

## Pantheon Report

Generated at 2018-11-30 18:43:35 (UTC).

Data path: Stanford on **eno1** (*remote*) → AWS California 1 on **ens5** (*local*).

Repeated the test of 19 congestion control schemes 5 times.

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

NTP offsets were measured against **time.stanford.edu** and have been applied to correct the timestamps in logs.

### System info:

```
Linux 4.15.0-1027-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ 7b6dad87cde3ab65f7c4052140eb54098aa58e9d
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
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-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
```

```
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

Scatter plot showing Average throughput (Mbit/s) vs 95th percentile one-way delay (ms) for various TCP variants. The plot shows a negative correlation between delay and throughput. TCP Cubic and PCC BBR are at the top left (high throughput, low delay). TCP Vegas and Copa are at the top right (high throughput, high delay). PCC-Allegro and Verus are in the middle left. Indigo, PCC-Vivace, and Indigo-96d2da3 are at the bottom right (low throughput, high delay).

TCP Variant	95th percentile one-way delay (ms)	Average throughput (Mbit/s)
TCP Cubic	~8.5	~950
PCC BBR	~7.5	~950
FillIP	~32	~850
PCC-Allegro	~32	~550
FillIP-Sheep	~8.5	~580
LED BAT	~4.5	~600
TCP Vegas	~1.5	~580
Copa	~1.5	~480
Verus	~3.5	~280
Indigo	~1.5	~300
PCC-Vivace	~1.5	~280
Indigo-96d2da3	~1.5	~250
PCC-Expr	~1.5	~200
QUIC Cubic	~1.5	~150
Sprout Muses	~1.5	~100
Taova-100X	~1.5	~80
SWBATC	~1.5	~50
VRBATC media	~1.5	~20



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	5	540.62	404.89	328.82	6.75	6.02	6.46	0.02	0.03	0.07
Copa	5	285.40	202.76	118.19	1.08	1.05	1.03	0.00	0.01	0.02
TCP Cubic	5	550.72	402.34	320.73	9.70	7.65	7.84	0.02	0.03	0.07
FillP	5	580.77	304.41	246.31	30.62	20.85	26.61	0.09	0.05	0.15
FillP-Sheep	5	423.22	204.83	39.47	8.25	4.42	3.62	0.00	0.01	0.00
Indigo	5	159.06	146.05	121.09	1.09	1.17	1.26	0.00	0.00	0.02
Indigo-96d2da3	5	128.73	114.59	114.10	1.08	1.08	1.09	0.01	0.00	0.01
LEDBAT	5	366.42	250.45	176.08	3.78	1.90	1.64	0.00	0.00	0.02
Indigo-Muses	5	43.39	42.87	47.56	1.00	0.99	0.96	0.01	0.01	0.01
PCC-Allegro	5	414.61	125.47	119.89	33.27	2.37	1.33	0.00	0.01	0.02
PCC-Expr	5	149.84	52.29	17.64	1.02	0.97	0.96	0.00	0.00	0.01
QUIC Cubic	5	74.41	67.64	56.83	1.10	1.09	1.08	0.00	0.01	0.02
SCReAM	5	0.22	0.22	0.22	1.13	1.12	1.11	0.00	0.00	0.07
Sprout	5	50.23	50.13	49.88	1.01	0.99	0.99	0.01	0.02	0.04
TaoVA-100x	5	34.47	31.32	38.48	1.08	1.07	1.08	0.00	0.01	0.02
TCP Vegas	5	290.66	284.50	269.38	1.17	1.21	1.24	0.01	0.01	0.02
Verus	5	179.39	106.46	70.99	2.43	1.60	1.29	0.00	0.00	0.01
PCC-Vivace	5	176.46	114.59	73.02	1.03	1.04	1.09	0.00	0.01	0.01
WebRTC media	5	1.58	1.08	0.44	1.04	1.03	1.03	0.02	0.00	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-11-30 15:25:54

End at: 2018-11-30 15:26:24

Local clock offset: 2.532 ms

Remote clock offset: 1.144 ms

# Below is generated by plot.py at 2018-11-30 17:55:58

# Datalink statistics

-- Total of 3 flows:

Average throughput: 927.64 Mbit/s

95th percentile per-packet one-way delay: 6.289 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 549.22 Mbit/s

95th percentile per-packet one-way delay: 6.404 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 404.25 Mbit/s

95th percentile per-packet one-way delay: 5.699 ms

Loss rate: 0.03%

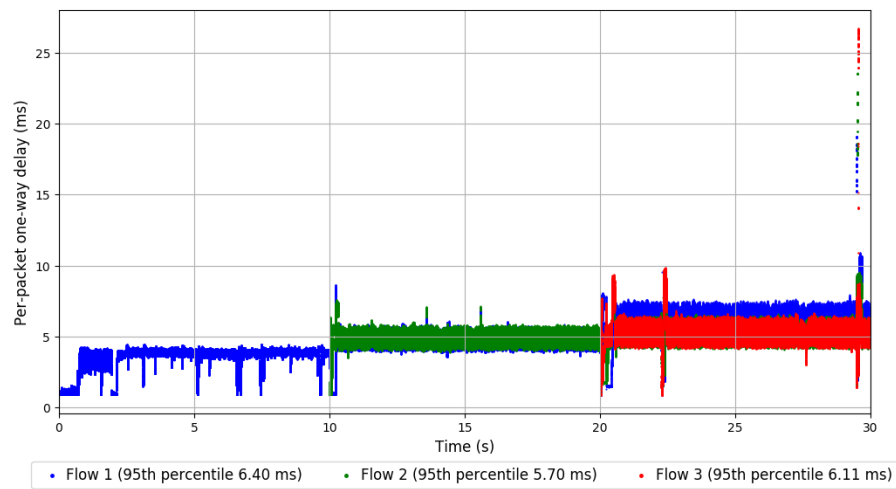
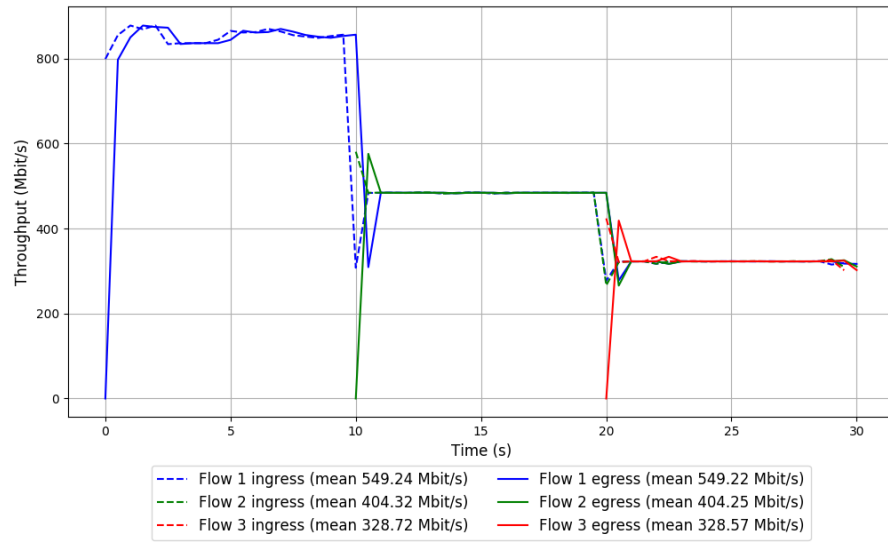
-- Flow 3:

Average throughput: 328.57 Mbit/s

95th percentile per-packet one-way delay: 6.106 ms

Loss rate: 0.06%

# Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-11-30 15:53:41

End at: 2018-11-30 15:54:11

Local clock offset: 1.355 ms

Remote clock offset: 1.028 ms

# Below is generated by plot.py at 2018-11-30 17:56:05

# Datalink statistics

-- Total of 3 flows:

Average throughput: 927.76 Mbit/s

95th percentile per-packet one-way delay: 6.658 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 548.60 Mbit/s

95th percentile per-packet one-way delay: 6.750 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 405.25 Mbit/s

95th percentile per-packet one-way delay: 6.226 ms

Loss rate: 0.02%

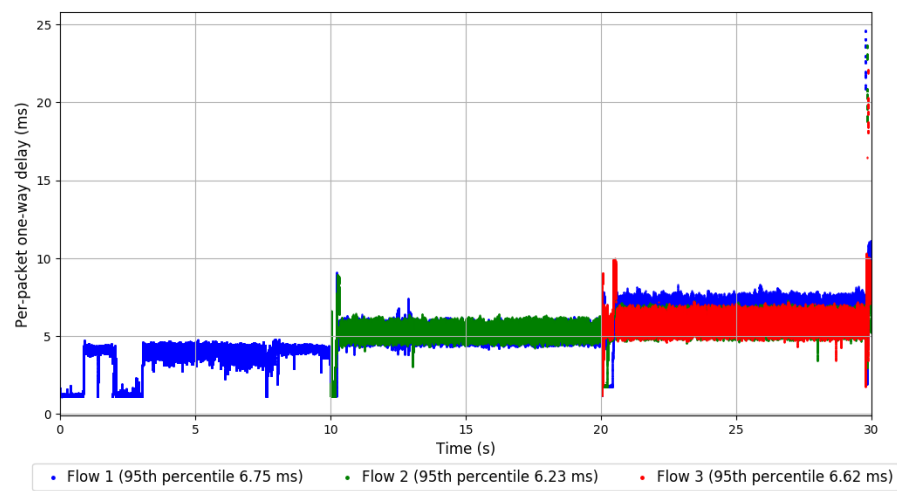
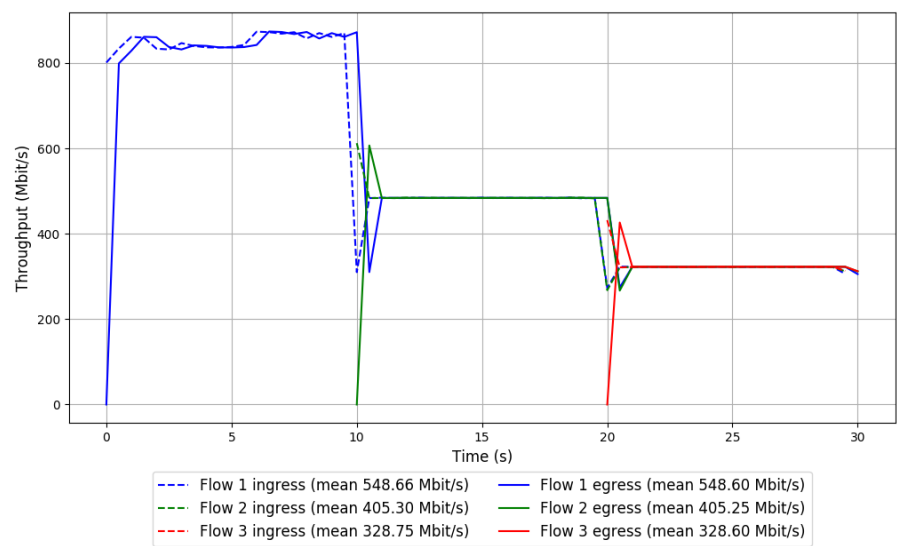
-- Flow 3:

Average throughput: 328.60 Mbit/s

95th percentile per-packet one-way delay: 6.619 ms

Loss rate: 0.07%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-11-30 16:21:29

End at: 2018-11-30 16:21:59

Local clock offset: -0.173 ms

Remote clock offset: 0.034 ms

# Below is generated by plot.py at 2018-11-30 17:56:05

# Datalink statistics

-- Total of 3 flows:

Average throughput: 927.24 Mbit/s

95th percentile per-packet one-way delay: 6.452 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 548.09 Mbit/s

95th percentile per-packet one-way delay: 6.564 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 404.89 Mbit/s

95th percentile per-packet one-way delay: 6.003 ms

Loss rate: 0.02%

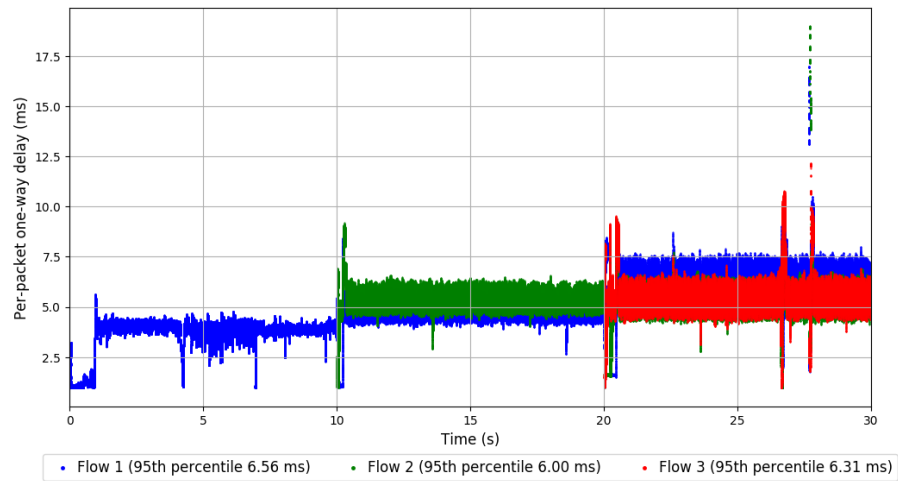
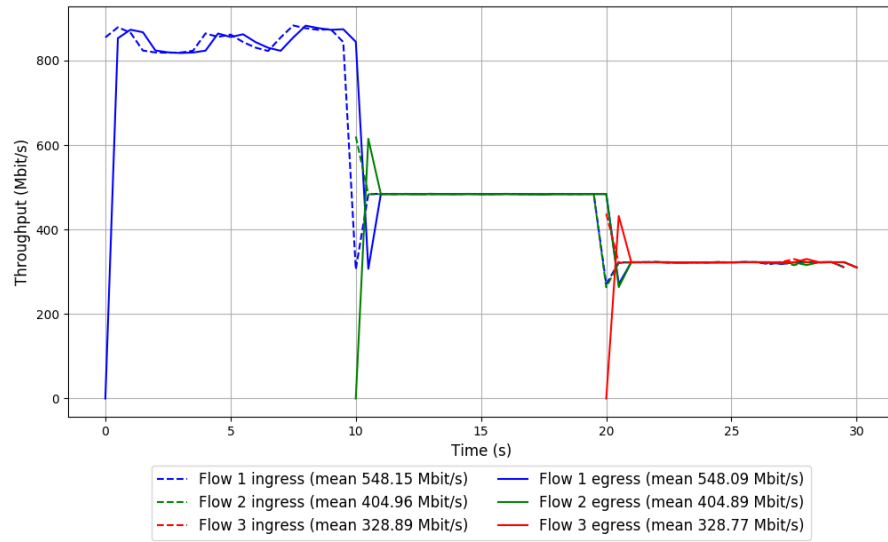
-- Flow 3:

Average throughput: 328.77 Mbit/s

95th percentile per-packet one-way delay: 6.314 ms

Loss rate: 0.06%

### Run 3: Report of TCP BBR — Data Link

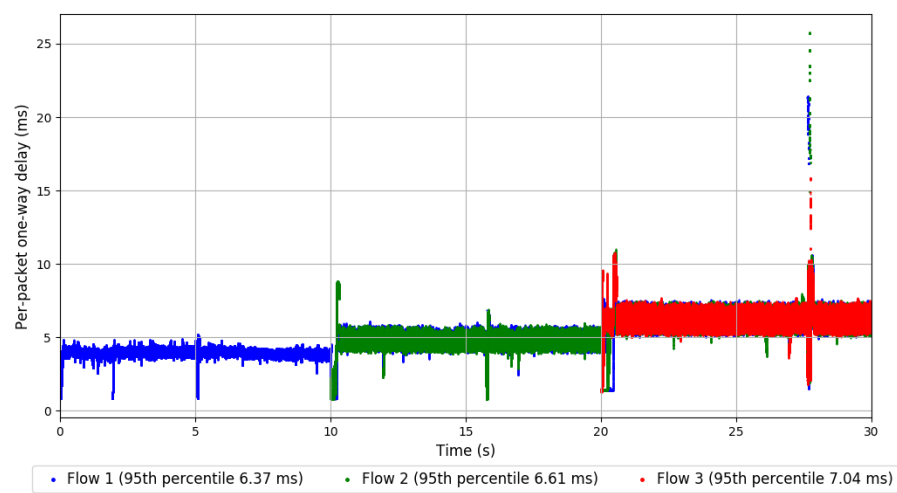
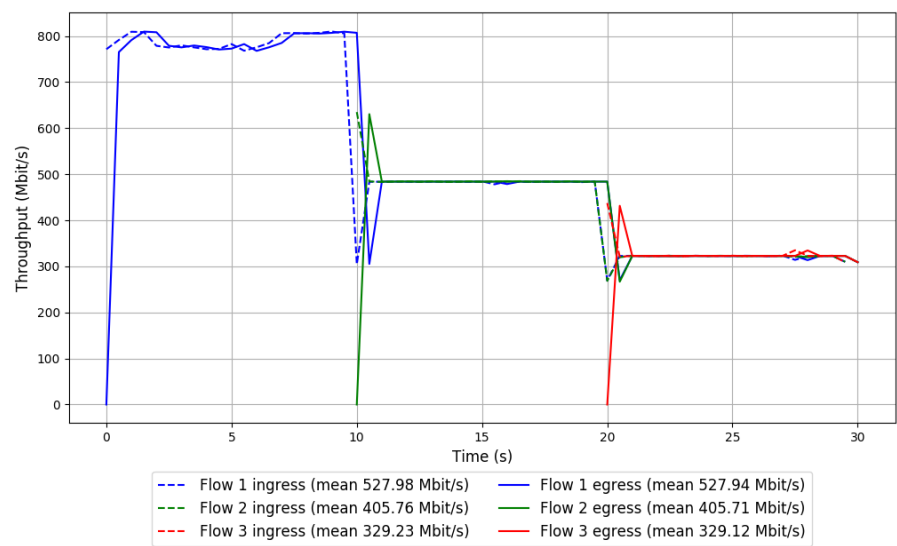


Run 4: Statistics of TCP BBR

Start at: 2018-11-30 16:48:58  
End at: 2018-11-30 16:49:28  
Local clock offset: -0.254 ms  
Remote clock offset: -2.713 ms

# Below is generated by plot.py at 2018-11-30 17:56:05  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 907.66 Mbit/s  
95th percentile per-packet one-way delay: 6.556 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 527.94 Mbit/s  
95th percentile per-packet one-way delay: 6.370 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 405.71 Mbit/s  
95th percentile per-packet one-way delay: 6.608 ms  
Loss rate: 0.03%  
-- Flow 3:  
Average throughput: 329.12 Mbit/s  
95th percentile per-packet one-way delay: 7.042 ms  
Loss rate: 0.07%

Run 4: Report of TCP BBR — Data Link

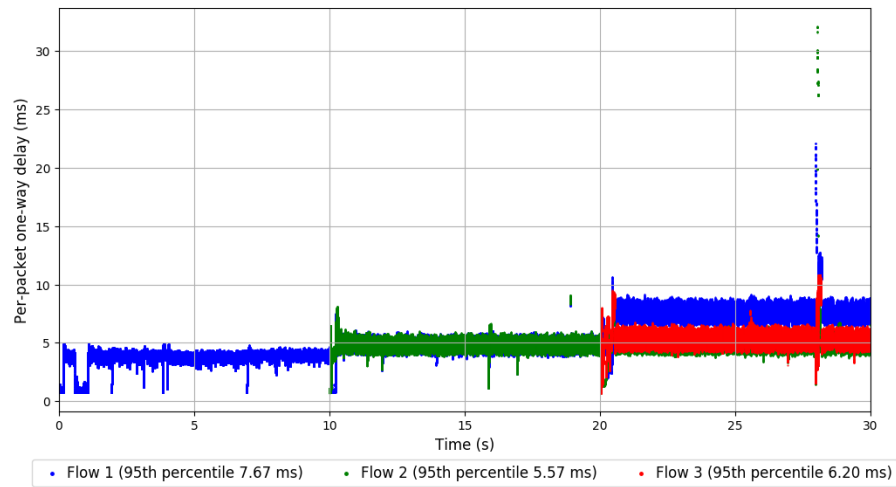
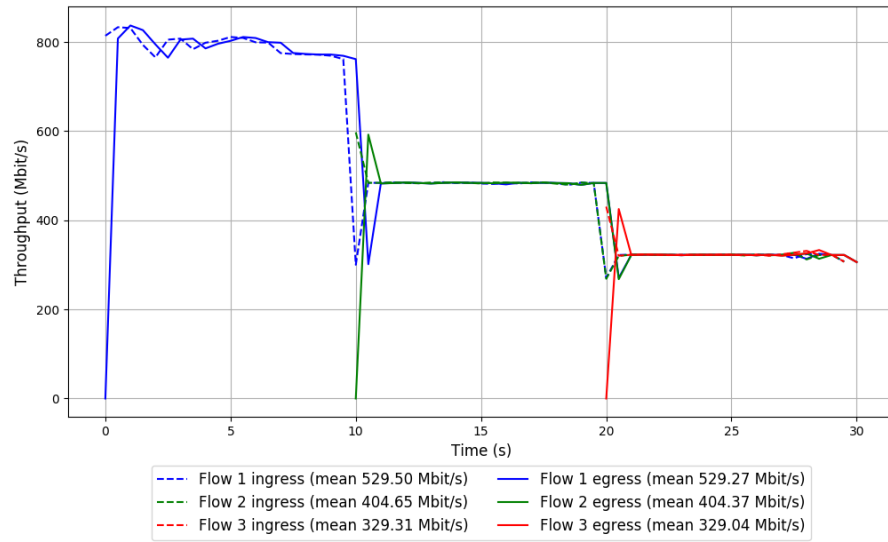


Run 5: Statistics of TCP BBR

Start at: 2018-11-30 17:16:31  
End at: 2018-11-30 17:17:01  
Local clock offset: 0.258 ms  
Remote clock offset: -3.837 ms

# Below is generated by plot.py at 2018-11-30 17:56:05  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 907.86 Mbit/s  
95th percentile per-packet one-way delay: 7.477 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 529.27 Mbit/s  
95th percentile per-packet one-way delay: 7.669 ms  
Loss rate: 0.05%  
-- Flow 2:  
Average throughput: 404.37 Mbit/s  
95th percentile per-packet one-way delay: 5.574 ms  
Loss rate: 0.07%  
-- Flow 3:  
Average throughput: 329.04 Mbit/s  
95th percentile per-packet one-way delay: 6.199 ms  
Loss rate: 0.11%

## Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-11-30 15:20:05

End at: 2018-11-30 15:20:35

Local clock offset: 1.61 ms

Remote clock offset: 0.91 ms

# Below is generated by plot.py at 2018-11-30 17:56:05

# Datalink statistics

-- Total of 3 flows:

Average throughput: 467.22 Mbit/s

95th percentile per-packet one-way delay: 0.929 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 295.11 Mbit/s

95th percentile per-packet one-way delay: 0.938 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 198.46 Mbit/s

95th percentile per-packet one-way delay: 0.875 ms

Loss rate: 0.01%

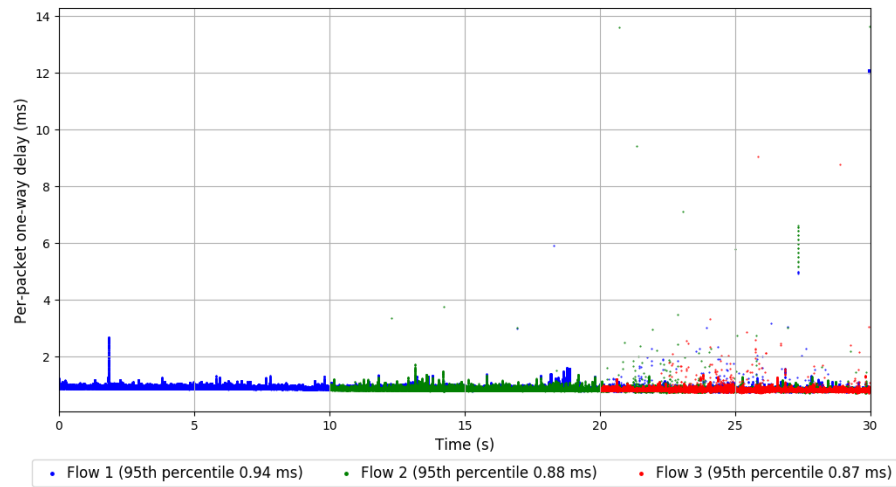
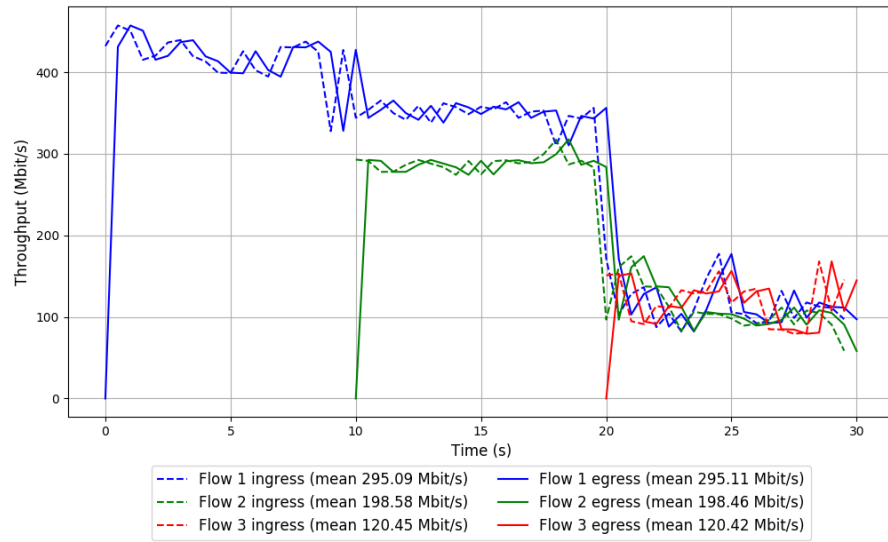
-- Flow 3:

Average throughput: 120.42 Mbit/s

95th percentile per-packet one-way delay: 0.869 ms

Loss rate: 0.04%

## Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-11-30 15:47:58

End at: 2018-11-30 15:48:28

Local clock offset: 2.744 ms

Remote clock offset: 0.872 ms

# Below is generated by plot.py at 2018-11-30 17:56:05

# Datalink statistics

-- Total of 3 flows:

Average throughput: 453.83 Mbit/s

95th percentile per-packet one-way delay: 1.340 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 283.75 Mbit/s

95th percentile per-packet one-way delay: 1.347 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 194.34 Mbit/s

95th percentile per-packet one-way delay: 1.340 ms

Loss rate: 0.01%

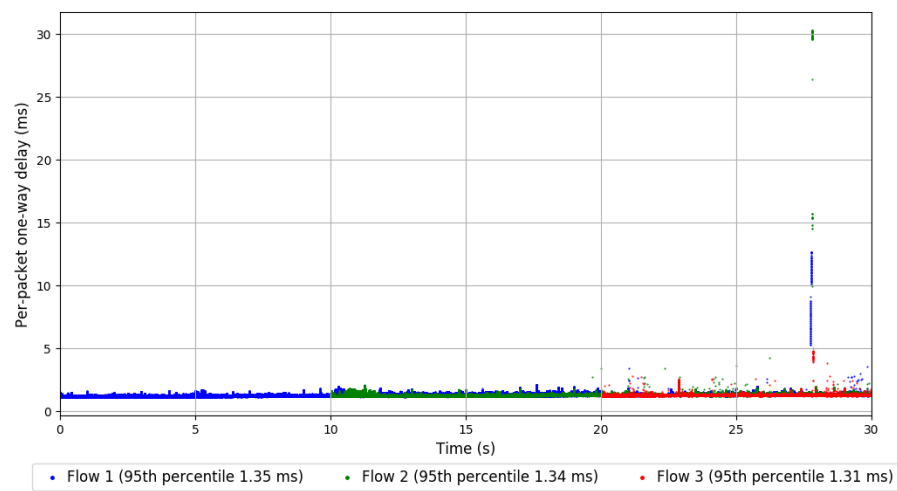
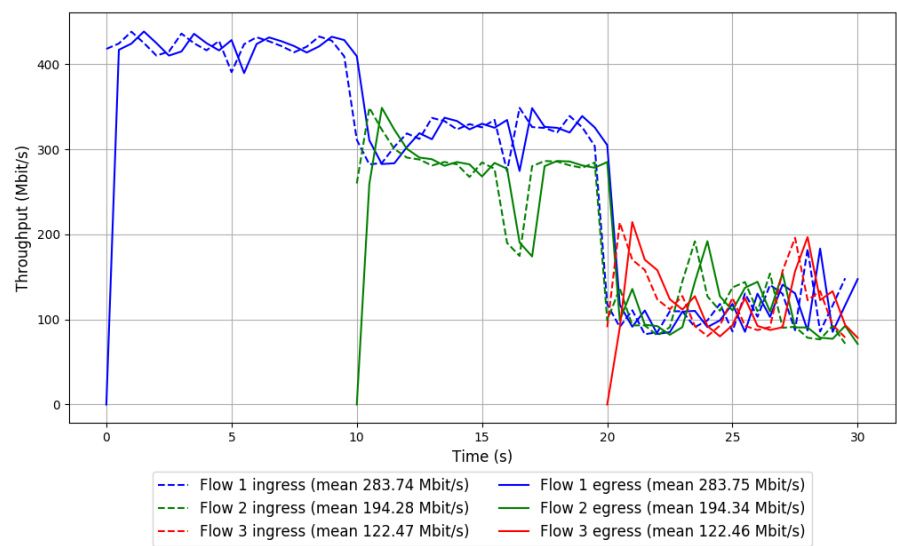
-- Flow 3:

Average throughput: 122.46 Mbit/s

95th percentile per-packet one-way delay: 1.314 ms

Loss rate: 0.03%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-11-30 16:15:38

End at: 2018-11-30 16:16:08

Local clock offset: -0.249 ms

Remote clock offset: 0.183 ms

# Below is generated by plot.py at 2018-11-30 17:56:05

# Datalink statistics

-- Total of 3 flows:

Average throughput: 474.02 Mbit/s

95th percentile per-packet one-way delay: 1.001 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 286.01 Mbit/s

95th percentile per-packet one-way delay: 1.008 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 211.35 Mbit/s

95th percentile per-packet one-way delay: 0.971 ms

Loss rate: 0.00%

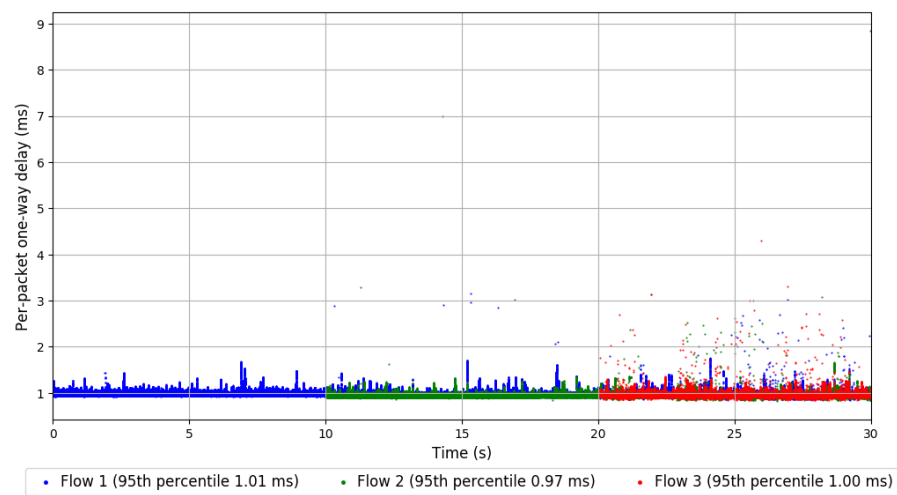
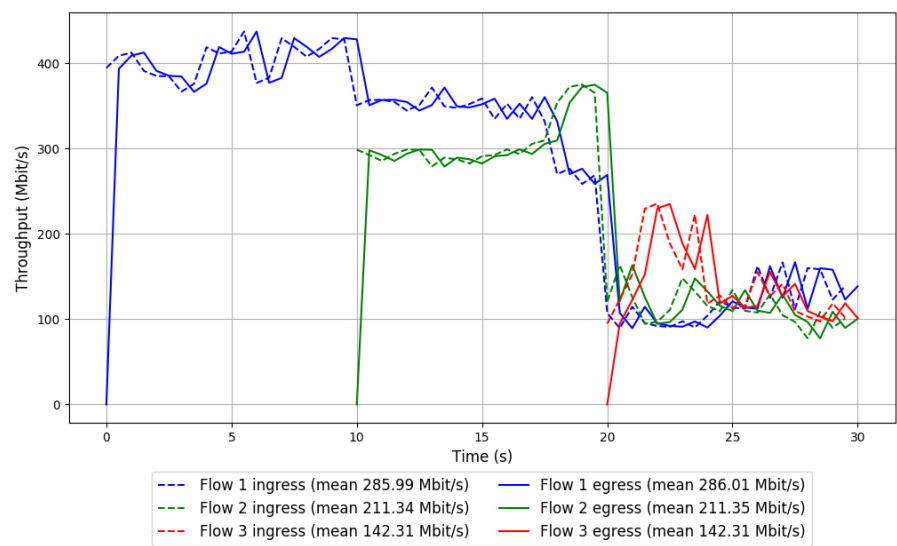
-- Flow 3:

Average throughput: 142.31 Mbit/s

95th percentile per-packet one-way delay: 0.997 ms

Loss rate: 0.02%

Run 3: Report of Copa — Data Link

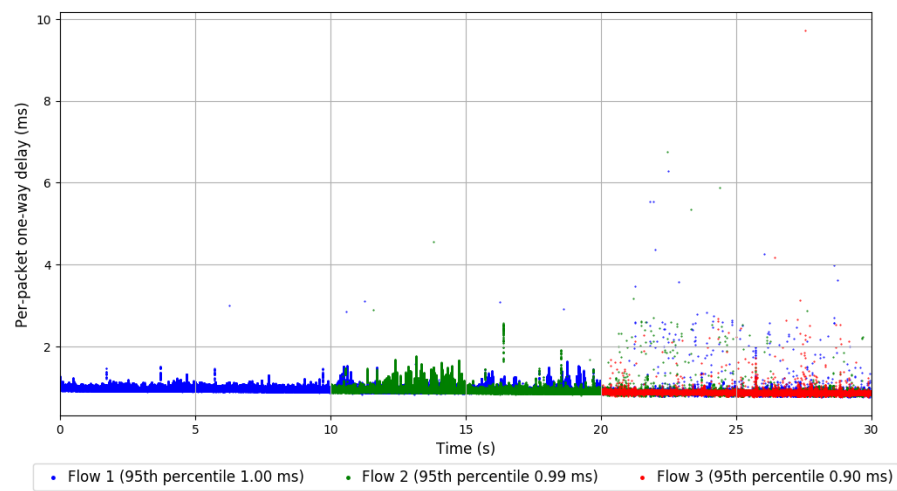
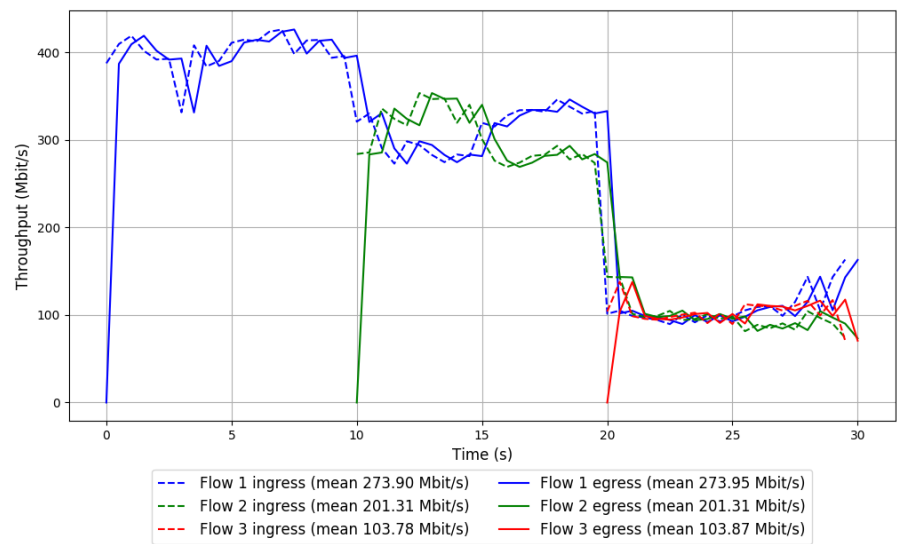


Run 4: Statistics of Copa

Start at: 2018-11-30 16:43:11  
End at: 2018-11-30 16:43:41  
Local clock offset: -0.271 ms  
Remote clock offset: -1.858 ms

# Below is generated by plot.py at 2018-11-30 18:04:31  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 442.44 Mbit/s  
95th percentile per-packet one-way delay: 0.994 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 273.95 Mbit/s  
95th percentile per-packet one-way delay: 0.998 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 201.31 Mbit/s  
95th percentile per-packet one-way delay: 0.994 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 103.87 Mbit/s  
95th percentile per-packet one-way delay: 0.902 ms  
Loss rate: 0.00%

Run 4: Report of Copa — Data Link

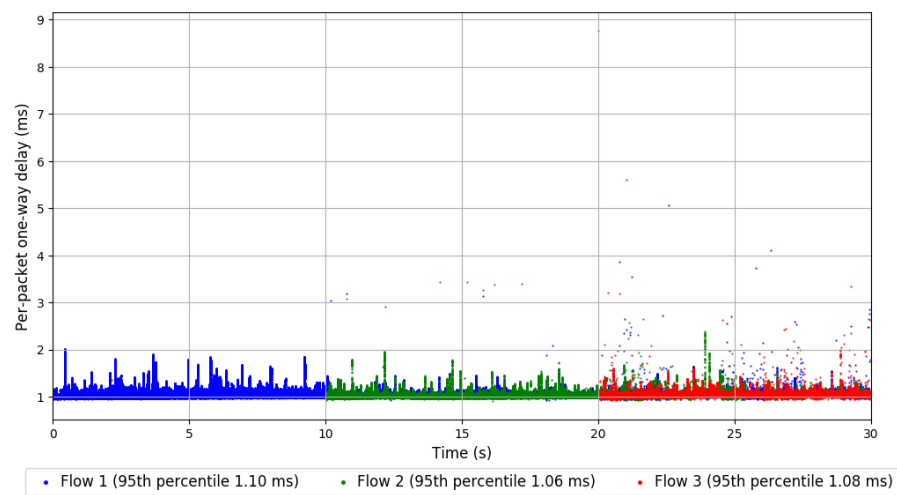
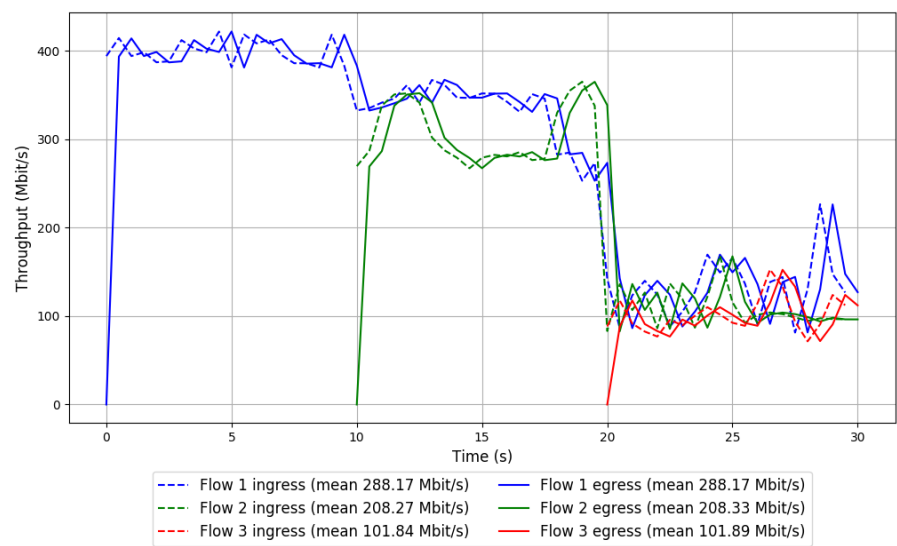


Run 5: Statistics of Copa

Start at: 2018-11-30 17:10:47  
End at: 2018-11-30 17:11:17  
Local clock offset: -0.344 ms  
Remote clock offset: -4.363 ms

# Below is generated by plot.py at 2018-11-30 18:05:17  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 460.69 Mbit/s  
95th percentile per-packet one-way delay: 1.086 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 288.17 Mbit/s  
95th percentile per-packet one-way delay: 1.096 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 208.33 Mbit/s  
95th percentile per-packet one-way delay: 1.063 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 101.89 Mbit/s  
95th percentile per-packet one-way delay: 1.084 ms  
Loss rate: 0.02%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-11-30 15:46:14

End at: 2018-11-30 15:46:44

Local clock offset: 3.387 ms

Remote clock offset: 0.824 ms

# Below is generated by plot.py at 2018-11-30 18:05:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 923.50 Mbit/s

95th percentile per-packet one-way delay: 8.694 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 548.40 Mbit/s

95th percentile per-packet one-way delay: 9.215 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 402.46 Mbit/s

95th percentile per-packet one-way delay: 7.847 ms

Loss rate: 0.03%

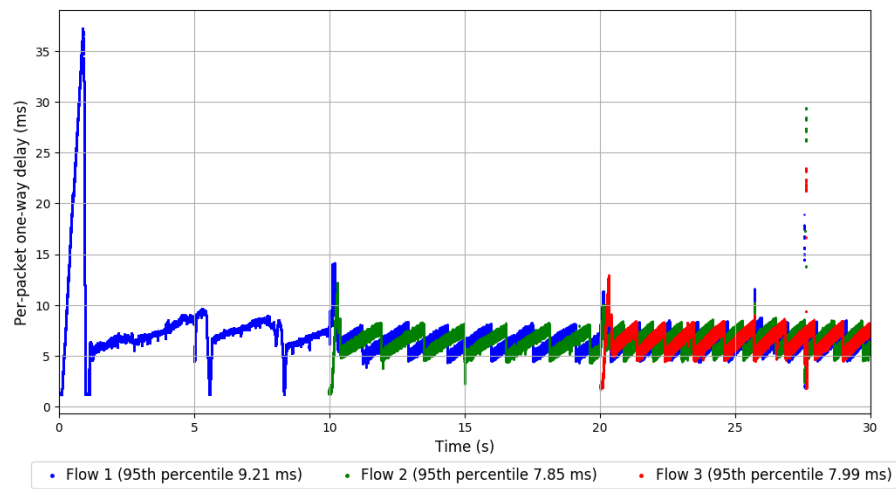
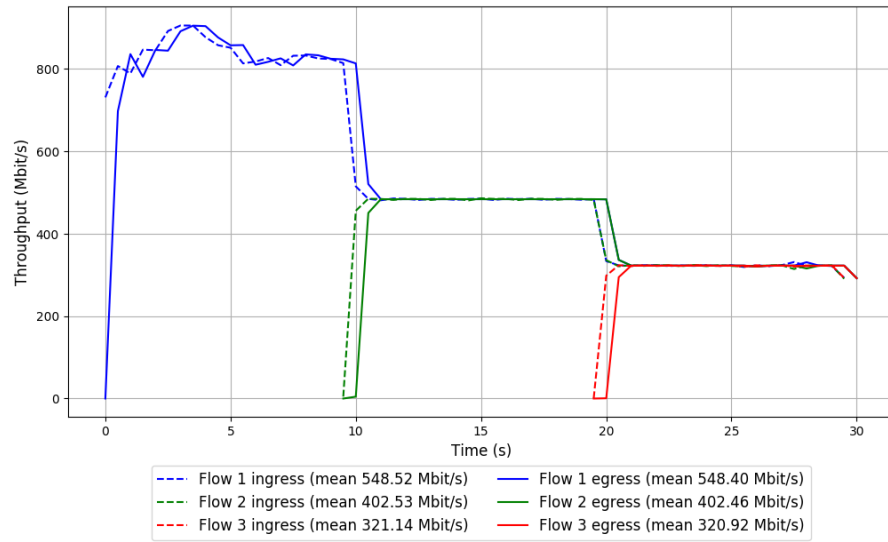
-- Flow 3:

Average throughput: 320.92 Mbit/s

95th percentile per-packet one-way delay: 7.994 ms

Loss rate: 0.08%

## Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-11-30 16:13:54

End at: 2018-11-30 16:14:24

Local clock offset: -0.207 ms

Remote clock offset: 0.259 ms

# Below is generated by plot.py at 2018-11-30 18:05:58

# Datalink statistics

-- Total of 3 flows:

Average throughput: 925.34 Mbit/s

95th percentile per-packet one-way delay: 12.962 ms

Loss rate: 0.03%

-- Flow 1:

Average throughput: 551.23 Mbit/s

95th percentile per-packet one-way delay: 13.604 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 401.67 Mbit/s

95th percentile per-packet one-way delay: 7.469 ms

Loss rate: 0.03%

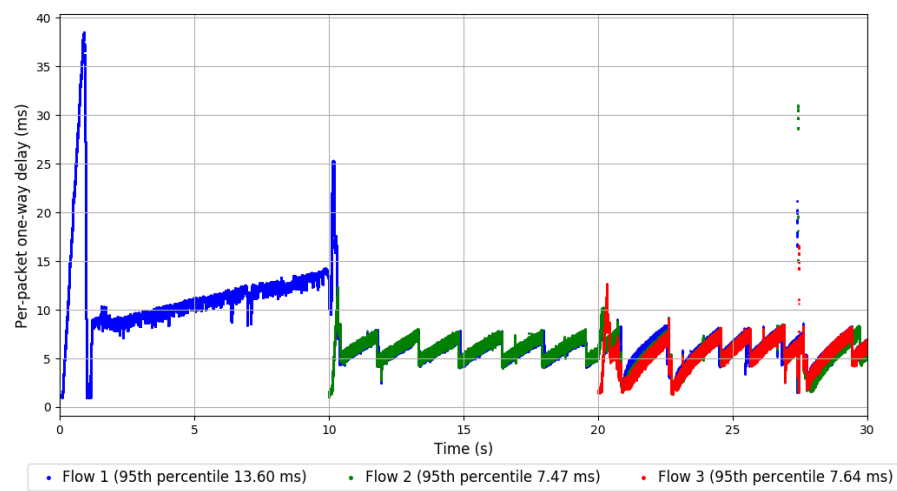
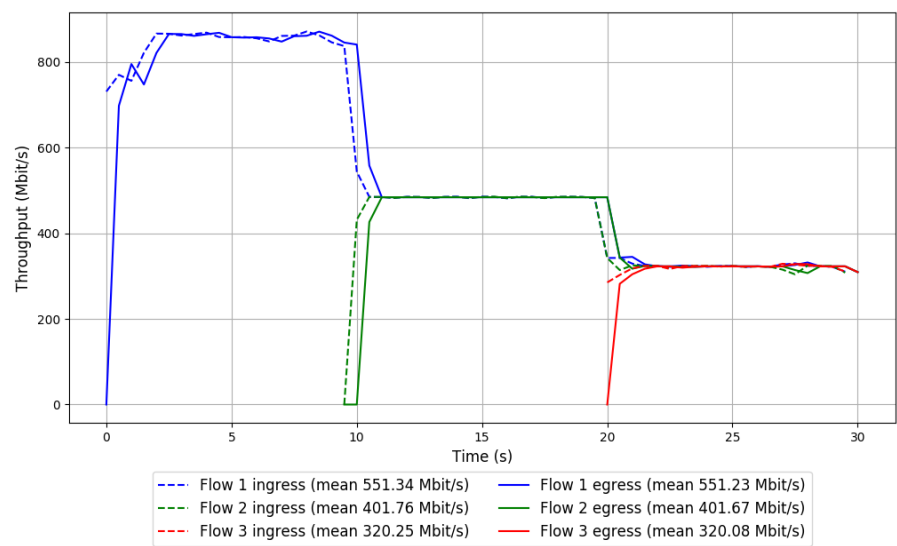
-- Flow 3:

Average throughput: 320.08 Mbit/s

95th percentile per-packet one-way delay: 7.639 ms

Loss rate: 0.08%

Run 2: Report of TCP Cubic — Data Link

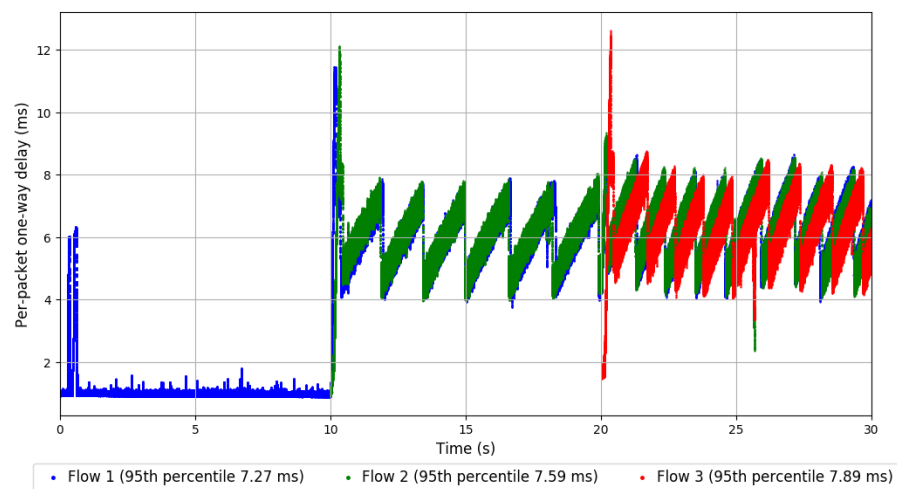
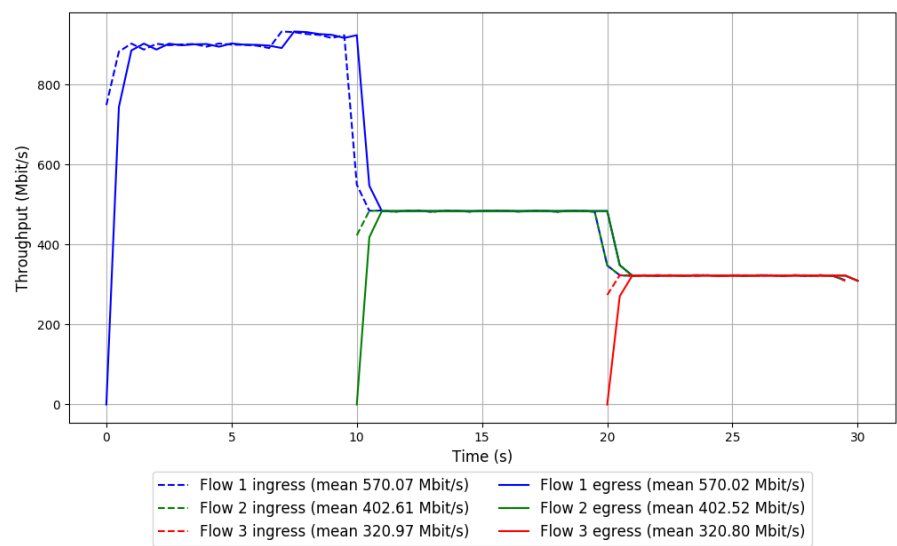


Run 3: Statistics of TCP Cubic

Start at: 2018-11-30 16:41:27  
End at: 2018-11-30 16:41:57  
Local clock offset: -0.262 ms  
Remote clock offset: -1.456 ms

# Below is generated by plot.py at 2018-11-30 18:06:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 944.72 Mbit/s  
95th percentile per-packet one-way delay: 7.496 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 570.02 Mbit/s  
95th percentile per-packet one-way delay: 7.271 ms  
Loss rate: 0.02%  
-- Flow 2:  
Average throughput: 402.52 Mbit/s  
95th percentile per-packet one-way delay: 7.594 ms  
Loss rate: 0.03%  
-- Flow 3:  
Average throughput: 320.80 Mbit/s  
95th percentile per-packet one-way delay: 7.889 ms  
Loss rate: 0.07%

Run 3: Report of TCP Cubic — Data Link

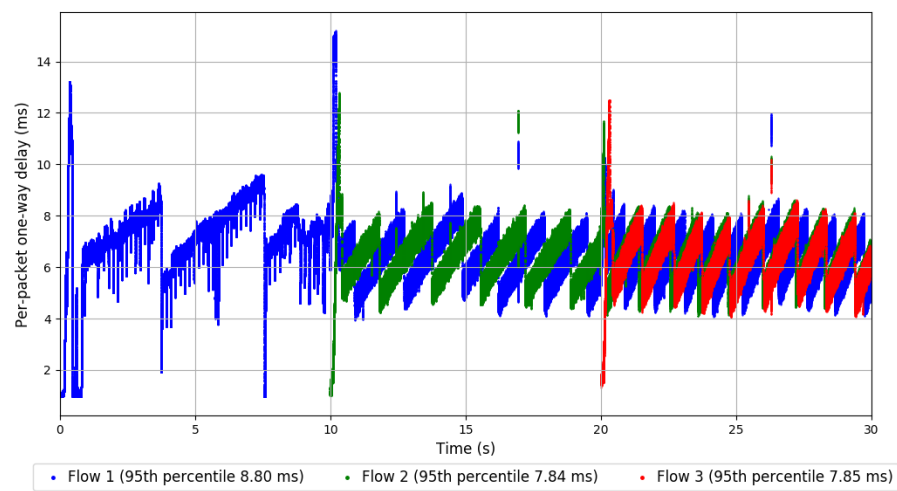
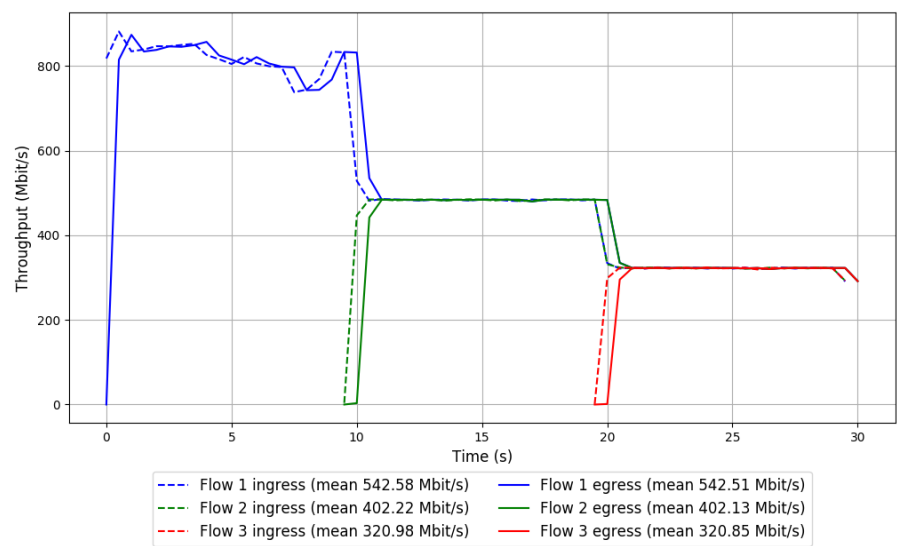


Run 4: Statistics of TCP Cubic

Start at: 2018-11-30 17:09:03  
End at: 2018-11-30 17:09:33  
Local clock offset: -0.31 ms  
Remote clock offset: -4.284 ms

# Below is generated by plot.py at 2018-11-30 18:06:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 917.40 Mbit/s  
95th percentile per-packet one-way delay: 8.473 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 542.51 Mbit/s  
95th percentile per-packet one-way delay: 8.804 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 402.13 Mbit/s  
95th percentile per-packet one-way delay: 7.839 ms  
Loss rate: 0.03%  
-- Flow 3:  
Average throughput: 320.85 Mbit/s  
95th percentile per-packet one-way delay: 7.846 ms  
Loss rate: 0.07%

Run 4: Report of TCP Cubic — Data Link

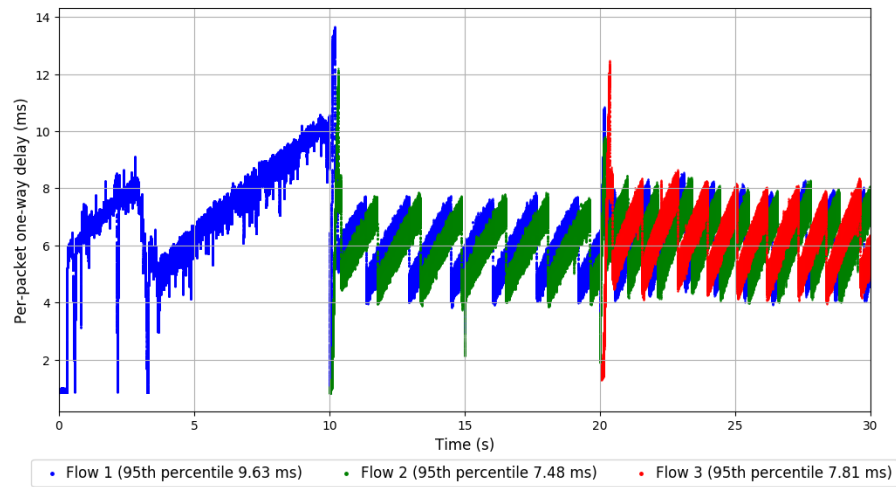
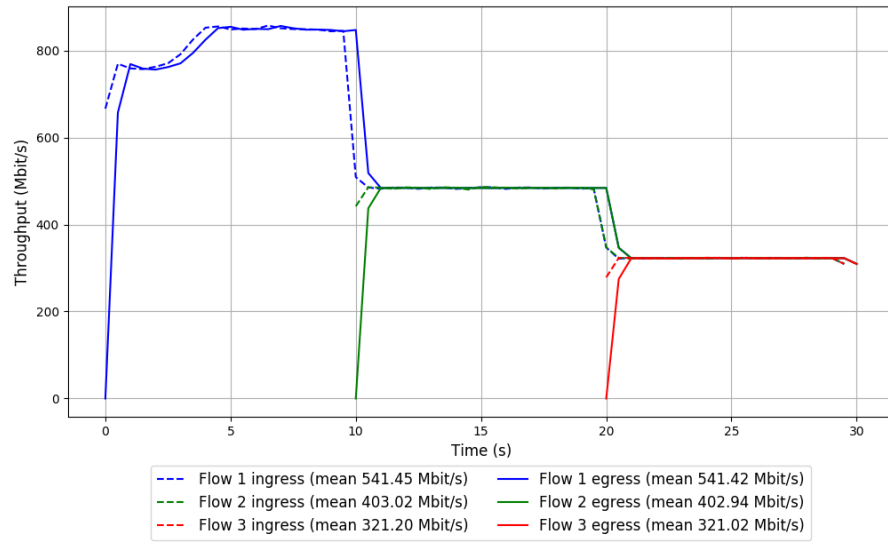


Run 5: Statistics of TCP Cubic

Start at: 2018-11-30 17:36:42  
End at: 2018-11-30 17:37:12  
Local clock offset: 3.316 ms  
Remote clock offset: -3.576 ms

# Below is generated by plot.py at 2018-11-30 18:06:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 916.46 Mbit/s  
95th percentile per-packet one-way delay: 9.180 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 541.42 Mbit/s  
95th percentile per-packet one-way delay: 9.627 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 402.94 Mbit/s  
95th percentile per-packet one-way delay: 7.478 ms  
Loss rate: 0.03%  
-- Flow 3:  
Average throughput: 321.02 Mbit/s  
95th percentile per-packet one-way delay: 7.814 ms  
Loss rate: 0.07%

## Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-11-30 15:43:17

End at: 2018-11-30 15:43:47

Local clock offset: 3.909 ms

Remote clock offset: 0.82 ms

# Below is generated by plot.py at 2018-11-30 18:08:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 891.04 Mbit/s

95th percentile per-packet one-way delay: 30.595 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 601.47 Mbit/s

95th percentile per-packet one-way delay: 30.869 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 273.26 Mbit/s

95th percentile per-packet one-way delay: 20.123 ms

Loss rate: 0.05%

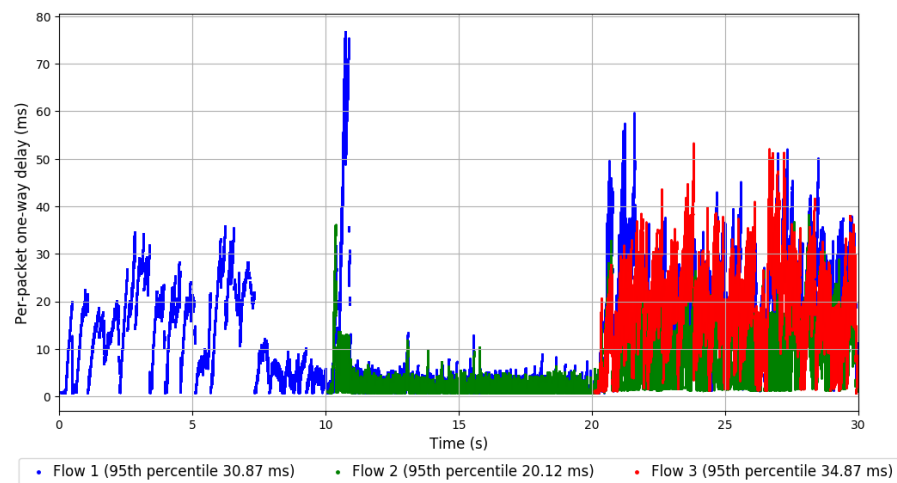
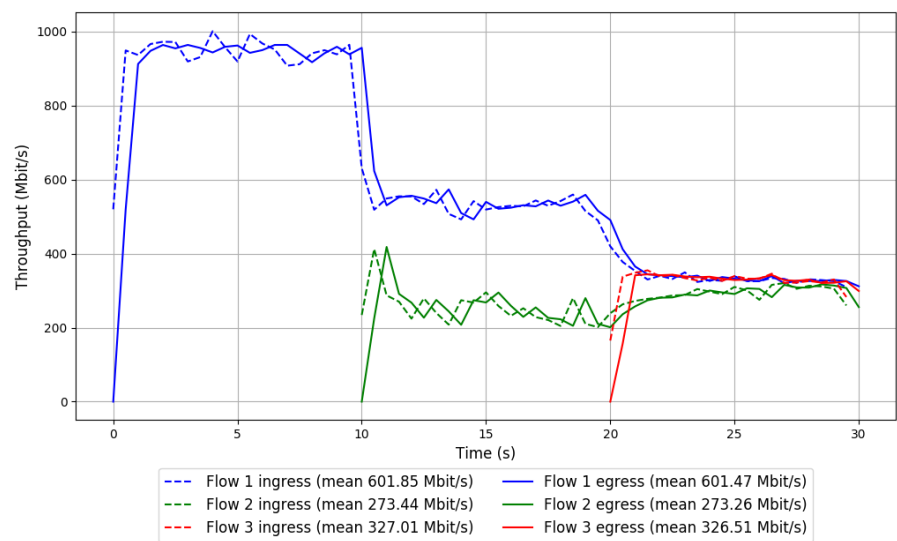
-- Flow 3:

Average throughput: 326.51 Mbit/s

95th percentile per-packet one-way delay: 34.869 ms

Loss rate: 0.08%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-11-30 16:10:56

End at: 2018-11-30 16:11:26

Local clock offset: -0.097 ms

Remote clock offset: 0.46 ms

# Below is generated by plot.py at 2018-11-30 18:17:19

# Datalink statistics

-- Total of 3 flows:

Average throughput: 904.63 Mbit/s

95th percentile per-packet one-way delay: 30.850 ms

Loss rate: 0.13%

-- Flow 1:

Average throughput: 609.72 Mbit/s

95th percentile per-packet one-way delay: 31.425 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 283.55 Mbit/s

95th percentile per-packet one-way delay: 19.225 ms

Loss rate: 0.10%

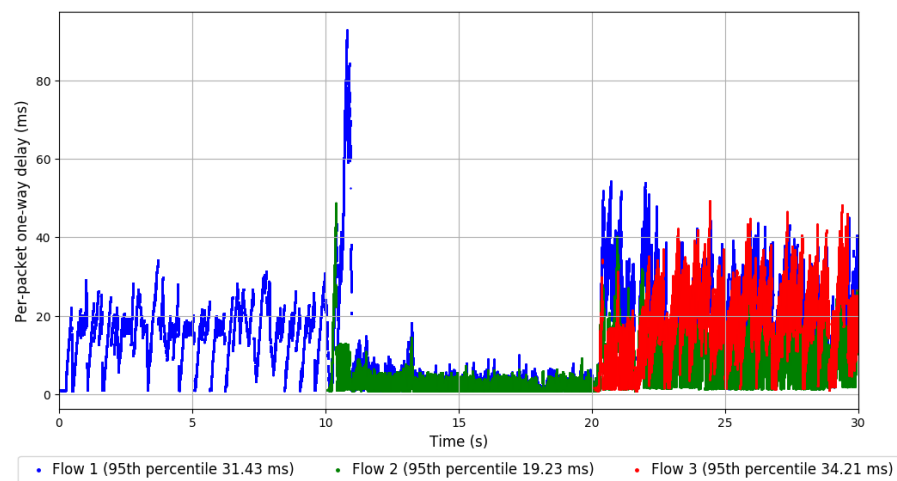
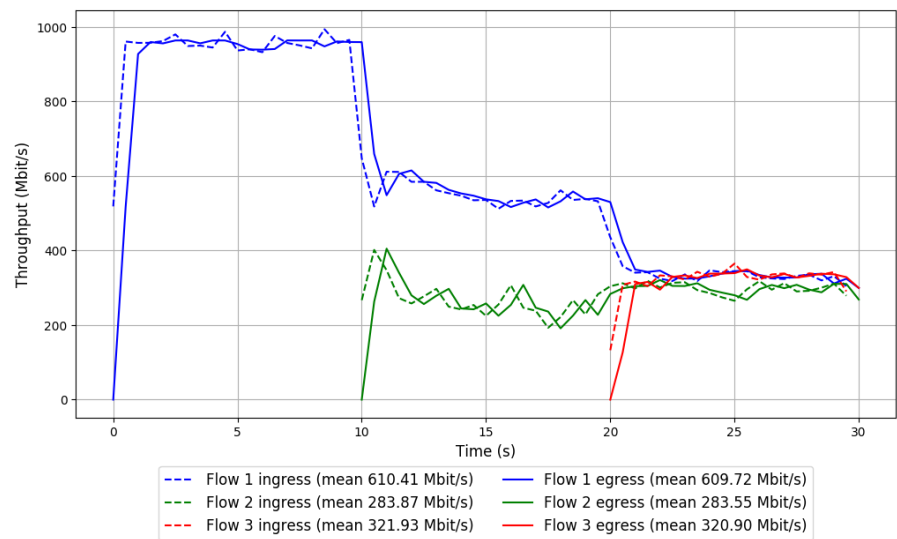
-- Flow 3:

Average throughput: 320.90 Mbit/s

95th percentile per-packet one-way delay: 34.214 ms

Loss rate: 0.33%

Run 2: Report of FillP — Data Link

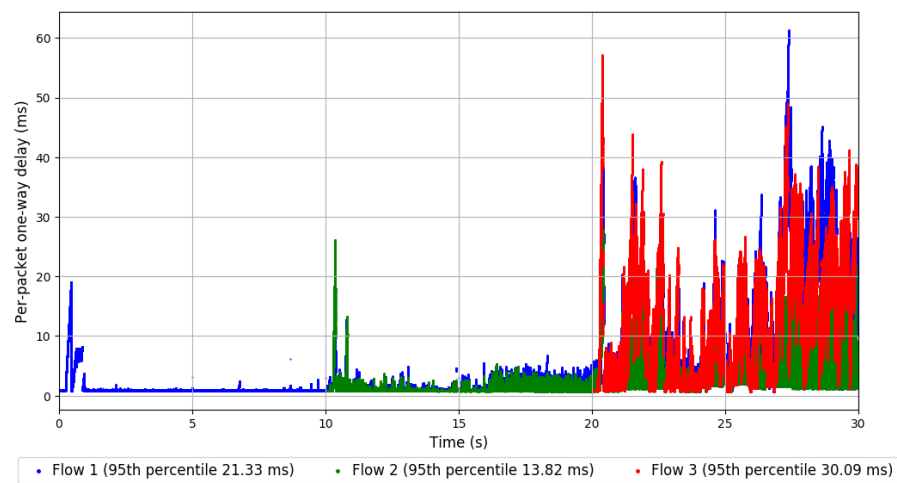
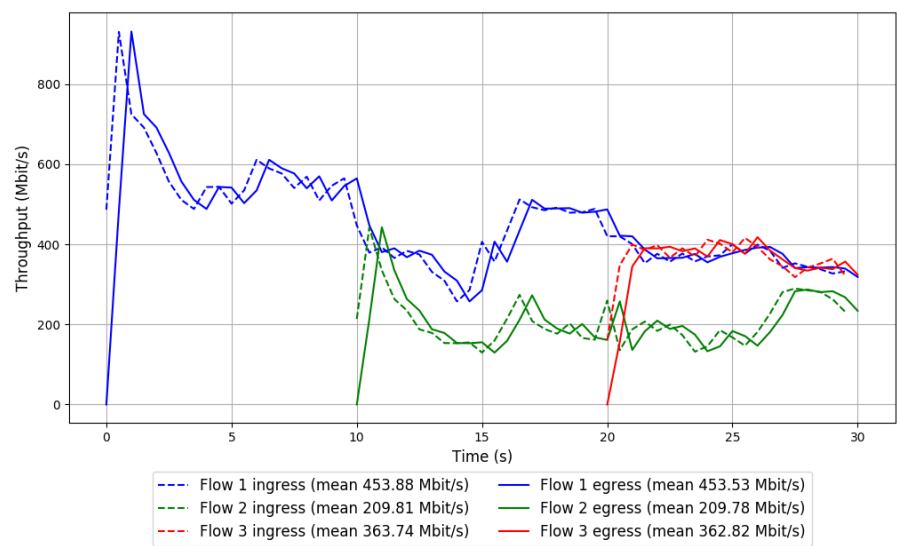


Run 3: Statistics of FillP

Start at: 2018-11-30 16:38:35  
End at: 2018-11-30 16:39:05  
Local clock offset: -0.239 ms  
Remote clock offset: -0.601 ms

# Below is generated by plot.py at 2018-11-30 18:17:19  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 713.35 Mbit/s  
95th percentile per-packet one-way delay: 23.330 ms  
Loss rate: 0.10%  
-- Flow 1:  
Average throughput: 453.53 Mbit/s  
95th percentile per-packet one-way delay: 21.328 ms  
Loss rate: 0.08%  
-- Flow 2:  
Average throughput: 209.78 Mbit/s  
95th percentile per-packet one-way delay: 13.823 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 362.82 Mbit/s  
95th percentile per-packet one-way delay: 30.088 ms  
Loss rate: 0.29%

Run 3: Report of FillP — Data Link

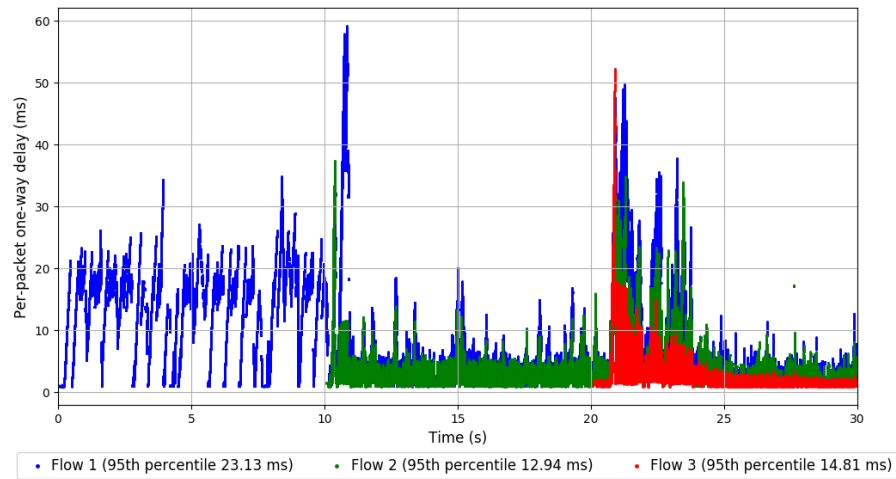
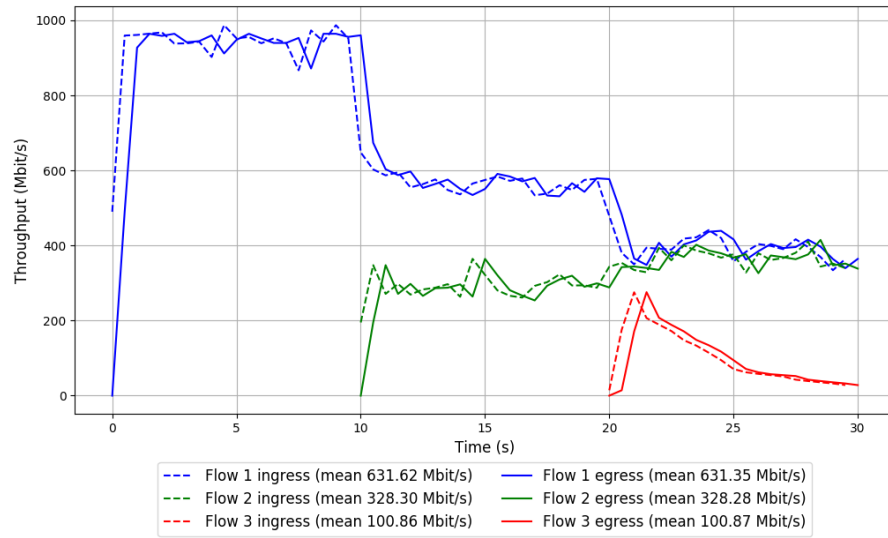


Run 4: Statistics of FillP

Start at: 2018-11-30 17:06:07  
End at: 2018-11-30 17:06:37  
Local clock offset: -0.304 ms  
Remote clock offset: -4.131 ms

# Below is generated by plot.py at 2018-11-30 18:17:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 882.84 Mbit/s  
95th percentile per-packet one-way delay: 22.136 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 631.35 Mbit/s  
95th percentile per-packet one-way delay: 23.130 ms  
Loss rate: 0.02%  
-- Flow 2:  
Average throughput: 328.28 Mbit/s  
95th percentile per-packet one-way delay: 12.935 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 100.87 Mbit/s  
95th percentile per-packet one-way delay: 14.813 ms  
Loss rate: 0.01%

# Run 4: Report of FillP — Data Link

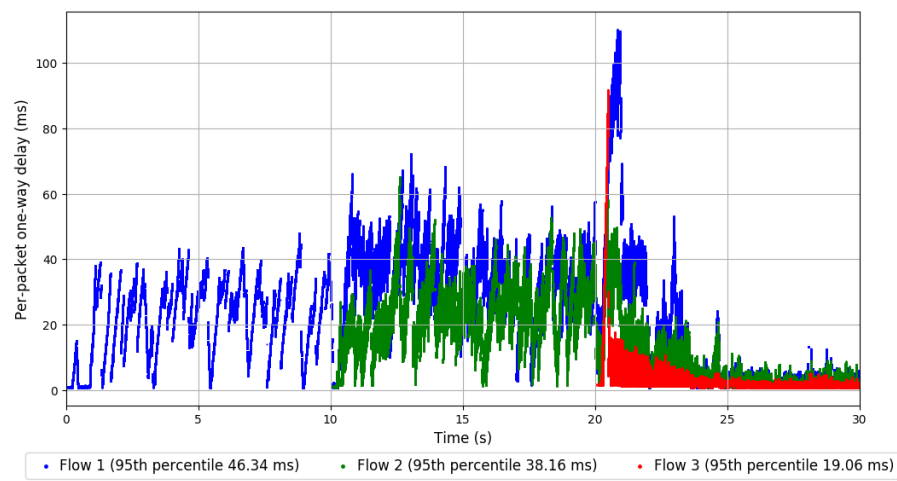
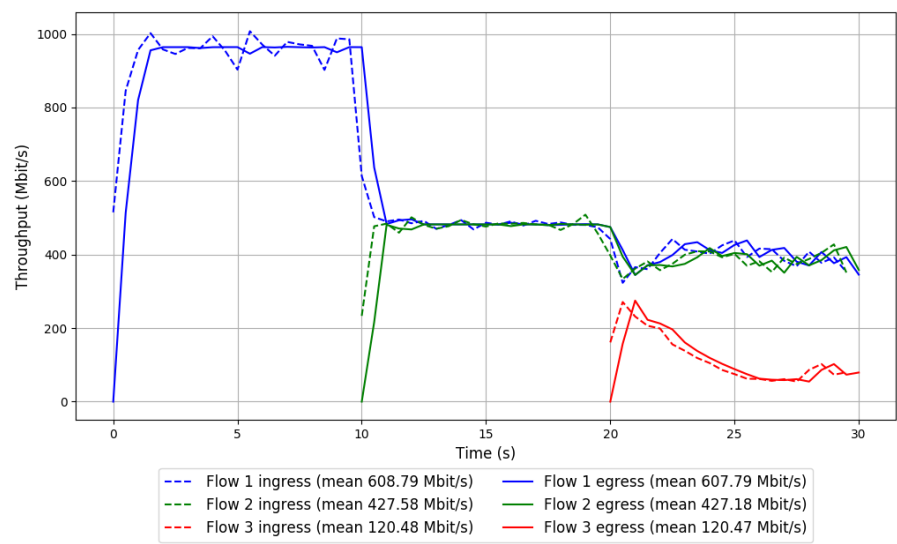


Run 5: Statistics of FillP

Start at: 2018-11-30 17:33:44  
End at: 2018-11-30 17:34:14  
Local clock offset: 3.096 ms  
Remote clock offset: -3.647 ms

# Below is generated by plot.py at 2018-11-30 18:18:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 931.63 Mbit/s  
95th percentile per-packet one-way delay: 44.137 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 607.79 Mbit/s  
95th percentile per-packet one-way delay: 46.338 ms  
Loss rate: 0.16%  
-- Flow 2:  
Average throughput: 427.18 Mbit/s  
95th percentile per-packet one-way delay: 38.156 ms  
Loss rate: 0.09%  
-- Flow 3:  
Average throughput: 120.47 Mbit/s  
95th percentile per-packet one-way delay: 19.064 ms  
Loss rate: 0.02%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-11-30 15:21:49

End at: 2018-11-30 15:22:19

Local clock offset: 1.92 ms

Remote clock offset: 0.973 ms

# Below is generated by plot.py at 2018-11-30 18:18:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 558.19 Mbit/s

95th percentile per-packet one-way delay: 6.975 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 424.16 Mbit/s

95th percentile per-packet one-way delay: 7.338 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 184.46 Mbit/s

95th percentile per-packet one-way delay: 4.039 ms

Loss rate: 0.00%

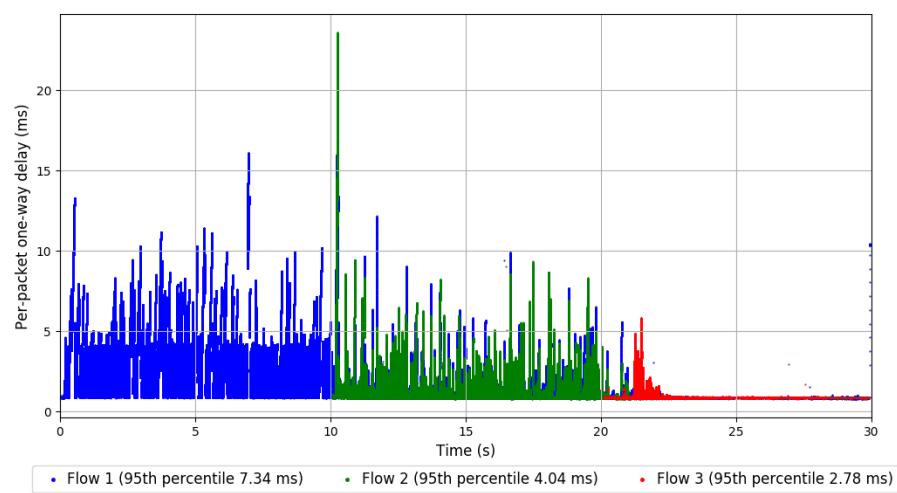
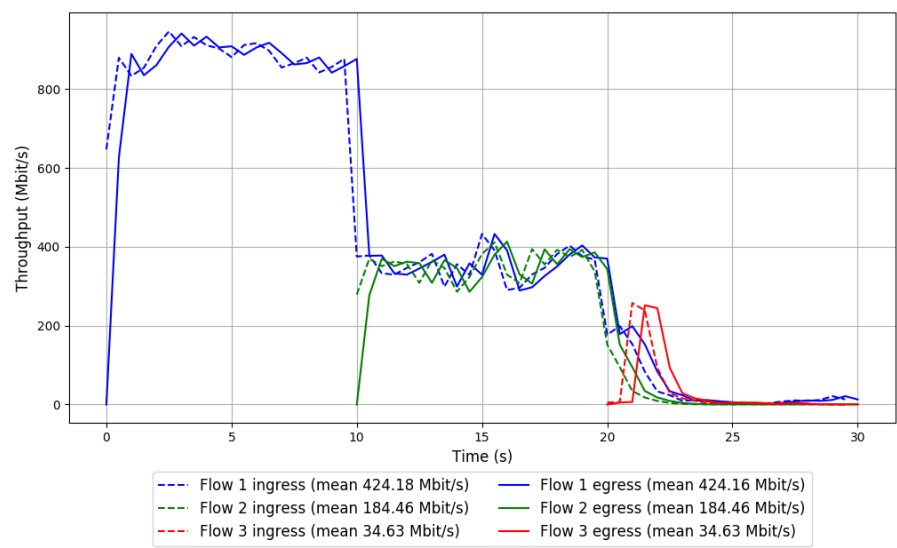
-- Flow 3:

Average throughput: 34.63 Mbit/s

95th percentile per-packet one-way delay: 2.781 ms

Loss rate: 0.00%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-11-30 15:49:41

End at: 2018-11-30 15:50:11

Local clock offset: 2.213 ms

Remote clock offset: 0.994 ms

# Below is generated by plot.py at 2018-11-30 18:18:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 577.02 Mbit/s

95th percentile per-packet one-way delay: 8.545 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 426.39 Mbit/s

95th percentile per-packet one-way delay: 9.098 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 187.29 Mbit/s

95th percentile per-packet one-way delay: 4.956 ms

Loss rate: 0.00%

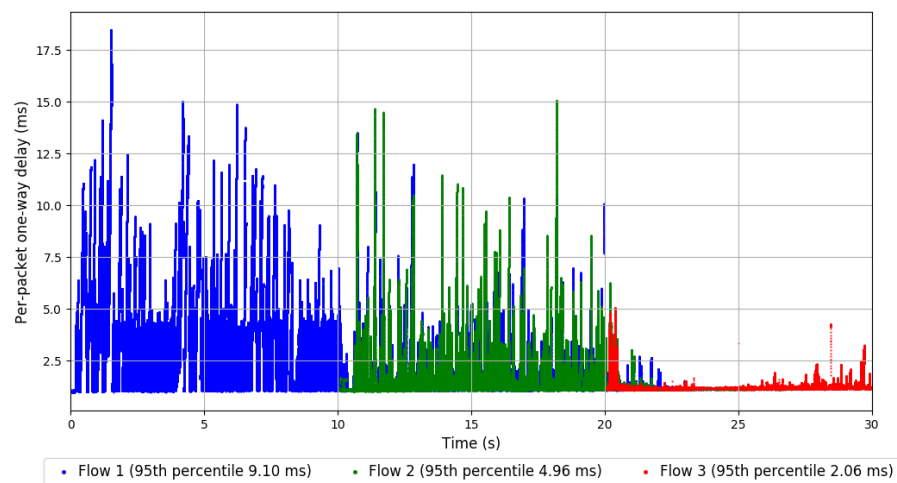
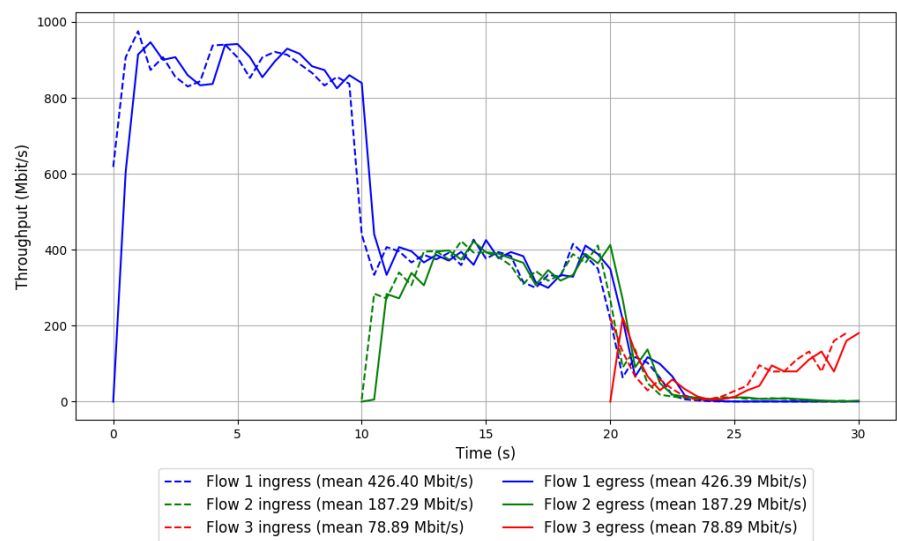
-- Flow 3:

Average throughput: 78.89 Mbit/s

95th percentile per-packet one-way delay: 2.055 ms

Loss rate: 0.00%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-11-30 16:17:22

End at: 2018-11-30 16:17:52

Local clock offset: -0.198 ms

Remote clock offset: 0.147 ms

# Below is generated by plot.py at 2018-11-30 18:18:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 586.28 Mbit/s

95th percentile per-packet one-way delay: 7.079 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 417.37 Mbit/s

95th percentile per-packet one-way delay: 7.715 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 241.14 Mbit/s

95th percentile per-packet one-way delay: 3.535 ms

Loss rate: 0.03%

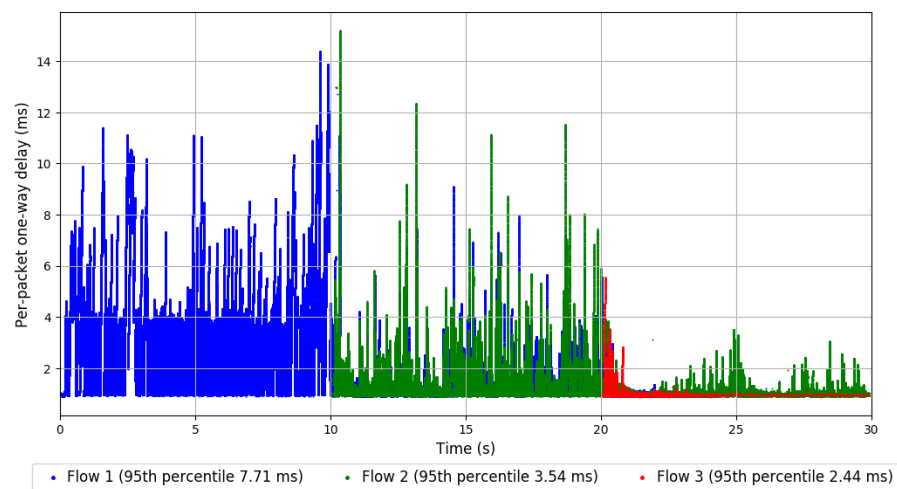
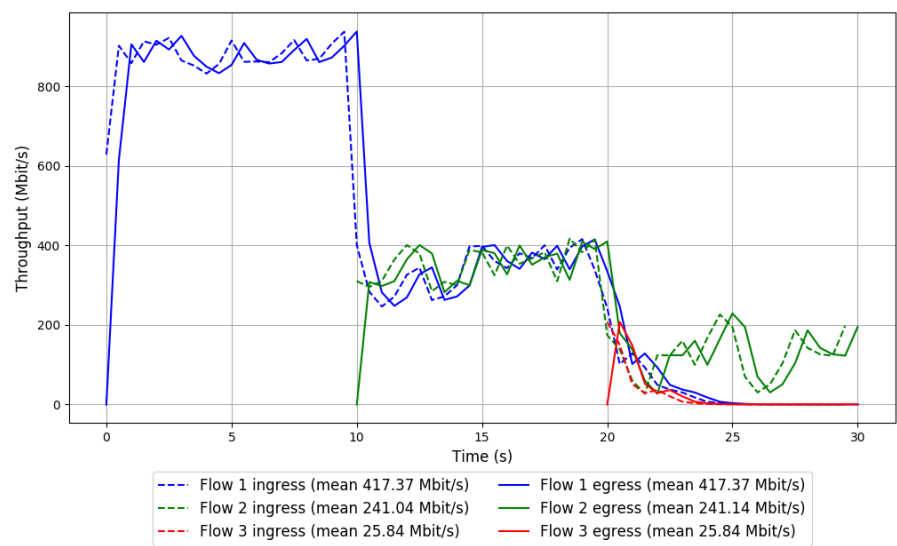
-- Flow 3:

Average throughput: 25.84 Mbit/s

95th percentile per-packet one-way delay: 2.443 ms

Loss rate: 0.00%

Run 3: Report of FillP-Sheep — Data Link

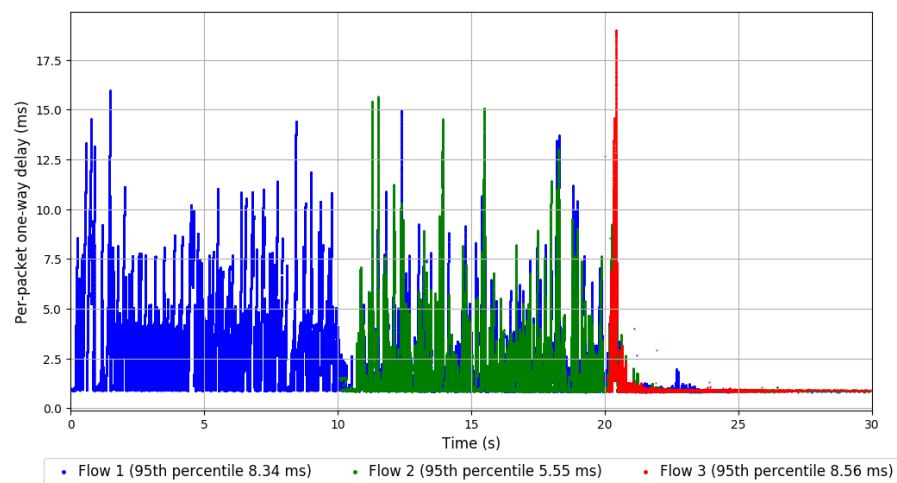
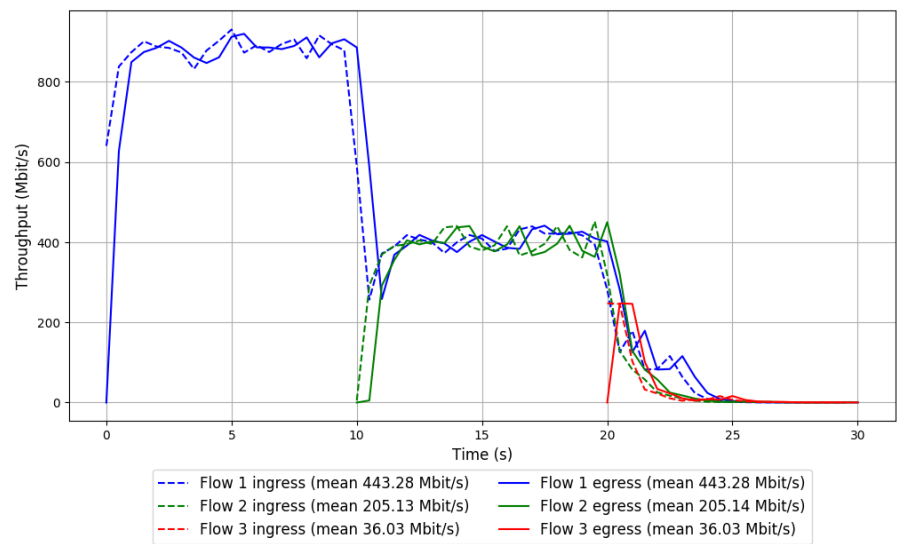


Run 4: Statistics of FillP-Sheep

Start at: 2018-11-30 16:44:53  
End at: 2018-11-30 16:45:23  
Local clock offset: -0.279 ms  
Remote clock offset: -2.199 ms

# Below is generated by plot.py at 2018-11-30 18:18:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 591.47 Mbit/s  
95th percentile per-packet one-way delay: 7.988 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 443.28 Mbit/s  
95th percentile per-packet one-way delay: 8.341 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 205.14 Mbit/s  
95th percentile per-packet one-way delay: 5.550 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 36.03 Mbit/s  
95th percentile per-packet one-way delay: 8.559 ms  
Loss rate: 0.00%

Run 4: Report of FillP-Sheep — Data Link

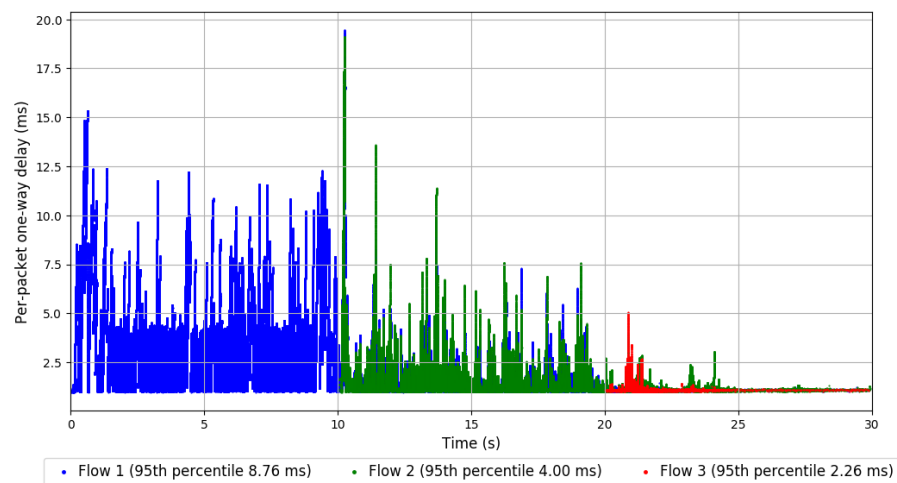
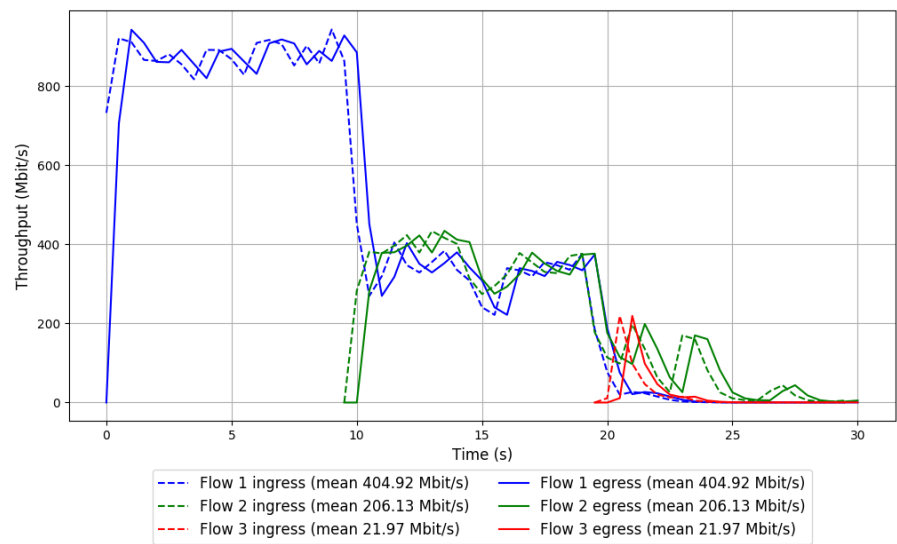


Run 5: Statistics of FillP-Sheep

Start at: 2018-11-30 17:12:29  
End at: 2018-11-30 17:13:00  
Local clock offset: -0.338 ms  
Remote clock offset: -4.196 ms

# Below is generated by plot.py at 2018-11-30 18:21:15  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 549.24 Mbit/s  
95th percentile per-packet one-way delay: 8.134 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 404.92 Mbit/s  
95th percentile per-packet one-way delay: 8.757 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 206.13 Mbit/s  
95th percentile per-packet one-way delay: 3.995 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 21.97 Mbit/s  
95th percentile per-packet one-way delay: 2.260 ms  
Loss rate: 0.00%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2018-11-30 15:34:29

End at: 2018-11-30 15:34:59

Local clock offset: 3.355 ms

Remote clock offset: 0.812 ms

# Below is generated by plot.py at 2018-11-30 18:21:15

# Datalink statistics

-- Total of 3 flows:

Average throughput: 293.19 Mbit/s

95th percentile per-packet one-way delay: 1.091 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 157.43 Mbit/s

95th percentile per-packet one-way delay: 1.023 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 144.02 Mbit/s

95th percentile per-packet one-way delay: 1.124 ms

Loss rate: 0.00%

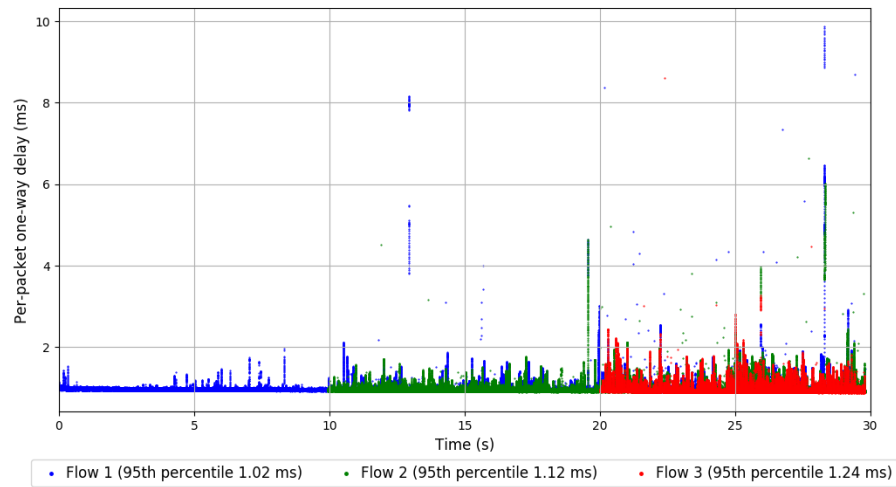
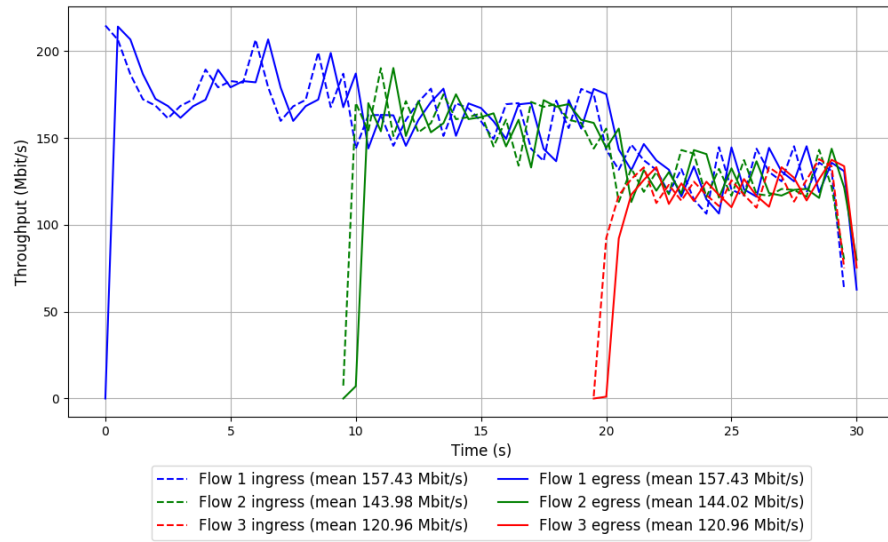
-- Flow 3:

Average throughput: 120.96 Mbit/s

95th percentile per-packet one-way delay: 1.237 ms

Loss rate: 0.00%

## Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-11-30 16:02:12

End at: 2018-11-30 16:02:42

Local clock offset: 0.331 ms

Remote clock offset: 1.368 ms

# Below is generated by plot.py at 2018-11-30 18:21:15

# Datalink statistics

-- Total of 3 flows:

Average throughput: 299.39 Mbit/s

95th percentile per-packet one-way delay: 1.220 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 160.59 Mbit/s

95th percentile per-packet one-way delay: 1.190 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 147.70 Mbit/s

95th percentile per-packet one-way delay: 1.205 ms

Loss rate: 0.00%

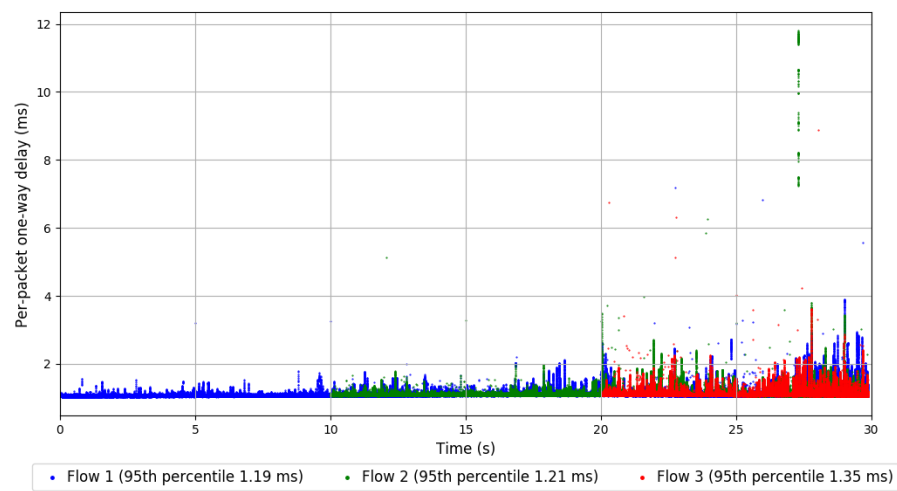
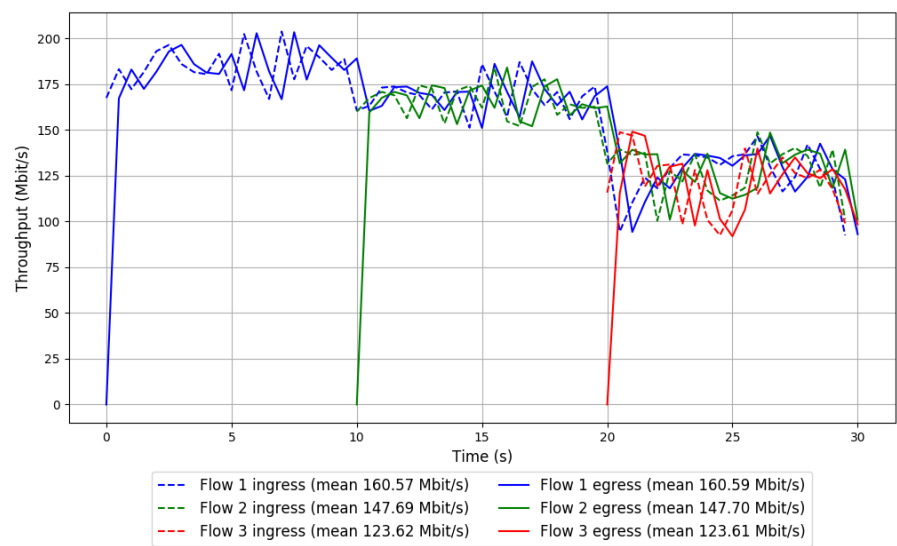
-- Flow 3:

Average throughput: 123.61 Mbit/s

95th percentile per-packet one-way delay: 1.351 ms

Loss rate: 0.02%

Run 2: Report of Indigo — Data Link

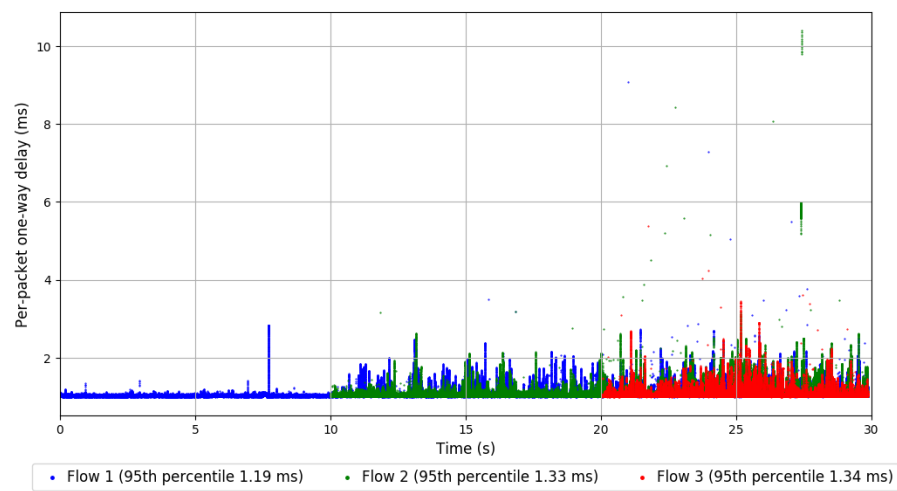
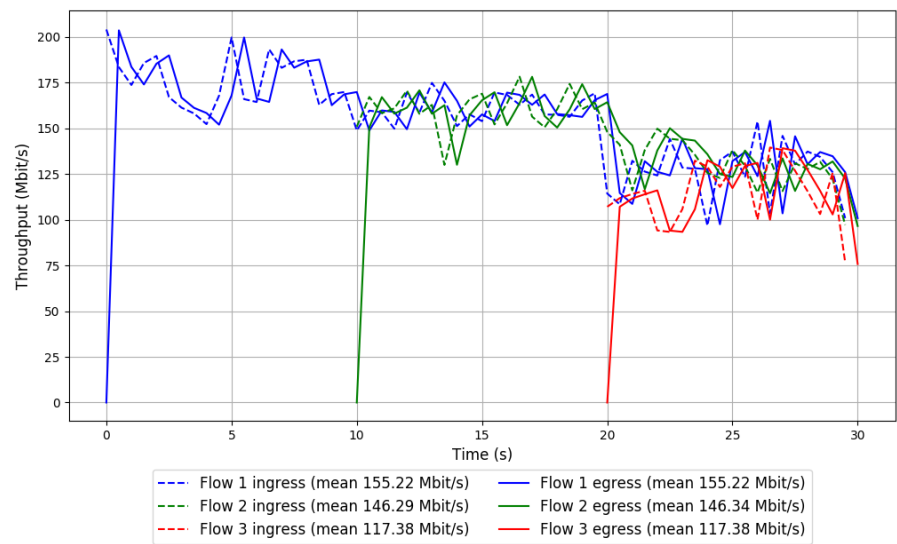


Run 3: Statistics of Indigo

Start at: 2018-11-30 16:29:56  
End at: 2018-11-30 16:30:26  
Local clock offset: -0.174 ms  
Remote clock offset: -0.033 ms

# Below is generated by plot.py at 2018-11-30 18:21:15  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 291.12 Mbit/s  
95th percentile per-packet one-way delay: 1.269 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 155.22 Mbit/s  
95th percentile per-packet one-way delay: 1.190 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 146.34 Mbit/s  
95th percentile per-packet one-way delay: 1.329 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 117.38 Mbit/s  
95th percentile per-packet one-way delay: 1.345 ms  
Loss rate: 0.05%

Run 3: Report of Indigo — Data Link

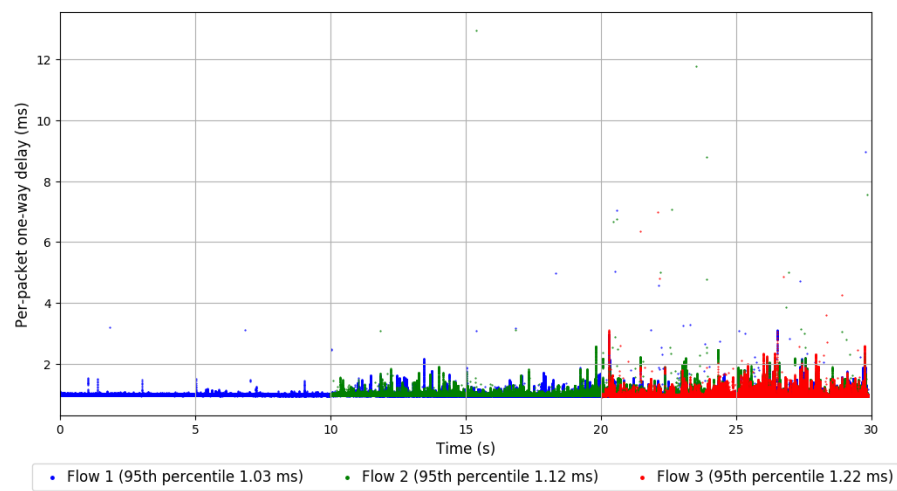
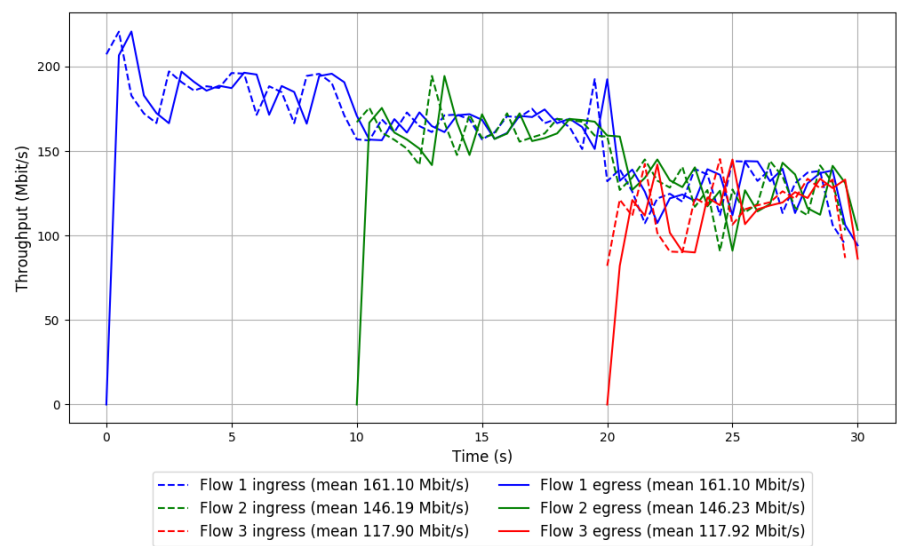


Run 4: Statistics of Indigo

Start at: 2018-11-30 16:57:22  
End at: 2018-11-30 16:57:52  
Local clock offset: -0.257 ms  
Remote clock offset: -3.624 ms

# Below is generated by plot.py at 2018-11-30 18:21:15  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 297.05 Mbit/s  
95th percentile per-packet one-way delay: 1.089 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 161.10 Mbit/s  
95th percentile per-packet one-way delay: 1.027 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 146.23 Mbit/s  
95th percentile per-packet one-way delay: 1.118 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 117.92 Mbit/s  
95th percentile per-packet one-way delay: 1.223 ms  
Loss rate: 0.03%

Run 4: Report of Indigo — Data Link

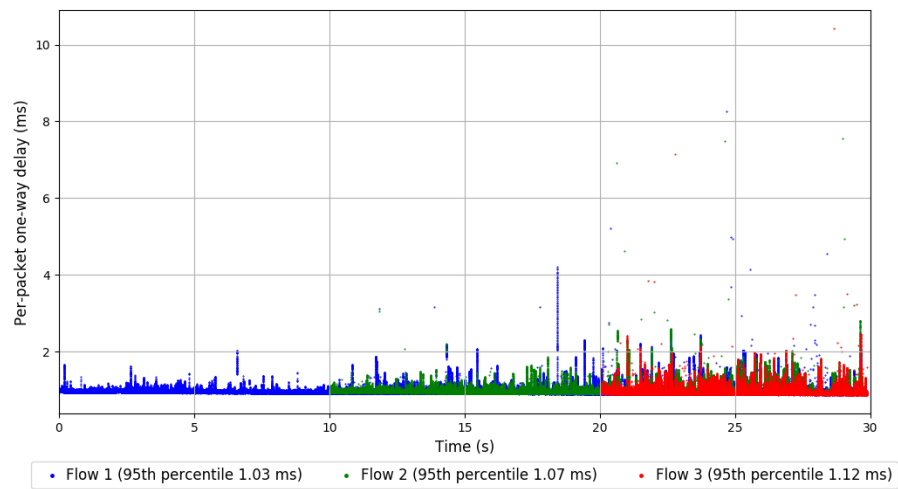
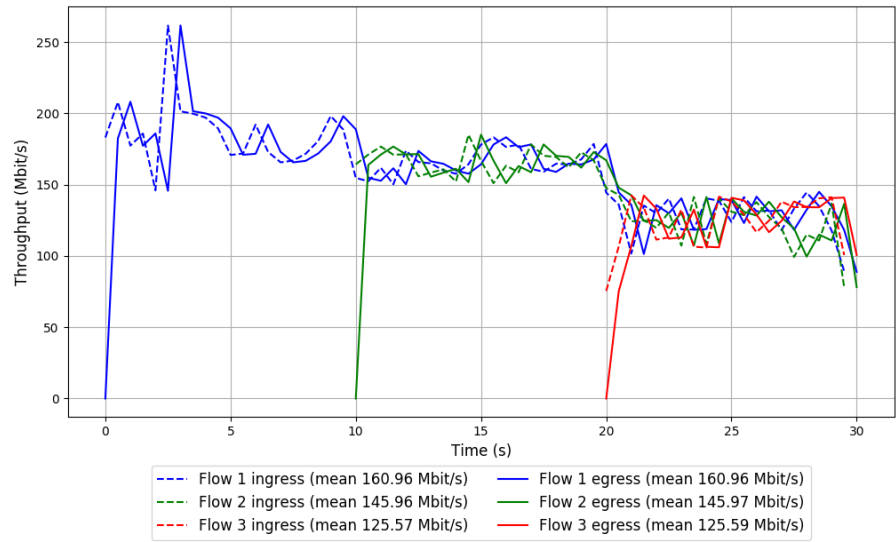


Run 5: Statistics of Indigo

Start at: 2018-11-30 17:25:00  
End at: 2018-11-30 17:25:30  
Local clock offset: 2.183 ms  
Remote clock offset: -3.664 ms

# Below is generated by plot.py at 2018-11-30 18:21:15  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 299.30 Mbit/s  
95th percentile per-packet one-way delay: 1.056 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 160.96 Mbit/s  
95th percentile per-packet one-way delay: 1.029 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 145.97 Mbit/s  
95th percentile per-packet one-way delay: 1.071 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 125.59 Mbit/s  
95th percentile per-packet one-way delay: 1.124 ms  
Loss rate: 0.01%

## Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-11-30 15:33:07

End at: 2018-11-30 15:33:37

Local clock offset: 3.255 ms

Remote clock offset: 0.858 ms

# Below is generated by plot.py at 2018-11-30 18:21:15

# Datalink statistics

-- Total of 3 flows:

Average throughput: 221.76 Mbit/s

95th percentile per-packet one-way delay: 1.019 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 132.82 Mbit/s

95th percentile per-packet one-way delay: 1.022 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 73.98 Mbit/s

95th percentile per-packet one-way delay: 0.985 ms

Loss rate: 0.00%

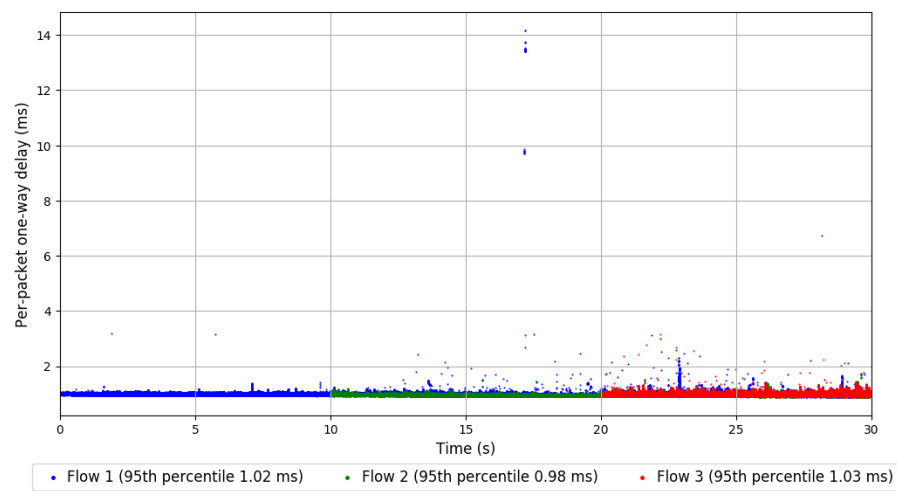
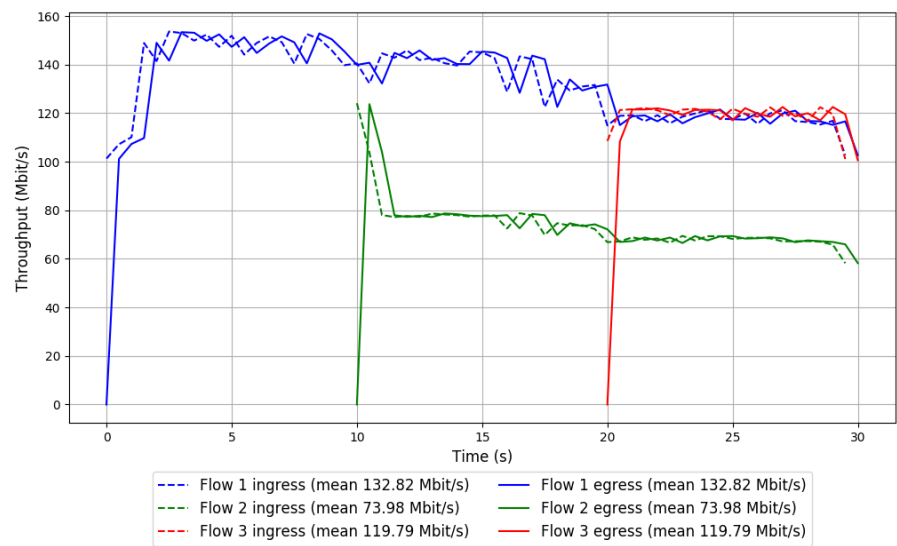
-- Flow 3:

Average throughput: 119.79 Mbit/s

95th percentile per-packet one-way delay: 1.035 ms

Loss rate: 0.02%

Run 1: Report of Indigo-96d2da3 — Data Link



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-11-30 16:00:52

End at: 2018-11-30 16:01:22

Local clock offset: 0.421 ms

Remote clock offset: 1.284 ms

# Below is generated by plot.py at 2018-11-30 18:21:15

# Datalink statistics

-- Total of 3 flows:

Average throughput: 187.34 Mbit/s

95th percentile per-packet one-way delay: 1.182 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 75.70 Mbit/s

95th percentile per-packet one-way delay: 1.153 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 119.32 Mbit/s

95th percentile per-packet one-way delay: 1.192 ms

Loss rate: 0.01%

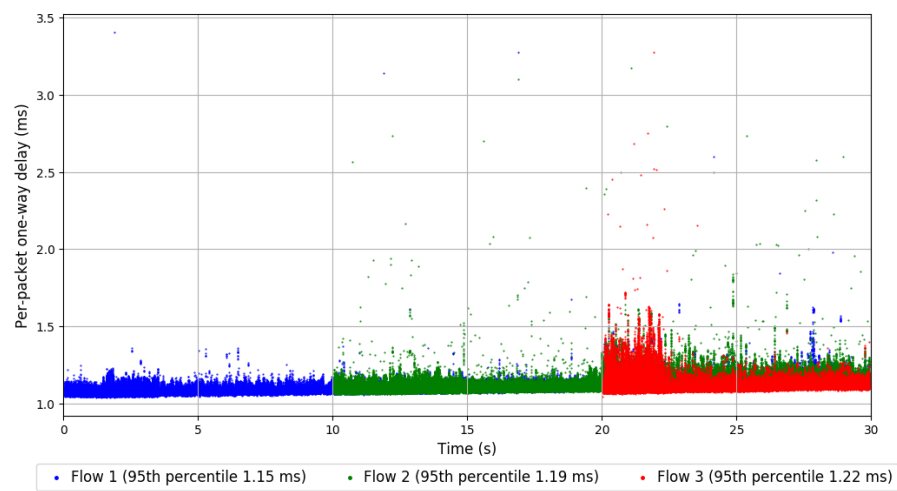
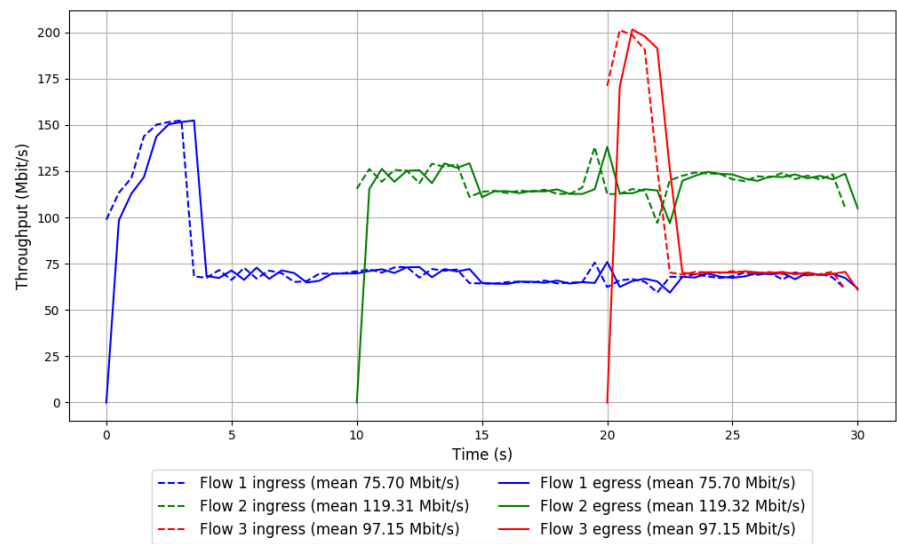
-- Flow 3:

Average throughput: 97.15 Mbit/s

95th percentile per-packet one-way delay: 1.224 ms

Loss rate: 0.01%

Run 2: Report of Indigo-96d2da3 — Data Link



Run 3: Statistics of Indigo-96d2da3

Start at: 2018-11-30 16:28:34

End at: 2018-11-30 16:29:04

Local clock offset: -0.168 ms

Remote clock offset: 0.027 ms

# Below is generated by plot.py at 2018-11-30 18:21:15

# Datalink statistics

-- Total of 3 flows:

Average throughput: 246.95 Mbit/s

95th percentile per-packet one-way delay: 1.057 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 128.92 Mbit/s

95th percentile per-packet one-way delay: 1.036 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 119.16 Mbit/s

95th percentile per-packet one-way delay: 1.069 ms

Loss rate: 0.00%

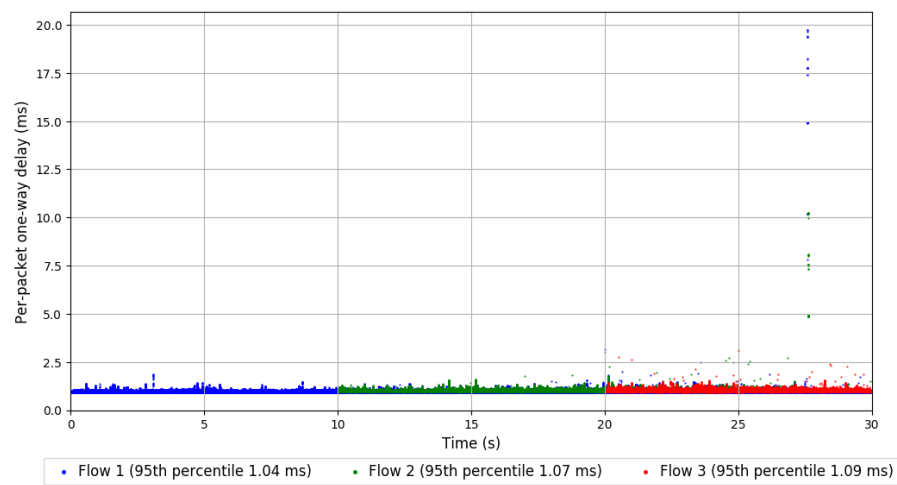
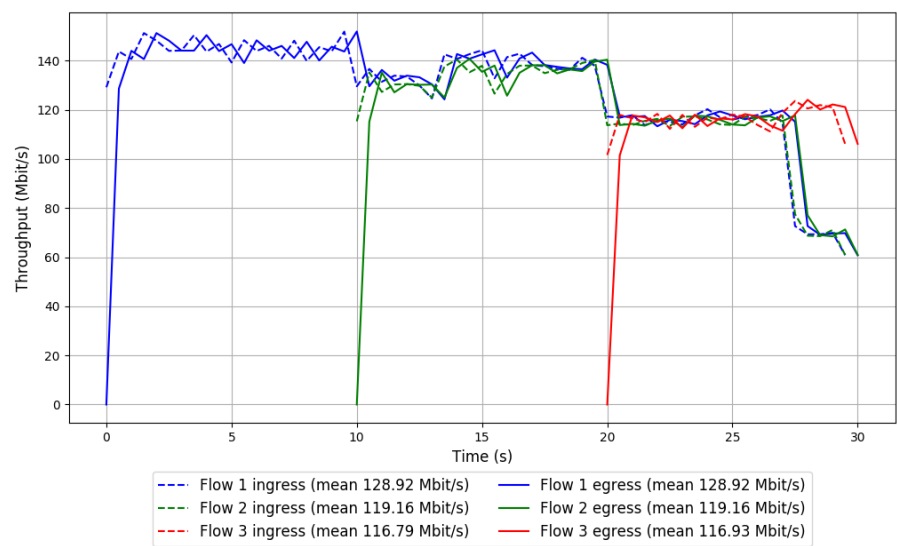
-- Flow 3:

Average throughput: 116.93 Mbit/s

95th percentile per-packet one-way delay: 1.088 ms

Loss rate: 0.00%

Run 3: Report of Indigo-96d2da3 — Data Link

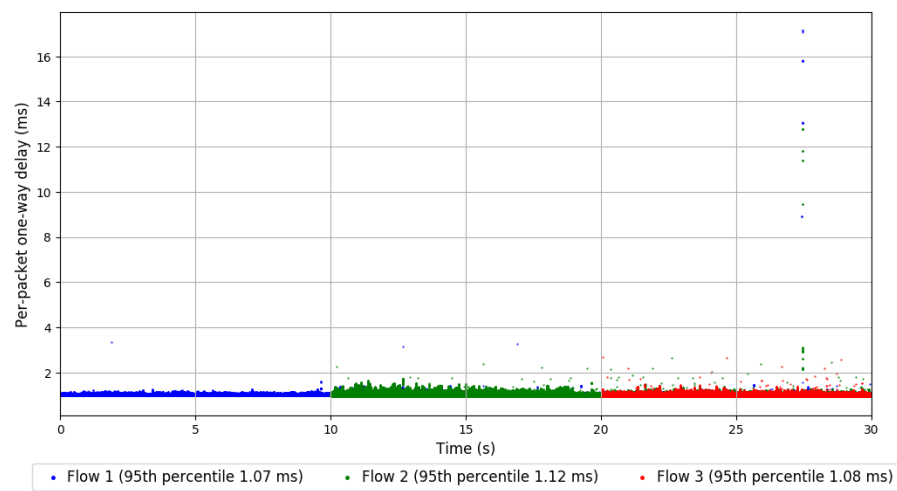
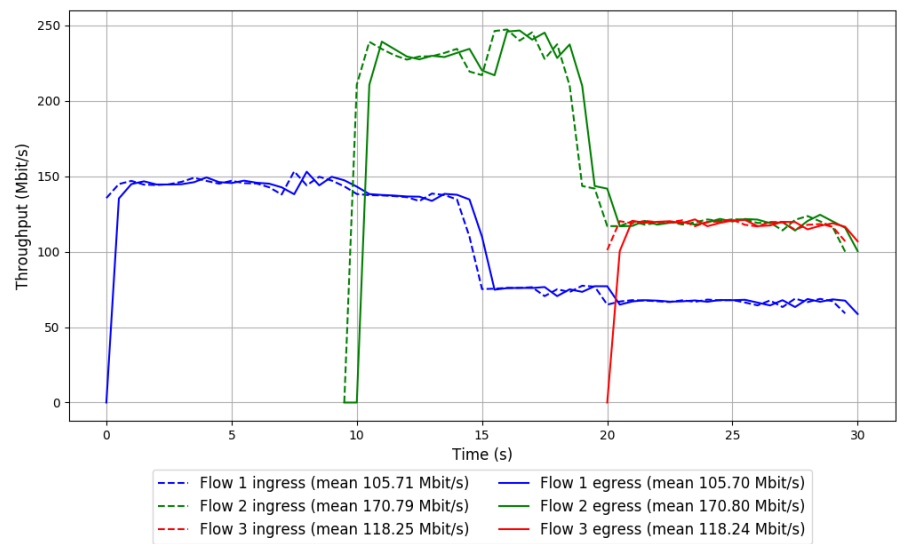


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-11-30 16:55:59  
End at: 2018-11-30 16:56:29  
Local clock offset: -0.25 ms  
Remote clock offset: -3.543 ms

# Below is generated by plot.py at 2018-11-30 18:21:19  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 258.64 Mbit/s  
95th percentile per-packet one-way delay: 1.095 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 105.70 Mbit/s  
95th percentile per-packet one-way delay: 1.074 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 170.80 Mbit/s  
95th percentile per-packet one-way delay: 1.124 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 118.24 Mbit/s  
95th percentile per-packet one-way delay: 1.082 ms  
Loss rate: 0.01%

Run 4: Report of Indigo-96d2da3 — Data Link



Run 5: Statistics of Indigo-96d2da3

Start at: 2018-11-30 17:23:36

End at: 2018-11-30 17:24:06

Local clock offset: 1.976 ms

Remote clock offset: -3.69 ms

# Below is generated by plot.py at 2018-11-30 18:22:25

# Datalink statistics

-- Total of 3 flows:

Average throughput: 299.34 Mbit/s

95th percentile per-packet one-way delay: 1.085 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 200.52 Mbit/s

95th percentile per-packet one-way delay: 1.105 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 89.69 Mbit/s

95th percentile per-packet one-way delay: 1.040 ms

Loss rate: 0.01%

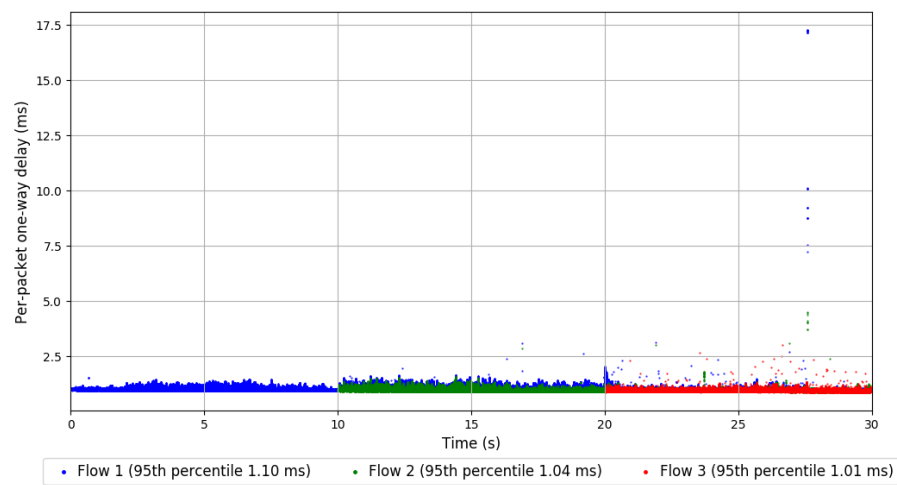
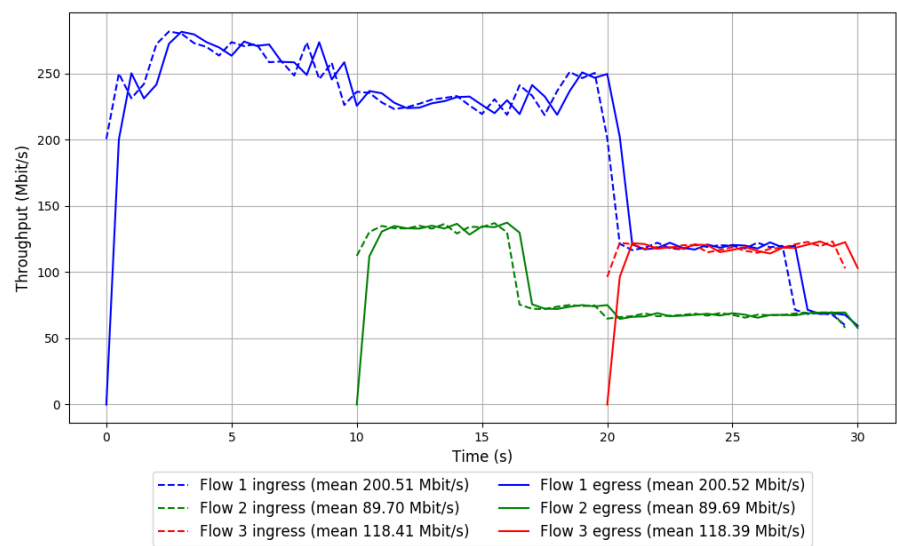
-- Flow 3:

Average throughput: 118.39 Mbit/s

95th percentile per-packet one-way delay: 1.007 ms

Loss rate: 0.02%

Run 5: Report of Indigo-96d2da3 — Data Link

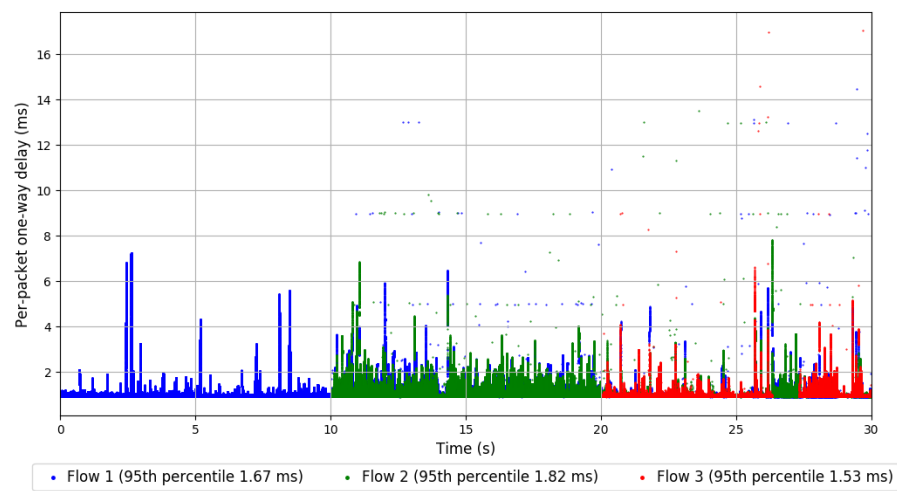
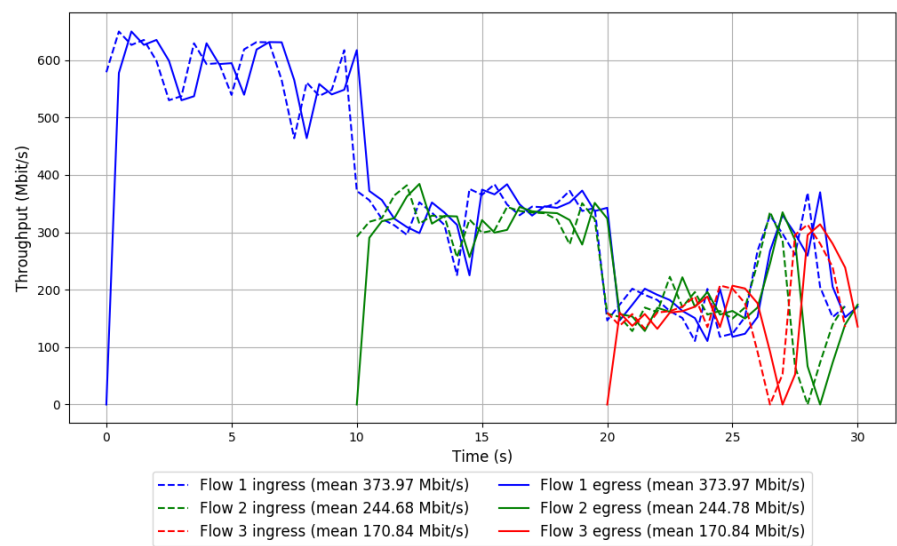


```
Run 1: Statistics of LEDBAT

Start at: 2018-11-30 15:37:30
End at: 2018-11-30 15:38:00
Local clock offset: 3.572 ms
Remote clock offset: 0.748 ms

# Below is generated by plot.py at 2018-11-30 18:26:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 593.56 Mbit/s
95th percentile per-packet one-way delay: 1.705 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 373.97 Mbit/s
95th percentile per-packet one-way delay: 1.671 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 244.78 Mbit/s
95th percentile per-packet one-way delay: 1.822 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 170.84 Mbit/s
95th percentile per-packet one-way delay: 1.533 ms
Loss rate: 0.02%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-11-30 16:05:10

End at: 2018-11-30 16:05:40

Local clock offset: 0.142 ms

Remote clock offset: 0.95 ms

# Below is generated by plot.py at 2018-11-30 18:26:40

# Datalink statistics

-- Total of 3 flows:

Average throughput: 591.60 Mbit/s

95th percentile per-packet one-way delay: 1.762 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 363.47 Mbit/s

95th percentile per-packet one-way delay: 1.641 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 253.94 Mbit/s

95th percentile per-packet one-way delay: 1.965 ms

Loss rate: 0.00%

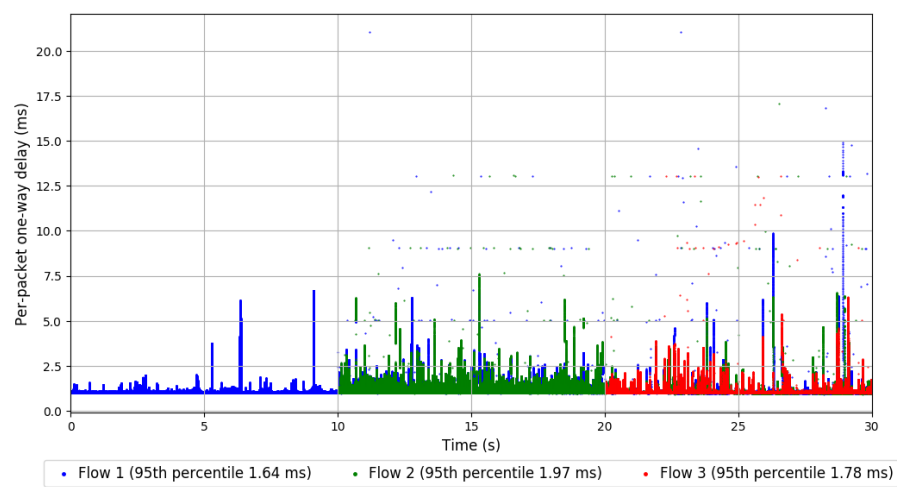
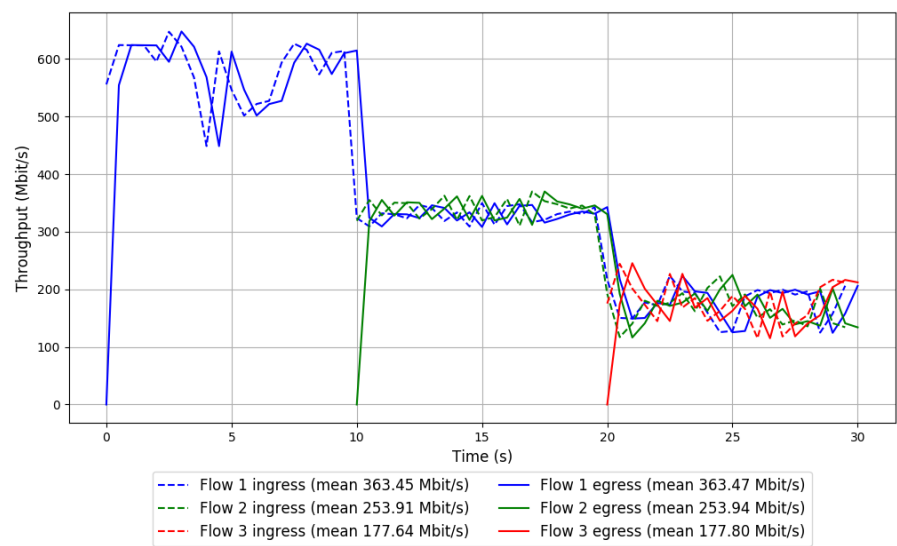
-- Flow 3:

Average throughput: 177.80 Mbit/s

95th percentile per-packet one-way delay: 1.776 ms

Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

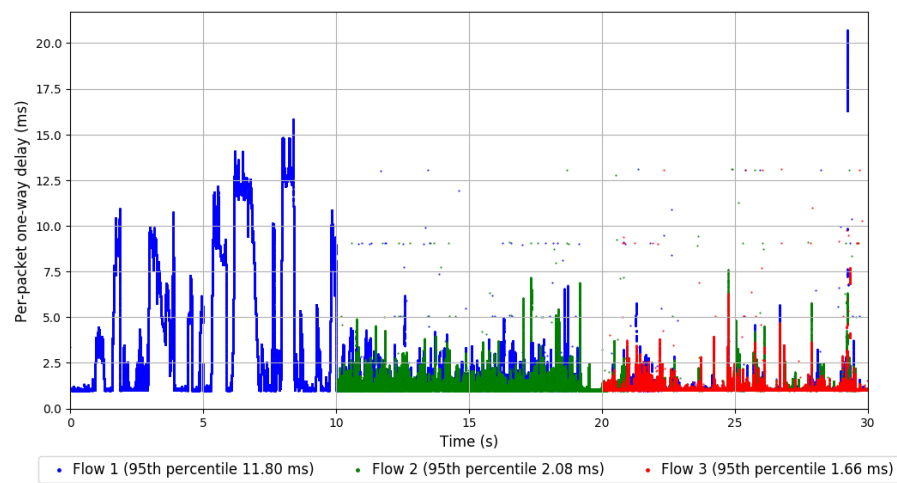
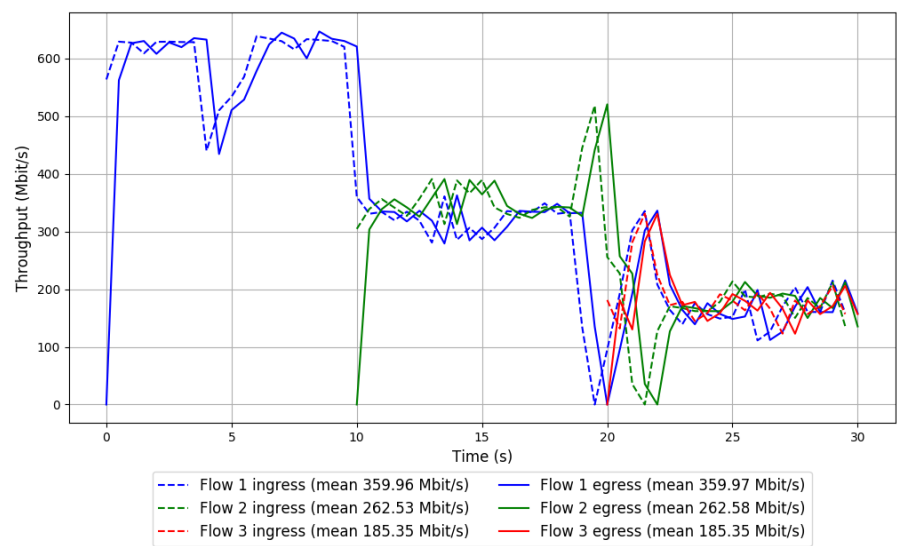


Run 3: Statistics of LEDBAT

Start at: 2018-11-30 16:32:55  
End at: 2018-11-30 16:33:25  
Local clock offset: -0.194 ms  
Remote clock offset: -0.017 ms

# Below is generated by plot.py at 2018-11-30 18:27:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 596.34 Mbit/s  
95th percentile per-packet one-way delay: 9.689 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 359.97 Mbit/s  
95th percentile per-packet one-way delay: 11.800 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 262.58 Mbit/s  
95th percentile per-packet one-way delay: 2.081 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 185.35 Mbit/s  
95th percentile per-packet one-way delay: 1.662 ms  
Loss rate: 0.01%

Run 3: Report of LEDBAT — Data Link

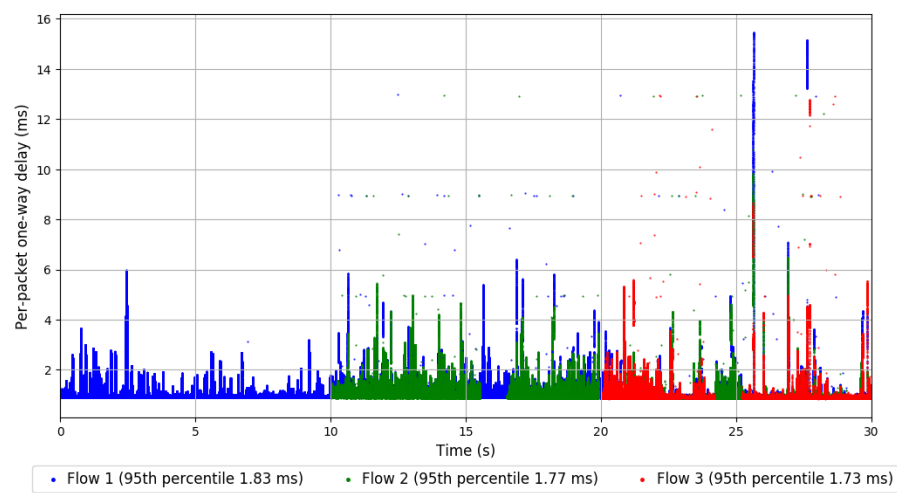
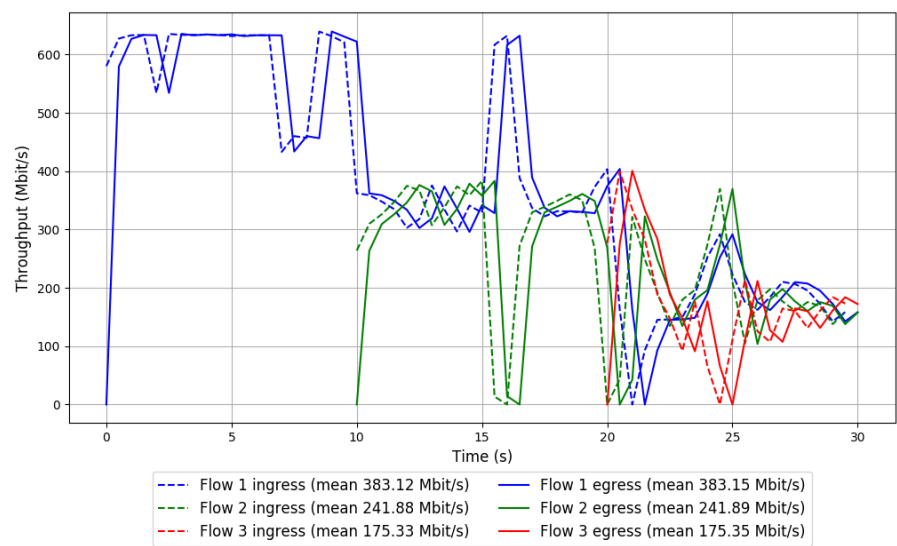


Run 4: Statistics of LEDBAT

Start at: 2018-11-30 17:00:22  
End at: 2018-11-30 17:00:52  
Local clock offset: -0.272 ms  
Remote clock offset: -3.758 ms

# Below is generated by plot.py at 2018-11-30 18:27:34  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 602.56 Mbit/s  
95th percentile per-packet one-way delay: 1.807 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 383.15 Mbit/s  
95th percentile per-packet one-way delay: 1.829 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 241.89 Mbit/s  
95th percentile per-packet one-way delay: 1.774 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 175.35 Mbit/s  
95th percentile per-packet one-way delay: 1.727 ms  
Loss rate: 0.04%

Run 4: Report of LEDBAT — Data Link

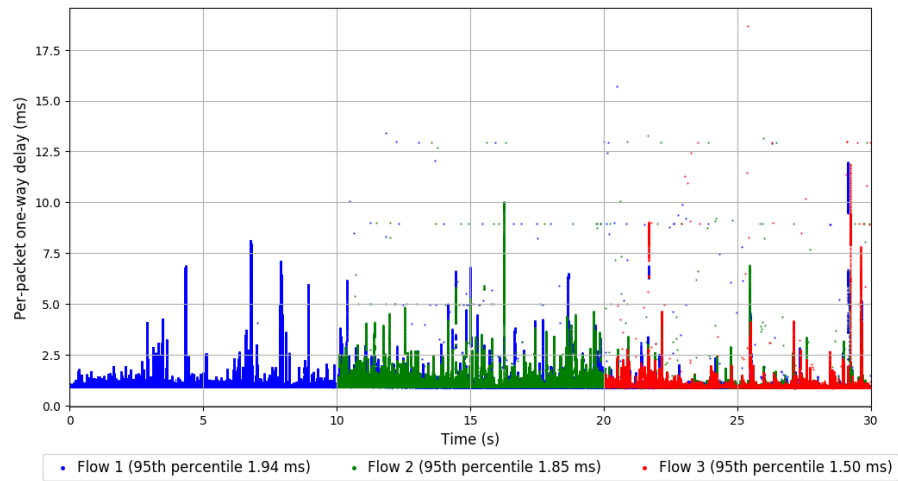
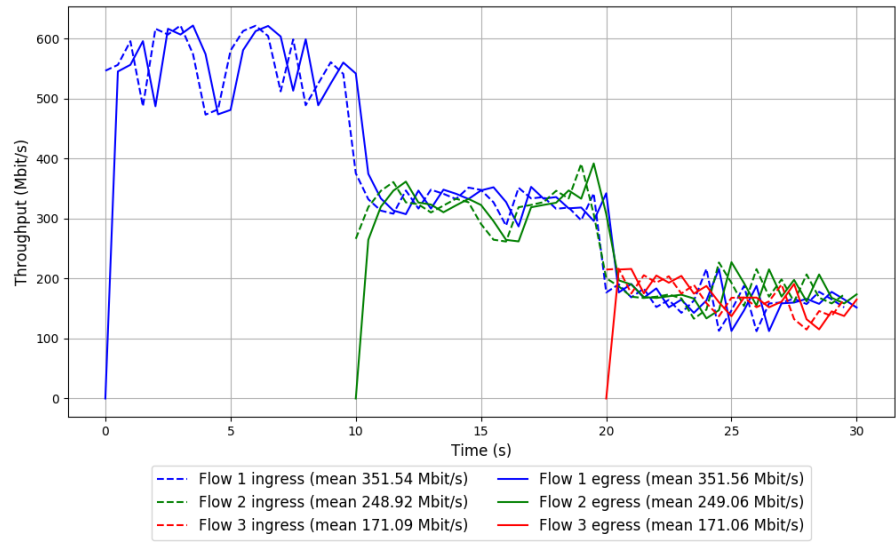


Run 5: Statistics of LEDBAT

Start at: 2018-11-30 17:27:58  
End at: 2018-11-30 17:28:28  
Local clock offset: 2.566 ms  
Remote clock offset: -3.629 ms

# Below is generated by plot.py at 2018-11-30 18:27:34  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 574.13 Mbit/s  
95th percentile per-packet one-way delay: 1.853 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 351.56 Mbit/s  
95th percentile per-packet one-way delay: 1.936 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 249.06 Mbit/s  
95th percentile per-packet one-way delay: 1.847 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 171.06 Mbit/s  
95th percentile per-packet one-way delay: 1.501 ms  
Loss rate: 0.03%

# Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of Indigo-Muses

Start at: 2018-11-30 15:24:38

End at: 2018-11-30 15:25:08

Local clock offset: 2.359 ms

Remote clock offset: 1.115 ms

# Below is generated by plot.py at 2018-11-30 18:27:34

# Datalink statistics

-- Total of 3 flows:

Average throughput: 88.48 Mbit/s

95th percentile per-packet one-way delay: 0.936 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 42.63 Mbit/s

95th percentile per-packet one-way delay: 0.945 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 44.69 Mbit/s

95th percentile per-packet one-way delay: 0.929 ms

Loss rate: 0.01%

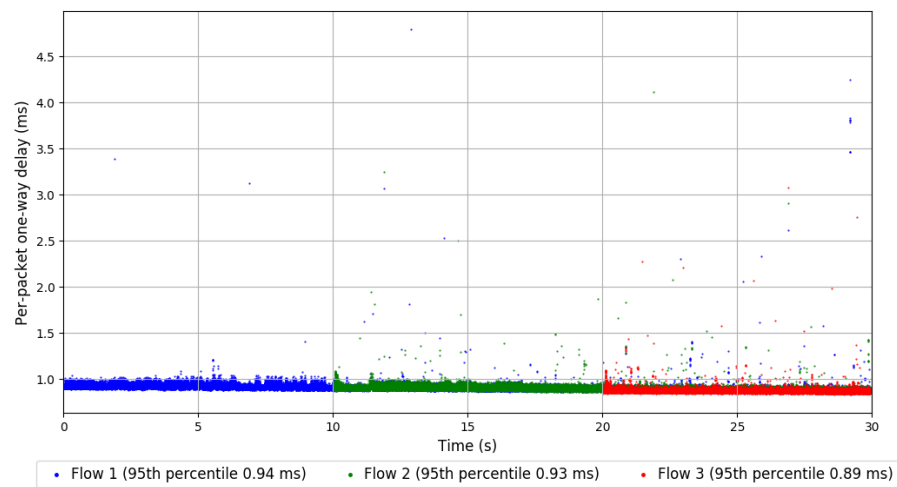
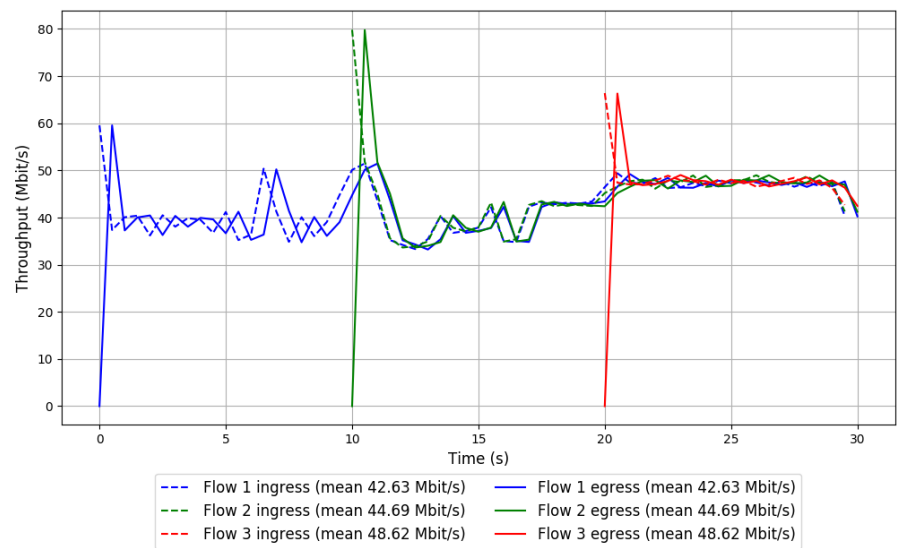
-- Flow 3:

Average throughput: 48.62 Mbit/s

95th percentile per-packet one-way delay: 0.894 ms

Loss rate: 0.02%

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-11-30 15:52:24

End at: 2018-11-30 15:52:54

Local clock offset: 1.578 ms

Remote clock offset: 0.983 ms

# Below is generated by plot.py at 2018-11-30 18:27:34

# Datalink statistics

-- Total of 3 flows:

Average throughput: 91.10 Mbit/s

95th percentile per-packet one-way delay: 1.250 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 47.85 Mbit/s

95th percentile per-packet one-way delay: 1.247 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 41.92 Mbit/s

95th percentile per-packet one-way delay: 1.251 ms

Loss rate: 0.01%

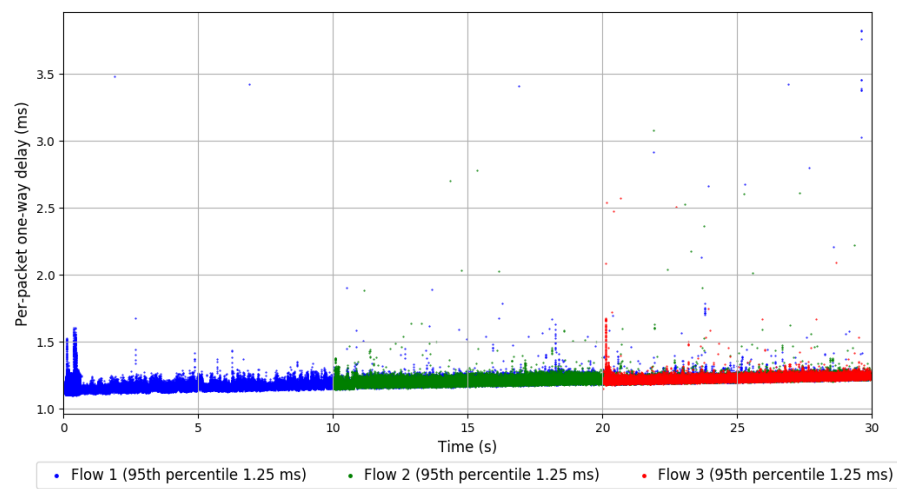
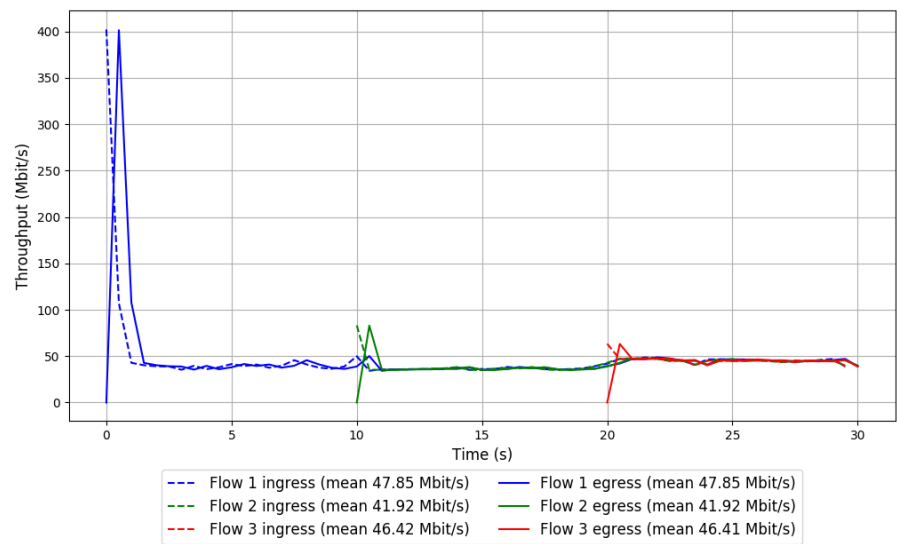
-- Flow 3:

Average throughput: 46.41 Mbit/s

95th percentile per-packet one-way delay: 1.254 ms

Loss rate: 0.02%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-11-30 16:20:12

End at: 2018-11-30 16:20:42

Local clock offset: -0.165 ms

Remote clock offset: 0.094 ms

# Below is generated by plot.py at 2018-11-30 18:27:34

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.66 Mbit/s

95th percentile per-packet one-way delay: 1.025 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 41.89 Mbit/s

95th percentile per-packet one-way delay: 1.035 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 43.01 Mbit/s

95th percentile per-packet one-way delay: 1.008 ms

Loss rate: 0.01%

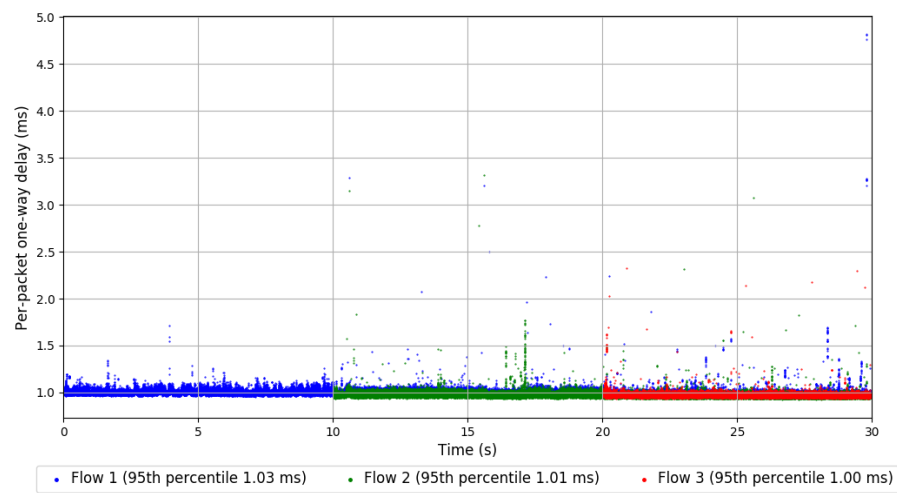
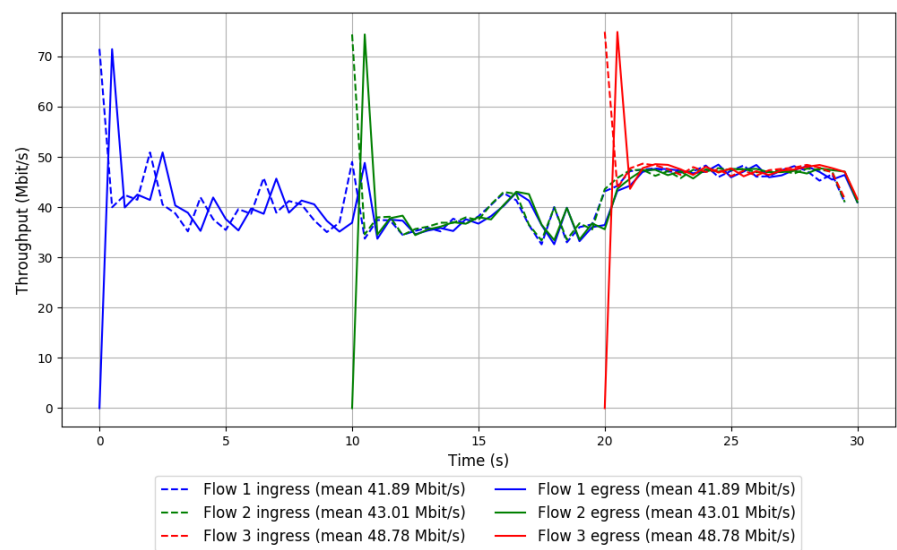
-- Flow 3:

Average throughput: 48.78 Mbit/s

95th percentile per-packet one-way delay: 0.998 ms

Loss rate: 0.01%

Run 3: Report of Indigo-Muses — Data Link

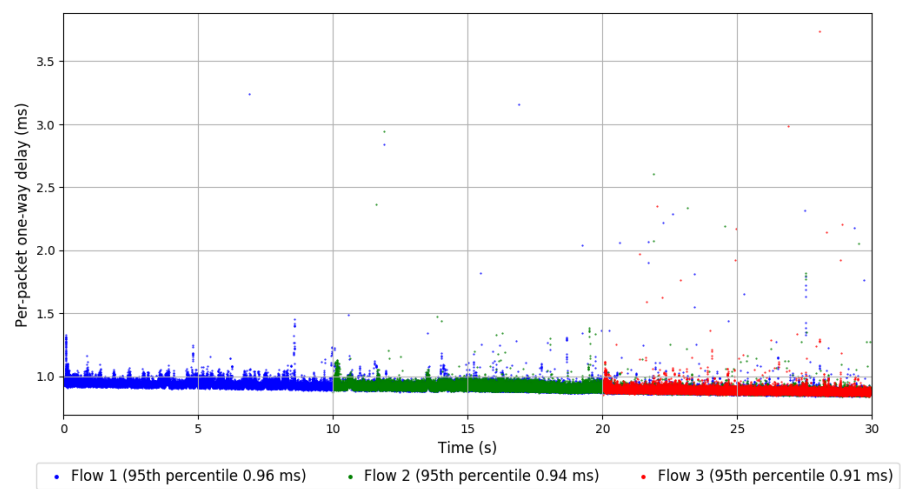
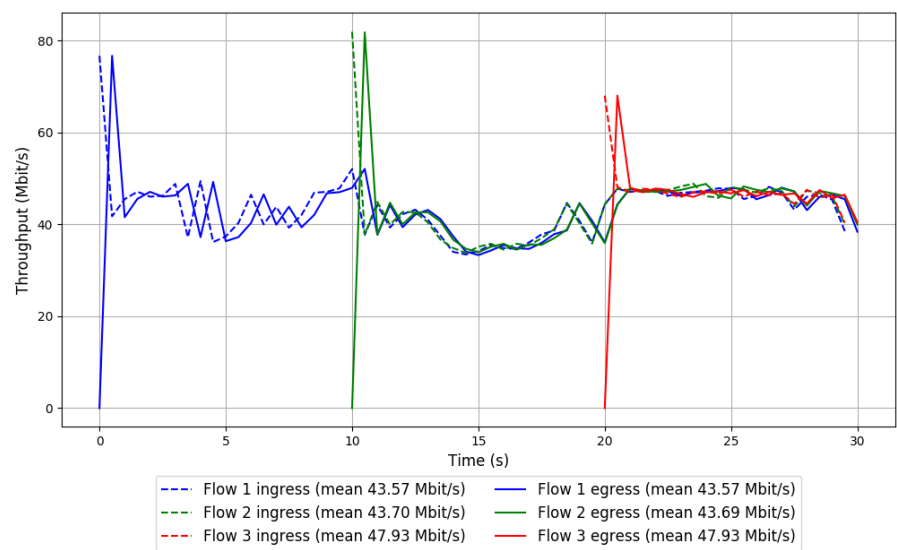


Run 4: Statistics of Indigo-Muses

Start at: 2018-11-30 16:47:41  
End at: 2018-11-30 16:48:11  
Local clock offset: -0.268 ms  
Remote clock offset: -2.624 ms

# Below is generated by plot.py at 2018-11-30 18:27:34  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 88.54 Mbit/s  
95th percentile per-packet one-way delay: 0.955 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 43.57 Mbit/s  
95th percentile per-packet one-way delay: 0.964 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 43.69 Mbit/s  
95th percentile per-packet one-way delay: 0.944 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 47.93 Mbit/s  
95th percentile per-packet one-way delay: 0.914 ms  
Loss rate: 0.01%

Run 4: Report of Indigo-Muses — Data Link

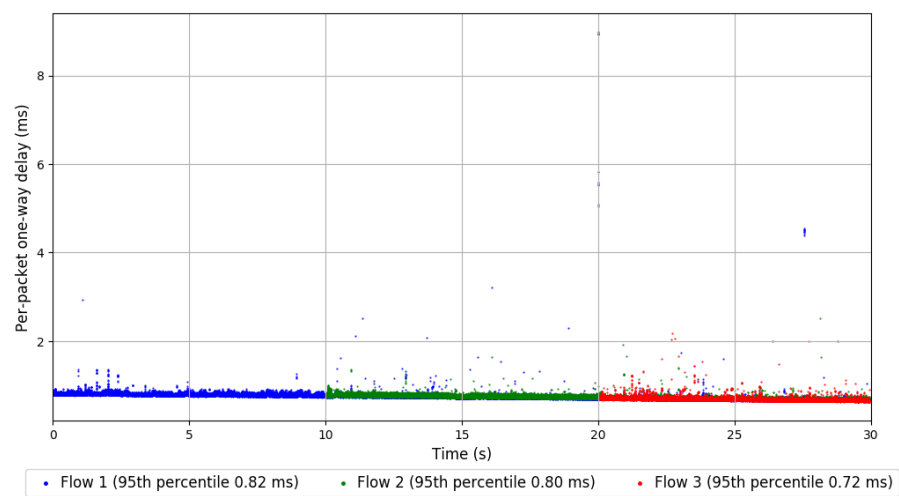
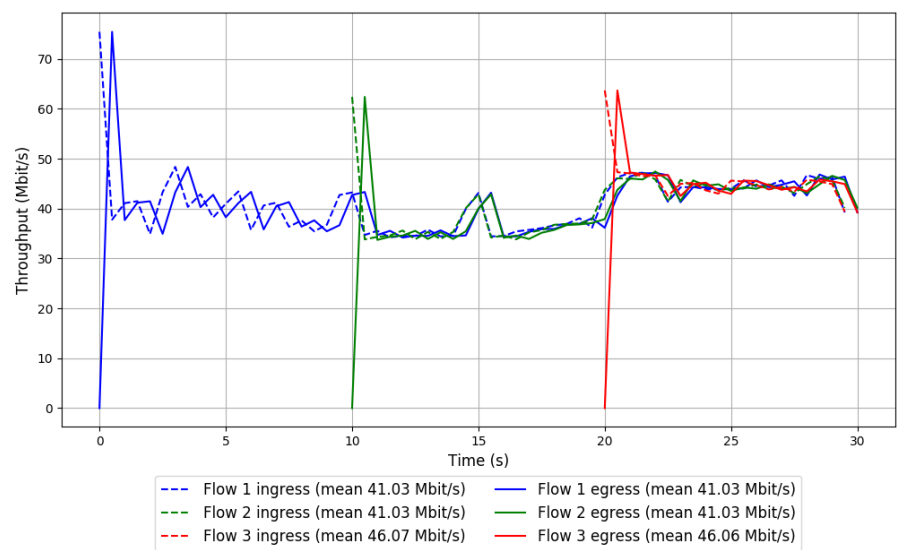


Run 5: Statistics of Indigo-Muses

Start at: 2018-11-30 17:15:14  
End at: 2018-11-30 17:15:44  
Local clock offset: -0.219 ms  
Remote clock offset: -3.954 ms

# Below is generated by plot.py at 2018-11-30 18:27:34  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 83.59 Mbit/s  
95th percentile per-packet one-way delay: 0.811 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 41.03 Mbit/s  
95th percentile per-packet one-way delay: 0.822 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 41.03 Mbit/s  
95th percentile per-packet one-way delay: 0.795 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 46.06 Mbit/s  
95th percentile per-packet one-way delay: 0.725 ms  
Loss rate: 0.01%

Run 5: Report of Indigo-Muses — Data Link

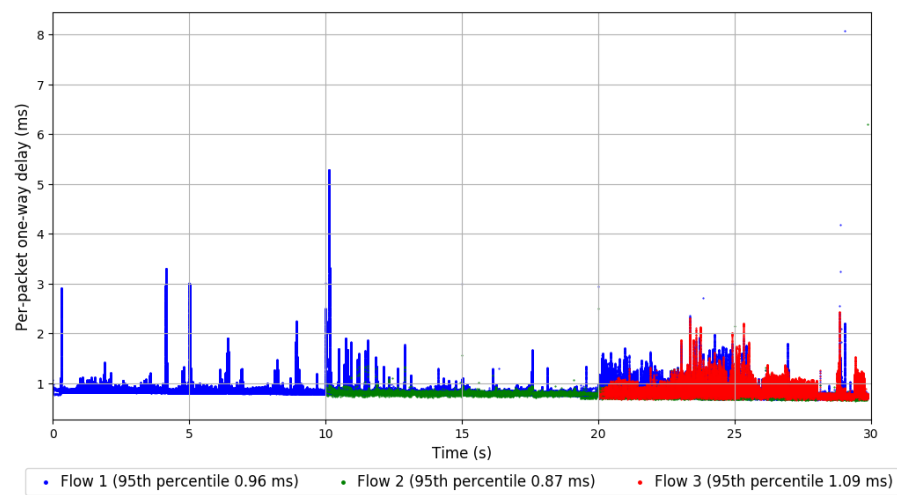
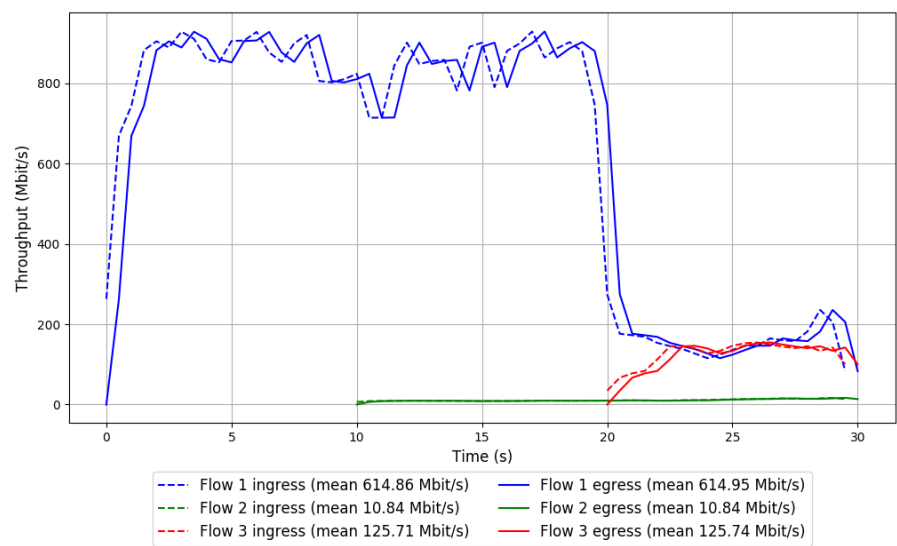


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-11-30 15:28:55
End at: 2018-11-30 15:29:25
Local clock offset: 2.873 ms
Remote clock offset: 1.307 ms

# Below is generated by plot.py at 2018-11-30 18:31:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 663.47 Mbit/s
95th percentile per-packet one-way delay: 0.979 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 614.95 Mbit/s
95th percentile per-packet one-way delay: 0.961 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 10.84 Mbit/s
95th percentile per-packet one-way delay: 0.871 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 125.74 Mbit/s
95th percentile per-packet one-way delay: 1.087 ms
Loss rate: 0.02%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-11-30 15:56:41

End at: 2018-11-30 15:57:11

Local clock offset: 0.876 ms

Remote clock offset: 1.137 ms

# Below is generated by plot.py at 2018-11-30 18:31:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 699.88 Mbit/s

95th percentile per-packet one-way delay: 150.479 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 476.67 Mbit/s

95th percentile per-packet one-way delay: 161.897 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 268.08 Mbit/s

95th percentile per-packet one-way delay: 7.354 ms

Loss rate: 0.00%

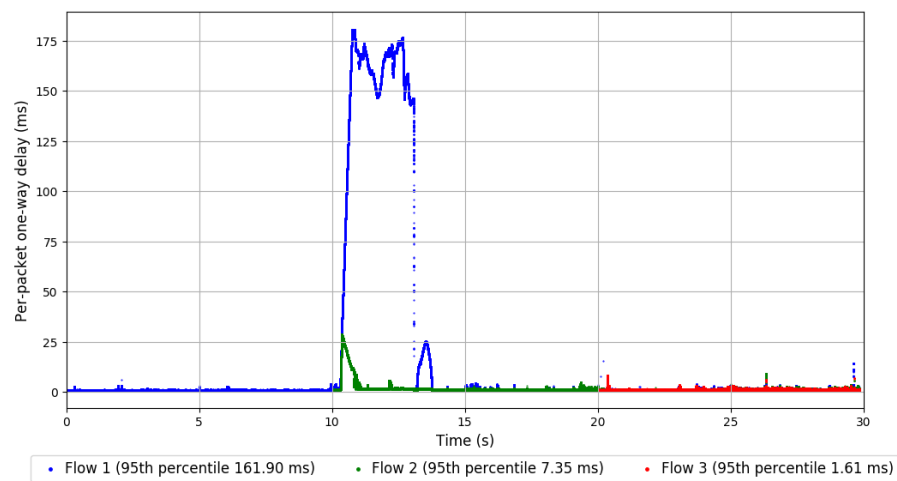
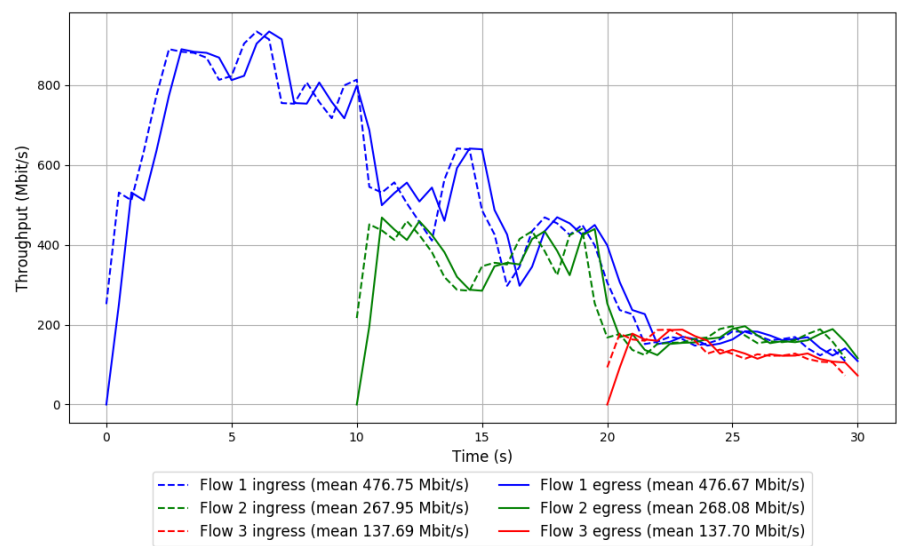
-- Flow 3:

Average throughput: 137.70 Mbit/s

95th percentile per-packet one-way delay: 1.611 ms

Loss rate: 0.01%

Run 2: Report of PCC-Allegro — Data Link

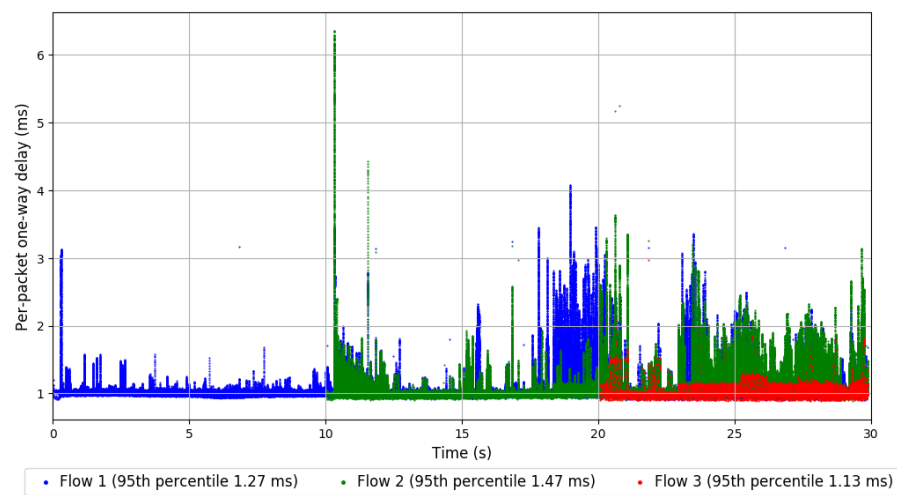
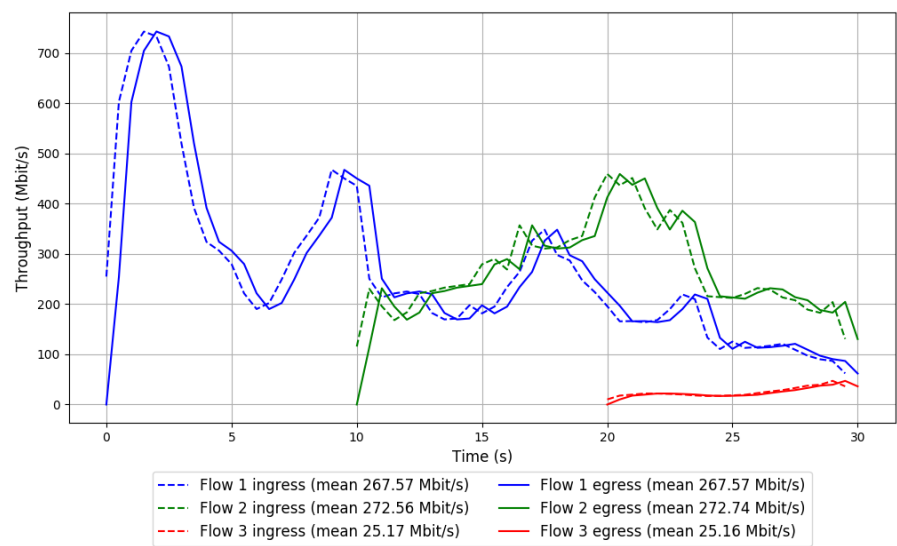


Run 3: Statistics of PCC-Allegro

Start at: 2018-11-30 16:24:29  
End at: 2018-11-30 16:24:59  
Local clock offset: -0.176 ms  
Remote clock offset: -0.009 ms

# Below is generated by plot.py at 2018-11-30 18:31:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 457.06 Mbit/s  
95th percentile per-packet one-way delay: 1.372 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 267.57 Mbit/s  
95th percentile per-packet one-way delay: 1.271 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 272.74 Mbit/s  
95th percentile per-packet one-way delay: 1.469 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 25.16 Mbit/s  
95th percentile per-packet one-way delay: 1.130 ms  
Loss rate: 0.03%

Run 3: Report of PCC-Allegro — Data Link

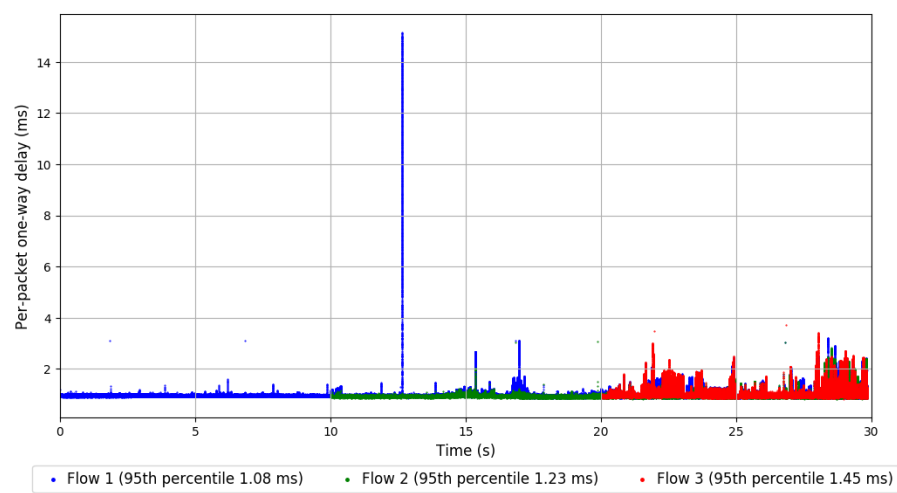
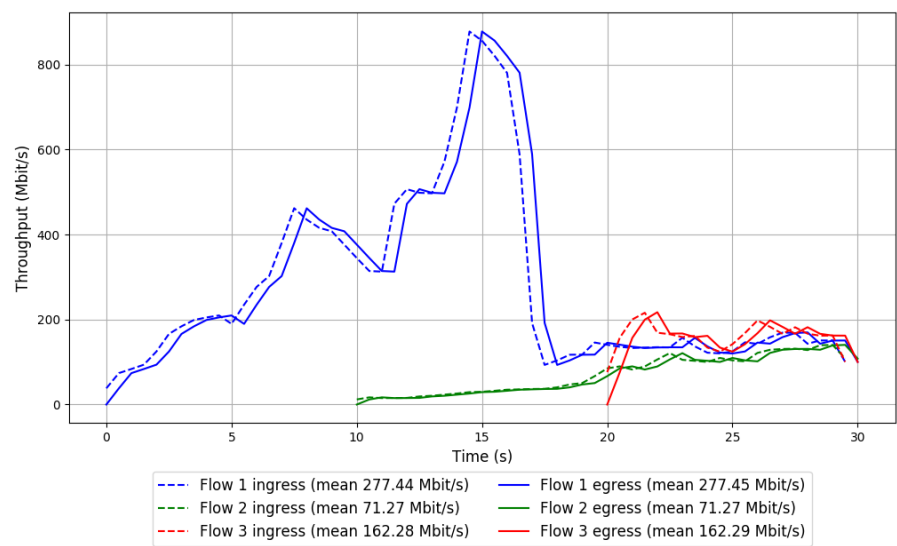


Run 4: Statistics of PCC-Allegro

Start at: 2018-11-30 16:51:57  
End at: 2018-11-30 16:52:27  
Local clock offset: -0.256 ms  
Remote clock offset: -3.168 ms

# Below is generated by plot.py at 2018-11-30 18:31:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 378.28 Mbit/s  
95th percentile per-packet one-way delay: 1.148 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 277.45 Mbit/s  
95th percentile per-packet one-way delay: 1.077 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 71.27 Mbit/s  
95th percentile per-packet one-way delay: 1.232 ms  
Loss rate: 0.03%  
-- Flow 3:  
Average throughput: 162.29 Mbit/s  
95th percentile per-packet one-way delay: 1.454 ms  
Loss rate: 0.02%

Run 4: Report of PCC-Allegro — Data Link

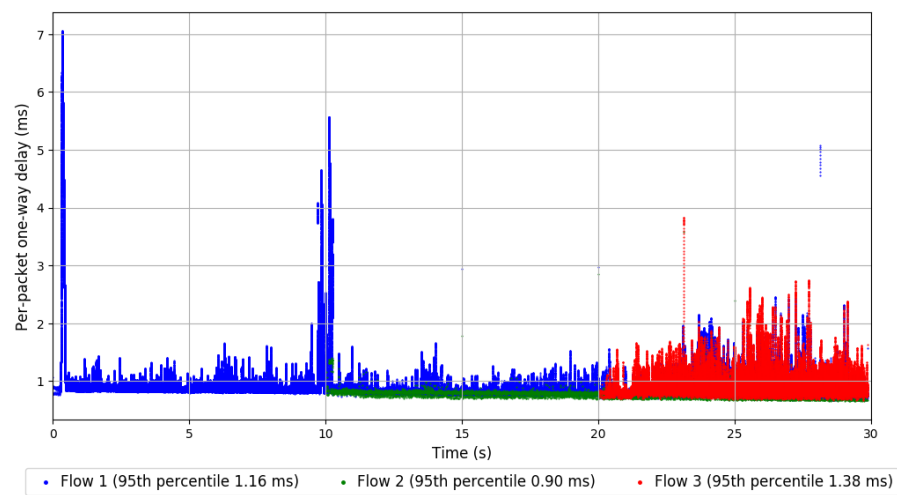
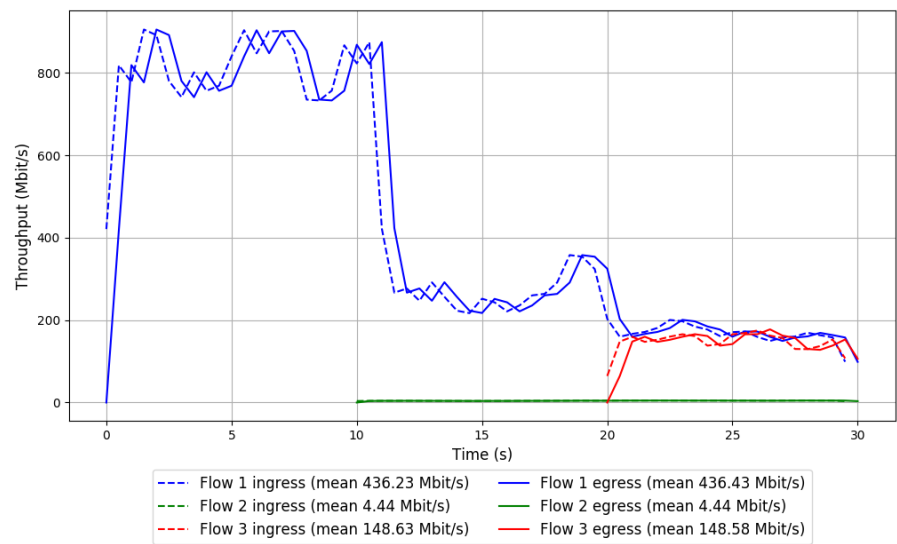


Run 5: Statistics of PCC-Allegro

Start at: 2018-11-30 17:19:31  
End at: 2018-11-30 17:20:01  
Local clock offset: 1.097 ms  
Remote clock offset: -3.749 ms

# Below is generated by plot.py at 2018-11-30 18:32:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 488.30 Mbit/s  
95th percentile per-packet one-way delay: 1.204 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 436.43 Mbit/s  
95th percentile per-packet one-way delay: 1.155 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 4.44 Mbit/s  
95th percentile per-packet one-way delay: 0.904 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 148.58 Mbit/s  
95th percentile per-packet one-way delay: 1.380 ms  
Loss rate: 0.04%

Run 5: Report of PCC-Allegro — Data Link

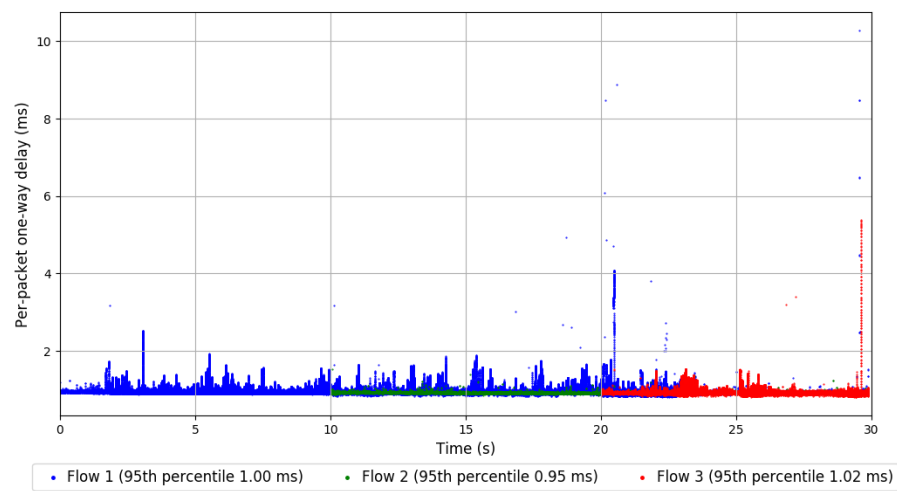
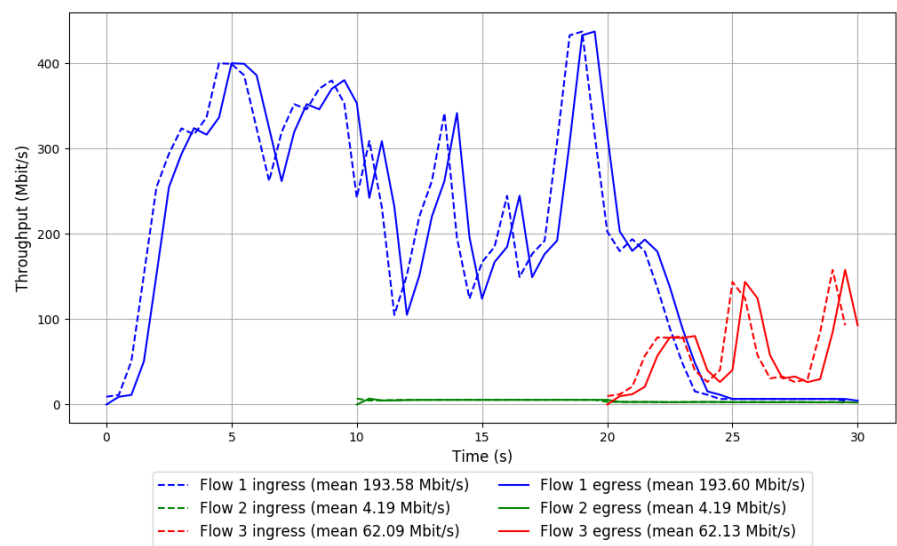


```
Run 1: Statistics of PCC-Expr

Start at: 2018-11-30 15:41:50
End at: 2018-11-30 15:42:20
Local clock offset: 3.829 ms
Remote clock offset: 0.777 ms

# Below is generated by plot.py at 2018-11-30 18:32:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 216.87 Mbit/s
95th percentile per-packet one-way delay: 1.000 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 193.60 Mbit/s
95th percentile per-packet one-way delay: 0.999 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 4.19 Mbit/s
95th percentile per-packet one-way delay: 0.951 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.13 Mbit/s
95th percentile per-packet one-way delay: 1.016 ms
Loss rate: 0.03%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-11-30 16:09:29

End at: 2018-11-30 16:09:59

Local clock offset: -0.067 ms

Remote clock offset: 0.601 ms

# Below is generated by plot.py at 2018-11-30 18:32:43

# Datalink statistics

-- Total of 3 flows:

Average throughput: 222.00 Mbit/s

95th percentile per-packet one-way delay: 1.004 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 162.52 Mbit/s

95th percentile per-packet one-way delay: 1.014 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 86.50 Mbit/s

95th percentile per-packet one-way delay: 0.984 ms

Loss rate: 0.01%

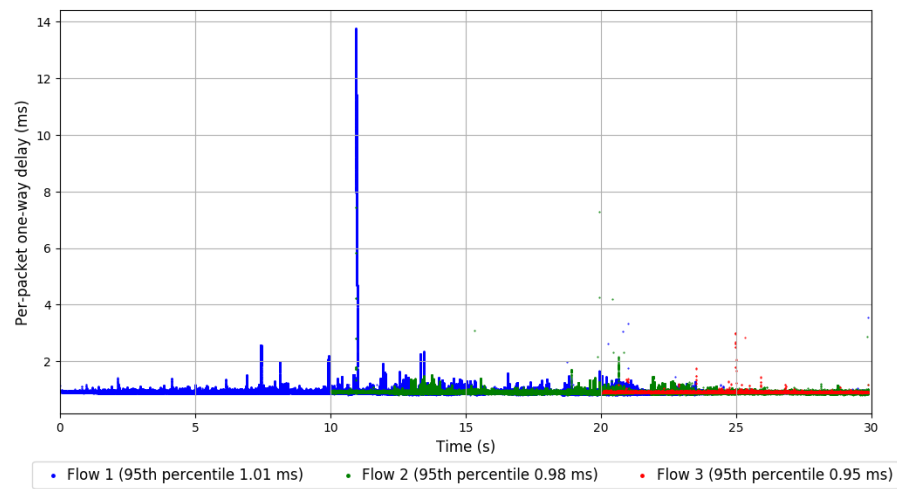
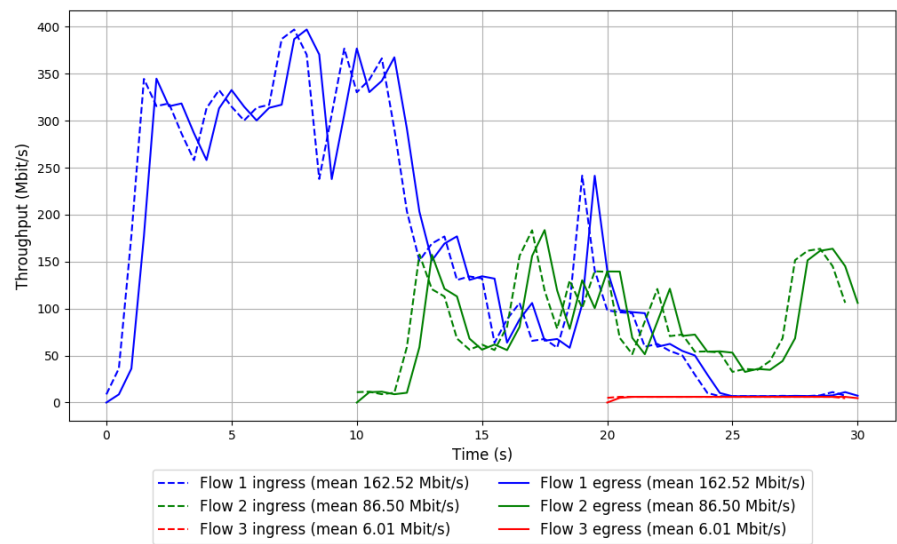
-- Flow 3:

Average throughput: 6.01 Mbit/s

95th percentile per-packet one-way delay: 0.952 ms

Loss rate: 0.00%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-11-30 16:37:14

End at: 2018-11-30 16:37:44

Local clock offset: -0.241 ms

Remote clock offset: -0.19 ms

# Below is generated by plot.py at 2018-11-30 18:32:43

# Datalink statistics

-- Total of 3 flows:

Average throughput: 115.02 Mbit/s

95th percentile per-packet one-way delay: 0.952 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 6.53 Mbit/s

95th percentile per-packet one-way delay: 0.975 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 160.19 Mbit/s

95th percentile per-packet one-way delay: 0.942 ms

Loss rate: 0.00%

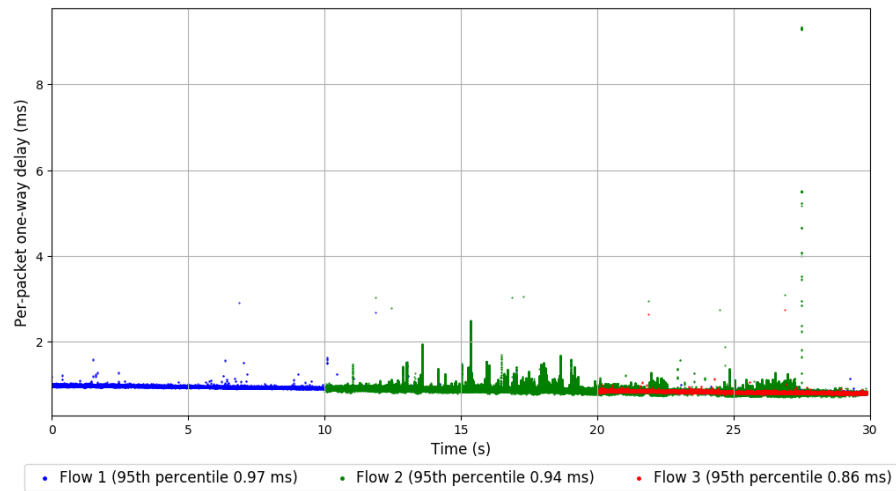
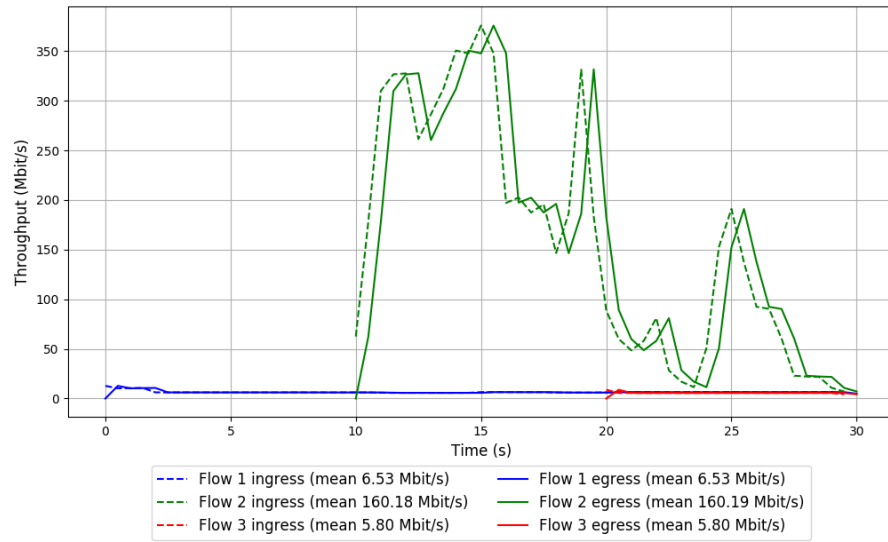
-- Flow 3:

Average throughput: 5.80 Mbit/s

95th percentile per-packet one-way delay: 0.861 ms

Loss rate: 0.00%

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

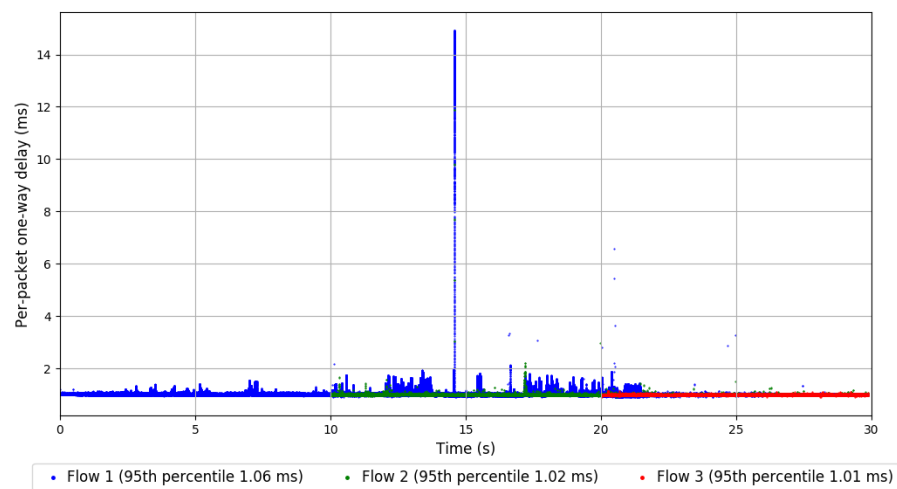
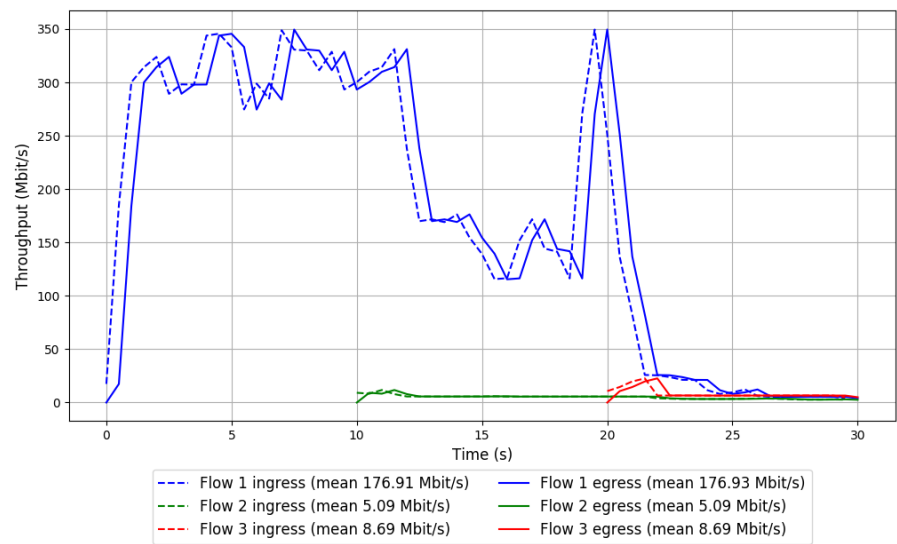


Run 4: Statistics of PCC-Expr

Start at: 2018-11-30 17:04:42  
End at: 2018-11-30 17:05:12  
Local clock offset: -0.291 ms  
Remote clock offset: -4.066 ms

# Below is generated by plot.py at 2018-11-30 18:33:15  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 183.17 Mbit/s  
95th percentile per-packet one-way delay: 1.056 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 176.93 Mbit/s  
95th percentile per-packet one-way delay: 1.058 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 5.09 Mbit/s  
95th percentile per-packet one-way delay: 1.020 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 8.69 Mbit/s  
95th percentile per-packet one-way delay: 1.008 ms  
Loss rate: 0.01%

Run 4: Report of PCC-Expr — Data Link

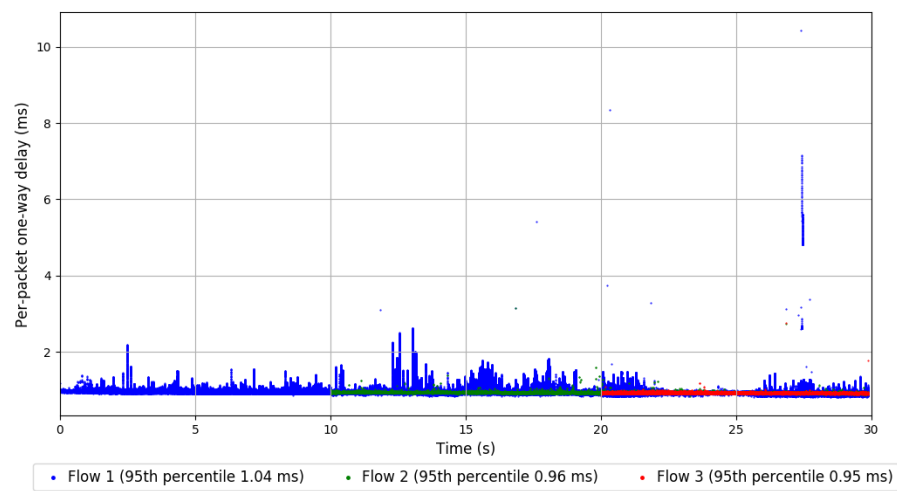
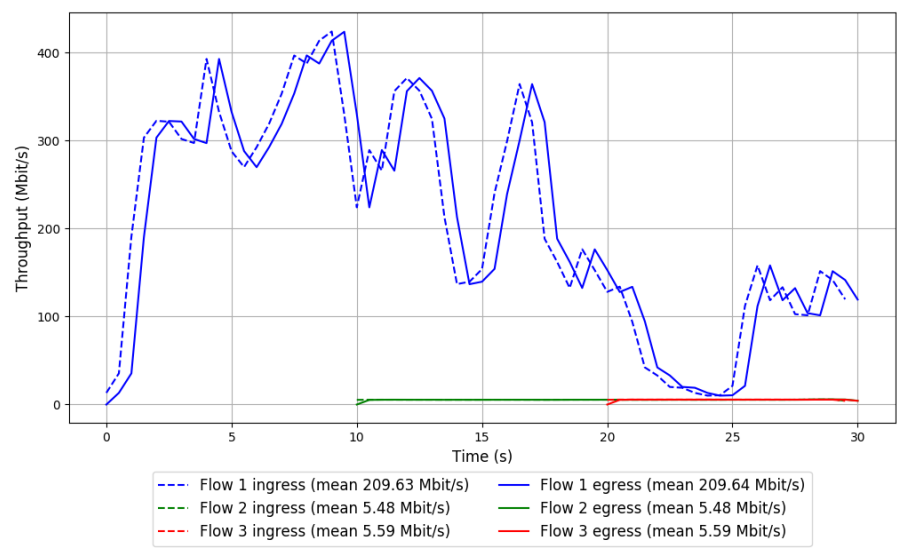


```
Run 5: Statistics of PCC-Expr

Start at: 2018-11-30 17:32:17
End at: 2018-11-30 17:32:47
Local clock offset: 3.001 ms
Remote clock offset: -3.61 ms

# Below is generated by plot.py at 2018-11-30 18:35:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 215.12 Mbit/s
95th percentile per-packet one-way delay: 1.034 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 209.64 Mbit/s
95th percentile per-packet one-way delay: 1.038 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 5.48 Mbit/s
95th percentile per-packet one-way delay: 0.959 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 5.59 Mbit/s
95th percentile per-packet one-way delay: 0.951 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-11-30 15:44:55

End at: 2018-11-30 15:45:25

Local clock offset: 3.997 ms

Remote clock offset: 0.79 ms

# Below is generated by plot.py at 2018-11-30 18:35:06

# Datalink statistics

-- Total of 3 flows:

Average throughput: 141.88 Mbit/s

95th percentile per-packet one-way delay: 1.475 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 78.08 Mbit/s

95th percentile per-packet one-way delay: 1.465 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 66.93 Mbit/s

95th percentile per-packet one-way delay: 1.477 ms

Loss rate: 0.01%

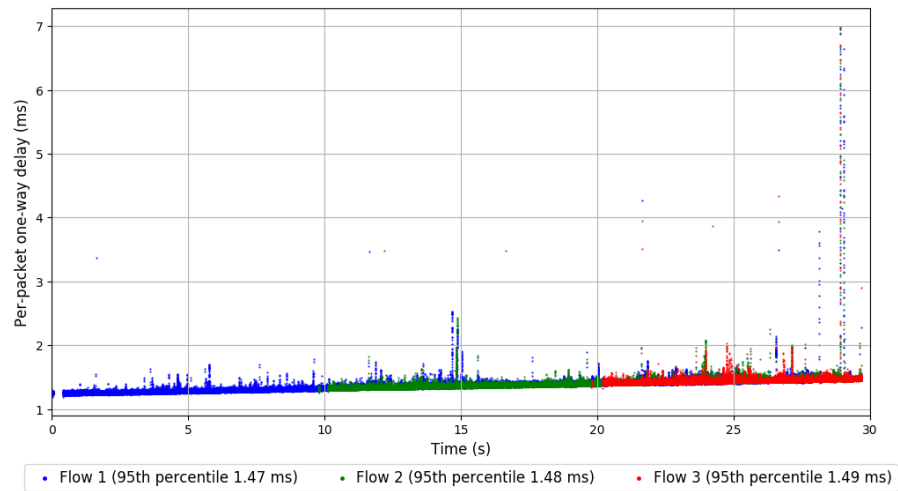
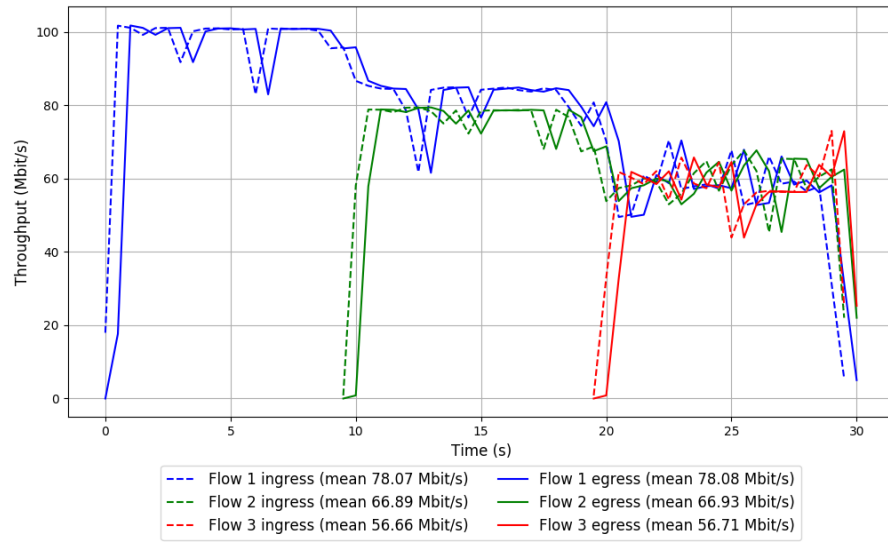
-- Flow 3:

Average throughput: 56.71 Mbit/s

95th percentile per-packet one-way delay: 1.487 ms

Loss rate: 0.02%

## Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-11-30 16:12:35

End at: 2018-11-30 16:13:05

Local clock offset: -0.163 ms

Remote clock offset: 0.321 ms

# Below is generated by plot.py at 2018-11-30 18:35:06

# Datalink statistics

-- Total of 3 flows:

Average throughput: 137.23 Mbit/s

95th percentile per-packet one-way delay: 1.050 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 70.91 Mbit/s

95th percentile per-packet one-way delay: 1.049 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 69.82 Mbit/s

95th percentile per-packet one-way delay: 1.053 ms

Loss rate: 0.01%

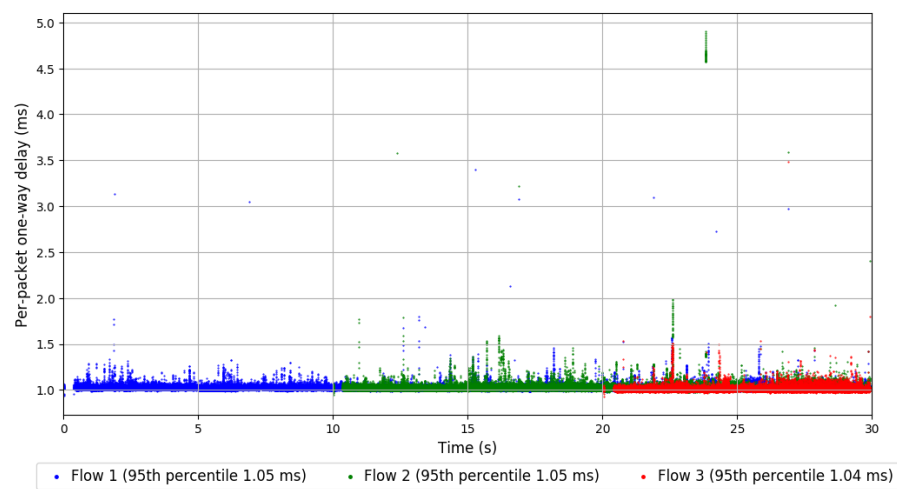
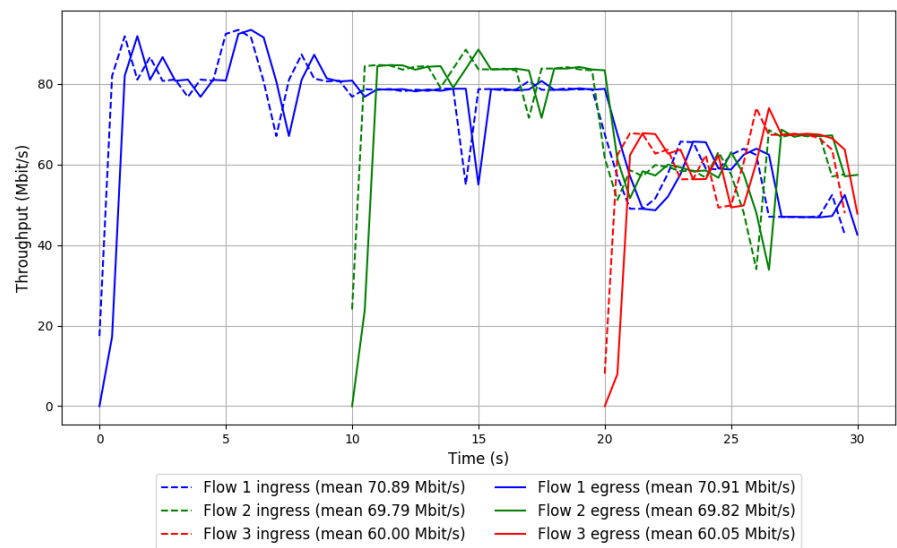
-- Flow 3:

Average throughput: 60.05 Mbit/s

95th percentile per-packet one-way delay: 1.042 ms

Loss rate: 0.02%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-11-30 16:40:08

End at: 2018-11-30 16:40:38

Local clock offset: -0.241 ms

Remote clock offset: -1.09 ms

# Below is generated by plot.py at 2018-11-30 18:35:06

# Datalink statistics

-- Total of 3 flows:

Average throughput: 135.07 Mbit/s

95th percentile per-packet one-way delay: 0.925 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 71.67 Mbit/s

95th percentile per-packet one-way delay: 0.934 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 69.05 Mbit/s

95th percentile per-packet one-way delay: 0.892 ms

Loss rate: 0.01%

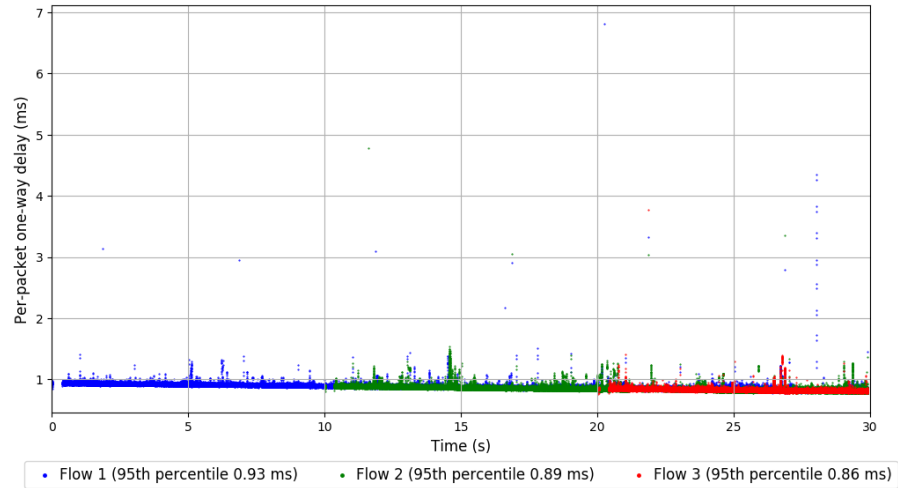
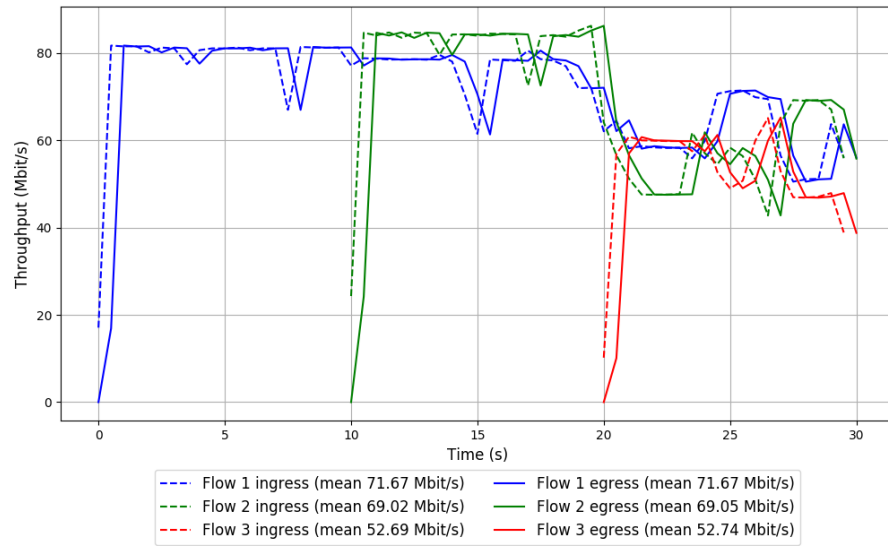
-- Flow 3:

Average throughput: 52.74 Mbit/s

95th percentile per-packet one-way delay: 0.859 ms

Loss rate: 0.02%

### Run 3: Report of QUIC Cubic — Data Link

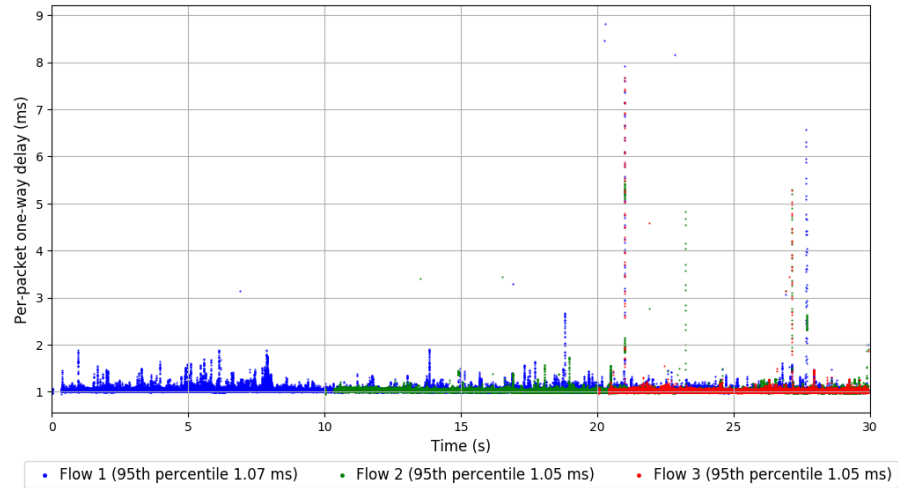
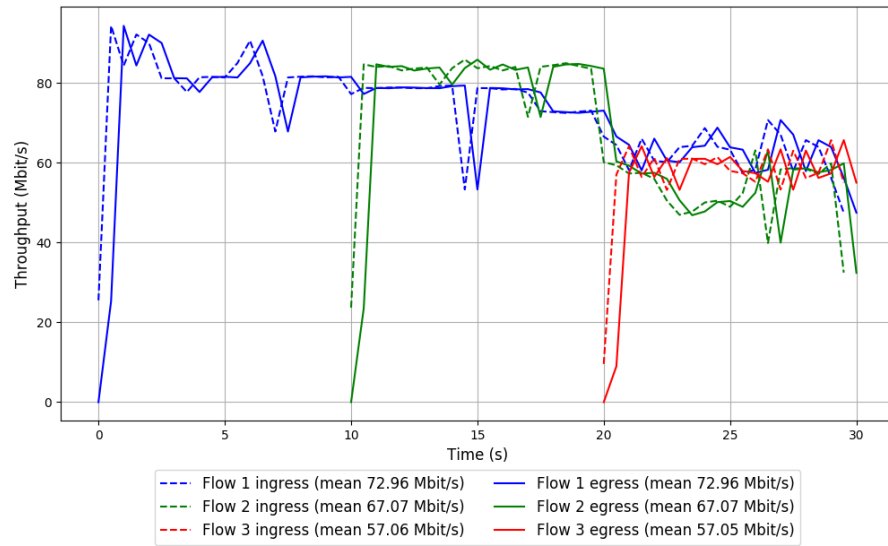


Run 4: Statistics of QUIC Cubic

Start at: 2018-11-30 17:07:45  
End at: 2018-11-30 17:08:15  
Local clock offset: -0.29 ms  
Remote clock offset: -4.224 ms

# Below is generated by plot.py at 2018-11-30 18:35:06  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 136.45 Mbit/s  
95th percentile per-packet one-way delay: 1.059 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 72.96 Mbit/s  
95th percentile per-packet one-way delay: 1.069 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 67.07 Mbit/s  
95th percentile per-packet one-way delay: 1.053 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 57.05 Mbit/s  
95th percentile per-packet one-way delay: 1.047 ms  
Loss rate: 0.02%

#### Run 4: Report of QUIC Cubic — Data Link

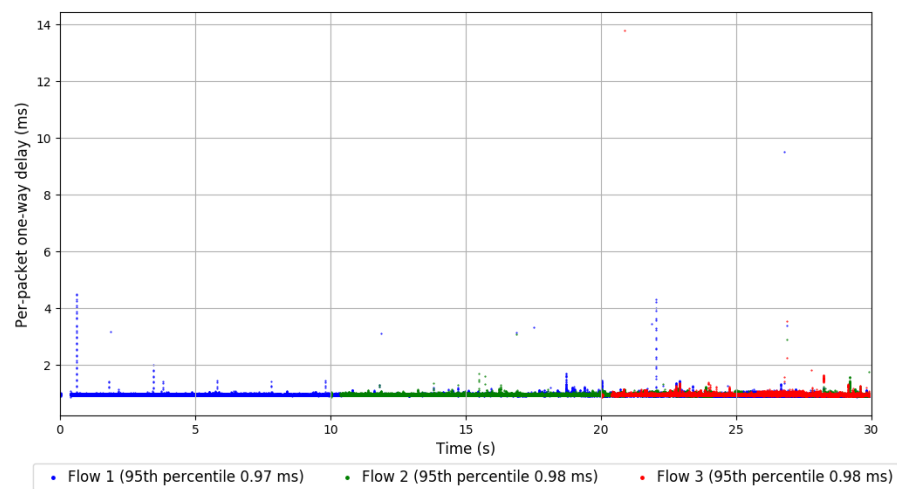
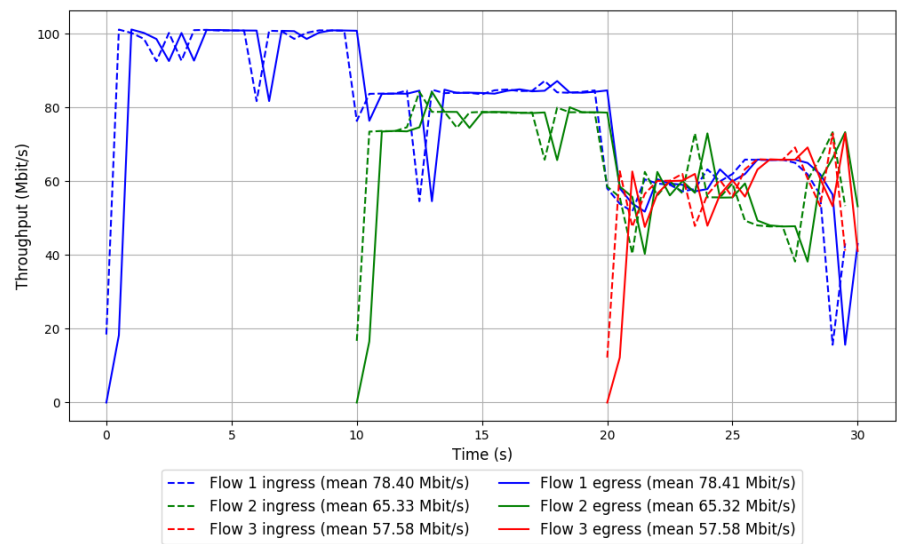


Run 5: Statistics of QUIC Cubic

Start at: 2018-11-30 17:35:23  
End at: 2018-11-30 17:35:53  
Local clock offset: 3.222 ms  
Remote clock offset: -3.652 ms

# Below is generated by plot.py at 2018-11-30 18:35:06  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 140.91 Mbit/s  
95th percentile per-packet one-way delay: 0.974 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 78.41 Mbit/s  
95th percentile per-packet one-way delay: 0.969 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 65.32 Mbit/s  
95th percentile per-packet one-way delay: 0.980 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 57.58 Mbit/s  
95th percentile per-packet one-way delay: 0.978 ms  
Loss rate: 0.02%

Run 5: Report of QUIC Cubic — Data Link

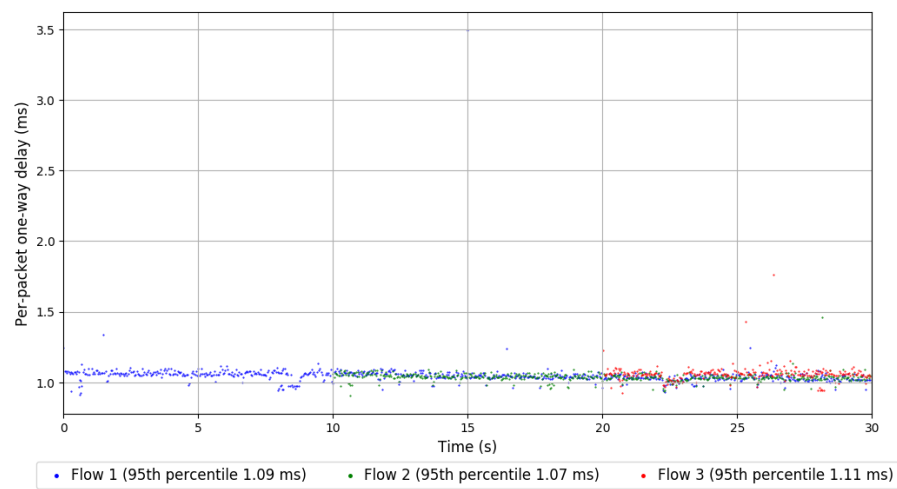
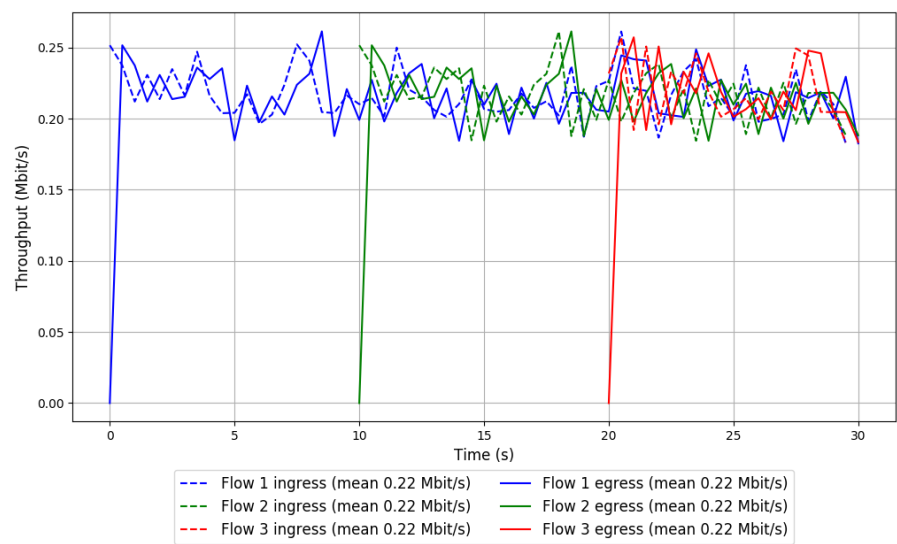


```
Run 1: Statistics of SReAM

Start at: 2018-11-30 15:40:36
End at: 2018-11-30 15:41:06
Local clock offset: 3.762 ms
Remote clock offset: 0.739 ms

# Below is generated by plot.py at 2018-11-30 18:35:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.088 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.088 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.075 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.107 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SReAM

Start at: 2018-11-30 16:08:15

End at: 2018-11-30 16:08:45

Local clock offset: -0.014 ms

Remote clock offset: 0.616 ms

# Below is generated by plot.py at 2018-11-30 18:35:06

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 1.148 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.149 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.148 ms

Loss rate: 0.00%

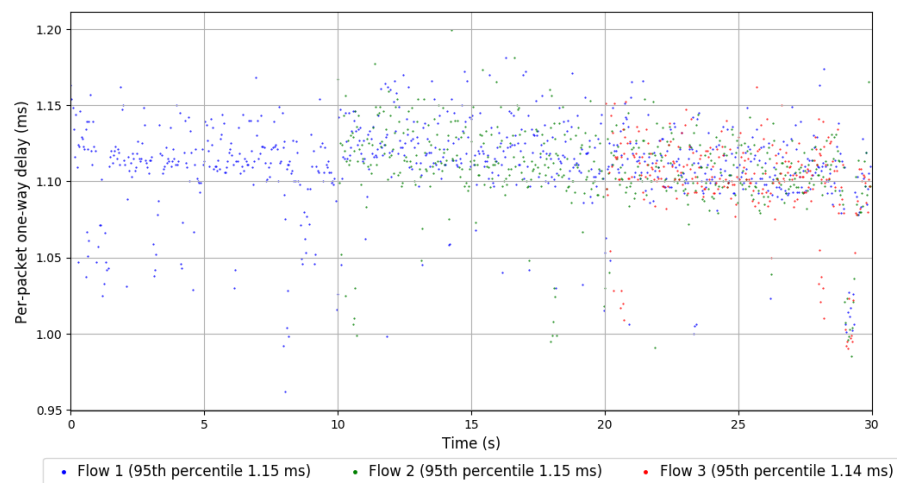
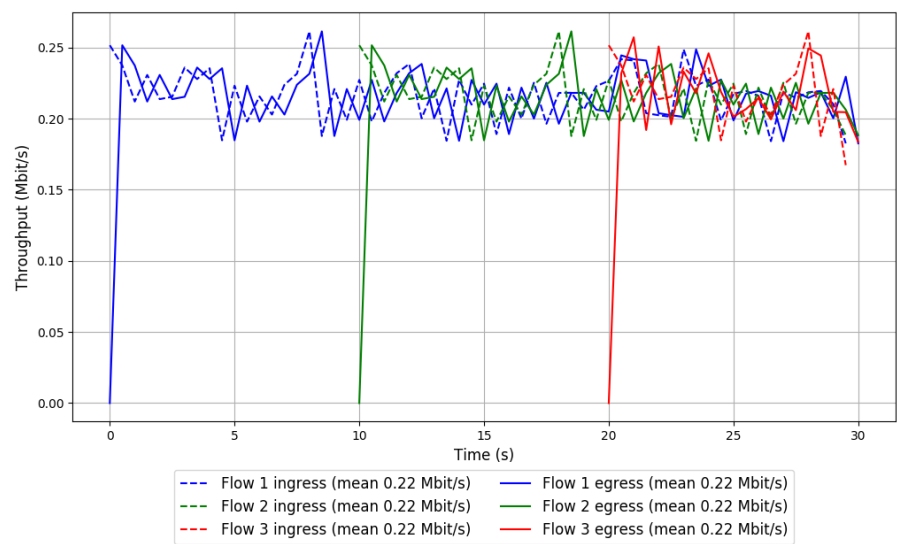
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.137 ms

Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SReAM

Start at: 2018-11-30 16:36:00

End at: 2018-11-30 16:36:30

Local clock offset: -0.221 ms

Remote clock offset: 0.005 ms

# Below is generated by plot.py at 2018-11-30 18:35:06

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 1.164 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.164 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.167 ms

Loss rate: 0.00%

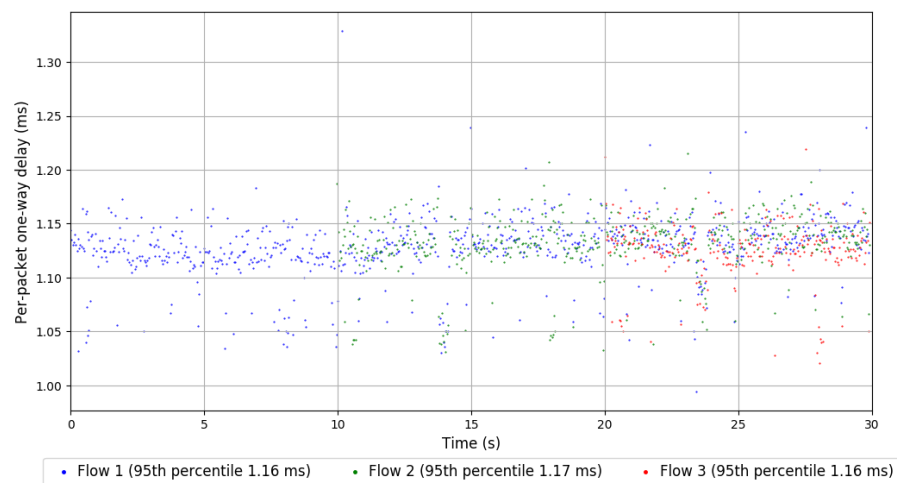
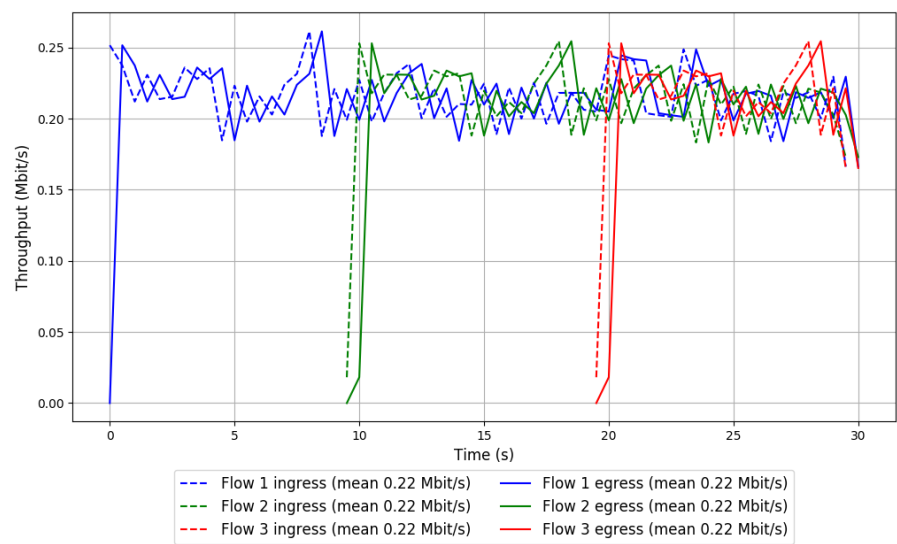
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.161 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

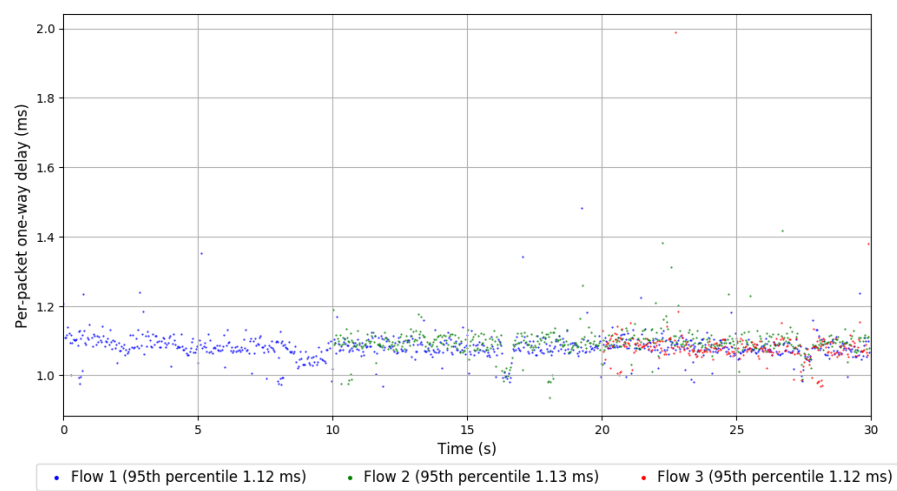
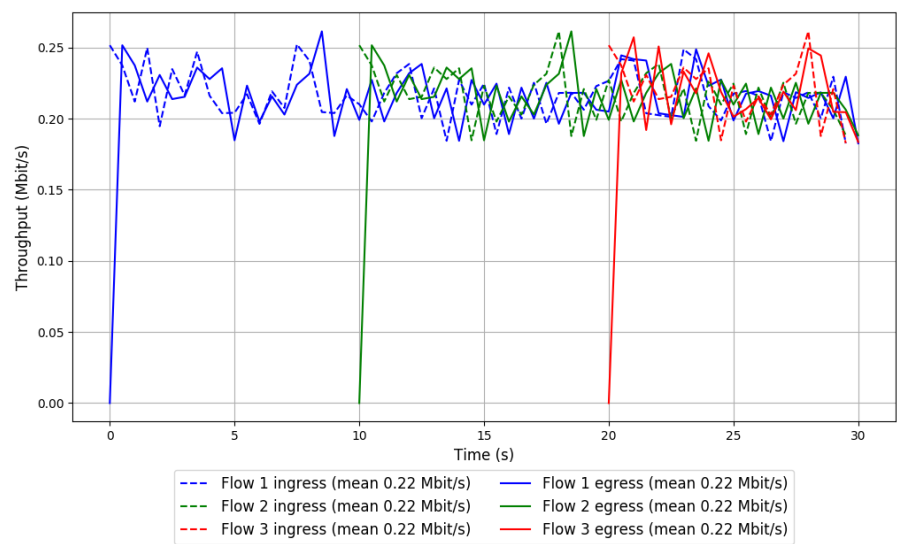


Run 4: Statistics of SReAM

Start at: 2018-11-30 17:03:28  
End at: 2018-11-30 17:03:58  
Local clock offset: -0.274 ms  
Remote clock offset: -3.987 ms

# Below is generated by plot.py at 2018-11-30 18:35:06  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 1.130 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.123 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.133 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.117 ms  
Loss rate: 0.35%

Run 4: Report of SReAM — Data Link

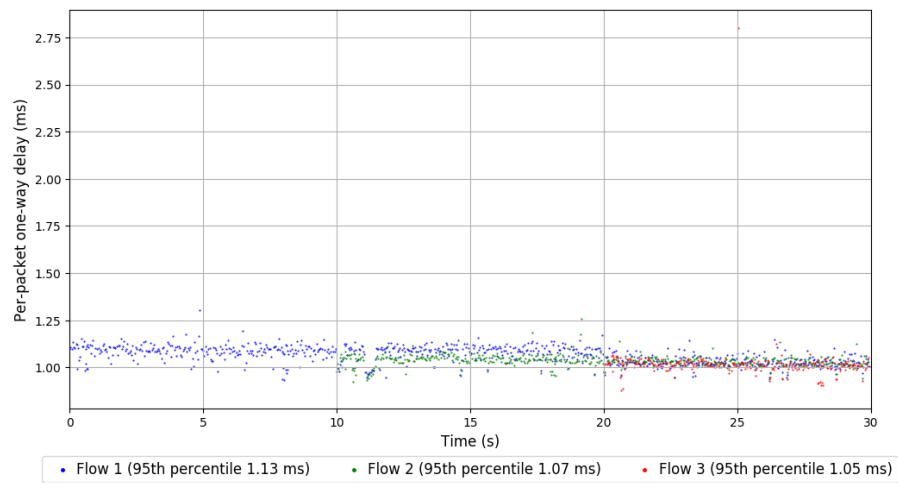
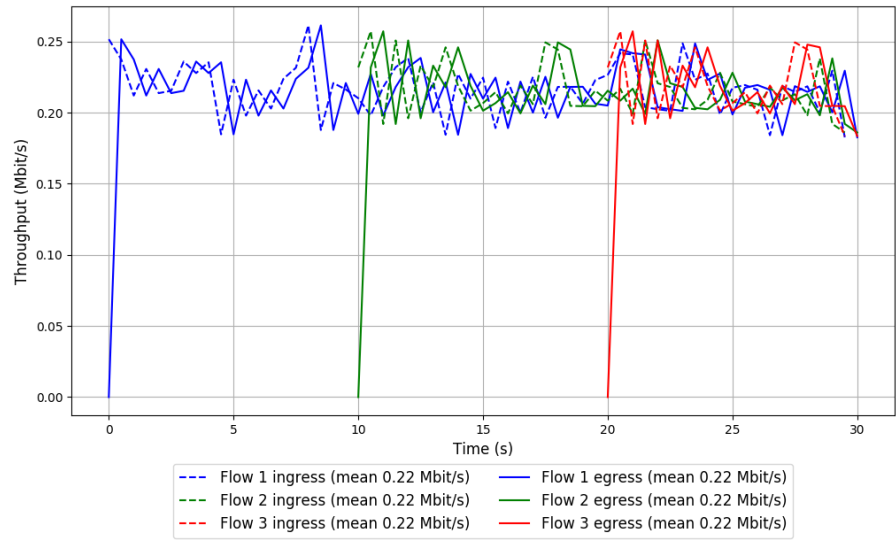


Run 5: Statistics of SCReAM

Start at: 2018-11-30 17:31:03  
End at: 2018-11-30 17:31:33  
Local clock offset: 2.876 ms  
Remote clock offset: -3.626 ms

# Below is generated by plot.py at 2018-11-30 18:35:06  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 1.121 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.130 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.073 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.050 ms  
Loss rate: 0.00%

## Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-11-30 15:27:39

End at: 2018-11-30 15:28:09

Local clock offset: 2.727 ms

Remote clock offset: 1.262 ms

# Below is generated by plot.py at 2018-11-30 18:35:06

# Datalink statistics

-- Total of 3 flows:

Average throughput: 99.91 Mbit/s

95th percentile per-packet one-way delay: 0.965 ms

Loss rate: 0.07%

-- Flow 1:

Average throughput: 50.23 Mbit/s

95th percentile per-packet one-way delay: 0.965 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 50.10 Mbit/s

95th percentile per-packet one-way delay: 0.968 ms

Loss rate: 0.09%

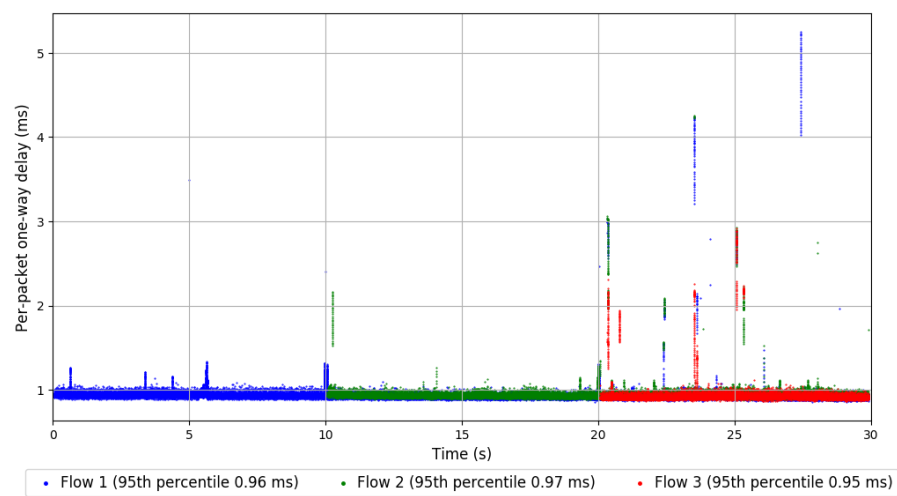
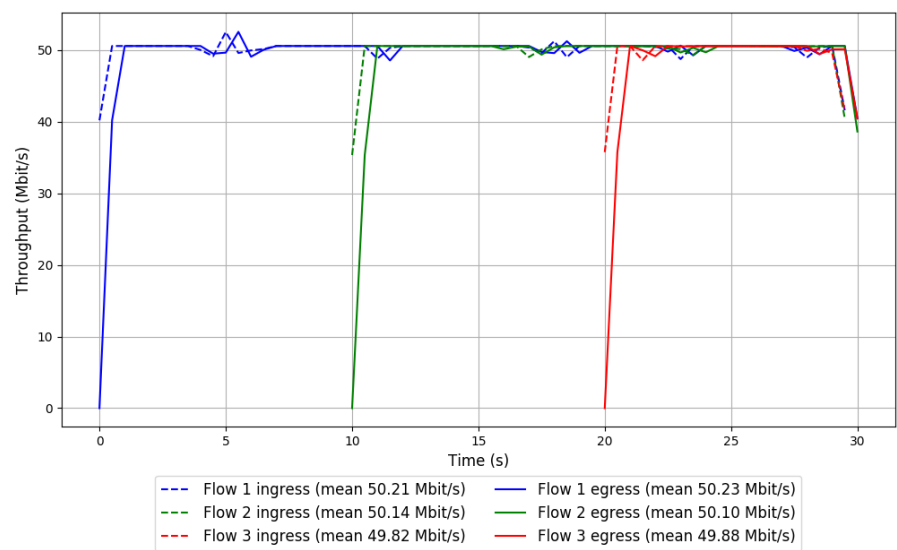
-- Flow 3:

Average throughput: 49.88 Mbit/s

95th percentile per-packet one-way delay: 0.955 ms

Loss rate: 0.11%

Run 1: Report of Sprout — Data Link

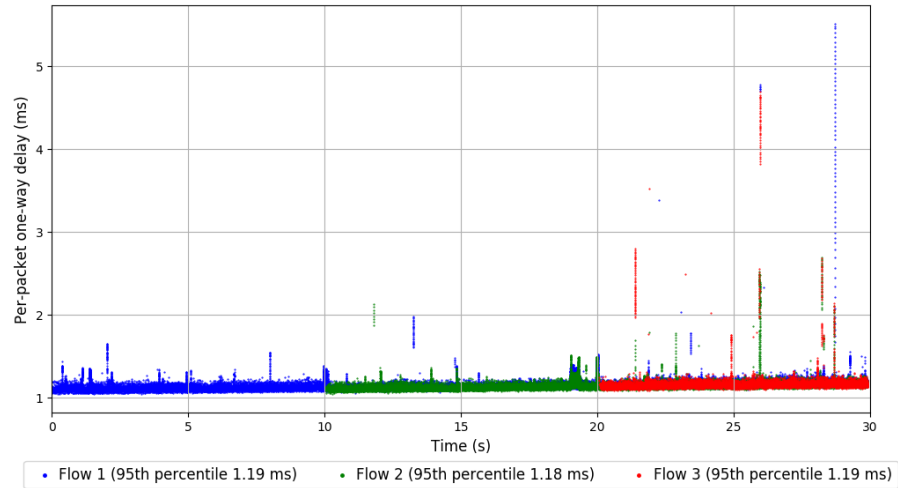
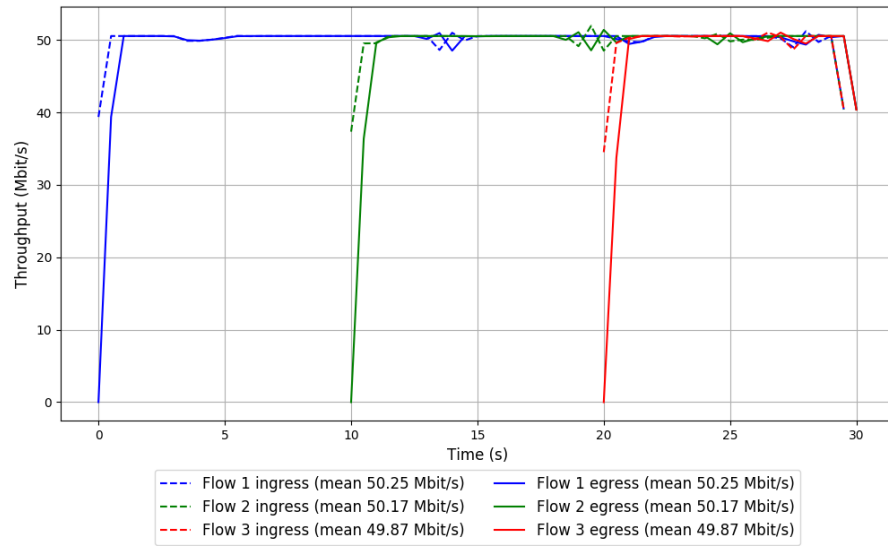


Run 2: Statistics of Sprout

Start at: 2018-11-30 15:55:25  
End at: 2018-11-30 15:55:55  
Local clock offset: 1.061 ms  
Remote clock offset: 1.121 ms

# Below is generated by plot.py at 2018-11-30 18:35:06  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 99.98 Mbit/s  
95th percentile per-packet one-way delay: 1.190 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 50.25 Mbit/s  
95th percentile per-packet one-way delay: 1.194 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 50.17 Mbit/s  
95th percentile per-packet one-way delay: 1.181 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 49.87 Mbit/s  
95th percentile per-packet one-way delay: 1.189 ms  
Loss rate: 0.00%

## Run 2: Report of Sprout — Data Link

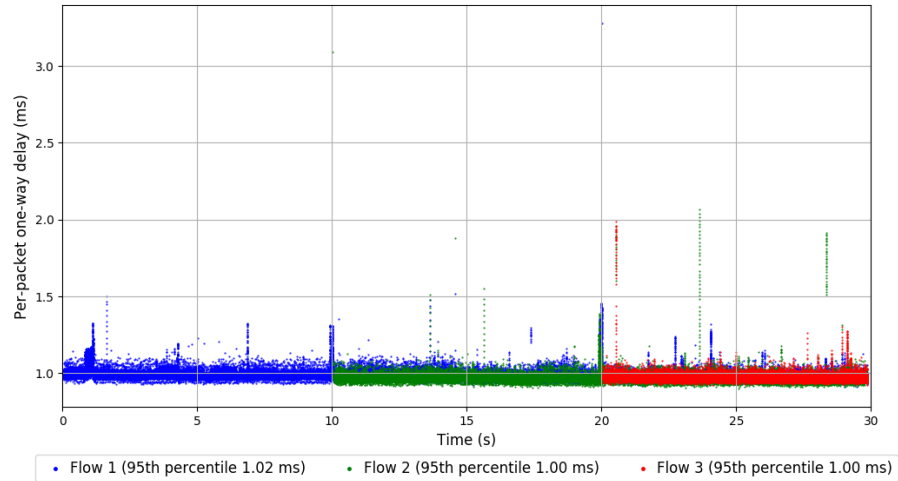
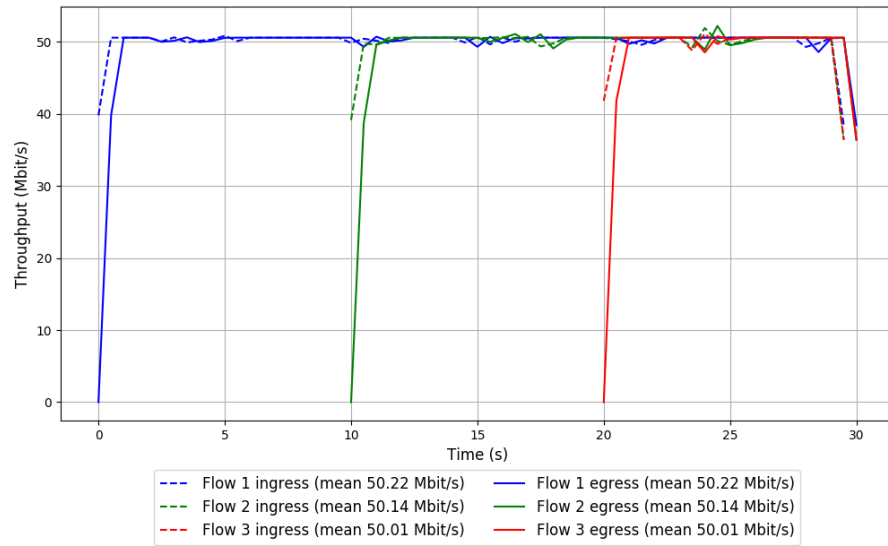


### Run 3: Statistics of Sprout

Start at: 2018-11-30 16:23:13  
End at: 2018-11-30 16:23:43  
Local clock offset: -0.167 ms  
Remote clock offset: 0.063 ms

```
# Below is generated by plot.py at 2018-11-30 18:35:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 100.06 Mbit/s
95th percentile per-packet one-way delay: 1.014 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.22 Mbit/s
95th percentile per-packet one-way delay: 1.023 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 50.14 Mbit/s
95th percentile per-packet one-way delay: 1.000 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 50.01 Mbit/s
95th percentile per-packet one-way delay: 1.005 ms
Loss rate: 0.00%
```

### Run 3: Report of Sprout — Data Link

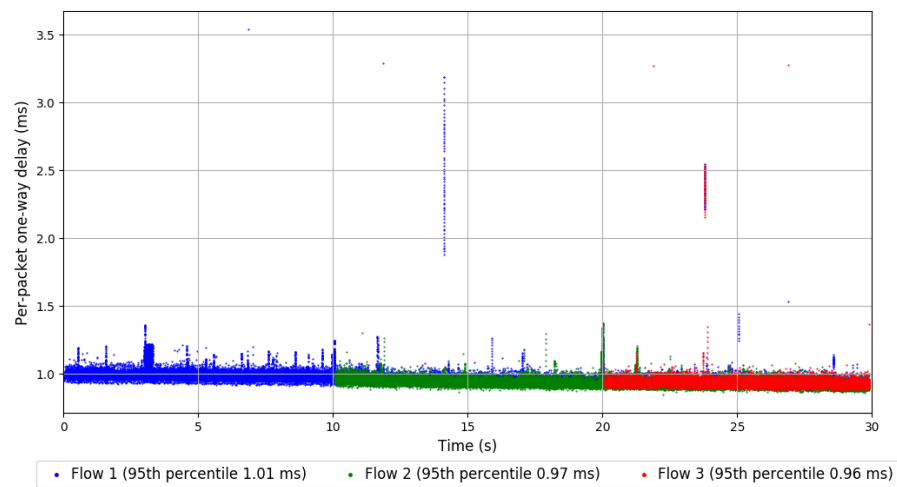
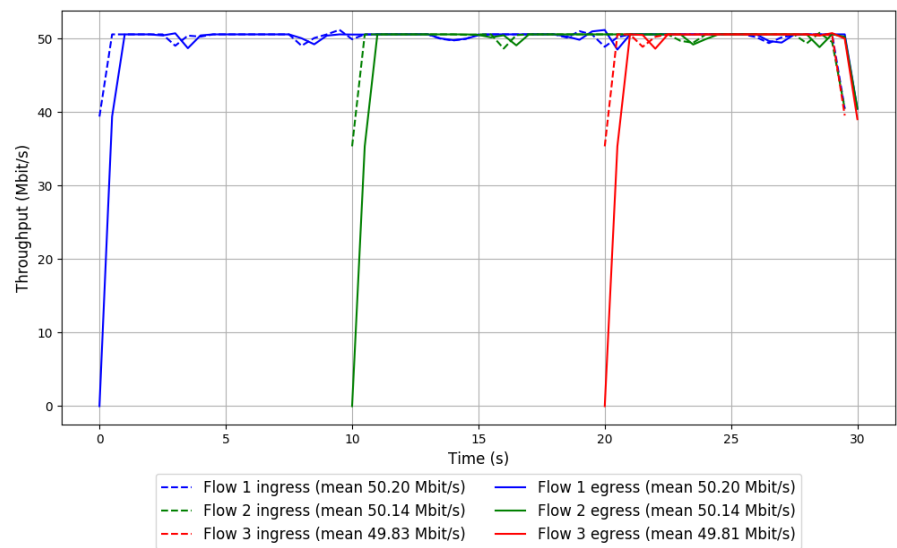


Run 4: Statistics of Sprout

Start at: 2018-11-30 16:50:41  
End at: 2018-11-30 16:51:11  
Local clock offset: -0.271 ms  
Remote clock offset: -3.021 ms

# Below is generated by plot.py at 2018-11-30 18:35:06  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 99.90 Mbit/s  
95th percentile per-packet one-way delay: 0.997 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 50.20 Mbit/s  
95th percentile per-packet one-way delay: 1.009 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 50.14 Mbit/s  
95th percentile per-packet one-way delay: 0.972 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 49.81 Mbit/s  
95th percentile per-packet one-way delay: 0.963 ms  
Loss rate: 0.10%

Run 4: Report of Sprout — Data Link

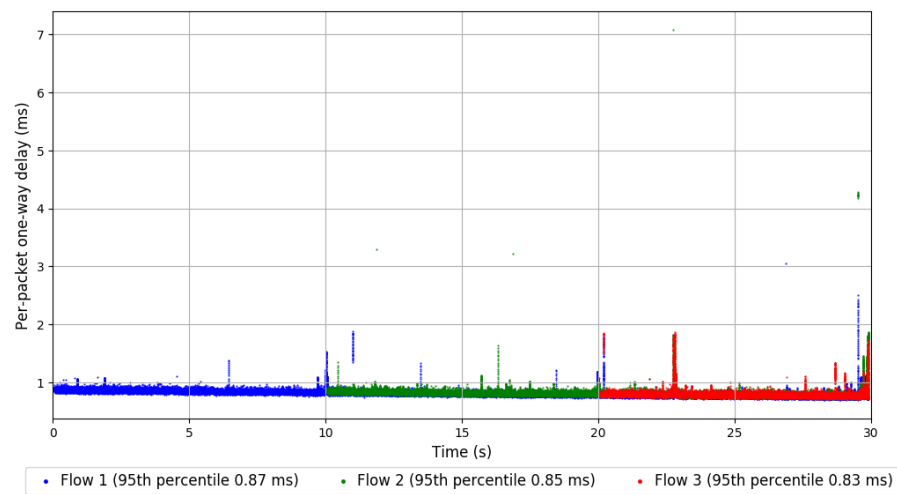
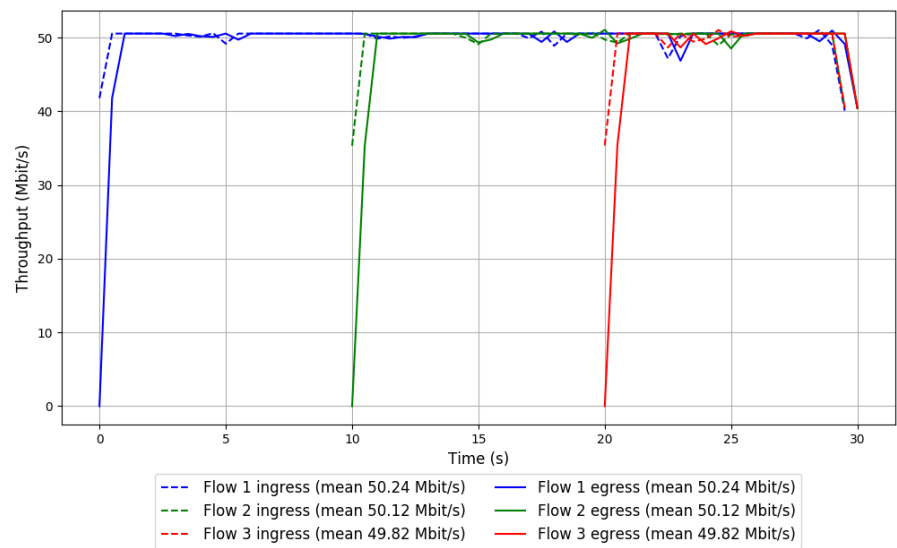


Run 5: Statistics of Sprout

Start at: 2018-11-30 17:18:15  
End at: 2018-11-30 17:18:45  
Local clock offset: 0.797 ms  
Remote clock offset: -3.756 ms

# Below is generated by plot.py at 2018-11-30 18:35:06  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 99.93 Mbit/s  
95th percentile per-packet one-way delay: 0.864 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 50.24 Mbit/s  
95th percentile per-packet one-way delay: 0.870 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 50.12 Mbit/s  
95th percentile per-packet one-way delay: 0.851 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 49.82 Mbit/s  
95th percentile per-packet one-way delay: 0.833 ms  
Loss rate: 0.00%

Run 5: Report of Sprout — Data Link

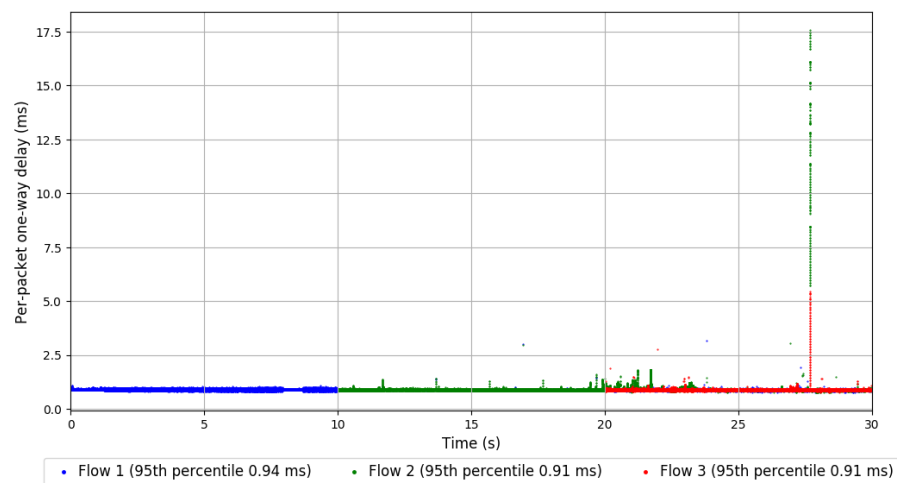
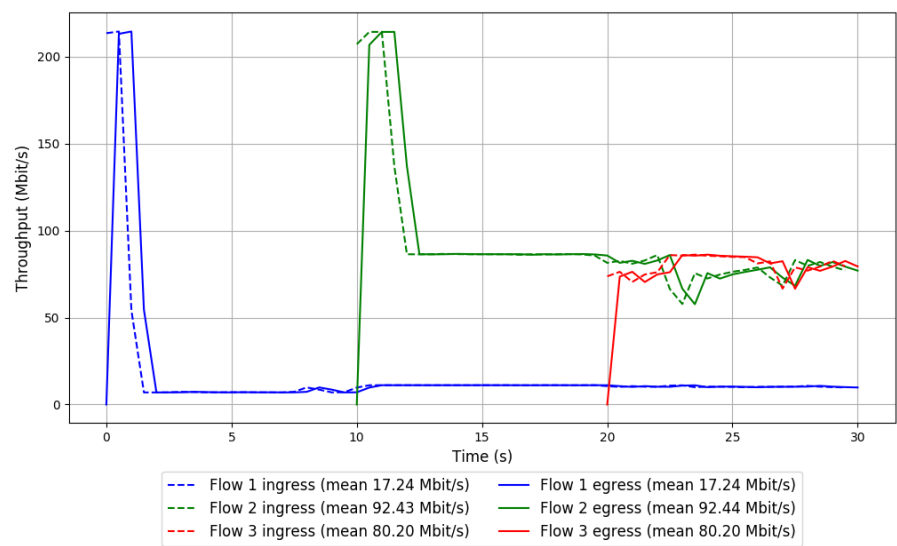


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-11-30 15:23:17
End at: 2018-11-30 15:23:47
Local clock offset: 2.174 ms
Remote clock offset: 1.044 ms

# Below is generated by plot.py at 2018-11-30 18:36:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.43 Mbit/s
95th percentile per-packet one-way delay: 0.911 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 17.24 Mbit/s
95th percentile per-packet one-way delay: 0.935 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 92.44 Mbit/s
95th percentile per-packet one-way delay: 0.905 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 80.20 Mbit/s
95th percentile per-packet one-way delay: 0.906 ms
Loss rate: 0.02%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-11-30 15:51:10

End at: 2018-11-30 15:51:40

Local clock offset: 1.86 ms

Remote clock offset: 0.946 ms

# Below is generated by plot.py at 2018-11-30 18:36:00

# Datalink statistics

-- Total of 3 flows:

Average throughput: 15.46 Mbit/s

95th percentile per-packet one-way delay: 1.328 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 7.42 Mbit/s

95th percentile per-packet one-way delay: 1.325 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 8.21 Mbit/s

95th percentile per-packet one-way delay: 1.318 ms

Loss rate: 0.01%

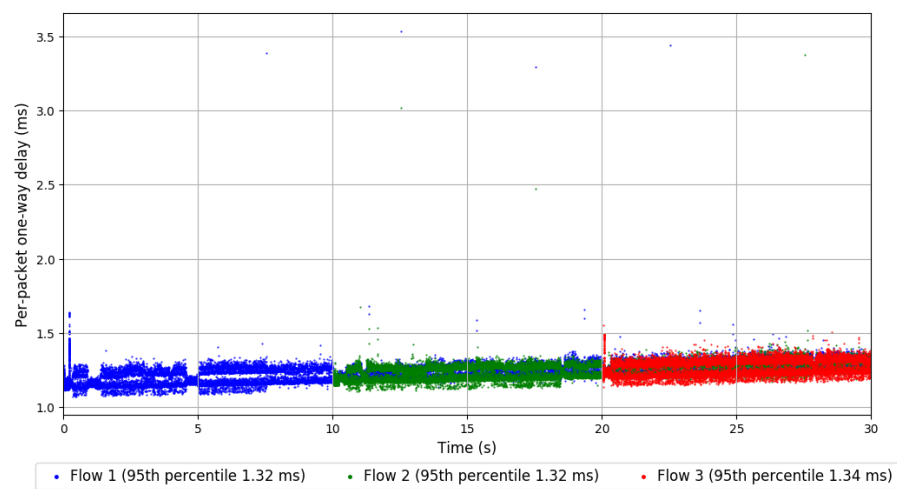
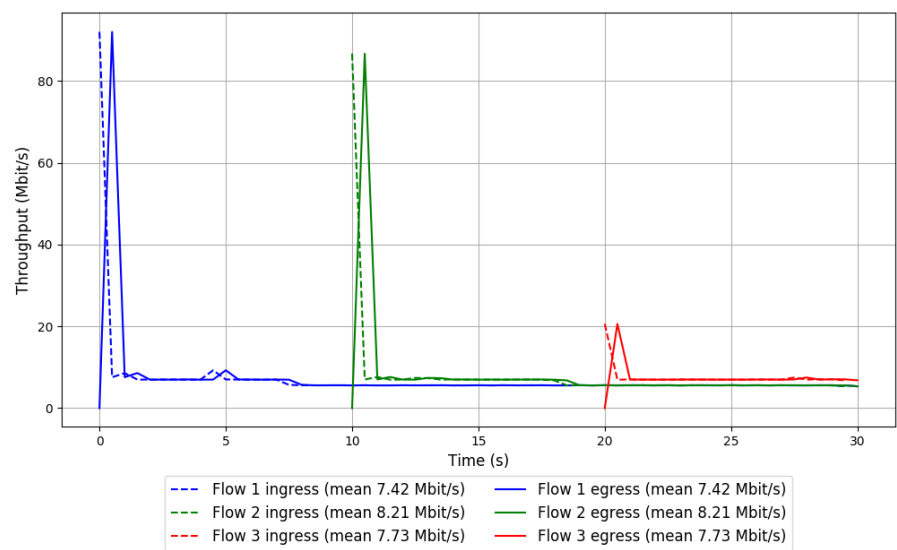
-- Flow 3:

Average throughput: 7.73 Mbit/s

95th percentile per-packet one-way delay: 1.345 ms

Loss rate: 0.02%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-11-30 16:18:52

End at: 2018-11-30 16:19:22

Local clock offset: -0.199 ms

Remote clock offset: 0.049 ms

# Below is generated by plot.py at 2018-11-30 18:36:23

# Datalink statistics

-- Total of 3 flows:

Average throughput: 110.48 Mbit/s

95th percentile per-packet one-way delay: 1.040 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 98.77 Mbit/s

95th percentile per-packet one-way delay: 1.039 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 12.05 Mbit/s

95th percentile per-packet one-way delay: 1.042 ms

Loss rate: 0.01%

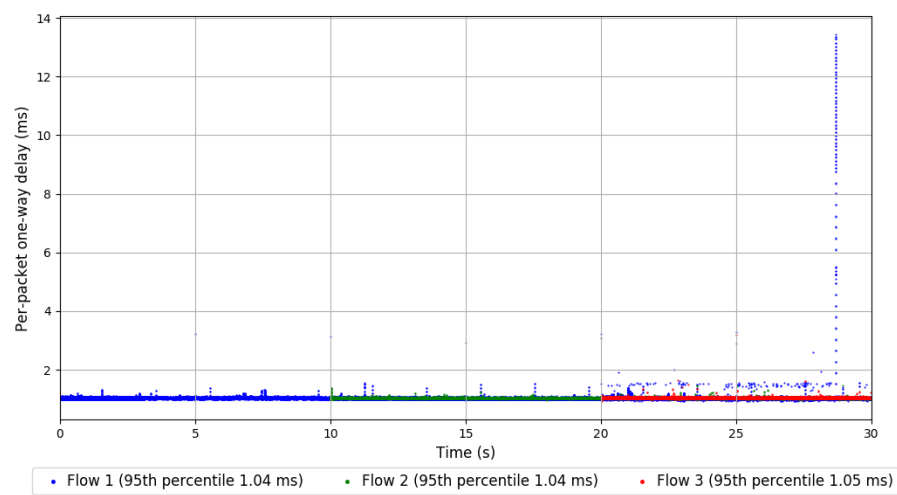
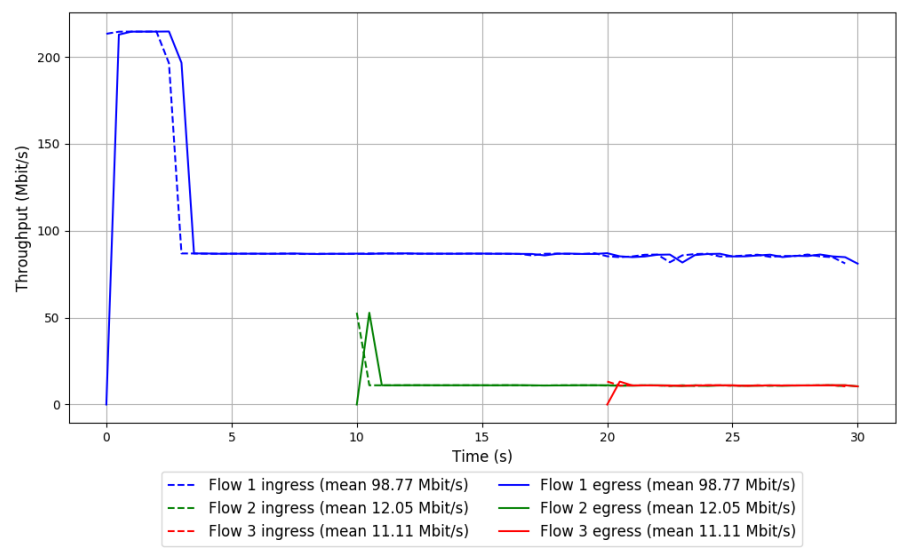
-- Flow 3:

Average throughput: 11.11 Mbit/s

95th percentile per-packet one-way delay: 1.055 ms

Loss rate: 0.01%

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

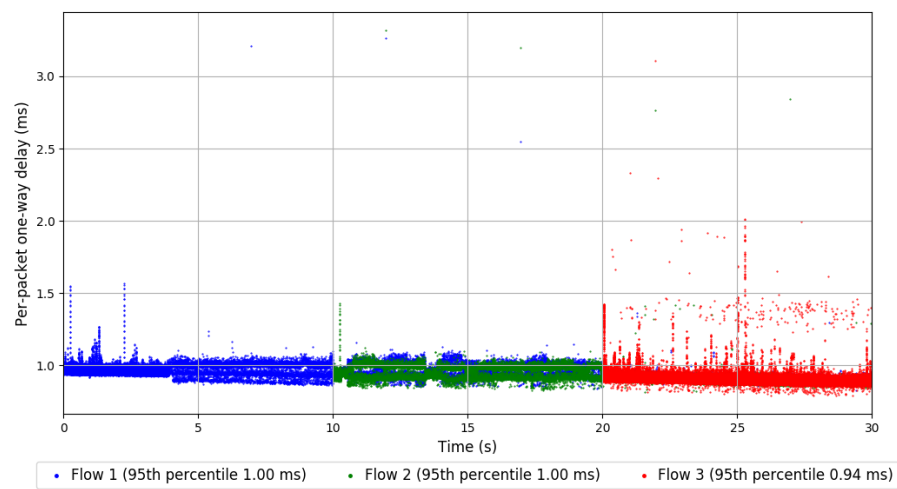
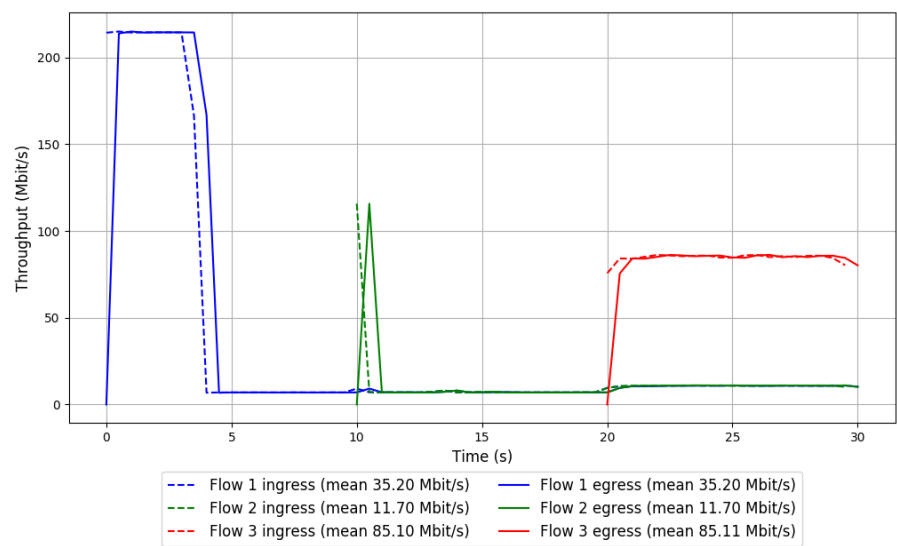


Run 4: Statistics of TaoVA-100x

Start at: 2018-11-30 16:46:23  
End at: 2018-11-30 16:46:53  
Local clock offset: -0.268 ms  
Remote clock offset: -2.436 ms

# Below is generated by plot.py at 2018-11-30 18:36:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 71.21 Mbit/s  
95th percentile per-packet one-way delay: 0.989 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 35.20 Mbit/s  
95th percentile per-packet one-way delay: 0.996 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 11.70 Mbit/s  
95th percentile per-packet one-way delay: 0.997 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 85.11 Mbit/s  
95th percentile per-packet one-way delay: 0.935 ms  
Loss rate: 0.02%

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

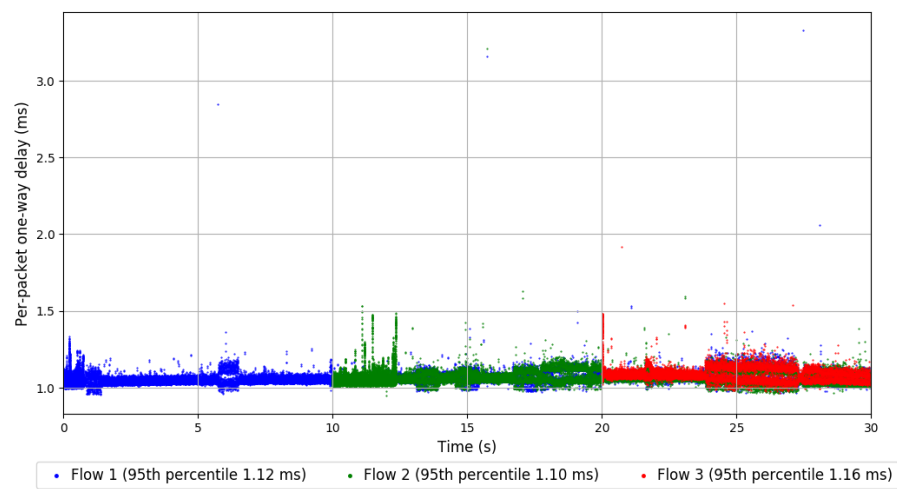
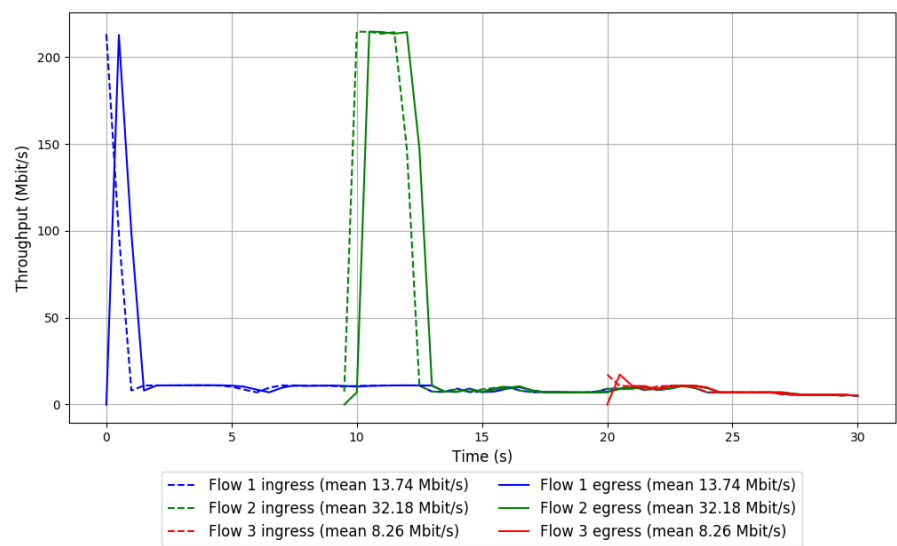


Run 5: Statistics of TaoVA-100x

Start at: 2018-11-30 17:13:58  
End at: 2018-11-30 17:14:28  
Local clock offset: -0.34 ms  
Remote clock offset: -4.054 ms

# Below is generated by plot.py at 2018-11-30 18:36:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 37.94 Mbit/s  
95th percentile per-packet one-way delay: 1.117 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 13.74 Mbit/s  
95th percentile per-packet one-way delay: 1.119 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 32.18 Mbit/s  
95th percentile per-packet one-way delay: 1.101 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 8.26 Mbit/s  
95th percentile per-packet one-way delay: 1.155 ms  
Loss rate: 0.02%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-11-30 15:35:55

End at: 2018-11-30 15:36:25

Local clock offset: 3.453 ms

Remote clock offset: 0.772 ms

# Below is generated by plot.py at 2018-11-30 18:41:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 657.79 Mbit/s

95th percentile per-packet one-way delay: 1.211 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 386.23 Mbit/s

95th percentile per-packet one-way delay: 1.193 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 259.34 Mbit/s

95th percentile per-packet one-way delay: 1.230 ms

Loss rate: 0.01%

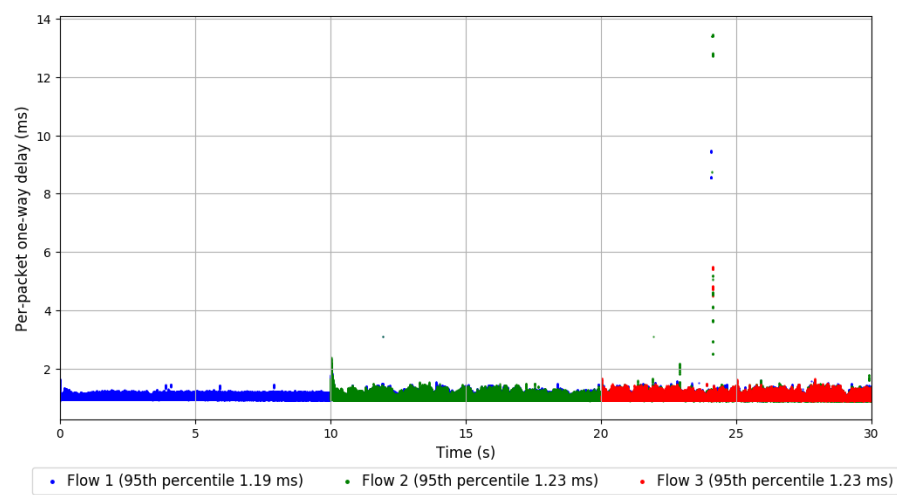
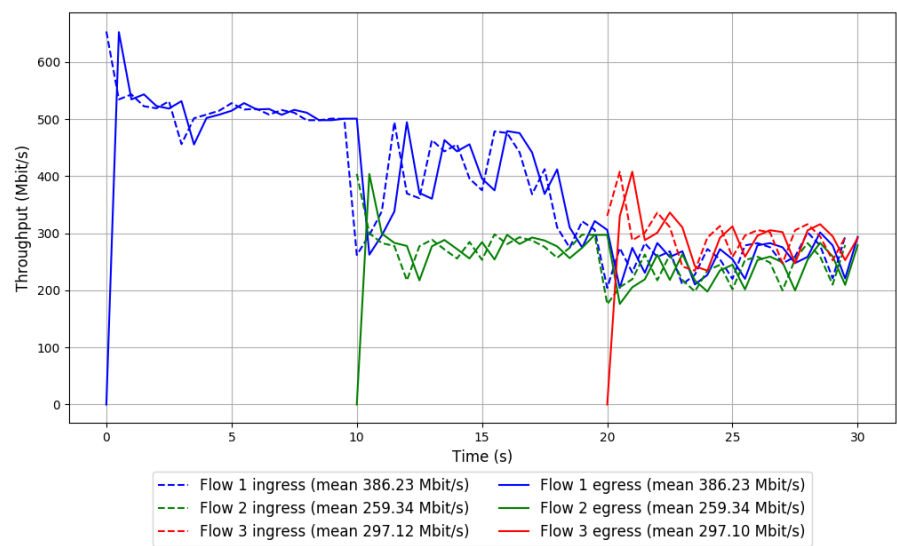
-- Flow 3:

Average throughput: 297.10 Mbit/s

95th percentile per-packet one-way delay: 1.231 ms

Loss rate: 0.02%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-11-30 16:03:39

End at: 2018-11-30 16:04:09

Local clock offset: 0.217 ms

Remote clock offset: 1.223 ms

# Below is generated by plot.py at 2018-11-30 18:41:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 534.14 Mbit/s

95th percentile per-packet one-way delay: 1.216 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 245.54 Mbit/s

95th percentile per-packet one-way delay: 1.200 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 298.41 Mbit/s

95th percentile per-packet one-way delay: 1.222 ms

Loss rate: 0.01%

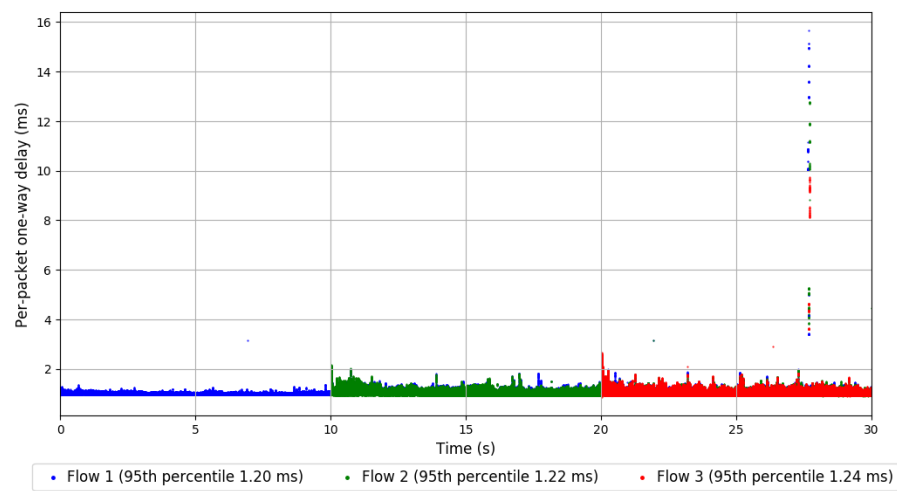
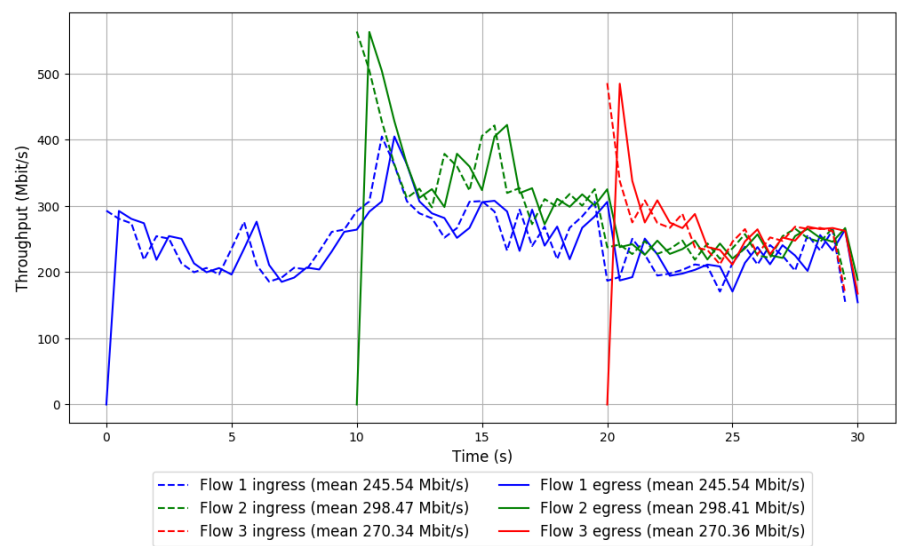
-- Flow 3:

Average throughput: 270.36 Mbit/s

95th percentile per-packet one-way delay: 1.242 ms

Loss rate: 0.01%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-11-30 16:31:23

End at: 2018-11-30 16:31:53

Local clock offset: -0.184 ms

Remote clock offset: 0.048 ms

# Below is generated by plot.py at 2018-11-30 18:41:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 556.52 Mbit/s

95th percentile per-packet one-way delay: 1.248 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 285.73 Mbit/s

95th percentile per-packet one-way delay: 1.246 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 275.02 Mbit/s

95th percentile per-packet one-way delay: 1.221 ms

Loss rate: 0.01%

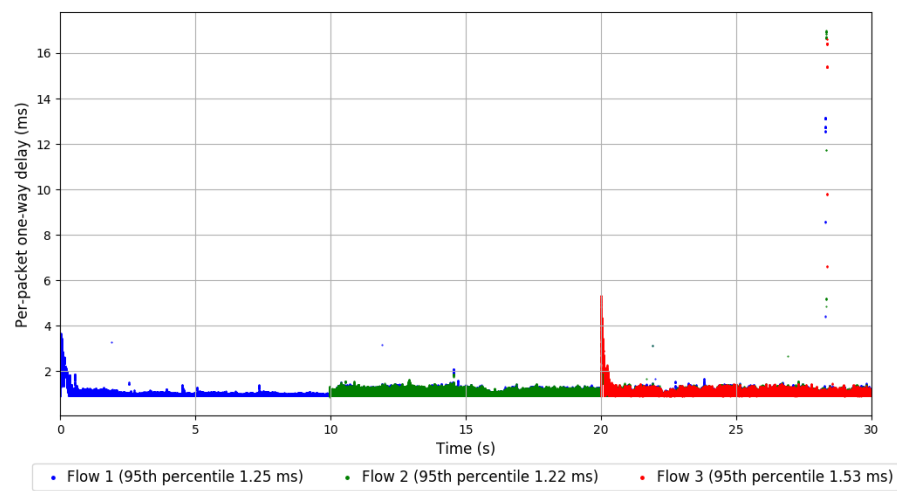
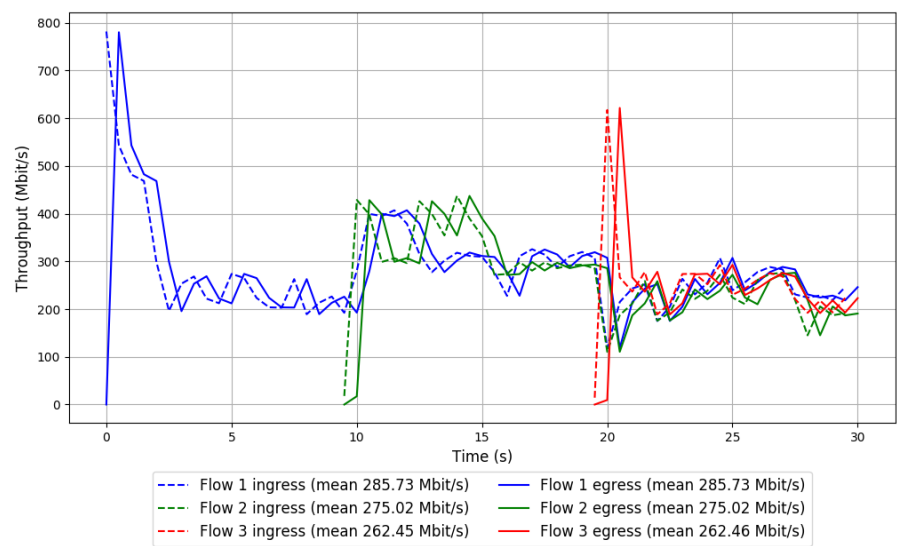
-- Flow 3:

Average throughput: 262.46 Mbit/s

95th percentile per-packet one-way delay: 1.535 ms

Loss rate: 0.02%

Run 3: Report of TCP Vegas — Data Link

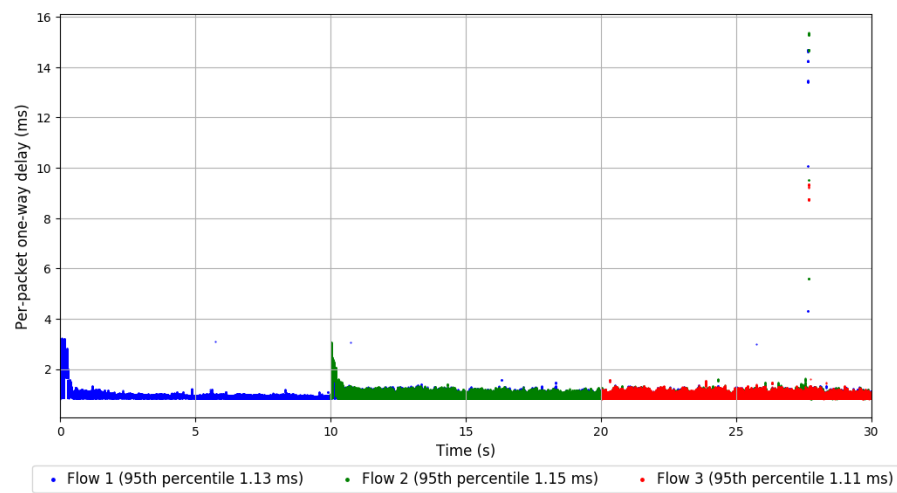
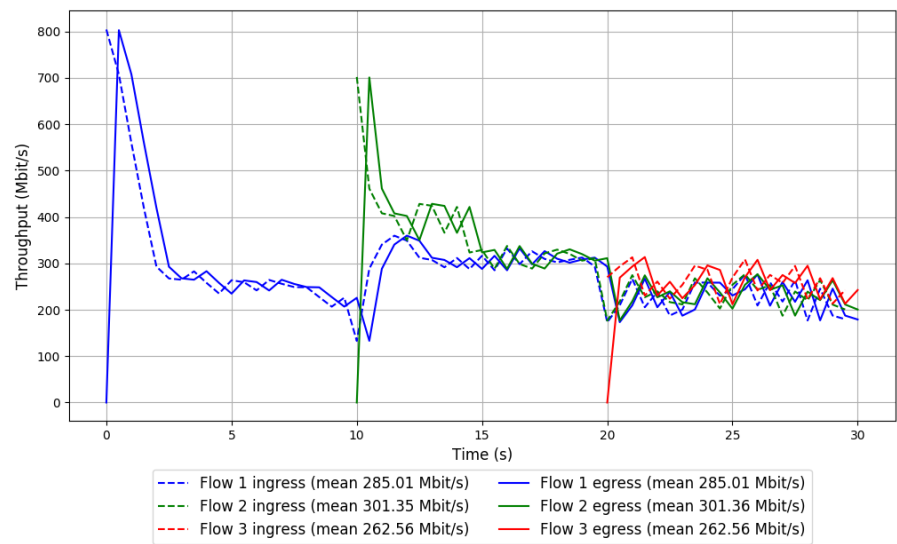


Run 4: Statistics of TCP Vegas

Start at: 2018-11-30 16:58:49  
End at: 2018-11-30 16:59:19  
Local clock offset: -0.269 ms  
Remote clock offset: -3.626 ms

# Below is generated by plot.py at 2018-11-30 18:41:45  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 573.07 Mbit/s  
95th percentile per-packet one-way delay: 1.133 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 285.01 Mbit/s  
95th percentile per-packet one-way delay: 1.128 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 301.36 Mbit/s  
95th percentile per-packet one-way delay: 1.152 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 262.56 Mbit/s  
95th percentile per-packet one-way delay: 1.111 ms  
Loss rate: 0.01%

Run 4: Report of TCP Vegas — Data Link

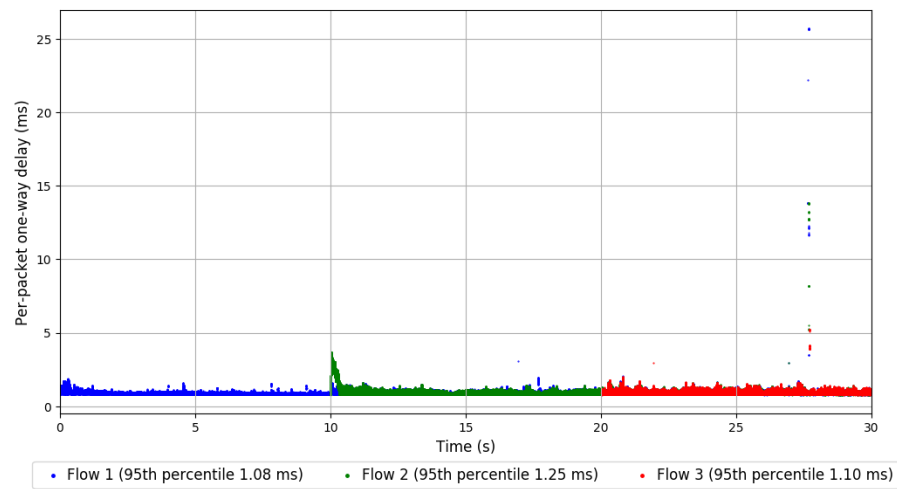
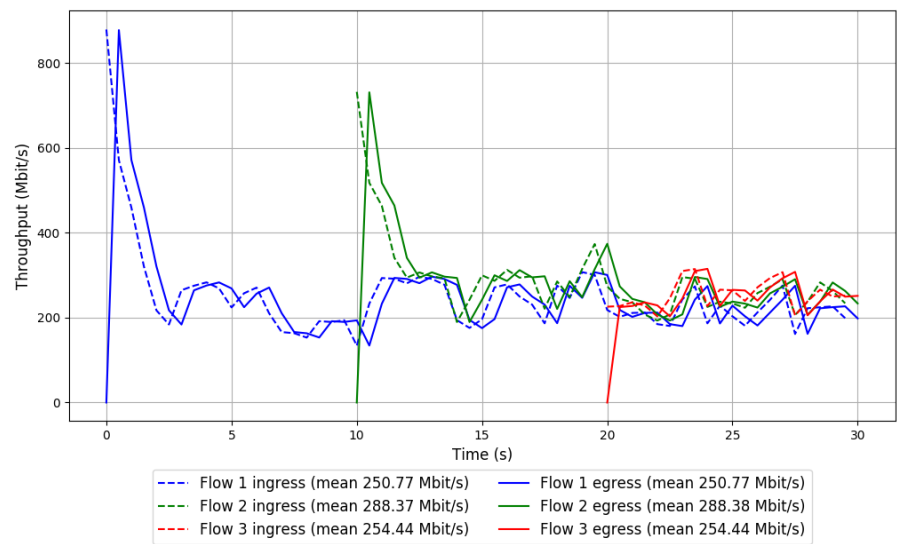


Run 5: Statistics of TCP Vegas

Start at: 2018-11-30 17:26:27  
End at: 2018-11-30 17:26:57  
Local clock offset: 2.366 ms  
Remote clock offset: -3.566 ms

# Below is generated by plot.py at 2018-11-30 18:41:45  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 527.41 Mbit/s  
95th percentile per-packet one-way delay: 1.124 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 250.77 Mbit/s  
95th percentile per-packet one-way delay: 1.083 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 288.38 Mbit/s  
95th percentile per-packet one-way delay: 1.248 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 254.44 Mbit/s  
95th percentile per-packet one-way delay: 1.104 ms  
Loss rate: 0.02%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-11-30 15:39:10

End at: 2018-11-30 15:39:40

Local clock offset: 3.679 ms

Remote clock offset: 0.739 ms

# Below is generated by plot.py at 2018-11-30 18:41:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 272.48 Mbit/s

95th percentile per-packet one-way delay: 2.365 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 191.18 Mbit/s

95th percentile per-packet one-way delay: 2.500 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 90.59 Mbit/s

95th percentile per-packet one-way delay: 1.641 ms

Loss rate: 0.00%

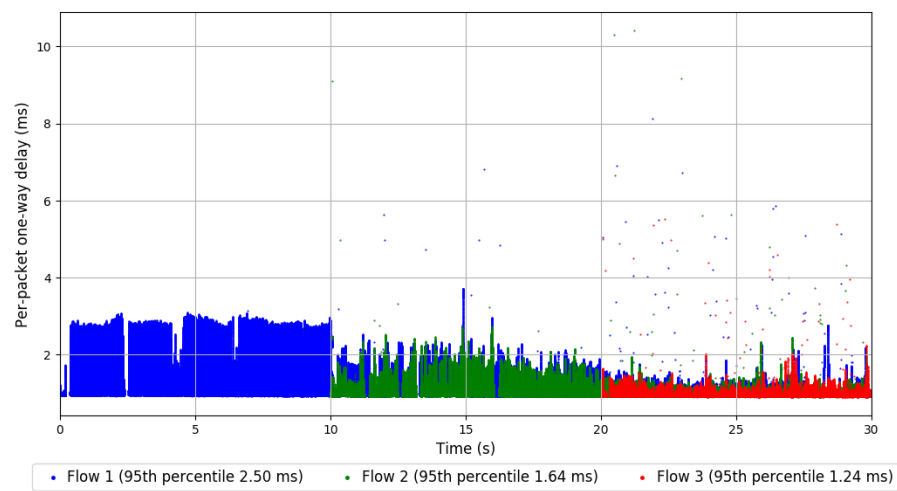
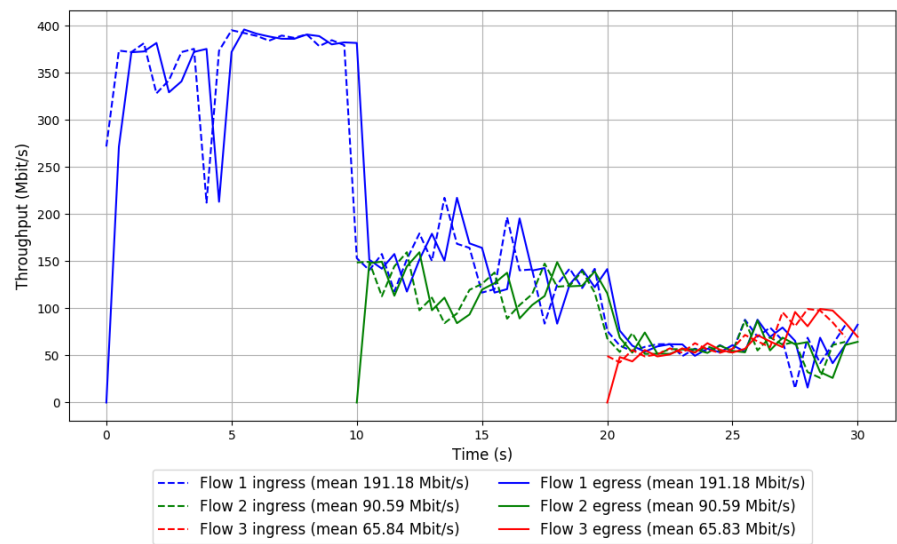
-- Flow 3:

Average throughput: 65.83 Mbit/s

95th percentile per-packet one-way delay: 1.241 ms

Loss rate: 0.00%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-11-30 16:06:50

End at: 2018-11-30 16:07:20

Local clock offset: 0.054 ms

Remote clock offset: 0.774 ms

# Below is generated by plot.py at 2018-11-30 18:41:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 270.52 Mbit/s

95th percentile per-packet one-way delay: 1.937 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 180.96 Mbit/s

95th percentile per-packet one-way delay: 1.998 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 96.45 Mbit/s

95th percentile per-packet one-way delay: 1.785 ms

Loss rate: 0.00%

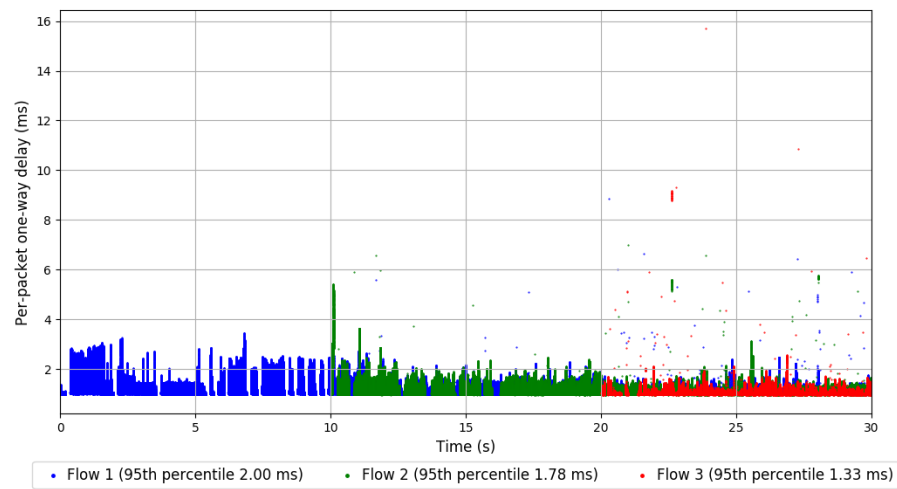
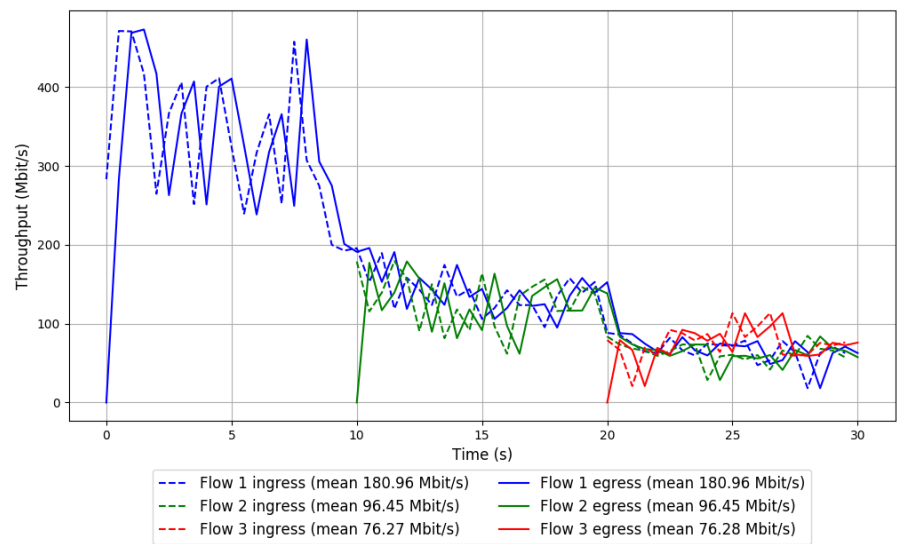
-- Flow 3:

Average throughput: 76.28 Mbit/s

95th percentile per-packet one-way delay: 1.327 ms

Loss rate: 0.02%

Run 2: Report of Verus — Data Link

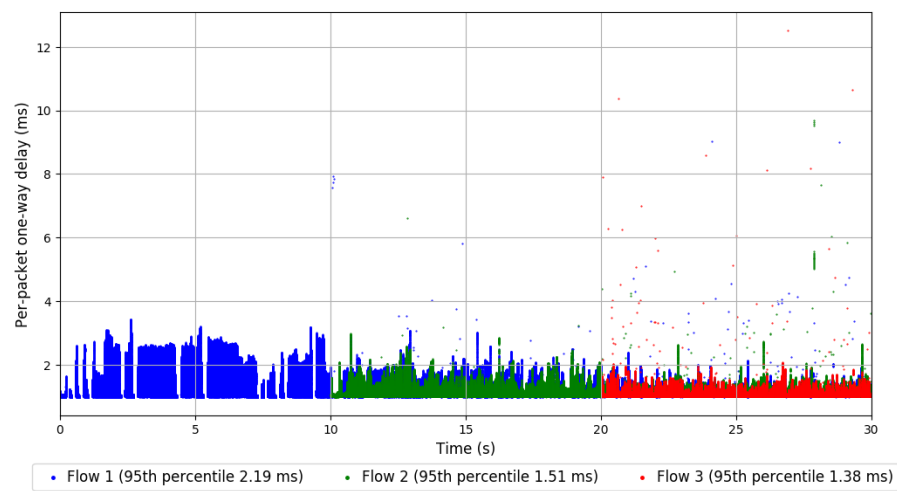
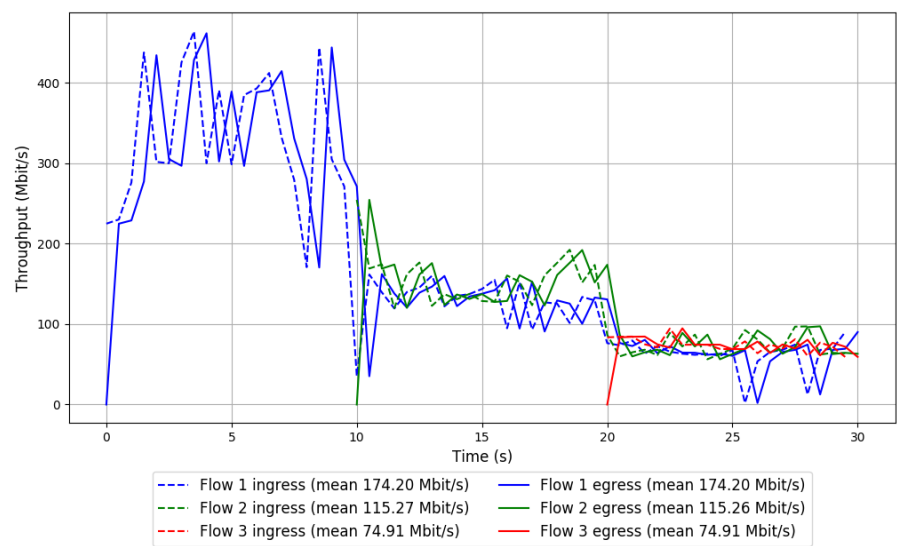


Run 3: Statistics of Verus

Start at: 2018-11-30 16:34:35  
End at: 2018-11-30 16:35:05  
Local clock offset: -0.218 ms  
Remote clock offset: -0.011 ms

# Below is generated by plot.py at 2018-11-30 18:41:45  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 275.79 Mbit/s  
95th percentile per-packet one-way delay: 2.042 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 174.20 Mbit/s  
95th percentile per-packet one-way delay: 2.189 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 115.26 Mbit/s  
95th percentile per-packet one-way delay: 1.510 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 74.91 Mbit/s  
95th percentile per-packet one-way delay: 1.375 ms  
Loss rate: 0.00%

Run 3: Report of Verus — Data Link

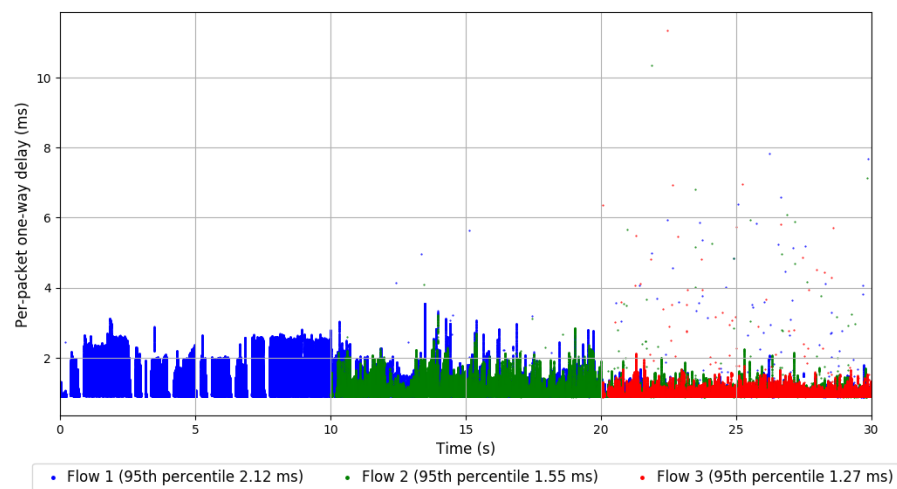
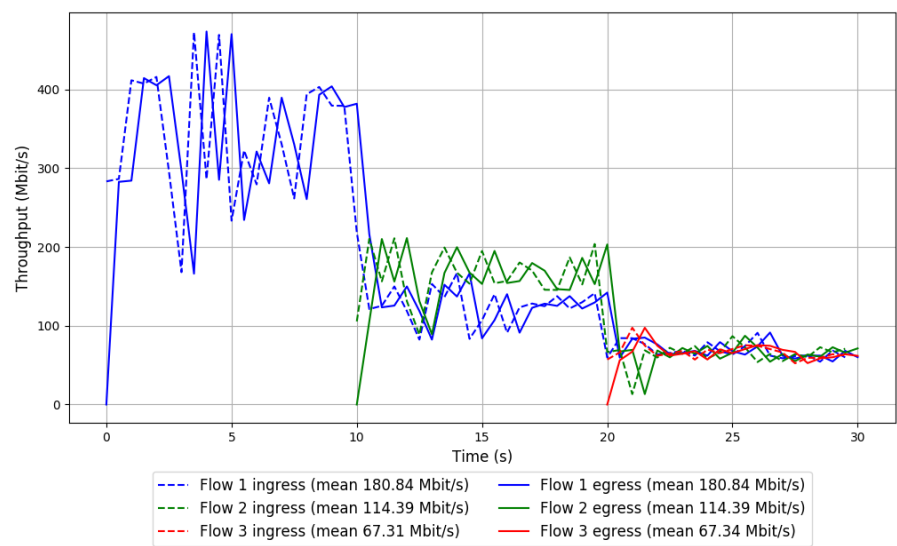


Run 4: Statistics of Verus

Start at: 2018-11-30 17:02:02  
End at: 2018-11-30 17:02:32  
Local clock offset: -0.268 ms  
Remote clock offset: -3.853 ms

# Below is generated by plot.py at 2018-11-30 18:42:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 279.23 Mbit/s  
95th percentile per-packet one-way delay: 1.959 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 180.84 Mbit/s  
95th percentile per-packet one-way delay: 2.116 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 114.39 Mbit/s  
95th percentile per-packet one-way delay: 1.546 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 67.34 Mbit/s  
95th percentile per-packet one-way delay: 1.267 ms  
Loss rate: 0.03%

Run 4: Report of Verus — Data Link

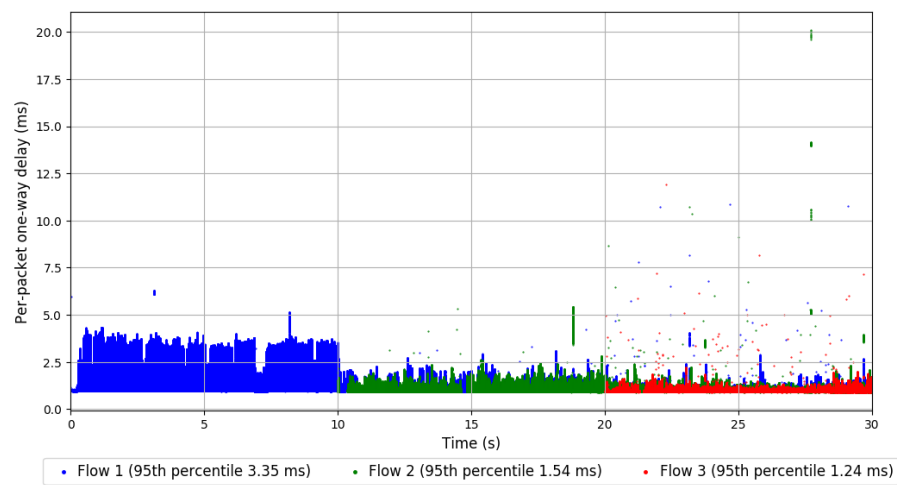
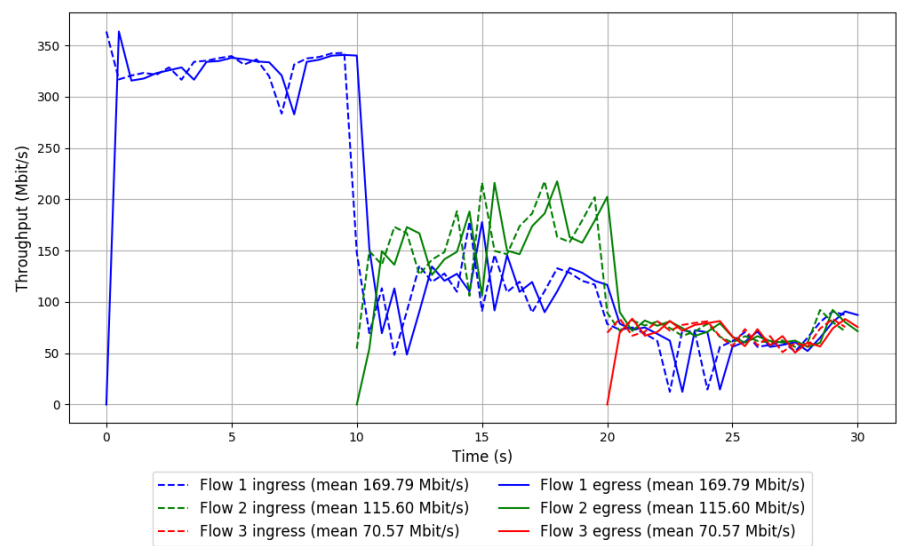


Run 5: Statistics of Verus

Start at: 2018-11-30 17:29:37  
End at: 2018-11-30 17:30:07  
Local clock offset: 2.758 ms  
Remote clock offset: -3.618 ms

# Below is generated by plot.py at 2018-11-30 18:42:15  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 270.22 Mbit/s  
95th percentile per-packet one-way delay: 3.228 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 169.79 Mbit/s  
95th percentile per-packet one-way delay: 3.350 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 115.60 Mbit/s  
95th percentile per-packet one-way delay: 1.543 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 70.57 Mbit/s  
95th percentile per-packet one-way delay: 1.238 ms  
Loss rate: 0.00%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-11-30 15:31:38

End at: 2018-11-30 15:32:08

Local clock offset: 3.126 ms

Remote clock offset: 0.942 ms

# Below is generated by plot.py at 2018-11-30 18:43:18

# Datalink statistics

-- Total of 3 flows:

Average throughput: 329.35 Mbit/s

95th percentile per-packet one-way delay: 0.973 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 233.11 Mbit/s

95th percentile per-packet one-way delay: 0.971 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 113.59 Mbit/s

95th percentile per-packet one-way delay: 0.981 ms

Loss rate: 0.00%

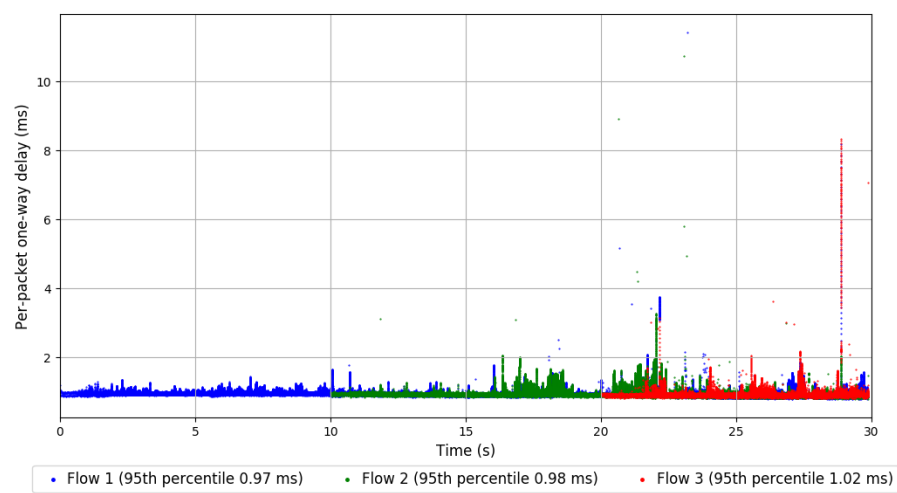
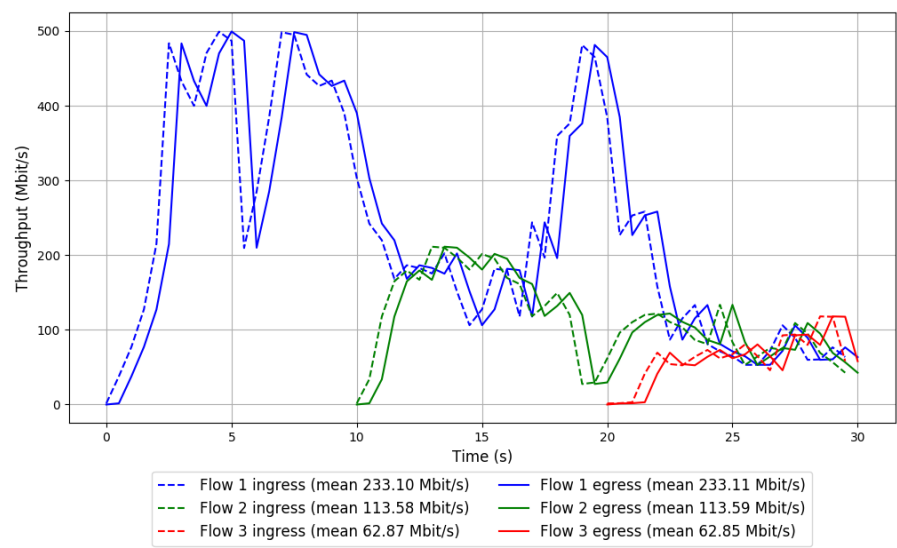
-- Flow 3:

Average throughput: 62.85 Mbit/s

95th percentile per-packet one-way delay: 1.017 ms

Loss rate: 0.01%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-11-30 15:59:26

End at: 2018-11-30 15:59:56

Local clock offset: 0.578 ms

Remote clock offset: 1.227 ms

# Below is generated by plot.py at 2018-11-30 18:43:18

# Datalink statistics

-- Total of 3 flows:

Average throughput: 270.26 Mbit/s

95th percentile per-packet one-way delay: 1.169 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 165.98 Mbit/s

95th percentile per-packet one-way delay: 1.161 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 117.52 Mbit/s

95th percentile per-packet one-way delay: 1.194 ms

Loss rate: 0.00%

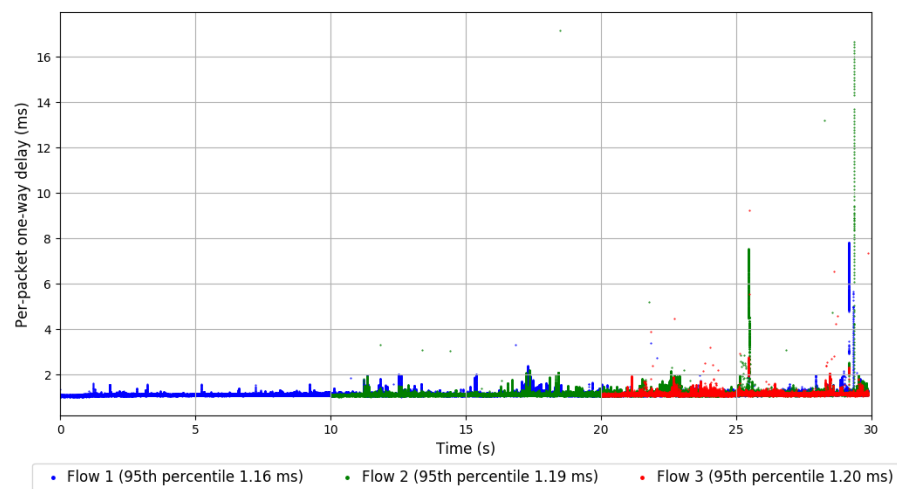
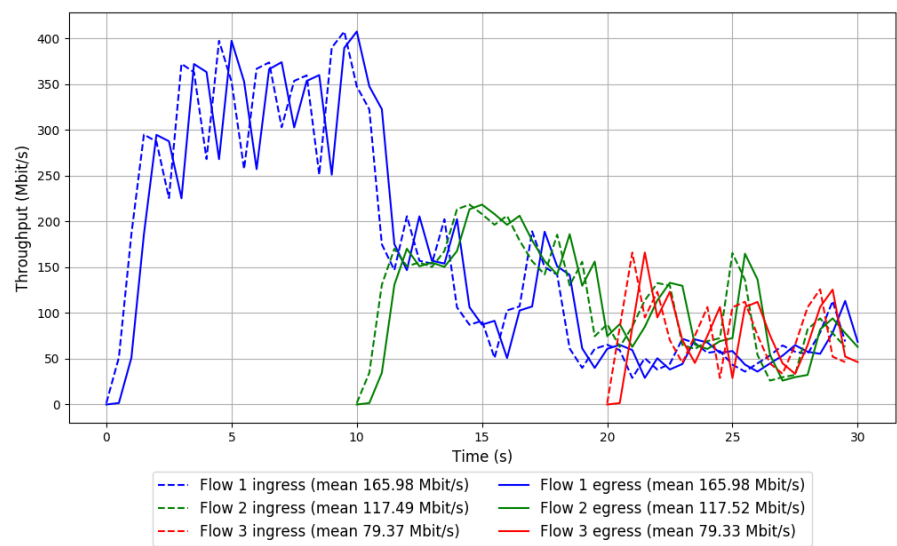
-- Flow 3:

Average throughput: 79.33 Mbit/s

95th percentile per-packet one-way delay: 1.203 ms

Loss rate: 0.01%

Run 2: Report of PCC-Vivace — Data Link

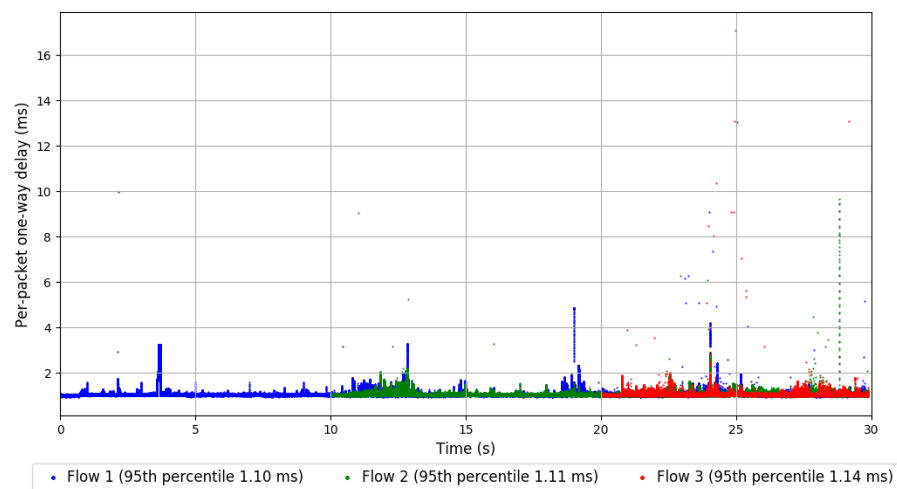
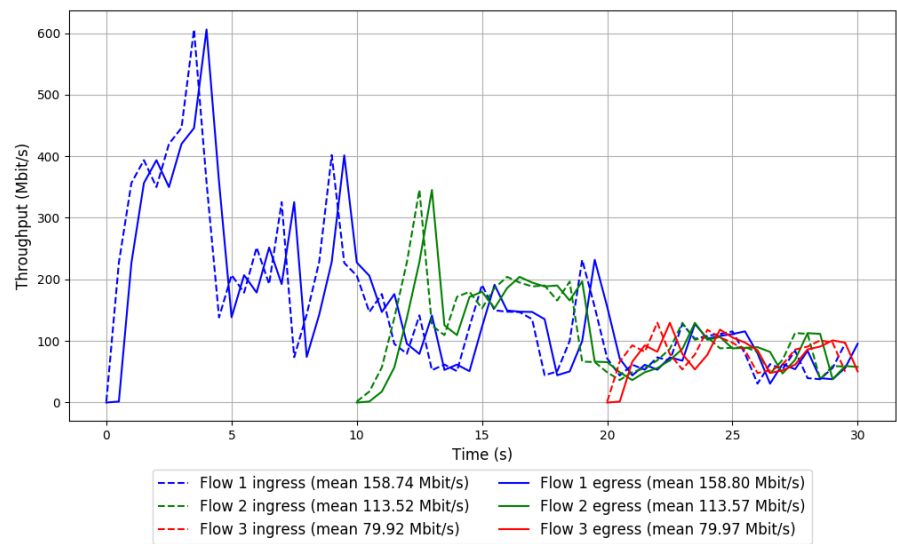


Run 3: Statistics of PCC-Vivace

Start at: 2018-11-30 16:27:08  
End at: 2018-11-30 16:27:38  
Local clock offset: -0.162 ms  
Remote clock offset: -0.051 ms

# Below is generated by plot.py at 2018-11-30 18:43:21  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 260.71 Mbit/s  
95th percentile per-packet one-way delay: 1.111 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 158.80 Mbit/s  
95th percentile per-packet one-way delay: 1.100 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 113.57 Mbit/s  
95th percentile per-packet one-way delay: 1.111 ms  
Loss rate: 0.02%  
-- Flow 3:  
Average throughput: 79.97 Mbit/s  
95th percentile per-packet one-way delay: 1.142 ms  
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

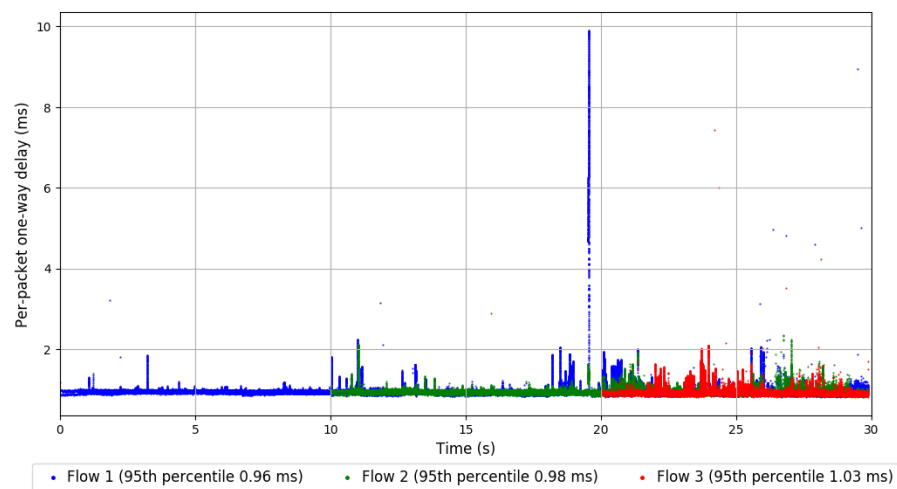
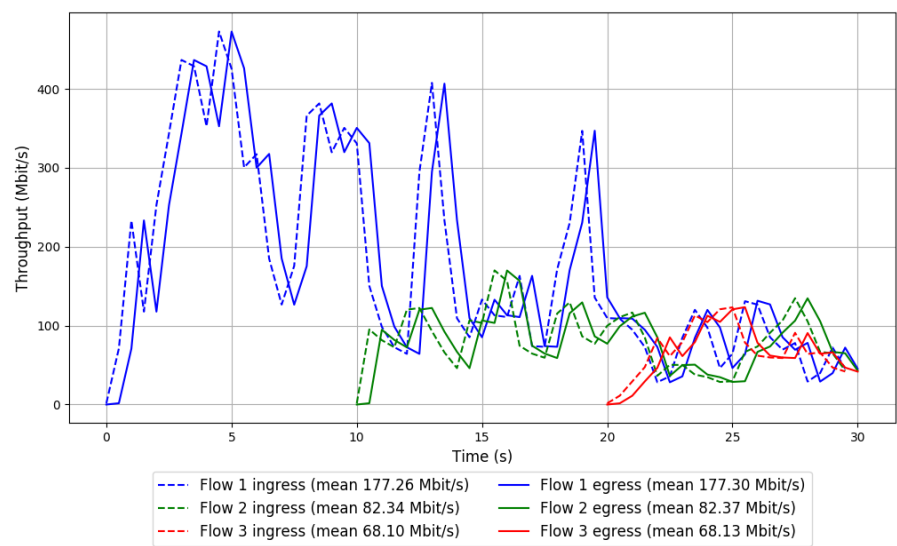


Run 4: Statistics of PCC-Vivace

Start at: 2018-11-30 16:54:34  
End at: 2018-11-30 16:55:04  
Local clock offset: -0.253 ms  
Remote clock offset: -3.392 ms

# Below is generated by plot.py at 2018-11-30 18:43:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 254.57 Mbit/s  
95th percentile per-packet one-way delay: 0.971 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 177.30 Mbit/s  
95th percentile per-packet one-way delay: 0.965 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 82.37 Mbit/s  
95th percentile per-packet one-way delay: 0.985 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 68.13 Mbit/s  
95th percentile per-packet one-way delay: 1.029 ms  
Loss rate: 0.01%

Run 4: Report of PCC-Vivace — Data Link

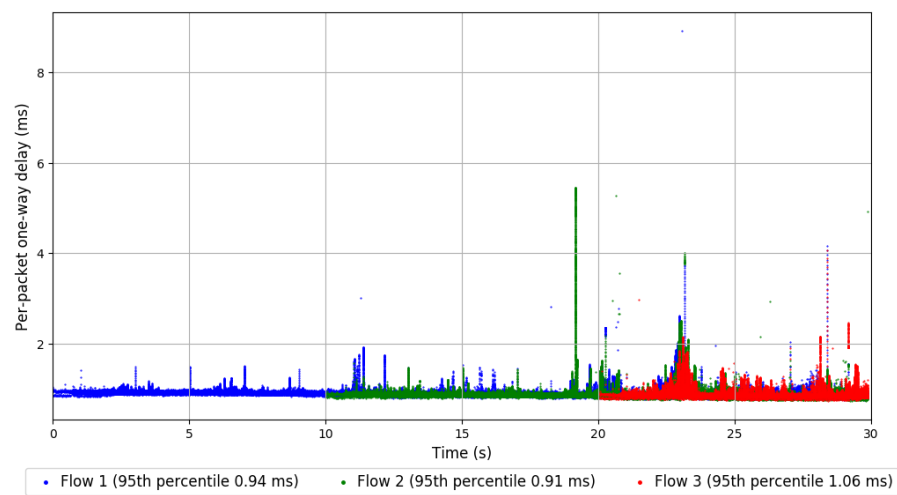
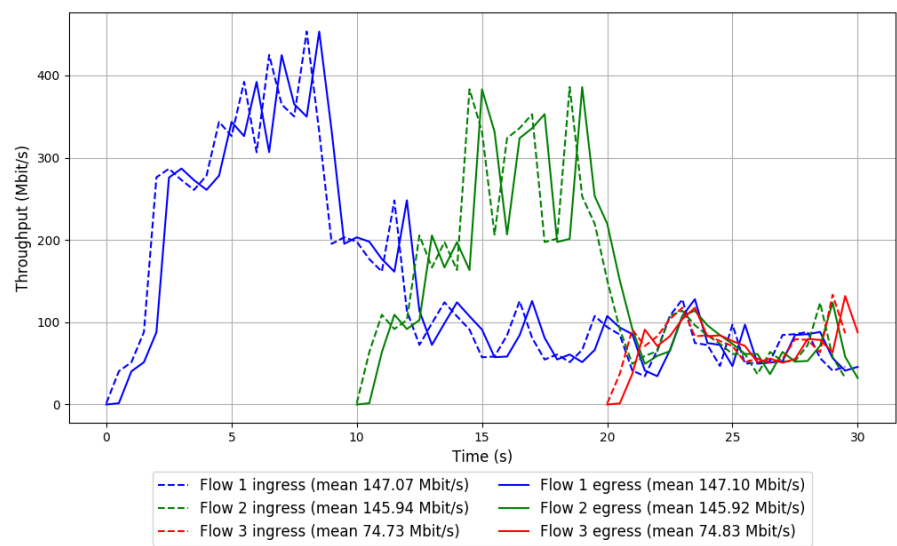


Run 5: Statistics of PCC-Vivace

Start at: 2018-11-30 17:22:10  
End at: 2018-11-30 17:22:40  
Local clock offset: 1.725 ms  
Remote clock offset: -3.679 ms

# Below is generated by plot.py at 2018-11-30 18:43:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 268.81 Mbit/s  
95th percentile per-packet one-way delay: 0.942 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 147.10 Mbit/s  
95th percentile per-packet one-way delay: 0.944 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 145.92 Mbit/s  
95th percentile per-packet one-way delay: 0.911 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 74.83 Mbit/s  
95th percentile per-packet one-way delay: 1.064 ms  
Loss rate: 0.03%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-11-30 15:30:25

End at: 2018-11-30 15:30:55

Local clock offset: 3.016 ms

Remote clock offset: 1.079 ms

# Below is generated by plot.py at 2018-11-30 18:43:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 2.92 Mbit/s

95th percentile per-packet one-way delay: 0.973 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.43 Mbit/s

95th percentile per-packet one-way delay: 0.986 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.08 Mbit/s

95th percentile per-packet one-way delay: 0.956 ms

Loss rate: 0.00%

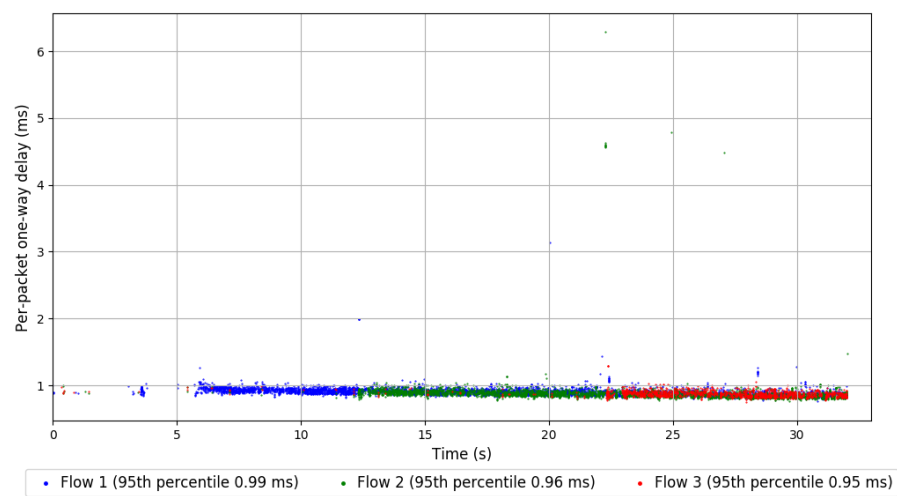
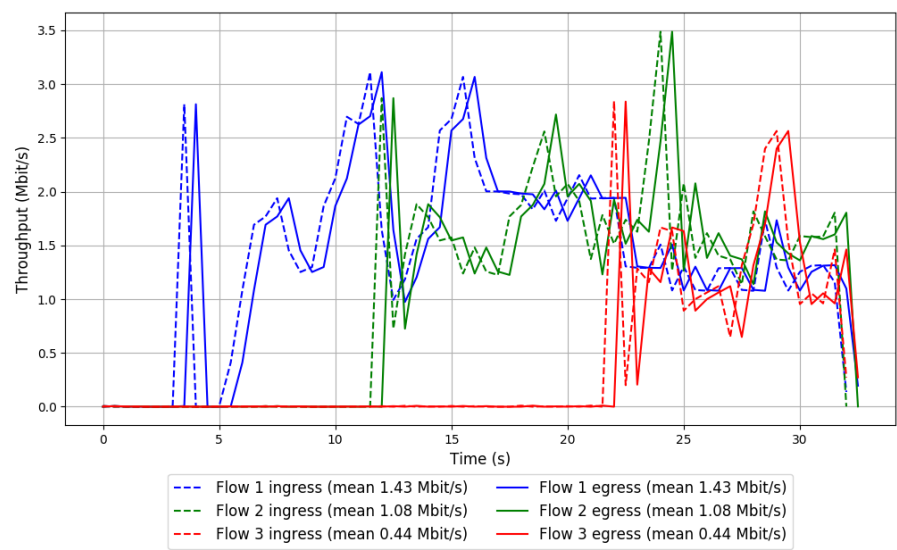
-- Flow 3:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 0.948 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-11-30 15:58:12

End at: 2018-11-30 15:58:42

Local clock offset: 0.688 ms

Remote clock offset: 1.193 ms

# Below is generated by plot.py at 2018-11-30 18:43:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 3.22 Mbit/s

95th percentile per-packet one-way delay: 1.177 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.80 Mbit/s

95th percentile per-packet one-way delay: 1.160 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 1.03 Mbit/s

95th percentile per-packet one-way delay: 1.187 ms

Loss rate: 0.00%

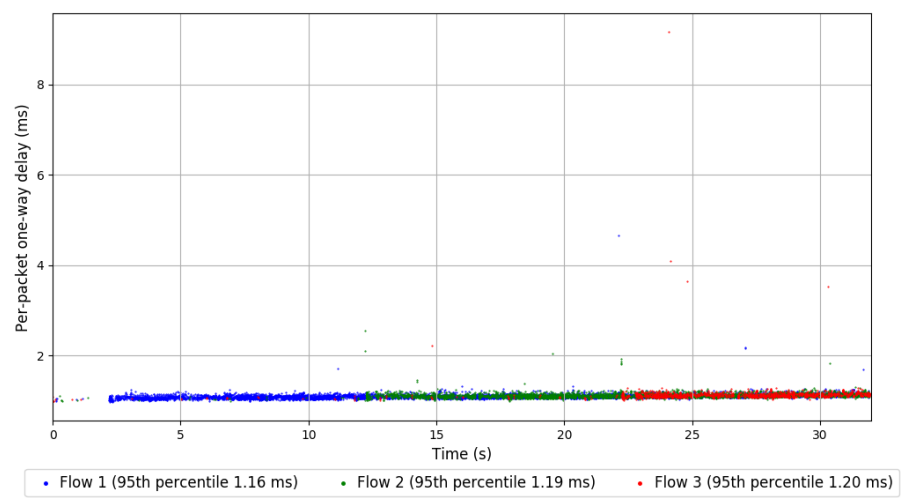
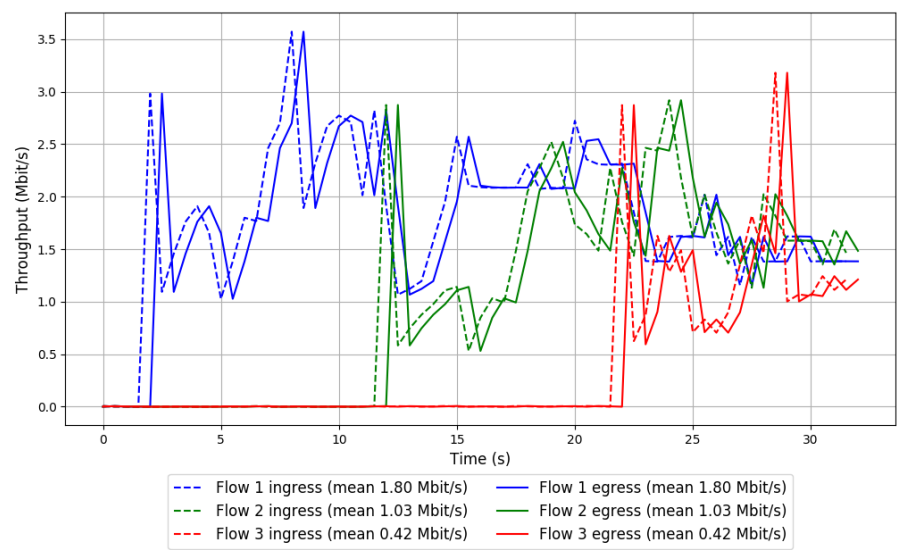
-- Flow 3:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 1.203 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

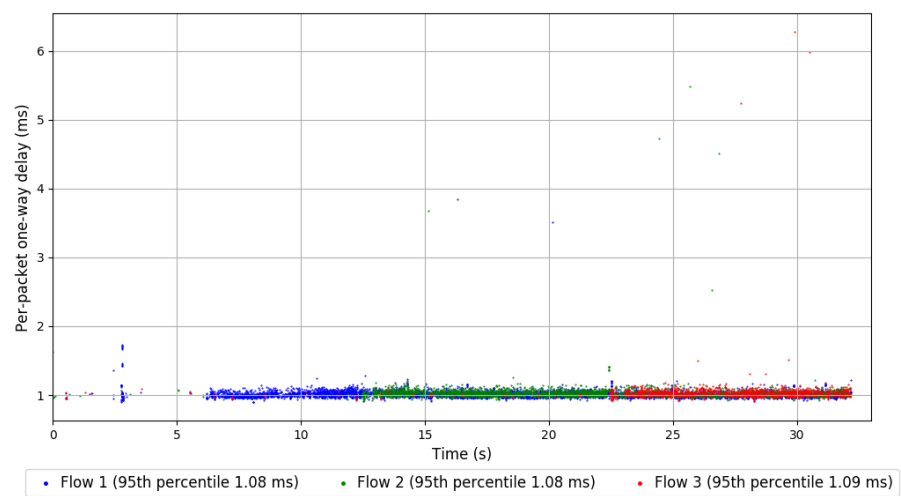
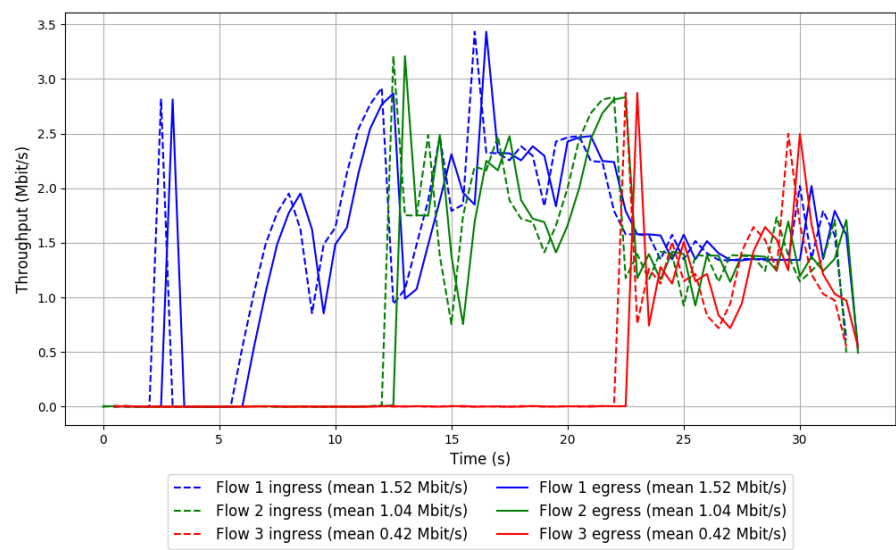


Run 3: Statistics of WebRTC media

Start at: 2018-11-30 16:25:54  
End at: 2018-11-30 16:26:24  
Local clock offset: -0.167 ms  
Remote clock offset: -0.009 ms

# Below is generated by plot.py at 2018-11-30 18:43:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.94 Mbit/s  
95th percentile per-packet one-way delay: 1.083 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 1.52 Mbit/s  
95th percentile per-packet one-way delay: 1.078 ms  
Loss rate: 0.08%  
-- Flow 2:  
Average throughput: 1.04 Mbit/s  
95th percentile per-packet one-way delay: 1.085 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.42 Mbit/s  
95th percentile per-packet one-way delay: 1.094 ms  
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

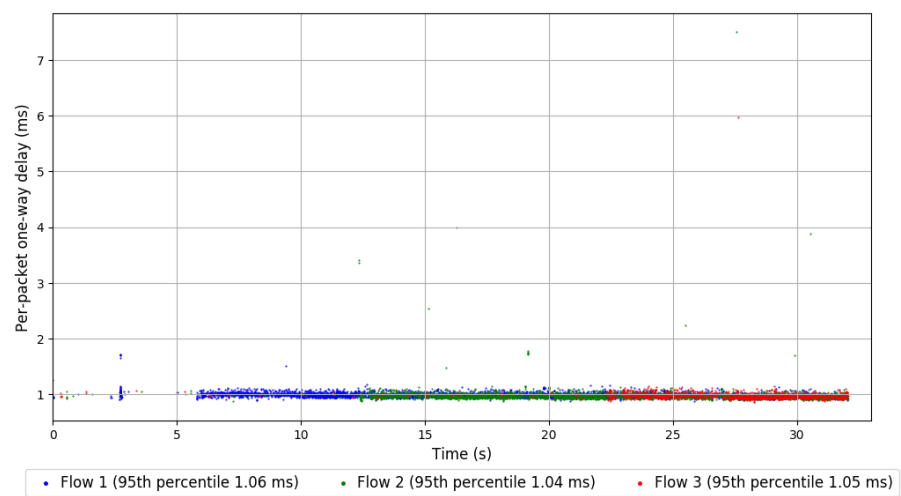
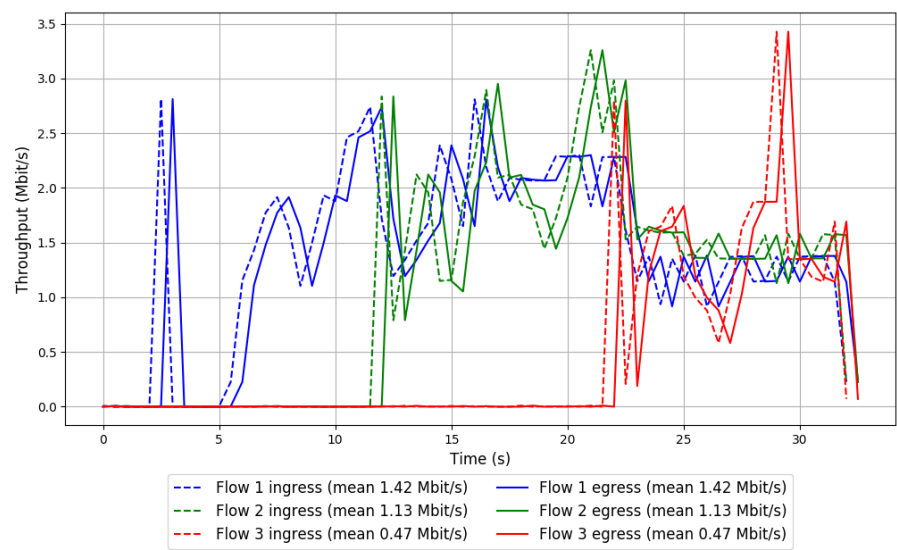


Run 4: Statistics of WebRTC media

Start at: 2018-11-30 16:53:20  
End at: 2018-11-30 16:53:50  
Local clock offset: -0.235 ms  
Remote clock offset: -3.298 ms

# Below is generated by plot.py at 2018-11-30 18:43:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.99 Mbit/s  
95th percentile per-packet one-way delay: 1.052 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.42 Mbit/s  
95th percentile per-packet one-way delay: 1.056 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 1.13 Mbit/s  
95th percentile per-packet one-way delay: 1.045 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.47 Mbit/s  
95th percentile per-packet one-way delay: 1.049 ms  
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-11-30 17:20:56  
End at: 2018-11-30 17:21:26  
Local clock offset: 1.471 ms  
Remote clock offset: -3.636 ms

# Below is generated by plot.py at 2018-11-30 18:43:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.31 Mbit/s  
95th percentile per-packet one-way delay: 0.887 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.73 Mbit/s  
95th percentile per-packet one-way delay: 0.900 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 1.13 Mbit/s  
95th percentile per-packet one-way delay: 0.863 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.46 Mbit/s  
95th percentile per-packet one-way delay: 0.850 ms  
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

