

## Pantheon Report

Generated at 2019-03-19 04:43:33 (UTC).

Data path: AWS Brazil 1 on `ens5` (*local*) → Brazil on `p4p1` (*remote*).

Repeated the test of 21 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 `gps.ntp.br` and have been applied to correct the timestamps in logs.

### System info:

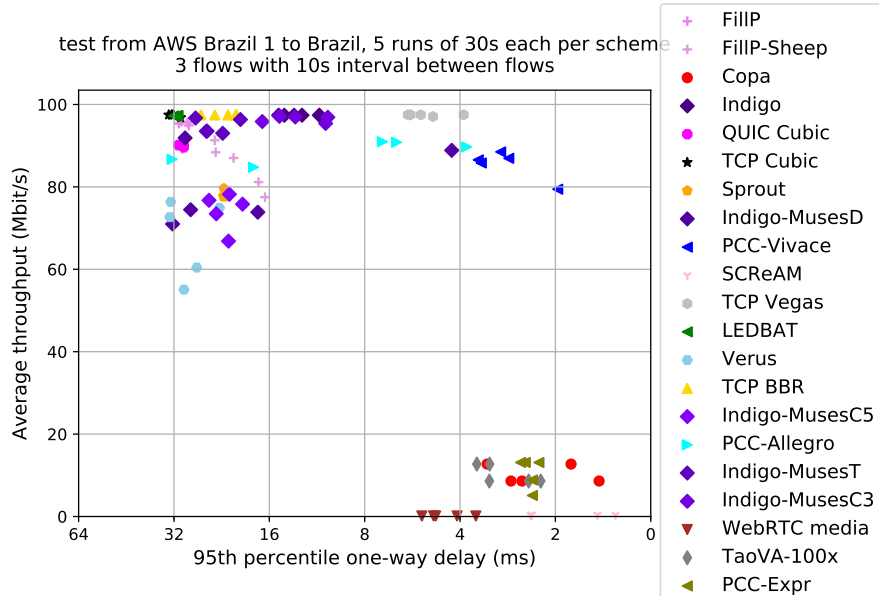
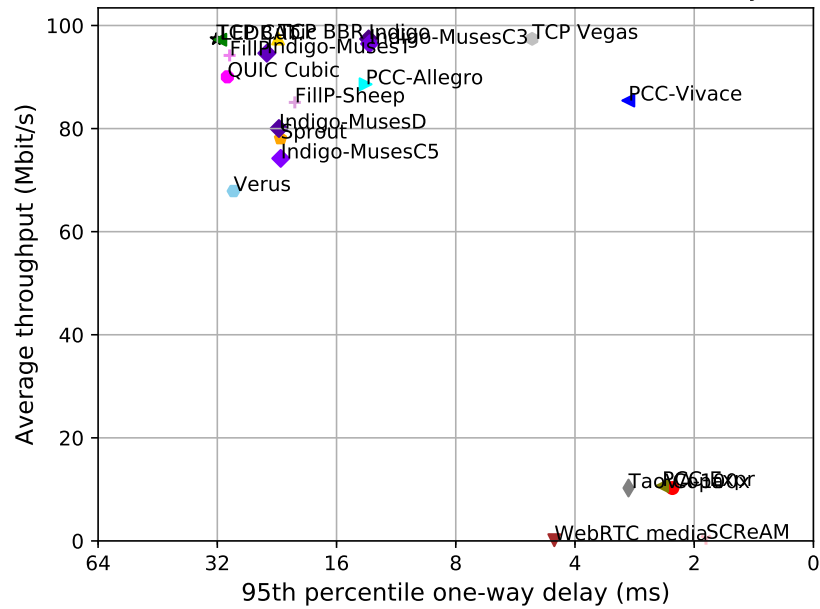
```
Linux 4.15.0-1033-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
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

test from AWS Brazil 1 to Brazil, 5 runs of 30s each per scheme  
3 flows with 10s interval between flows (mean of all runs by scheme)



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	65.42	35.67	24.91	22.05	20.81	25.12	0.01	0.01	0.01
Copa	5	4.33	8.36	1.27	2.43	2.58	2.82	85.62	73.15	86.37
TCP Cubic	5	60.35	40.38	30.41	31.64	32.24	31.73	0.04	0.04	0.04
FillP	5	47.38	58.15	24.35	28.57	29.68	29.47	12.05	17.76	37.39
FillP-Sheep	5	53.04	33.56	29.32	17.96	22.23	23.40	0.79	1.55	2.91
Indigo	5	46.74	40.62	72.92	10.97	12.91	13.49	0.00	0.00	0.00
Indigo-MusesC3	5	60.52	38.38	36.23	13.47	12.40	11.39	0.00	0.00	0.00
Indigo-MusesC5	5	42.35	32.59	35.17	20.62	22.85	23.63	0.00	0.01	0.00
Indigo-MusesD	5	39.52	49.79	26.62	21.28	22.68	23.06	0.07	0.15	0.98
Indigo-MusesT	5	60.62	41.49	22.99	22.27	25.12	26.35	0.04	0.08	0.15
LEDBAT	5	60.04	41.27	29.31	30.85	32.02	32.11	0.03	0.06	0.10
PCC-Allegro	5	68.02	25.40	11.16	12.50	15.52	17.41	0.02	0.06	0.11
PCC-Expr	5	5.12	5.91	5.48	2.12	2.41	2.11	48.06	33.00	21.10
QUIC Cubic	5	58.07	33.94	28.59	30.04	29.90	30.80	0.15	0.19	0.28
SCReAM	5	0.22	0.22	0.22	1.51	1.50	1.50	0.00	0.00	0.00
Sprout	5	42.21	38.49	31.05	20.67	22.16	23.53	0.00	0.01	0.00
TaoVA-100x	5	2.61	7.45	8.48	2.67	2.34	2.95	91.91	87.14	87.37
TCP Vegas	5	45.89	46.56	61.63	7.21	5.05	4.11	0.00	0.00	0.00
Verus	5	38.40	32.19	24.41	25.53	29.11	32.02	7.41	8.49	19.05
PCC-Vivace	5	52.58	36.38	26.28	2.38	3.13	3.02	0.00	0.00	0.00
WebRTC media	5	0.05	0.05	0.05	4.72	4.36	4.62	0.00	0.00	0.01



Run 1: Statistics of TCP BBR

Start at: 2019-03-19 02:39:55

End at: 2019-03-19 02:40:25

Local clock offset: -5.315 ms

Remote clock offset: 0.092 ms

# Below is generated by plot.py at 2019-03-19 04:32:41

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 21.616 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 67.48 Mbit/s

95th percentile per-packet one-way delay: 21.528 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 34.55 Mbit/s

95th percentile per-packet one-way delay: 21.596 ms

Loss rate: 0.02%

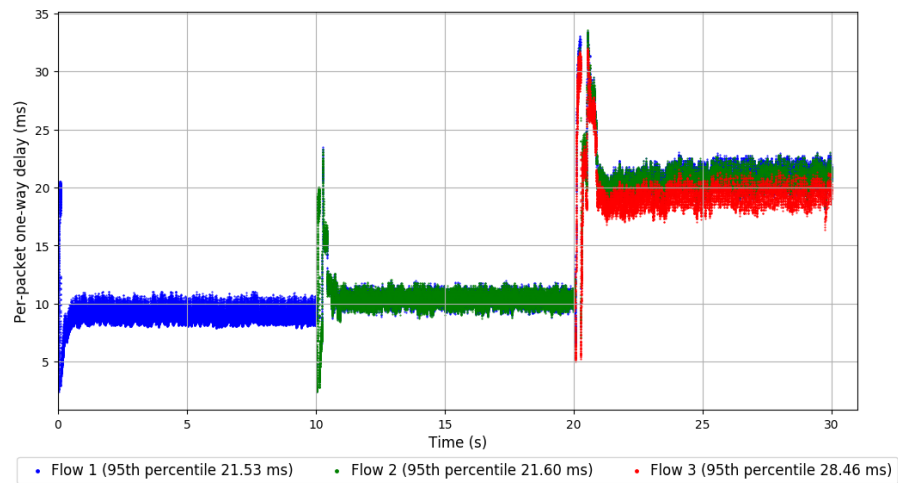
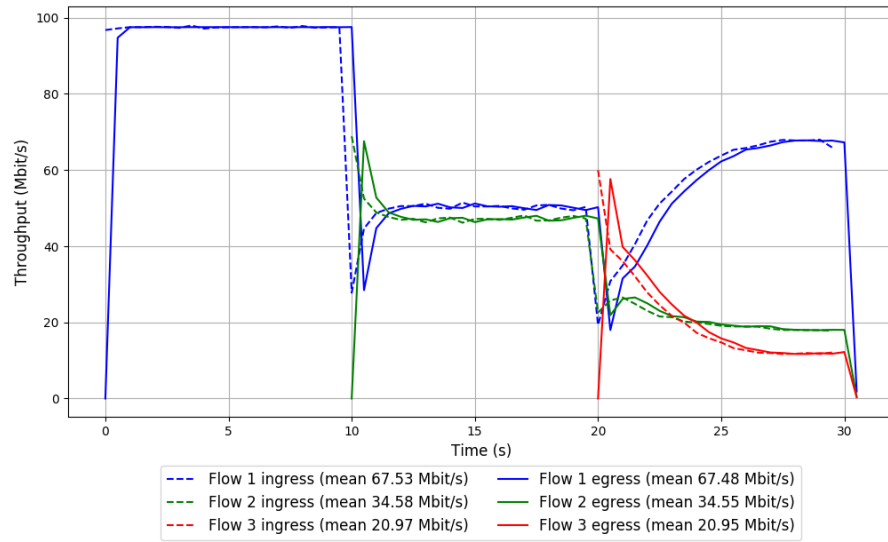
-- Flow 3:

Average throughput: 20.95 Mbit/s

95th percentile per-packet one-way delay: 28.459 ms

Loss rate: 0.02%

# Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-03-19 03:03:50

End at: 2019-03-19 03:04:20

Local clock offset: -4.968 ms

Remote clock offset: 0.251 ms

# Below is generated by plot.py at 2019-03-19 04:32:42

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.49 Mbit/s

95th percentile per-packet one-way delay: 20.432 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 71.54 Mbit/s

95th percentile per-packet one-way delay: 20.324 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 33.62 Mbit/s

95th percentile per-packet one-way delay: 18.968 ms

Loss rate: 0.00%

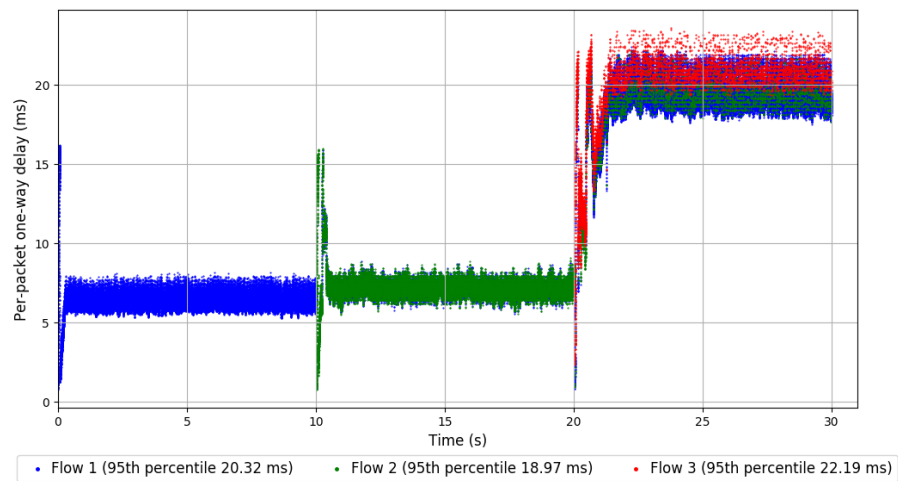
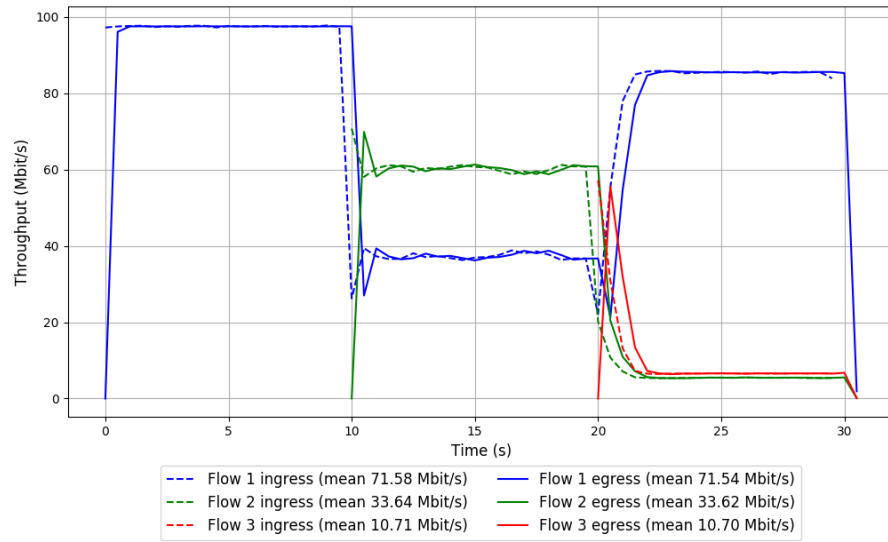
-- Flow 3:

Average throughput: 10.70 Mbit/s

95th percentile per-packet one-way delay: 22.194 ms

Loss rate: 0.00%

## Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2019-03-19 03:27:43

End at: 2019-03-19 03:28:13

Local clock offset: -1.653 ms

Remote clock offset: 0.418 ms

# Below is generated by plot.py at 2019-03-19 04:32:42

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 23.774 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 64.83 Mbit/s

95th percentile per-packet one-way delay: 24.074 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 43.01 Mbit/s

95th percentile per-packet one-way delay: 20.025 ms

Loss rate: 0.00%

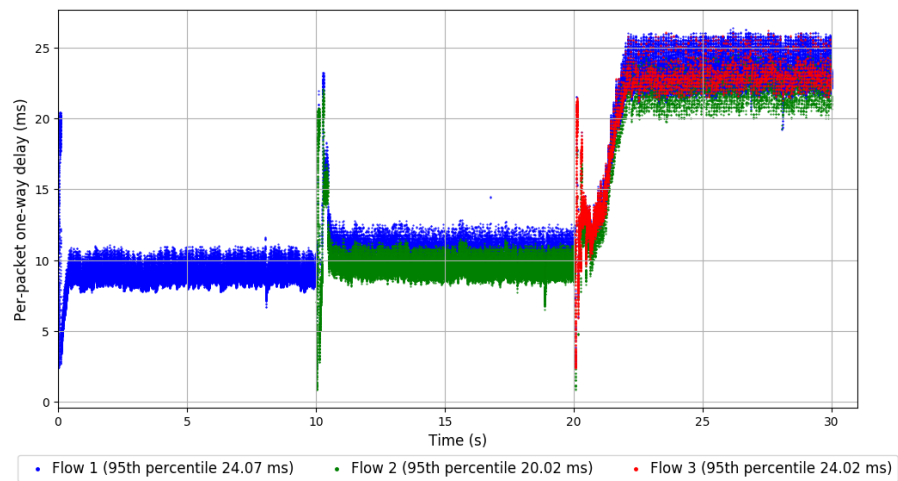
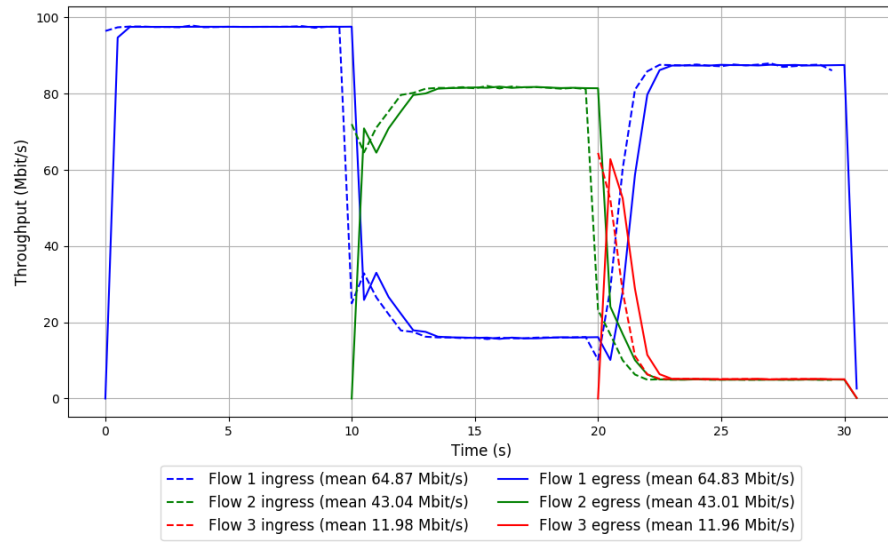
-- Flow 3:

Average throughput: 11.96 Mbit/s

95th percentile per-packet one-way delay: 24.023 ms

Loss rate: 0.00%

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



Run 4: Statistics of TCP BBR

Start at: 2019-03-19 03:51:39

End at: 2019-03-19 03:52:09

Local clock offset: -0.573 ms

Remote clock offset: 0.588 ms

# Below is generated by plot.py at 2019-03-19 04:32:42

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.49 Mbit/s

95th percentile per-packet one-way delay: 20.274 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 58.88 Mbit/s

95th percentile per-packet one-way delay: 17.868 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 25.61 Mbit/s

95th percentile per-packet one-way delay: 18.941 ms

Loss rate: 0.01%

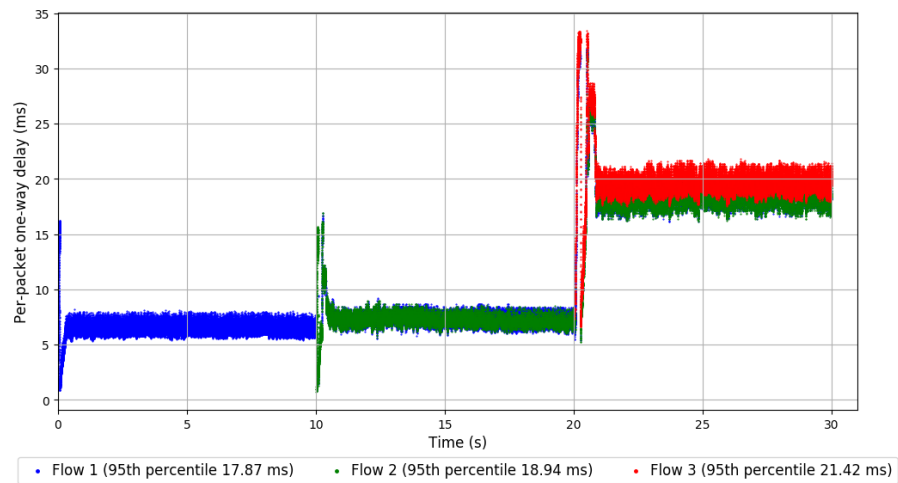
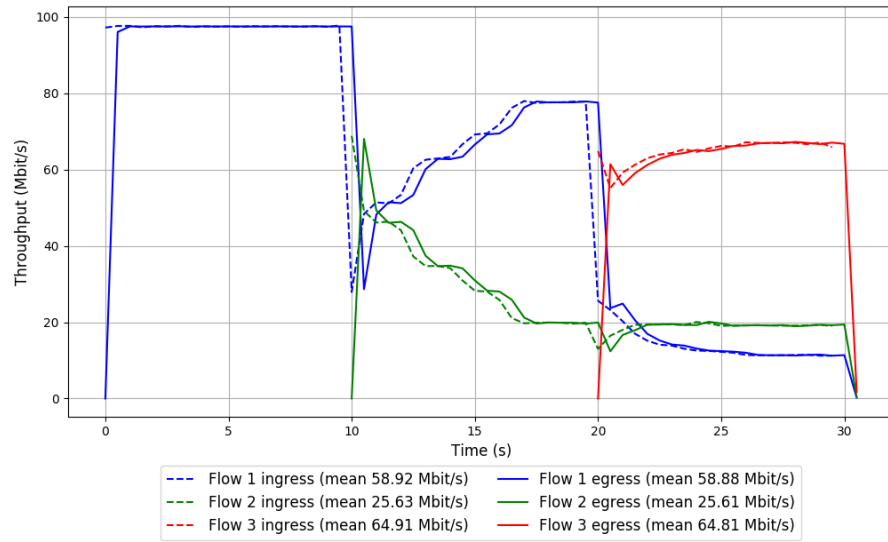
-- Flow 3:

Average throughput: 64.81 Mbit/s

95th percentile per-packet one-way delay: 21.417 ms

Loss rate: 0.04%

#### Run 4: Report of TCP BBR — Data Link





Run 5: Statistics of TCP BBR

Start at: 2019-03-19 04:15:34

End at: 2019-03-19 04:16:04

Local clock offset: -0.915 ms

Remote clock offset: 0.753 ms

# Below is generated by plot.py at 2019-03-19 04:32:42

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 26.289 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 64.39 Mbit/s

95th percentile per-packet one-way delay: 26.438 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 41.57 Mbit/s

95th percentile per-packet one-way delay: 24.496 ms

Loss rate: 0.00%

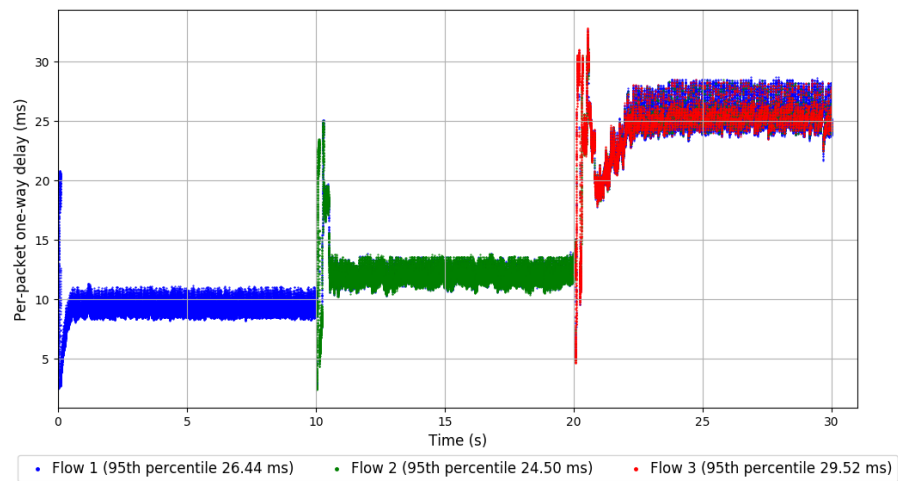
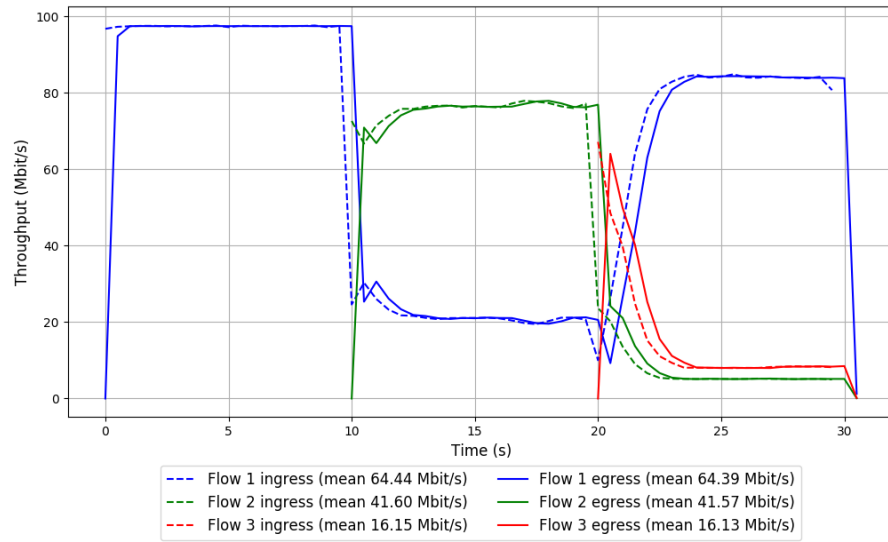
-- Flow 3:

Average throughput: 16.13 Mbit/s

95th percentile per-packet one-way delay: 29.517 ms

Loss rate: 0.00%

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



Run 1: Statistics of Copa

Start at: 2019-03-19 02:36:36

End at: 2019-03-19 02:37:06

Local clock offset: -5.294 ms

Remote clock offset: 0.007 ms

# Below is generated by plot.py at 2019-03-19 04:32:42

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.62 Mbit/s

95th percentile per-packet one-way delay: 2.550 ms

Loss rate: 68.25%

-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2.283 ms

Loss rate: 98.60%

-- Flow 2:

Average throughput: 11.03 Mbit/s

95th percentile per-packet one-way delay: 2.577 ms

Loss rate: 65.24%

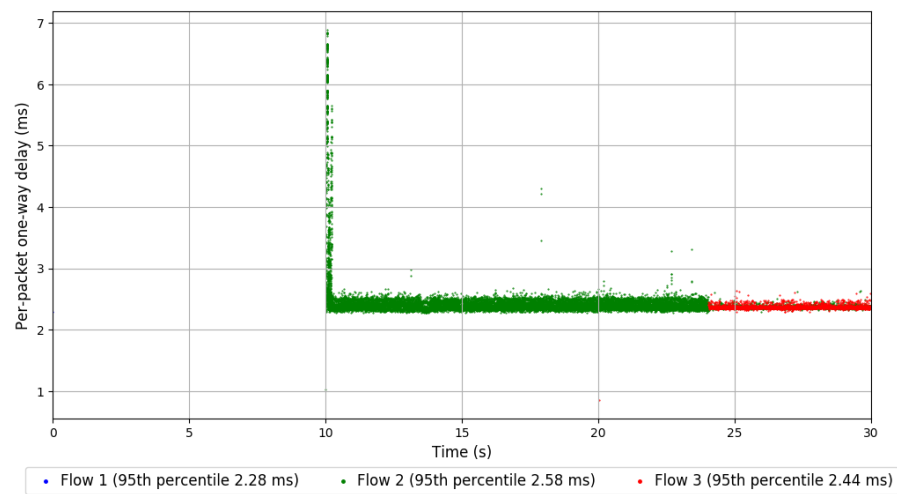
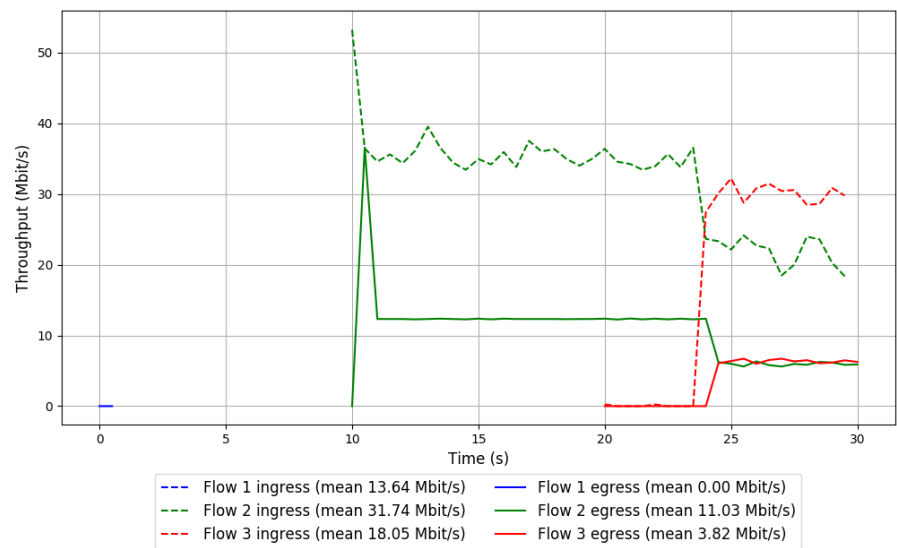
-- Flow 3:

Average throughput: 3.82 Mbit/s

95th percentile per-packet one-way delay: 2.437 ms

Loss rate: 78.84%

Run 1: Report of Copa — Data Link

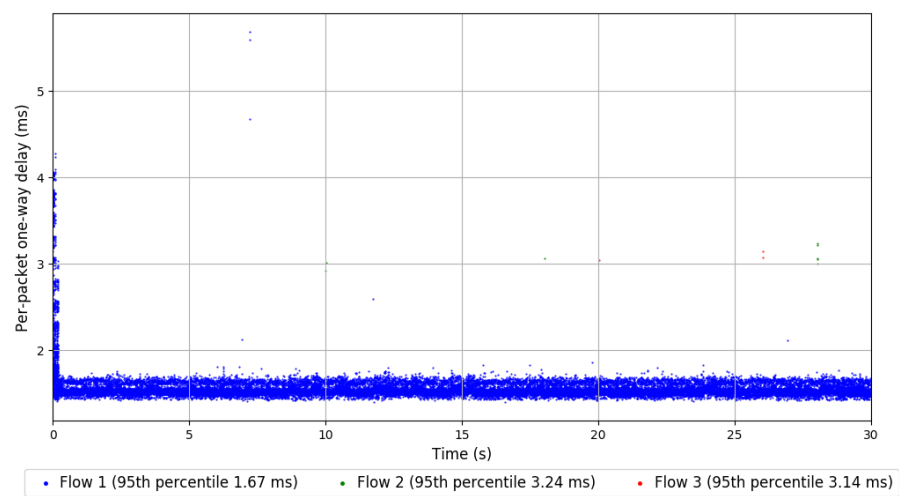
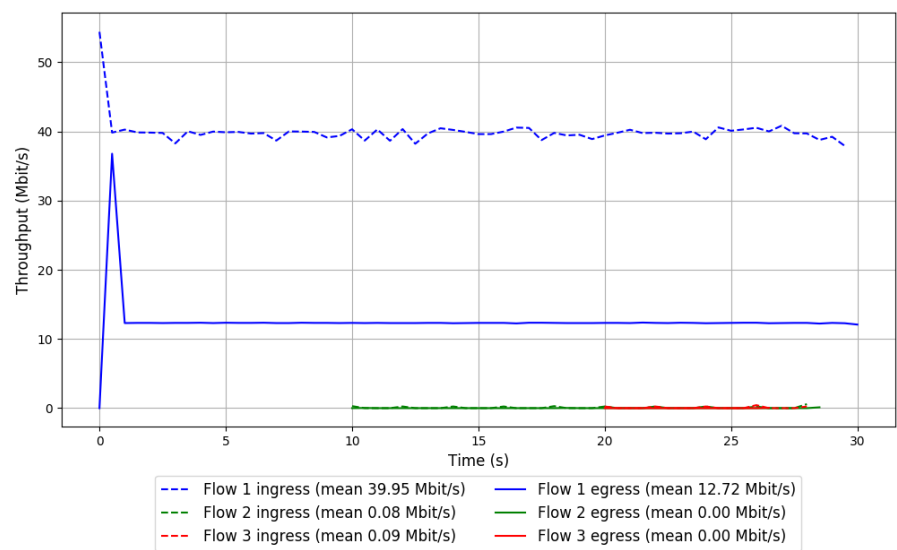


Run 2: Statistics of Copa

Start at: 2019-03-19 03:00:31  
End at: 2019-03-19 03:01:01  
Local clock offset: -5.729 ms  
Remote clock offset: 0.132 ms

# Below is generated by plot.py at 2019-03-19 04:32:42  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.73 Mbit/s  
95th percentile per-packet one-way delay: 1.672 ms  
Loss rate: 68.21%  
-- Flow 1:  
Average throughput: 12.72 Mbit/s  
95th percentile per-packet one-way delay: 1.672 ms  
Loss rate: 68.16%  
-- Flow 2:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 3.238 ms  
Loss rate: 94.00%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 3.144 ms  
Loss rate: 96.41%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-03-19 03:24:24

End at: 2019-03-19 03:24:54

Local clock offset: -2.309 ms

Remote clock offset: 0.437 ms

# Below is generated by plot.py at 2019-03-19 04:32:42

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.62 Mbit/s

95th percentile per-packet one-way delay: 2.762 ms

Loss rate: 63.11%

-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2.565 ms

Loss rate: 97.24%

-- Flow 2:

Average throughput: 12.93 Mbit/s

95th percentile per-packet one-way delay: 2.762 ms

Loss rate: 63.07%

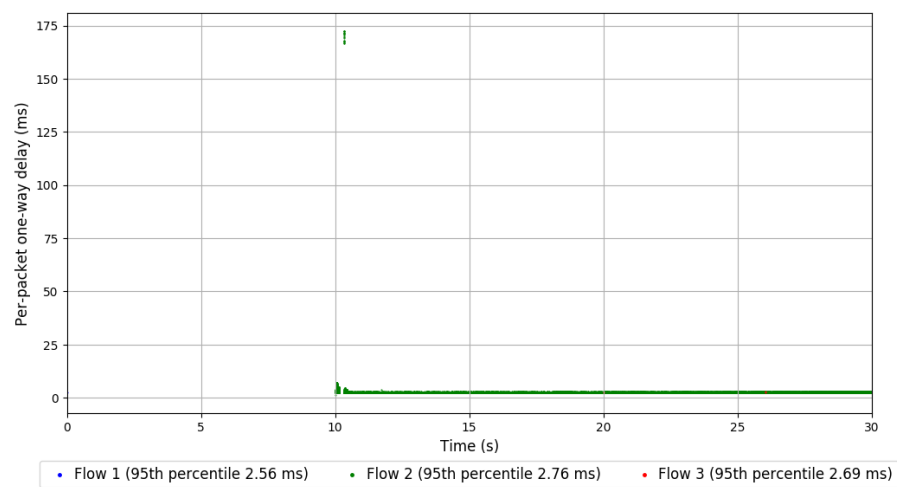
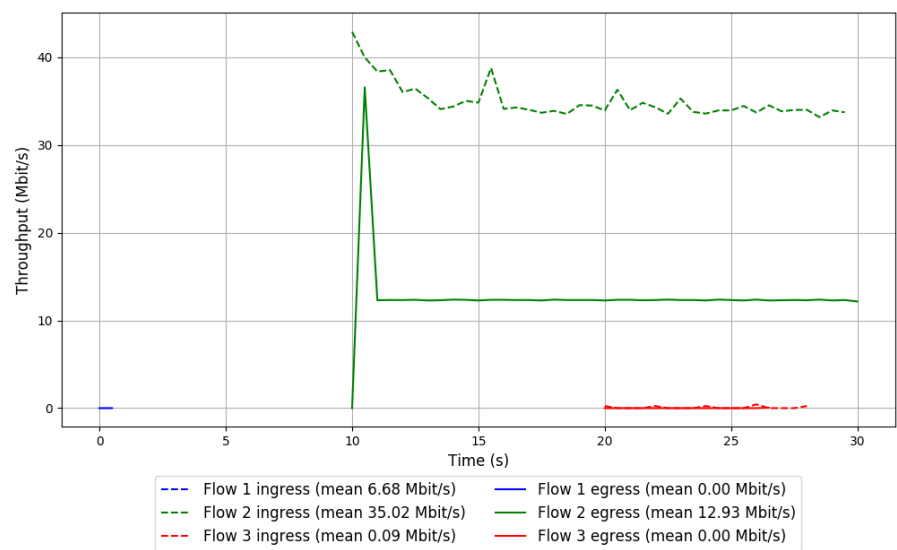
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2.695 ms

Loss rate: 96.41%

Run 3: Report of Copa — Data Link





Run 4: Statistics of Copa

Start at: 2019-03-19 03:48:20

End at: 2019-03-19 03:48:50

Local clock offset: -1.018 ms

Remote clock offset: 0.557 ms

# Below is generated by plot.py at 2019-03-19 04:32:42

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.284 ms

Loss rate: 70.06%

-- Flow 1:

Average throughput: 8.95 Mbit/s

95th percentile per-packet one-way delay: 3.315 ms

Loss rate: 66.18%

-- Flow 2:

Average throughput: 4.90 Mbit/s

95th percentile per-packet one-way delay: 3.229 ms

Loss rate: 75.69%

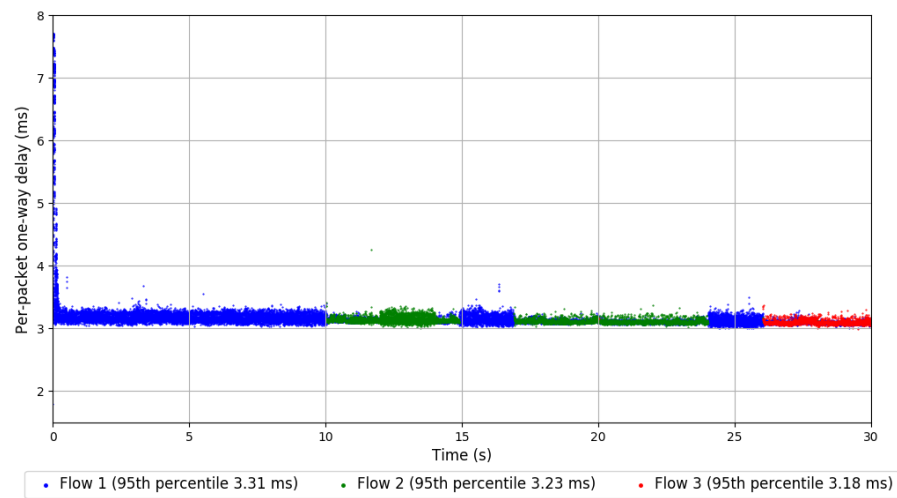
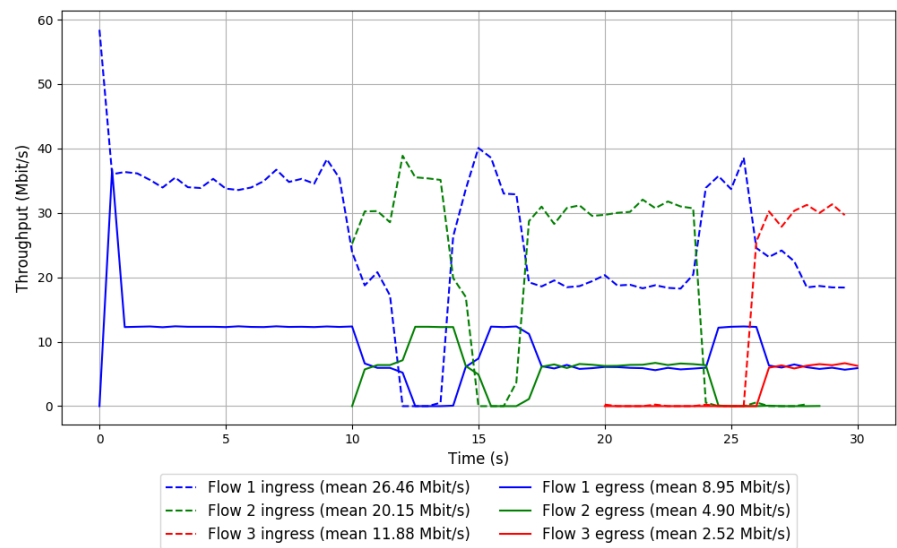
-- Flow 3:

Average throughput: 2.52 Mbit/s

95th percentile per-packet one-way delay: 3.180 ms

Loss rate: 78.79%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2019-03-19 04:12:14

End at: 2019-03-19 04:12:44

Local clock offset: -0.909 ms

Remote clock offset: 0.734 ms

# Below is generated by plot.py at 2019-03-19 04:32:42

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.62 Mbit/s

95th percentile per-packet one-way delay: 1.083 ms

Loss rate: 67.80%

-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2.318 ms

Loss rate: 97.92%

-- Flow 2:

Average throughput: 12.92 Mbit/s

95th percentile per-packet one-way delay: 1.081 ms

Loss rate: 67.77%

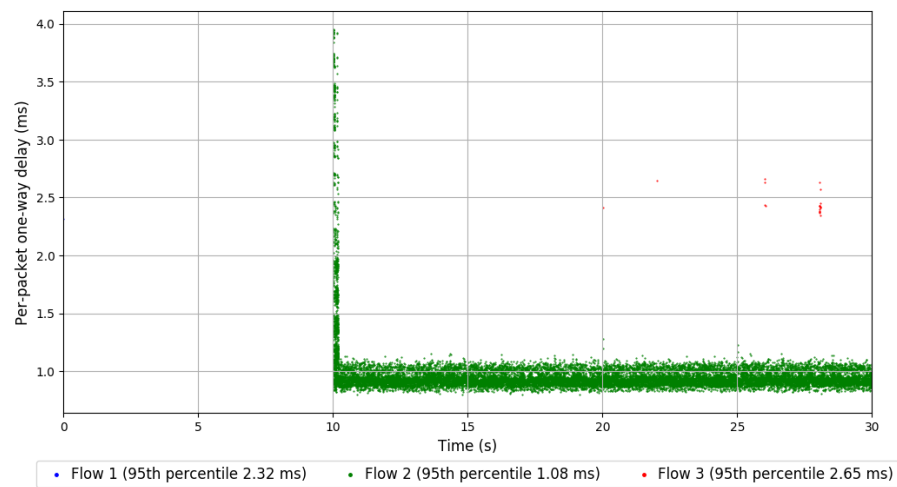
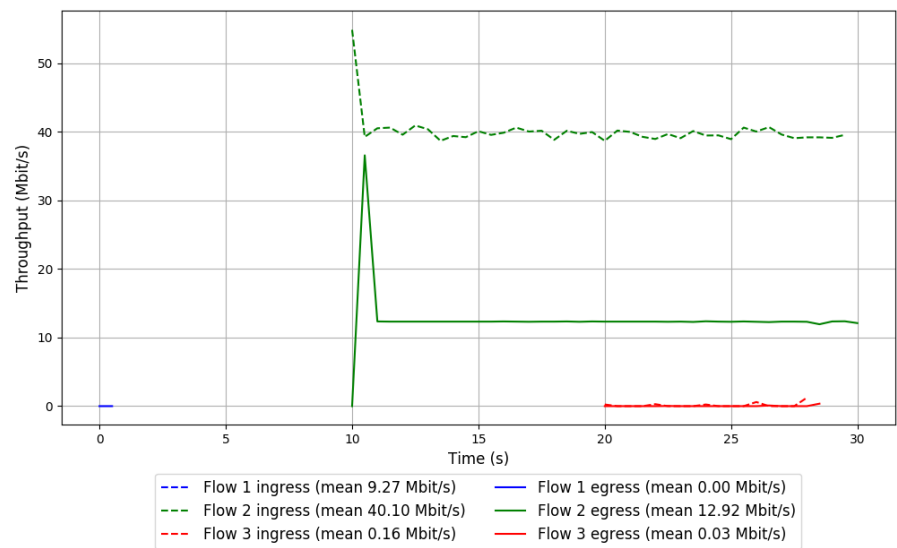
-- Flow 3:

Average throughput: 0.03 Mbit/s

95th percentile per-packet one-way delay: 2.649 ms

Loss rate: 81.42%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2019-03-19 02:44:30

End at: 2019-03-19 02:45:00

Local clock offset: -6.042 ms

Remote clock offset: 0.069 ms

# Below is generated by plot.py at 2019-03-19 04:32:57

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 32.544 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 61.84 Mbit/s

95th percentile per-packet one-way delay: 31.772 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 42.10 Mbit/s

95th percentile per-packet one-way delay: 33.297 ms

Loss rate: 0.03%

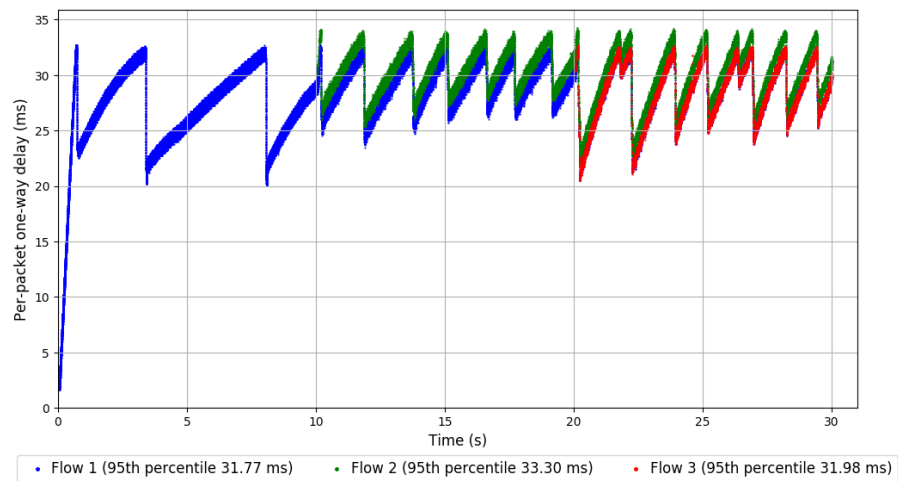
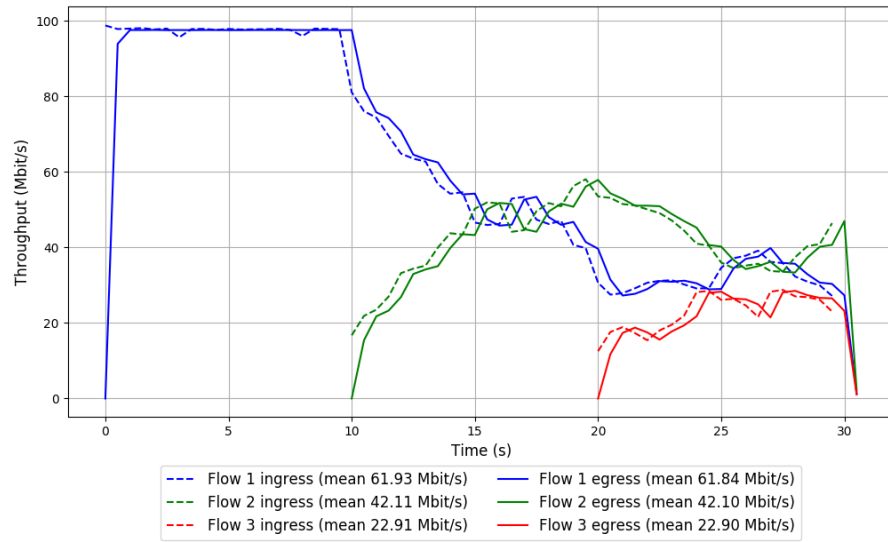
-- Flow 3:

Average throughput: 22.90 Mbit/s

95th percentile per-packet one-way delay: 31.979 ms

Loss rate: 0.04%

# Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2019-03-19 03:08:25

End at: 2019-03-19 03:08:55

Local clock offset: -4.95 ms

Remote clock offset: 0.258 ms

# Below is generated by plot.py at 2019-03-19 04:33:03

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 32.094 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 63.52 Mbit/s

95th percentile per-packet one-way delay: 30.924 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 32.63 Mbit/s

95th percentile per-packet one-way delay: 32.617 ms

Loss rate: 0.03%

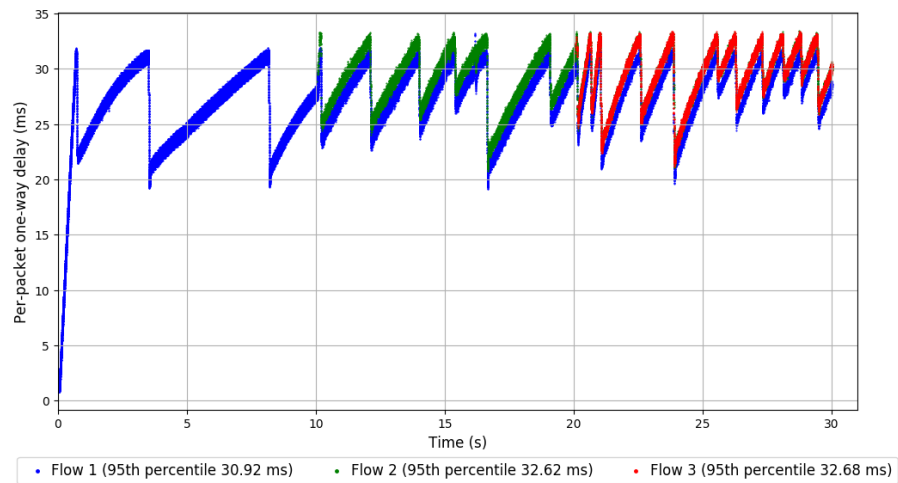
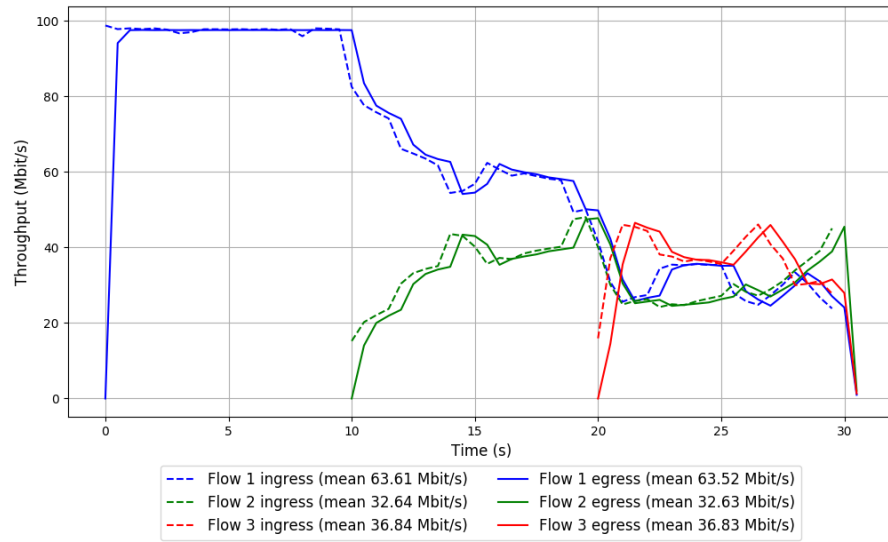
-- Flow 3:

Average throughput: 36.83 Mbit/s

95th percentile per-packet one-way delay: 32.676 ms

Loss rate: 0.04%

## Run 2: Report of TCP Cubic — Data Link





Run 3: Statistics of TCP Cubic

Start at: 2019-03-19 03:32:18

End at: 2019-03-19 03:32:48

Local clock offset: -1.876 ms

Remote clock offset: 0.388 ms

# Below is generated by plot.py at 2019-03-19 04:33:06

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 33.260 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 67.38 Mbit/s

95th percentile per-packet one-way delay: 33.341 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 29.34 Mbit/s

95th percentile per-packet one-way delay: 32.036 ms

Loss rate: 0.05%

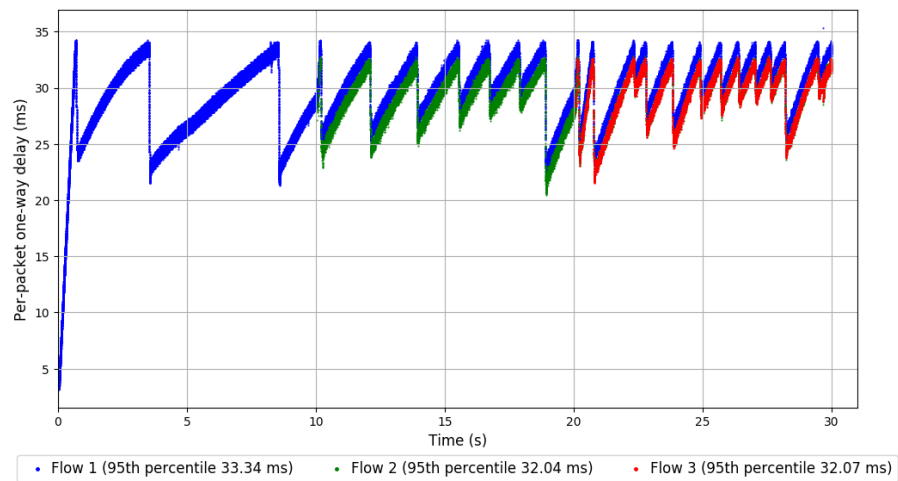
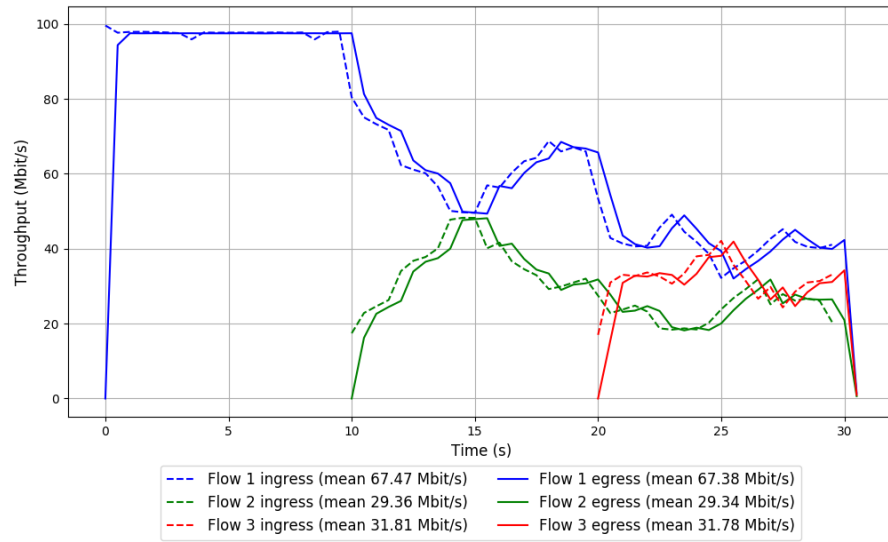
-- Flow 3:

Average throughput: 31.78 Mbit/s

95th percentile per-packet one-way delay: 32.069 ms

Loss rate: 0.04%

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



Run 4: Statistics of TCP Cubic

Start at: 2019-03-19 03:56:14

End at: 2019-03-19 03:56:44

Local clock offset: -0.86 ms

Remote clock offset: 0.508 ms

# Below is generated by plot.py at 2019-03-19 04:33:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.46 Mbit/s

95th percentile per-packet one-way delay: 32.525 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 64.11 Mbit/s

95th percentile per-packet one-way delay: 32.538 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 36.53 Mbit/s

95th percentile per-packet one-way delay: 32.596 ms

Loss rate: 0.04%

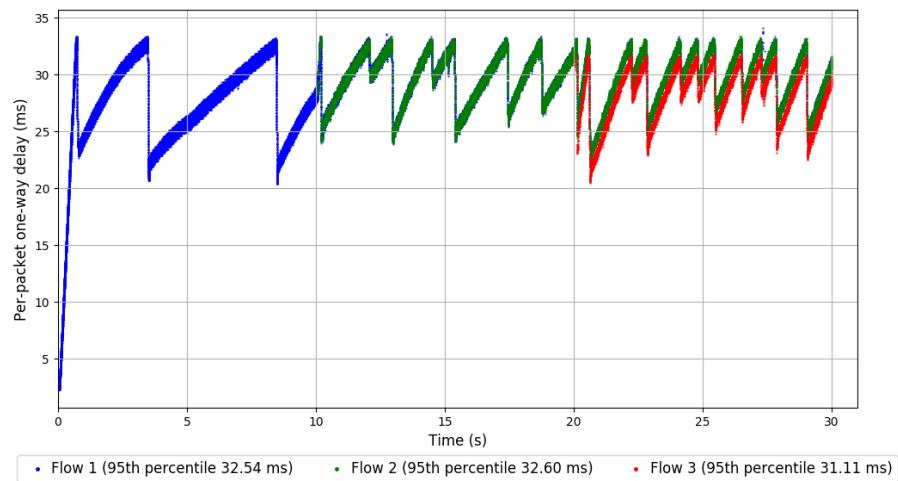
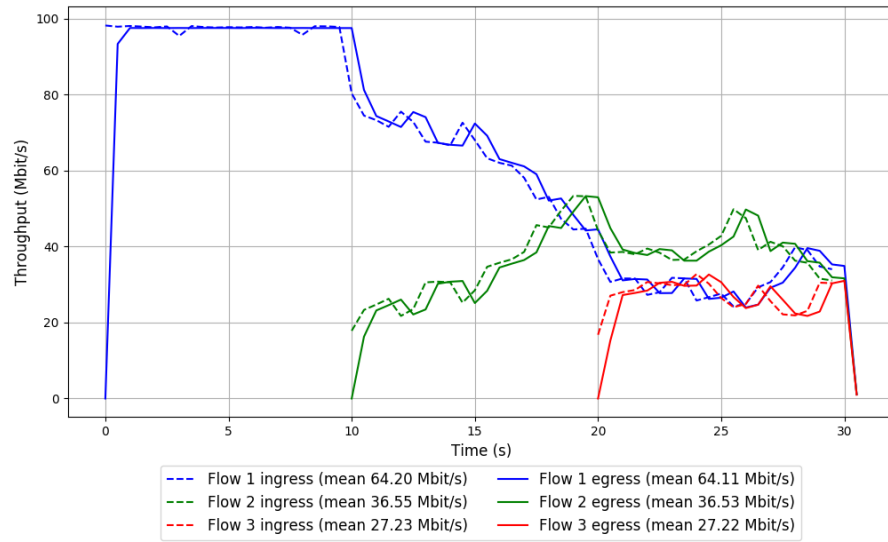
-- Flow 3:

Average throughput: 27.22 Mbit/s

95th percentile per-packet one-way delay: 31.106 ms

Loss rate: 0.04%

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



Run 5: Statistics of TCP Cubic

Start at: 2019-03-19 04:20:09

End at: 2019-03-19 04:20:39

Local clock offset: -2.906 ms

Remote clock offset: 0.694 ms

# Below is generated by plot.py at 2019-03-19 04:33:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.82 Mbit/s

95th percentile per-packet one-way delay: 30.473 ms

Loss rate: 0.04%

-- Flow 1:

Average throughput: 44.88 Mbit/s

95th percentile per-packet one-way delay: 29.626 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 61.32 Mbit/s

95th percentile per-packet one-way delay: 30.659 ms

Loss rate: 0.03%

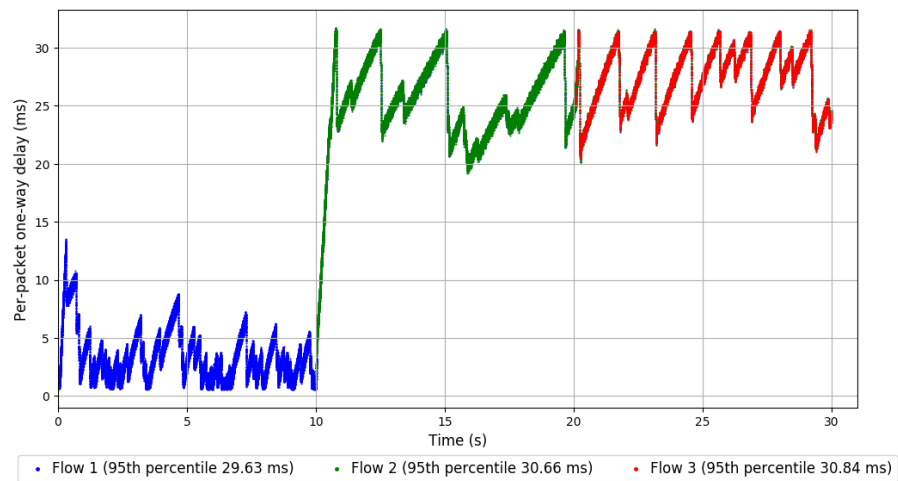
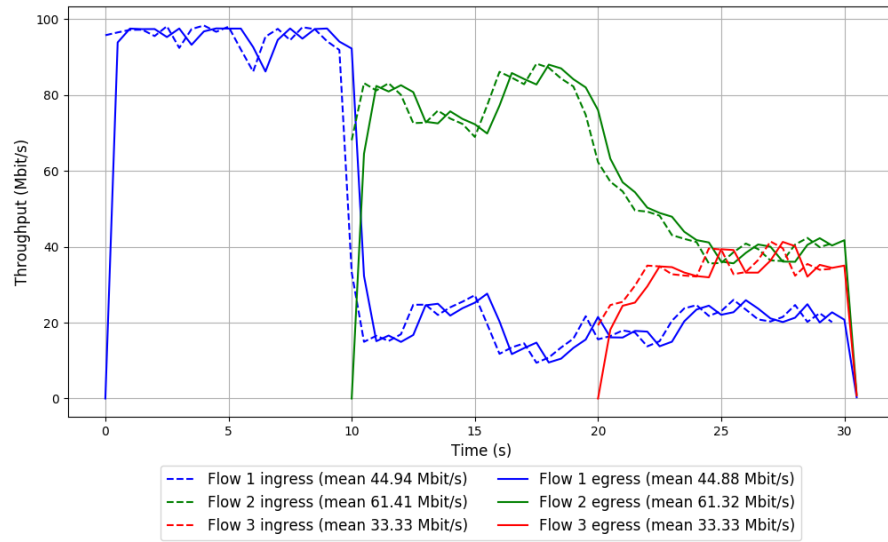
-- Flow 3:

Average throughput: 33.33 Mbit/s

95th percentile per-packet one-way delay: 30.842 ms

Loss rate: 0.03%

# Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2019-03-19 02:46:48

End at: 2019-03-19 02:47:18

Local clock offset: -5.284 ms

Remote clock offset: 0.078 ms

# Below is generated by plot.py at 2019-03-19 04:34:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.80 Mbit/s

95th percentile per-packet one-way delay: 30.256 ms

Loss rate: 19.86%

-- Flow 1:

Average throughput: 50.84 Mbit/s

95th percentile per-packet one-way delay: 30.157 ms

Loss rate: 14.63%

-- Flow 2:

Average throughput: 57.28 Mbit/s

95th percentile per-packet one-way delay: 30.321 ms

Loss rate: 22.94%

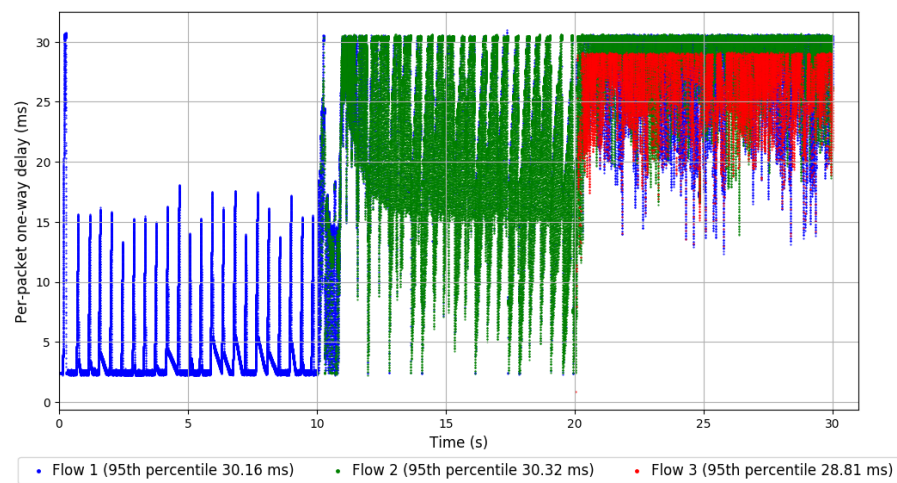
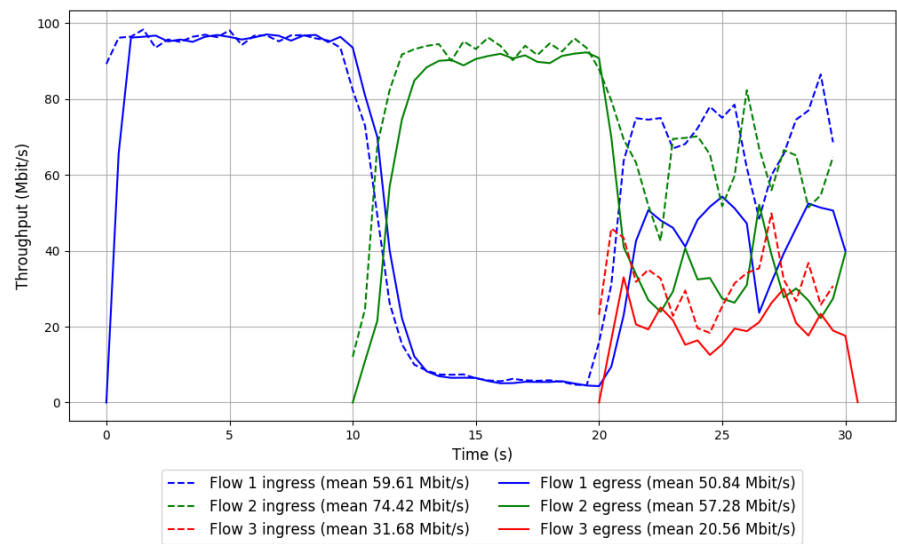
-- Flow 3:

Average throughput: 20.56 Mbit/s

95th percentile per-packet one-way delay: 28.813 ms

Loss rate: 34.99%

Run 1: Report of FillP — Data Link





Run 2: Statistics of FillP

Start at: 2019-03-19 03:10:43

End at: 2019-03-19 03:11:13

Local clock offset: -4.939 ms

Remote clock offset: 0.336 ms

# Below is generated by plot.py at 2019-03-19 04:34:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.26 Mbit/s

95th percentile per-packet one-way delay: 30.115 ms

Loss rate: 6.60%

-- Flow 1:

Average throughput: 44.60 Mbit/s

95th percentile per-packet one-way delay: 24.343 ms

Loss rate: 3.56%

-- Flow 2:

Average throughput: 64.04 Mbit/s

95th percentile per-packet one-way delay: 30.244 ms

Loss rate: 8.83%

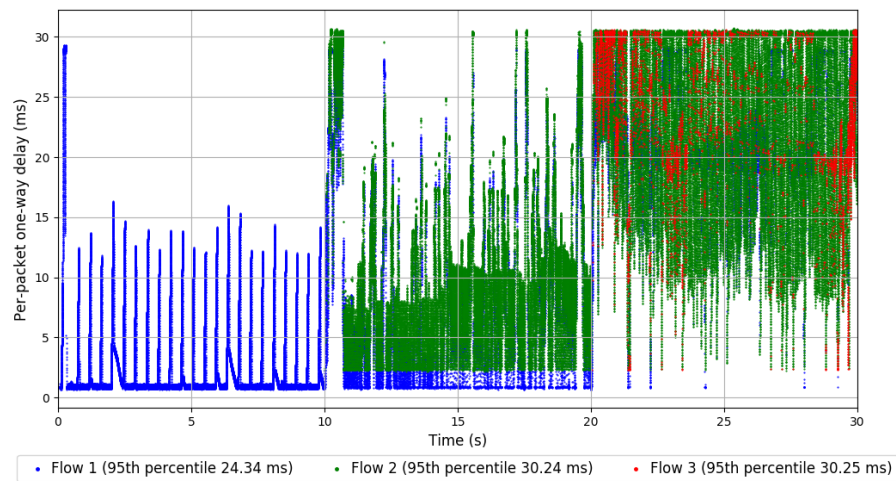
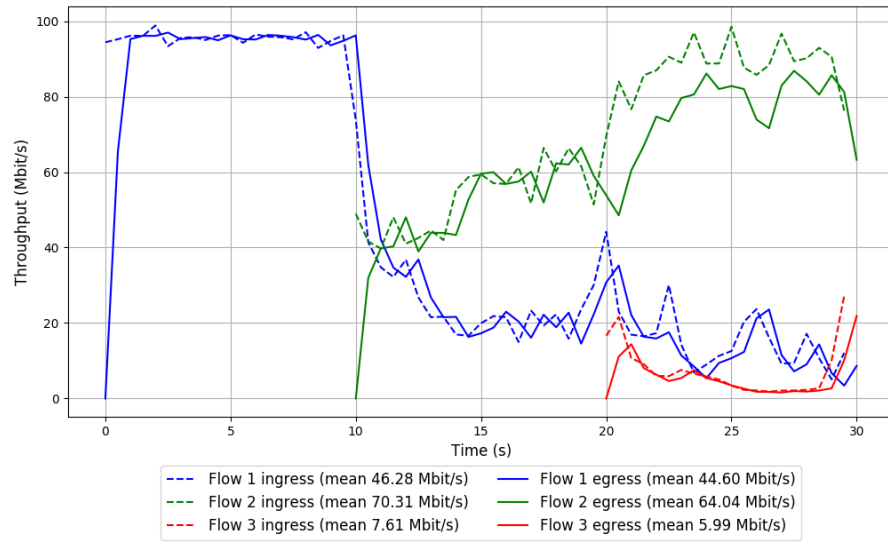
-- Flow 3:

Average throughput: 5.99 Mbit/s

95th percentile per-packet one-way delay: 30.250 ms

Loss rate: 21.05%

## Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-03-19 03:34:37

End at: 2019-03-19 03:35:07

Local clock offset: -0.851 ms

Remote clock offset: 0.365 ms

# Below is generated by plot.py at 2019-03-19 04:34:12

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.62 Mbit/s

95th percentile per-packet one-way delay: 29.005 ms

Loss rate: 21.17%

-- Flow 1:

Average throughput: 45.01 Mbit/s

95th percentile per-packet one-way delay: 28.377 ms

Loss rate: 14.82%

-- Flow 2:

Average throughput: 57.49 Mbit/s

95th percentile per-packet one-way delay: 28.795 ms

Loss rate: 20.05%

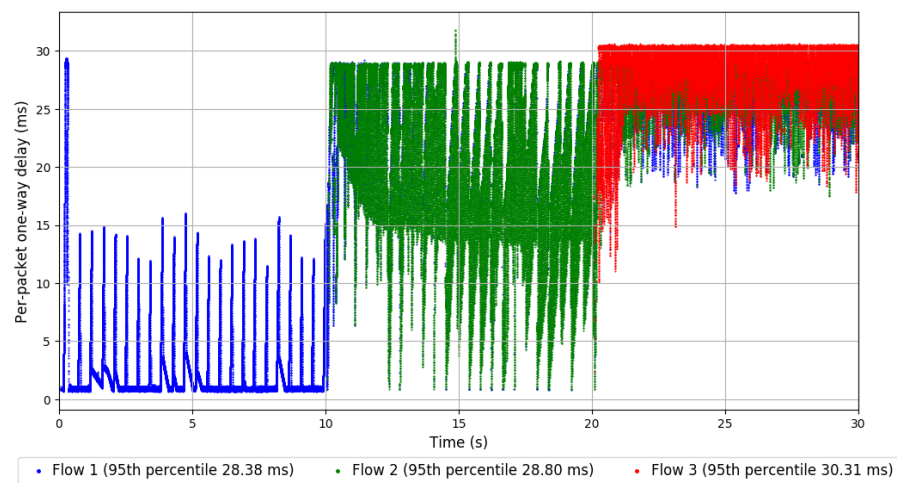
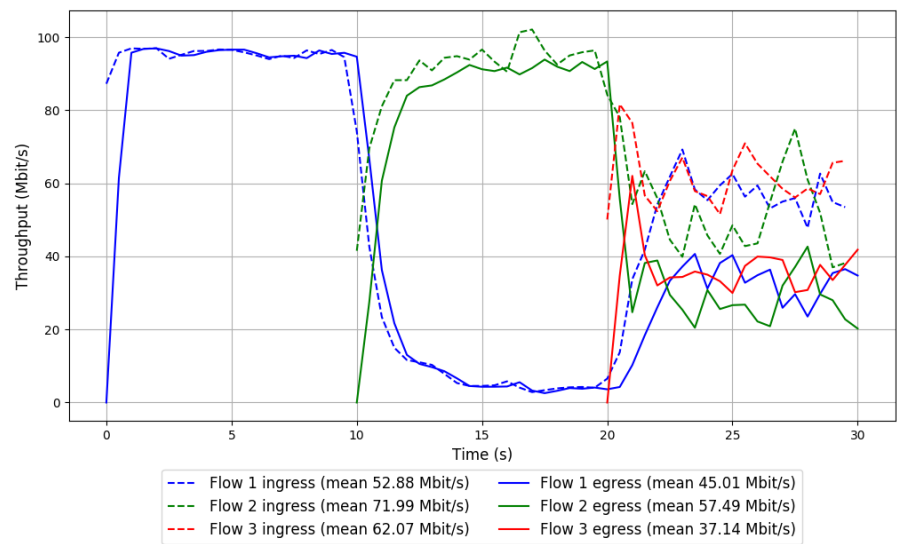
-- Flow 3:

Average throughput: 37.14 Mbit/s

95th percentile per-packet one-way delay: 30.311 ms

Loss rate: 40.09%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-03-19 03:58:32

End at: 2019-03-19 03:59:02

Local clock offset: -1.735 ms

Remote clock offset: 0.559 ms

# Below is generated by plot.py at 2019-03-19 04:34:26

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.38 Mbit/s

95th percentile per-packet one-way delay: 30.859 ms

Loss rate: 21.41%

-- Flow 1:

Average throughput: 45.45 Mbit/s

95th percentile per-packet one-way delay: 30.517 ms

Loss rate: 14.64%

-- Flow 2:

Average throughput: 60.60 Mbit/s

95th percentile per-packet one-way delay: 30.965 ms

Loss rate: 19.99%

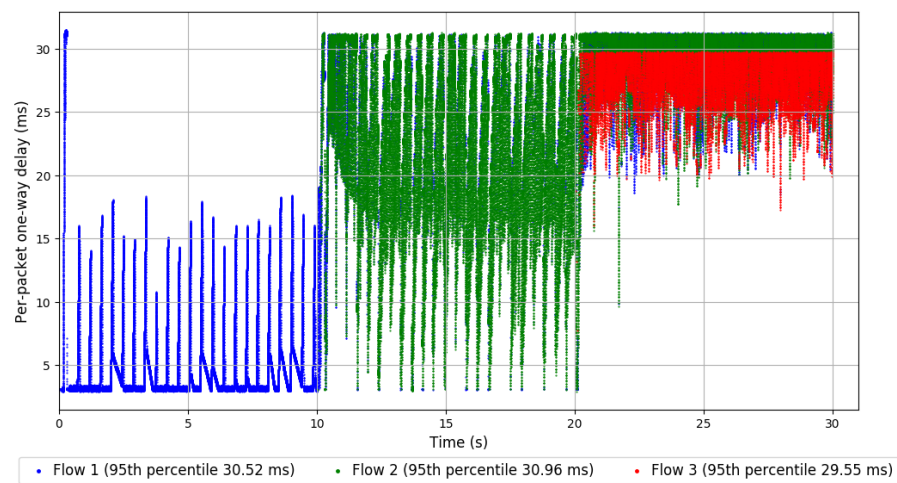
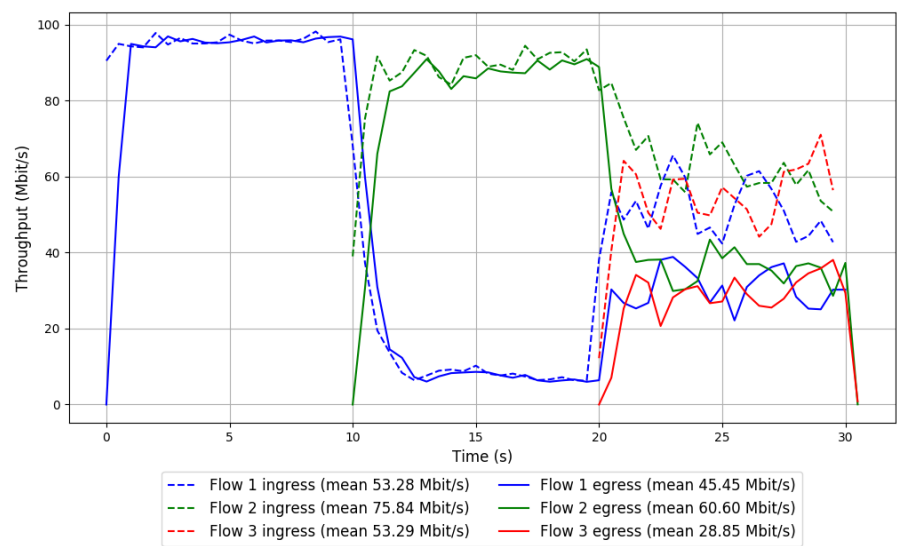
-- Flow 3:

Average throughput: 28.85 Mbit/s

95th percentile per-packet one-way delay: 29.551 ms

Loss rate: 45.81%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-03-19 04:22:27

End at: 2019-03-19 04:22:57

Local clock offset: -3.758 ms

Remote clock offset: 0.628 ms

# Below is generated by plot.py at 2019-03-19 04:34:30

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.92 Mbit/s

95th percentile per-packet one-way delay: 28.715 ms

Loss rate: 19.03%

-- Flow 1:

Average throughput: 51.02 Mbit/s

95th percentile per-packet one-way delay: 29.471 ms

Loss rate: 12.60%

-- Flow 2:

Average throughput: 51.35 Mbit/s

95th percentile per-packet one-way delay: 28.098 ms

Loss rate: 17.01%

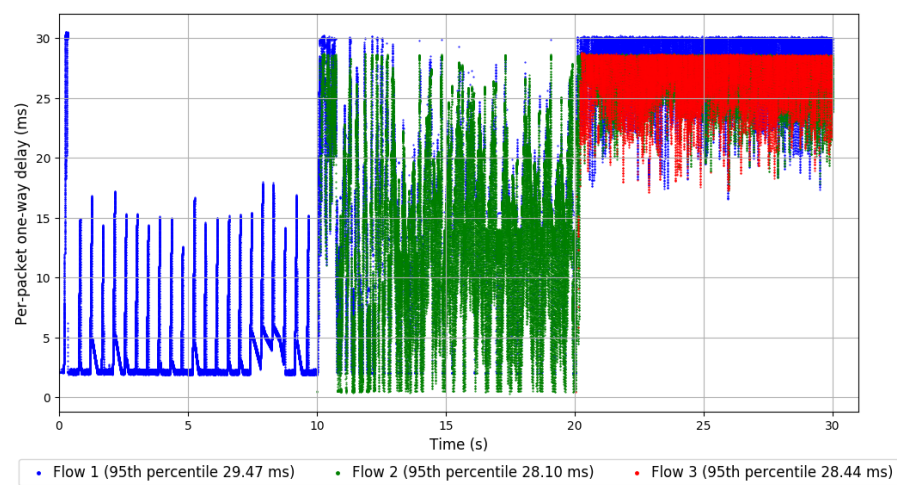
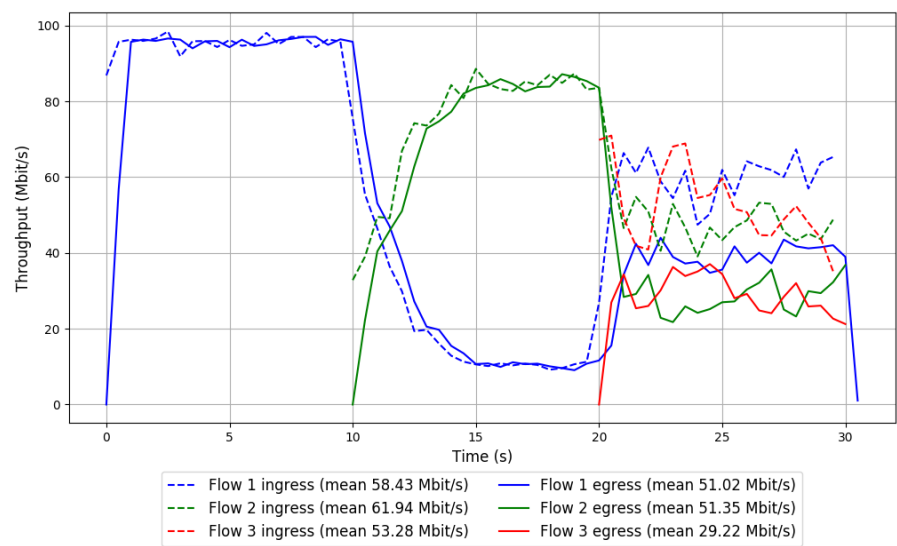
-- Flow 3:

Average throughput: 29.22 Mbit/s

95th percentile per-packet one-way delay: 28.440 ms

Loss rate: 45.03%

Run 5: Report of FillP — Data Link



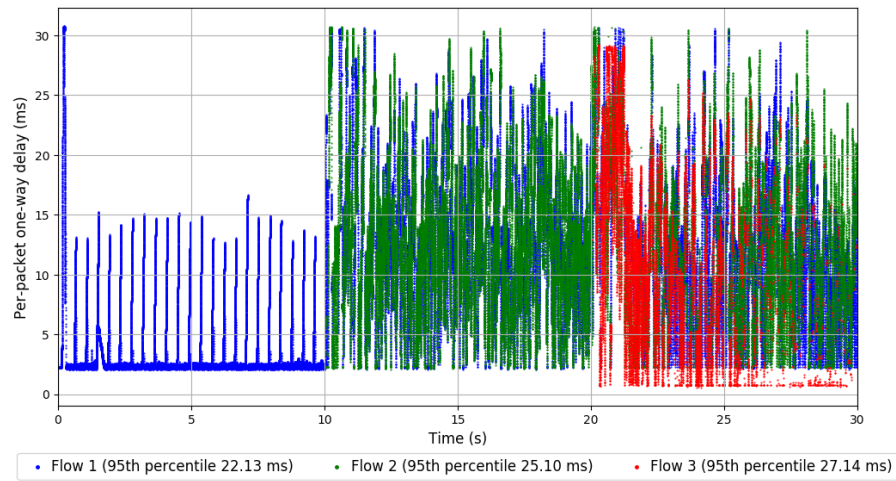
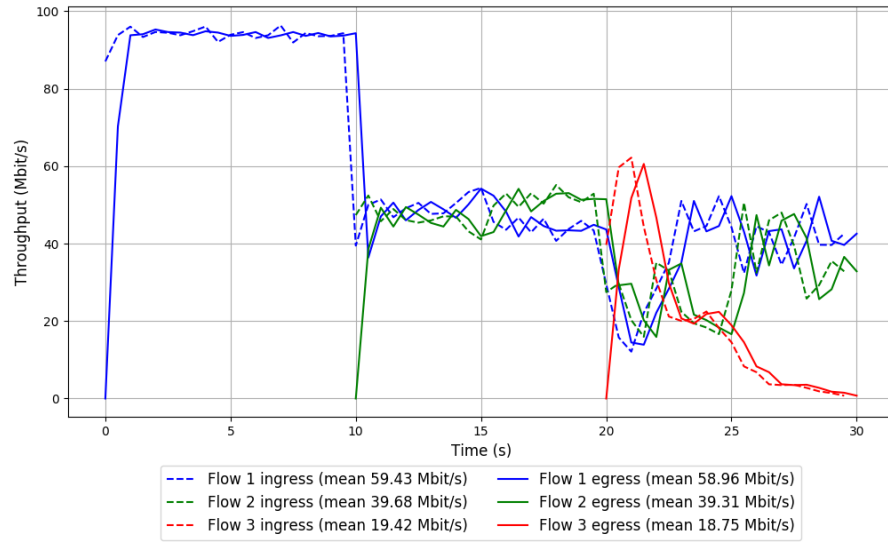


Run 1: Statistics of FillP-Sheep

Start at: 2019-03-19 02:30:47  
End at: 2019-03-19 02:31:17  
Local clock offset: -5.421 ms  
Remote clock offset: -0.102 ms

# Below is generated by plot.py at 2019-03-19 04:34:30  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 91.32 Mbit/s  
95th percentile per-packet one-way delay: 23.781 ms  
Loss rate: 0.98%  
-- Flow 1:  
Average throughput: 58.96 Mbit/s  
95th percentile per-packet one-way delay: 22.131 ms  
Loss rate: 0.74%  
-- Flow 2:  
Average throughput: 39.31 Mbit/s  
95th percentile per-packet one-way delay: 25.096 ms  
Loss rate: 0.89%  
-- Flow 3:  
Average throughput: 18.75 Mbit/s  
95th percentile per-packet one-way delay: 27.135 ms  
Loss rate: 3.49%

# Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2019-03-19 02:54:43

End at: 2019-03-19 02:55:13

Local clock offset: -5.855 ms

Remote clock offset: 0.149 ms

# Below is generated by plot.py at 2019-03-19 04:35:06

# Datalink statistics

-- Total of 3 flows:

Average throughput: 88.40 Mbit/s

95th percentile per-packet one-way delay: 23.631 ms

Loss rate: 1.66%

-- Flow 1:

Average throughput: 62.60 Mbit/s

95th percentile per-packet one-way delay: 21.373 ms

Loss rate: 0.71%

-- Flow 2:

Average throughput: 14.57 Mbit/s

95th percentile per-packet one-way delay: 24.027 ms

Loss rate: 2.90%

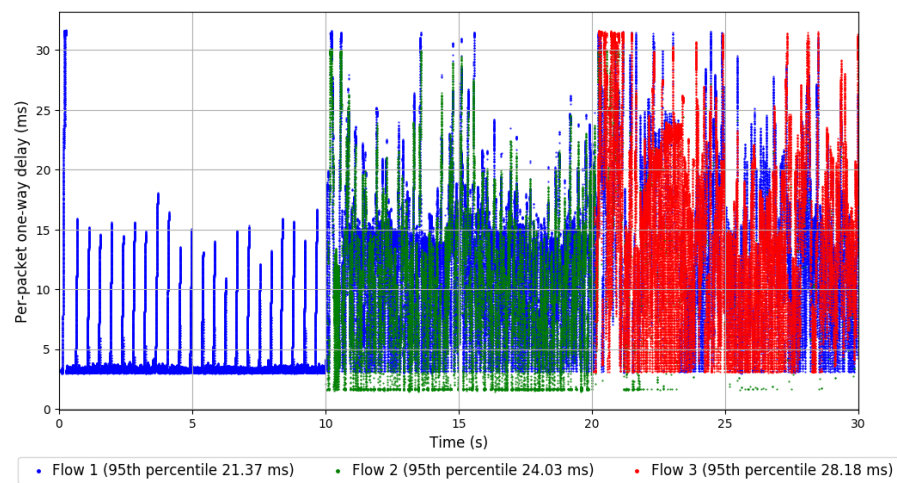
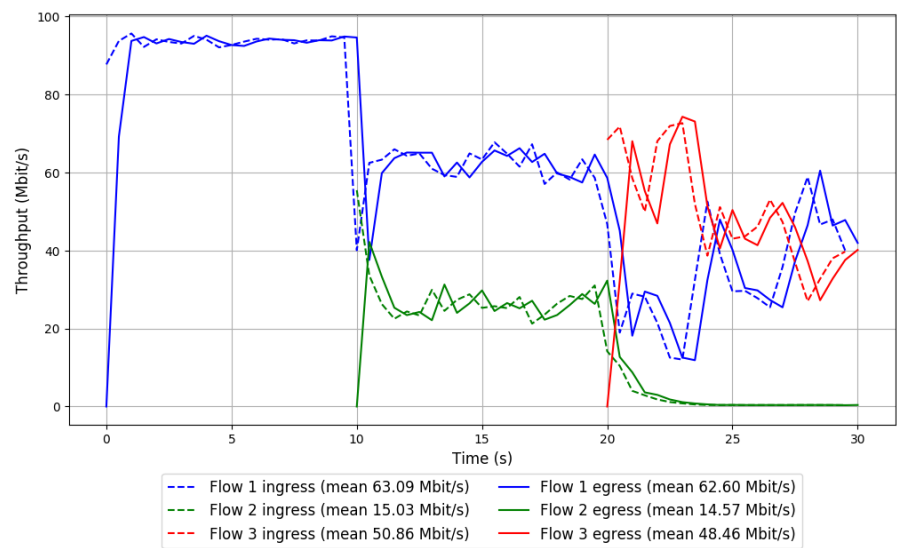
-- Flow 3:

Average throughput: 48.46 Mbit/s

95th percentile per-packet one-way delay: 28.177 ms

Loss rate: 4.48%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-03-19 03:18:37

End at: 2019-03-19 03:19:07

Local clock offset: -4.704 ms

Remote clock offset: 0.299 ms

# Below is generated by plot.py at 2019-03-19 04:35:06

# Datalink statistics

-- Total of 3 flows:

Average throughput: 77.50 Mbit/s

95th percentile per-packet one-way delay: 16.503 ms

Loss rate: 1.50%

-- Flow 1:

Average throughput: 49.35 Mbit/s

95th percentile per-packet one-way delay: 13.576 ms

Loss rate: 0.83%

-- Flow 2:

Average throughput: 27.96 Mbit/s

95th percentile per-packet one-way delay: 19.311 ms

Loss rate: 1.66%

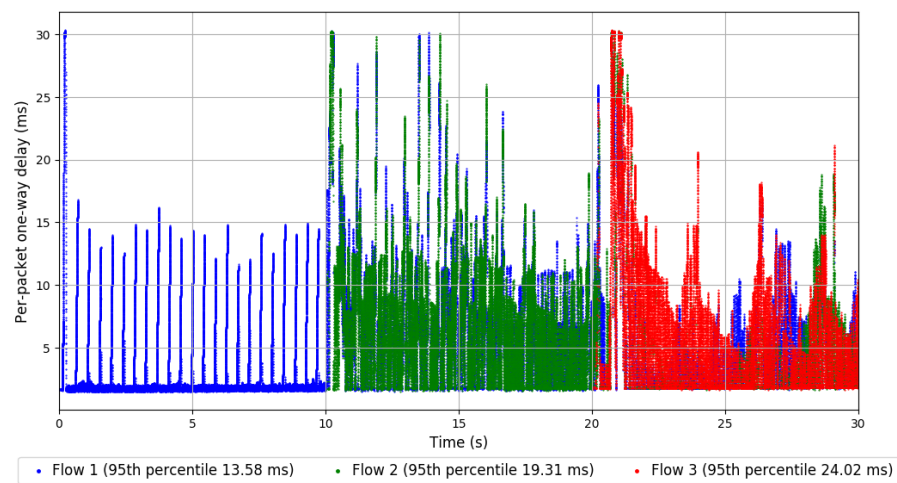
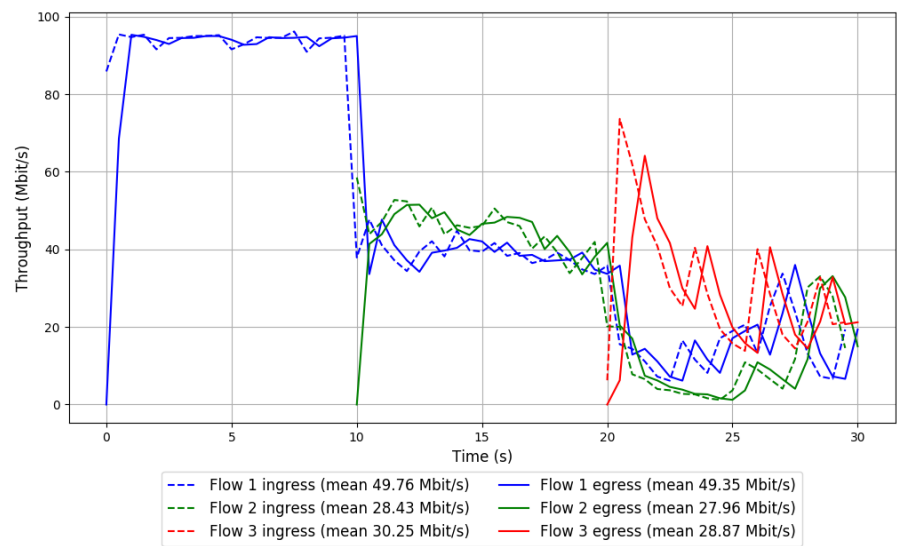
-- Flow 3:

Average throughput: 28.87 Mbit/s

95th percentile per-packet one-way delay: 24.025 ms

Loss rate: 4.54%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-03-19 03:42:32

End at: 2019-03-19 03:43:02

Local clock offset: -0.194 ms

Remote clock offset: 0.516 ms

# Below is generated by plot.py at 2019-03-19 04:35:10

# Datalink statistics

-- Total of 3 flows:

Average throughput: 81.17 Mbit/s

95th percentile per-packet one-way delay: 17.306 ms

Loss rate: 0.94%

-- Flow 1:

Average throughput: 52.19 Mbit/s

95th percentile per-packet one-way delay: 15.567 ms

Loss rate: 0.59%

-- Flow 2:

Average throughput: 30.90 Mbit/s

95th percentile per-packet one-way delay: 20.096 ms

Loss rate: 1.47%

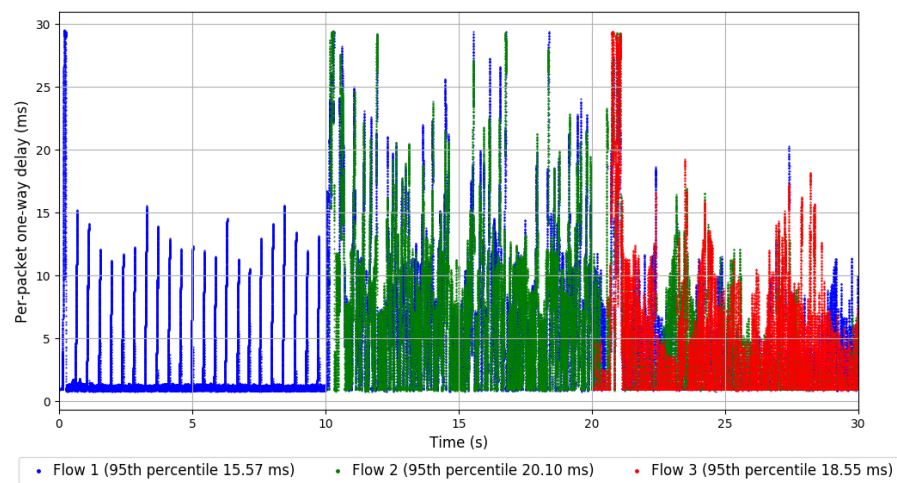
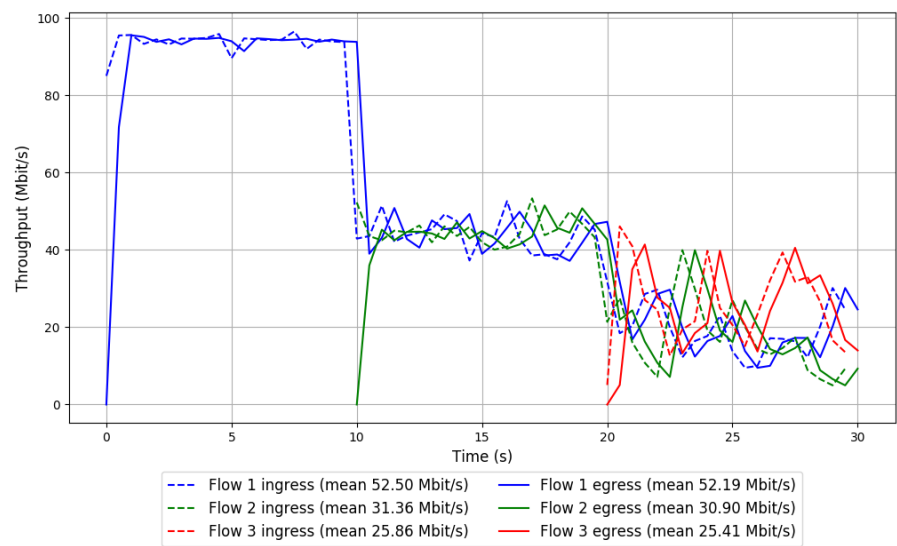
-- Flow 3:

Average throughput: 25.41 Mbit/s

95th percentile per-packet one-way delay: 18.553 ms

Loss rate: 1.75%

Run 4: Report of FillP-Sheep — Data Link





Run 5: Statistics of FillP-Sheep

Start at: 2019-03-19 04:06:27

End at: 2019-03-19 04:06:57

Local clock offset: -1.798 ms

Remote clock offset: 0.636 ms

# Below is generated by plot.py at 2019-03-19 04:35:29

# Datalink statistics

-- Total of 3 flows:

Average throughput: 87.02 Mbit/s

95th percentile per-packet one-way delay: 20.744 ms

Loss rate: 0.91%

-- Flow 1:

Average throughput: 42.08 Mbit/s

95th percentile per-packet one-way delay: 17.174 ms

Loss rate: 1.09%

-- Flow 2:

Average throughput: 55.07 Mbit/s

95th percentile per-packet one-way delay: 22.625 ms

Loss rate: 0.85%

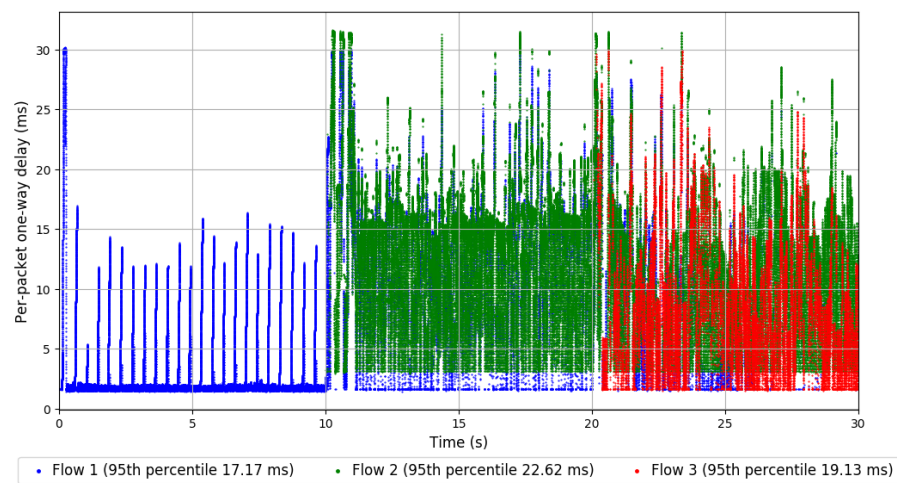
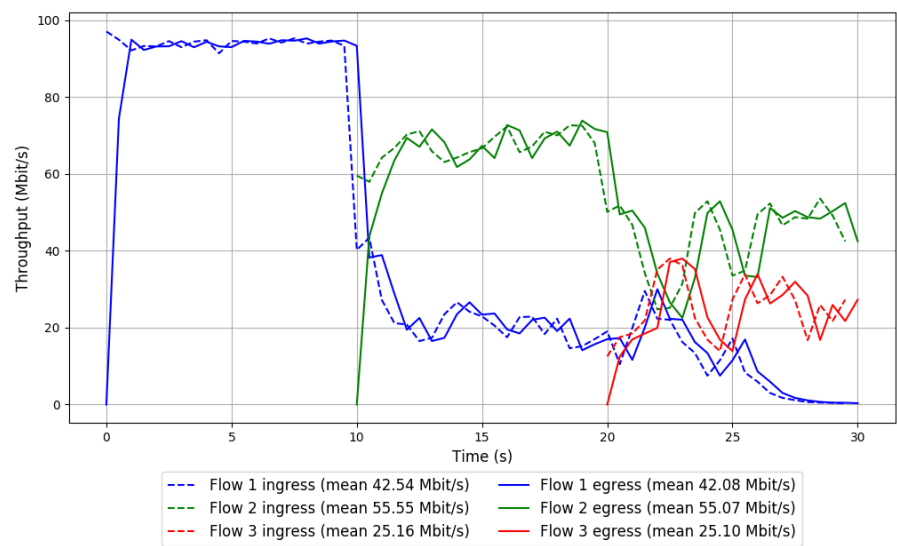
-- Flow 3:

Average throughput: 25.10 Mbit/s

95th percentile per-packet one-way delay: 19.131 ms

Loss rate: 0.28%

Run 5: Report of FillP-Sheep — Data Link

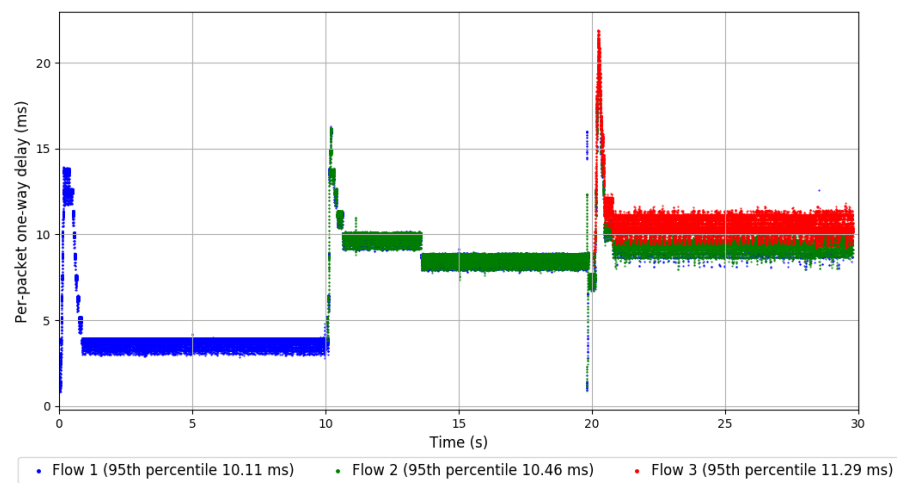
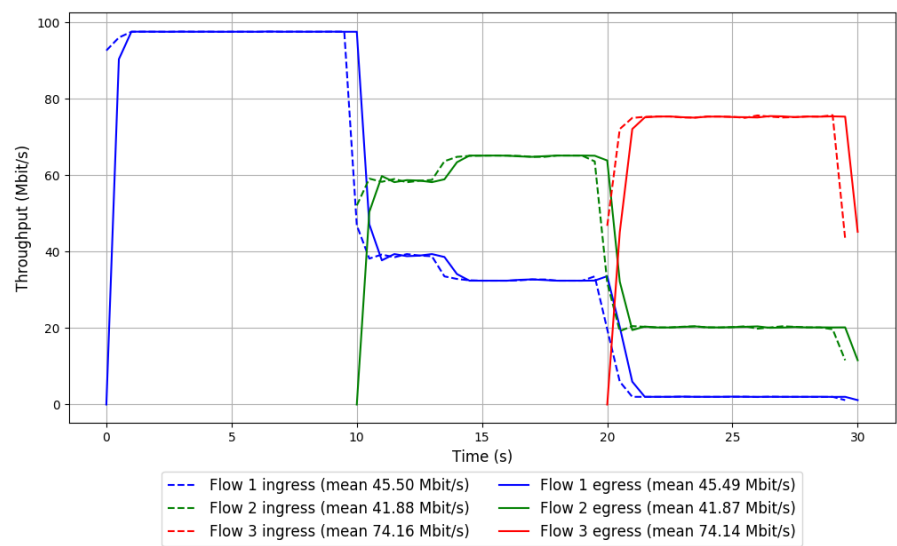


```
Run 1: Statistics of Indigo

Start at: 2019-03-19 02:33:07
End at: 2019-03-19 02:33:37
Local clock offset: -5.354 ms
Remote clock offset: 0.042 ms

# Below is generated by plot.py at 2019-03-19 04:35:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.41 Mbit/s
95th percentile per-packet one-way delay: 11.125 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 45.49 Mbit/s
95th percentile per-packet one-way delay: 10.107 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.87 Mbit/s
95th percentile per-packet one-way delay: 10.459 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 74.14 Mbit/s
95th percentile per-packet one-way delay: 11.295 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-03-19 02:57:02

End at: 2019-03-19 02:57:32

Local clock offset: -4.986 ms

Remote clock offset: 0.216 ms

# Below is generated by plot.py at 2019-03-19 04:35:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.38 Mbit/s

95th percentile per-packet one-way delay: 14.345 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 45.87 Mbit/s

95th percentile per-packet one-way delay: 11.104 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 42.83 Mbit/s

95th percentile per-packet one-way delay: 12.862 ms

Loss rate: 0.00%

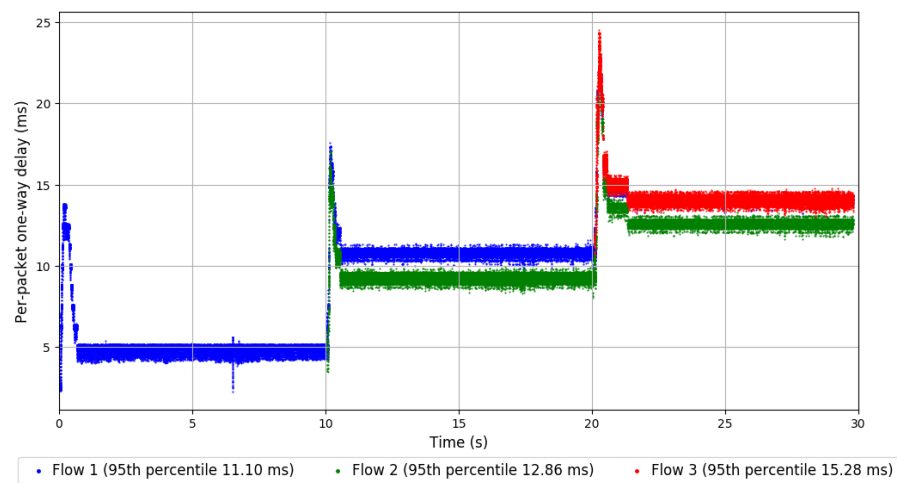
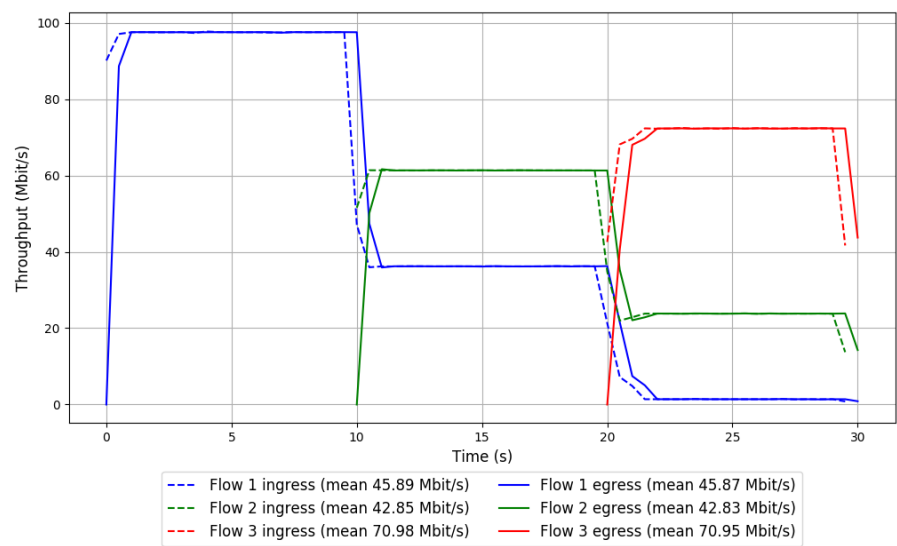
-- Flow 3:

Average throughput: 70.95 Mbit/s

95th percentile per-packet one-way delay: 15.276 ms

Loss rate: 0.00%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2019-03-19 03:20:56

End at: 2019-03-19 03:21:26

Local clock offset: -3.953 ms

Remote clock offset: 0.402 ms

# Below is generated by plot.py at 2019-03-19 04:35:38

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.41 Mbit/s

95th percentile per-packet one-way delay: 14.949 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 47.71 Mbit/s

95th percentile per-packet one-way delay: 11.398 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 39.54 Mbit/s

95th percentile per-packet one-way delay: 14.958 ms

Loss rate: 0.00%

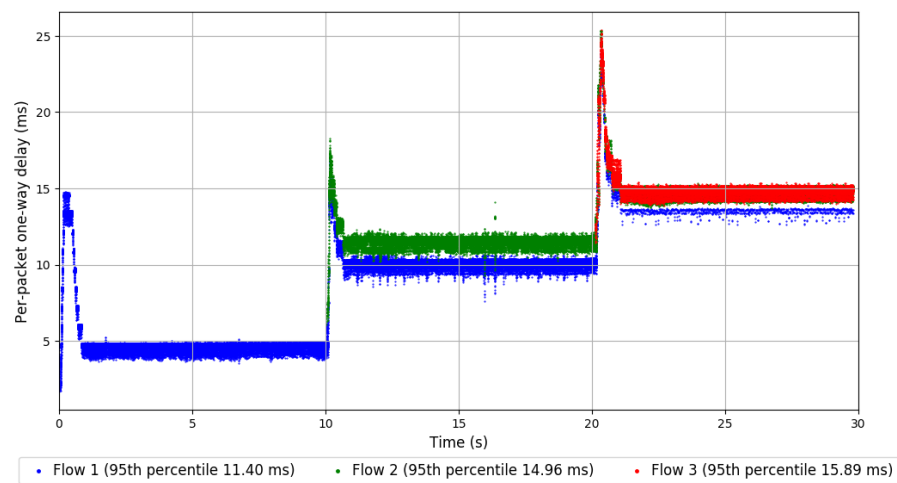
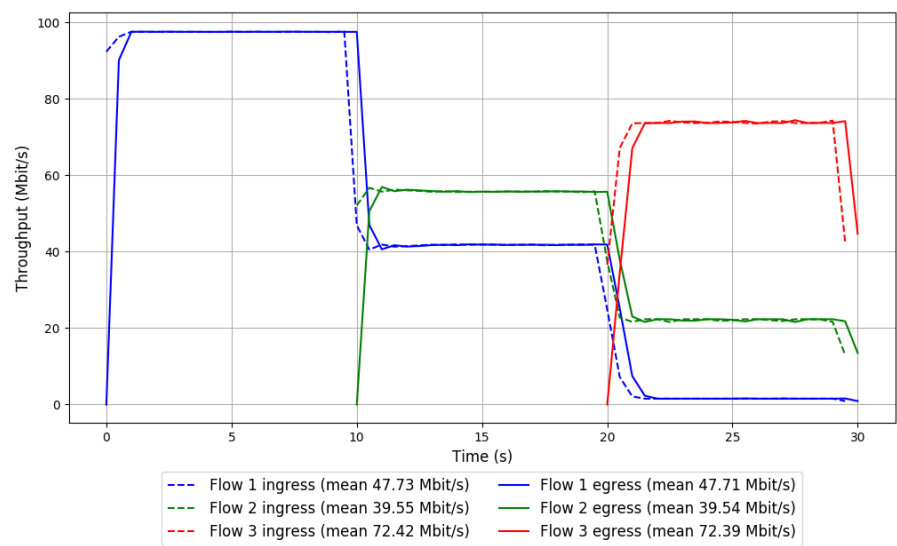
-- Flow 3:

Average throughput: 72.39 Mbit/s

95th percentile per-packet one-way delay: 15.888 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link





Run 4: Statistics of Indigo

Start at: 2019-03-19 03:44:50

End at: 2019-03-19 03:45:20

Local clock offset: 0.033 ms

Remote clock offset: 0.535 ms

# Below is generated by plot.py at 2019-03-19 04:35:42

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.39 Mbit/s

95th percentile per-packet one-way delay: 12.617 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 47.77 Mbit/s

95th percentile per-packet one-way delay: 10.427 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 36.83 Mbit/s

95th percentile per-packet one-way delay: 12.891 ms

Loss rate: 0.00%

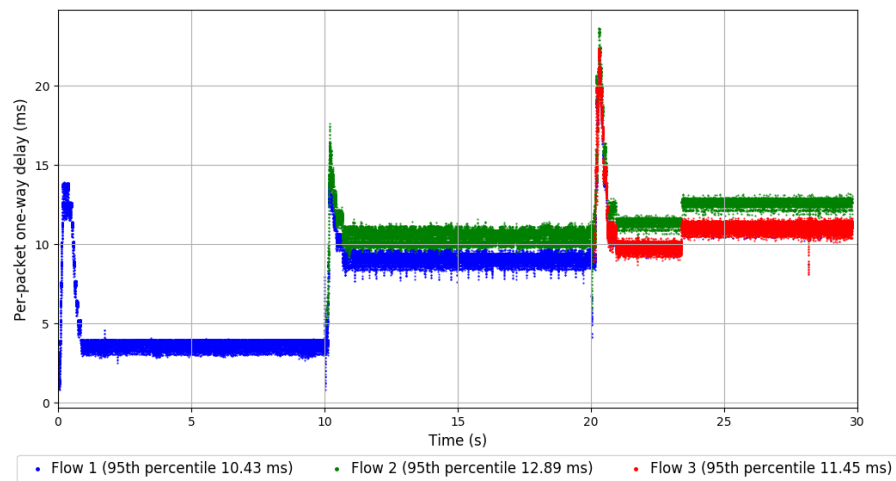
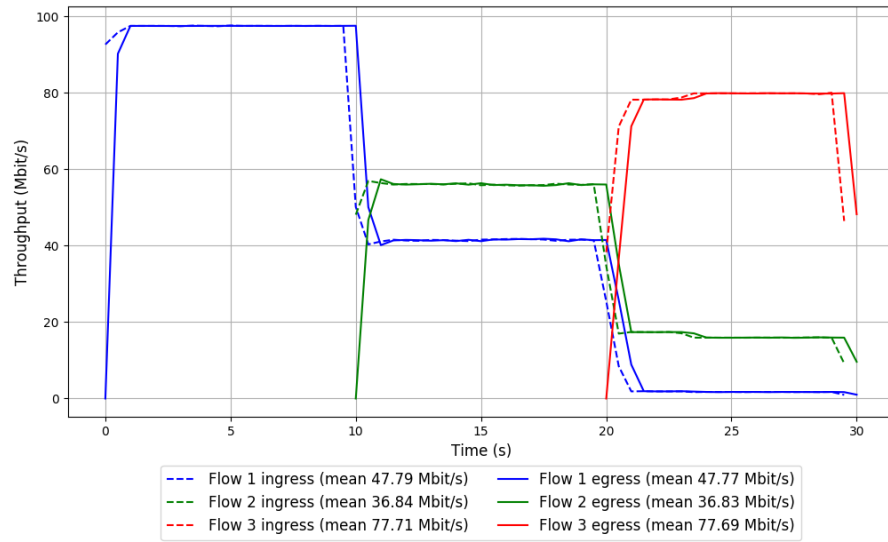
-- Flow 3:

Average throughput: 77.69 Mbit/s

95th percentile per-packet one-way delay: 11.445 ms

Loss rate: 0.00%

#### Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-03-19 04:08:46

End at: 2019-03-19 04:09:16

Local clock offset: -1.708 ms

Remote clock offset: 0.644 ms

# Below is generated by plot.py at 2019-03-19 04:36:06

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.39 Mbit/s

95th percentile per-packet one-way delay: 13.367 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 46.84 Mbit/s

95th percentile per-packet one-way delay: 11.822 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 42.04 Mbit/s

95th percentile per-packet one-way delay: 13.362 ms

Loss rate: 0.00%

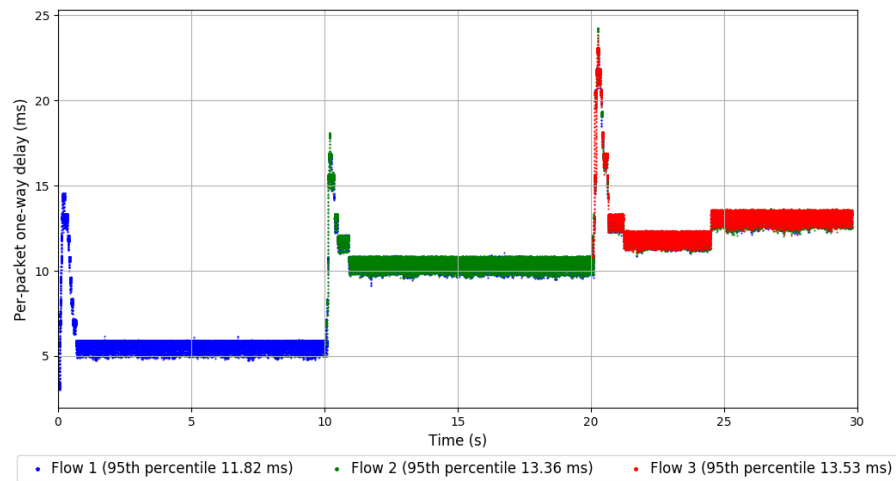
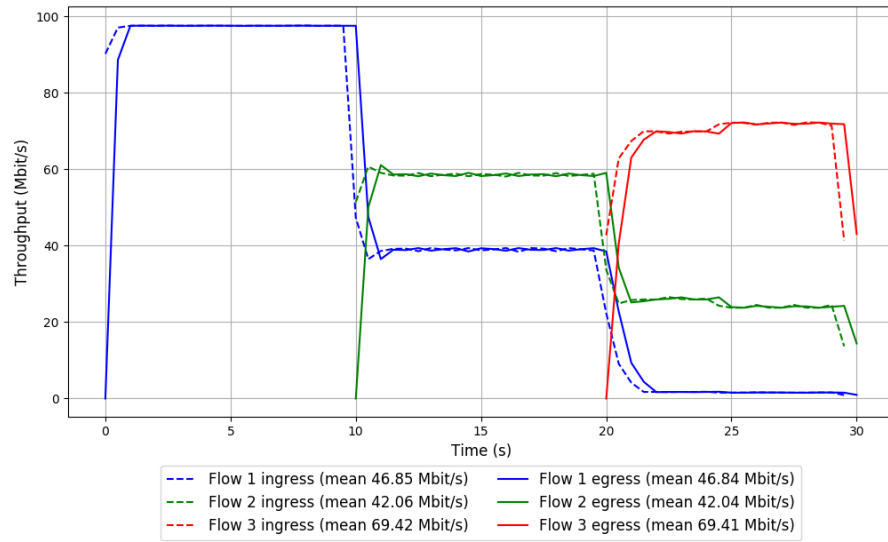
-- Flow 3:

Average throughput: 69.41 Mbit/s

95th percentile per-packet one-way delay: 13.534 ms

Loss rate: 0.00%

## Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-19 02:45:39

End at: 2019-03-19 02:46:09

Local clock offset: -5.982 ms

Remote clock offset: 0.01 ms

# Below is generated by plot.py at 2019-03-19 04:36:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.40 Mbit/s

95th percentile per-packet one-way delay: 10.626 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 46.12 Mbit/s

95th percentile per-packet one-way delay: 9.838 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 54.54 Mbit/s

95th percentile per-packet one-way delay: 10.557 ms

Loss rate: 0.00%

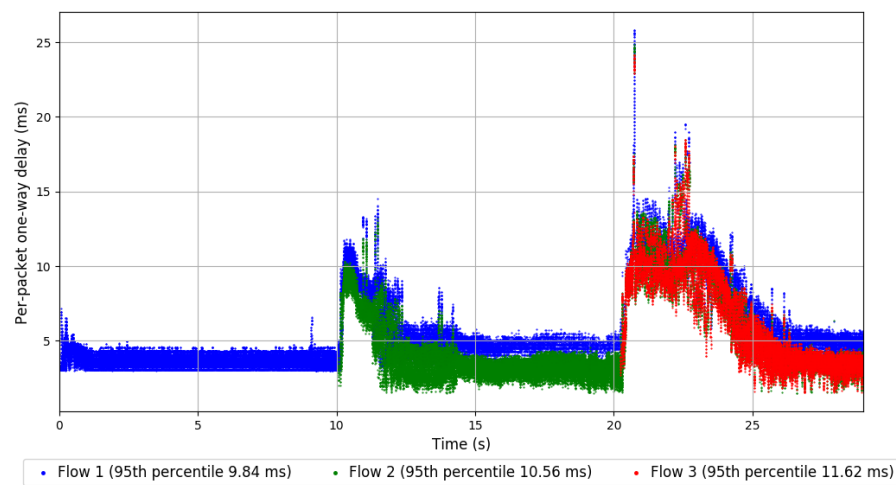
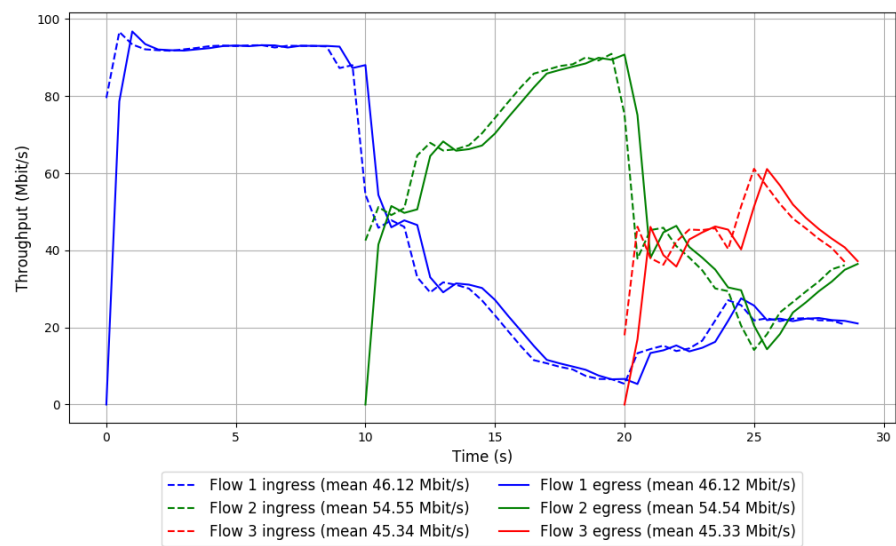
-- Flow 3:

Average throughput: 45.33 Mbit/s

95th percentile per-packet one-way delay: 11.625 ms

Loss rate: 0.00%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-19 03:09:34

End at: 2019-03-19 03:10:04

Local clock offset: -5.703 ms

Remote clock offset: 0.206 ms

# Below is generated by plot.py at 2019-03-19 04:36:25

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.98 Mbit/s

95th percentile per-packet one-way delay: 13.245 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 54.27 Mbit/s

95th percentile per-packet one-way delay: 12.688 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 52.85 Mbit/s

95th percentile per-packet one-way delay: 14.036 ms

Loss rate: 0.00%

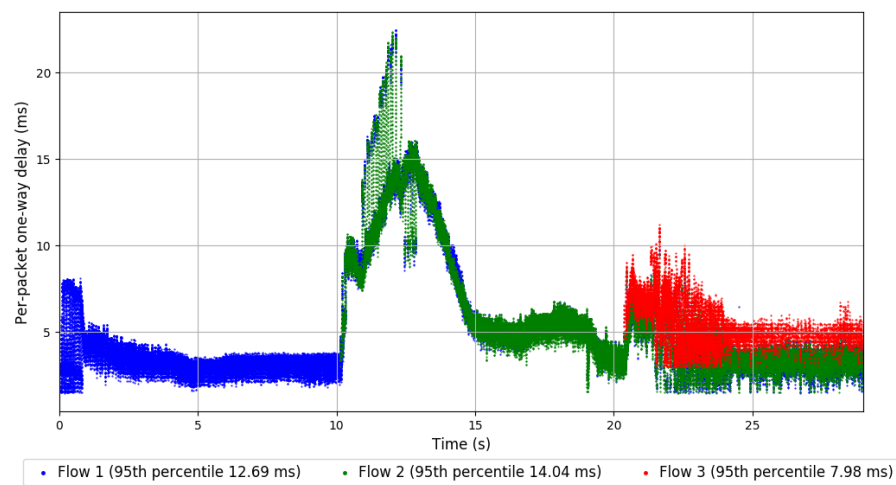
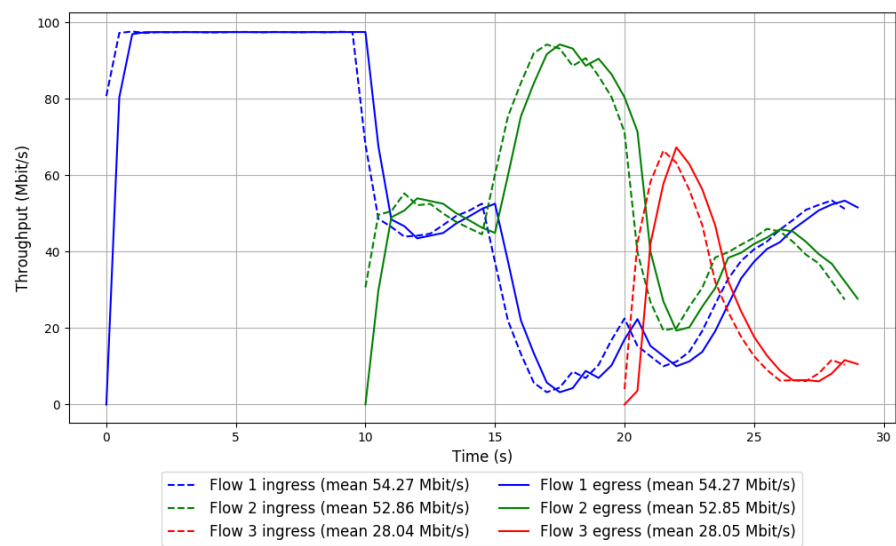
-- Flow 3:

Average throughput: 28.05 Mbit/s

95th percentile per-packet one-way delay: 7.981 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesC3 — Data Link





Run 3: Statistics of Indigo-MusesC3

Start at: 2019-03-19 03:33:28

End at: 2019-03-19 03:33:58

Local clock offset: -0.993 ms

Remote clock offset: 0.378 ms

# Below is generated by plot.py at 2019-03-19 04:36:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.14 Mbit/s

95th percentile per-packet one-way delay: 14.866 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 76.65 Mbit/s

95th percentile per-packet one-way delay: 15.080 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 13.91 Mbit/s

95th percentile per-packet one-way delay: 13.346 ms

Loss rate: 0.00%

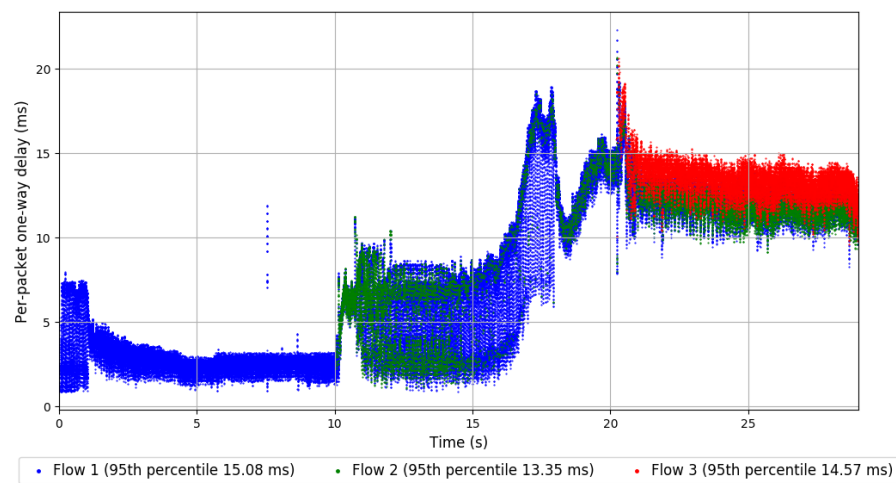
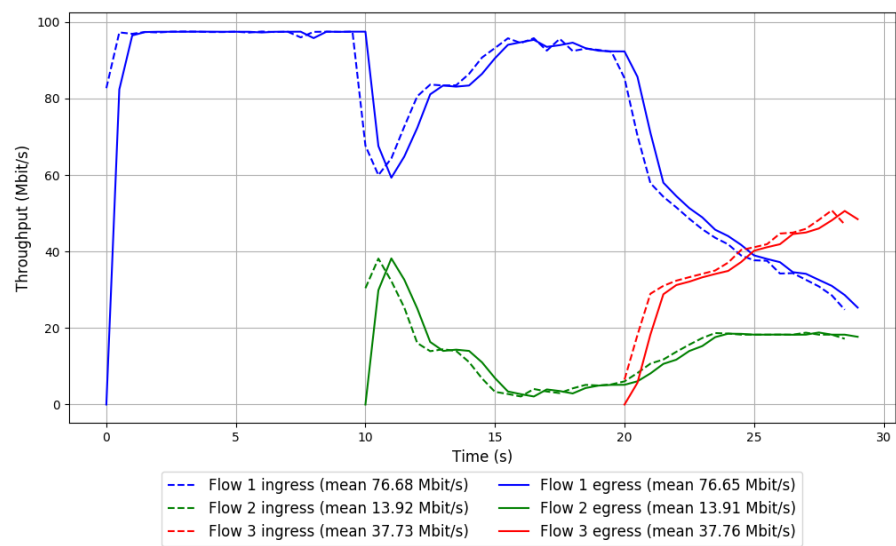
-- Flow 3:

Average throughput: 37.76 Mbit/s

95th percentile per-packet one-way delay: 14.570 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesC3 — Data Link



Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-19 03:57:23

End at: 2019-03-19 03:57:53

Local clock offset: -0.954 ms

Remote clock offset: 0.524 ms

# Below is generated by plot.py at 2019-03-19 04:36:40

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.86 Mbit/s

95th percentile per-packet one-way delay: 16.841 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 72.37 Mbit/s

95th percentile per-packet one-way delay: 16.935 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 17.27 Mbit/s

95th percentile per-packet one-way delay: 16.757 ms

Loss rate: 0.00%

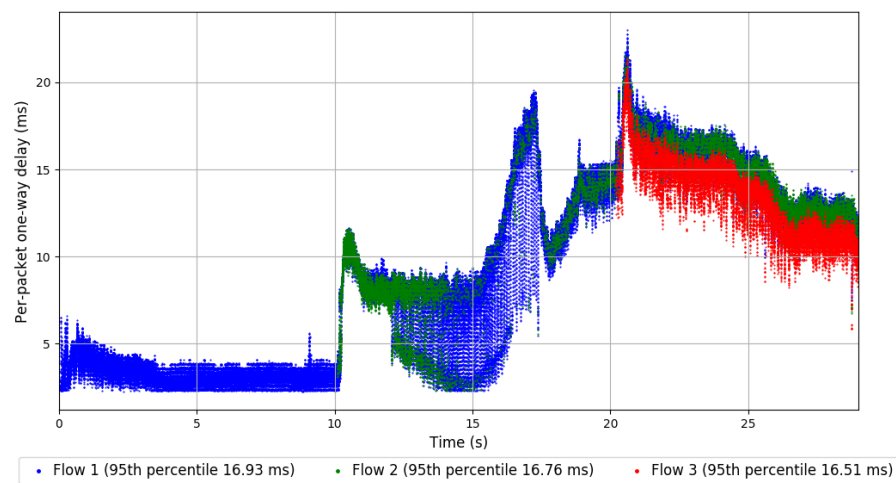
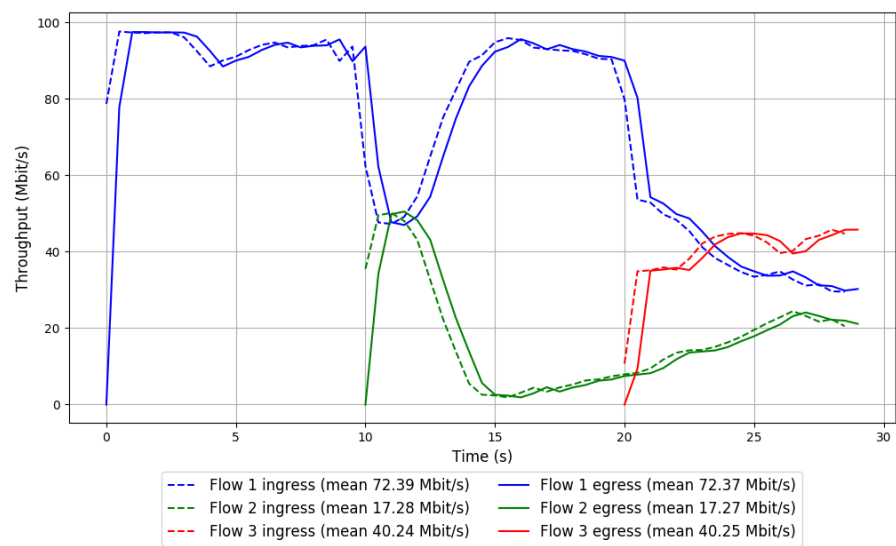
-- Flow 3:

Average throughput: 40.25 Mbit/s

95th percentile per-packet one-way delay: 16.513 ms

Loss rate: 0.01%

Run 4: Report of Indigo-MusesC3 — Data Link



Run 5: Statistics of Indigo-MusesC3

Start at: 2019-03-19 04:21:18

End at: 2019-03-19 04:21:48

Local clock offset: -3.41 ms

Remote clock offset: 0.597 ms

# Below is generated by plot.py at 2019-03-19 04:36:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.90 Mbit/s

95th percentile per-packet one-way delay: 10.458 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 53.17 Mbit/s

95th percentile per-packet one-way delay: 12.809 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 53.31 Mbit/s

95th percentile per-packet one-way delay: 7.308 ms

Loss rate: 0.00%

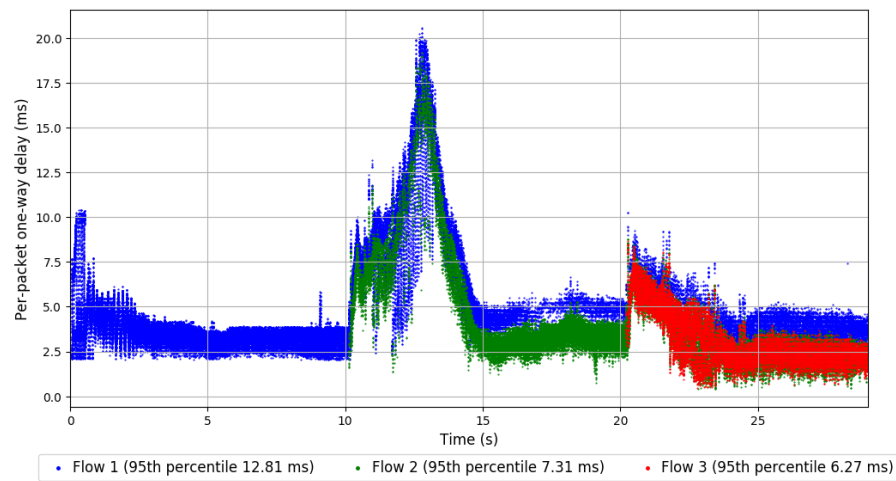
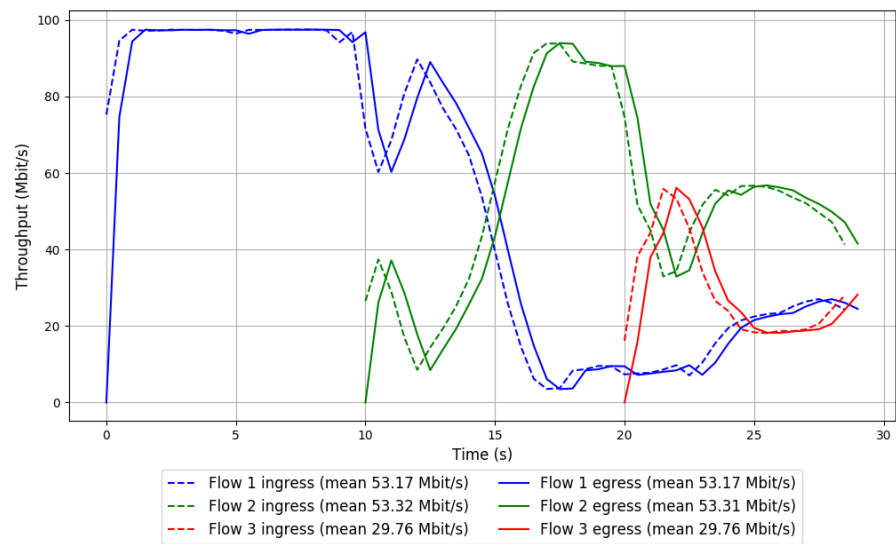
-- Flow 3:

Average throughput: 29.76 Mbit/s

95th percentile per-packet one-way delay: 6.272 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-19 02:47:57

End at: 2019-03-19 02:48:27

Local clock offset: -5.161 ms

Remote clock offset: 0.134 ms

# Below is generated by plot.py at 2019-03-19 04:36:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 75.81 Mbit/s

95th percentile per-packet one-way delay: 19.439 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 45.74 Mbit/s

95th percentile per-packet one-way delay: 17.575 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 29.68 Mbit/s

95th percentile per-packet one-way delay: 20.441 ms

Loss rate: 0.00%

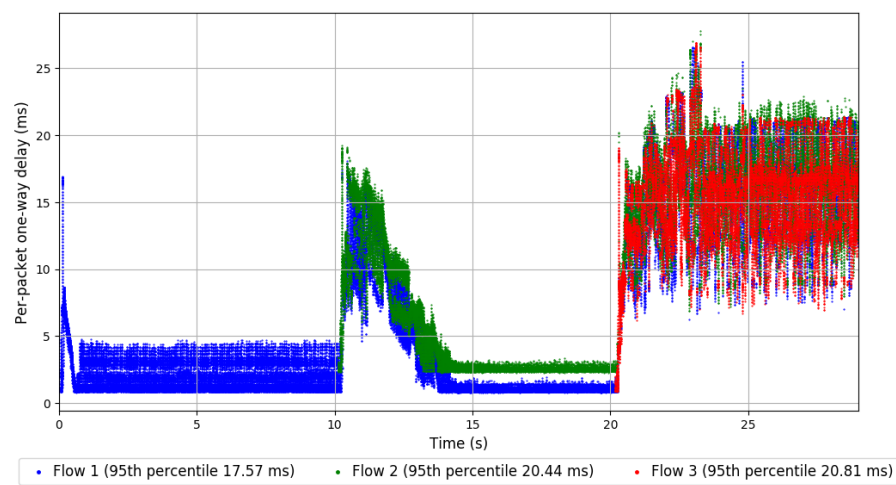
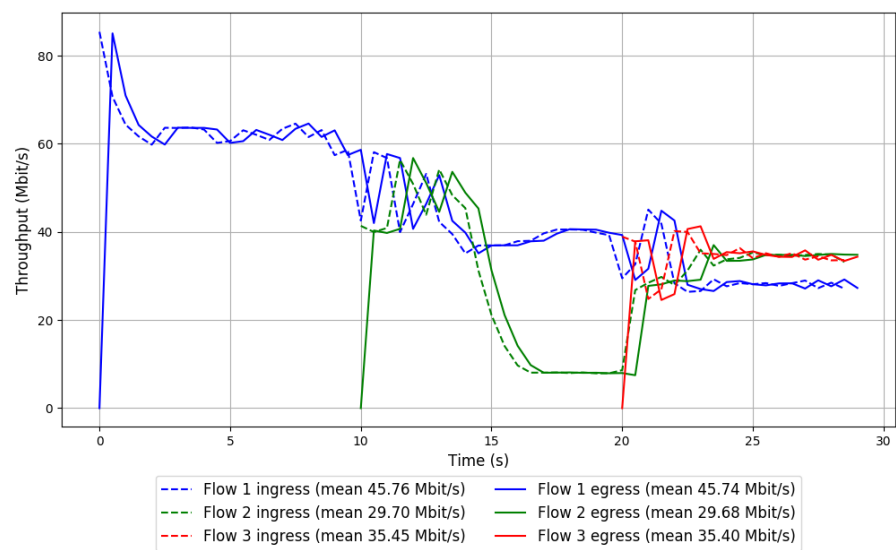
-- Flow 3:

Average throughput: 35.40 Mbit/s

95th percentile per-packet one-way delay: 20.807 ms

Loss rate: 0.00%

Run 1: Report of Indigo-MusesC5 — Data Link





Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-19 03:11:52

End at: 2019-03-19 03:12:22

Local clock offset: -5.759 ms

Remote clock offset: 0.263 ms

# Below is generated by plot.py at 2019-03-19 04:36:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 73.47 Mbit/s

95th percentile per-packet one-way delay: 23.526 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 39.55 Mbit/s

95th percentile per-packet one-way delay: 22.841 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 38.82 Mbit/s

95th percentile per-packet one-way delay: 23.047 ms

Loss rate: 0.00%

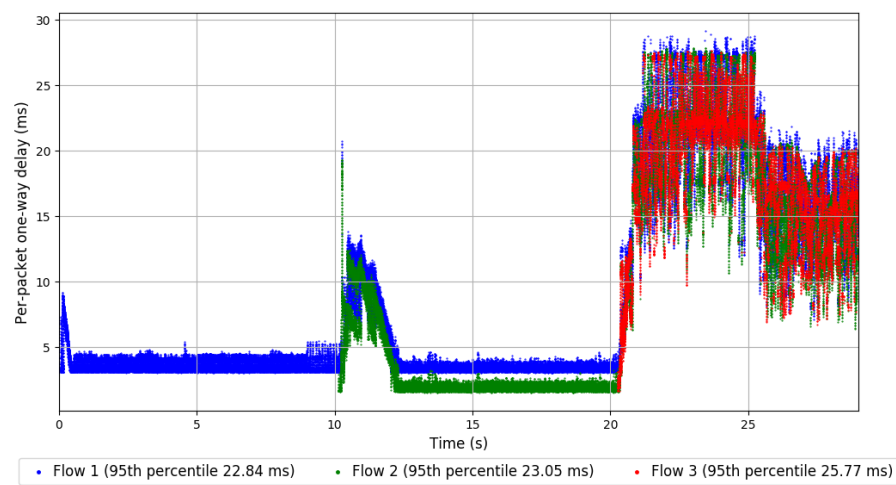
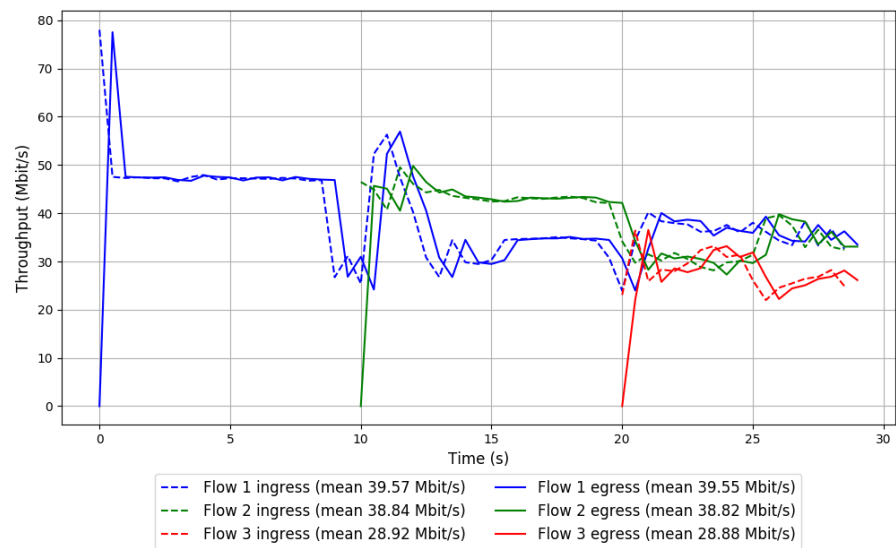
-- Flow 3:

Average throughput: 28.88 Mbit/s

95th percentile per-packet one-way delay: 25.769 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-19 03:35:46

End at: 2019-03-19 03:36:16

Local clock offset: -1.447 ms

Remote clock offset: 0.371 ms

# Below is generated by plot.py at 2019-03-19 04:37:05

# Datalink statistics

-- Total of 3 flows:

Average throughput: 76.74 Mbit/s

95th percentile per-packet one-way delay: 24.802 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 44.97 Mbit/s

95th percentile per-packet one-way delay: 22.450 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 33.10 Mbit/s

95th percentile per-packet one-way delay: 26.375 ms

Loss rate: 0.00%

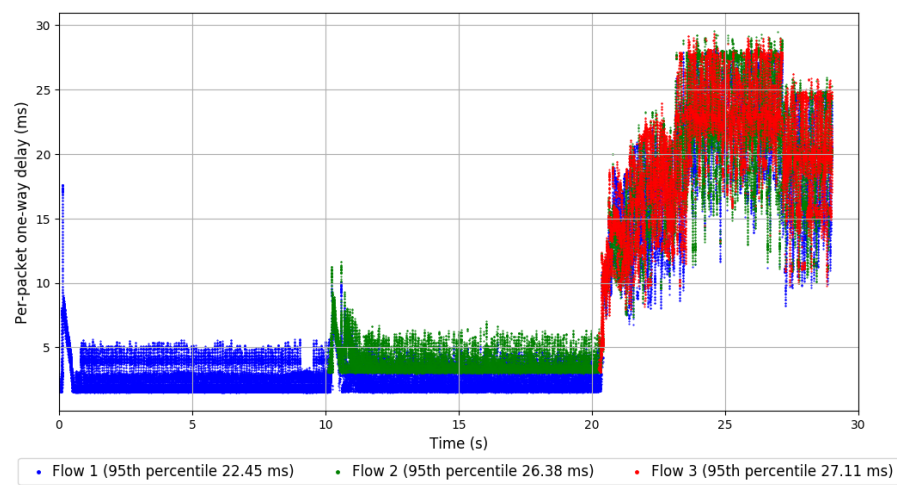
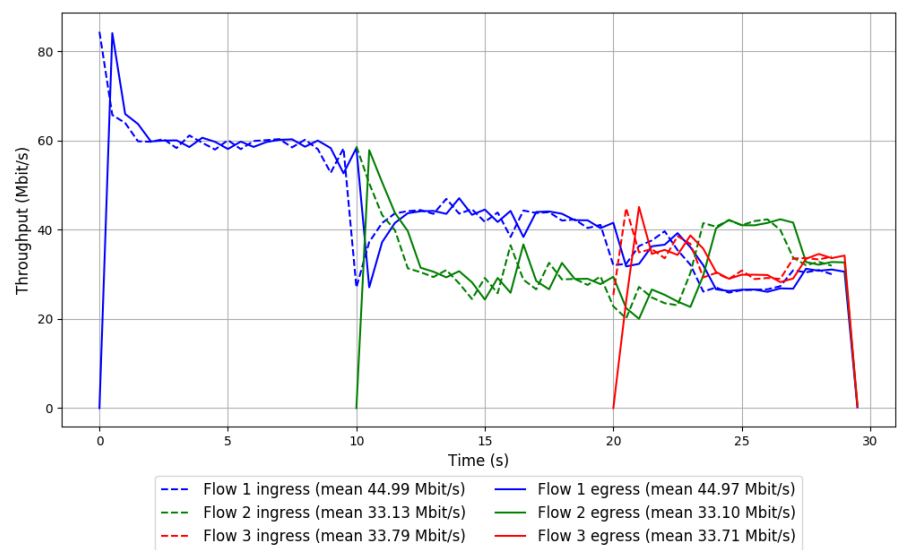
-- Flow 3:

Average throughput: 33.71 Mbit/s

95th percentile per-packet one-way delay: 27.106 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesC5 — Data Link

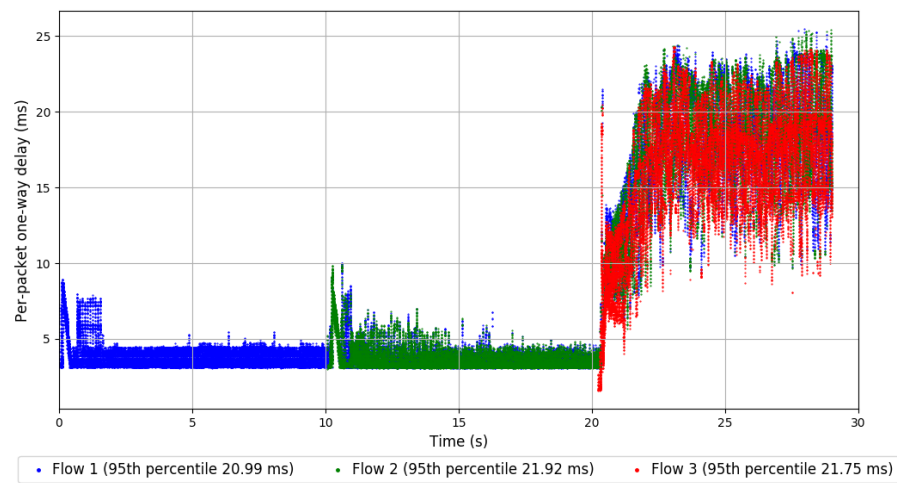
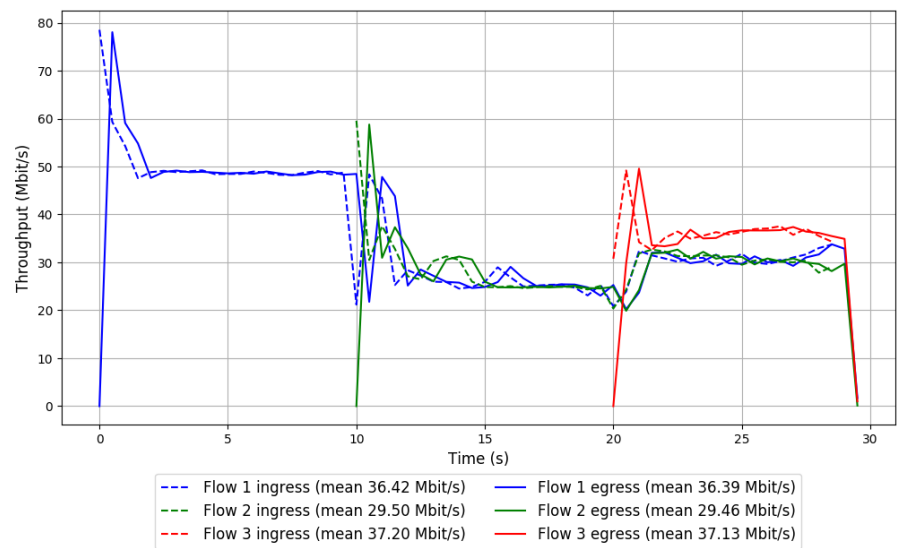


Run 4: Statistics of Indigo-MusesC5

Start at: 2019-03-19 03:59:41  
End at: 2019-03-19 04:00:11  
Local clock offset: -1.705 ms  
Remote clock offset: 0.635 ms

# Below is generated by plot.py at 2019-03-19 04:37:05  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 66.84 Mbit/s  
95th percentile per-packet one-way delay: 21.525 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 36.39 Mbit/s  
95th percentile per-packet one-way delay: 20.987 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 29.46 Mbit/s  
95th percentile per-packet one-way delay: 21.918 ms  
Loss rate: 0.04%  
-- Flow 3:  
Average throughput: 37.13 Mbit/s  
95th percentile per-packet one-way delay: 21.750 ms  
Loss rate: 0.00%

Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-03-19 04:23:36

End at: 2019-03-19 04:24:06

Local clock offset: -4.145 ms

Remote clock offset: 0.624 ms

# Below is generated by plot.py at 2019-03-19 04:37:21

# Datalink statistics

-- Total of 3 flows:

Average throughput: 78.21 Mbit/s

95th percentile per-packet one-way delay: 21.385 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 45.12 Mbit/s

95th percentile per-packet one-way delay: 19.228 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 31.90 Mbit/s

95th percentile per-packet one-way delay: 22.477 ms

Loss rate: 0.00%

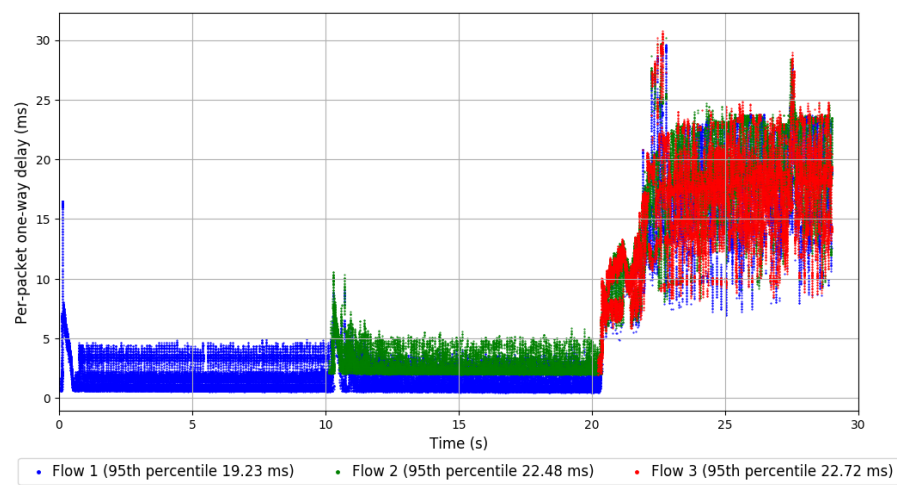
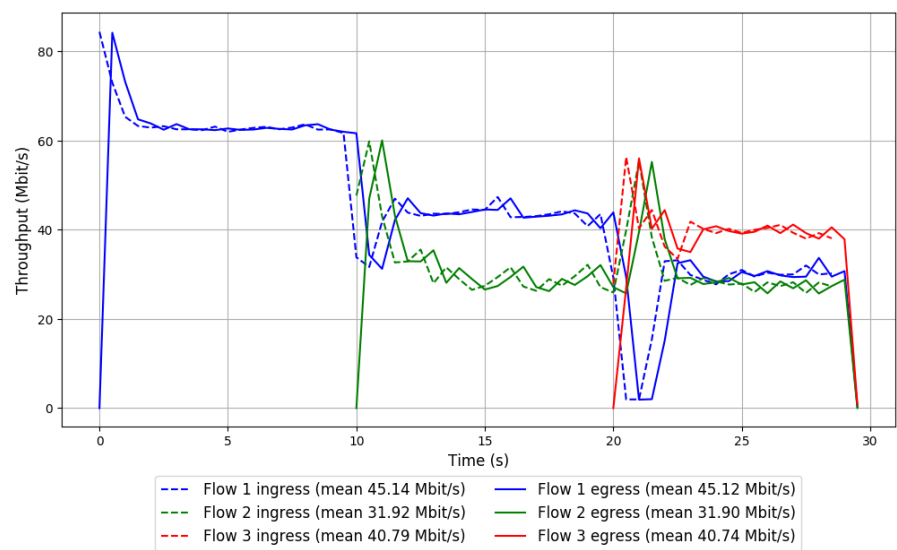
-- Flow 3:

Average throughput: 40.74 Mbit/s

95th percentile per-packet one-way delay: 22.724 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesC5 — Data Link





Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-19 02:53:34

End at: 2019-03-19 02:54:04

Local clock offset: -5.031 ms

Remote clock offset: 0.177 ms

# Below is generated by plot.py at 2019-03-19 04:37:28

# Datalink statistics

-- Total of 3 flows:

Average throughput: 73.86 Mbit/s

95th percentile per-packet one-way delay: 17.396 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 23.70 Mbit/s

95th percentile per-packet one-way delay: 15.537 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 66.44 Mbit/s

95th percentile per-packet one-way delay: 17.548 ms

Loss rate: 0.00%

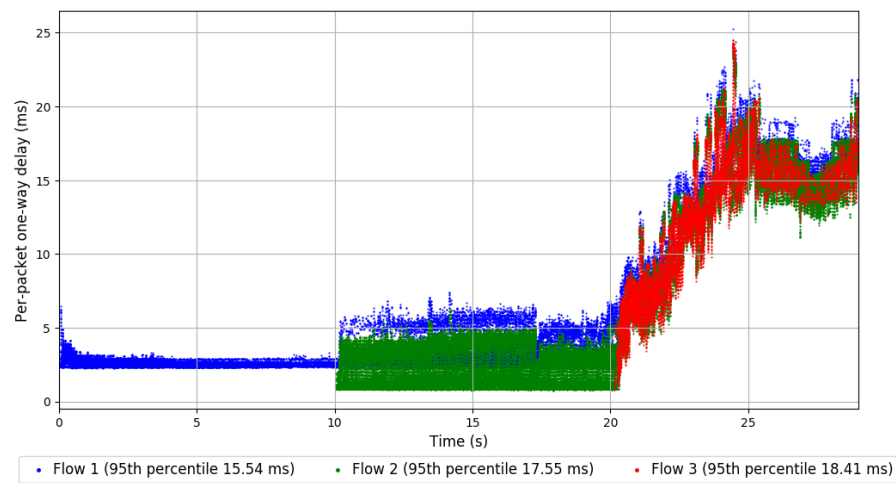
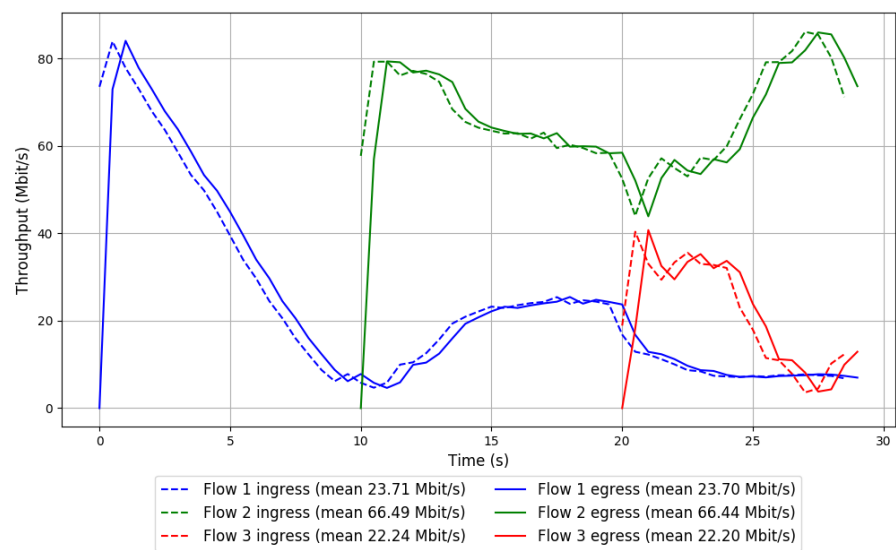
-- Flow 3:

Average throughput: 22.20 Mbit/s

95th percentile per-packet one-way delay: 18.408 ms

Loss rate: 0.01%

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-19 03:17:29

End at: 2019-03-19 03:17:59

Local clock offset: -4.334 ms

Remote clock offset: 0.295 ms

# Below is generated by plot.py at 2019-03-19 04:37:28

# Datalink statistics

-- Total of 3 flows:

Average throughput: 74.46 Mbit/s

95th percentile per-packet one-way delay: 28.347 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 31.35 Mbit/s

95th percentile per-packet one-way delay: 27.263 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 57.73 Mbit/s

95th percentile per-packet one-way delay: 28.636 ms

Loss rate: 0.00%

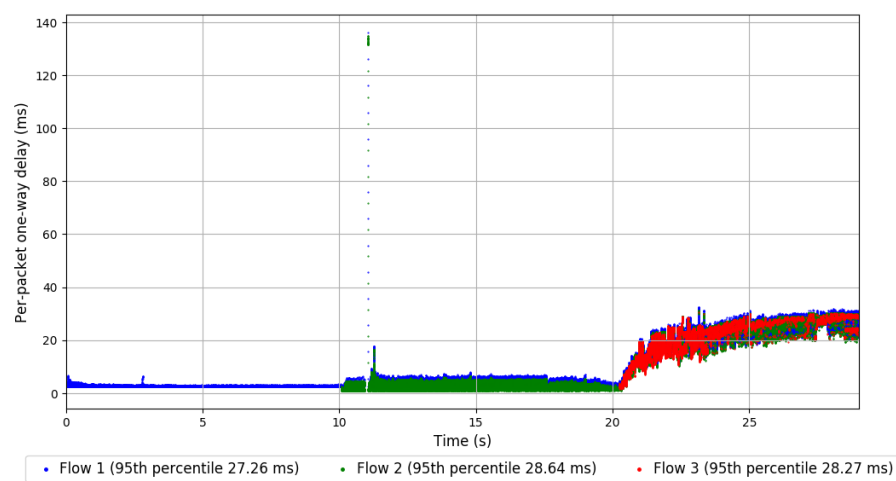
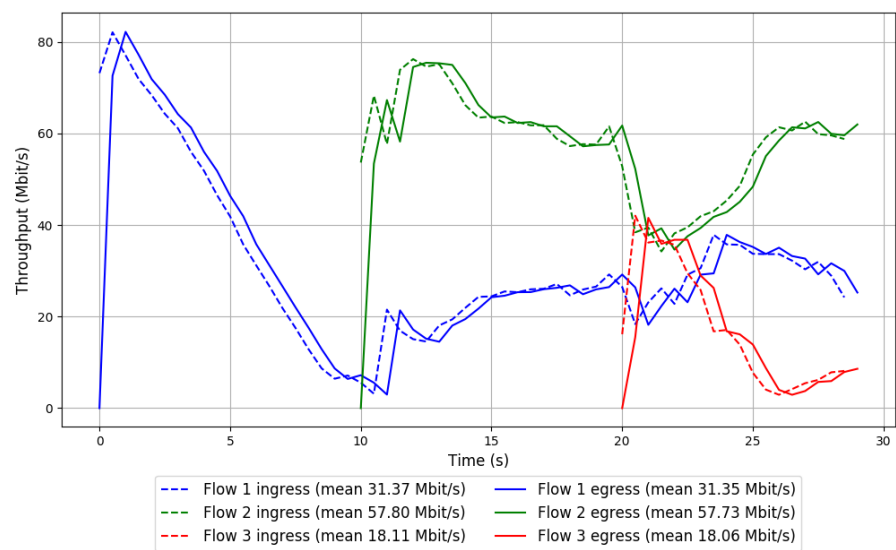
-- Flow 3:

Average throughput: 18.06 Mbit/s

95th percentile per-packet one-way delay: 28.271 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-19 03:41:23

End at: 2019-03-19 03:41:53

Local clock offset: -0.197 ms

Remote clock offset: 0.525 ms

# Below is generated by plot.py at 2019-03-19 04:37:42

# Datalink statistics

-- Total of 3 flows:

Average throughput: 88.87 Mbit/s

95th percentile per-packet one-way delay: 4.249 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 44.76 Mbit/s

95th percentile per-packet one-way delay: 4.077 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 45.56 Mbit/s

95th percentile per-packet one-way delay: 4.542 ms

Loss rate: 0.00%

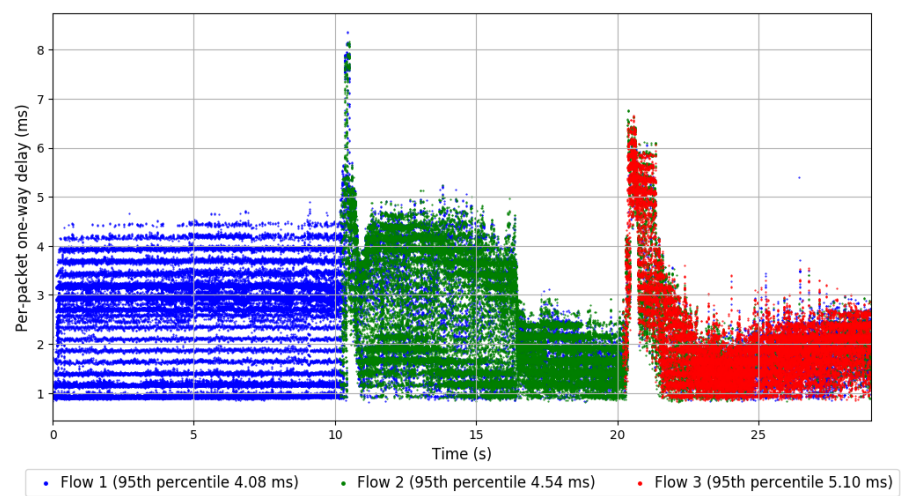
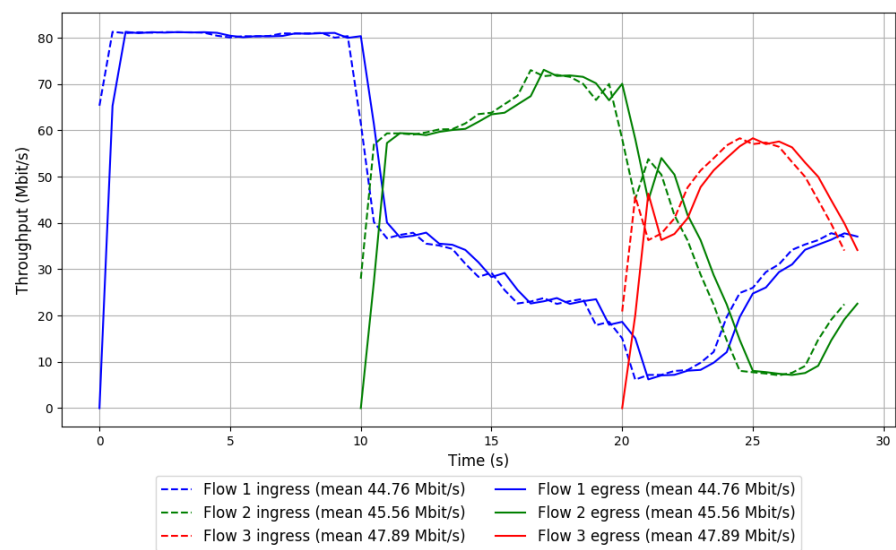
-- Flow 3:

Average throughput: 47.89 Mbit/s

95th percentile per-packet one-way delay: 5.102 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-03-19 04:05:19

End at: 2019-03-19 04:05:49

Local clock offset: -1.739 ms

Remote clock offset: 0.685 ms

# Below is generated by plot.py at 2019-03-19 04:37:42

# Datalink statistics

-- Total of 3 flows:

Average throughput: 71.00 Mbit/s

95th percentile per-packet one-way delay: 32.323 ms

Loss rate: 0.85%

-- Flow 1:

Average throughput: 44.05 Mbit/s

95th percentile per-packet one-way delay: 32.167 ms

Loss rate: 0.32%

-- Flow 2:

Average throughput: 30.67 Mbit/s

95th percentile per-packet one-way delay: 32.090 ms

Loss rate: 0.66%

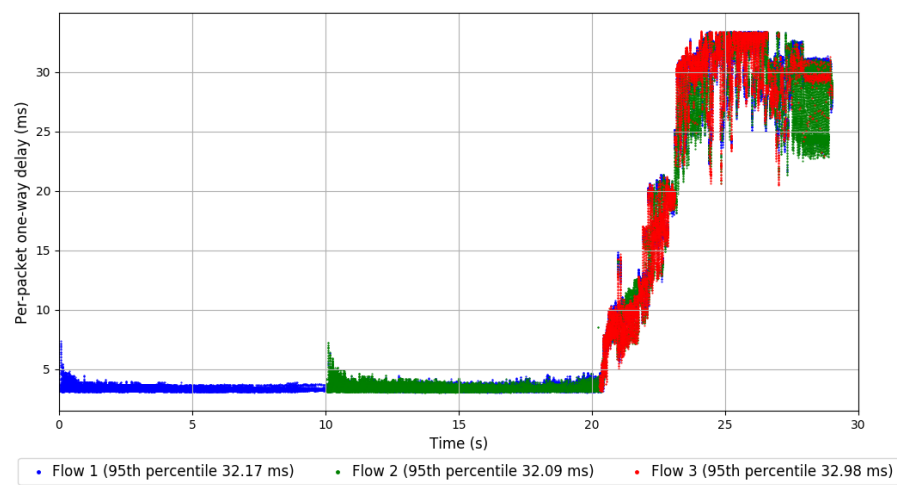
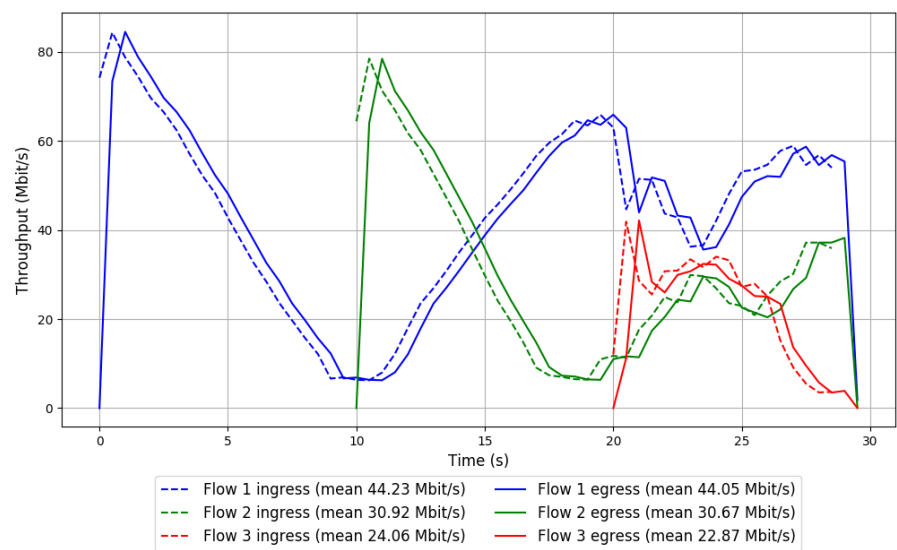
-- Flow 3:

Average throughput: 22.87 Mbit/s

95th percentile per-packet one-way delay: 32.980 ms

Loss rate: 4.68%

Run 4: Report of Indigo-MusesD — Data Link





Run 5: Statistics of Indigo-MusesD

Start at: 2019-03-19 04:29:13

End at: 2019-03-19 04:29:43

Local clock offset: -6.318 ms

Remote clock offset: 0.634 ms

# Below is generated by plot.py at 2019-03-19 04:37:55

# Datalink statistics

-- Total of 3 flows:

Average throughput: 91.87 Mbit/s

95th percentile per-packet one-way delay: 29.512 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 53.76 Mbit/s

95th percentile per-packet one-way delay: 27.354 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 48.53 Mbit/s

95th percentile per-packet one-way delay: 30.573 ms

Loss rate: 0.07%

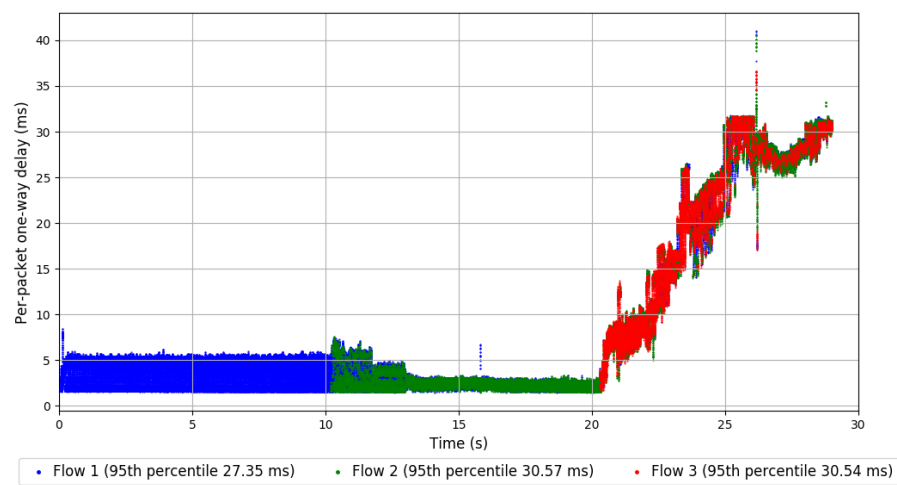
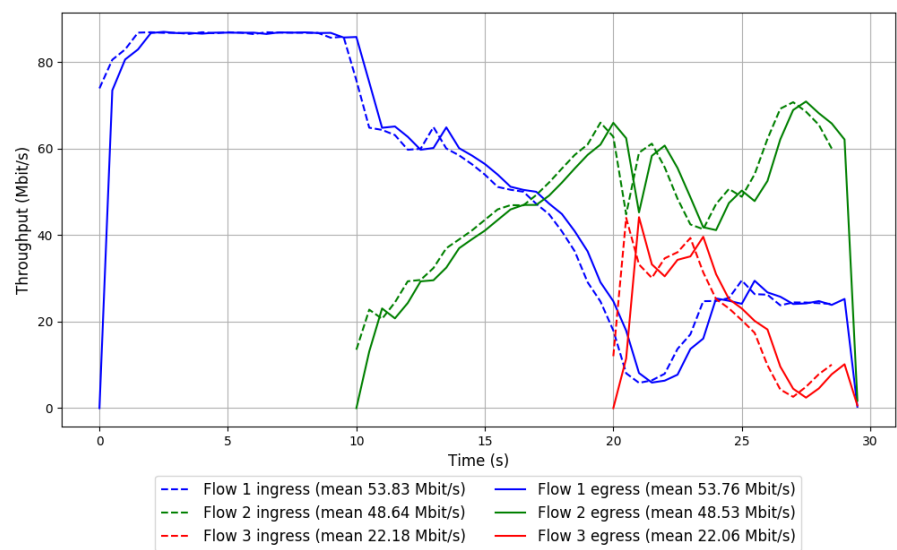
-- Flow 3:

Average throughput: 22.06 Mbit/s

95th percentile per-packet one-way delay: 30.542 ms

Loss rate: 0.21%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2019-03-19 02:35:27

End at: 2019-03-19 02:35:57

Local clock offset: -5.304 ms

Remote clock offset: 0.035 ms

# Below is generated by plot.py at 2019-03-19 04:38:11

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.53 Mbit/s

95th percentile per-packet one-way delay: 25.148 ms

Loss rate: 0.10%

-- Flow 1:

Average throughput: 53.60 Mbit/s

95th percentile per-packet one-way delay: 23.875 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 48.32 Mbit/s

95th percentile per-packet one-way delay: 25.511 ms

Loss rate: 0.14%

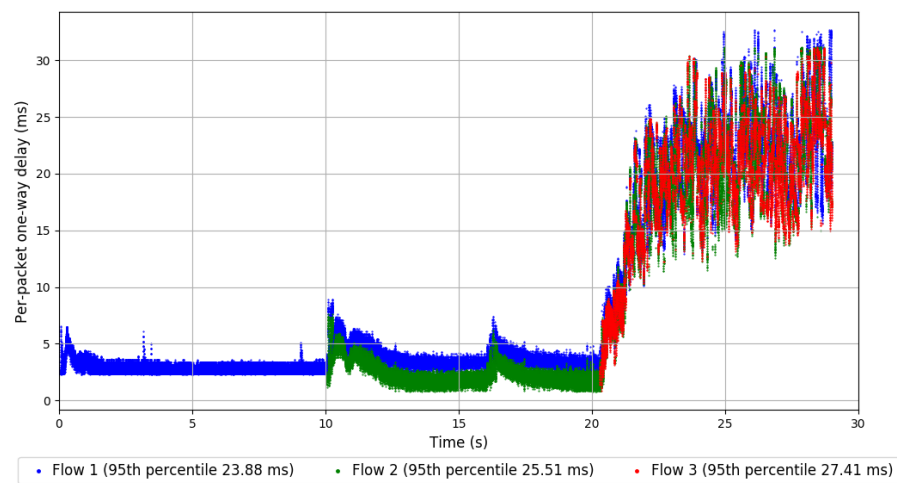
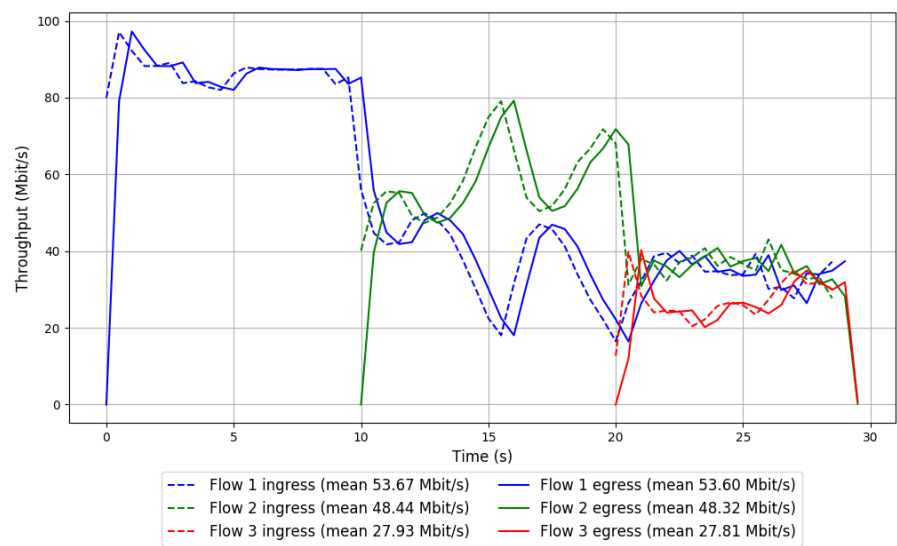
-- Flow 3:

Average throughput: 27.81 Mbit/s

95th percentile per-packet one-way delay: 27.410 ms

Loss rate: 0.20%

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

Start at: 2019-03-19 02:59:22

End at: 2019-03-19 02:59:52

Local clock offset: -4.977 ms

Remote clock offset: 0.194 ms

# Below is generated by plot.py at 2019-03-19 04:38:12

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.51 Mbit/s

95th percentile per-packet one-way delay: 25.285 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 56.34 Mbit/s

95th percentile per-packet one-way delay: 23.951 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 47.38 Mbit/s

95th percentile per-packet one-way delay: 25.850 ms

Loss rate: 0.02%

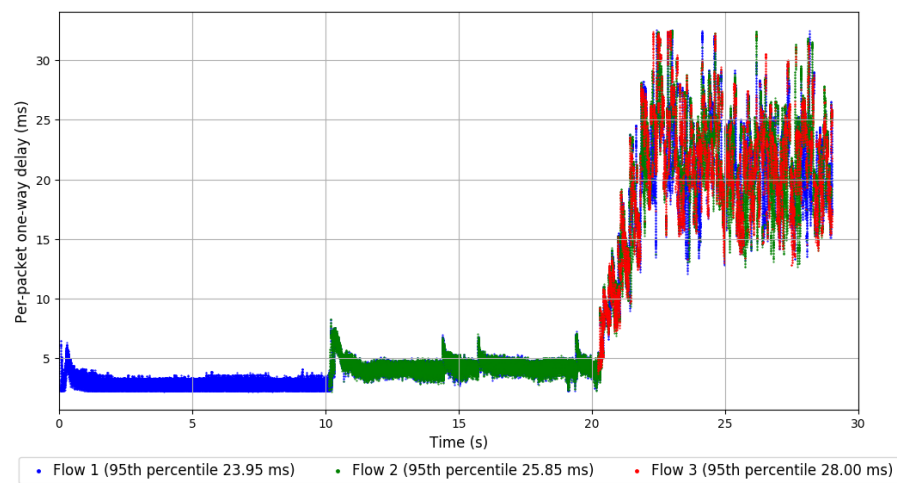
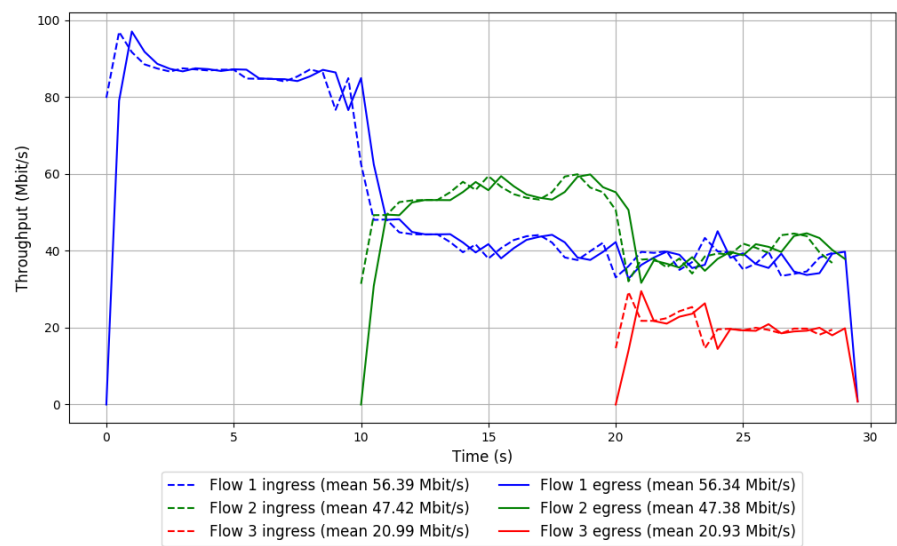
-- Flow 3:

Average throughput: 20.93 Mbit/s

95th percentile per-packet one-way delay: 28.000 ms

Loss rate: 0.01%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-19 03:23:15

End at: 2019-03-19 03:23:45

Local clock offset: -3.317 ms

Remote clock offset: 0.331 ms

# Below is generated by plot.py at 2019-03-19 04:38:30

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.34 Mbit/s

95th percentile per-packet one-way delay: 19.738 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 61.10 Mbit/s

95th percentile per-packet one-way delay: 18.324 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 45.91 Mbit/s

95th percentile per-packet one-way delay: 20.900 ms

Loss rate: 0.00%

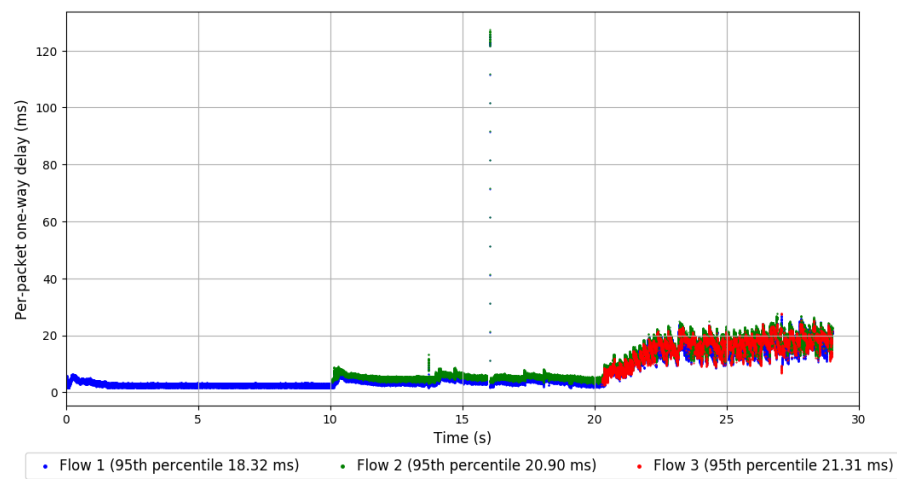
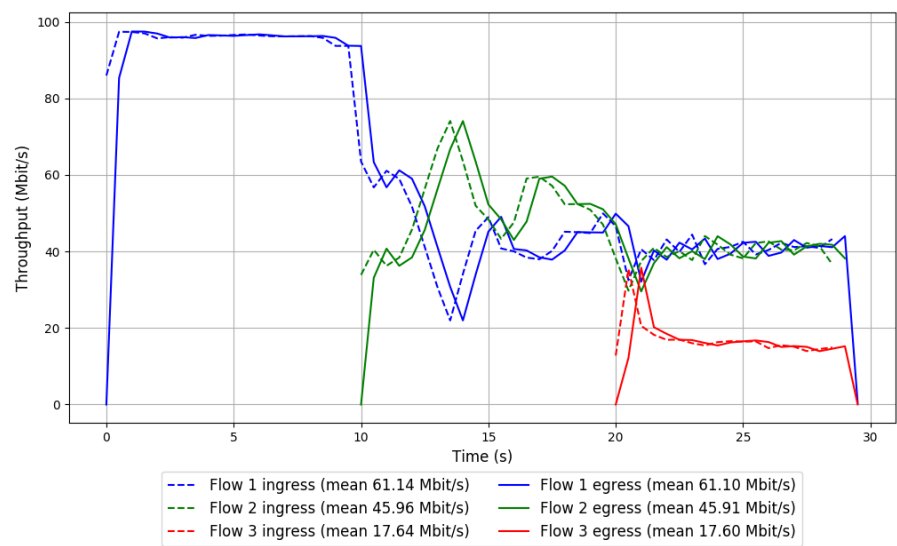
-- Flow 3:

Average throughput: 17.60 Mbit/s

95th percentile per-packet one-way delay: 21.314 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesT — Data Link





Run 4: Statistics of Indigo-MusesT

Start at: 2019-03-19 03:47:10

End at: 2019-03-19 03:47:40

Local clock offset: -0.772 ms

Remote clock offset: 0.429 ms

# Below is generated by plot.py at 2019-03-19 04:38:38

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.72 Mbit/s

95th percentile per-packet one-way delay: 27.353 ms

Loss rate: 0.19%

-- Flow 1:

Average throughput: 68.46 Mbit/s

95th percentile per-packet one-way delay: 24.218 ms

Loss rate: 0.14%

-- Flow 2:

Average throughput: 30.33 Mbit/s

95th percentile per-packet one-way delay: 29.702 ms

Loss rate: 0.22%

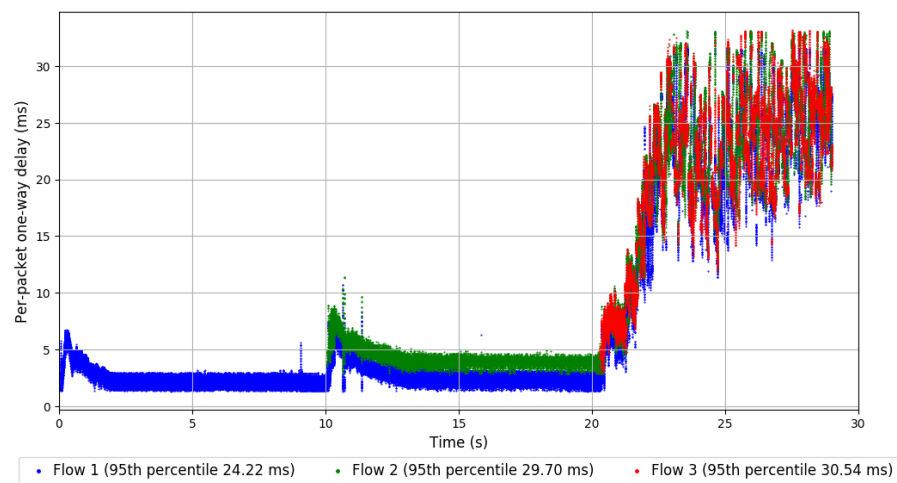
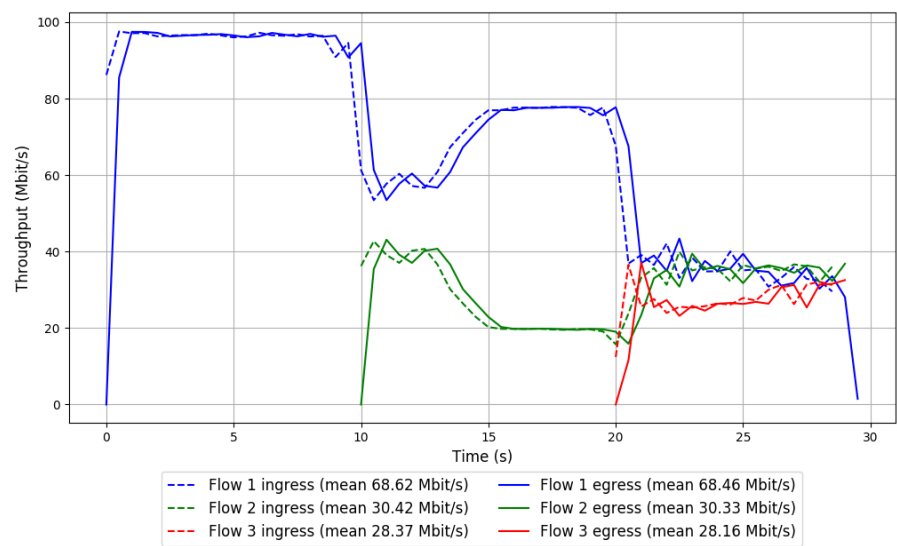
-- Flow 3:

Average throughput: 28.16 Mbit/s

95th percentile per-packet one-way delay: 30.542 ms

Loss rate: 0.52%

Run 4: Report of Indigo-MusesT — Data Link



Run 5: Statistics of Indigo-MusesT

Start at: 2019-03-19 04:11:05

End at: 2019-03-19 04:11:35

Local clock offset: -0.925 ms

Remote clock offset: 0.757 ms

# Below is generated by plot.py at 2019-03-19 04:38:38

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.00 Mbit/s

95th percentile per-packet one-way delay: 22.452 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 63.60 Mbit/s

95th percentile per-packet one-way delay: 20.987 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 35.52 Mbit/s

95th percentile per-packet one-way delay: 23.620 ms

Loss rate: 0.00%

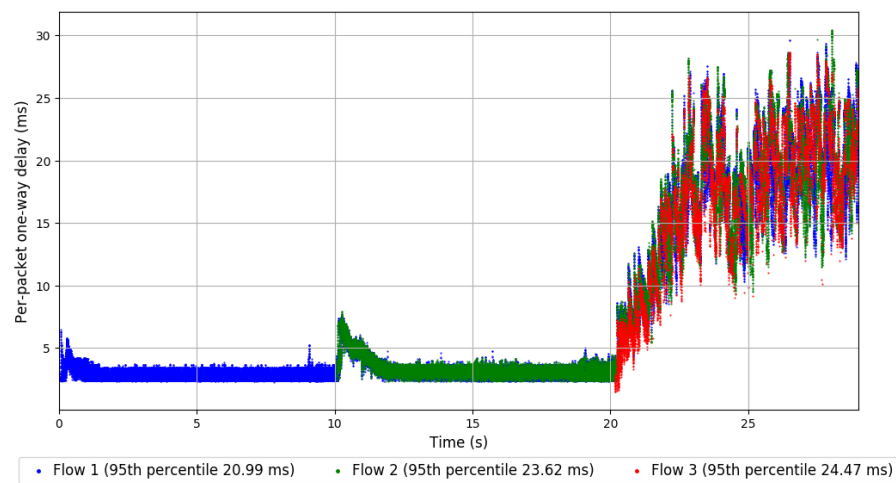
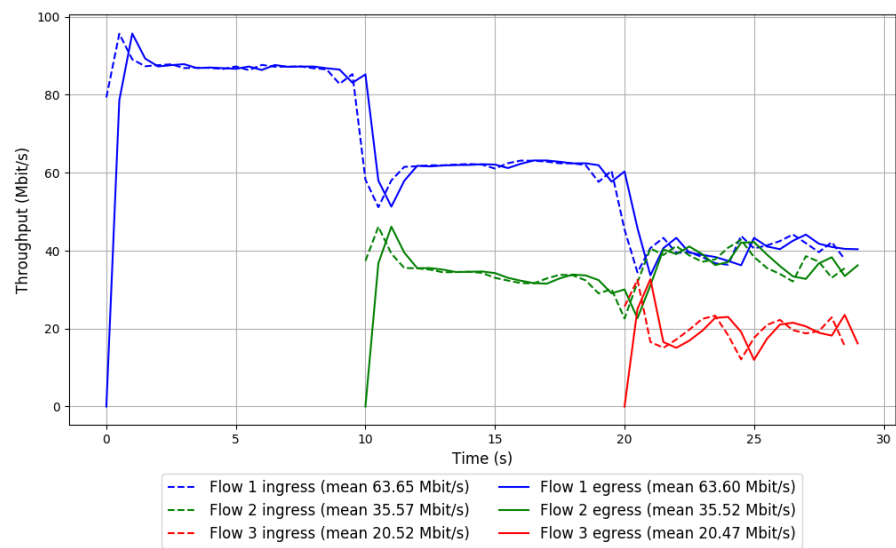
-- Flow 3:

Average throughput: 20.47 Mbit/s

95th percentile per-packet one-way delay: 24.470 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesT — Data Link

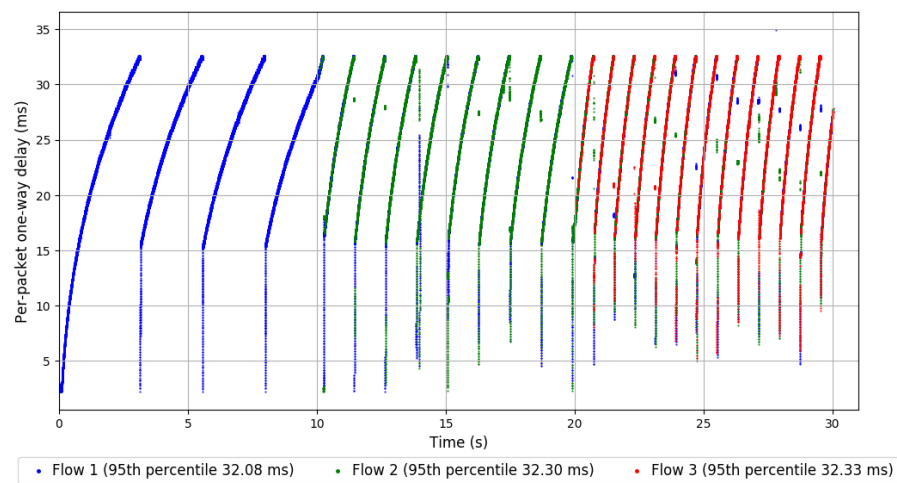
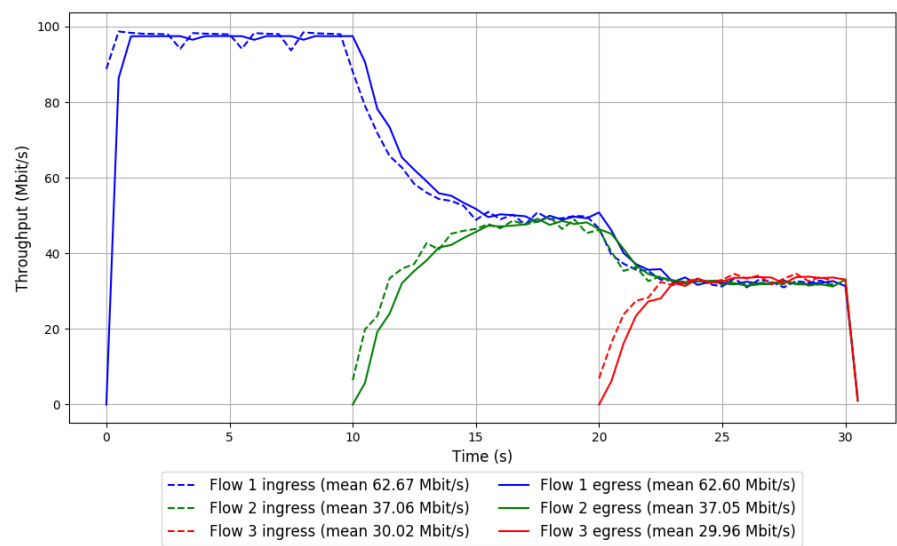


Run 1: Statistics of LEDBAT

Start at: 2019-03-19 02:31:56  
End at: 2019-03-19 02:32:26  
Local clock offset: -5.4 ms  
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2019-03-19 04:38:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.21 Mbit/s  
95th percentile per-packet one-way delay: 32.116 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 62.60 Mbit/s  
95th percentile per-packet one-way delay: 32.084 ms  
Loss rate: 0.02%  
-- Flow 2:  
Average throughput: 37.05 Mbit/s  
95th percentile per-packet one-way delay: 32.304 ms  
Loss rate: 0.05%  
-- Flow 3:  
Average throughput: 29.96 Mbit/s  
95th percentile per-packet one-way delay: 32.327 ms  
Loss rate: 0.09%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2019-03-19 02:55:51

End at: 2019-03-19 02:56:21

Local clock offset: -5.782 ms

Remote clock offset: 0.205 ms

# Below is generated by plot.py at 2019-03-19 04:38:55

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.15 Mbit/s

95th percentile per-packet one-way delay: 31.669 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 52.95 Mbit/s

95th percentile per-packet one-way delay: 29.966 ms

Loss rate: 0.05%

-- Flow 2:

Average throughput: 49.10 Mbit/s

95th percentile per-packet one-way delay: 32.693 ms

Loss rate: 0.05%

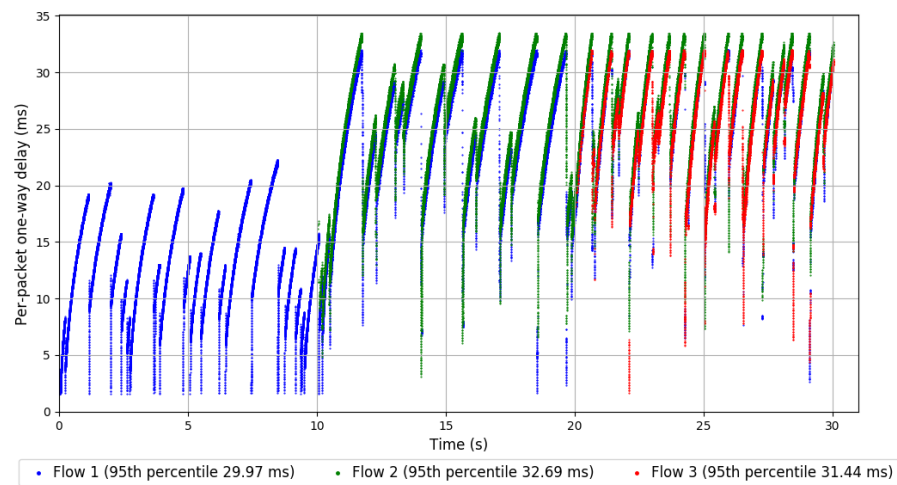
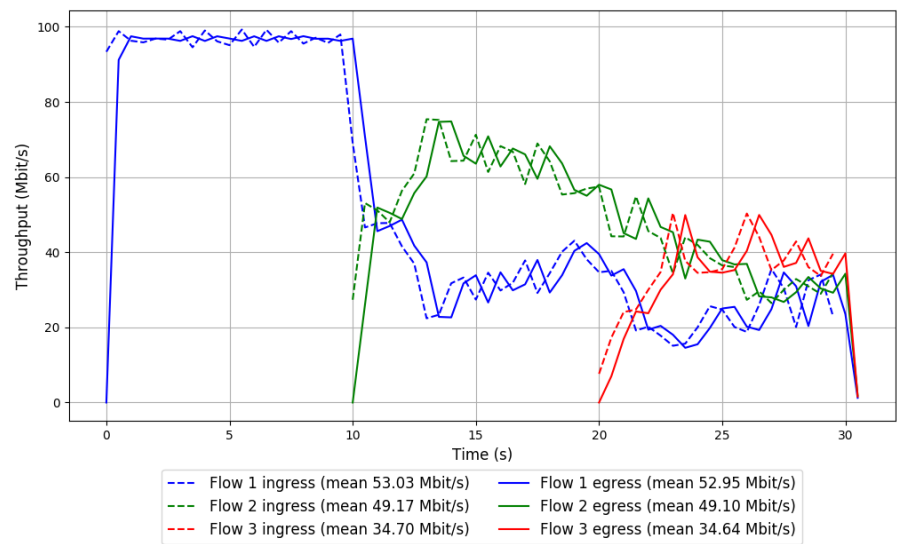
-- Flow 3:

Average throughput: 34.64 Mbit/s

95th percentile per-packet one-way delay: 31.436 ms

Loss rate: 0.07%

Run 2: Report of LEDBAT — Data Link



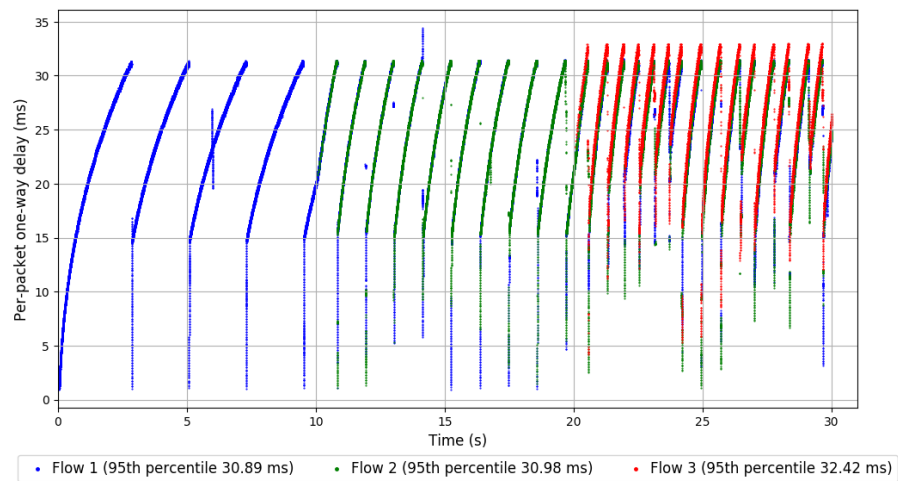
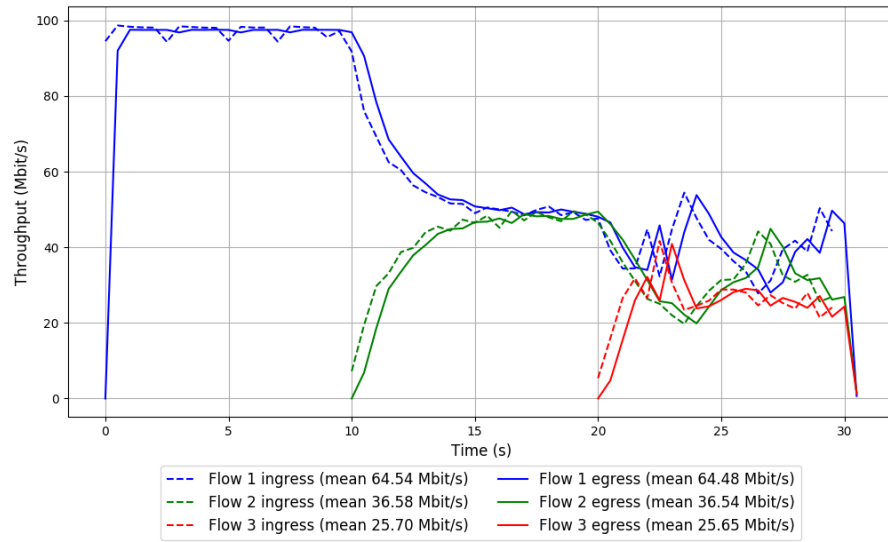


Run 3: Statistics of LEDBAT

Start at: 2019-03-19 03:19:45  
End at: 2019-03-19 03:20:15  
Local clock offset: -3.593 ms  
Remote clock offset: 0.332 ms

# Below is generated by plot.py at 2019-03-19 04:39:08  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.30 Mbit/s  
95th percentile per-packet one-way delay: 31.095 ms  
Loss rate: 0.05%  
-- Flow 1:  
Average throughput: 64.48 Mbit/s  
95th percentile per-packet one-way delay: 30.889 ms  
Loss rate: 0.03%  
-- Flow 2:  
Average throughput: 36.54 Mbit/s  
95th percentile per-packet one-way delay: 30.977 ms  
Loss rate: 0.07%  
-- Flow 3:  
Average throughput: 25.65 Mbit/s  
95th percentile per-packet one-way delay: 32.421 ms  
Loss rate: 0.17%

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



Run 4: Statistics of LEDBAT

Start at: 2019-03-19 03:43:40

End at: 2019-03-19 03:44:10

Local clock offset: -0.033 ms

Remote clock offset: 0.535 ms

# Below is generated by plot.py at 2019-03-19 04:39:29

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.25 Mbit/s

95th percentile per-packet one-way delay: 31.242 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 62.72 Mbit/s

95th percentile per-packet one-way delay: 30.725 ms

Loss rate: 0.03%

-- Flow 2:

Average throughput: 38.50 Mbit/s

95th percentile per-packet one-way delay: 32.213 ms

Loss rate: 0.07%

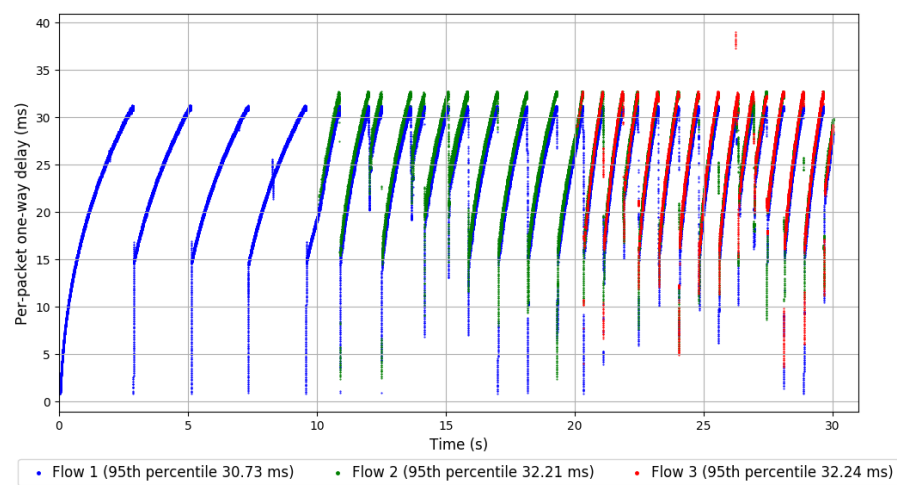
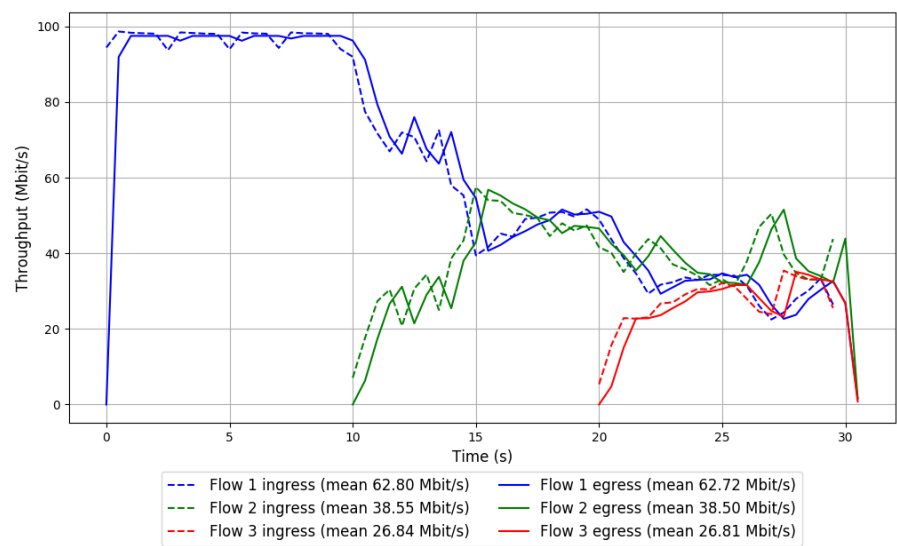
-- Flow 3:

Average throughput: 26.81 Mbit/s

95th percentile per-packet one-way delay: 32.240 ms

Loss rate: 0.09%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-03-19 04:07:36

End at: 2019-03-19 04:08:06

Local clock offset: -0.955 ms

Remote clock offset: 0.638 ms

# Below is generated by plot.py at 2019-03-19 04:39:29

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.29 Mbit/s

95th percentile per-packet one-way delay: 31.160 ms

Loss rate: 0.05%

-- Flow 1:

Average throughput: 57.43 Mbit/s

95th percentile per-packet one-way delay: 30.606 ms

Loss rate: 0.04%

-- Flow 2:

Average throughput: 45.18 Mbit/s

95th percentile per-packet one-way delay: 31.926 ms

Loss rate: 0.04%

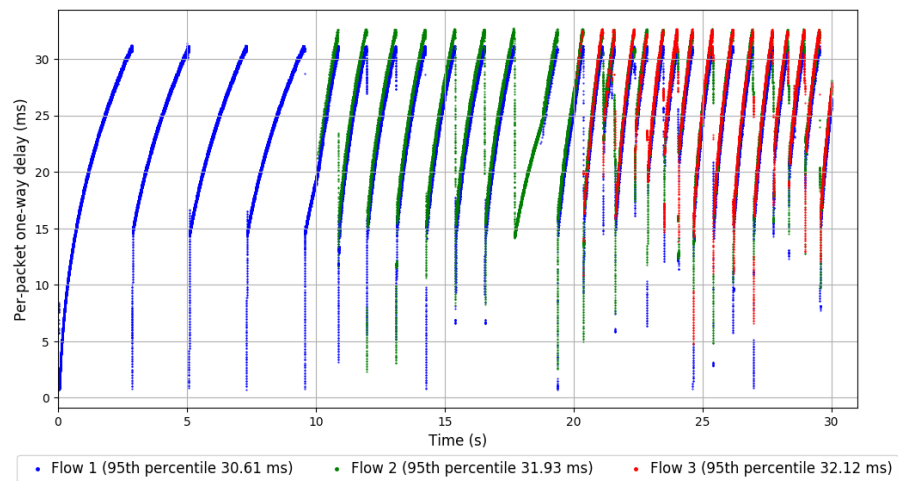
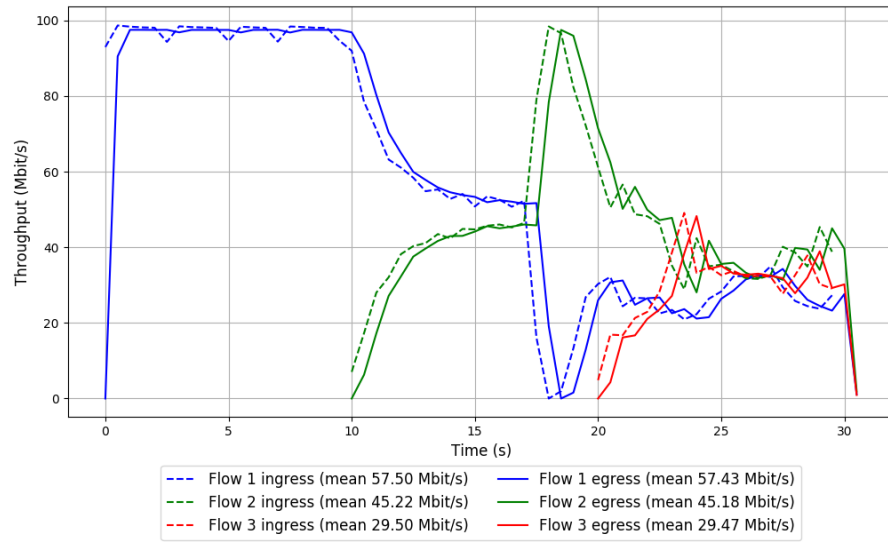
-- Flow 3:

Average throughput: 29.47 Mbit/s

95th percentile per-packet one-way delay: 32.121 ms

Loss rate: 0.10%

# Run 5: Report of LEDBAT — Data Link

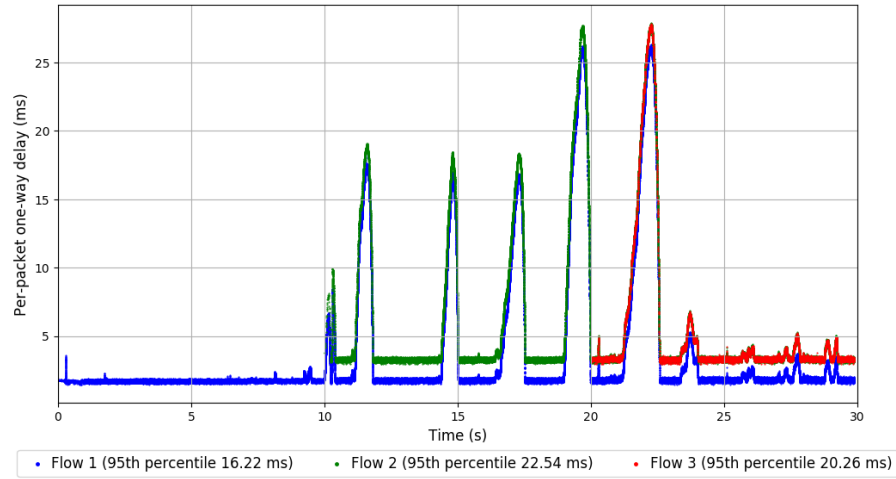
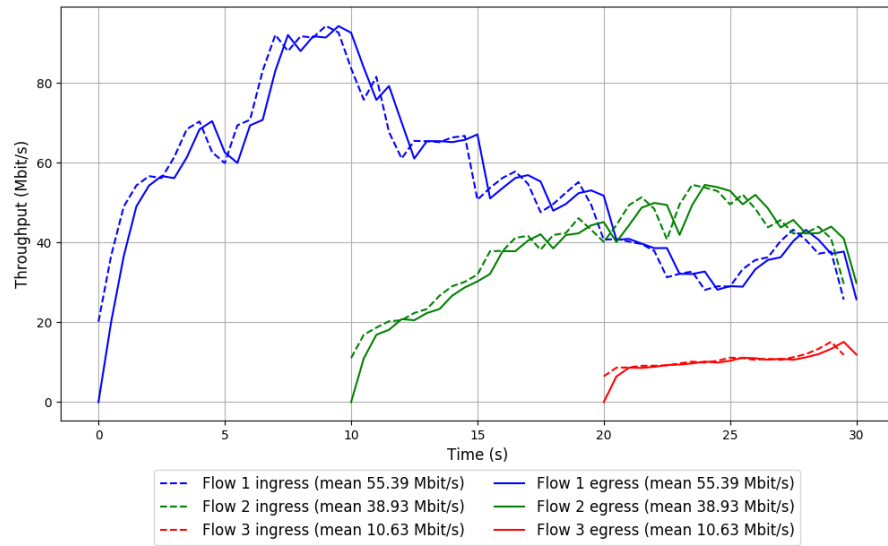


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-03-19 02:38:47
End at: 2019-03-19 02:39:17
Local clock offset: -6.074 ms
Remote clock offset: 0.046 ms

# Below is generated by plot.py at 2019-03-19 04:39:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.78 Mbit/s
95th percentile per-packet one-way delay: 17.941 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.39 Mbit/s
95th percentile per-packet one-way delay: 16.222 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.93 Mbit/s
95th percentile per-packet one-way delay: 22.535 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.63 Mbit/s
95th percentile per-packet one-way delay: 20.261 ms
Loss rate: 0.00%
```

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





Run 2: Statistics of PCC-Allegro

Start at: 2019-03-19 03:02:42

End at: 2019-03-19 03:03:12

Local clock offset: -5.73 ms

Remote clock offset: 0.248 ms

# Below is generated by plot.py at 2019-03-19 04:39:48

# Datalink statistics

-- Total of 3 flows:

Average throughput: 90.83 Mbit/s

95th percentile per-packet one-way delay: 6.345 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 74.29 Mbit/s

95th percentile per-packet one-way delay: 5.696 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 19.97 Mbit/s

95th percentile per-packet one-way delay: 12.729 ms

Loss rate: 0.00%

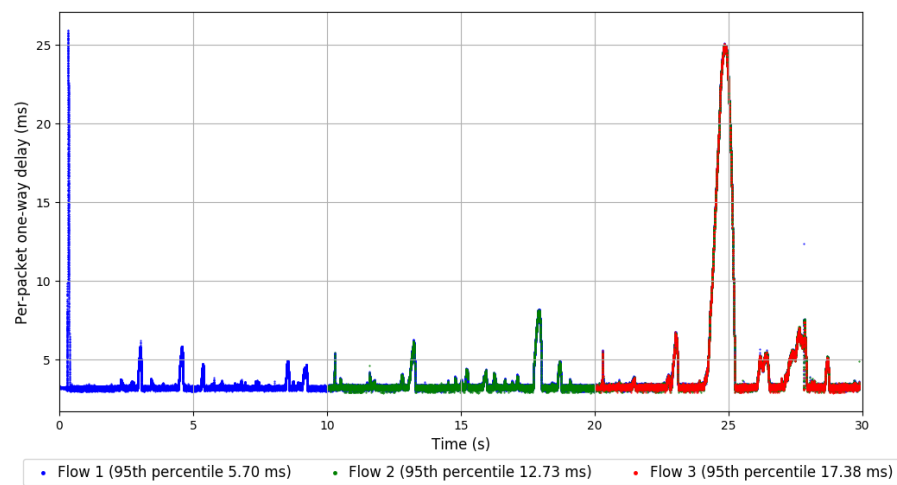
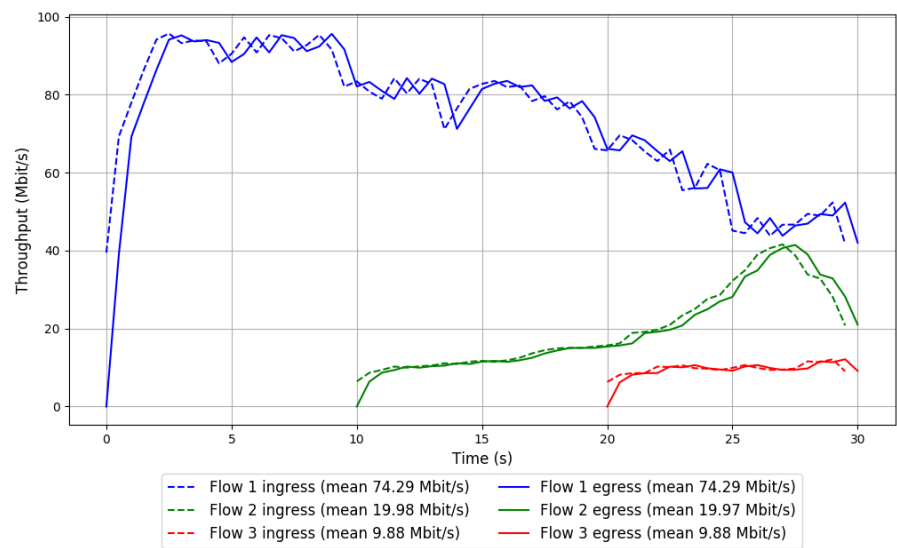
-- Flow 3:

Average throughput: 9.88 Mbit/s

95th percentile per-packet one-way delay: 17.375 ms

Loss rate: 0.00%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-03-19 03:26:35

End at: 2019-03-19 03:27:05

Local clock offset: -2.608 ms

Remote clock offset: 0.395 ms

# Below is generated by plot.py at 2019-03-19 04:39:48

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.67 Mbit/s

95th percentile per-packet one-way delay: 32.427 ms

Loss rate: 0.17%

-- Flow 1:

Average throughput: 59.91 Mbit/s

95th percentile per-packet one-way delay: 30.363 ms

Loss rate: 0.08%

-- Flow 2:

Average throughput: 31.25 Mbit/s

95th percentile per-packet one-way delay: 32.519 ms

Loss rate: 0.32%

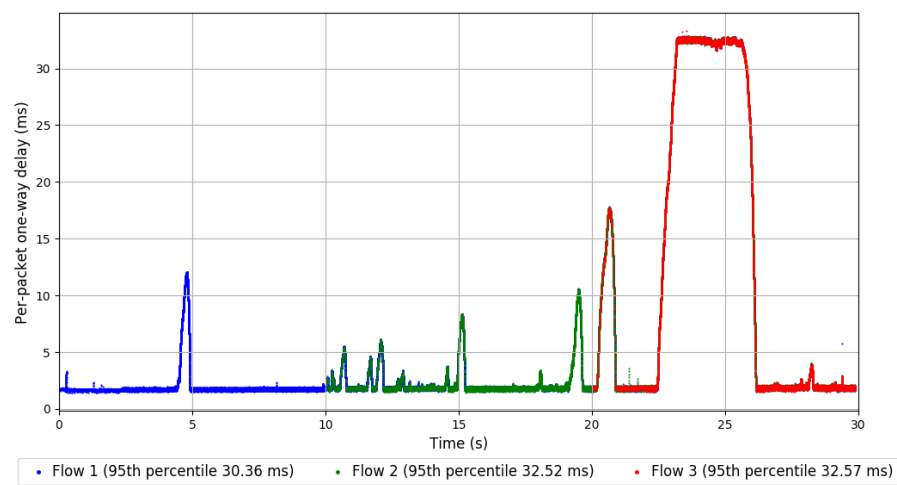
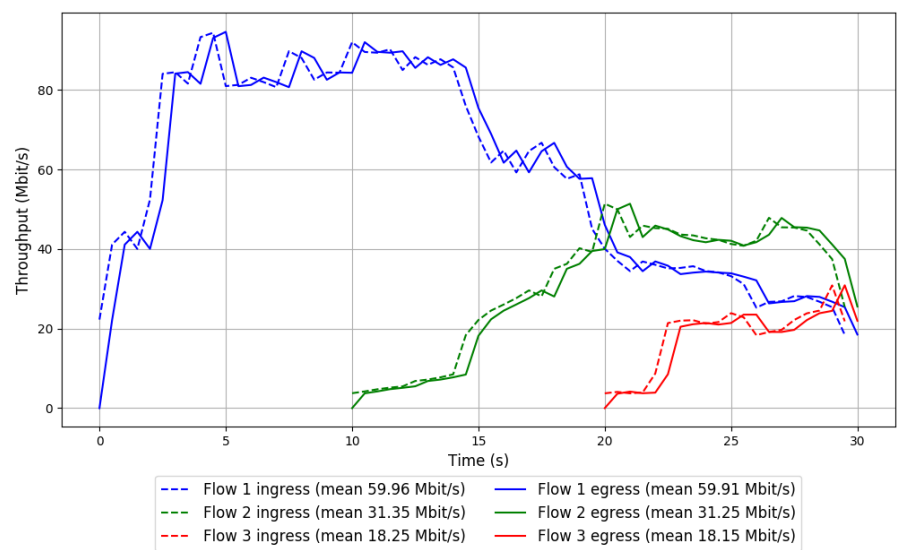
-- Flow 3:

Average throughput: 18.15 Mbit/s

95th percentile per-packet one-way delay: 32.573 ms

Loss rate: 0.55%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-03-19 03:50:31

End at: 2019-03-19 03:51:01

Local clock offset: -0.472 ms

Remote clock offset: 0.537 ms

# Below is generated by plot.py at 2019-03-19 04:40:01

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.71 Mbit/s

95th percentile per-packet one-way delay: 3.813 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 80.02 Mbit/s

95th percentile per-packet one-way delay: 3.919 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 12.44 Mbit/s

95th percentile per-packet one-way delay: 1.691 ms

Loss rate: 0.00%

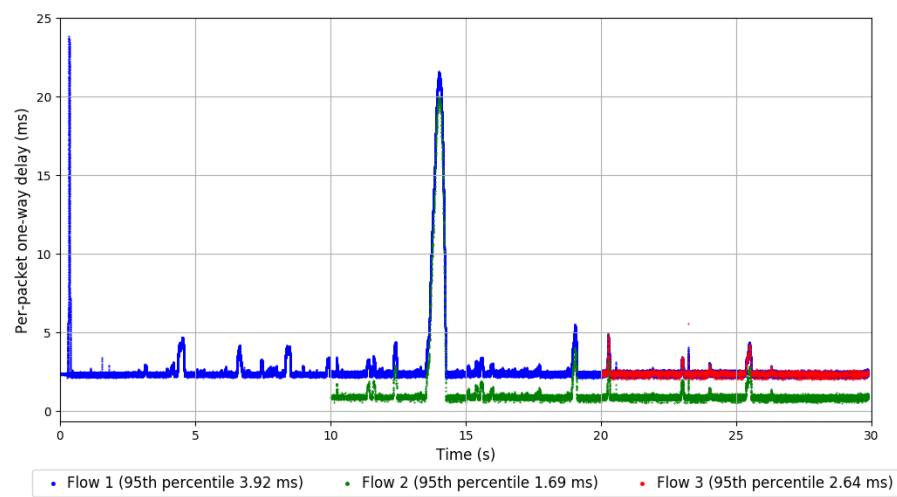
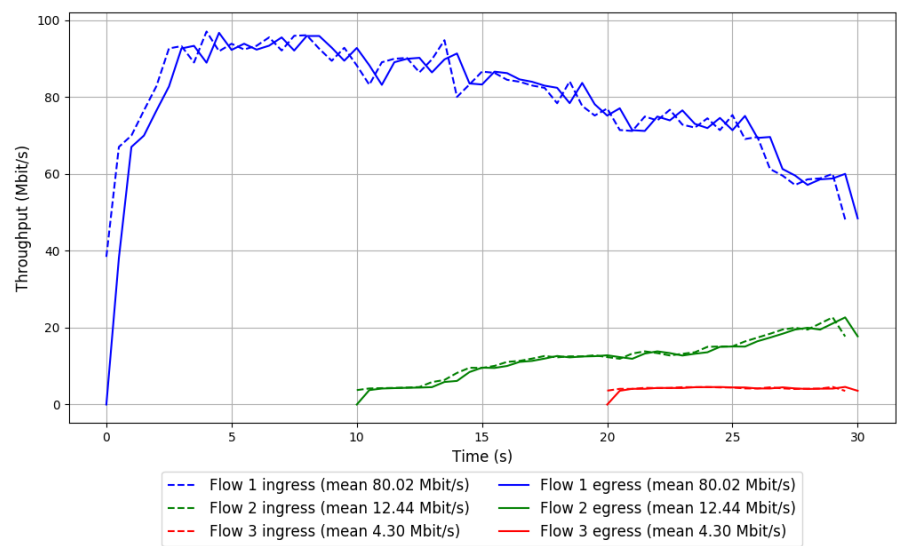
-- Flow 3:

Average throughput: 4.30 Mbit/s

95th percentile per-packet one-way delay: 2.643 ms

Loss rate: 0.00%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-03-19 04:14:26

End at: 2019-03-19 04:14:56

Local clock offset: -1.629 ms

Remote clock offset: 0.654 ms

# Below is generated by plot.py at 2019-03-19 04:40:10

# Datalink statistics

-- Total of 3 flows:

Average throughput: 90.97 Mbit/s

95th percentile per-packet one-way delay: 7.034 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 70.51 Mbit/s

95th percentile per-packet one-way delay: 6.325 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 24.41 Mbit/s

95th percentile per-packet one-way delay: 8.147 ms

Loss rate: 0.00%

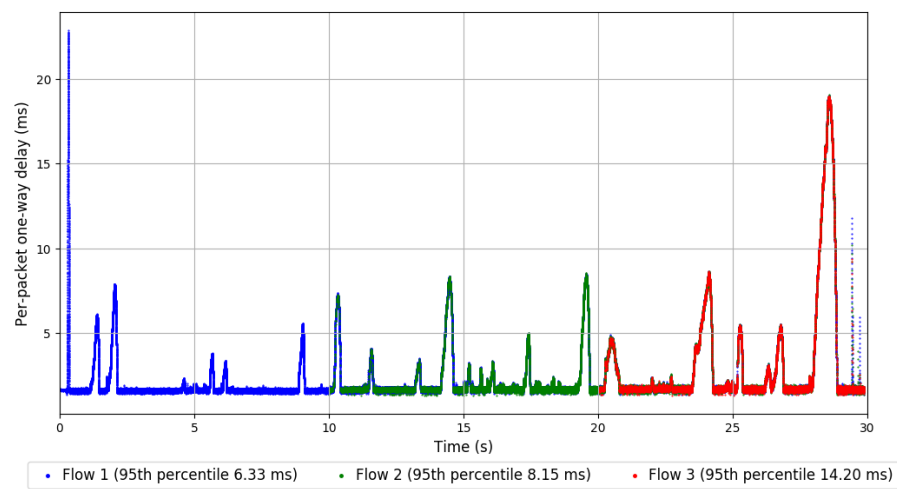
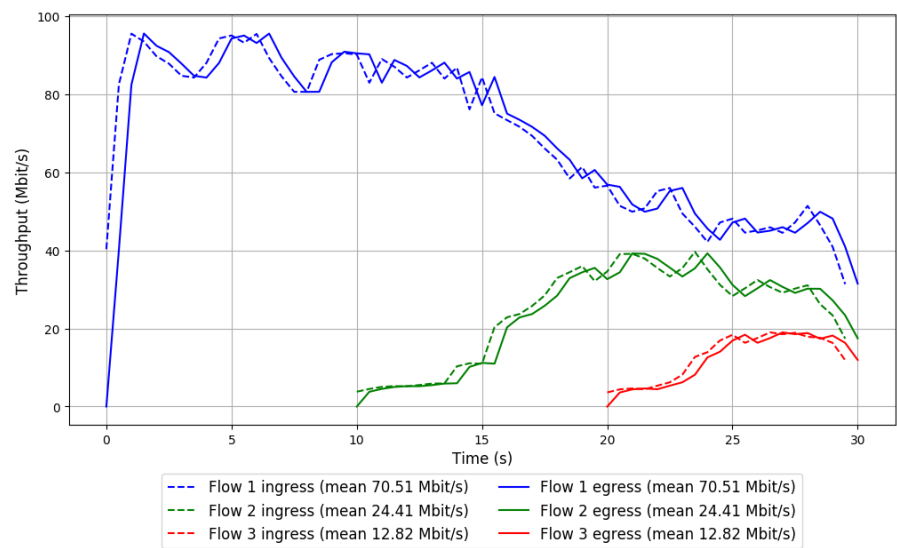
-- Flow 3:

Average throughput: 12.82 Mbit/s

95th percentile per-packet one-way delay: 14.201 ms

Loss rate: 0.00%

Run 5: Report of PCC-Allegro — Data Link



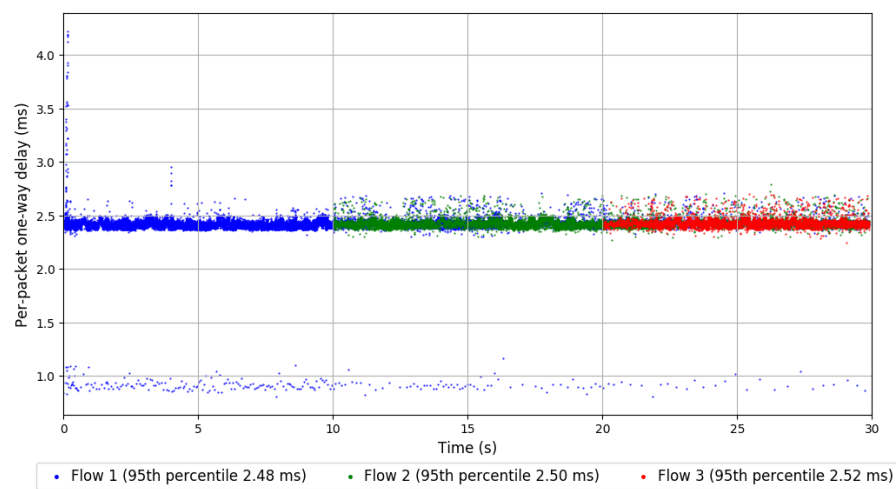
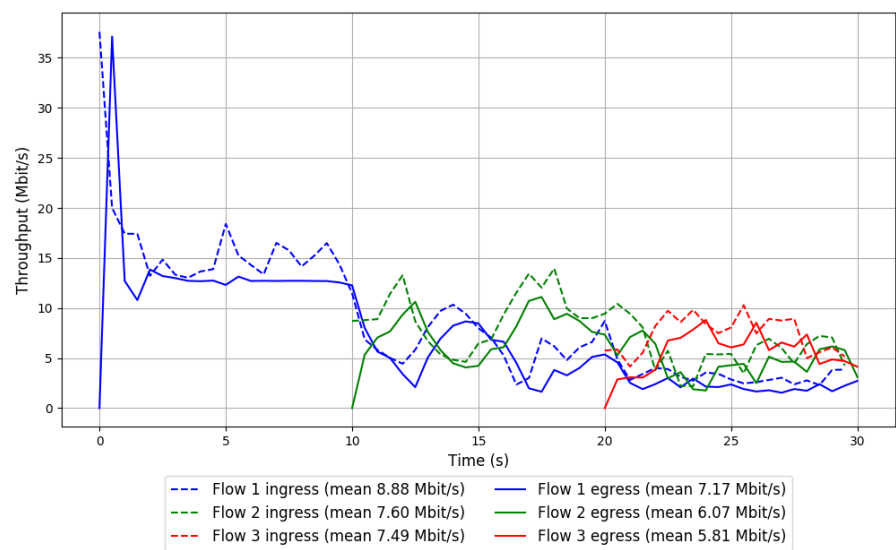


```
Run 1: Statistics of PCC-Expr

Start at: 2019-03-19 02:43:24
End at: 2019-03-19 02:43:54
Local clock offset: -5.234 ms
Remote clock offset: 0.103 ms

# Below is generated by plot.py at 2019-03-19 04:40:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 2.490 ms
Loss rate: 20.05%
-- Flow 1:
Average throughput: 7.17 Mbit/s
95th percentile per-packet one-way delay: 2.485 ms
Loss rate: 19.31%
-- Flow 2:
Average throughput: 6.07 Mbit/s
95th percentile per-packet one-way delay: 2.497 ms
Loss rate: 20.21%
-- Flow 3:
Average throughput: 5.81 Mbit/s
95th percentile per-packet one-way delay: 2.515 ms
Loss rate: 22.36%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-03-19 03:07:19

End at: 2019-03-19 03:07:49

Local clock offset: -4.937 ms

Remote clock offset: 0.218 ms

# Below is generated by plot.py at 2019-03-19 04:40:10

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.86 Mbit/s

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

Loss rate: 32.14%

-- Flow 1:

Average throughput: 0.40 Mbit/s

95th percentile per-packet one-way delay: 2.445 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 10.15 Mbit/s

95th percentile per-packet one-way delay: 2.362 ms

Loss rate: 34.90%

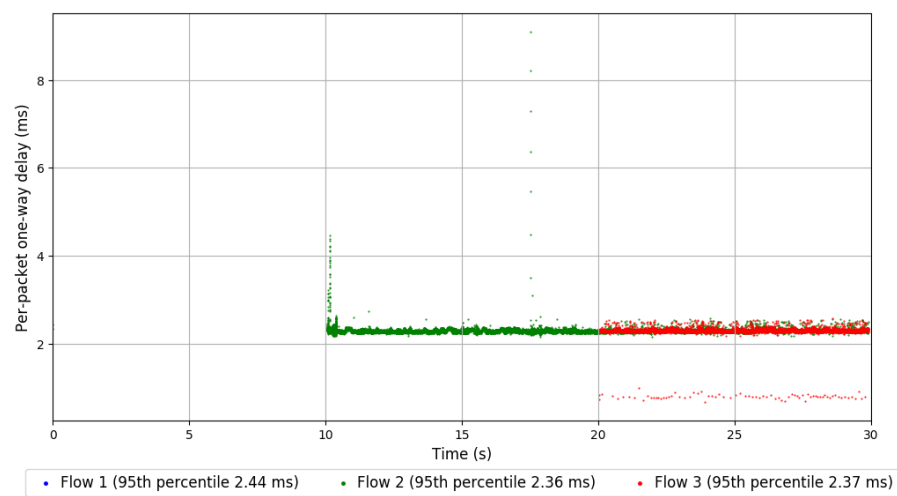
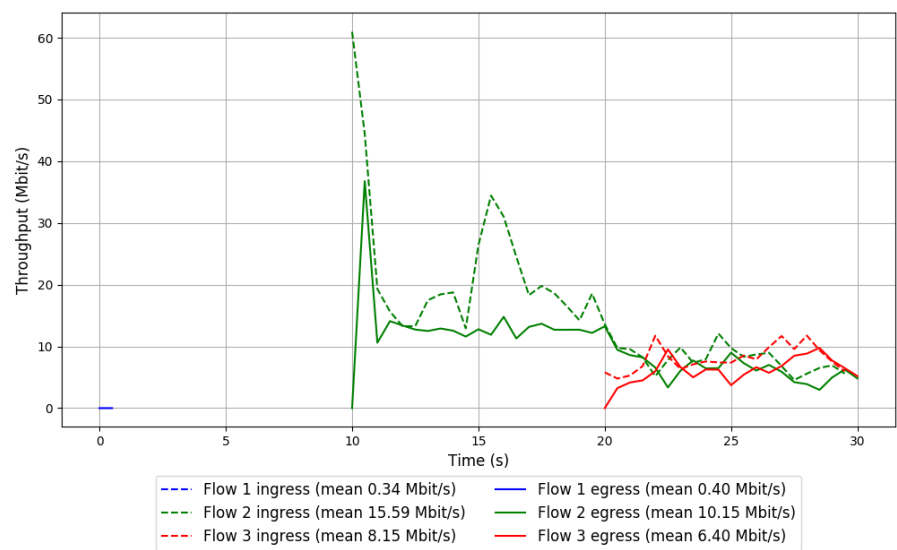
-- Flow 3:

Average throughput: 6.40 Mbit/s

95th percentile per-packet one-way delay: 2.374 ms

Loss rate: 21.48%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-03-19 03:31:12

End at: 2019-03-19 03:31:42

Local clock offset: -1.17 ms

Remote clock offset: 0.48 ms

# Below is generated by plot.py at 2019-03-19 04:40:10

# Datalink statistics

-- Total of 3 flows:

Average throughput: 13.12 Mbit/s

95th percentile per-packet one-way delay: 2.576 ms

Loss rate: 27.18%

-- Flow 1:

Average throughput: 8.01 Mbit/s

95th percentile per-packet one-way delay: 2.561 ms

Loss rate: 29.88%

-- Flow 2:

Average throughput: 5.76 Mbit/s

95th percentile per-packet one-way delay: 2.592 ms

Loss rate: 20.58%

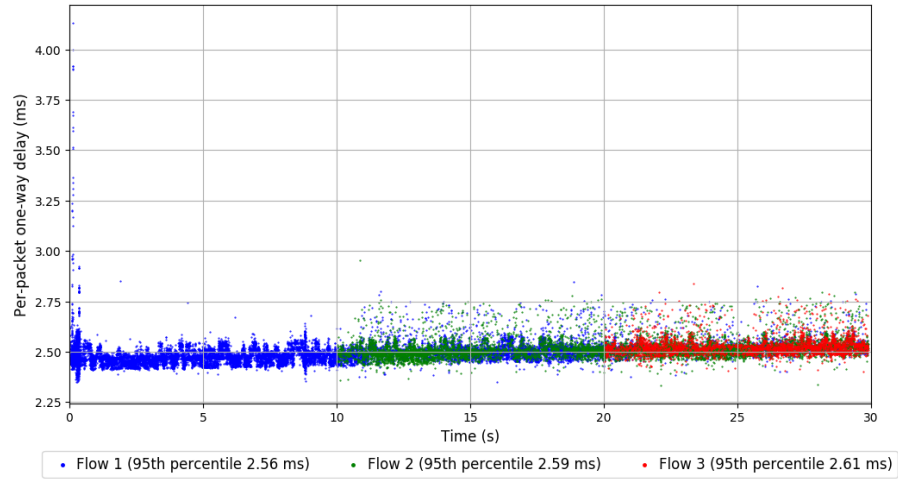
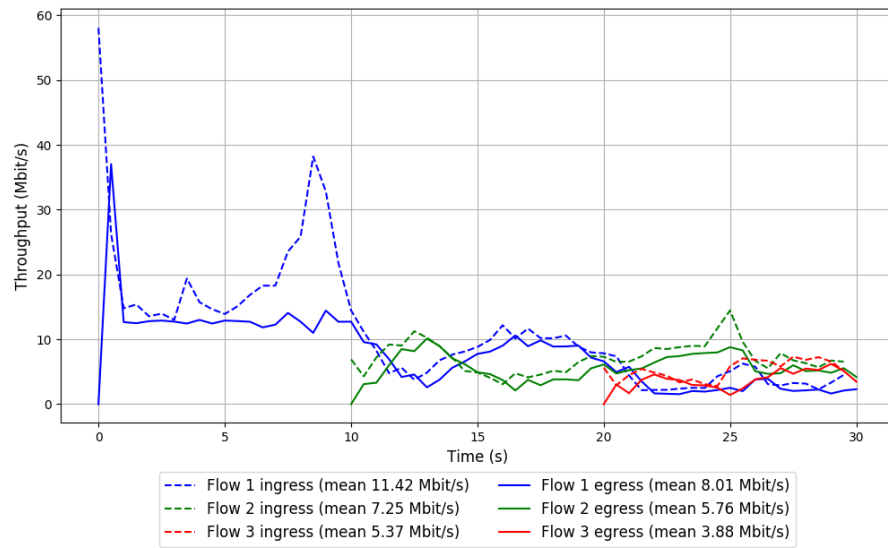
-- Flow 3:

Average throughput: 3.88 Mbit/s

95th percentile per-packet one-way delay: 2.611 ms

Loss rate: 27.72%

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



Run 4: Statistics of PCC-Expr

Start at: 2019-03-19 03:55:08

End at: 2019-03-19 03:55:38

Local clock offset: -0.792 ms

Remote clock offset: 0.523 ms

# Below is generated by plot.py at 2019-03-19 04:40:10

# Datalink statistics

-- Total of 3 flows:

Average throughput: 5.11 Mbit/s

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

Loss rate: 50.78%

-- Flow 1:

Average throughput: 0.58 Mbit/s

95th percentile per-packet one-way delay: 0.842 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 4.96 Mbit/s

95th percentile per-packet one-way delay: 2.385 ms

Loss rate: 61.00%

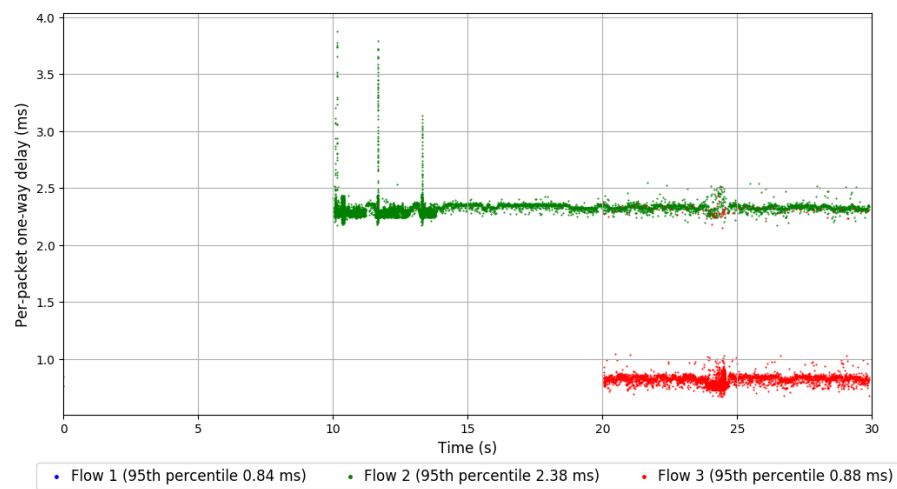
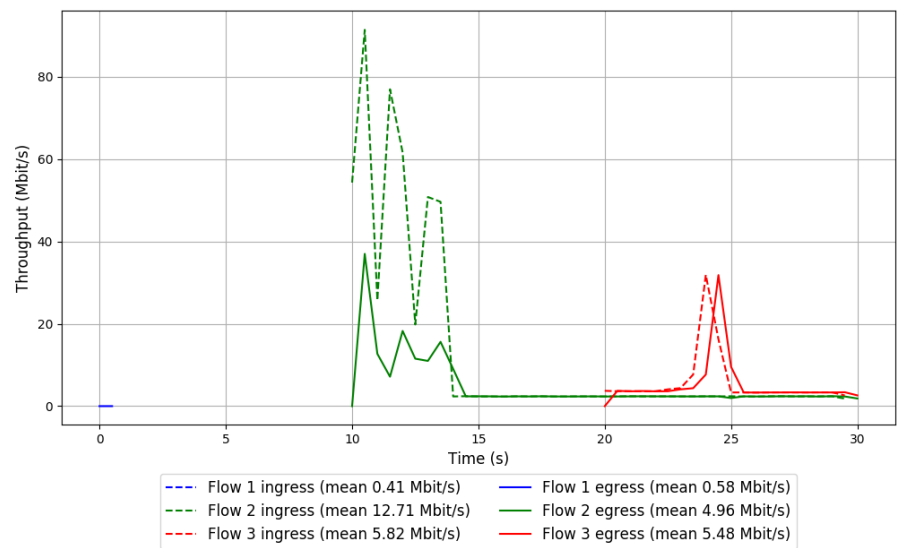
-- Flow 3:

Average throughput: 5.48 Mbit/s

95th percentile per-packet one-way delay: 0.877 ms

Loss rate: 5.89%

Run 4: Report of PCC-Expr — Data Link





Run 5: Statistics of PCC-Expr

Start at: 2019-03-19 04:19:03

End at: 2019-03-19 04:19:33

Local clock offset: -2.521 ms

Remote clock offset: 0.644 ms

# Below is generated by plot.py at 2019-03-19 04:40:10

# Datalink statistics

-- Total of 3 flows:

Average throughput: 13.11 Mbit/s

95th percentile per-packet one-way delay: 2.255 ms

Loss rate: 22.25%

-- Flow 1:

Average throughput: 9.44 Mbit/s

95th percentile per-packet one-way delay: 2.259 ms

Loss rate: 19.67%

-- Flow 2:

Average throughput: 2.62 Mbit/s

95th percentile per-packet one-way delay: 2.233 ms

Loss rate: 28.32%

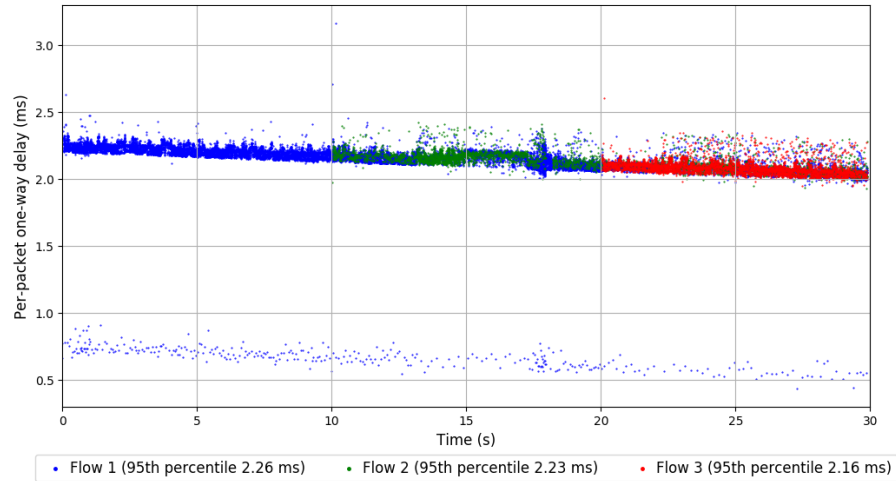
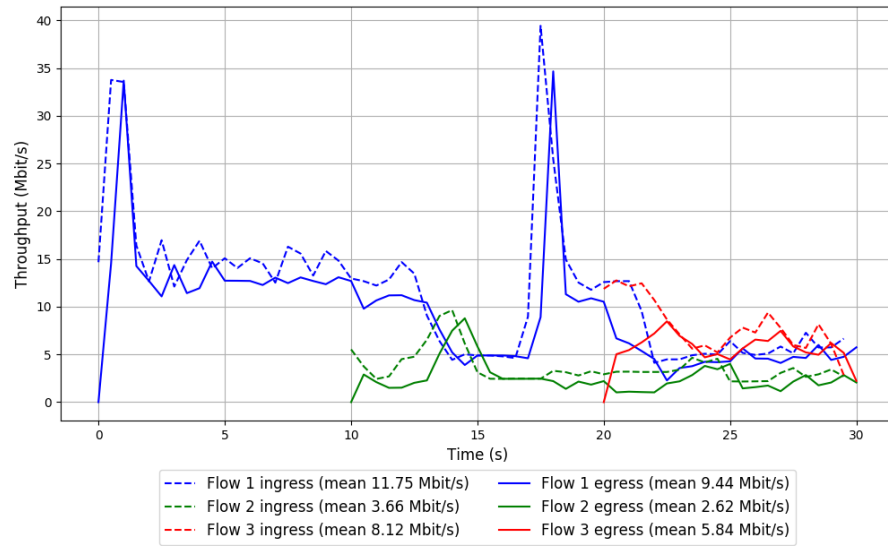
-- Flow 3:

Average throughput: 5.84 Mbit/s

95th percentile per-packet one-way delay: 2.162 ms

Loss rate: 28.06%

## Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2019-03-19 02:49:06

End at: 2019-03-19 02:49:36

Local clock offset: -5.122 ms

Remote clock offset: 0.078 ms

# Below is generated by plot.py at 2019-03-19 04:40:48

# Datalink statistics

-- Total of 3 flows:

Average throughput: 90.62 Mbit/s

95th percentile per-packet one-way delay: 29.852 ms

Loss rate: 0.14%

-- Flow 1:

Average throughput: 60.75 Mbit/s

95th percentile per-packet one-way delay: 29.576 ms

Loss rate: 0.12%

-- Flow 2:

Average throughput: 32.63 Mbit/s

95th percentile per-packet one-way delay: 29.827 ms

Loss rate: 0.17%

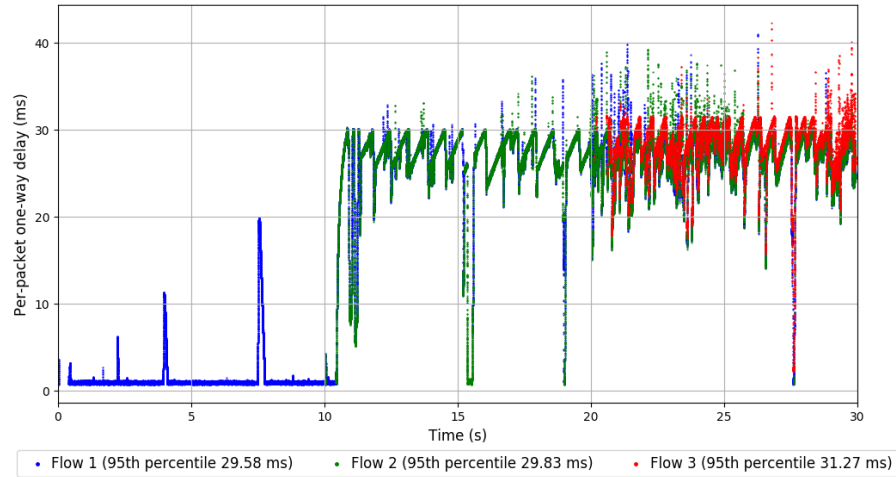
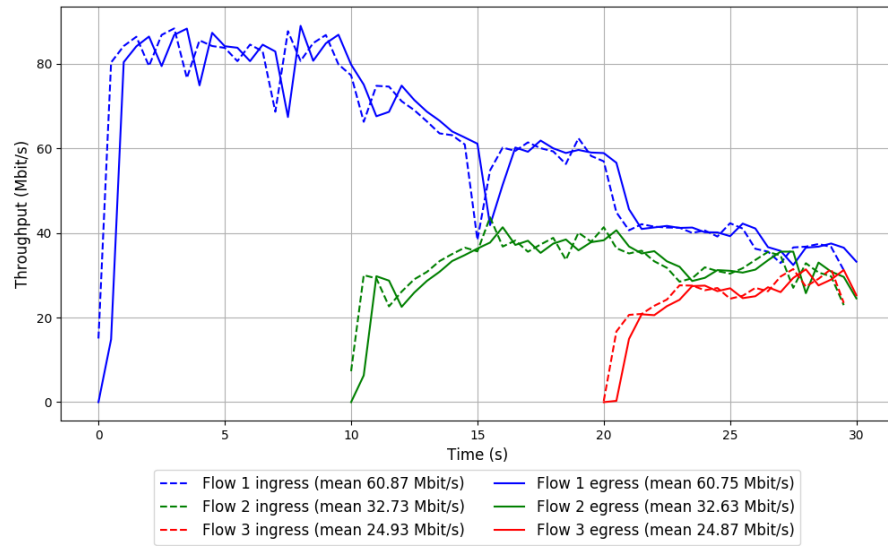
-- Flow 3:

Average throughput: 24.87 Mbit/s

95th percentile per-packet one-way delay: 31.267 ms

Loss rate: 0.26%

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



Run 2: Statistics of QUIC Cubic

Start at: 2019-03-19 03:13:00

End at: 2019-03-19 03:13:30

Local clock offset: -4.934 ms

Remote clock offset: 0.325 ms

# Below is generated by plot.py at 2019-03-19 04:40:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.75 Mbit/s

95th percentile per-packet one-way delay: 29.804 ms

Loss rate: 0.18%

-- Flow 1:

Average throughput: 58.08 Mbit/s

95th percentile per-packet one-way delay: 29.733 ms

Loss rate: 0.15%

-- Flow 2:

Average throughput: 31.75 Mbit/s

95th percentile per-packet one-way delay: 29.864 ms

Loss rate: 0.22%

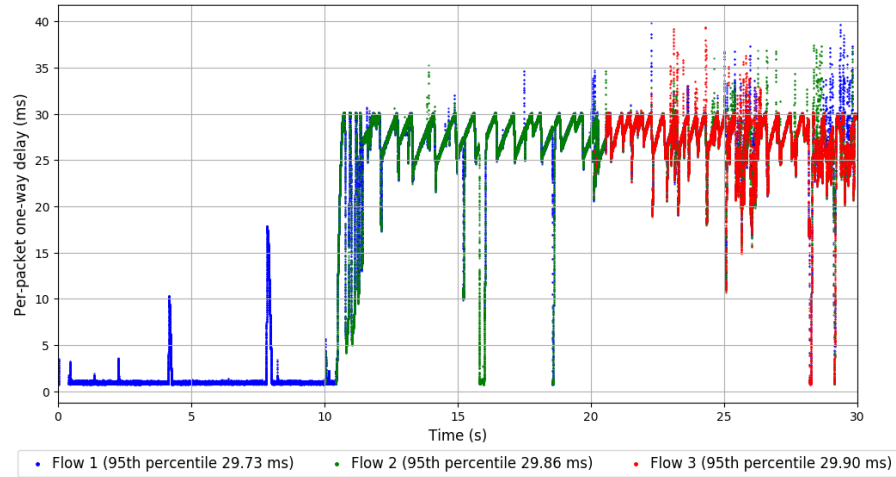
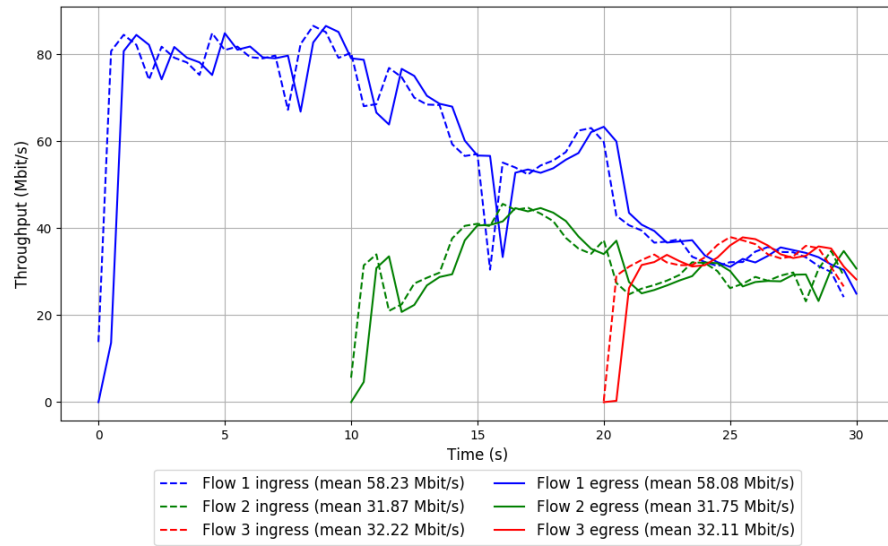
-- Flow 3:

Average throughput: 32.11 Mbit/s

95th percentile per-packet one-way delay: 29.898 ms

Loss rate: 0.25%

## Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2019-03-19 03:36:55

End at: 2019-03-19 03:37:25

Local clock offset: -0.618 ms

Remote clock offset: 0.415 ms

# Below is generated by plot.py at 2019-03-19 04:40:54

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.59 Mbit/s

95th percentile per-packet one-way delay: 29.804 ms

Loss rate: 0.17%

-- Flow 1:

Average throughput: 59.13 Mbit/s

95th percentile per-packet one-way delay: 29.733 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 32.92 Mbit/s

95th percentile per-packet one-way delay: 29.910 ms

Loss rate: 0.17%

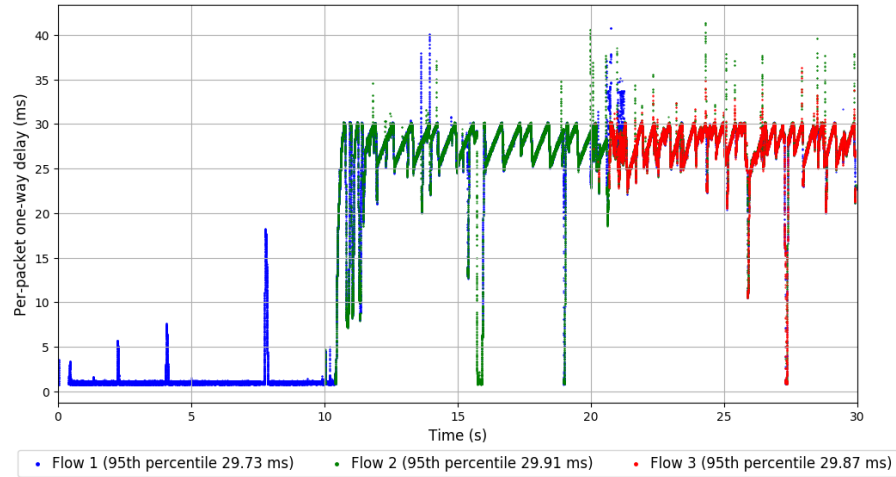
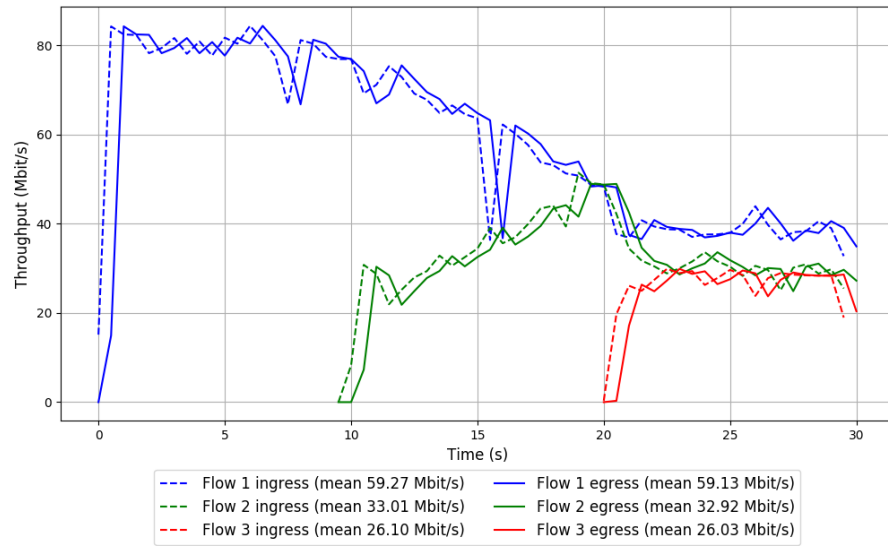
-- Flow 3:

Average throughput: 26.03 Mbit/s

95th percentile per-packet one-way delay: 29.871 ms

Loss rate: 0.31%

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





Run 4: Statistics of QUIC Cubic

Start at: 2019-03-19 04:00:50

End at: 2019-03-19 04:01:20

Local clock offset: -0.958 ms

Remote clock offset: 0.563 ms

# Below is generated by plot.py at 2019-03-19 04:40:55

# Datalink statistics

-- Total of 3 flows:

Average throughput: 90.14 Mbit/s

95th percentile per-packet one-way delay: 31.020 ms

Loss rate: 0.14%

-- Flow 1:

Average throughput: 56.02 Mbit/s

95th percentile per-packet one-way delay: 31.068 ms

Loss rate: 0.11%

-- Flow 2:

Average throughput: 36.94 Mbit/s

95th percentile per-packet one-way delay: 29.721 ms

Loss rate: 0.17%

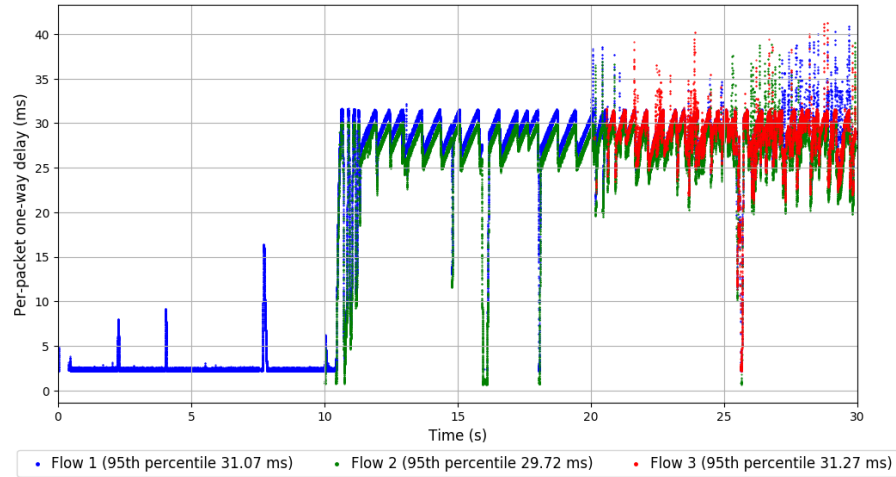
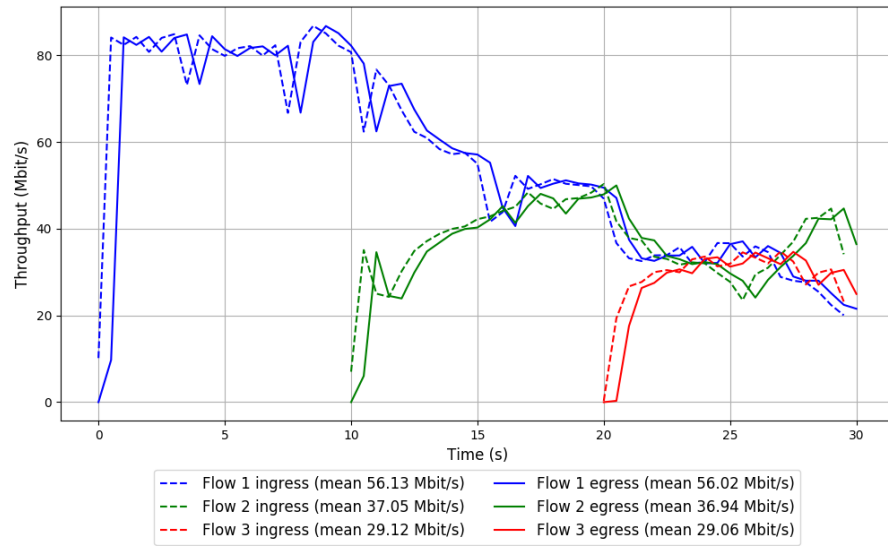
-- Flow 3:

Average throughput: 29.06 Mbit/s

95th percentile per-packet one-way delay: 31.266 ms

Loss rate: 0.22%

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



Run 5: Statistics of QUIC Cubic

Start at: 2019-03-19 04:24:45

End at: 2019-03-19 04:25:15

Local clock offset: -5.247 ms

Remote clock offset: 0.541 ms

# Below is generated by plot.py at 2019-03-19 04:41:02

# Datalink statistics

-- Total of 3 flows:

Average throughput: 90.11 Mbit/s

95th percentile per-packet one-way delay: 30.423 ms

Loss rate: 0.24%

-- Flow 1:

Average throughput: 56.39 Mbit/s

95th percentile per-packet one-way delay: 30.095 ms

Loss rate: 0.22%

-- Flow 2:

Average throughput: 35.45 Mbit/s

95th percentile per-packet one-way delay: 30.183 ms

Loss rate: 0.24%

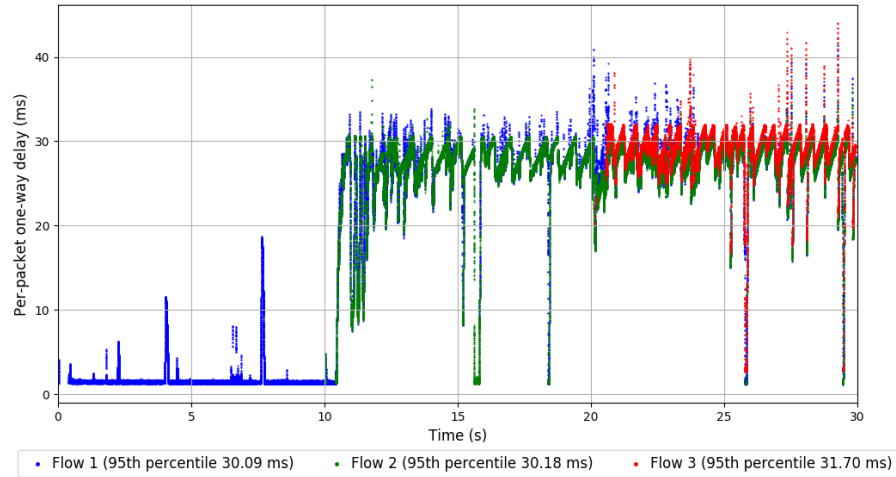
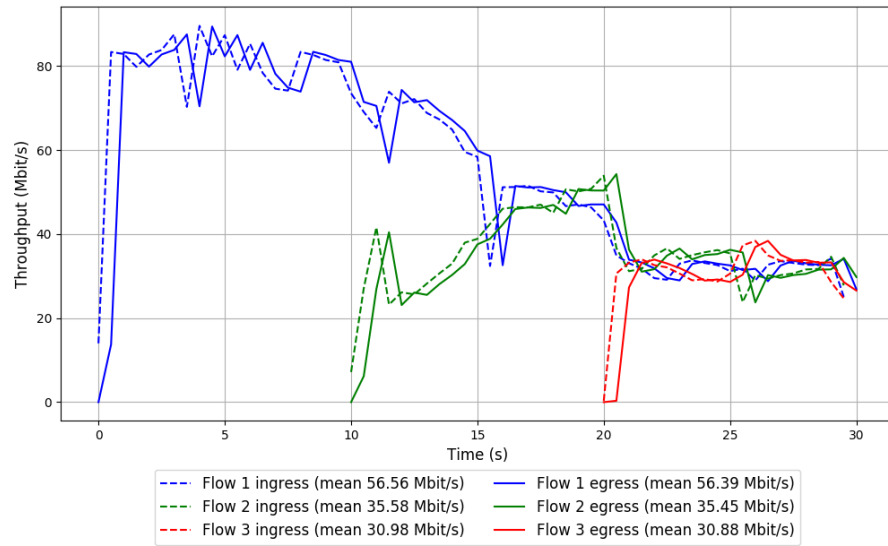
-- Flow 3:

Average throughput: 30.88 Mbit/s

95th percentile per-packet one-way delay: 31.695 ms

Loss rate: 0.35%

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

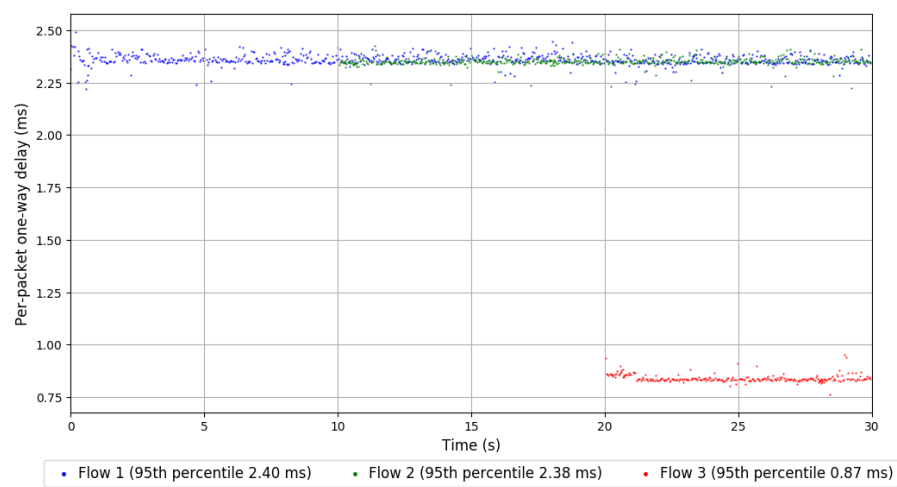
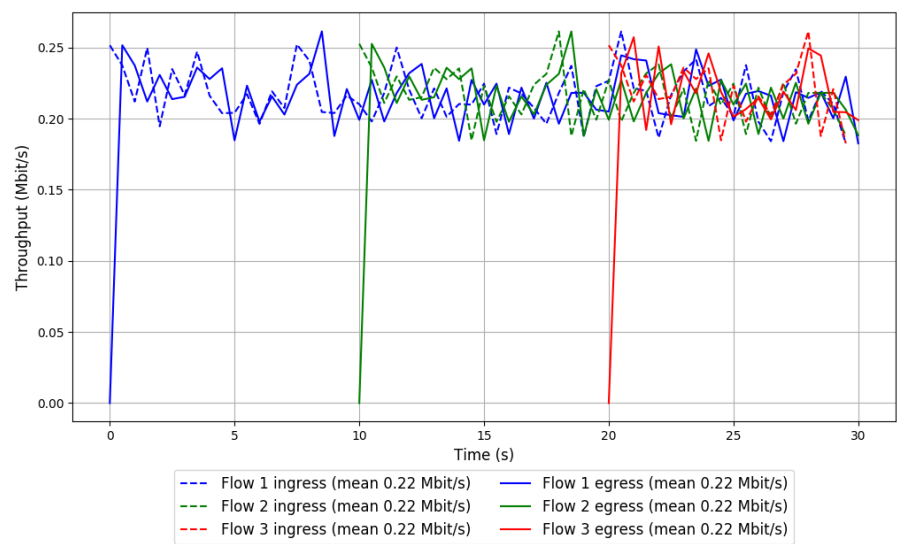


Run 1: Statistics of SReAM

Start at: 2019-03-19 02:37:42  
End at: 2019-03-19 02:38:12  
Local clock offset: -5.281 ms  
Remote clock offset: -0.042 ms

# Below is generated by plot.py at 2019-03-19 04:41:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 2.393 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 2.400 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 2.380 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 0.870 ms  
Loss rate: 0.00%

Run 1: Report of SReAM — Data Link

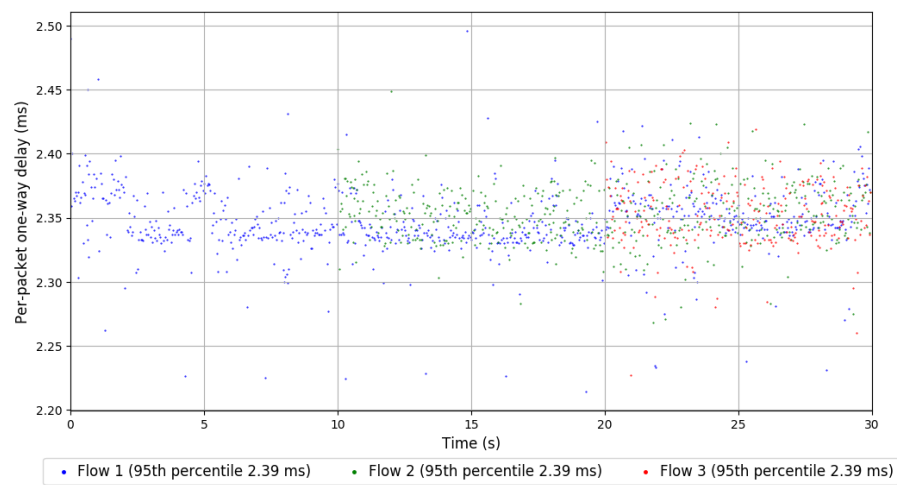
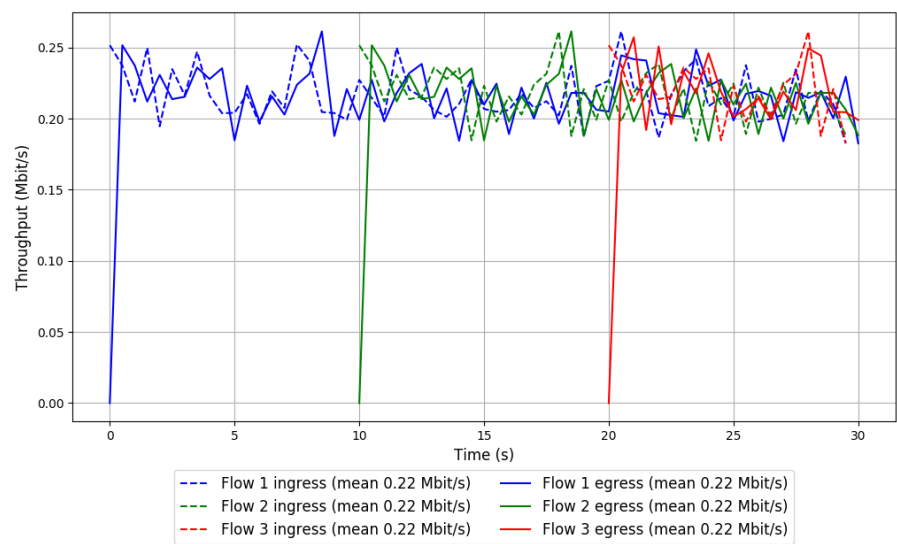


Run 2: Statistics of SReAM

Start at: 2019-03-19 03:01:37  
End at: 2019-03-19 03:02:07  
Local clock offset: -5.025 ms  
Remote clock offset: 0.132 ms

# Below is generated by plot.py at 2019-03-19 04:41:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 2.388 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 2.386 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 2.389 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 2.389 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



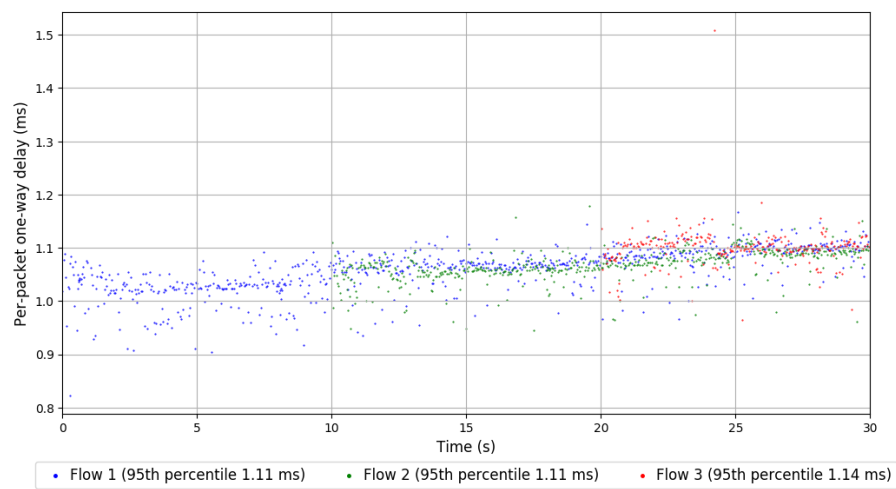
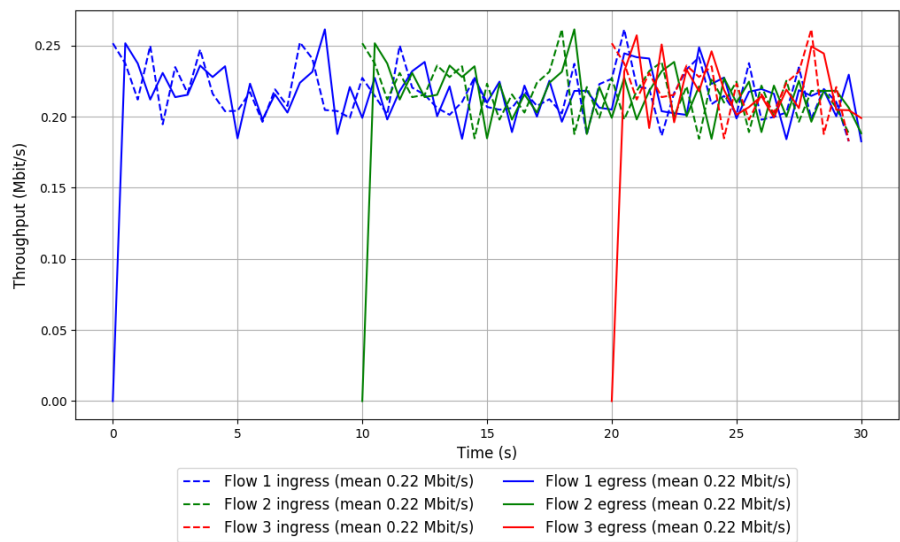


Run 3: Statistics of SReAM

Start at: 2019-03-19 03:25:30  
End at: 2019-03-19 03:26:00  
Local clock offset: -2.074 ms  
Remote clock offset: 0.426 ms

# Below is generated by plot.py at 2019-03-19 04:41:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 1.118 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.111 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.108 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 1.136 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SReAM

Start at: 2019-03-19 03:49:26

End at: 2019-03-19 03:49:56

Local clock offset: -0.333 ms

Remote clock offset: 0.422 ms

# Below is generated by plot.py at 2019-03-19 04:41:02

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 0.740 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.744 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.740 ms

Loss rate: 0.00%

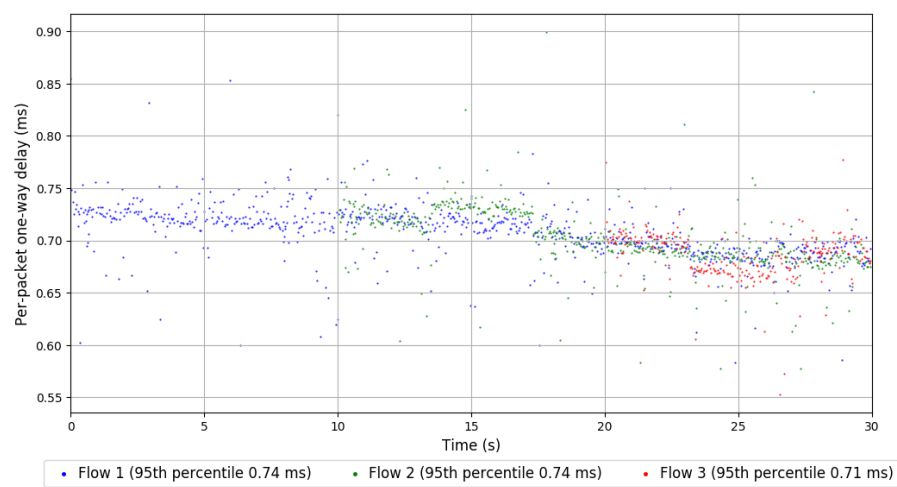
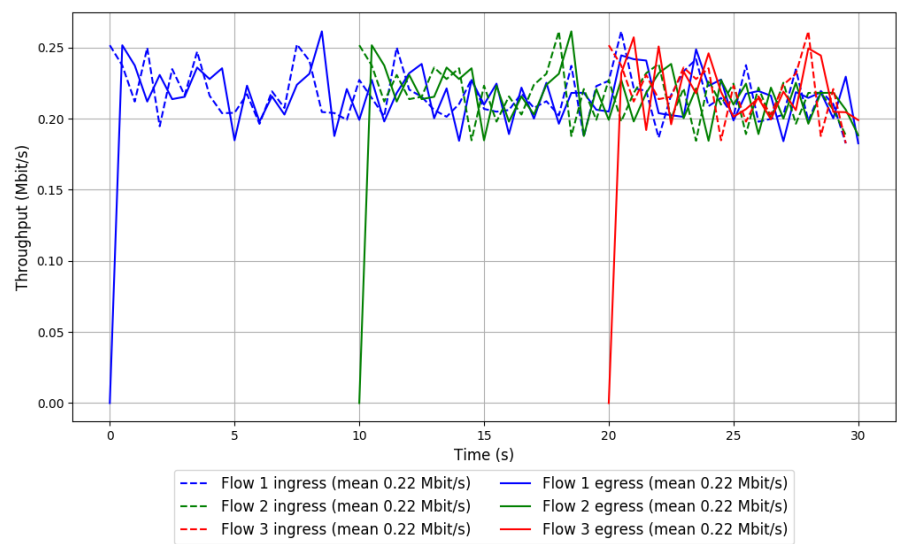
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.711 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2019-03-19 04:13:20

End at: 2019-03-19 04:13:50

Local clock offset: -0.897 ms

Remote clock offset: 0.626 ms

# Below is generated by plot.py at 2019-03-19 04:41:02

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 2.374 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.919 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.901 ms

Loss rate: 0.00%

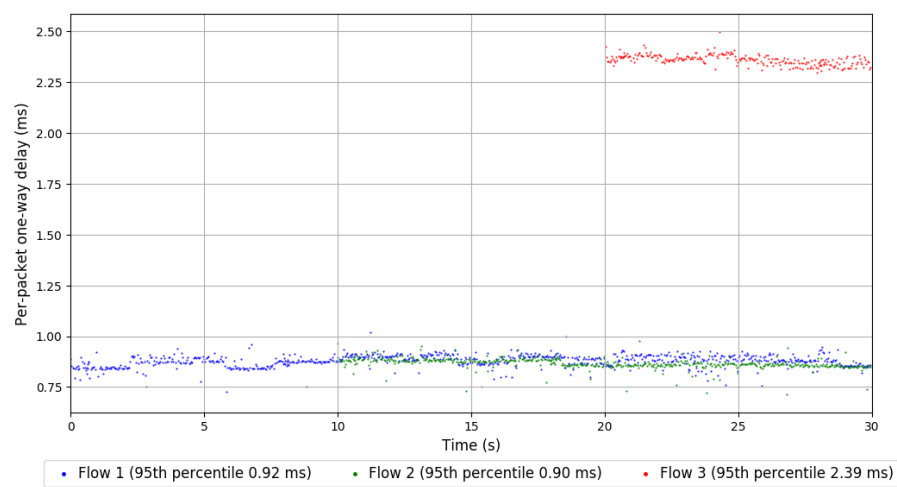
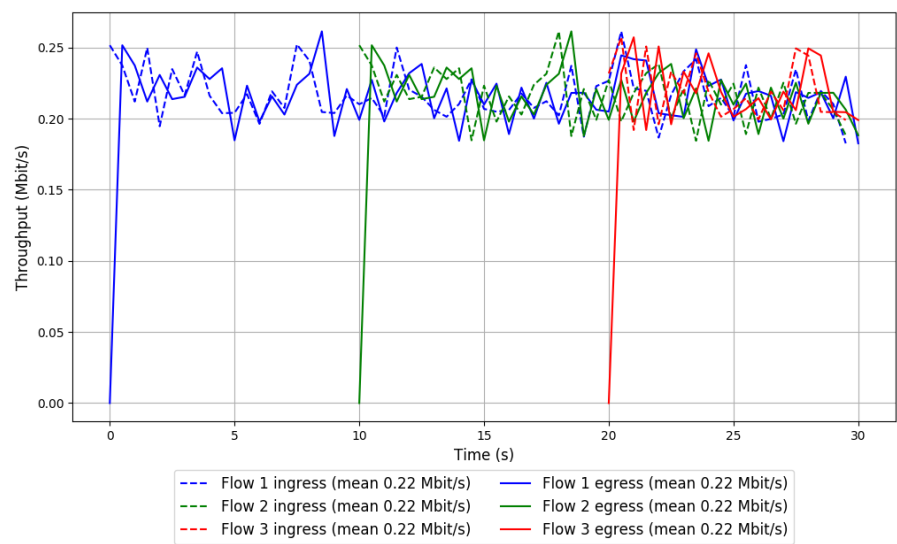
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.394 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-03-19 02:50:15

End at: 2019-03-19 02:50:45

Local clock offset: -5.166 ms

Remote clock offset: 0.117 ms

# Below is generated by plot.py at 2019-03-19 04:41:02

# Datalink statistics

-- Total of 3 flows:

Average throughput: 77.64 Mbit/s

95th percentile per-packet one-way delay: 22.243 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 40.05 Mbit/s

95th percentile per-packet one-way delay: 22.385 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 40.17 Mbit/s

95th percentile per-packet one-way delay: 21.391 ms

Loss rate: 0.03%

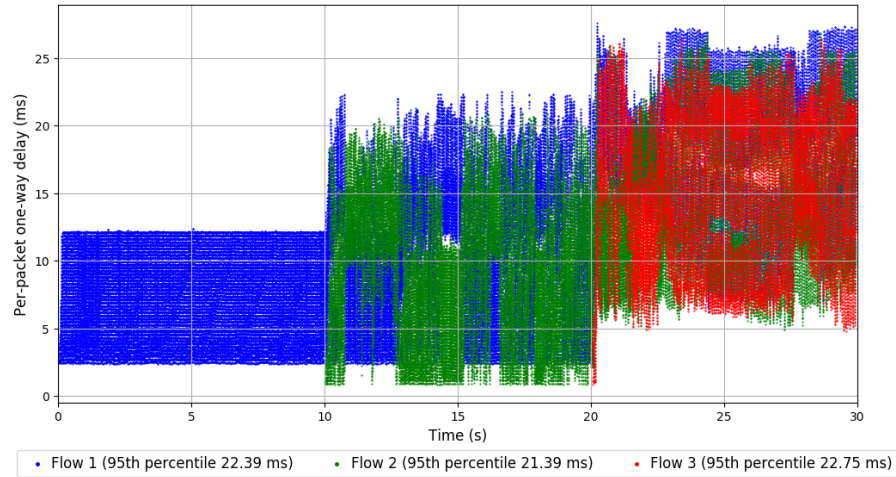
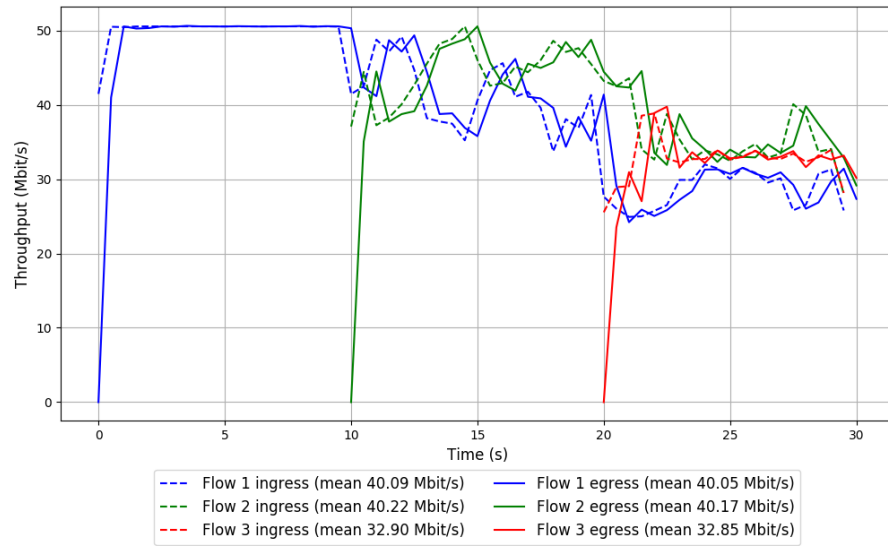
-- Flow 3:

Average throughput: 32.85 Mbit/s

95th percentile per-packet one-way delay: 22.753 ms

Loss rate: 0.00%

## Run 1: Report of Sprout — Data Link



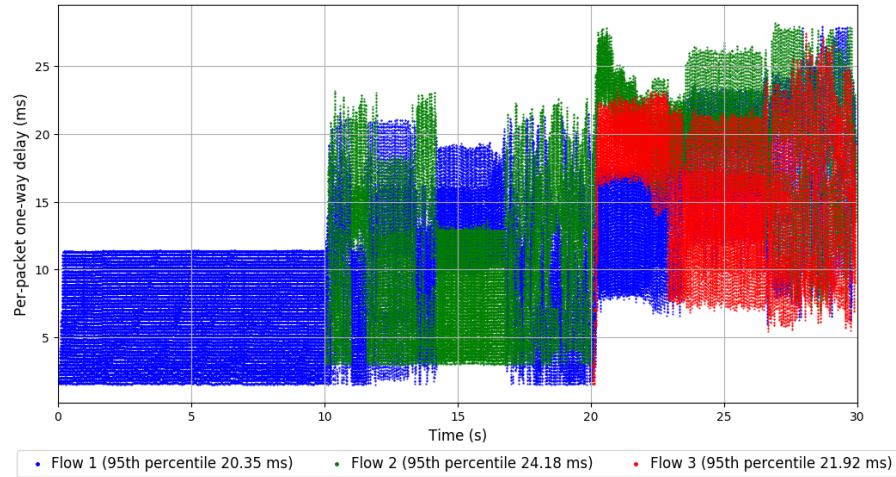
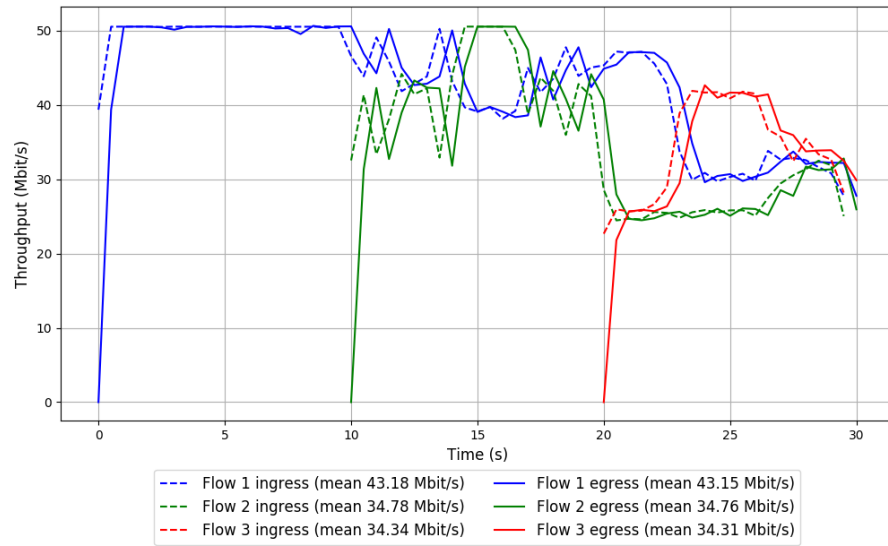


Run 2: Statistics of Sprout

Start at: 2019-03-19 03:14:09  
End at: 2019-03-19 03:14:39  
Local clock offset: -5.695 ms  
Remote clock offset: 0.289 ms

# Below is generated by plot.py at 2019-03-19 04:41:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 77.61 Mbit/s  
95th percentile per-packet one-way delay: 22.292 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 43.15 Mbit/s  
95th percentile per-packet one-way delay: 20.350 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 34.76 Mbit/s  
95th percentile per-packet one-way delay: 24.183 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 34.31 Mbit/s  
95th percentile per-packet one-way delay: 21.924 ms  
Loss rate: 0.00%

## Run 2: Report of Sprout — Data Link

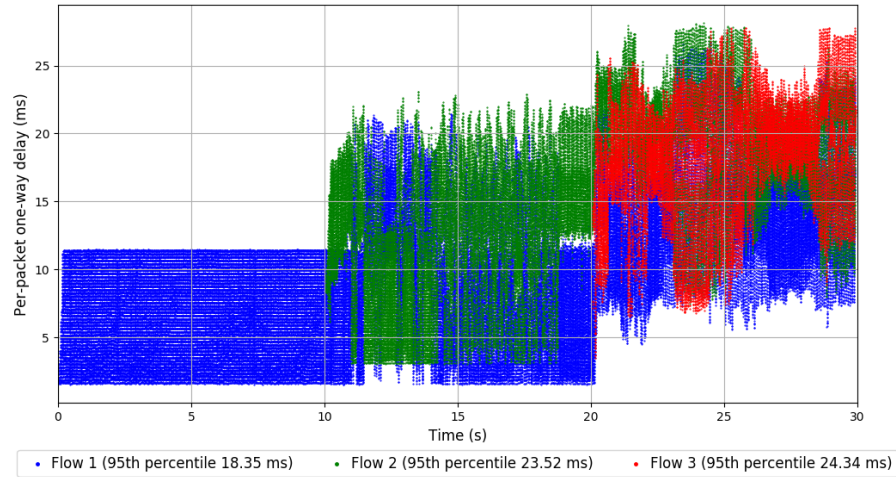
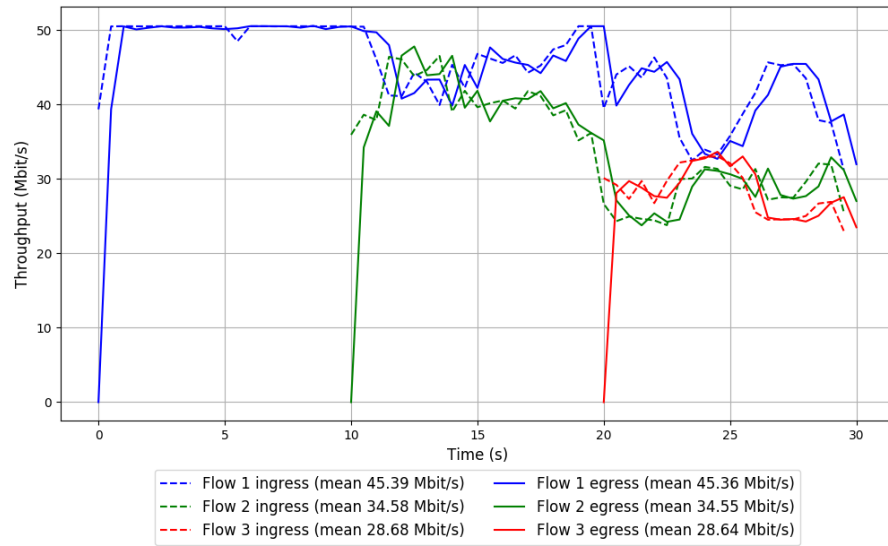


### Run 3: Statistics of Sprout

Start at: 2019-03-19 03:38:04  
End at: 2019-03-19 03:38:34  
Local clock offset: -1.229 ms  
Remote clock offset: 0.433 ms

```
# Below is generated by plot.py at 2019-03-19 04:41:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.81 Mbit/s
95th percentile per-packet one-way delay: 22.326 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 45.36 Mbit/s
95th percentile per-packet one-way delay: 18.353 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 34.55 Mbit/s
95th percentile per-packet one-way delay: 23.523 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 28.64 Mbit/s
95th percentile per-packet one-way delay: 24.342 ms
Loss rate: 0.00%
```

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

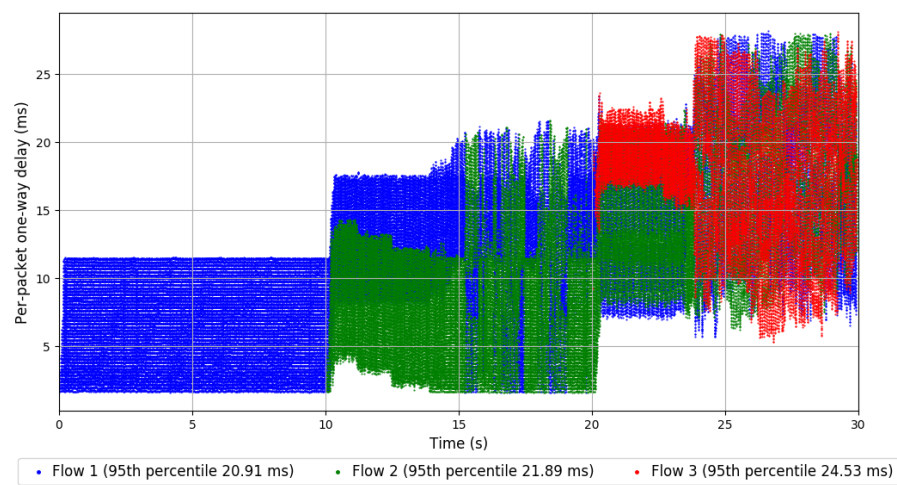
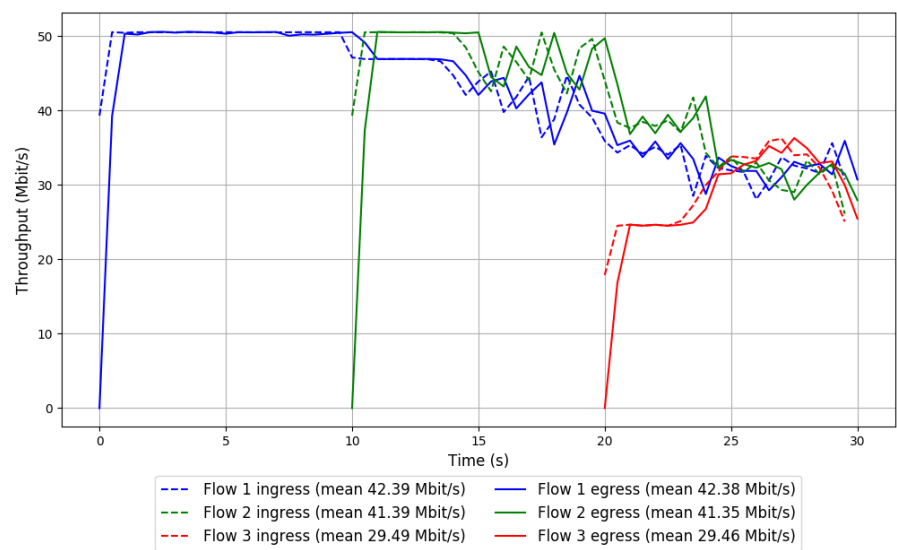


#### Run 4: Statistics of Sprout

Start at: 2019-03-19 04:01:59  
End at: 2019-03-19 04:02:29  
Local clock offset: -1.748 ms  
Remote clock offset: 0.622 ms

```
# Below is generated by plot.py at 2019-03-19 04:41:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.62 Mbit/s
95th percentile per-packet one-way delay: 22.263 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.38 Mbit/s
95th percentile per-packet one-way delay: 20.911 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.35 Mbit/s
95th percentile per-packet one-way delay: 21.889 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.46 Mbit/s
95th percentile per-packet one-way delay: 24.533 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

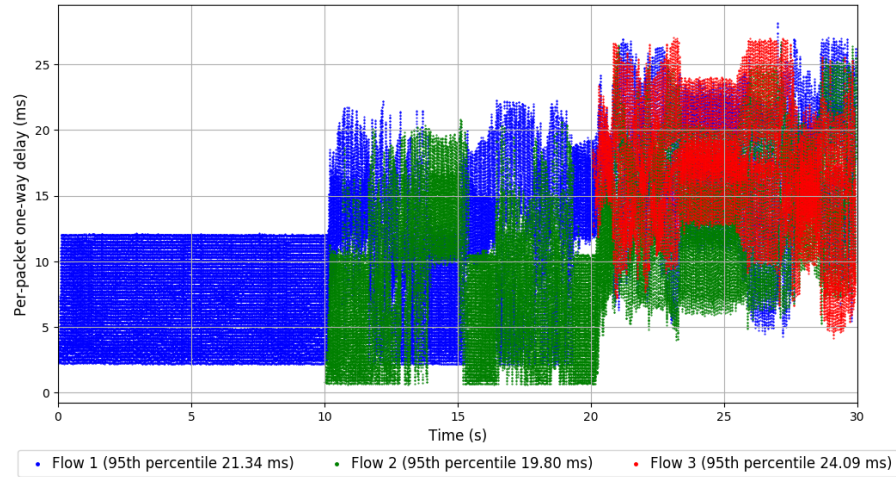
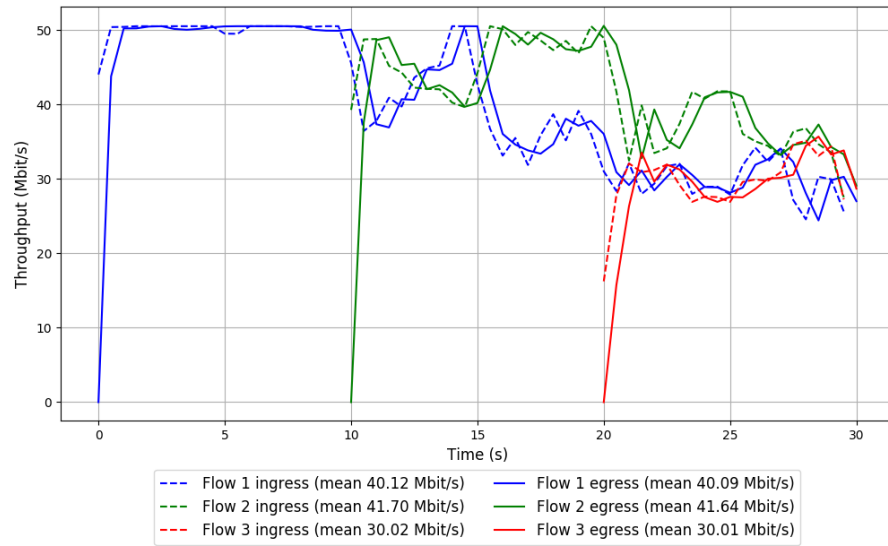


Run 5: Statistics of Sprout

Start at: 2019-03-19 04:25:54  
End at: 2019-03-19 04:26:24  
Local clock offset: -4.774 ms  
Remote clock offset: 0.676 ms

# Below is generated by plot.py at 2019-03-19 04:41:45  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 77.71 Mbit/s  
95th percentile per-packet one-way delay: 21.665 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 40.09 Mbit/s  
95th percentile per-packet one-way delay: 21.344 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 41.64 Mbit/s  
95th percentile per-packet one-way delay: 19.801 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 30.01 Mbit/s  
95th percentile per-packet one-way delay: 24.095 ms  
Loss rate: 0.00%

# Run 5: Report of Sprout — Data Link





Run 1: Statistics of TaoVA-100x

Start at: 2019-03-19 02:52:28

End at: 2019-03-19 02:52:58

Local clock offset: -5.056 ms

Remote clock offset: 0.132 ms

# Below is generated by plot.py at 2019-03-19 04:41:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.62 Mbit/s

95th percentile per-packet one-way delay: 2.429 ms

Loss rate: 91.14%

-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2.474 ms

Loss rate: 95.92%

-- Flow 2:

Average throughput: 10.00 Mbit/s

95th percentile per-packet one-way delay: 2.433 ms

Loss rate: 87.98%

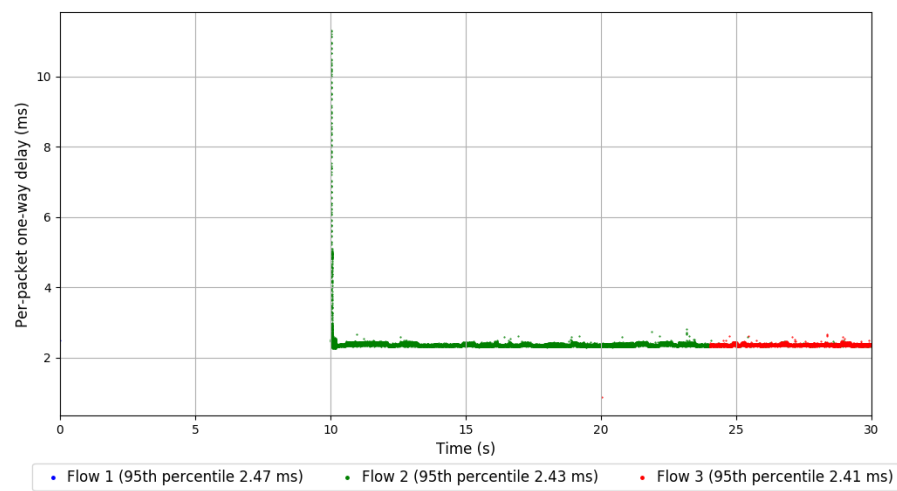
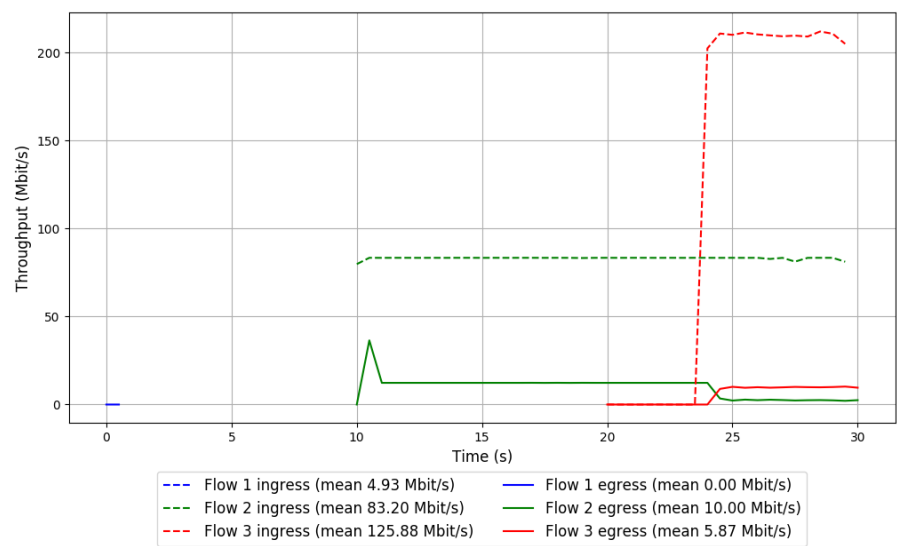
-- Flow 3:

Average throughput: 5.87 Mbit/s

95th percentile per-packet one-way delay: 2.409 ms

Loss rate: 95.34%

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-03-19 03:16:22

End at: 2019-03-19 03:16:52

Local clock offset: -5.625 ms

Remote clock offset: 0.332 ms

# Below is generated by plot.py at 2019-03-19 04:41:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.540 ms

Loss rate: 84.86%

-- Flow 1:

Average throughput: 4.83 Mbit/s

95th percentile per-packet one-way delay: 3.481 ms

Loss rate: 83.52%

-- Flow 2:

Average throughput: 6.05 Mbit/s

95th percentile per-packet one-way delay: 3.514 ms

Loss rate: 85.10%

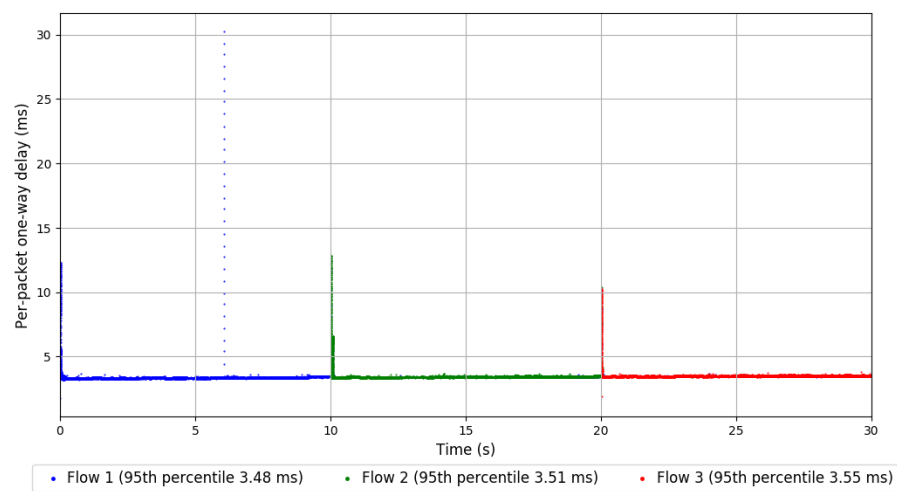
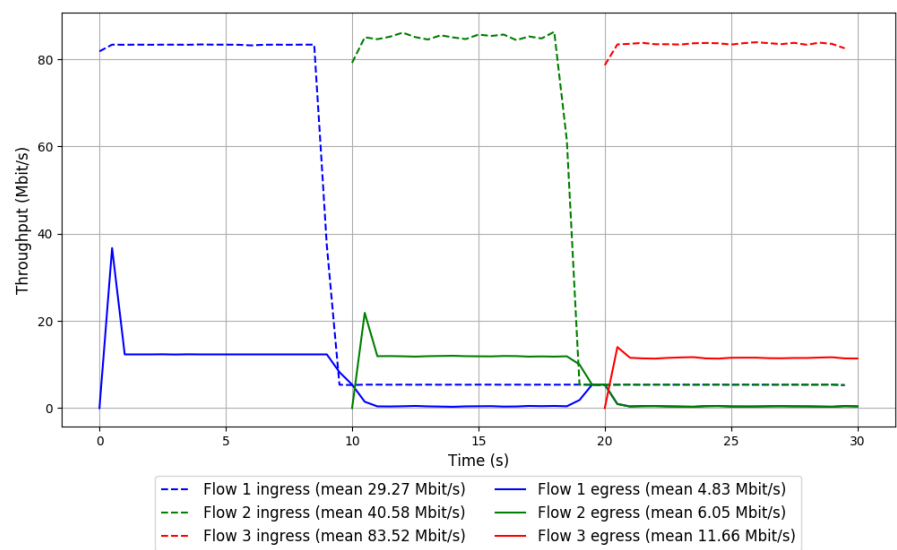
-- Flow 3:

Average throughput: 11.66 Mbit/s

95th percentile per-packet one-way delay: 3.552 ms

Loss rate: 86.03%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-03-19 03:40:17

End at: 2019-03-19 03:40:47

Local clock offset: -1.112 ms

Remote clock offset: 0.39 ms

# Below is generated by plot.py at 2019-03-19 04:41:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.62 Mbit/s

95th percentile per-packet one-way delay: 3.232 ms

Loss rate: 84.37%

-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 3.210 ms

Loss rate: 95.92%

-- Flow 2:

Average throughput: 6.73 Mbit/s

95th percentile per-packet one-way delay: 3.232 ms

Loss rate: 83.68%

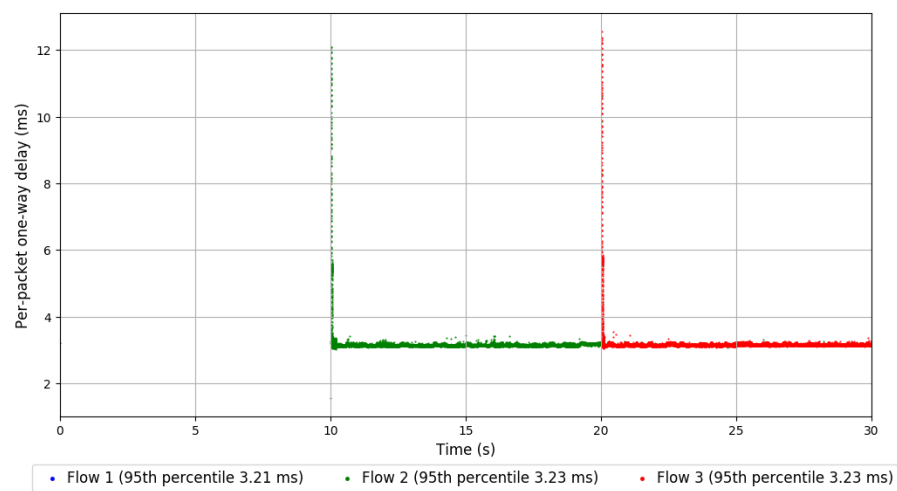
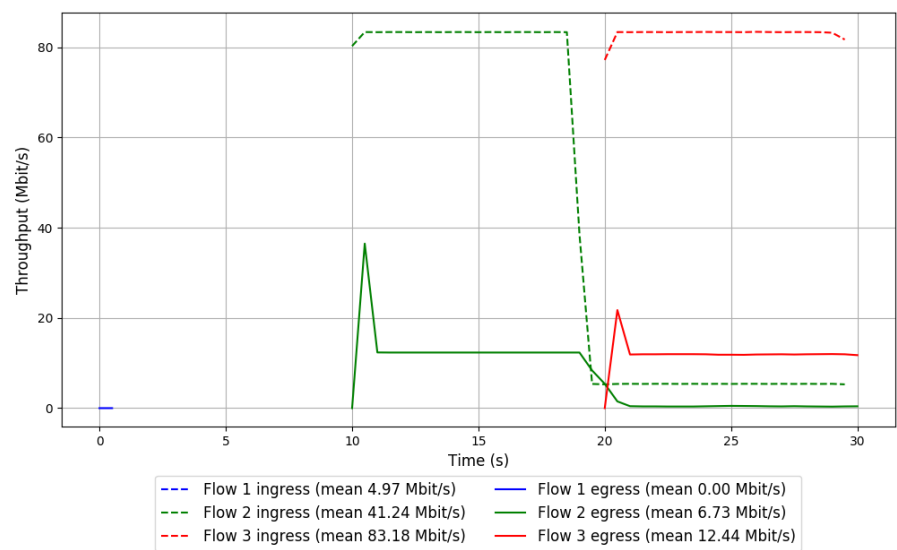
-- Flow 3:

Average throughput: 12.44 Mbit/s

95th percentile per-packet one-way delay: 3.232 ms

Loss rate: 85.05%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-03-19 04:04:12

End at: 2019-03-19 04:04:42

Local clock offset: -1.805 ms

Remote clock offset: 0.605 ms

# Below is generated by plot.py at 2019-03-19 04:41:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.227 ms

Loss rate: 90.80%

-- Flow 1:

Average throughput: 8.24 Mbit/s

95th percentile per-packet one-way delay: 3.231 ms

Loss rate: 88.27%

-- Flow 2:

Average throughput: 5.30 Mbit/s

95th percentile per-packet one-way delay: 1.730 ms

Loss rate: 94.94%

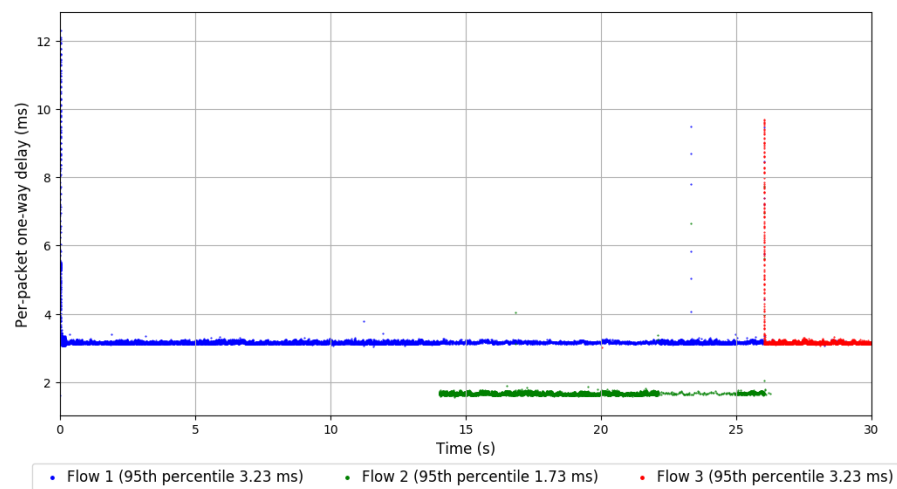
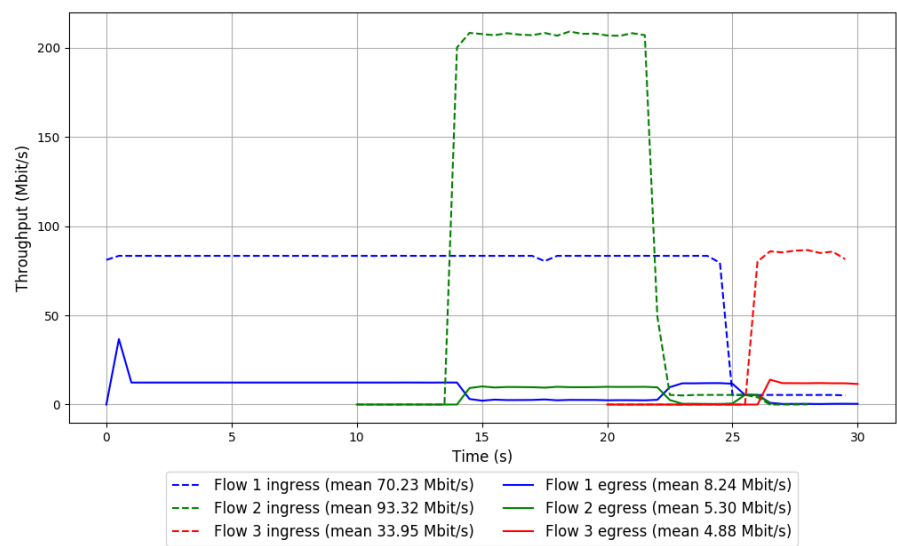
-- Flow 3:

Average throughput: 4.88 Mbit/s

95th percentile per-packet one-way delay: 3.230 ms

Loss rate: 85.63%

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





Run 5: Statistics of TaoVA-100x

Start at: 2019-03-19 04:28:07

End at: 2019-03-19 04:28:37

Local clock offset: -5.293 ms

Remote clock offset: 0.642 ms

# Below is generated by plot.py at 2019-03-19 04:41:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.62 Mbit/s

95th percentile per-packet one-way delay: 2.225 ms

Loss rate: 84.24%

-- Flow 1:

Average throughput: 0.00 Mbit/s

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

Loss rate: 95.92%

-- Flow 2:

Average throughput: 9.16 Mbit/s

95th percentile per-packet one-way delay: 0.810 ms

Loss rate: 84.01%

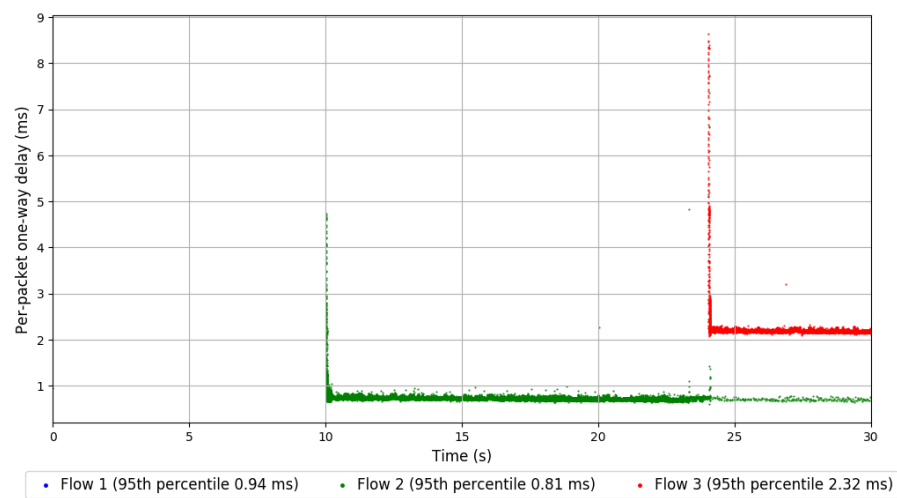
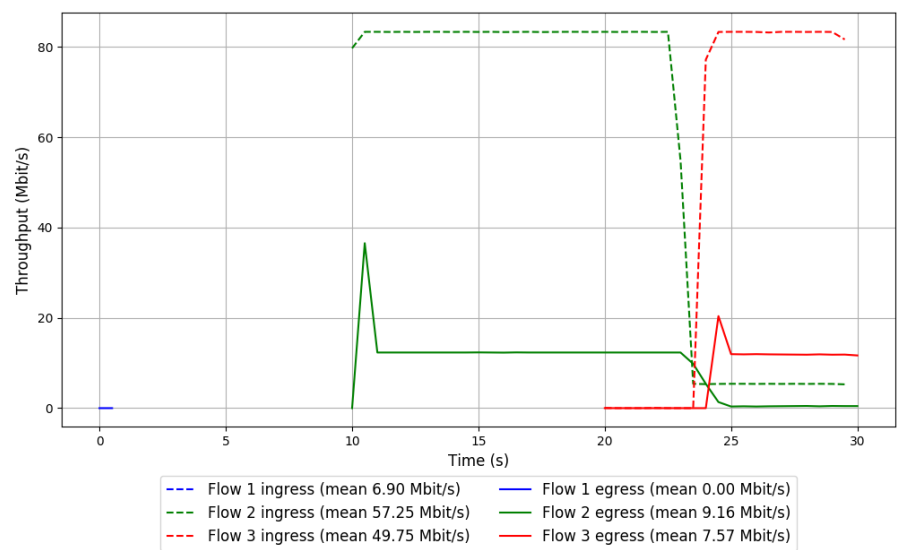
-- Flow 3:

Average throughput: 7.57 Mbit/s

95th percentile per-packet one-way delay: 2.319 ms

Loss rate: 84.78%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-03-19 02:42:14

End at: 2019-03-19 02:42:44

Local clock offset: -6.068 ms

Remote clock offset: 0.101 ms

# Below is generated by plot.py at 2019-03-19 04:42:20

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.06 Mbit/s

95th percentile per-packet one-way delay: 4.868 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 45.08 Mbit/s

95th percentile per-packet one-way delay: 3.392 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 49.17 Mbit/s

95th percentile per-packet one-way delay: 5.289 ms

Loss rate: 0.00%

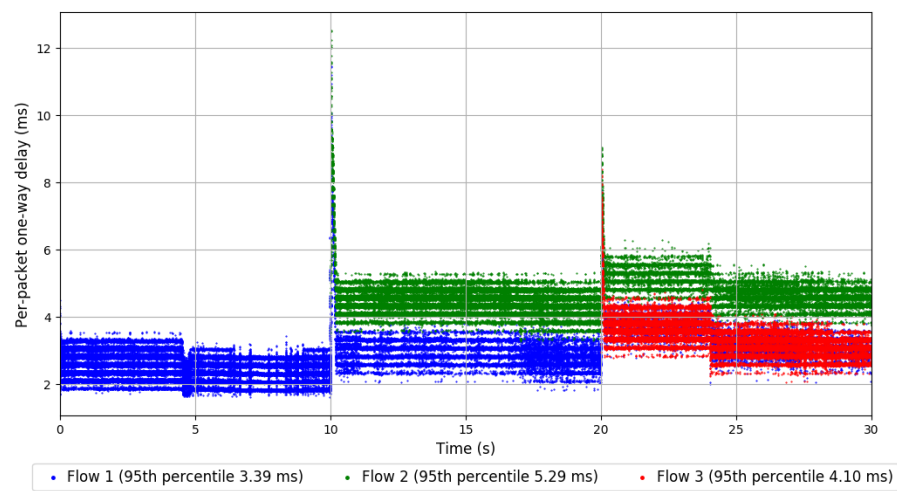
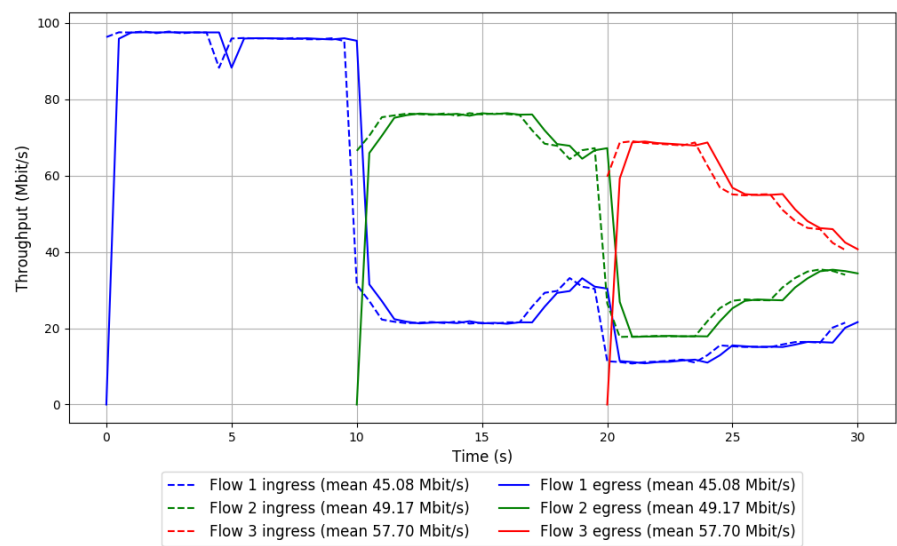
-- Flow 3:

Average throughput: 57.70 Mbit/s

95th percentile per-packet one-way delay: 4.096 ms

Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2019-03-19 03:06:10

End at: 2019-03-19 03:06:40

Local clock offset: -5.714 ms

Remote clock offset: 0.314 ms

# Below is generated by plot.py at 2019-03-19 04:42:24

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 5.732 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 40.86 Mbit/s

95th percentile per-packet one-way delay: 4.809 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 52.96 Mbit/s

95th percentile per-packet one-way delay: 5.972 ms

Loss rate: 0.00%

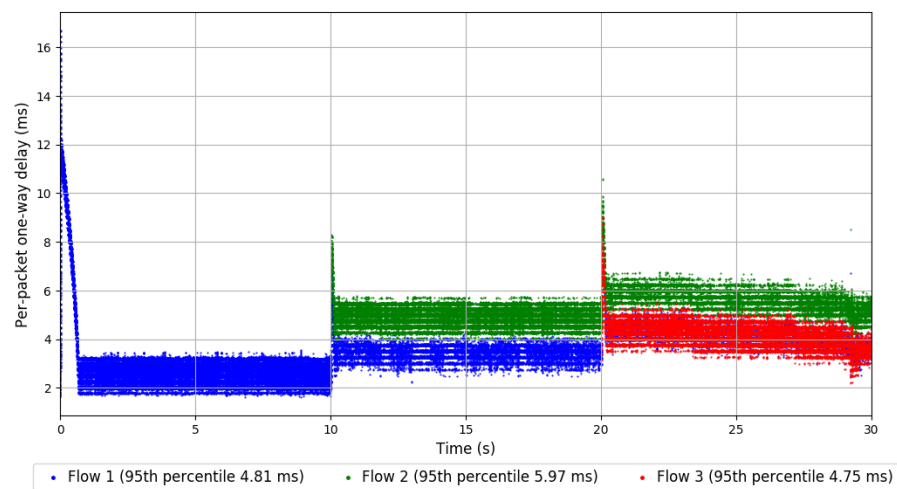
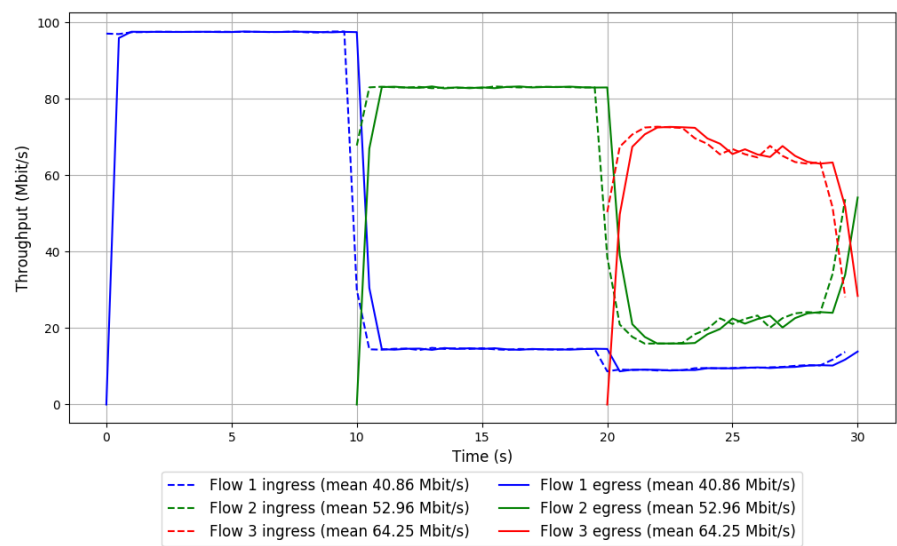
-- Flow 3:

Average throughput: 64.25 Mbit/s

95th percentile per-packet one-way delay: 4.753 ms

Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-03-19 03:30:03

End at: 2019-03-19 03:30:33

Local clock offset: -2.103 ms

Remote clock offset: 0.466 ms

# Below is generated by plot.py at 2019-03-19 04:42:27

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.49 Mbit/s

95th percentile per-packet one-way delay: 5.844 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 46.48 Mbit/s

95th percentile per-packet one-way delay: 12.554 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 48.49 Mbit/s

95th percentile per-packet one-way delay: 5.393 ms

Loss rate: 0.00%

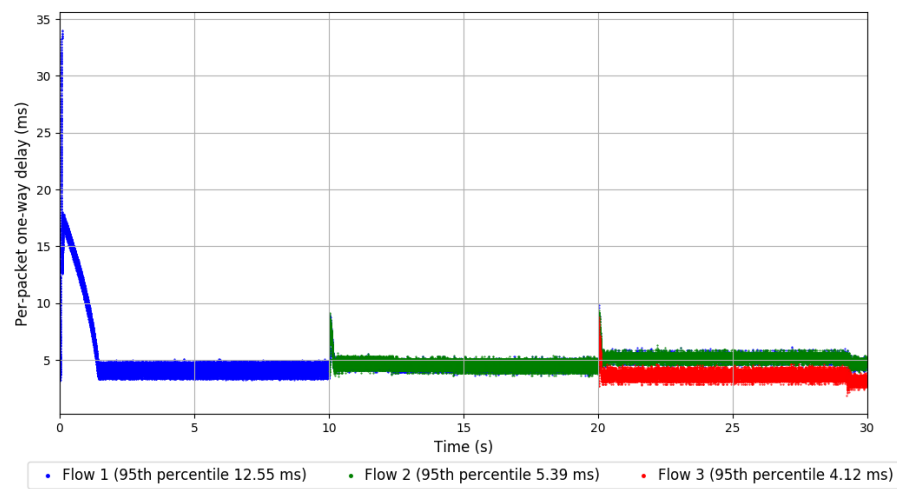
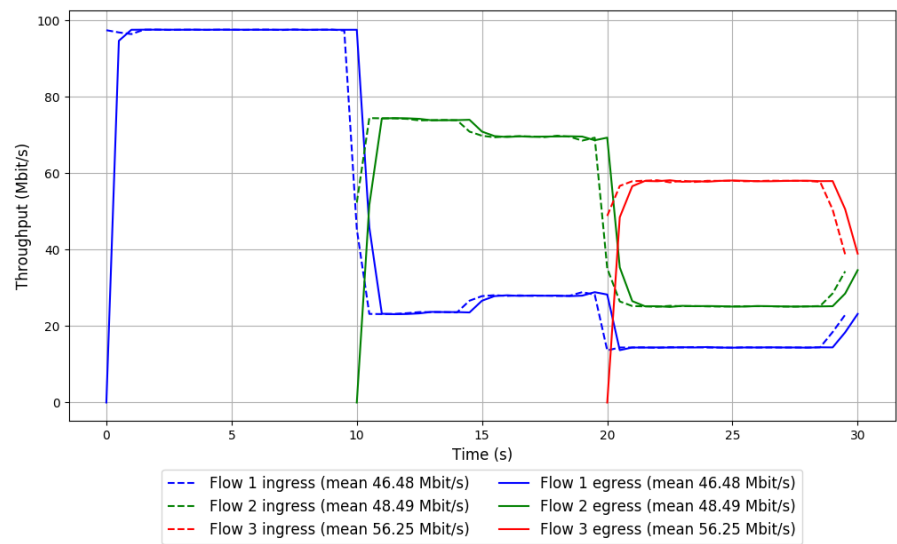
-- Flow 3:

Average throughput: 56.25 Mbit/s

95th percentile per-packet one-way delay: 4.115 ms

Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link





Run 4: Statistics of TCP Vegas

Start at: 2019-03-19 03:53:59

End at: 2019-03-19 03:54:29

Local clock offset: -1.493 ms

Remote clock offset: 0.596 ms

# Below is generated by plot.py at 2019-03-19 04:42:29

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 3.895 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 50.49 Mbit/s

95th percentile per-packet one-way delay: 3.445 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 35.94 Mbit/s

95th percentile per-packet one-way delay: 3.703 ms

Loss rate: 0.00%

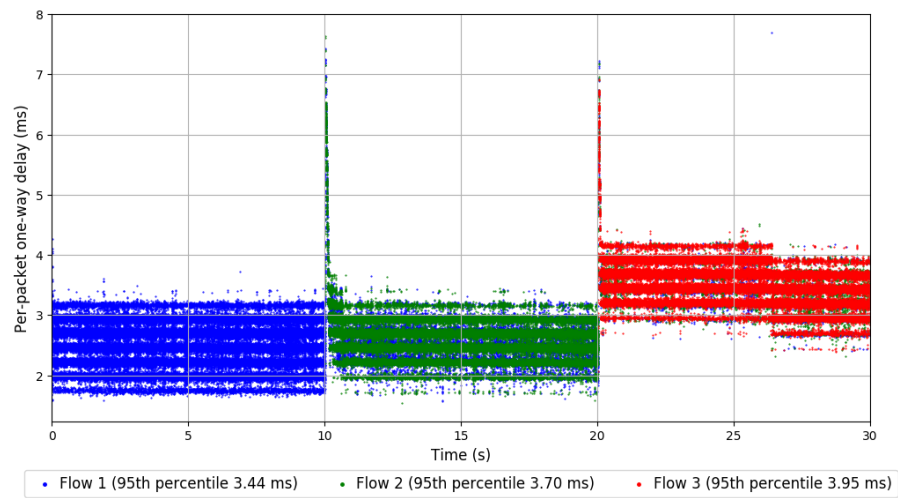
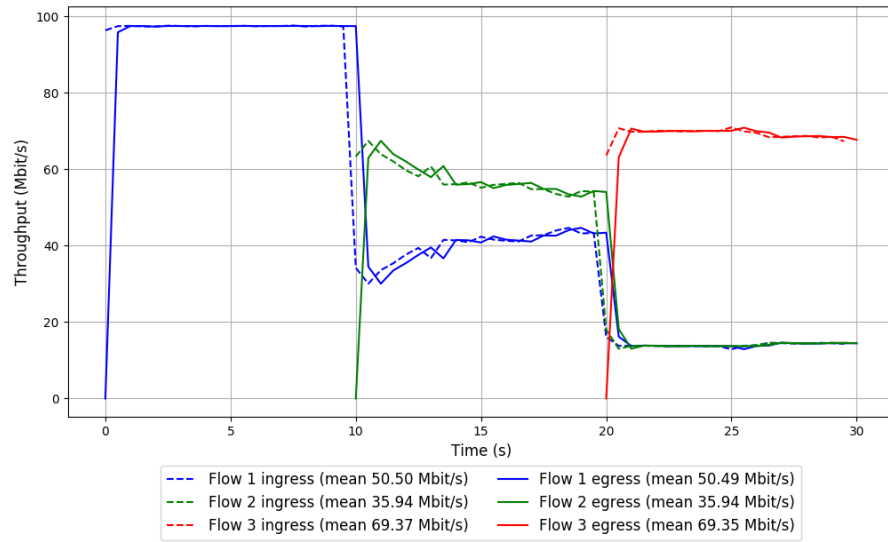
-- Flow 3:

Average throughput: 69.35 Mbit/s

95th percentile per-packet one-way delay: 3.953 ms

Loss rate: 0.00%

#### Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-03-19 04:17:53

End at: 2019-03-19 04:18:23

Local clock offset: -2.627 ms

Remote clock offset: 0.697 ms

# Below is generated by plot.py at 2019-03-19 04:42:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.49 Mbit/s

95th percentile per-packet one-way delay: 5.318 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 46.53 Mbit/s

95th percentile per-packet one-way delay: 11.853 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 46.23 Mbit/s

95th percentile per-packet one-way delay: 4.908 ms

Loss rate: 0.00%

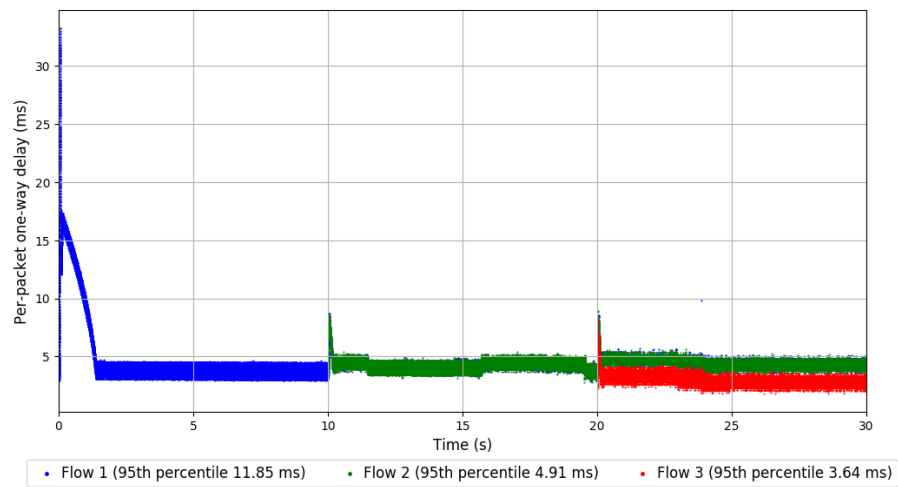
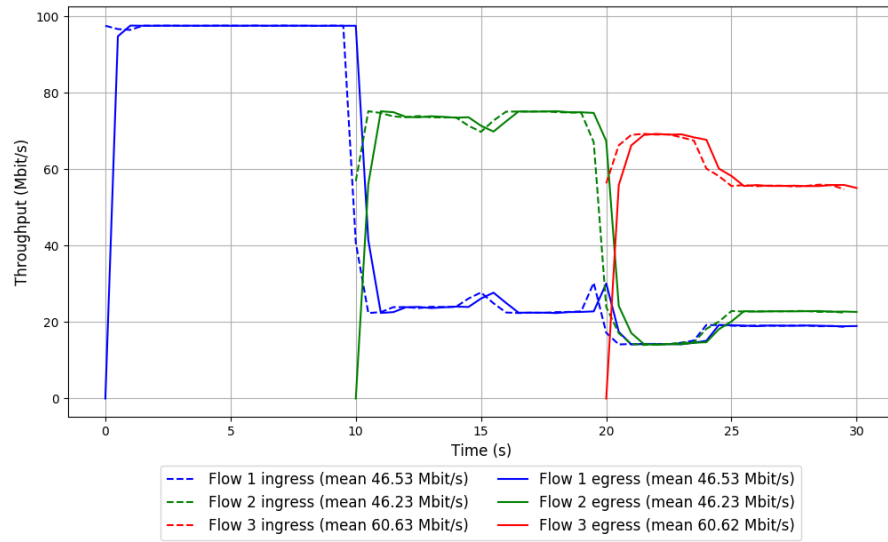
-- Flow 3:

Average throughput: 60.62 Mbit/s

95th percentile per-packet one-way delay: 3.644 ms

Loss rate: 0.00%

# Run 5: Report of TCP Vegas — Data Link

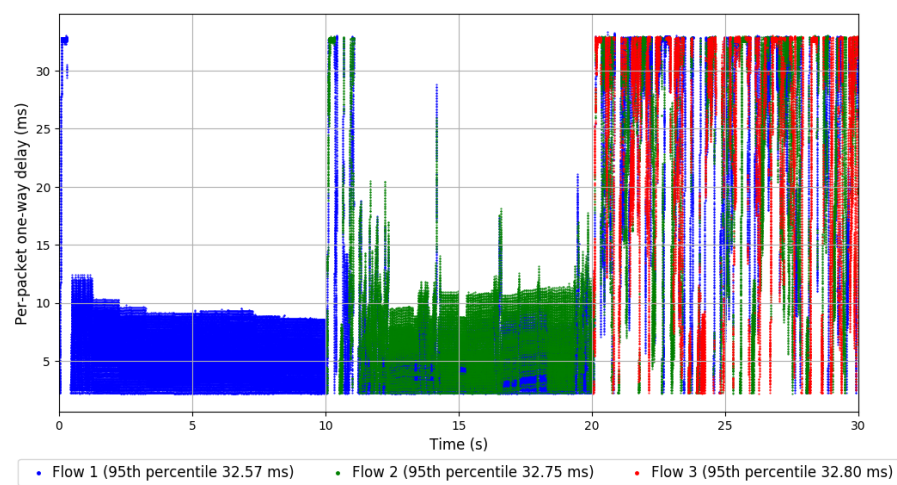
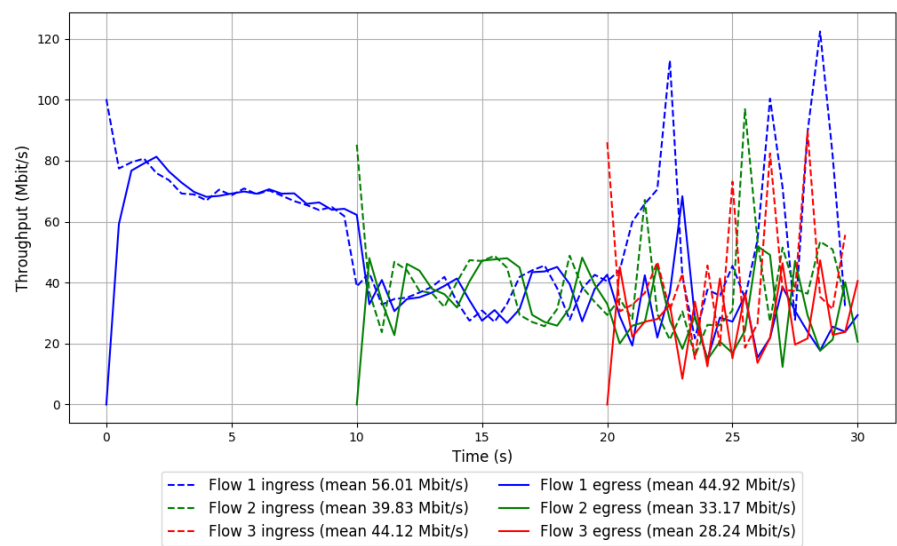


Run 1: Statistics of Verus

Start at: 2019-03-19 02:34:17  
End at: 2019-03-19 02:34:47  
Local clock offset: -5.316 ms  
Remote clock offset: -0.055 ms

# Below is generated by plot.py at 2019-03-19 04:42:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 76.36 Mbit/s  
95th percentile per-packet one-way delay: 32.759 ms  
Loss rate: 21.31%  
-- Flow 1:  
Average throughput: 44.92 Mbit/s  
95th percentile per-packet one-way delay: 32.566 ms  
Loss rate: 19.73%  
-- Flow 2:  
Average throughput: 33.17 Mbit/s  
95th percentile per-packet one-way delay: 32.750 ms  
Loss rate: 16.65%  
-- Flow 3:  
Average throughput: 28.24 Mbit/s  
95th percentile per-packet one-way delay: 32.804 ms  
Loss rate: 35.85%

Run 1: Report of Verus — Data Link

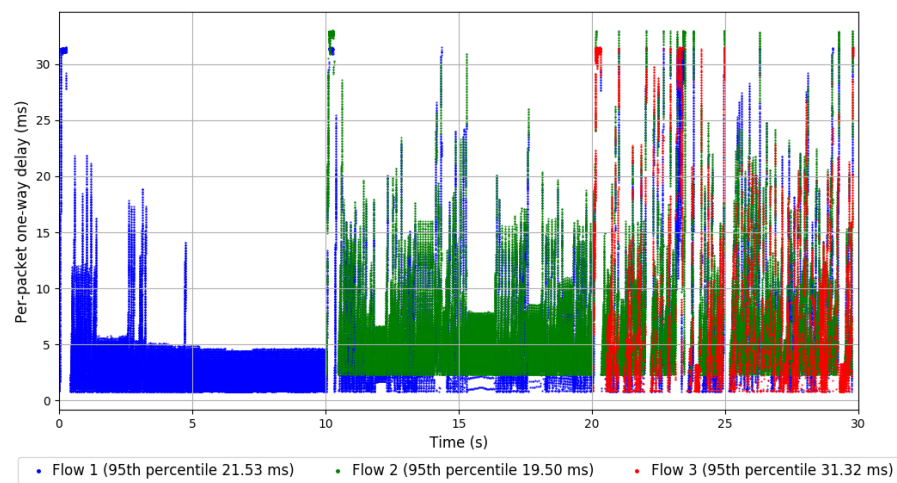
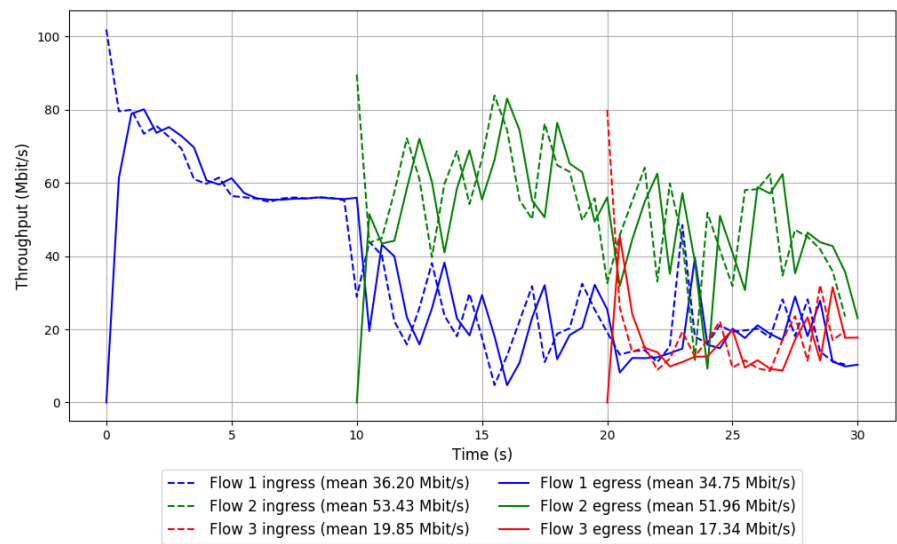


Run 2: Statistics of Verus

Start at: 2019-03-19 02:58:12  
End at: 2019-03-19 02:58:42  
Local clock offset: -5.055 ms  
Remote clock offset: 0.136 ms

# Below is generated by plot.py at 2019-03-19 04:42:44  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 74.91 Mbit/s  
95th percentile per-packet one-way delay: 22.982 ms  
Loss rate: 4.04%  
-- Flow 1:  
Average throughput: 34.75 Mbit/s  
95th percentile per-packet one-way delay: 21.532 ms  
Loss rate: 3.91%  
-- Flow 2:  
Average throughput: 51.96 Mbit/s  
95th percentile per-packet one-way delay: 19.497 ms  
Loss rate: 2.61%  
-- Flow 3:  
Average throughput: 17.34 Mbit/s  
95th percentile per-packet one-way delay: 31.318 ms  
Loss rate: 12.51%

Run 2: Report of Verus — Data Link





Run 3: Statistics of Verus

Start at: 2019-03-19 03:22:06

End at: 2019-03-19 03:22:36

Local clock offset: -2.836 ms

Remote clock offset: 0.31 ms

# Below is generated by plot.py at 2019-03-19 04:42:44

# Datalink statistics

-- Total of 3 flows:

Average throughput: 55.06 Mbit/s

95th percentile per-packet one-way delay: 29.766 ms

Loss rate: 7.00%

-- Flow 1:

Average throughput: 28.92 Mbit/s

95th percentile per-packet one-way delay: 26.490 ms

Loss rate: 6.02%

-- Flow 2:

Average throughput: 25.99 Mbit/s

95th percentile per-packet one-way delay: 29.618 ms

Loss rate: 6.69%

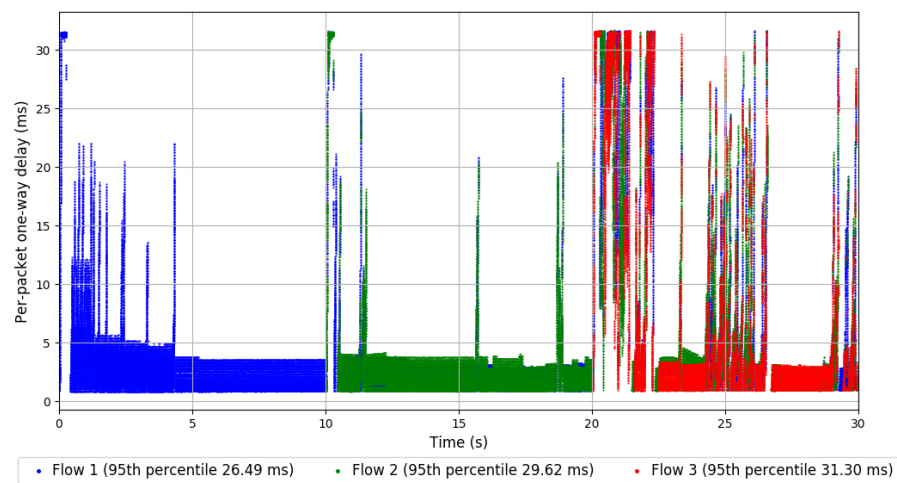
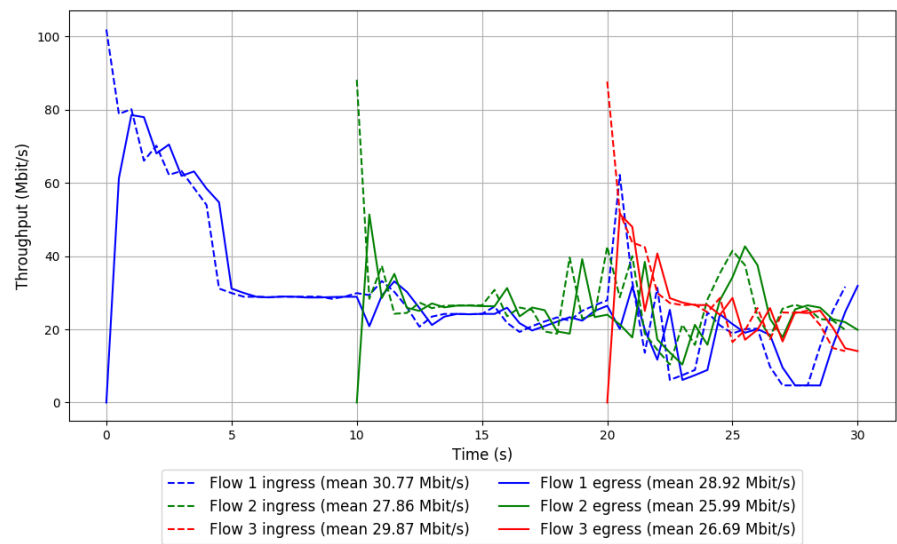
-- Flow 3:

Average throughput: 26.69 Mbit/s

95th percentile per-packet one-way delay: 31.295 ms

Loss rate: 10.64%

Run 3: Report of Verus — Data Link

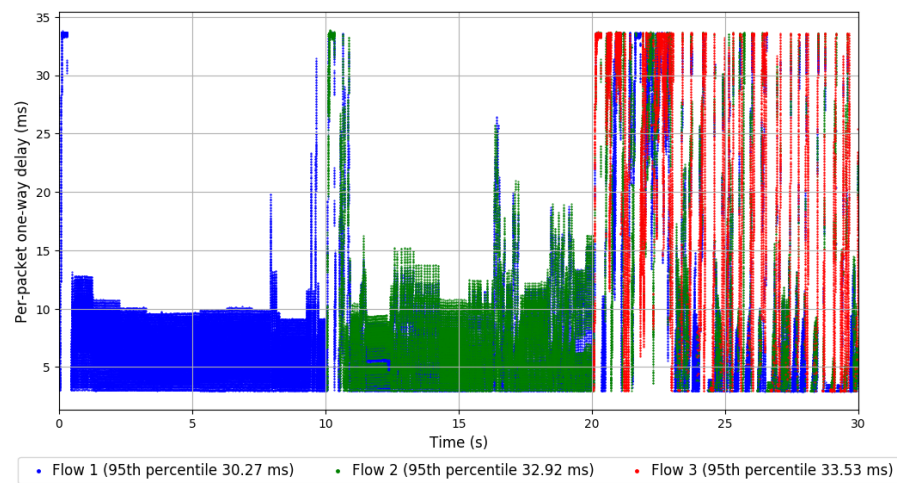
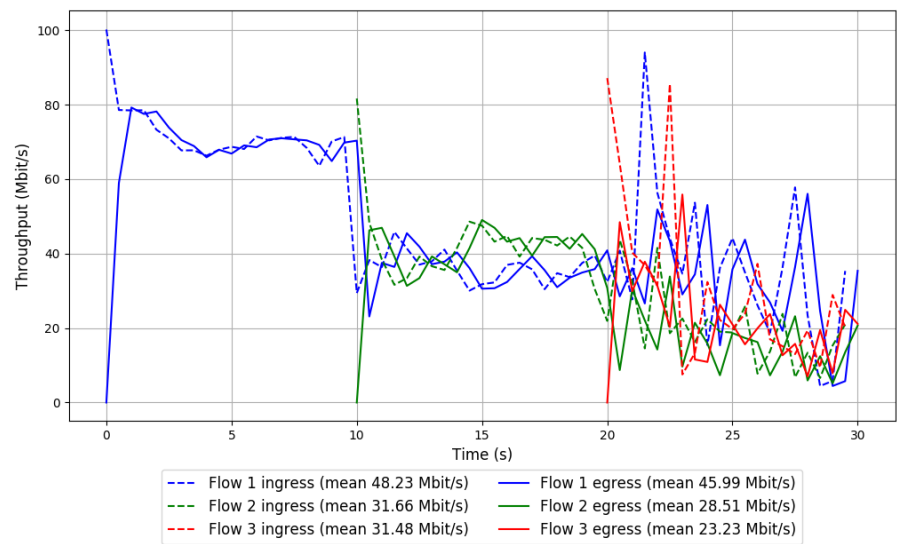


Run 4: Statistics of Verus

Start at: 2019-03-19 03:46:01  
End at: 2019-03-19 03:46:31  
Local clock offset: -0.668 ms  
Remote clock offset: 0.484 ms

# Below is generated by plot.py at 2019-03-19 04:43:11  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 72.66 Mbit/s  
95th percentile per-packet one-way delay: 32.972 ms  
Loss rate: 8.79%  
-- Flow 1:  
Average throughput: 45.99 Mbit/s  
95th percentile per-packet one-way delay: 30.271 ms  
Loss rate: 4.58%  
-- Flow 2:  
Average throughput: 28.51 Mbit/s  
95th percentile per-packet one-way delay: 32.923 ms  
Loss rate: 9.86%  
-- Flow 3:  
Average throughput: 23.23 Mbit/s  
95th percentile per-packet one-way delay: 33.532 ms  
Loss rate: 26.08%

Run 4: Report of Verus — Data Link

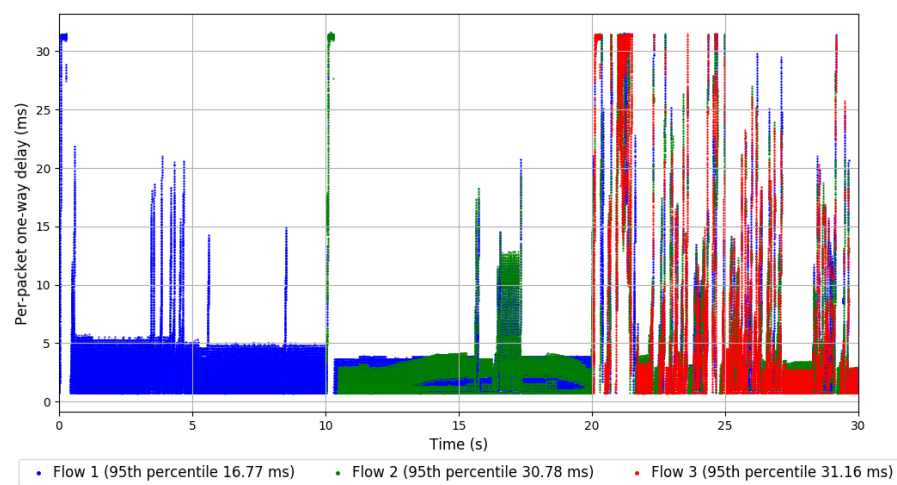
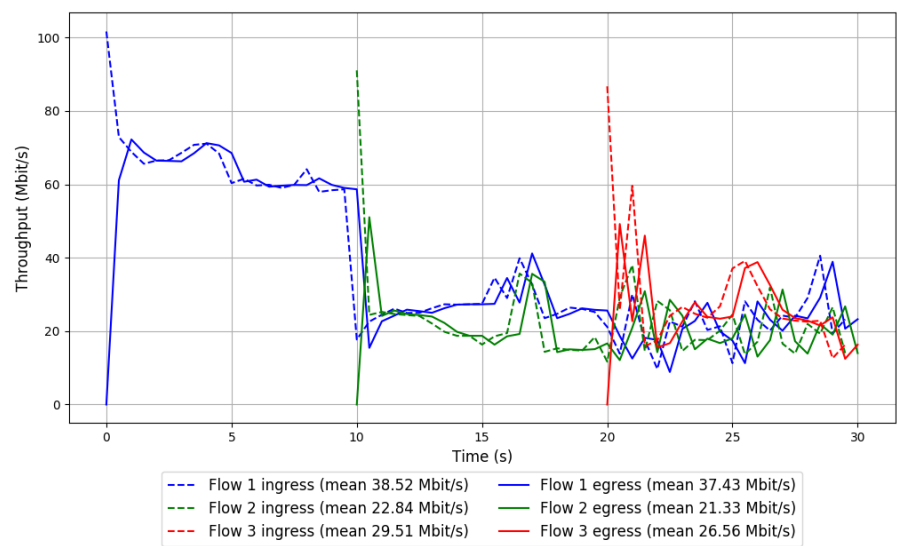


Run 5: Statistics of Verus

Start at: 2019-03-19 04:09:57  
End at: 2019-03-19 04:10:27  
Local clock offset: -0.933 ms  
Remote clock offset: 0.65 ms

# Below is generated by plot.py at 2019-03-19 04:43:11  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 60.42 Mbit/s  
95th percentile per-packet one-way delay: 27.120 ms  
Loss rate: 4.86%  
-- Flow 1:  
Average throughput: 37.43 Mbit/s  
95th percentile per-packet one-way delay: 16.774 ms  
Loss rate: 2.81%  
-- Flow 2:  
Average throughput: 21.33 Mbit/s  
95th percentile per-packet one-way delay: 30.779 ms  
Loss rate: 6.64%  
-- Flow 3:  
Average throughput: 26.56 Mbit/s  
95th percentile per-packet one-way delay: 31.155 ms  
Loss rate: 10.15%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-03-19 02:41:04

End at: 2019-03-19 02:41:34

Local clock offset: -5.239 ms

Remote clock offset: 0.103 ms

# Below is generated by plot.py at 2019-03-19 04:43:24

# Datalink statistics

-- Total of 3 flows:

Average throughput: 79.43 Mbit/s

95th percentile per-packet one-way delay: 1.952 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 48.94 Mbit/s

95th percentile per-packet one-way delay: 1.712 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 33.18 Mbit/s

95th percentile per-packet one-way delay: 2.420 ms

Loss rate: 0.00%

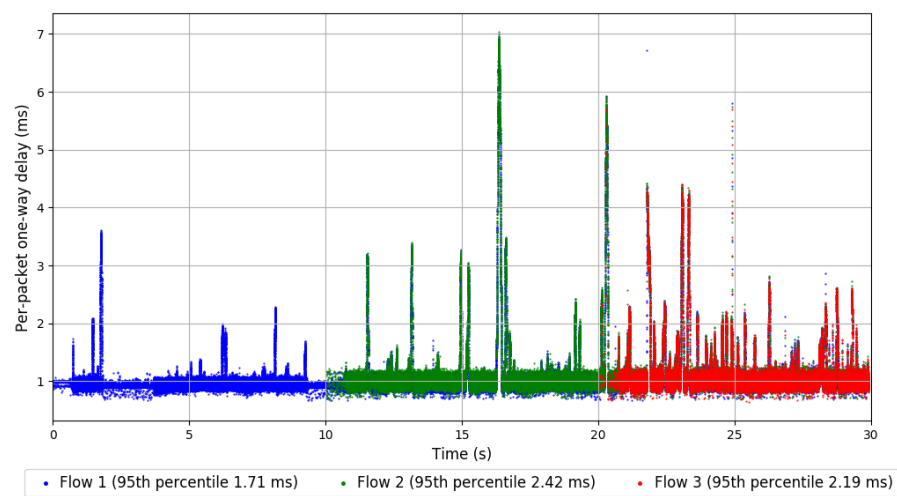
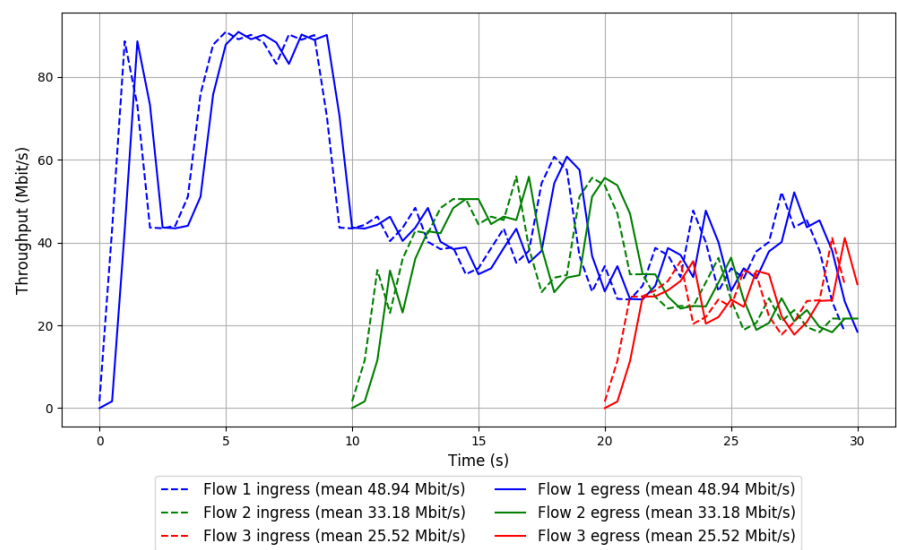
-- Flow 3:

Average throughput: 25.52 Mbit/s

95th percentile per-packet one-way delay: 2.195 ms

Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link





Run 2: Statistics of PCC-Vivace

Start at: 2019-03-19 03:05:00

End at: 2019-03-19 03:05:30

Local clock offset: -5.789 ms

Remote clock offset: 0.252 ms

# Below is generated by plot.py at 2019-03-19 04:43:28

# Datalink statistics

-- Total of 3 flows:

Average throughput: 85.80 Mbit/s

95th percentile per-packet one-way delay: 3.428 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 48.15 Mbit/s

95th percentile per-packet one-way delay: 1.997 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 45.46 Mbit/s

95th percentile per-packet one-way delay: 3.949 ms

Loss rate: 0.00%

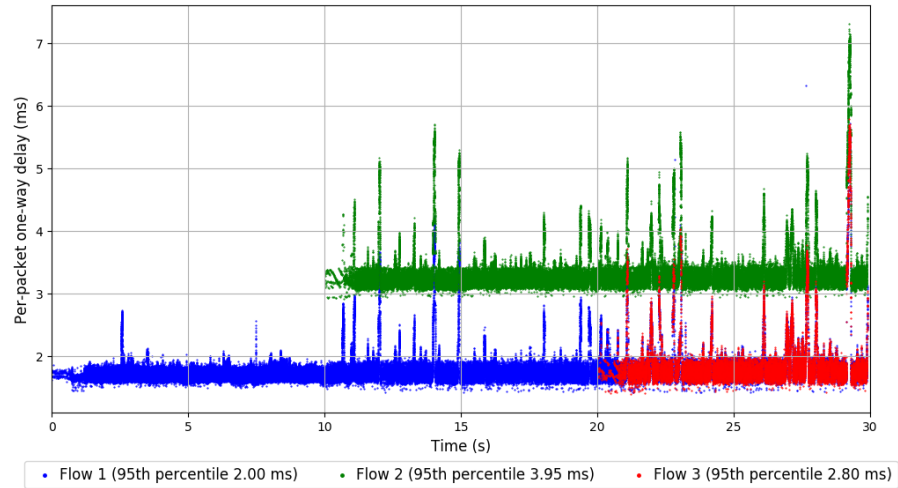
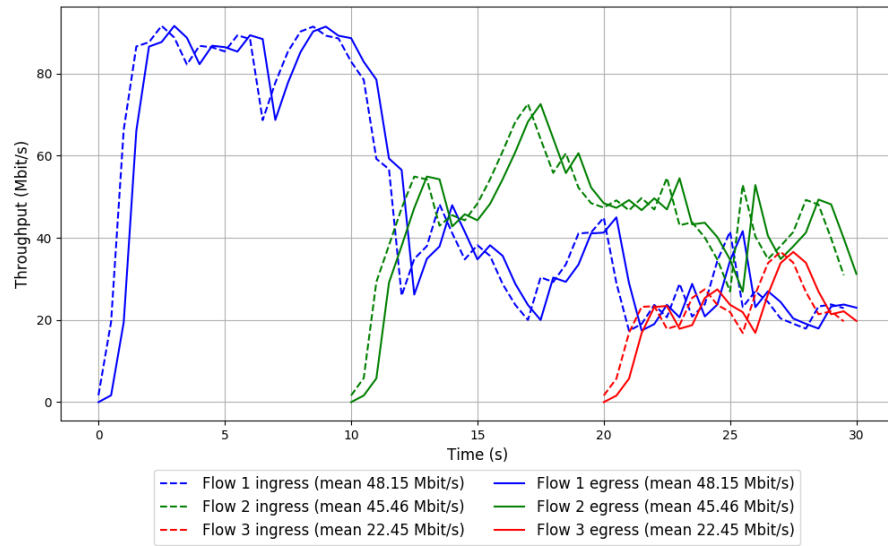
-- Flow 3:

Average throughput: 22.45 Mbit/s

95th percentile per-packet one-way delay: 2.800 ms

Loss rate: 0.00%

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



Run 3: Statistics of PCC-Vivace

Start at: 2019-03-19 03:28:52

End at: 2019-03-19 03:29:22

Local clock offset: -1.498 ms

Remote clock offset: 0.406 ms

# Below is generated by plot.py at 2019-03-19 04:43:29

# Datalink statistics

-- Total of 3 flows:

Average throughput: 88.49 Mbit/s

95th percentile per-packet one-way delay: 2.978 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 52.54 Mbit/s

95th percentile per-packet one-way delay: 2.773 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 41.27 Mbit/s

95th percentile per-packet one-way delay: 3.480 ms

Loss rate: 0.00%

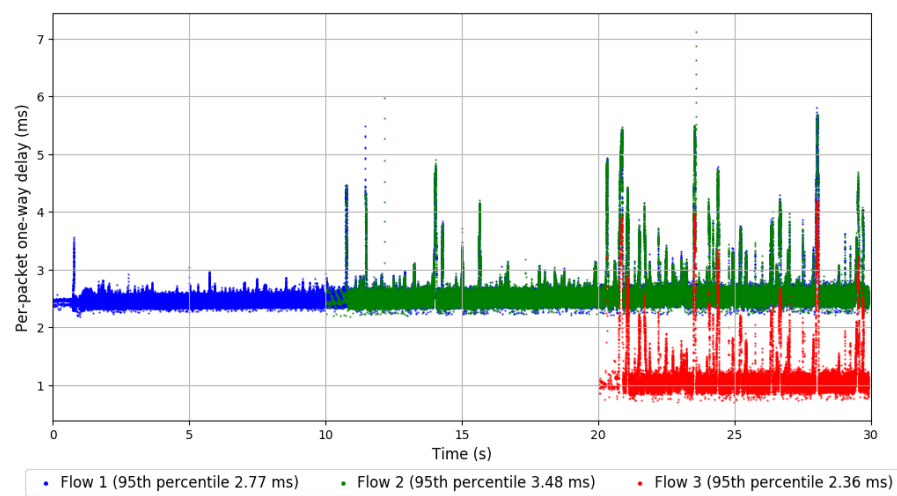
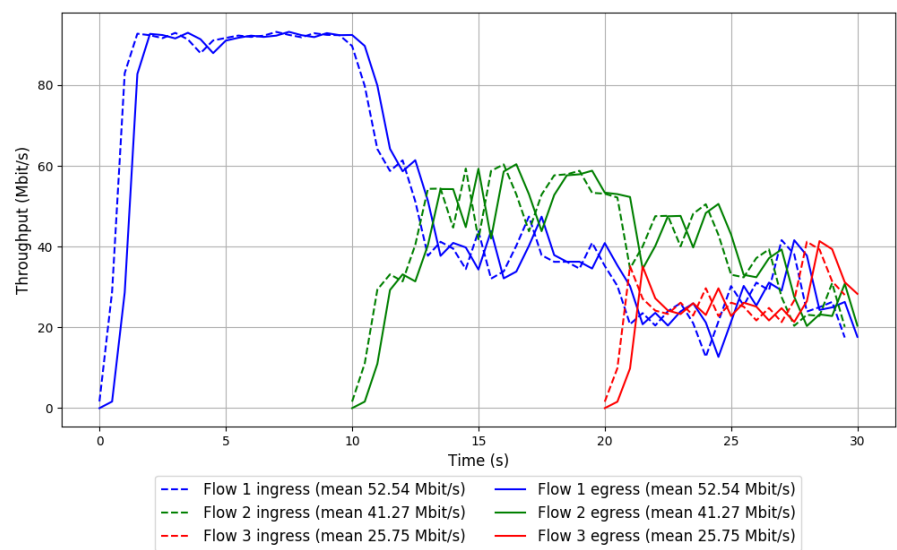
-- Flow 3:

Average throughput: 25.75 Mbit/s

95th percentile per-packet one-way delay: 2.360 ms

Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2019-03-19 03:52:49

End at: 2019-03-19 03:53:19

Local clock offset: -0.719 ms

Remote clock offset: 0.618 ms

# Below is generated by plot.py at 2019-03-19 04:43:30

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.94 Mbit/s

95th percentile per-packet one-way delay: 2.808 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 60.41 Mbit/s

95th percentile per-packet one-way delay: 2.868 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 27.19 Mbit/s

95th percentile per-packet one-way delay: 2.123 ms

Loss rate: 0.00%

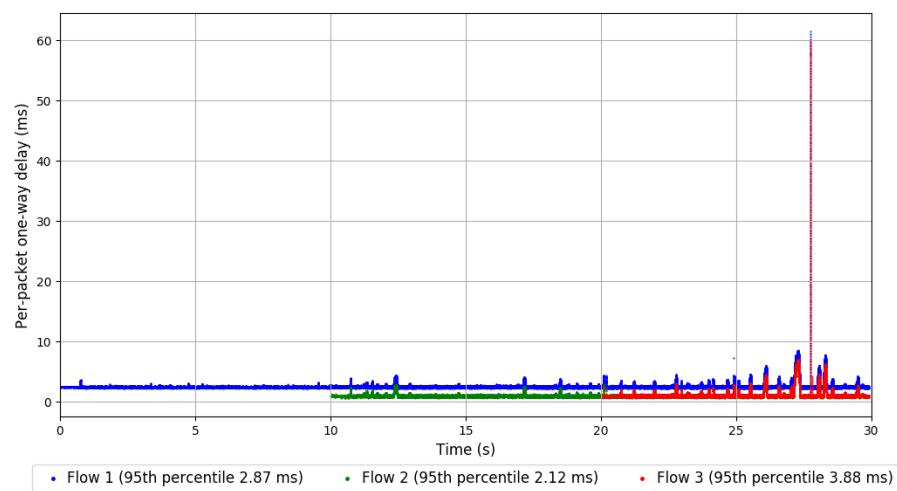
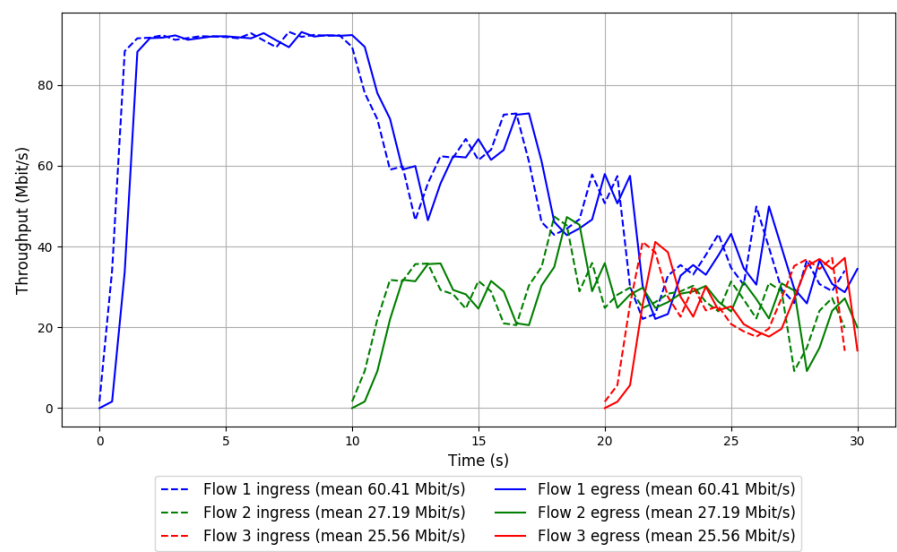
-- Flow 3:

Average throughput: 25.56 Mbit/s

95th percentile per-packet one-way delay: 3.875 ms

Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-03-19 04:16:43

End at: 2019-03-19 04:17:13

Local clock offset: -1.945 ms

Remote clock offset: 0.716 ms

# Below is generated by plot.py at 2019-03-19 04:43:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.55 Mbit/s

95th percentile per-packet one-way delay: 3.504 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 52.84 Mbit/s

95th percentile per-packet one-way delay: 2.537 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 34.80 Mbit/s

95th percentile per-packet one-way delay: 3.690 ms

Loss rate: 0.00%

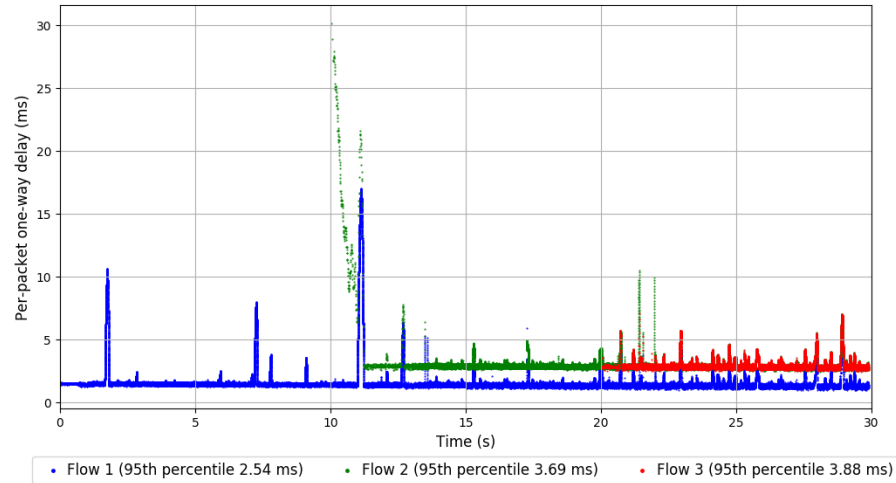
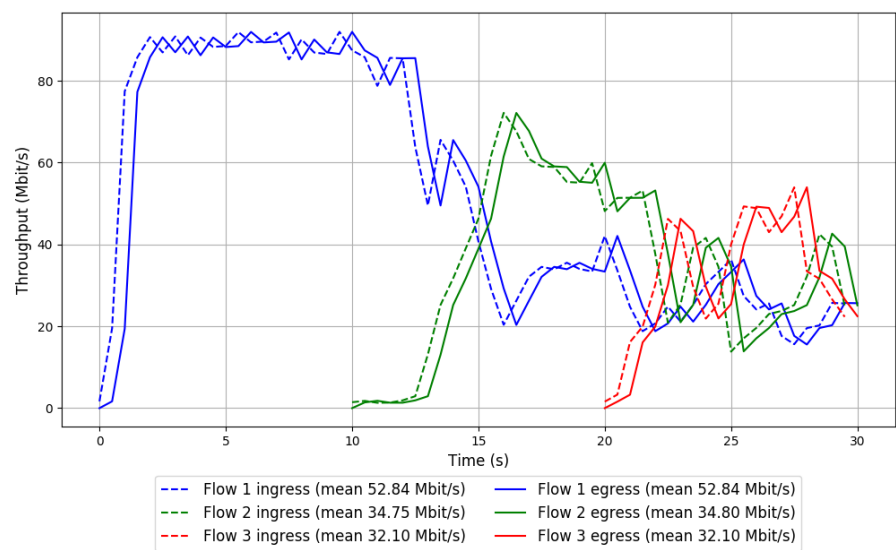
-- Flow 3:

Average throughput: 32.10 Mbit/s

95th percentile per-packet one-way delay: 3.876 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link





Run 1: Statistics of WebRTC media

Start at: 2019-03-19 02:51:22

End at: 2019-03-19 02:51:52

Local clock offset: -5.845 ms

Remote clock offset: 0.118 ms

# Below is generated by plot.py at 2019-03-19 04:43:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 5.280 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 7.945 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.472 ms

Loss rate: 0.00%

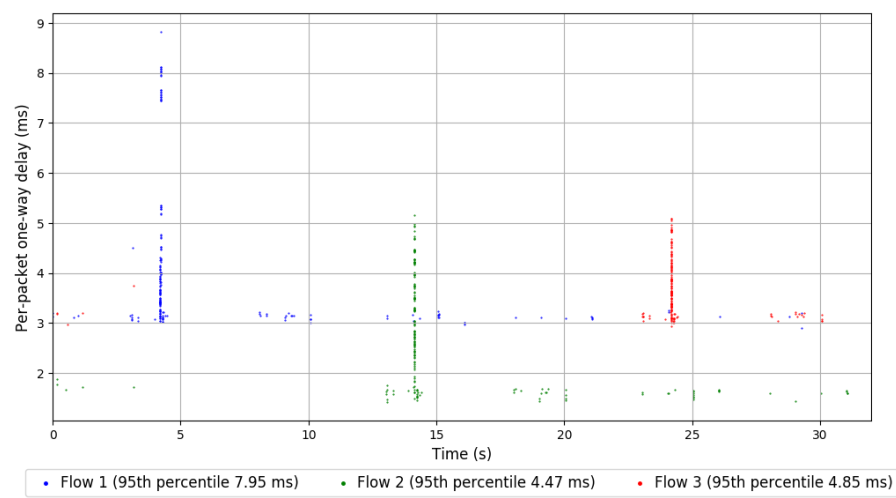
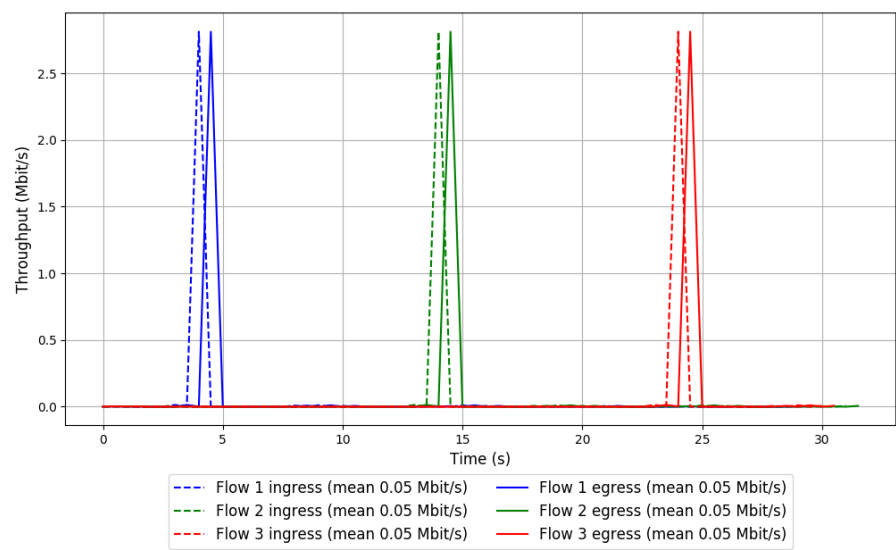
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.848 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-03-19 03:15:17

End at: 2019-03-19 03:15:47

Local clock offset: -4.915 ms

Remote clock offset: 0.273 ms

# Below is generated by plot.py at 2019-03-19 04:43:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 4.087 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.752 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.253 ms

Loss rate: 0.00%

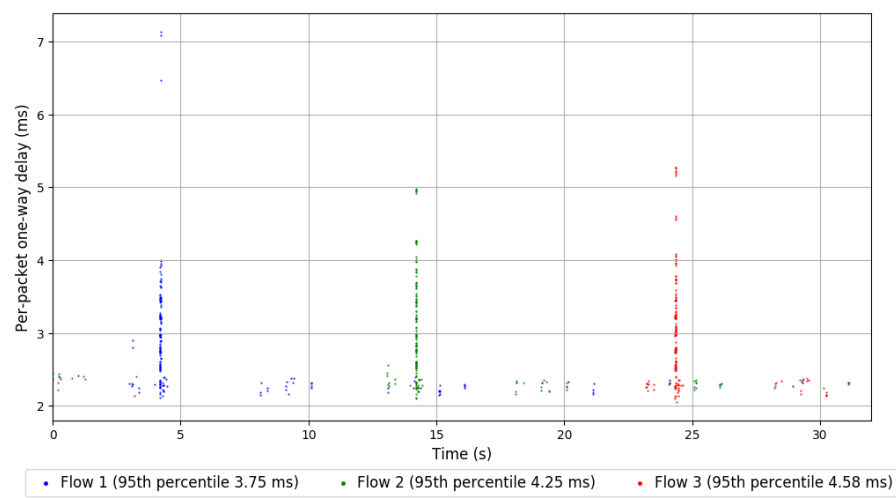
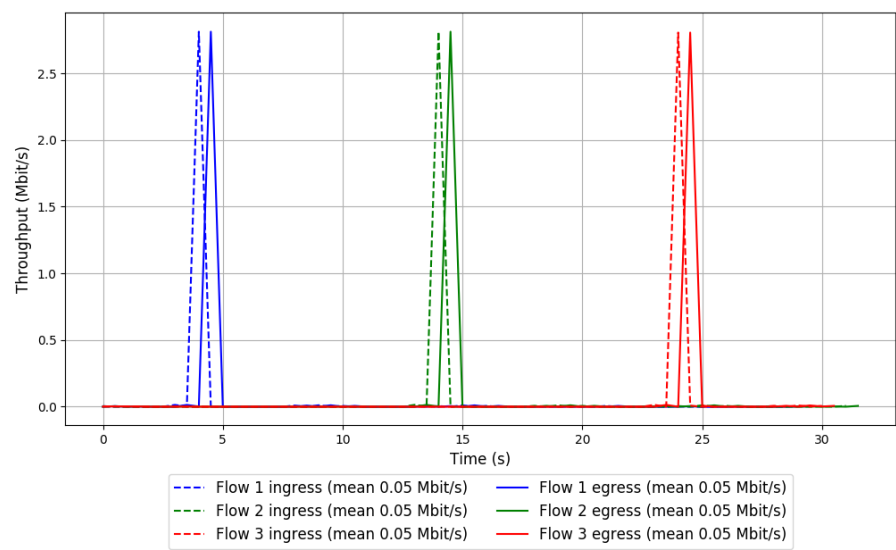
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.584 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-03-19 03:39:11

End at: 2019-03-19 03:39:41

Local clock offset: -0.384 ms

Remote clock offset: 0.394 ms

# Below is generated by plot.py at 2019-03-19 04:43:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 4.848 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.942 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.928 ms

Loss rate: 0.00%

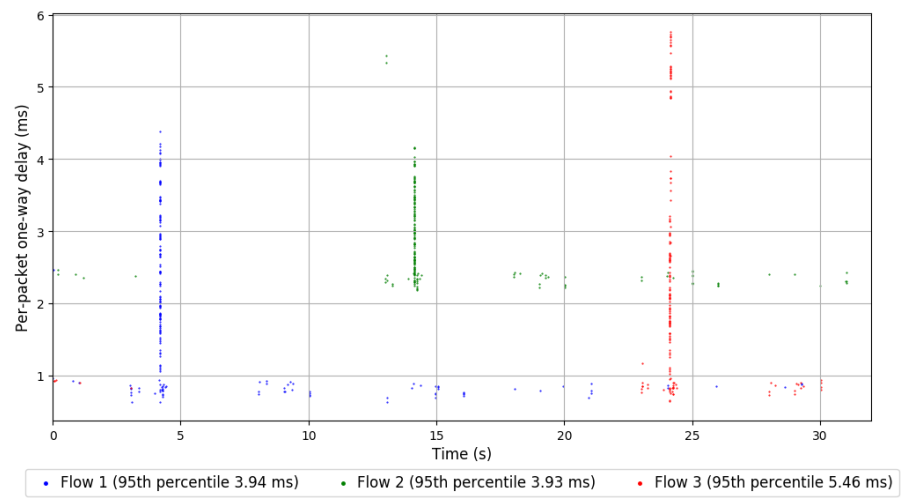
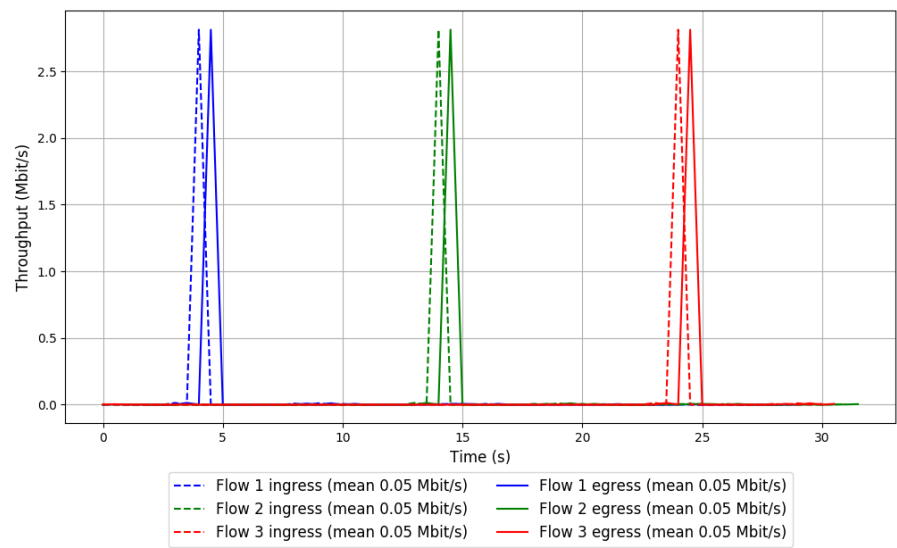
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 5.464 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-03-19 04:03:06

End at: 2019-03-19 04:03:36

Local clock offset: -0.962 ms

Remote clock offset: 0.5 ms

# Below is generated by plot.py at 2019-03-19 04:43:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 3.566 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.580 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

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

Loss rate: 0.00%

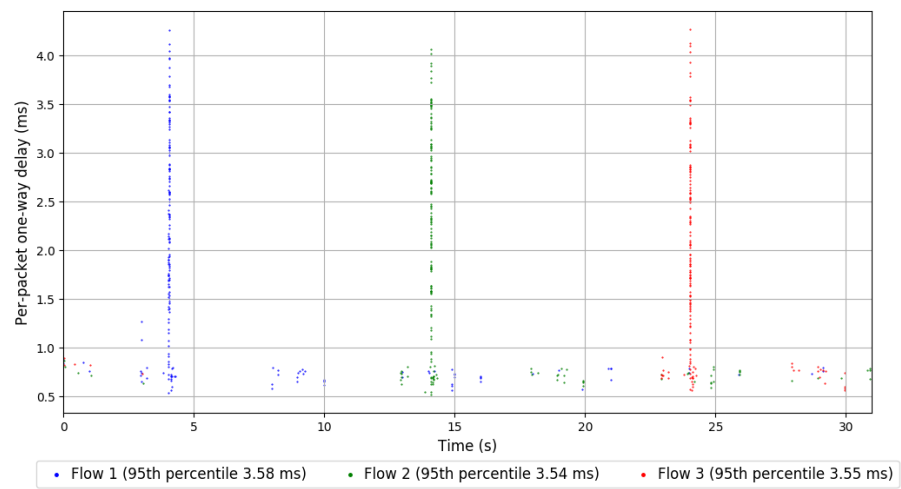
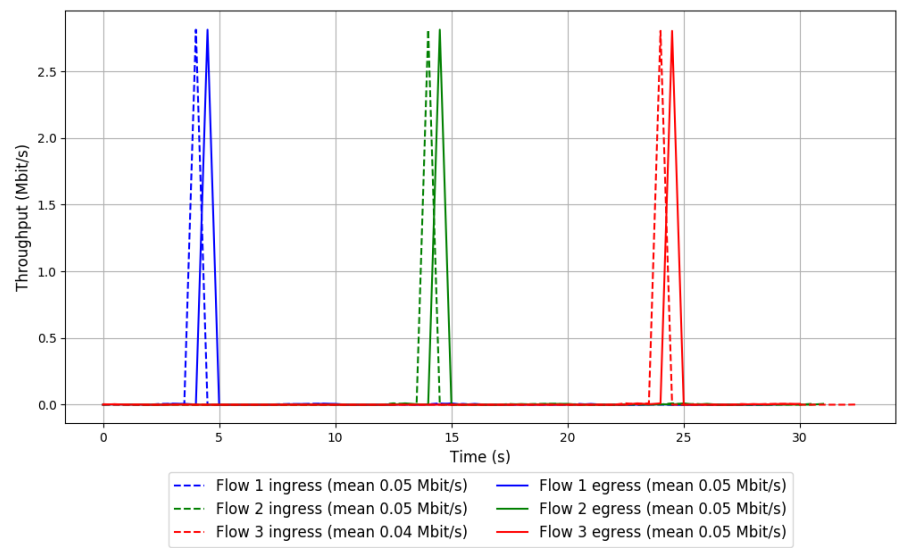
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 3.547 ms

Loss rate: 0.05%

Run 4: Report of WebRTC media — Data Link





Run 5: Statistics of WebRTC media

Start at: 2019-03-19 04:27:02

End at: 2019-03-19 04:27:32

Local clock offset: -5.829 ms

Remote clock offset: 0.671 ms

# Below is generated by plot.py at 2019-03-19 04:43:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 4.775 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.378 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 5.617 ms

Loss rate: 0.00%

-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 4.652 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

