Pantheon Report

Generated at 2018-05-22 18:38:02 (UTC).

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

Repeated the test of 16 congestion control schemes 10 times.

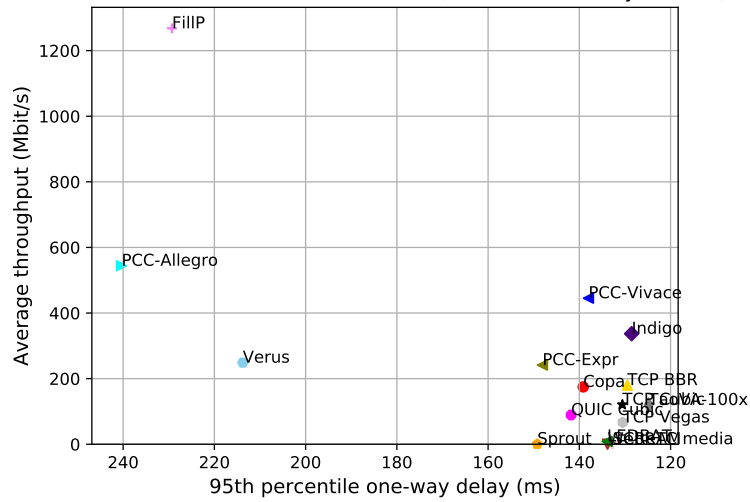Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.

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.
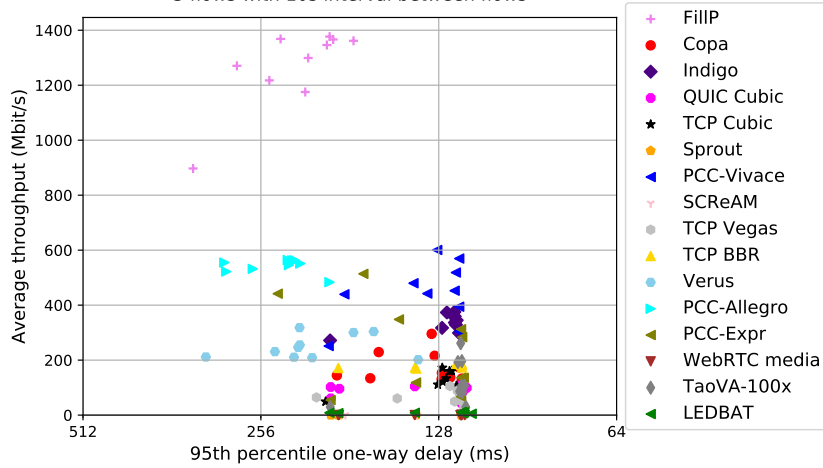
```
Git summary:
branch: master @ 2d1d4407e851ba626e5ca4626a306105793df686
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/genericCC @ c7966e494a929986eaa5a9c169a7f381fe1bbbe5
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
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
third_party/sprout @ c838669682f0c19f6baf92afc9a596a406d48c1f
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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

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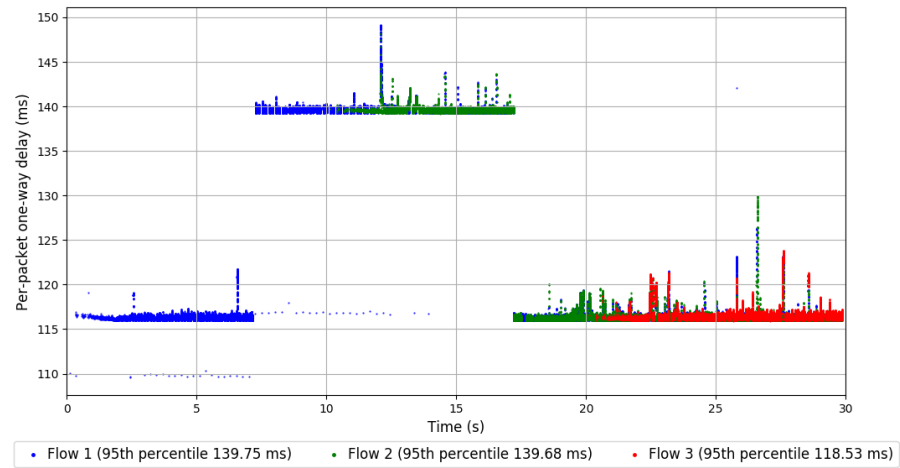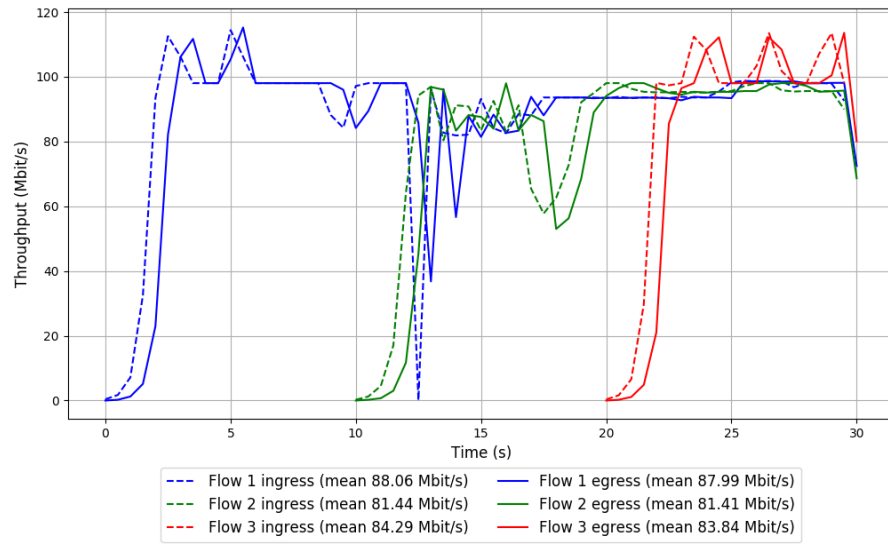3 flows with 10s interval between flows

scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	10	92.98	89.86	84.70	128.73	122.64	121.45	0.81	1.27	2.85
Copa	10	84.62	105.33	63.08	134.94	135.50	137.11	0.64	0.79	1.38
TCP Cubic	10	66.33	57.22	50.10	129.65	130.28	130.95	1.07	1.85	3.75
FillP	10	694.76	615.07	507.68	215.46	226.46	217.73	4.50	5.27	5.17
Indigo	10	174.29	177.37	140.34	127.29	129.37	123.38	0.77	1.18	2.81
LEDBAT	10	5.52	3.78	1.98	133.94	134.07	126.46	1.76	2.30	4.72
PCC-Allegro	10	484.44	67.37	46.34	242.69	219.45	214.77	3.02	2.28	3.69
PCC-Expr	10	156.17	102.42	52.83	143.99	146.67	137.66	1.39	1.73	2.99
QUIC Cubic	10	48.95	46.90	27.99	139.31	125.05	116.23	0.88	1.57	1.81
SCReAM	10	0.20	0.21	0.20	122.65	124.98	114.81	0.73	1.15	2.12
Sprout	10	0.19	0.21	0.28	149.19	134.07	120.44	0.68	1.11	1.38
TaoVA-100x	10	84.98	50.02	54.82	132.06	124.46	124.36	0.39	0.90	2.06
TCP Vegas	10	33.95	32.71	33.46	128.17	128.45	131.26	0.78	1.56	2.87
Verus	10	165.03	86.18	85.07	205.40	210.69	207.50	1.69	2.83	8.02
PCC-Vivace	10	261.06	204.35	150.14	143.78	124.75	133.80	0.95	1.47	3.74
WebRTC media	10	0.05	0.05	0.05	133.29	124.14	126.23	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2018-05-22 13:24:00
End at: 2018-05-22 13:24:30
Local clock offset: 0.214 ms
Remote clock offset: -0.043 ms


# Below is generated by plot.py at 2018-05-22 17:09:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 169.33 Mbit/s
95th percentile per-packet one-way delay: 139.694 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 87.99 Mbit/s
95th percentile per-packet one-way delay: 139.747 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 81.41 Mbit/s
95th percentile per-packet one-way delay: 139.678 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 83.84 Mbit/s
95th percentile per-packet one-way delay: 118.530 ms
Loss rate: 2.92%
```
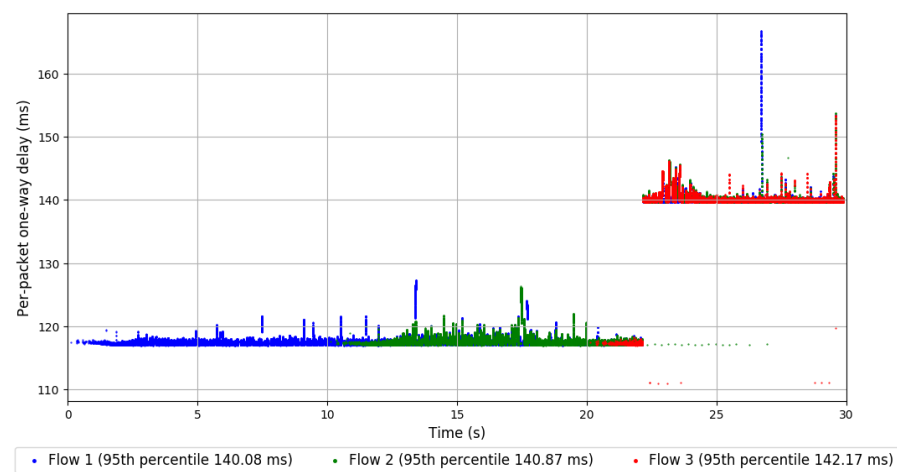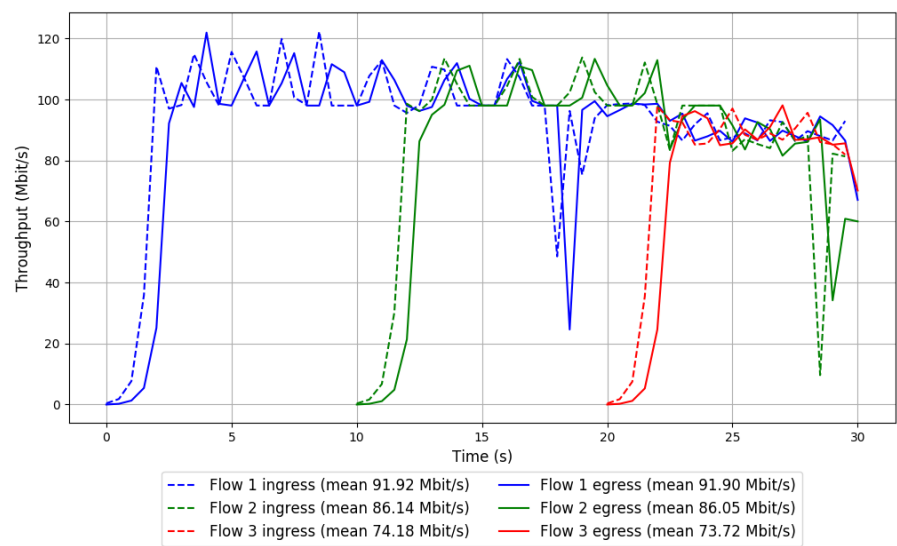
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-05-22 13:47:26
End at: 2018-05-22 13:47:56
Local clock offset: -0.182 ms
Remote clock offset: -0.364 ms


# Below is generated by plot.py at 2018-05-22 17:09:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 173.04 Mbit/s
95th percentile per-packet one-way delay: 140.404 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 91.90 Mbit/s
95th percentile per-packet one-way delay: 140.081 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 86.05 Mbit/s
95th percentile per-packet one-way delay: 140.871 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 73.72 Mbit/s
95th percentile per-packet one-way delay: 142.169 ms
Loss rate: 2.90%
```
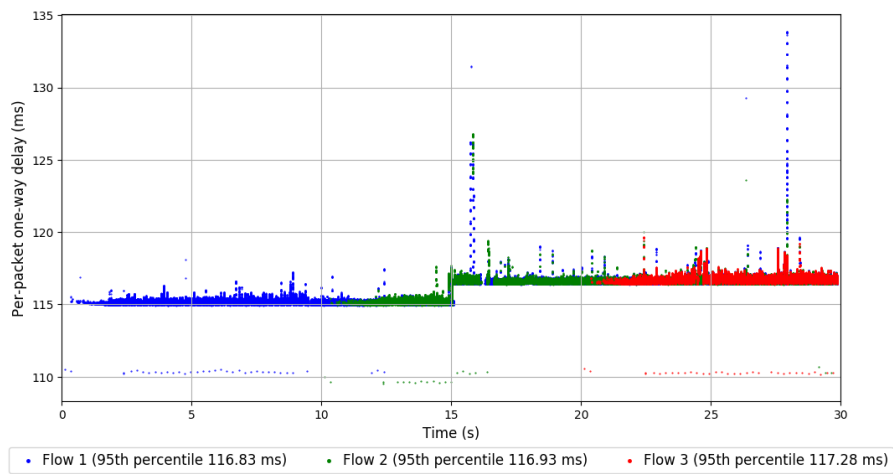
Run 2: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 91.92 Mbit/s) —— Flow 1 egress (mean 91.90 Mbit/s)
- - - Flow 2 ingress (mean 86.14 Mbit/s) —— Flow 2 egress (mean 86.05 Mbit/s)
- - - Flow 3 ingress (mean 74.18 Mbit/s) —— Flow 3 egress (mean 73.72 Mbit/s)

• Flow 1 (95th percentile 140.08 ms)   • Flow 2 (95th percentile 140.87 ms)   • Flow 3 (95th percentile 142.17 ms)

```
Run 3: Statistics of TCP BBR

Start at: 2018-05-22 14:10:33
End at: 2018-05-22 14:11:03
Local clock offset: -0.219 ms
Remote clock offset: 0.371 ms


# Below is generated by plot.py at 2018-05-22 17:09:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 173.38 Mbit/s
95th percentile per-packet one-way delay: 116.952 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 91.03 Mbit/s
95th percentile per-packet one-way delay: 116.829 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 82.95 Mbit/s
95th percentile per-packet one-way delay: 116.926 ms
Loss rate: 1.49%
-- Flow 3:
Average throughput: 83.66 Mbit/s
95th percentile per-packet one-way delay: 117.278 ms
Loss rate: 2.92%
```
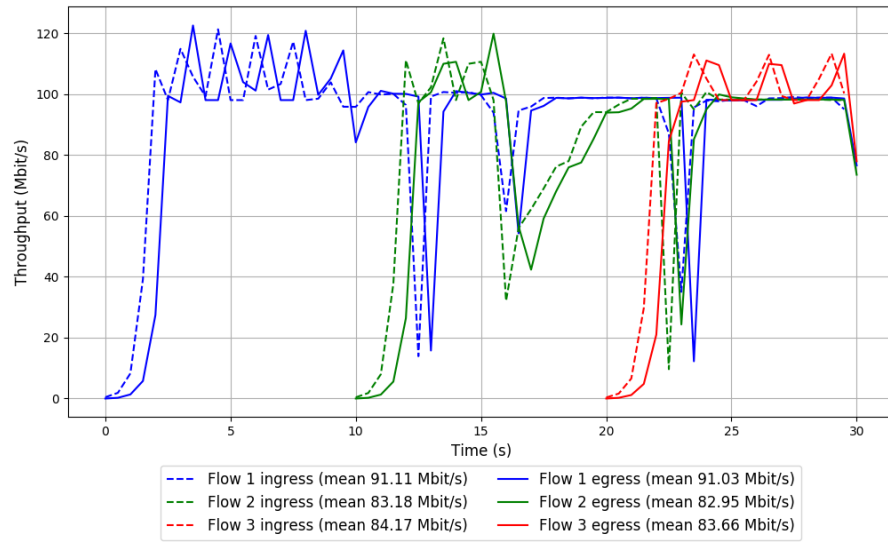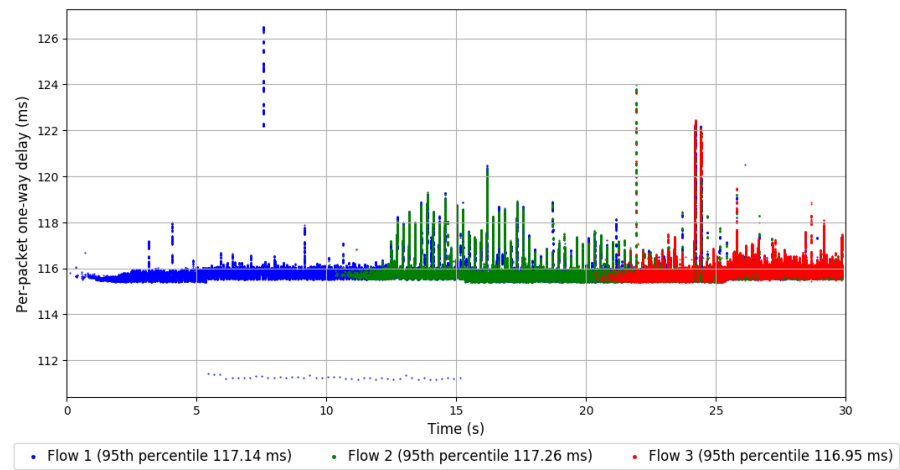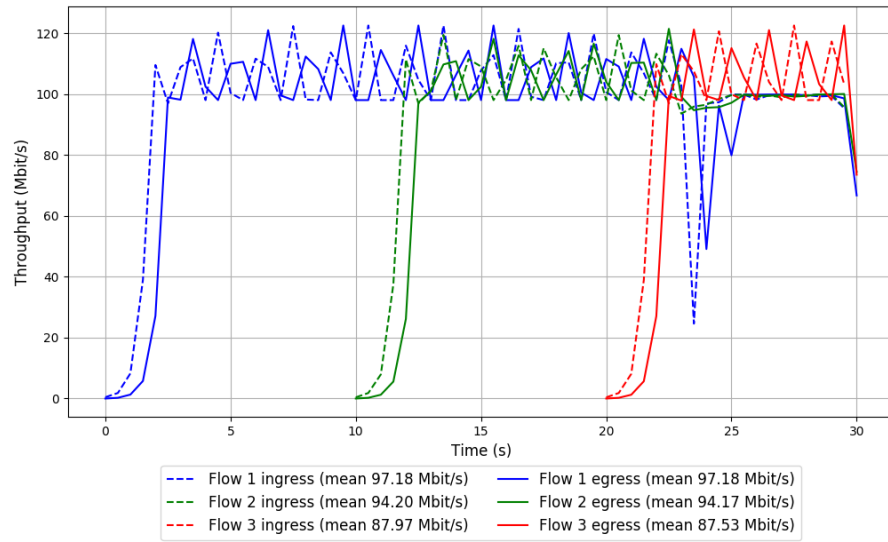
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 91.11 Mbit/s) — Flow 1 egress (mean 91.03 Mbit/s)
Flow 2 ingress (mean 83.18 Mbit/s) — Flow 2 egress (mean 82.95 Mbit/s)
Flow 3 ingress (mean 84.17 Mbit/s) — Flow 3 egress (mean 83.66 Mbit/s)

Flow 1 (95th percentile 116.83 ms) · Flow 2 (95th percentile 116.93 ms) · Flow 3 (95th percentile 117.28 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2018-05-22 14:34:02
End at: 2018-05-22 14:34:32
Local clock offset: -0.522 ms
Remote clock offset: -0.384 ms


# Below is generated by plot.py at 2018-05-22 17:10:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 188.27 Mbit/s
95th percentile per-packet one-way delay: 117.152 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 97.18 Mbit/s
95th percentile per-packet one-way delay: 117.136 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 117.259 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 87.53 Mbit/s
95th percentile per-packet one-way delay: 116.947 ms
Loss rate: 2.80%
```
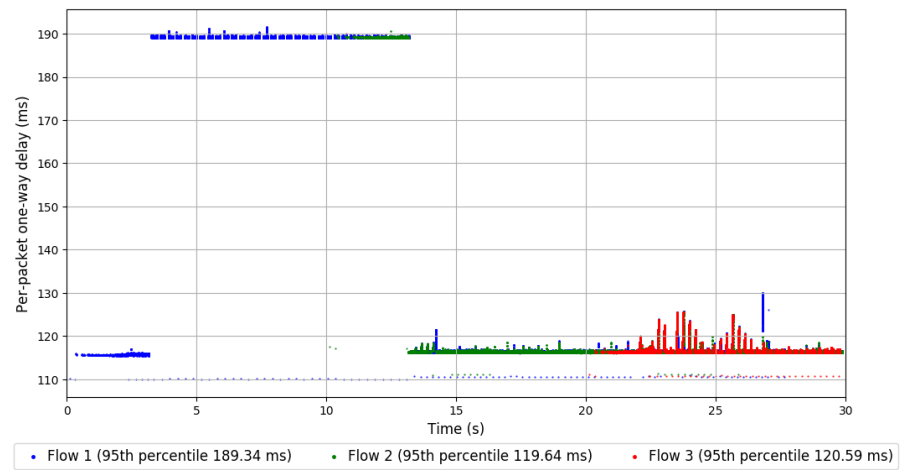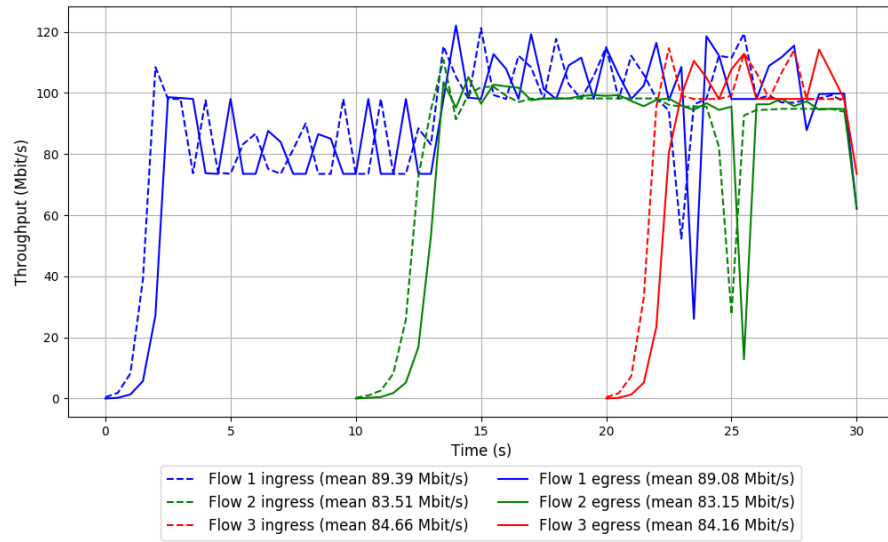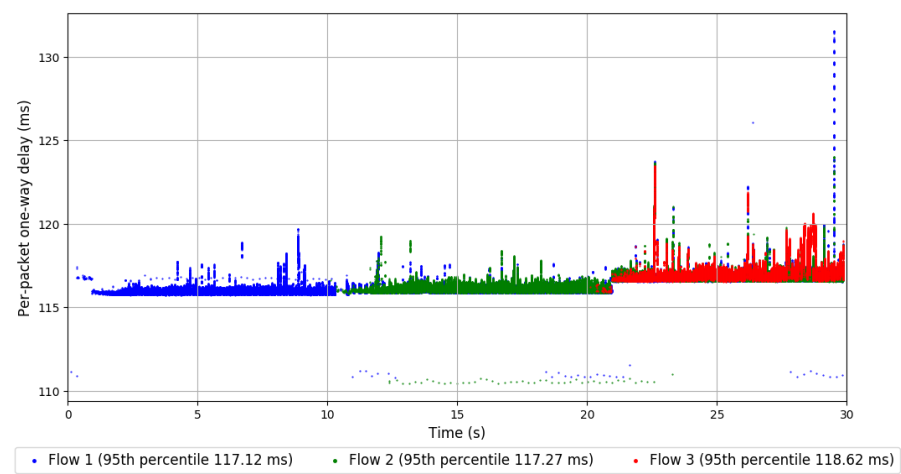
Run 4: Report of TCP BBR — Data Link

Legend:
- Flow 1 ingress (mean 97.18 Mbit/s) — Flow 1 egress (mean 97.18 Mbit/s)
- Flow 2 ingress (mean 94.20 Mbit/s) — Flow 2 egress (mean 94.17 Mbit/s)
- Flow 3 ingress (mean 87.97 Mbit/s) — Flow 3 egress (mean 87.53 Mbit/s)

Legend:
- Flow 1 (95th percentile 117.14 ms)
- Flow 2 (95th percentile 117.26 ms)
- Flow 3 (95th percentile 116.95 ms)

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```
Run 5: Statistics of TCP BBR

Start at: 2018-05-22 14:57:55
End at: 2018-05-22 14:58:25
Local clock offset: -0.01 ms
Remote clock offset: -0.318 ms


# Below is generated by plot.py at 2018-05-22 17:10:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 171.56 Mbit/s
95th percentile per-packet one-way delay: 189.287 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 89.08 Mbit/s
95th percentile per-packet one-way delay: 189.345 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 83.15 Mbit/s
95th percentile per-packet one-way delay: 119.637 ms
Loss rate: 1.40%
-- Flow 3:
Average throughput: 84.16 Mbit/s
95th percentile per-packet one-way delay: 120.587 ms
Loss rate: 2.93%
```
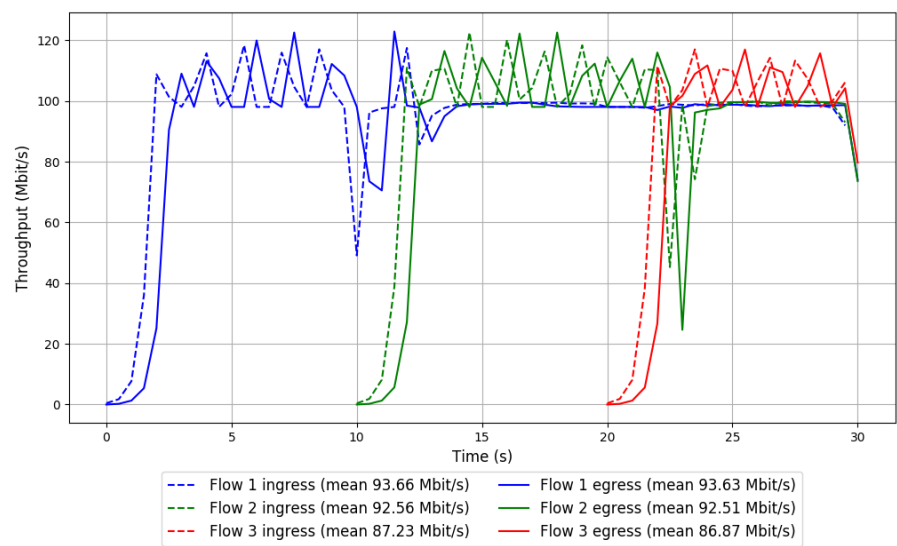
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 89.39 Mbit/s) —— Flow 1 egress (mean 89.08 Mbit/s)
Flow 2 ingress (mean 83.51 Mbit/s) —— Flow 2 egress (mean 83.15 Mbit/s)
Flow 3 ingress (mean 84.66 Mbit/s) —— Flow 3 egress (mean 84.16 Mbit/s)

Flow 1 (95th percentile 189.34 ms)   • Flow 2 (95th percentile 119.64 ms)   • Flow 3 (95th percentile 120.59 ms)

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```
Run 6: Statistics of TCP BBR

Start at: 2018-05-22 15:21:07
End at: 2018-05-22 15:21:37
Local clock offset: 0.082 ms
Remote clock offset: -0.038 ms


# Below is generated by plot.py at 2018-05-22 17:10:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 183.43 Mbit/s
95th percentile per-packet one-way delay: 117.426 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 93.63 Mbit/s
95th percentile per-packet one-way delay: 117.119 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 92.51 Mbit/s
95th percentile per-packet one-way delay: 117.270 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 86.87 Mbit/s
95th percentile per-packet one-way delay: 118.625 ms
Loss rate: 2.69%
```
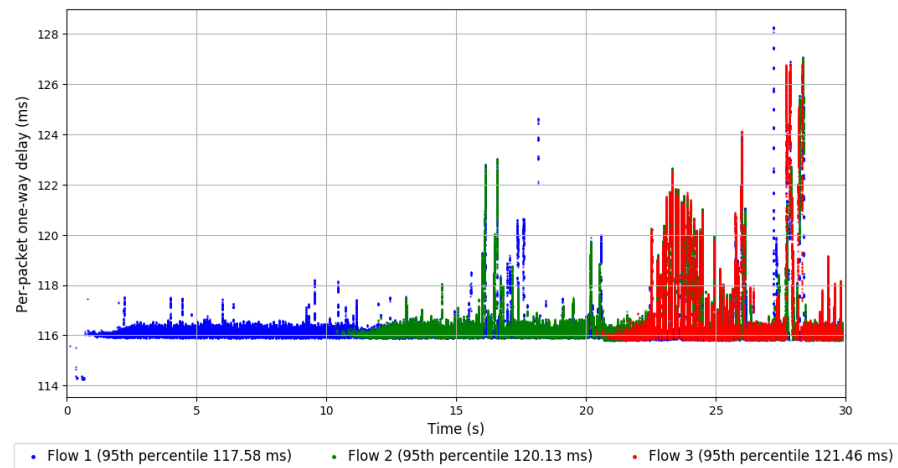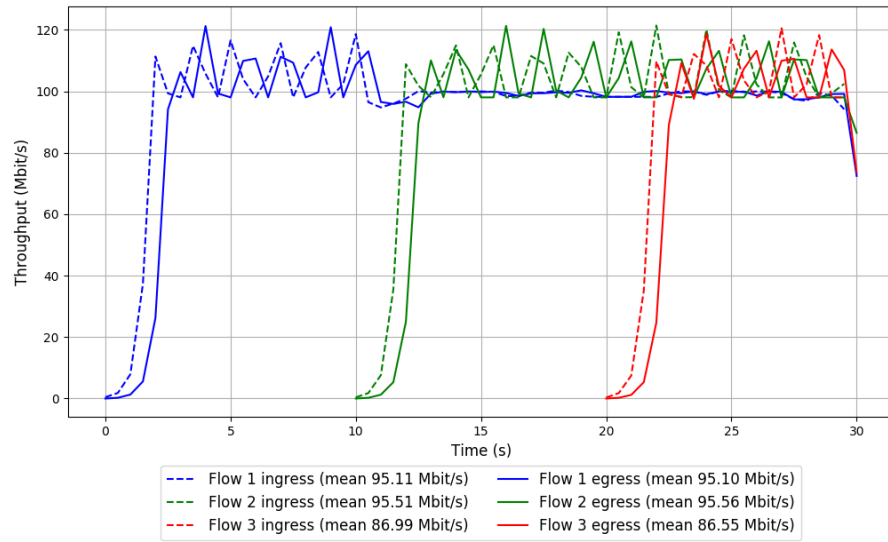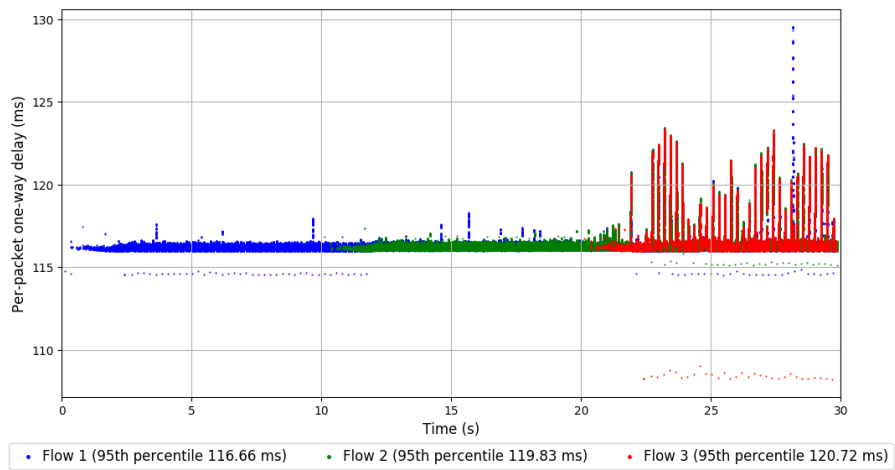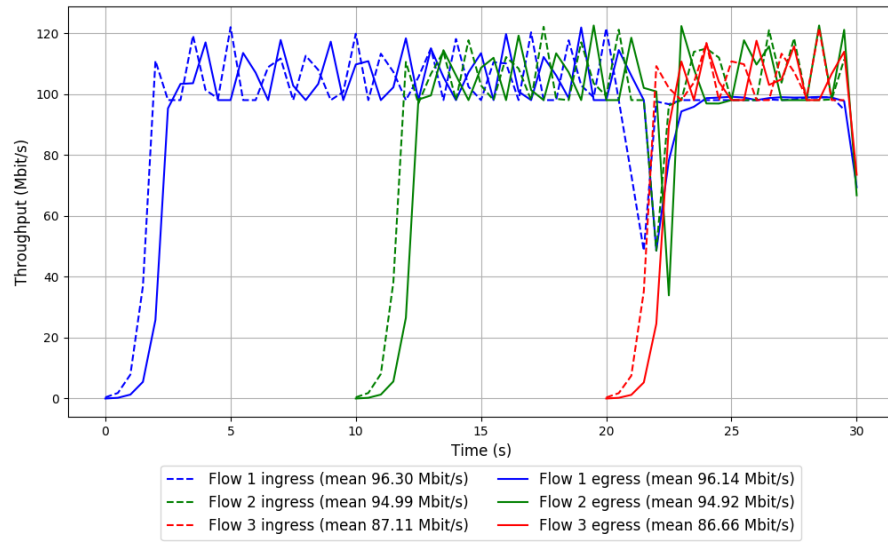
Run 6: Report of TCP BBR — Data Link

Flow 1 ingress (mean 93.66 Mbit/s) ---- Flow 1 egress (mean 93.63 Mbit/s)
Flow 2 ingress (mean 92.56 Mbit/s) ---- Flow 2 egress (mean 92.51 Mbit/s)
Flow 3 ingress (mean 87.23 Mbit/s) ---- Flow 3 egress (mean 86.87 Mbit/s)

Flow 1 (95th percentile 117.12 ms) • Flow 2 (95th percentile 117.27 ms) • Flow 3 (95th percentile 118.62 ms)

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```
Run 7: Statistics of TCP BBR

Start at: 2018-05-22 15:44:57
End at: 2018-05-22 15:45:27
Local clock offset: -0.273 ms
Remote clock offset: 0.336 ms


# Below is generated by plot.py at 2018-05-22 17:10:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 186.66 Mbit/s
95th percentile per-packet one-way delay: 119.627 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 95.10 Mbit/s
95th percentile per-packet one-way delay: 117.580 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 95.56 Mbit/s
95th percentile per-packet one-way delay: 120.131 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 86.55 Mbit/s
95th percentile per-packet one-way delay: 121.462 ms
Loss rate: 2.84%
```
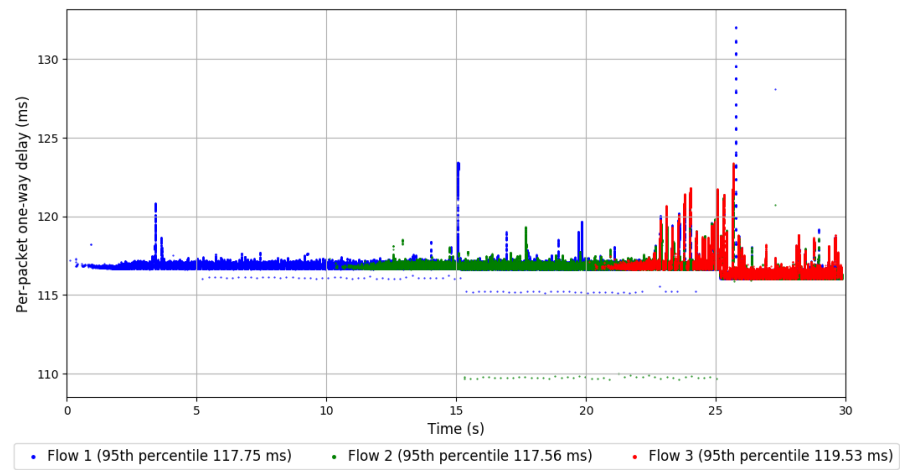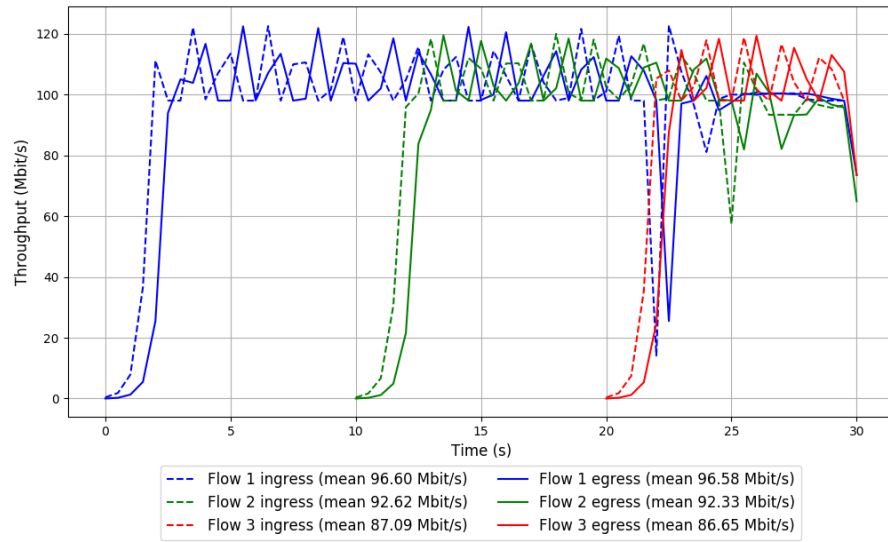
Run 7: Report of TCP BBR — Data Link

Legend:
- Flow 1 ingress (mean 95.11 Mbit/s)
- Flow 1 egress (mean 95.10 Mbit/s)
- Flow 2 ingress (mean 95.51 Mbit/s)
- Flow 2 egress (mean 95.56 Mbit/s)
- Flow 3 ingress (mean 86.99 Mbit/s)
- Flow 3 egress (mean 86.55 Mbit/s)

Legend:
- Flow 1 (95th percentile 117.58 ms)
- Flow 2 (95th percentile 120.13 ms)
- Flow 3 (95th percentile 121.46 ms)

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```
Run 8: Statistics of TCP BBR

Start at: 2018-05-22 16:08:56
End at: 2018-05-22 16:09:26
Local clock offset: -0.462 ms
Remote clock offset: -0.003 ms


# Below is generated by plot.py at 2018-05-22 17:10:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 187.32 Mbit/s
95th percentile per-packet one-way delay: 119.261 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 96.14 Mbit/s
95th percentile per-packet one-way delay: 116.662 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 94.92 Mbit/s
95th percentile per-packet one-way delay: 119.833 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 86.66 Mbit/s
95th percentile per-packet one-way delay: 120.723 ms
Loss rate: 2.84%
```
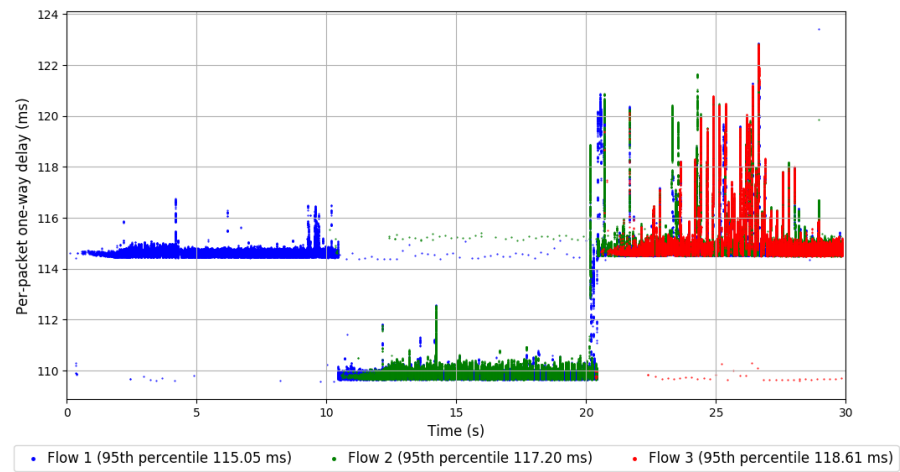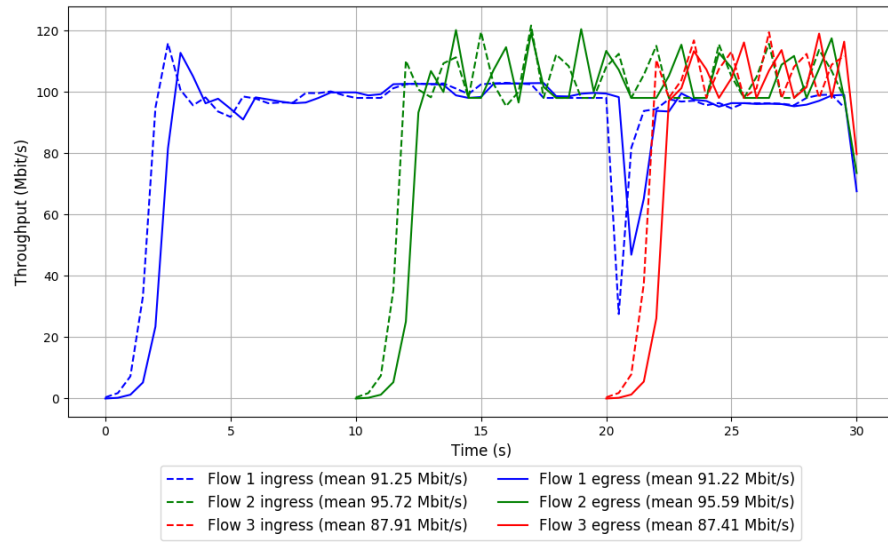
Run 8: Report of TCP BBR — Data Link

Flow 1 ingress (mean 96.30 Mbit/s)   Flow 1 egress (mean 96.14 Mbit/s)
Flow 2 ingress (mean 94.99 Mbit/s)   Flow 2 egress (mean 94.92 Mbit/s)
Flow 3 ingress (mean 87.11 Mbit/s)   Flow 3 egress (mean 86.66 Mbit/s)

Flow 1 (95th percentile 116.66 ms)   Flow 2 (95th percentile 119.83 ms)   Flow 3 (95th percentile 120.72 ms)

```
Run 9: Statistics of TCP BBR

Start at: 2018-05-22 16:33:03
End at: 2018-05-22 16:33:33
Local clock offset: 0.111 ms
Remote clock offset: -0.011 ms


# Below is generated by plot.py at 2018-05-22 17:12:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 185.96 Mbit/s
95th percentile per-packet one-way delay: 118.164 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 96.58 Mbit/s
95th percentile per-packet one-way delay: 117.745 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 92.33 Mbit/s
95th percentile per-packet one-way delay: 117.563 ms
Loss rate: 1.27%
-- Flow 3:
Average throughput: 86.65 Mbit/s
95th percentile per-packet one-way delay: 119.532 ms
Loss rate: 2.84%
```
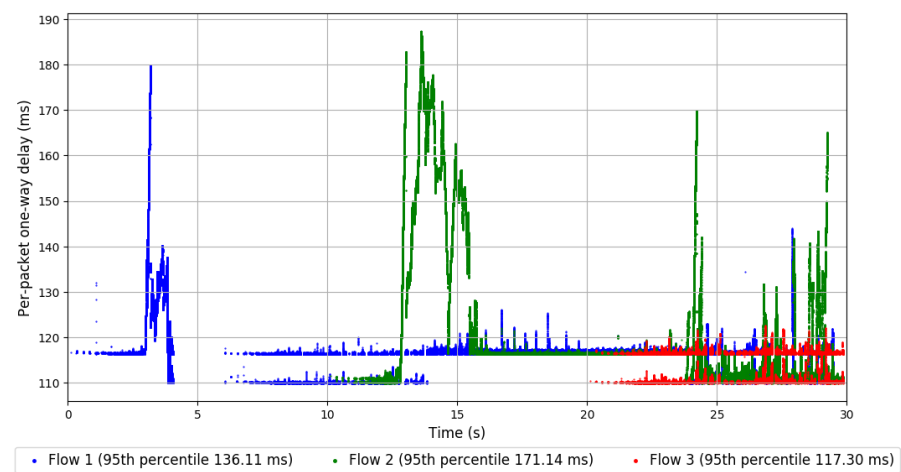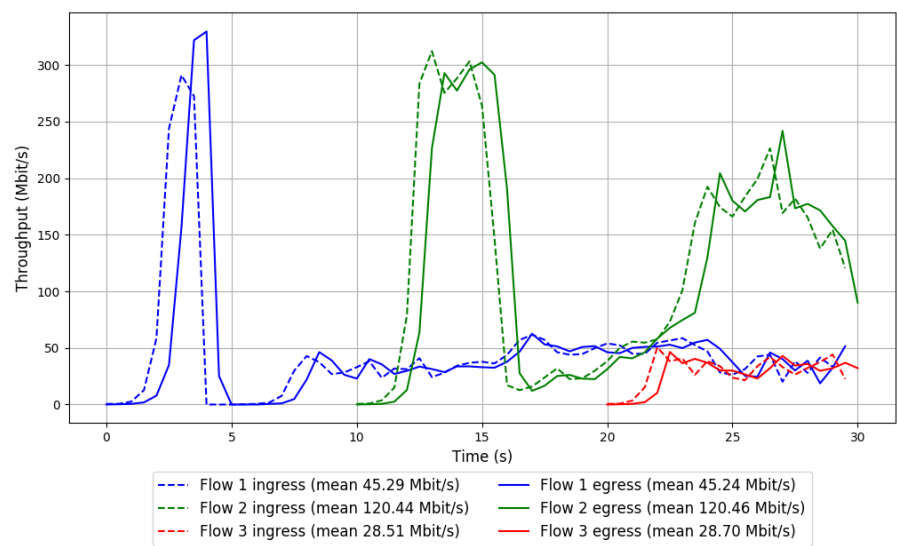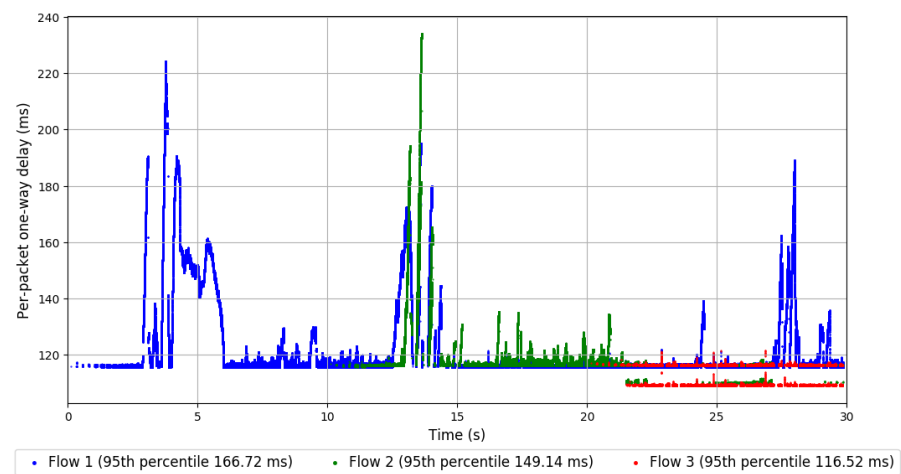
Run 9: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 96.60 Mbit/s) —— Flow 1 egress (mean 96.58 Mbit/s)
- - - Flow 2 ingress (mean 92.62 Mbit/s) —— Flow 2 egress (mean 92.33 Mbit/s)
- - - Flow 3 ingress (mean 87.09 Mbit/s) —— Flow 3 egress (mean 86.65 Mbit/s)

- Flow 1 (95th percentile 117.75 ms)   - Flow 2 (95th percentile 117.56 ms)   - Flow 3 (95th percentile 119.53 ms)

```
Run 10: Statistics of TCP BBR

Start at: 2018-05-22 16:56:57
End at: 2018-05-22 16:57:27
Local clock offset: -0.305 ms
Remote clock offset: 0.319 ms


# Below is generated by plot.py at 2018-05-22 17:12:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 183.07 Mbit/s
95th percentile per-packet one-way delay: 116.831 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 91.22 Mbit/s
95th percentile per-packet one-way delay: 115.050 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 95.59 Mbit/s
95th percentile per-packet one-way delay: 117.202 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 87.41 Mbit/s
95th percentile per-packet one-way delay: 118.607 ms
Loss rate: 2.80%
```
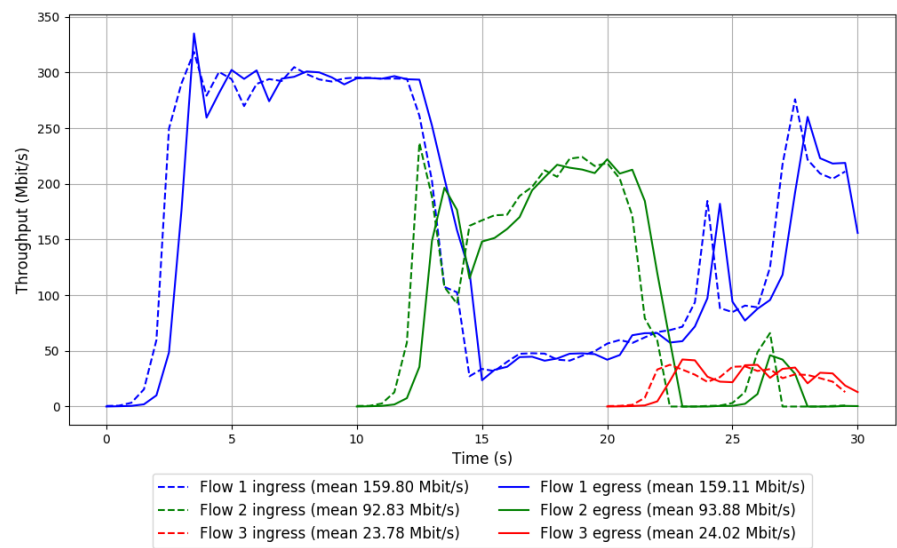
Run 10: Report of TCP BBR — Data Link

Flow 1 ingress (mean 91.25 Mbit/s) --- Flow 1 egress (mean 91.22 Mbit/s)
Flow 2 ingress (mean 95.72 Mbit/s) --- Flow 2 egress (mean 95.59 Mbit/s)
Flow 3 ingress (mean 87.91 Mbit/s) --- Flow 3 egress (mean 87.41 Mbit/s)

Flow 1 (95th percentile 115.05 ms) Flow 2 (95th percentile 117.20 ms) Flow 3 (95th percentile 118.61 ms)
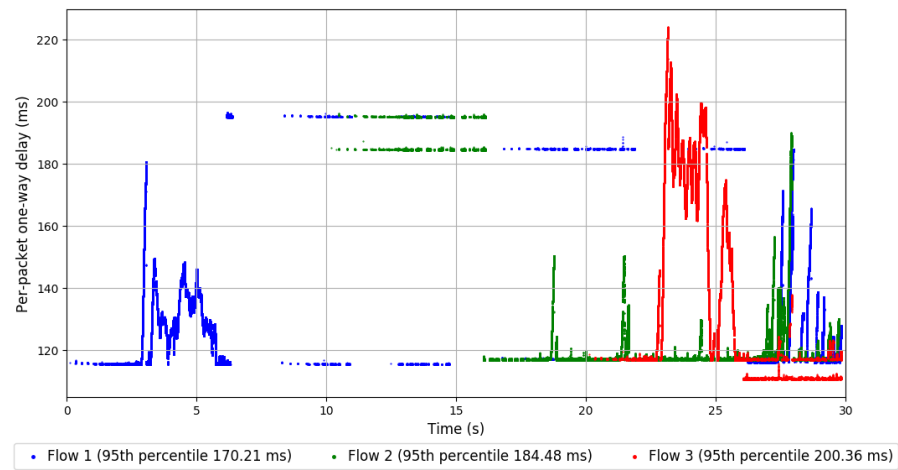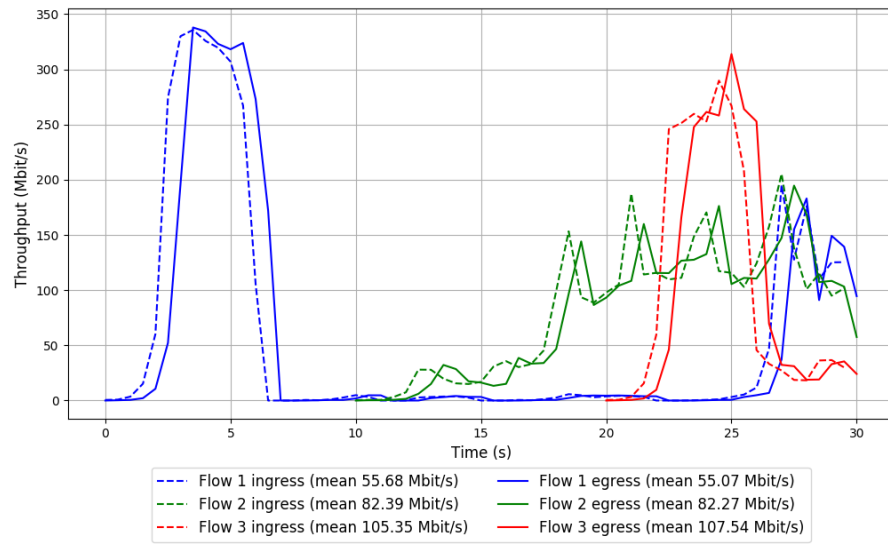
```
Run 1: Statistics of Copa

Start at: 2018-05-22 13:07:14
End at: 2018-05-22 13:07:44
Local clock offset: 0.252 ms
Remote clock offset: -0.431 ms


# Below is generated by plot.py at 2018-05-22 17:13:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 134.01 Mbit/s
95th percentile per-packet one-way delay: 167.131 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 45.24 Mbit/s
95th percentile per-packet one-way delay: 136.107 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 120.46 Mbit/s
95th percentile per-packet one-way delay: 171.140 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 28.70 Mbit/s
95th percentile per-packet one-way delay: 117.303 ms
Loss rate: 1.06%
```
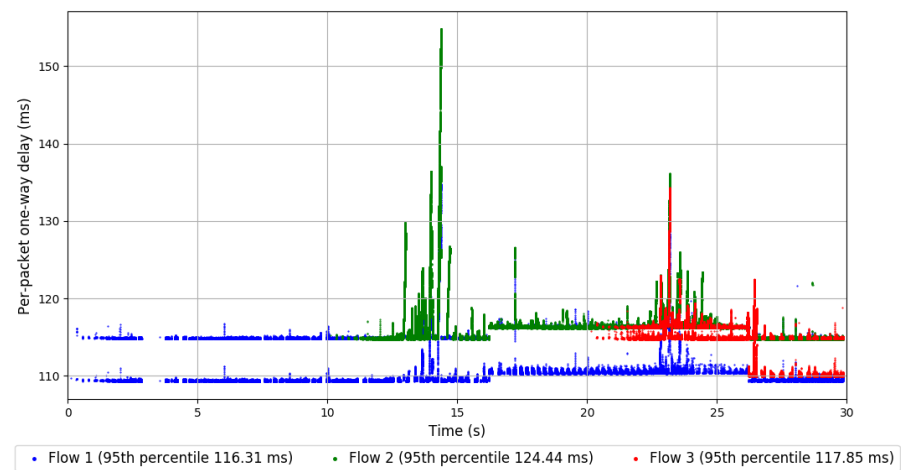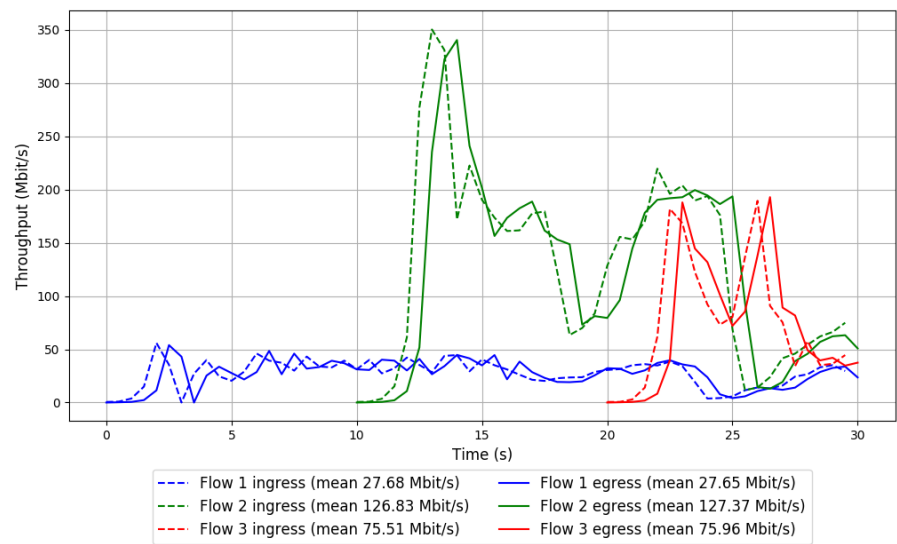
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2018-05-22 13:30:36
End at: 2018-05-22 13:31:06
Local clock offset: -0.145 ms
Remote clock offset: -0.034 ms


# Below is generated by plot.py at 2018-05-22 17:16:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 229.22 Mbit/s
95th percentile per-packet one-way delay: 161.740 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 159.11 Mbit/s
95th percentile per-packet one-way delay: 166.718 ms
Loss rate: 1.19%
-- Flow 2:
Average throughput: 93.88 Mbit/s
95th percentile per-packet one-way delay: 149.137 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 24.02 Mbit/s
95th percentile per-packet one-way delay: 116.521 ms
Loss rate: 1.38%
```

Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 159.80 Mbit/s) ——— Flow 1 egress (mean 159.11 Mbit/s)
Flow 2 ingress (mean 92.83 Mbit/s) ——— Flow 2 egress (mean 93.88 Mbit/s)
Flow 3 ingress (mean 23.78 Mbit/s) ——— Flow 3 egress (mean 24.02 Mbit/s)

Flow 1 (95th percentile 166.72 ms)   Flow 2 (95th percentile 149.14 ms)   Flow 3 (95th percentile 116.52 ms)
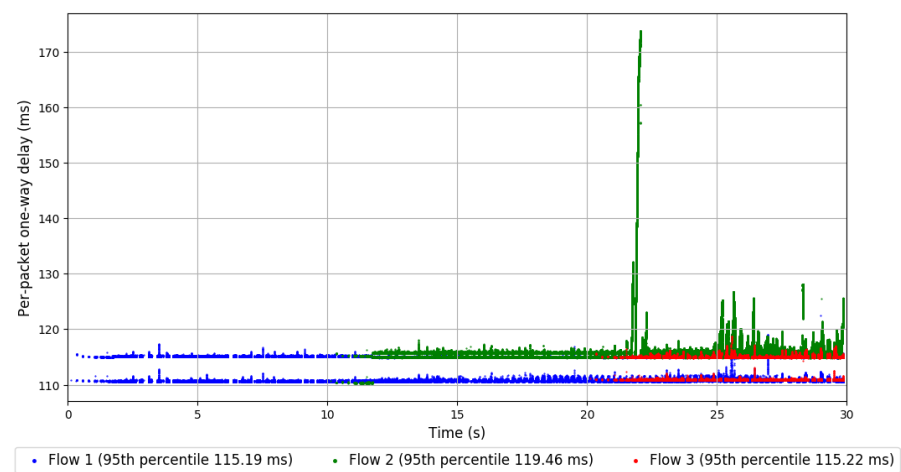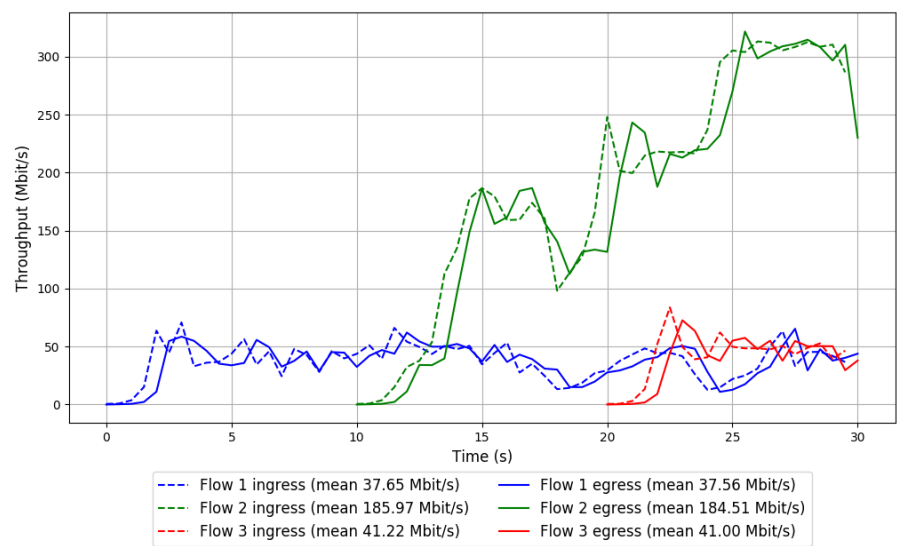
```
Run 3: Statistics of Copa

Start at: 2018-05-22 13:54:02
End at: 2018-05-22 13:54:32
Local clock offset: -0.3 ms
Remote clock offset: -0.338 ms


# Below is generated by plot.py at 2018-05-22 17:16:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 144.49 Mbit/s
95th percentile per-packet one-way delay: 190.358 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 55.07 Mbit/s
95th percentile per-packet one-way delay: 170.214 ms
Loss rate: 1.92%
-- Flow 2:
Average throughput: 82.27 Mbit/s
95th percentile per-packet one-way delay: 184.482 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 107.54 Mbit/s
95th percentile per-packet one-way delay: 200.356 ms
Loss rate: 0.66%
```

Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 55.68 Mbit/s)   Flow 1 egress (mean 55.07 Mbit/s)
Flow 2 ingress (mean 82.39 Mbit/s)   Flow 2 egress (mean 82.27 Mbit/s)
Flow 3 ingress (mean 105.35 Mbit/s)   Flow 3 egress (mean 107.54 Mbit/s)

Flow 1 (95th percentile 170.21 ms)   Flow 2 (95th percentile 184.48 ms)   Flow 3 (95th percentile 200.36 ms)

29

```
Run 4: Statistics of Copa

Start at: 2018-05-22 14:17:11
End at: 2018-05-22 14:17:41
Local clock offset: -0.408 ms
Remote clock offset: 0.467 ms


# Below is generated by plot.py at 2018-05-22 17:16:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 137.02 Mbit/s
95th percentile per-packet one-way delay: 122.375 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 27.65 Mbit/s
95th percentile per-packet one-way delay: 116.313 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 127.37 Mbit/s
95th percentile per-packet one-way delay: 124.445 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 75.96 Mbit/s
95th percentile per-packet one-way delay: 117.849 ms
Loss rate: 1.34%
```
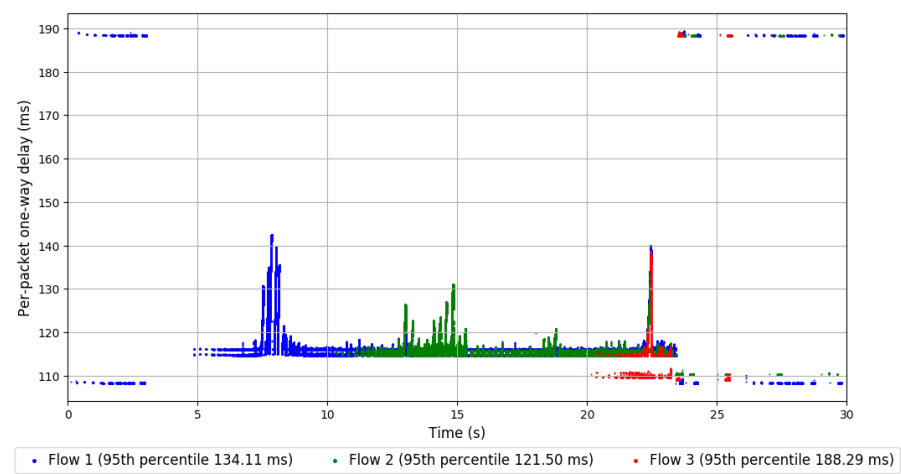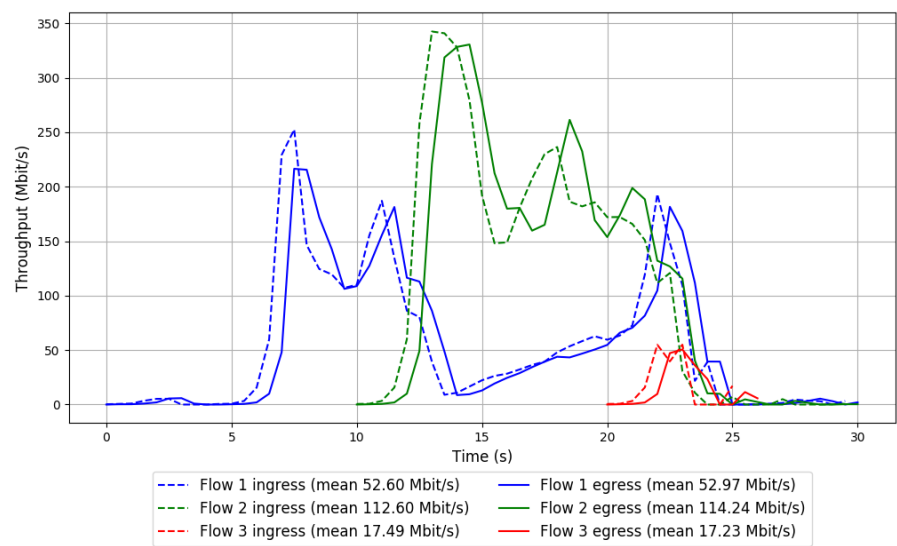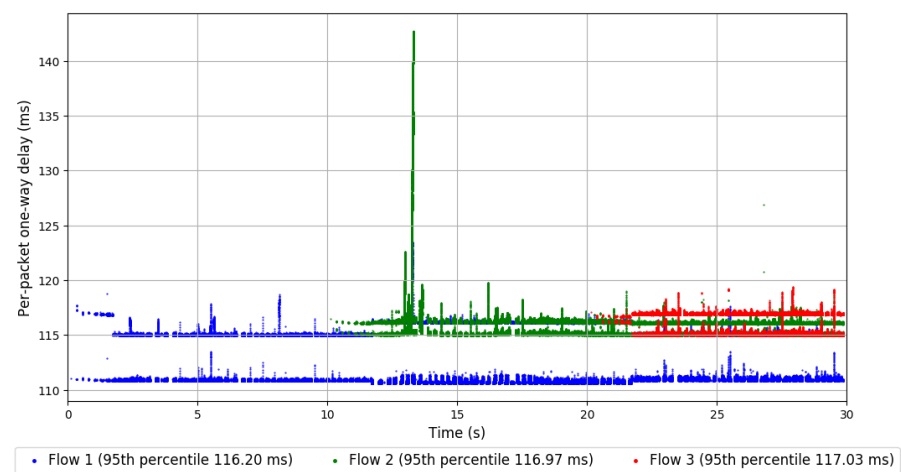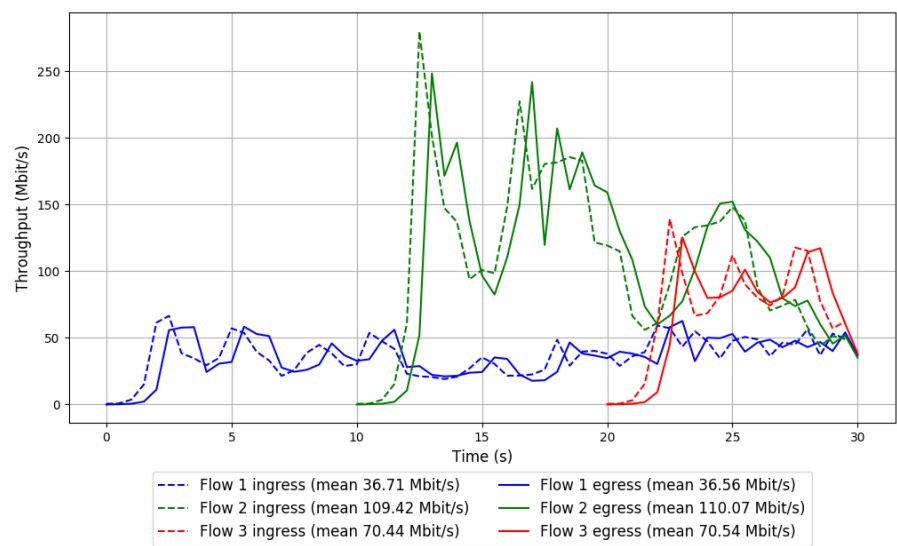
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 27.68 Mbit/s) --- Flow 1 egress (mean 27.65 Mbit/s)
Flow 2 ingress (mean 126.83 Mbit/s) --- Flow 2 egress (mean 127.37 Mbit/s)
Flow 3 ingress (mean 75.51 Mbit/s) --- Flow 3 egress (mean 75.96 Mbit/s)

Flow 1 (95th percentile 116.31 ms) Flow 2 (95th percentile 124.44 ms) Flow 3 (95th percentile 117.85 ms)
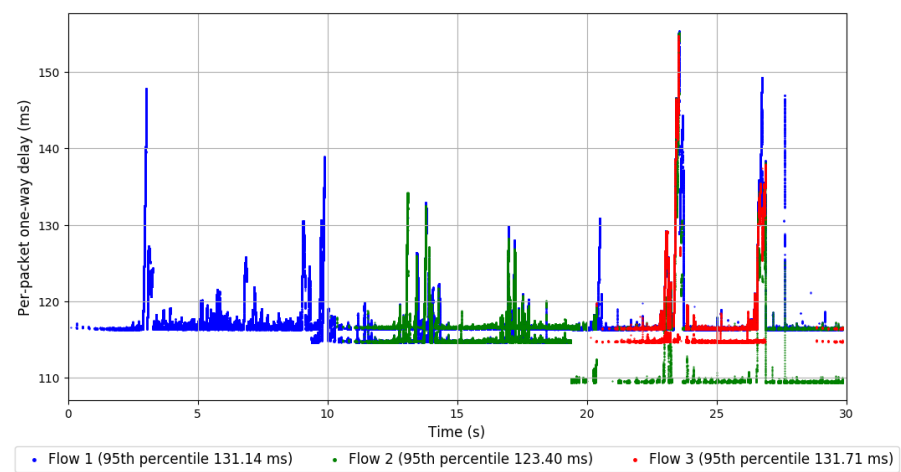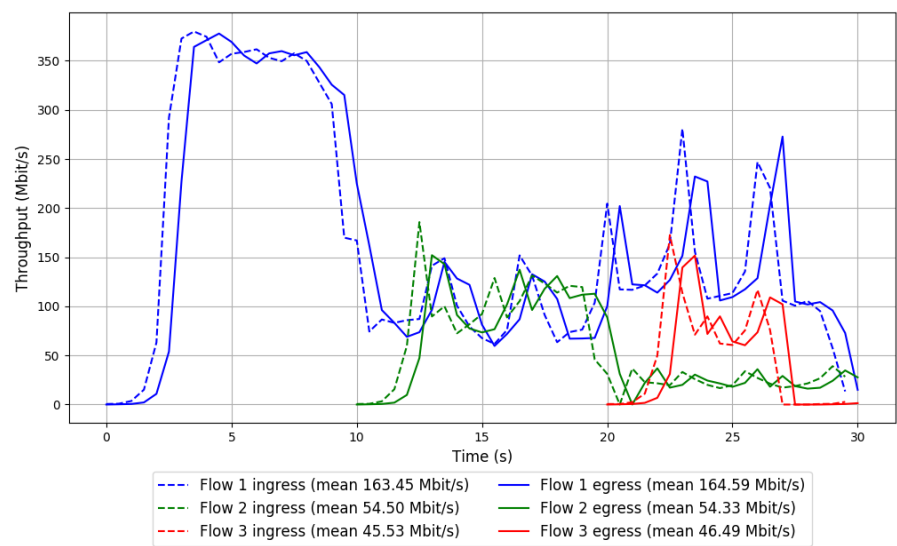
31

```
Run 5: Statistics of Copa

Start at: 2018-05-22 14:41:06
End at: 2018-05-22 14:41:36
Local clock offset: -0.759 ms
Remote clock offset: -0.042 ms


# Below is generated by plot.py at 2018-05-22 17:16:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 173.43 Mbit/s
95th percentile per-packet one-way delay: 118.255 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 37.56 Mbit/s
95th percentile per-packet one-way delay: 115.190 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 184.51 Mbit/s
95th percentile per-packet one-way delay: 119.458 ms
Loss rate: 1.88%
-- Flow 3:
Average throughput: 41.00 Mbit/s
95th percentile per-packet one-way delay: 115.218 ms
Loss rate: 2.75%
```

Run 5: Report of Copa — Data Link

- Flow 1 ingress (mean 37.65 Mbit/s)
- Flow 1 egress (mean 37.56 Mbit/s)
- Flow 2 ingress (mean 185.97 Mbit/s)
- Flow 2 egress (mean 184.51 Mbit/s)
- Flow 3 ingress (mean 41.22 Mbit/s)
- Flow 3 egress (mean 41.00 Mbit/s)

- Flow 1 (95th percentile 115.19 ms)
- Flow 2 (95th percentile 119.46 ms)
- Flow 3 (95th percentile 115.22 ms)

33

```
Run 6: Statistics of Copa

Start at: 2018-05-22 15:04:24
End at: 2018-05-22 15:04:54
Local clock offset: 0.028 ms
Remote clock offset: 0.416 ms


# Below is generated by plot.py at 2018-05-22 17:16:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 131.25 Mbit/s
95th percentile per-packet one-way delay: 126.568 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 52.97 Mbit/s
95th percentile per-packet one-way delay: 134.113 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 114.24 Mbit/s
95th percentile per-packet one-way delay: 121.498 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 17.23 Mbit/s
95th percentile per-packet one-way delay: 188.289 ms
Loss rate: 0.00%
```
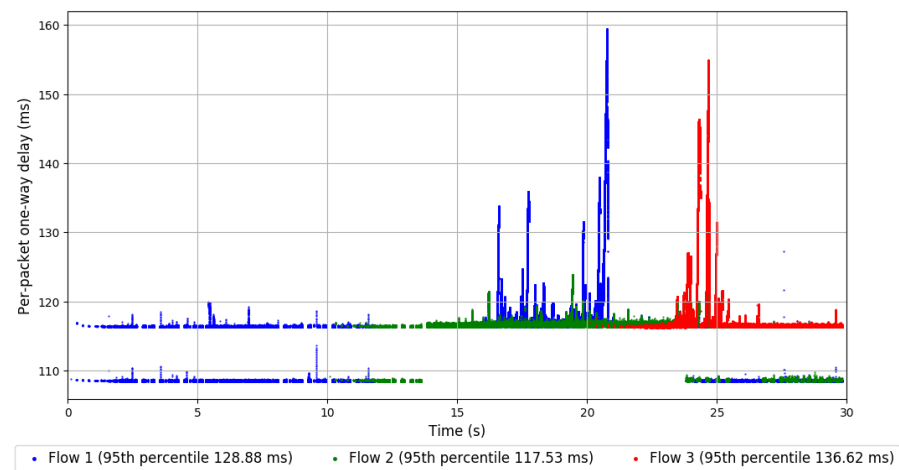
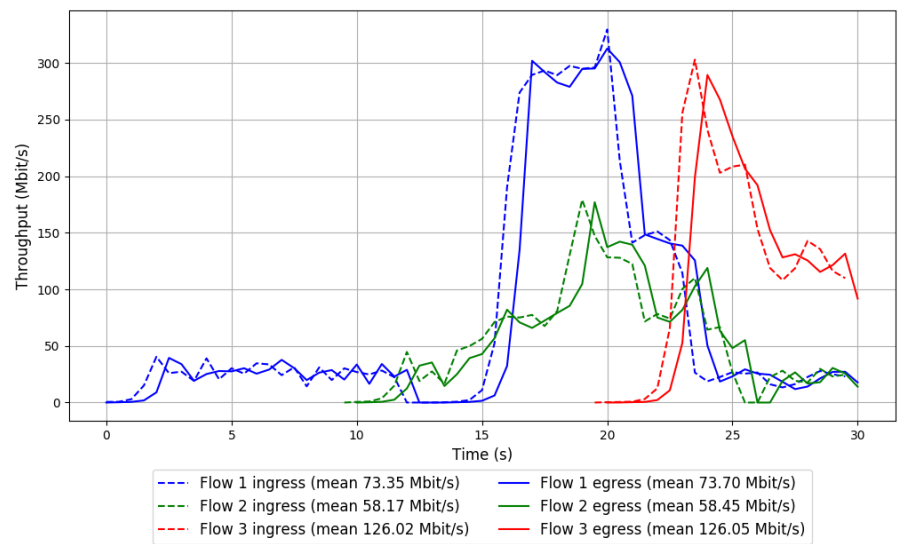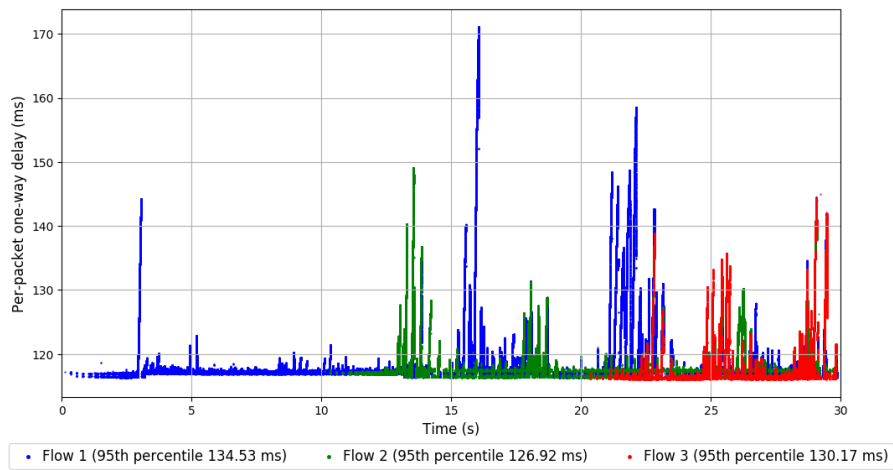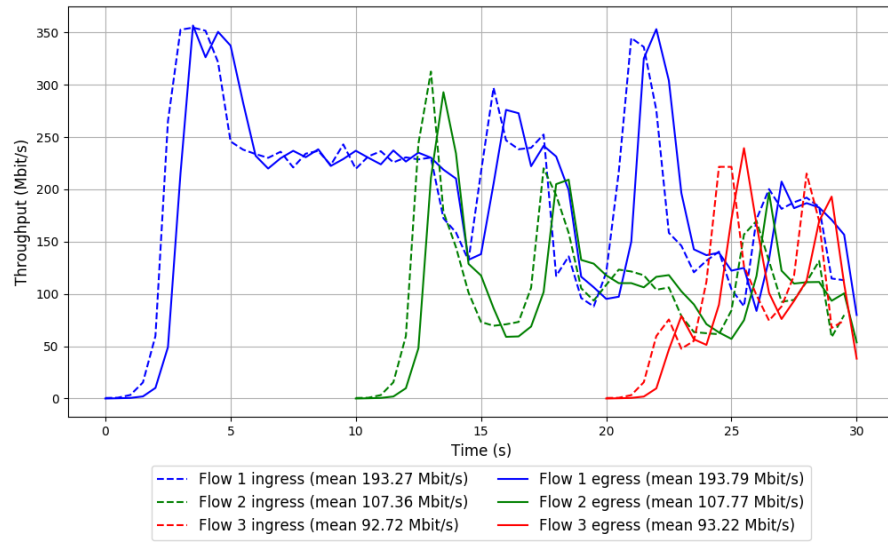Run 6: Report of Copa — Data Link

35

```
Run 7: Statistics of Copa

Start at: 2018-05-22 15:27:56
End at: 2018-05-22 15:28:26
Local clock offset: 0.24 ms
Remote clock offset: -0.046 ms


# Below is generated by plot.py at 2018-05-22 17:16:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 132.63 Mbit/s
95th percentile per-packet one-way delay: 116.985 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 36.56 Mbit/s
95th percentile per-packet one-way delay: 116.198 ms
Loss rate: 1.16%
-- Flow 2:
Average throughput: 110.07 Mbit/s
95th percentile per-packet one-way delay: 116.972 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 70.54 Mbit/s
95th percentile per-packet one-way delay: 117.033 ms
Loss rate: 2.12%
```

Run 7: Report of Copa — Data Link

Flow 1 ingress (mean 36.71 Mbit/s) --- Flow 1 egress (mean 36.56 Mbit/s)
Flow 2 ingress (mean 109.42 Mbit/s) --- Flow 2 egress (mean 110.07 Mbit/s)
Flow 3 ingress (mean 70.44 Mbit/s) --- Flow 3 egress (mean 70.54 Mbit/s)

Flow 1 (95th percentile 116.20 ms) Flow 2 (95th percentile 116.97 ms) Flow 3 (95th percentile 117.03 ms)

37

```
Run 8: Statistics of Copa

Start at: 2018-05-22 15:51:58
End at: 2018-05-22 15:52:28
Local clock offset: -0.128 ms
Remote clock offset: -0.041 ms


# Below is generated by plot.py at 2018-05-22 17:18:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 215.83 Mbit/s
95th percentile per-packet one-way delay: 130.055 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 164.59 Mbit/s
95th percentile per-packet one-way delay: 131.140 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 54.33 Mbit/s
95th percentile per-packet one-way delay: 123.402 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 46.49 Mbit/s
95th percentile per-packet one-way delay: 131.711 ms
Loss rate: 0.19%
```
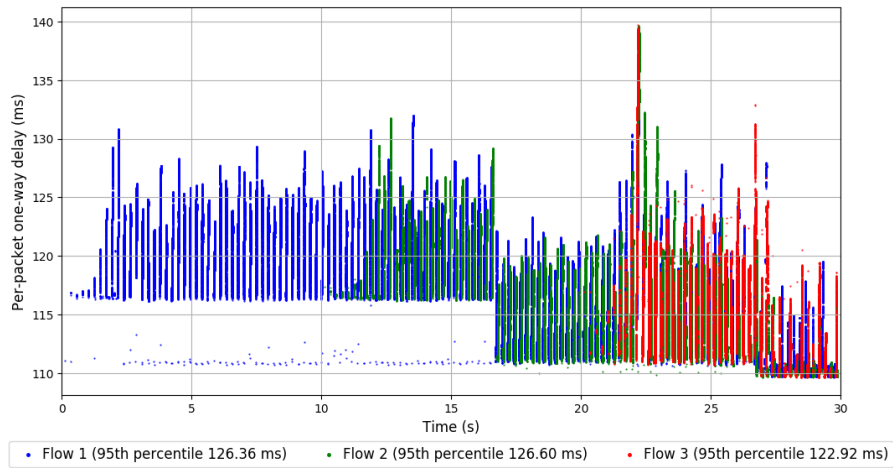
Run 8: Report of Copa — Data Link

Flow 1 ingress (mean 163.45 Mbit/s)   Flow 1 egress (mean 164.59 Mbit/s)
Flow 2 ingress (mean 54.50 Mbit/s)   Flow 2 egress (mean 54.33 Mbit/s)
Flow 3 ingress (mean 45.53 Mbit/s)   Flow 3 egress (mean 46.49 Mbit/s)

Flow 1 (95th percentile 131.14 ms)   Flow 2 (95th percentile 123.40 ms)   Flow 3 (95th percentile 131.71 ms)

```
Run 9: Statistics of Copa

Start at: 2018-05-22 16:15:54
End at: 2018-05-22 16:16:24
Local clock offset: -0.175 ms
Remote clock offset: -0.057 ms


# Below is generated by plot.py at 2018-05-22 17:18:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 153.77 Mbit/s
95th percentile per-packet one-way delay: 126.442 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 73.70 Mbit/s
95th percentile per-packet one-way delay: 128.880 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 58.45 Mbit/s
95th percentile per-packet one-way delay: 117.526 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 126.05 Mbit/s
95th percentile per-packet one-way delay: 136.619 ms
Loss rate: 2.17%
```
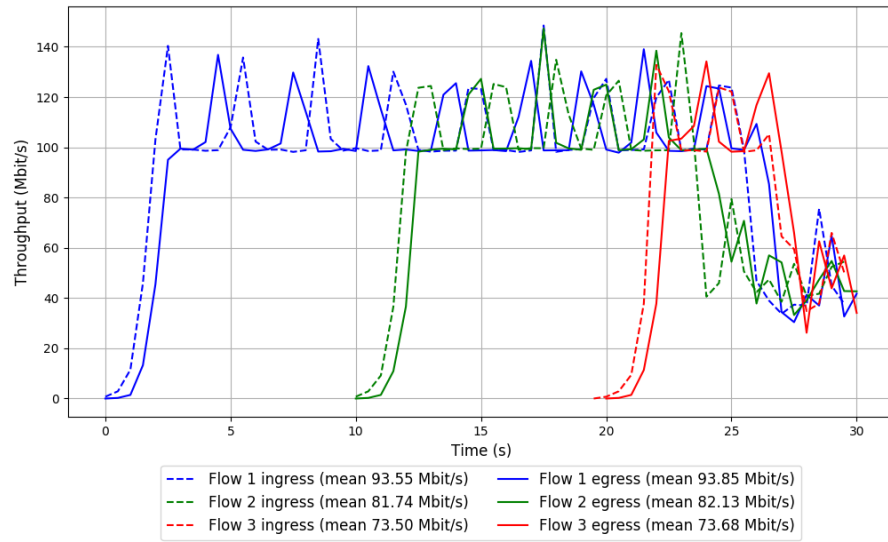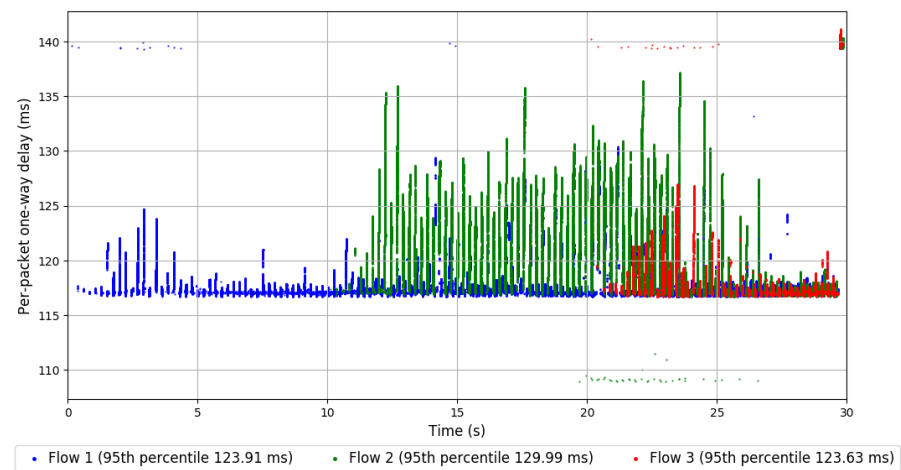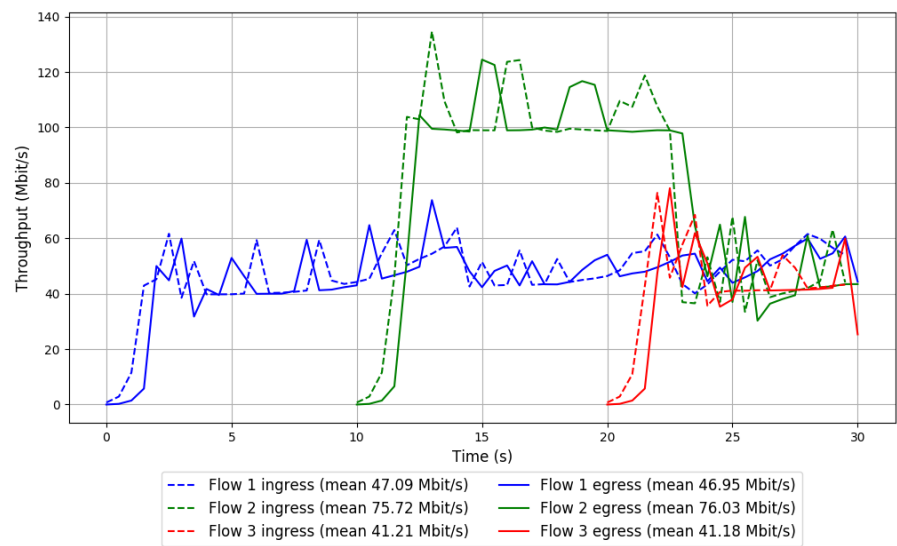
Run 9: Report of Copa — Data Link

```
Run 10: Statistics of Copa

Start at: 2018-05-22 16:39:55
End at: 2018-05-22 16:40:25
Local clock offset: 0.009 ms
Remote clock offset: -0.437 ms


# Below is generated by plot.py at 2018-05-22 17:21:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.59 Mbit/s
95th percentile per-packet one-way delay: 131.580 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 193.79 Mbit/s
95th percentile per-packet one-way delay: 134.534 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 107.77 Mbit/s
95th percentile per-packet one-way delay: 126.919 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 93.22 Mbit/s
95th percentile per-packet one-way delay: 130.172 ms
Loss rate: 2.09%
```
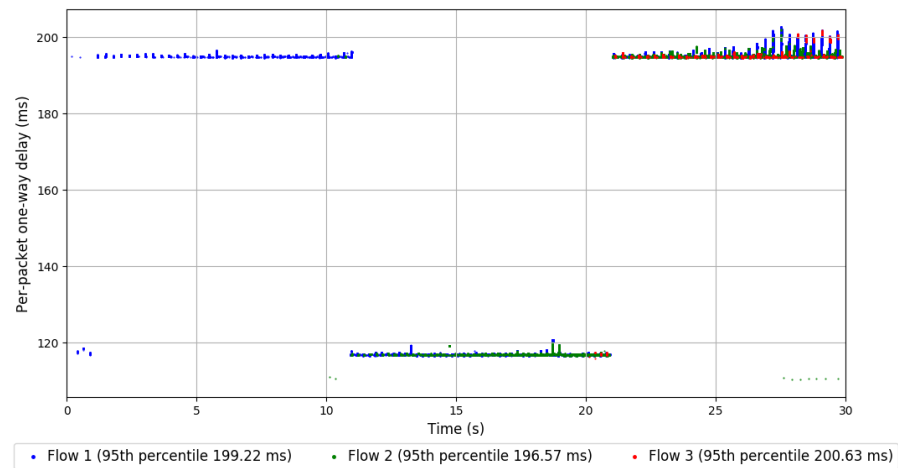
Run 10: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2018-05-22 13:11:51
End at: 2018-05-22 13:12:21
Local clock offset: 0.355 ms
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2018-05-22 17:21:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 172.24 Mbit/s
95th percentile per-packet one-way delay: 126.232 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 93.85 Mbit/s
95th percentile per-packet one-way delay: 126.356 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 82.13 Mbit/s
95th percentile per-packet one-way delay: 126.600 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 73.68 Mbit/s
95th percentile per-packet one-way delay: 122.919 ms
Loss rate: 2.05%
```
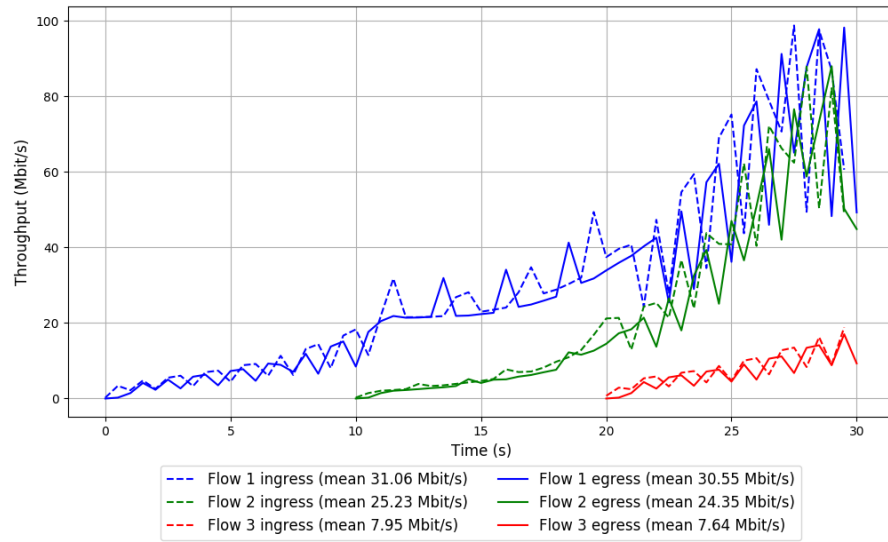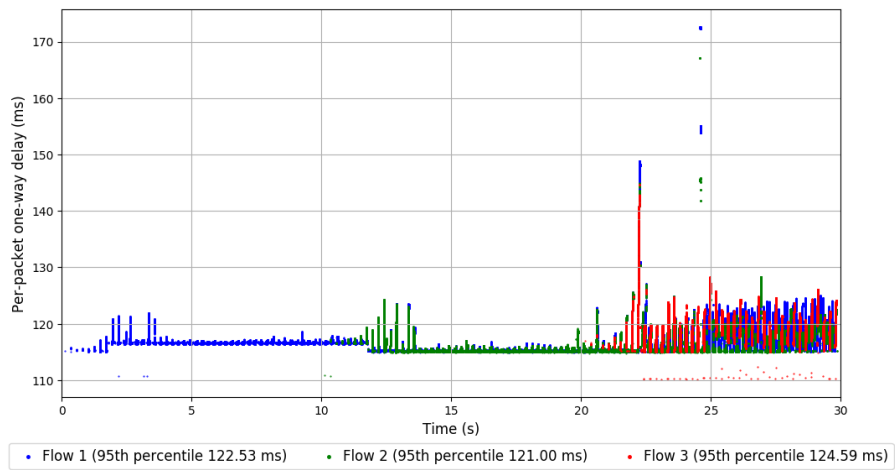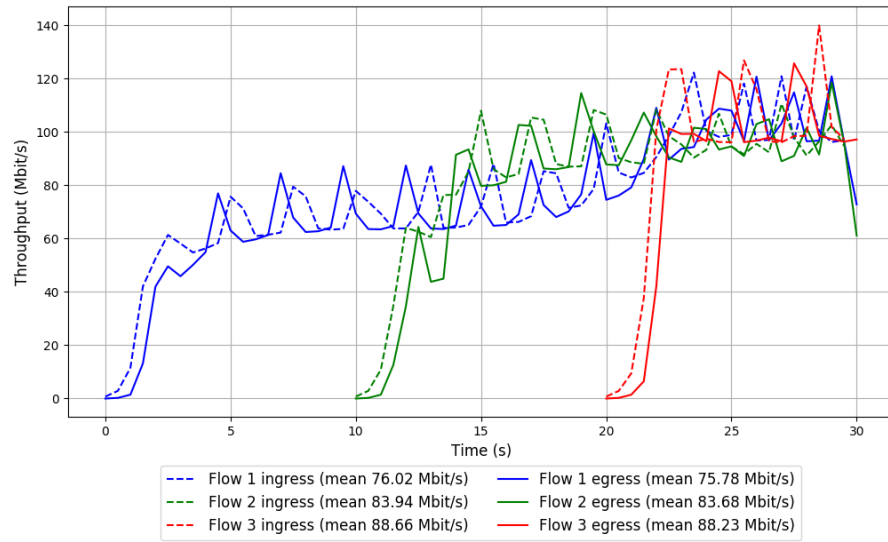
Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 93.55 Mbit/s) — Flow 1 egress (mean 93.85 Mbit/s)
Flow 2 ingress (mean 81.74 Mbit/s) — Flow 2 egress (mean 82.13 Mbit/s)
Flow 3 ingress (mean 73.50 Mbit/s) — Flow 3 egress (mean 73.68 Mbit/s)

Flow 1 (95th percentile 126.36 ms) Flow 2 (95th percentile 126.60 ms) Flow 3 (95th percentile 122.92 ms)
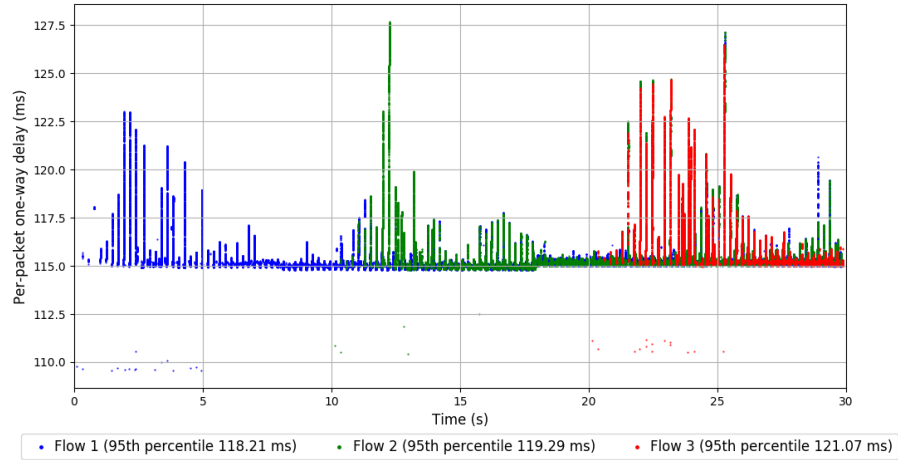
45

```
Run 2: Statistics of TCP Cubic

Start at: 2018-05-22 13:35:28
End at: 2018-05-22 13:35:58
Local clock offset: 0.21 ms
Remote clock offset: -0.005 ms


# Below is generated by plot.py at 2018-05-22 17:21:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 110.80 Mbit/s
95th percentile per-packet one-way delay: 128.468 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 46.95 Mbit/s
95th percentile per-packet one-way delay: 123.906 ms
Loss rate: 1.13%
-- Flow 2:
Average throughput: 76.03 Mbit/s
95th percentile per-packet one-way delay: 129.993 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 41.18 Mbit/s
95th percentile per-packet one-way delay: 123.634 ms
Loss rate: 2.65%
```
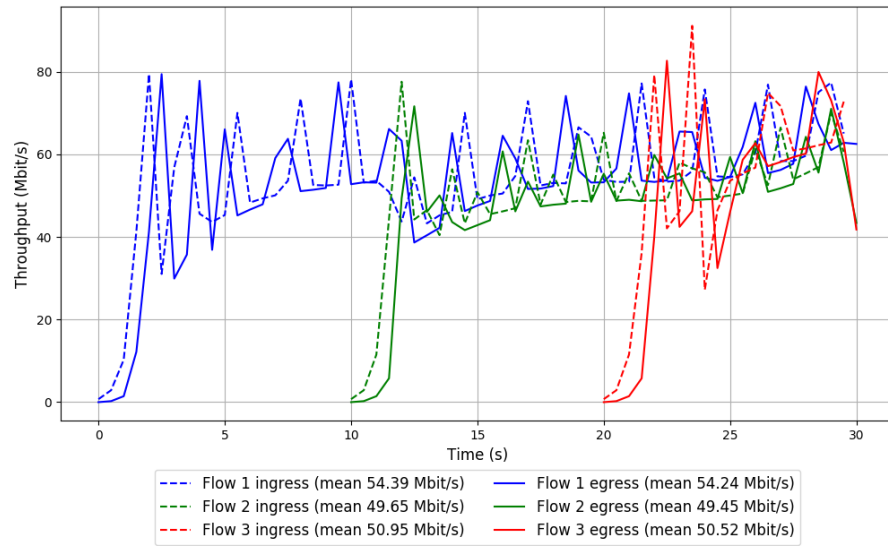
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2018-05-22 13:58:27
End at: 2018-05-22 13:58:57
Local clock offset: -0.313 ms
Remote clock offset: 0.081 ms


# Below is generated by plot.py at 2018-05-22 17:21:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 49.09 Mbit/s
95th percentile per-packet one-way delay: 198.968 ms
Loss rate: 3.34%
-- Flow 1:
Average throughput: 30.55 Mbit/s
95th percentile per-packet one-way delay: 199.217 ms
Loss rate: 2.66%
-- Flow 2:
Average throughput: 24.35 Mbit/s
95th percentile per-packet one-way delay: 196.570 ms
Loss rate: 4.16%
-- Flow 3:
Average throughput: 7.64 Mbit/s
95th percentile per-packet one-way delay: 200.632 ms
Loss rate: 6.15%
```
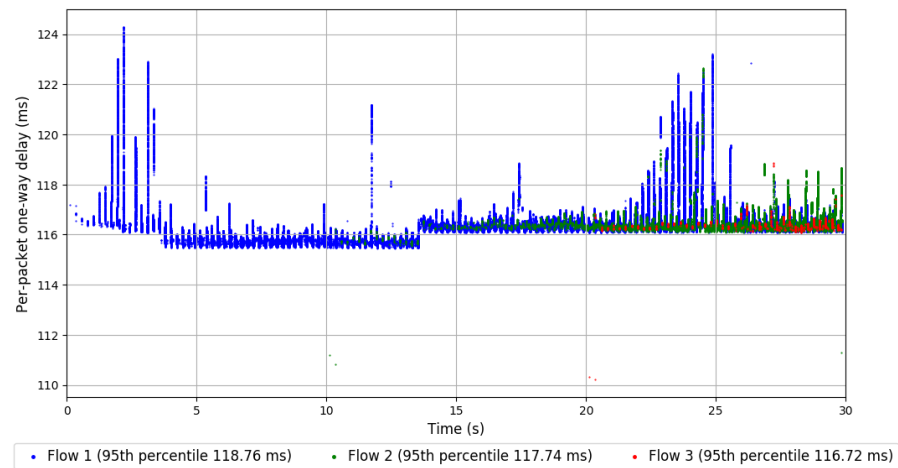
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 31.06 Mbit/s) --- Flow 1 egress (mean 30.55 Mbit/s)
Flow 2 ingress (mean 25.23 Mbit/s) --- Flow 2 egress (mean 24.35 Mbit/s)
Flow 3 ingress (mean 7.95 Mbit/s) --- Flow 3 egress (mean 7.64 Mbit/s)

Flow 1 (95th percentile 199.22 ms)   Flow 2 (95th percentile 196.57 ms)   Flow 3 (95th percentile 200.63 ms)

49

```
Run 4: Statistics of TCP Cubic

Start at: 2018-05-22 14:21:56
End at: 2018-05-22 14:22:26
Local clock offset: -0.717 ms
Remote clock offset: -0.031 ms


# Below is generated by plot.py at 2018-05-22 17:21:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 159.81 Mbit/s
95th percentile per-packet one-way delay: 122.757 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 75.78 Mbit/s
95th percentile per-packet one-way delay: 122.528 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 83.68 Mbit/s
95th percentile per-packet one-way delay: 120.995 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 88.23 Mbit/s
95th percentile per-packet one-way delay: 124.591 ms
Loss rate: 2.75%
```
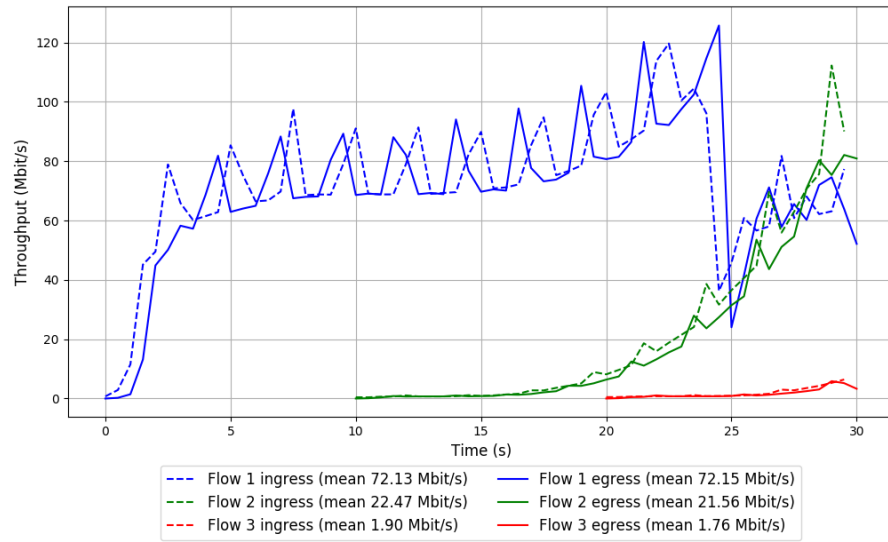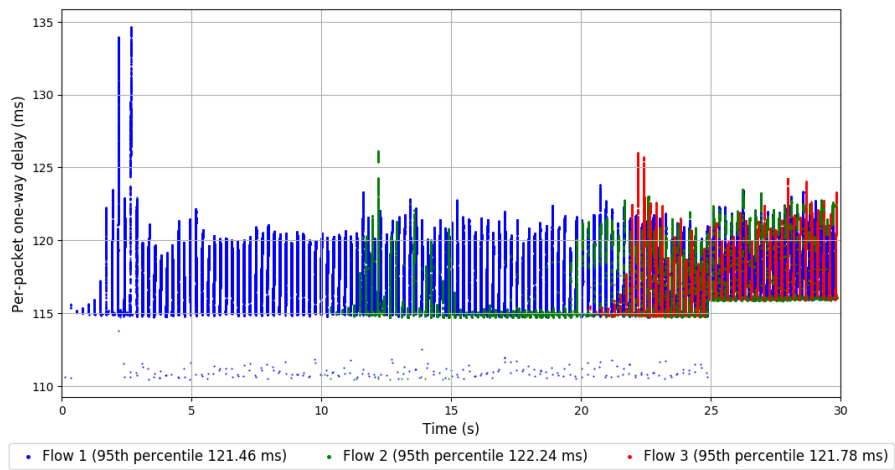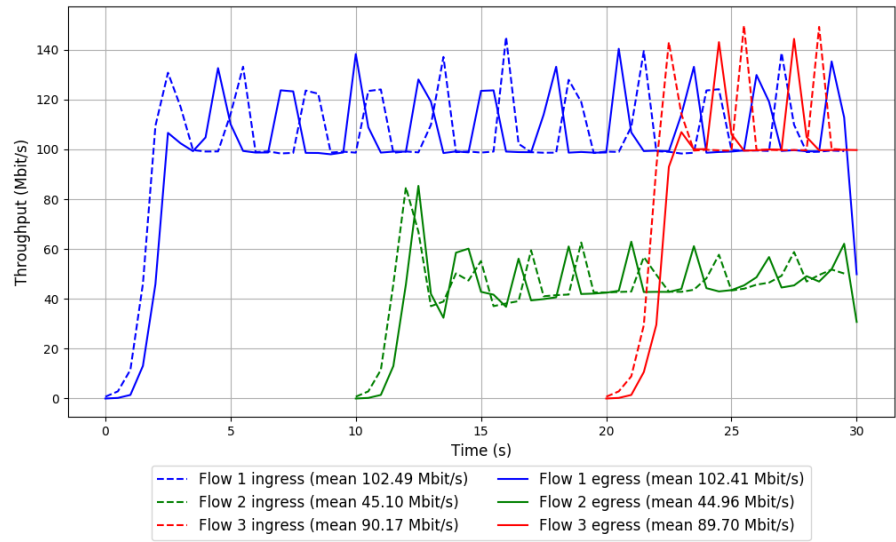
Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 76.02 Mbit/s) --- Flow 1 egress (mean 75.78 Mbit/s)
Flow 2 ingress (mean 83.94 Mbit/s) --- Flow 2 egress (mean 83.68 Mbit/s)
Flow 3 ingress (mean 88.66 Mbit/s) --- Flow 3 egress (mean 88.23 Mbit/s)

Flow 1 (95th percentile 122.53 ms)   Flow 2 (95th percentile 121.00 ms)   Flow 3 (95th percentile 124.59 ms)
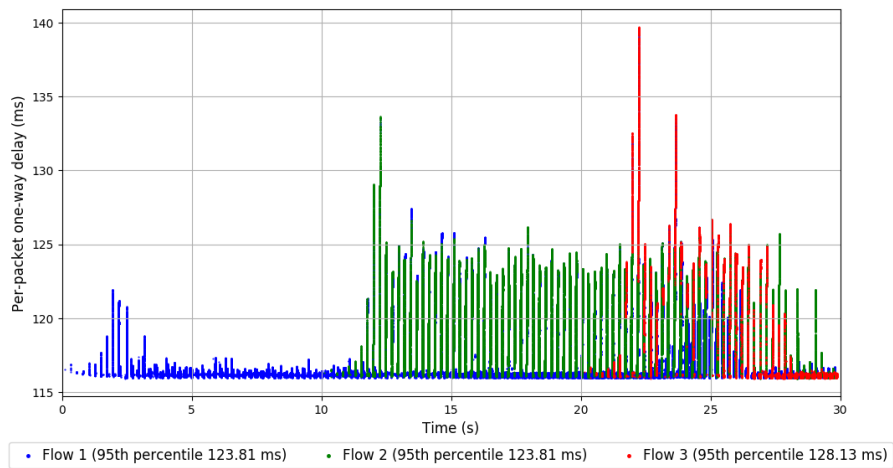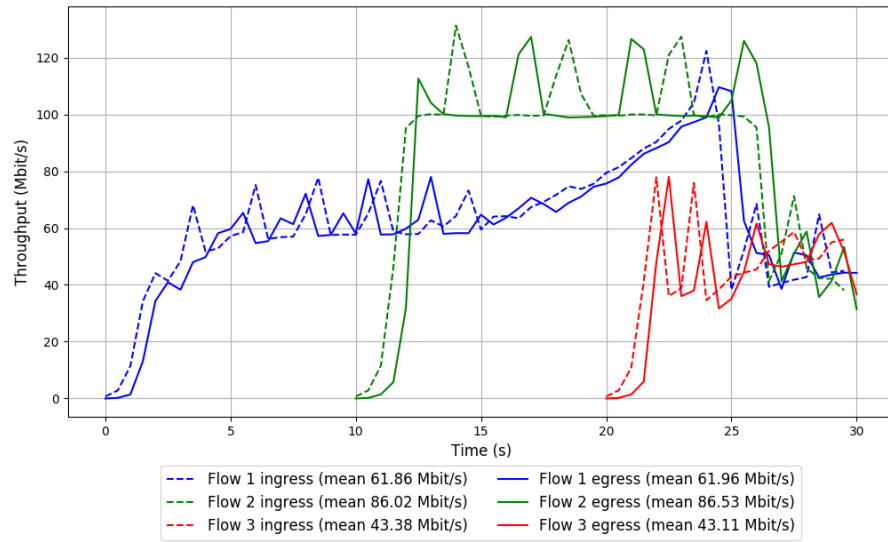
```
Run 5: Statistics of TCP Cubic

Start at: 2018-05-22 14:45:50
End at: 2018-05-22 14:46:20
Local clock offset: -0.518 ms
Remote clock offset: -0.006 ms


# Below is generated by plot.py at 2018-05-22 17:21:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 103.53 Mbit/s
95th percentile per-packet one-way delay: 119.179 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 54.24 Mbit/s
95th percentile per-packet one-way delay: 118.211 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 49.45 Mbit/s
95th percentile per-packet one-way delay: 119.288 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 50.52 Mbit/s
95th percentile per-packet one-way delay: 121.071 ms
Loss rate: 3.10%
```
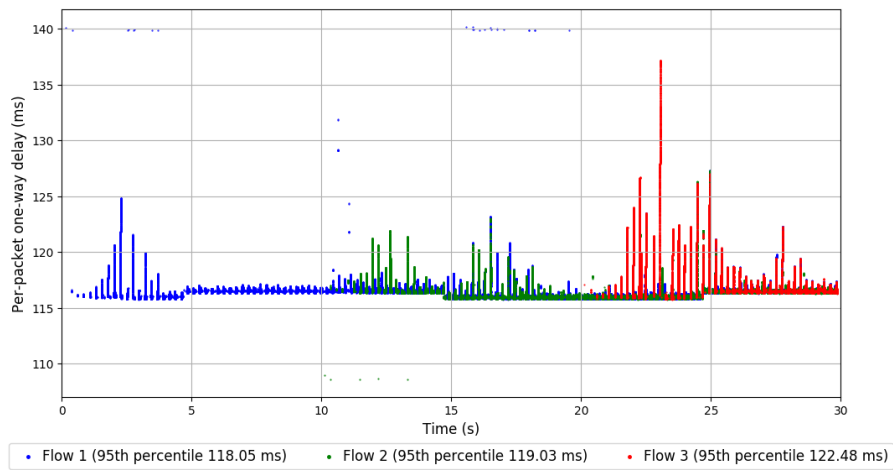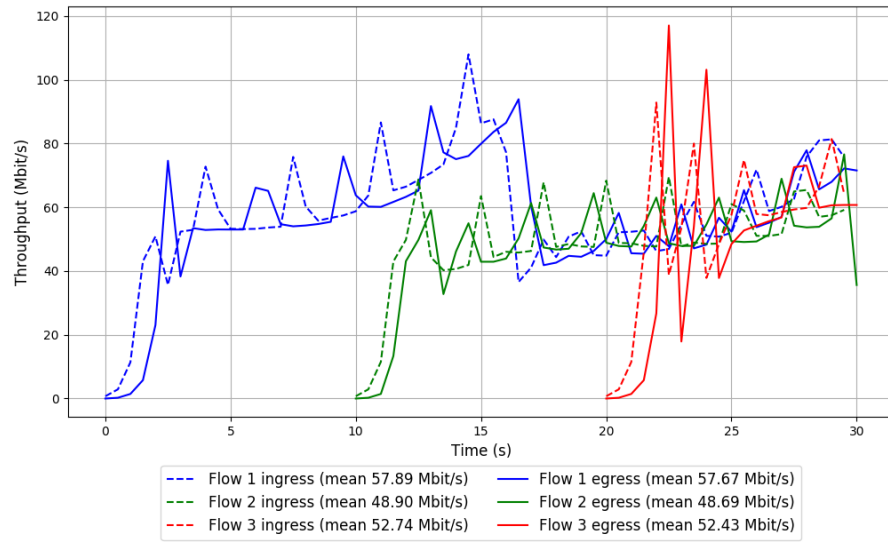
Run 5: Report of TCP Cubic — Data Link

```
Run 6: Statistics of TCP Cubic

Start at: 2018-05-22 15:09:04
End at: 2018-05-22 15:09:34
Local clock offset: 0.5 ms
Remote clock offset: 0.015 ms


# Below is generated by plot.py at 2018-05-22 17:21:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.03 Mbit/s
95th percentile per-packet one-way delay: 118.477 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 72.15 Mbit/s
95th percentile per-packet one-way delay: 118.758 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 21.56 Mbit/s
95th percentile per-packet one-way delay: 117.739 ms
Loss rate: 5.11%
-- Flow 3:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 116.716 ms
Loss rate: 9.23%
```

Run 6: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 72.13 Mbit/s)   Flow 1 egress (mean 72.15 Mbit/s)
Flow 2 ingress (mean 22.47 Mbit/s)   Flow 2 egress (mean 21.56 Mbit/s)
Flow 3 ingress (mean 1.90 Mbit/s)   Flow 3 egress (mean 1.76 Mbit/s)

Flow 1 (95th percentile 118.76 ms)   Flow 2 (95th percentile 117.74 ms)   Flow 3 (95th percentile 116.72 ms)
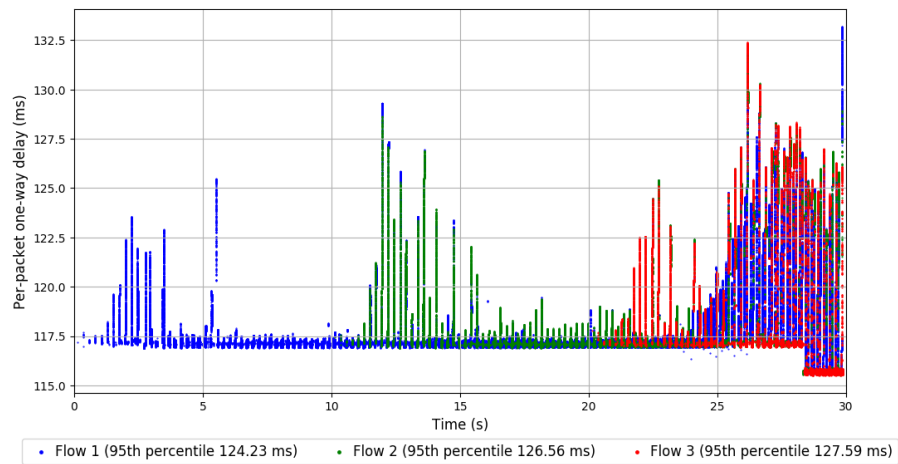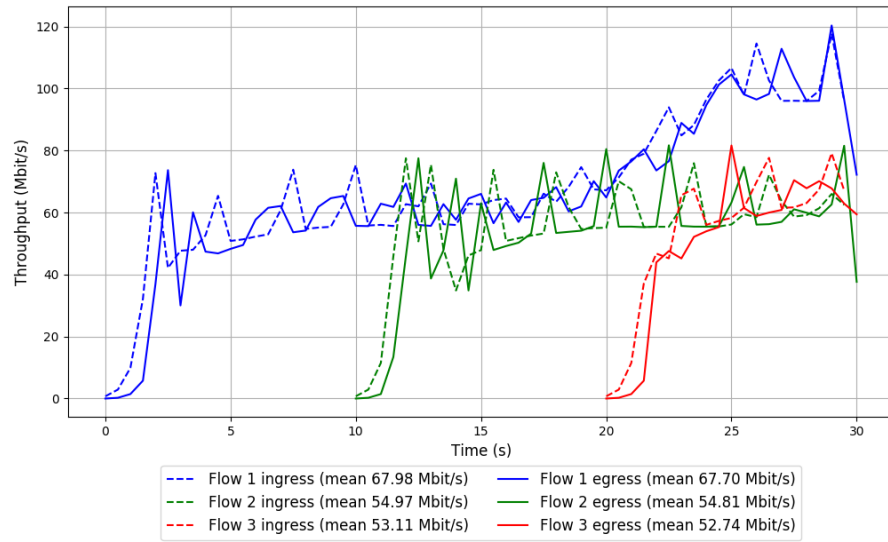
```
Run 7: Statistics of TCP Cubic

Start at: 2018-05-22 15:32:43
End at: 2018-05-22 15:33:13
Local clock offset: -0.017 ms
Remote clock offset: -0.057 ms


# Below is generated by plot.py at 2018-05-22 17:21:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 160.91 Mbit/s
95th percentile per-packet one-way delay: 121.719 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 102.41 Mbit/s
95th percentile per-packet one-way delay: 121.461 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 44.96 Mbit/s
95th percentile per-packet one-way delay: 122.242 ms
Loss rate: 1.40%
-- Flow 3:
Average throughput: 89.70 Mbit/s
95th percentile per-packet one-way delay: 121.784 ms
Loss rate: 2.79%
```
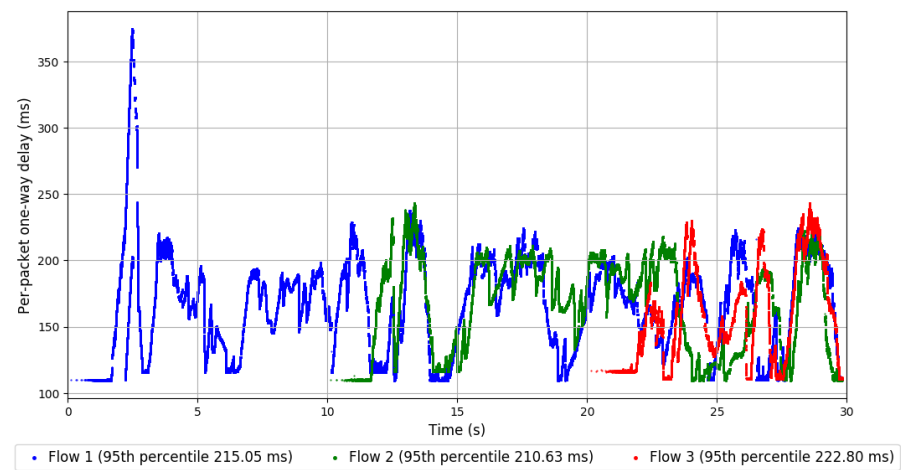
Run 7: Report of TCP Cubic — Data Link

- --- Flow 1 ingress (mean 102.49 Mbit/s)   — Flow 1 egress (mean 102.41 Mbit/s)
- --- Flow 2 ingress (mean 45.10 Mbit/s)   — Flow 2 egress (mean 44.96 Mbit/s)
- --- Flow 3 ingress (mean 90.17 Mbit/s)   — Flow 3 egress (mean 89.70 Mbit/s)

- Flow 1 (95th percentile 121.46 ms)   • Flow 2 (95th percentile 122.24 ms)   • Flow 3 (95th percentile 121.78 ms)

```
Run 8: Statistics of TCP Cubic

Start at: 2018-05-22 15:56:54
End at: 2018-05-22 15:57:24
Local clock offset: -0.132 ms
Remote clock offset: 0.356 ms


# Below is generated by plot.py at 2018-05-22 17:21:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 133.20 Mbit/s
95th percentile per-packet one-way delay: 124.374 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 61.96 Mbit/s
95th percentile per-packet one-way delay: 123.813 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 86.53 Mbit/s
95th percentile per-packet one-way delay: 123.810 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 43.11 Mbit/s
95th percentile per-packet one-way delay: 128.131 ms
Loss rate: 2.89%
```
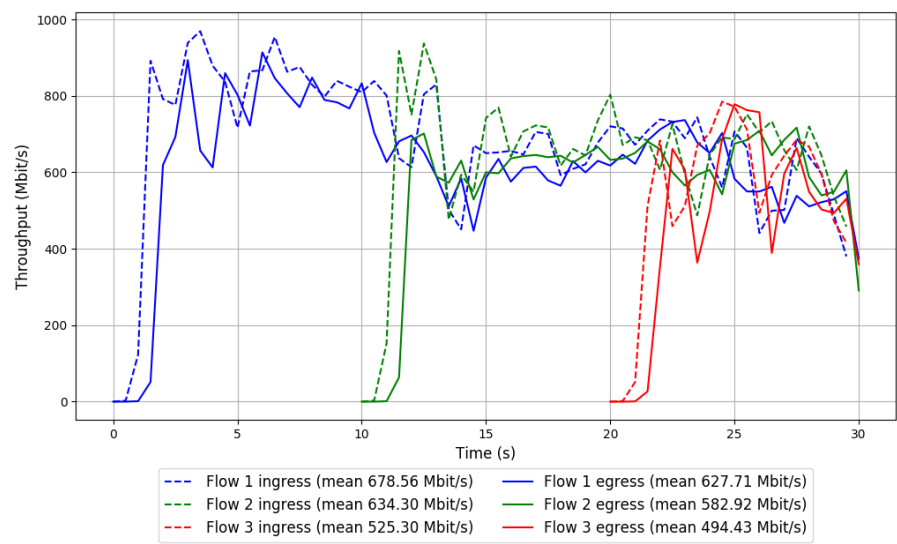
Run 8: Report of TCP Cubic — Data Link

```
Run 9: Statistics of TCP Cubic

Start at: 2018-05-22 16:20:53
End at: 2018-05-22 16:21:23
Local clock offset: -0.183 ms
Remote clock offset: -0.068 ms


# Below is generated by plot.py at 2018-05-22 17:21:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 107.13 Mbit/s
95th percentile per-packet one-way delay: 119.456 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 57.67 Mbit/s
95th percentile per-packet one-way delay: 118.053 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 48.69 Mbit/s
95th percentile per-packet one-way delay: 119.030 ms
Loss rate: 1.51%
-- Flow 3:
Average throughput: 52.43 Mbit/s
95th percentile per-packet one-way delay: 122.477 ms
Loss rate: 2.92%
```
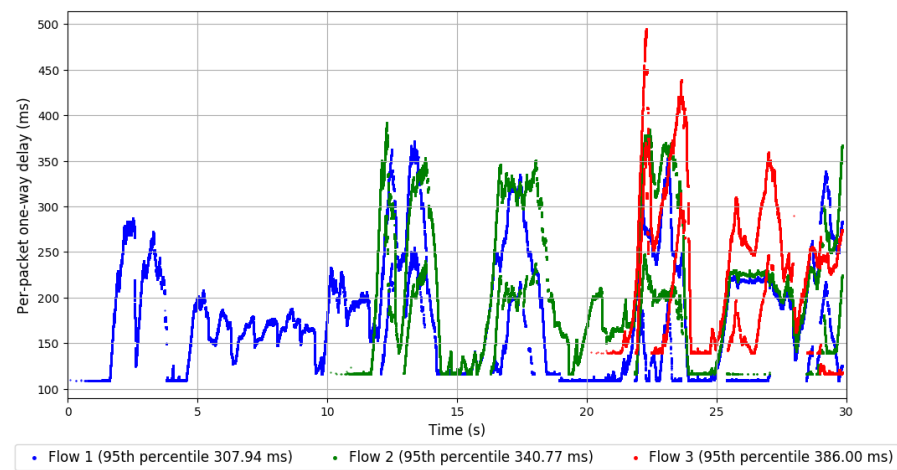
Run 9: Report of TCP Cubic — Data Link

```
Run 10: Statistics of TCP Cubic

Start at: 2018-05-22 16:44:49
End at: 2018-05-22 16:45:19
Local clock offset: -0.017 ms
Remote clock offset: -0.435 ms


# Below is generated by plot.py at 2018-05-22 17:21:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 121.26 Mbit/s
95th percentile per-packet one-way delay: 125.951 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 67.70 Mbit/s
95th percentile per-packet one-way delay: 124.234 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 54.81 Mbit/s
95th percentile per-packet one-way delay: 126.558 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 52.74 Mbit/s
95th percentile per-packet one-way delay: 127.586 ms
Loss rate: 2.95%
```
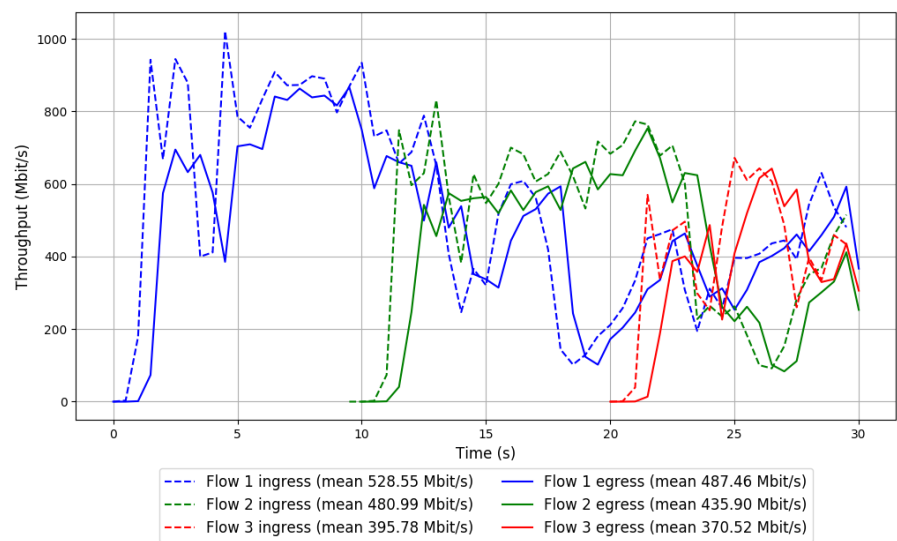
Run 10: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2018-05-22 13:13:15
End at: 2018-05-22 13:13:45
Local clock offset: 0.067 ms
Remote clock offset: -0.029 ms

# Below is generated by plot.py at 2018-05-22 17:38:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1175.32 Mbit/s
95th percentile per-packet one-way delay: 215.349 ms
Loss rate: 8.50%
-- Flow 1:
Average throughput: 627.71 Mbit/s
95th percentile per-packet one-way delay: 215.053 ms
Loss rate: 8.20%
-- Flow 2:
Average throughput: 582.92 Mbit/s
95th percentile per-packet one-way delay: 210.633 ms
Loss rate: 9.16%
-- Flow 3:
Average throughput: 494.43 Mbit/s
95th percentile per-packet one-way delay: 222.804 ms
Loss rate: 8.12%
```
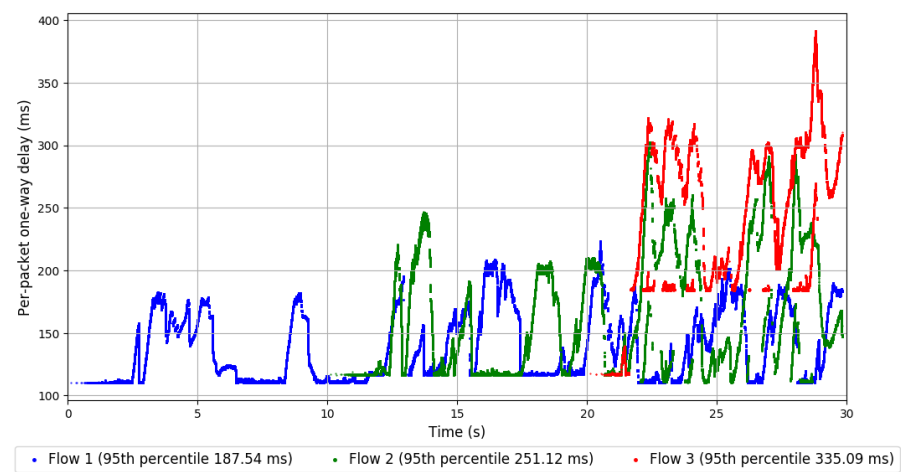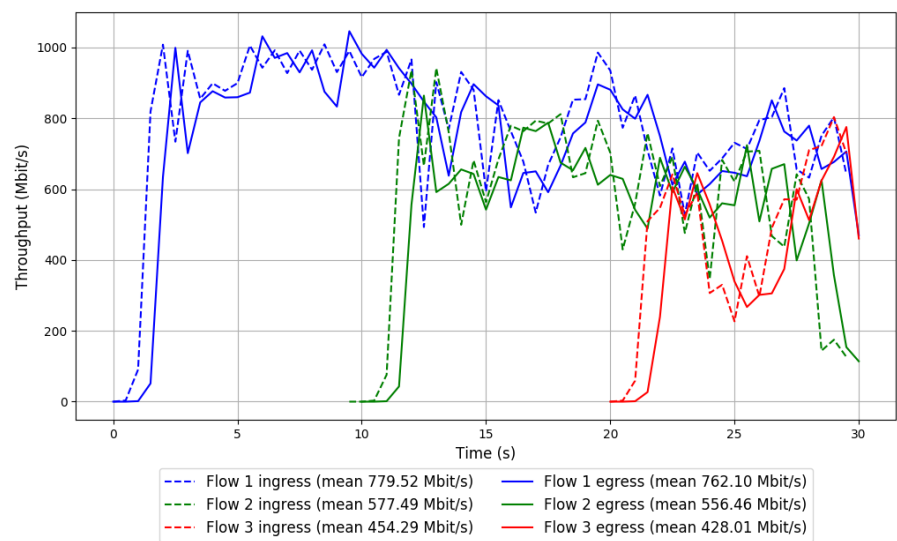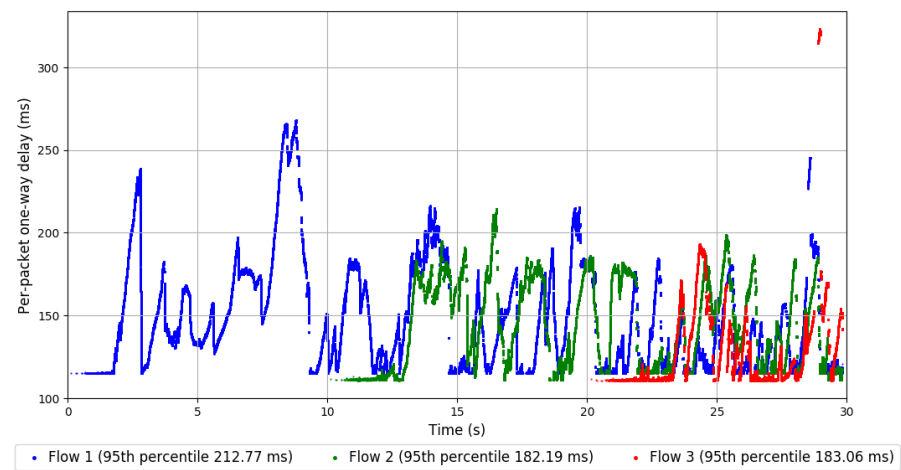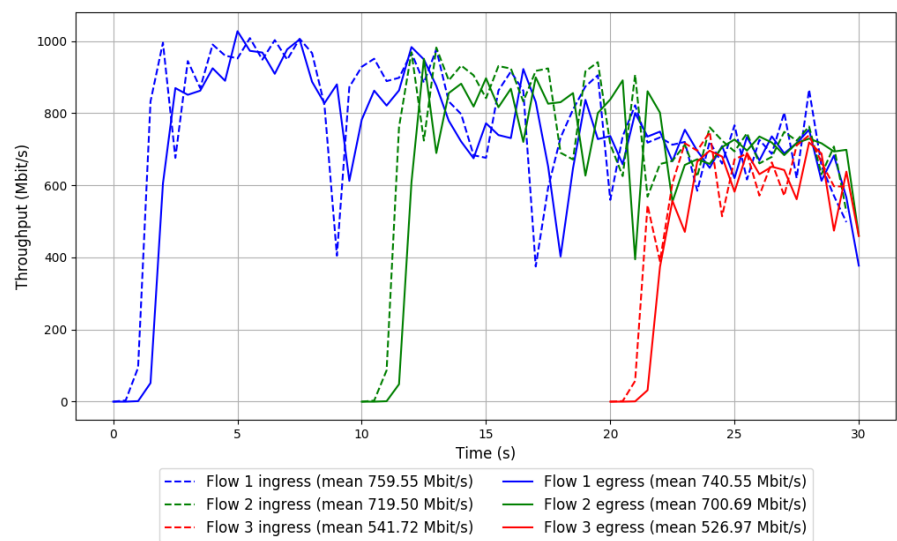
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 678.56 Mbit/s) --- Flow 1 egress (mean 627.71 Mbit/s)
Flow 2 ingress (mean 634.30 Mbit/s) --- Flow 2 egress (mean 582.92 Mbit/s)
Flow 3 ingress (mean 525.30 Mbit/s) --- Flow 3 egress (mean 494.43 Mbit/s)

Flow 1 (95th percentile 215.05 ms)   Flow 2 (95th percentile 210.63 ms)   Flow 3 (95th percentile 222.80 ms)

65

```
Run 2: Statistics of FillP

Start at: 2018-05-22 13:36:49
End at: 2018-05-22 13:37:19
Local clock offset: 0.085 ms
Remote clock offset: 0.043 ms

# Below is generated by plot.py at 2018-05-22 17:38:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 897.11 Mbit/s
95th percentile per-packet one-way delay: 333.428 ms
Loss rate: 9.13%
-- Flow 1:
Average throughput: 487.46 Mbit/s
95th percentile per-packet one-way delay: 307.936 ms
Loss rate: 8.45%
-- Flow 2:
Average throughput: 435.90 Mbit/s
95th percentile per-packet one-way delay: 340.773 ms
Loss rate: 10.41%
-- Flow 3:
Average throughput: 370.52 Mbit/s
95th percentile per-packet one-way delay: 385.998 ms
Loss rate: 8.76%
```
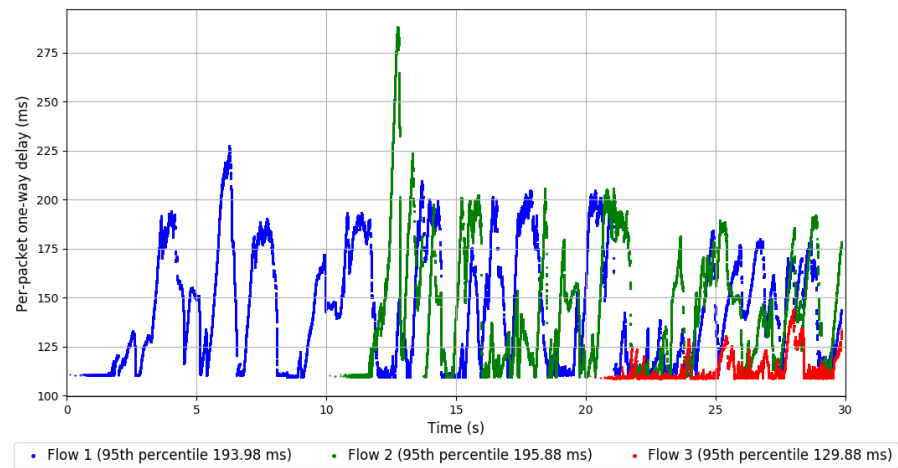
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2018-05-22 13:59:46
End at: 2018-05-22 14:00:16
Local clock offset: -0.509 ms
Remote clock offset: 0.034 ms

# Below is generated by plot.py at 2018-05-22 17:41:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1270.61 Mbit/s
95th percentile per-packet one-way delay: 281.084 ms
Loss rate: 4.06%
-- Flow 1:
Average throughput: 762.10 Mbit/s
95th percentile per-packet one-way delay: 187.544 ms
Loss rate: 2.98%
-- Flow 2:
Average throughput: 556.46 Mbit/s
95th percentile per-packet one-way delay: 251.115 ms
Loss rate: 4.73%
-- Flow 3:
Average throughput: 428.01 Mbit/s
95th percentile per-packet one-way delay: 335.091 ms
Loss rate: 7.99%
```
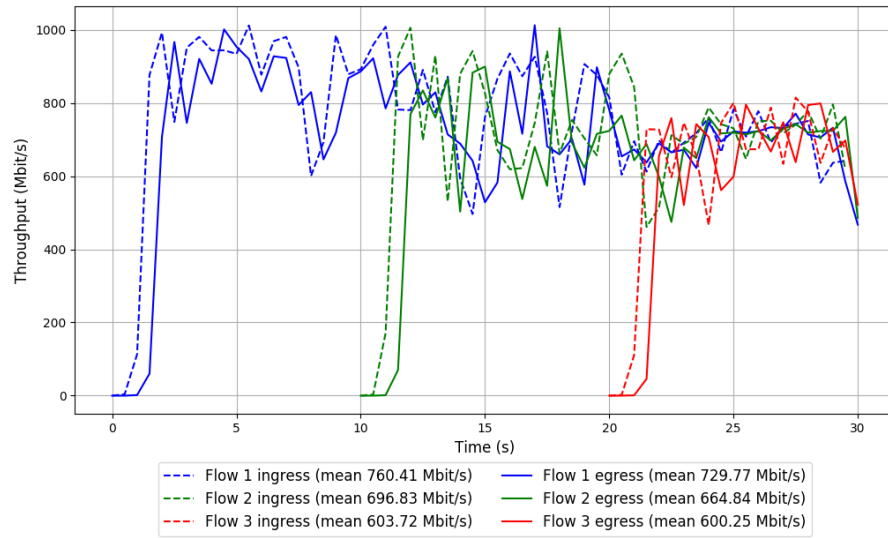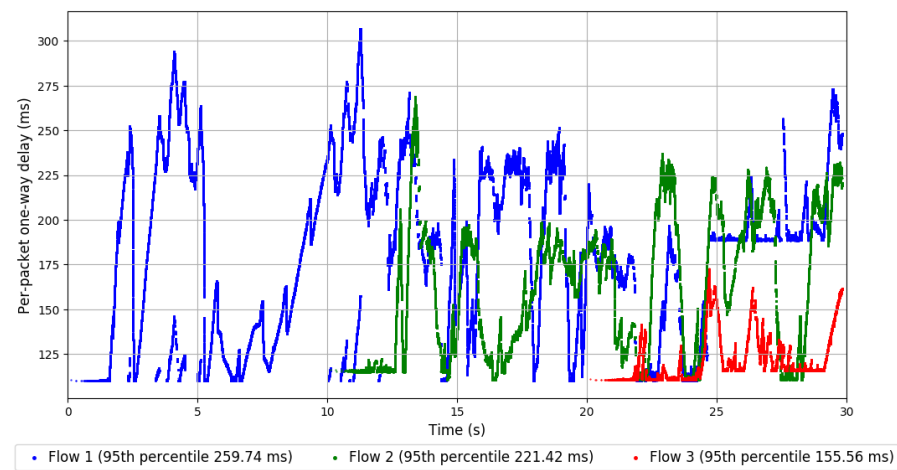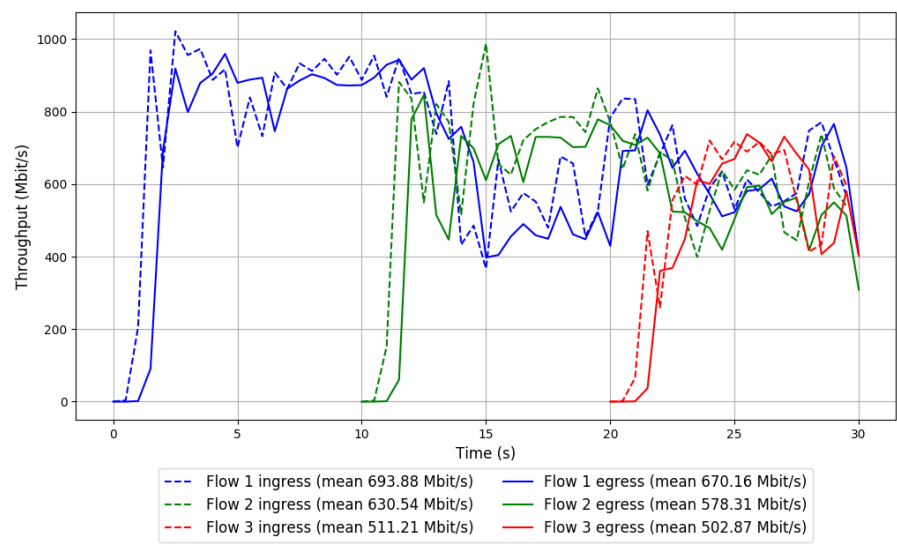
Run 3: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 779.52 Mbit/s) —— Flow 1 egress (mean 762.10 Mbit/s)
- - - - Flow 2 ingress (mean 577.49 Mbit/s) —— Flow 2 egress (mean 556.46 Mbit/s)
- - - - Flow 3 ingress (mean 454.29 Mbit/s) —— Flow 3 egress (mean 428.01 Mbit/s)

- Flow 1 (95th percentile 187.54 ms)　　• Flow 2 (95th percentile 251.12 ms)　　• Flow 3 (95th percentile 335.09 ms)
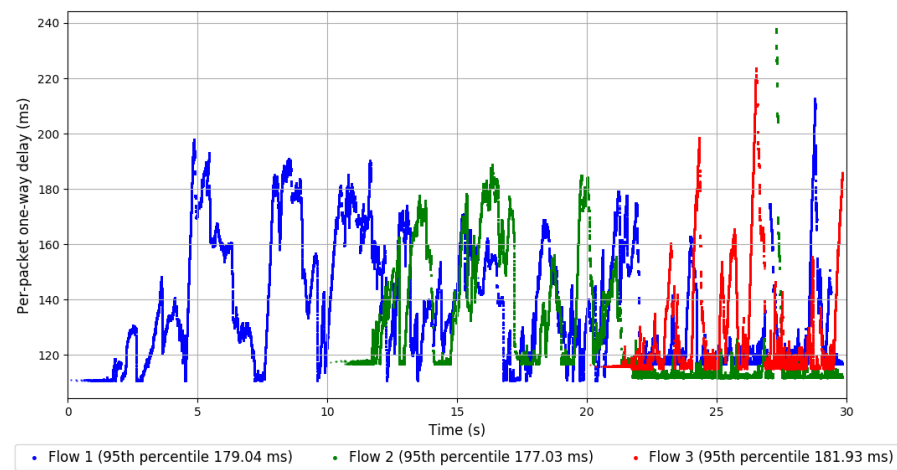
69

```
Run 4: Statistics of FillP

Start at: 2018-05-22 14:23:18
End at: 2018-05-22 14:23:48
Local clock offset: -0.539 ms
Remote clock offset: -0.009 ms


# Below is generated by plot.py at 2018-05-22 17:43:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1376.93 Mbit/s
95th percentile per-packet one-way delay: 195.827 ms
Loss rate: 3.64%
-- Flow 1:
Average throughput: 740.55 Mbit/s
95th percentile per-packet one-way delay: 212.767 ms
Loss rate: 3.25%
-- Flow 2:
Average throughput: 700.69 Mbit/s
95th percentile per-packet one-way delay: 182.195 ms
Loss rate: 3.76%
-- Flow 3:
Average throughput: 526.97 Mbit/s
95th percentile per-packet one-way delay: 183.064 ms
Loss rate: 4.97%
```

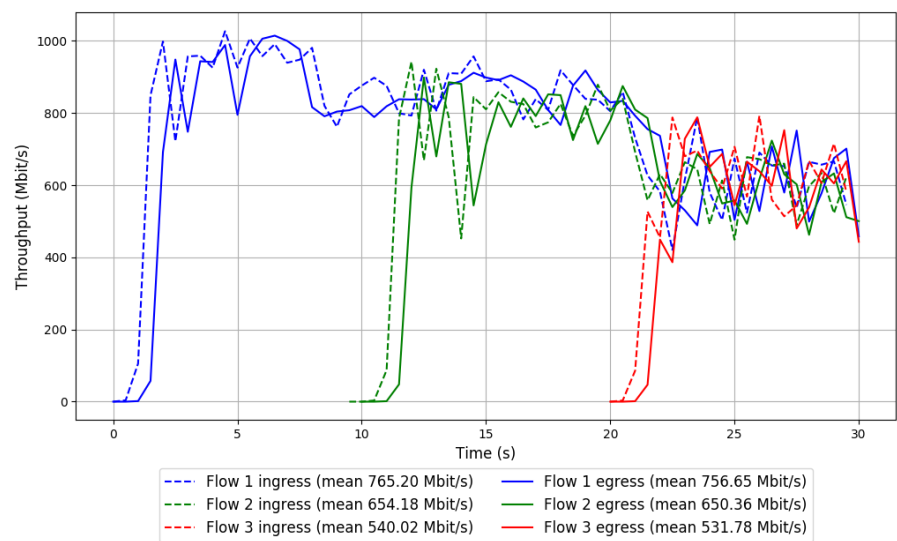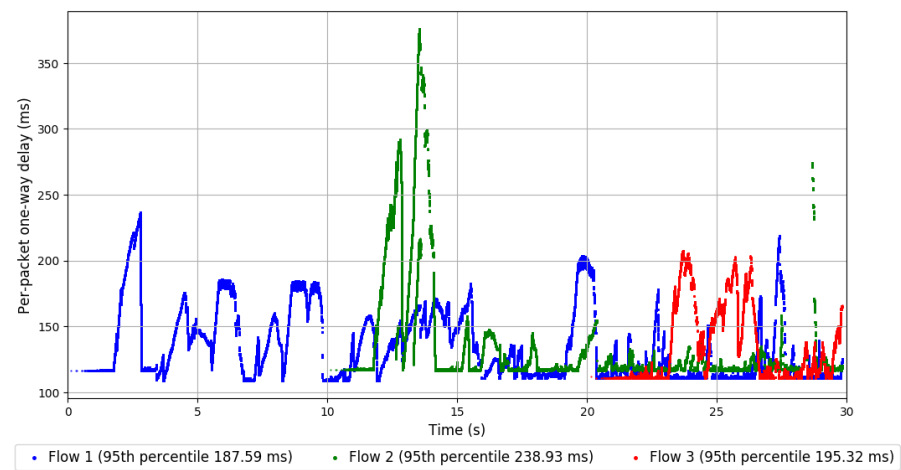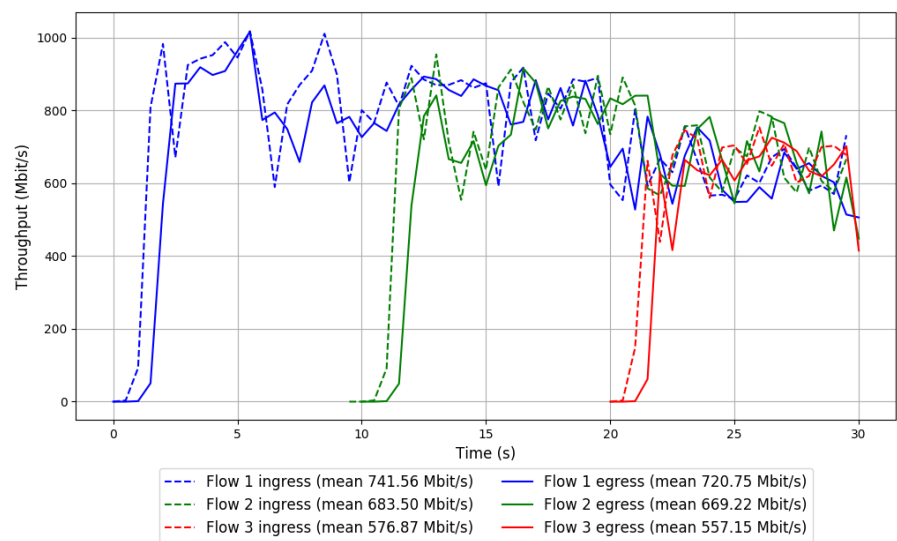# Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2018-05-22 14:47:09
End at: 2018-05-22 14:47:39
Local clock offset: -0.48 ms
Remote clock offset: 0.056 ms

# Below is generated by plot.py at 2018-05-22 17:43:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1366.44 Mbit/s
95th percentile per-packet one-way delay: 193.158 ms
Loss rate: 4.76%
-- Flow 1:
Average throughput: 729.77 Mbit/s
95th percentile per-packet one-way delay: 193.976 ms
Loss rate: 4.74%
-- Flow 2:
Average throughput: 664.84 Mbit/s
95th percentile per-packet one-way delay: 195.883 ms
Loss rate: 5.65%
-- Flow 3:
Average throughput: 600.25 Mbit/s
95th percentile per-packet one-way delay: 129.884 ms
Loss rate: 2.79%
```

Run 5: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 760.41 Mbit/s)   —— Flow 1 egress (mean 729.77 Mbit/s)
- - - - Flow 2 ingress (mean 696.83 Mbit/s)   —— Flow 2 egress (mean 664.84 Mbit/s)
- - - - Flow 3 ingress (mean 603.72 Mbit/s)   —— Flow 3 egress (mean 600.25 Mbit/s)

• Flow 1 (95th percentile 193.98 ms)   • Flow 2 (95th percentile 195.88 ms)   • Flow 3 (95th percentile 129.88 ms)
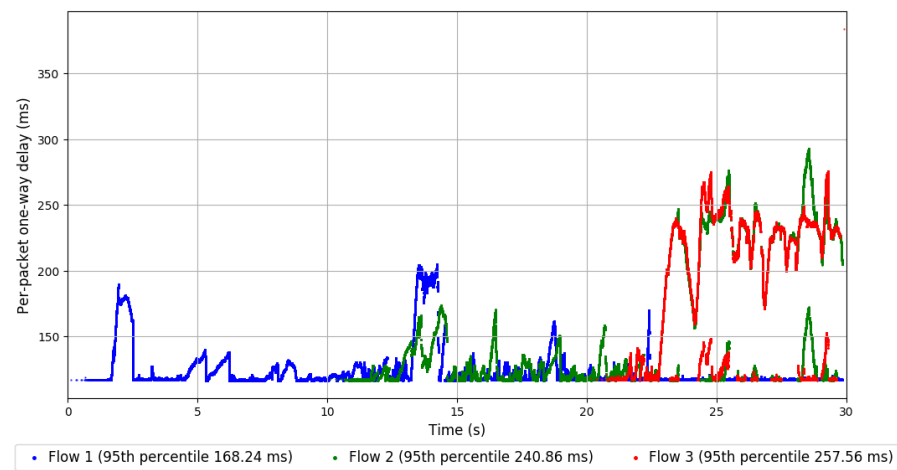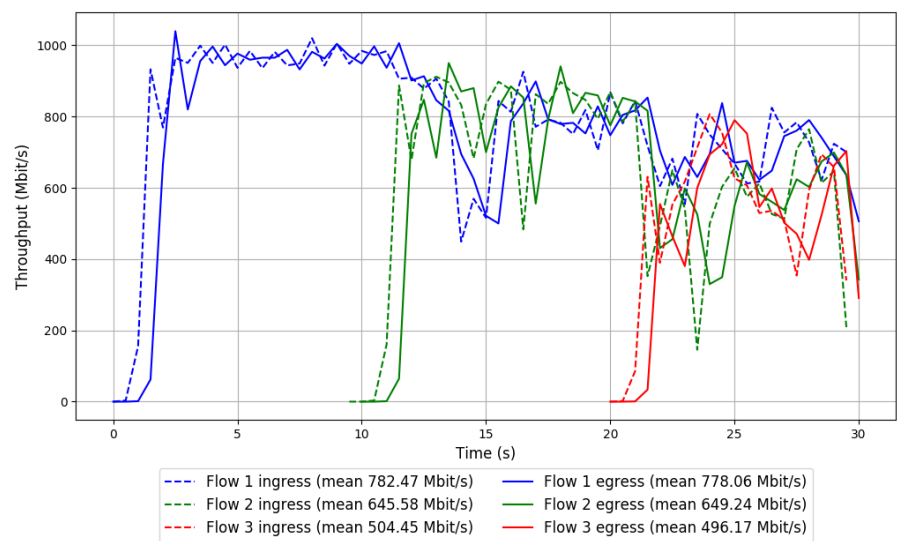
73

```
Run 6: Statistics of FillP

Start at: 2018-05-22 15:10:23
End at: 2018-05-22 15:10:53
Local clock offset: -0.085 ms
Remote clock offset: -0.001 ms

# Below is generated by plot.py at 2018-05-22 17:43:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1217.59 Mbit/s
95th percentile per-packet one-way delay: 247.726 ms
Loss rate: 5.78%
-- Flow 1:
Average throughput: 670.16 Mbit/s
95th percentile per-packet one-way delay: 259.735 ms
Loss rate: 4.13%
-- Flow 2:
Average throughput: 578.31 Mbit/s
95th percentile per-packet one-way delay: 221.423 ms
Loss rate: 9.29%
-- Flow 3:
Average throughput: 502.87 Mbit/s
95th percentile per-packet one-way delay: 155.564 ms
Loss rate: 3.83%
```

Run 6: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 693.88 Mbit/s)   —— Flow 1 egress (mean 670.16 Mbit/s)
- - - - Flow 2 ingress (mean 630.54 Mbit/s)   —— Flow 2 egress (mean 578.31 Mbit/s)
- - - - Flow 3 ingress (mean 511.21 Mbit/s)   —— Flow 3 egress (mean 502.87 Mbit/s)

- Flow 1 (95th percentile 259.74 ms)   • Flow 2 (95th percentile 221.42 ms)   • Flow 3 (95th percentile 155.56 ms)

```
Run 7: Statistics of FillP

Start at: 2018-05-22 15:34:06
End at: 2018-05-22 15:34:36
Local clock offset: -0.097 ms
Remote clock offset: -0.052 ms


# Below is generated by plot.py at 2018-05-22 17:44:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1361.59 Mbit/s
95th percentile per-packet one-way delay: 178.416 ms
Loss rate: 2.05%
-- Flow 1:
Average throughput: 756.65 Mbit/s
95th percentile per-packet one-way delay: 179.041 ms
Loss rate: 1.83%
-- Flow 2:
Average throughput: 650.36 Mbit/s
95th percentile per-packet one-way delay: 177.032 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 531.78 Mbit/s
95th percentile per-packet one-way delay: 181.931 ms
Loss rate: 3.78%
```
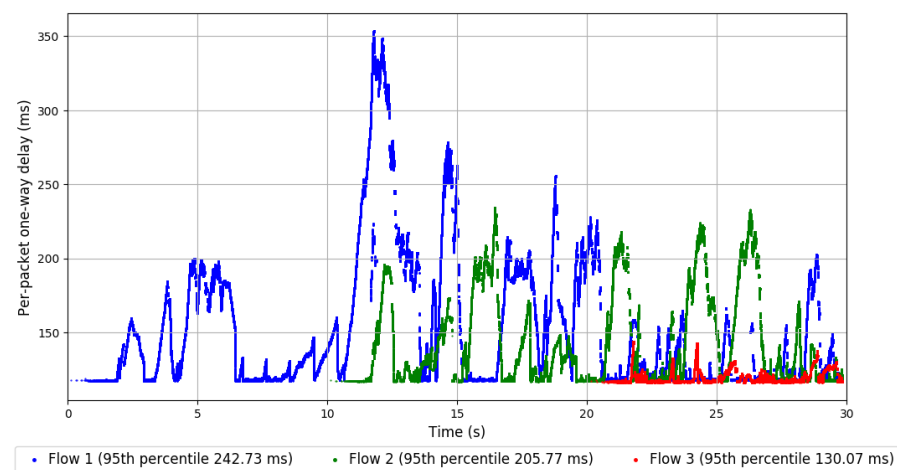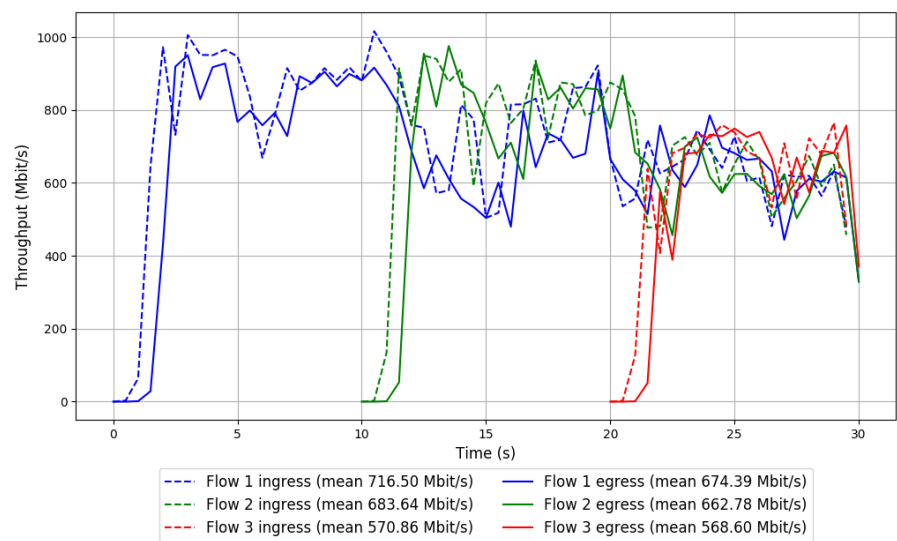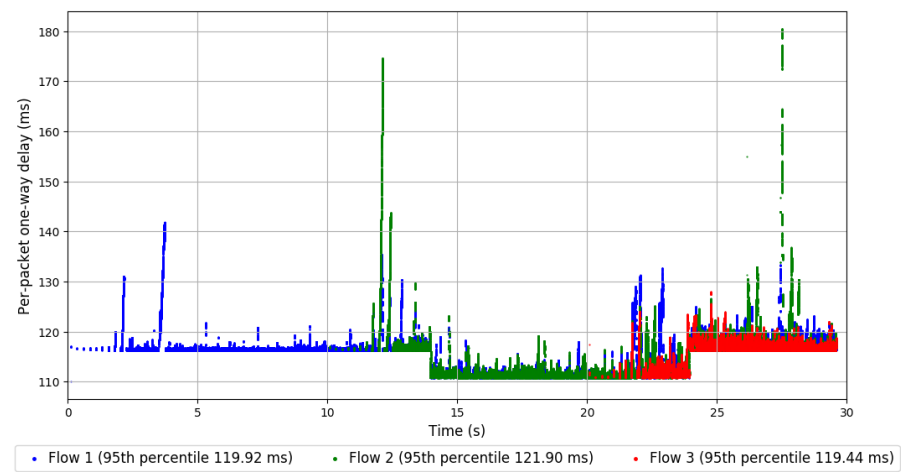
Run 7: Report of FillP — Data Link

Flow 1 ingress (mean 765.20 Mbit/s) Flow 1 egress (mean 756.65 Mbit/s)
Flow 2 ingress (mean 654.18 Mbit/s) Flow 2 egress (mean 650.36 Mbit/s)
Flow 3 ingress (mean 540.02 Mbit/s) Flow 3 egress (mean 531.78 Mbit/s)

Flow 1 (95th percentile 179.04 ms)   Flow 2 (95th percentile 177.03 ms)   Flow 3 (95th percentile 181.93 ms)

```
Run 8: Statistics of FillP

Start at: 2018-05-22 15:58:14
End at: 2018-05-22 15:58:44
Local clock offset: -0.018 ms
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2018-05-22 17:47:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1346.30 Mbit/s
95th percentile per-packet one-way delay: 197.947 ms
Loss rate: 3.72%
-- Flow 1:
Average throughput: 720.75 Mbit/s
95th percentile per-packet one-way delay: 187.585 ms
Loss rate: 3.55%
-- Flow 2:
Average throughput: 669.22 Mbit/s
95th percentile per-packet one-way delay: 238.925 ms
Loss rate: 3.21%
-- Flow 3:
Average throughput: 557.15 Mbit/s
95th percentile per-packet one-way delay: 195.320 ms
Loss rate: 5.58%
```
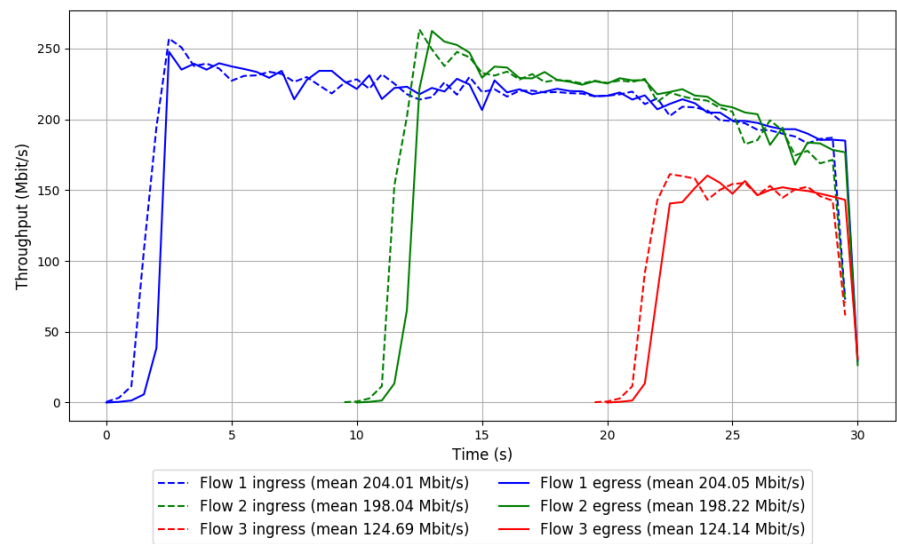
Run 8: Report of FillP — Data Link

Flow 1 ingress (mean 741.56 Mbit/s) --- Flow 1 egress (mean 720.75 Mbit/s)
Flow 2 ingress (mean 683.50 Mbit/s) --- Flow 2 egress (mean 669.22 Mbit/s)
Flow 3 ingress (mean 576.87 Mbit/s) --- Flow 3 egress (mean 557.15 Mbit/s)

Flow 1 (95th percentile 187.59 ms) · Flow 2 (95th percentile 238.93 ms) · Flow 3 (95th percentile 195.32 ms)

```
Run 9: Statistics of FillP

Start at: 2018-05-22 16:22:13
End at: 2018-05-22 16:22:43
Local clock offset: 0.053 ms
Remote clock offset: -0.038 ms

# Below is generated by plot.py at 2018-05-22 18:02:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1368.40 Mbit/s
95th percentile per-packet one-way delay: 237.080 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 778.06 Mbit/s
95th percentile per-packet one-way delay: 168.239 ms
Loss rate: 1.32%
-- Flow 2:
Average throughput: 649.24 Mbit/s
95th percentile per-packet one-way delay: 240.857 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 496.17 Mbit/s
95th percentile per-packet one-way delay: 257.555 ms
Loss rate: 3.17%
```
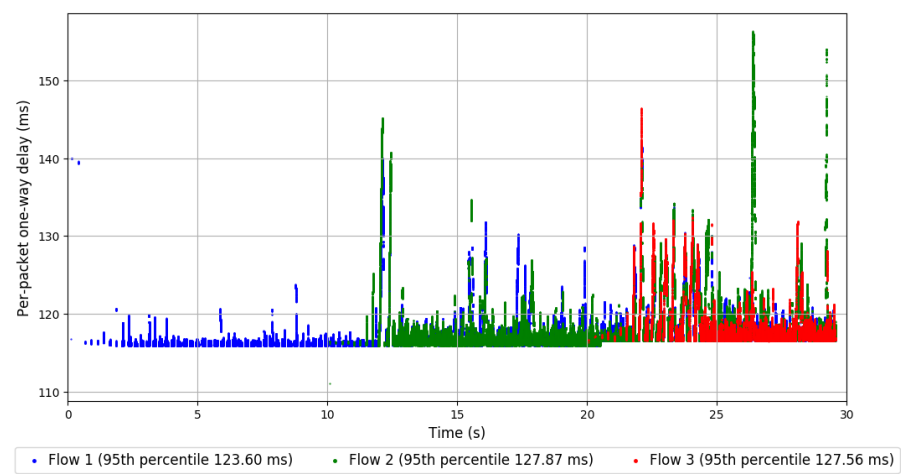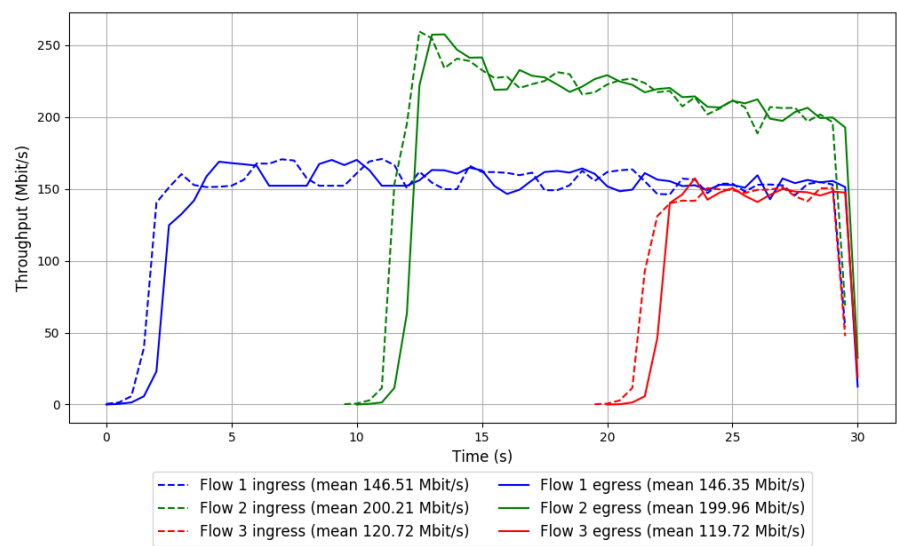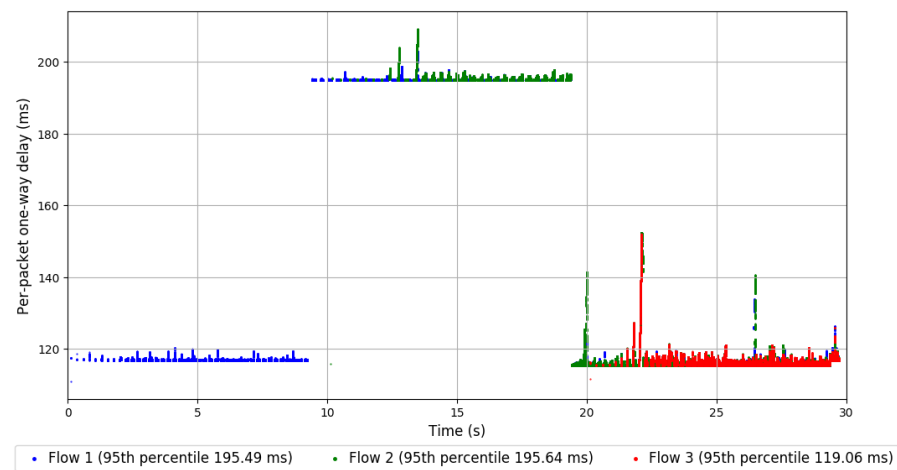
Run 9: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 782.47 Mbit/s)   —— Flow 1 egress (mean 778.06 Mbit/s)
- - - - Flow 2 ingress (mean 645.58 Mbit/s)   —— Flow 2 egress (mean 649.24 Mbit/s)
- - - - Flow 3 ingress (mean 504.45 Mbit/s)   —— Flow 3 egress (mean 496.17 Mbit/s)

• Flow 1 (95th percentile 168.24 ms)   • Flow 2 (95th percentile 240.86 ms)   • Flow 3 (95th percentile 257.56 ms)

```
Run 10: Statistics of FillP

Start at: 2018-05-22 16:46:10
End at: 2018-05-22 16:46:40
Local clock offset: 0.005 ms
Remote clock offset: -0.4 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1299.17 Mbit/s
95th percentile per-packet one-way delay: 212.890 ms
Loss rate: 5.23%
-- Flow 1:
Average throughput: 674.39 Mbit/s
95th percentile per-packet one-way delay: 242.726 ms
Loss rate: 6.57%
-- Flow 2:
Average throughput: 662.78 Mbit/s
95th percentile per-packet one-way delay: 205.772 ms
Loss rate: 4.17%
-- Flow 3:
Average throughput: 568.60 Mbit/s
95th percentile per-packet one-way delay: 130.072 ms
Loss rate: 2.69%
```
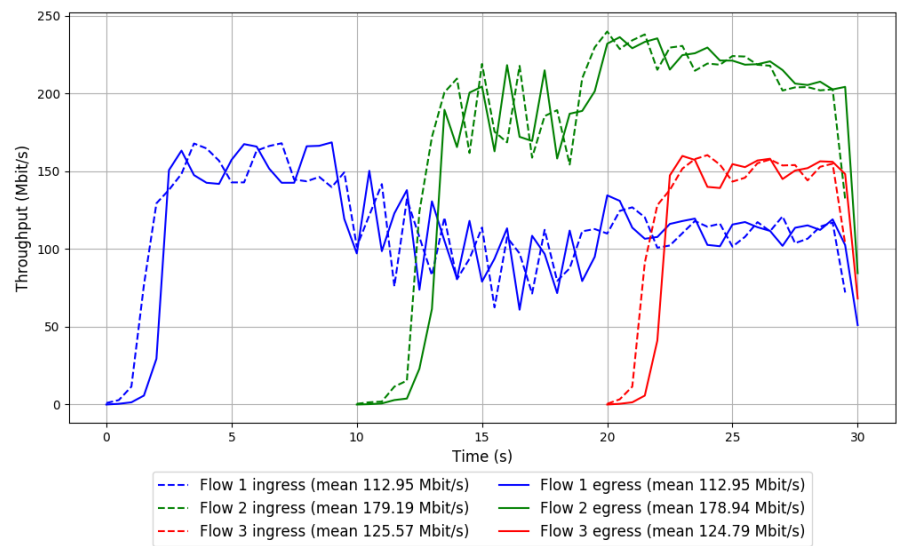
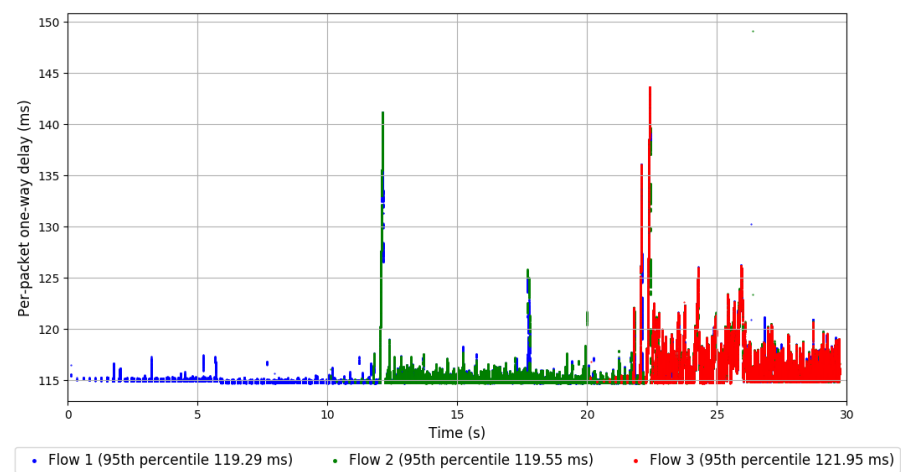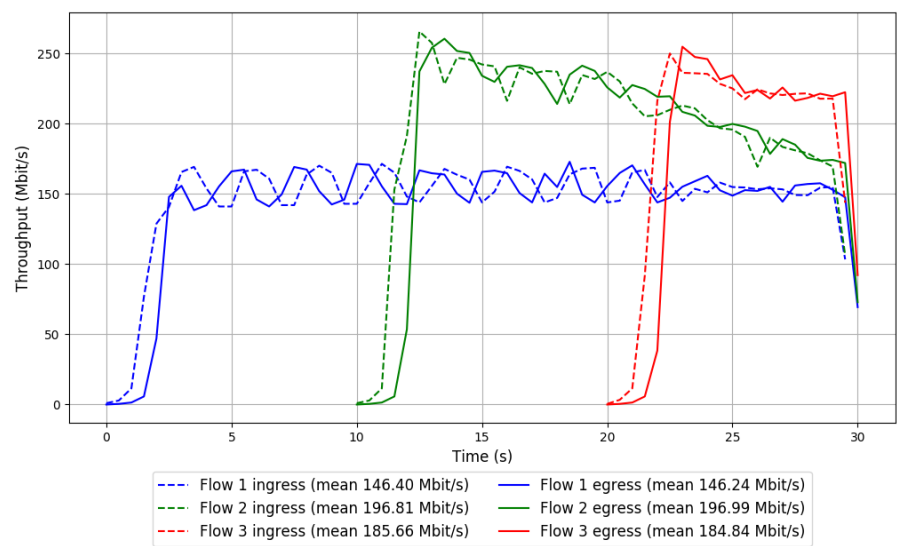Run 10: Report of FillP — Data Link

```
Run 1: Statistics of Indigo

Start at: 2018-05-22 13:17:03
End at: 2018-05-22 13:17:33
Local clock offset: 0.142 ms
Remote clock offset: -0.425 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 375.29 Mbit/s
95th percentile per-packet one-way delay: 120.437 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 204.05 Mbit/s
95th percentile per-packet one-way delay: 119.922 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 198.22 Mbit/s
95th percentile per-packet one-way delay: 121.901 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 124.14 Mbit/s
95th percentile per-packet one-way delay: 119.440 ms
Loss rate: 2.77%
```

Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-05-22 13:40:27
End at: 2018-05-22 13:40:57
Local clock offset: -0.117 ms
Remote clock offset: 0.031 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 317.31 Mbit/s
95th percentile per-packet one-way delay: 126.365 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 146.35 Mbit/s
95th percentile per-packet one-way delay: 123.599 ms
Loss rate: 0.88%
-- Flow 2:
Average throughput: 199.96 Mbit/s
95th percentile per-packet one-way delay: 127.867 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 119.72 Mbit/s
95th percentile per-packet one-way delay: 127.564 ms
Loss rate: 2.91%
```
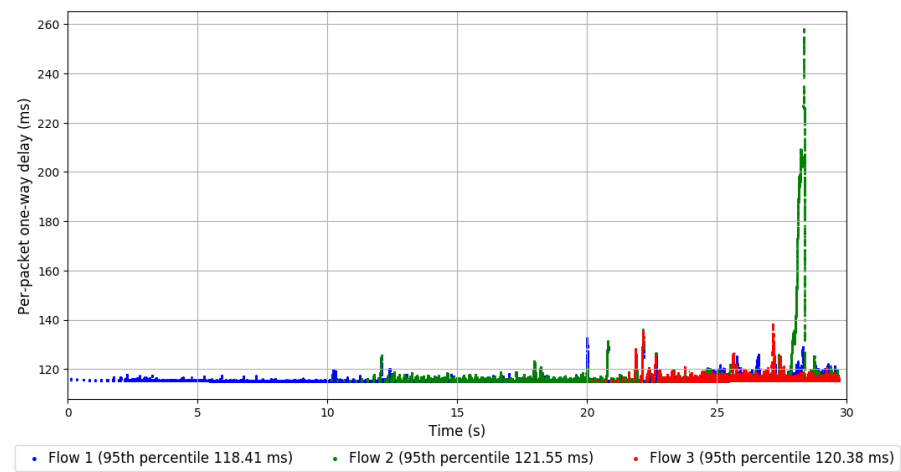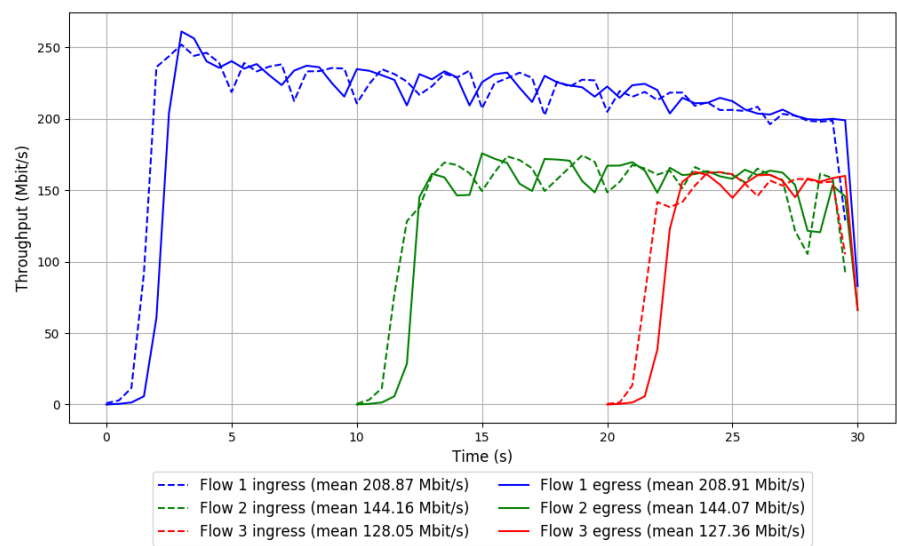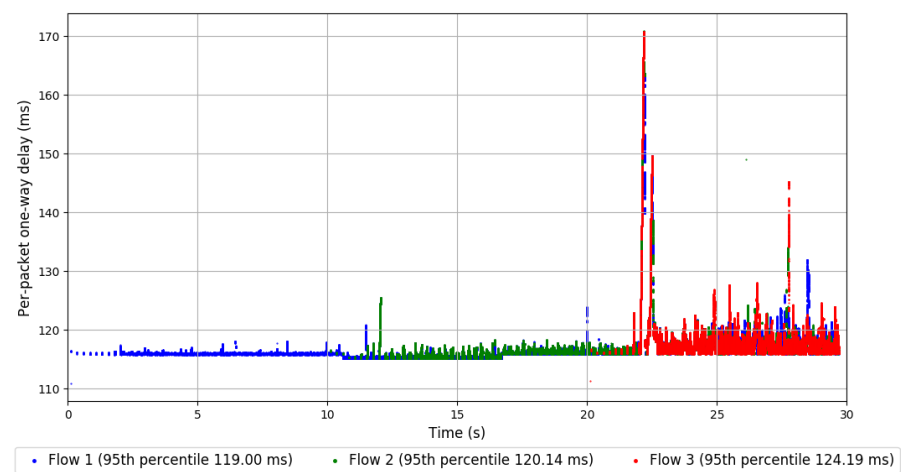
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-05-22 14:03:38
End at: 2018-05-22 14:04:08
Local clock offset: -0.119 ms
Remote clock offset: 0.004 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 271.63 Mbit/s
95th percentile per-packet one-way delay: 195.472 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 112.95 Mbit/s
95th percentile per-packet one-way delay: 195.488 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 178.94 Mbit/s
95th percentile per-packet one-way delay: 195.644 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 124.79 Mbit/s
95th percentile per-packet one-way delay: 119.060 ms
Loss rate: 2.88%
```
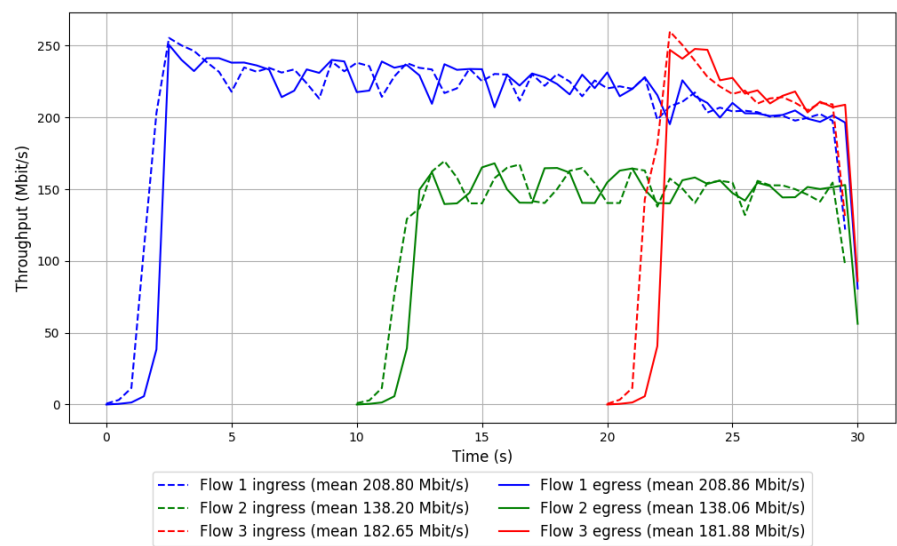
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-05-22 14:27:12
End at: 2018-05-22 14:27:42
Local clock offset: -0.795 ms
Remote clock offset: -0.027 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 336.46 Mbit/s
95th percentile per-packet one-way delay: 120.208 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 146.24 Mbit/s
95th percentile per-packet one-way delay: 119.290 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 196.99 Mbit/s
95th percentile per-packet one-way delay: 119.546 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 184.84 Mbit/s
95th percentile per-packet one-way delay: 121.953 ms
Loss rate: 2.73%
```
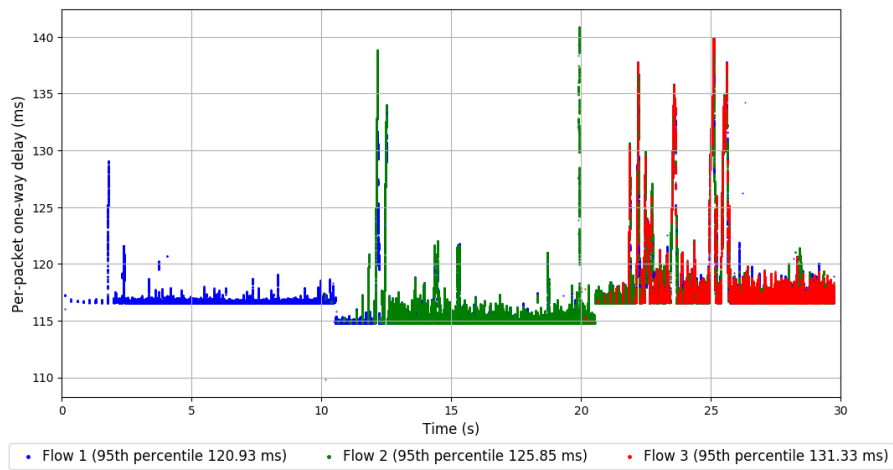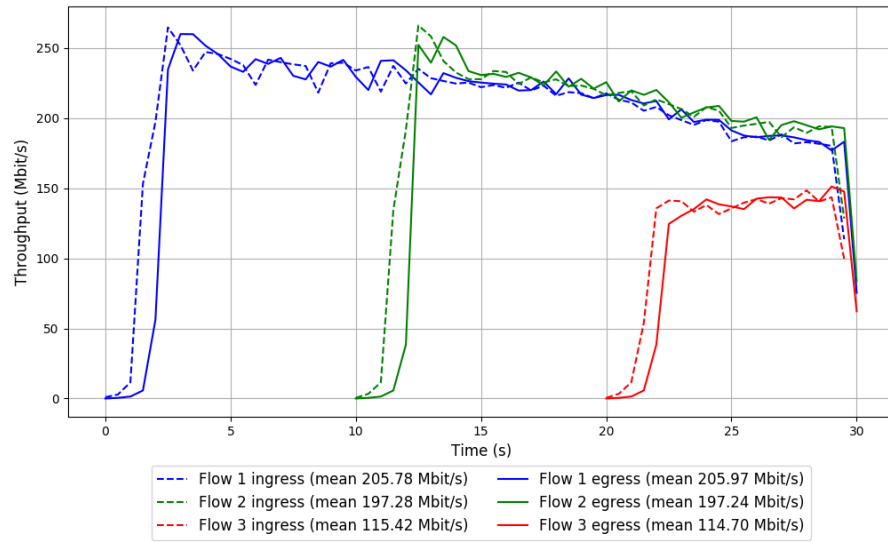
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2018-05-22 14:51:02
End at: 2018-05-22 14:51:32
Local clock offset: -0.083 ms
Remote clock offset: 0.002 ms

# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 345.05 Mbit/s
95th percentile per-packet one-way delay: 119.353 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 208.91 Mbit/s
95th percentile per-packet one-way delay: 118.405 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 144.07 Mbit/s
95th percentile per-packet one-way delay: 121.552 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 127.36 Mbit/s
95th percentile per-packet one-way delay: 120.384 ms
Loss rate: 2.86%
```

Run 5: Report of Indigo — Data Link

```
Run 6: Statistics of Indigo

Start at: 2018-05-22 15:14:07
End at: 2018-05-22 15:14:37
Local clock offset: 0.266 ms
Remote clock offset: -0.006 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 359.02 Mbit/s
95th percentile per-packet one-way delay: 120.266 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 208.86 Mbit/s
95th percentile per-packet one-way delay: 118.997 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 138.06 Mbit/s
95th percentile per-packet one-way delay: 120.137 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 181.88 Mbit/s
95th percentile per-packet one-way delay: 124.195 ms
Loss rate: 2.69%
```
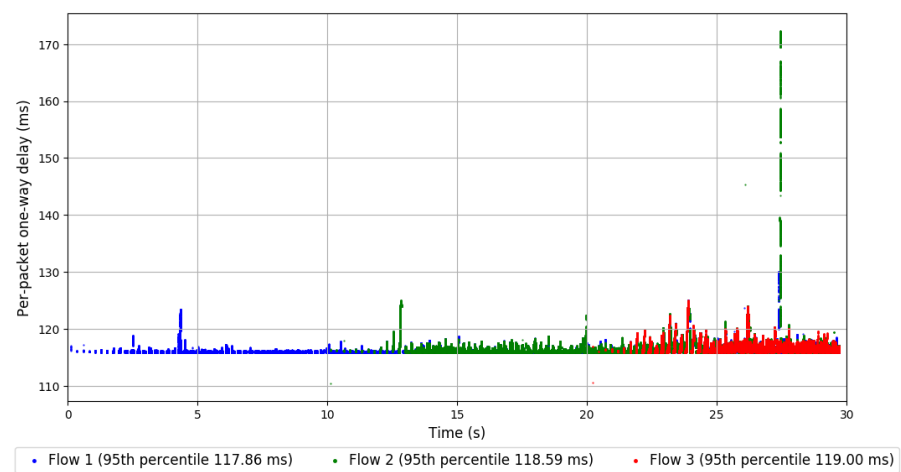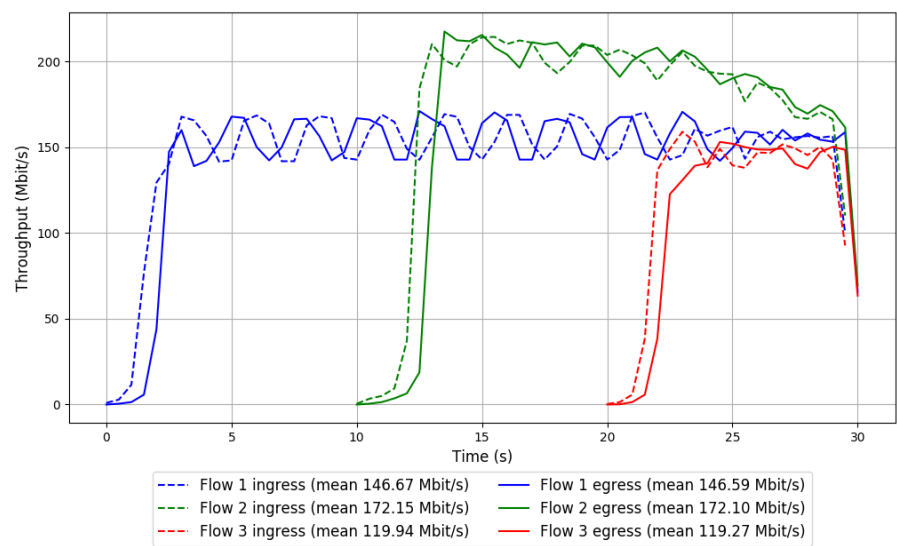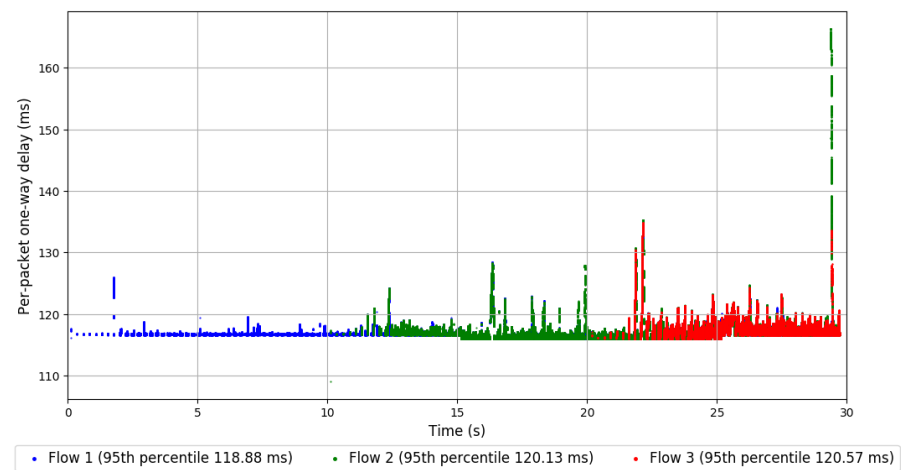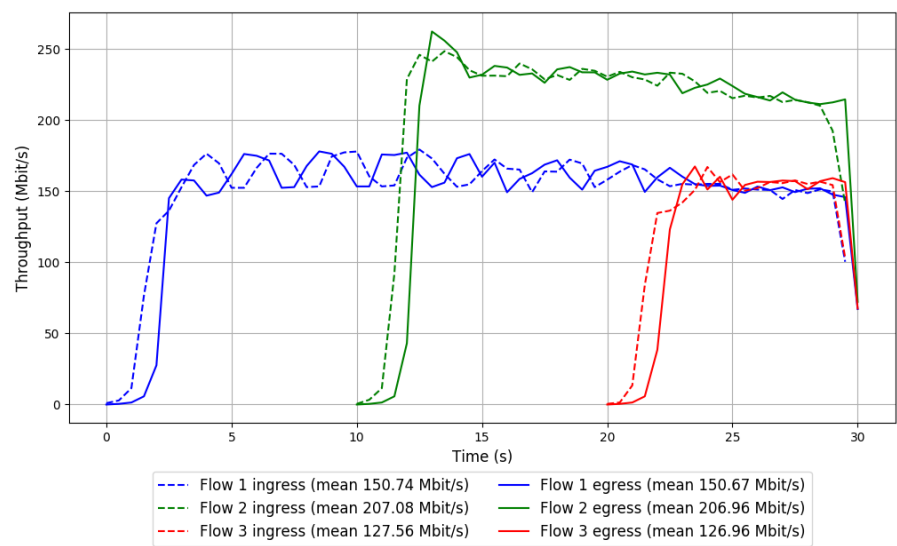
Run 6: Report of Indigo — Data Link

Flow 1 ingress (mean 208.80 Mbit/s)   Flow 1 egress (mean 208.86 Mbit/s)
Flow 2 ingress (mean 138.20 Mbit/s)   Flow 2 egress (mean 138.06 Mbit/s)
Flow 3 ingress (mean 182.65 Mbit/s)   Flow 3 egress (mean 181.88 Mbit/s)

Flow 1 (95th percentile 119.00 ms)   Flow 2 (95th percentile 120.14 ms)   Flow 3 (95th percentile 124.19 ms)
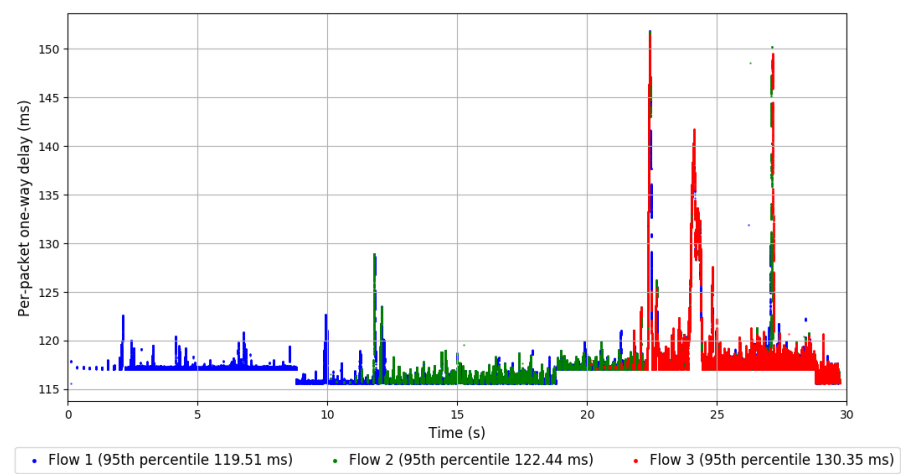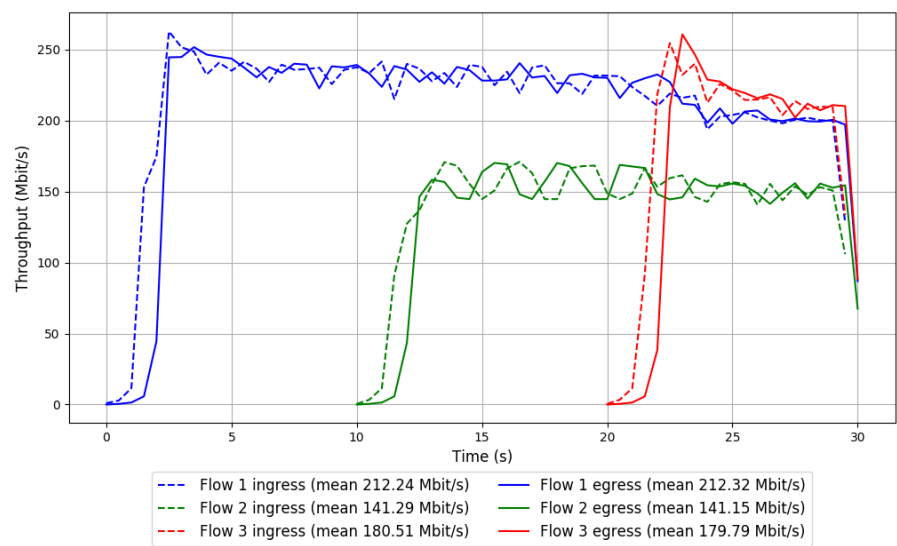
```
Run 7: Statistics of Indigo

Start at: 2018-05-22 15:37:57
End at: 2018-05-22 15:38:27
Local clock offset: -0.003 ms
Remote clock offset: -0.067 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 373.46 Mbit/s
95th percentile per-packet one-way delay: 124.011 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 205.97 Mbit/s
95th percentile per-packet one-way delay: 120.933 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 197.24 Mbit/s
95th percentile per-packet one-way delay: 125.851 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 114.70 Mbit/s
95th percentile per-packet one-way delay: 131.328 ms
Loss rate: 2.92%
```

Run 7: Report of Indigo — Data Link

- Flow 1 ingress (mean 205.78 Mbit/s)
- Flow 1 egress (mean 205.97 Mbit/s)
- Flow 2 ingress (mean 197.28 Mbit/s)
- Flow 2 egress (mean 197.24 Mbit/s)
- Flow 3 ingress (mean 115.42 Mbit/s)
- Flow 3 egress (mean 114.70 Mbit/s)

- Flow 1 (95th percentile 120.93 ms)
- Flow 2 (95th percentile 125.85 ms)
- Flow 3 (95th percentile 131.33 ms)

```
Run 8: Statistics of Indigo

Start at: 2018-05-22 16:02:05
End at: 2018-05-22 16:02:35
Local clock offset: -0.222 ms
Remote clock offset: 0.344 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 298.84 Mbit/s
95th percentile per-packet one-way delay: 118.287 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 146.59 Mbit/s
95th percentile per-packet one-way delay: 117.857 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 172.10 Mbit/s
95th percentile per-packet one-way delay: 118.590 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 119.27 Mbit/s
95th percentile per-packet one-way delay: 118.999 ms
Loss rate: 2.84%
```
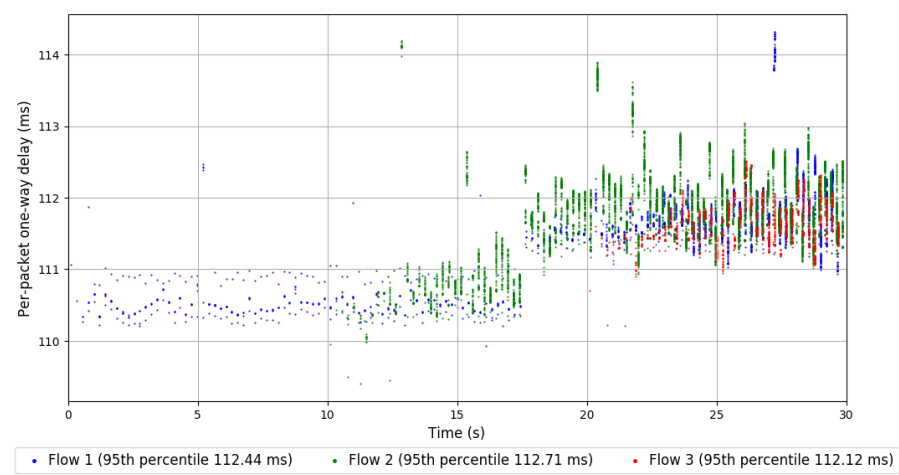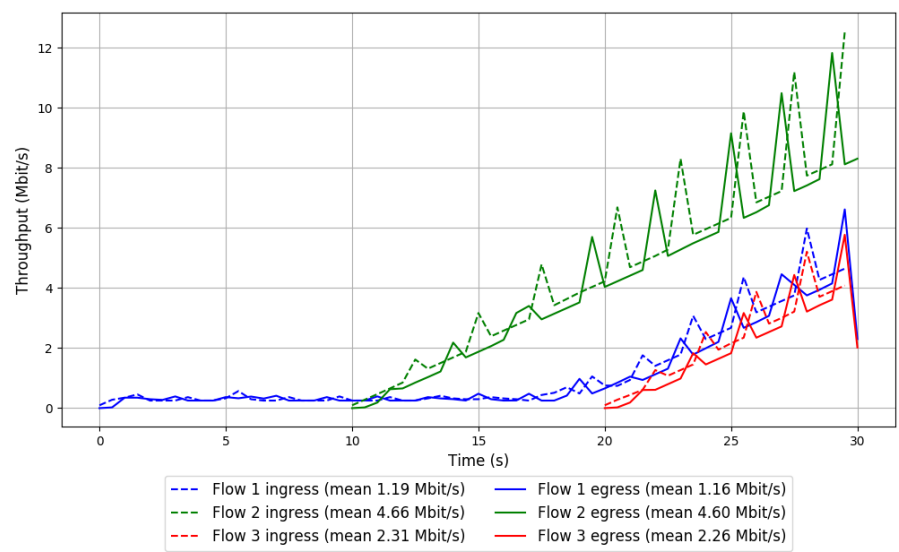
Run 8: Report of Indigo — Data Link

- - - - Flow 1 ingress (mean 146.67 Mbit/s) —— Flow 1 egress (mean 146.59 Mbit/s)
- - - - Flow 2 ingress (mean 172.15 Mbit/s) —— Flow 2 egress (mean 172.10 Mbit/s)
- - - - Flow 3 ingress (mean 119.94 Mbit/s) —— Flow 3 egress (mean 119.27 Mbit/s)

- Flow 1 (95th percentile 117.86 ms)   • Flow 2 (95th percentile 118.59 ms)   • Flow 3 (95th percentile 119.00 ms)

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```
Run 9: Statistics of Indigo

Start at: 2018-05-22 16:26:02
End at: 2018-05-22 16:26:32
Local clock offset: 0.022 ms
Remote clock offset: -0.048 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 328.54 Mbit/s
95th percentile per-packet one-way delay: 119.705 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 150.67 Mbit/s
95th percentile per-packet one-way delay: 118.878 ms
Loss rate: 0.82%
-- Flow 2:
Average throughput: 206.96 Mbit/s
95th percentile per-packet one-way delay: 120.127 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 126.96 Mbit/s
95th percentile per-packet one-way delay: 120.573 ms
Loss rate: 2.80%
```
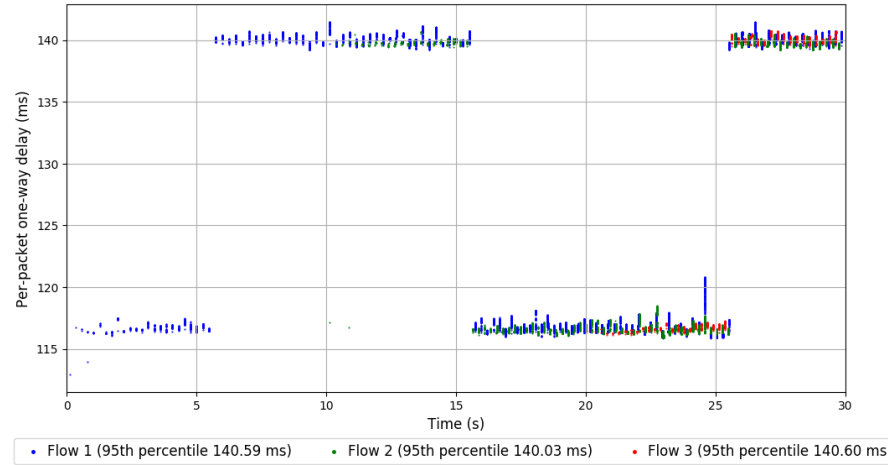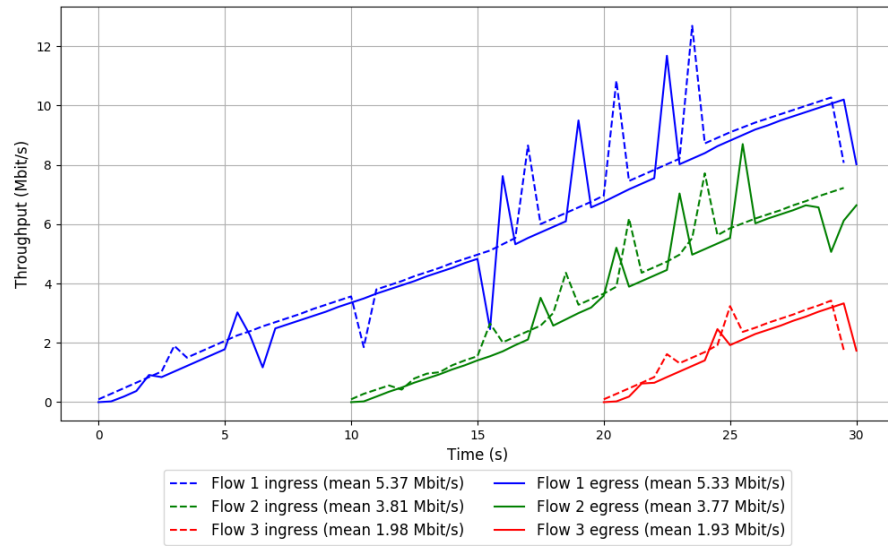
Run 9: Report of Indigo — Data Link

```
Run 10: Statistics of Indigo

Start at: 2018-05-22 16:49:59
End at: 2018-05-22 16:50:29
Local clock offset: 0.105 ms
Remote clock offset: -0.404 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 363.84 Mbit/s
95th percentile per-packet one-way delay: 121.284 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 212.32 Mbit/s
95th percentile per-packet one-way delay: 119.506 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 141.15 Mbit/s
95th percentile per-packet one-way delay: 122.444 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 179.79 Mbit/s
95th percentile per-packet one-way delay: 130.351 ms
Loss rate: 2.71%
```
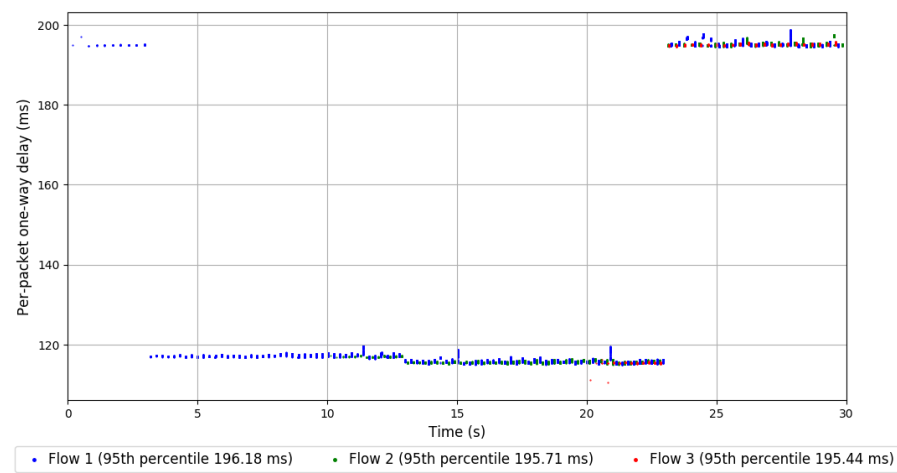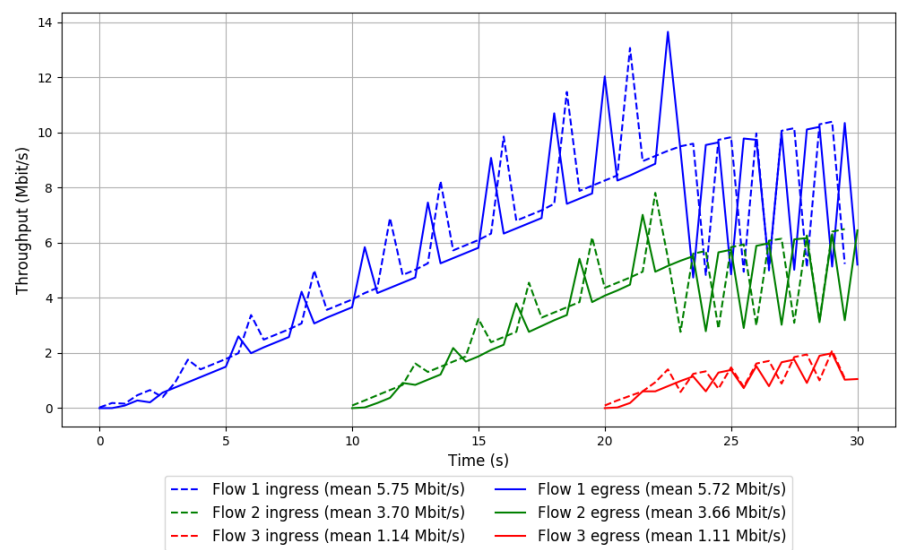
Run 10: Report of Indigo — Data Link

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```
Run 1: Statistics of LEDBAT

Start at: 2018-05-22 13:06:00
End at: 2018-05-22 13:06:30
Local clock offset: 0.569 ms
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.93 Mbit/s
95th percentile per-packet one-way delay: 112.611 ms
Loss rate: 2.86%
-- Flow 1:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 112.443 ms
Loss rate: 3.31%
-- Flow 2:
Average throughput: 4.60 Mbit/s
95th percentile per-packet one-way delay: 112.706 ms
Loss rate: 2.27%
-- Flow 3:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 112.121 ms
Loss rate: 4.56%
```
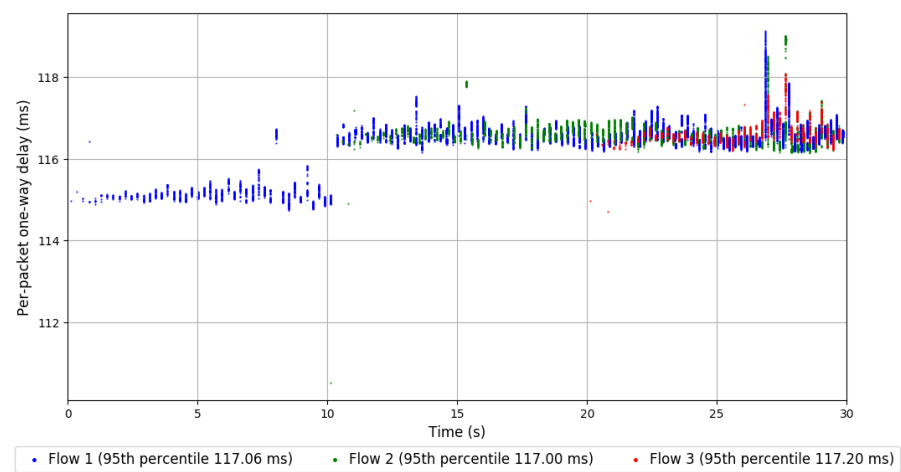
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-05-22 13:29:22
End at: 2018-05-22 13:29:52
Local clock offset: 0.064 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.43 Mbit/s
95th percentile per-packet one-way delay: 140.516 ms
Loss rate: 2.07%
-- Flow 1:
Average throughput: 5.33 Mbit/s
95th percentile per-packet one-way delay: 140.591 ms
Loss rate: 1.62%
-- Flow 2:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 140.033 ms
Loss rate: 2.40%
-- Flow 3:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 140.597 ms
Loss rate: 4.57%
```
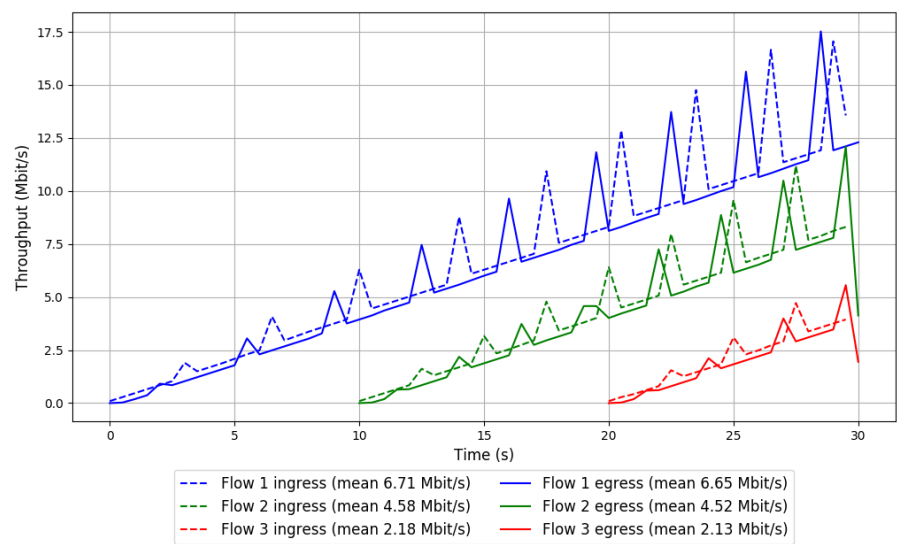
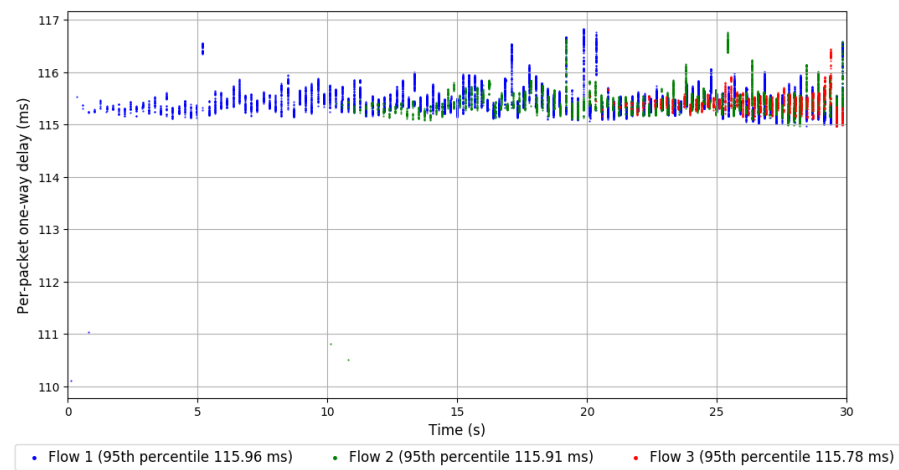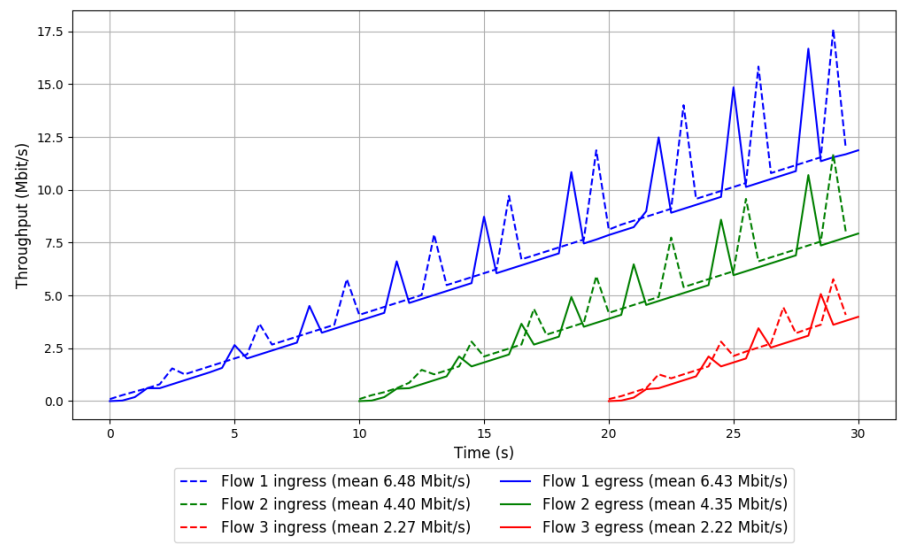# Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-05-22 13:52:45
End at: 2018-05-22 13:53:15
Local clock offset: -0.395 ms
Remote clock offset: 0.025 ms

# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.48 Mbit/s
95th percentile per-packet one-way delay: 196.036 ms
Loss rate: 1.87%
-- Flow 1:
Average throughput: 5.72 Mbit/s
95th percentile per-packet one-way delay: 196.184 ms
Loss rate: 1.53%
-- Flow 2:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 195.711 ms
Loss rate: 2.21%
-- Flow 3:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 195.435 ms
Loss rate: 4.88%
```

Run 3: Report of LEDBAT — Data Link

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```
Run 4: Statistics of LEDBAT

Start at: 2018-05-22 14:15:57
End at: 2018-05-22 14:16:27
Local clock offset: -0.503 ms
Remote clock offset: 0.361 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.32 Mbit/s
95th percentile per-packet one-way delay: 117.067 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 6.65 Mbit/s
95th percentile per-packet one-way delay: 117.057 ms
Loss rate: 1.55%
-- Flow 2:
Average throughput: 4.52 Mbit/s
95th percentile per-packet one-way delay: 117.005 ms
Loss rate: 2.30%
-- Flow 3:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 117.203 ms
Loss rate: 4.66%
```
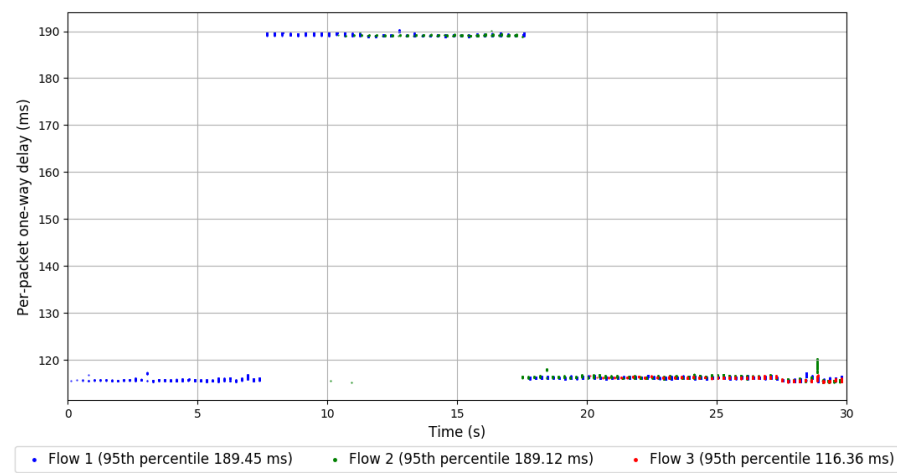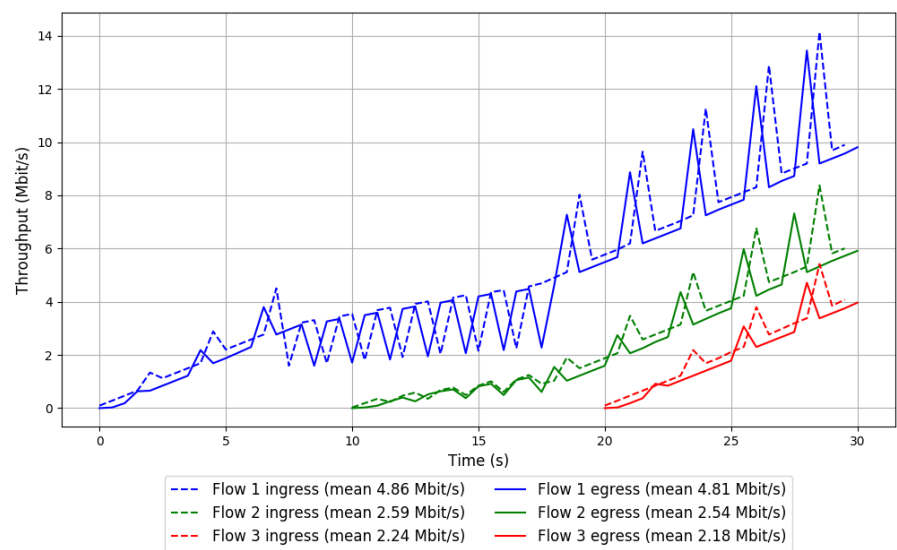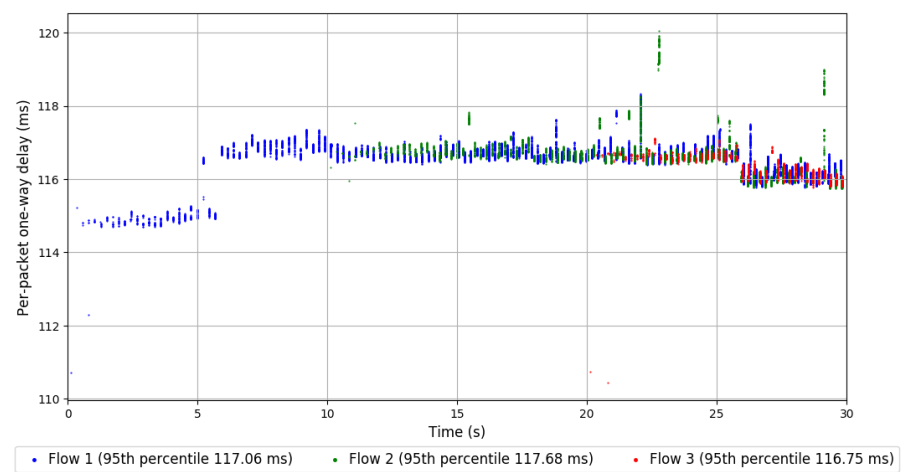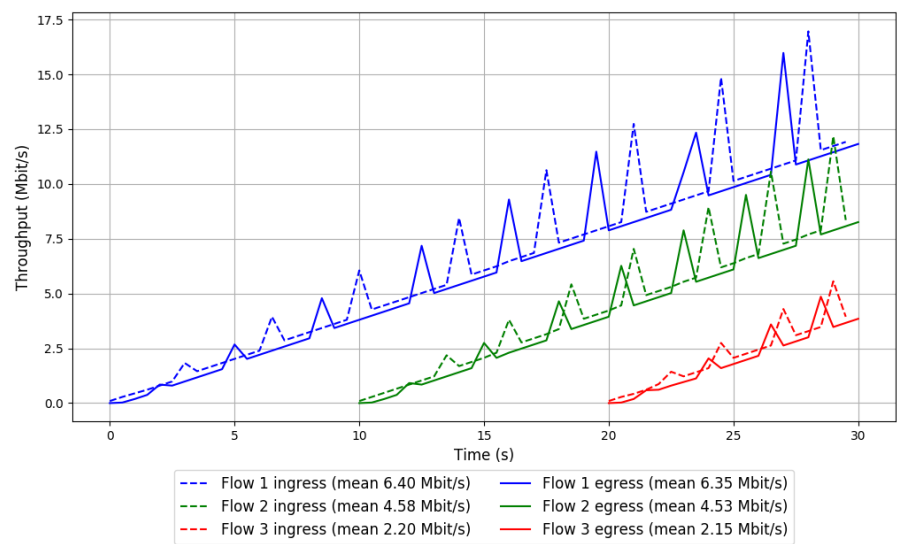
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 6.71 Mbit/s) — — — Flow 1 egress (mean 6.65 Mbit/s) ———
Flow 2 ingress (mean 4.58 Mbit/s) — — — Flow 2 egress (mean 4.52 Mbit/s) ———
Flow 3 ingress (mean 2.18 Mbit/s) — — — Flow 3 egress (mean 2.13 Mbit/s) ———

• Flow 1 (95th percentile 117.06 ms) • Flow 2 (95th percentile 117.00 ms) • Flow 3 (95th percentile 117.20 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2018-05-22 14:39:52
End at: 2018-05-22 14:40:22
Local clock offset: -0.623 ms
Remote clock offset: -0.008 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.04 Mbit/s
95th percentile per-packet one-way delay: 115.931 ms
Loss rate: 1.99%
-- Flow 1:
Average throughput: 6.43 Mbit/s
95th percentile per-packet one-way delay: 115.959 ms
Loss rate: 1.55%
-- Flow 2:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: 115.910 ms
Loss rate: 2.30%
-- Flow 3:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 115.775 ms
Loss rate: 4.57%
```

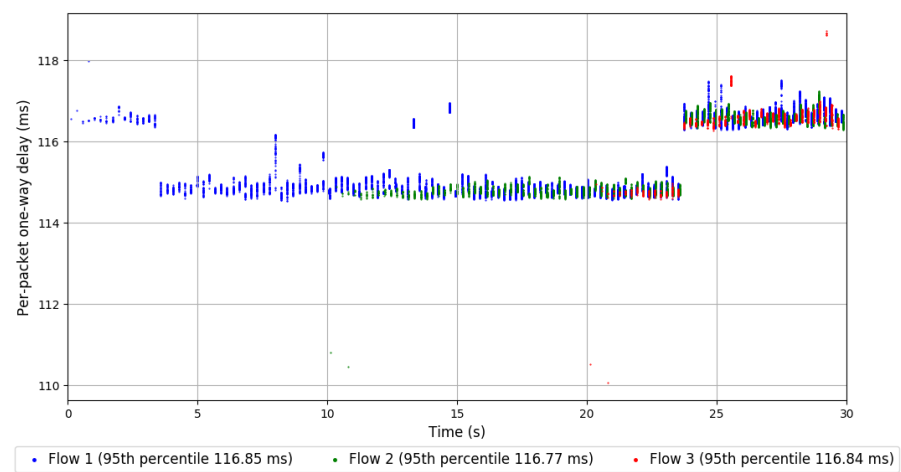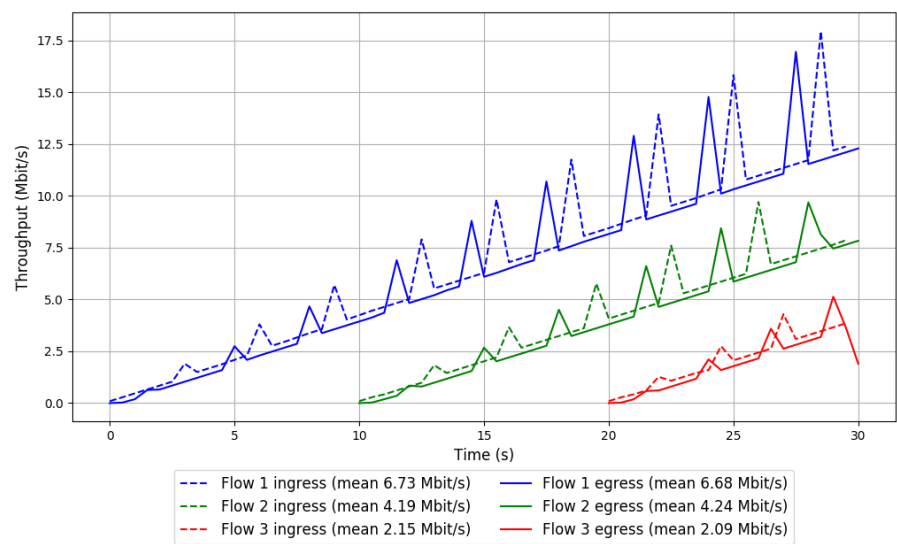## Run 5: Report of LEDBAT — Data Link

```
Run 6: Statistics of LEDBAT

Start at: 2018-05-22 15:03:10
End at: 2018-05-22 15:03:40
Local clock offset: 0.132 ms
Remote clock offset: 0.012 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.20 Mbit/s
95th percentile per-packet one-way delay: 189.334 ms
Loss rate: 2.30%
-- Flow 1:
Average throughput: 4.81 Mbit/s
95th percentile per-packet one-way delay: 189.447 ms
Loss rate: 1.71%
-- Flow 2:
Average throughput: 2.54 Mbit/s
95th percentile per-packet one-way delay: 189.122 ms
Loss rate: 2.94%
-- Flow 3:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 116.359 ms
Loss rate: 4.67%
```

Run 6: Report of LEDBAT — Data Link

```
Run 7: Statistics of LEDBAT

Start at: 2018-05-22 15:26:42
End at: 2018-05-22 15:27:12
Local clock offset: -0.101 ms
Remote clock offset: -0.035 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.04 Mbit/s
95th percentile per-packet one-way delay: 117.111 ms
Loss rate: 2.00%
-- Flow 1:
Average throughput: 6.35 Mbit/s
95th percentile per-packet one-way delay: 117.064 ms
Loss rate: 1.56%
-- Flow 2:
Average throughput: 4.53 Mbit/s
95th percentile per-packet one-way delay: 117.679 ms
Loss rate: 2.30%
-- Flow 3:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 116.755 ms
Loss rate: 4.56%
```
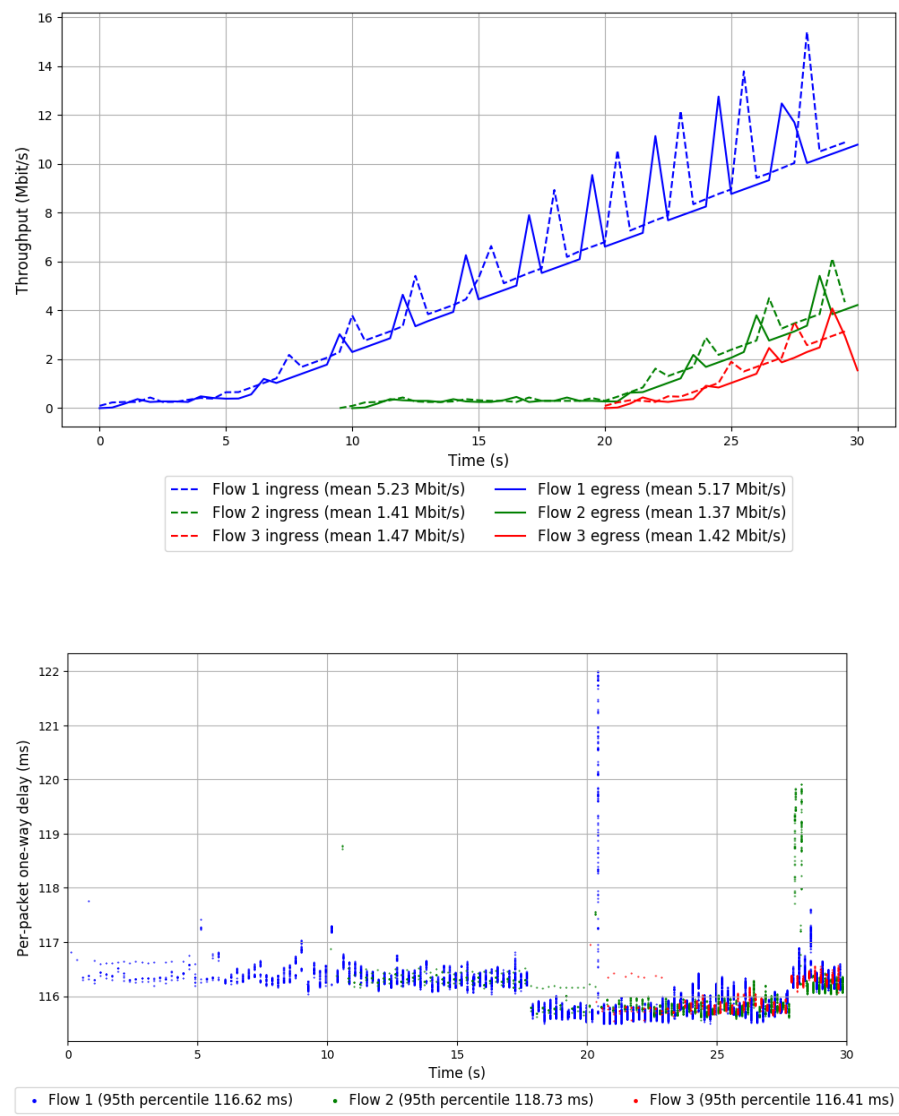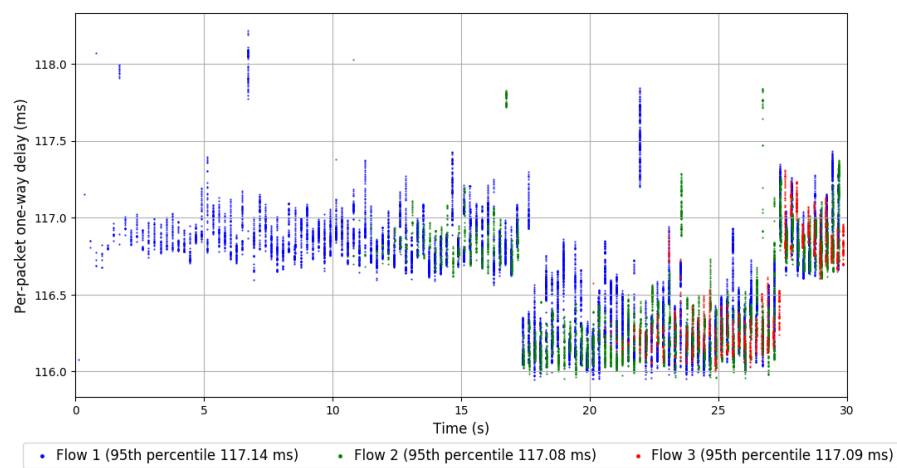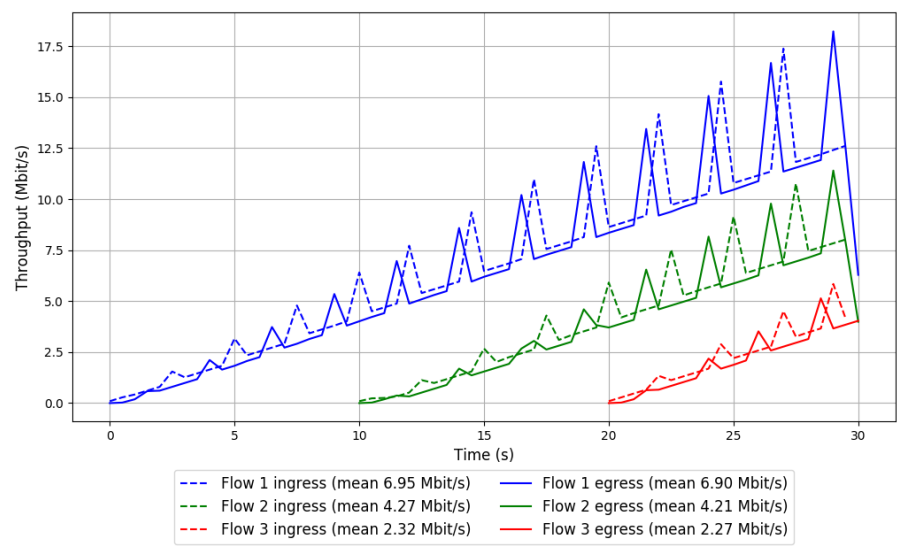
Run 7: Report of LEDBAT — Data Link

Flow 1 ingress (mean 6.40 Mbit/s)   Flow 1 egress (mean 6.35 Mbit/s)
Flow 2 ingress (mean 4.58 Mbit/s)   Flow 2 egress (mean 4.53 Mbit/s)
Flow 3 ingress (mean 2.20 Mbit/s)   Flow 3 egress (mean 2.15 Mbit/s)

Flow 1 (95th percentile 117.06 ms)   Flow 2 (95th percentile 117.68 ms)   Flow 3 (95th percentile 116.75 ms)

```
Run 8: Statistics of LEDBAT

Start at: 2018-05-22 15:50:44
End at: 2018-05-22 15:51:14
Local clock offset: -0.189 ms
Remote clock offset: -0.026 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.15 Mbit/s
95th percentile per-packet one-way delay: 116.829 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 6.68 Mbit/s
95th percentile per-packet one-way delay: 116.848 ms
Loss rate: 1.54%
-- Flow 2:
Average throughput: 4.24 Mbit/s
95th percentile per-packet one-way delay: 116.765 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 116.845 ms
Loss rate: 4.65%
```
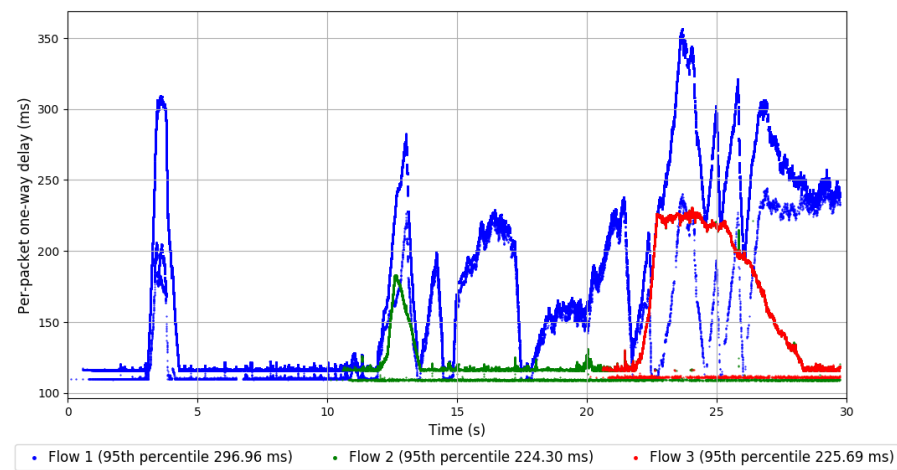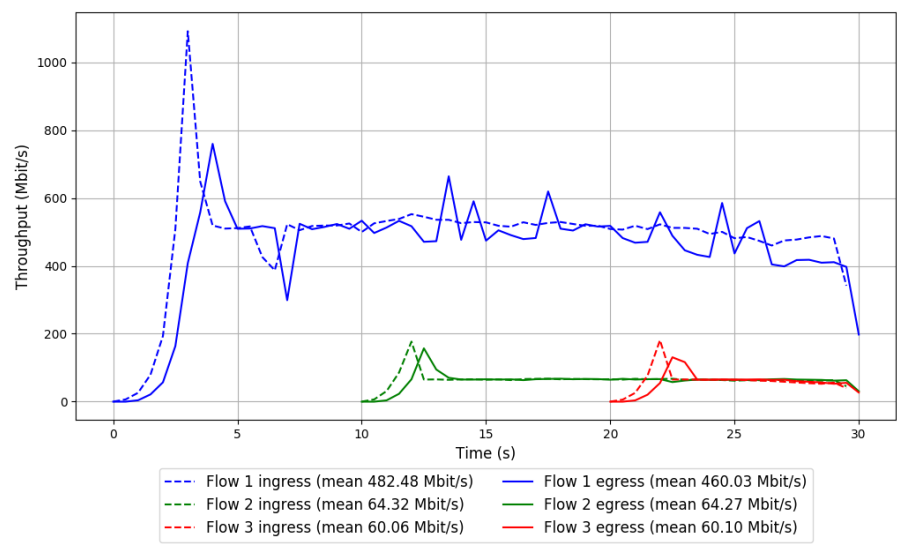
Run 8: Report of LEDBAT — Data Link

Flow 1 ingress (mean 6.73 Mbit/s)   Flow 1 egress (mean 6.68 Mbit/s)
Flow 2 ingress (mean 4.19 Mbit/s)   Flow 2 egress (mean 4.24 Mbit/s)
Flow 3 ingress (mean 2.15 Mbit/s)   Flow 3 egress (mean 2.09 Mbit/s)

Flow 1 (95th percentile 116.85 ms)   Flow 2 (95th percentile 116.77 ms)   Flow 3 (95th percentile 116.84 ms)

```
Run 9: Statistics of LEDBAT

Start at: 2018-05-22 16:14:40
End at: 2018-05-22 16:15:10
Local clock offset: -0.064 ms
Remote clock offset: 0.355 ms

# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.53 Mbit/s
95th percentile per-packet one-way delay: 116.616 ms
Loss rate: 2.33%
-- Flow 1:
Average throughput: 5.17 Mbit/s
95th percentile per-packet one-way delay: 116.622 ms
Loss rate: 1.75%
-- Flow 2:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 118.729 ms
Loss rate: 3.91%
-- Flow 3:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 116.411 ms
Loss rate: 5.56%
```

Run 9: Report of LEDBAT — Data Link

```
Run 10: Statistics of LEDBAT

Start at: 2018-05-22 16:38:40
End at: 2018-05-22 16:39:10
Local clock offset: 0.022 ms
Remote clock offset: -0.023 ms

# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.37 Mbit/s
95th percentile per-packet one-way delay: 117.119 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 6.90 Mbit/s
95th percentile per-packet one-way delay: 117.143 ms
Loss rate: 1.53%
-- Flow 2:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 117.078 ms
Loss rate: 2.39%
-- Flow 3:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 117.088 ms
Loss rate: 4.52%
```
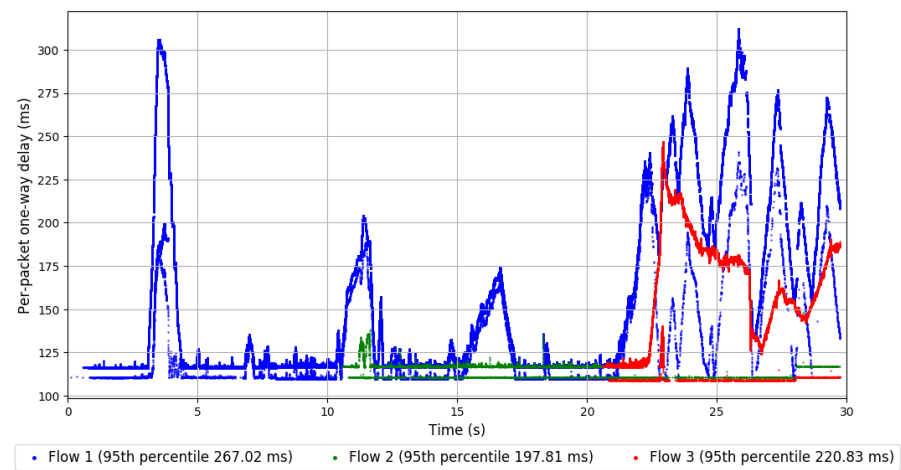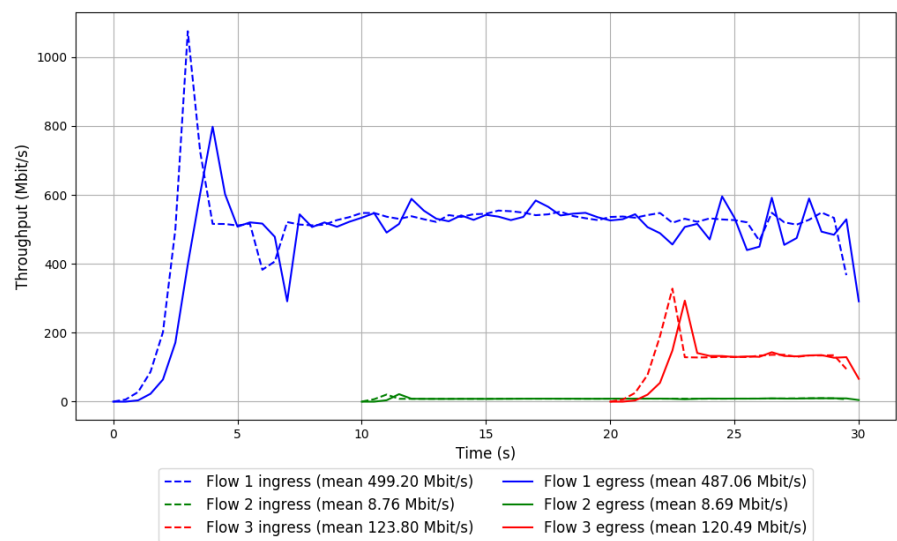
Run 10: Report of LEDBAT — Data Link

Flow 1 ingress (mean 6.95 Mbit/s)   Flow 1 egress (mean 6.90 Mbit/s)
Flow 2 ingress (mean 4.27 Mbit/s)   Flow 2 egress (mean 4.21 Mbit/s)
Flow 3 ingress (mean 2.32 Mbit/s)   Flow 3 egress (mean 2.27 Mbit/s)

Flow 1 (95th percentile 117.14 ms)   Flow 2 (95th percentile 117.08 ms)   Flow 3 (95th percentile 117.09 ms)
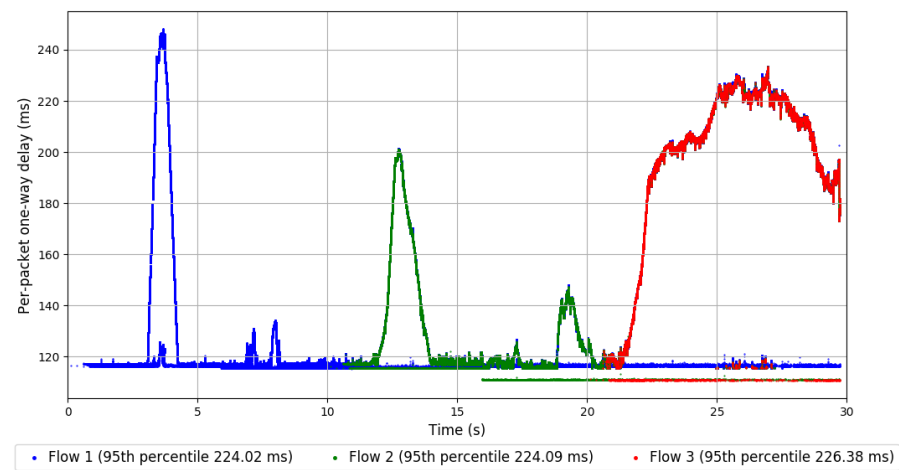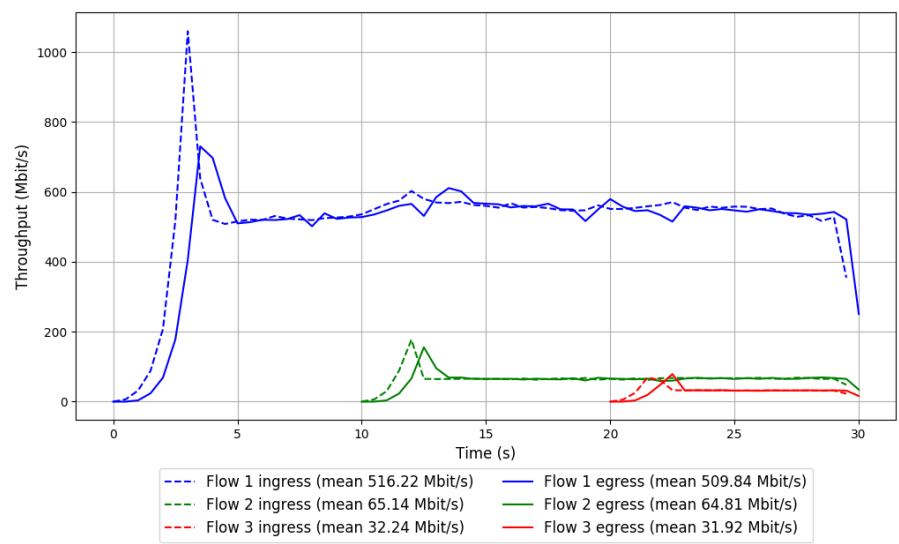
```
Run 1: Statistics of PCC-Allegro

Start at: 2018-05-22 13:15:27
End at: 2018-05-22 13:15:57
Local clock offset: 0.199 ms
Remote clock offset: -0.006 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 522.08 Mbit/s
95th percentile per-packet one-way delay: 292.952 ms
Loss rate: 4.94%
-- Flow 1:
Average throughput: 460.03 Mbit/s
95th percentile per-packet one-way delay: 296.956 ms
Loss rate: 5.38%
-- Flow 2:
Average throughput: 64.27 Mbit/s
95th percentile per-packet one-way delay: 224.302 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 60.10 Mbit/s
95th percentile per-packet one-way delay: 225.688 ms
Loss rate: 2.27%
```

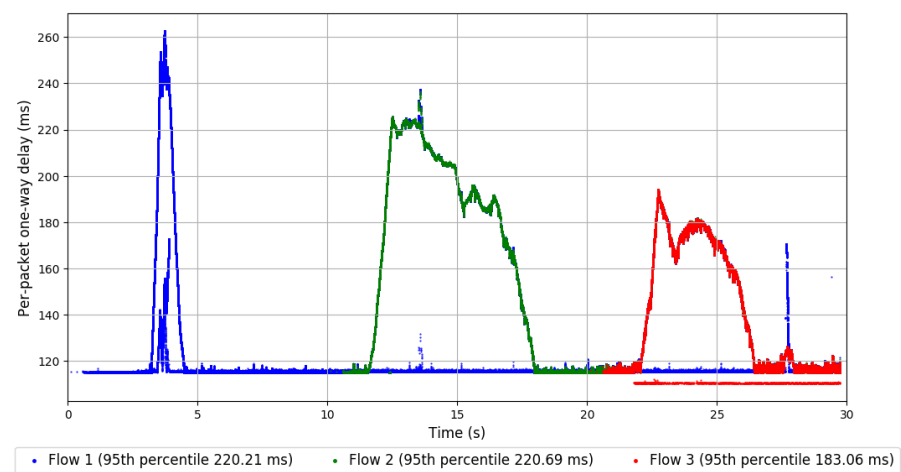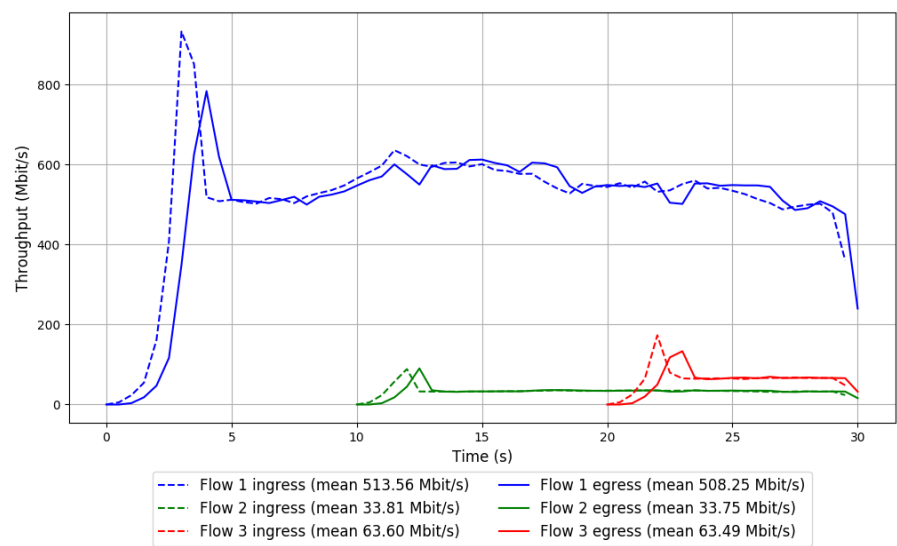Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-05-22 13:38:50
End at: 2018-05-22 13:39:20
Local clock offset: -0.098 ms
Remote clock offset: -0.038 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 531.88 Mbit/s
95th percentile per-packet one-way delay: 264.197 ms
Loss rate: 3.27%
-- Flow 1:
Average throughput: 487.06 Mbit/s
95th percentile per-packet one-way delay: 267.016 ms
Loss rate: 3.16%
-- Flow 2:
Average throughput: 8.69 Mbit/s
95th percentile per-packet one-way delay: 197.815 ms
Loss rate: 1.87%
-- Flow 3:
Average throughput: 120.49 Mbit/s
95th percentile per-packet one-way delay: 220.826 ms
Loss rate: 4.85%
```

Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 499.20 Mbit/s) — Flow 1 egress (mean 487.06 Mbit/s)
Flow 2 ingress (mean 8.76 Mbit/s) — Flow 2 egress (mean 8.69 Mbit/s)
Flow 3 ingress (mean 123.80 Mbit/s) — Flow 3 egress (mean 120.49 Mbit/s)

Flow 1 (95th percentile 267.02 ms) — Flow 2 (95th percentile 197.81 ms) — Flow 3 (95th percentile 220.83 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-05-22 14:02:02
End at: 2018-05-22 14:02:32
Local clock offset: -0.104 ms
Remote clock offset: -0.012 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 563.11 Mbit/s
95th percentile per-packet one-way delay: 224.119 ms
Loss rate: 1.98%
-- Flow 1:
Average throughput: 509.84 Mbit/s
95th percentile per-packet one-way delay: 224.016 ms
Loss rate: 1.99%
-- Flow 2:
Average throughput: 64.81 Mbit/s
95th percentile per-packet one-way delay: 224.092 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 31.92 Mbit/s
95th percentile per-packet one-way delay: 226.380 ms
Loss rate: 3.24%
```
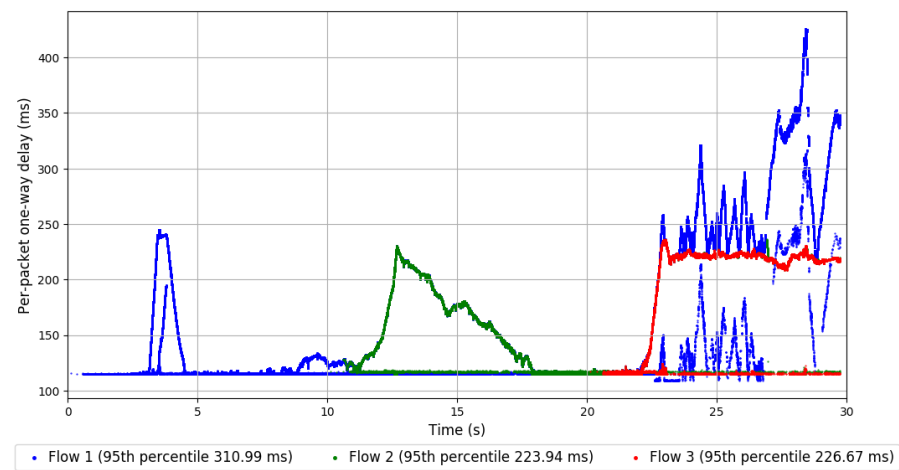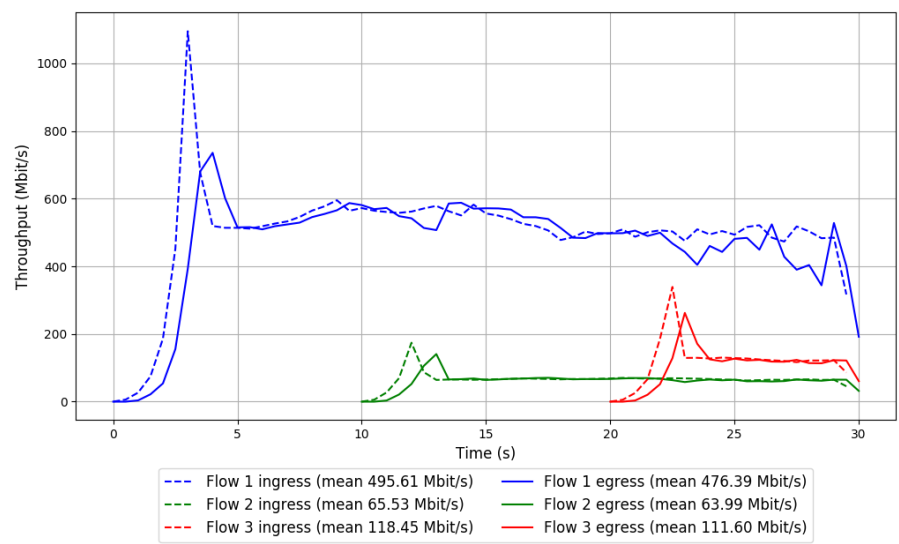
Run 3: Report of PCC-Allegro — Data Link

- Flow 1 ingress (mean 516.22 Mbit/s) — — — Flow 1 egress (mean 509.84 Mbit/s) ———
- Flow 2 ingress (mean 65.14 Mbit/s) — — — Flow 2 egress (mean 64.81 Mbit/s) ———
- Flow 3 ingress (mean 32.24 Mbit/s) — — — Flow 3 egress (mean 31.92 Mbit/s) ———

- Flow 1 (95th percentile 224.02 ms)   • Flow 2 (95th percentile 224.09 ms)   • Flow 3 (95th percentile 226.38 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-05-22 14:25:36
End at: 2018-05-22 14:26:06
Local clock offset: -0.451 ms
Remote clock offset: -0.013 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 551.20 Mbit/s
95th percentile per-packet one-way delay: 219.522 ms
Loss rate: 1.81%
-- Flow 1:
Average throughput: 508.25 Mbit/s
95th percentile per-packet one-way delay: 220.205 ms
Loss rate: 1.80%
-- Flow 2:
Average throughput: 33.75 Mbit/s
95th percentile per-packet one-way delay: 220.695 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 63.49 Mbit/s
95th percentile per-packet one-way delay: 183.062 ms
Loss rate: 2.53%
```
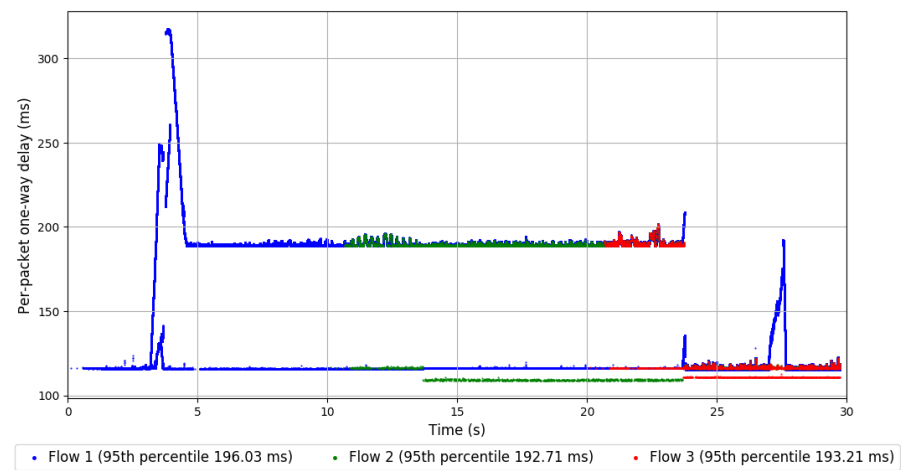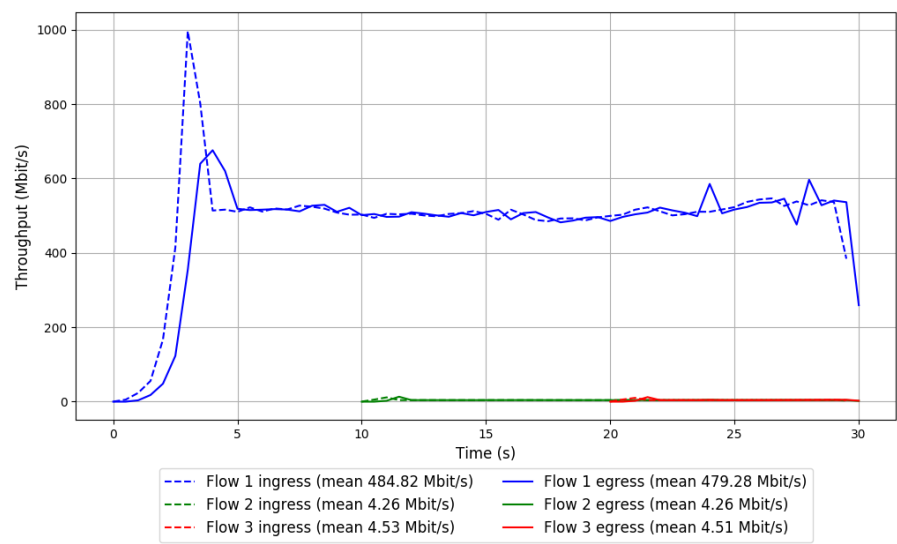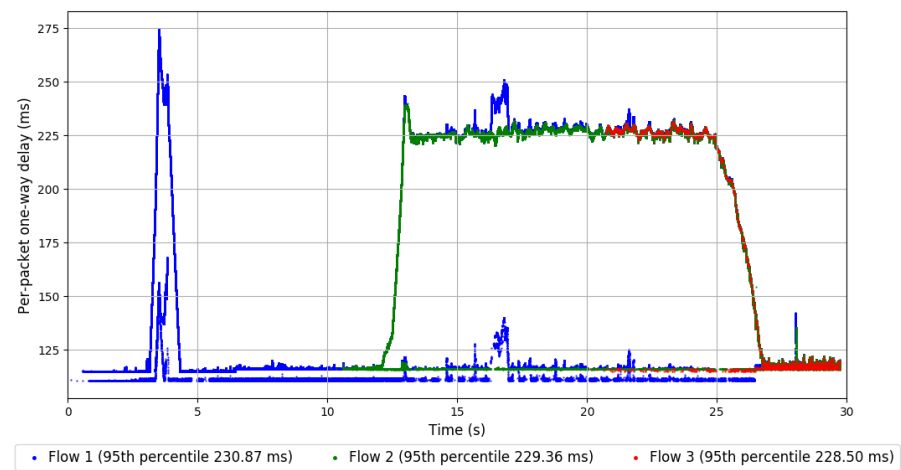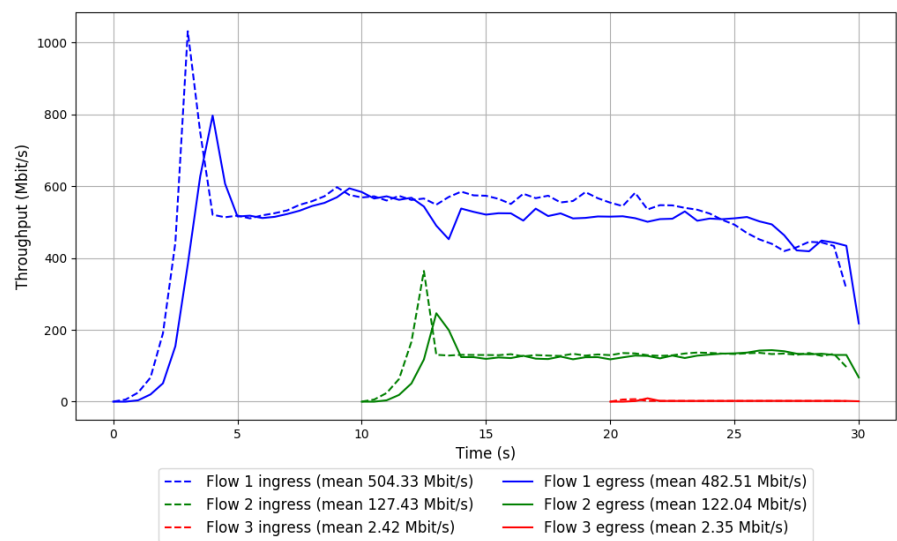
Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 513.56 Mbit/s) — Flow 1 egress (mean 508.25 Mbit/s)
Flow 2 ingress (mean 33.81 Mbit/s) — Flow 2 egress (mean 33.75 Mbit/s)
Flow 3 ingress (mean 63.60 Mbit/s) — Flow 3 egress (mean 63.49 Mbit/s)

Flow 1 (95th percentile 220.21 ms) — Flow 2 (95th percentile 220.69 ms) — Flow 3 (95th percentile 183.06 ms)
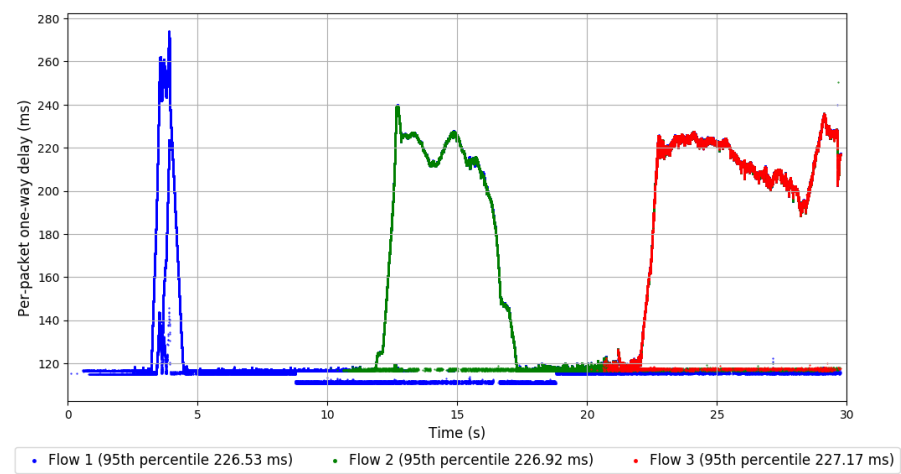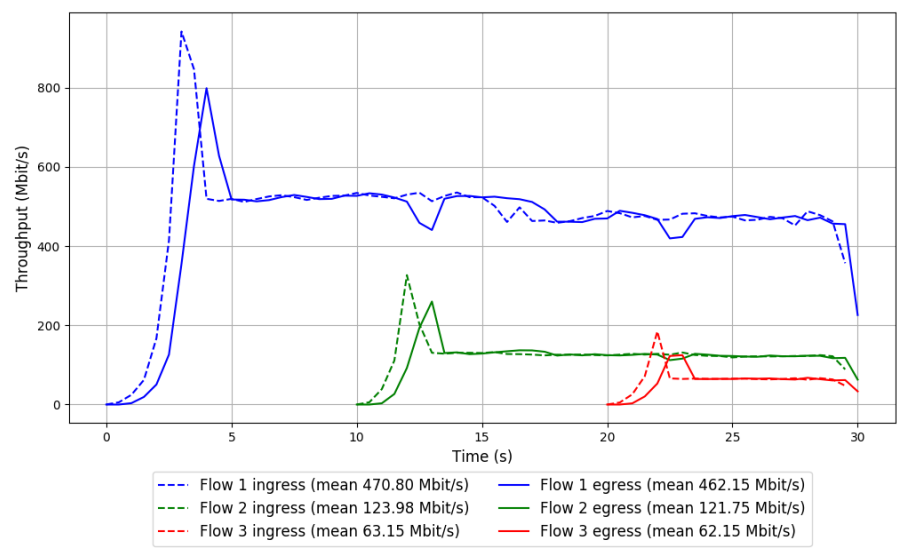
```
Run 5: Statistics of PCC-Allegro

Start at: 2018-05-22 14:49:25
End at: 2018-05-22 14:49:55
Local clock offset: -0.272 ms
Remote clock offset: 0.017 ms


# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 554.92 Mbit/s
95th percentile per-packet one-way delay: 295.150 ms
Loss rate: 4.75%
-- Flow 1:
Average throughput: 476.39 Mbit/s
95th percentile per-packet one-way delay: 310.994 ms
Loss rate: 4.61%
-- Flow 2:
Average throughput: 63.99 Mbit/s
95th percentile per-packet one-way delay: 223.938 ms
Loss rate: 3.47%
-- Flow 3:
Average throughput: 111.60 Mbit/s
95th percentile per-packet one-way delay: 226.672 ms
Loss rate: 7.95%
```

Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 495.61 Mbit/s)   Flow 1 egress (mean 476.39 Mbit/s)
Flow 2 ingress (mean 65.53 Mbit/s)   Flow 2 egress (mean 63.99 Mbit/s)
Flow 3 ingress (mean 118.45 Mbit/s)   Flow 3 egress (mean 111.60 Mbit/s)

Flow 1 (95th percentile 310.99 ms)   Flow 2 (95th percentile 223.94 ms)   Flow 3 (95th percentile 226.67 ms)
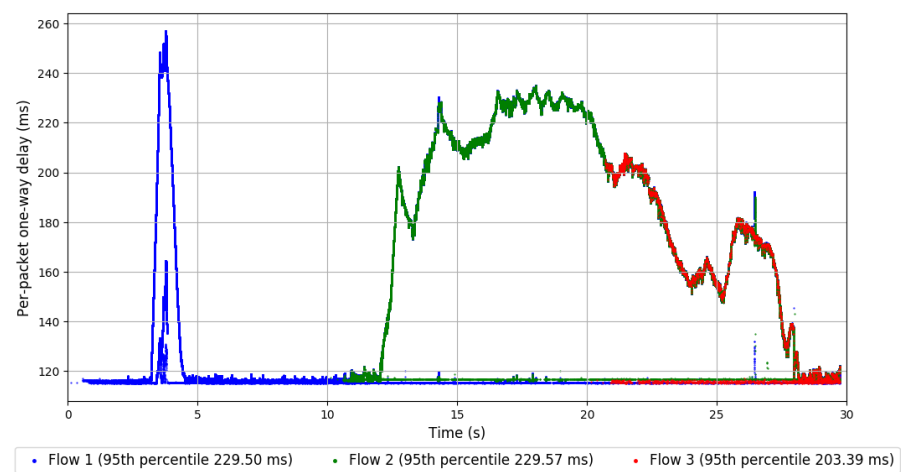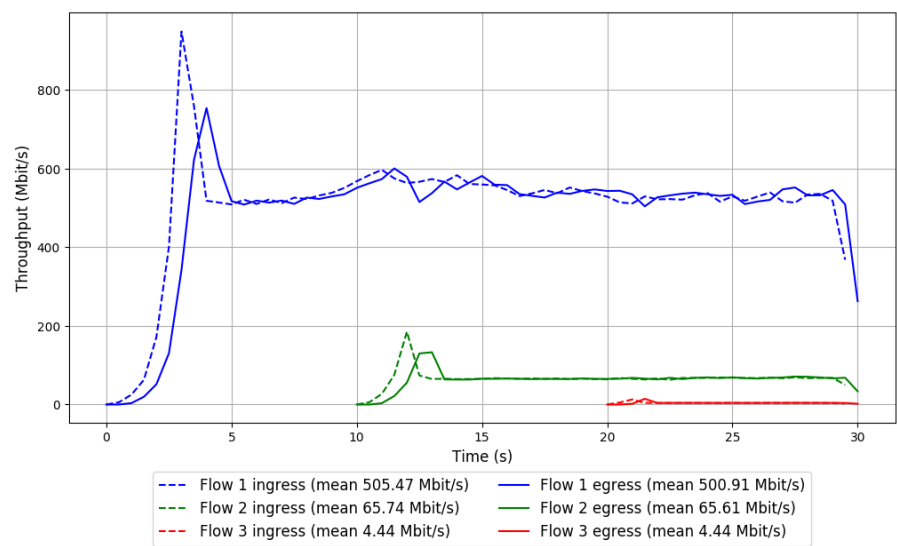
```
Run 6: Statistics of PCC-Allegro

Start at: 2018-05-22 15:12:34
End at: 2018-05-22 15:13:04
Local clock offset: 0.312 ms
Remote clock offset: 0.028 ms

# Below is generated by plot.py at 2018-05-22 18:04:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 483.53 Mbit/s
95th percentile per-packet one-way delay: 195.951 ms
Loss rate: 1.89%
-- Flow 1:
Average throughput: 479.28 Mbit/s
95th percentile per-packet one-way delay: 196.035 ms
Loss rate: 1.90%
-- Flow 2:
Average throughput: 4.26 Mbit/s
95th percentile per-packet one-way delay: 192.709 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 4.51 Mbit/s
95th percentile per-packet one-way delay: 193.210 ms
Loss rate: 2.76%
```

Run 6: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 484.82 Mbit/s)   Flow 1 egress (mean 479.28 Mbit/s)
Flow 2 ingress (mean 4.26 Mbit/s)   Flow 2 egress (mean 4.26 Mbit/s)
Flow 3 ingress (mean 4.53 Mbit/s)   Flow 3 egress (mean 4.51 Mbit/s)

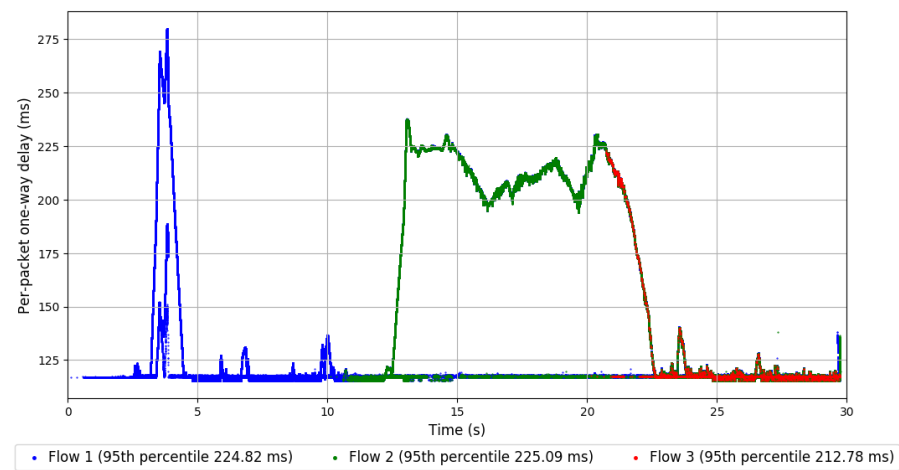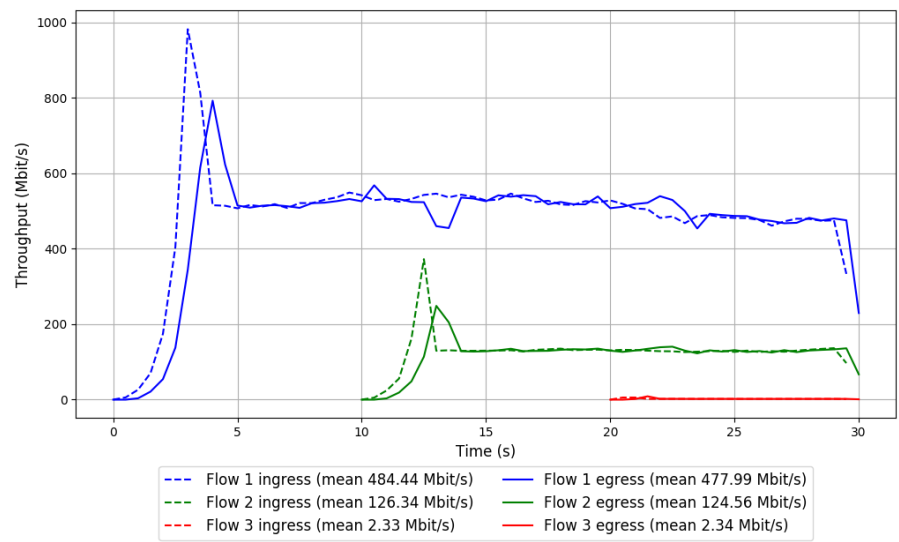Flow 1 (95th percentile 196.03 ms)   Flow 2 (95th percentile 192.71 ms)   Flow 3 (95th percentile 193.21 ms)

```
Run 7: Statistics of PCC-Allegro

Start at: 2018-05-22 15:36:21
End at: 2018-05-22 15:36:51
Local clock offset: 0.04 ms
Remote clock offset: -0.042 ms


# Below is generated by plot.py at 2018-05-22 18:08:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 564.07 Mbit/s
95th percentile per-packet one-way delay: 230.522 ms
Loss rate: 5.07%
-- Flow 1:
Average throughput: 482.51 Mbit/s
95th percentile per-packet one-way delay: 230.866 ms
Loss rate: 5.02%
-- Flow 2:
Average throughput: 122.04 Mbit/s
95th percentile per-packet one-way delay: 229.362 ms
Loss rate: 5.32%
-- Flow 3:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 228.496 ms
Loss rate: 5.15%
```

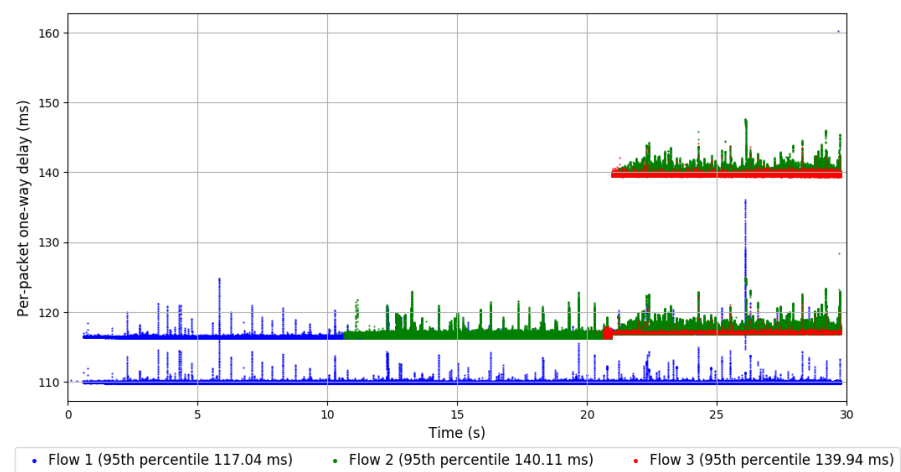Run 7: Report of PCC-Allegro — Data Link

```
Run 8: Statistics of PCC-Allegro

Start at: 2018-05-22 16:00:29
End at: 2018-05-22 16:00:59
Local clock offset: 0.027 ms
Remote clock offset: -0.034 ms


# Below is generated by plot.py at 2018-05-22 18:09:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 562.89 Mbit/s
95th percentile per-packet one-way delay: 226.603 ms
Loss rate: 2.68%
-- Flow 1:
Average throughput: 462.15 Mbit/s
95th percentile per-packet one-way delay: 226.526 ms
Loss rate: 2.58%
-- Flow 2:
Average throughput: 121.75 Mbit/s
95th percentile per-packet one-way delay: 226.921 ms
Loss rate: 2.93%
-- Flow 3:
Average throughput: 62.15 Mbit/s
95th percentile per-packet one-way delay: 227.169 ms
Loss rate: 3.88%
```

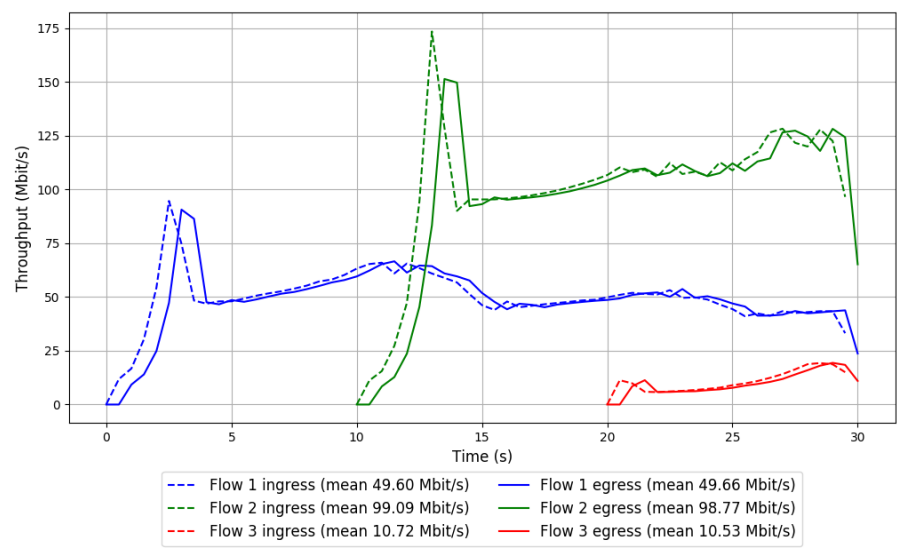## Run 8: Report of PCC-Allegro — Data Link

```
Run 9: Statistics of PCC-Allegro

Start at: 2018-05-22 16:24:27
End at: 2018-05-22 16:24:57
Local clock offset: -0.205 ms
Remote clock offset: -0.429 ms


# Below is generated by plot.py at 2018-05-22 18:09:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 545.79 Mbit/s
95th percentile per-packet one-way delay: 229.502 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 500.91 Mbit/s
95th percentile per-packet one-way delay: 229.503 ms
Loss rate: 1.65%
-- Flow 2:
Average throughput: 65.61 Mbit/s
95th percentile per-packet one-way delay: 229.569 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 4.44 Mbit/s
95th percentile per-packet one-way delay: 203.389 ms
Loss rate: 2.13%
```

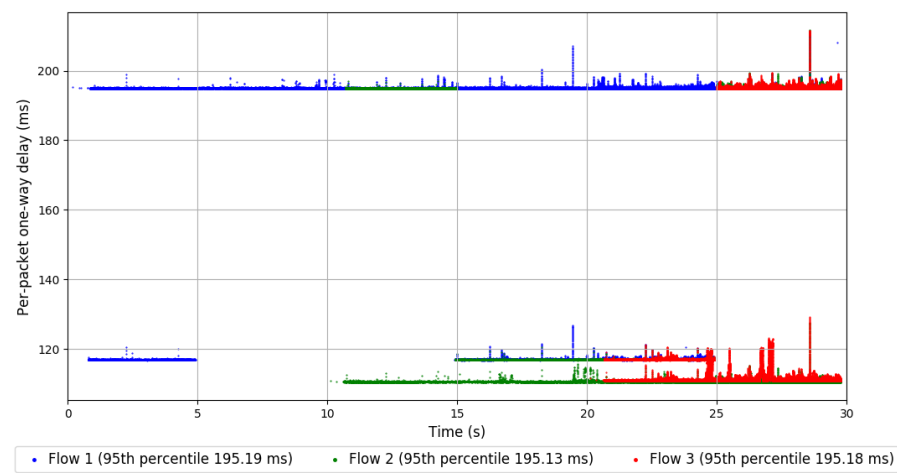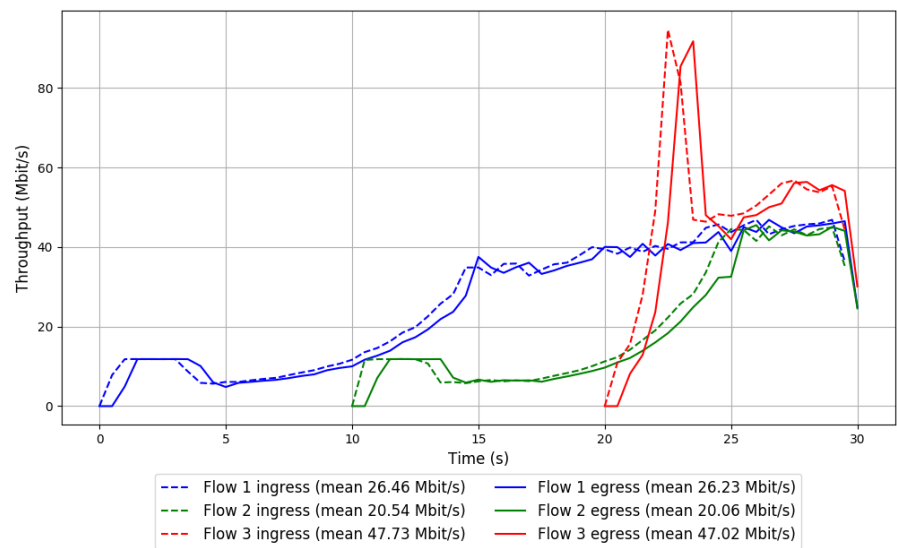## Run 9: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 505.47 Mbit/s) —— Flow 1 egress (mean 500.91 Mbit/s)
Flow 2 ingress (mean 65.74 Mbit/s) —— Flow 2 egress (mean 65.61 Mbit/s)
Flow 3 ingress (mean 4.44 Mbit/s) —— Flow 3 egress (mean 4.44 Mbit/s)

Flow 1 (95th percentile 229.50 ms) · Flow 2 (95th percentile 229.57 ms) · Flow 3 (95th percentile 203.39 ms)

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```
Run 10: Statistics of PCC-Allegro

Start at: 2018-05-22 16:48:23
End at: 2018-05-22 16:48:53
Local clock offset: -0.087 ms
Remote clock offset: -0.425 ms


# Below is generated by plot.py at 2018-05-22 18:10:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 561.22 Mbit/s
95th percentile per-packet one-way delay: 224.870 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 477.99 Mbit/s
95th percentile per-packet one-way delay: 224.818 ms
Loss rate: 2.09%
-- Flow 2:
Average throughput: 124.56 Mbit/s
95th percentile per-packet one-way delay: 225.089 ms
Loss rate: 2.53%
-- Flow 3:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 212.776 ms
Loss rate: 2.10%
```

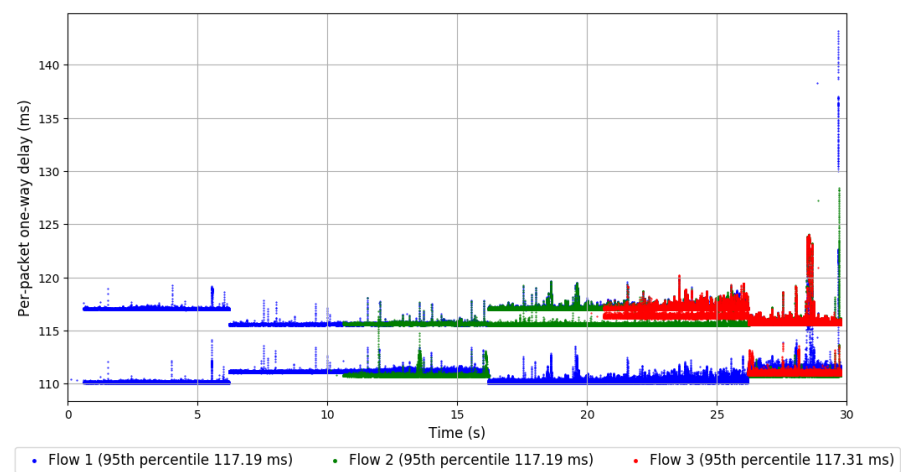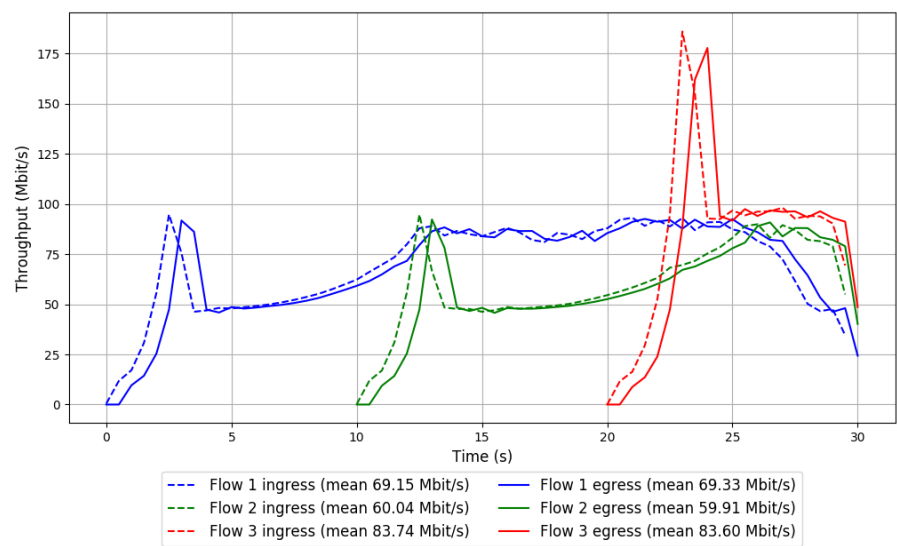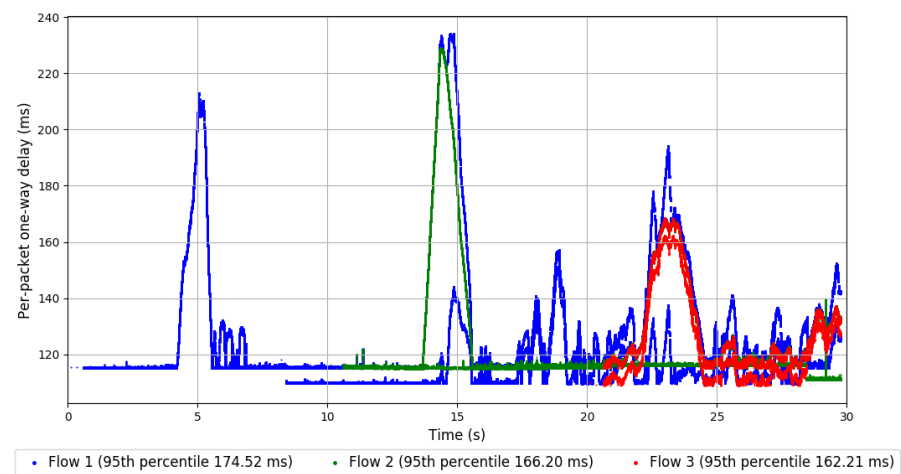# Run 10: Report of PCC-Allegro — Data Link

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```
Run 1: Statistics of PCC-Expr

Start at: 2018-05-22 13:27:57
End at: 2018-05-22 13:28:27
Local clock offset: 0.151 ms
Remote clock offset: -0.392 ms


# Below is generated by plot.py at 2018-05-22 18:10:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 118.49 Mbit/s
95th percentile per-packet one-way delay: 139.848 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 49.66 Mbit/s
95th percentile per-packet one-way delay: 117.037 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 98.77 Mbit/s
95th percentile per-packet one-way delay: 140.107 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 10.53 Mbit/s
95th percentile per-packet one-way delay: 139.938 ms
Loss rate: 4.16%
```

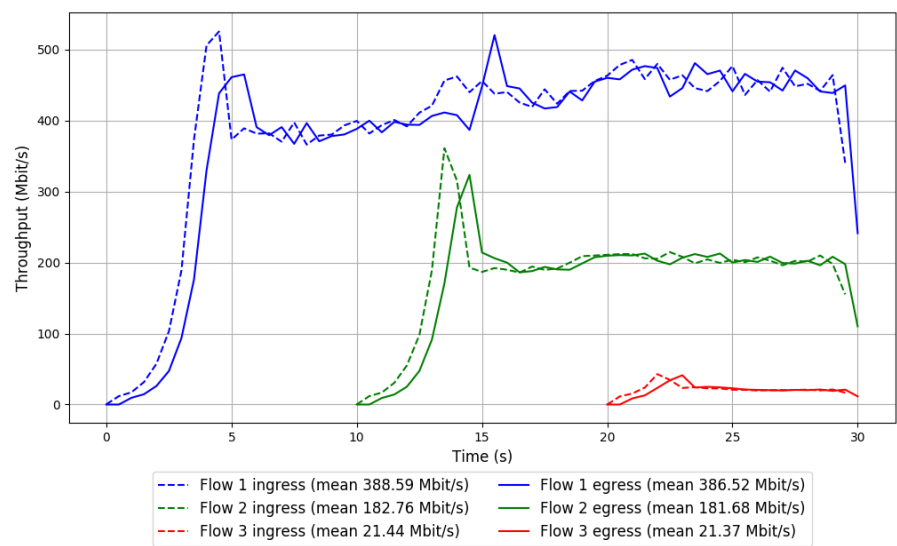# Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2018-05-22 13:51:23
End at: 2018-05-22 13:51:53
Local clock offset: -0.041 ms
Remote clock offset: 0.05 ms


# Below is generated by plot.py at 2018-05-22 18:10:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.89 Mbit/s
95th percentile per-packet one-way delay: 195.179 ms
Loss rate: 2.80%
-- Flow 1:
Average throughput: 26.23 Mbit/s
95th percentile per-packet one-way delay: 195.193 ms
Loss rate: 1.88%
-- Flow 2:
Average throughput: 20.06 Mbit/s
95th percentile per-packet one-way delay: 195.130 ms
Loss rate: 3.45%
-- Flow 3:
Average throughput: 47.02 Mbit/s
95th percentile per-packet one-way delay: 195.178 ms
Loss rate: 3.77%
```

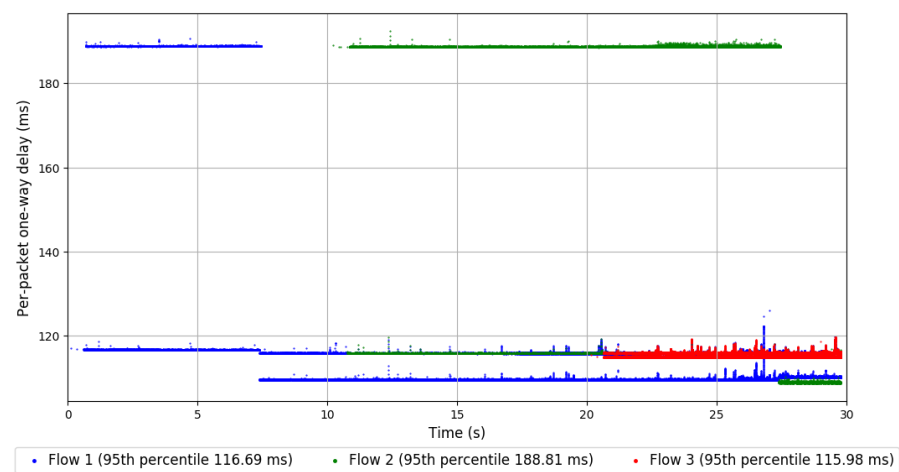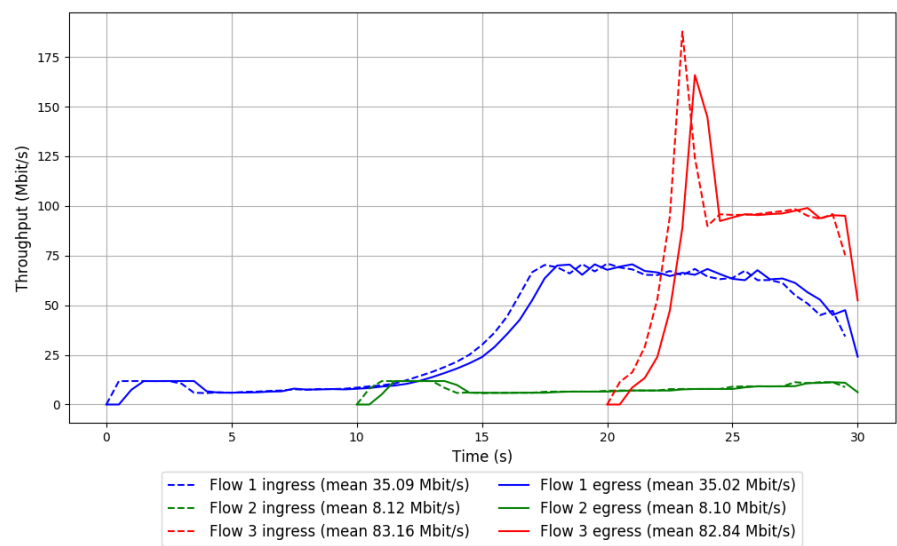Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-05-22 14:14:31
End at: 2018-05-22 14:15:01
Local clock offset: -0.419 ms
Remote clock offset: -0.371 ms


# Below is generated by plot.py at 2018-05-22 18:10:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 136.17 Mbit/s
95th percentile per-packet one-way delay: 117.217 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 69.33 Mbit/s
95th percentile per-packet one-way delay: 117.195 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 59.91 Mbit/s
95th percentile per-packet one-way delay: 117.189 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 83.60 Mbit/s
95th percentile per-packet one-way delay: 117.315 ms
Loss rate: 2.53%
```
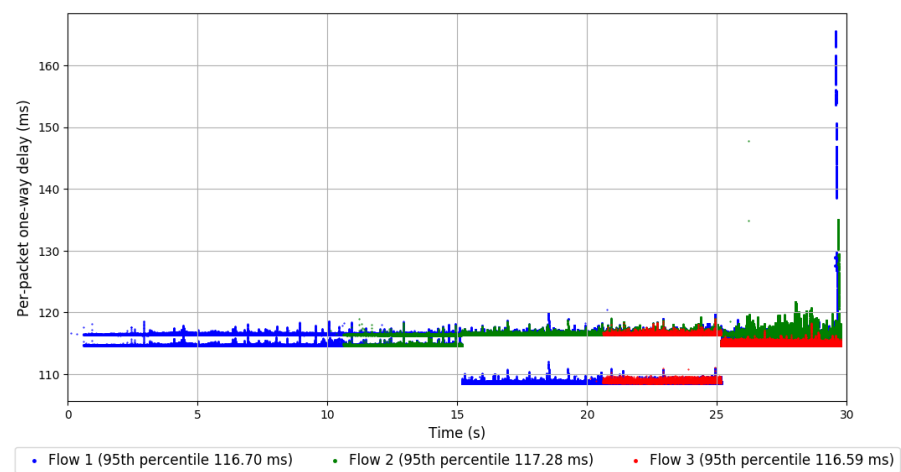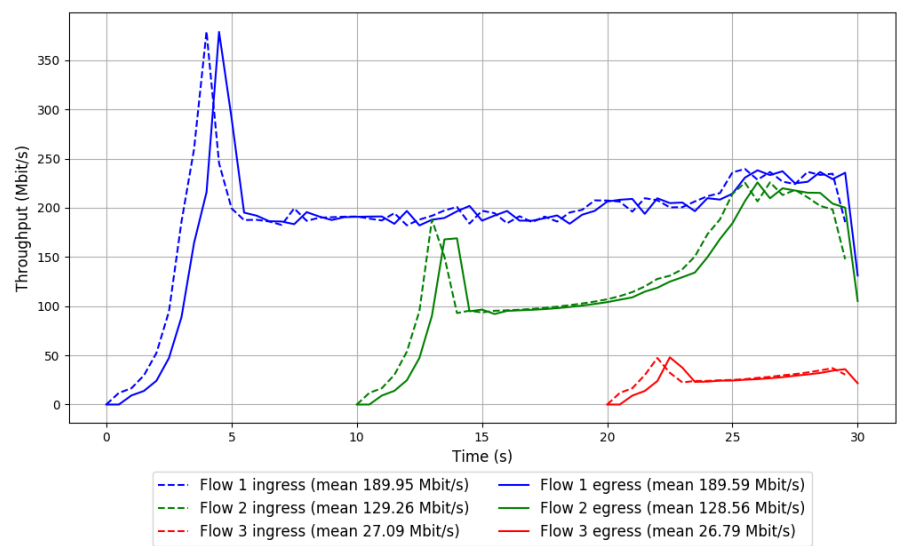
Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2018-05-22 14:37:59
End at: 2018-05-22 14:38:29
Local clock offset: -0.953 ms
Remote clock offset: -0.378 ms


# Below is generated by plot.py at 2018-05-22 18:19:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 513.85 Mbit/s
95th percentile per-packet one-way delay: 171.731 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 386.52 Mbit/s
95th percentile per-packet one-way delay: 174.522 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 181.68 Mbit/s
95th percentile per-packet one-way delay: 166.204 ms
Loss rate: 1.76%
-- Flow 3:
Average throughput: 21.37 Mbit/s
95th percentile per-packet one-way delay: 162.209 ms
Loss rate: 2.60%
```

Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 388.59 Mbit/s) — Flow 1 egress (mean 386.52 Mbit/s)
Flow 2 ingress (mean 182.76 Mbit/s) — Flow 2 egress (mean 181.68 Mbit/s)
Flow 3 ingress (mean 21.44 Mbit/s) — Flow 3 egress (mean 21.37 Mbit/s)

Flow 1 (95th percentile 174.52 ms) · Flow 2 (95th percentile 166.20 ms) · Flow 3 (95th percentile 162.21 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2018-05-22 15:01:50
End at: 2018-05-22 15:02:20
Local clock offset: 0.036 ms
Remote clock offset: -0.021 ms


# Below is generated by plot.py at 2018-05-22 18:19:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.26 Mbit/s
95th percentile per-packet one-way delay: 117.355 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 35.02 Mbit/s
95th percentile per-packet one-way delay: 116.688 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 8.10 Mbit/s
95th percentile per-packet one-way delay: 188.813 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 82.84 Mbit/s
95th percentile per-packet one-way delay: 115.984 ms
Loss rate: 2.74%
```
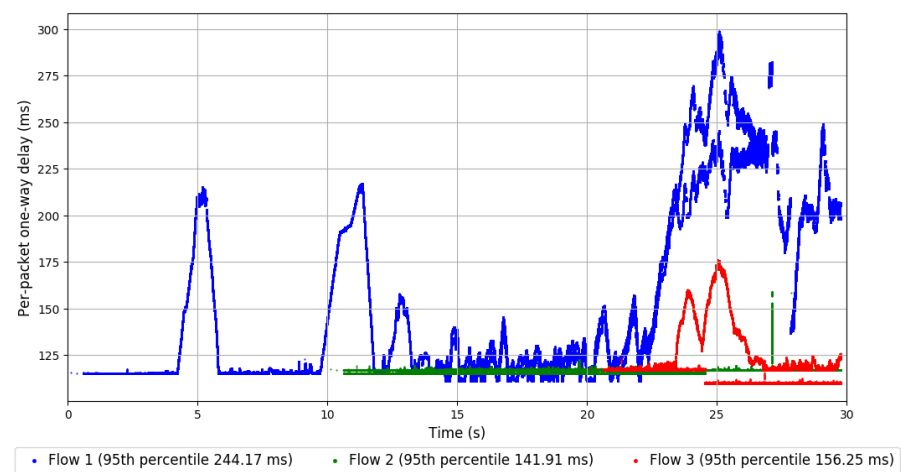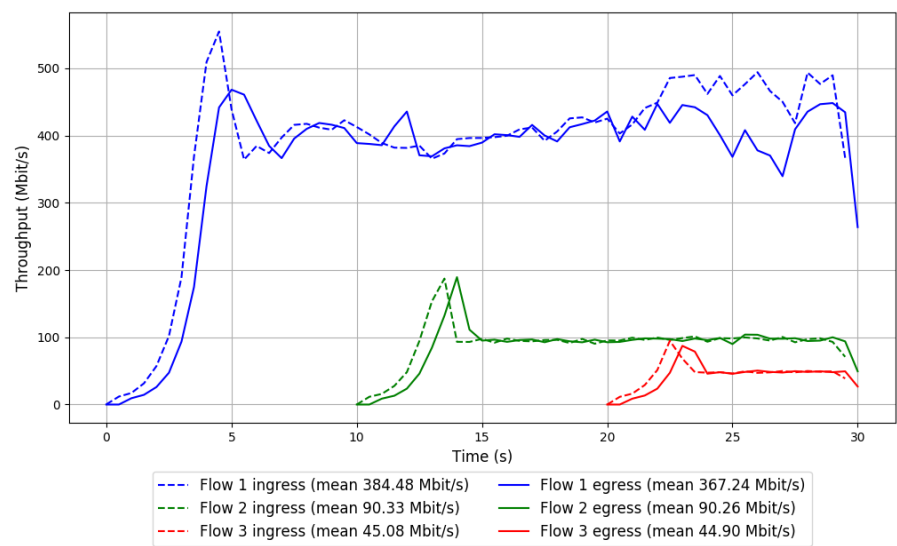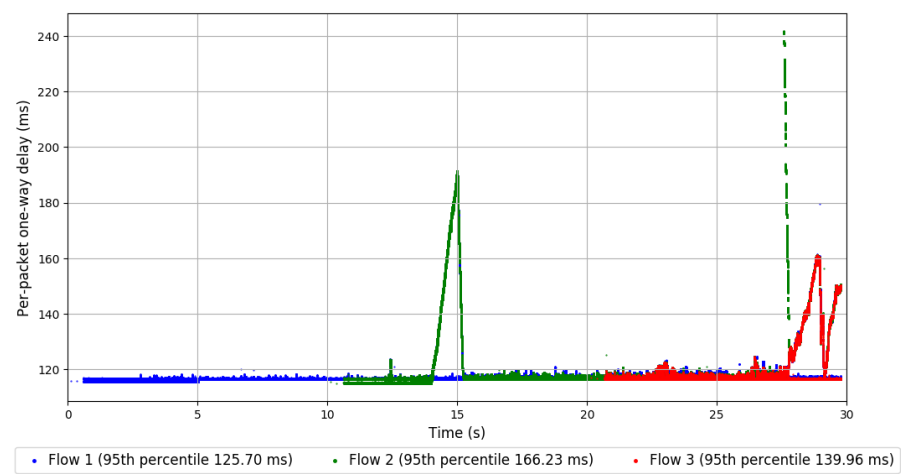
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 35.09 Mbit/s) — Flow 1 egress (mean 35.02 Mbit/s)
Flow 2 ingress (mean 8.12 Mbit/s) — Flow 2 egress (mean 8.10 Mbit/s)
Flow 3 ingress (mean 83.16 Mbit/s) — Flow 3 egress (mean 82.84 Mbit/s)

Flow 1 (95th percentile 116.69 ms) • Flow 2 (95th percentile 188.81 ms) • Flow 3 (95th percentile 115.98 ms)
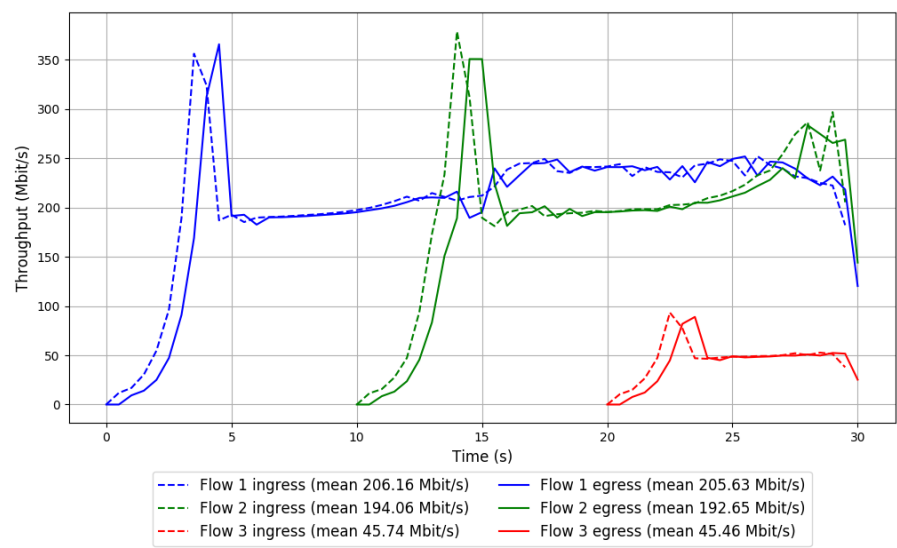
```
Run 6: Statistics of PCC-Expr

Start at: 2018-05-22 15:25:02
End at: 2018-05-22 15:25:32
Local clock offset: -0.105 ms
Remote clock offset: -0.011 ms


# Below is generated by plot.py at 2018-05-22 18:19:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 283.48 Mbit/s
95th percentile per-packet one-way delay: 116.839 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 189.59 Mbit/s
95th percentile per-packet one-way delay: 116.699 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 128.56 Mbit/s
95th percentile per-packet one-way delay: 117.283 ms
Loss rate: 1.69%
-- Flow 3:
Average throughput: 26.79 Mbit/s
95th percentile per-packet one-way delay: 116.593 ms
Loss rate: 3.34%
```

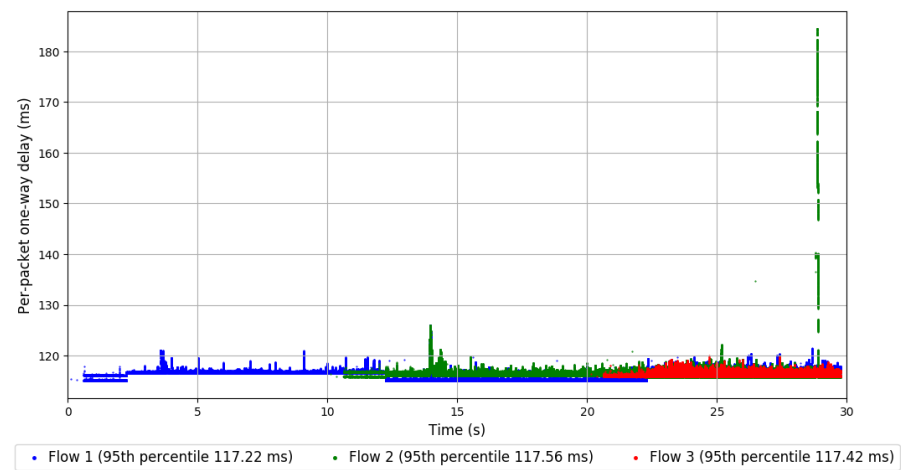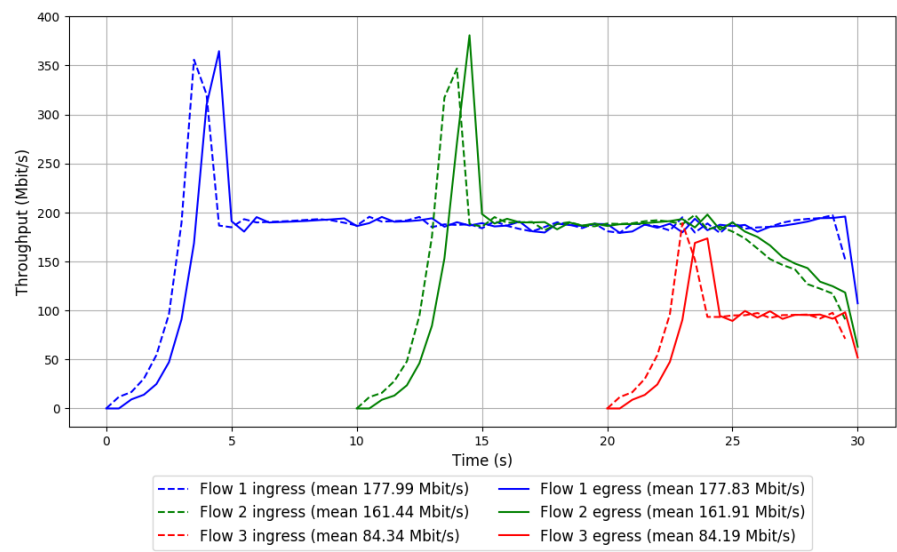Run 6: Report of PCC-Expr — Data Link

```
Run 7: Statistics of PCC-Expr

Start at: 2018-05-22 15:48:53
End at: 2018-05-22 15:49:23
Local clock offset: 0.408 ms
Remote clock offset: -0.04 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 441.61 Mbit/s
95th percentile per-packet one-way delay: 239.776 ms
Loss rate: 4.61%
-- Flow 1:
Average throughput: 367.24 Mbit/s
95th percentile per-packet one-way delay: 244.174 ms
Loss rate: 5.21%
-- Flow 2:
Average throughput: 90.26 Mbit/s
95th percentile per-packet one-way delay: 141.913 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 44.90 Mbit/s
95th percentile per-packet one-way delay: 156.251 ms
Loss rate: 2.71%
```

Run 7: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 384.48 Mbit/s) — Flow 1 egress (mean 367.24 Mbit/s)
Flow 2 ingress (mean 90.33 Mbit/s) — Flow 2 egress (mean 90.26 Mbit/s)
Flow 3 ingress (mean 45.08 Mbit/s) — Flow 3 egress (mean 44.90 Mbit/s)

Flow 1 (95th percentile 244.17 ms)   Flow 2 (95th percentile 141.91 ms)   Flow 3 (95th percentile 156.25 ms)

```
Run 8: Statistics of PCC-Expr

Start at: 2018-05-22 16:12:53
End at: 2018-05-22 16:13:23
Local clock offset: -0.349 ms
Remote clock offset: -0.418 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 348.01 Mbit/s
95th percentile per-packet one-way delay: 149.492 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 205.63 Mbit/s
95th percentile per-packet one-way delay: 125.705 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 192.65 Mbit/s
95th percentile per-packet one-way delay: 166.232 ms
Loss rate: 1.86%
-- Flow 3:
Average throughput: 45.46 Mbit/s
95th percentile per-packet one-way delay: 139.956 ms
Loss rate: 2.91%
```
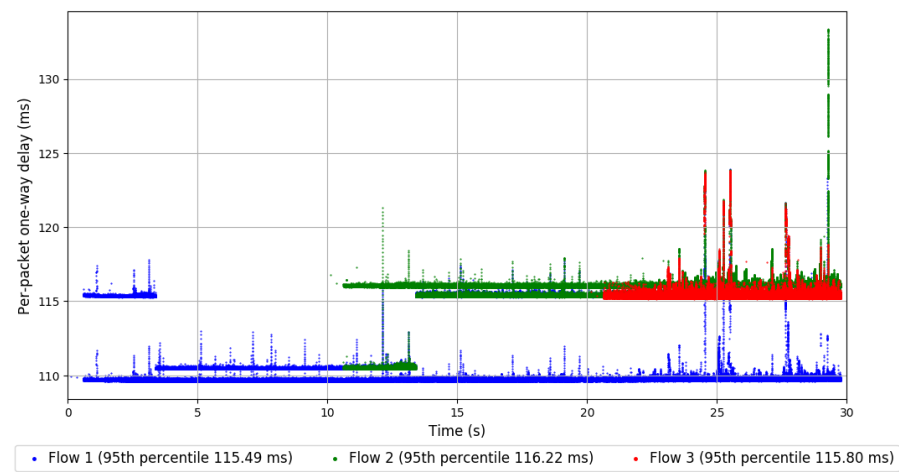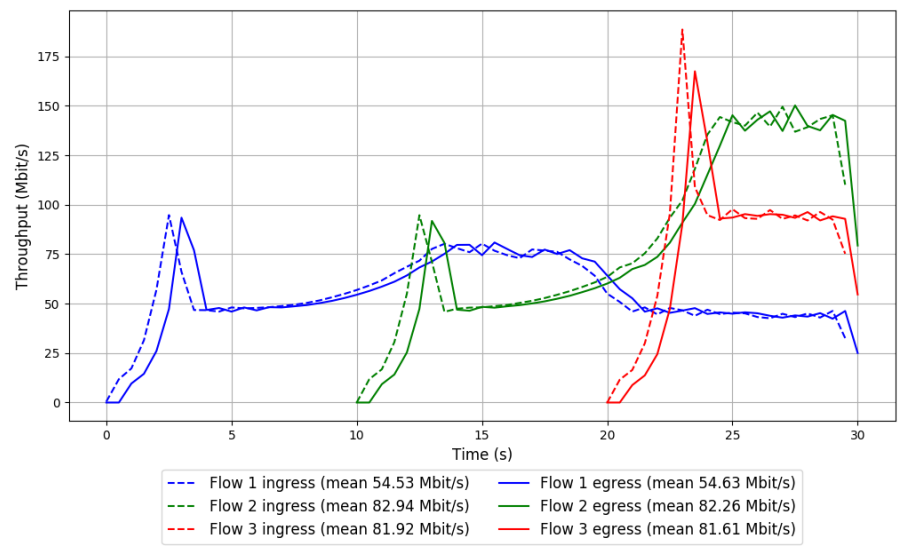
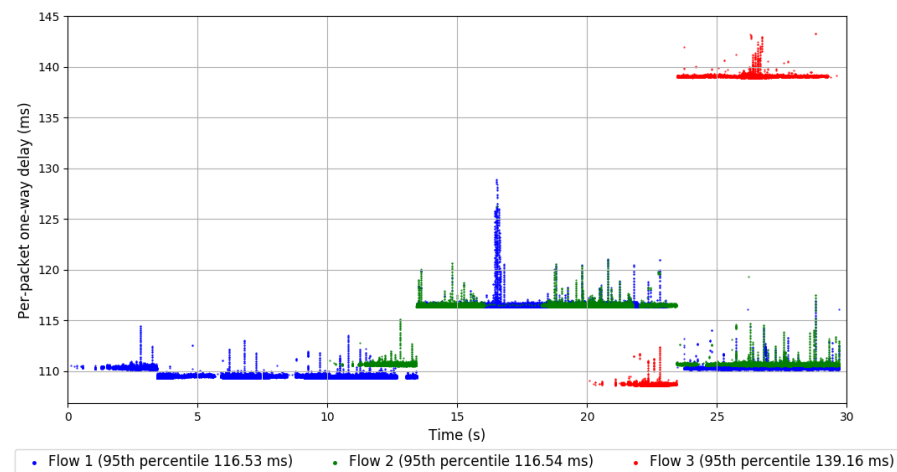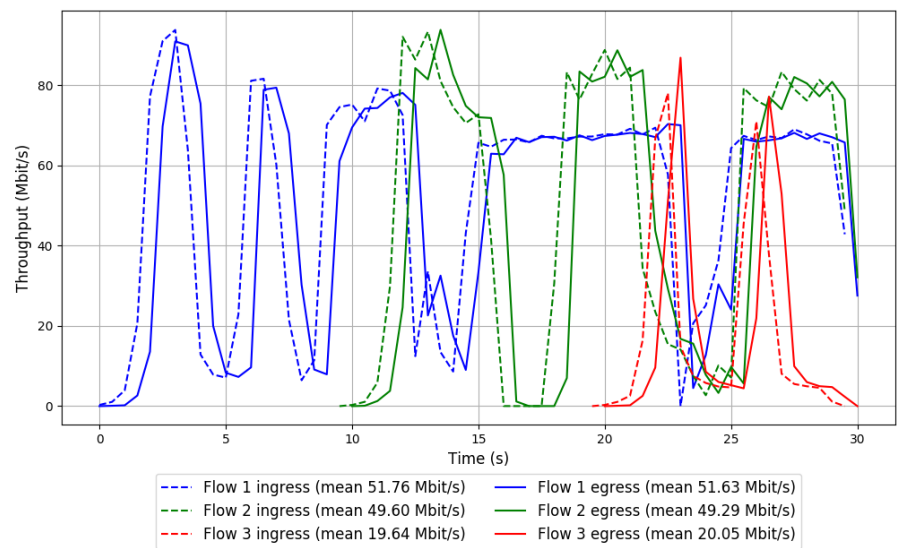Run 8: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 206.16 Mbit/s)   Flow 1 egress (mean 205.63 Mbit/s)
Flow 2 ingress (mean 194.06 Mbit/s)   Flow 2 egress (mean 192.65 Mbit/s)
Flow 3 ingress (mean 45.74 Mbit/s)   Flow 3 egress (mean 45.46 Mbit/s)

Flow 1 (95th percentile 125.70 ms)   Flow 2 (95th percentile 166.23 ms)   Flow 3 (95th percentile 139.96 ms)

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```
Run 9: Statistics of PCC-Expr

Start at: 2018-05-22 16:36:55
End at: 2018-05-22 16:37:25
Local clock offset: 0.103 ms
Remote clock offset: -0.013 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 312.46 Mbit/s
95th percentile per-packet one-way delay: 117.356 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 177.83 Mbit/s
95th percentile per-packet one-way delay: 117.216 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 161.91 Mbit/s
95th percentile per-packet one-way delay: 117.557 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 84.19 Mbit/s
95th percentile per-packet one-way delay: 117.425 ms
Loss rate: 2.48%
```

Run 9: Report of PCC-Expr — Data Link

```
Run 10: Statistics of PCC-Expr

Start at: 2018-05-22 17:00:54
End at: 2018-05-22 17:01:24
Local clock offset: 0.139 ms
Remote clock offset: -0.01 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 135.64 Mbit/s
95th percentile per-packet one-way delay: 116.130 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 54.63 Mbit/s
95th percentile per-packet one-way delay: 115.493 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 82.26 Mbit/s
95th percentile per-packet one-way delay: 116.224 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 81.61 Mbit/s
95th percentile per-packet one-way delay: 115.796 ms
Loss rate: 2.67%
```
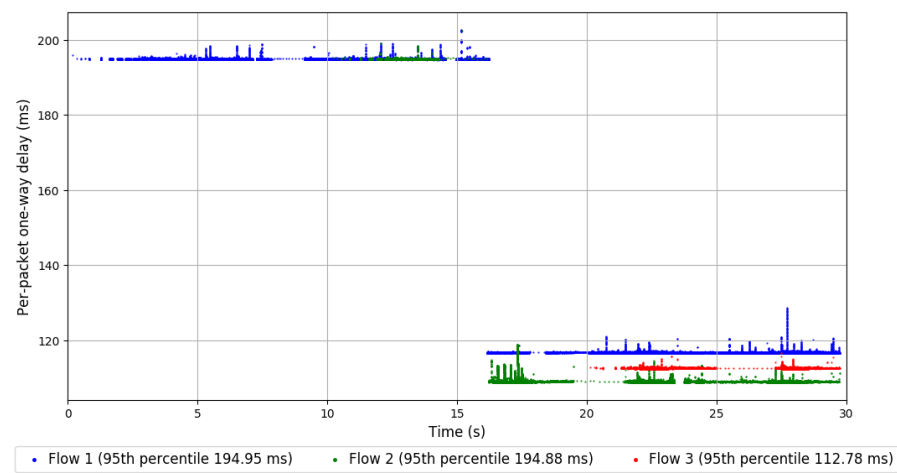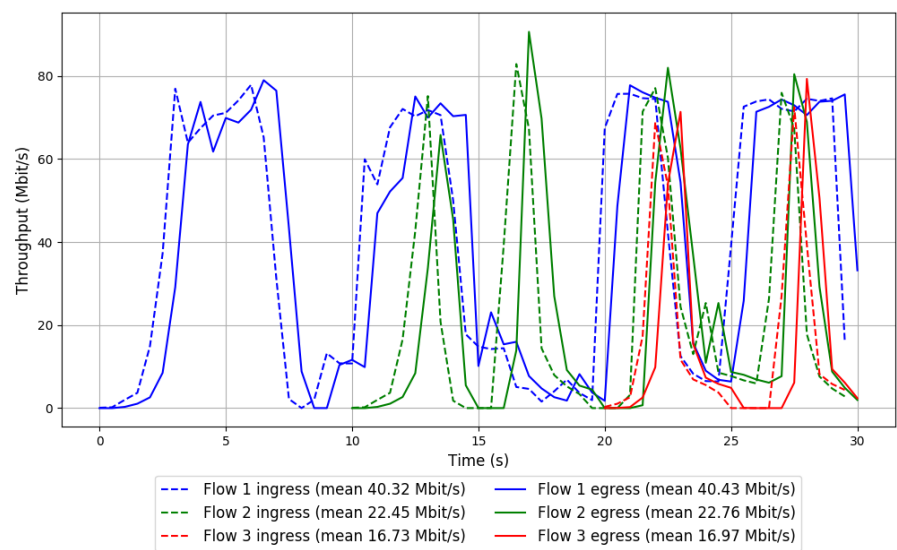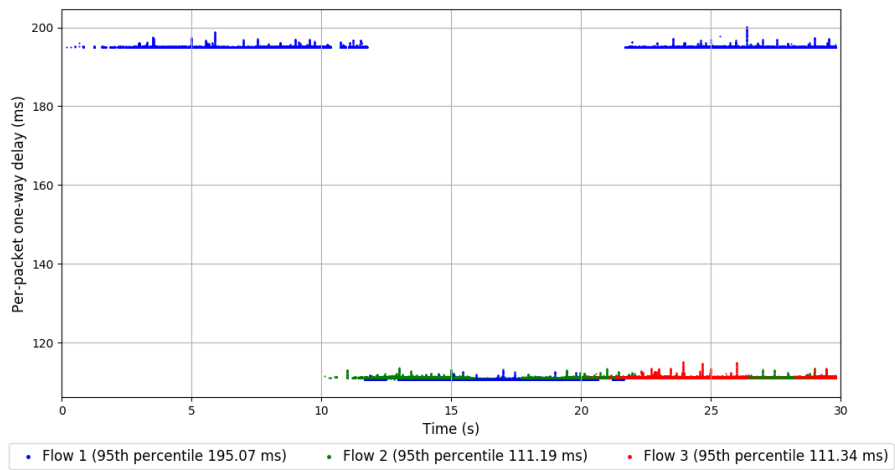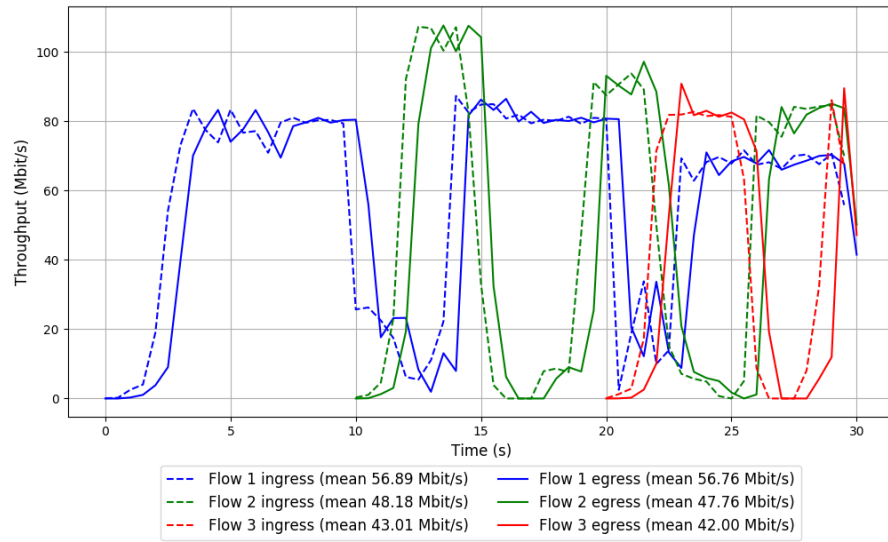
Run 10: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 54.53 Mbit/s) Flow 1 egress (mean 54.63 Mbit/s)
Flow 2 ingress (mean 82.94 Mbit/s) Flow 2 egress (mean 82.26 Mbit/s)
Flow 3 ingress (mean 81.92 Mbit/s) Flow 3 egress (mean 81.61 Mbit/s)

Flow 1 (95th percentile 115.49 ms) Flow 2 (95th percentile 116.22 ms) Flow 3 (95th percentile 115.80 ms)

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```
Run 1: Statistics of QUIC Cubic

Start at: 2018-05-22 13:25:24
End at: 2018-05-22 13:25:54
Local clock offset: 0.059 ms
Remote clock offset: -0.057 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.74 Mbit/s
95th percentile per-packet one-way delay: 116.665 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 51.63 Mbit/s
95th percentile per-packet one-way delay: 116.529 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 49.29 Mbit/s
95th percentile per-packet one-way delay: 116.537 ms
Loss rate: 1.75%
-- Flow 3:
Average throughput: 20.05 Mbit/s
95th percentile per-packet one-way delay: 139.164 ms
Loss rate: 0.00%
```
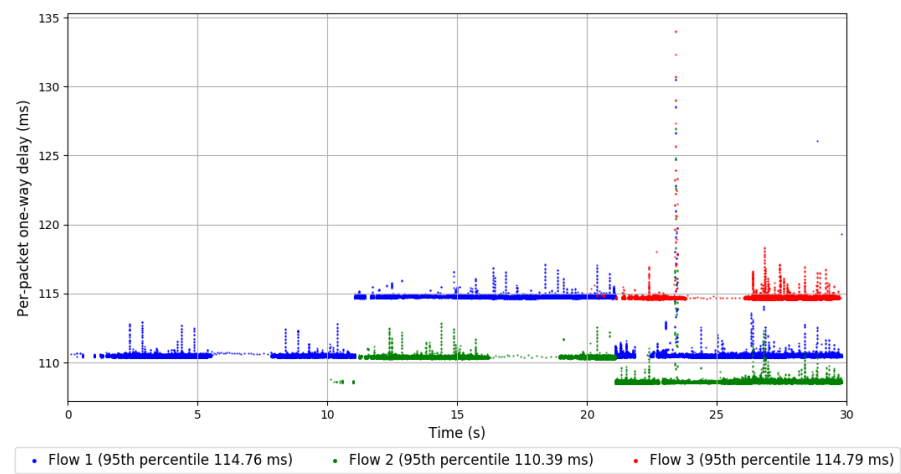
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-05-22 13:48:51
End at: 2018-05-22 13:49:21
Local clock offset: -0.036 ms
Remote clock offset: 0.082 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.97 Mbit/s
95th percentile per-packet one-way delay: 194.928 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 40.43 Mbit/s
95th percentile per-packet one-way delay: 194.952 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 22.76 Mbit/s
95th percentile per-packet one-way delay: 194.883 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 16.97 Mbit/s
95th percentile per-packet one-way delay: 112.778 ms
Loss rate: 0.97%
```
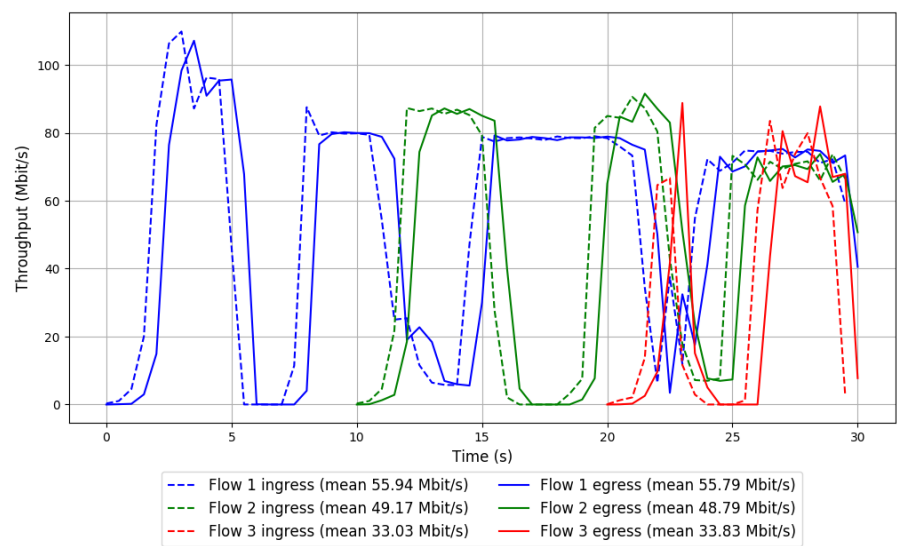
Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 40.32 Mbit/s) — Flow 1 egress (mean 40.43 Mbit/s)
Flow 2 ingress (mean 22.45 Mbit/s) — Flow 2 egress (mean 22.76 Mbit/s)
Flow 3 ingress (mean 16.73 Mbit/s) — Flow 3 egress (mean 16.97 Mbit/s)

Flow 1 (95th percentile 194.95 ms) • Flow 2 (95th percentile 194.88 ms) • Flow 3 (95th percentile 112.78 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-05-22 14:11:56
End at: 2018-05-22 14:12:26
Local clock offset: -0.451 ms
Remote clock offset: -0.356 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 102.19 Mbit/s
95th percentile per-packet one-way delay: 195.039 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 56.76 Mbit/s
95th percentile per-packet one-way delay: 195.066 ms
Loss rate: 1.25%
-- Flow 2:
Average throughput: 47.76 Mbit/s
95th percentile per-packet one-way delay: 111.185 ms
Loss rate: 2.02%
-- Flow 3:
Average throughput: 42.00 Mbit/s
95th percentile per-packet one-way delay: 111.337 ms
Loss rate: 4.59%
```
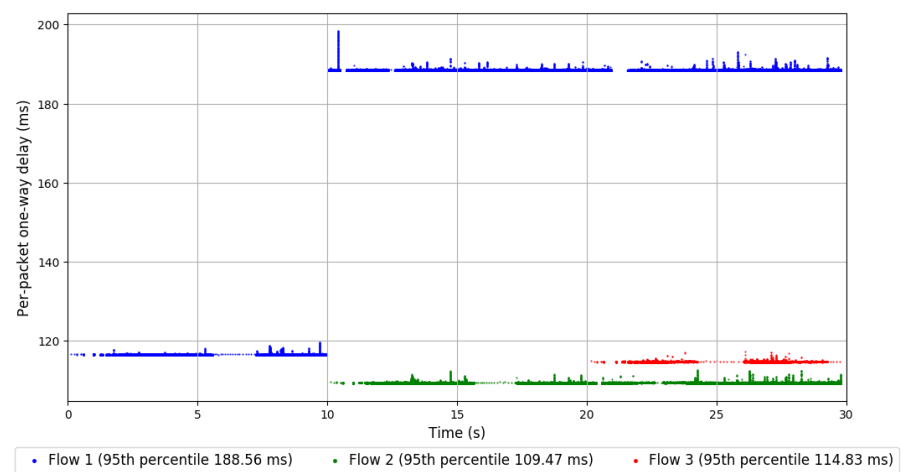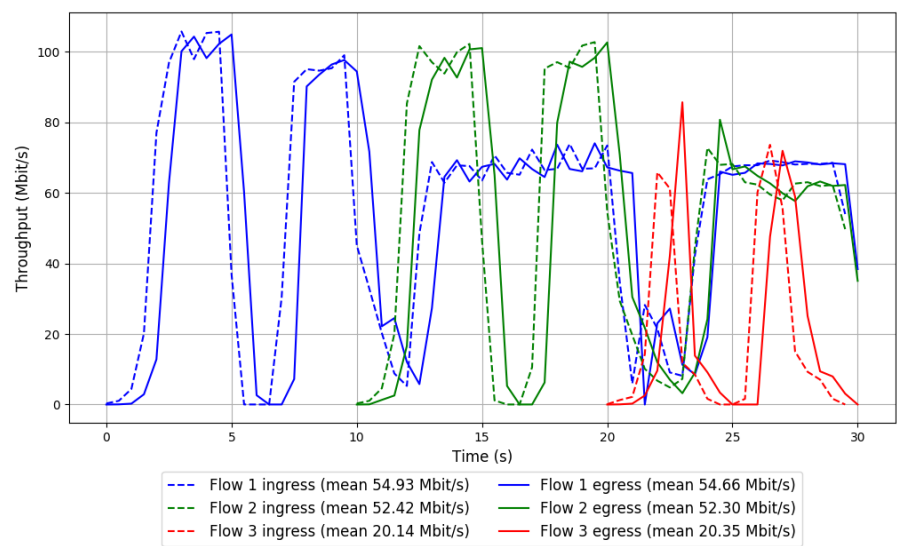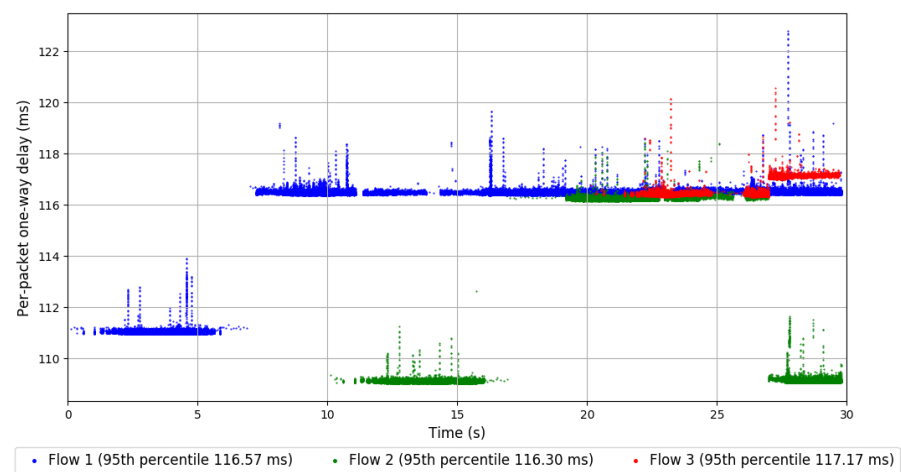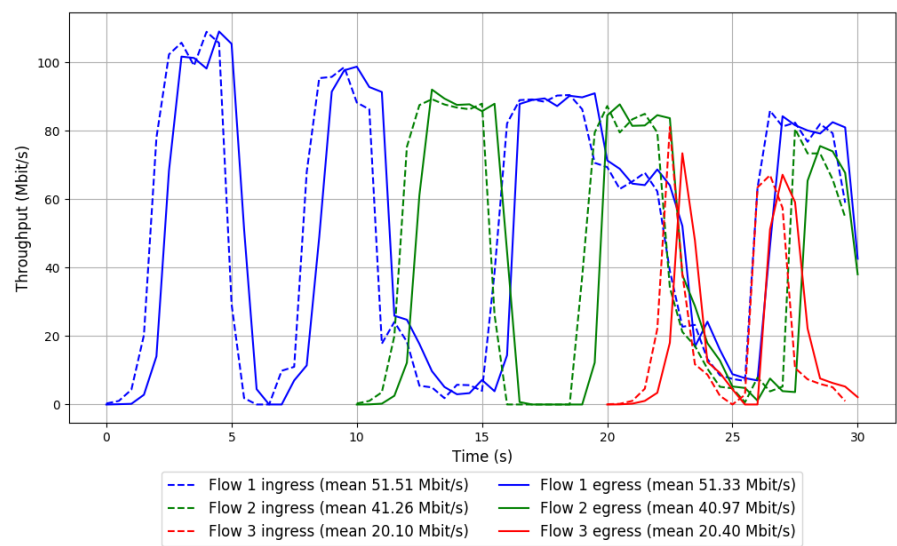
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 56.89 Mbit/s)   Flow 1 egress (mean 56.76 Mbit/s)
Flow 2 ingress (mean 48.18 Mbit/s)   Flow 2 egress (mean 47.76 Mbit/s)
Flow 3 ingress (mean 43.01 Mbit/s)   Flow 3 egress (mean 42.00 Mbit/s)

Flow 1 (95th percentile 195.07 ms)   Flow 2 (95th percentile 111.19 ms)   Flow 3 (95th percentile 111.34 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-05-22 14:35:27
End at: 2018-05-22 14:35:57
Local clock offset: -0.956 ms
Remote clock offset: 0.018 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.09 Mbit/s
95th percentile per-packet one-way delay: 114.744 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 55.79 Mbit/s
95th percentile per-packet one-way delay: 114.759 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 48.79 Mbit/s
95th percentile per-packet one-way delay: 110.395 ms
Loss rate: 1.85%
-- Flow 3:
Average throughput: 33.83 Mbit/s
95th percentile per-packet one-way delay: 114.787 ms
Loss rate: 0.00%
```

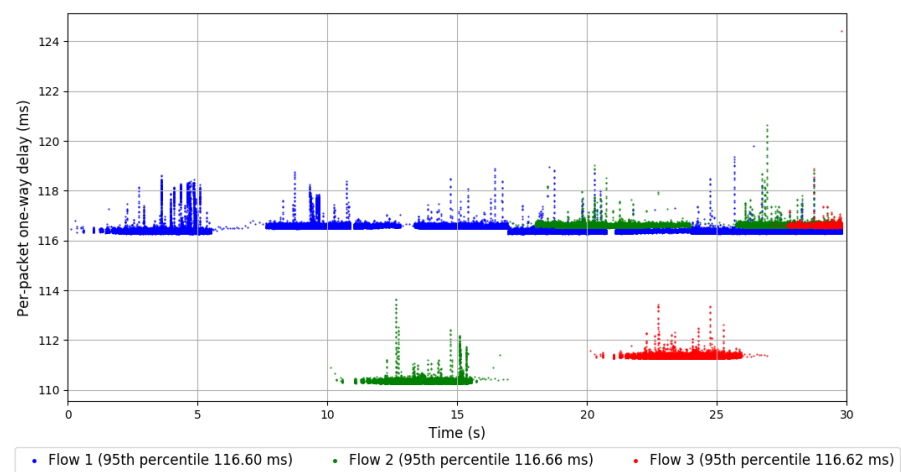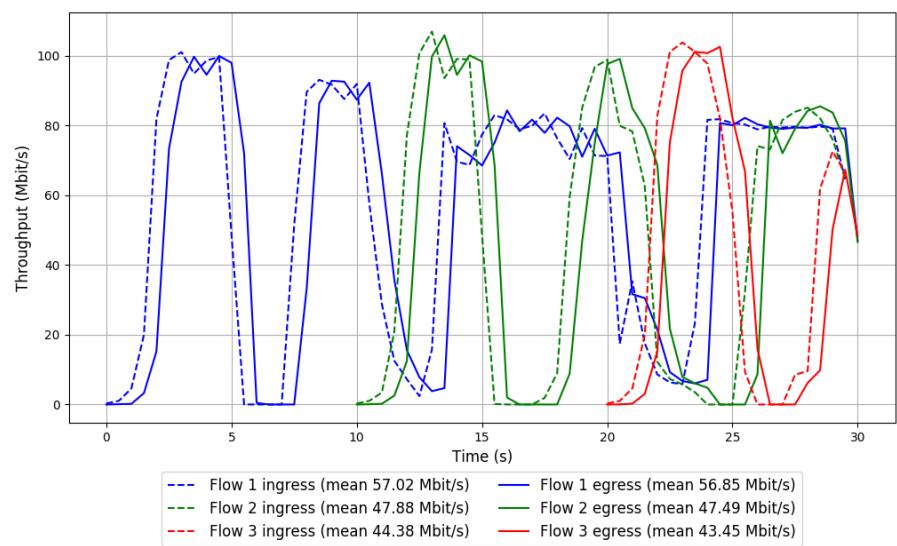Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-05-22 14:59:18
End at: 2018-05-22 14:59:48
Local clock offset: -0.204 ms
Remote clock offset: 0.023 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.91 Mbit/s
95th percentile per-packet one-way delay: 188.529 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 54.66 Mbit/s
95th percentile per-packet one-way delay: 188.559 ms
Loss rate: 1.27%
-- Flow 2:
Average throughput: 52.30 Mbit/s
95th percentile per-packet one-way delay: 109.465 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 20.35 Mbit/s
95th percentile per-packet one-way delay: 114.829 ms
Loss rate: 0.00%
```
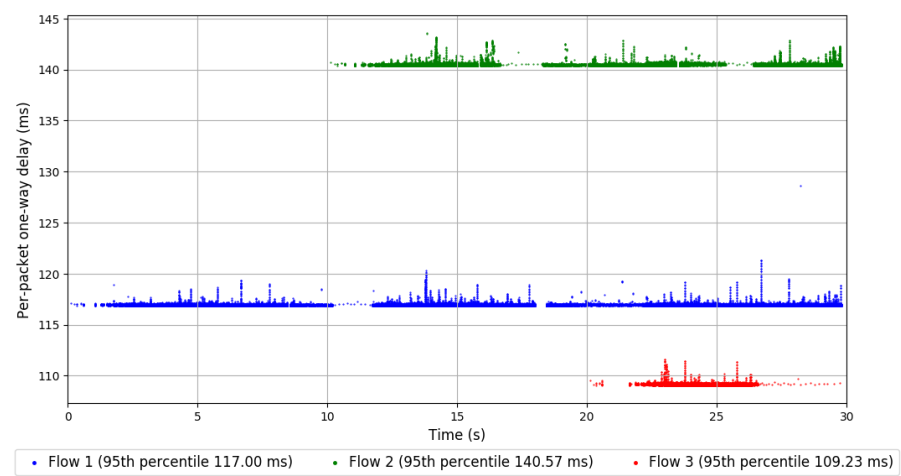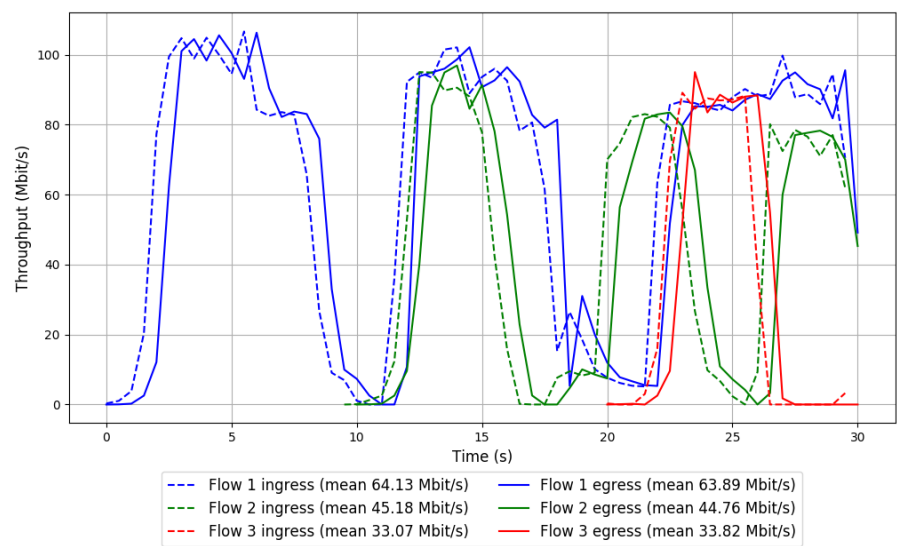
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 54.93 Mbit/s) —— Flow 1 egress (mean 54.66 Mbit/s)
Flow 2 ingress (mean 52.42 Mbit/s) —— Flow 2 egress (mean 52.30 Mbit/s)
Flow 3 ingress (mean 20.14 Mbit/s) —— Flow 3 egress (mean 20.35 Mbit/s)

Flow 1 (95th percentile 188.56 ms)   Flow 2 (95th percentile 109.47 ms)   Flow 3 (95th percentile 114.83 ms)
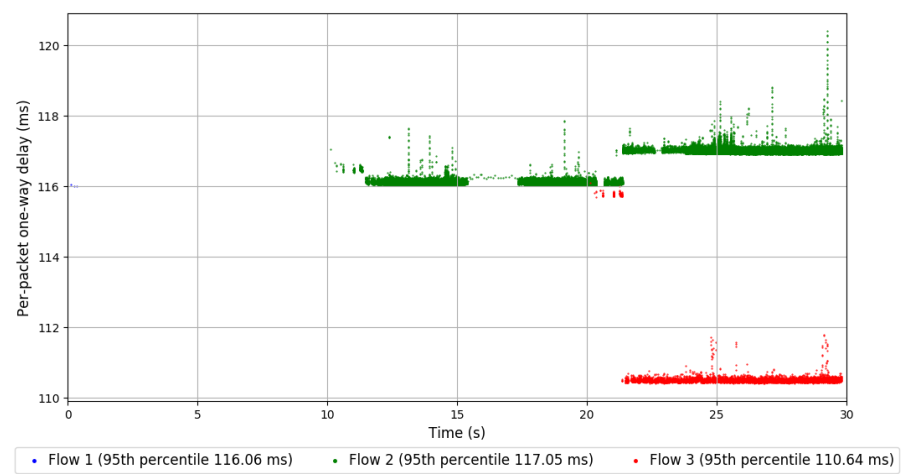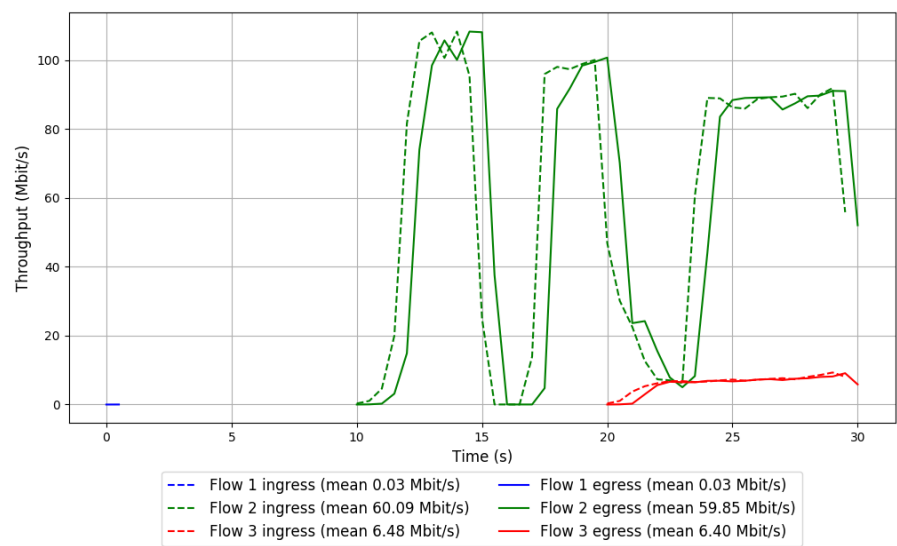
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```
Run 6: Statistics of QUIC Cubic

Start at: 2018-05-22 15:22:31
End at: 2018-05-22 15:23:01
Local clock offset: 0.013 ms
Remote clock offset: -0.441 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.07 Mbit/s
95th percentile per-packet one-way delay: 116.572 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 51.33 Mbit/s
95th percentile per-packet one-way delay: 116.567 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 40.97 Mbit/s
95th percentile per-packet one-way delay: 116.297 ms
Loss rate: 1.80%
-- Flow 3:
Average throughput: 20.40 Mbit/s
95th percentile per-packet one-way delay: 117.167 ms
Loss rate: 0.00%
```

Run 6: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 51.51 Mbit/s)   Flow 1 egress (mean 51.33 Mbit/s)
Flow 2 ingress (mean 41.26 Mbit/s)   Flow 2 egress (mean 40.97 Mbit/s)
Flow 3 ingress (mean 20.10 Mbit/s)   Flow 3 egress (mean 20.40 Mbit/s)

Flow 1 (95th percentile 116.57 ms)   Flow 2 (95th percentile 116.30 ms)   Flow 3 (95th percentile 117.17 ms)
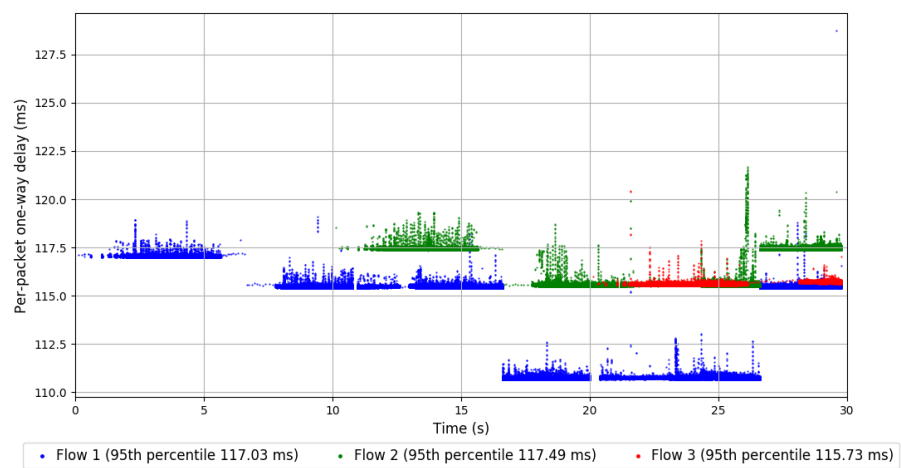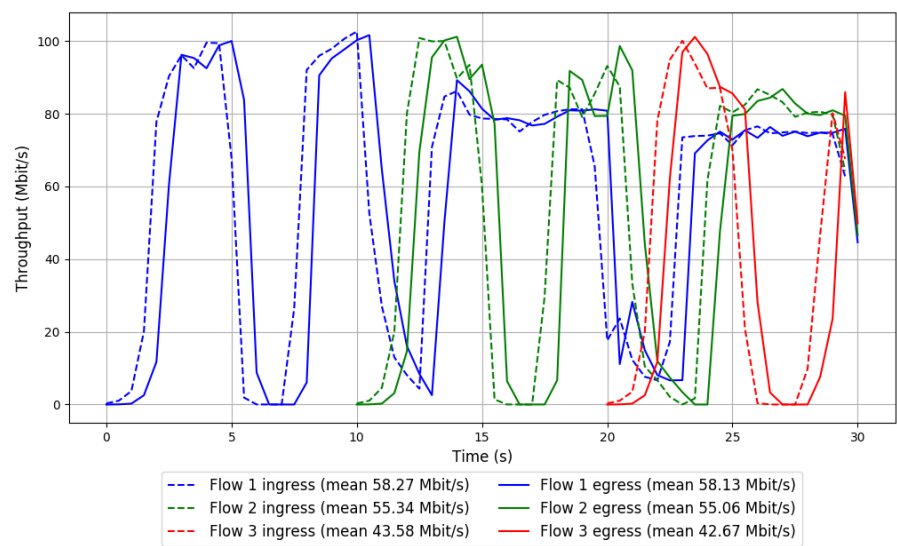
```
Run 7: Statistics of QUIC Cubic

Start at: 2018-05-22 15:46:21
End at: 2018-05-22 15:46:51
Local clock offset: -0.133 ms
Remote clock offset: -0.048 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 102.48 Mbit/s
95th percentile per-packet one-way delay: 116.636 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 56.85 Mbit/s
95th percentile per-packet one-way delay: 116.604 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 47.49 Mbit/s
95th percentile per-packet one-way delay: 116.660 ms
Loss rate: 1.90%
-- Flow 3:
Average throughput: 43.45 Mbit/s
95th percentile per-packet one-way delay: 116.617 ms
Loss rate: 4.23%
```

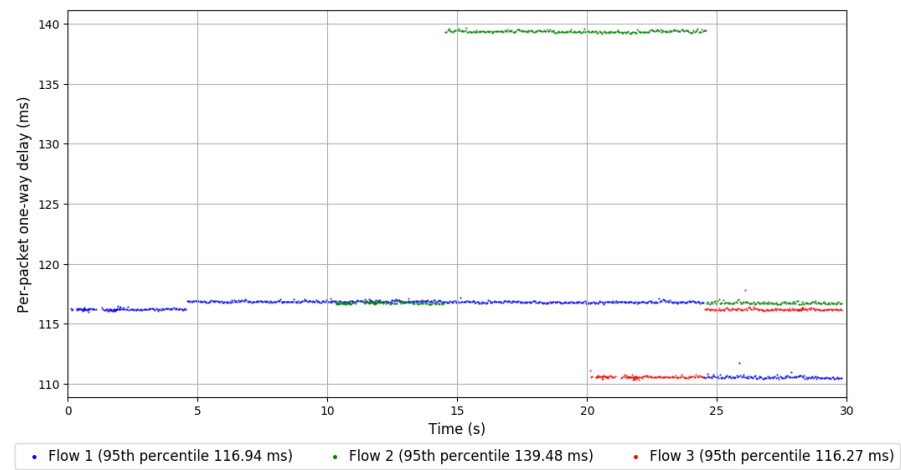# Run 7: Report of QUIC Cubic — Data Link

```
Run 8: Statistics of QUIC Cubic

Start at: 2018-05-22 16:10:20
End at: 2018-05-22 16:10:50
Local clock offset: 0.022 ms
Remote clock offset: -0.445 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 104.51 Mbit/s
95th percentile per-packet one-way delay: 140.494 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 63.89 Mbit/s
95th percentile per-packet one-way delay: 116.997 ms
Loss rate: 1.13%
-- Flow 2:
Average throughput: 44.76 Mbit/s
95th percentile per-packet one-way delay: 140.575 ms
Loss rate: 2.17%
-- Flow 3:
Average throughput: 33.82 Mbit/s
95th percentile per-packet one-way delay: 109.231 ms
Loss rate: 0.50%
```

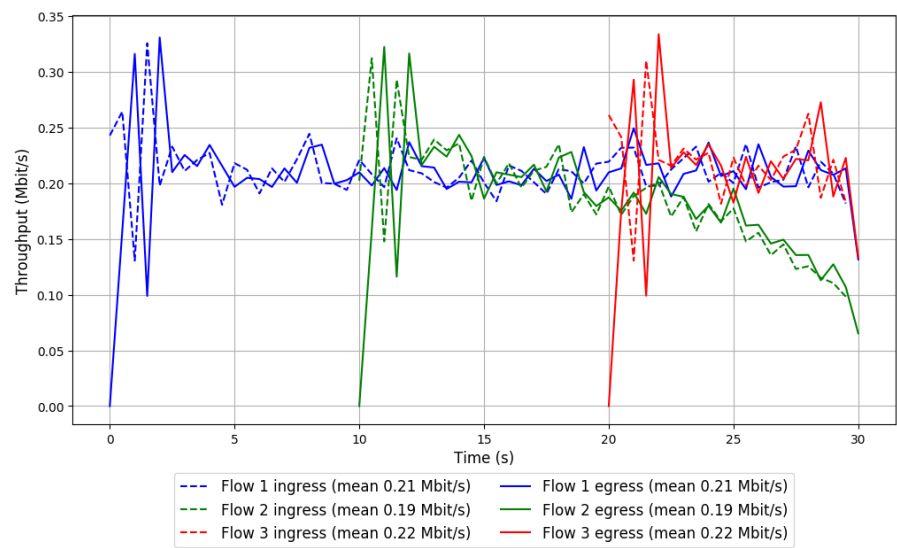## Run 8: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 64.13 Mbit/s)   Flow 1 egress (mean 63.89 Mbit/s)
Flow 2 ingress (mean 45.18 Mbit/s)   Flow 2 egress (mean 44.76 Mbit/s)
Flow 3 ingress (mean 33.07 Mbit/s)   Flow 3 egress (mean 33.82 Mbit/s)

Flow 1 (95th percentile 117.00 ms)   Flow 2 (95th percentile 140.57 ms)   Flow 3 (95th percentile 109.23 ms)

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```
Run 9: Statistics of QUIC Cubic

Start at: 2018-05-22 16:34:26
End at: 2018-05-22 16:34:56
Local clock offset: 0.029 ms
Remote clock offset: -0.013 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.76 Mbit/s
95th percentile per-packet one-way delay: 117.050 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 116.056 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 59.85 Mbit/s
95th percentile per-packet one-way delay: 117.052 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 6.40 Mbit/s
95th percentile per-packet one-way delay: 110.636 ms
Loss rate: 3.49%
```

Run 9: Report of QUIC Cubic — Data Link

Legend:
- Flow 1 ingress (mean 0.03 Mbit/s)
- Flow 1 egress (mean 0.03 Mbit/s)
- Flow 2 ingress (mean 60.09 Mbit/s)
- Flow 2 egress (mean 59.85 Mbit/s)
- Flow 3 ingress (mean 6.48 Mbit/s)
- Flow 3 egress (mean 6.40 Mbit/s)

Legend:
- Flow 1 (95th percentile 116.06 ms)
- Flow 2 (95th percentile 117.05 ms)
- Flow 3 (95th percentile 110.64 ms)

```
Run 10: Statistics of QUIC Cubic

Start at: 2018-05-22 16:58:21
End at: 2018-05-22 16:58:51
Local clock offset: 0.081 ms
Remote clock offset: -0.391 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 108.50 Mbit/s
95th percentile per-packet one-way delay: 117.436 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 58.13 Mbit/s
95th percentile per-packet one-way delay: 117.028 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 55.06 Mbit/s
95th percentile per-packet one-way delay: 117.494 ms
Loss rate: 1.65%
-- Flow 3:
Average throughput: 42.67 Mbit/s
95th percentile per-packet one-way delay: 115.728 ms
Loss rate: 4.32%
```

Run 10: Report of QUIC Cubic — Data Link

- - - - Flow 1 ingress (mean 58.27 Mbit/s) ——— Flow 1 egress (mean 58.13 Mbit/s)
- - - - Flow 2 ingress (mean 55.34 Mbit/s) ——— Flow 2 egress (mean 55.06 Mbit/s)
- - - - Flow 3 ingress (mean 43.58 Mbit/s) ——— Flow 3 egress (mean 42.67 Mbit/s)

- Flow 1 (95th percentile 117.03 ms)   - Flow 2 (95th percentile 117.49 ms)   - Flow 3 (95th percentile 115.73 ms)
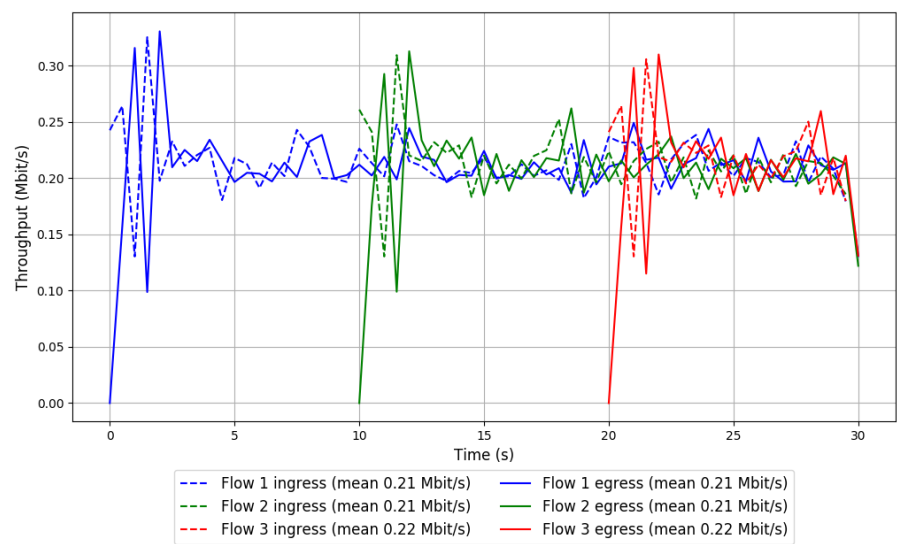
```
Run 1: Statistics of SCReAM

Start at: 2018-05-22 13:26:43
End at: 2018-05-22 13:27:13
Local clock offset: 0.146 ms
Remote clock offset: -0.049 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 139.409 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 116.938 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 139.482 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 116.274 ms
Loss rate: 2.22%
```

Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-05-22 13:50:09
End at: 2018-05-22 13:50:39
Local clock offset: -0.108 ms
Remote clock offset: 0.408 ms

# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 184.207 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 184.246 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 110.512 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.830 ms
Loss rate: 1.87%
```
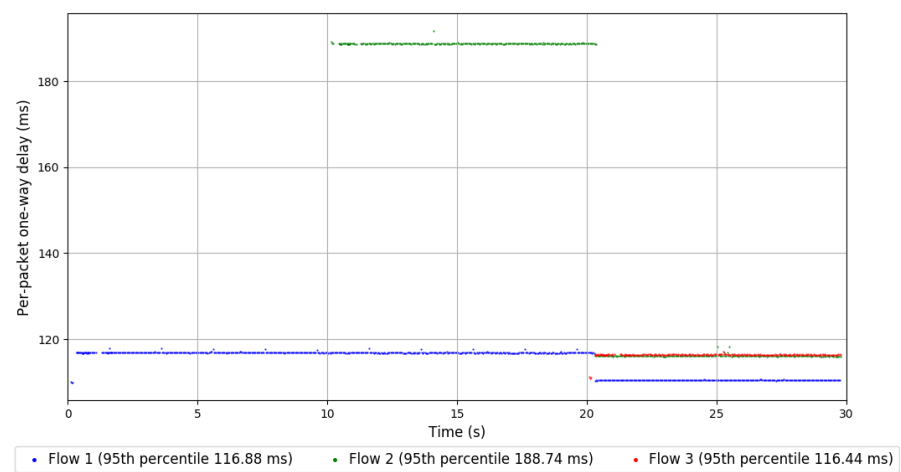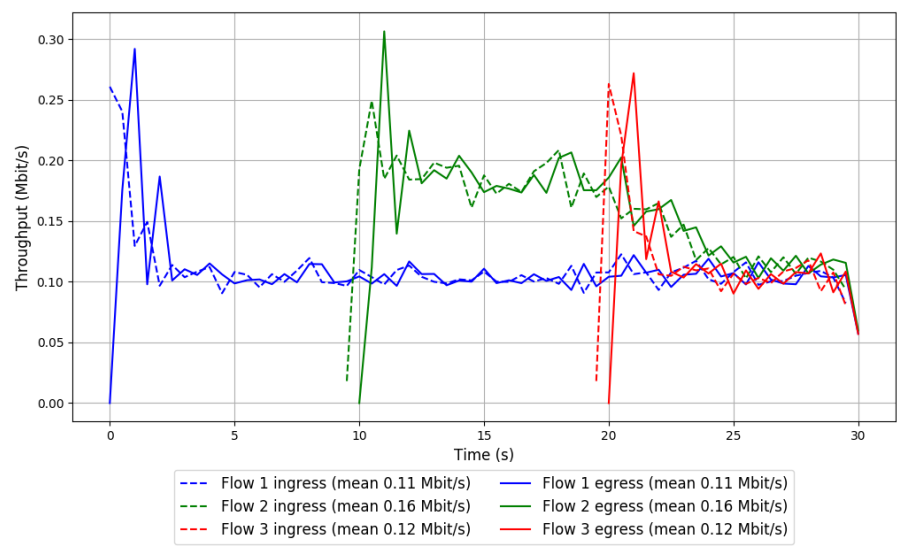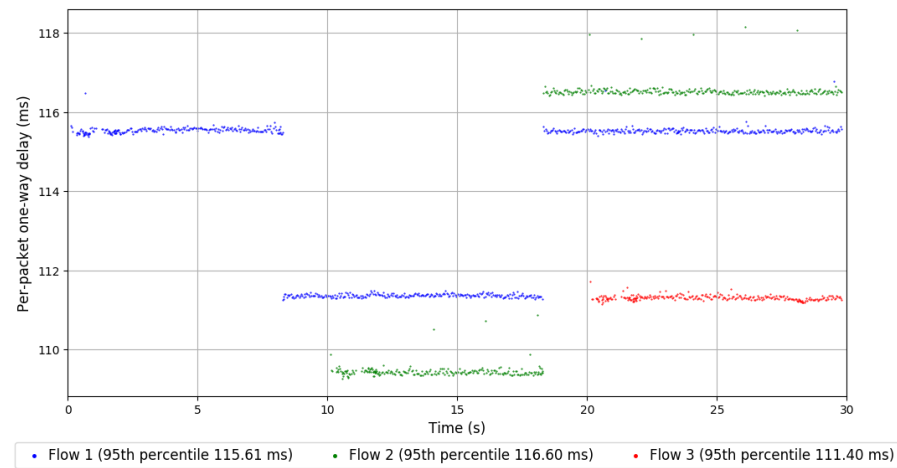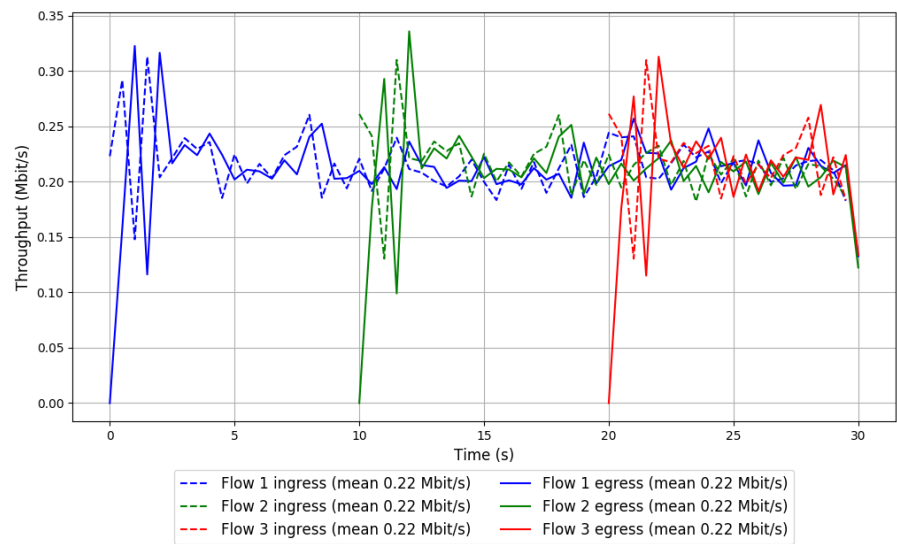
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-05-22 14:13:18
End at: 2018-05-22 14:13:48
Local clock offset: -0.502 ms
Remote clock offset: 0.02 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 115.232 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.603 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 115.259 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.912 ms
Loss rate: 2.21%
```

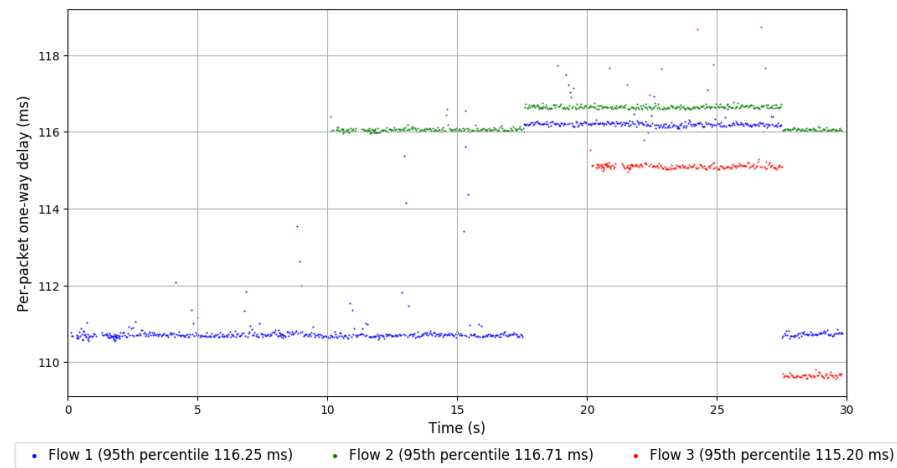# Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-05-22 14:36:46
End at: 2018-05-22 14:37:16
Local clock offset: -0.644 ms
Remote clock offset: 0.012 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 116.802 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 116.822 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 115.067 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 115.272 ms
Loss rate: 2.20%
```
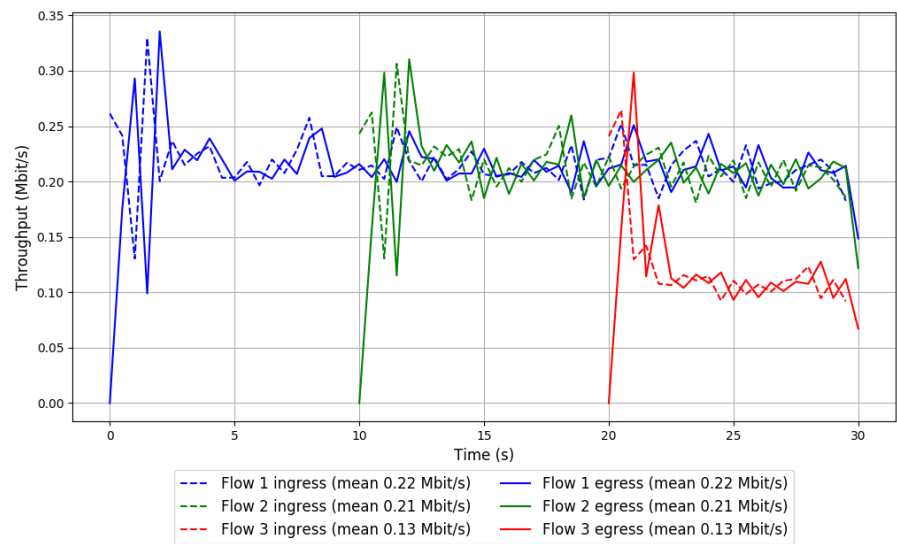
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-05-22 15:00:37
End at: 2018-05-22 15:01:07
Local clock offset: 0.038 ms
Remote clock offset: 0.068 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 188.712 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 116.884 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 188.743 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 116.439 ms
Loss rate: 1.95%
```
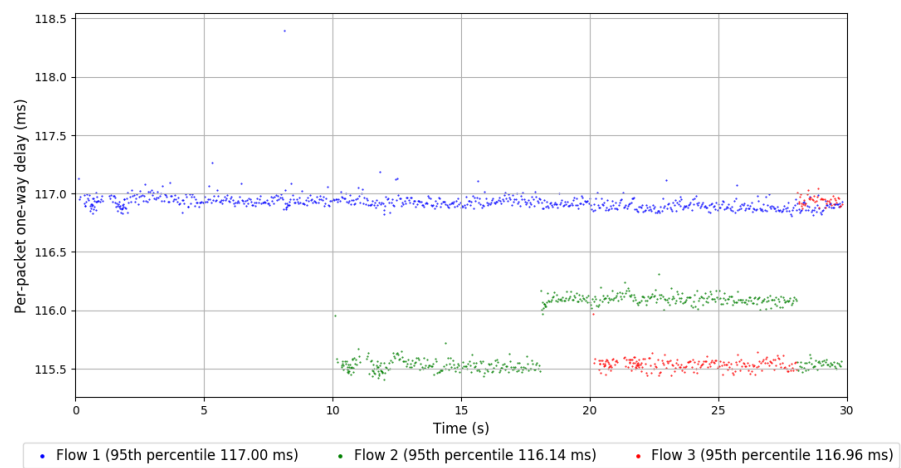
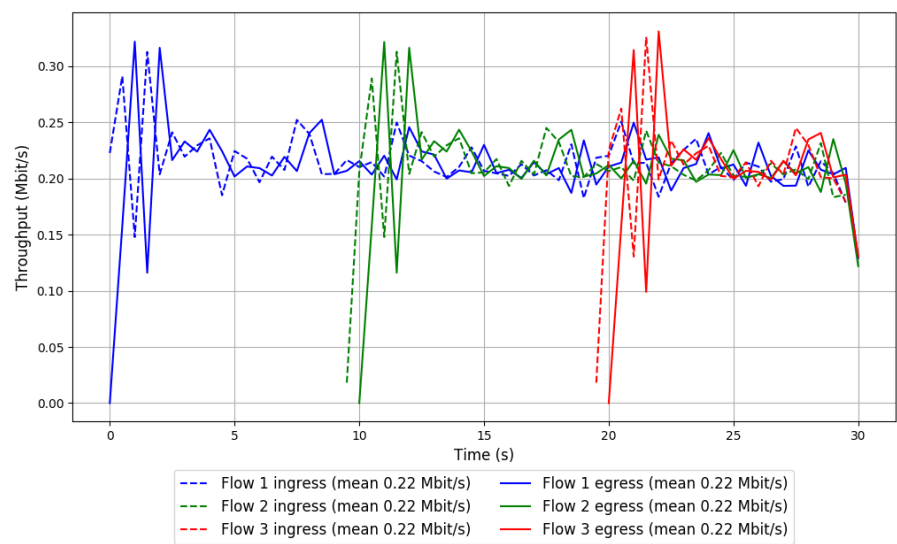## Run 5: Report of SCReAM — Data Link

```
Run 6: Statistics of SCReAM

Start at: 2018-05-22 15:23:49
End at: 2018-05-22 15:24:19
Local clock offset: 0.142 ms
Remote clock offset: -0.413 ms

# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 116.544 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 115.608 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 116.597 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.402 ms
Loss rate: 2.22%
```
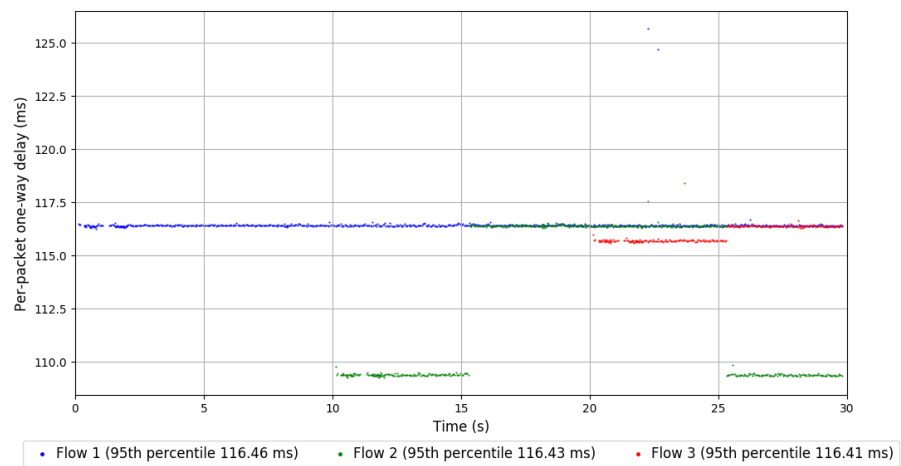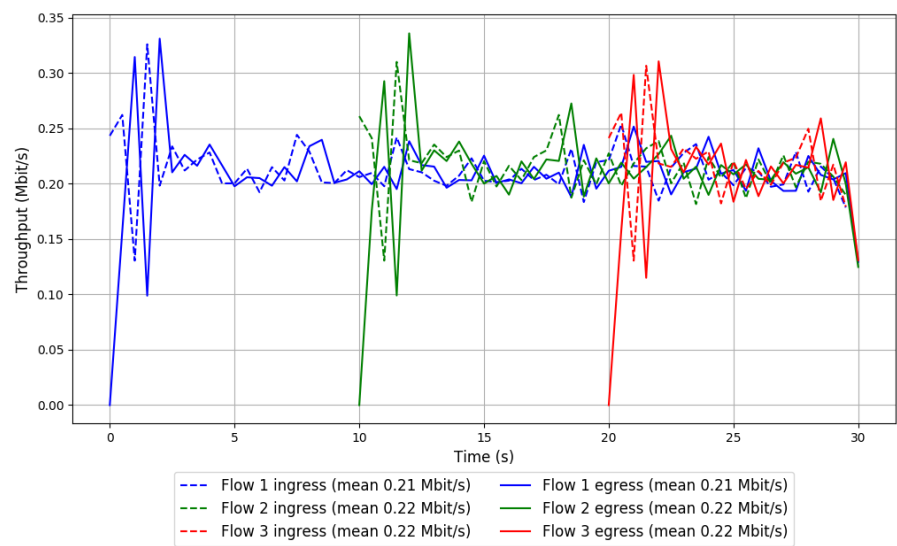
Run 6: Report of SCReAM — Data Link

```
Run 7: Statistics of SCReAM

Start at: 2018-05-22 15:47:40
End at: 2018-05-22 15:48:10
Local clock offset: 0.032 ms
Remote clock offset: -0.057 ms

# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 116.674 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 116.248 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 116.714 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 115.205 ms
Loss rate: 1.98%
```
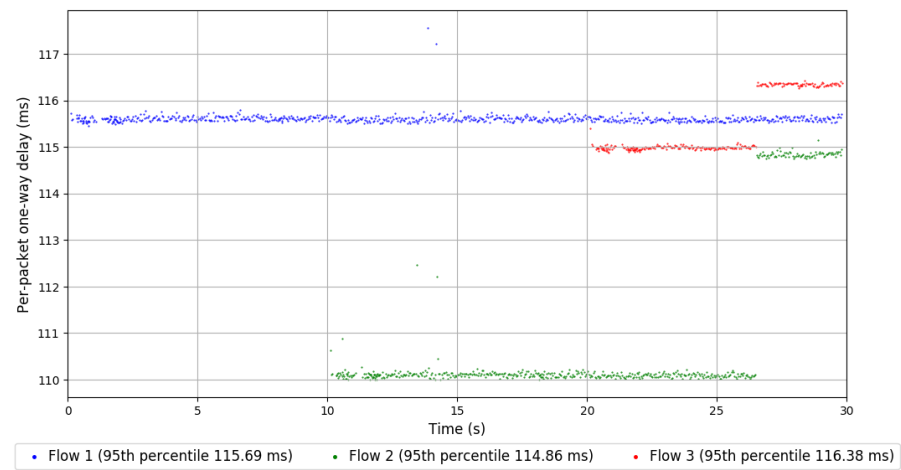
Run 7: Report of SCReAM — Data Link

```
Run 8: Statistics of SCReAM

Start at: 2018-05-22 16:11:40
End at: 2018-05-22 16:12:10
Local clock offset: 0.296 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 116.981 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 117.003 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 116.144 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 116.957 ms
Loss rate: 2.20%
```
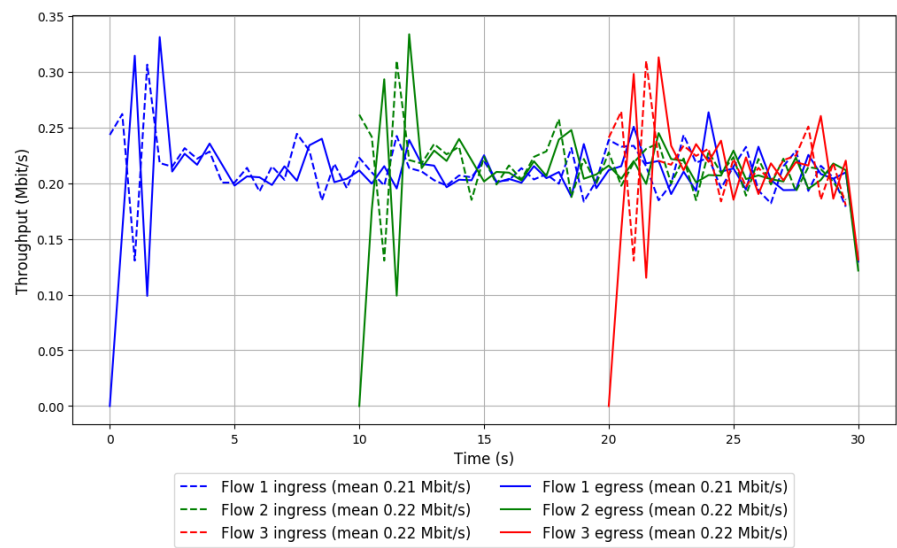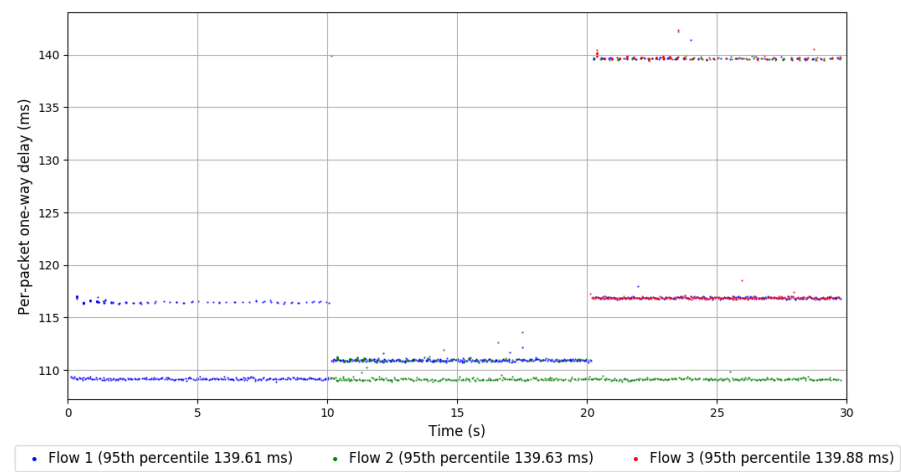
Run 8: Report of SCReAM — Data Link

```
Run 9: Statistics of SCReAM

Start at: 2018-05-22 16:35:42
End at: 2018-05-22 16:36:12
Local clock offset: -0.29 ms
Remote clock offset: -0.039 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 116.453 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 116.464 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 116.430 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 116.407 ms
Loss rate: 2.20%
```
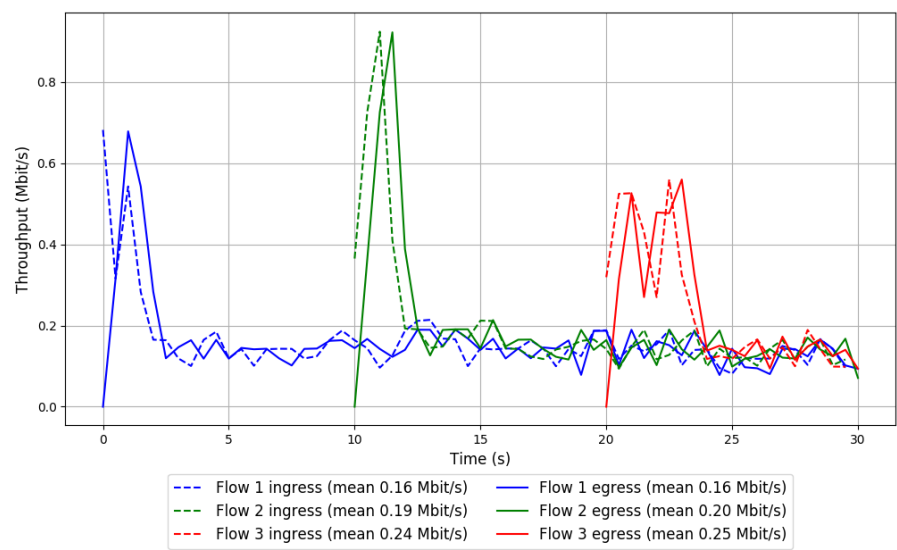
Run 9: Report of SCReAM — Data Link

```
Run 10: Statistics of SCReAM

Start at: 2018-05-22 16:59:41
End at: 2018-05-22 17:00:11
Local clock offset: -0.298 ms
Remote clock offset: -0.038 ms

# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 116.308 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 115.691 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 114.865 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 116.375 ms
Loss rate: 2.20%
```
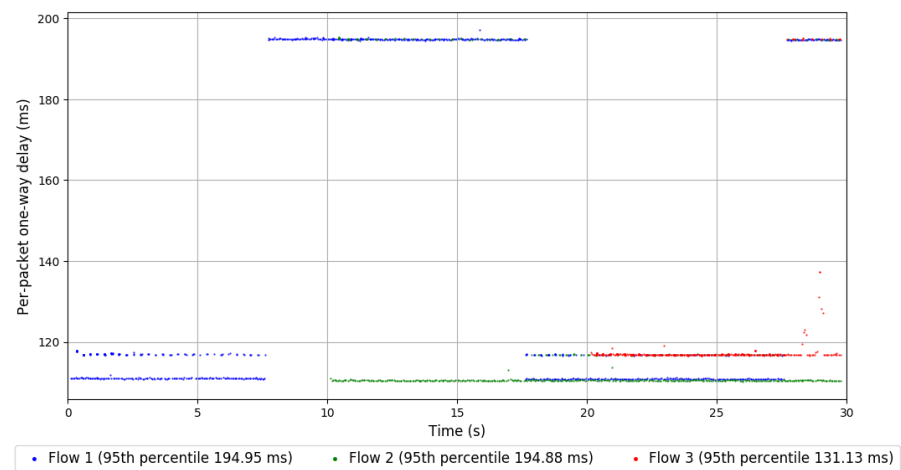
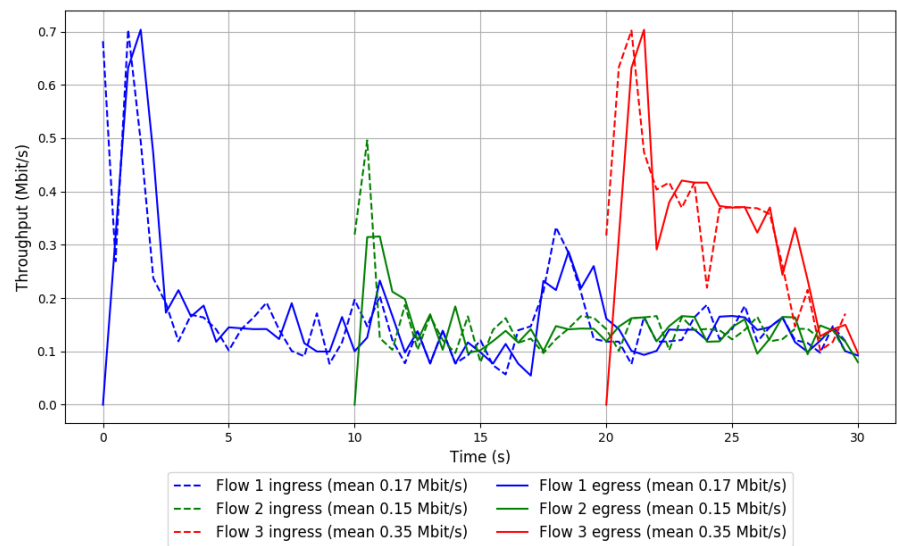Run 10: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-05-22 13:22:47
End at: 2018-05-22 13:23:17
Local clock offset: 0.277 ms
Remote clock offset: -0.087 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 139.695 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 139.611 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 139.635 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 139.883 ms
Loss rate: 0.17%
```
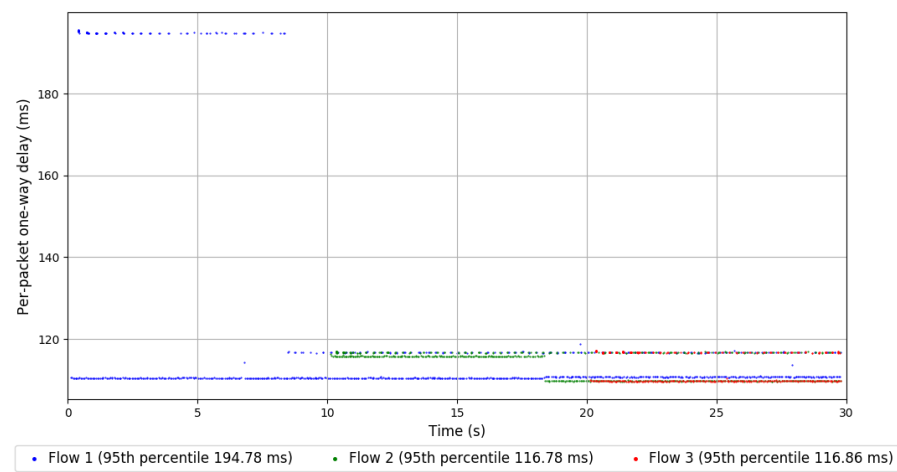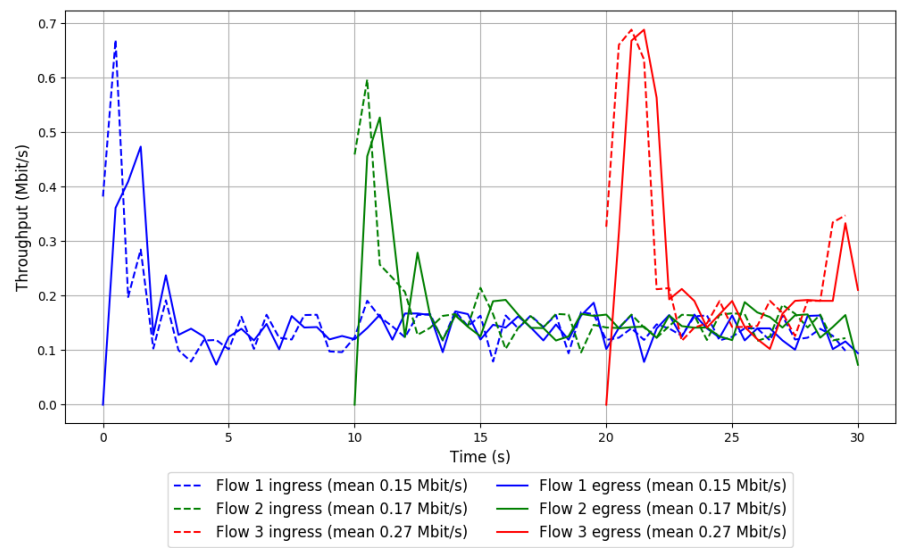
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-05-22 13:46:10
End at: 2018-05-22 13:46:40
Local clock offset: -0.364 ms
Remote clock offset: 0.02 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 194.923 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 194.952 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 194.880 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 131.135 ms
Loss rate: 1.39%
```
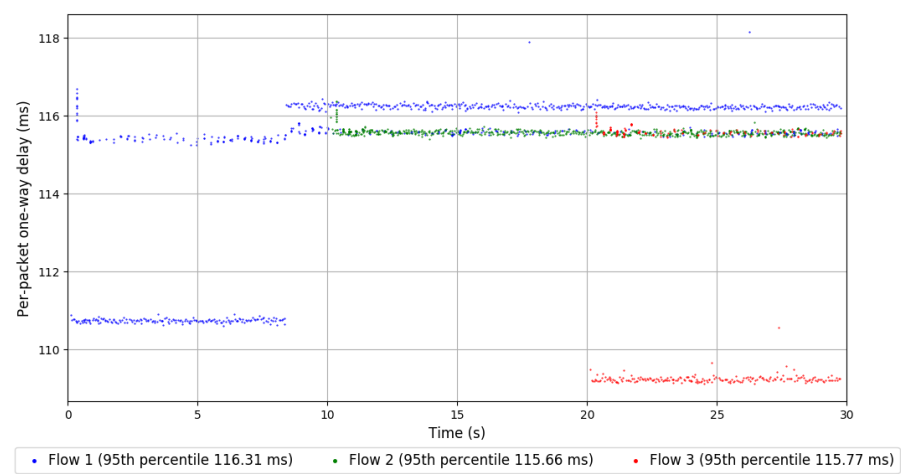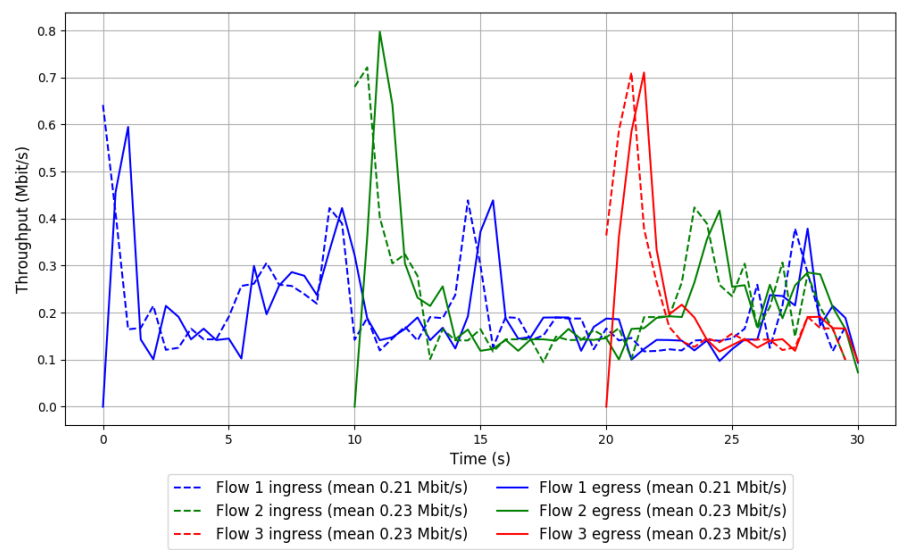
Run 2: Report of Sprout — Data Link

Flow 1 ingress (mean 0.17 Mbit/s)   Flow 1 egress (mean 0.17 Mbit/s)
Flow 2 ingress (mean 0.15 Mbit/s)   Flow 2 egress (mean 0.15 Mbit/s)
Flow 3 ingress (mean 0.35 Mbit/s)   Flow 3 egress (mean 0.35 Mbit/s)

Flow 1 (95th percentile 194.95 ms)   Flow 2 (95th percentile 194.88 ms)   Flow 3 (95th percentile 131.13 ms)

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```
Run 3: Statistics of Sprout

Start at: 2018-05-22 14:09:19
End at: 2018-05-22 14:09:49
Local clock offset: -0.454 ms
Remote clock offset: 0.025 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 194.674 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 194.777 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 116.781 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 116.859 ms
Loss rate: 2.66%
```

Run 3: Report of Sprout — Data Link

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```
Run 4: Statistics of Sprout

Start at: 2018-05-22 14:32:49
End at: 2018-05-22 14:33:19
Local clock offset: -0.382 ms
Remote clock offset: -0.017 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 116.279 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 116.305 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 115.660 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 115.768 ms
Loss rate: 0.14%
```
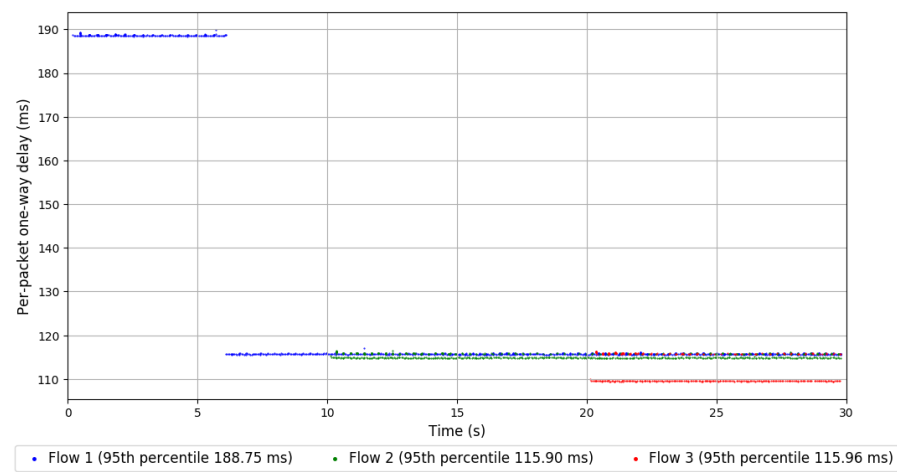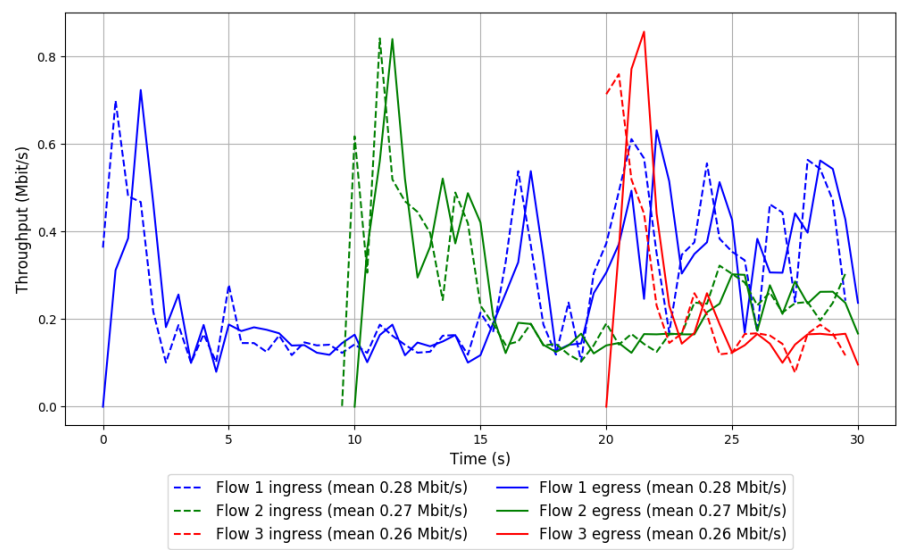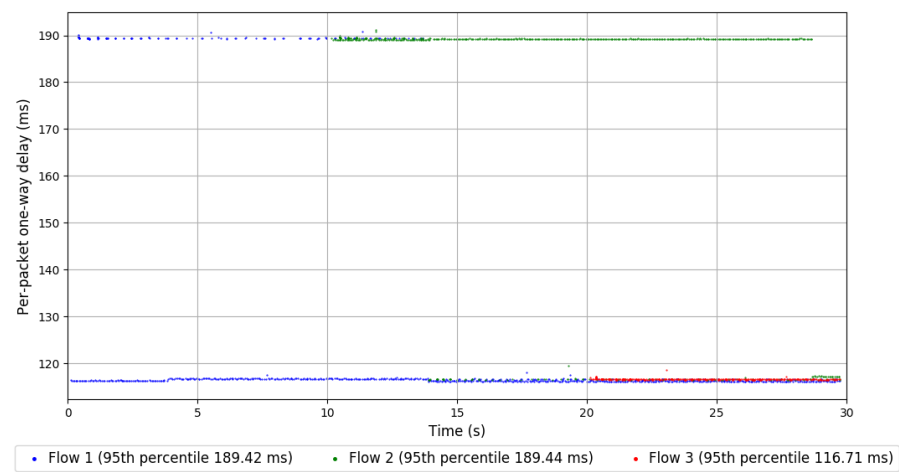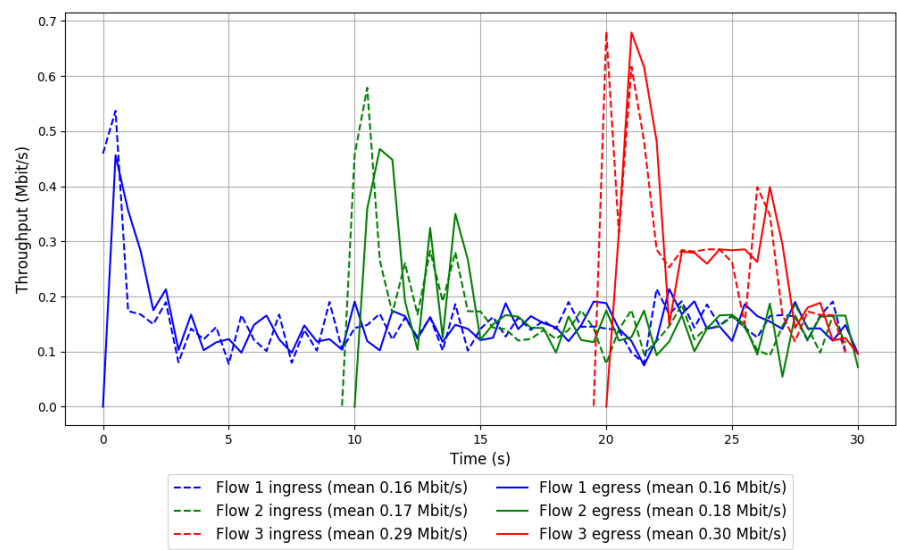
Run 4: Report of Sprout — Data Link

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```
Run 5: Statistics of Sprout

Start at: 2018-05-22 14:56:42
End at: 2018-05-22 14:57:12
Local clock offset: -0.147 ms
Remote clock offset: 0.045 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 188.666 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 188.745 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 115.904 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 115.961 ms
Loss rate: 0.95%
```

Run 5: Report of Sprout — Data Link

Flow 1 ingress (mean 0.28 Mbit/s)   Flow 1 egress (mean 0.28 Mbit/s)
Flow 2 ingress (mean 0.27 Mbit/s)   Flow 2 egress (mean 0.27 Mbit/s)
Flow 3 ingress (mean 0.26 Mbit/s)   Flow 3 egress (mean 0.26 Mbit/s)

Flow 1 (95th percentile 188.75 ms)   Flow 2 (95th percentile 115.90 ms)   Flow 3 (95th percentile 115.96 ms)
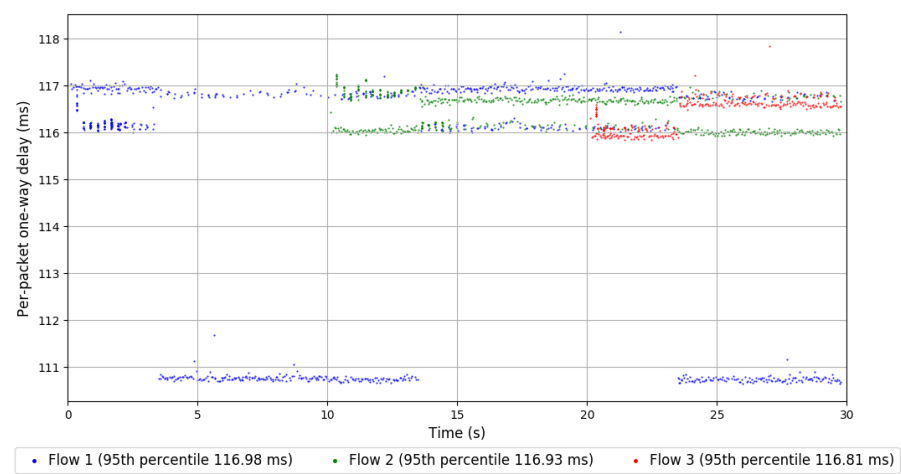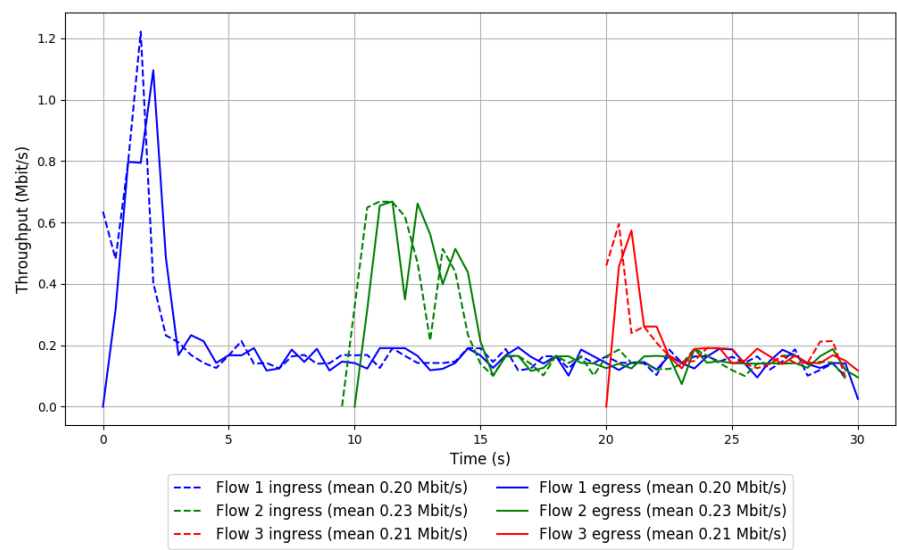
```
Run 6: Statistics of Sprout

Start at: 2018-05-22 15:19:54
End at: 2018-05-22 15:20:24
Local clock offset: 0.219 ms
Remote clock offset: -0.405 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 189.398 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 189.421 ms
Loss rate: 1.03%
-- Flow 2:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 189.442 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 116.712 ms
Loss rate: 1.61%
```

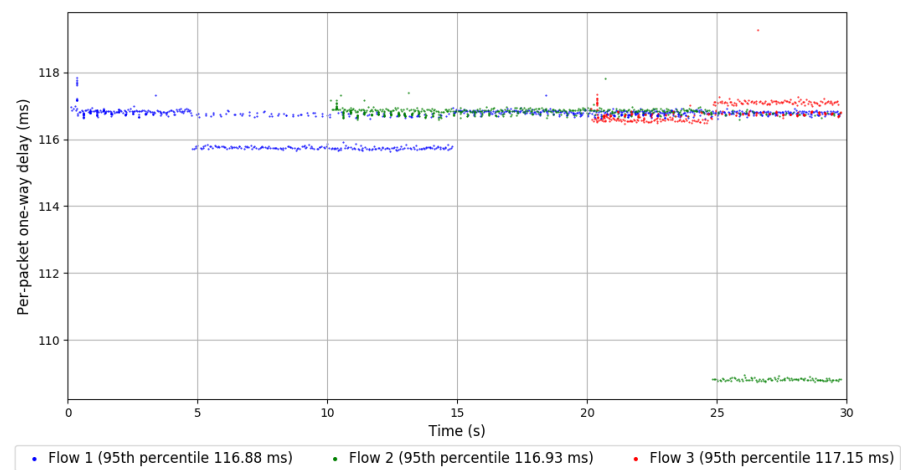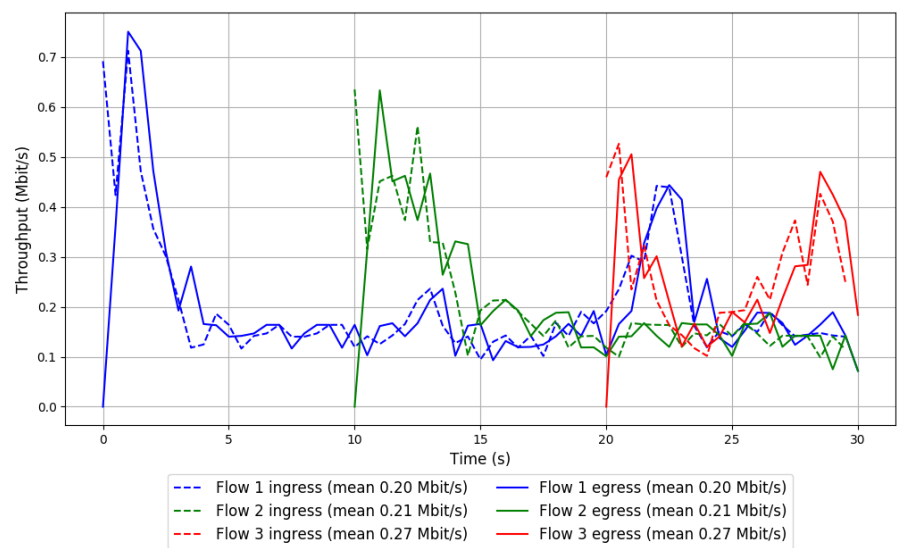## Run 6: Report of Sprout — Data Link

```
Run 7: Statistics of Sprout

Start at: 2018-05-22 15:43:44
End at: 2018-05-22 15:44:14
Local clock offset: 0.046 ms
Remote clock offset: -0.042 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 116.961 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 116.979 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 116.934 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 116.811 ms
Loss rate: 2.20%
```

Run 7: Report of Sprout — Data Link

```
Run 8: Statistics of Sprout

Start at: 2018-05-22 16:07:43
End at: 2018-05-22 16:08:13
Local clock offset: 0.034 ms
Remote clock offset: -0.038 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 117.084 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 116.880 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 116.929 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 117.150 ms
Loss rate: 1.31%
```

Run 8: Report of Sprout — Data Link

```
Run 9: Statistics of Sprout

Start at: 2018-05-22 16:31:50
End at: 2018-05-22 16:32:20
Local clock offset: 0.131 ms
Remote clock offset: 0.012 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 117.182 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 116.833 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 117.220 ms
Loss rate: 4.21%
-- Flow 3:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 116.852 ms
Loss rate: 1.07%
```
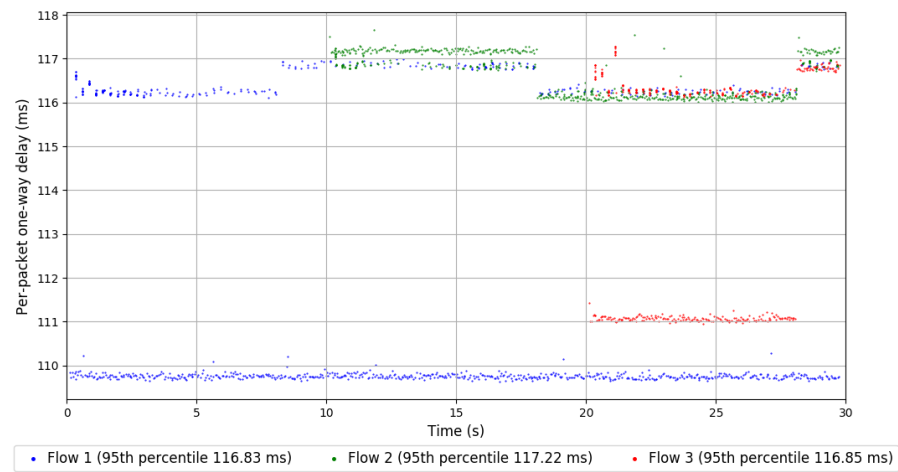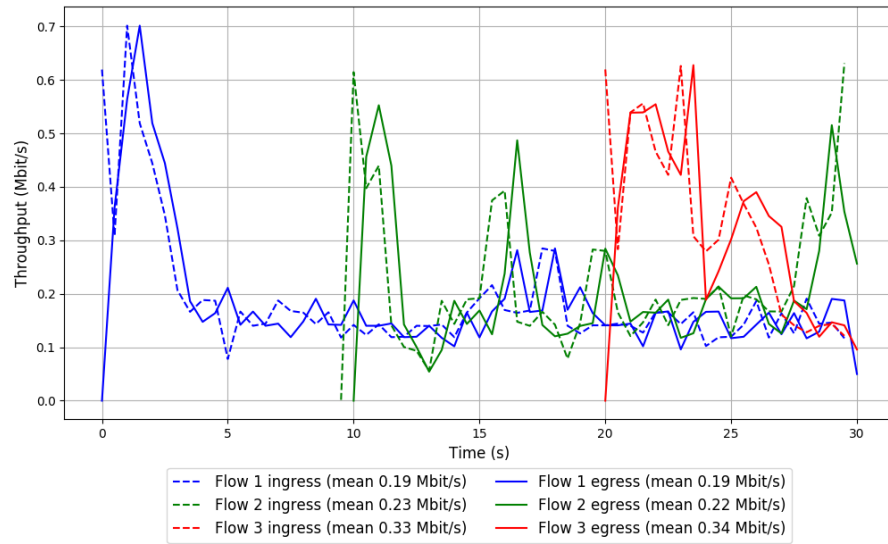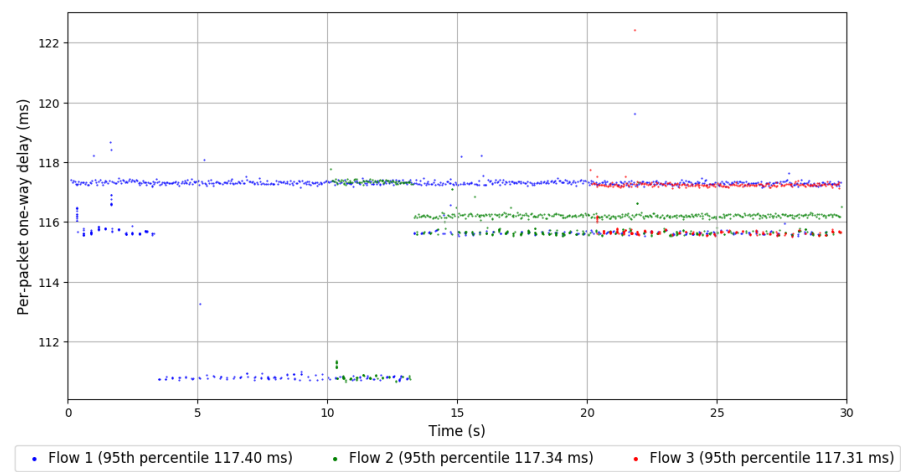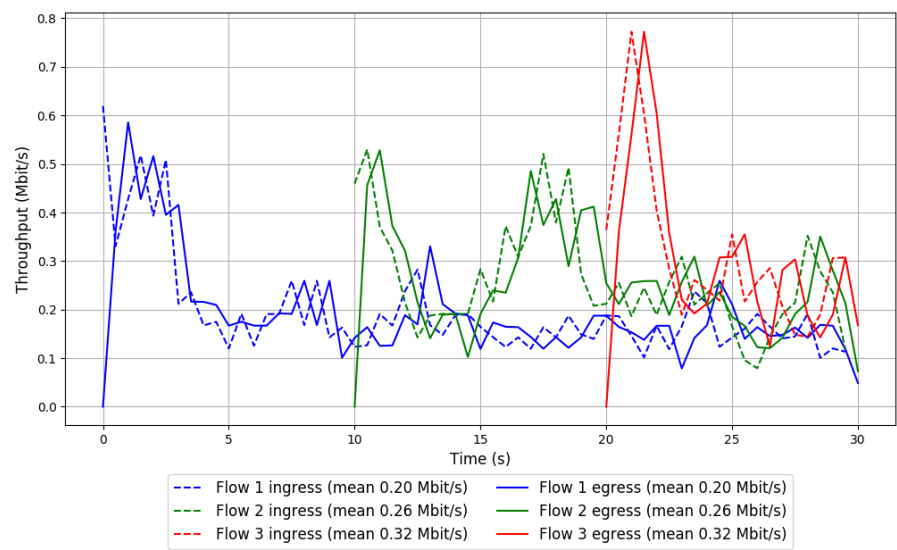
Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2018-05-22 16:55:44
End at: 2018-05-22 16:56:14
Local clock offset: -0.068 ms
Remote clock offset: -0.397 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 117.380 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 117.400 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 117.342 ms
Loss rate: 0.68%
-- Flow 3:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 117.305 ms
Loss rate: 2.26%
```

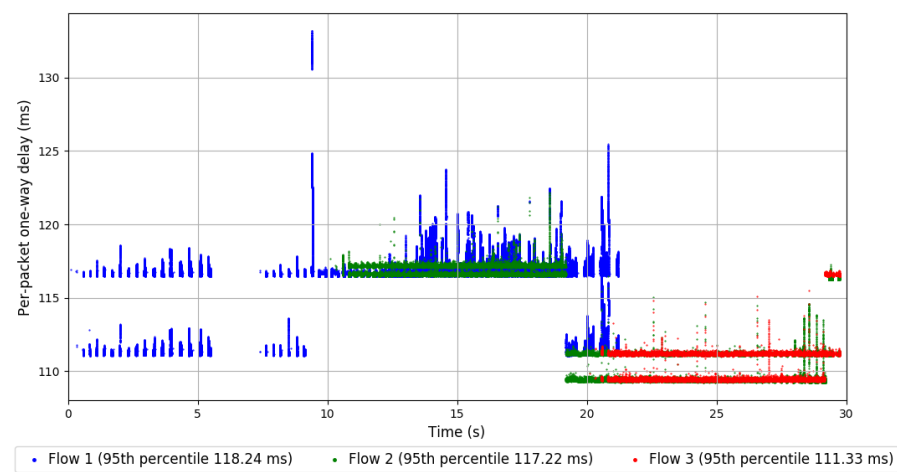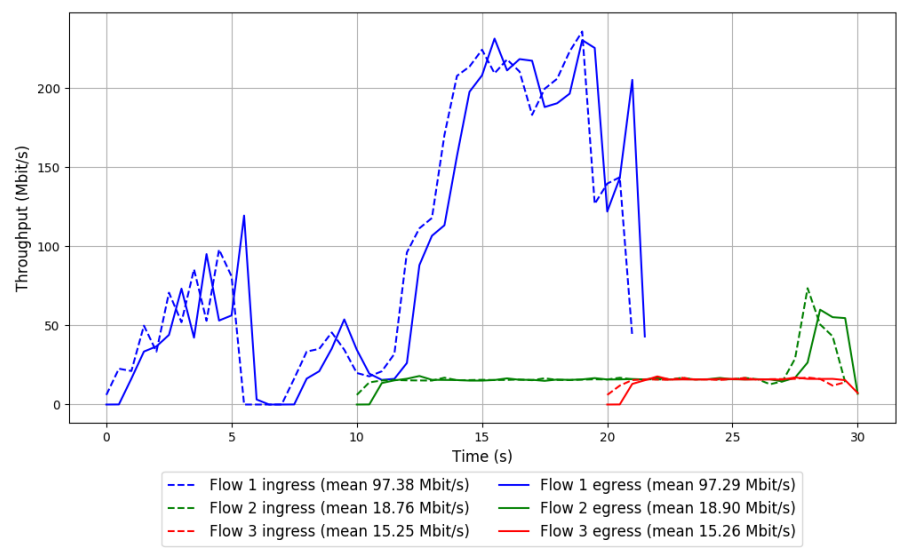## Run 10: Report of Sprout — Data Link

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

Start at: 2018-05-22 13:10:28
End at: 2018-05-22 13:10:58
Local clock offset: 0.354 ms
Remote clock offset: -0.444 ms


# Below is generated by plot.py at 2018-05-22 18:21:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.72 Mbit/s
95th percentile per-packet one-way delay: 117.983 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 97.29 Mbit/s
95th percentile per-packet one-way delay: 118.240 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 18.90 Mbit/s
95th percentile per-packet one-way delay: 117.225 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 15.26 Mbit/s
95th percentile per-packet one-way delay: 111.333 ms
Loss rate: 2.44%
```
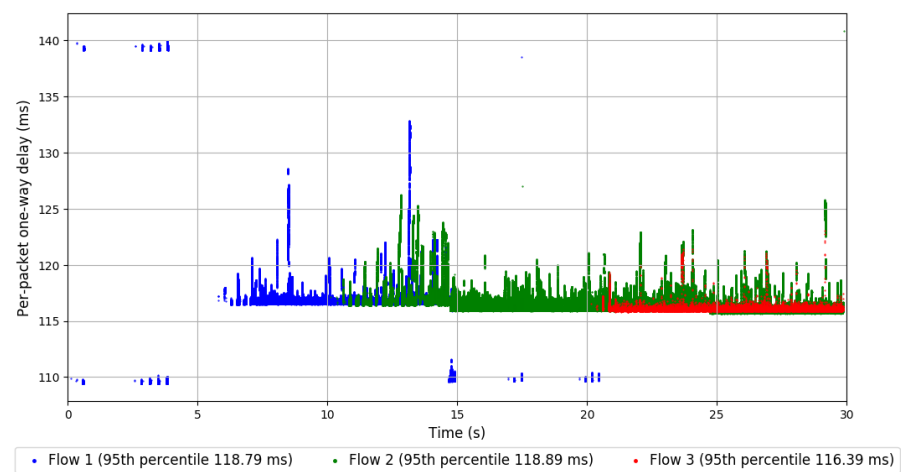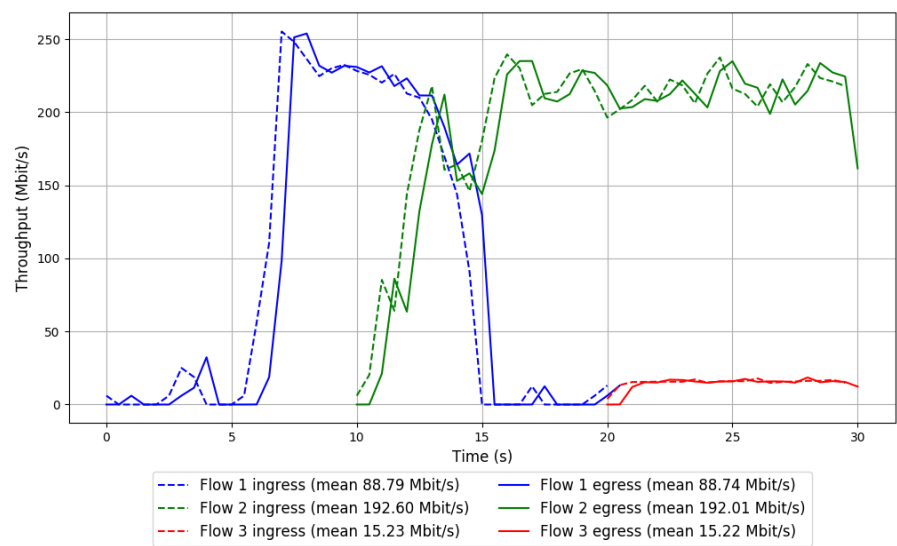
Run 1: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 97.38 Mbit/s)   ——— Flow 1 egress (mean 97.29 Mbit/s)
- - - - Flow 2 ingress (mean 18.76 Mbit/s)   ——— Flow 2 egress (mean 18.90 Mbit/s)
- - - - Flow 3 ingress (mean 15.25 Mbit/s)   ——— Flow 3 egress (mean 15.26 Mbit/s)

- Flow 1 (95th percentile 118.24 ms)   • Flow 2 (95th percentile 117.22 ms)   • Flow 3 (95th percentile 111.33 ms)

225

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

Start at: 2018-05-22 13:33:53
End at: 2018-05-22 13:34:23
Local clock offset: 0.07 ms
Remote clock offset: -0.009 ms


# Below is generated by plot.py at 2018-05-22 18:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 192.96 Mbit/s
95th percentile per-packet one-way delay: 118.796 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 88.74 Mbit/s
95th percentile per-packet one-way delay: 118.788 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 192.01 Mbit/s
95th percentile per-packet one-way delay: 118.894 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 15.22 Mbit/s
95th percentile per-packet one-way delay: 116.393 ms
Loss rate: 2.39%
```

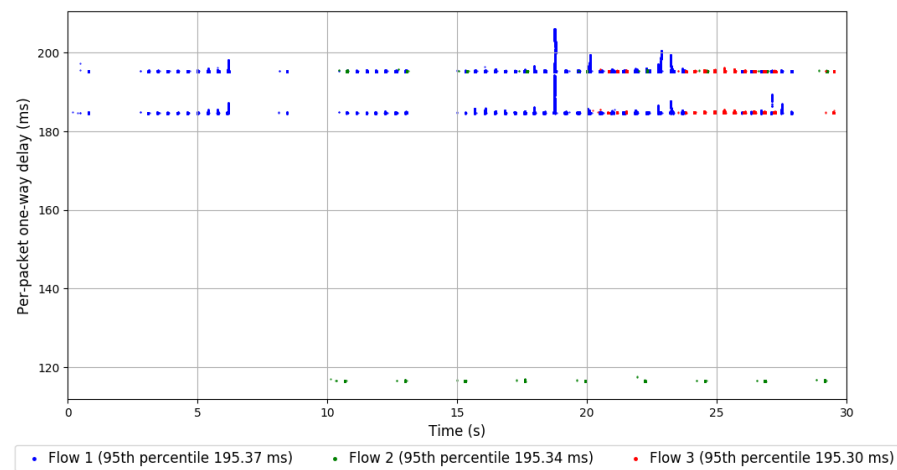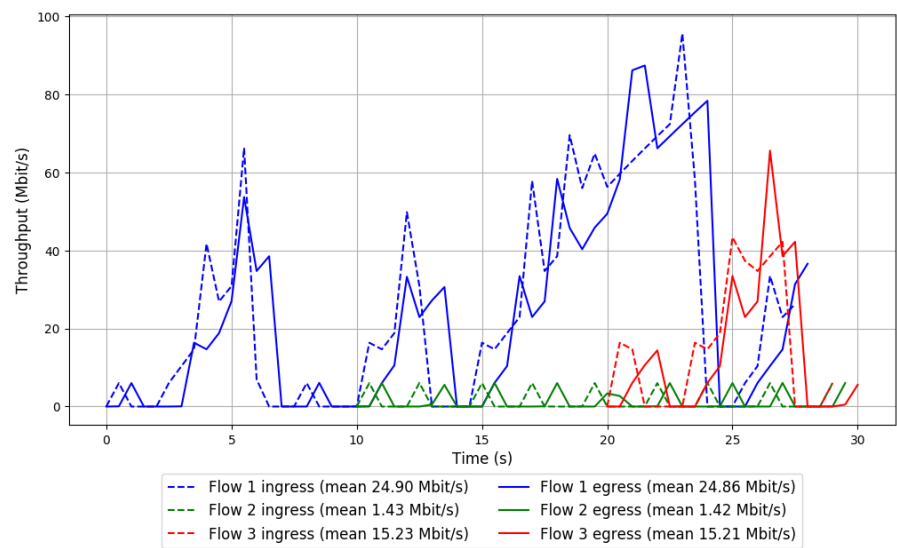## Run 2: Report of TaoVA-100x — Data Link

- Flow 1 ingress (mean 88.79 Mbit/s)
- Flow 1 egress (mean 88.74 Mbit/s)
- Flow 2 ingress (mean 192.60 Mbit/s)
- Flow 2 egress (mean 192.01 Mbit/s)
- Flow 3 ingress (mean 15.23 Mbit/s)
- Flow 3 egress (mean 15.22 Mbit/s)

- Flow 1 (95th percentile 118.79 ms)
- Flow 2 (95th percentile 118.89 ms)
- Flow 3 (95th percentile 116.39 ms)

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

Start at: 2018-05-22 13:57:09
End at: 2018-05-22 13:57:39
Local clock offset: -0.161 ms
Remote clock offset: -0.303 ms


# Below is generated by plot.py at 2018-05-22 18:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.26 Mbit/s
95th percentile per-packet one-way delay: 195.356 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 24.86 Mbit/s
95th percentile per-packet one-way delay: 195.366 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 195.340 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 15.21 Mbit/s
95th percentile per-packet one-way delay: 195.301 ms
Loss rate: 0.00%
```

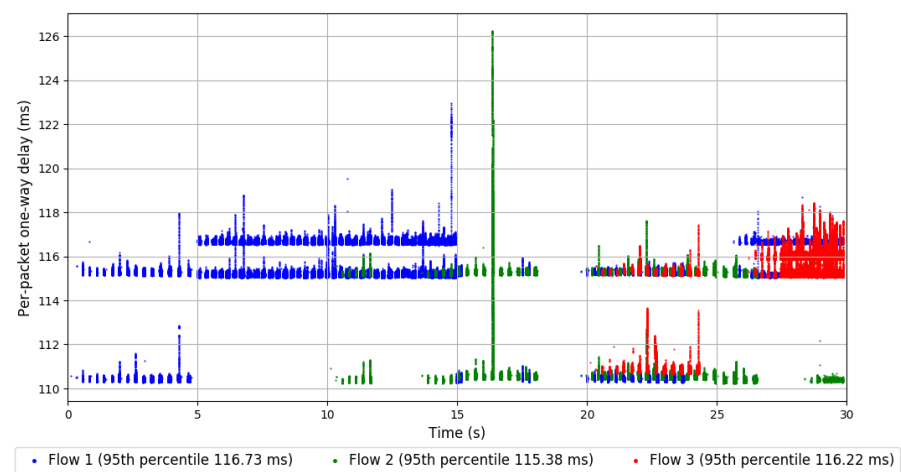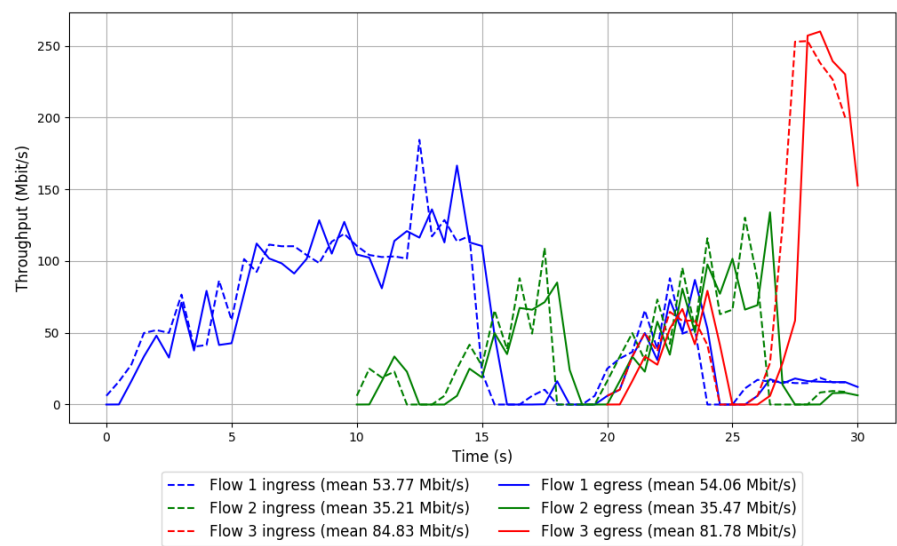Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 24.90 Mbit/s) --- Flow 1 egress (mean 24.86 Mbit/s)
Flow 2 ingress (mean 1.43 Mbit/s) --- Flow 2 egress (mean 1.42 Mbit/s)
Flow 3 ingress (mean 15.23 Mbit/s) --- Flow 3 egress (mean 15.21 Mbit/s)

Flow 1 (95th percentile 195.37 ms)   Flow 2 (95th percentile 195.34 ms)   Flow 3 (95th percentile 195.30 ms)
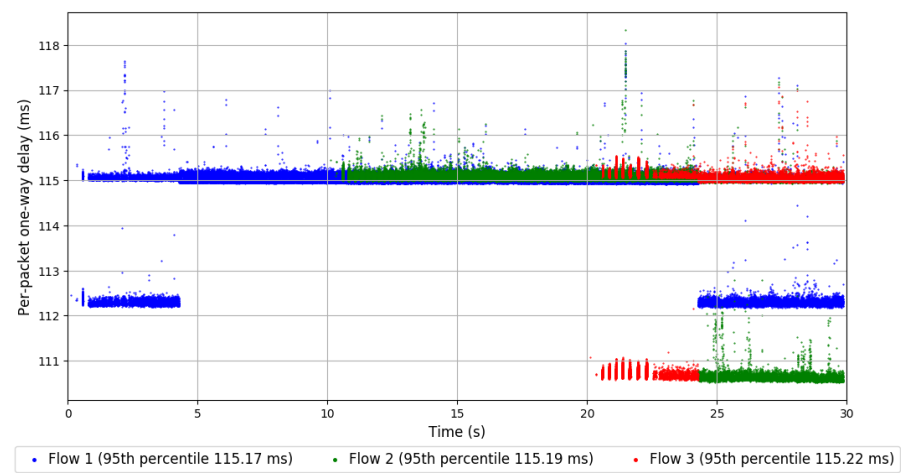
229

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

Start at: 2018-05-22 14:20:33
End at: 2018-05-22 14:21:03
Local clock offset: -0.539 ms
Remote clock offset: -0.028 ms

# Below is generated by plot.py at 2018-05-22 18:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 104.37 Mbit/s
95th percentile per-packet one-way delay: 116.704 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 54.06 Mbit/s
95th percentile per-packet one-way delay: 116.728 ms
Loss rate: 0.23%
-- Flow 2:
Average throughput: 35.47 Mbit/s
95th percentile per-packet one-way delay: 115.380 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 81.78 Mbit/s
95th percentile per-packet one-way delay: 116.222 ms
Loss rate: 5.80%
```

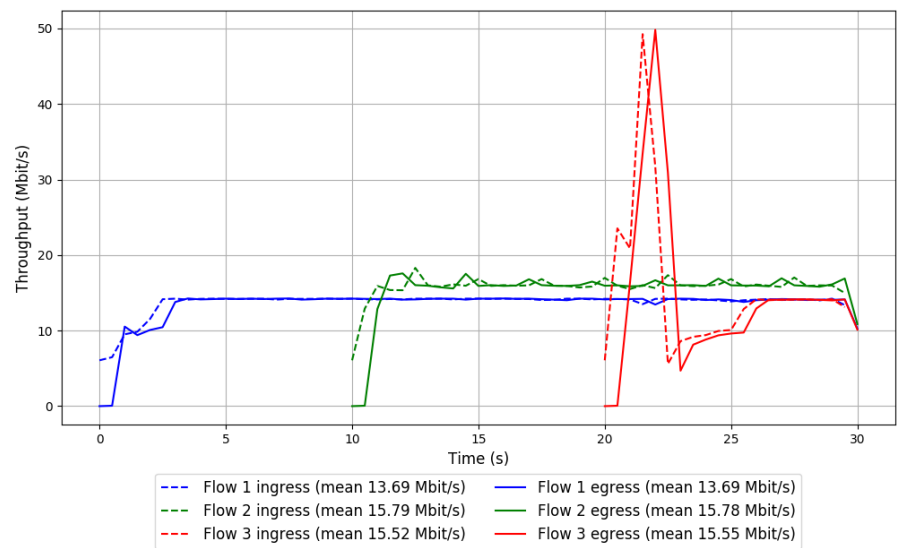# Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 53.77 Mbit/s) --- Flow 1 egress (mean 54.06 Mbit/s)
Flow 2 ingress (mean 35.21 Mbit/s) --- Flow 2 egress (mean 35.47 Mbit/s)
Flow 3 ingress (mean 84.83 Mbit/s) --- Flow 3 egress (mean 81.78 Mbit/s)

Flow 1 (95th percentile 116.73 ms)   Flow 2 (95th percentile 115.38 ms)   Flow 3 (95th percentile 116.22 ms)

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

Start at: 2018-05-22 14:44:33
End at: 2018-05-22 14:45:03
Local clock offset: -0.558 ms
Remote clock offset: -0.041 ms


# Below is generated by plot.py at 2018-05-22 18:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 29.25 Mbit/s
95th percentile per-packet one-way delay: 115.189 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 13.69 Mbit/s
95th percentile per-packet one-way delay: 115.173 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 15.78 Mbit/s
95th percentile per-packet one-way delay: 115.189 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 15.55 Mbit/s
95th percentile per-packet one-way delay: 115.225 ms
Loss rate: 2.03%
```
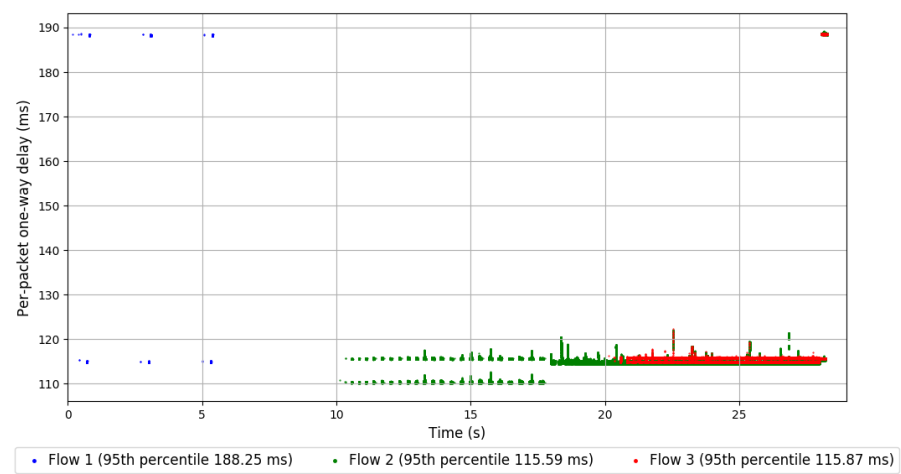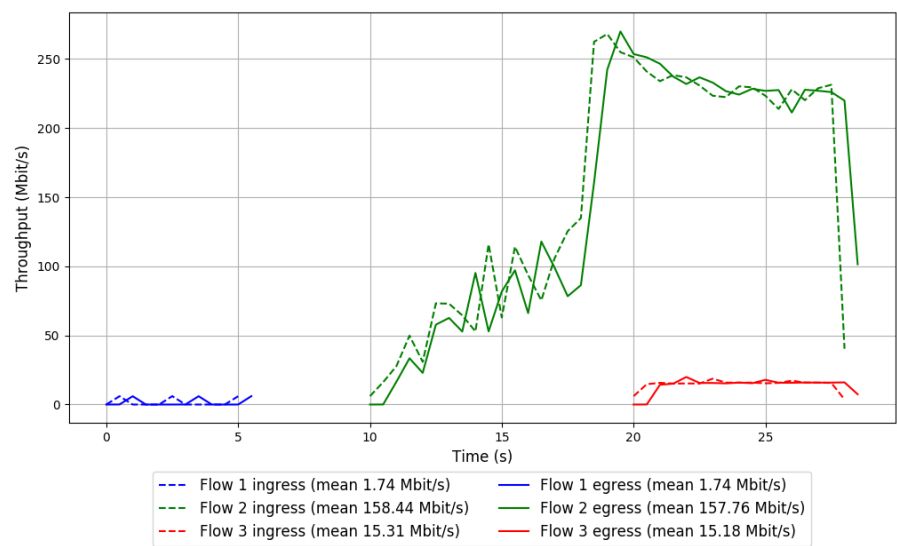
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 13.69 Mbit/s) — — —   Flow 1 egress (mean 13.69 Mbit/s) ———
Flow 2 ingress (mean 15.79 Mbit/s) — — —   Flow 2 egress (mean 15.78 Mbit/s) ———
Flow 3 ingress (mean 15.52 Mbit/s) — — —   Flow 3 egress (mean 15.55 Mbit/s) ———

Flow 1 (95th percentile 115.17 ms)   Flow 2 (95th percentile 115.19 ms)   Flow 3 (95th percentile 115.22 ms)
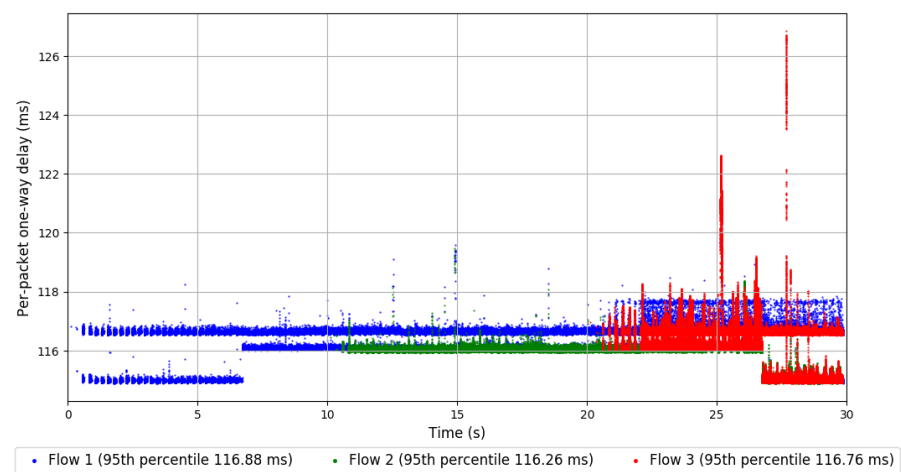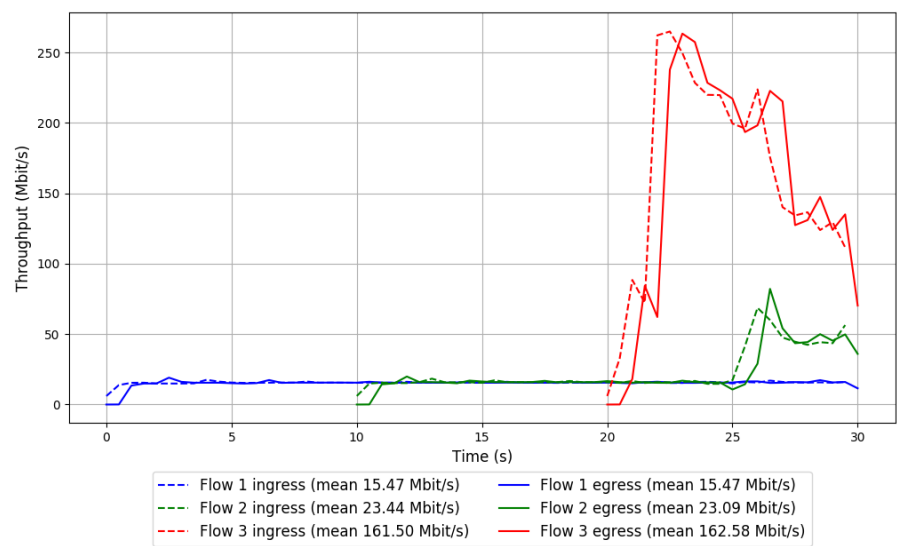
```
Run 6: Statistics of TaoVA-100x

Start at: 2018-05-22 15:07:40
End at: 2018-05-22 15:08:10
Local clock offset: 0.1 ms
Remote clock offset: 0.365 ms


# Below is generated by plot.py at 2018-05-22 18:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 106.70 Mbit/s
95th percentile per-packet one-way delay: 115.732 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 188.255 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 157.76 Mbit/s
95th percentile per-packet one-way delay: 115.586 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 15.18 Mbit/s
95th percentile per-packet one-way delay: 115.869 ms
Loss rate: 0.00%
```
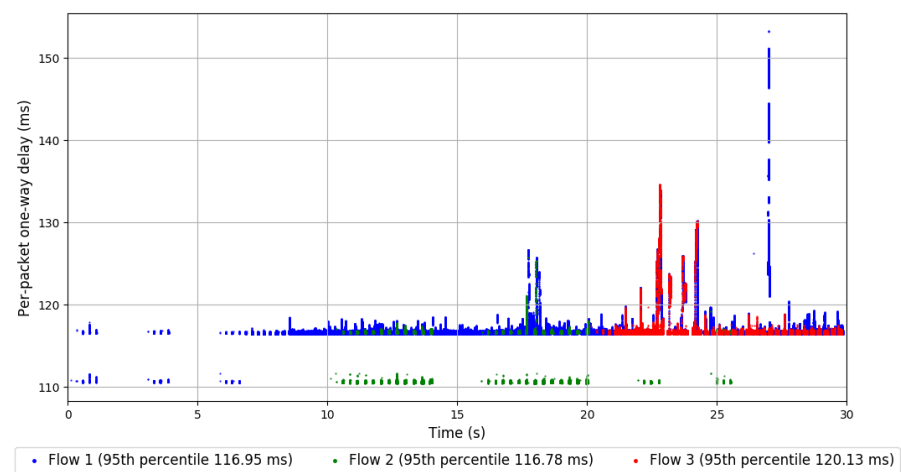
Run 6: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 1.74 Mbit/s) --- Flow 1 egress (mean 1.74 Mbit/s)
Flow 2 ingress (mean 158.44 Mbit/s) --- Flow 2 egress (mean 157.76 Mbit/s)
Flow 3 ingress (mean 15.31 Mbit/s) --- Flow 3 egress (mean 15.18 Mbit/s)

Flow 1 (95th percentile 188.25 ms) Flow 2 (95th percentile 115.59 ms) Flow 3 (95th percentile 115.87 ms)

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

Start at: 2018-05-22 15:31:21
End at: 2018-05-22 15:31:51
Local clock offset: 0.176 ms
Remote clock offset: -0.032 ms


# Below is generated by plot.py at 2018-05-22 18:22:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.81 Mbit/s
95th percentile per-packet one-way delay: 116.765 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 15.47 Mbit/s
95th percentile per-packet one-way delay: 116.875 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 23.09 Mbit/s
95th percentile per-packet one-way delay: 116.260 ms
Loss rate: 2.68%
-- Flow 3:
Average throughput: 162.58 Mbit/s
95th percentile per-packet one-way delay: 116.760 ms
Loss rate: 1.82%
```
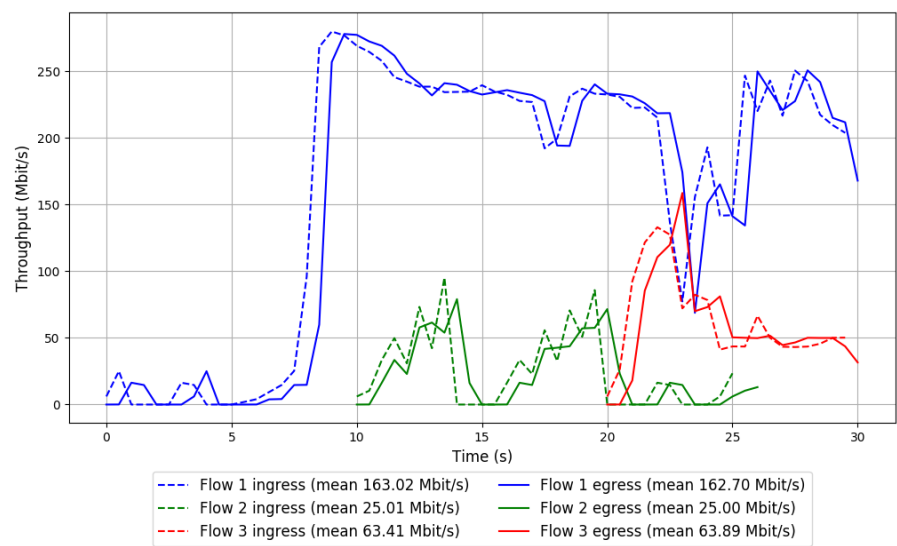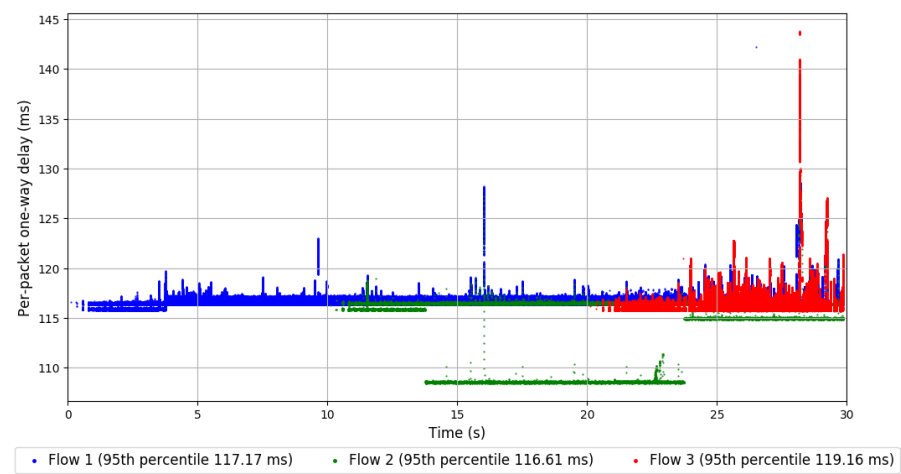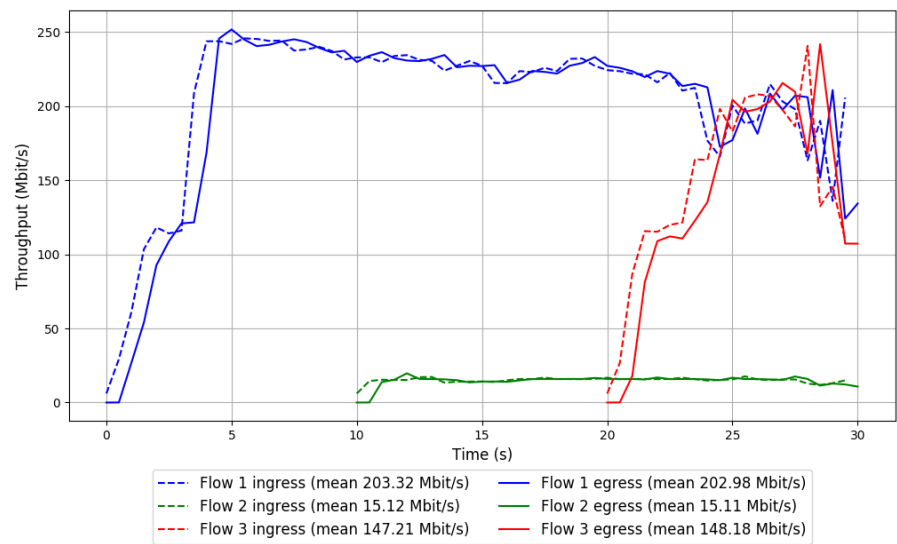
Run 7: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 15.47 Mbit/s) --- Flow 1 egress (mean 15.47 Mbit/s)
Flow 2 ingress (mean 23.44 Mbit/s) --- Flow 2 egress (mean 23.09 Mbit/s)
Flow 3 ingress (mean 161.50 Mbit/s) --- Flow 3 egress (mean 162.58 Mbit/s)

Flow 1 (95th percentile 116.88 ms) • Flow 2 (95th percentile 116.26 ms) • Flow 3 (95th percentile 116.76 ms)

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

Start at: 2018-05-22 15:55:21
End at: 2018-05-22 15:55:51
Local clock offset: 0.062 ms
Remote clock offset: 0.013 ms


# Below is generated by plot.py at 2018-05-22 18:24:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 196.41 Mbit/s
95th percentile per-packet one-way delay: 116.970 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 162.70 Mbit/s
95th percentile per-packet one-way delay: 116.948 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 25.00 Mbit/s
95th percentile per-packet one-way delay: 116.779 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 63.89 Mbit/s
95th percentile per-packet one-way delay: 120.134 ms
Loss rate: 1.99%
```
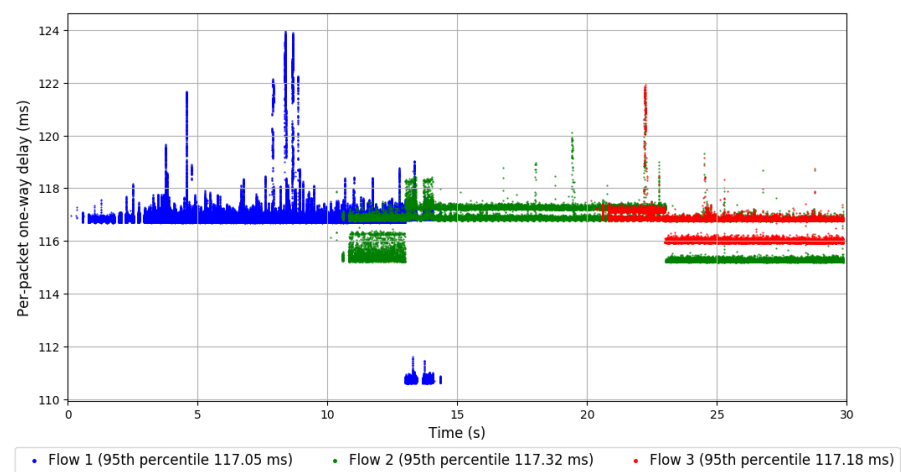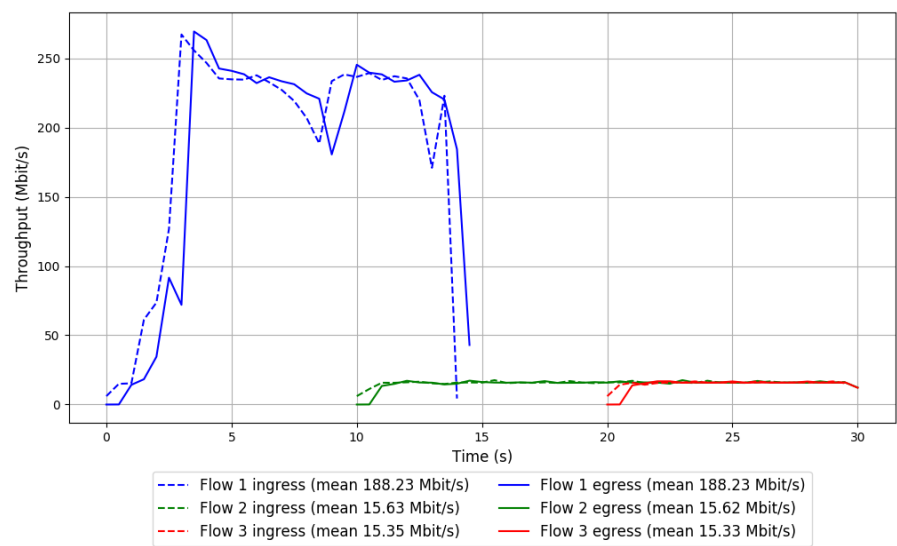
Run 8: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 163.02 Mbit/s)   Flow 1 egress (mean 162.70 Mbit/s)
Flow 2 ingress (mean 25.01 Mbit/s)   Flow 2 egress (mean 25.00 Mbit/s)
Flow 3 ingress (mean 63.41 Mbit/s)   Flow 3 egress (mean 63.89 Mbit/s)

Flow 1 (95th percentile 116.95 ms)   Flow 2 (95th percentile 116.78 ms)   Flow 3 (95th percentile 120.13 ms)

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

Start at: 2018-05-22 16:19:14
End at: 2018-05-22 16:19:44
Local clock offset: -0.145 ms
Remote clock offset: -0.039 ms


# Below is generated by plot.py at 2018-05-22 18:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 261.45 Mbit/s
95th percentile per-packet one-way delay: 117.509 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 202.98 Mbit/s
95th percentile per-packet one-way delay: 117.175 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 15.11 Mbit/s
95th percentile per-packet one-way delay: 116.605 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 148.18 Mbit/s
95th percentile per-packet one-way delay: 119.158 ms
Loss rate: 1.74%
```

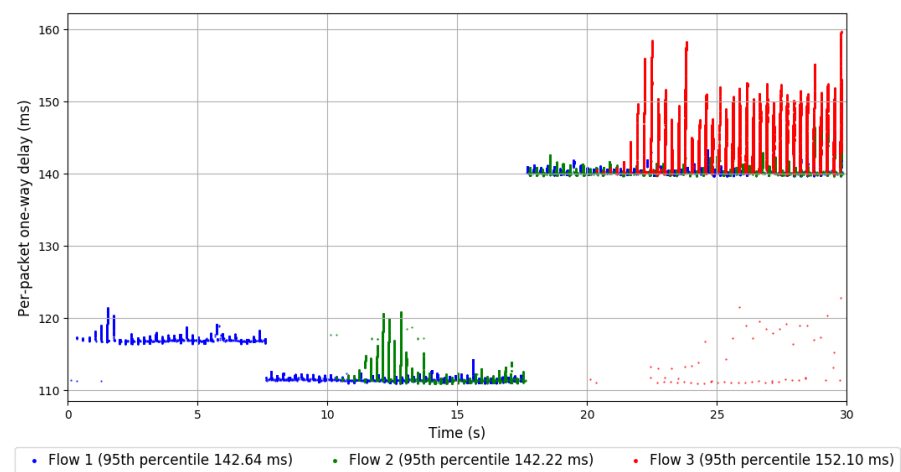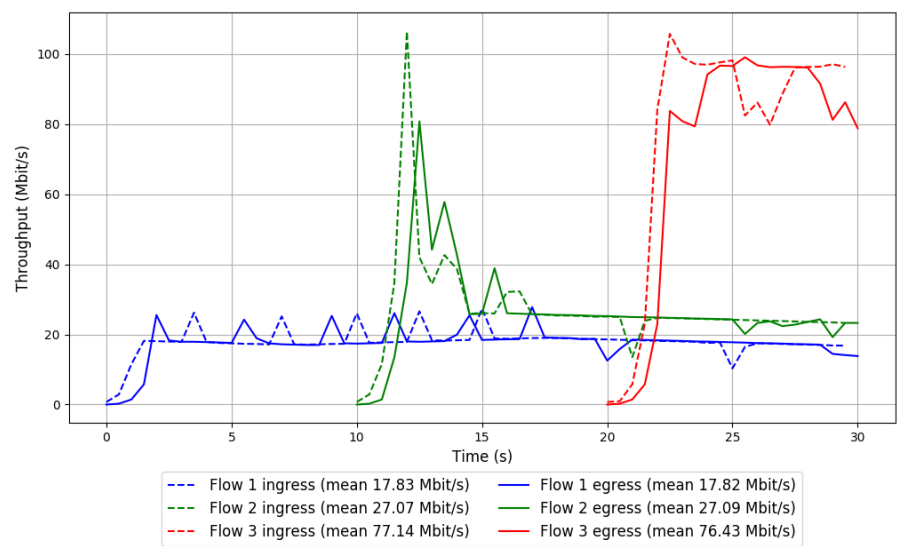# Run 9: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 203.32 Mbit/s) — Flow 1 egress (mean 202.98 Mbit/s)
Flow 2 ingress (mean 15.12 Mbit/s) — Flow 2 egress (mean 15.11 Mbit/s)
Flow 3 ingress (mean 147.21 Mbit/s) — Flow 3 egress (mean 148.18 Mbit/s)

Flow 1 (95th percentile 117.17 ms)   Flow 2 (95th percentile 116.61 ms)   Flow 3 (95th percentile 119.16 ms)
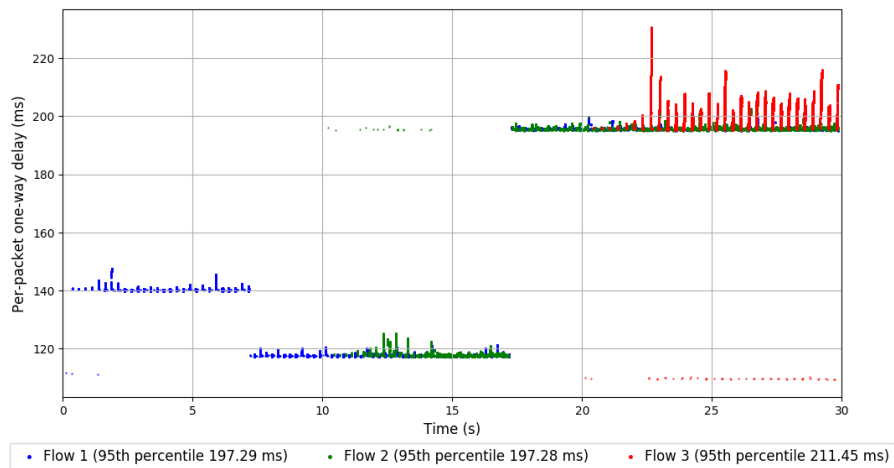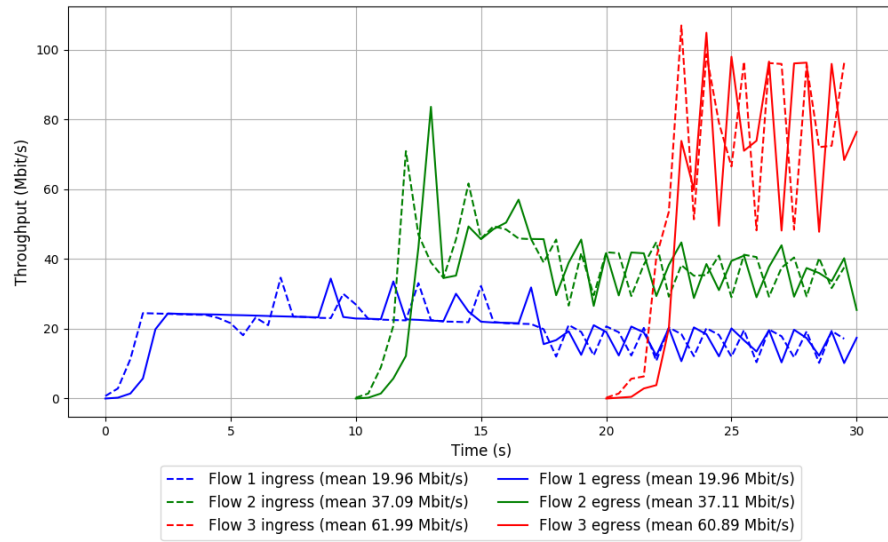
241

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

Start at: 2018-05-22 16:43:25
End at: 2018-05-22 16:43:55
Local clock offset: -0.175 ms
Remote clock offset: -0.44 ms


# Below is generated by plot.py at 2018-05-22 18:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.40 Mbit/s
95th percentile per-packet one-way delay: 117.205 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 188.23 Mbit/s
95th percentile per-packet one-way delay: 117.050 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 15.62 Mbit/s
95th percentile per-packet one-way delay: 117.317 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 15.33 Mbit/s
95th percentile per-packet one-way delay: 117.176 ms
Loss rate: 2.39%
```

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

Flow 1 ingress (mean 188.23 Mbit/s)   Flow 1 egress (mean 188.23 Mbit/s)
Flow 2 ingress (mean 15.63 Mbit/s)   Flow 2 egress (mean 15.62 Mbit/s)
Flow 3 ingress (mean 15.35 Mbit/s)   Flow 3 egress (mean 15.33 Mbit/s)

Flow 1 (95th percentile 117.05 ms)   Flow 2 (95th percentile 117.32 ms)   Flow 3 (95th percentile 117.18 ms)

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```
Run 1: Statistics of TCP Vegas

Start at: 2018-05-22 13:21:30
End at: 2018-05-22 13:22:00
Local clock offset: 0.317 ms
Remote clock offset: -0.405 ms


# Below is generated by plot.py at 2018-05-22 18:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.68 Mbit/s
95th percentile per-packet one-way delay: 150.480 ms
Loss rate: 1.86%
-- Flow 1:
Average throughput: 17.82 Mbit/s
95th percentile per-packet one-way delay: 142.636 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 27.09 Mbit/s
95th percentile per-packet one-way delay: 142.216 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 76.43 Mbit/s
95th percentile per-packet one-way delay: 152.101 ms
Loss rate: 3.16%
```
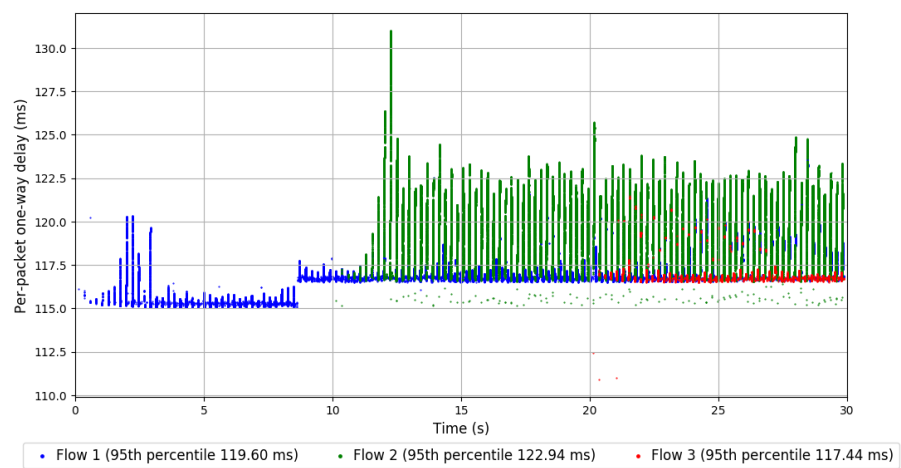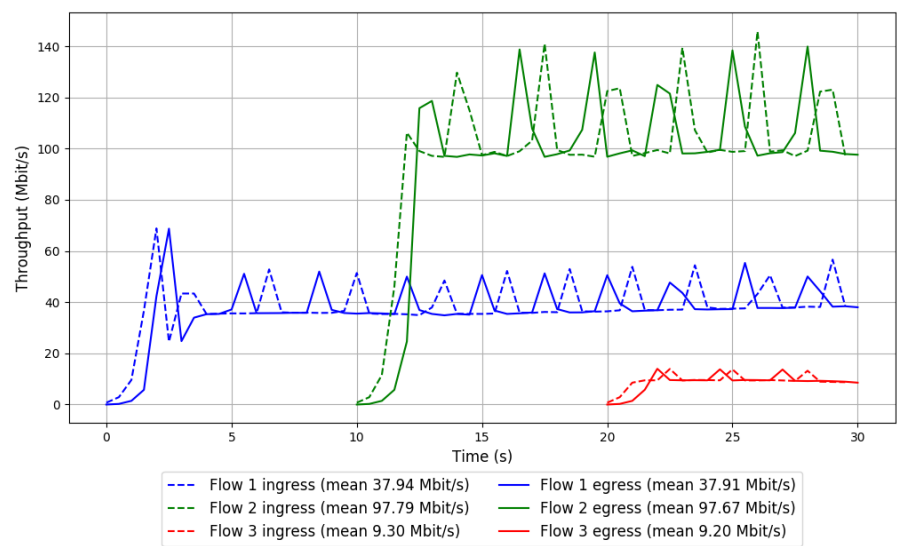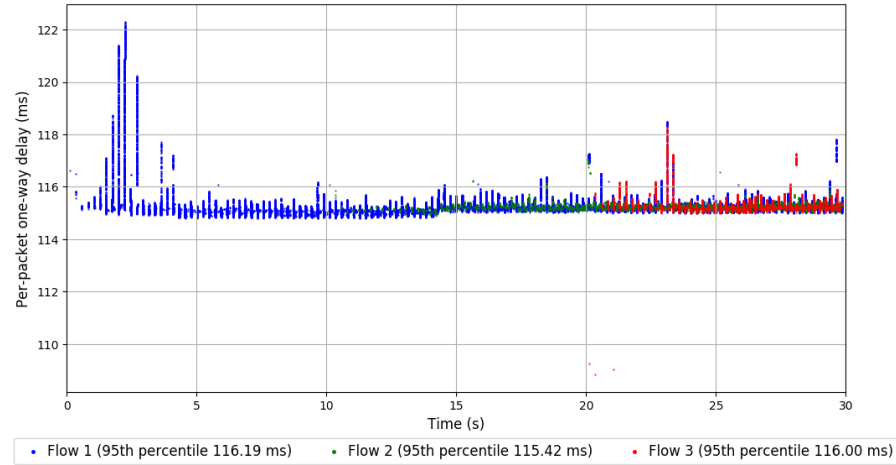
Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 17.83 Mbit/s) — Flow 1 egress (mean 17.82 Mbit/s)
Flow 2 ingress (mean 27.07 Mbit/s) — Flow 2 egress (mean 27.09 Mbit/s)
Flow 3 ingress (mean 77.14 Mbit/s) — Flow 3 egress (mean 76.43 Mbit/s)

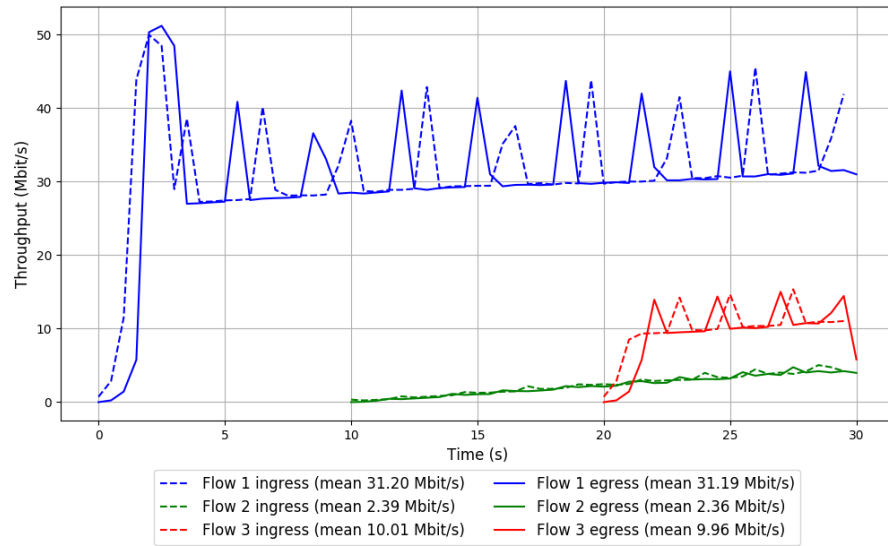Flow 1 (95th percentile 142.64 ms) — Flow 2 (95th percentile 142.22 ms) — Flow 3 (95th percentile 152.10 ms)

```
Run 2: Statistics of TCP Vegas

Start at: 2018-05-22 13:44:51
End at: 2018-05-22 13:45:21
Local clock offset: -0.11 ms
Remote clock offset: -0.341 ms


# Below is generated by plot.py at 2018-05-22 18:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.36 Mbit/s
95th percentile per-packet one-way delay: 206.151 ms
Loss rate: 2.03%
-- Flow 1:
Average throughput: 19.96 Mbit/s
95th percentile per-packet one-way delay: 197.289 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 37.11 Mbit/s
95th percentile per-packet one-way delay: 197.275 ms
Loss rate: 1.48%
-- Flow 3:
Average throughput: 60.89 Mbit/s
95th percentile per-packet one-way delay: 211.449 ms
Loss rate: 3.89%
```

Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-05-22 14:07:59
End at: 2018-05-22 14:08:29
Local clock offset: -0.436 ms
Remote clock offset: 0.024 ms


# Below is generated by plot.py at 2018-05-22 18:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.57 Mbit/s
95th percentile per-packet one-way delay: 122.555 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 37.91 Mbit/s
95th percentile per-packet one-way delay: 119.597 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 97.67 Mbit/s
95th percentile per-packet one-way delay: 122.939 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 9.20 Mbit/s
95th percentile per-packet one-way delay: 117.441 ms
Loss rate: 2.30%
```
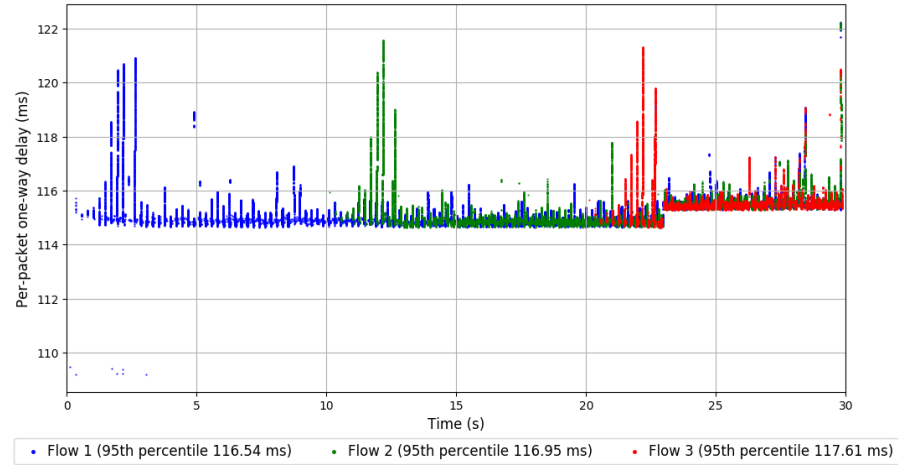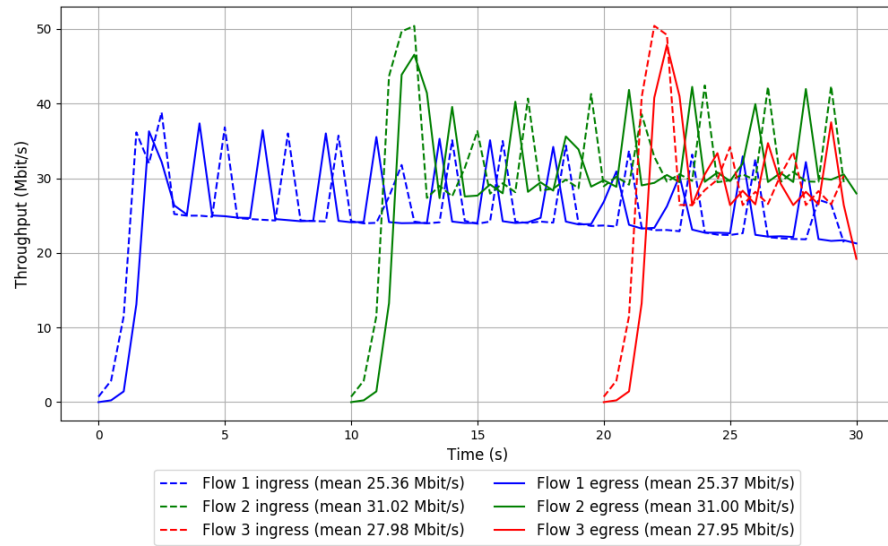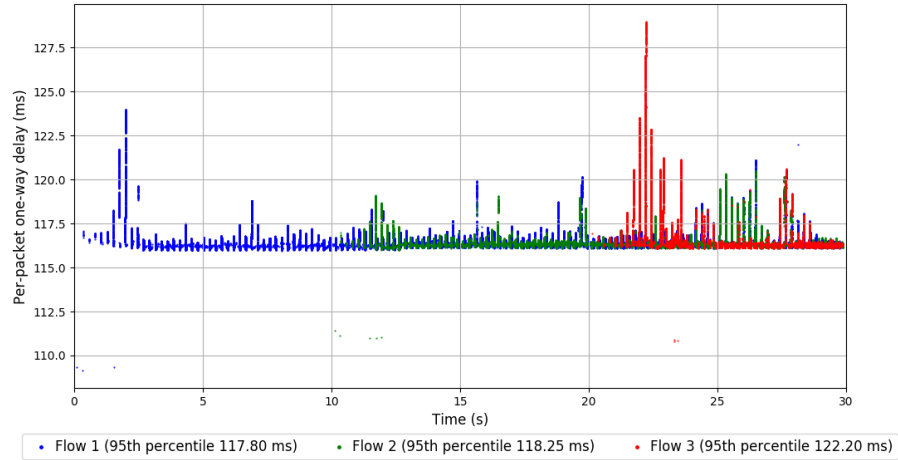
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 37.94 Mbit/s) — — — Flow 1 egress (mean 37.91 Mbit/s)
Flow 2 ingress (mean 97.79 Mbit/s) — — — Flow 2 egress (mean 97.67 Mbit/s)
Flow 3 ingress (mean 9.30 Mbit/s) — — — Flow 3 egress (mean 9.20 Mbit/s)

Flow 1 (95th percentile 119.60 ms) • Flow 2 (95th percentile 122.94 ms) • Flow 3 (95th percentile 117.44 ms)
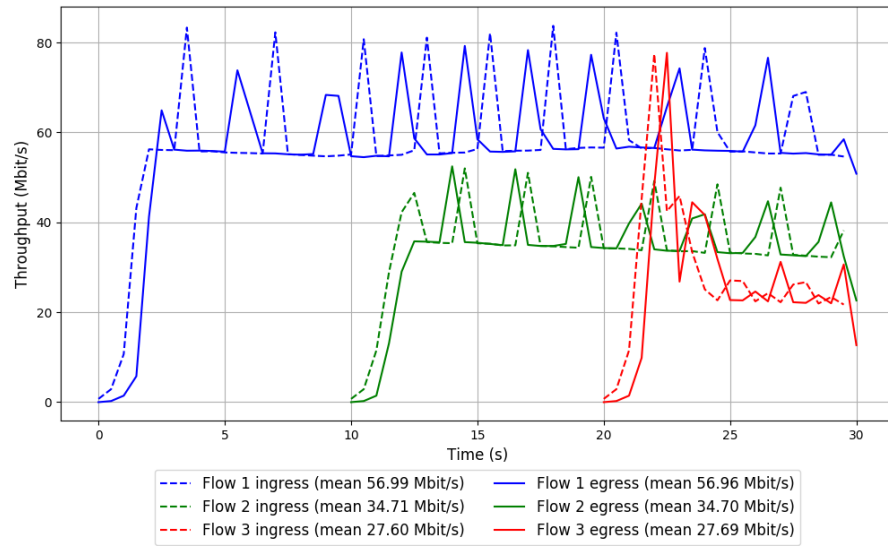
```
Run 4: Statistics of TCP Vegas

Start at: 2018-05-22 14:31:33
End at: 2018-05-22 14:32:03
Local clock offset: -0.752 ms
Remote clock offset: -0.041 ms


# Below is generated by plot.py at 2018-05-22 18:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.01 Mbit/s
95th percentile per-packet one-way delay: 116.110 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 31.19 Mbit/s
95th percentile per-packet one-way delay: 116.191 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 115.421 ms
Loss rate: 2.41%
-- Flow 3:
Average throughput: 9.96 Mbit/s
95th percentile per-packet one-way delay: 116.005 ms
Loss rate: 2.75%
```
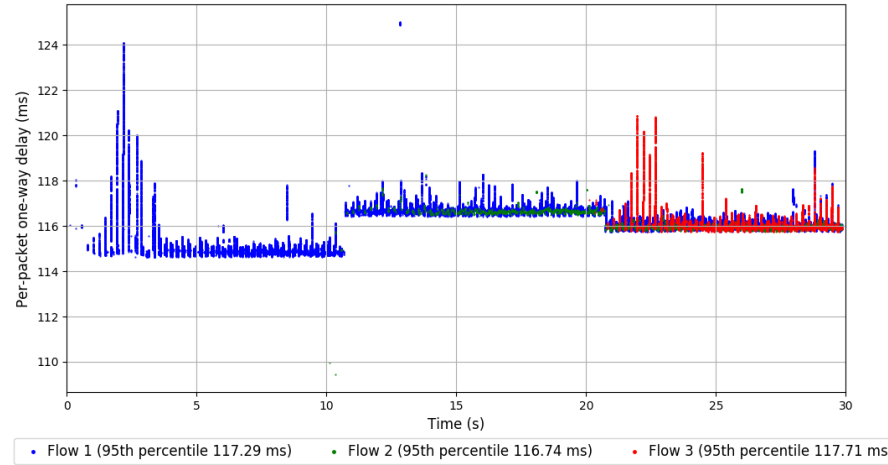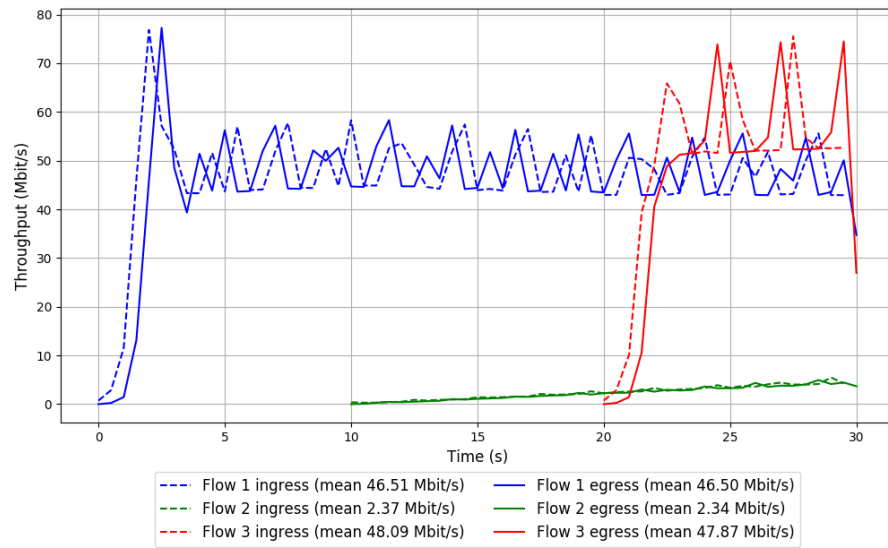
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-05-22 14:55:25
End at: 2018-05-22 14:55:55
Local clock offset: -0.162 ms
Remote clock offset: 0.372 ms


# Below is generated by plot.py at 2018-05-22 18:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.02 Mbit/s
95th percentile per-packet one-way delay: 116.999 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 25.37 Mbit/s
95th percentile per-packet one-way delay: 116.544 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 31.00 Mbit/s
95th percentile per-packet one-way delay: 116.954 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 27.95 Mbit/s
95th percentile per-packet one-way delay: 117.607 ms
Loss rate: 2.37%
```

Run 5: Report of TCP Vegas — Data Link

```
Run 6: Statistics of TCP Vegas

Start at: 2018-05-22 15:18:35
End at: 2018-05-22 15:19:05
Local clock offset: 0.354 ms
Remote clock offset: -0.018 ms


# Below is generated by plot.py at 2018-05-22 18:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.00 Mbit/s
95th percentile per-packet one-way delay: 118.369 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 56.96 Mbit/s
95th percentile per-packet one-way delay: 117.804 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 34.70 Mbit/s
95th percentile per-packet one-way delay: 118.248 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 27.69 Mbit/s
95th percentile per-packet one-way delay: 122.202 ms
Loss rate: 1.96%
```
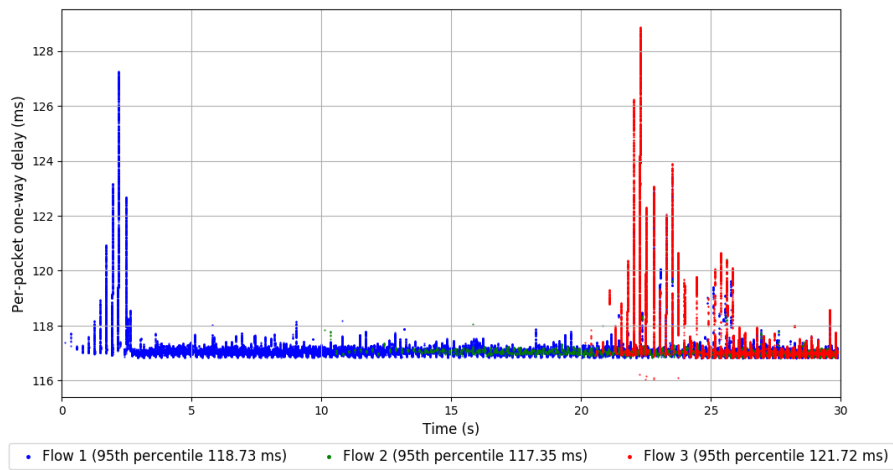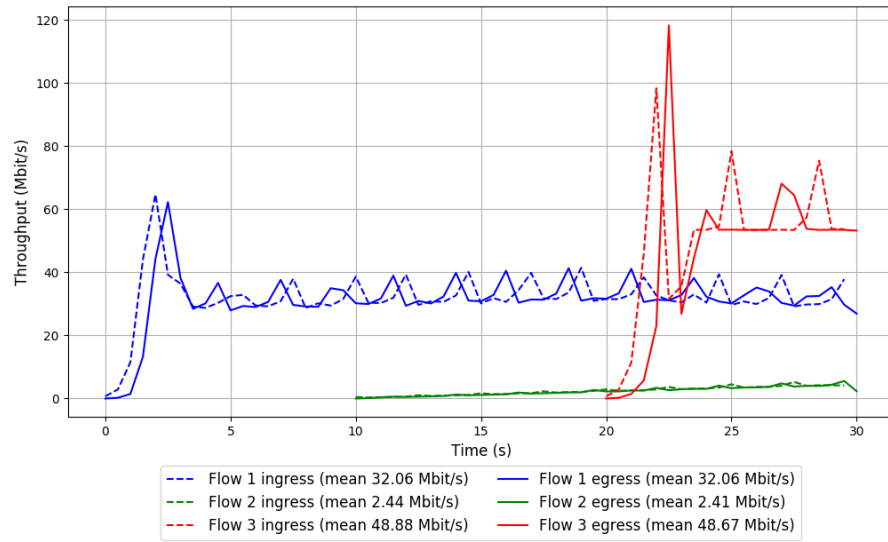
Run 6: Report of TCP Vegas — Data Link

```
Run 7: Statistics of TCP Vegas

Start at: 2018-05-22 15:42:27
End at: 2018-05-22 15:42:57
Local clock offset: -0.135 ms
Remote clock offset: -0.055 ms


# Below is generated by plot.py at 2018-05-22 18:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.69 Mbit/s
95th percentile per-packet one-way delay: 117.318 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 46.50 Mbit/s
95th percentile per-packet one-way delay: 117.292 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 116.740 ms
Loss rate: 2.40%
-- Flow 3:
Average throughput: 47.87 Mbit/s
95th percentile per-packet one-way delay: 117.712 ms
Loss rate: 2.75%
```
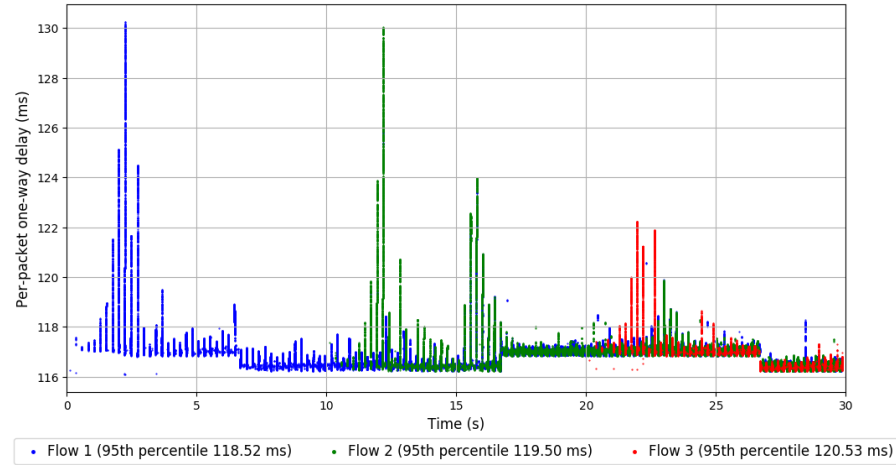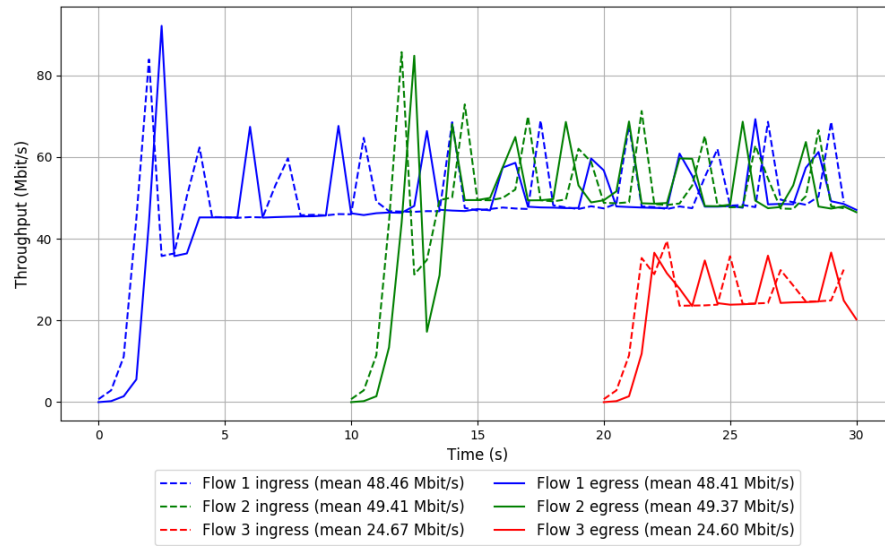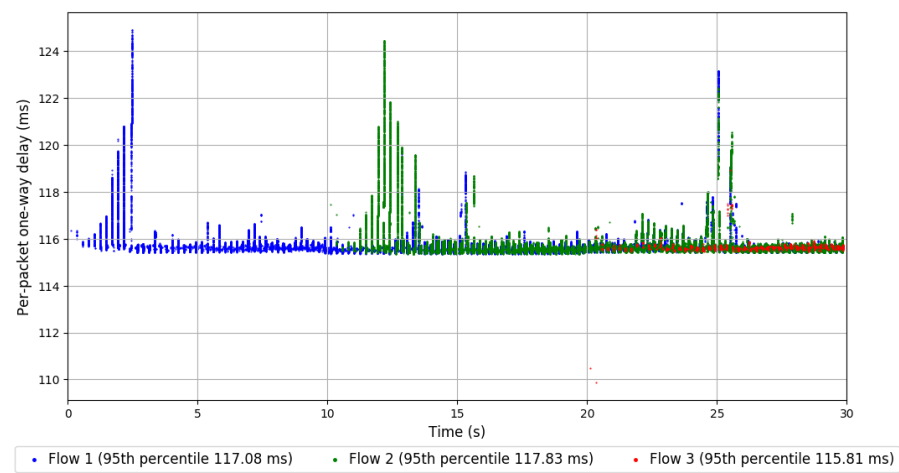
Run 7: Report of TCP Vegas — Data Link

```
Run 8: Statistics of TCP Vegas

Start at: 2018-05-22 16:06:26
End at: 2018-05-22 16:06:56
Local clock offset: -0.027 ms
Remote clock offset: -0.42 ms

# Below is generated by plot.py at 2018-05-22 18:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 49.57 Mbit/s
95th percentile per-packet one-way delay: 120.302 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 32.06 Mbit/s
95th percentile per-packet one-way delay: 118.733 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 117.351 ms
Loss rate: 2.27%
-- Flow 3:
Average throughput: 48.67 Mbit/s
95th percentile per-packet one-way delay: 121.718 ms
Loss rate: 2.75%
```
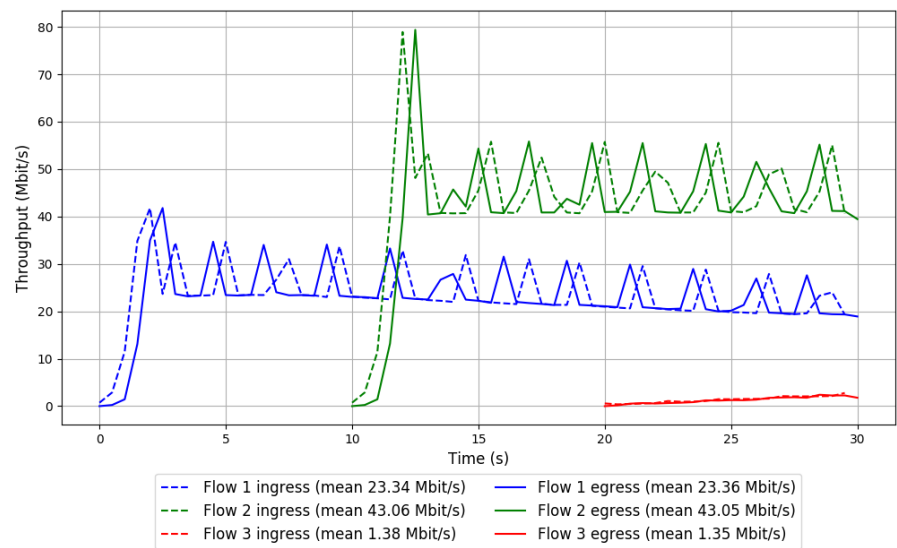
Run 8: Report of TCP Vegas — Data Link

```
Run 9: Statistics of TCP Vegas

Start at: 2018-05-22 16:30:31
End at: 2018-05-22 16:31:01
Local clock offset: 0.303 ms
Remote clock offset: -0.017 ms


# Below is generated by plot.py at 2018-05-22 18:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.17 Mbit/s
95th percentile per-packet one-way delay: 119.033 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 48.41 Mbit/s
95th percentile per-packet one-way delay: 118.524 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 49.37 Mbit/s
95th percentile per-packet one-way delay: 119.502 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 24.60 Mbit/s
95th percentile per-packet one-way delay: 120.528 ms
Loss rate: 2.52%
```
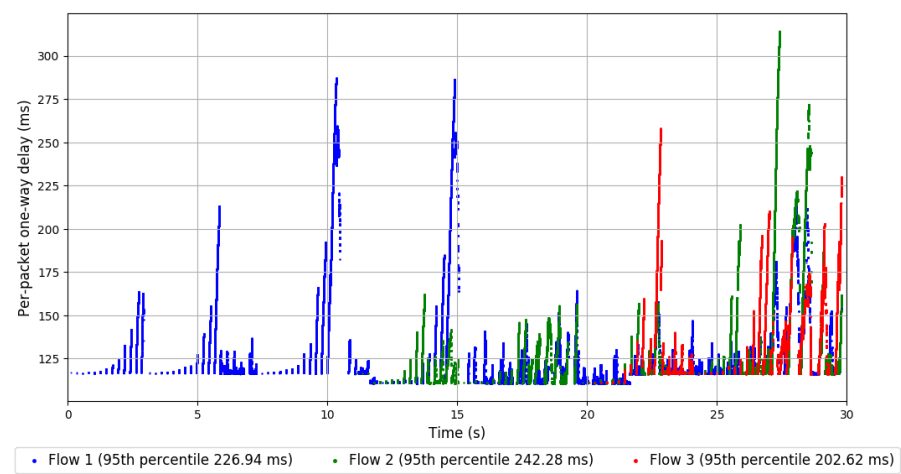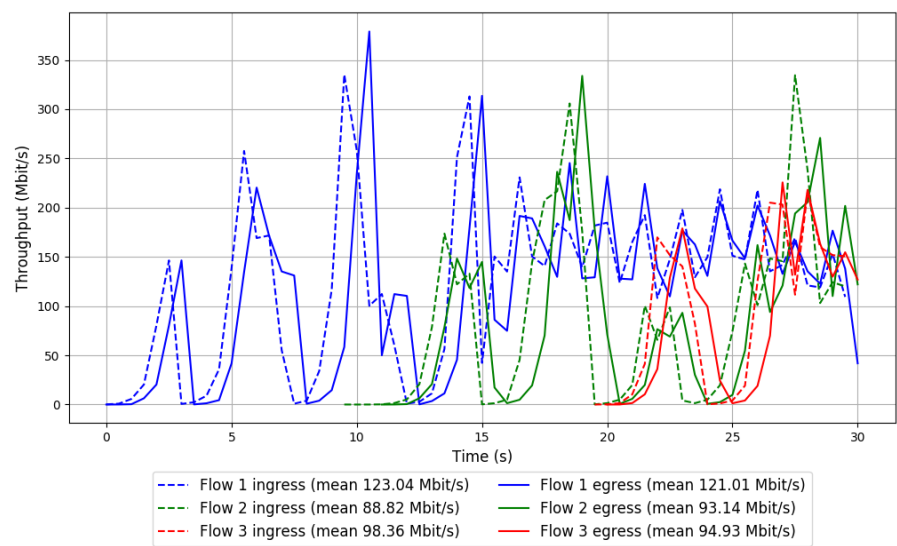
Run 9: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 48.46 Mbit/s)   Flow 1 egress (mean 48.41 Mbit/s)
Flow 2 ingress (mean 49.41 Mbit/s)   Flow 2 egress (mean 49.37 Mbit/s)
Flow 3 ingress (mean 24.67 Mbit/s)   Flow 3 egress (mean 24.60 Mbit/s)

Flow 1 (95th percentile 118.52 ms)   Flow 2 (95th percentile 119.50 ms)   Flow 3 (95th percentile 120.53 ms)

```
Run 10: Statistics of TCP Vegas

Start at: 2018-05-22 16:54:28
End at: 2018-05-22 16:54:58
Local clock offset: -0.131 ms
Remote clock offset: -0.441 ms


# Below is generated by plot.py at 2018-05-22 18:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 52.32 Mbit/s
95th percentile per-packet one-way delay: 117.560 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 23.36 Mbit/s
95th percentile per-packet one-way delay: 117.079 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 43.05 Mbit/s
95th percentile per-packet one-way delay: 117.829 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 115.806 ms
Loss rate: 4.28%
```

Run 10: Report of TCP Vegas — Data Link

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```
Run 1: Statistics of Verus

Start at: 2018-05-22 13:18:46
End at: 2018-05-22 13:19:16
Local clock offset: 0.065 ms
Remote clock offset: -0.425 ms


# Below is generated by plot.py at 2018-05-22 18:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 210.69 Mbit/s
95th percentile per-packet one-way delay: 224.996 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 121.01 Mbit/s
95th percentile per-packet one-way delay: 226.945 ms
Loss rate: 2.43%
-- Flow 2:
Average throughput: 93.14 Mbit/s
95th percentile per-packet one-way delay: 242.284 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 94.93 Mbit/s
95th percentile per-packet one-way delay: 202.622 ms
Loss rate: 5.30%
```
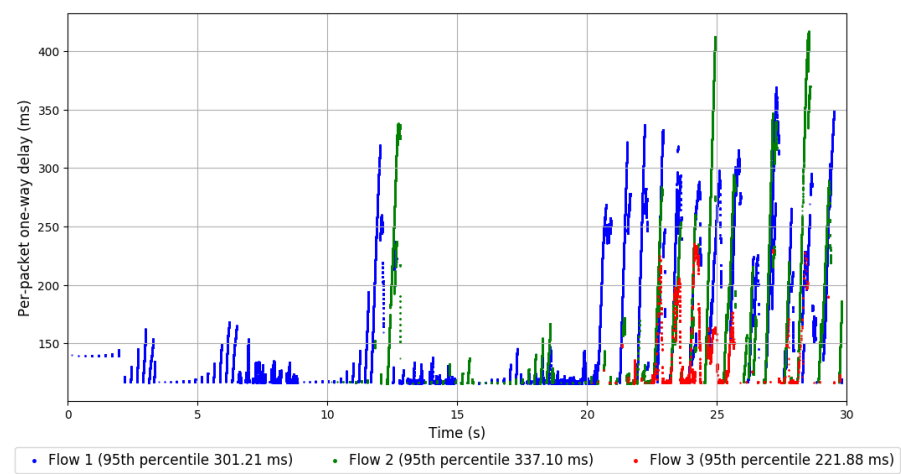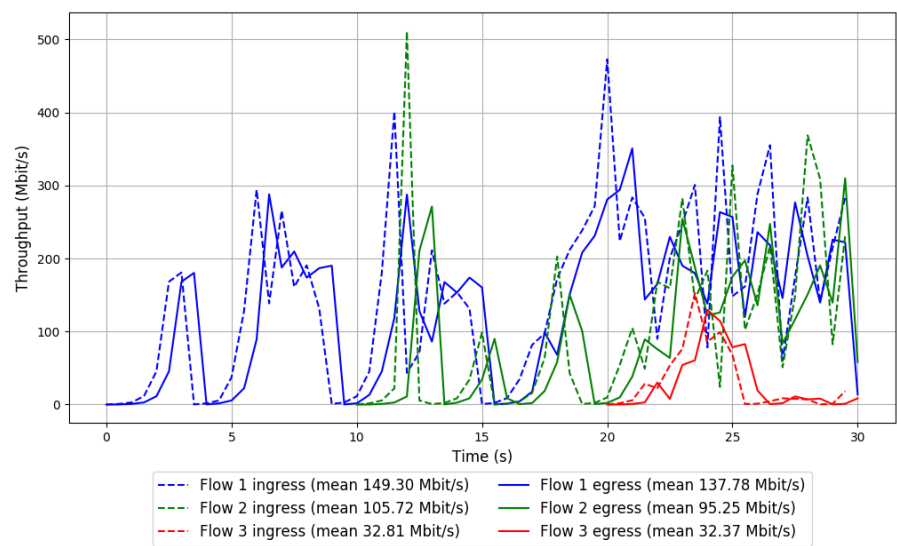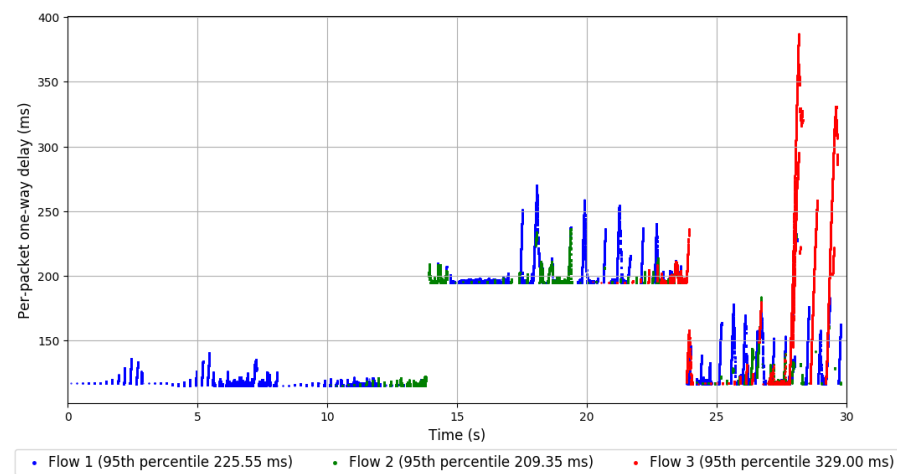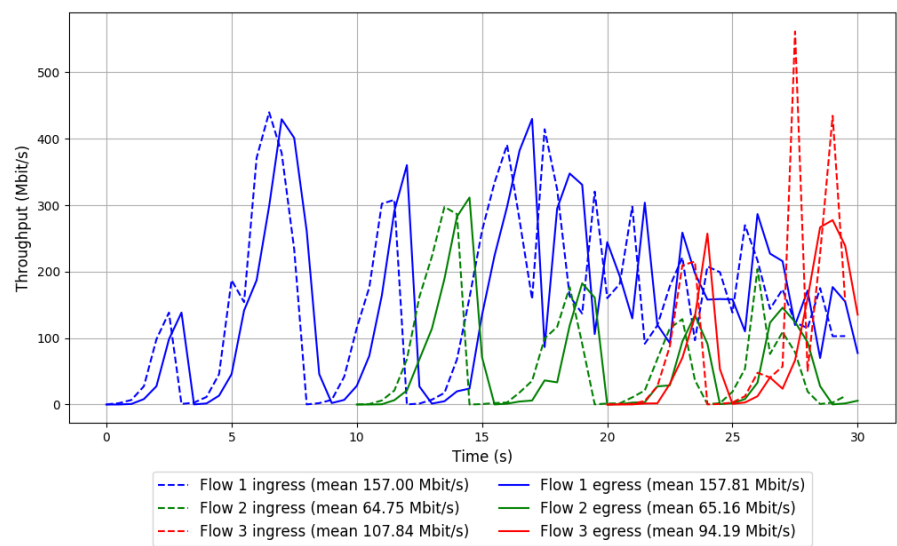
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 123.04 Mbit/s) --- Flow 1 egress (mean 121.01 Mbit/s)
Flow 2 ingress (mean 88.82 Mbit/s) --- Flow 2 egress (mean 93.14 Mbit/s)
Flow 3 ingress (mean 98.36 Mbit/s) --- Flow 3 egress (mean 94.93 Mbit/s)

Flow 1 (95th percentile 226.94 ms) Flow 2 (95th percentile 242.28 ms) Flow 3 (95th percentile 202.62 ms)

```
Run 2: Statistics of Verus

Start at: 2018-05-22 13:42:06
End at: 2018-05-22 13:42:36
Local clock offset: -0.113 ms
Remote clock offset: 0.035 ms


# Below is generated by plot.py at 2018-05-22 18:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 211.37 Mbit/s
95th percentile per-packet one-way delay: 317.226 ms
Loss rate: 8.92%
-- Flow 1:
Average throughput: 137.78 Mbit/s
95th percentile per-packet one-way delay: 301.215 ms
Loss rate: 8.51%
-- Flow 2:
Average throughput: 95.25 Mbit/s
95th percentile per-packet one-way delay: 337.103 ms
Loss rate: 10.60%
-- Flow 3:
Average throughput: 32.37 Mbit/s
95th percentile per-packet one-way delay: 221.880 ms
Loss rate: 3.71%
```
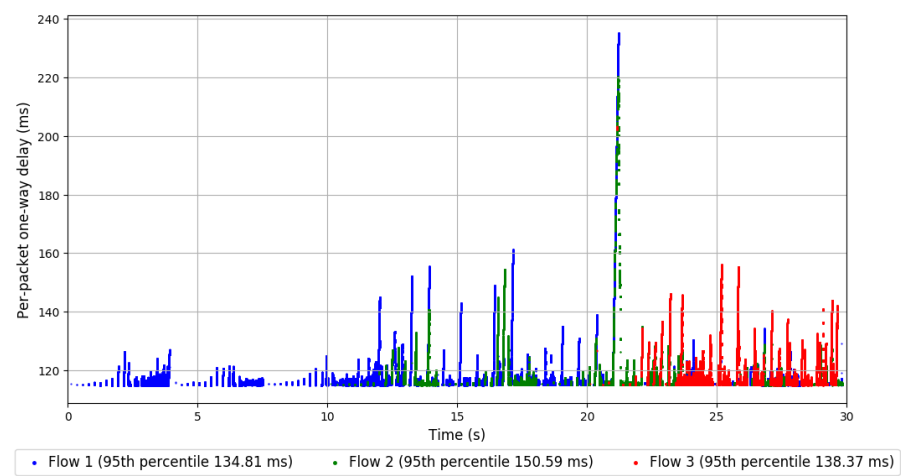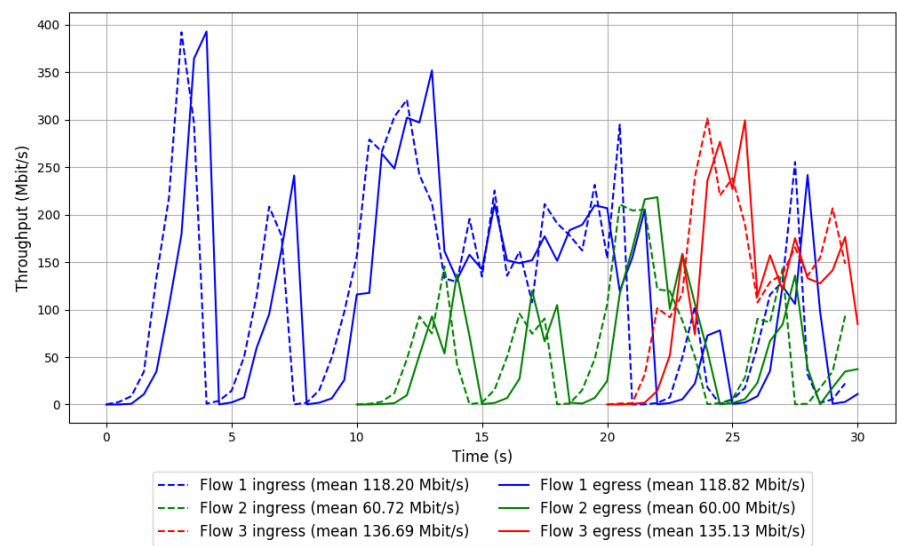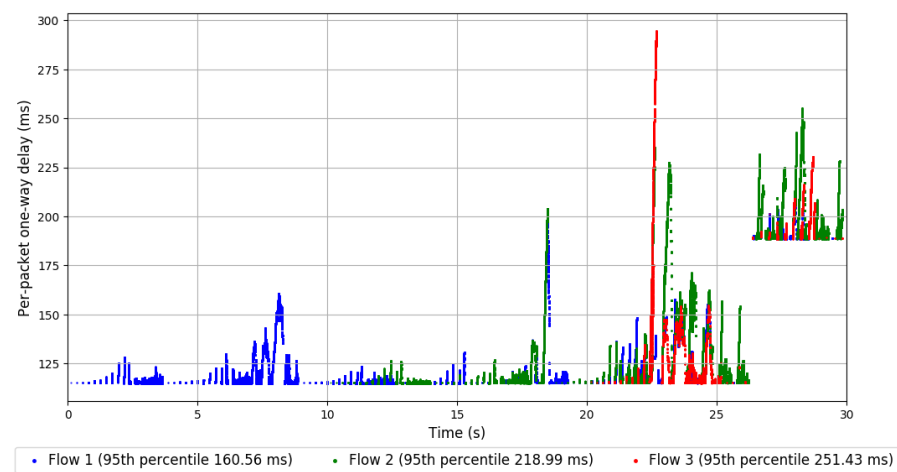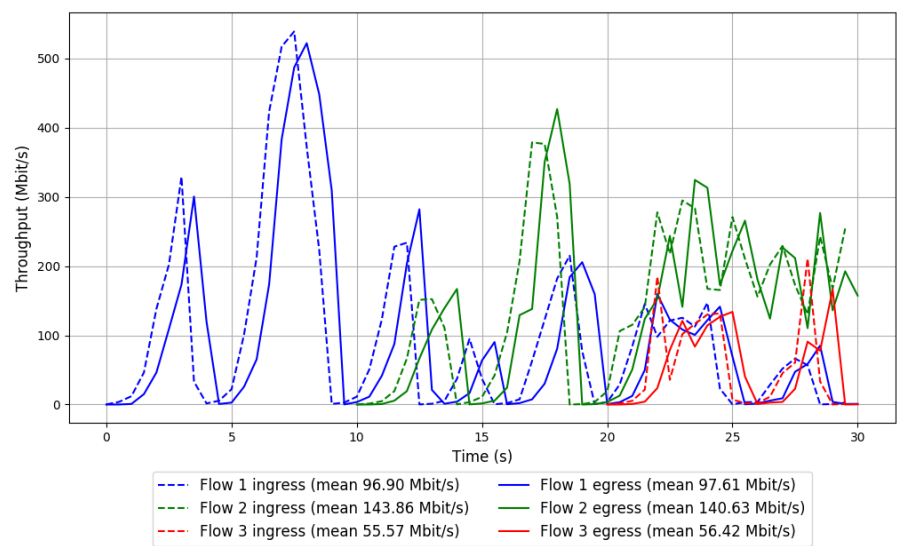
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-05-22 14:05:14
End at: 2018-05-22 14:05:44
Local clock offset: -0.524 ms
Remote clock offset: -0.391 ms


# Below is generated by plot.py at 2018-05-22 18:26:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 230.85 Mbit/s
95th percentile per-packet one-way delay: 242.380 ms
Loss rate: 2.98%
-- Flow 1:
Average throughput: 157.81 Mbit/s
95th percentile per-packet one-way delay: 225.552 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 65.16 Mbit/s
95th percentile per-packet one-way delay: 209.353 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 94.19 Mbit/s
95th percentile per-packet one-way delay: 329.002 ms
Loss rate: 17.07%
```

Run 3: Report of Verus — Data Link

- Flow 1 ingress (mean 157.00 Mbit/s)
- Flow 1 egress (mean 157.81 Mbit/s)
- Flow 2 ingress (mean 64.75 Mbit/s)
- Flow 2 egress (mean 65.16 Mbit/s)
- Flow 3 ingress (mean 107.84 Mbit/s)
- Flow 3 egress (mean 94.19 Mbit/s)

- Flow 1 (95th percentile 225.55 ms)
- Flow 2 (95th percentile 209.35 ms)
- Flow 3 (95th percentile 329.00 ms)

```
Run 4: Statistics of Verus

Start at: 2018-05-22 14:28:51
End at: 2018-05-22 14:29:21
Local clock offset: -0.702 ms
Remote clock offset: 0.005 ms


# Below is generated by plot.py at 2018-05-22 18:26:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 201.65 Mbit/s
95th percentile per-packet one-way delay: 138.664 ms
Loss rate: 1.80%
-- Flow 1:
Average throughput: 118.82 Mbit/s
95th percentile per-packet one-way delay: 134.813 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 60.00 Mbit/s
95th percentile per-packet one-way delay: 150.593 ms
Loss rate: 2.32%
-- Flow 3:
Average throughput: 135.13 Mbit/s
95th percentile per-packet one-way delay: 138.368 ms
Loss rate: 5.43%
```
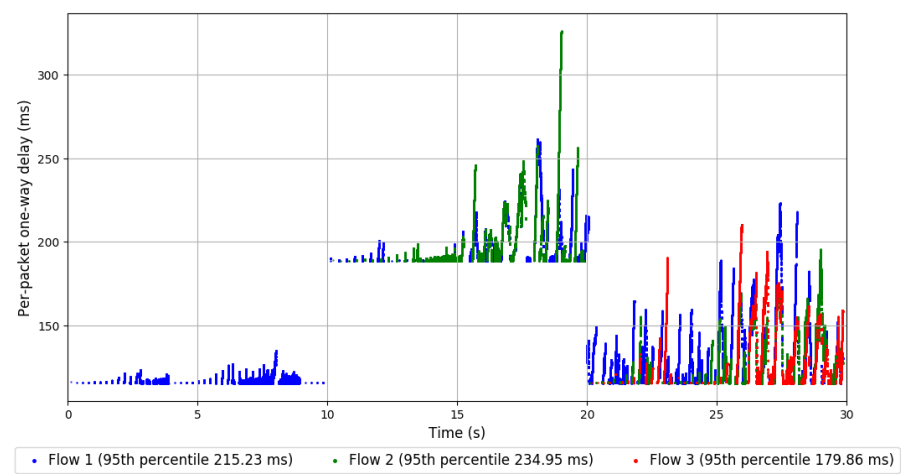
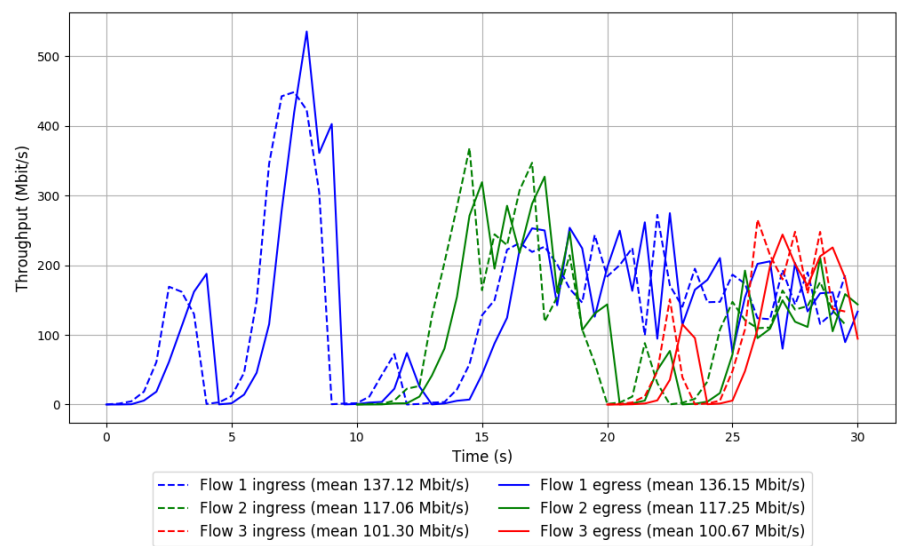Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-05-22 14:52:41
End at: 2018-05-22 14:53:11
Local clock offset: -0.297 ms
Remote clock offset: 0.015 ms


# Below is generated by plot.py at 2018-05-22 18:27:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 208.88 Mbit/s
95th percentile per-packet one-way delay: 209.639 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 97.61 Mbit/s
95th percentile per-packet one-way delay: 160.561 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 140.63 Mbit/s
95th percentile per-packet one-way delay: 218.991 ms
Loss rate: 3.25%
-- Flow 3:
Average throughput: 56.42 Mbit/s
95th percentile per-packet one-way delay: 251.433 ms
Loss rate: 0.84%
```

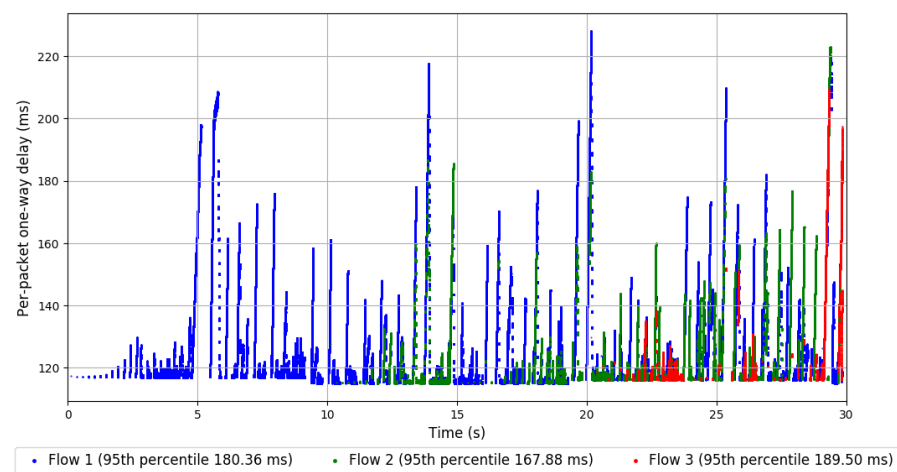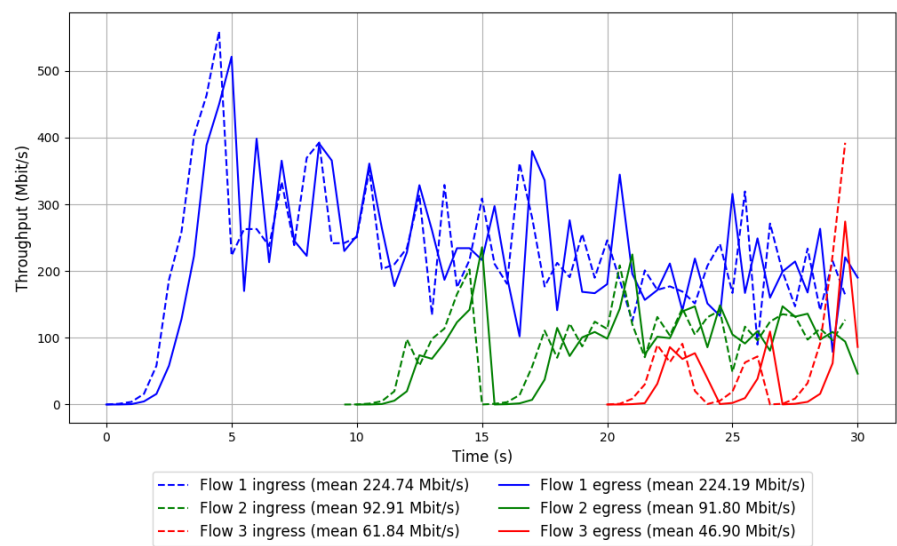Run 5: Report of Verus — Data Link

```
Run 6: Statistics of Verus

Start at: 2018-05-22 15:15:48
End at: 2018-05-22 15:16:18
Local clock offset: 0.079 ms
Remote clock offset: -0.004 ms


# Below is generated by plot.py at 2018-05-22 18:27:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 246.35 Mbit/s
95th percentile per-packet one-way delay: 221.377 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 136.15 Mbit/s
95th percentile per-packet one-way delay: 215.226 ms
Loss rate: 1.47%
-- Flow 2:
Average throughput: 117.25 Mbit/s
95th percentile per-packet one-way delay: 234.949 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 100.67 Mbit/s
95th percentile per-packet one-way delay: 179.859 ms
Loss rate: 2.83%
```

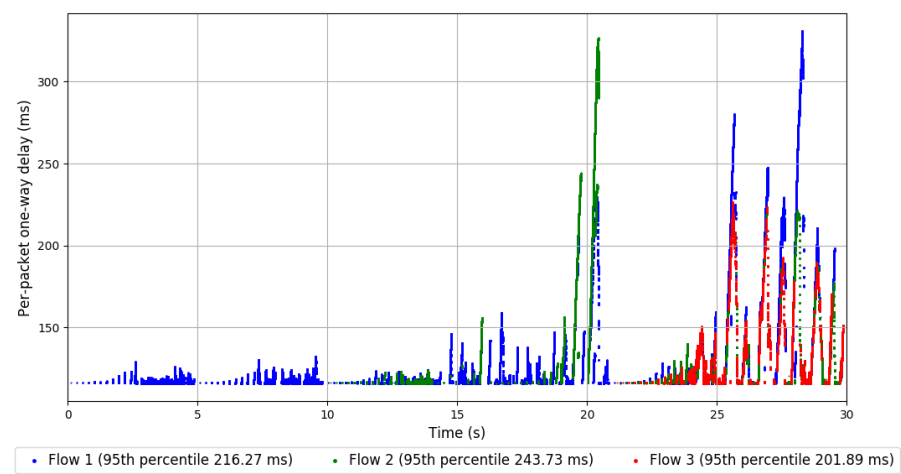# Run 6: Report of Verus — Data Link

```
Run 7: Statistics of Verus

Start at: 2018-05-22 15:39:38
End at: 2018-05-22 15:40:08
Local clock offset: 0.193 ms
Remote clock offset: -0.055 ms

# Below is generated by plot.py at 2018-05-22 18:29:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 300.36 Mbit/s
95th percentile per-packet one-way delay: 178.430 ms
Loss rate: 2.36%
-- Flow 1:
Average throughput: 224.19 Mbit/s
95th percentile per-packet one-way delay: 180.362 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 91.80 Mbit/s
95th percentile per-packet one-way delay: 167.881 ms
Loss rate: 2.37%
-- Flow 3:
Average throughput: 46.90 Mbit/s
95th percentile per-packet one-way delay: 189.500 ms
Loss rate: 25.19%
```

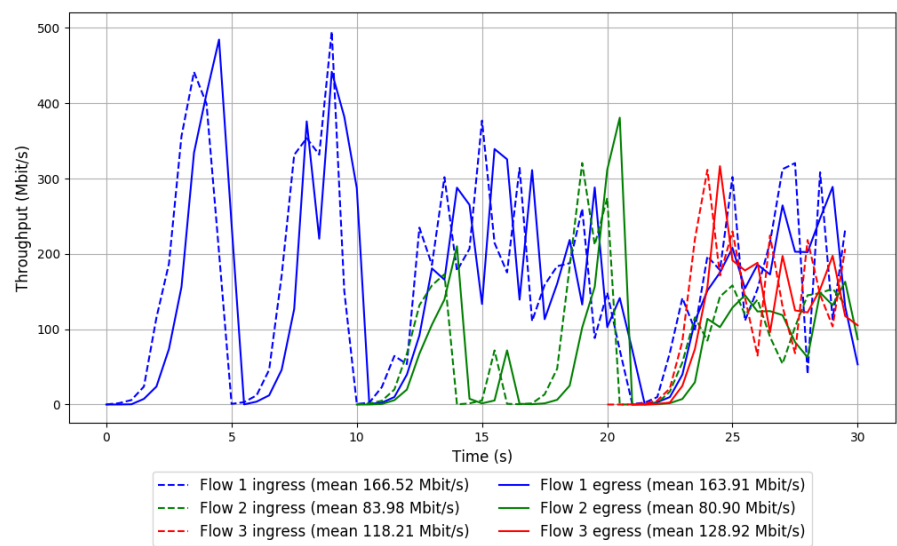Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2018-05-22 16:03:41
End at: 2018-05-22 16:04:11
Local clock offset: -0.232 ms
Remote clock offset: 0.358 ms


# Below is generated by plot.py at 2018-05-22 18:30:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 255.33 Mbit/s
95th percentile per-packet one-way delay: 219.945 ms
Loss rate: 3.12%
-- Flow 1:
Average throughput: 163.91 Mbit/s
95th percentile per-packet one-way delay: 216.267 ms
Loss rate: 2.28%
-- Flow 2:
Average throughput: 80.90 Mbit/s
95th percentile per-packet one-way delay: 243.728 ms
Loss rate: 4.76%
-- Flow 3:
Average throughput: 128.92 Mbit/s
95th percentile per-packet one-way delay: 201.893 ms
Loss rate: 4.39%
```
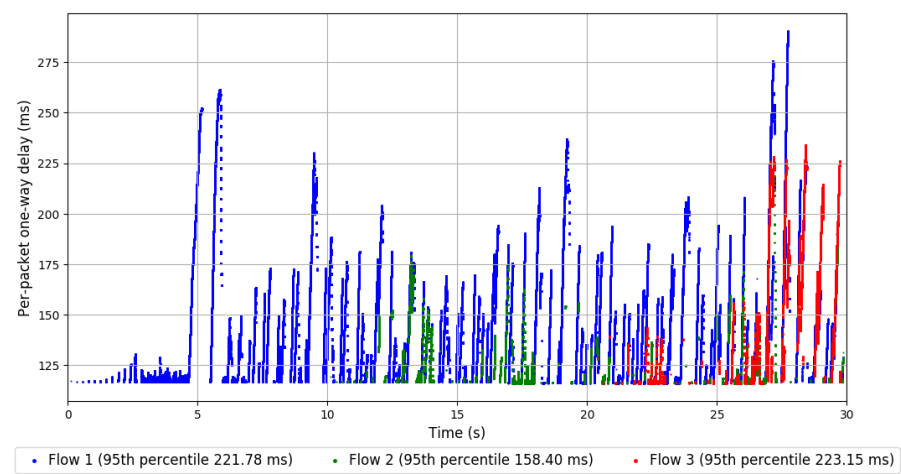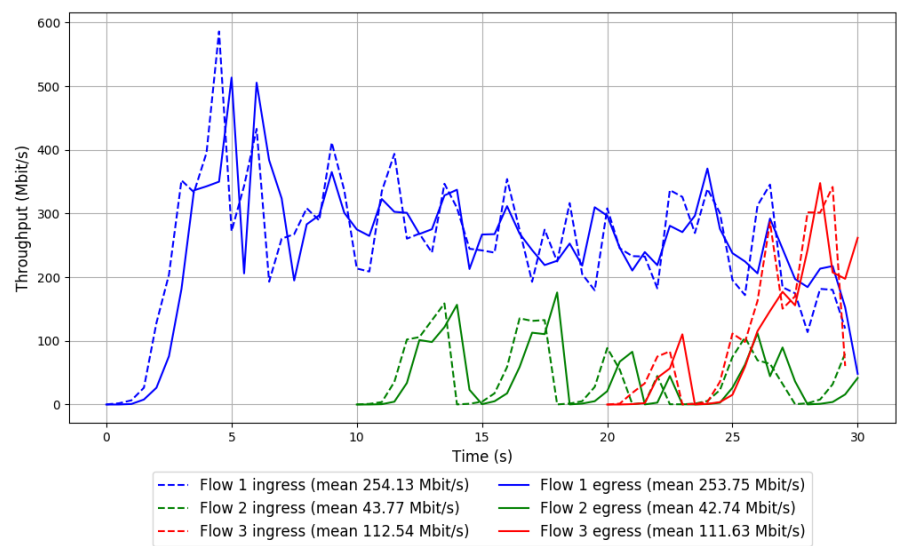
Run 8: Report of Verus — Data Link

Flow 1 ingress (mean 166.52 Mbit/s)   Flow 1 egress (mean 163.91 Mbit/s)
Flow 2 ingress (mean 83.98 Mbit/s)   Flow 2 egress (mean 80.90 Mbit/s)
Flow 3 ingress (mean 118.21 Mbit/s)   Flow 3 egress (mean 128.92 Mbit/s)

Flow 1 (95th percentile 216.27 ms)   Flow 2 (95th percentile 243.73 ms)   Flow 3 (95th percentile 201.89 ms)

```
Run 9: Statistics of Verus

Start at: 2018-05-22 16:27:41
End at: 2018-05-22 16:28:11
Local clock offset: 0.093 ms
Remote clock offset: -0.036 ms


# Below is generated by plot.py at 2018-05-22 18:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 318.13 Mbit/s
95th percentile per-packet one-way delay: 220.176 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 253.75 Mbit/s
95th percentile per-packet one-way delay: 221.775 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 42.74 Mbit/s
95th percentile per-packet one-way delay: 158.397 ms
Loss rate: 3.48%
-- Flow 3:
Average throughput: 111.63 Mbit/s
95th percentile per-packet one-way delay: 223.146 ms
Loss rate: 4.14%
```
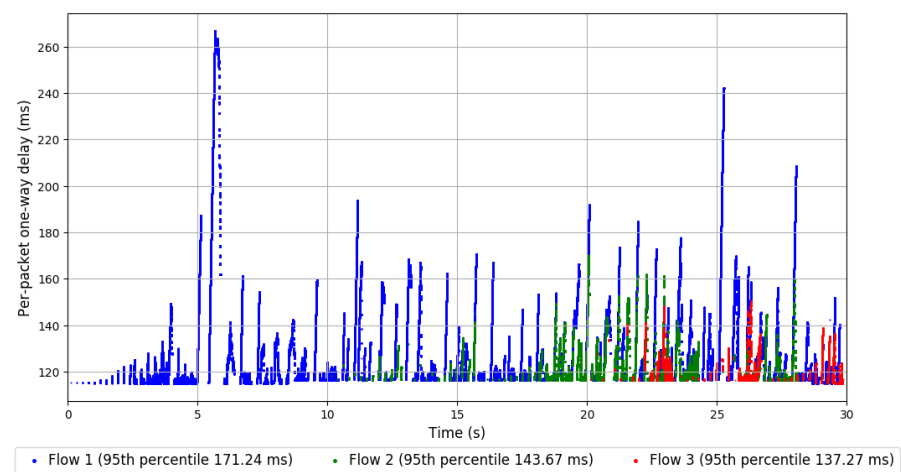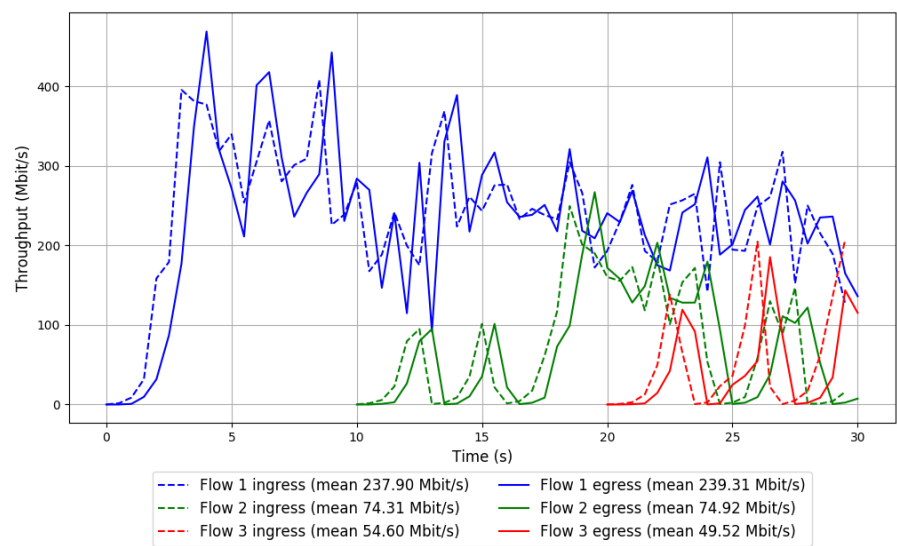
Run 9: Report of Verus — Data Link

```
Run 10: Statistics of Verus

Start at: 2018-05-22 16:51:39
End at: 2018-05-22 16:52:09
Local clock offset: -0.062 ms
Remote clock offset: 0.011 ms


# Below is generated by plot.py at 2018-05-22 18:31:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 303.87 Mbit/s
95th percentile per-packet one-way delay: 164.942 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 239.31 Mbit/s
95th percentile per-packet one-way delay: 171.244 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 74.92 Mbit/s
95th percentile per-packet one-way delay: 143.670 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 49.52 Mbit/s
95th percentile per-packet one-way delay: 137.273 ms
Loss rate: 11.34%
```

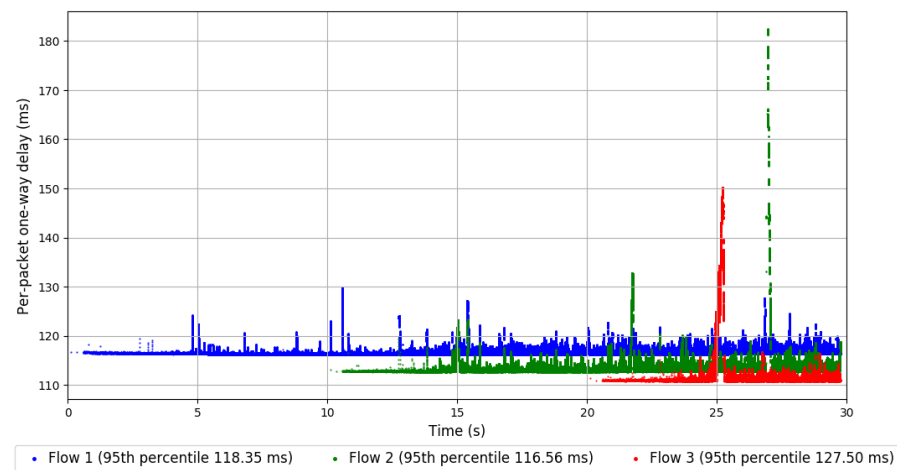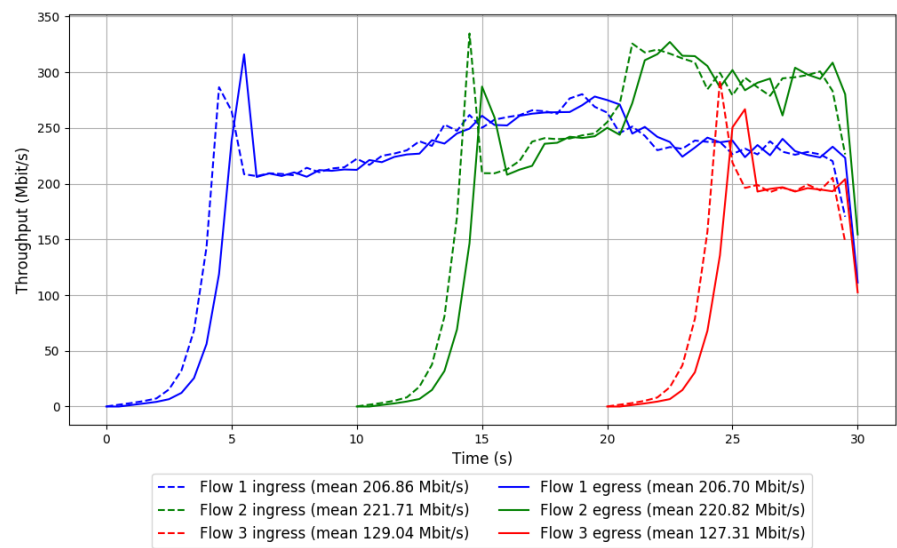Run 10: Report of Verus — Data Link

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```
Run 1: Statistics of PCC-Vivace

Start at: 2018-05-22 13:08:42
End at: 2018-05-22 13:09:12
Local clock offset: 0.185 ms
Remote clock offset: -0.413 ms


# Below is generated by plot.py at 2018-05-22 18:33:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 394.33 Mbit/s
95th percentile per-packet one-way delay: 118.205 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 206.70 Mbit/s
95th percentile per-packet one-way delay: 118.347 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 220.82 Mbit/s
95th percentile per-packet one-way delay: 116.564 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 127.31 Mbit/s
95th percentile per-packet one-way delay: 127.505 ms
Loss rate: 3.64%
```

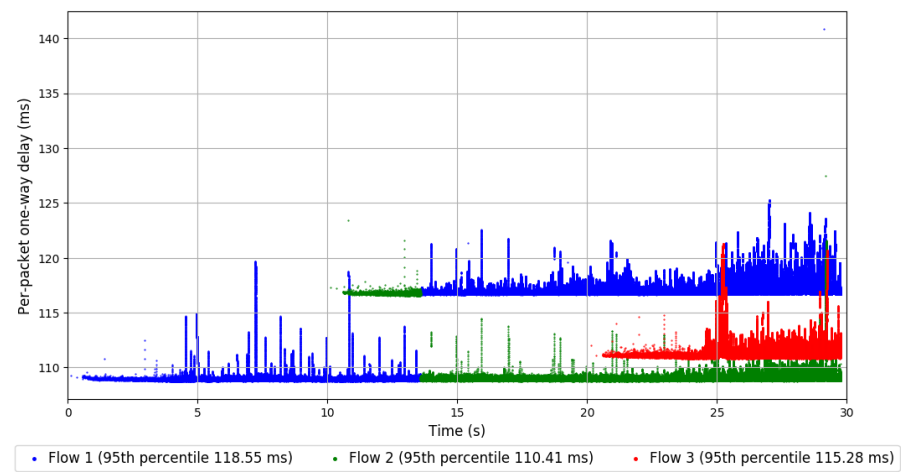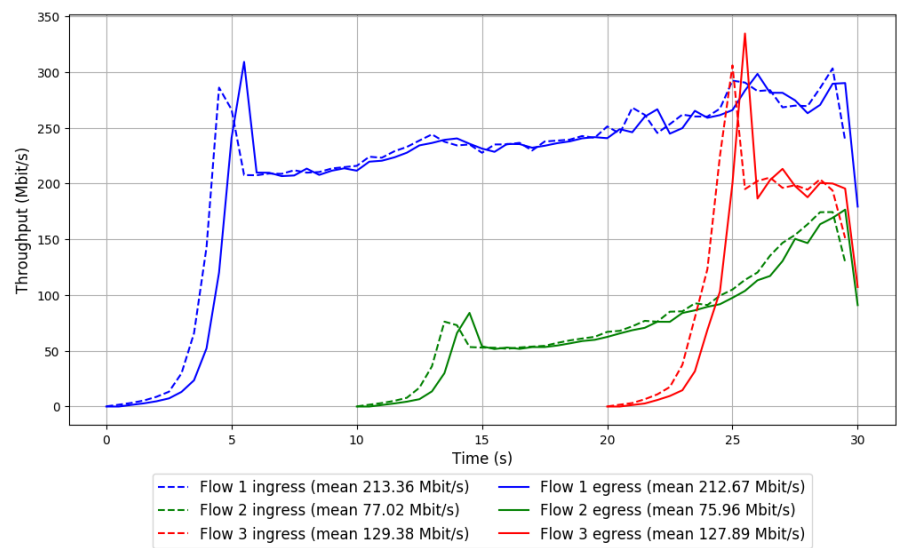## Run 1: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 206.86 Mbit/s) --- Flow 1 egress (mean 206.70 Mbit/s)
Flow 2 ingress (mean 221.71 Mbit/s) --- Flow 2 egress (mean 220.82 Mbit/s)
Flow 3 ingress (mean 129.04 Mbit/s) --- Flow 3 egress (mean 127.31 Mbit/s)

Flow 1 (95th percentile 118.35 ms)   Flow 2 (95th percentile 116.56 ms)   Flow 3 (95th percentile 127.50 ms)

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-05-22 13:32:14
End at: 2018-05-22 13:32:44
Local clock offset: -0.074 ms
Remote clock offset: -0.344 ms


# Below is generated by plot.py at 2018-05-22 18:33:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 304.50 Mbit/s
95th percentile per-packet one-way delay: 118.180 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 212.67 Mbit/s
95th percentile per-packet one-way delay: 118.552 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 75.96 Mbit/s
95th percentile per-packet one-way delay: 110.410 ms
Loss rate: 2.50%
-- Flow 3:
Average throughput: 127.89 Mbit/s
95th percentile per-packet one-way delay: 115.279 ms
Loss rate: 3.44%
```

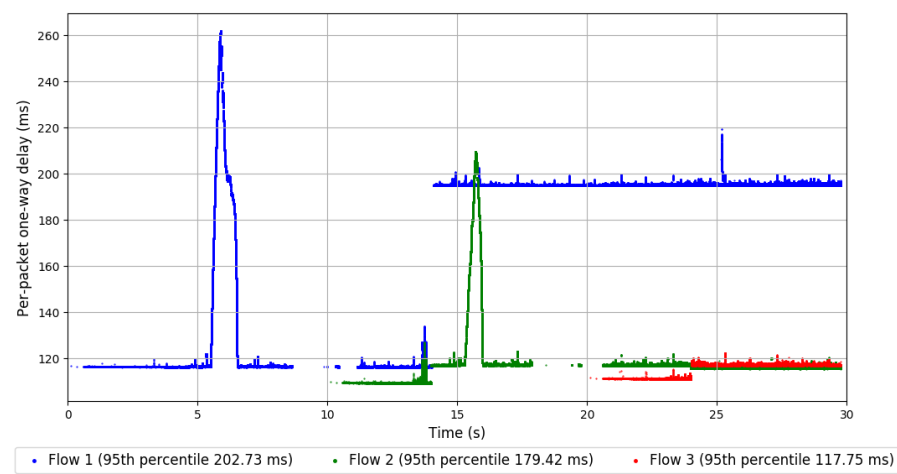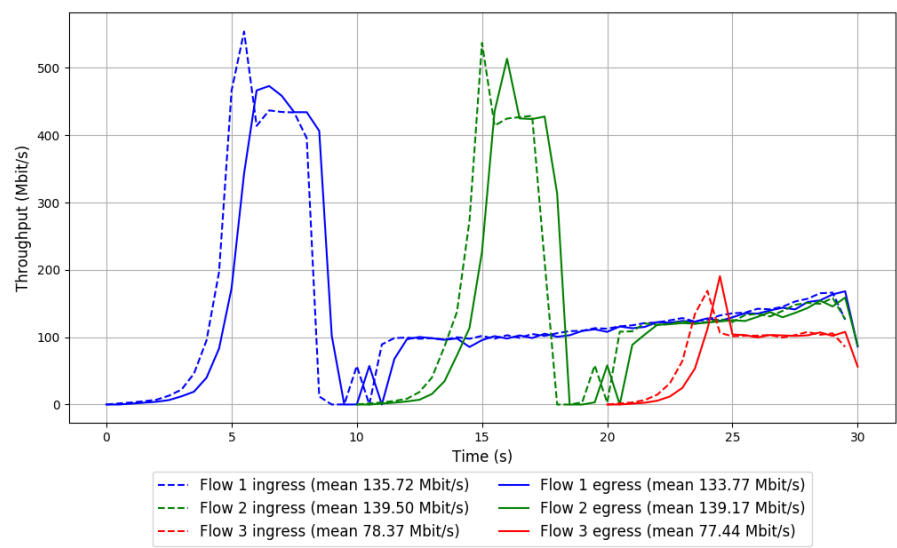## Run 2: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 213.36 Mbit/s) — Flow 1 egress (mean 212.67 Mbit/s)
Flow 2 ingress (mean 77.02 Mbit/s) — Flow 2 egress (mean 75.96 Mbit/s)
Flow 3 ingress (mean 129.38 Mbit/s) — Flow 3 egress (mean 127.89 Mbit/s)

Flow 1 (95th percentile 118.55 ms) • Flow 2 (95th percentile 110.41 ms) • Flow 3 (95th percentile 115.28 ms)

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-05-22 13:55:34
End at: 2018-05-22 13:56:04
Local clock offset: -0.367 ms
Remote clock offset: -0.337 ms


# Below is generated by plot.py at 2018-05-22 18:33:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 251.16 Mbit/s
95th percentile per-packet one-way delay: 196.597 ms
Loss rate: 2.02%
-- Flow 1:
Average throughput: 133.77 Mbit/s
95th percentile per-packet one-way delay: 202.730 ms
Loss rate: 2.20%
-- Flow 2:
Average throughput: 139.17 Mbit/s
95th percentile per-packet one-way delay: 179.422 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 77.44 Mbit/s
95th percentile per-packet one-way delay: 117.748 ms
Loss rate: 3.45%
```
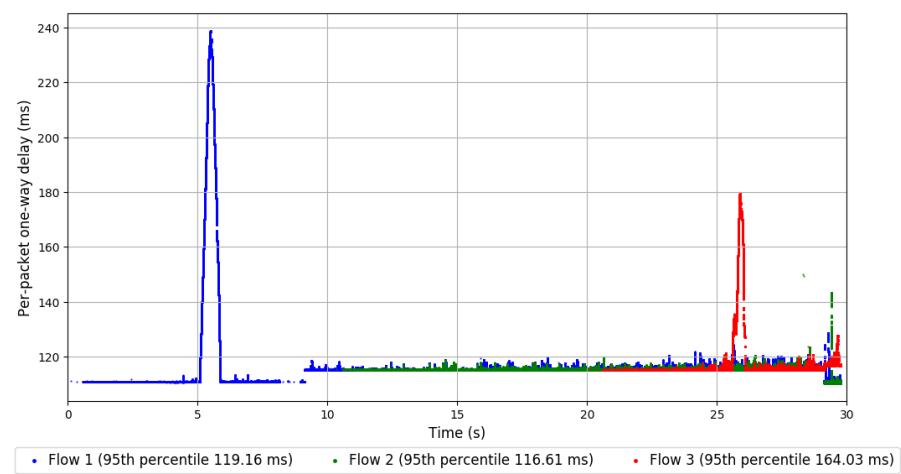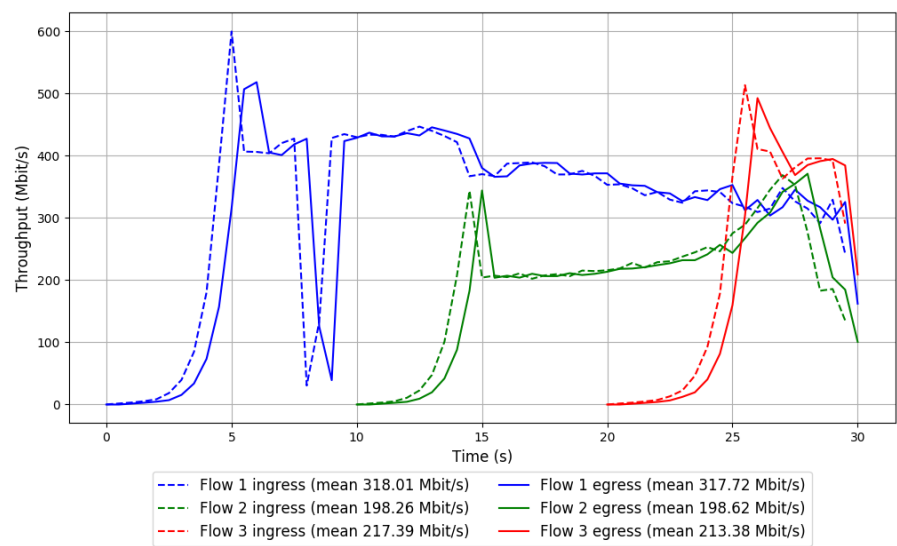
Run 3: Report of PCC-Vivace — Data Link

- - - - Flow 1 ingress (mean 135.72 Mbit/s) ——— Flow 1 egress (mean 133.77 Mbit/s)
- - - - Flow 2 ingress (mean 139.50 Mbit/s) ——— Flow 2 egress (mean 139.17 Mbit/s)
- - - - Flow 3 ingress (mean 78.37 Mbit/s) ——— Flow 3 egress (mean 77.44 Mbit/s)

- Flow 1 (95th percentile 202.73 ms) - Flow 2 (95th percentile 179.42 ms) - Flow 3 (95th percentile 117.75 ms)

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-05-22 14:18:38
End at: 2018-05-22 14:19:08
Local clock offset: -0.506 ms
Remote clock offset: -0.02 ms


# Below is generated by plot.py at 2018-05-22 18:36:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 518.56 Mbit/s
95th percentile per-packet one-way delay: 119.750 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 317.72 Mbit/s
95th percentile per-packet one-way delay: 119.159 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 198.62 Mbit/s
95th percentile per-packet one-way delay: 116.615 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 213.38 Mbit/s
95th percentile per-packet one-way delay: 164.026 ms
Loss rate: 4.16%
```
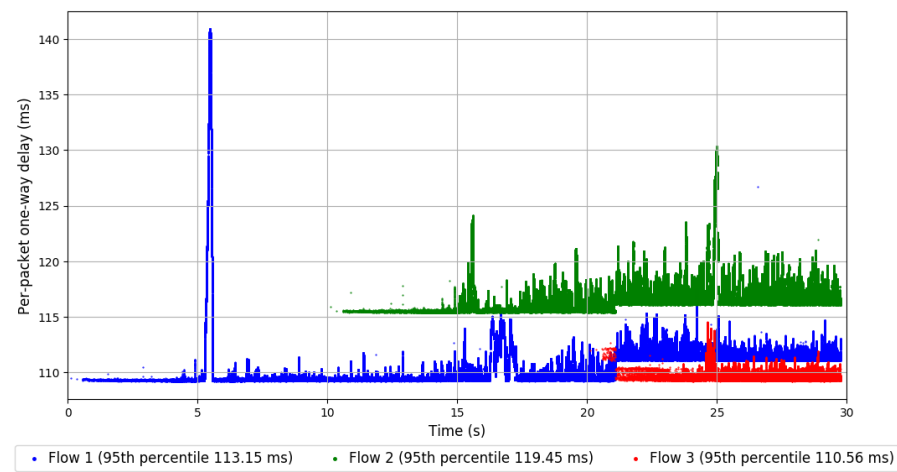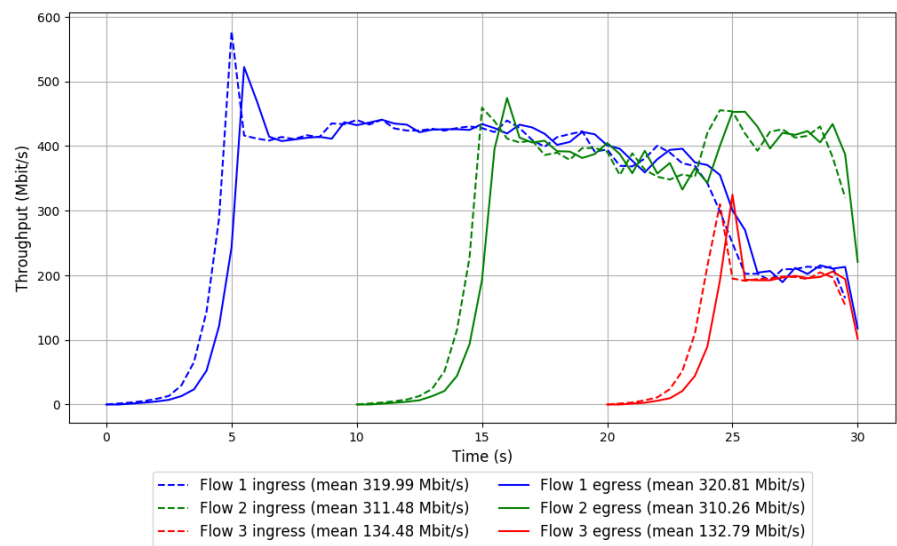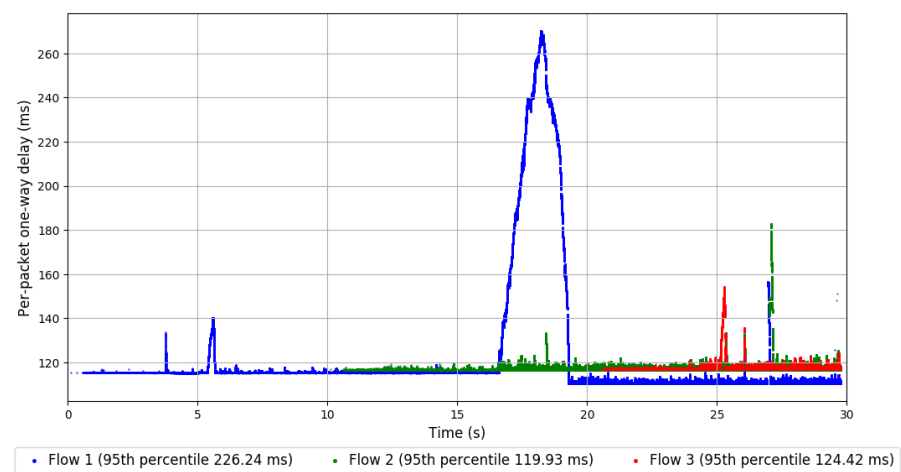
Run 4: Report of PCC-Vivace — Data Link

- ---- Flow 1 ingress (mean 318.01 Mbit/s)   —— Flow 1 egress (mean 317.72 Mbit/s)
- ---- Flow 2 ingress (mean 198.26 Mbit/s)   —— Flow 2 egress (mean 198.62 Mbit/s)
- ---- Flow 3 ingress (mean 217.39 Mbit/s)   —— Flow 3 egress (mean 213.38 Mbit/s)

- Flow 1 (95th percentile 119.16 ms)   • Flow 2 (95th percentile 116.61 ms)   • Flow 3 (95th percentile 164.03 ms)
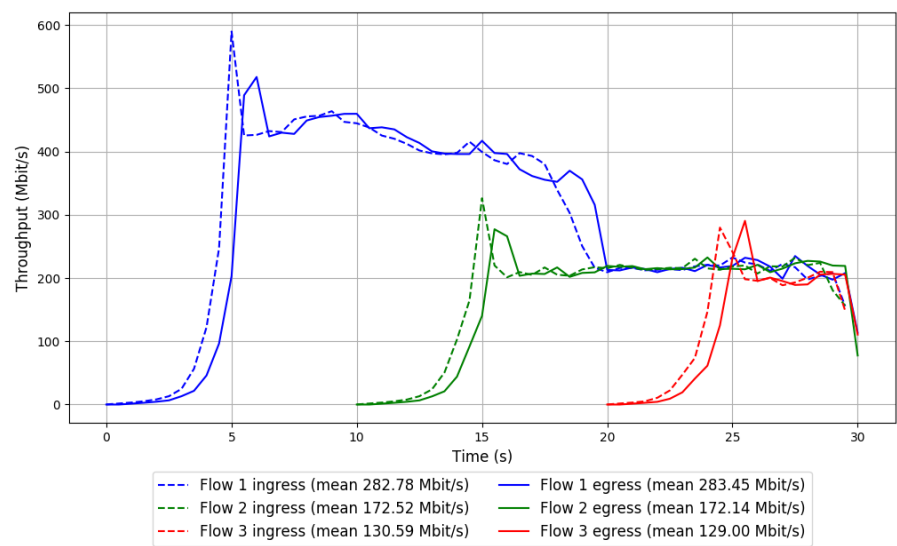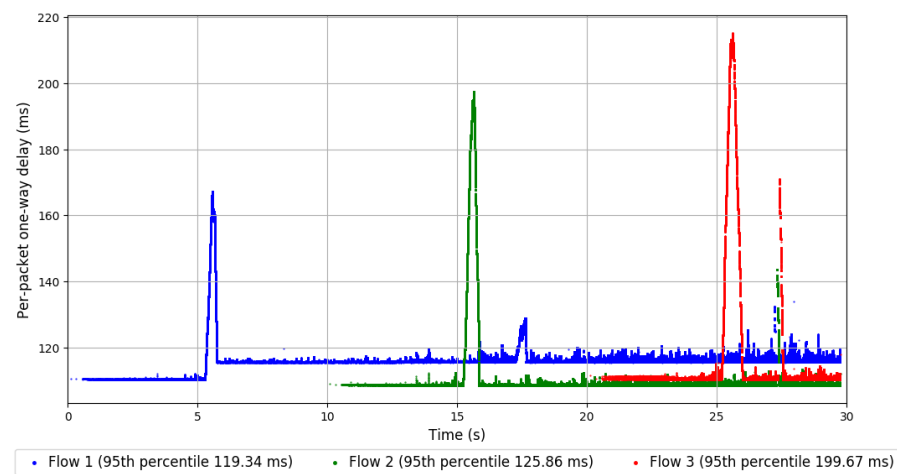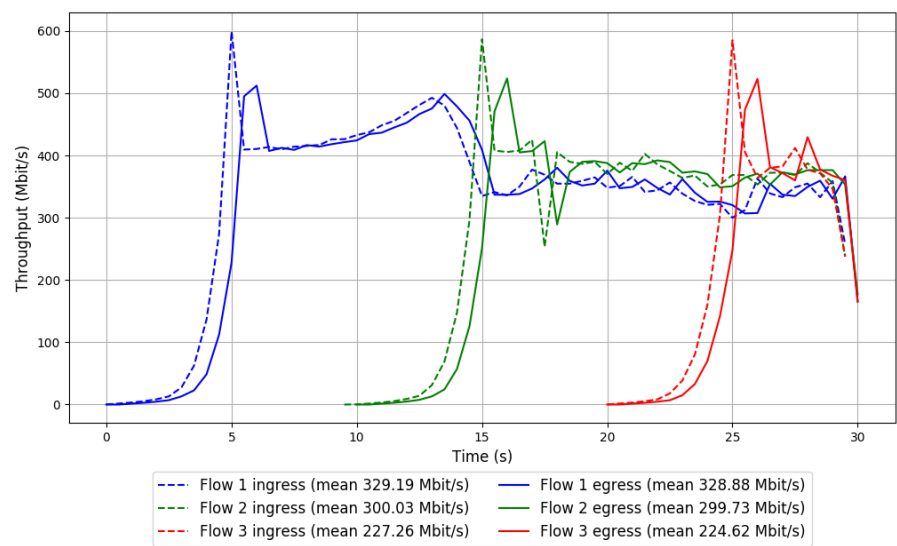
```
Run 5: Statistics of PCC-Vivace

Start at: 2018-05-22 14:42:37
End at: 2018-05-22 14:43:07
Local clock offset: -0.602 ms
Remote clock offset: -0.39 ms


# Below is generated by plot.py at 2018-05-22 18:37:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 569.41 Mbit/s
95th percentile per-packet one-way delay: 118.193 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 320.81 Mbit/s
95th percentile per-packet one-way delay: 113.147 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 310.26 Mbit/s
95th percentile per-packet one-way delay: 119.447 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 132.79 Mbit/s
95th percentile per-packet one-way delay: 110.562 ms
Loss rate: 3.54%
```

Run 5: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 319.99 Mbit/s) Flow 1 egress (mean 320.81 Mbit/s)
Flow 2 ingress (mean 311.48 Mbit/s) Flow 2 egress (mean 310.26 Mbit/s)
Flow 3 ingress (mean 134.48 Mbit/s) Flow 3 egress (mean 132.79 Mbit/s)

Flow 1 (95th percentile 113.15 ms) Flow 2 (95th percentile 119.45 ms) Flow 3 (95th percentile 110.56 ms)

```
Run 6: Statistics of PCC-Vivace

Start at: 2018-05-22 15:05:51
End at: 2018-05-22 15:06:21
Local clock offset: 0.092 ms
Remote clock offset: -0.379 ms


# Below is generated by plot.py at 2018-05-22 18:37:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 439.36 Mbit/s
95th percentile per-packet one-way delay: 184.896 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 283.45 Mbit/s
95th percentile per-packet one-way delay: 226.243 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 172.14 Mbit/s
95th percentile per-packet one-way delay: 119.932 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 129.00 Mbit/s
95th percentile per-packet one-way delay: 124.420 ms
Loss rate: 3.51%
```

Run 6: Report of PCC-Vivace — Data Link

```
Run 7: Statistics of PCC-Vivace

Start at: 2018-05-22 15:29:22
End at: 2018-05-22 15:29:52
Local clock offset: -0.148 ms
Remote clock offset: -0.037 ms


# Below is generated by plot.py at 2018-05-22 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 600.61 Mbit/s
95th percentile per-packet one-way delay: 128.772 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 328.88 Mbit/s
95th percentile per-packet one-way delay: 119.343 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 299.73 Mbit/s
95th percentile per-packet one-way delay: 125.865 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 224.62 Mbit/s
95th percentile per-packet one-way delay: 199.674 ms
Loss rate: 3.33%
```
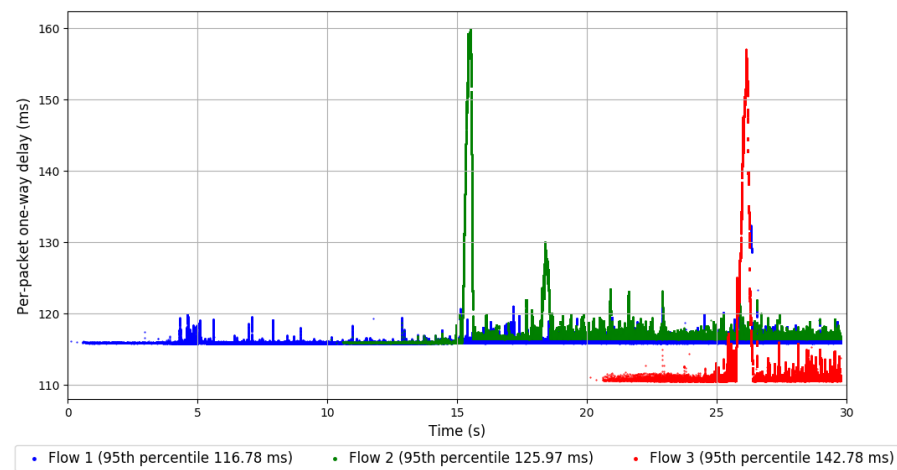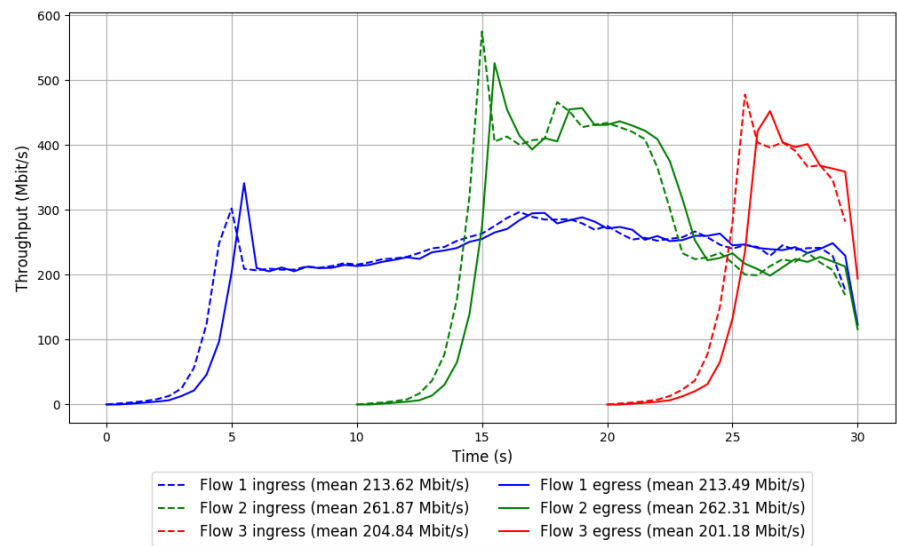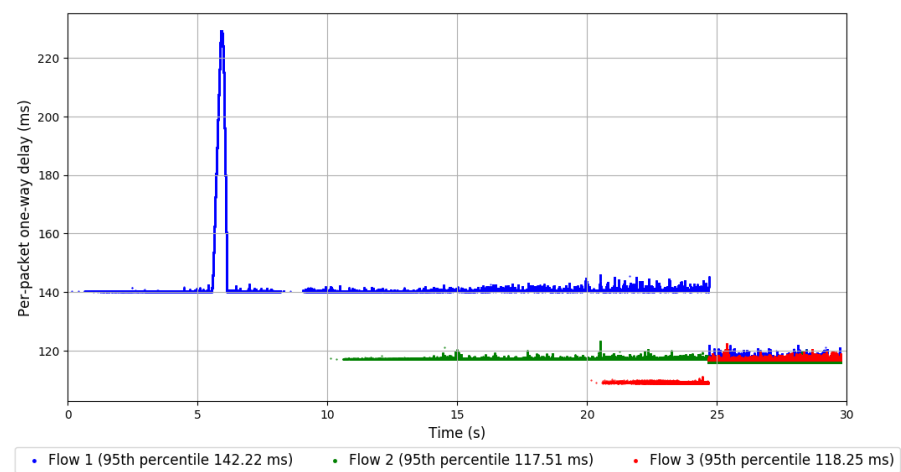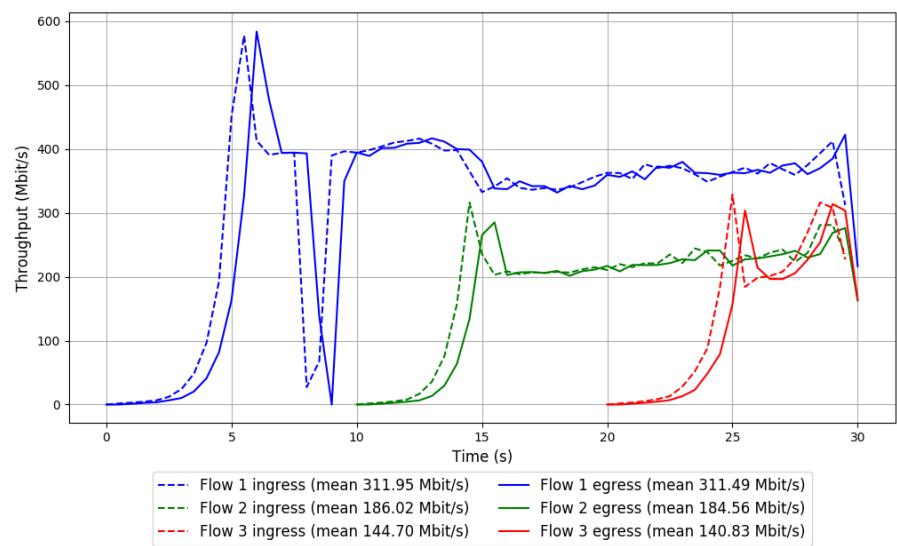
Run 7: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 329.19 Mbit/s)   Flow 1 egress (mean 328.88 Mbit/s)
Flow 2 ingress (mean 300.03 Mbit/s)   Flow 2 egress (mean 299.73 Mbit/s)
Flow 3 ingress (mean 227.26 Mbit/s)   Flow 3 egress (mean 224.62 Mbit/s)

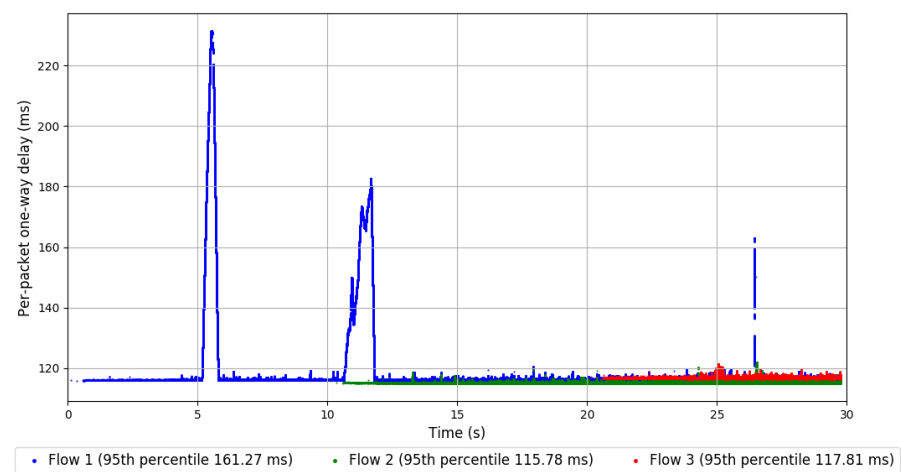Flow 1 (95th percentile 119.34 ms)   Flow 2 (95th percentile 125.86 ms)   Flow 3 (95th percentile 199.67 ms)

```
Run 8: Statistics of PCC-Vivace

Start at: 2018-05-22 15:53:32
End at: 2018-05-22 15:54:02
Local clock offset: 0.028 ms
Remote clock offset: 0.014 ms


# Below is generated by plot.py at 2018-05-22 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 452.54 Mbit/s
95th percentile per-packet one-way delay: 120.328 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 213.49 Mbit/s
95th percentile per-packet one-way delay: 116.775 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 262.31 Mbit/s
95th percentile per-packet one-way delay: 125.974 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 201.18 Mbit/s
95th percentile per-packet one-way delay: 142.775 ms
Loss rate: 4.00%
```
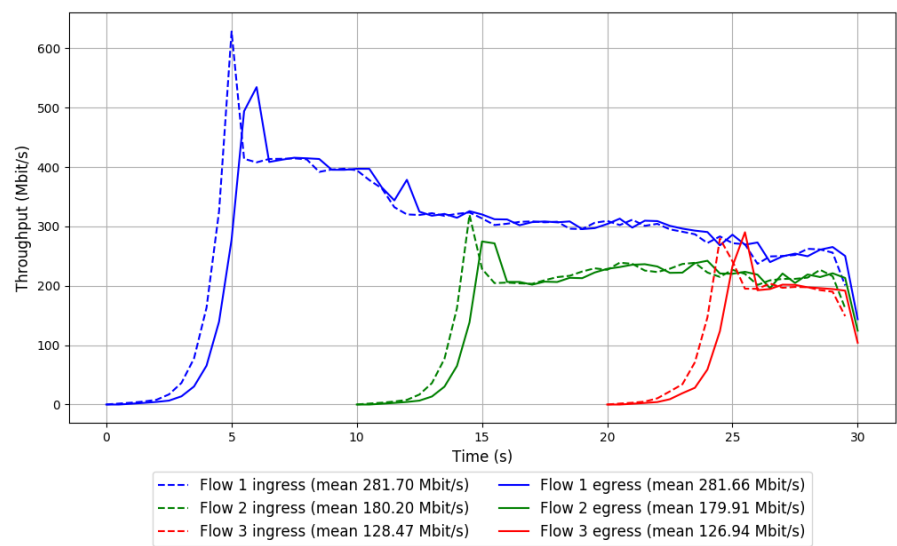
Run 8: Report of PCC-Vivace — Data Link

```
Run 9: Statistics of PCC-Vivace

Start at: 2018-05-22 16:17:23
End at: 2018-05-22 16:17:53
Local clock offset: 0.209 ms
Remote clock offset: -0.041 ms


# Below is generated by plot.py at 2018-05-22 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 479.64 Mbit/s
95th percentile per-packet one-way delay: 141.256 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 311.49 Mbit/s
95th percentile per-packet one-way delay: 142.215 ms
Loss rate: 0.99%
-- Flow 2:
Average throughput: 184.56 Mbit/s
95th percentile per-packet one-way delay: 117.514 ms
Loss rate: 1.93%
-- Flow 3:
Average throughput: 140.83 Mbit/s
95th percentile per-packet one-way delay: 118.248 ms
Loss rate: 4.86%
```

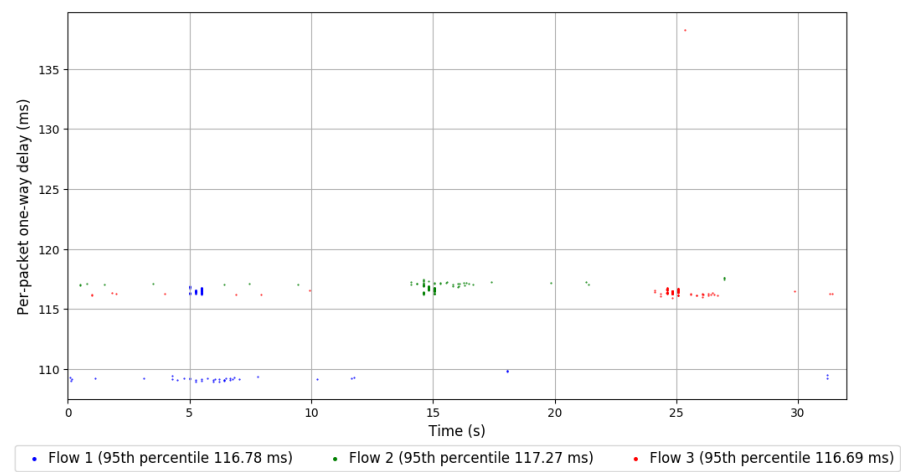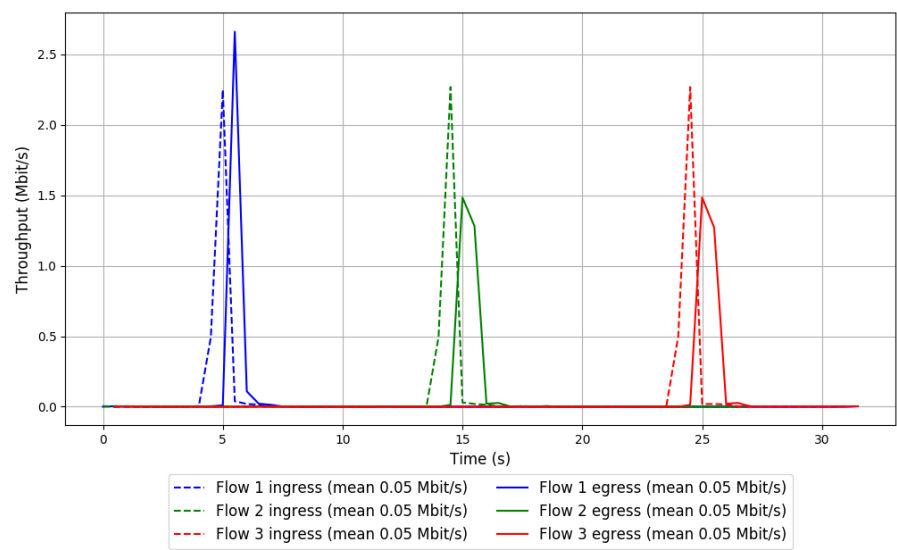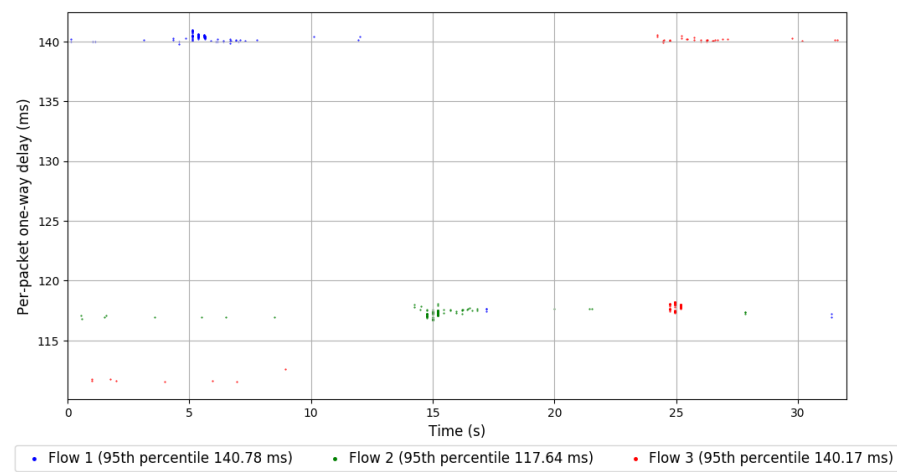## Run 9: Report of PCC-Vivace — Data Link

```
Run 10: Statistics of PCC-Vivace

Start at: 2018-05-22 16:41:37
End at: 2018-05-22 16:42:07
Local clock offset: -0.085 ms
Remote clock offset: -0.051 ms


# Below is generated by plot.py at 2018-05-22 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 442.04 Mbit/s
95th percentile per-packet one-way delay: 133.846 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 281.66 Mbit/s
95th percentile per-packet one-way delay: 161.266 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 179.91 Mbit/s
95th percentile per-packet one-way delay: 115.783 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 126.94 Mbit/s
95th percentile per-packet one-way delay: 117.812 ms
Loss rate: 3.48%
```

Run 10: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 281.70 Mbit/s) --- Flow 1 egress (mean 281.66 Mbit/s)
Flow 2 ingress (mean 180.20 Mbit/s) --- Flow 2 egress (mean 179.91 Mbit/s)
Flow 3 ingress (mean 128.47 Mbit/s) --- Flow 3 egress (mean 126.94 Mbit/s)

Flow 1 (95th percentile 161.27 ms) Flow 2 (95th percentile 115.78 ms) Flow 3 (95th percentile 117.81 ms)
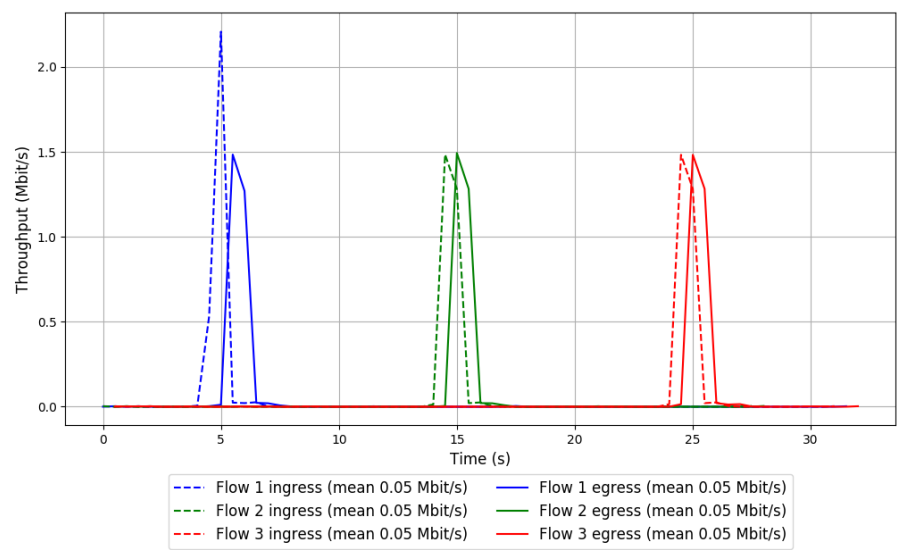
303

```
Run 1: Statistics of WebRTC media

Start at: 2018-05-22 13:20:17
End at: 2018-05-22 13:20:47
Local clock offset: 0.256 ms
Remote clock offset: -0.087 ms


# Below is generated by plot.py at 2018-05-22 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 117.112 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 116.777 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 117.268 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 116.689 ms
Loss rate: 0.00%
```

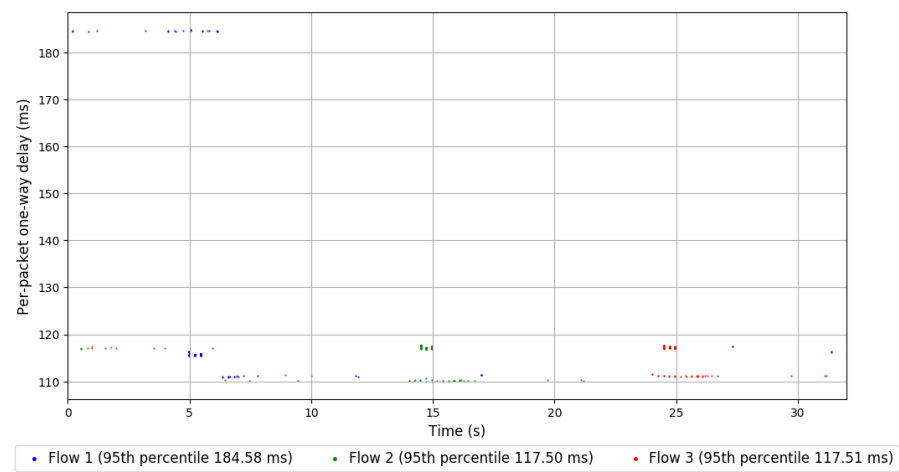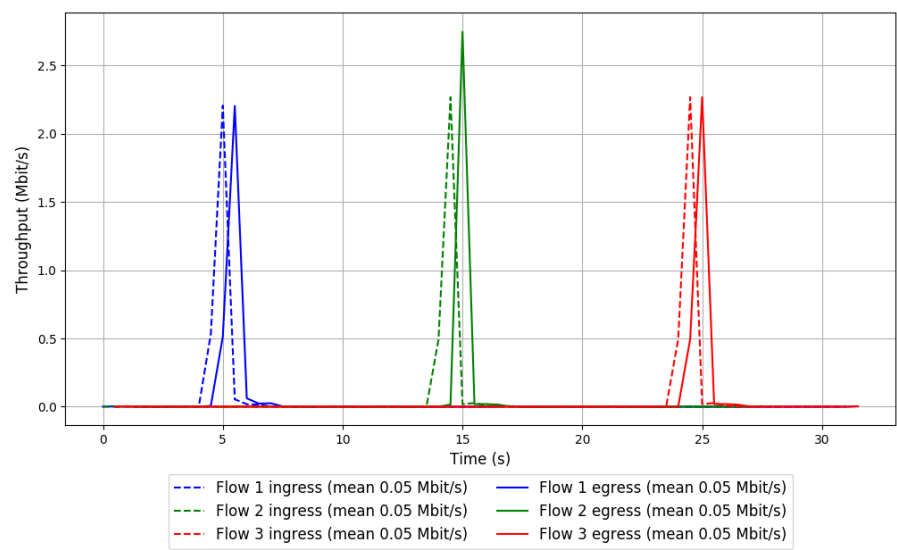Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-05-22 13:43:38
End at: 2018-05-22 13:44:08
Local clock offset: 0.098 ms
Remote clock offset: -0.348 ms


# Below is generated by plot.py at 2018-05-22 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 140.522 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 140.785 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 117.639 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 140.173 ms
Loss rate: 0.00%
```

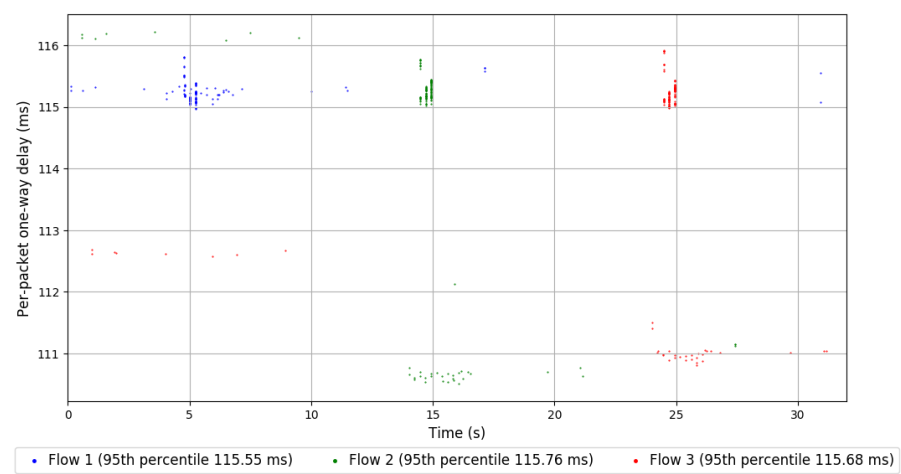Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-05-22 14:06:45
End at: 2018-05-22 14:07:15
Local clock offset: -0.436 ms
Remote clock offset: -0.327 ms


# Below is generated by plot.py at 2018-05-22 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 117.564 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 184.578 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 117.496 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 117.508 ms
Loss rate: 0.00%
```

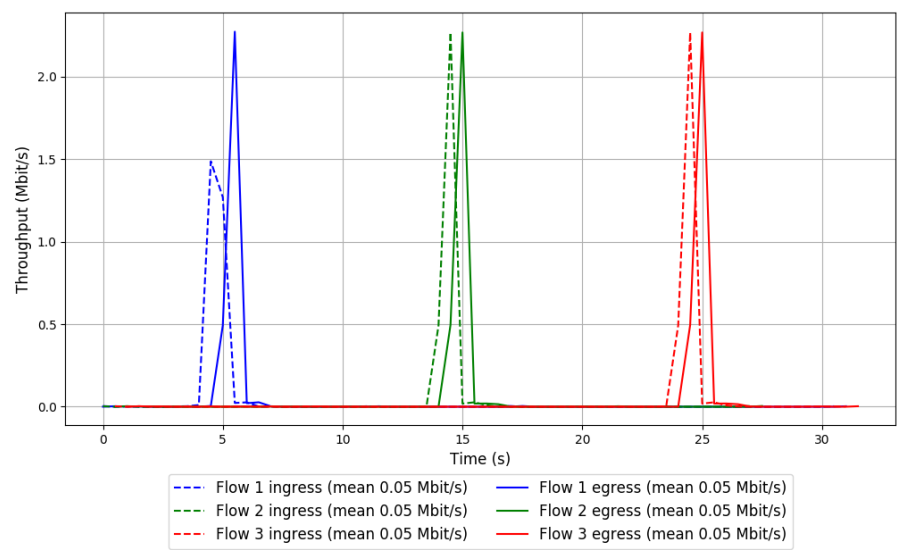Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-05-22 14:30:21
End at: 2018-05-22 14:30:51
Local clock offset: -0.627 ms
Remote clock offset: -0.047 ms


# Below is generated by plot.py at 2018-05-22 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 115.684 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 115.554 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 115.763 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 115.681 ms
Loss rate: 0.00%
```

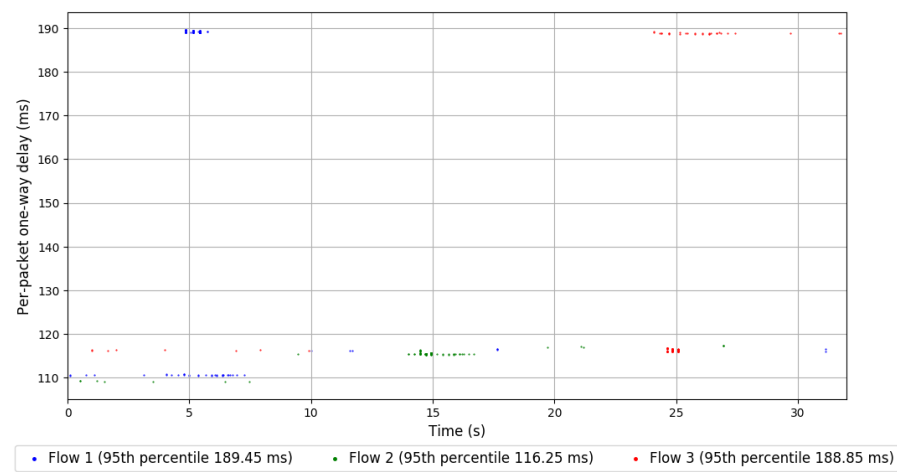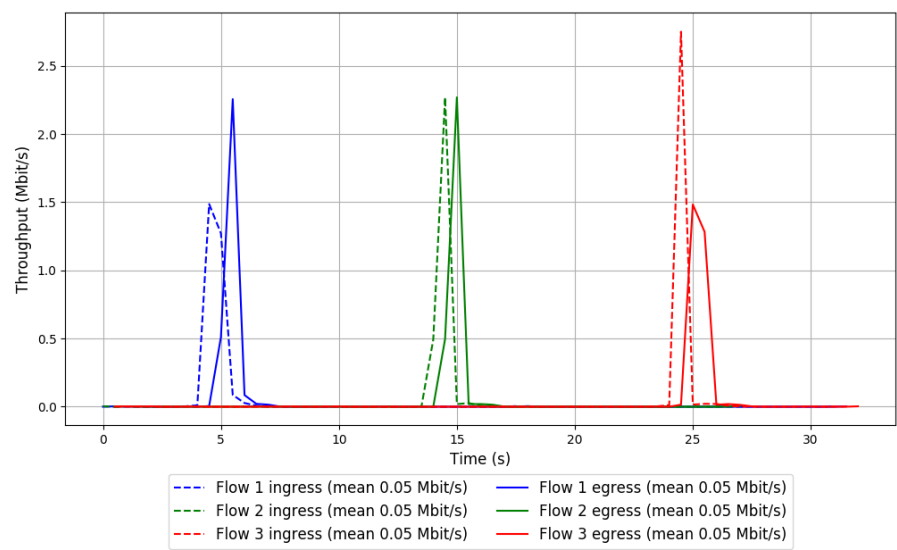# Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-05-22 14:54:12
End at: 2018-05-22 14:54:42
Local clock offset: -0.325 ms
Remote clock offset: -0.363 ms


# Below is generated by plot.py at 2018-05-22 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 189.327 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 189.449 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 116.248 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 188.851 ms
Loss rate: 0.00%
```

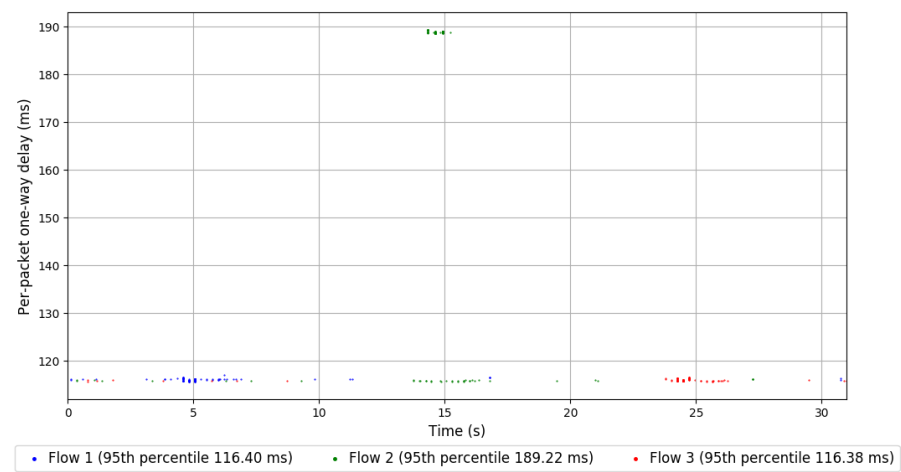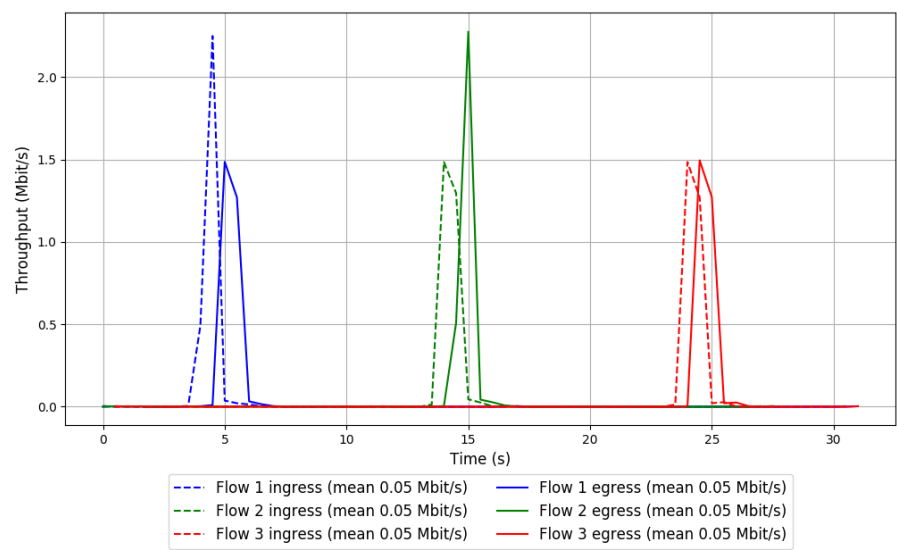Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2018-05-22 15:17:22
End at: 2018-05-22 15:17:52
Local clock offset: -0.096 ms
Remote clock offset: -0.015 ms


# Below is generated by plot.py at 2018-05-22 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 188.882 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 116.402 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 189.218 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 116.379 ms
Loss rate: 0.00%
```

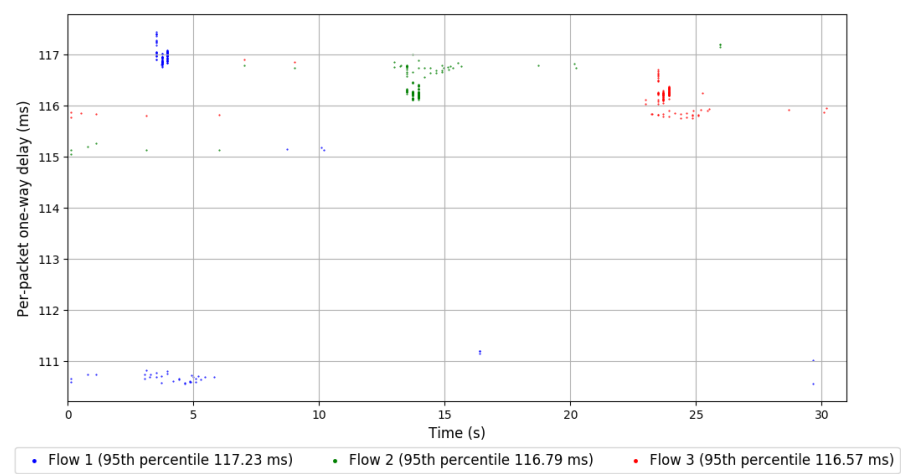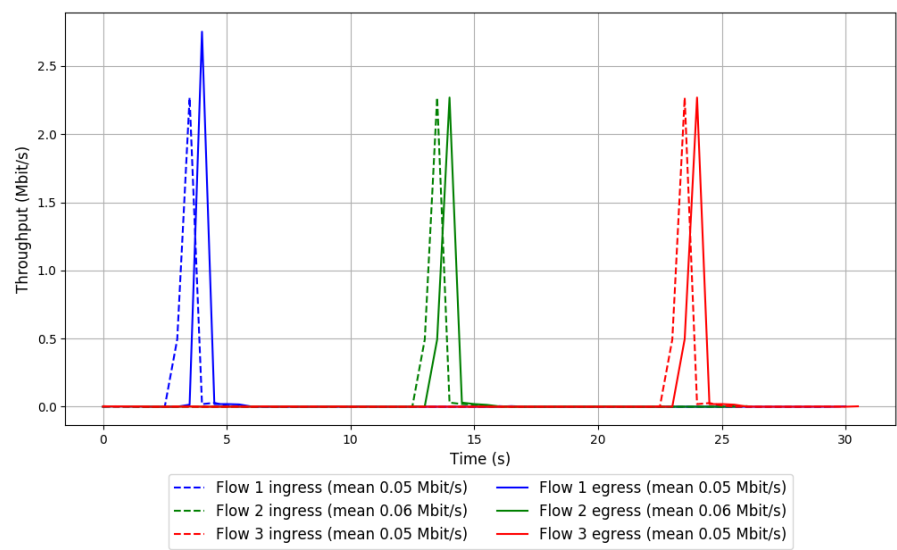# Run 6: Report of WebRTC media — Data Link

```
Run 7: Statistics of WebRTC media

Start at: 2018-05-22 15:41:14
End at: 2018-05-22 15:41:44
Local clock offset: -0.22 ms
Remote clock offset: -0.393 ms


# Below is generated by plot.py at 2018-05-22 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 117.046 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 117.228 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 116.794 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 116.572 ms
Loss rate: 0.00%
```

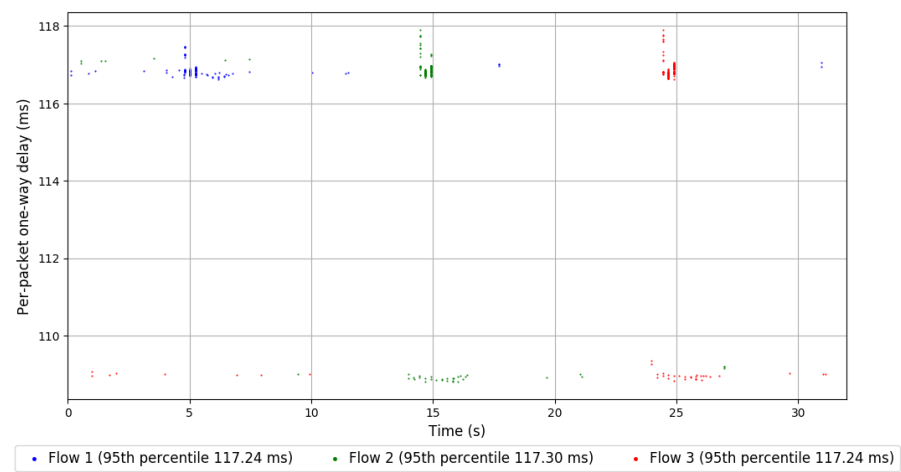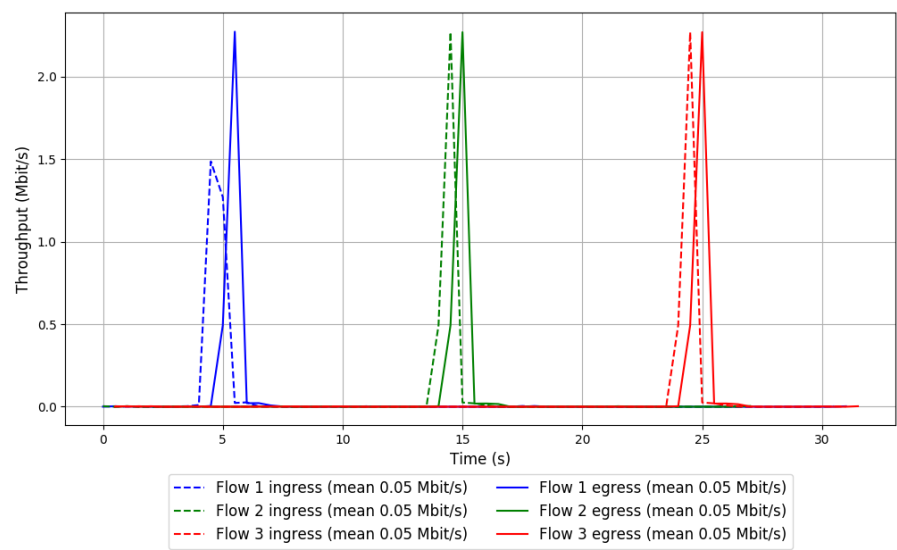Run 7: Report of WebRTC media — Data Link

```
Run 8: Statistics of WebRTC media

Start at: 2018-05-22 16:05:14
End at: 2018-05-22 16:05:44
Local clock offset: 0.161 ms
Remote clock offset: -0.001 ms


# Below is generated by plot.py at 2018-05-22 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 117.256 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 117.239 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 117.296 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 117.240 ms
Loss rate: 0.00%
```

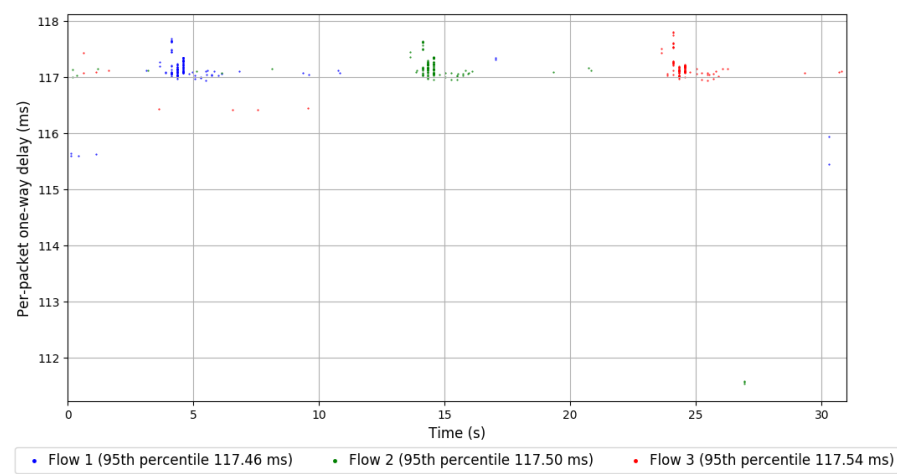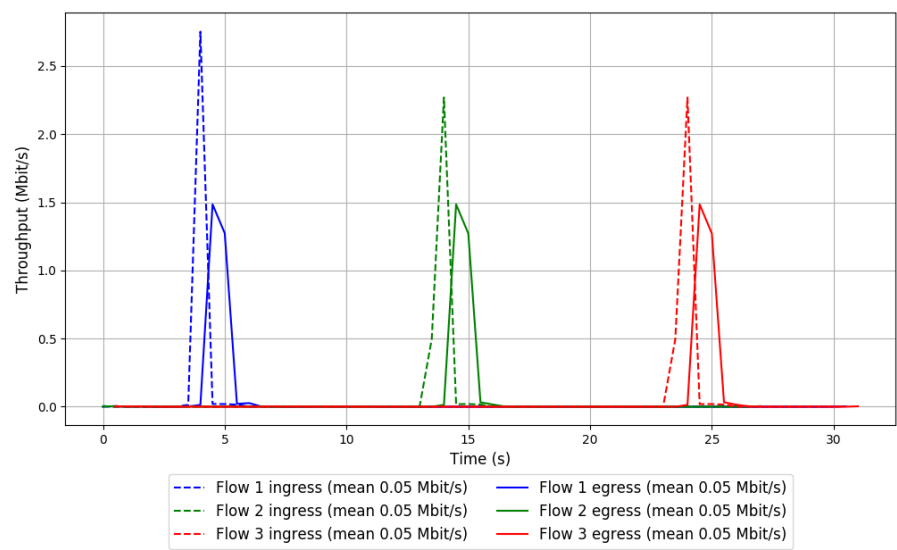## Run 8: Report of WebRTC media — Data Link

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```
Run 9: Statistics of WebRTC media

Start at: 2018-05-22 16:29:18
End at: 2018-05-22 16:29:48
Local clock offset: 0.022 ms
Remote clock offset: -0.403 ms


# Below is generated by plot.py at 2018-05-22 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 117.510 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 117.456 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 117.498 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 117.544 ms
Loss rate: 0.00%
```

Run 9: Report of WebRTC media — Data Link

```
Run 10: Statistics of WebRTC media

Start at: 2018-05-22 16:53:15
End at: 2018-05-22 16:53:45
Local clock offset: -0.083 ms
Remote clock offset: -0.446 ms


# Below is generated by plot.py at 2018-05-22 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 117.306 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 117.461 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 116.154 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 115.658 ms
Loss rate: 0.00%
```

Run 10: Report of WebRTC media — Data Link