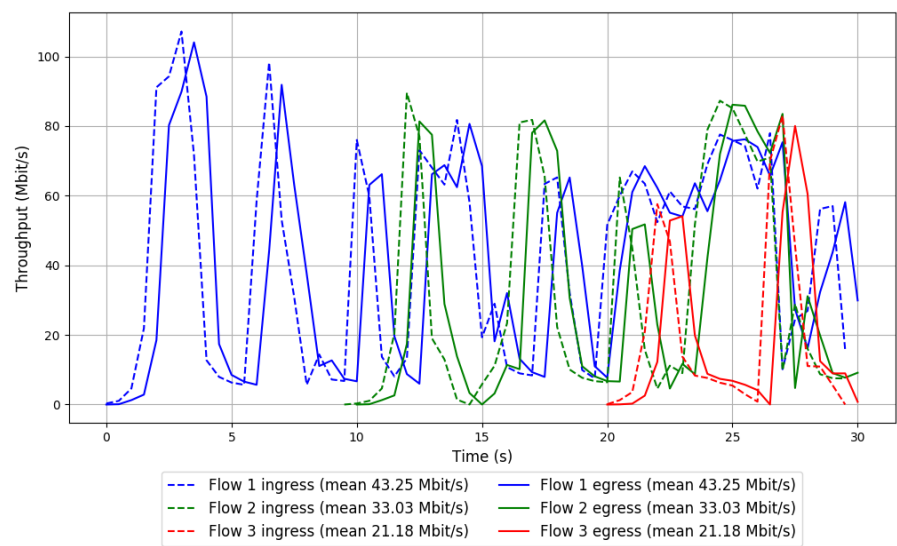Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-08-09 06:41:34
End at: 2018-08-09 06:42:04
Local clock offset: -0.093 ms
Remote clock offset: -0.499 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.30 Mbit/s
95th percentile per-packet one-way delay: 111.299 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.53 Mbit/s
95th percentile per-packet one-way delay: 111.122 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.01 Mbit/s
95th percentile per-packet one-way delay: 111.471 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 32.67 Mbit/s
95th percentile per-packet one-way delay: 109.712 ms
Loss rate: 0.00%
```
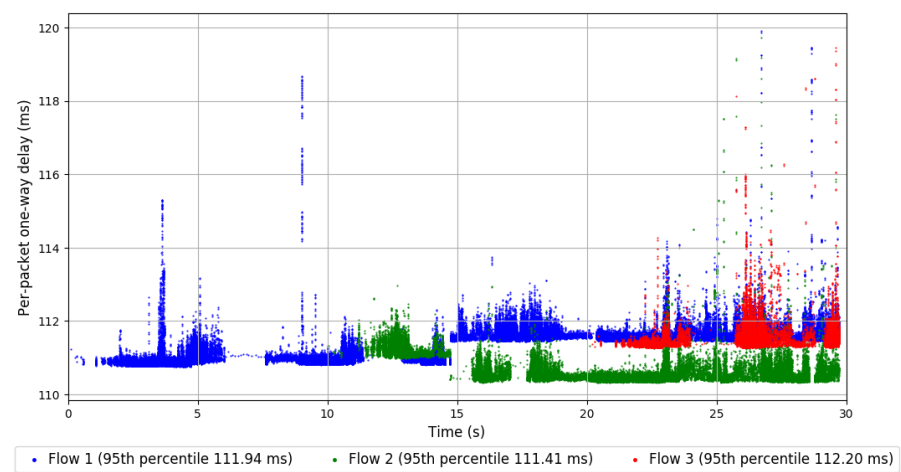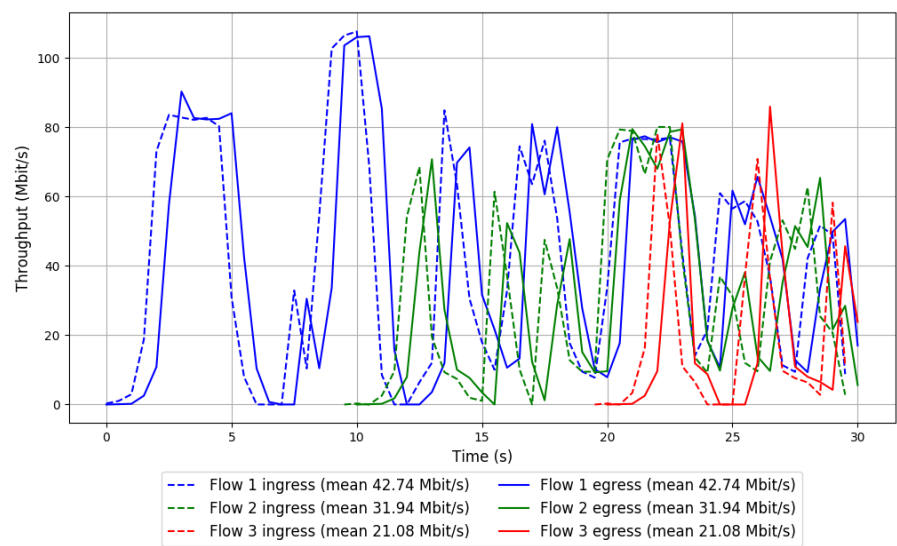
Run 2: Report of QUIC Cubic — Data Link

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```
Run 3: Statistics of QUIC Cubic

Start at: 2018-08-09 07:08:18
End at: 2018-08-09 07:08:48
Local clock offset: -1.397 ms
Remote clock offset: -0.399 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.77 Mbit/s
95th percentile per-packet one-way delay: 112.739 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.81 Mbit/s
95th percentile per-packet one-way delay: 112.565 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.04 Mbit/s
95th percentile per-packet one-way delay: 112.865 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.01 Mbit/s
95th percentile per-packet one-way delay: 112.456 ms
Loss rate: 0.00%
```

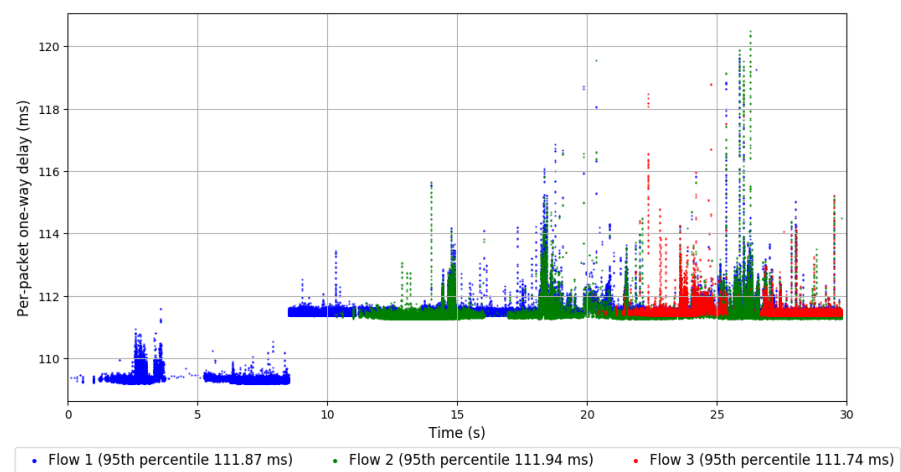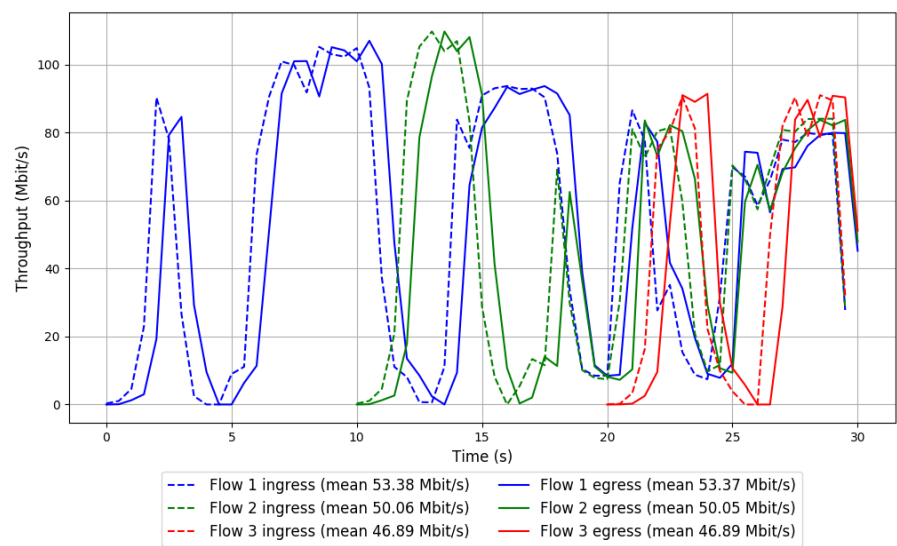Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-08-09 07:35:11
End at: 2018-08-09 07:35:41
Local clock offset: 0.013 ms
Remote clock offset: 0.264 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 31.93 Mbit/s
95th percentile per-packet one-way delay: 111.856 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 110.958 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.74 Mbit/s
95th percentile per-packet one-way delay: 111.875 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.07 Mbit/s
95th percentile per-packet one-way delay: 111.653 ms
Loss rate: 0.00%
```
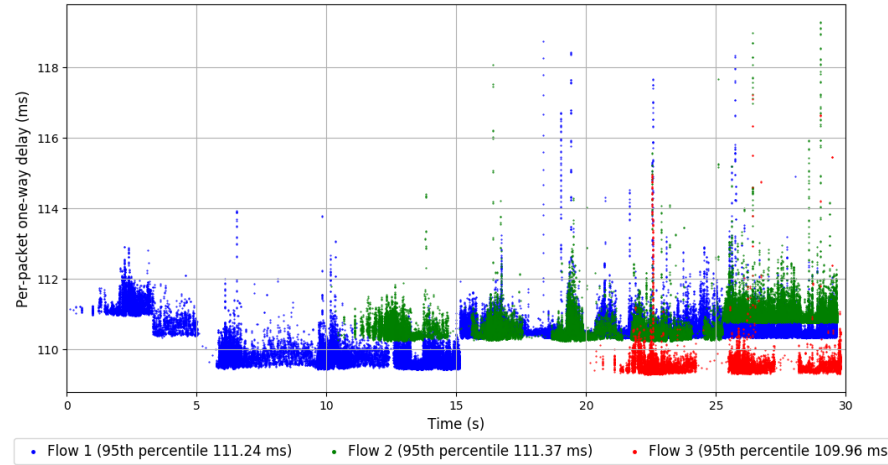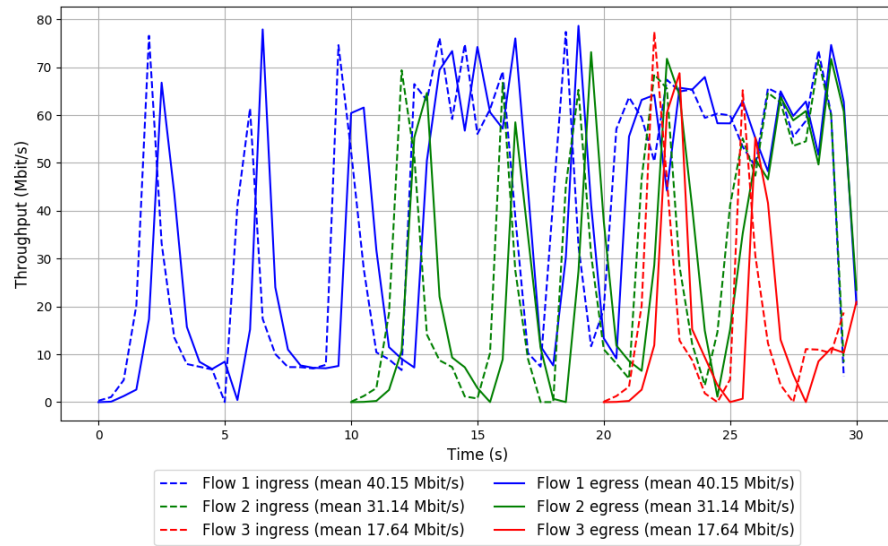
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-08-09 08:02:06
End at: 2018-08-09 08:02:36
Local clock offset: -1.493 ms
Remote clock offset: -0.145 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.92 Mbit/s
95th percentile per-packet one-way delay: 113.346 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.25 Mbit/s
95th percentile per-packet one-way delay: 112.100 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.03 Mbit/s
95th percentile per-packet one-way delay: 113.651 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.18 Mbit/s
95th percentile per-packet one-way delay: 113.082 ms
Loss rate: 0.00%
```

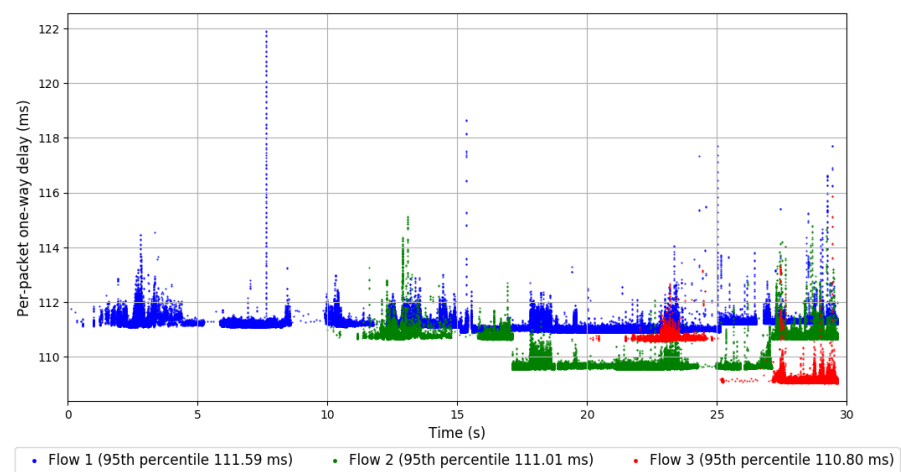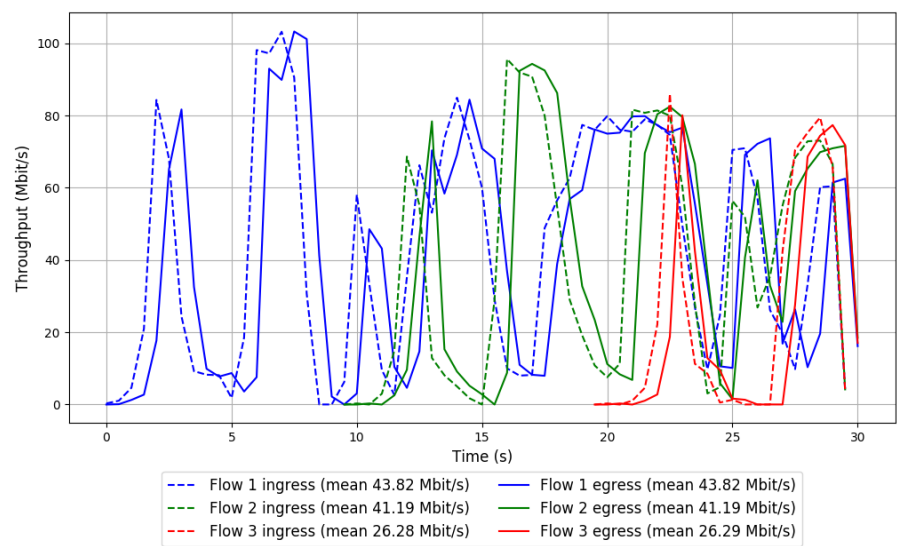Run 5: Report of QUIC Cubic — Data Link

```
Run 6: Statistics of QUIC Cubic

Start at: 2018-08-09 08:28:38
End at: 2018-08-09 08:29:08
Local clock offset: -0.072 ms
Remote clock offset: -0.17 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.83 Mbit/s
95th percentile per-packet one-way delay: 111.894 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.74 Mbit/s
95th percentile per-packet one-way delay: 111.938 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.94 Mbit/s
95th percentile per-packet one-way delay: 111.407 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.08 Mbit/s
95th percentile per-packet one-way delay: 112.198 ms
Loss rate: 0.00%
```

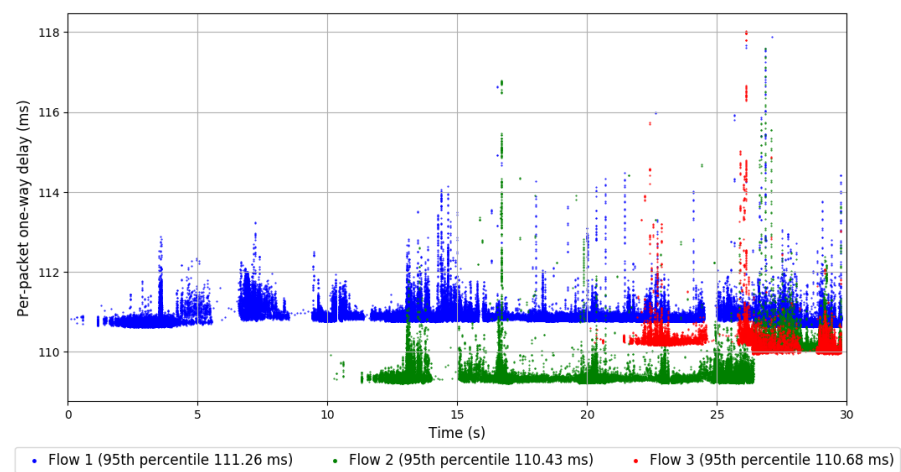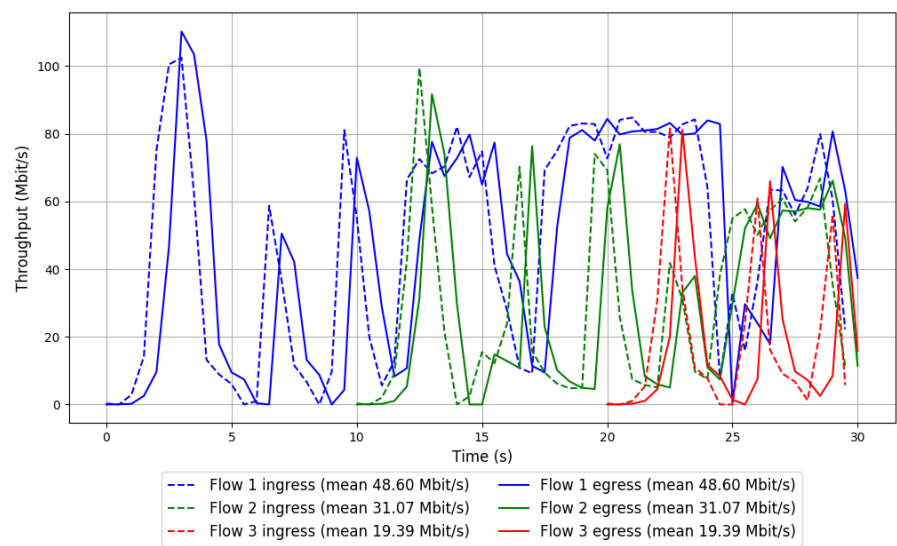Run 6: Report of QUIC Cubic — Data Link

```
Run 7: Statistics of QUIC Cubic

Start at: 2018-08-09 08:54:56
End at: 2018-08-09 08:55:26
Local clock offset: -0.077 ms
Remote clock offset: -0.125 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 101.65 Mbit/s
95th percentile per-packet one-way delay: 111.871 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.37 Mbit/s
95th percentile per-packet one-way delay: 111.867 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.05 Mbit/s
95th percentile per-packet one-way delay: 111.937 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 46.89 Mbit/s
95th percentile per-packet one-way delay: 111.738 ms
Loss rate: 0.00%
```

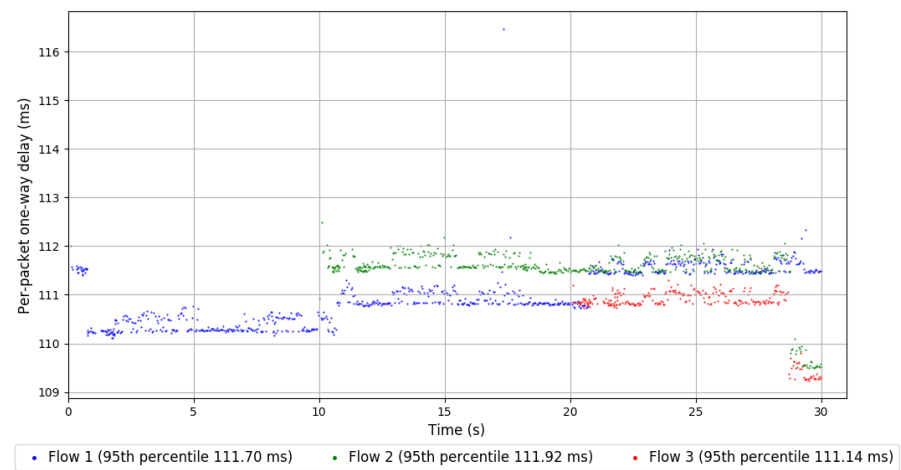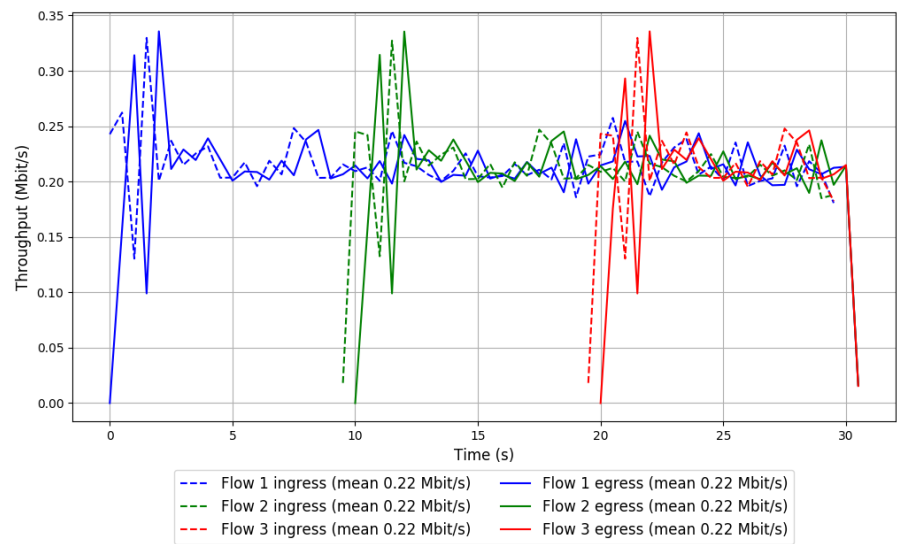Run 7: Report of QUIC Cubic — Data Link

```
Run 8: Statistics of QUIC Cubic

Start at: 2018-08-09 09:21:28
End at: 2018-08-09 09:21:58
Local clock offset: 0.078 ms
Remote clock offset: -0.588 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.12 Mbit/s
95th percentile per-packet one-way delay: 111.267 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 40.15 Mbit/s
95th percentile per-packet one-way delay: 111.238 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.14 Mbit/s
95th percentile per-packet one-way delay: 111.367 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 17.64 Mbit/s
95th percentile per-packet one-way delay: 109.960 ms
Loss rate: 0.00%
```

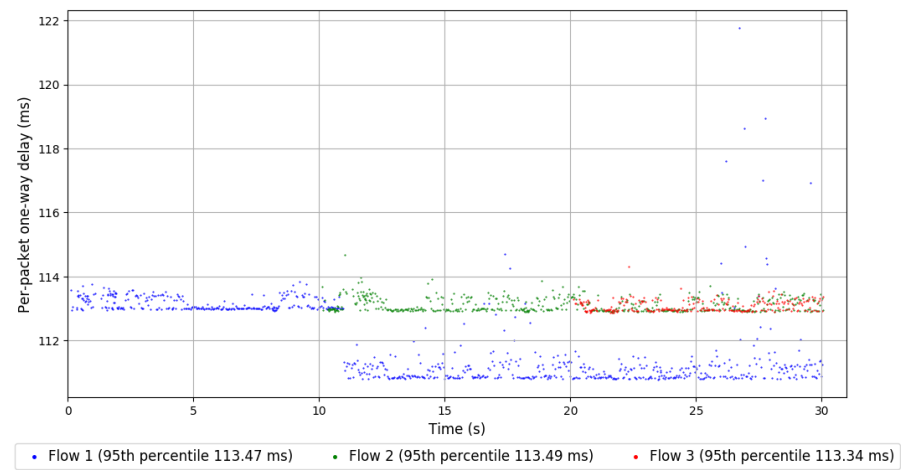Run 8: Report of QUIC Cubic — Data Link

```
Run 9: Statistics of QUIC Cubic

Start at: 2018-08-09 09:47:58
End at: 2018-08-09 09:48:28
Local clock offset: -0.157 ms
Remote clock offset: -0.899 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.85 Mbit/s
95th percentile per-packet one-way delay: 111.483 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.82 Mbit/s
95th percentile per-packet one-way delay: 111.590 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.19 Mbit/s
95th percentile per-packet one-way delay: 111.006 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 26.29 Mbit/s
95th percentile per-packet one-way delay: 110.795 ms
Loss rate: 0.00%
```

Run 9: Report of QUIC Cubic — Data Link
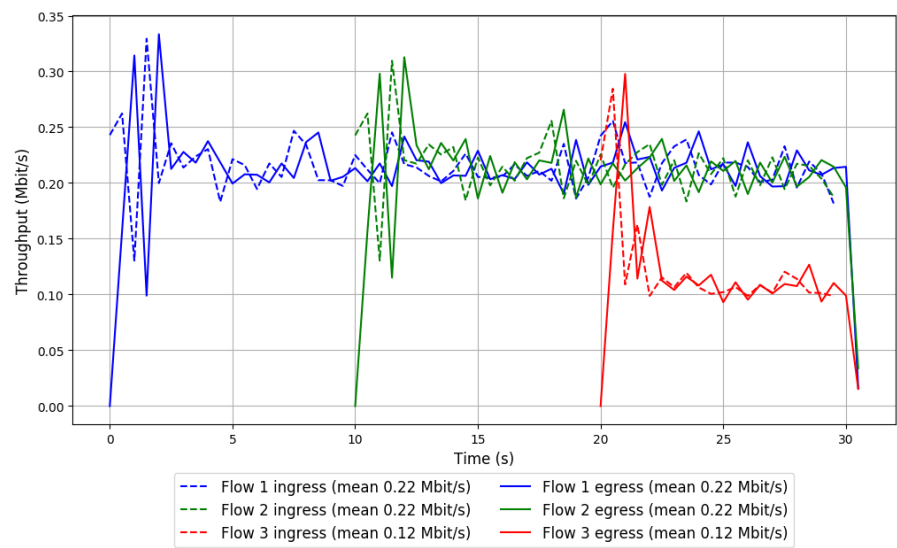

- Flow 1 ingress (mean 43.82 Mbit/s)
- Flow 1 egress (mean 43.82 Mbit/s)
- Flow 2 ingress (mean 41.19 Mbit/s)
- Flow 2 egress (mean 41.19 Mbit/s)
- Flow 3 ingress (mean 26.28 Mbit/s)
- Flow 3 egress (mean 26.29 Mbit/s)

- Flow 1 (95th percentile 111.59 ms)
- Flow 2 (95th percentile 111.01 ms)
- Flow 3 (95th percentile 110.80 ms)

```
Run 10: Statistics of QUIC Cubic

Start at: 2018-08-09 10:14:57
End at: 2018-08-09 10:15:27
Local clock offset: -0.32 ms
Remote clock offset: -1.149 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.50 Mbit/s
95th percentile per-packet one-way delay: 111.168 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.60 Mbit/s
95th percentile per-packet one-way delay: 111.256 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.07 Mbit/s
95th percentile per-packet one-way delay: 110.427 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 19.39 Mbit/s
95th percentile per-packet one-way delay: 110.677 ms
Loss rate: 0.00%
```
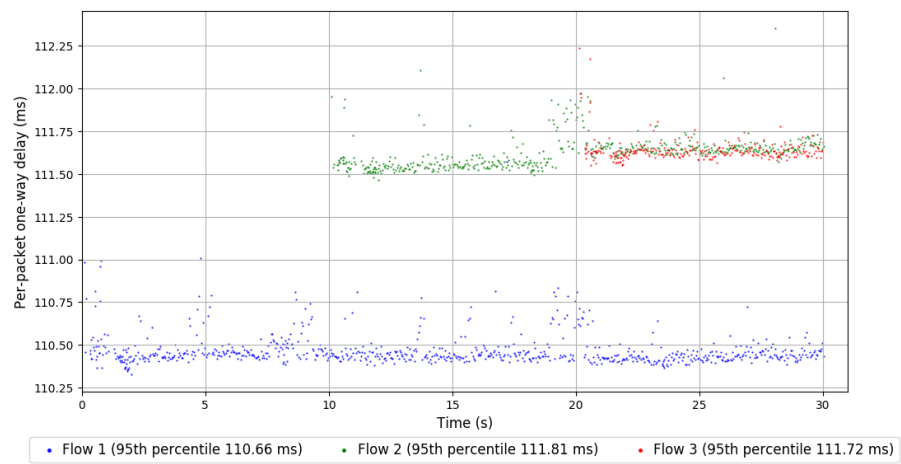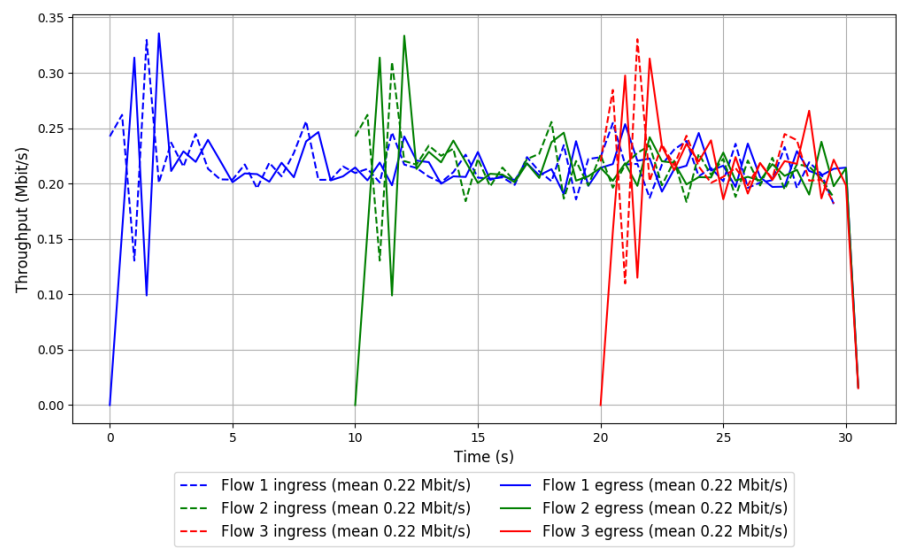
Run 10: Report of QUIC Cubic — Data Link

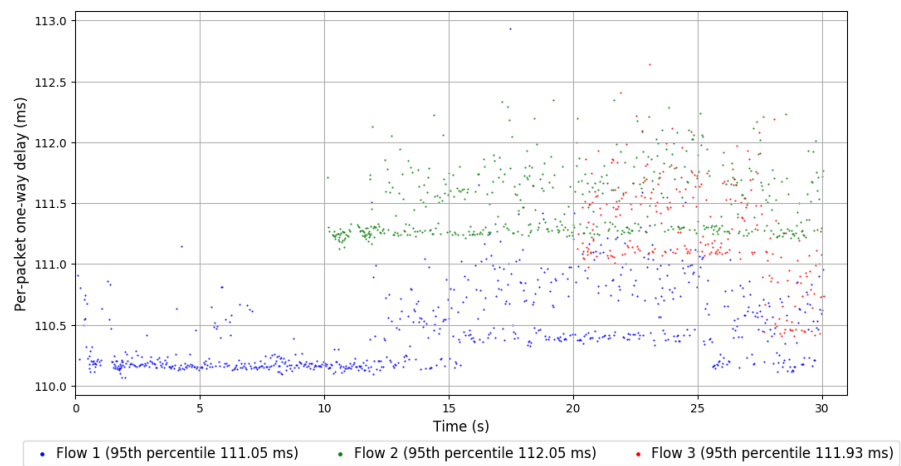Run 10: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2018-08-09 06:12:24
End at: 2018-08-09 06:12:54
Local clock offset: -0.003 ms
Remote clock offset: -0.156 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 111.851 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.699 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.925 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.140 ms
Loss rate: 0.00%
```
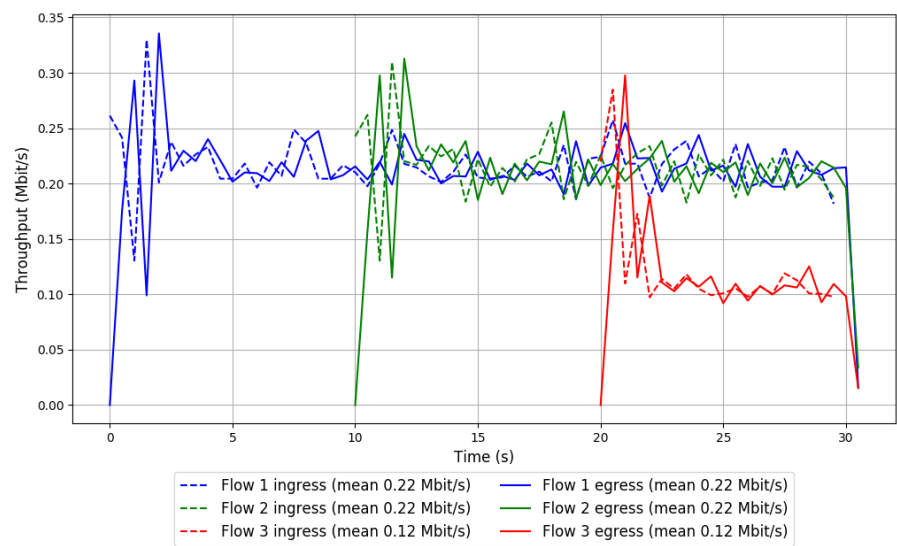
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-08-09 06:38:44
End at: 2018-08-09 06:39:14
Local clock offset: -1.526 ms
Remote clock offset: -0.14 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 113.465 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 113.470 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 113.488 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 113.337 ms
Loss rate: 0.00%
```
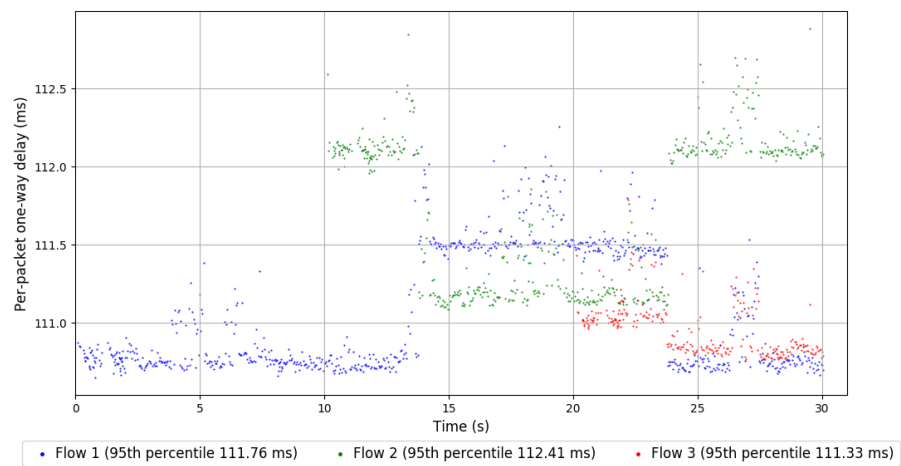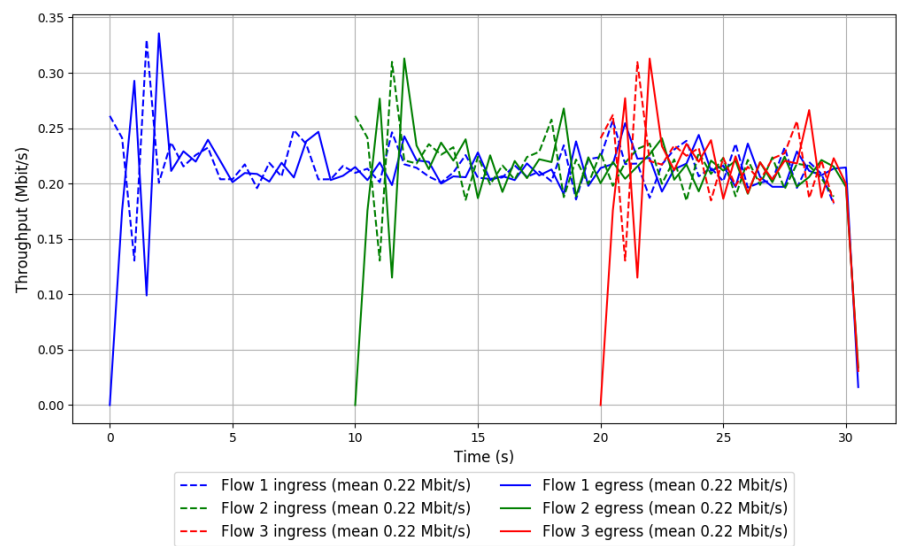
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-08-09 07:05:24
End at: 2018-08-09 07:05:54
Local clock offset: 0.092 ms
Remote clock offset: 0.276 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 111.699 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.662 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.807 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.717 ms
Loss rate: 0.00%
```
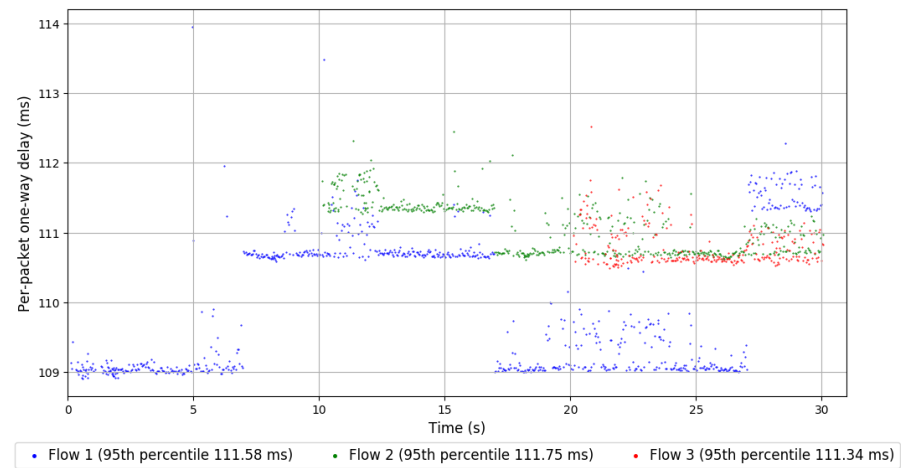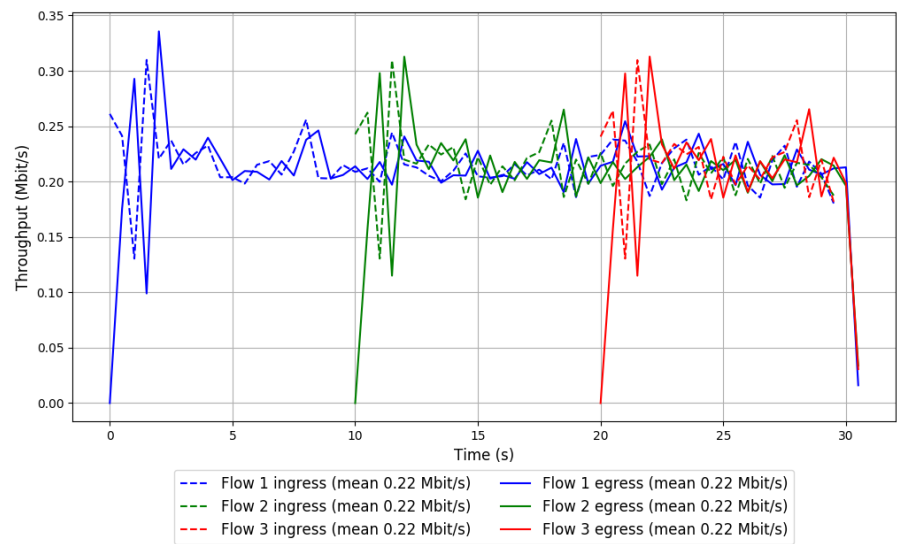
Run 3: Report of SCReAM — Data Link

209

```
Run 4: Statistics of SCReAM

Start at: 2018-08-09 07:32:18
End at: 2018-08-09 07:32:48
Local clock offset: -0.122 ms
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 111.860 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.046 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.047 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 111.932 ms
Loss rate: 0.00%
```
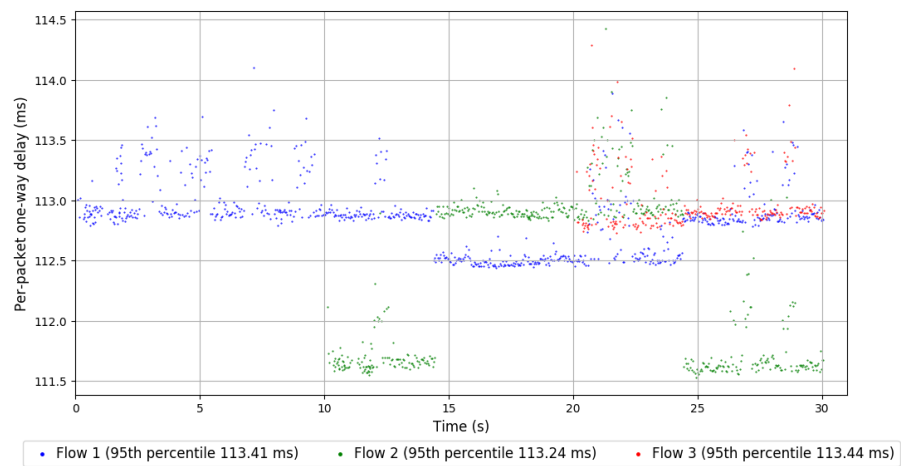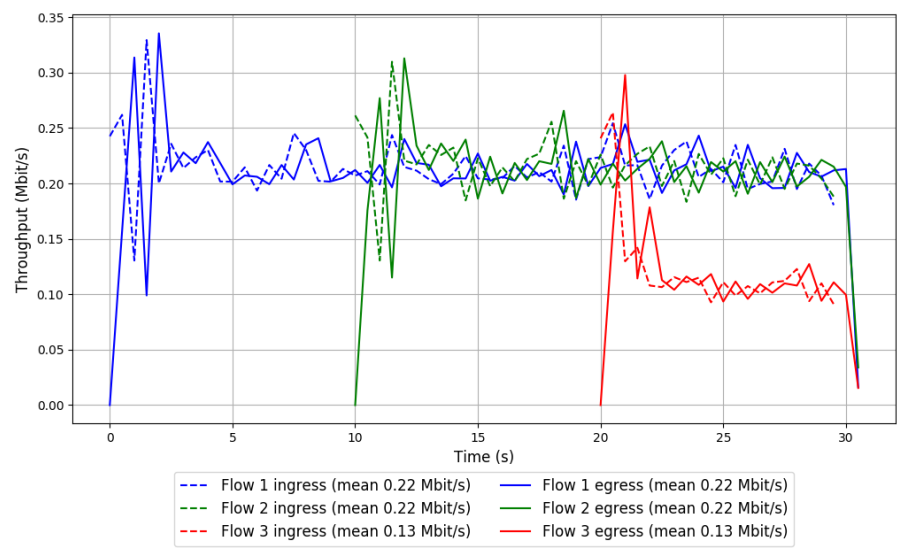
Run 4: Report of SCReAM — Data Link

211

```
Run 5: Statistics of SCReAM

Start at: 2018-08-09 07:59:09
End at: 2018-08-09 07:59:39
Local clock offset: -0.194 ms
Remote clock offset: 0.169 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 112.154 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.757 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.411 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.332 ms
Loss rate: 0.00%
```
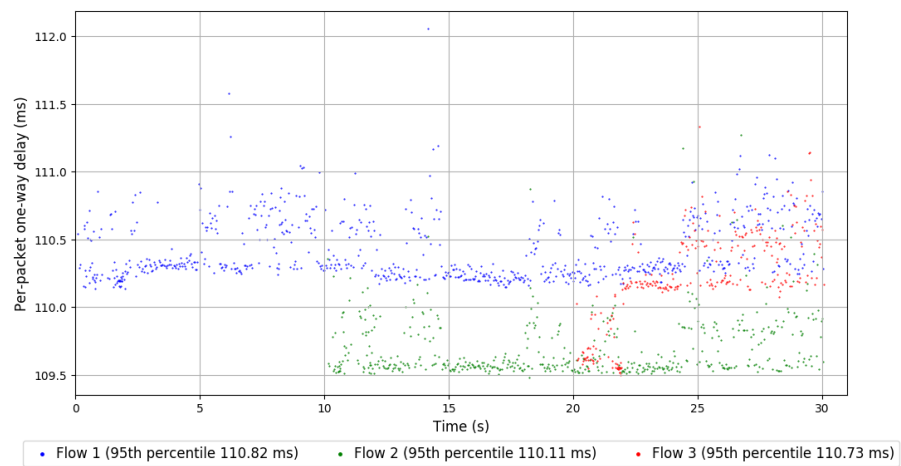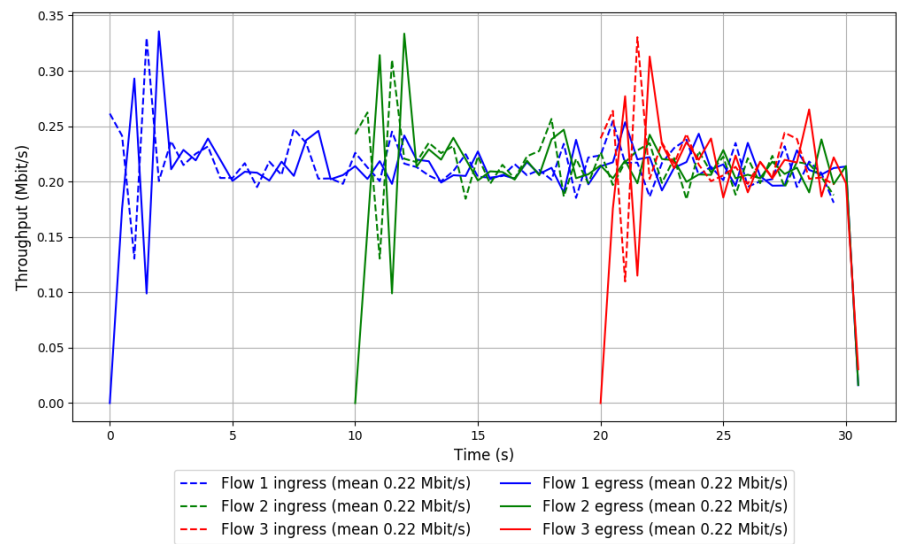
Run 5: Report of SCReAM — Data Link

```
Run 6: Statistics of SCReAM

Start at: 2018-08-09 08:25:46
End at: 2018-08-09 08:26:16
Local clock offset: 0.197 ms
Remote clock offset: -0.247 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 111.630 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.578 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.745 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.339 ms
Loss rate: 0.00%
```
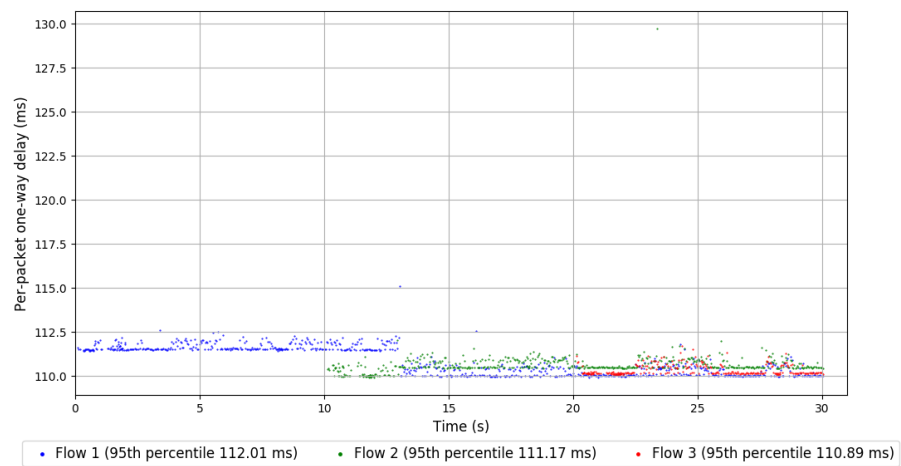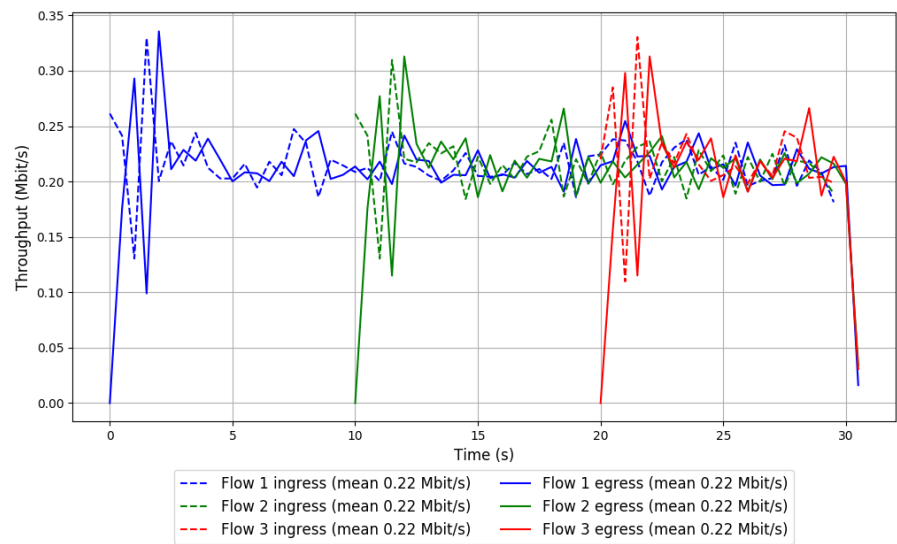
Run 6: Report of SCReAM — Data Link

```
Run 7: Statistics of SCReAM

Start at: 2018-08-09 08:52:09
End at: 2018-08-09 08:52:39
Local clock offset: -1.366 ms
Remote clock offset: -0.102 ms

# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 113.406 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 113.414 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 113.237 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 113.443 ms
Loss rate: 0.00%
```

Run 7: Report of SCReAM — Data Link

217

```
Run 8: Statistics of SCReAM

Start at: 2018-08-09 09:18:41
End at: 2018-08-09 09:19:11
Local clock offset: 0.968 ms
Remote clock offset: -0.592 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 110.754 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.822 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.105 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.726 ms
Loss rate: 0.00%
```
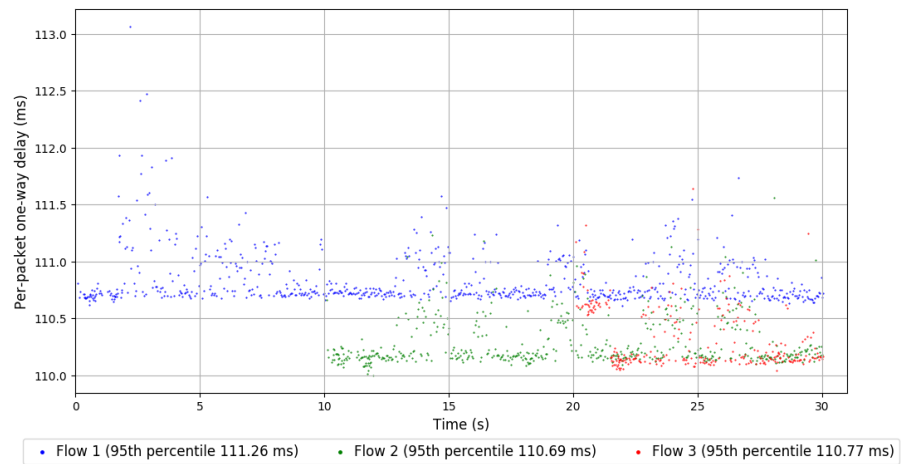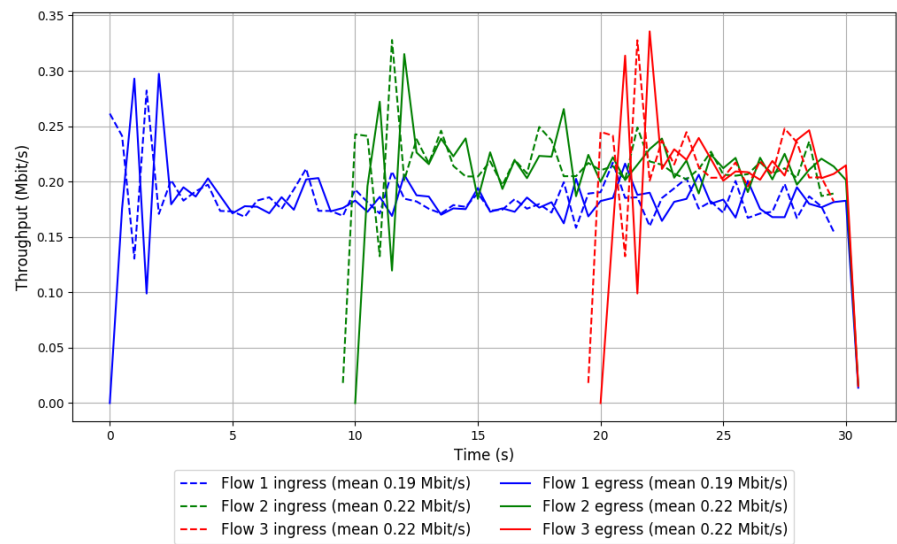
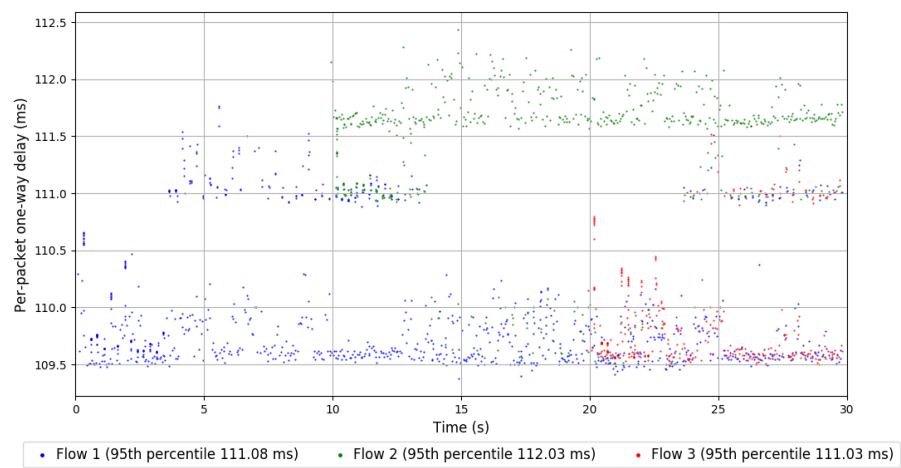## Run 8: Report of SCReAM — Data Link

```
Run 9: Statistics of SCReAM

Start at: 2018-08-09 09:45:12
End at: 2018-08-09 09:45:42
Local clock offset: -0.041 ms
Remote clock offset: -0.554 ms

# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 111.880 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.011 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.165 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.891 ms
Loss rate: 0.00%
```
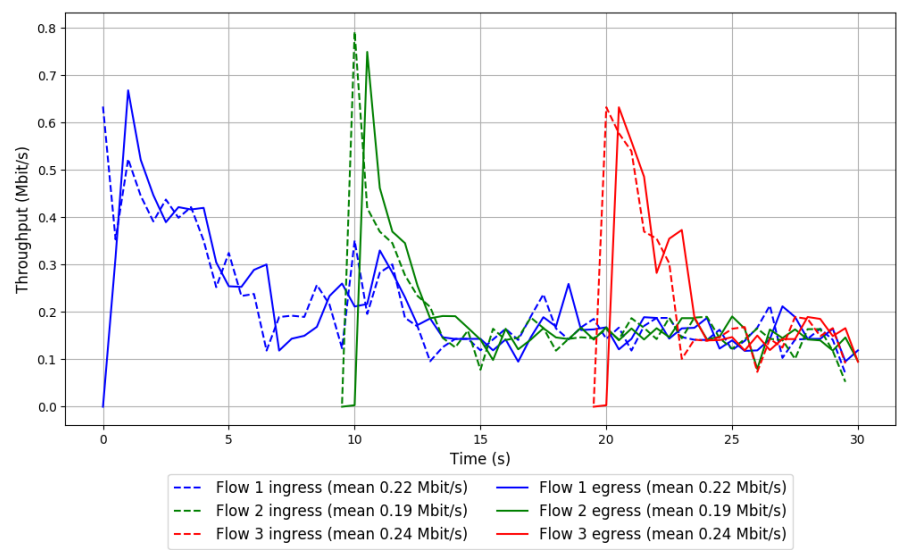
Run 9: Report of SCReAM — Data Link

```
Run 10: Statistics of SCReAM

Start at: 2018-08-09 10:12:02
End at: 2018-08-09 10:12:32
Local clock offset: 0.005 ms
Remote clock offset: -1.06 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 111.133 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 111.257 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.687 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.765 ms
Loss rate: 0.00%
```
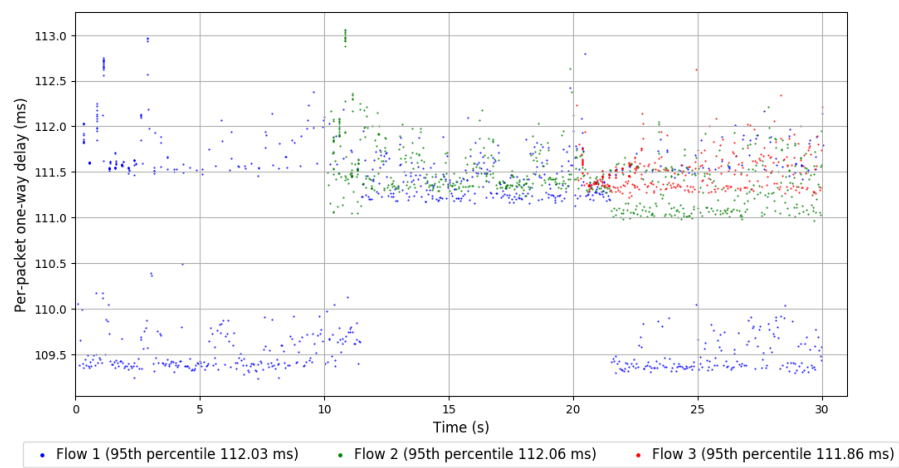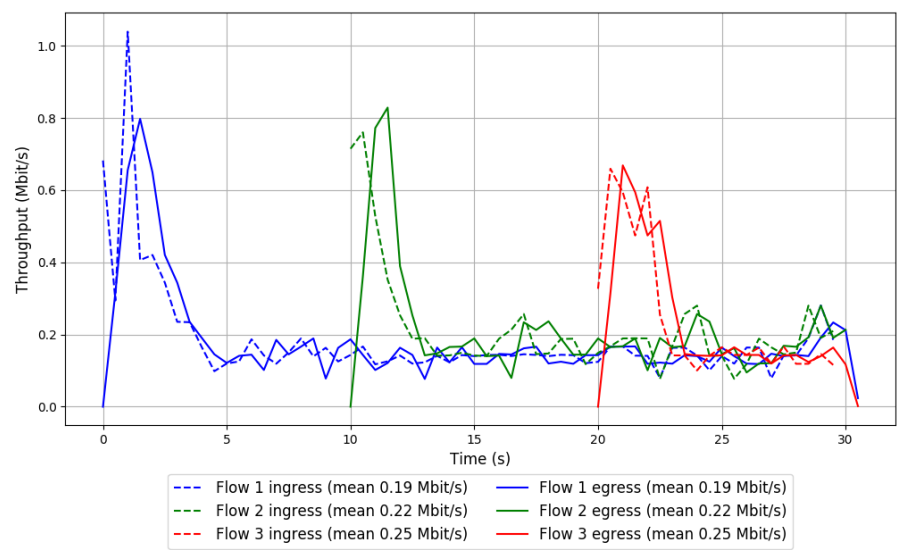
Run 10: Report of SCReAM — Data Link

223

```
Run 1: Statistics of Sprout

Start at: 2018-08-09 06:21:49
End at: 2018-08-09 06:22:19
Local clock offset: -0.159 ms
Remote clock offset: -0.14 ms

# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 111.870 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.085 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 112.035 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 111.027 ms
Loss rate: 0.00%
```
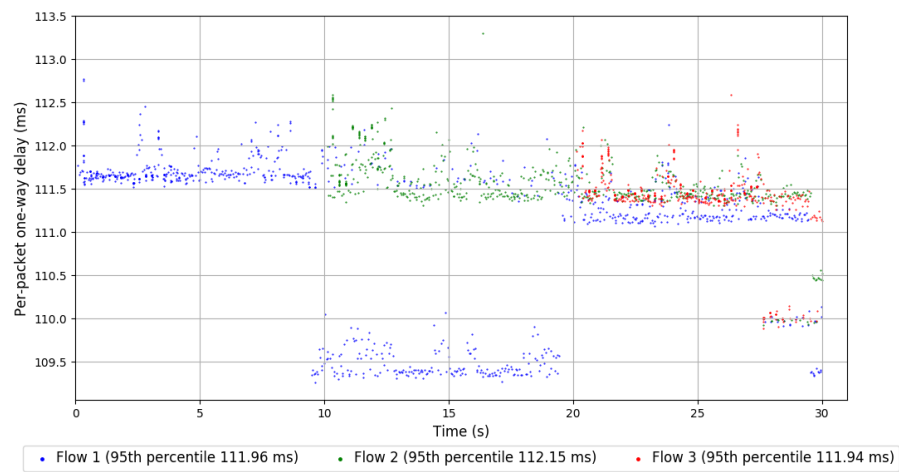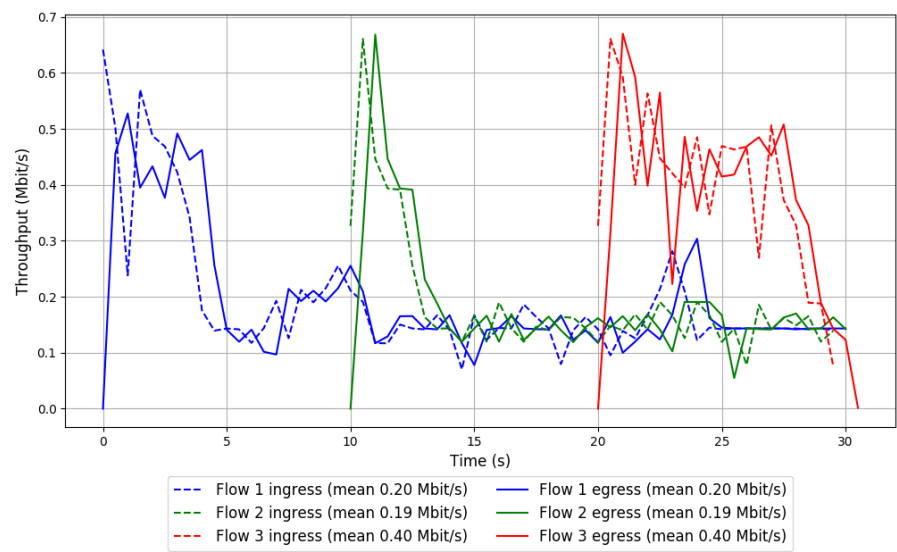
Run 1: Report of Sprout — Data Link

225

```
Run 2: Statistics of Sprout

Start at: 2018-08-09 06:48:12
End at: 2018-08-09 06:48:42
Local clock offset: 0.038 ms
Remote clock offset: -0.118 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 112.014 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 112.028 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.056 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 111.863 ms
Loss rate: 0.00%
```
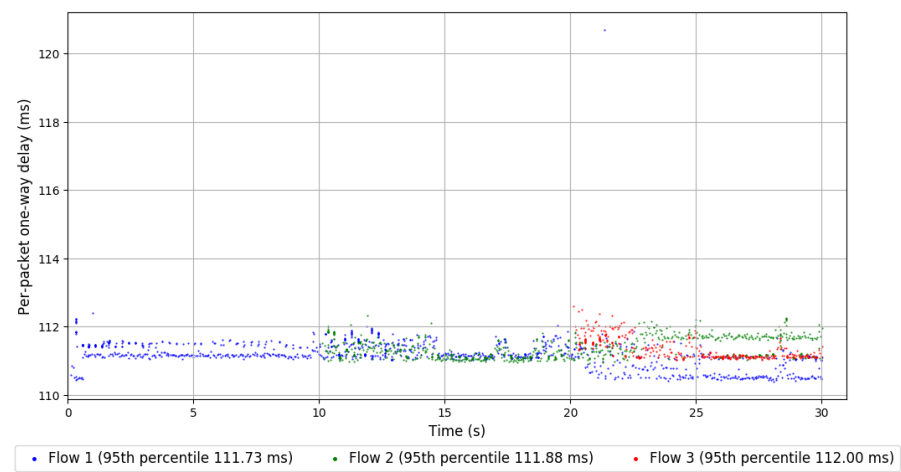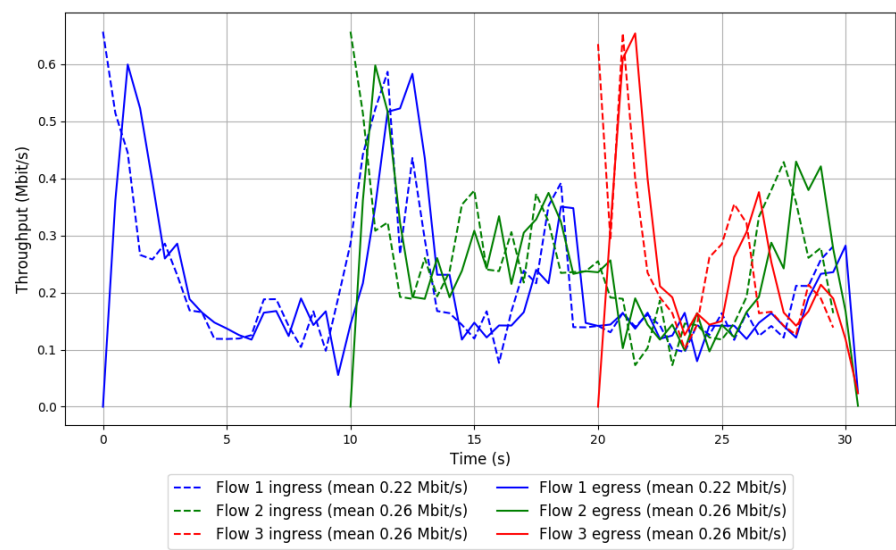
Run 2: Report of Sprout — Data Link

227

```
Run 3: Statistics of Sprout

Start at: 2018-08-09 07:14:56
End at: 2018-08-09 07:15:26
Local clock offset: 0.017 ms
Remote clock offset: -0.089 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 112.024 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 111.957 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 112.147 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 111.939 ms
Loss rate: 0.00%
```
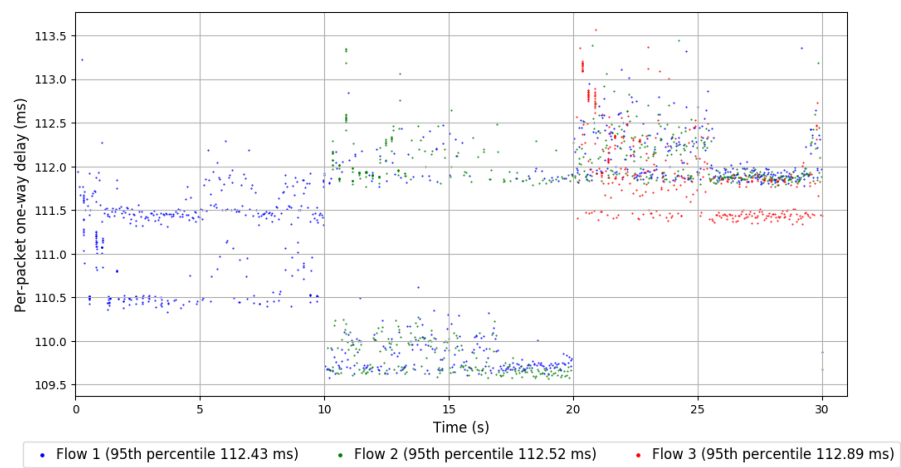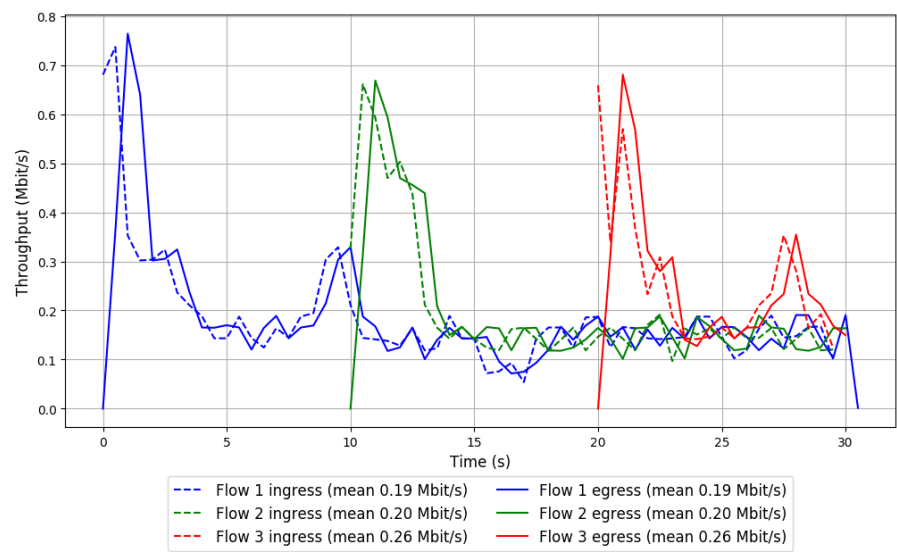
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-08-09 07:41:53
End at: 2018-08-09 07:42:23
Local clock offset: -0.033 ms
Remote clock offset: -0.115 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 111.842 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.731 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 111.883 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 112.001 ms
Loss rate: 0.00%
```
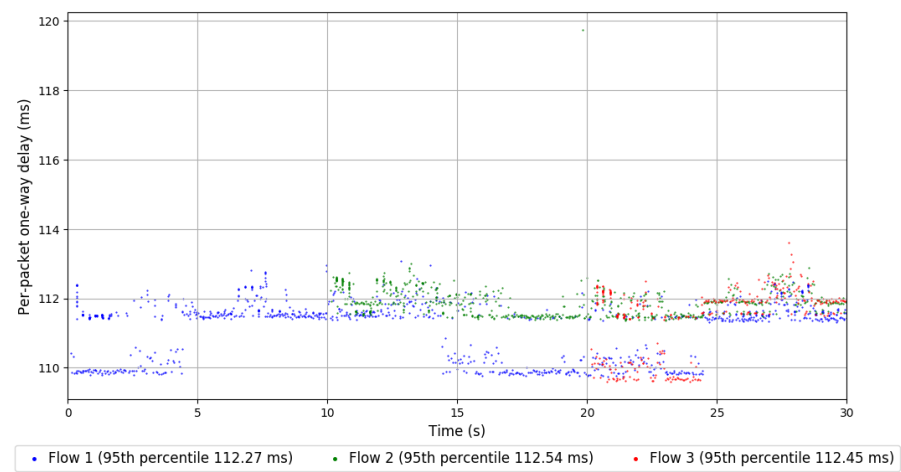
Run 4: Report of Sprout — Data Link

231

```
Run 5: Statistics of Sprout

Start at: 2018-08-09 08:08:43
End at: 2018-08-09 08:09:13
Local clock offset: -0.386 ms
Remote clock offset: -0.127 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 112.569 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 112.427 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 112.523 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 112.888 ms
Loss rate: 0.00%
```
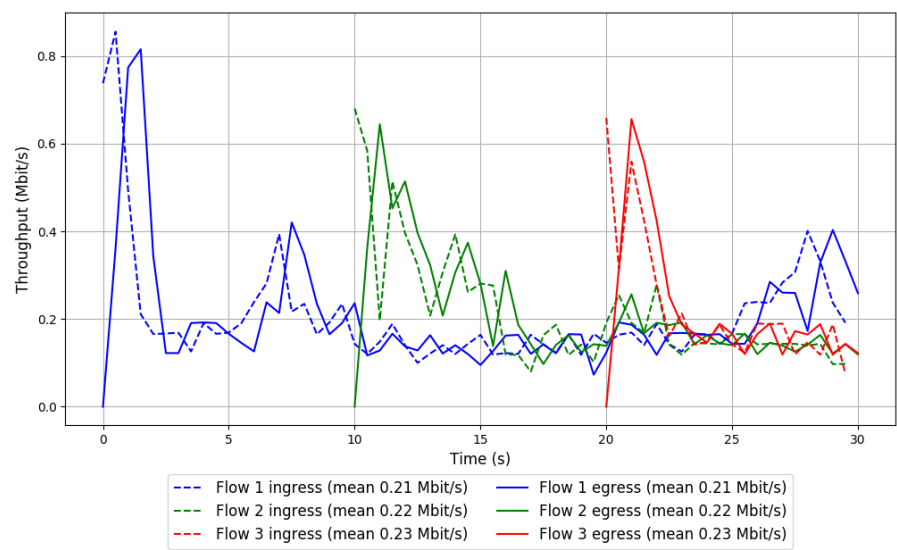
Run 5: Report of Sprout — Data Link

233

```
Run 6: Statistics of Sprout

Start at: 2018-08-09 08:35:09
End at: 2018-08-09 08:35:39
Local clock offset: -0.091 ms
Remote clock offset: 0.282 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 112.459 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 112.267 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.538 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 112.449 ms
Loss rate: 0.00%
```

Run 6: Report of Sprout — Data Link

```
Run 7: Statistics of Sprout

Start at: 2018-08-09 09:01:46
End at: 2018-08-09 09:02:16
Local clock offset: -0.012 ms
Remote clock offset: -0.184 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 111.799 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 111.778 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 111.970 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 111.613 ms
Loss rate: 0.00%
```
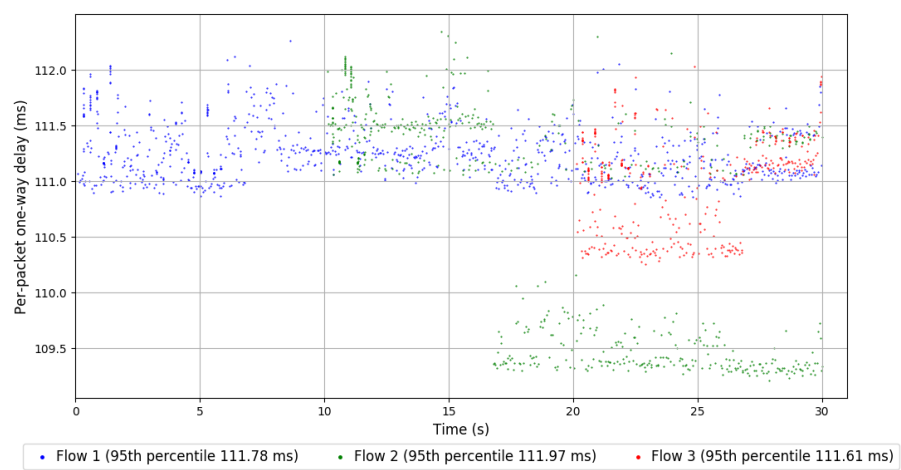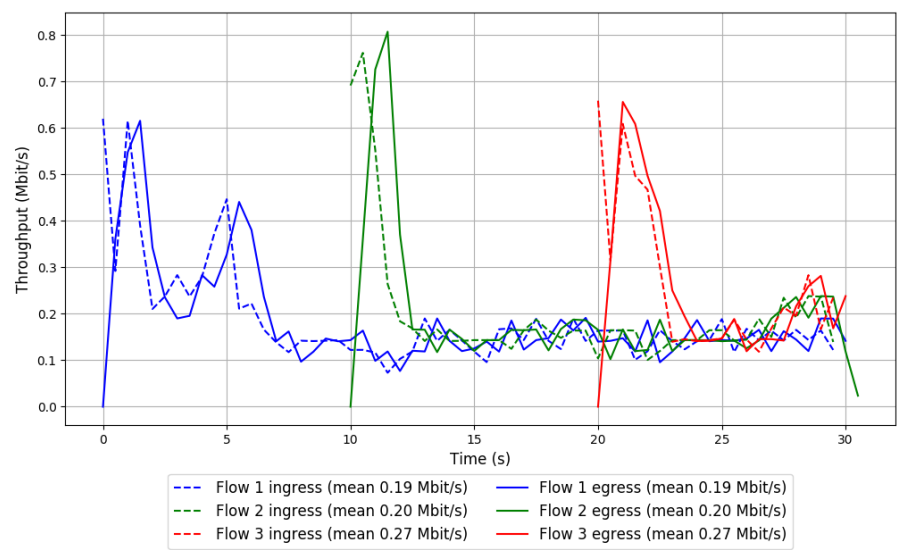
Run 7: Report of Sprout — Data Link

```
Run 8: Statistics of Sprout

Start at: 2018-08-09 09:27:55
End at: 2018-08-09 09:28:25
Local clock offset: -0.038 ms
Remote clock offset: -0.726 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 111.468 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 111.430 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 111.544 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 111.496 ms
Loss rate: 0.00%
```
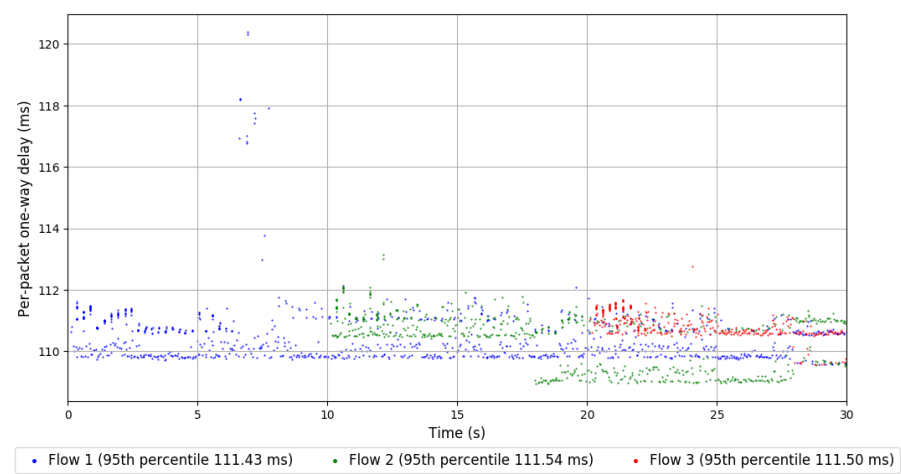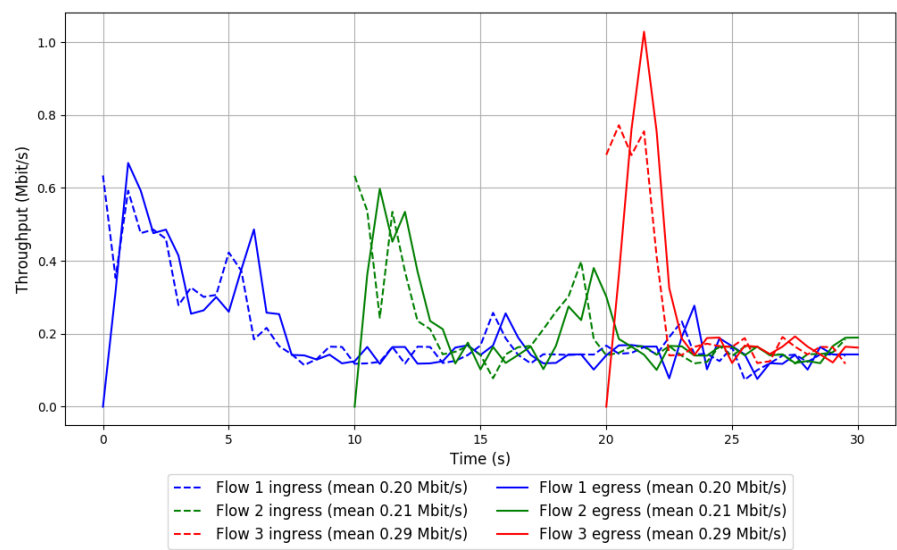
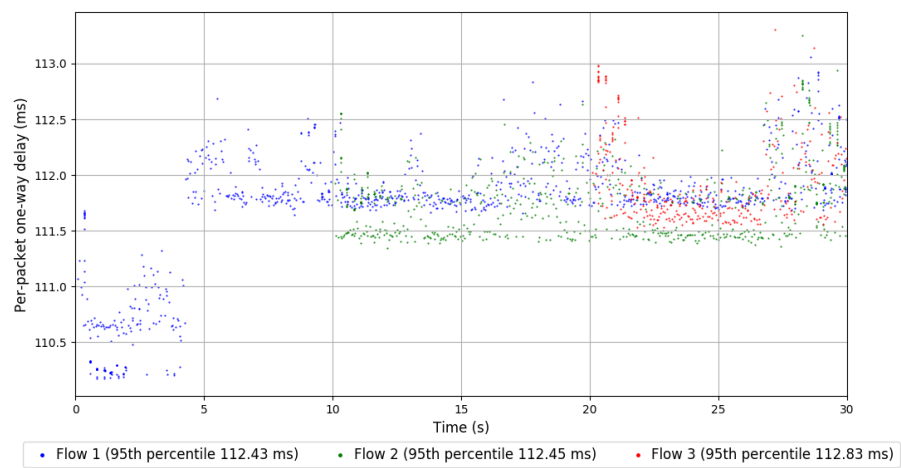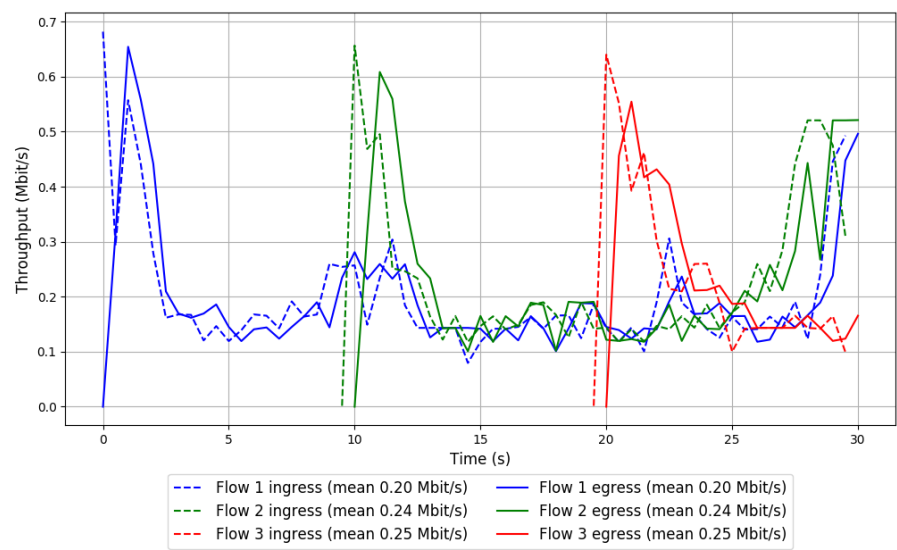## Run 8: Report of Sprout — Data Link

239

```
Run 9: Statistics of Sprout

Start at: 2018-08-09 09:54:39
End at: 2018-08-09 09:55:09
Local clock offset: 0.116 ms
Remote clock offset: -0.292 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 112.495 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 112.426 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 112.449 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 112.835 ms
Loss rate: 0.00%
```

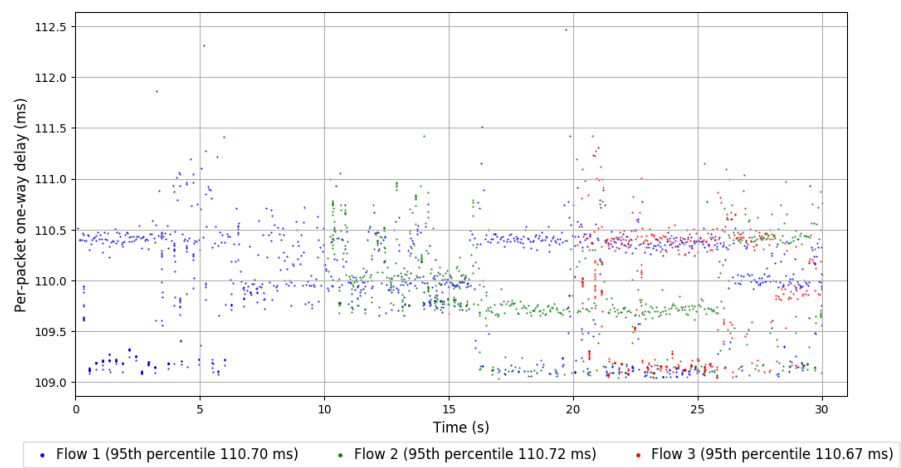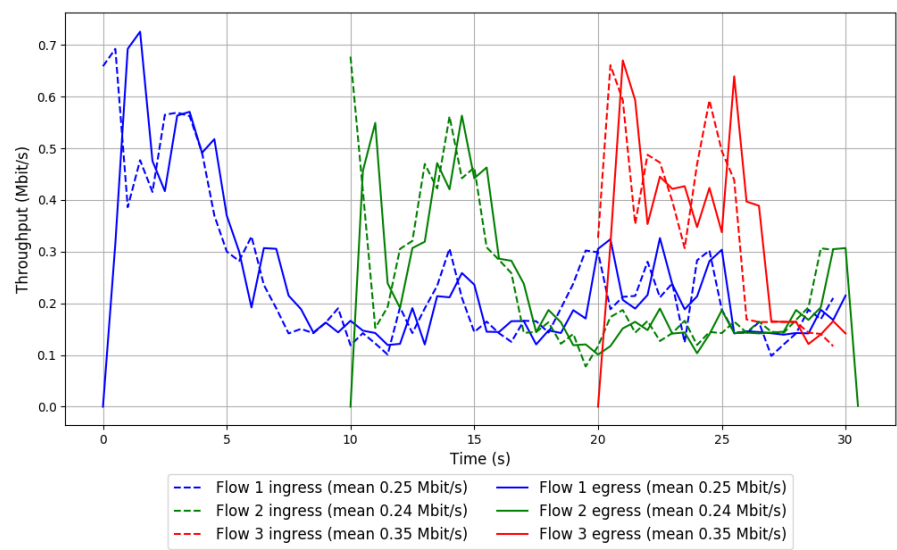## Run 9: Report of Sprout — Data Link

241

```
Run 10: Statistics of Sprout

Start at: 2018-08-09 10:21:47
End at: 2018-08-09 10:22:17
Local clock offset: 0.539 ms
Remote clock offset: -0.753 ms


# Below is generated by plot.py at 2018-08-09 12:44:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 110.711 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 110.703 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 110.716 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 110.669 ms
Loss rate: 0.00%
```
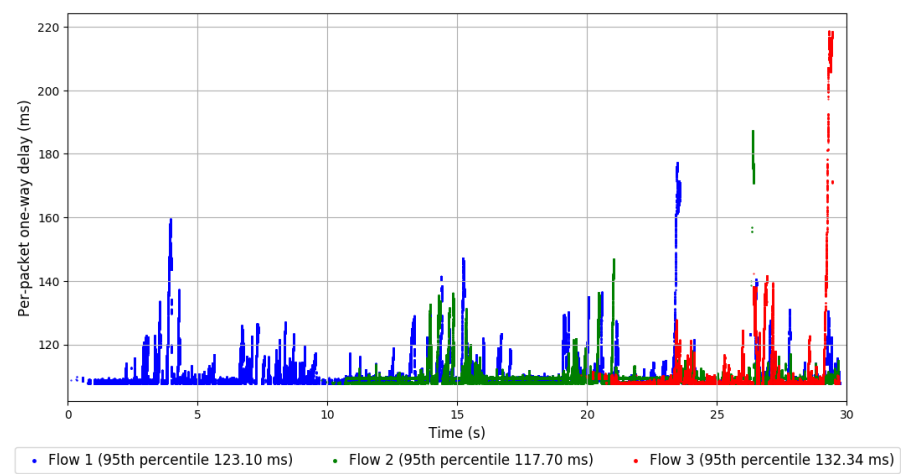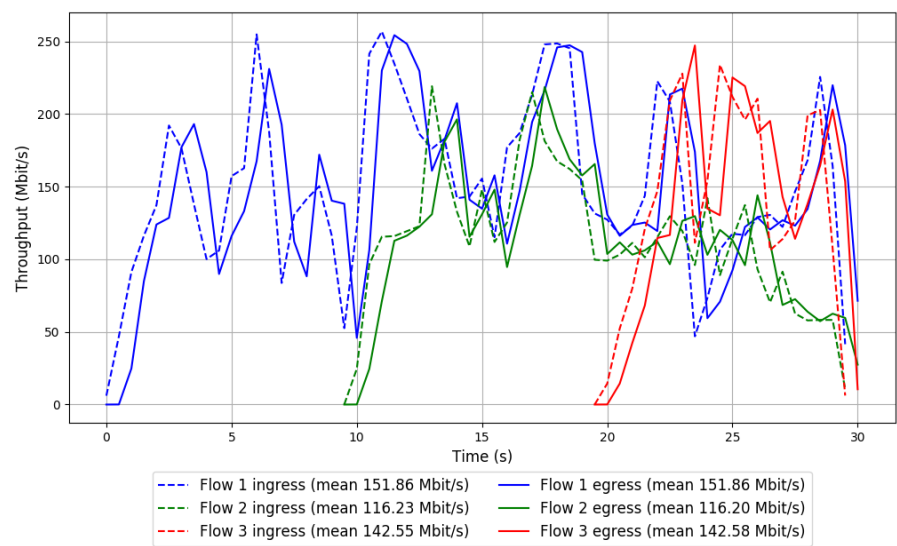
Run 10: Report of Sprout — Data Link

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

Start at: 2018-08-09 06:10:42
End at: 2018-08-09 06:11:12
Local clock offset: 1.333 ms
Remote clock offset: -0.169 ms


# Below is generated by plot.py at 2018-08-09 12:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 277.85 Mbit/s
95th percentile per-packet one-way delay: 123.366 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 151.86 Mbit/s
95th percentile per-packet one-way delay: 123.096 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 116.20 Mbit/s
95th percentile per-packet one-way delay: 117.698 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 142.58 Mbit/s
95th percentile per-packet one-way delay: 132.341 ms
Loss rate: 0.00%
```

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

245

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

Start at: 2018-08-09 06:37:23
End at: 2018-08-09 06:37:53
Local clock offset: 0.217 ms
Remote clock offset: 0.126 ms


# Below is generated by plot.py at 2018-08-09 12:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.07 Mbit/s
95th percentile per-packet one-way delay: 130.909 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 13.35 Mbit/s
95th percentile per-packet one-way delay: 111.979 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 17.22 Mbit/s
95th percentile per-packet one-way delay: 112.291 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 133.27 Mbit/s
95th percentile per-packet one-way delay: 145.055 ms
Loss rate: 0.00%
```
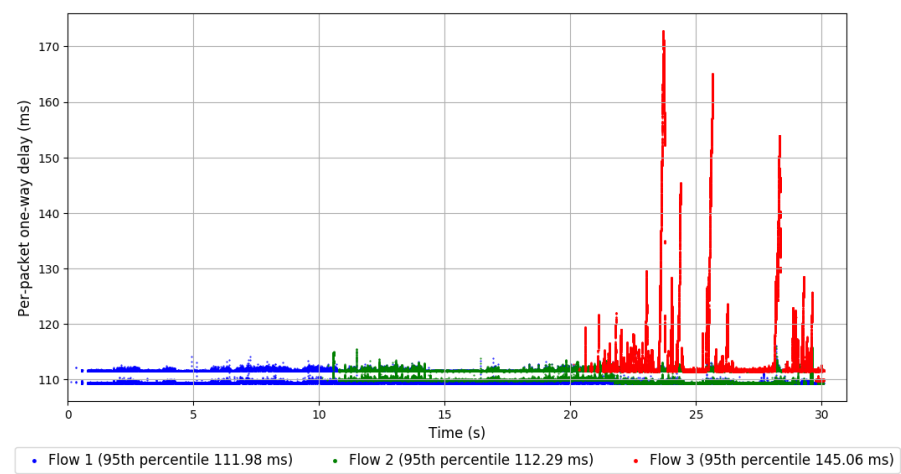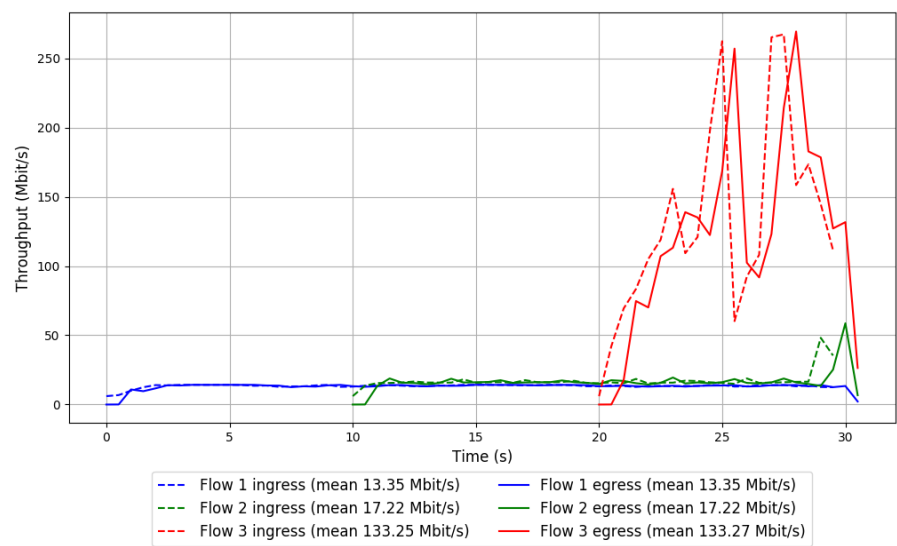
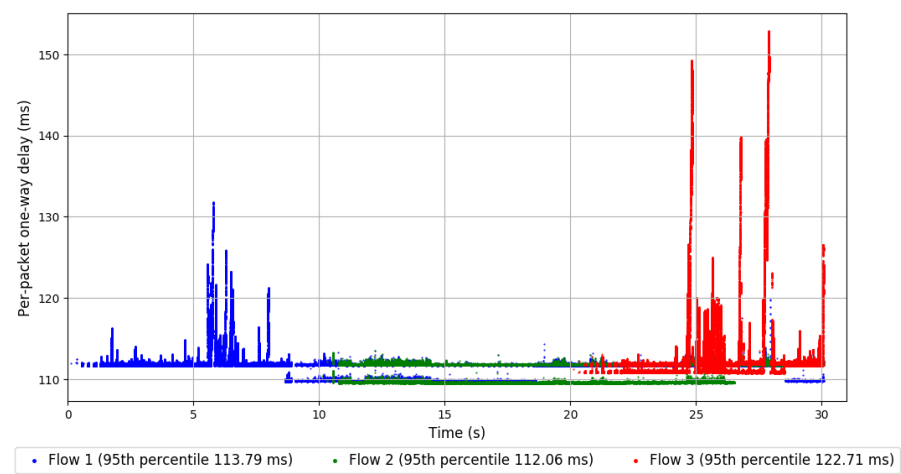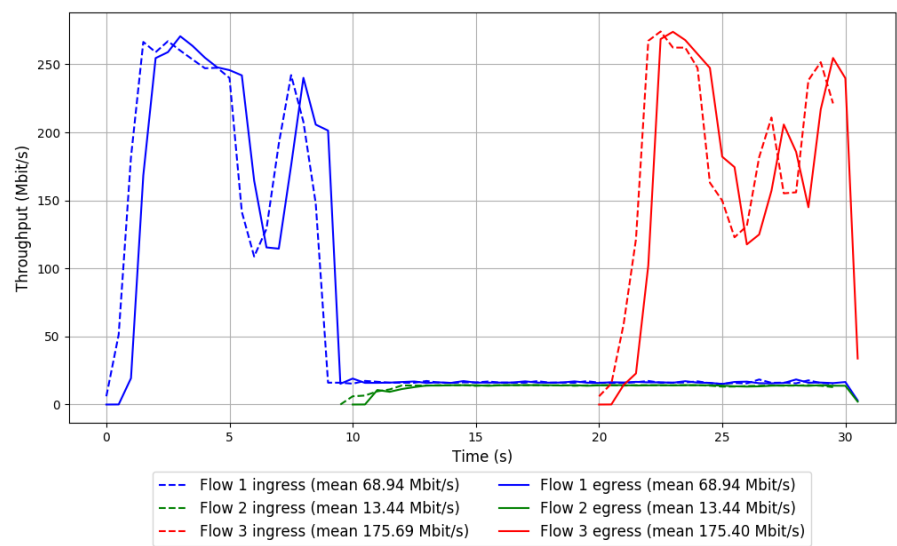# Run 2: Report of TaoVA-100x — Data Link

247

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

Start at: 2018-08-09 07:03:57
End at: 2018-08-09 07:04:27
Local clock offset: -0.48 ms
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2018-08-09 12:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 136.16 Mbit/s
95th percentile per-packet one-way delay: 115.903 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 68.94 Mbit/s
95th percentile per-packet one-way delay: 113.794 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 13.44 Mbit/s
95th percentile per-packet one-way delay: 112.058 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 175.40 Mbit/s
95th percentile per-packet one-way delay: 122.710 ms
Loss rate: 0.13%
```

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

Flow 1 ingress (mean 68.94 Mbit/s) --- Flow 1 egress (mean 68.94 Mbit/s)
Flow 2 ingress (mean 13.44 Mbit/s) --- Flow 2 egress (mean 13.44 Mbit/s)
Flow 3 ingress (mean 175.69 Mbit/s) --- Flow 3 egress (mean 175.40 Mbit/s)

Flow 1 (95th percentile 113.79 ms)   Flow 2 (95th percentile 112.06 ms)   Flow 3 (95th percentile 122.71 ms)
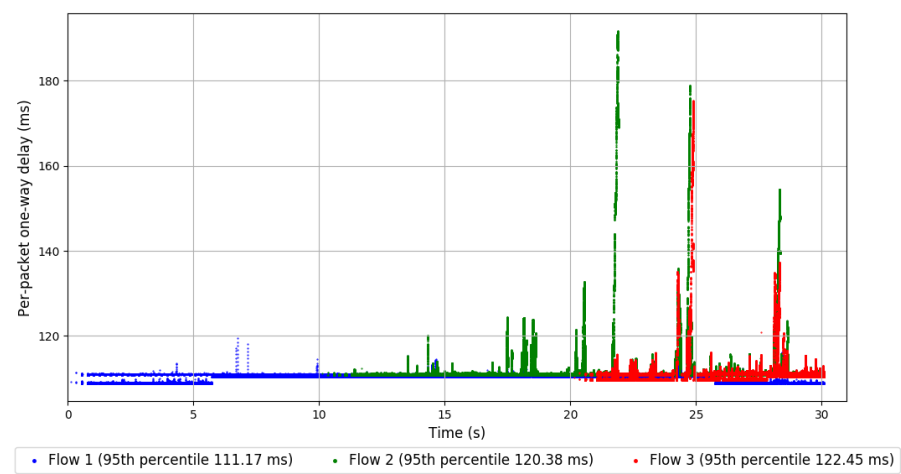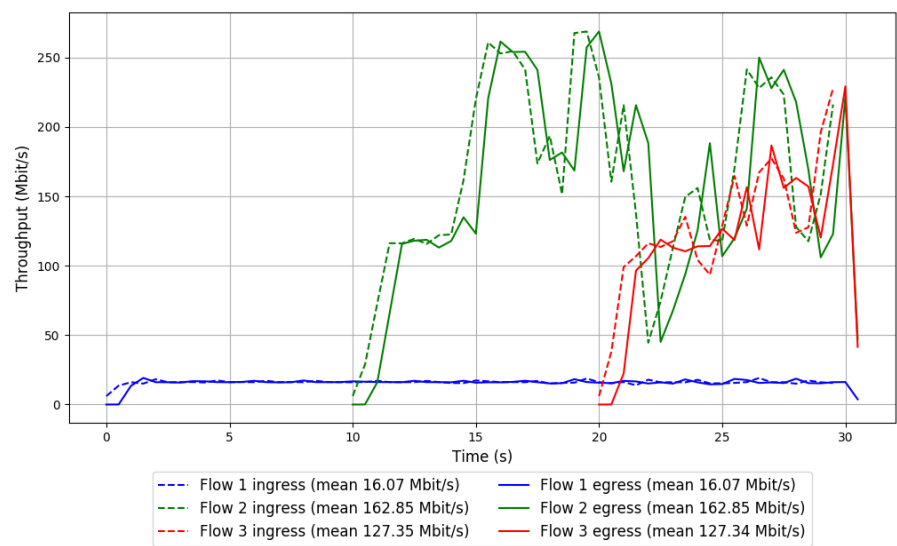
249

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

Start at: 2018-08-09 07:30:47
End at: 2018-08-09 07:31:17
Local clock offset: -0.021 ms
Remote clock offset: -0.523 ms

# Below is generated by plot.py at 2018-08-09 12:48:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 166.79 Mbit/s
95th percentile per-packet one-way delay: 119.884 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 16.07 Mbit/s
95th percentile per-packet one-way delay: 111.170 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 162.85 Mbit/s
95th percentile per-packet one-way delay: 120.378 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 127.34 Mbit/s
95th percentile per-packet one-way delay: 122.448 ms
Loss rate: 0.00%
```

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

Flow 1 ingress (mean 16.07 Mbit/s)   Flow 1 egress (mean 16.07 Mbit/s)
Flow 2 ingress (mean 162.85 Mbit/s)   Flow 2 egress (mean 162.85 Mbit/s)
Flow 3 ingress (mean 127.35 Mbit/s)   Flow 3 egress (mean 127.34 Mbit/s)

Flow 1 (95th percentile 111.17 ms)   Flow 2 (95th percentile 120.38 ms)   Flow 3 (95th percentile 122.45 ms)
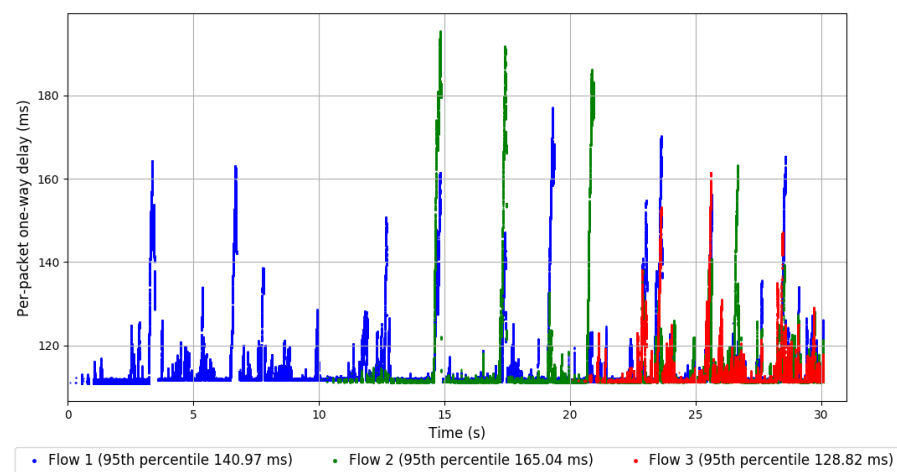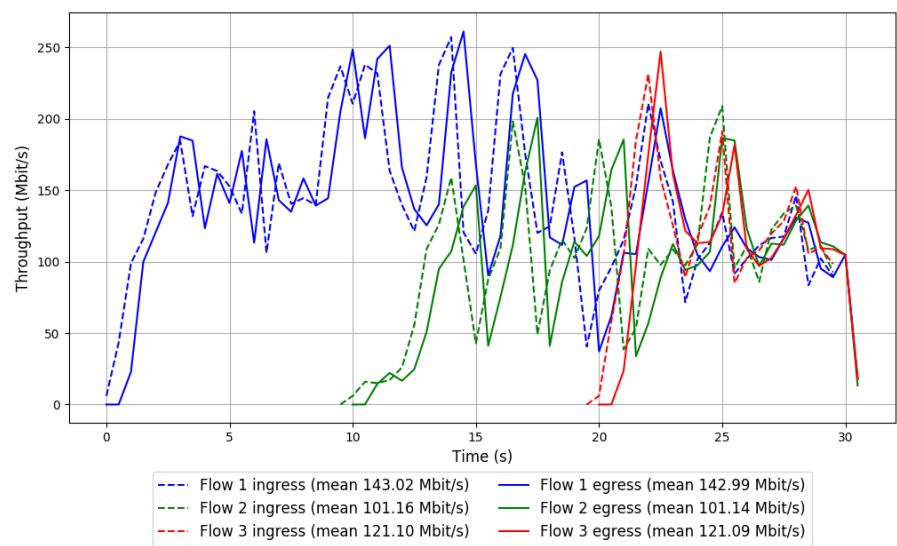
251

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

Start at: 2018-08-09 07:57:30
End at: 2018-08-09 07:58:00
Local clock offset: -0.423 ms
Remote clock offset: -0.172 ms

# Below is generated by plot.py at 2018-08-09 12:48:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 250.68 Mbit/s
95th percentile per-packet one-way delay: 141.303 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 142.99 Mbit/s
95th percentile per-packet one-way delay: 140.969 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 101.14 Mbit/s
95th percentile per-packet one-way delay: 165.039 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 121.09 Mbit/s
95th percentile per-packet one-way delay: 128.824 ms
Loss rate: 0.00%
```
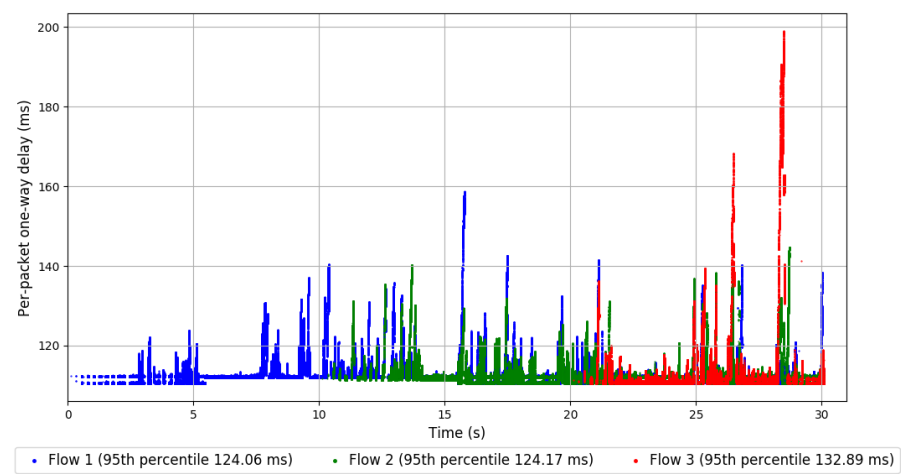
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 143.02 Mbit/s) --- Flow 1 egress (mean 142.99 Mbit/s)
Flow 2 ingress (mean 101.16 Mbit/s) --- Flow 2 egress (mean 101.14 Mbit/s)
Flow 3 ingress (mean 121.10 Mbit/s) --- Flow 3 egress (mean 121.09 Mbit/s)

Flow 1 (95th percentile 140.97 ms)   Flow 2 (95th percentile 165.04 ms)   Flow 3 (95th percentile 128.82 ms)

253

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

Start at: 2018-08-09 08:24:08
End at: 2018-08-09 08:24:38
Local clock offset: -0.317 ms
Remote clock offset: 0.237 ms


# Below is generated by plot.py at 2018-08-09 12:48:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 242.47 Mbit/s
95th percentile per-packet one-way delay: 124.829 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 118.86 Mbit/s
95th percentile per-packet one-way delay: 124.062 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 114.89 Mbit/s
95th percentile per-packet one-way delay: 124.165 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 141.47 Mbit/s
95th percentile per-packet one-way delay: 132.893 ms
Loss rate: 0.02%
```
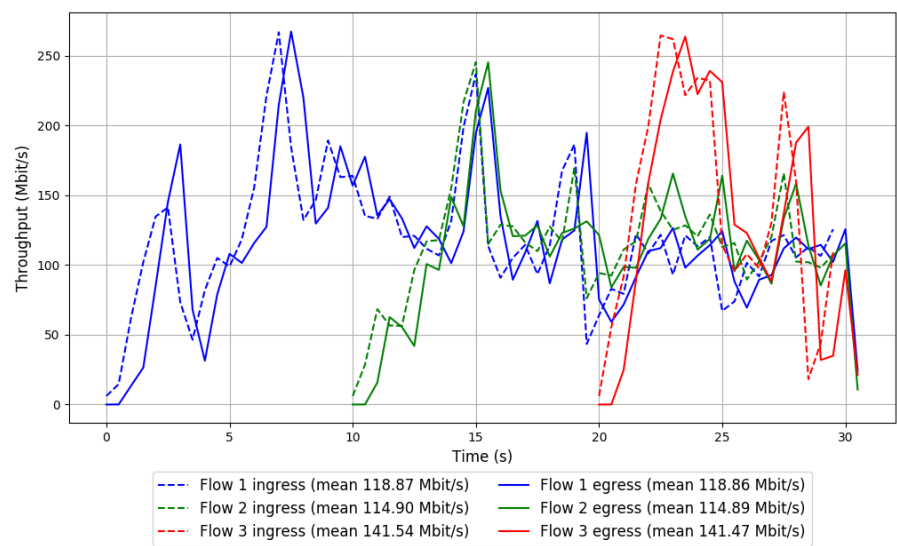
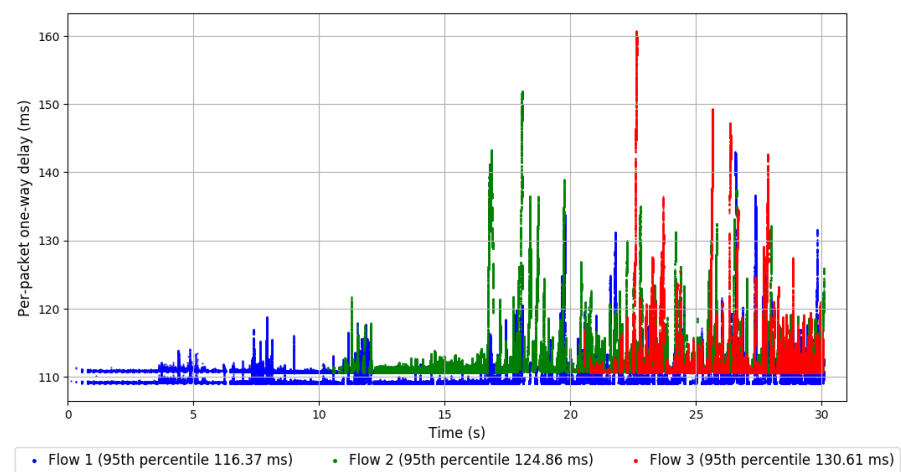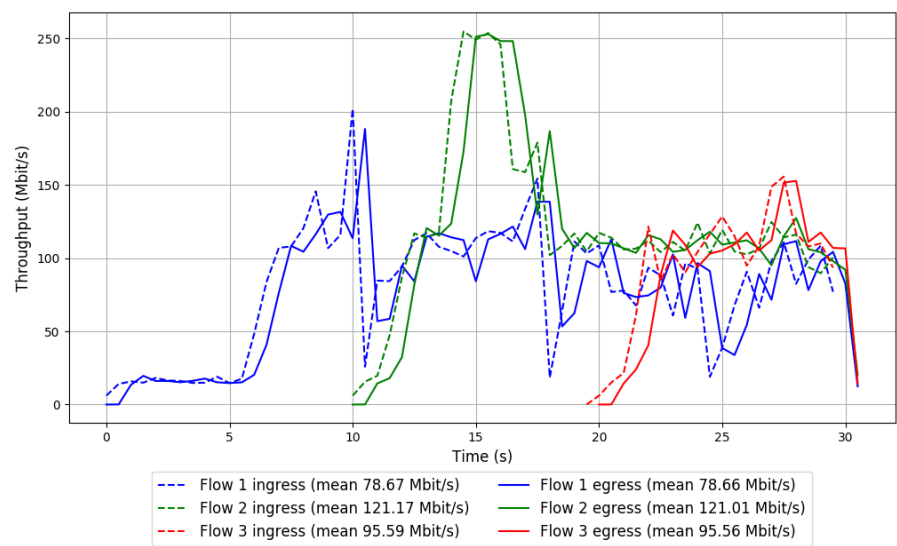# Run 6: Report of TaoVA-100x — Data Link

255

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

Start at: 2018-08-09 08:50:36
End at: 2018-08-09 08:51:06
Local clock offset: -0.268 ms
Remote clock offset: -0.467 ms

# Below is generated by plot.py at 2018-08-09 12:48:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 190.97 Mbit/s
95th percentile per-packet one-way delay: 122.122 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 78.66 Mbit/s
95th percentile per-packet one-way delay: 116.366 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 121.01 Mbit/s
95th percentile per-packet one-way delay: 124.856 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 95.56 Mbit/s
95th percentile per-packet one-way delay: 130.610 ms
Loss rate: 0.00%
```

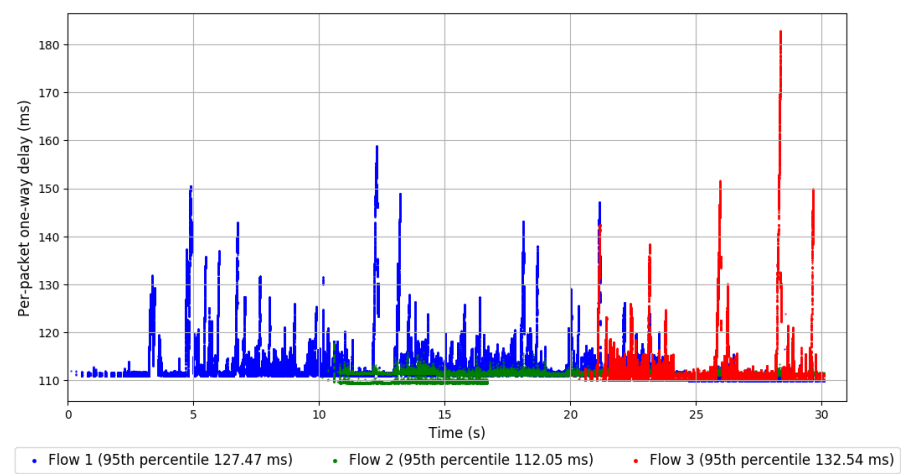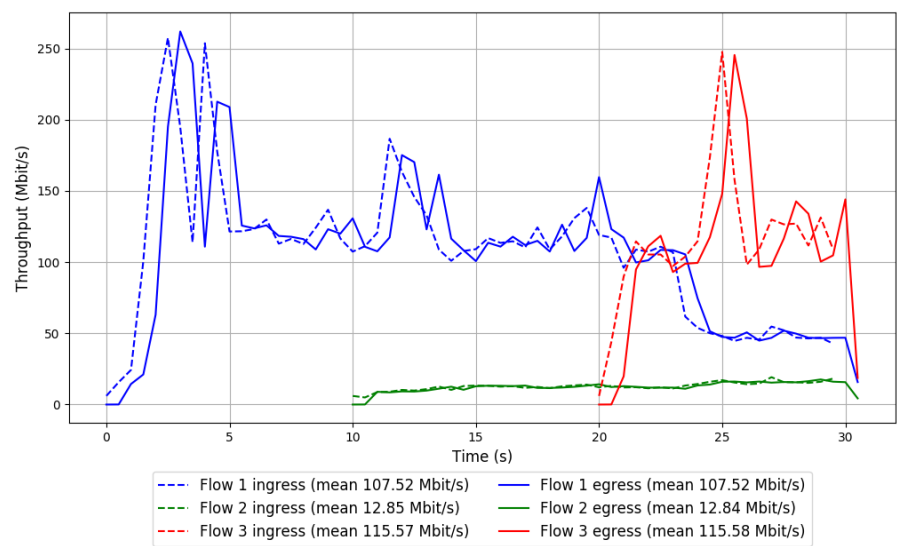# Run 7: Report of TaoVA-100x — Data Link

257

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

Start at: 2018-08-09 09:17:09
End at: 2018-08-09 09:17:39
Local clock offset: -0.22 ms
Remote clock offset: -0.243 ms

# Below is generated by plot.py at 2018-08-09 12:48:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 154.47 Mbit/s
95th percentile per-packet one-way delay: 127.773 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 107.52 Mbit/s
95th percentile per-packet one-way delay: 127.467 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 12.84 Mbit/s
95th percentile per-packet one-way delay: 112.049 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 115.58 Mbit/s
95th percentile per-packet one-way delay: 132.539 ms
Loss rate: 0.01%
```

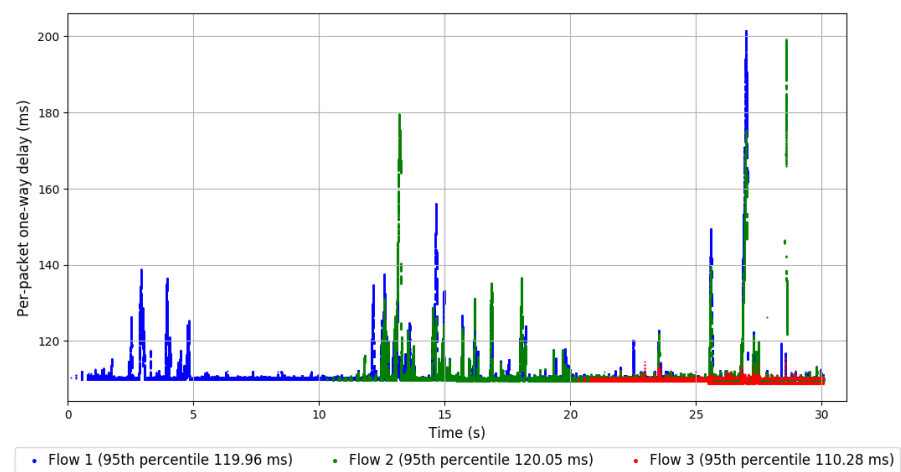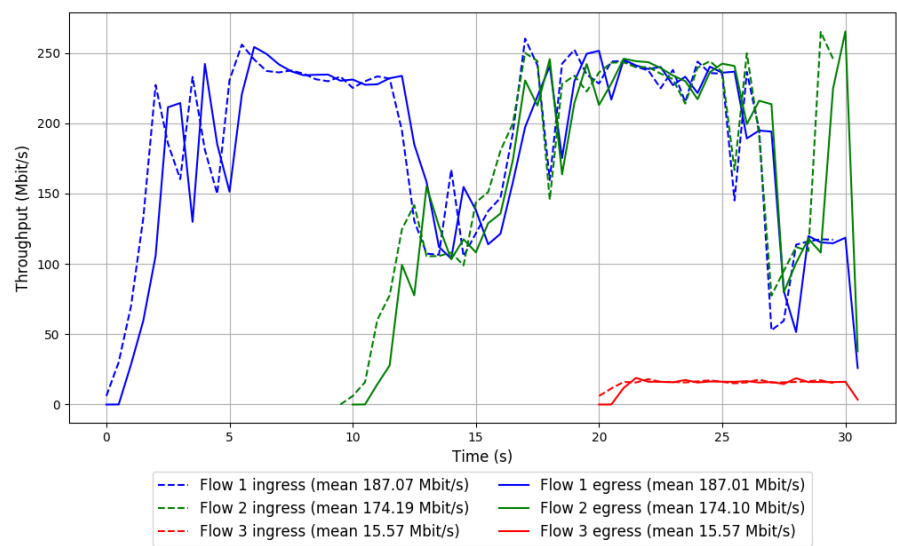## Run 8: Report of TaoVA-100x — Data Link

259

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

Start at: 2018-08-09 09:43:28
End at: 2018-08-09 09:43:58
Local clock offset: 1.267 ms
Remote clock offset: -0.581 ms

# Below is generated by plot.py at 2018-08-09 12:53:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 308.18 Mbit/s
95th percentile per-packet one-way delay: 119.813 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 187.01 Mbit/s
95th percentile per-packet one-way delay: 119.956 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 174.10 Mbit/s
95th percentile per-packet one-way delay: 120.047 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 15.57 Mbit/s
95th percentile per-packet one-way delay: 110.282 ms
Loss rate: 0.00%
```

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

Flow 1 ingress (mean 187.07 Mbit/s) --- Flow 1 egress (mean 187.01 Mbit/s)
Flow 2 ingress (mean 174.19 Mbit/s) --- Flow 2 egress (mean 174.10 Mbit/s)
Flow 3 ingress (mean 15.57 Mbit/s) --- Flow 3 egress (mean 15.57 Mbit/s)

Flow 1 (95th percentile 119.96 ms) • Flow 2 (95th percentile 120.05 ms) • Flow 3 (95th percentile 110.28 ms)
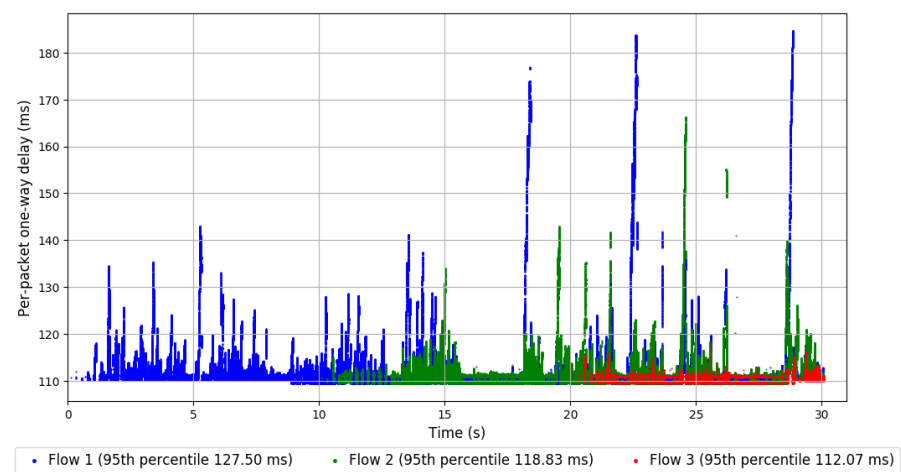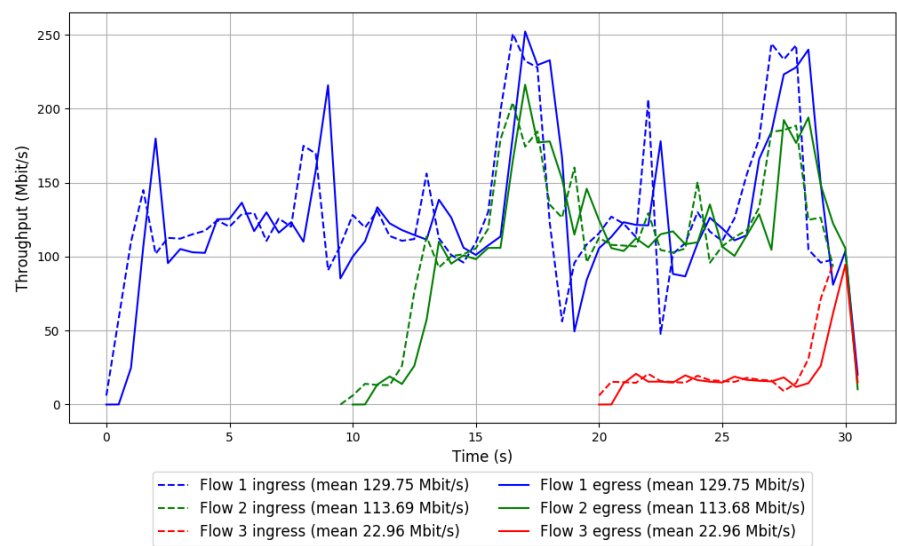
```
Run 10: Statistics of TaoVA-100x

Start at: 2018-08-09 10:10:14
End at: 2018-08-09 10:10:44
Local clock offset: -0.046 ms
Remote clock offset: -0.662 ms


# Below is generated by plot.py at 2018-08-09 12:53:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 213.14 Mbit/s
95th percentile per-packet one-way delay: 124.064 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 129.75 Mbit/s
95th percentile per-packet one-way delay: 127.497 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 113.68 Mbit/s
95th percentile per-packet one-way delay: 118.833 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.96 Mbit/s
95th percentile per-packet one-way delay: 112.068 ms
Loss rate: 0.00%
```

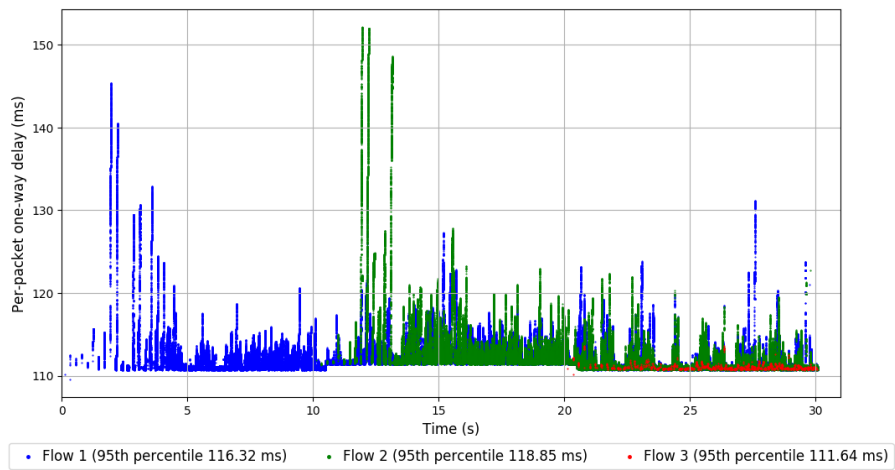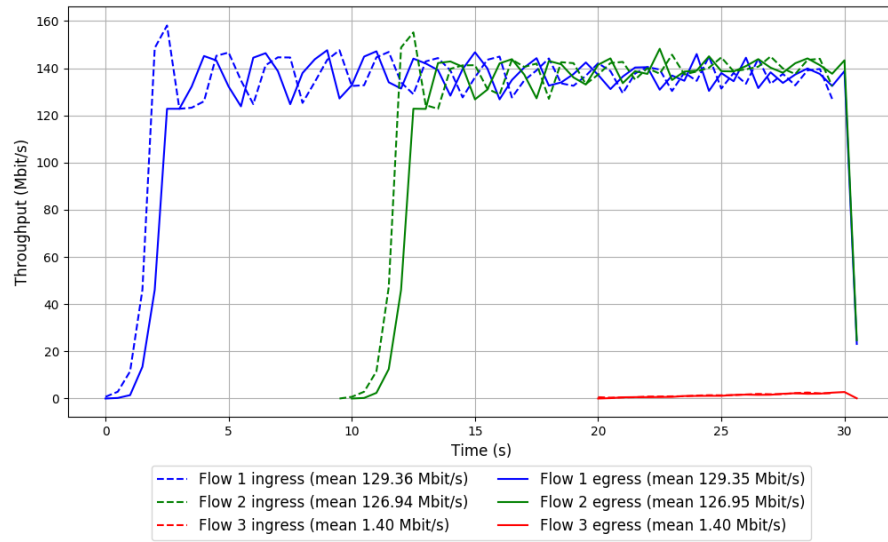# Run 10: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 129.75 Mbit/s) ---- Flow 1 egress (mean 129.75 Mbit/s)
Flow 2 ingress (mean 113.69 Mbit/s) ---- Flow 2 egress (mean 113.68 Mbit/s)
Flow 3 ingress (mean 22.96 Mbit/s) ---- Flow 3 egress (mean 22.96 Mbit/s)

Flow 1 (95th percentile 127.50 ms) • Flow 2 (95th percentile 118.83 ms) • Flow 3 (95th percentile 112.07 ms)

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```
Run 1: Statistics of TCP Vegas

Start at: 2018-08-09 06:05:13
End at: 2018-08-09 06:05:43
Local clock offset: -0.067 ms
Remote clock offset: -0.099 ms


# Below is generated by plot.py at 2018-08-09 12:53:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 214.41 Mbit/s
95th percentile per-packet one-way delay: 117.432 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 129.35 Mbit/s
95th percentile per-packet one-way delay: 116.323 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 126.95 Mbit/s
95th percentile per-packet one-way delay: 118.852 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 111.635 ms
Loss rate: 0.26%
```
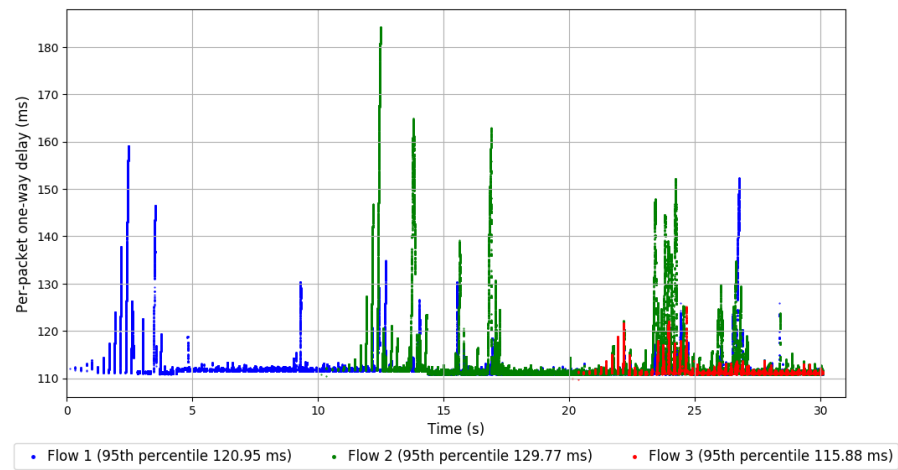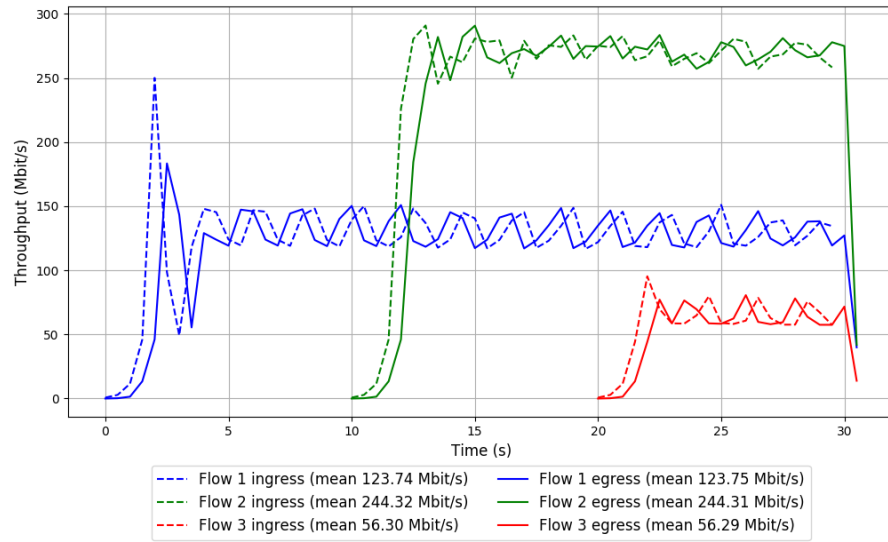
Run 1: Report of TCP Vegas — Data Link

- - - - Flow 1 ingress (mean 129.36 Mbit/s) ——— Flow 1 egress (mean 129.35 Mbit/s)
- - - - Flow 2 ingress (mean 126.94 Mbit/s) ——— Flow 2 egress (mean 126.95 Mbit/s)
- - - - Flow 3 ingress (mean 1.40 Mbit/s) ——— Flow 3 egress (mean 1.40 Mbit/s)

• Flow 1 (95th percentile 116.32 ms)　　• Flow 2 (95th percentile 118.85 ms)　　• Flow 3 (95th percentile 111.64 ms)

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```
Run 2: Statistics of TCP Vegas

Start at: 2018-08-09 06:31:49
End at: 2018-08-09 06:32:19
Local clock offset: 0.13 ms
Remote clock offset: 0.152 ms


# Below is generated by plot.py at 2018-08-09 12:53:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 305.20 Mbit/s
95th percentile per-packet one-way delay: 124.079 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 123.75 Mbit/s
95th percentile per-packet one-way delay: 120.952 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 244.31 Mbit/s
95th percentile per-packet one-way delay: 129.766 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 56.29 Mbit/s
95th percentile per-packet one-way delay: 115.879 ms
Loss rate: 0.00%
```

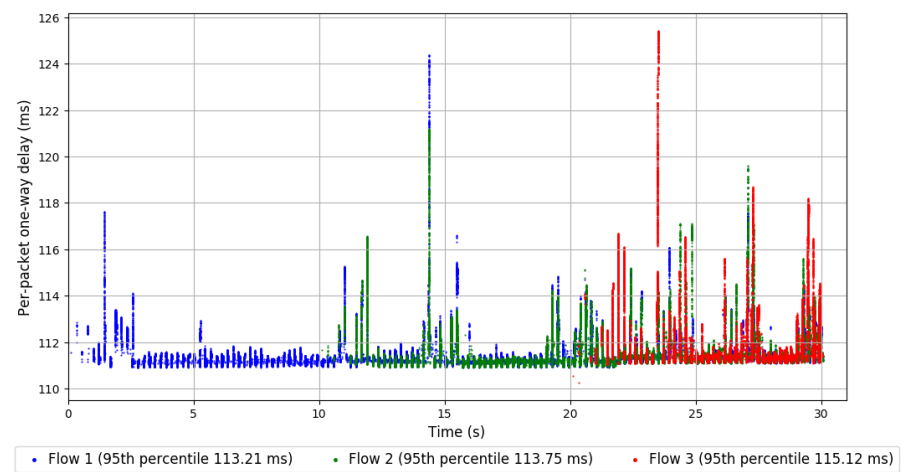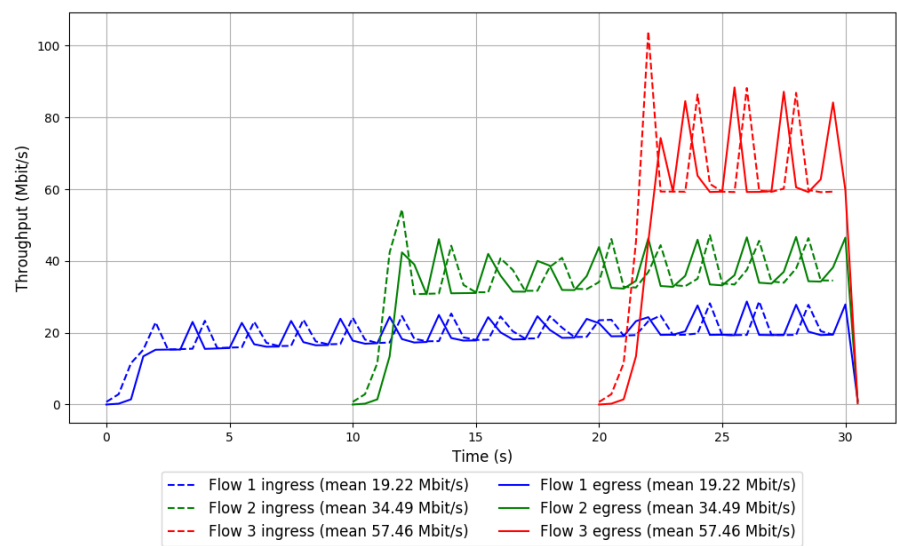Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-08-09 06:58:31
End at: 2018-08-09 06:59:01
Local clock offset: -0.074 ms
Remote clock offset: -0.419 ms


# Below is generated by plot.py at 2018-08-09 12:53:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.22 Mbit/s
95th percentile per-packet one-way delay: 113.974 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 19.22 Mbit/s
95th percentile per-packet one-way delay: 113.212 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 34.49 Mbit/s
95th percentile per-packet one-way delay: 113.751 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 57.46 Mbit/s
95th percentile per-packet one-way delay: 115.118 ms
Loss rate: 0.00%
```

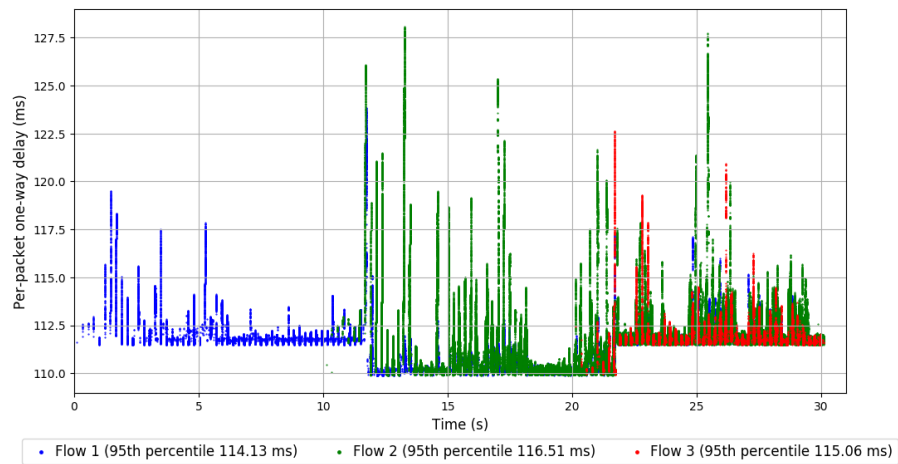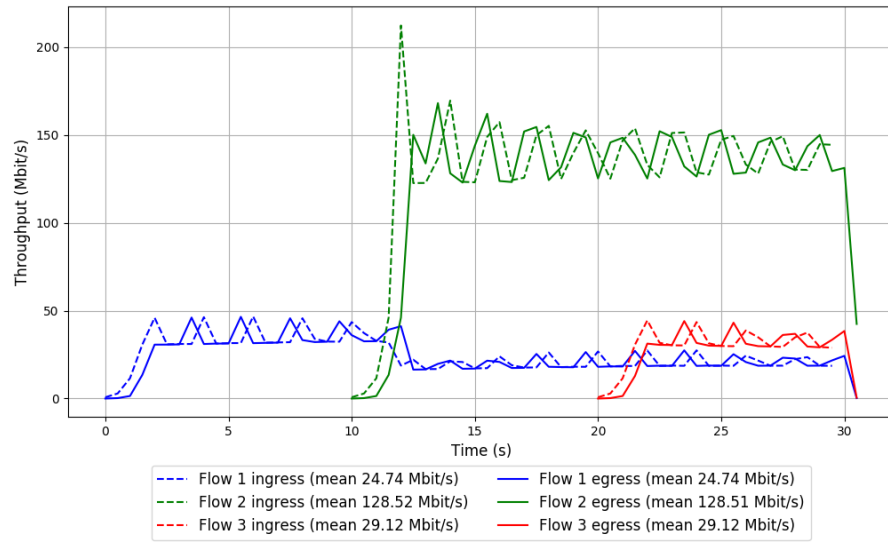# Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2018-08-09 07:25:11
End at: 2018-08-09 07:25:41
Local clock offset: -0.438 ms
Remote clock offset: -0.454 ms


# Below is generated by plot.py at 2018-08-09 12:53:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 120.01 Mbit/s
95th percentile per-packet one-way delay: 115.797 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.74 Mbit/s
95th percentile per-packet one-way delay: 114.131 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 128.51 Mbit/s
95th percentile per-packet one-way delay: 116.508 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.12 Mbit/s
95th percentile per-packet one-way delay: 115.064 ms
Loss rate: 0.00%
```
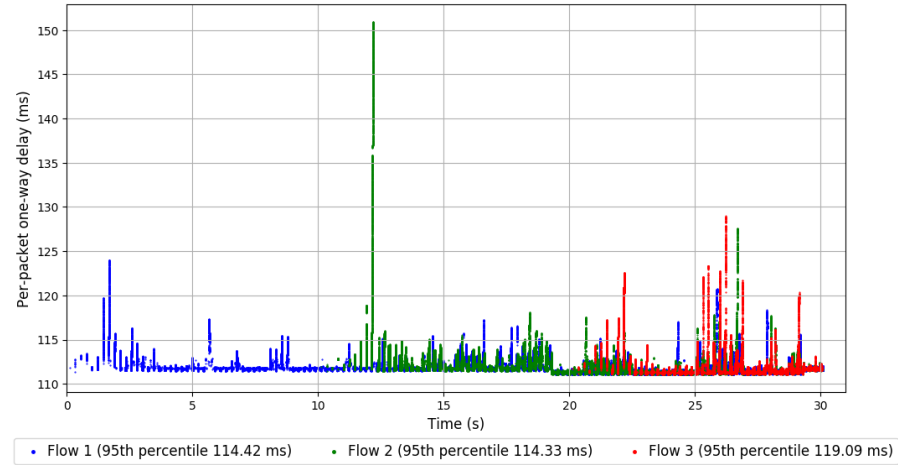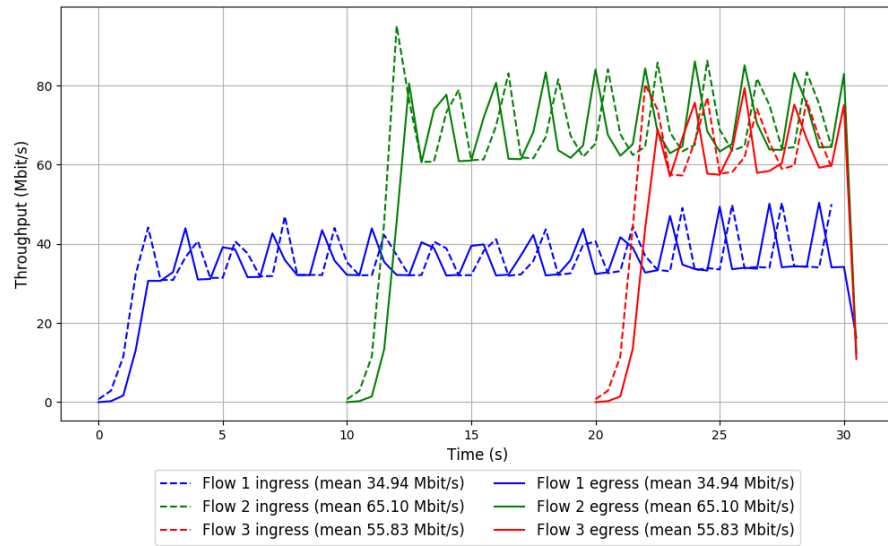
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-08-09 07:52:04
End at: 2018-08-09 07:52:34
Local clock offset: -0.2 ms
Remote clock offset: -0.141 ms


# Below is generated by plot.py at 2018-08-09 12:53:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.81 Mbit/s
95th percentile per-packet one-way delay: 114.847 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 34.94 Mbit/s
95th percentile per-packet one-way delay: 114.421 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 65.10 Mbit/s
95th percentile per-packet one-way delay: 114.326 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 55.83 Mbit/s
95th percentile per-packet one-way delay: 119.093 ms
Loss rate: 0.00%
```
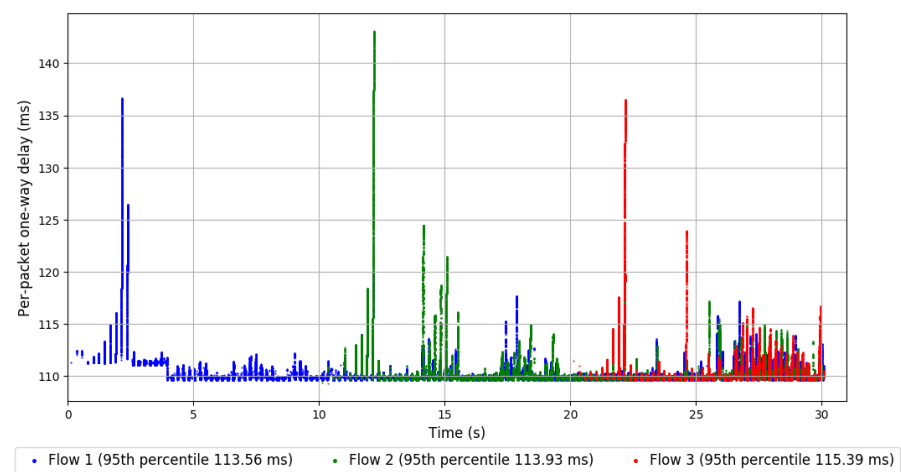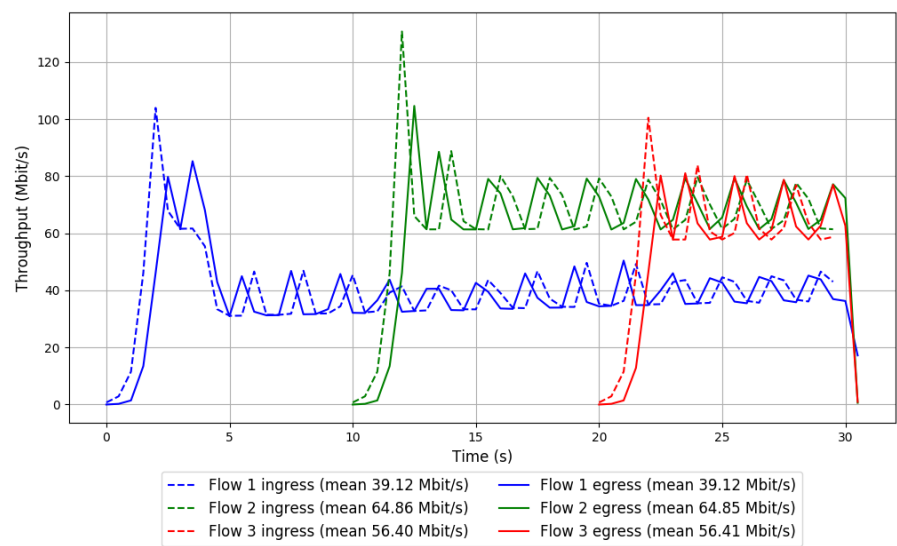
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 34.94 Mbit/s)   Flow 1 egress (mean 34.94 Mbit/s)
Flow 2 ingress (mean 65.10 Mbit/s)   Flow 2 egress (mean 65.10 Mbit/s)
Flow 3 ingress (mean 55.83 Mbit/s)   Flow 3 egress (mean 55.83 Mbit/s)

Flow 1 (95th percentile 114.42 ms)   Flow 2 (95th percentile 114.33 ms)   Flow 3 (95th percentile 119.09 ms)

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```
Run 6: Statistics of TCP Vegas

Start at: 2018-08-09 08:18:49
End at: 2018-08-09 08:19:19
Local clock offset: 0.13 ms
Remote clock offset: -0.164 ms


# Below is generated by plot.py at 2018-08-09 12:53:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.97 Mbit/s
95th percentile per-packet one-way delay: 114.069 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 39.12 Mbit/s
95th percentile per-packet one-way delay: 113.562 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 64.85 Mbit/s
95th percentile per-packet one-way delay: 113.929 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 56.41 Mbit/s
95th percentile per-packet one-way delay: 115.395 ms
Loss rate: 0.00%
```

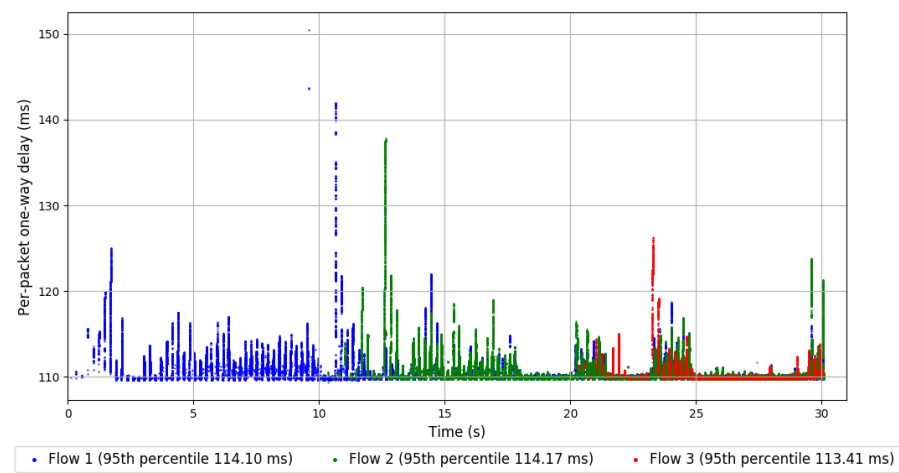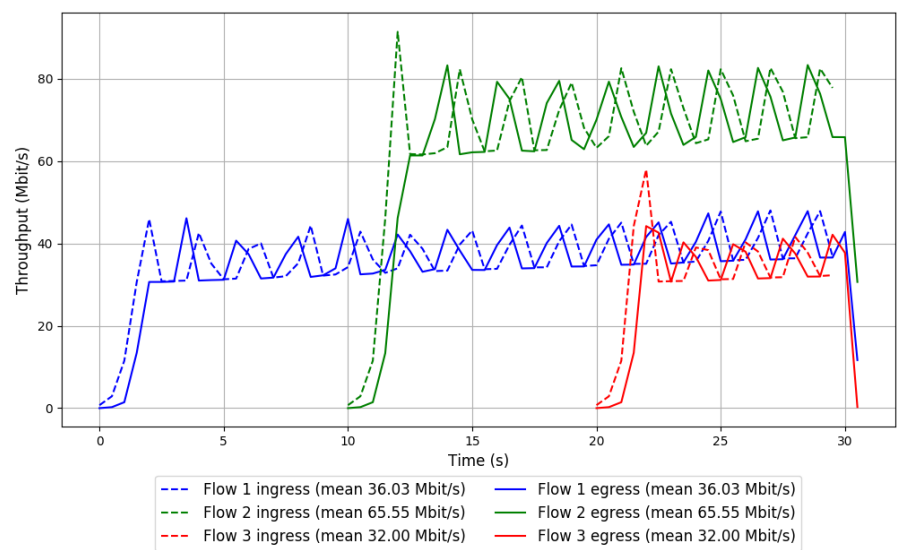Run 6: Report of TCP Vegas — Data Link

```
Run 7: Statistics of TCP Vegas

Start at: 2018-08-09 08:45:12
End at: 2018-08-09 08:45:42
Local clock offset: 1.187 ms
Remote clock offset: -0.103 ms


# Below is generated by plot.py at 2018-08-09 12:53:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.29 Mbit/s
95th percentile per-packet one-way delay: 114.105 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 36.03 Mbit/s
95th percentile per-packet one-way delay: 114.096 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 65.55 Mbit/s
95th percentile per-packet one-way delay: 114.172 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 32.00 Mbit/s
95th percentile per-packet one-way delay: 113.407 ms
Loss rate: 0.00%
```

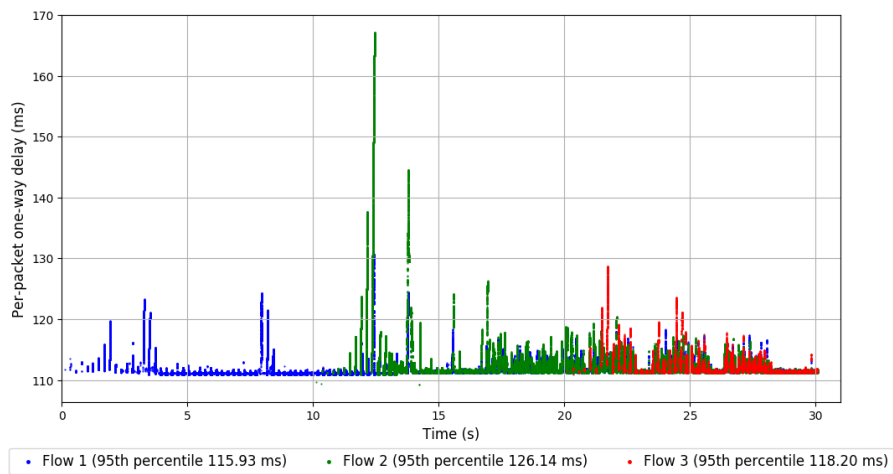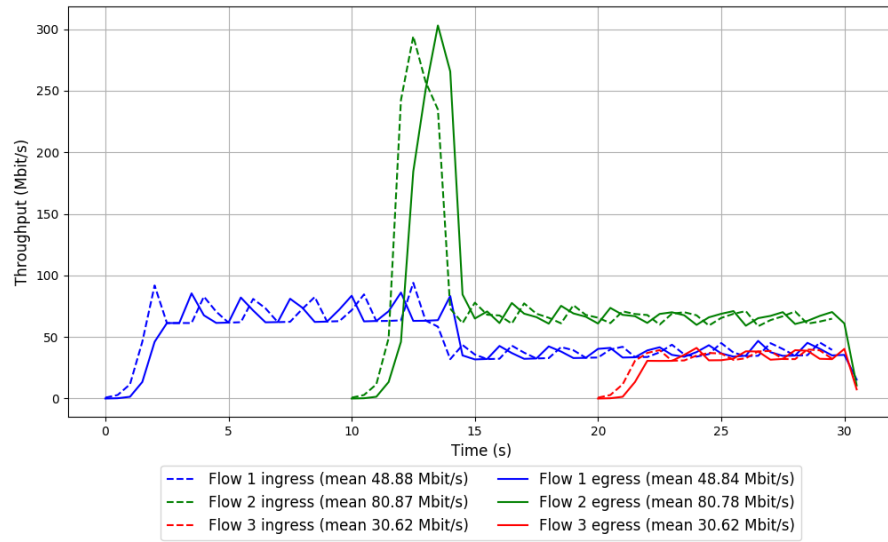# Run 7: Report of TCP Vegas — Data Link

```
Run 8: Statistics of TCP Vegas

Start at: 2018-08-09 09:11:50
End at: 2018-08-09 09:12:20
Local clock offset: 0.004 ms
Remote clock offset: -0.178 ms


# Below is generated by plot.py at 2018-08-09 12:53:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 112.81 Mbit/s
95th percentile per-packet one-way delay: 119.158 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 48.84 Mbit/s
95th percentile per-packet one-way delay: 115.926 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 80.78 Mbit/s
95th percentile per-packet one-way delay: 126.144 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 30.62 Mbit/s
95th percentile per-packet one-way delay: 118.196 ms
Loss rate: 0.00%
```

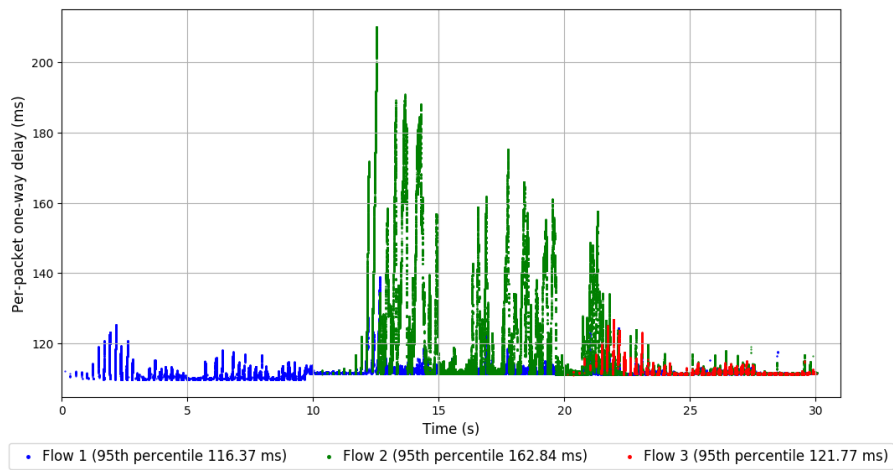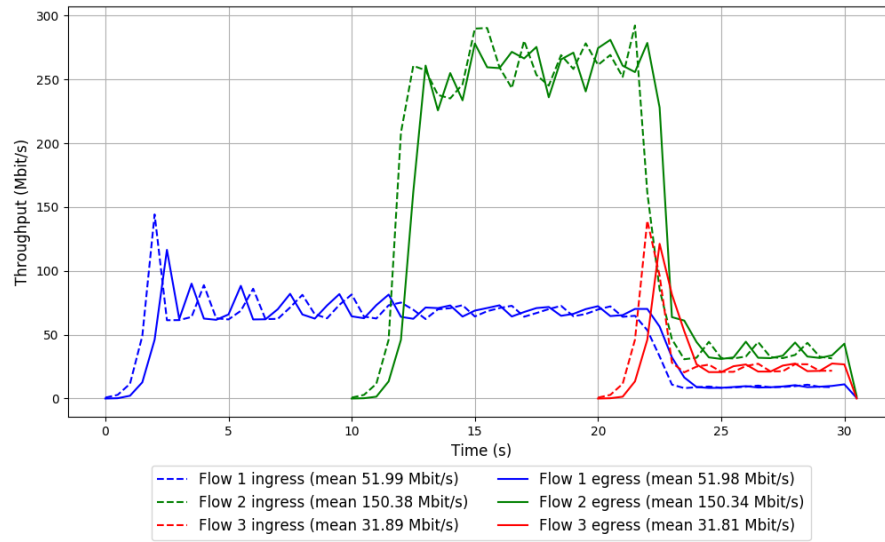## Run 8: Report of TCP Vegas — Data Link

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```
Run 9: Statistics of TCP Vegas

Start at: 2018-08-09 09:38:04
End at: 2018-08-09 09:38:34
Local clock offset: 0.082 ms
Remote clock offset: -0.456 ms


# Below is generated by plot.py at 2018-08-09 12:53:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 162.56 Mbit/s
95th percentile per-packet one-way delay: 153.418 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 51.98 Mbit/s
95th percentile per-packet one-way delay: 116.371 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 150.34 Mbit/s
95th percentile per-packet one-way delay: 162.842 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 31.81 Mbit/s
95th percentile per-packet one-way delay: 121.766 ms
Loss rate: 0.27%
```
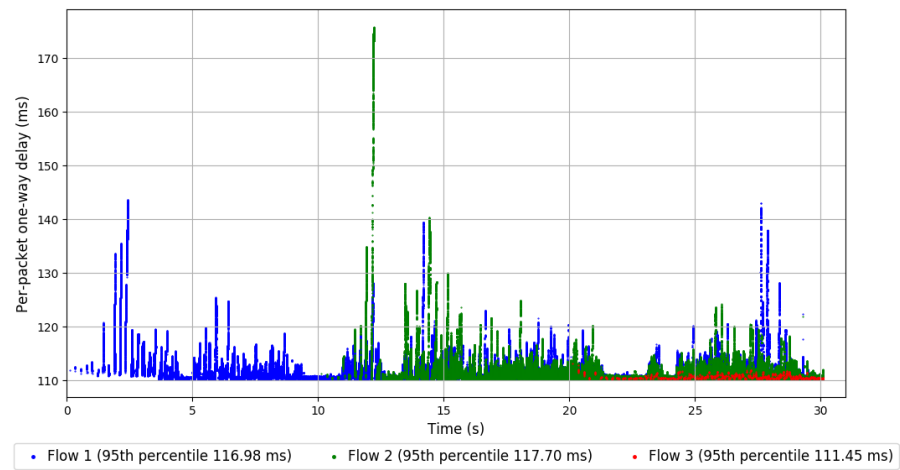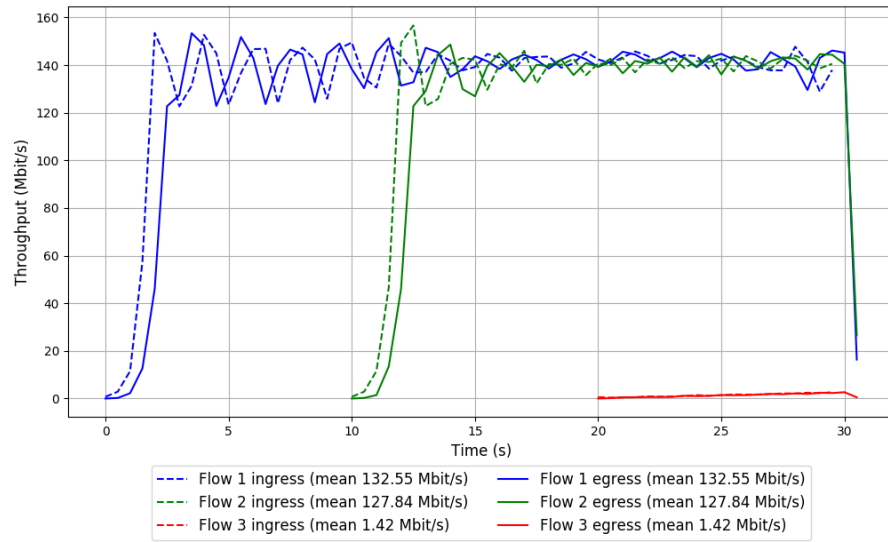
Run 9: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 51.99 Mbit/s) — Flow 1 egress (mean 51.98 Mbit/s)
Flow 2 ingress (mean 150.38 Mbit/s) — Flow 2 egress (mean 150.34 Mbit/s)
Flow 3 ingress (mean 31.89 Mbit/s) — Flow 3 egress (mean 31.81 Mbit/s)

Flow 1 (95th percentile 116.37 ms)   Flow 2 (95th percentile 162.84 ms)   Flow 3 (95th percentile 121.77 ms)

```
Run 10: Statistics of TCP Vegas

Start at: 2018-08-09 10:04:40
End at: 2018-08-09 10:05:10
Local clock offset: -0.727 ms
Remote clock offset: -0.632 ms


# Below is generated by plot.py at 2018-08-09 12:53:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 218.19 Mbit/s
95th percentile per-packet one-way delay: 117.184 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 132.55 Mbit/s
95th percentile per-packet one-way delay: 116.976 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 127.84 Mbit/s
95th percentile per-packet one-way delay: 117.696 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 111.452 ms
Loss rate: 0.25%
```

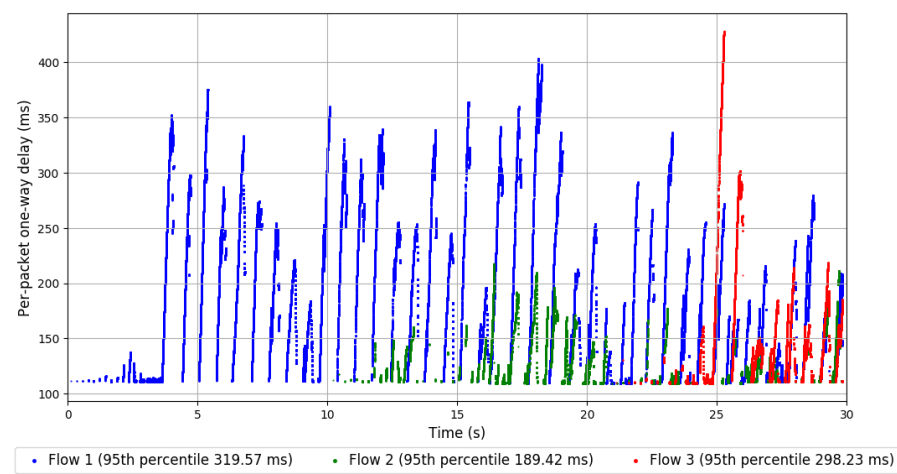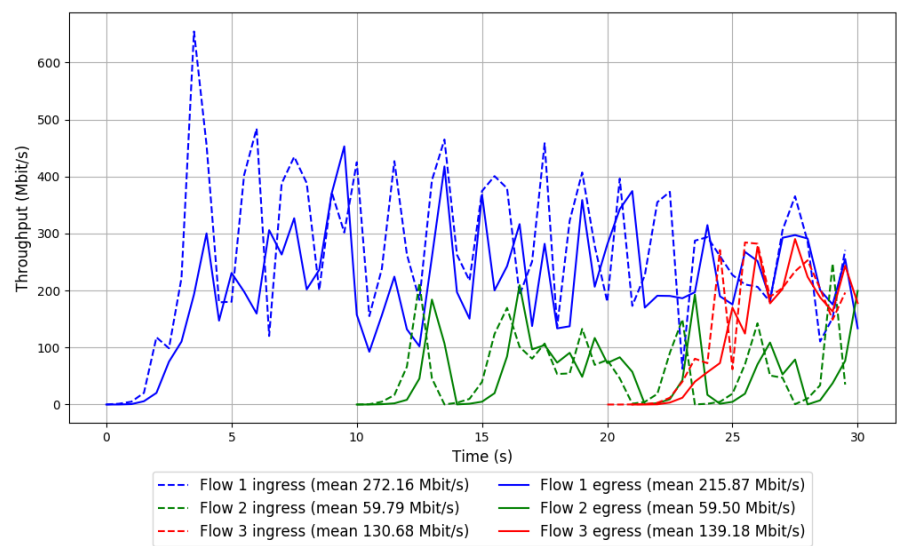## Run 10: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 132.55 Mbit/s) --- Flow 1 egress (mean 132.55 Mbit/s)
Flow 2 ingress (mean 127.84 Mbit/s) --- Flow 2 egress (mean 127.84 Mbit/s)
Flow 3 ingress (mean 1.42 Mbit/s) --- Flow 3 egress (mean 1.42 Mbit/s)

Flow 1 (95th percentile 116.98 ms)   Flow 2 (95th percentile 117.70 ms)   Flow 3 (95th percentile 111.45 ms)

```
Run 1: Statistics of Verus

Start at: 2018-08-09 05:59:37
End at: 2018-08-09 06:00:07
Local clock offset: -0.288 ms
Remote clock offset: -0.051 ms


# Below is generated by plot.py at 2018-08-09 12:55:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.87 Mbit/s
95th percentile per-packet one-way delay: 314.331 ms
Loss rate: 16.48%
-- Flow 1:
Average throughput: 215.87 Mbit/s
95th percentile per-packet one-way delay: 319.568 ms
Loss rate: 20.68%
-- Flow 2:
Average throughput: 59.50 Mbit/s
95th percentile per-packet one-way delay: 189.420 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 139.18 Mbit/s
95th percentile per-packet one-way delay: 298.234 ms
Loss rate: 4.46%
```
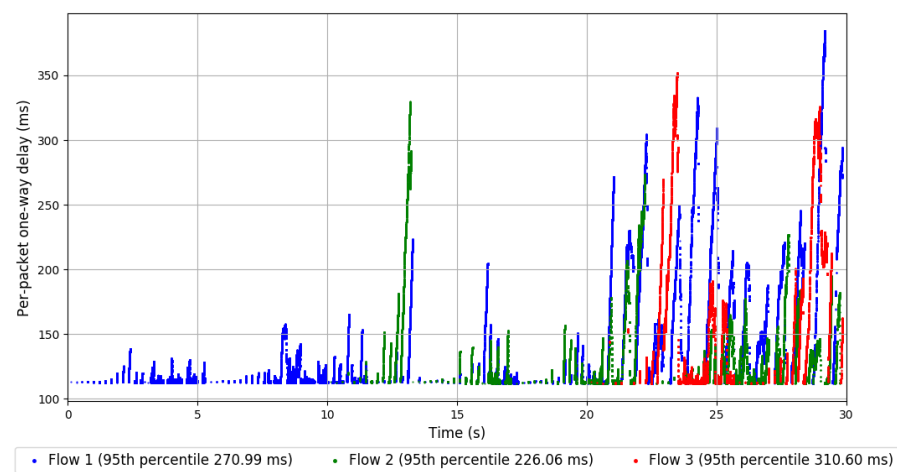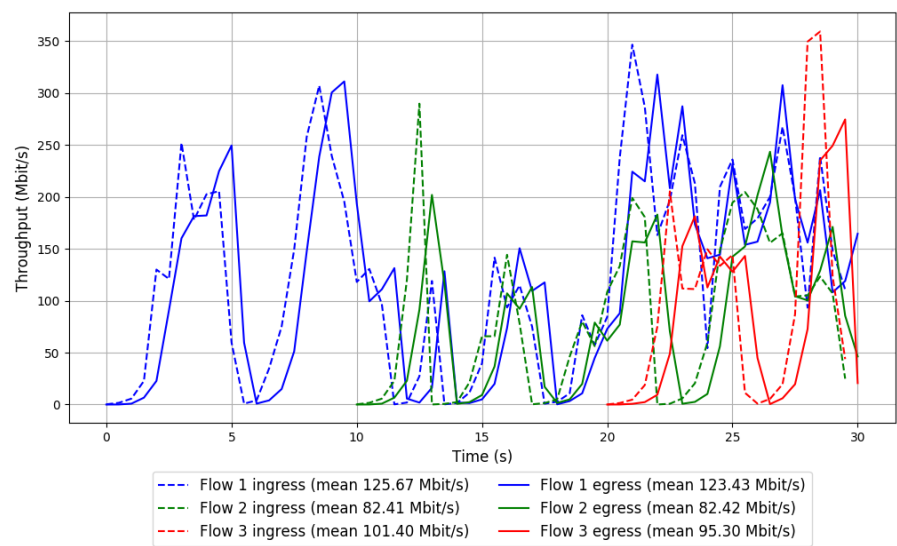
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 272.16 Mbit/s)   Flow 1 egress (mean 215.87 Mbit/s)
Flow 2 ingress (mean 59.79 Mbit/s)   Flow 2 egress (mean 59.50 Mbit/s)
Flow 3 ingress (mean 130.68 Mbit/s)   Flow 3 egress (mean 139.18 Mbit/s)

Flow 1 (95th percentile 319.57 ms)   Flow 2 (95th percentile 189.42 ms)   Flow 3 (95th percentile 298.23 ms)
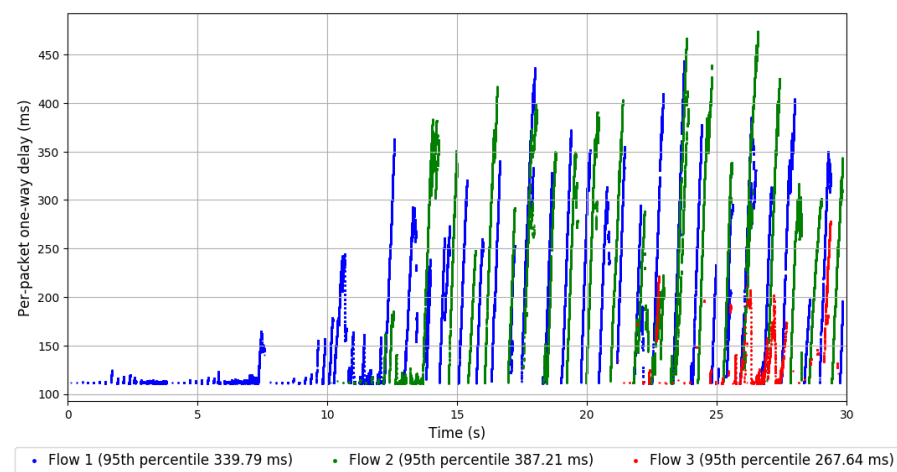
```
Run 2: Statistics of Verus

Start at: 2018-08-09 06:26:18
End at: 2018-08-09 06:26:48
Local clock offset: -1.385 ms
Remote clock offset: -0.262 ms


# Below is generated by plot.py at 2018-08-09 12:55:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 208.87 Mbit/s
95th percentile per-packet one-way delay: 278.593 ms
Loss rate: 1.86%
-- Flow 1:
Average throughput: 123.43 Mbit/s
95th percentile per-packet one-way delay: 270.985 ms
Loss rate: 1.67%
-- Flow 2:
Average throughput: 82.42 Mbit/s
95th percentile per-packet one-way delay: 226.065 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 95.30 Mbit/s
95th percentile per-packet one-way delay: 310.603 ms
Loss rate: 5.65%
```

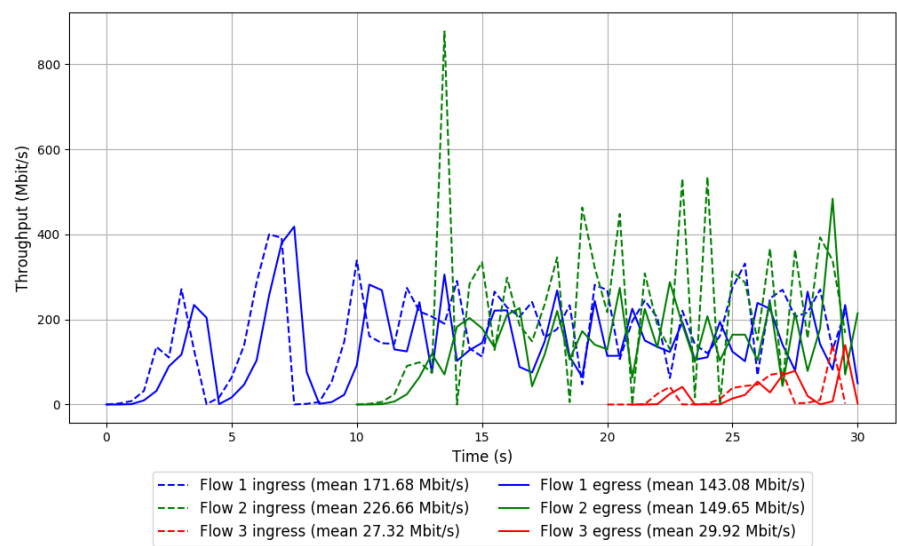## Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-08-09 06:52:56
End at: 2018-08-09 06:53:26
Local clock offset: -0.151 ms
Remote clock offset: -0.428 ms


# Below is generated by plot.py at 2018-08-09 12:55:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 250.75 Mbit/s
95th percentile per-packet one-way delay: 365.788 ms
Loss rate: 23.94%
-- Flow 1:
Average throughput: 143.08 Mbit/s
95th percentile per-packet one-way delay: 339.792 ms
Loss rate: 16.66%
-- Flow 2:
Average throughput: 149.65 Mbit/s
95th percentile per-packet one-way delay: 387.212 ms
Loss rate: 33.58%
-- Flow 3:
Average throughput: 29.92 Mbit/s
95th percentile per-packet one-way delay: 267.638 ms
Loss rate: 2.18%
```

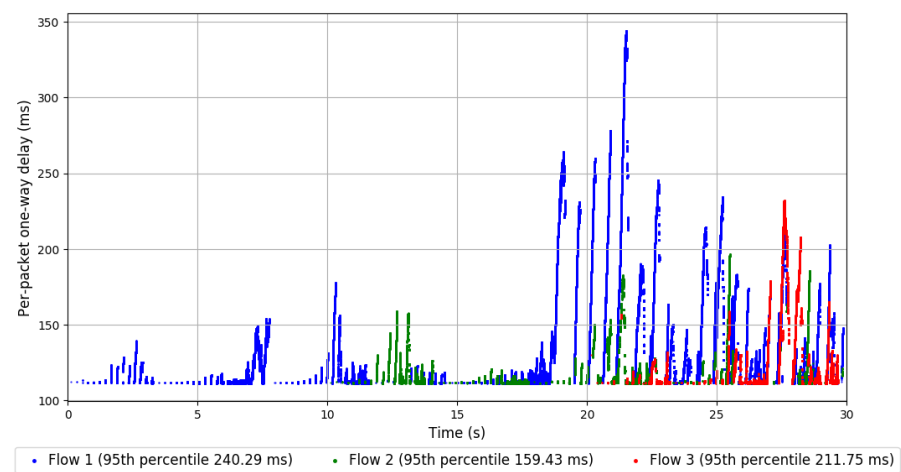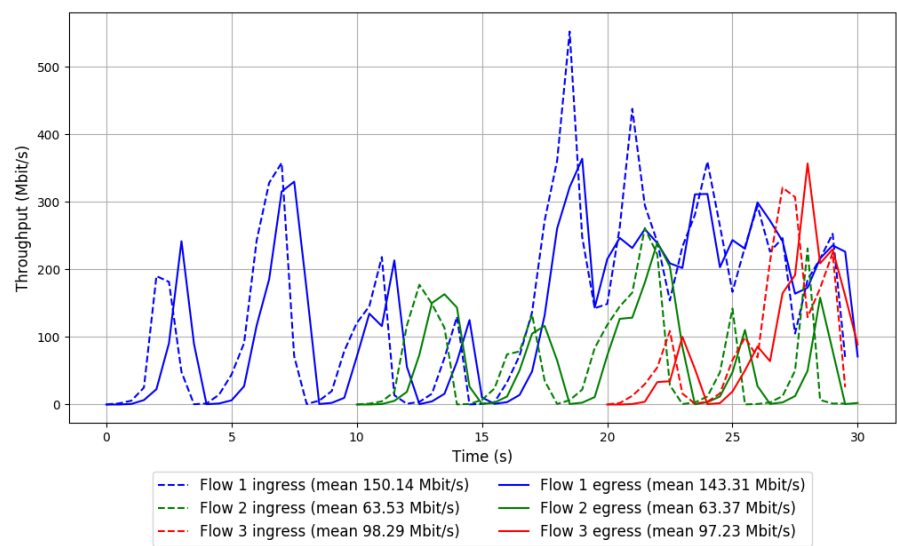# Run 3: Report of Verus — Data Link

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```
Run 4: Statistics of Verus

Start at: 2018-08-09 07:19:40
End at: 2018-08-09 07:20:10
Local clock offset: -0.237 ms
Remote clock offset: -0.162 ms


# Below is generated by plot.py at 2018-08-09 12:55:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 216.42 Mbit/s
95th percentile per-packet one-way delay: 226.228 ms
Loss rate: 3.24%
-- Flow 1:
Average throughput: 143.31 Mbit/s
95th percentile per-packet one-way delay: 240.292 ms
Loss rate: 4.50%
-- Flow 2:
Average throughput: 63.37 Mbit/s
95th percentile per-packet one-way delay: 159.427 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 97.23 Mbit/s
95th percentile per-packet one-way delay: 211.749 ms
Loss rate: 1.27%
```

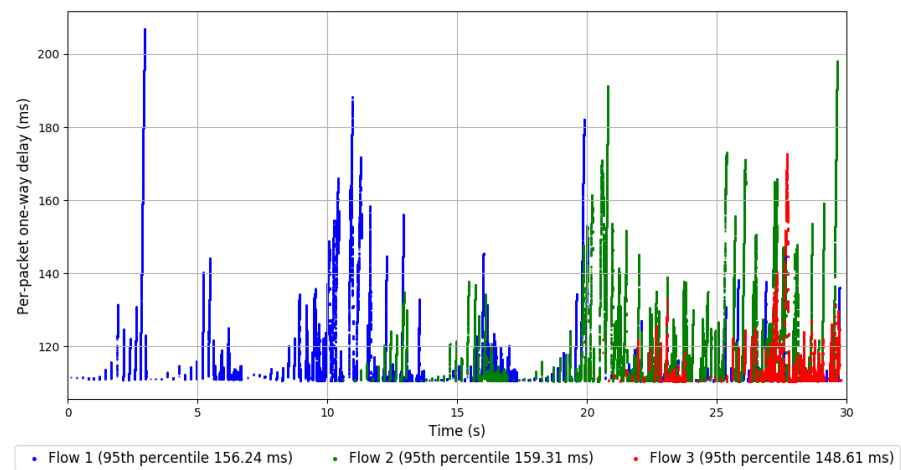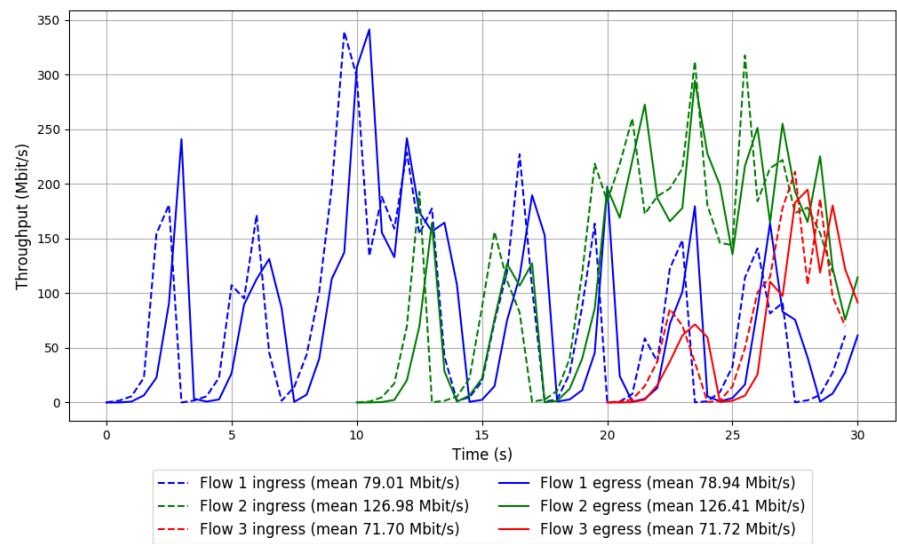Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-08-09 07:46:35
End at: 2018-08-09 07:47:05
Local clock offset: 0.019 ms
Remote clock offset: -0.455 ms


# Below is generated by plot.py at 2018-08-09 12:55:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 185.03 Mbit/s
95th percentile per-packet one-way delay: 157.105 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 78.94 Mbit/s
95th percentile per-packet one-way delay: 156.244 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 126.41 Mbit/s
95th percentile per-packet one-way delay: 159.312 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 71.72 Mbit/s
95th percentile per-packet one-way delay: 148.609 ms
Loss rate: 0.00%
```

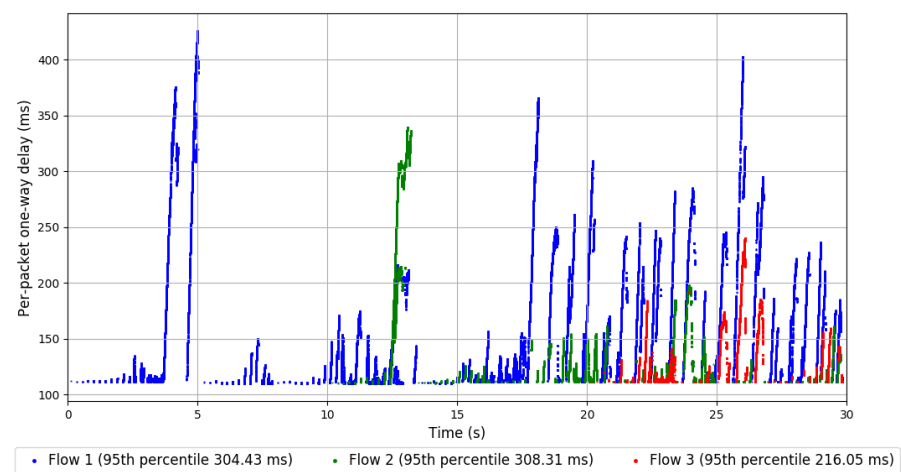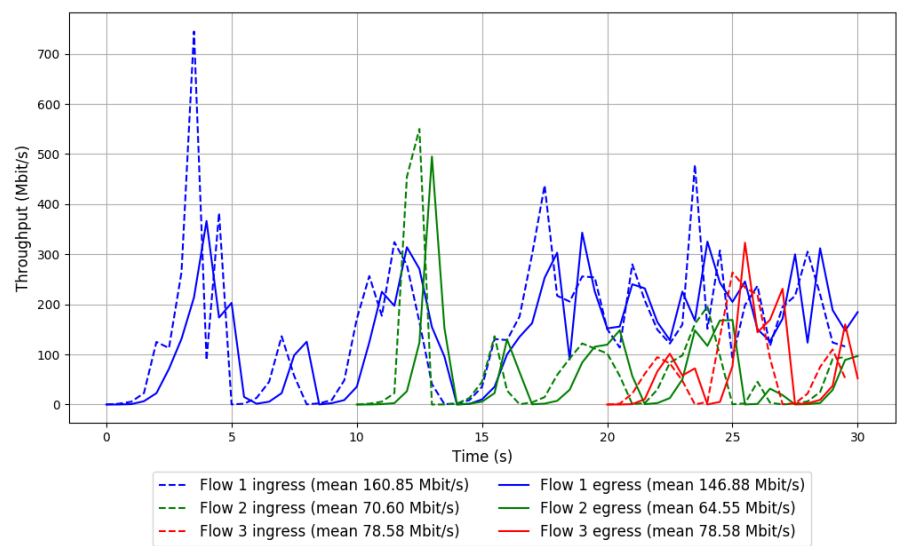# Run 5: Report of Verus — Data Link

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```
Run 6: Statistics of Verus

Start at: 2018-08-09 08:13:18
End at: 2018-08-09 08:13:48
Local clock offset: -0.194 ms
Remote clock offset: -0.208 ms


# Below is generated by plot.py at 2018-08-09 12:56:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 214.98 Mbit/s
95th percentile per-packet one-way delay: 304.841 ms
Loss rate: 7.69%
-- Flow 1:
Average throughput: 146.88 Mbit/s
95th percentile per-packet one-way delay: 304.425 ms
Loss rate: 8.69%
-- Flow 2:
Average throughput: 64.55 Mbit/s
95th percentile per-packet one-way delay: 308.310 ms
Loss rate: 8.46%
-- Flow 3:
Average throughput: 78.58 Mbit/s
95th percentile per-packet one-way delay: 216.052 ms
Loss rate: 0.01%
```

Run 6: Report of Verus — Data Link

```
Run 7: Statistics of Verus

Start at: 2018-08-09 08:39:42
End at: 2018-08-09 08:40:12
Local clock offset: -1.279 ms
Remote clock offset: 0.231 ms

# Below is generated by plot.py at 2018-08-09 12:56:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 188.32 Mbit/s
95th percentile per-packet one-way delay: 247.175 ms
Loss rate: 5.79%
-- Flow 1:
Average throughput: 85.19 Mbit/s
95th percentile per-packet one-way delay: 303.067 ms
Loss rate: 9.54%
-- Flow 2:
Average throughput: 132.00 Mbit/s
95th percentile per-packet one-way delay: 177.433 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 48.56 Mbit/s
95th percentile per-packet one-way delay: 353.258 ms
Loss rate: 9.77%
```
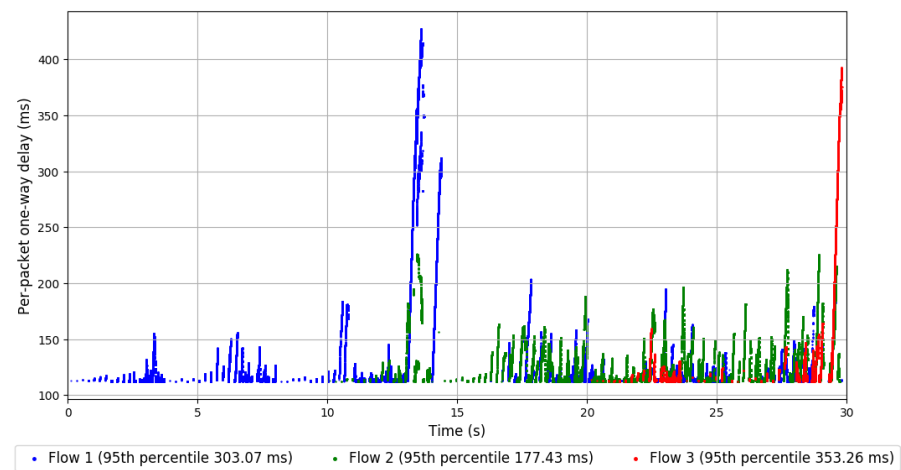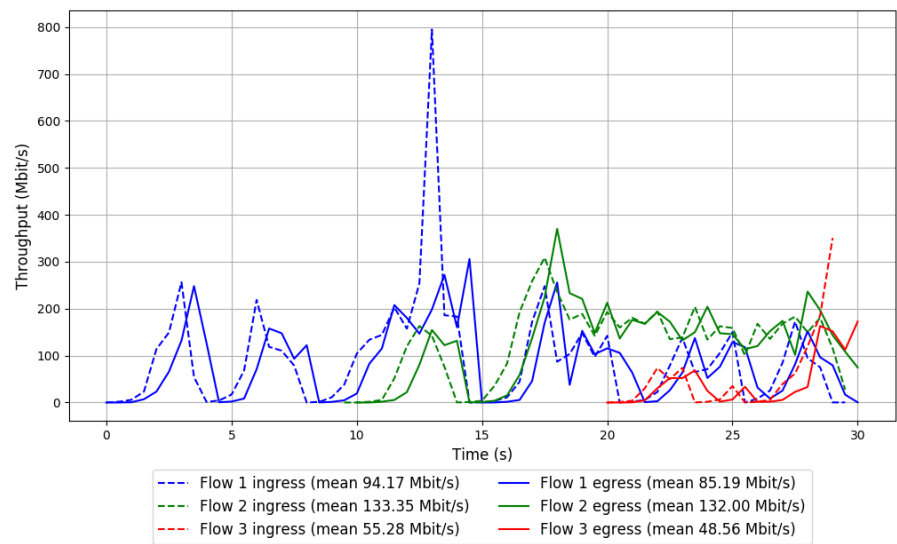
Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2018-08-09 09:06:14
End at: 2018-08-09 09:06:44
Local clock offset: -0.03 ms
Remote clock offset: 0.17 ms


# Below is generated by plot.py at 2018-08-09 12:58:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 257.38 Mbit/s
95th percentile per-packet one-way delay: 282.875 ms
Loss rate: 5.73%
-- Flow 1:
Average throughput: 144.09 Mbit/s
95th percentile per-packet one-way delay: 229.943 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 164.36 Mbit/s
95th percentile per-packet one-way delay: 320.061 ms
Loss rate: 11.07%
-- Flow 3:
Average throughput: 13.71 Mbit/s
95th percentile per-packet one-way delay: 158.092 ms
Loss rate: 3.70%
```
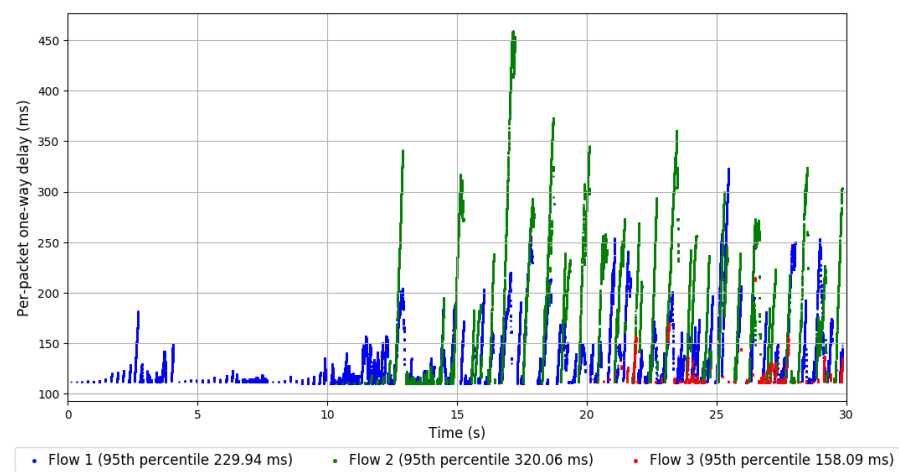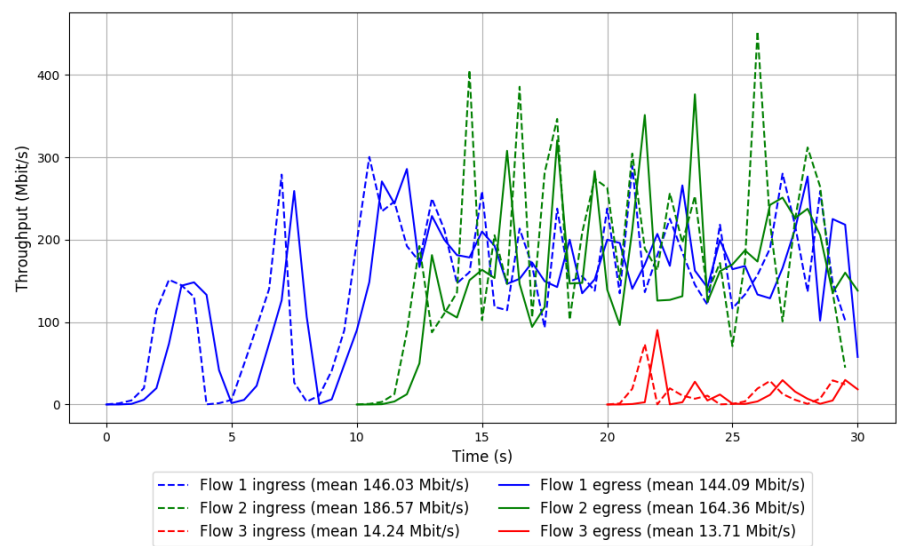
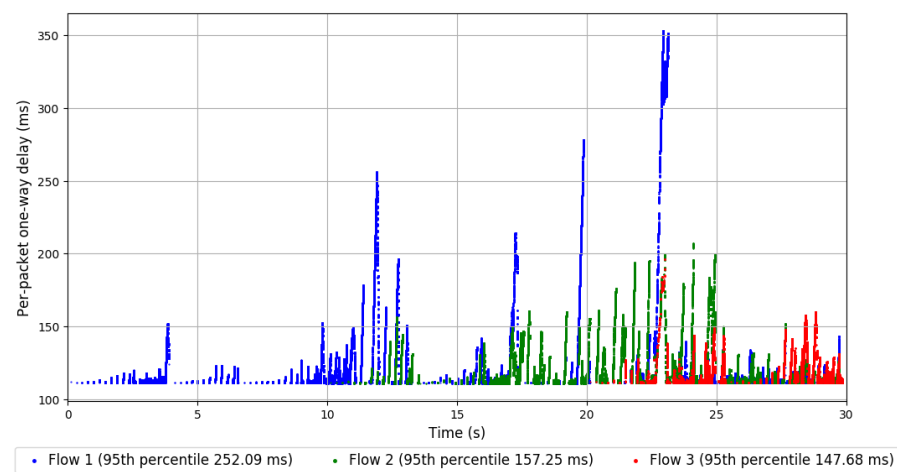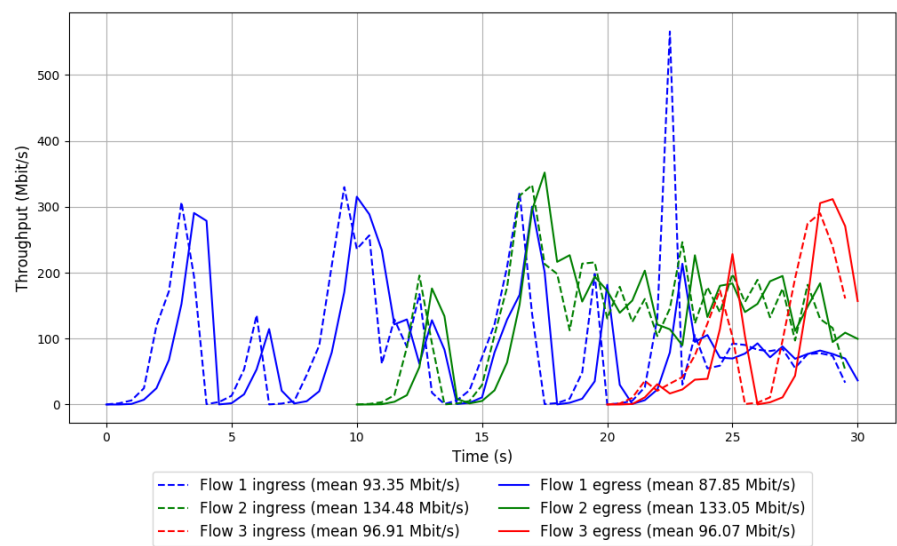## Run 8: Report of Verus — Data Link

```
Run 9: Statistics of Verus

Start at: 2018-08-09 09:32:33
End at: 2018-08-09 09:33:03
Local clock offset: -0.095 ms
Remote clock offset: -0.423 ms


# Below is generated by plot.py at 2018-08-09 12:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 206.96 Mbit/s
95th percentile per-packet one-way delay: 178.405 ms
Loss rate: 3.13%
-- Flow 1:
Average throughput: 87.85 Mbit/s
95th percentile per-packet one-way delay: 252.090 ms
Loss rate: 5.89%
-- Flow 2:
Average throughput: 133.05 Mbit/s
95th percentile per-packet one-way delay: 157.252 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 96.07 Mbit/s
95th percentile per-packet one-way delay: 147.682 ms
Loss rate: 0.89%
```

Run 9: Report of Verus — Data Link

Flow 1 ingress (mean 93.35 Mbit/s)
Flow 2 ingress (mean 134.48 Mbit/s)
Flow 3 ingress (mean 96.91 Mbit/s)
Flow 1 egress (mean 87.85 Mbit/s)
Flow 2 egress (mean 133.05 Mbit/s)
Flow 3 egress (mean 96.07 Mbit/s)

Flow 1 (95th percentile 252.09 ms)
Flow 2 (95th percentile 157.25 ms)
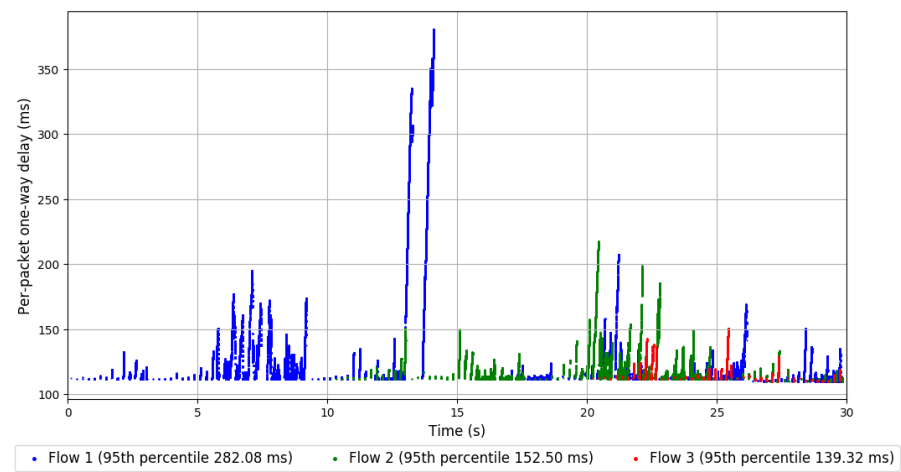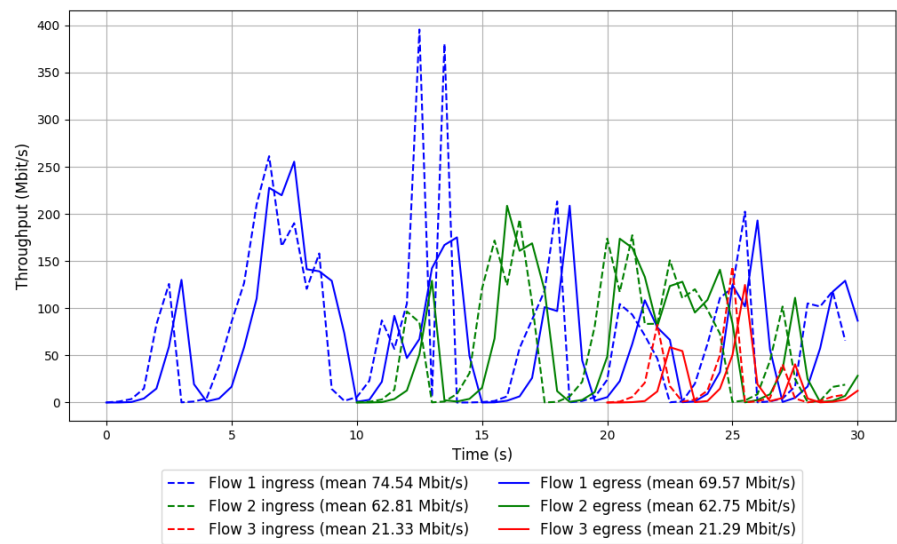Flow 3 (95th percentile 147.68 ms)

```
Run 10: Statistics of Verus

Start at: 2018-08-09 09:59:17
End at: 2018-08-09 09:59:47
Local clock offset: 0.144 ms
Remote clock offset: -0.277 ms


# Below is generated by plot.py at 2018-08-09 12:58:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 118.00 Mbit/s
95th percentile per-packet one-way delay: 198.068 ms
Loss rate: 4.08%
-- Flow 1:
Average throughput: 69.57 Mbit/s
95th percentile per-packet one-way delay: 282.085 ms
Loss rate: 6.66%
-- Flow 2:
Average throughput: 62.75 Mbit/s
95th percentile per-packet one-way delay: 152.500 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 21.29 Mbit/s
95th percentile per-packet one-way delay: 139.318 ms
Loss rate: 0.16%
```

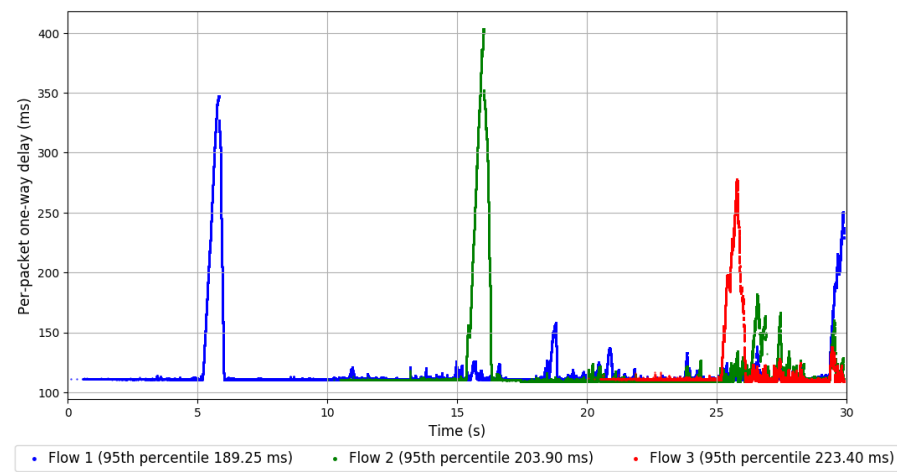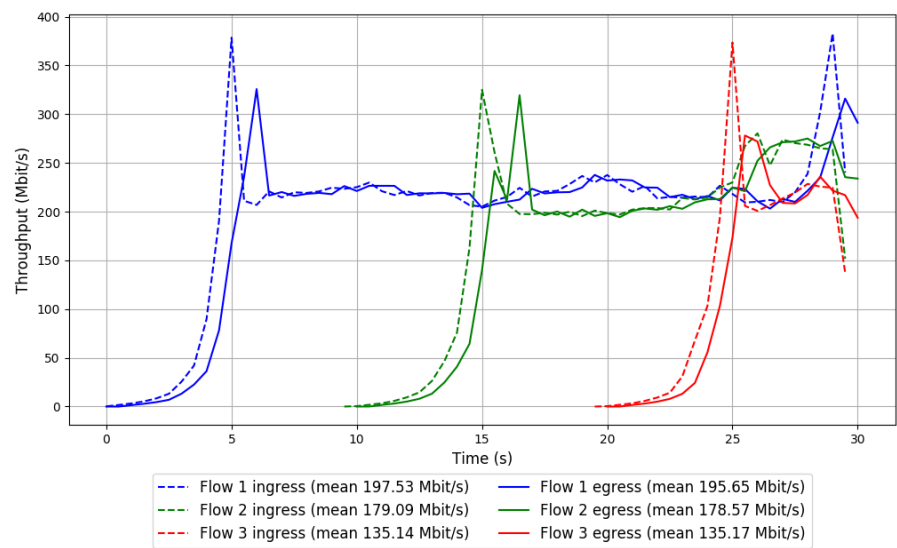## Run 10: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-08-09 06:20:08
End at: 2018-08-09 06:20:38
Local clock offset: -0.122 ms
Remote clock offset: -0.188 ms


# Below is generated by plot.py at 2018-08-09 13:00:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 359.49 Mbit/s
95th percentile per-packet one-way delay: 200.918 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 195.65 Mbit/s
95th percentile per-packet one-way delay: 189.245 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 178.57 Mbit/s
95th percentile per-packet one-way delay: 203.903 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 135.17 Mbit/s
95th percentile per-packet one-way delay: 223.396 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 197.53 Mbit/s)   Flow 1 egress (mean 195.65 Mbit/s)
Flow 2 ingress (mean 179.09 Mbit/s)   Flow 2 egress (mean 178.57 Mbit/s)
Flow 3 ingress (mean 135.14 Mbit/s)   Flow 3 egress (mean 135.17 Mbit/s)

Flow 1 (95th percentile 189.25 ms)   Flow 2 (95th percentile 203.90 ms)   Flow 3 (95th percentile 223.40 ms)
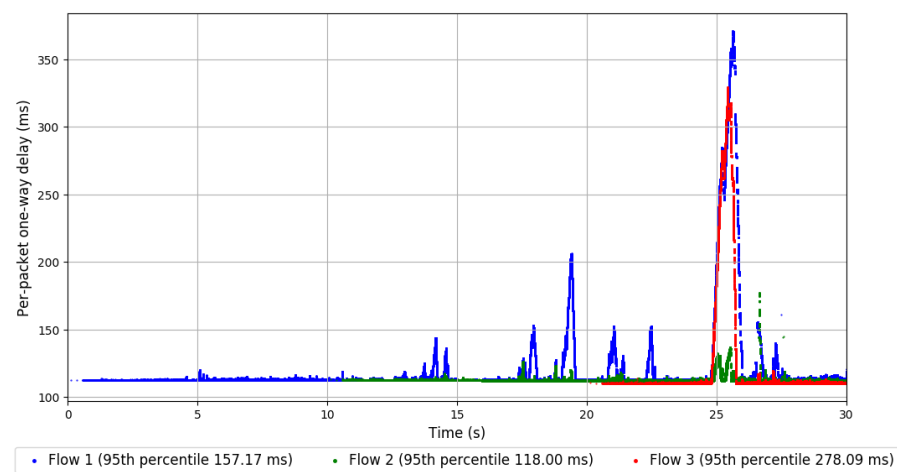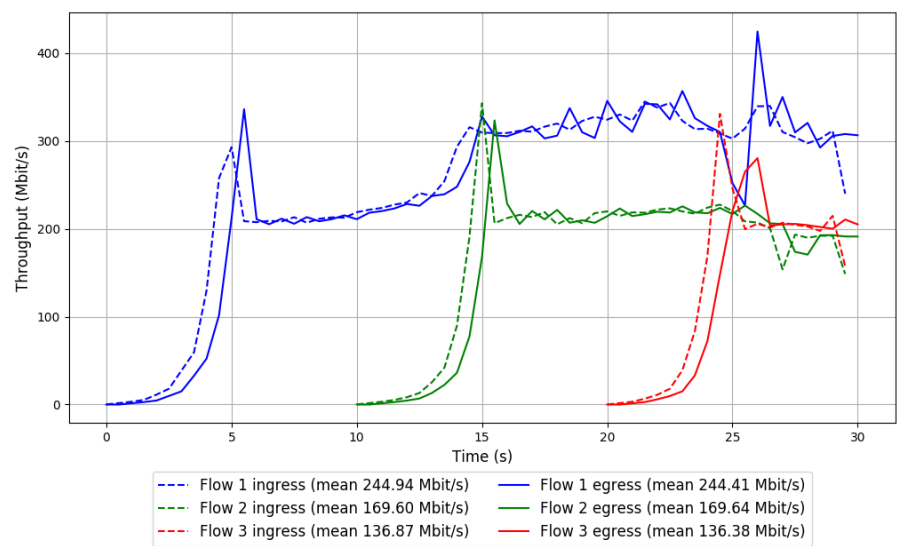
```
Run 2: Statistics of PCC-Vivace

Start at: 2018-08-09 06:46:27
End at: 2018-08-09 06:46:57
Local clock offset: -1.277 ms
Remote clock offset: -0.119 ms


# Below is generated by plot.py at 2018-08-09 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 402.18 Mbit/s
95th percentile per-packet one-way delay: 155.350 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 244.41 Mbit/s
95th percentile per-packet one-way delay: 157.172 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 169.64 Mbit/s
95th percentile per-packet one-way delay: 117.996 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 136.38 Mbit/s
95th percentile per-packet one-way delay: 278.088 ms
Loss rate: 0.36%
```

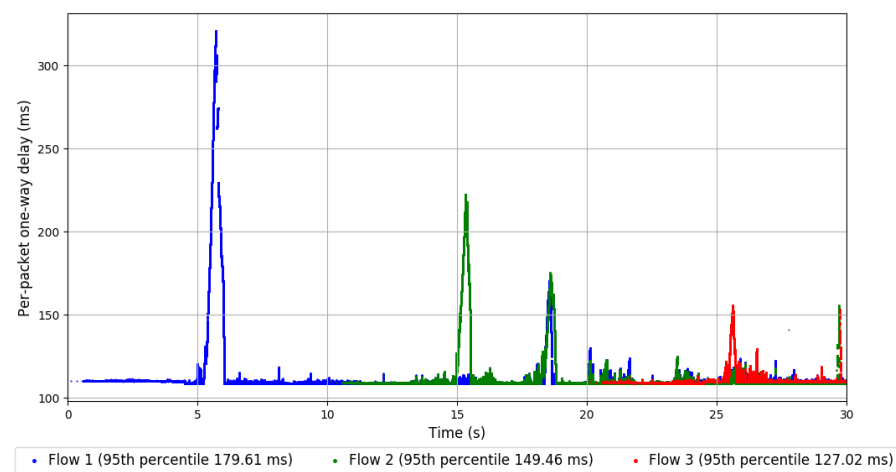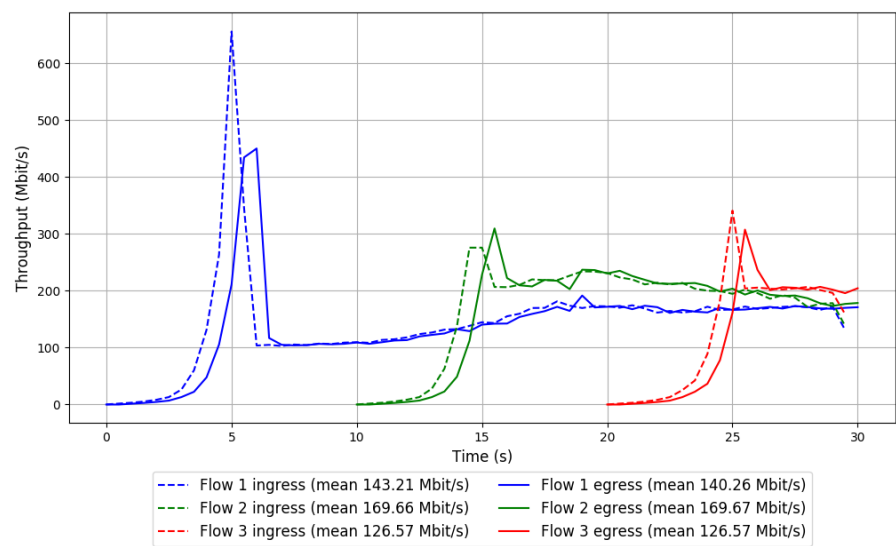# Run 2: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 244.94 Mbit/s) — Flow 1 egress (mean 244.41 Mbit/s)
Flow 2 ingress (mean 169.60 Mbit/s) — Flow 2 egress (mean 169.64 Mbit/s)
Flow 3 ingress (mean 136.87 Mbit/s) — Flow 3 egress (mean 136.38 Mbit/s)

Flow 1 (95th percentile 157.17 ms)   Flow 2 (95th percentile 118.00 ms)   Flow 3 (95th percentile 278.09 ms)

307

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-08-09 07:13:19
End at: 2018-08-09 07:13:49
Local clock offset: 1.009 ms
Remote clock offset: -0.494 ms


# Below is generated by plot.py at 2018-08-09 13:02:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.85 Mbit/s
95th percentile per-packet one-way delay: 155.079 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 140.26 Mbit/s
95th percentile per-packet one-way delay: 179.613 ms
Loss rate: 2.06%
-- Flow 2:
Average throughput: 169.67 Mbit/s
95th percentile per-packet one-way delay: 149.459 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 126.57 Mbit/s
95th percentile per-packet one-way delay: 127.024 ms
Loss rate: 0.00%
```

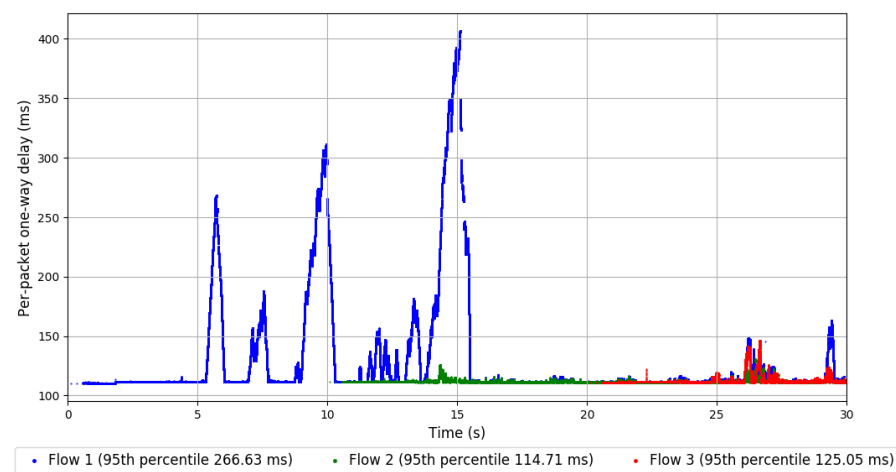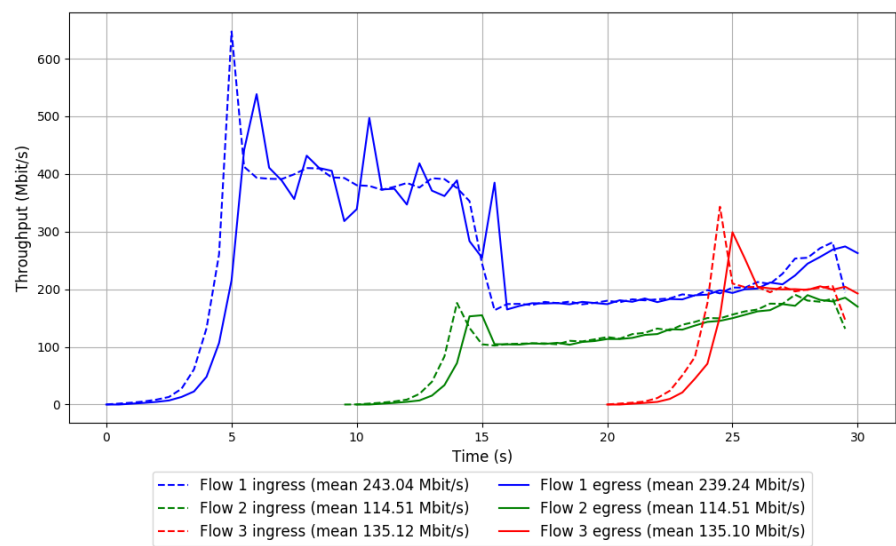## Run 3: Report of PCC-Vivace — Data Link

- - - - Flow 1 ingress (mean 143.21 Mbit/s) —— Flow 1 egress (mean 140.26 Mbit/s)
- - - - Flow 2 ingress (mean 169.66 Mbit/s) —— Flow 2 egress (mean 169.67 Mbit/s)
- - - - Flow 3 ingress (mean 126.57 Mbit/s) —— Flow 3 egress (mean 126.57 Mbit/s)

- Flow 1 (95th percentile 179.61 ms)   - Flow 2 (95th percentile 149.46 ms)   - Flow 3 (95th percentile 127.02 ms)

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-08-09 07:40:11
End at: 2018-08-09 07:40:41
Local clock offset: -0.032 ms
Remote clock offset: -0.145 ms


# Below is generated by plot.py at 2018-08-09 13:02:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 360.06 Mbit/s
95th percentile per-packet one-way delay: 235.101 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 239.24 Mbit/s
95th percentile per-packet one-way delay: 266.631 ms
Loss rate: 1.56%
-- Flow 2:
Average throughput: 114.51 Mbit/s
95th percentile per-packet one-way delay: 114.710 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 135.10 Mbit/s
95th percentile per-packet one-way delay: 125.048 ms
Loss rate: 0.01%
```

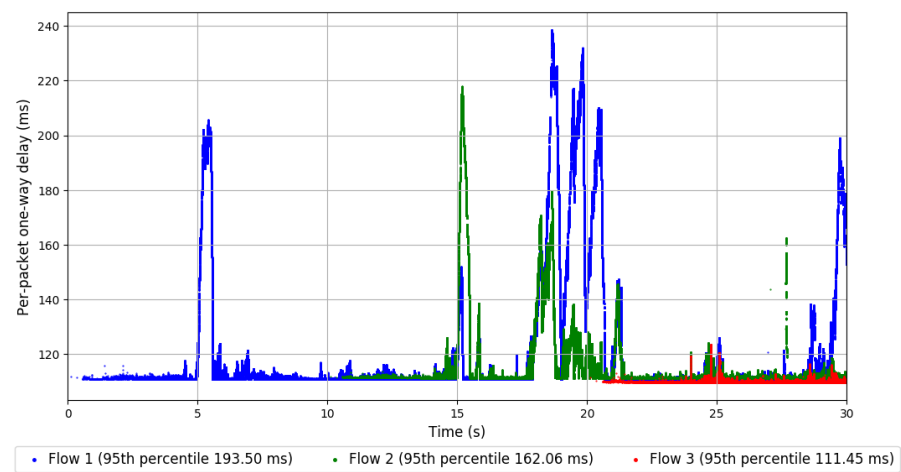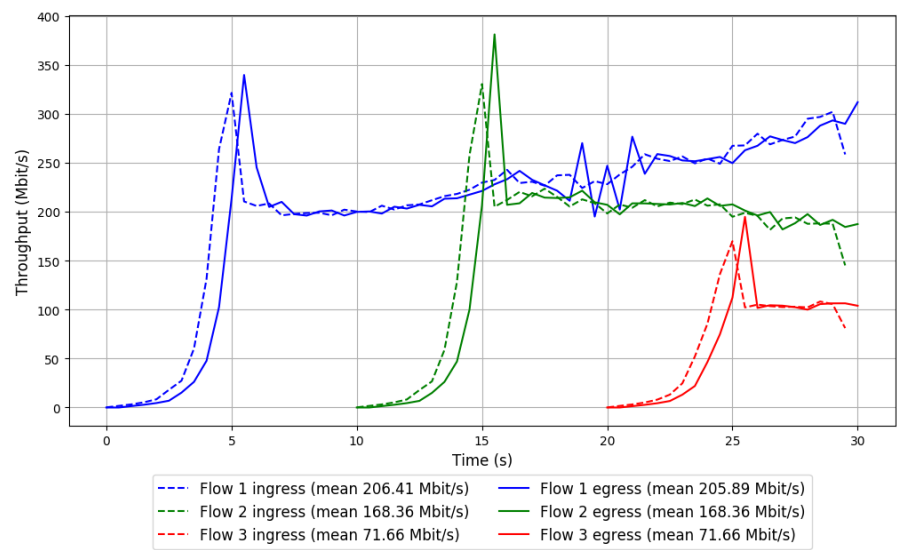# Run 4: Report of PCC-Vivace — Data Link

- - - - Flow 1 ingress (mean 243.04 Mbit/s) —— Flow 1 egress (mean 239.24 Mbit/s)
- - - - Flow 2 ingress (mean 114.51 Mbit/s) —— Flow 2 egress (mean 114.51 Mbit/s)
- - - - Flow 3 ingress (mean 135.12 Mbit/s) —— Flow 3 egress (mean 135.10 Mbit/s)

• Flow 1 (95th percentile 266.63 ms)   • Flow 2 (95th percentile 114.71 ms)   • Flow 3 (95th percentile 125.05 ms)
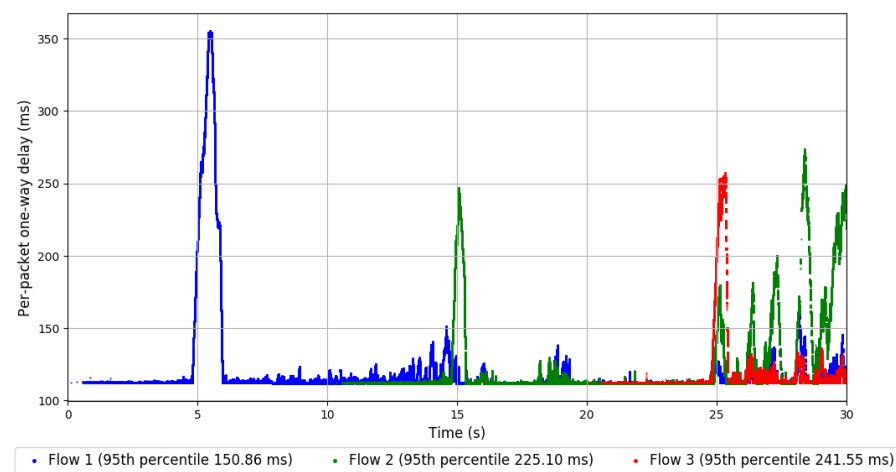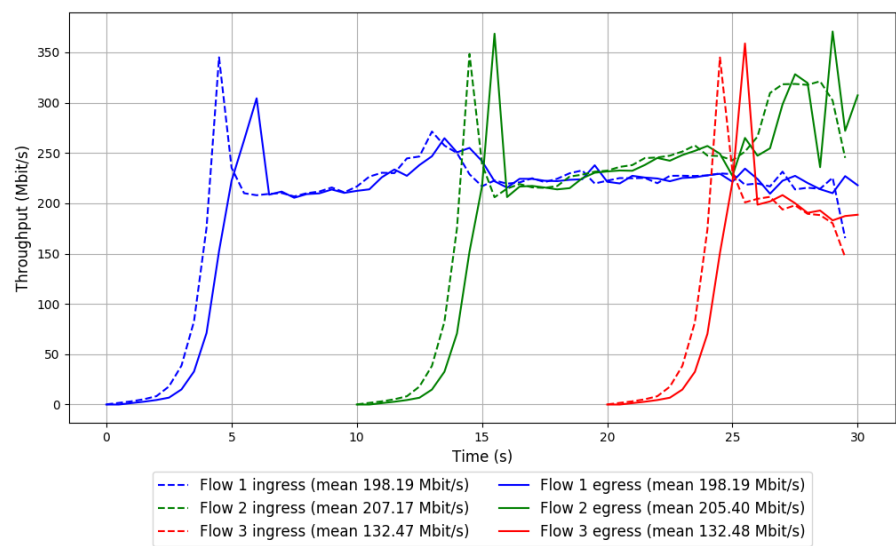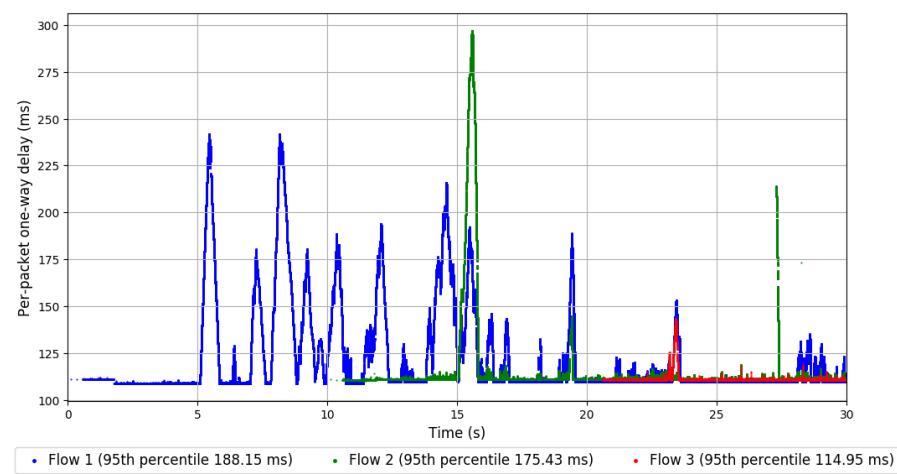
```
Run 5: Statistics of PCC-Vivace

Start at: 2018-08-09 08:07:03
End at: 2018-08-09 08:07:33
Local clock offset: -0.001 ms
Remote clock offset: -0.183 ms


# Below is generated by plot.py at 2018-08-09 13:02:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 341.49 Mbit/s
95th percentile per-packet one-way delay: 184.625 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 205.89 Mbit/s
95th percentile per-packet one-way delay: 193.495 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 168.36 Mbit/s
95th percentile per-packet one-way delay: 162.056 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 71.66 Mbit/s
95th percentile per-packet one-way delay: 111.451 ms
Loss rate: 0.00%
```
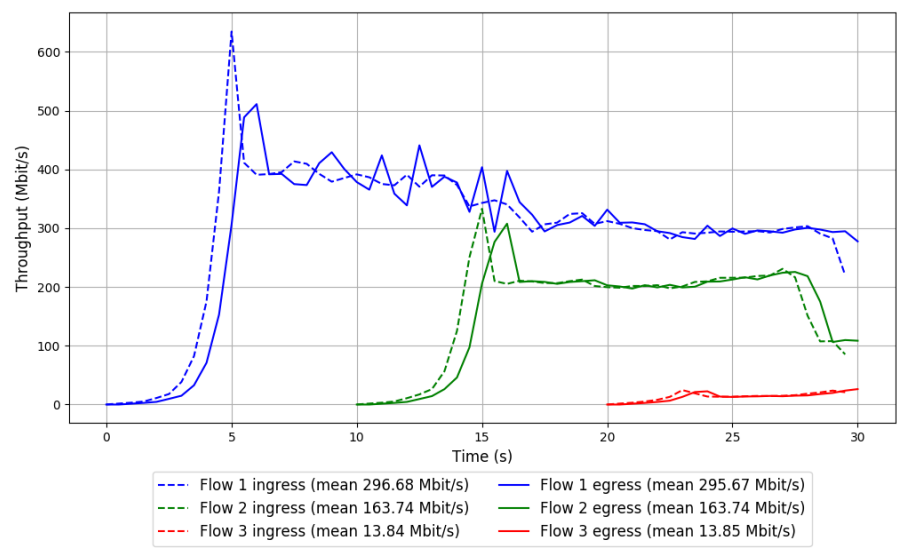
Run 5: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 206.41 Mbit/s) --- Flow 1 egress (mean 205.89 Mbit/s)
Flow 2 ingress (mean 168.36 Mbit/s) --- Flow 2 egress (mean 168.36 Mbit/s)
Flow 3 ingress (mean 71.66 Mbit/s) --- Flow 3 egress (mean 71.66 Mbit/s)

Flow 1 (95th percentile 193.50 ms)   Flow 2 (95th percentile 162.06 ms)   Flow 3 (95th percentile 111.45 ms)

313

```
Run 6: Statistics of PCC-Vivace

Start at: 2018-08-09 08:33:25
End at: 2018-08-09 08:33:55
Local clock offset: -1.512 ms
Remote clock offset: -0.332 ms


# Below is generated by plot.py at 2018-08-09 13:03:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 378.50 Mbit/s
95th percentile per-packet one-way delay: 220.972 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 198.19 Mbit/s
95th percentile per-packet one-way delay: 150.857 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 205.40 Mbit/s
95th percentile per-packet one-way delay: 225.104 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 132.48 Mbit/s
95th percentile per-packet one-way delay: 241.554 ms
Loss rate: 0.00%
```

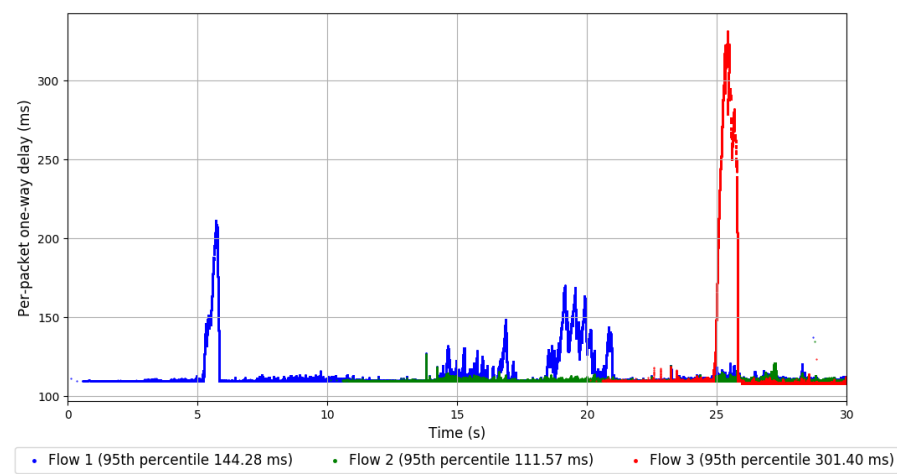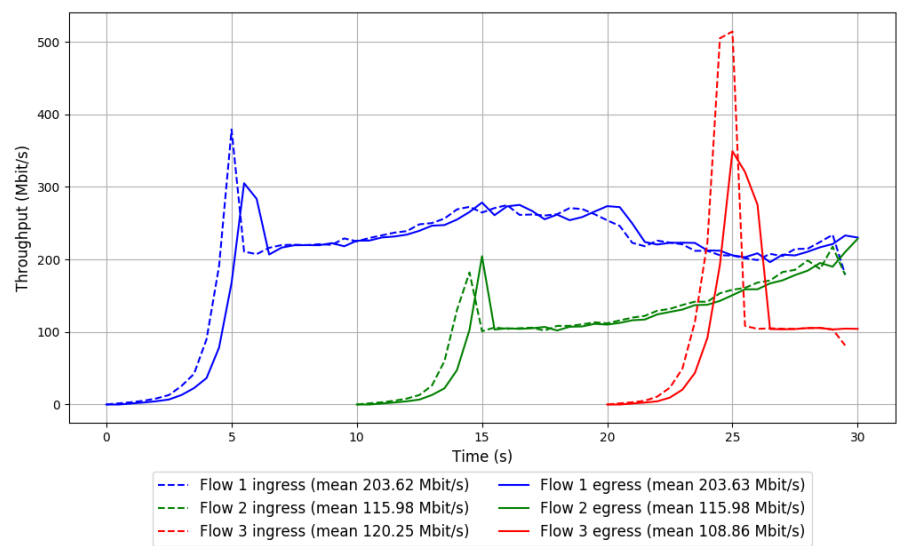# Run 6: Report of PCC-Vivace — Data Link

315

```
Run 7: Statistics of PCC-Vivace

Start at: 2018-08-09 09:00:01
End at: 2018-08-09 09:00:31
Local clock offset: 0.06 ms
Remote clock offset: -0.542 ms


# Below is generated by plot.py at 2018-08-09 13:03:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 409.12 Mbit/s
95th percentile per-packet one-way delay: 186.561 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 295.67 Mbit/s
95th percentile per-packet one-way delay: 188.146 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 163.74 Mbit/s
95th percentile per-packet one-way delay: 175.428 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 13.85 Mbit/s
95th percentile per-packet one-way delay: 114.947 ms
Loss rate: 0.00%
```
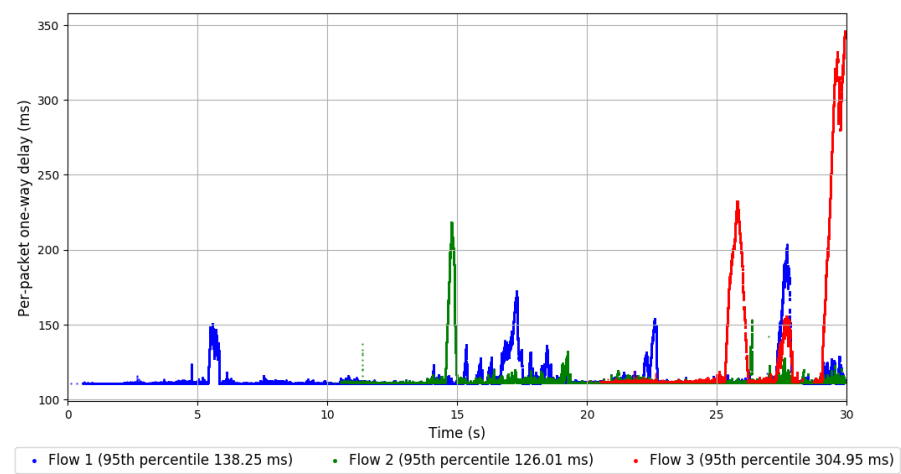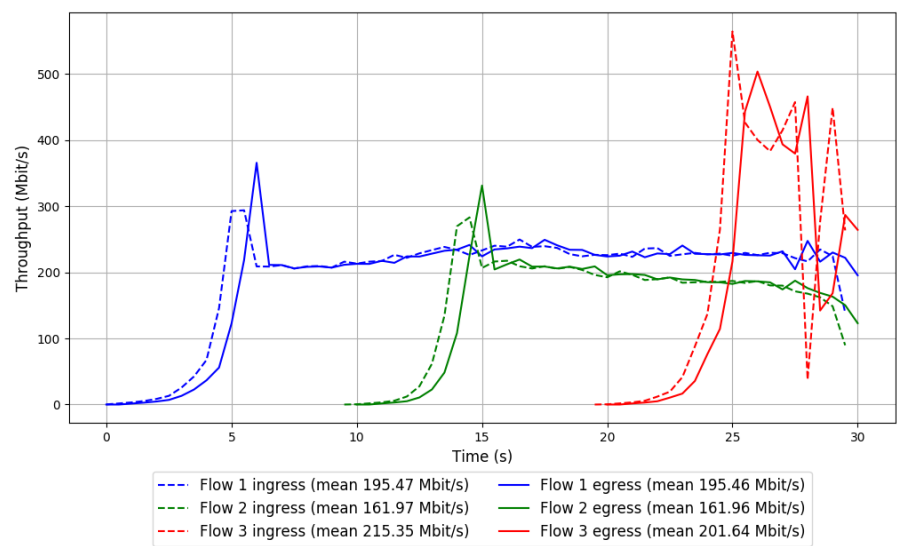
Run 7: Report of PCC-Vivace — Data Link

```
Run 8: Statistics of PCC-Vivace

Start at: 2018-08-09 09:26:17
End at: 2018-08-09 09:26:47
Local clock offset: 1.157 ms
Remote clock offset: -0.273 ms


# Below is generated by plot.py at 2018-08-09 13:03:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 316.69 Mbit/s
95th percentile per-packet one-way delay: 149.056 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 203.63 Mbit/s
95th percentile per-packet one-way delay: 144.283 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 115.98 Mbit/s
95th percentile per-packet one-way delay: 111.573 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 108.86 Mbit/s
95th percentile per-packet one-way delay: 301.400 ms
Loss rate: 9.49%
```

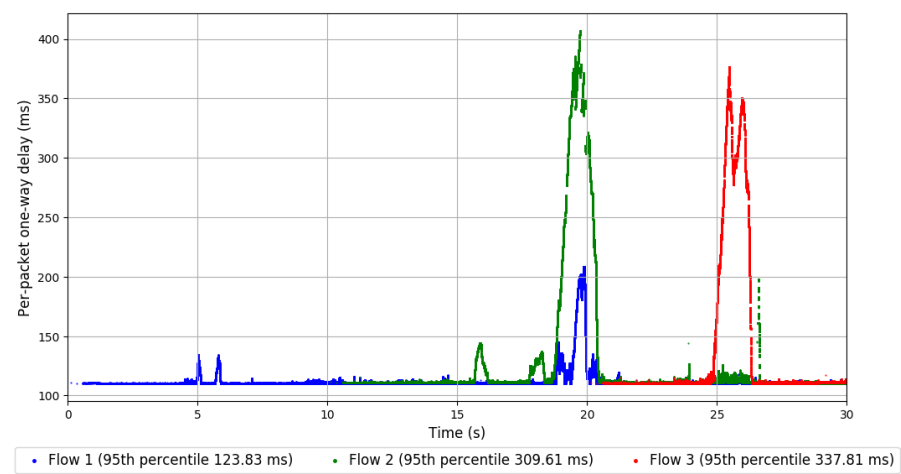## Run 8: Report of PCC-Vivace — Data Link

```
Run 9: Statistics of PCC-Vivace

Start at: 2018-08-09 09:52:57
End at: 2018-08-09 09:53:27
Local clock offset: -0.074 ms
Remote clock offset: -0.294 ms


# Below is generated by plot.py at 2018-08-09 13:04:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 370.19 Mbit/s
95th percentile per-packet one-way delay: 183.612 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 195.46 Mbit/s
95th percentile per-packet one-way delay: 138.250 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 161.96 Mbit/s
95th percentile per-packet one-way delay: 126.008 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 201.64 Mbit/s
95th percentile per-packet one-way delay: 304.949 ms
Loss rate: 6.36%
```

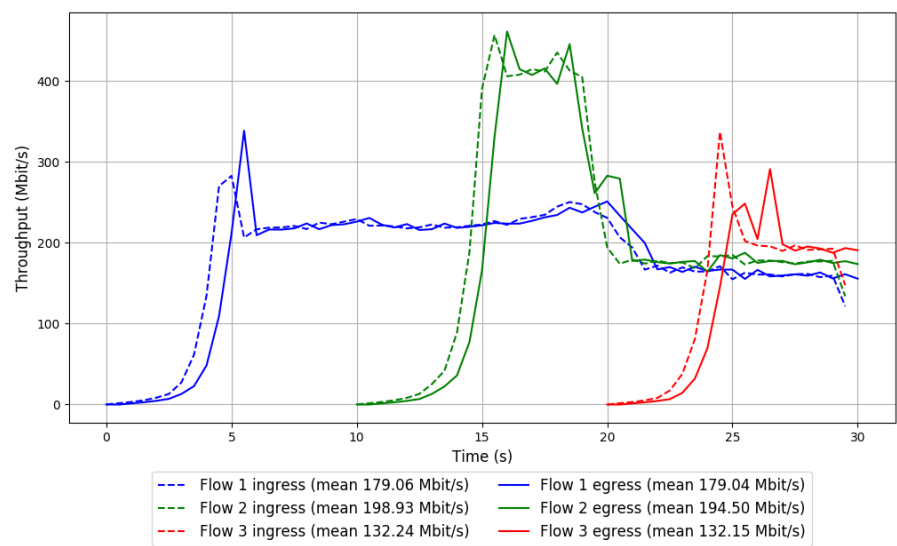# Run 9: Report of PCC-Vivace — Data Link

```
Run 10: Statistics of PCC-Vivace

Start at: 2018-08-09 10:20:06
End at: 2018-08-09 10:20:36
Local clock offset: -0.15 ms
Remote clock offset: -0.739 ms


# Below is generated by plot.py at 2018-08-09 13:04:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 351.95 Mbit/s
95th percentile per-packet one-way delay: 248.020 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 179.04 Mbit/s
95th percentile per-packet one-way delay: 123.835 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 194.50 Mbit/s
95th percentile per-packet one-way delay: 309.614 ms
Loss rate: 2.24%
-- Flow 3:
Average throughput: 132.15 Mbit/s
95th percentile per-packet one-way delay: 337.809 ms
Loss rate: 0.07%
```

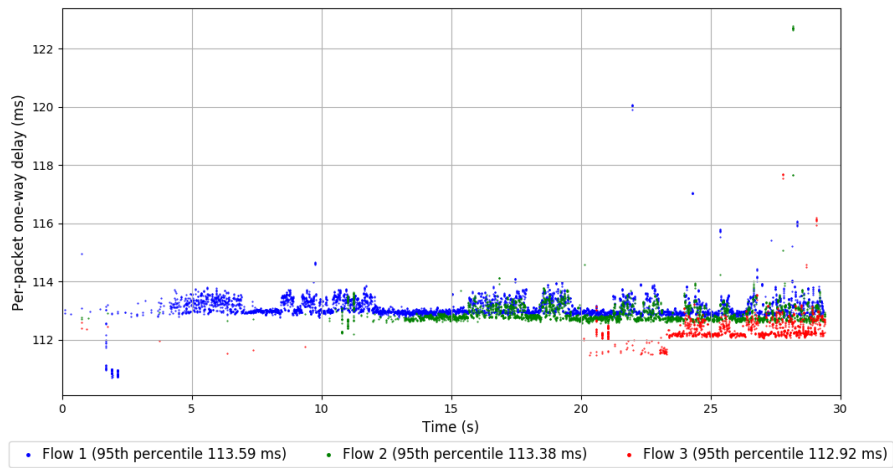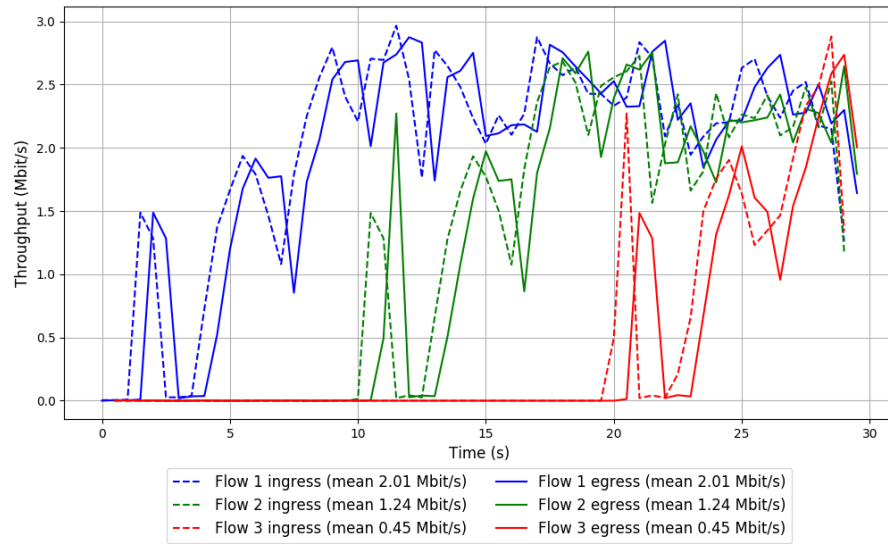## Run 10: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 179.06 Mbit/s) --- Flow 1 egress (mean 179.04 Mbit/s)
Flow 2 ingress (mean 198.93 Mbit/s) --- Flow 2 egress (mean 194.50 Mbit/s)
Flow 3 ingress (mean 132.24 Mbit/s) --- Flow 3 egress (mean 132.15 Mbit/s)

Flow 1 (95th percentile 123.83 ms)   Flow 2 (95th percentile 309.61 ms)   Flow 3 (95th percentile 337.81 ms)
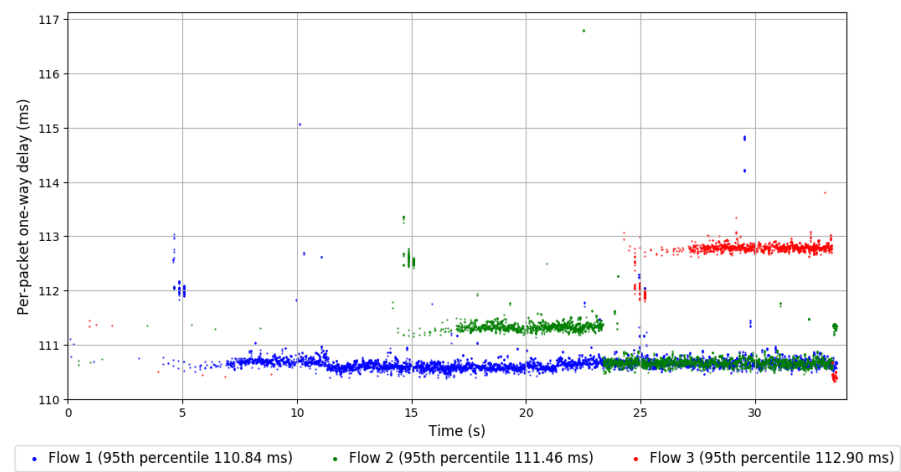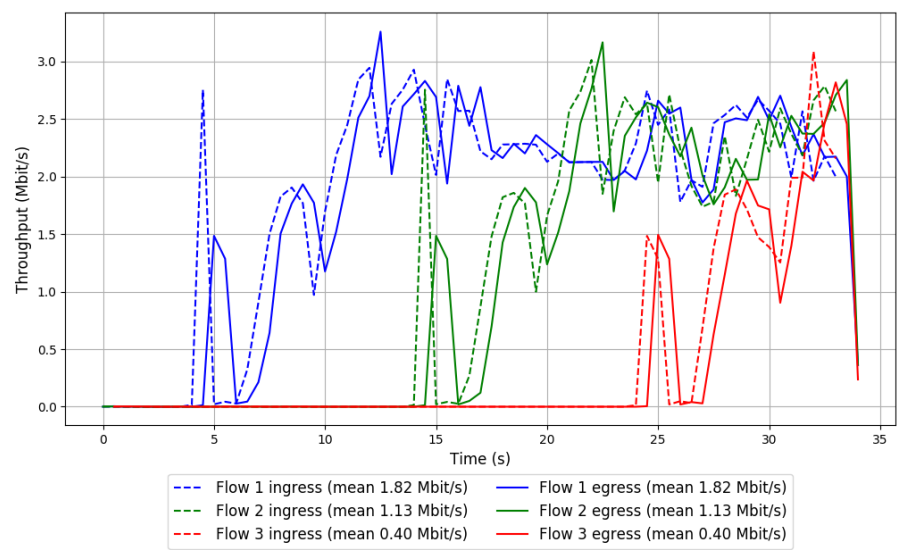
323

```
Run 1: Statistics of WebRTC media

Start at: 2018-08-09 06:03:59
End at: 2018-08-09 06:04:29
Local clock offset: -1.438 ms
Remote clock offset: -0.173 ms

# Below is generated by plot.py at 2018-08-09 13:04:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 113.523 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 113.594 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 113.377 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 112.922 ms
Loss rate: 0.00%
```
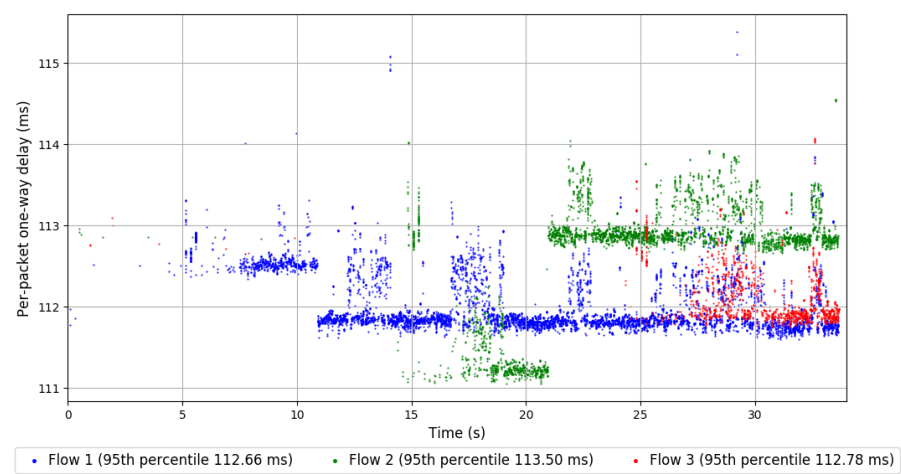
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-08-09 06:30:35
End at: 2018-08-09 06:31:05
Local clock offset: -1.101 ms
Remote clock offset: -0.169 ms


# Below is generated by plot.py at 2018-08-09 13:04:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.32 Mbit/s
95th percentile per-packet one-way delay: 112.797 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 110.843 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 111.459 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 112.900 ms
Loss rate: 0.00%
```

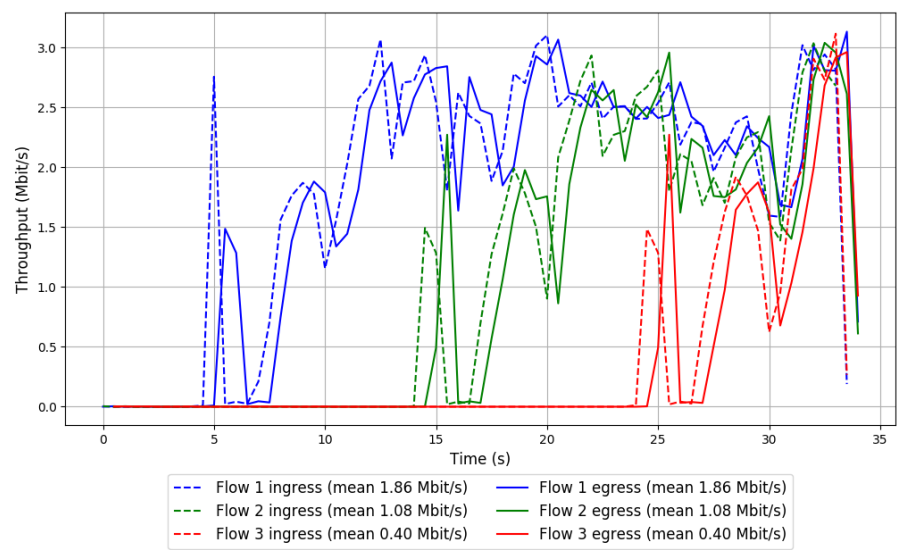Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-08-09 06:57:18
End at: 2018-08-09 06:57:48
Local clock offset: -1.292 ms
Remote clock offset: -0.086 ms


# Below is generated by plot.py at 2018-08-09 13:04:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.32 Mbit/s
95th percentile per-packet one-way delay: 113.223 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 112.659 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 113.495 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 112.775 ms
Loss rate: 0.01%
```
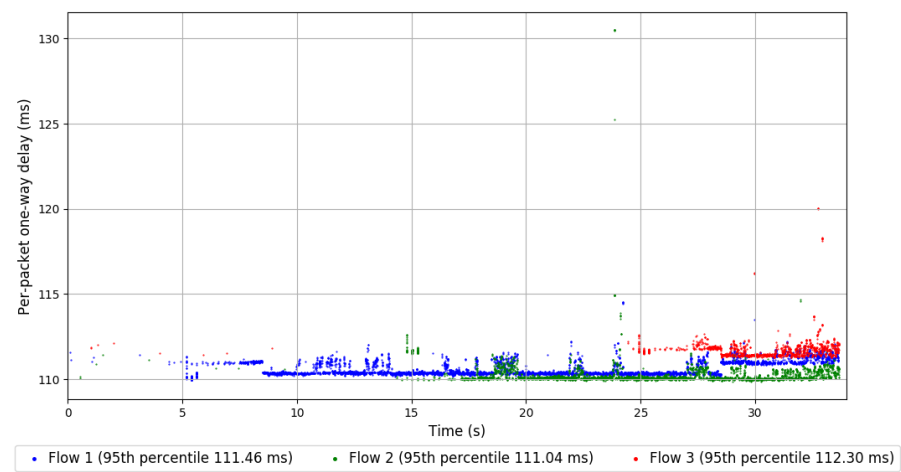
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-08-09 07:23:58
End at: 2018-08-09 07:24:28
Local clock offset: -0.055 ms
Remote clock offset: -0.09 ms


# Below is generated by plot.py at 2018-08-09 13:04:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.30 Mbit/s
95th percentile per-packet one-way delay: 111.788 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 111.457 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 111.037 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 112.295 ms
Loss rate: 0.00%
```
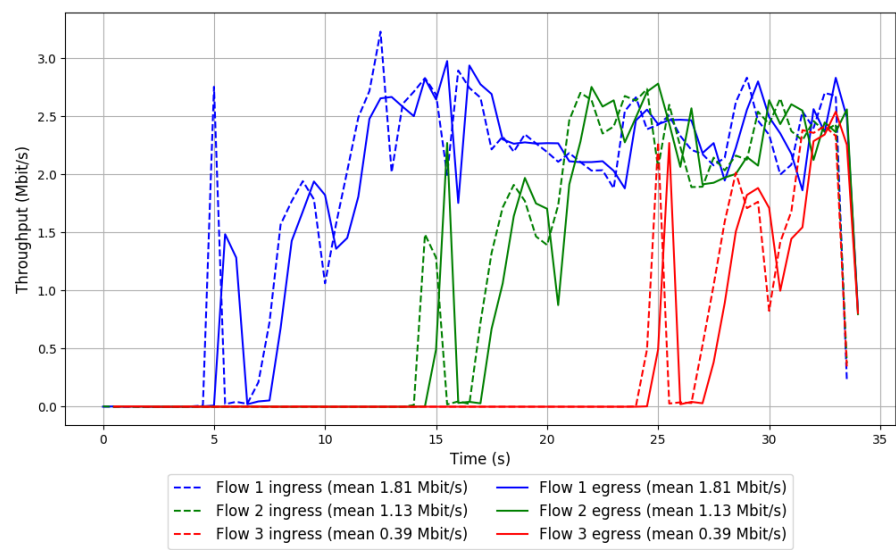
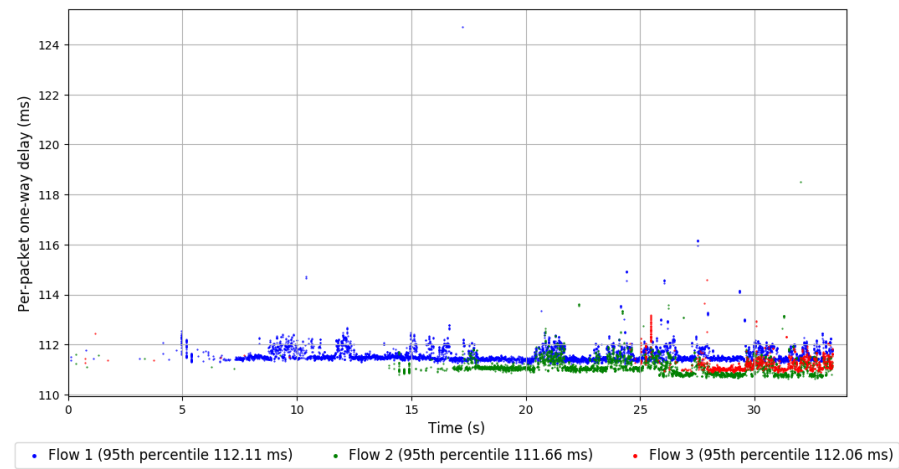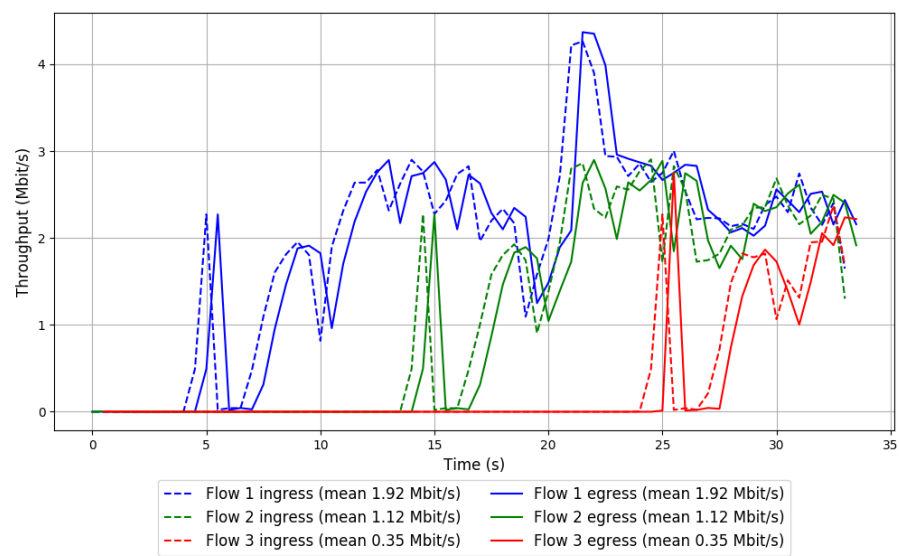Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-08-09 07:50:51
End at: 2018-08-09 07:51:21
Local clock offset: -0.221 ms
Remote clock offset: -0.502 ms


# Below is generated by plot.py at 2018-08-09 13:04:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.37 Mbit/s
95th percentile per-packet one-way delay: 112.039 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 112.110 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 111.660 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 112.058 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2018-08-09 08:17:36
End at: 2018-08-09 08:18:06
Local clock offset: -0.04 ms
Remote clock offset: 0.156 ms


# Below is generated by plot.py at 2018-08-09 13:04:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 111.992 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 112.035 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 111.951 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 110.298 ms
Loss rate: 0.00%
```
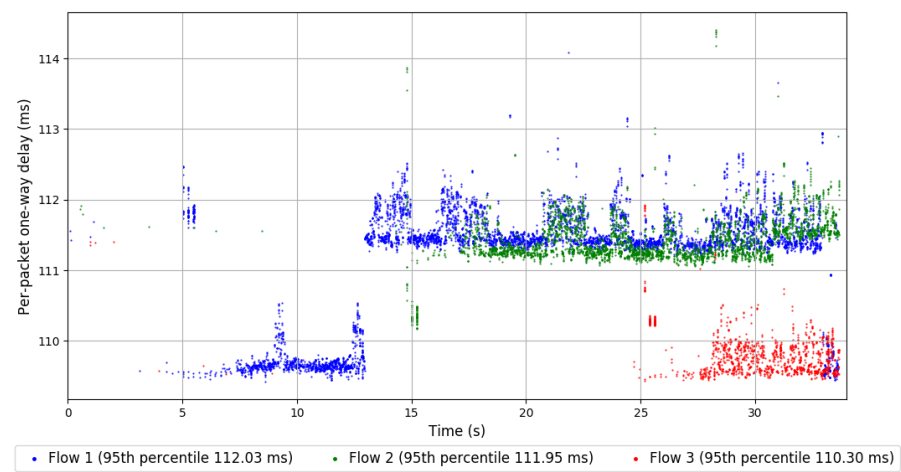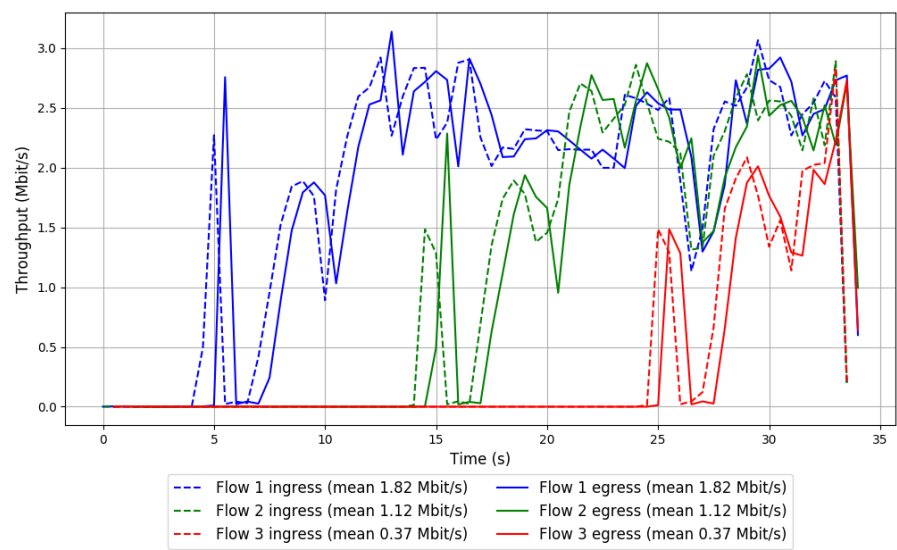
Run 6: Report of WebRTC media — Data Link

```
Run 7: Statistics of WebRTC media

Start at: 2018-08-09 08:43:58
End at: 2018-08-09 08:44:28
Local clock offset: 1.048 ms
Remote clock offset: 0.228 ms


# Below is generated by plot.py at 2018-08-09 13:04:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.35 Mbit/s
95th percentile per-packet one-way delay: 110.856 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 110.791 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 110.943 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 110.839 ms
Loss rate: 0.00%
```
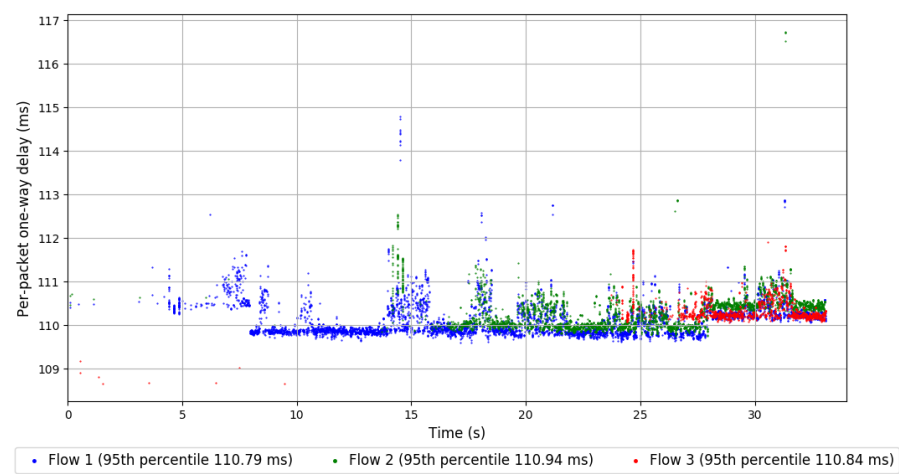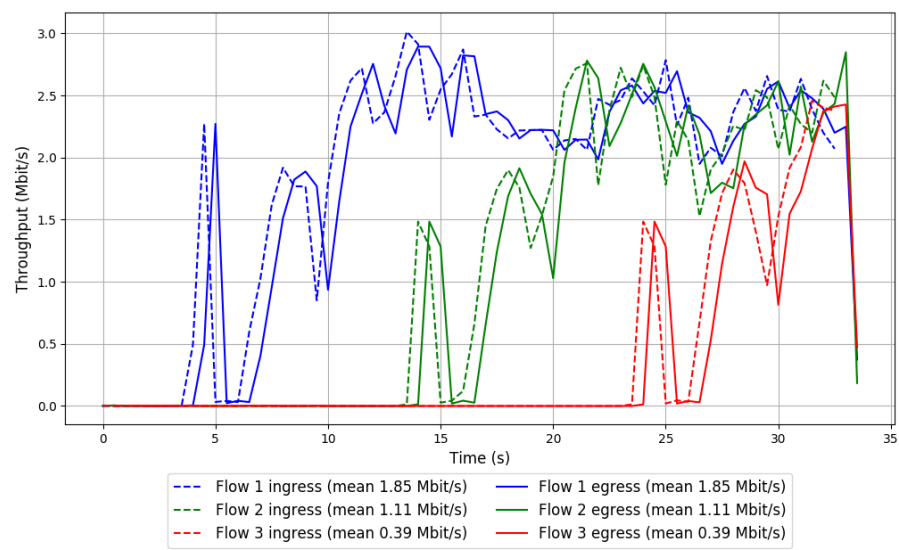
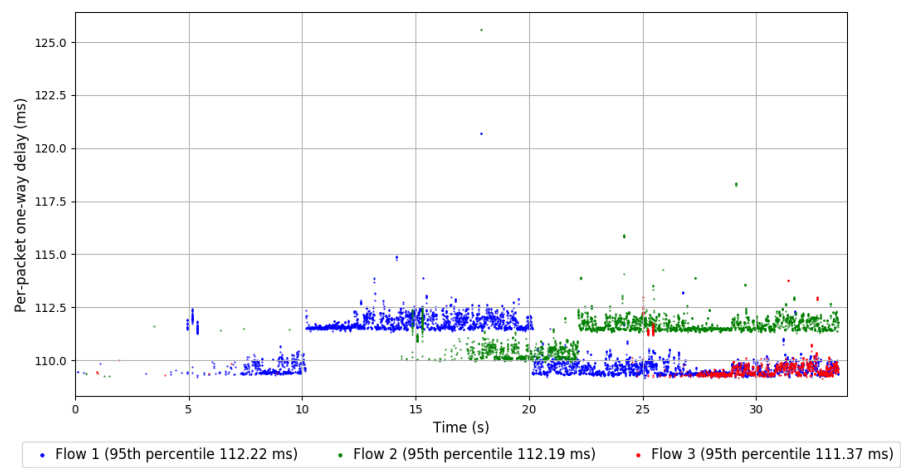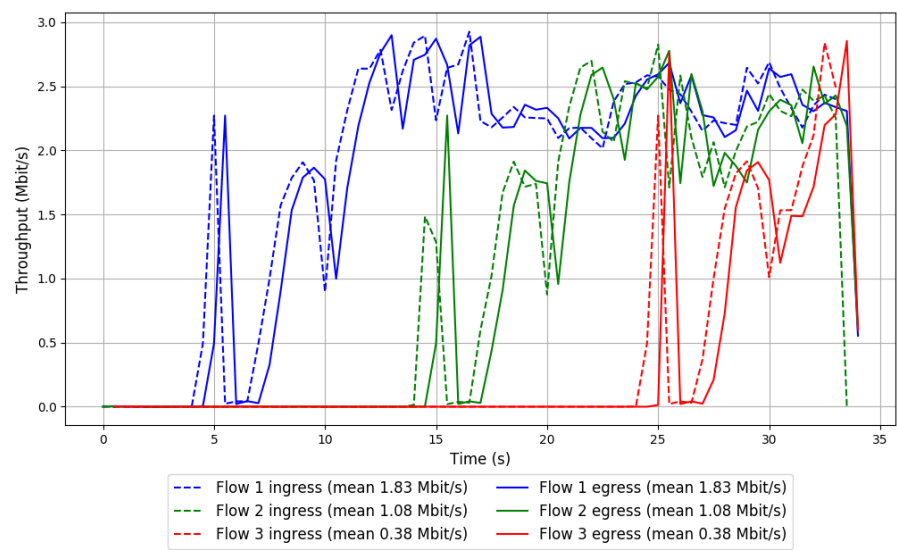Run 7: Report of WebRTC media — Data Link

```
Run 8: Statistics of WebRTC media

Start at: 2018-08-09 09:10:37
End at: 2018-08-09 09:11:07
Local clock offset: 0.019 ms
Remote clock offset: -0.199 ms


# Below is generated by plot.py at 2018-08-09 13:04:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.27 Mbit/s
95th percentile per-packet one-way delay: 112.193 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 112.218 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 112.188 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 111.374 ms
Loss rate: 0.00%
```

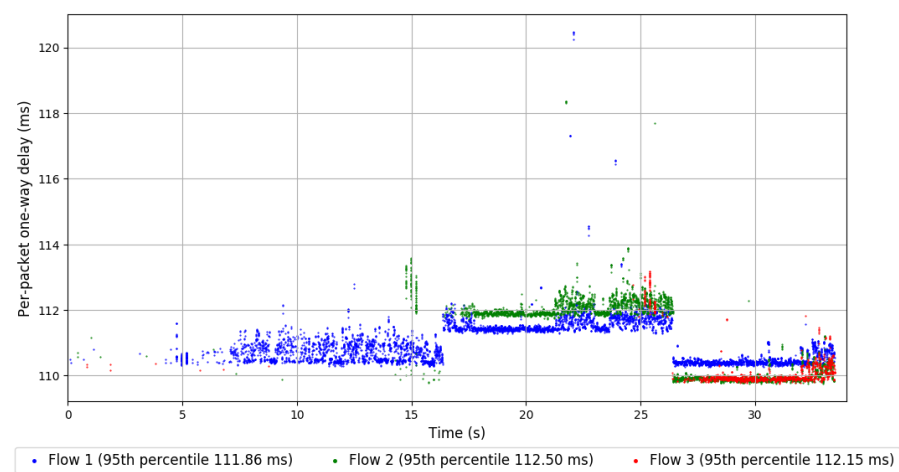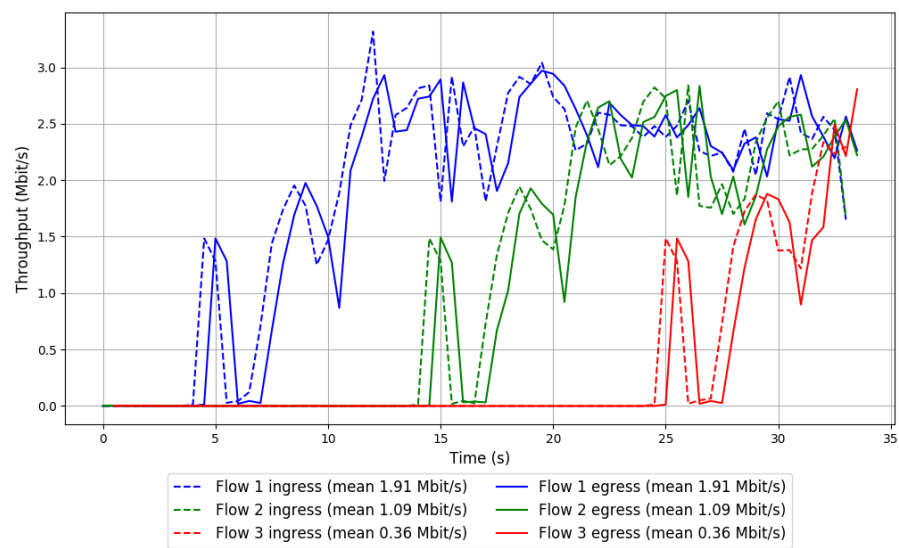Run 8: Report of WebRTC media — Data Link

```
Run 9: Statistics of WebRTC media

Start at: 2018-08-09 09:36:50
End at: 2018-08-09 09:37:20
Local clock offset: -0.099 ms
Remote clock offset: -0.096 ms


# Below is generated by plot.py at 2018-08-09 13:04:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.34 Mbit/s
95th percentile per-packet one-way delay: 112.282 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 111.858 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 112.495 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 112.152 ms
Loss rate: 0.00%
```

Run 9: Report of WebRTC media — Data Link

```
Run 10: Statistics of WebRTC media

Start at: 2018-08-09 10:03:26
End at: 2018-08-09 10:03:56
Local clock offset: 0.14 ms
Remote clock offset: -0.777 ms


# Below is generated by plot.py at 2018-08-09 13:04:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.33 Mbit/s
95th percentile per-packet one-way delay: 111.925 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 112.032 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 111.406 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 111.067 ms
Loss rate: 0.00%
```

Run 10: Report of WebRTC media — Data Link

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