

## Pantheon Report

Generated at 2019-03-27 03:22:35 (UTC).

Data path: AWS India 1 on `ens5` (*local*) → India on `em1` (*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 `nets.org.sg` and have been applied to correct the timestamps in logs.

### System info:

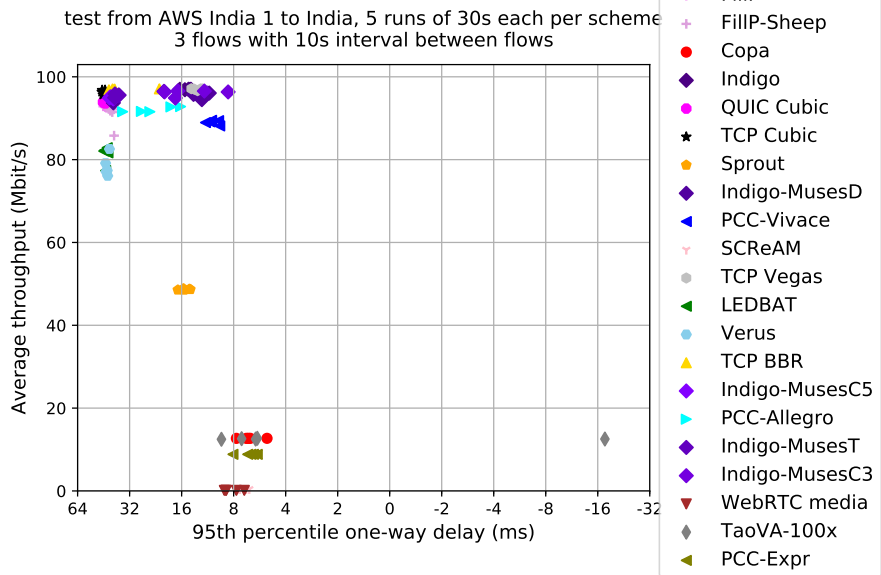
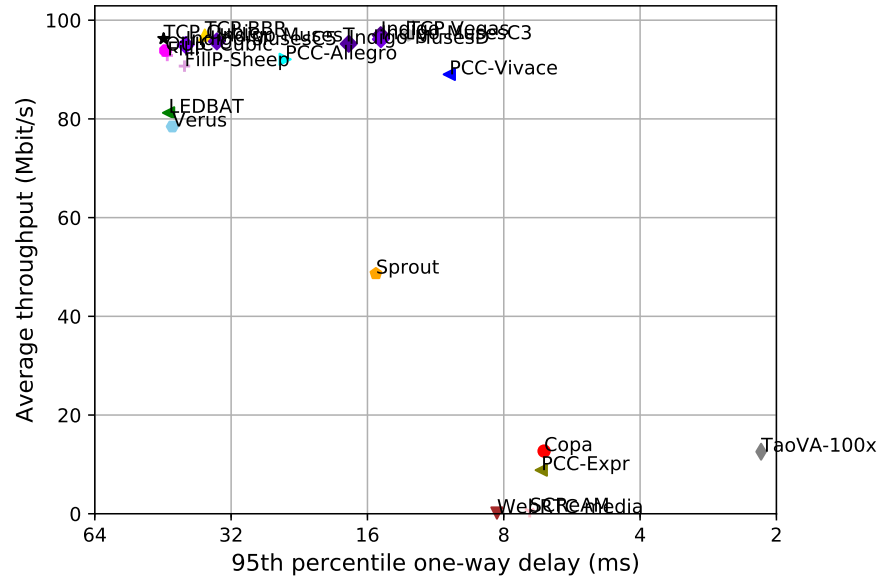
```
Linux 4.15.0-1034-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
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 India 1 to India, 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	51.92	51.69	32.04	35.61	37.58	37.66	1.43	2.79	1.98
Copa	5	9.65	4.59	0.24	6.70	6.34	6.47	71.47	75.71	93.85
TCP Cubic	5	72.38	28.50	14.75	45.06	45.10	45.71	0.68	0.75	0.73
FillP	5	56.83	41.16	26.85	42.48	45.40	46.21	30.10	47.23	58.30
FillP-Sheep	5	50.71	42.19	36.15	34.48	41.78	43.60	4.01	9.45	15.51
Indigo	5	56.23	39.27	44.80	14.52	14.99	15.81	0.00	0.00	0.00
Indigo-MusesC3	5	51.08	53.01	34.76	13.64	15.53	15.97	0.02	0.00	0.00
Indigo-MusesC5	5	58.98	43.21	25.87	37.82	41.65	43.84	3.85	10.01	22.67
Indigo-MusesD	5	52.50	50.62	32.15	15.71	17.15	18.22	0.29	1.45	3.38
Indigo-MusesT	5	61.31	37.91	32.09	31.57	35.41	38.01	2.60	5.93	15.06
LEDBAT	5	47.68	36.34	28.20	43.56	44.26	44.79	0.31	0.44	0.53
PCC-Allegro	5	77.07	16.99	11.20	24.10	25.76	22.44	0.75	0.61	0.29
PCC-Expr	5	0.07	10.22	6.18	6.38	6.63	6.58	85.71	52.18	34.26
QUIC Cubic	5	67.90	25.97	26.60	44.65	44.74	44.63	1.79	2.27	3.15
SCReAM	5	0.21	0.21	0.22	6.98	6.98	7.03	0.00	0.00	0.00
Sprout	5	24.46	24.32	24.25	14.78	15.31	15.95	0.00	0.00	0.00
TaoVA-100x	5	7.60	9.00	2.16	2.26	1.65	2.92	88.30	89.53	94.03
TCP Vegas	5	56.75	37.89	45.07	13.98	11.57	10.28	0.52	0.00	0.00
Verus	5	51.68	32.81	20.30	42.52	44.21	43.14	21.98	38.60	30.58
PCC-Vivace	5	59.96	33.77	20.01	10.15	11.00	11.79	0.00	0.00	0.00
WebRTC media	5	0.05	0.05	0.05	8.17	8.21	8.73	0.00	0.00	0.00

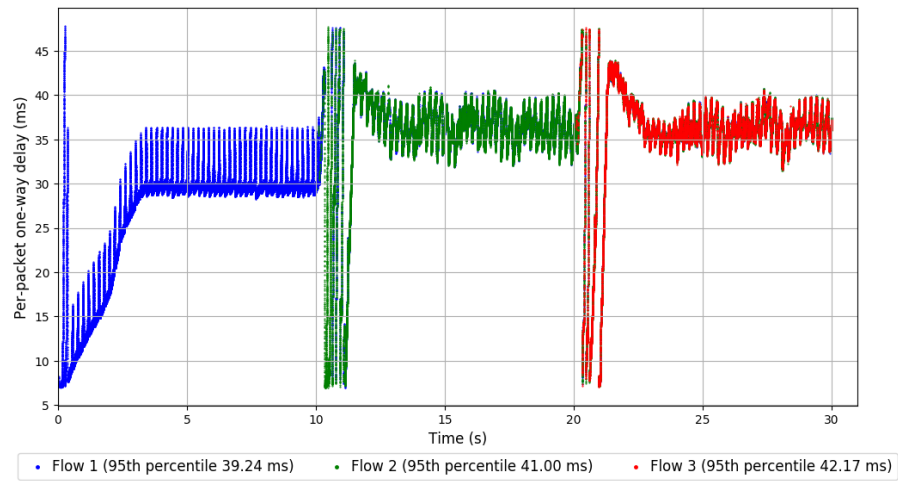
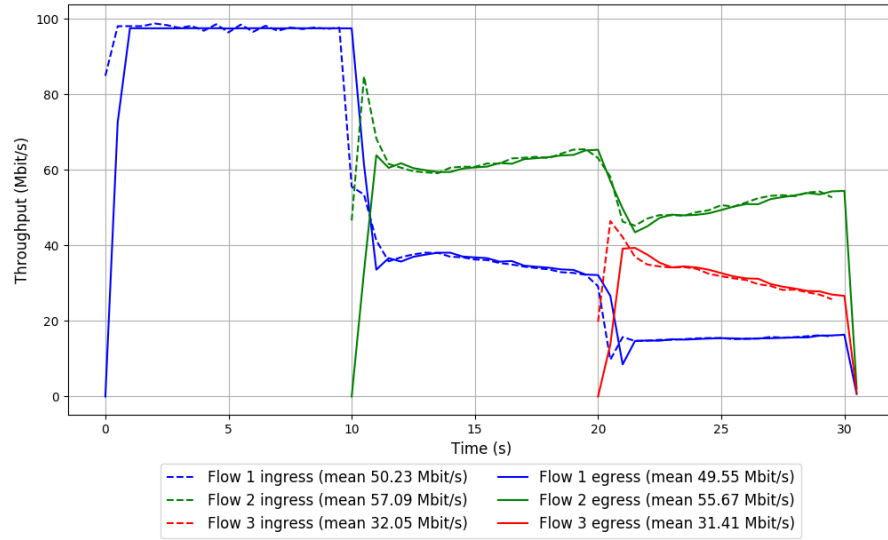


Run 1: Statistics of TCP BBR

Start at: 2019-03-27 01:26:03  
End at: 2019-03-27 01:26:33  
Local clock offset: -0.563 ms  
Remote clock offset: -0.474 ms

# Below is generated by plot.py at 2019-03-27 03:11:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.06 Mbit/s  
95th percentile per-packet one-way delay: 40.166 ms  
Loss rate: 1.80%  
-- Flow 1:  
Average throughput: 49.55 Mbit/s  
95th percentile per-packet one-way delay: 39.240 ms  
Loss rate: 1.27%  
-- Flow 2:  
Average throughput: 55.67 Mbit/s  
95th percentile per-packet one-way delay: 40.996 ms  
Loss rate: 2.45%  
-- Flow 3:  
Average throughput: 31.41 Mbit/s  
95th percentile per-packet one-way delay: 42.167 ms  
Loss rate: 2.00%

# Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2019-03-27 01:50:48

End at: 2019-03-27 01:51:18

Local clock offset: -1.05 ms

Remote clock offset: 1.292 ms

# Below is generated by plot.py at 2019-03-27 03:11:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.04 Mbit/s

95th percentile per-packet one-way delay: 39.086 ms

Loss rate: 1.82%

-- Flow 1:

Average throughput: 53.47 Mbit/s

95th percentile per-packet one-way delay: 36.530 ms

Loss rate: 1.27%

-- Flow 2:

Average throughput: 45.57 Mbit/s

95th percentile per-packet one-way delay: 41.060 ms

Loss rate: 2.64%

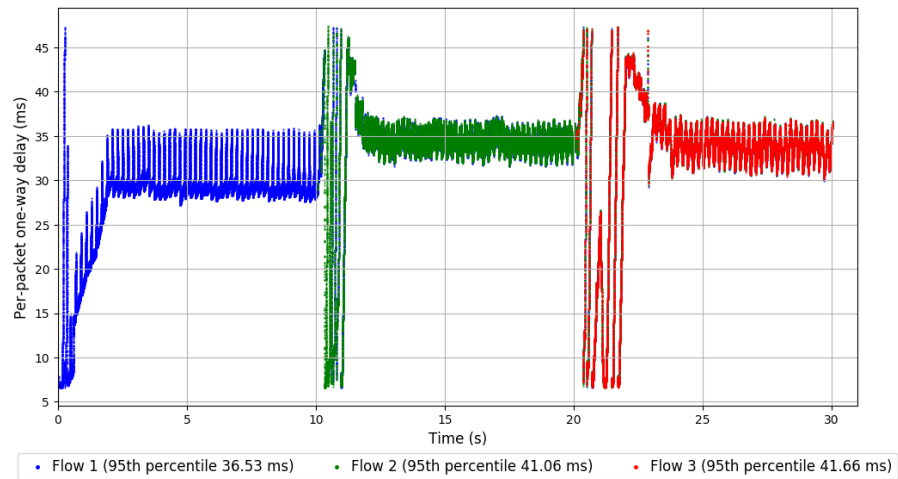
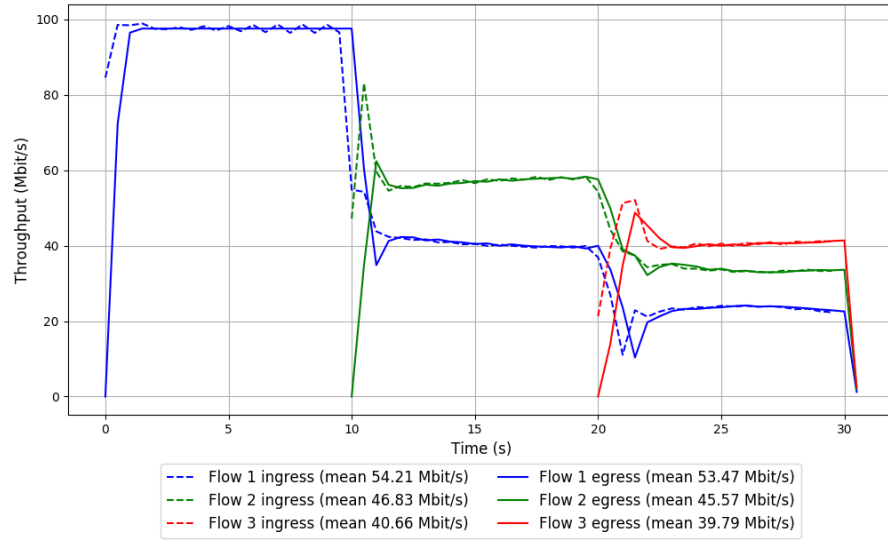
-- Flow 3:

Average throughput: 39.79 Mbit/s

95th percentile per-packet one-way delay: 41.657 ms

Loss rate: 2.12%

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



Run 3: Statistics of TCP BBR

Start at: 2019-03-27 02:15:49

End at: 2019-03-27 02:16:19

Local clock offset: -2.36 ms

Remote clock offset: 2.776 ms

# Below is generated by plot.py at 2019-03-27 03:11:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.85 Mbit/s

95th percentile per-packet one-way delay: 42.130 ms

Loss rate: 2.32%

-- Flow 1:

Average throughput: 54.49 Mbit/s

95th percentile per-packet one-way delay: 41.863 ms

Loss rate: 1.73%

-- Flow 2:

Average throughput: 51.32 Mbit/s

95th percentile per-packet one-way delay: 43.216 ms

Loss rate: 3.23%

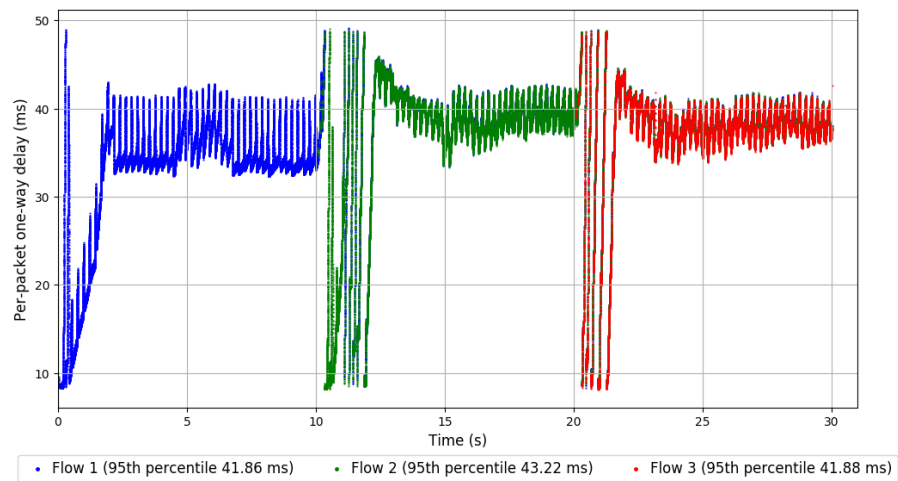
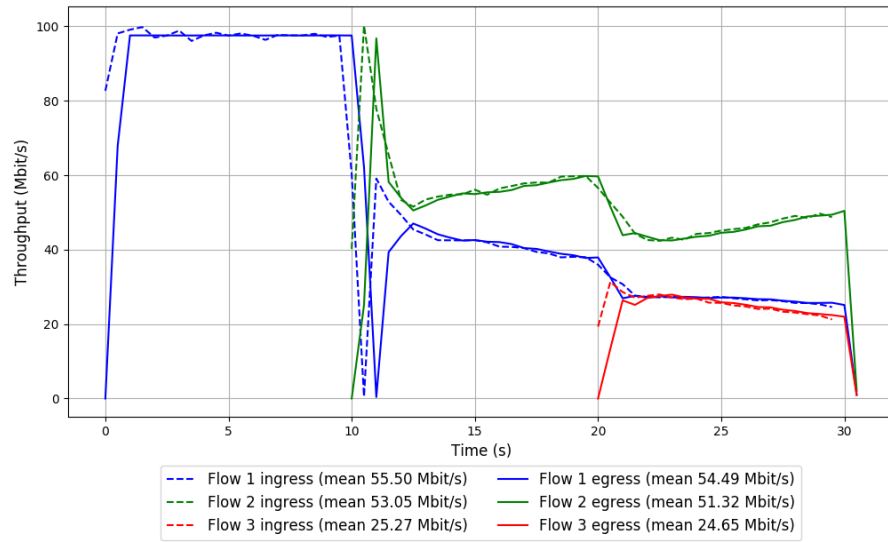
-- Flow 3:

Average throughput: 24.65 Mbit/s

95th percentile per-packet one-way delay: 41.881 ms

Loss rate: 2.44%

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



Run 4: Statistics of TCP BBR

Start at: 2019-03-27 02:40:49

End at: 2019-03-27 02:41:19

Local clock offset: -1.47 ms

Remote clock offset: 1.703 ms

# Below is generated by plot.py at 2019-03-27 03:11:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.87 Mbit/s

95th percentile per-packet one-way delay: 40.000 ms

Loss rate: 2.11%

-- Flow 1:

Average throughput: 51.74 Mbit/s

95th percentile per-packet one-way delay: 39.466 ms

Loss rate: 1.52%

-- Flow 2:

Average throughput: 50.29 Mbit/s

95th percentile per-packet one-way delay: 40.418 ms

Loss rate: 3.13%

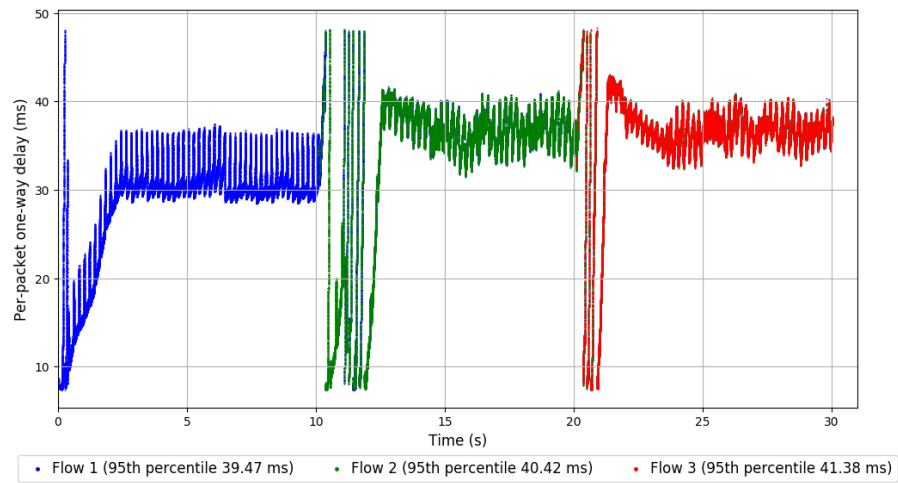
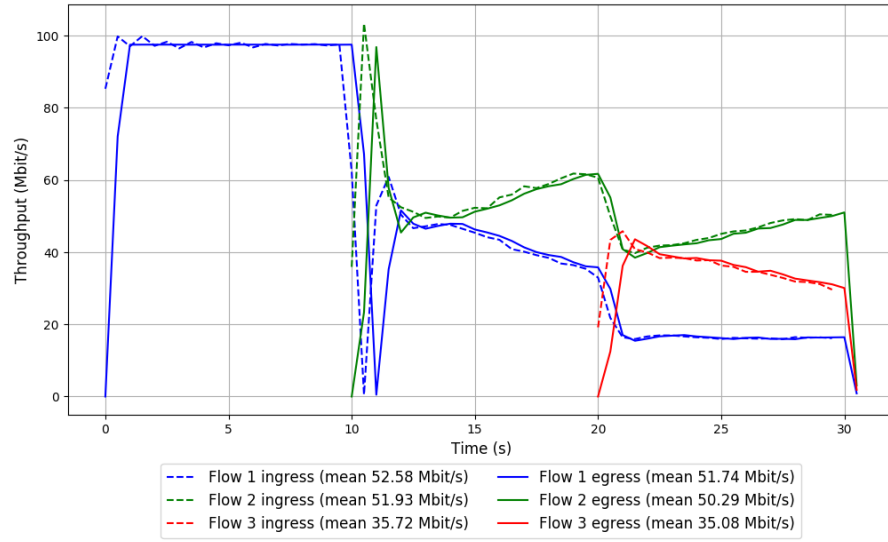
-- Flow 3:

Average throughput: 35.08 Mbit/s

95th percentile per-packet one-way delay: 41.384 ms

Loss rate: 1.78%

# Run 4: Report of TCP BBR — Data Link





Run 5: Statistics of TCP BBR

Start at: 2019-03-27 03:05:46

End at: 2019-03-27 03:06:16

Local clock offset: 17.249 ms

Remote clock offset: 0.398 ms

# Below is generated by plot.py at 2019-03-27 03:11:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.09 Mbit/s

95th percentile per-packet one-way delay: 21.525 ms

Loss rate: 1.82%

-- Flow 1:

Average throughput: 50.36 Mbit/s

95th percentile per-packet one-way delay: 20.934 ms

Loss rate: 1.36%

-- Flow 2:

Average throughput: 55.58 Mbit/s

95th percentile per-packet one-way delay: 22.186 ms

Loss rate: 2.52%

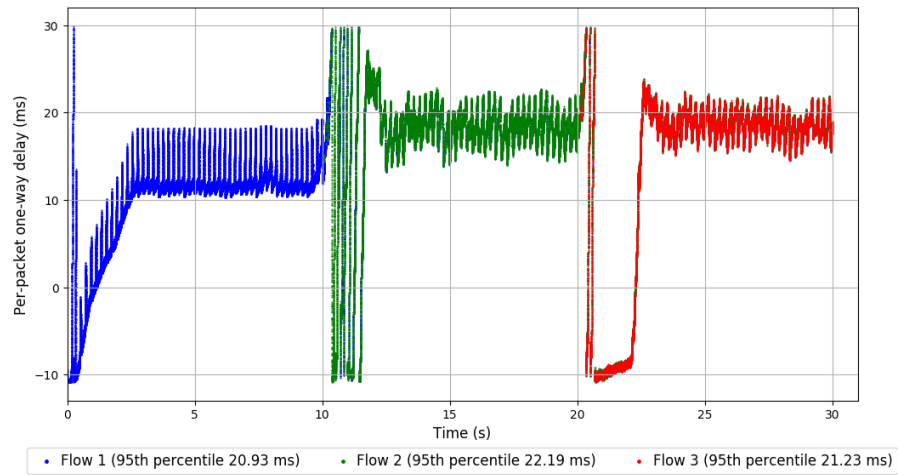
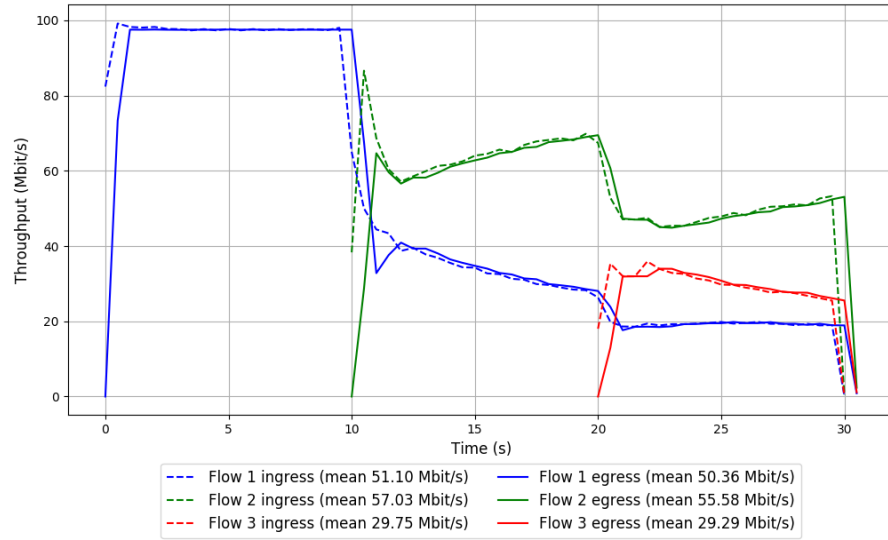
-- Flow 3:

Average throughput: 29.29 Mbit/s

95th percentile per-packet one-way delay: 21.227 ms

Loss rate: 1.54%

# Run 5: Report of TCP BBR — Data Link

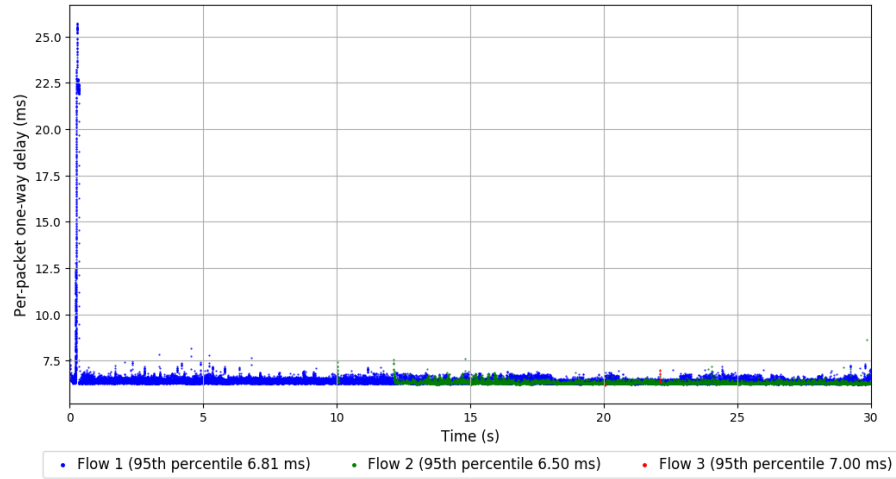
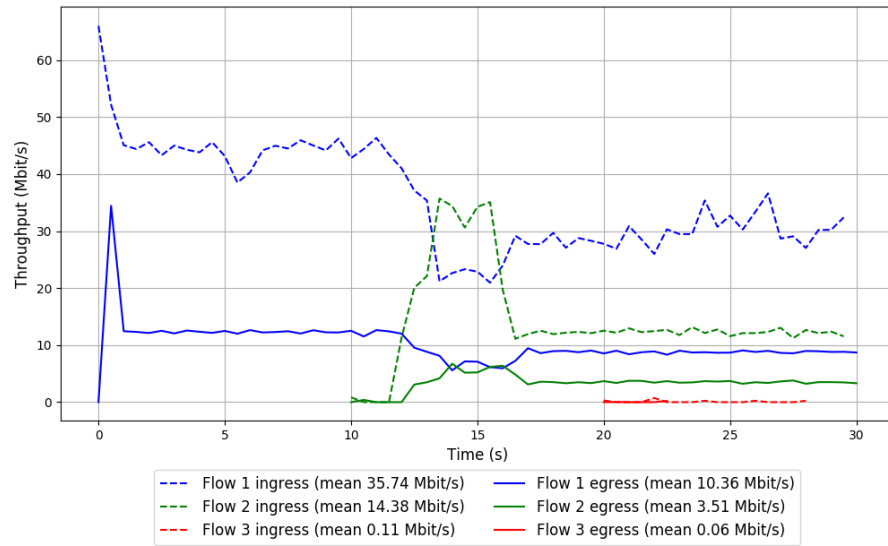


Run 1: Statistics of Copa

Start at: 2019-03-27 01:21:33  
End at: 2019-03-27 01:22:03  
Local clock offset: -0.109 ms  
Remote clock offset: -1.145 ms

# Below is generated by plot.py at 2019-03-27 03:11:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.70 Mbit/s  
95th percentile per-packet one-way delay: 6.755 ms  
Loss rate: 72.00%  
-- Flow 1:  
Average throughput: 10.36 Mbit/s  
95th percentile per-packet one-way delay: 6.813 ms  
Loss rate: 71.02%  
-- Flow 2:  
Average throughput: 3.51 Mbit/s  
95th percentile per-packet one-way delay: 6.495 ms  
Loss rate: 75.61%  
-- Flow 3:  
Average throughput: 0.06 Mbit/s  
95th percentile per-packet one-way delay: 7.005 ms  
Loss rate: 86.01%

## Run 1: Report of Copa — Data Link

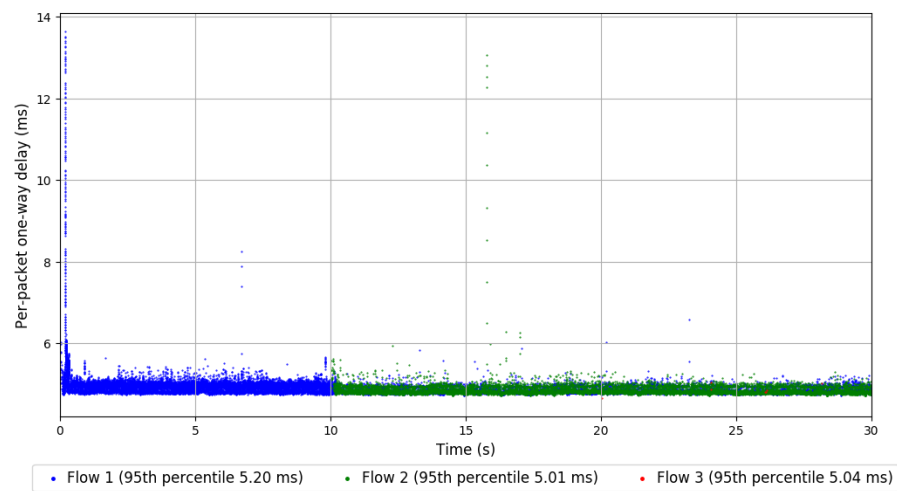
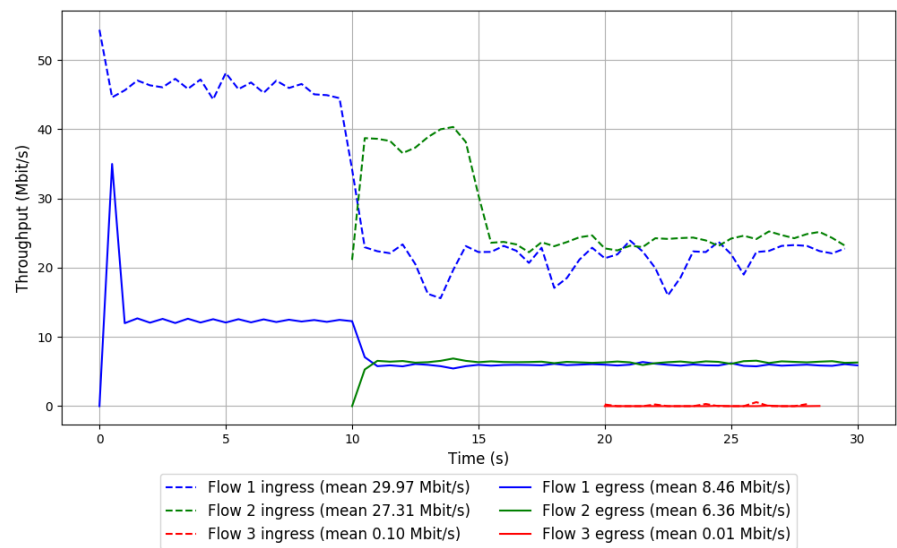


Run 2: Statistics of Copa

Start at: 2019-03-27 01:46:16  
End at: 2019-03-27 01:46:46  
Local clock offset: -0.497 ms  
Remote clock offset: -0.388 ms

# Below is generated by plot.py at 2019-03-27 03:11:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.70 Mbit/s  
95th percentile per-packet one-way delay: 5.127 ms  
Loss rate: 73.64%  
-- Flow 1:  
Average throughput: 8.46 Mbit/s  
95th percentile per-packet one-way delay: 5.198 ms  
Loss rate: 71.76%  
-- Flow 2:  
Average throughput: 6.36 Mbit/s  
95th percentile per-packet one-way delay: 5.013 ms  
Loss rate: 76.70%  
-- Flow 3:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 5.044 ms  
Loss rate: 91.19%

Run 2: Report of Copa — Data Link

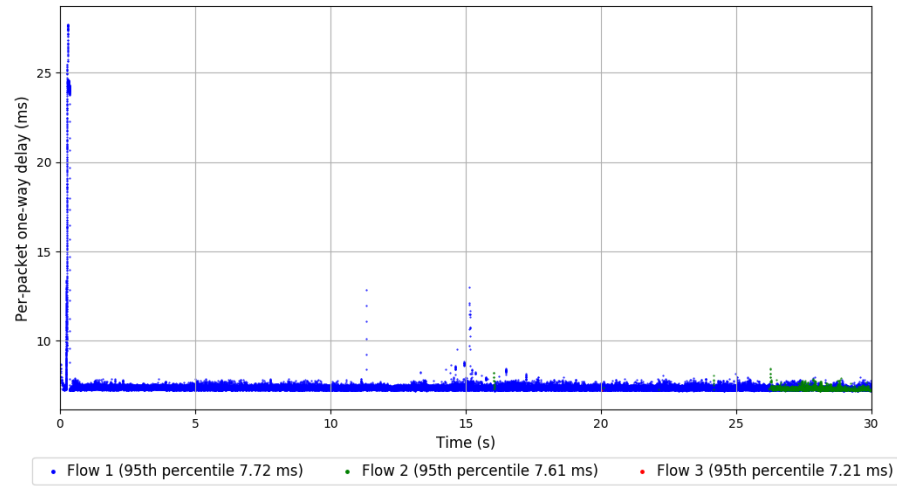
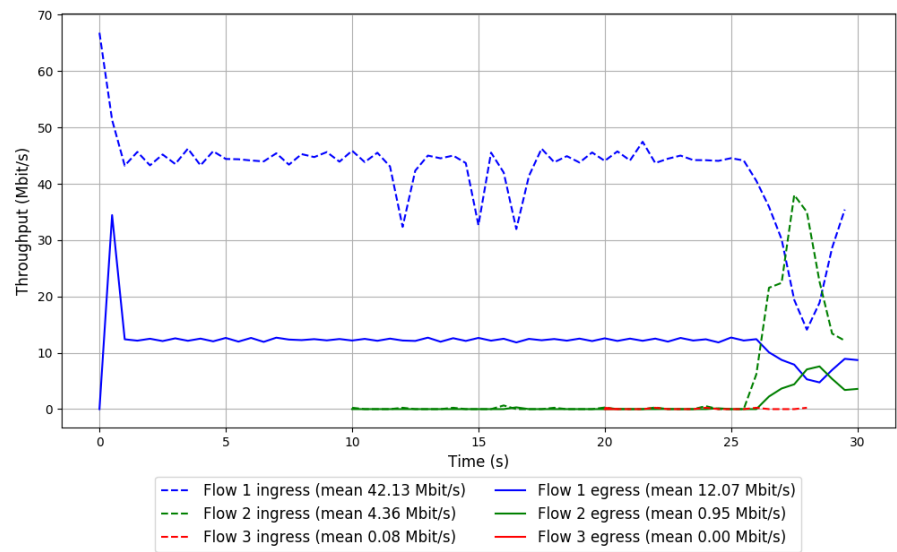


Run 3: Statistics of Copa

Start at: 2019-03-27 02:11:14  
End at: 2019-03-27 02:11:44  
Local clock offset: -1.313 ms  
Remote clock offset: 2.937 ms

# Below is generated by plot.py at 2019-03-27 03:11:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.69 Mbit/s  
95th percentile per-packet one-way delay: 7.715 ms  
Loss rate: 71.82%  
-- Flow 1:  
Average throughput: 12.07 Mbit/s  
95th percentile per-packet one-way delay: 7.721 ms  
Loss rate: 71.36%  
-- Flow 2:  
Average throughput: 0.95 Mbit/s  
95th percentile per-packet one-way delay: 7.608 ms  
Loss rate: 78.29%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 7.214 ms  
Loss rate: 99.83%

Run 3: Report of Copa — Data Link





Run 4: Statistics of Copa

Start at: 2019-03-27 02:36:13

End at: 2019-03-27 02:36:43

Local clock offset: -0.215 ms

Remote clock offset: 1.24 ms

# Below is generated by plot.py at 2019-03-27 03:11:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.70 Mbit/s

95th percentile per-packet one-way delay: 6.408 ms

Loss rate: 72.30%

-- Flow 1:

Average throughput: 8.87 Mbit/s

95th percentile per-packet one-way delay: 6.867 ms

Loss rate: 71.61%

-- Flow 2:

Average throughput: 5.76 Mbit/s

95th percentile per-packet one-way delay: 6.140 ms

Loss rate: 73.76%

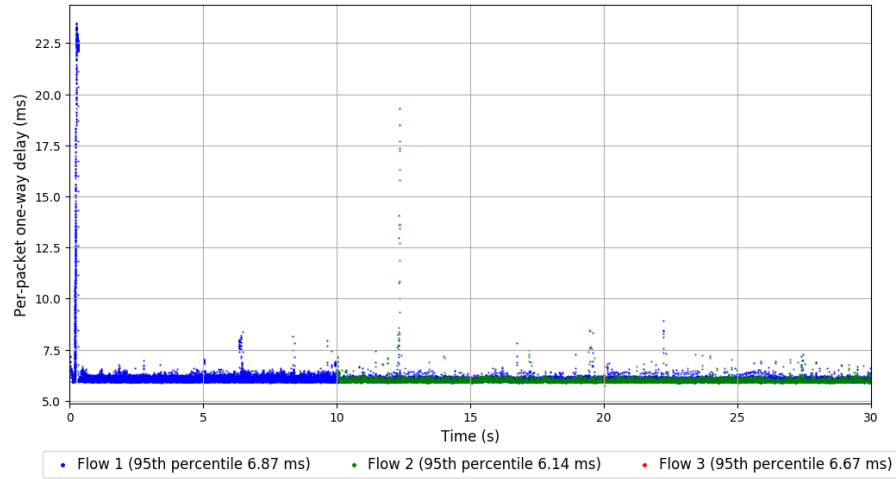
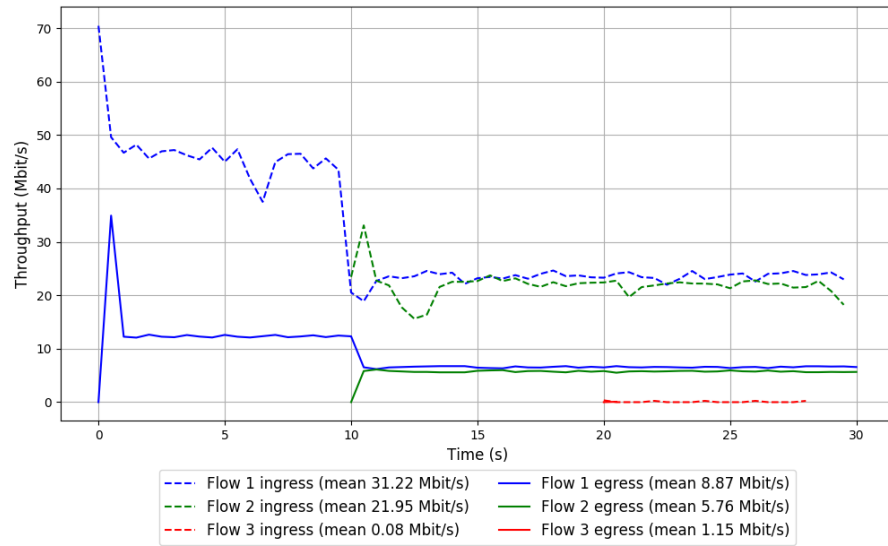
-- Flow 3:

Average throughput: 1.15 Mbit/s

95th percentile per-packet one-way delay: 6.665 ms

Loss rate: 94.30%

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



Run 5: Statistics of Copa

Start at: 2019-03-27 03:01:13

End at: 2019-03-27 03:01:43

Local clock offset: 0.66 ms

Remote clock offset: 1.006 ms

# Below is generated by plot.py at 2019-03-27 03:11:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.70 Mbit/s

95th percentile per-packet one-way delay: 6.584 ms

Loss rate: 72.53%

-- Flow 1:

Average throughput: 8.47 Mbit/s

95th percentile per-packet one-way delay: 6.876 ms

Loss rate: 71.60%

-- Flow 2:

Average throughput: 6.35 Mbit/s

95th percentile per-packet one-way delay: 6.428 ms

Loss rate: 74.19%

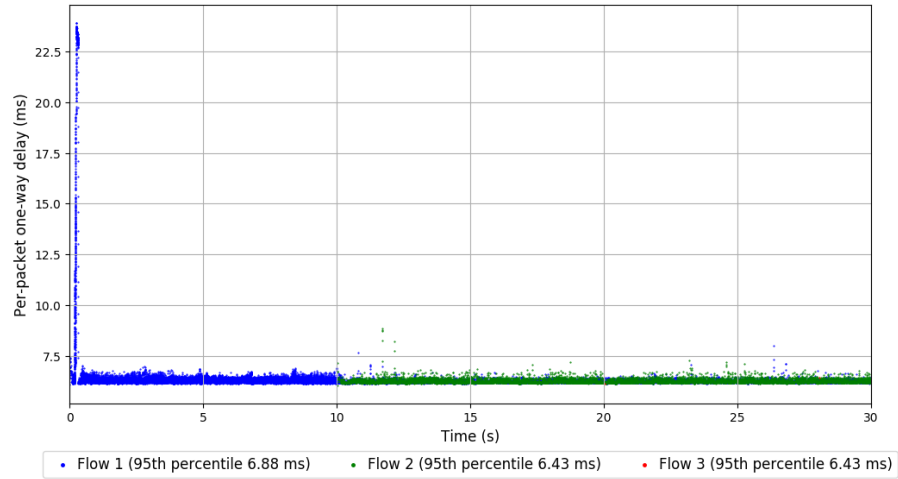
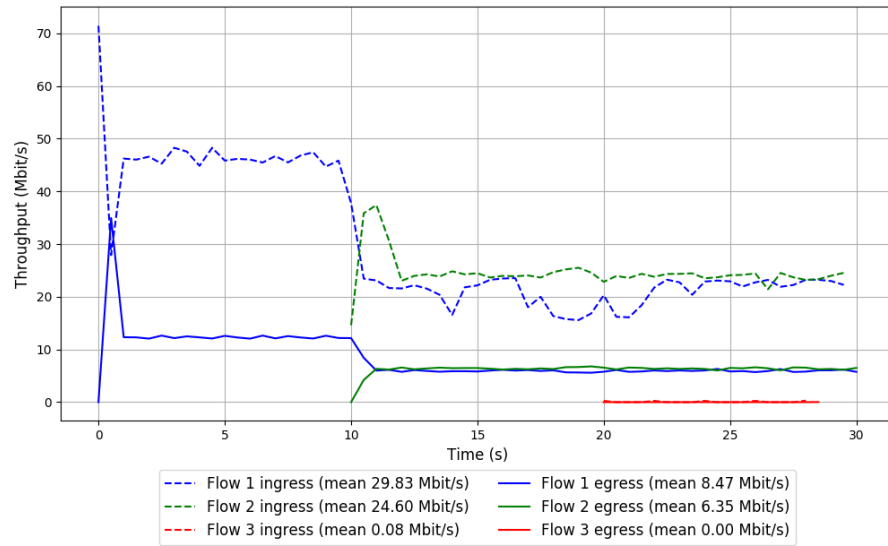
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 6.433 ms

Loss rate: 97.92%

## Run 5: Report of Copa — Data Link

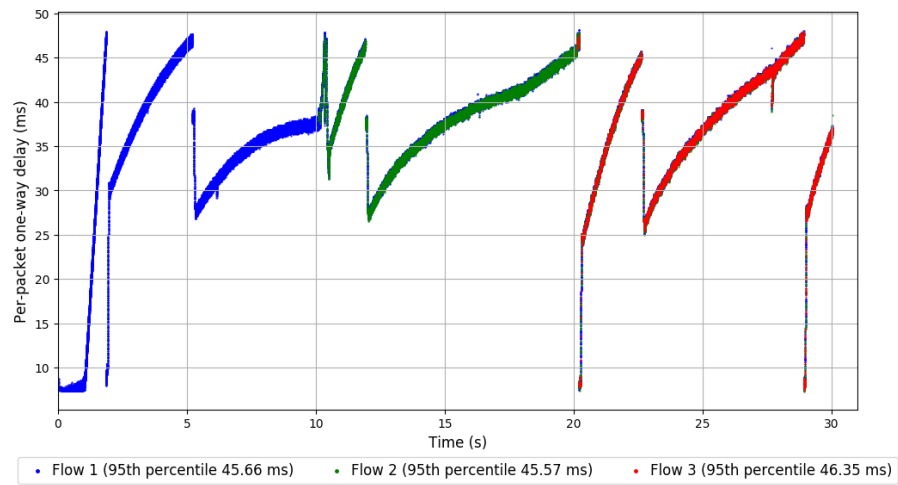
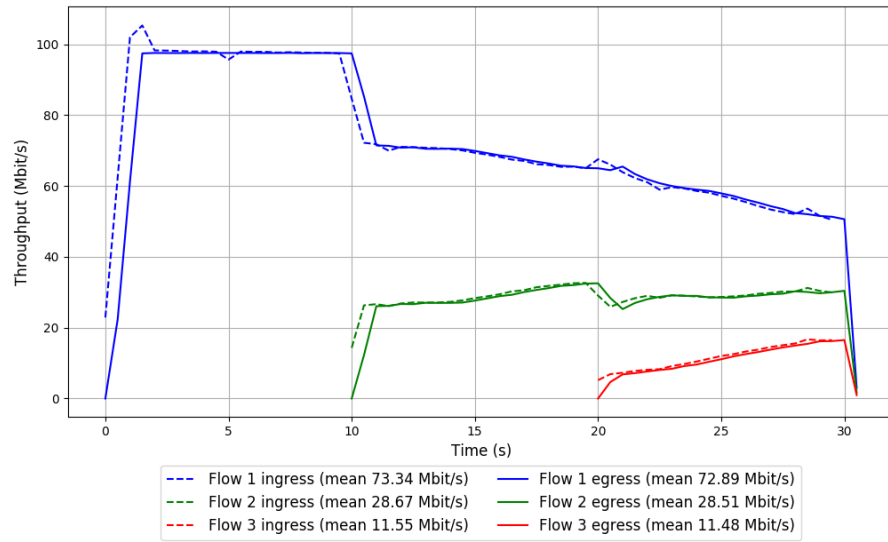


Run 1: Statistics of TCP Cubic

Start at: 2019-03-27 01:13:21  
End at: 2019-03-27 01:13:51  
Local clock offset: -0.29 ms  
Remote clock offset: -1.207 ms

# Below is generated by plot.py at 2019-03-27 03:12:07  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.68 Mbit/s  
95th percentile per-packet one-way delay: 45.665 ms  
Loss rate: 0.53%  
-- Flow 1:  
Average throughput: 72.89 Mbit/s  
95th percentile per-packet one-way delay: 45.659 ms  
Loss rate: 0.52%  
-- Flow 2:  
Average throughput: 28.51 Mbit/s  
95th percentile per-packet one-way delay: 45.566 ms  
Loss rate: 0.54%  
-- Flow 3:  
Average throughput: 11.48 Mbit/s  
95th percentile per-packet one-way delay: 46.353 ms  
Loss rate: 0.62%

# Run 1: Report of TCP Cubic — Data Link

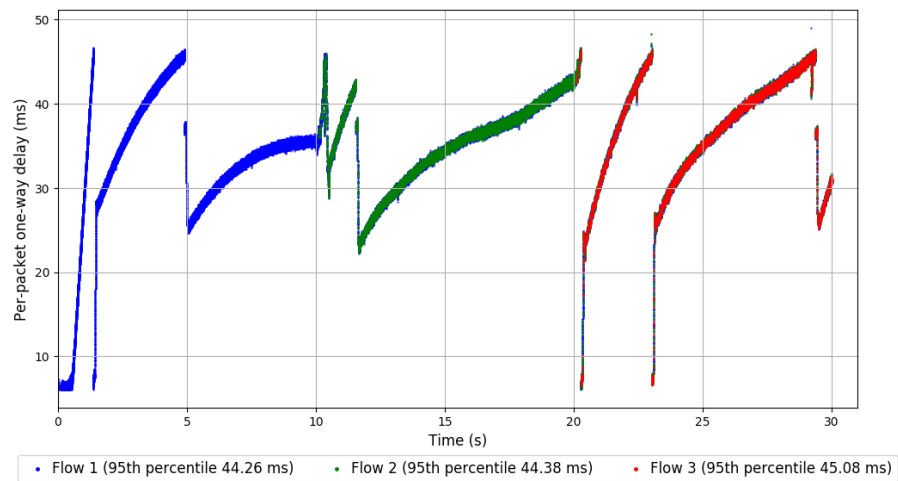
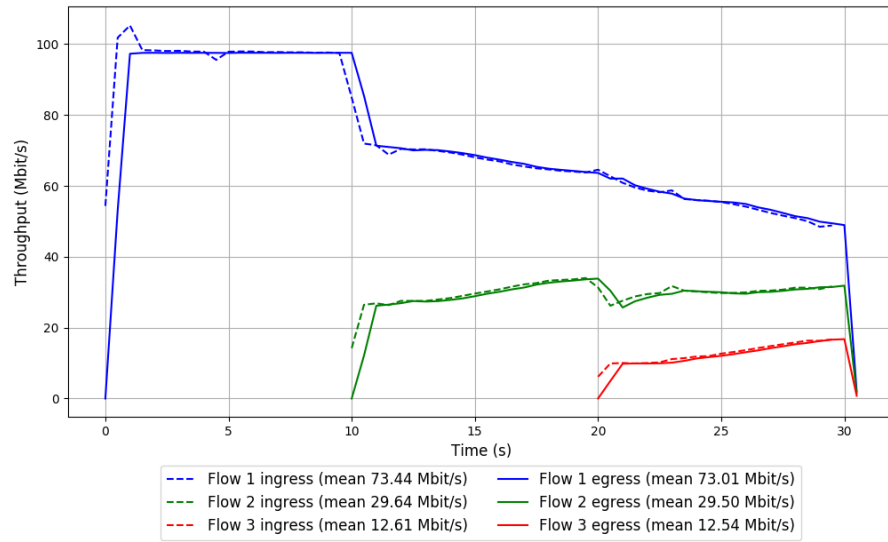


Run 2: Statistics of TCP Cubic

Start at: 2019-03-27 01:38:04  
End at: 2019-03-27 01:38:34  
Local clock offset: -0.34 ms  
Remote clock offset: 0.25 ms

# Below is generated by plot.py at 2019-03-27 03:12:18  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.79 Mbit/s  
95th percentile per-packet one-way delay: 44.376 ms  
Loss rate: 0.53%  
-- Flow 1:  
Average throughput: 73.01 Mbit/s  
95th percentile per-packet one-way delay: 44.258 ms  
Loss rate: 0.52%  
-- Flow 2:  
Average throughput: 29.50 Mbit/s  
95th percentile per-packet one-way delay: 44.382 ms  
Loss rate: 0.52%  
-- Flow 3:  
Average throughput: 12.54 Mbit/s  
95th percentile per-packet one-way delay: 45.080 ms  
Loss rate: 0.68%

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





Run 3: Statistics of TCP Cubic

Start at: 2019-03-27 02:02:50

End at: 2019-03-27 02:03:20

Local clock offset: -1.584 ms

Remote clock offset: 2.242 ms

# Below is generated by plot.py at 2019-03-27 03:12:19

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.77 Mbit/s

95th percentile per-packet one-way delay: 46.130 ms

Loss rate: 0.86%

-- Flow 1:

Average throughput: 73.48 Mbit/s

95th percentile per-packet one-way delay: 46.103 ms

Loss rate: 0.81%

-- Flow 2:

Average throughput: 28.62 Mbit/s

95th percentile per-packet one-way delay: 46.135 ms

Loss rate: 1.04%

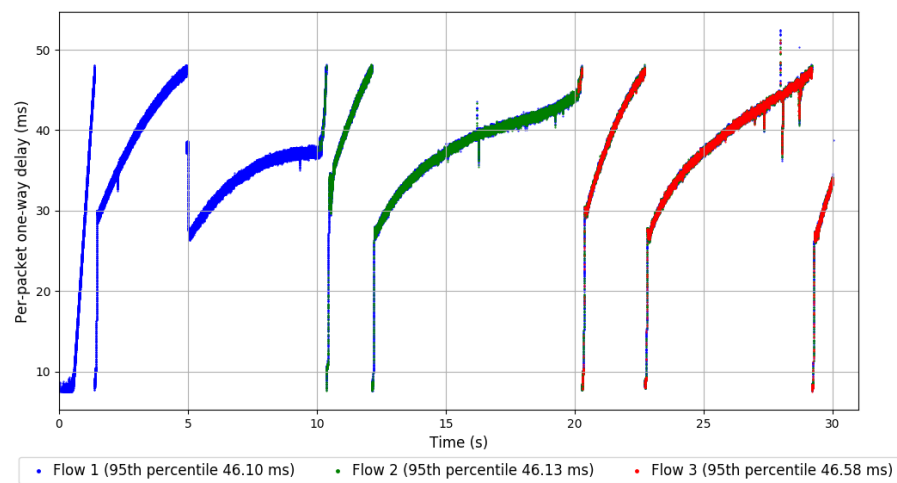
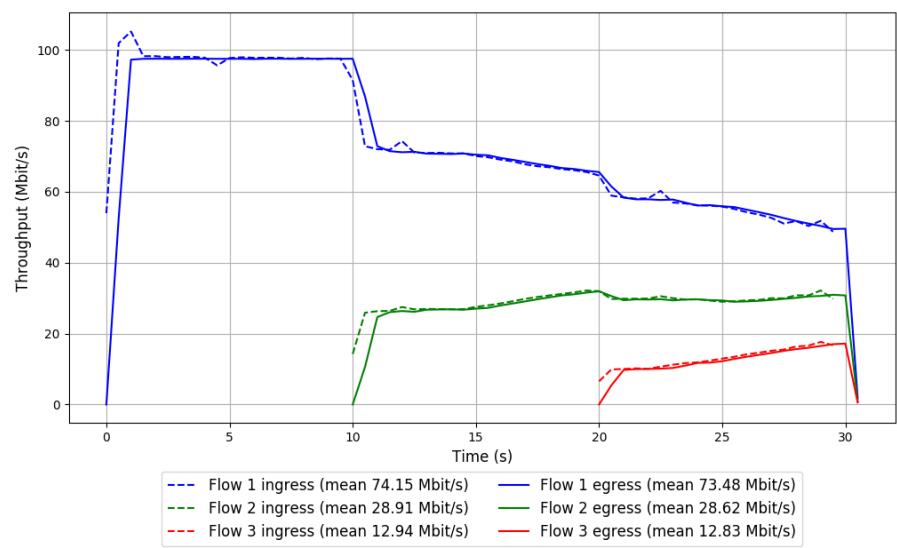
-- Flow 3:

Average throughput: 12.83 Mbit/s

95th percentile per-packet one-way delay: 46.578 ms

Loss rate: 1.00%

Run 3: Report of TCP Cubic — Data Link

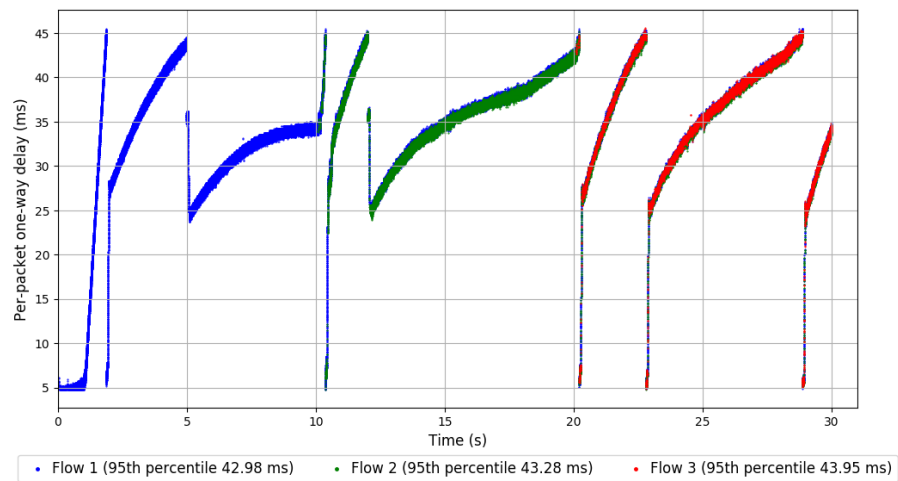
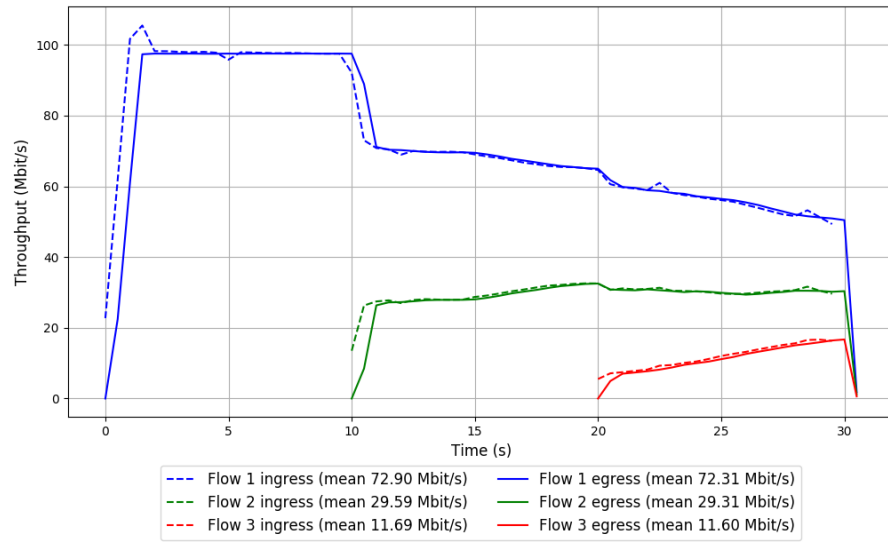


Run 4: Statistics of TCP Cubic

Start at: 2019-03-27 02:28:04  
End at: 2019-03-27 02:28:34  
Local clock offset: -0.298 ms  
Remote clock offset: 0.453 ms

# Below is generated by plot.py at 2019-03-27 03:12:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.67 Mbit/s  
95th percentile per-packet one-way delay: 43.060 ms  
Loss rate: 0.76%  
-- Flow 1:  
Average throughput: 72.31 Mbit/s  
95th percentile per-packet one-way delay: 42.983 ms  
Loss rate: 0.71%  
-- Flow 2:  
Average throughput: 29.31 Mbit/s  
95th percentile per-packet one-way delay: 43.276 ms  
Loss rate: 0.93%  
-- Flow 3:  
Average throughput: 11.60 Mbit/s  
95th percentile per-packet one-way delay: 43.950 ms  
Loss rate: 0.90%

# Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2019-03-27 02:52:57

End at: 2019-03-27 02:53:27

Local clock offset: 0.24 ms

Remote clock offset: 2.699 ms

# Below is generated by plot.py at 2019-03-27 03:12:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.34 Mbit/s

95th percentile per-packet one-way delay: 46.325 ms

Loss rate: 0.76%

-- Flow 1:

Average throughput: 70.23 Mbit/s

95th percentile per-packet one-way delay: 46.309 ms

Loss rate: 0.82%

-- Flow 2:

Average throughput: 26.58 Mbit/s

95th percentile per-packet one-way delay: 46.133 ms

Loss rate: 0.70%

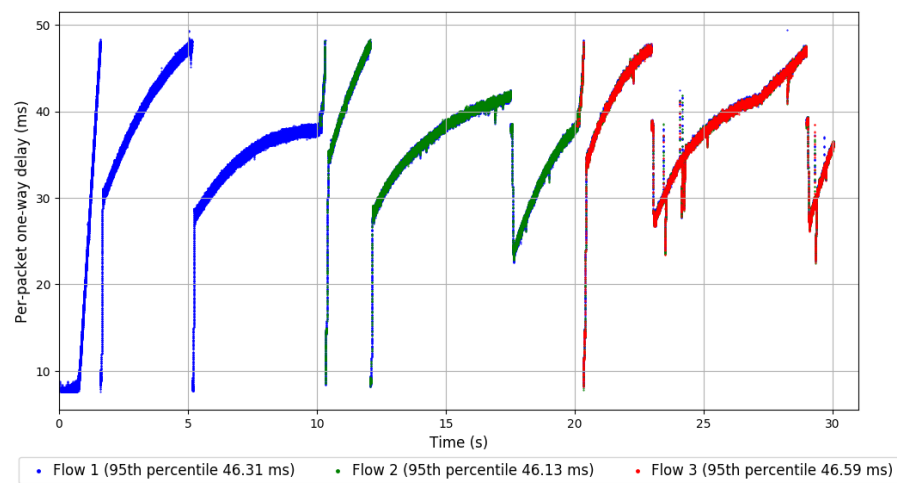
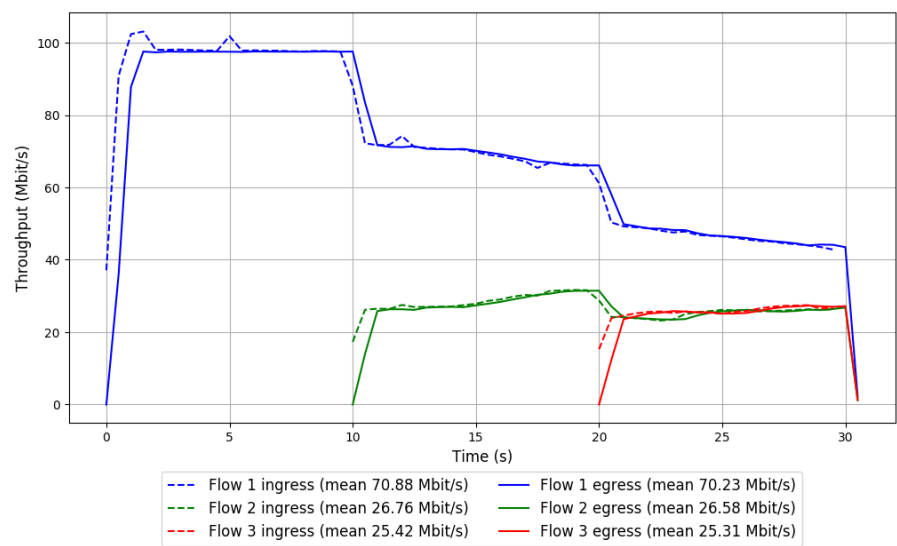
-- Flow 3:

Average throughput: 25.31 Mbit/s

95th percentile per-packet one-way delay: 46.588 ms

Loss rate: 0.44%

Run 5: Report of TCP Cubic — Data Link

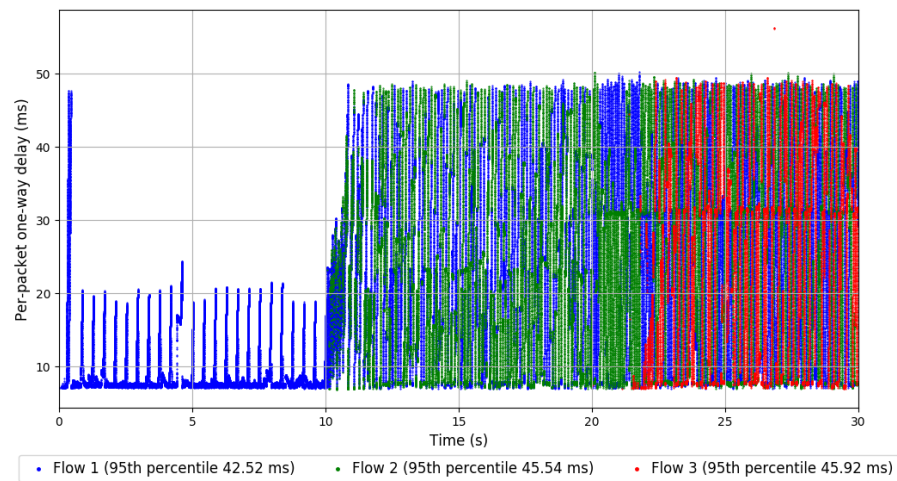
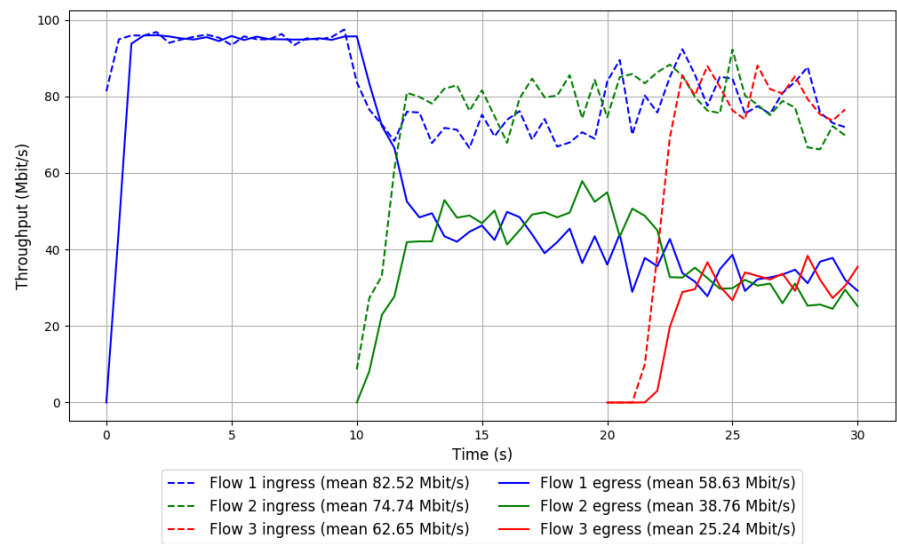


Run 1: Statistics of FillP

Start at: 2019-03-27 01:15:48  
End at: 2019-03-27 01:16:18  
Local clock offset: 0.435 ms  
Remote clock offset: -0.514 ms

# Below is generated by plot.py at 2019-03-27 03:13:18  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.70 Mbit/s  
95th percentile per-packet one-way delay: 44.299 ms  
Loss rate: 39.40%  
-- Flow 1:  
Average throughput: 58.63 Mbit/s  
95th percentile per-packet one-way delay: 42.519 ms  
Loss rate: 28.94%  
-- Flow 2:  
Average throughput: 38.76 Mbit/s  
95th percentile per-packet one-way delay: 45.540 ms  
Loss rate: 48.25%  
-- Flow 3:  
Average throughput: 25.24 Mbit/s  
95th percentile per-packet one-way delay: 45.922 ms  
Loss rate: 59.77%

Run 1: Report of FillP — Data Link





Run 2: Statistics of FillP

Start at: 2019-03-27 01:40:28

End at: 2019-03-27 01:40:58

Local clock offset: -1.182 ms

Remote clock offset: 0.343 ms

# Below is generated by plot.py at 2019-03-27 03:13:19

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.52 Mbit/s

95th percentile per-packet one-way delay: 43.588 ms

Loss rate: 40.50%

-- Flow 1:

Average throughput: 55.57 Mbit/s

95th percentile per-packet one-way delay: 41.300 ms

Loss rate: 30.80%

-- Flow 2:

Average throughput: 41.47 Mbit/s

95th percentile per-packet one-way delay: 44.871 ms

Loss rate: 47.20%

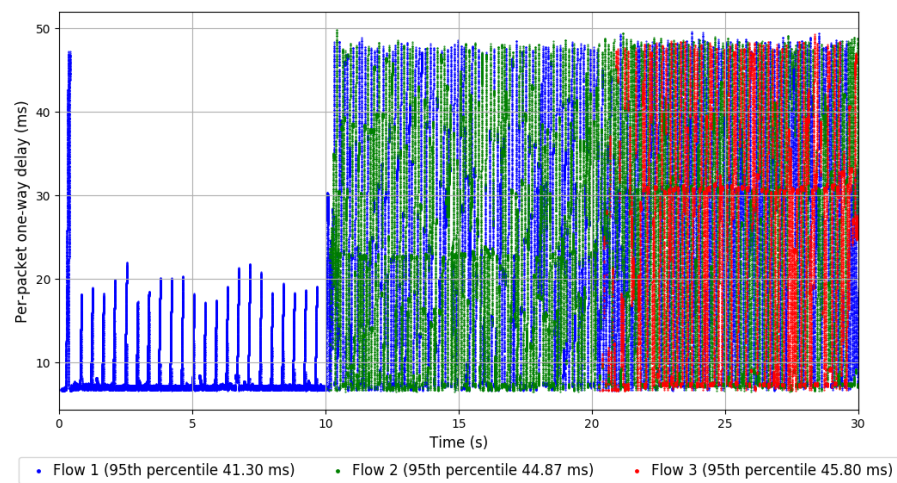
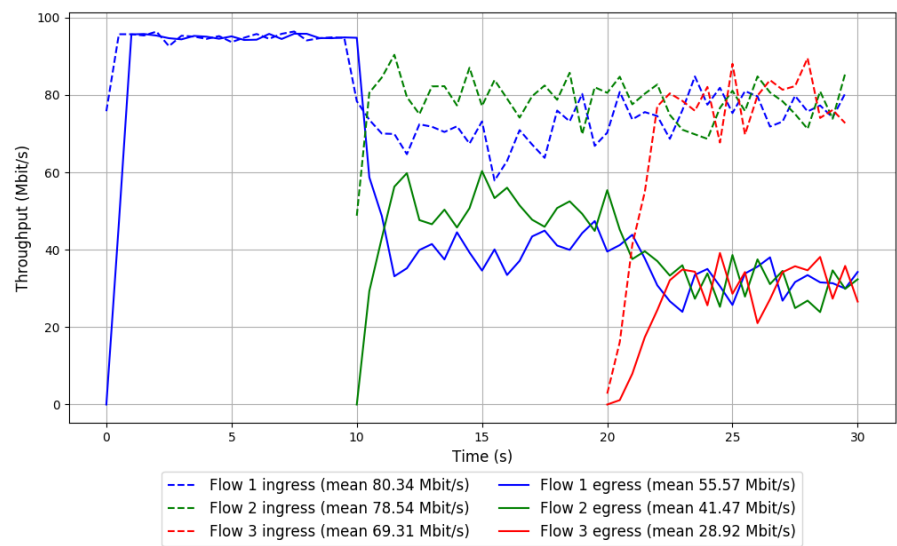
-- Flow 3:

Average throughput: 28.92 Mbit/s

95th percentile per-packet one-way delay: 45.805 ms

Loss rate: 59.20%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2019-03-27 02:05:20

End at: 2019-03-27 02:05:50

Local clock offset: -0.308 ms

Remote clock offset: 2.843 ms

# Below is generated by plot.py at 2019-03-27 03:13:20

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.26 Mbit/s

95th percentile per-packet one-way delay: 43.589 ms

Loss rate: 39.72%

-- Flow 1:

Average throughput: 56.17 Mbit/s

95th percentile per-packet one-way delay: 42.344 ms

Loss rate: 30.56%

-- Flow 2:

Average throughput: 42.89 Mbit/s

95th percentile per-packet one-way delay: 44.433 ms

Loss rate: 46.60%

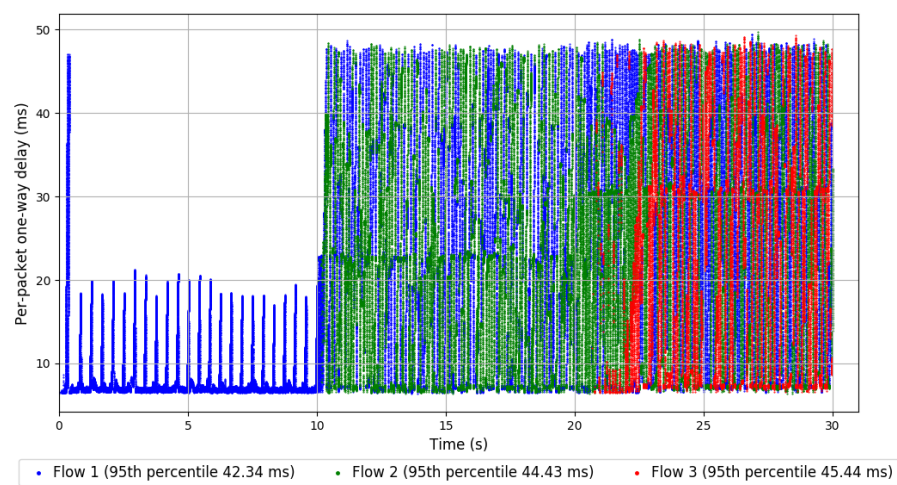
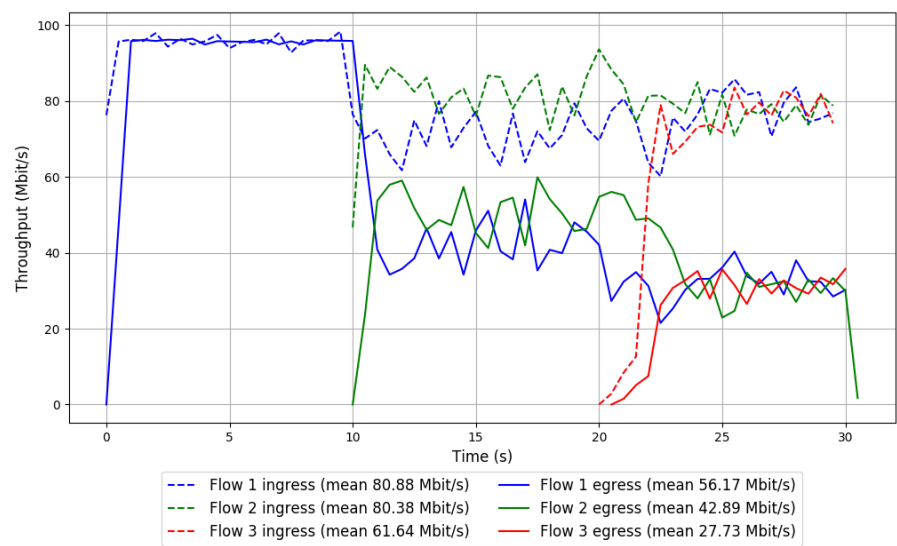
-- Flow 3:

Average throughput: 27.73 Mbit/s

95th percentile per-packet one-way delay: 45.442 ms

Loss rate: 57.89%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2019-03-27 02:30:28

End at: 2019-03-27 02:30:58

Local clock offset: -2.06 ms

Remote clock offset: 2.212 ms

# Below is generated by plot.py at 2019-03-27 03:13:35

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.87 Mbit/s

95th percentile per-packet one-way delay: 45.461 ms

Loss rate: 39.79%

-- Flow 1:

Average throughput: 56.52 Mbit/s

95th percentile per-packet one-way delay: 43.290 ms

Loss rate: 30.70%

-- Flow 2:

Average throughput: 41.34 Mbit/s

95th percentile per-packet one-way delay: 46.501 ms

Loss rate: 47.34%

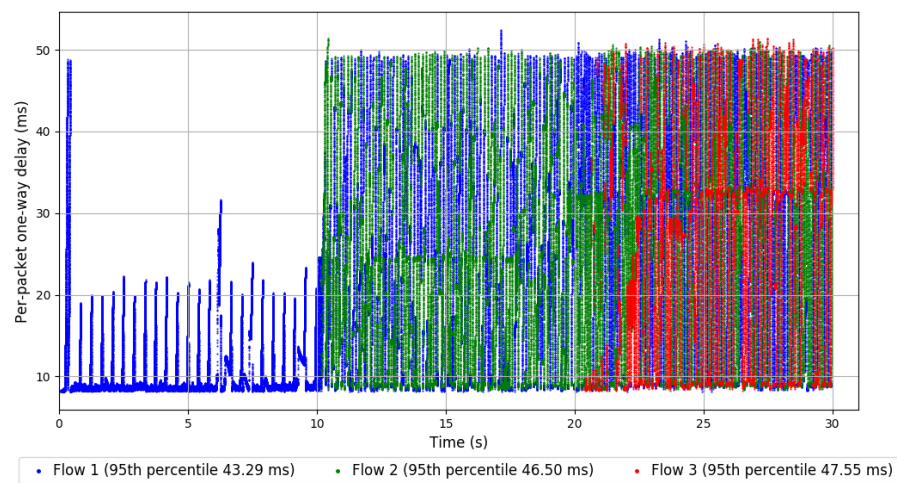
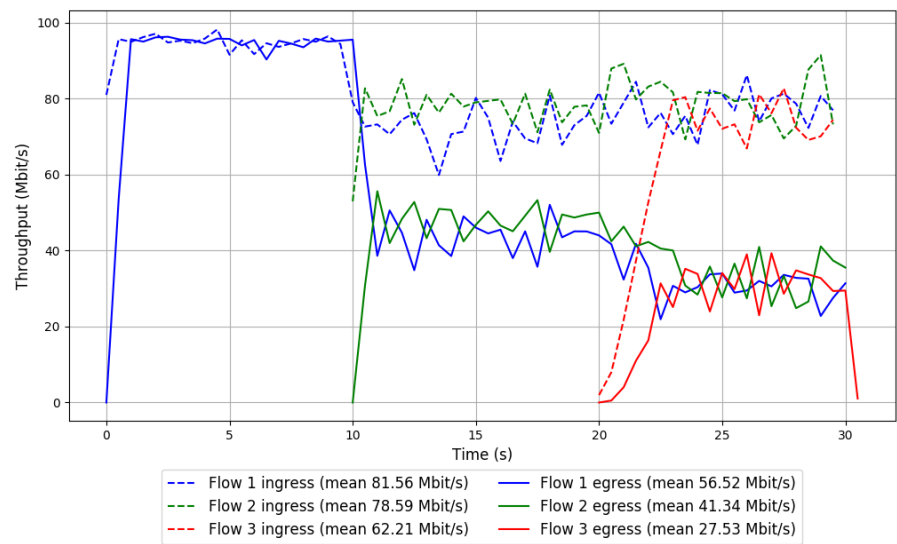
-- Flow 3:

Average throughput: 27.53 Mbit/s

95th percentile per-packet one-way delay: 47.546 ms

Loss rate: 56.56%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2019-03-27 02:55:23

End at: 2019-03-27 02:55:53

Local clock offset: -0.648 ms

Remote clock offset: 1.495 ms

# Below is generated by plot.py at 2019-03-27 03:13:50

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.92 Mbit/s

95th percentile per-packet one-way delay: 44.437 ms

Loss rate: 39.01%

-- Flow 1:

Average throughput: 57.24 Mbit/s

95th percentile per-packet one-way delay: 42.940 ms

Loss rate: 29.48%

-- Flow 2:

Average throughput: 41.36 Mbit/s

95th percentile per-packet one-way delay: 45.673 ms

Loss rate: 46.77%

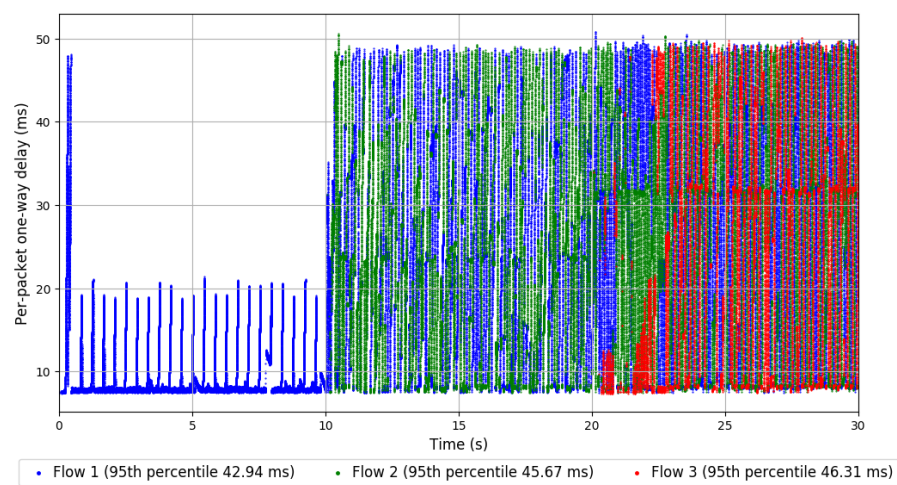
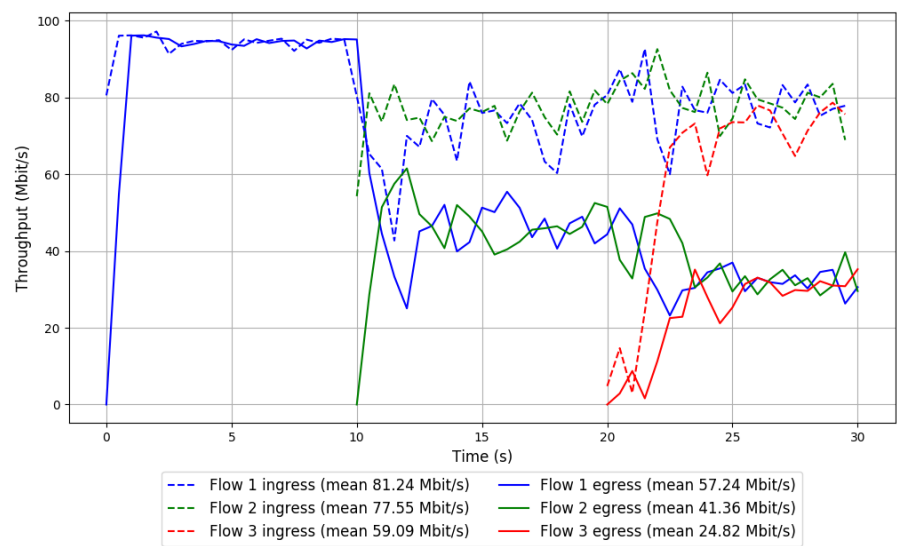
-- Flow 3:

Average throughput: 24.82 Mbit/s

95th percentile per-packet one-way delay: 46.314 ms

Loss rate: 58.08%

Run 5: Report of FillP — Data Link



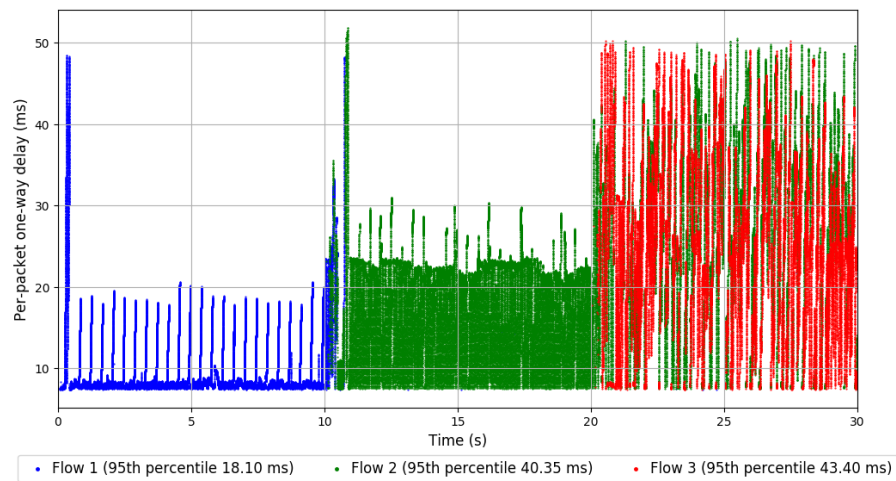
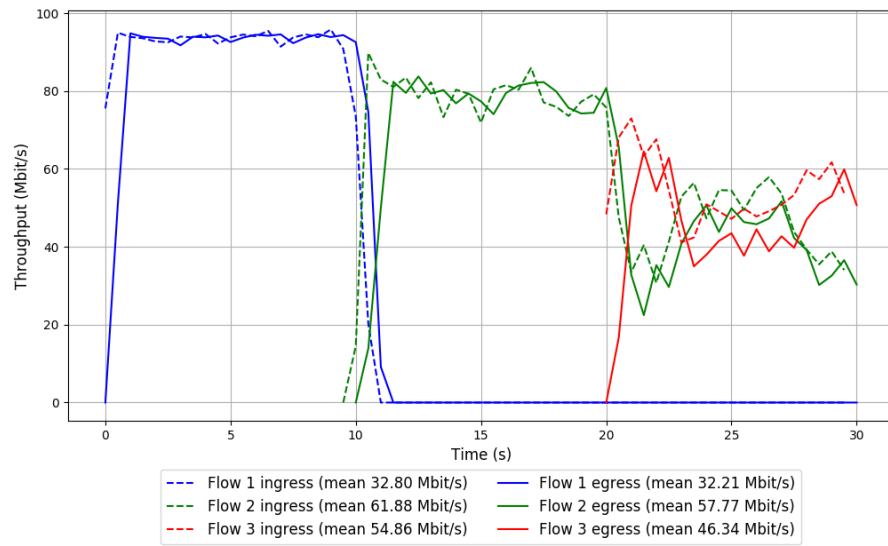


Run 1: Statistics of FillP-Sheep

Start at: 2019-03-27 01:08:20  
End at: 2019-03-27 01:08:50  
Local clock offset: 0.252 ms  
Remote clock offset: -0.482 ms

# Below is generated by plot.py at 2019-03-27 03:13:50  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 85.79 Mbit/s  
95th percentile per-packet one-way delay: 39.353 ms  
Loss rate: 6.68%  
-- Flow 1:  
Average throughput: 32.21 Mbit/s  
95th percentile per-packet one-way delay: 18.101 ms  
Loss rate: 1.75%  
-- Flow 2:  
Average throughput: 57.77 Mbit/s  
95th percentile per-packet one-way delay: 40.347 ms  
Loss rate: 6.64%  
-- Flow 3:  
Average throughput: 46.34 Mbit/s  
95th percentile per-packet one-way delay: 43.401 ms  
Loss rate: 15.62%

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



Run 2: Statistics of FillP-Sheep

Start at: 2019-03-27 01:33:19

End at: 2019-03-27 01:33:49

Local clock offset: -1.7 ms

Remote clock offset: 1.319 ms

# Below is generated by plot.py at 2019-03-27 03:14:06

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.24 Mbit/s

95th percentile per-packet one-way delay: 42.166 ms

Loss rate: 6.46%

-- Flow 1:

Average throughput: 56.82 Mbit/s

95th percentile per-packet one-way delay: 40.040 ms

Loss rate: 3.71%

-- Flow 2:

Average throughput: 37.80 Mbit/s

95th percentile per-packet one-way delay: 42.743 ms

Loss rate: 9.09%

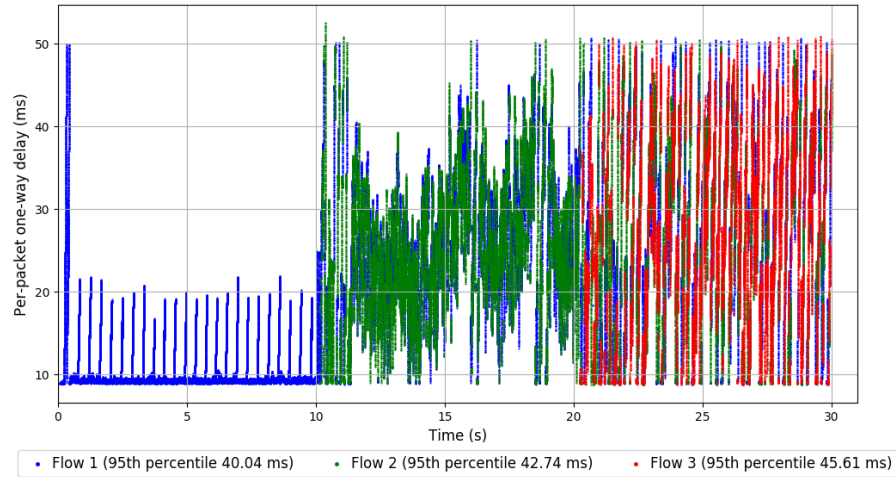
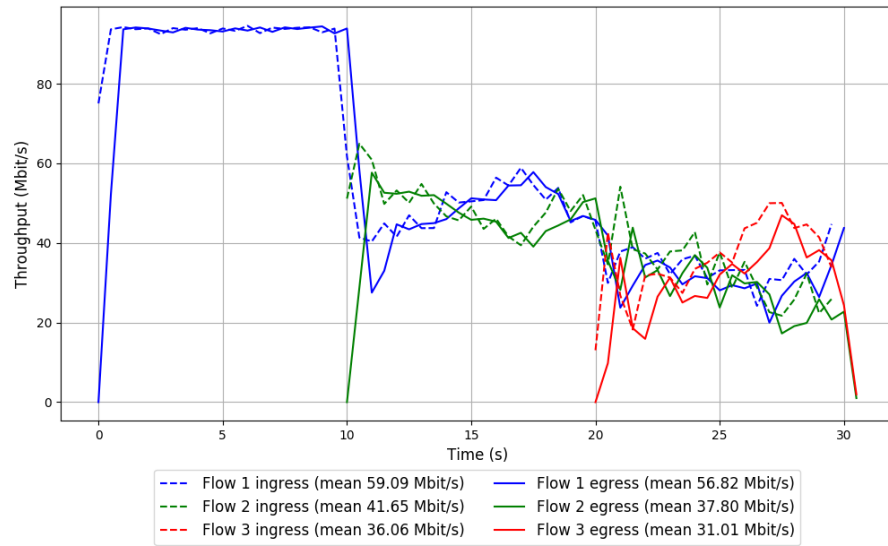
-- Flow 3:

Average throughput: 31.01 Mbit/s

95th percentile per-packet one-way delay: 45.614 ms

Loss rate: 13.91%

## Run 2: Report of FillP-Sheep — Data Link

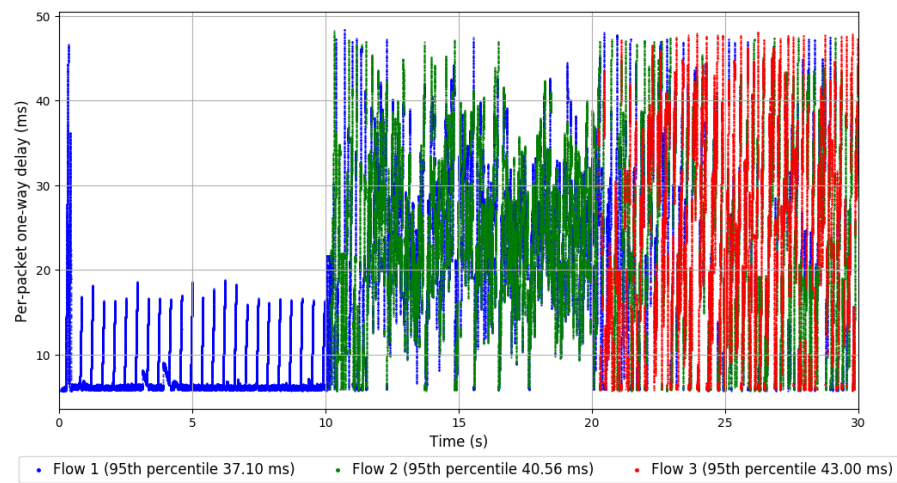
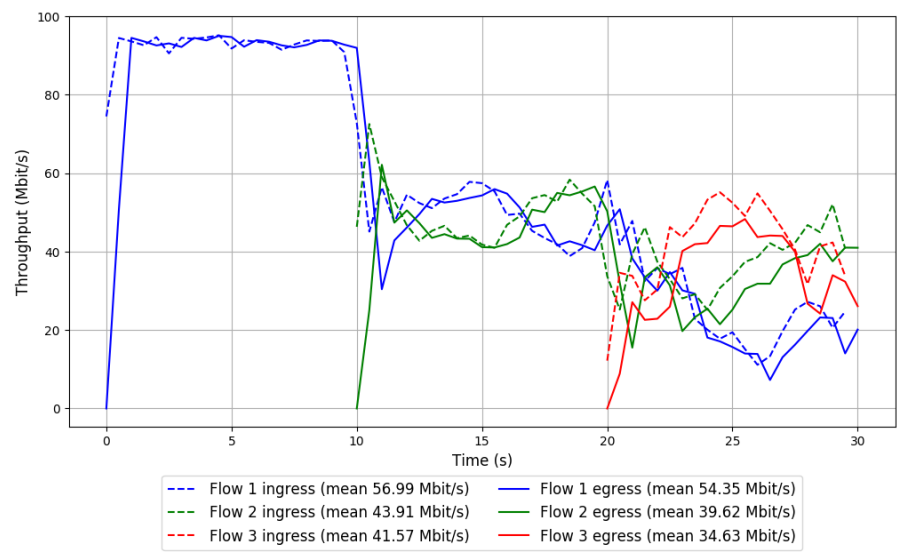


Run 3: Statistics of FillP-Sheep

Start at: 2019-03-27 01:58:00  
End at: 2019-03-27 01:58:30  
Local clock offset: -1.533 ms  
Remote clock offset: 0.318 ms

# Below is generated by plot.py at 2019-03-27 03:14:07  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.15 Mbit/s  
95th percentile per-packet one-way delay: 39.548 ms  
Loss rate: 7.82%  
-- Flow 1:  
Average throughput: 54.35 Mbit/s  
95th percentile per-packet one-way delay: 37.100 ms  
Loss rate: 4.68%  
-- Flow 2:  
Average throughput: 39.62 Mbit/s  
95th percentile per-packet one-way delay: 40.556 ms  
Loss rate: 9.74%  
-- Flow 3:  
Average throughput: 34.63 Mbit/s  
95th percentile per-packet one-way delay: 42.999 ms  
Loss rate: 16.73%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2019-03-27 02:23:16

End at: 2019-03-27 02:23:46

Local clock offset: -2.499 ms

Remote clock offset: 0.247 ms

# Below is generated by plot.py at 2019-03-27 03:14:37

# Datalink statistics

-- Total of 3 flows:

Average throughput: 91.48 Mbit/s

95th percentile per-packet one-way delay: 40.321 ms

Loss rate: 8.85%

-- Flow 1:

Average throughput: 53.41 Mbit/s

95th percentile per-packet one-way delay: 37.642 ms

Loss rate: 5.17%

-- Flow 2:

Average throughput: 40.16 Mbit/s

95th percentile per-packet one-way delay: 42.523 ms

Loss rate: 11.51%

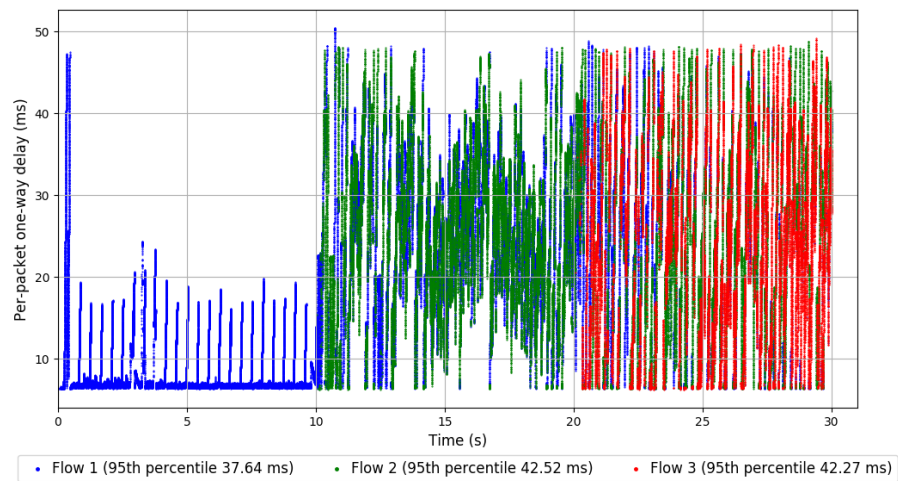
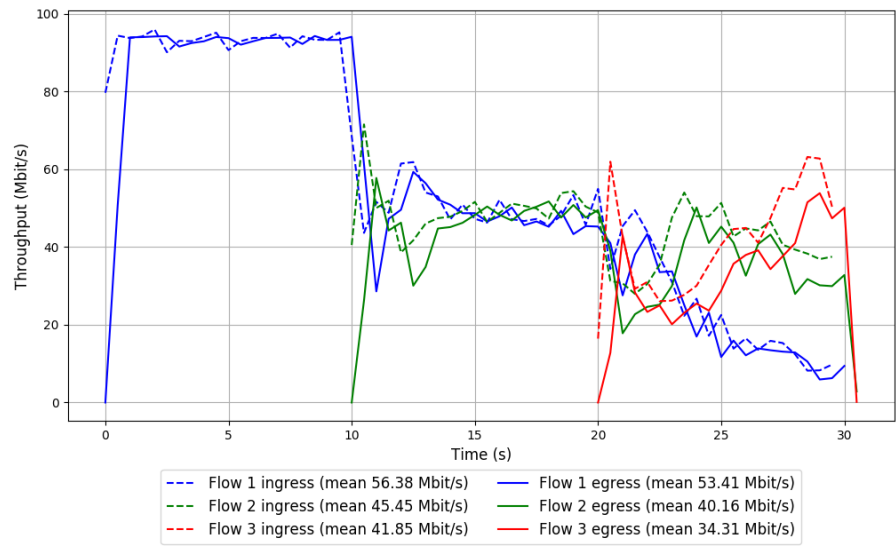
-- Flow 3:

Average throughput: 34.31 Mbit/s

95th percentile per-packet one-way delay: 42.270 ms

Loss rate: 17.97%

#### Run 4: Report of FillP-Sheep — Data Link





Run 5: Statistics of FillP-Sheep

Start at: 2019-03-27 02:48:08

End at: 2019-03-27 02:48:38

Local clock offset: -0.961 ms

Remote clock offset: 1.262 ms

# Below is generated by plot.py at 2019-03-27 03:14:38

# Datalink statistics

-- Total of 3 flows:

Average throughput: 91.82 Mbit/s

95th percentile per-packet one-way delay: 41.423 ms

Loss rate: 7.34%

-- Flow 1:

Average throughput: 56.74 Mbit/s

95th percentile per-packet one-way delay: 39.503 ms

Loss rate: 4.72%

-- Flow 2:

Average throughput: 35.61 Mbit/s

95th percentile per-packet one-way delay: 42.744 ms

Loss rate: 10.26%

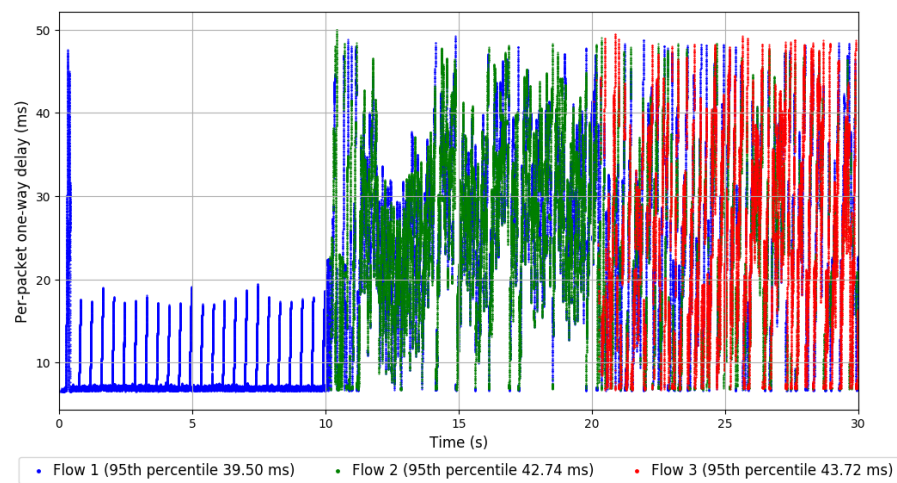
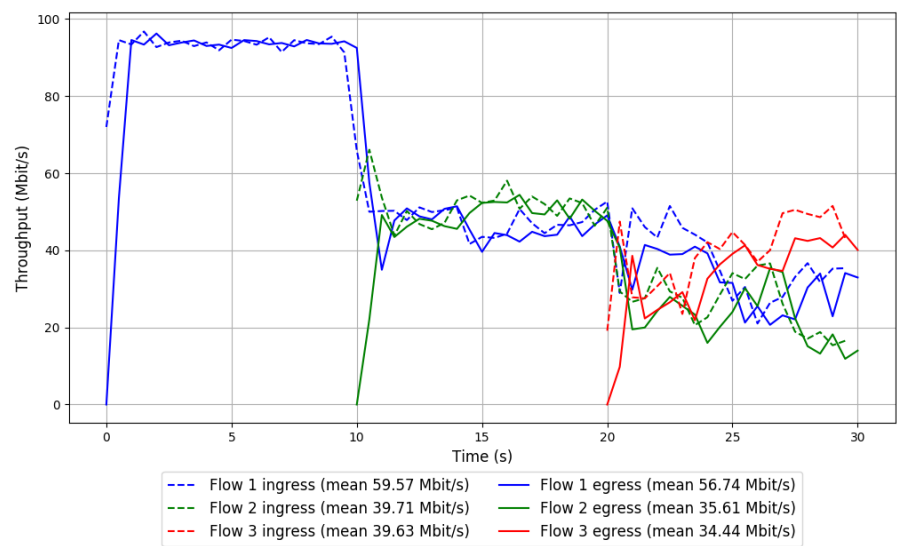
-- Flow 3:

Average throughput: 34.44 Mbit/s

95th percentile per-packet one-way delay: 43.718 ms

Loss rate: 13.34%

Run 5: Report of FillP-Sheep — Data Link

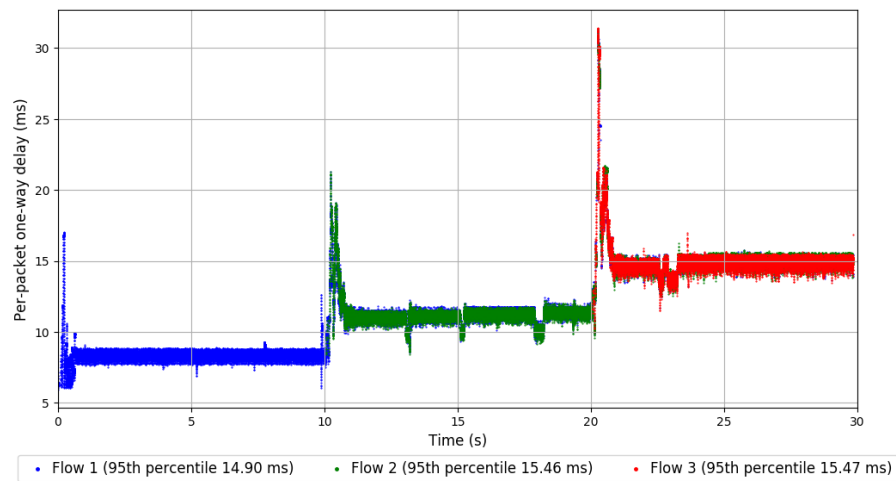
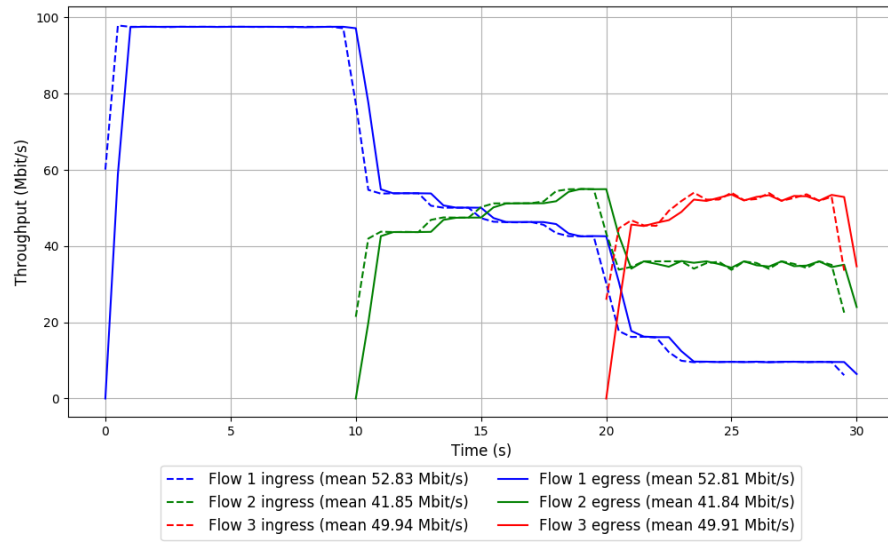


Run 1: Statistics of Indigo

Start at: 2019-03-27 01:14:34  
End at: 2019-03-27 01:15:04  
Local clock offset: 1.158 ms  
Remote clock offset: -1.005 ms

# Below is generated by plot.py at 2019-03-27 03:14:38  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.88 Mbit/s  
95th percentile per-packet one-way delay: 15.316 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 52.81 Mbit/s  
95th percentile per-packet one-way delay: 14.904 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 41.84 Mbit/s  
95th percentile per-packet one-way delay: 15.459 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 49.91 Mbit/s  
95th percentile per-packet one-way delay: 15.466 ms  
Loss rate: 0.00%

## Run 1: Report of Indigo — Data Link

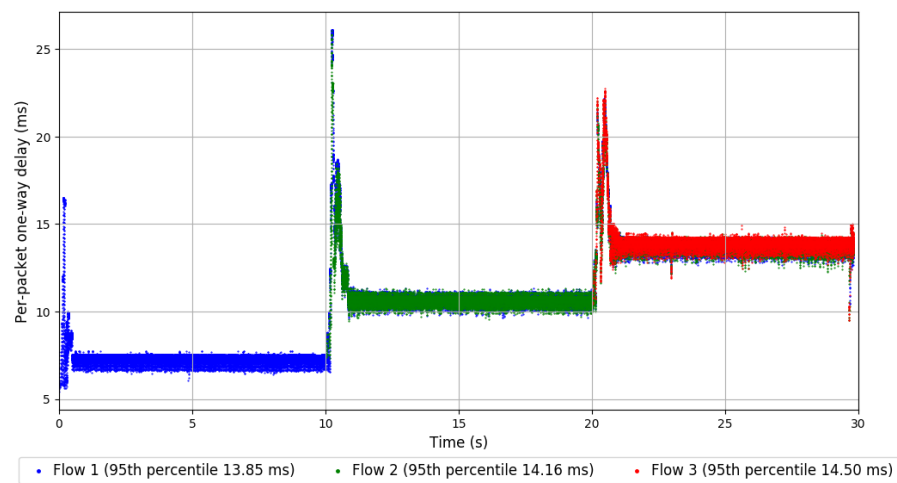
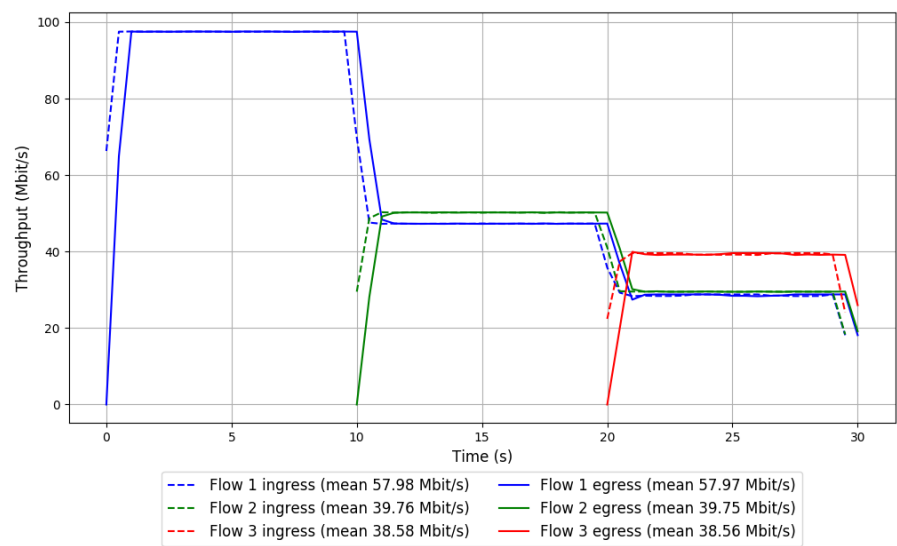


Run 2: Statistics of Indigo

Start at: 2019-03-27 01:39:15  
End at: 2019-03-27 01:39:45  
Local clock offset: -1.154 ms  
Remote clock offset: -0.879 ms

# Below is generated by plot.py at 2019-03-27 03:14:38  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.99 Mbit/s  
95th percentile per-packet one-way delay: 14.137 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 57.97 Mbit/s  
95th percentile per-packet one-way delay: 13.847 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 39.75 Mbit/s  
95th percentile per-packet one-way delay: 14.162 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 38.56 Mbit/s  
95th percentile per-packet one-way delay: 14.501 ms  
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

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

End at: 2019-03-27 02:04:33

Local clock offset: -2.183 ms

Remote clock offset: 0.482 ms

# Below is generated by plot.py at 2019-03-27 03:14:44

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.96 Mbit/s

95th percentile per-packet one-way delay: 14.327 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 58.15 Mbit/s

95th percentile per-packet one-way delay: 13.113 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 37.46 Mbit/s

95th percentile per-packet one-way delay: 14.182 ms

Loss rate: 0.00%

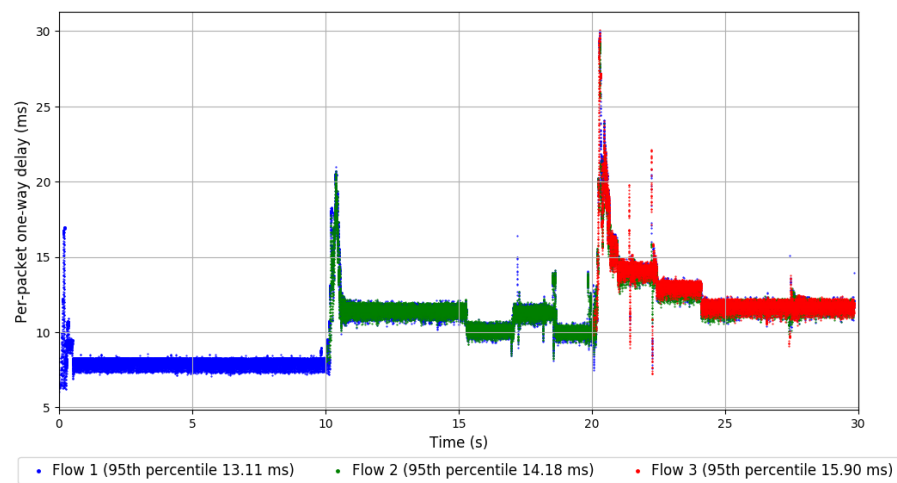
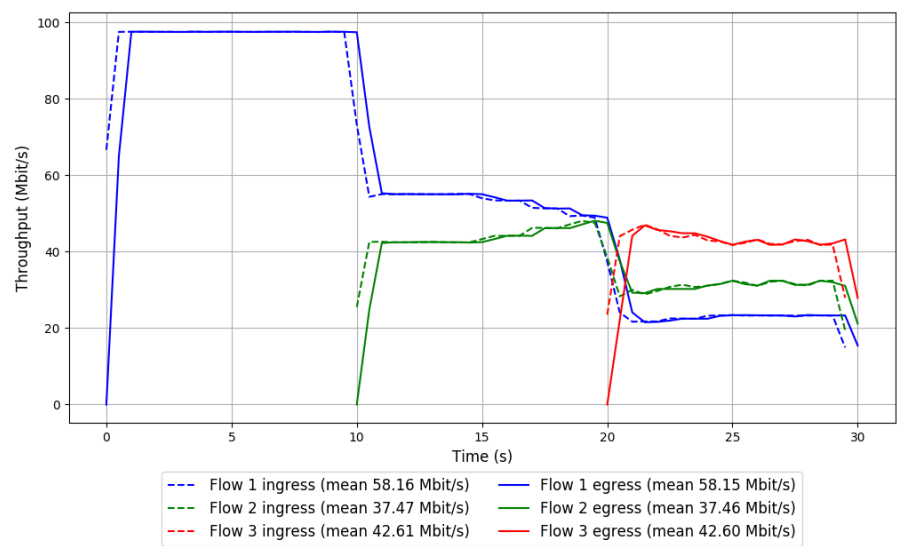
-- Flow 3:

Average throughput: 42.60 Mbit/s

95th percentile per-packet one-way delay: 15.903 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link





Run 4: Statistics of Indigo

Start at: 2019-03-27 02:29:16

End at: 2019-03-27 02:29:46

Local clock offset: -1.762 ms

Remote clock offset: 0.02 ms

# Below is generated by plot.py at 2019-03-27 03:14:59

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.00 Mbit/s

95th percentile per-packet one-way delay: 14.607 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 56.82 Mbit/s

95th percentile per-packet one-way delay: 14.417 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 38.11 Mbit/s

95th percentile per-packet one-way delay: 14.638 ms

Loss rate: 0.00%

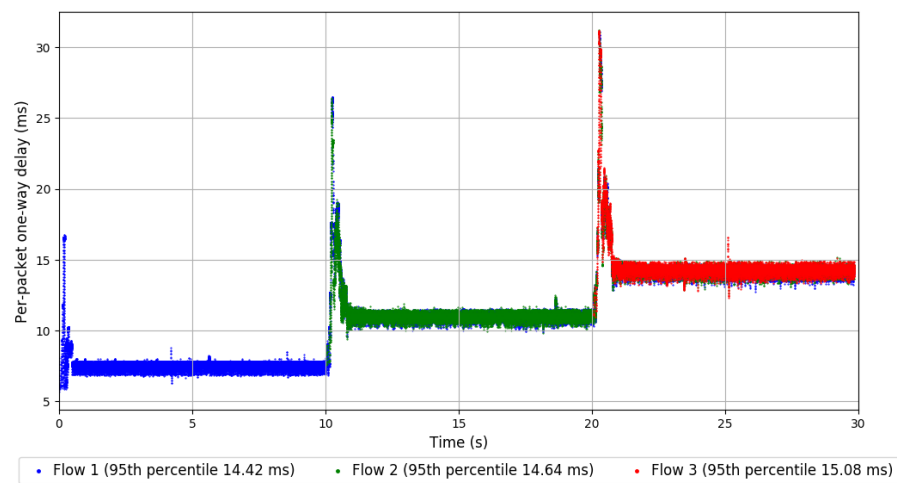
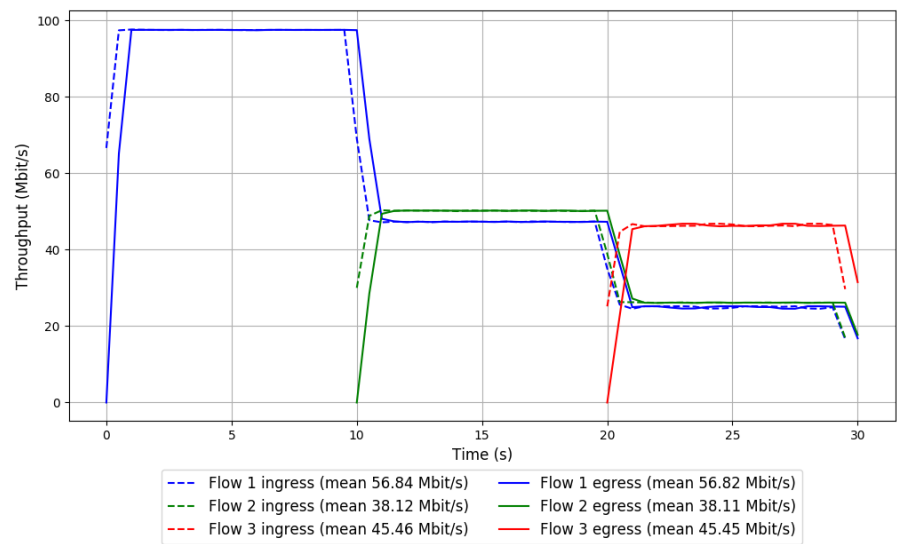
-- Flow 3:

Average throughput: 45.45 Mbit/s

95th percentile per-packet one-way delay: 15.078 ms

Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-03-27 02:54:09

End at: 2019-03-27 02:54:39

Local clock offset: -0.464 ms

Remote clock offset: 1.372 ms

# Below is generated by plot.py at 2019-03-27 03:15:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.98 Mbit/s

95th percentile per-packet one-way delay: 16.387 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 55.41 Mbit/s

95th percentile per-packet one-way delay: 16.301 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 39.17 Mbit/s

95th percentile per-packet one-way delay: 16.522 ms

Loss rate: 0.00%

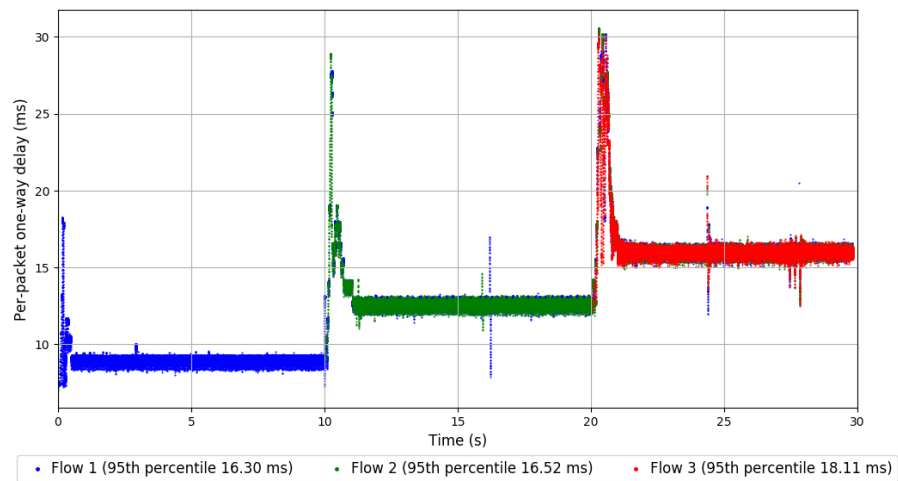
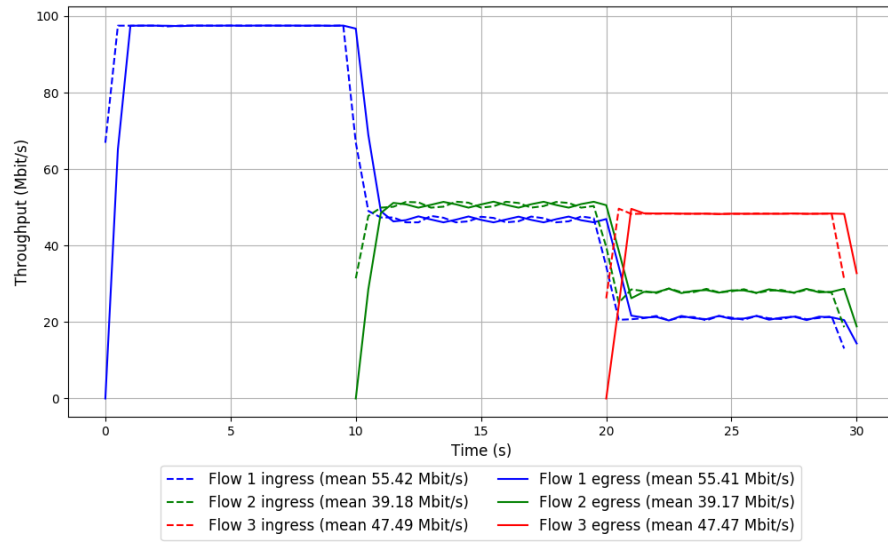
-- Flow 3:

Average throughput: 47.47 Mbit/s

95th percentile per-packet one-way delay: 18.108 ms

Loss rate: 0.00%

## Run 5: Report of Indigo — Data Link

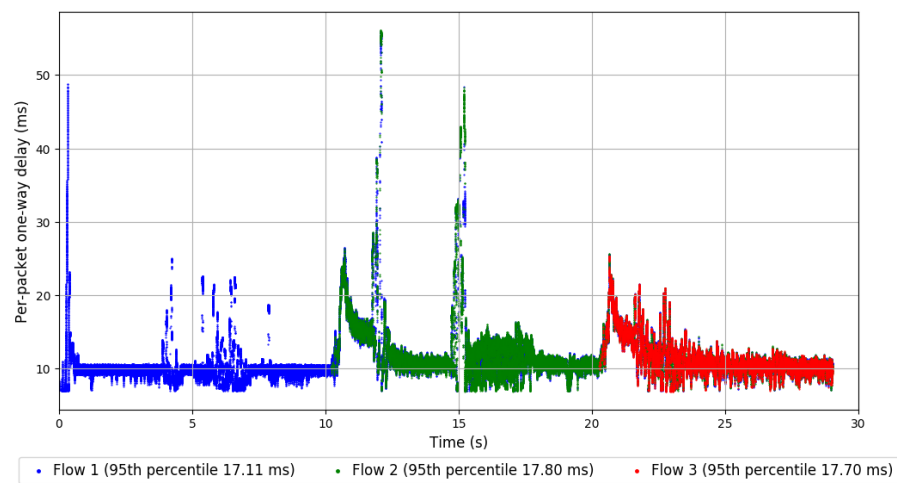
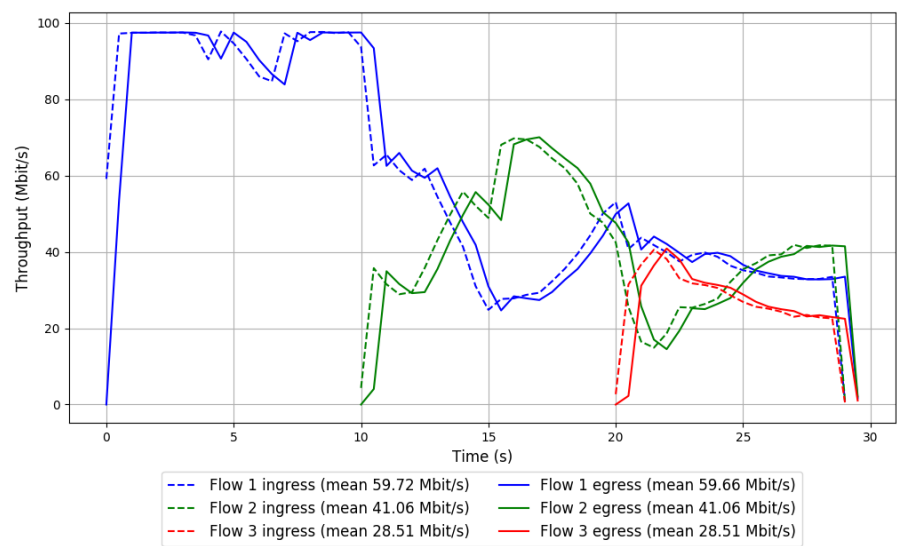


Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-27 01:10:54  
End at: 2019-03-27 01:11:24  
Local clock offset: -0.089 ms  
Remote clock offset: -1.386 ms

# Below is generated by plot.py at 2019-03-27 03:15:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.89 Mbit/s  
95th percentile per-packet one-way delay: 17.393 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 59.66 Mbit/s  
95th percentile per-packet one-way delay: 17.113 ms  
Loss rate: 0.10%  
-- Flow 2:  
Average throughput: 41.06 Mbit/s  
95th percentile per-packet one-way delay: 17.799 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 28.51 Mbit/s  
95th percentile per-packet one-way delay: 17.702 ms  
Loss rate: 0.00%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-27 01:35:41

End at: 2019-03-27 01:36:11

Local clock offset: -1.022 ms

Remote clock offset: 0.087 ms

# Below is generated by plot.py at 2019-03-27 03:15:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.36 Mbit/s

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

Loss rate: 0.00%

-- Flow 1:

Average throughput: 47.08 Mbit/s

95th percentile per-packet one-way delay: 15.268 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 64.07 Mbit/s

95th percentile per-packet one-way delay: 21.829 ms

Loss rate: 0.00%

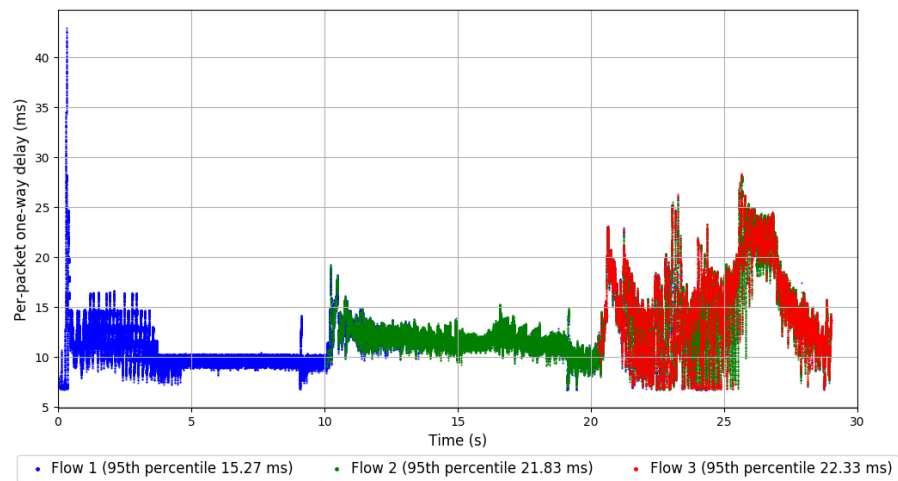
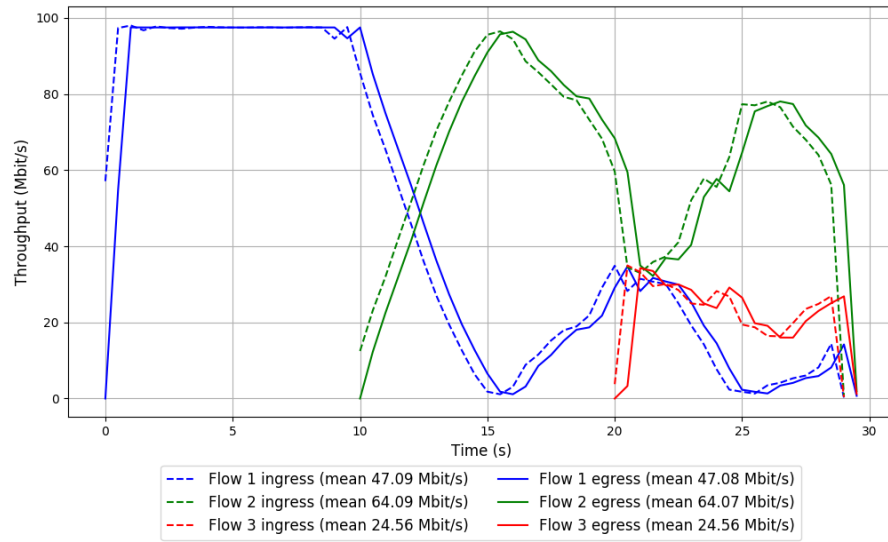
-- Flow 3:

Average throughput: 24.56 Mbit/s

95th percentile per-packet one-way delay: 22.328 ms

Loss rate: 0.00%

## Run 2: Report of Indigo-MusesC3 — Data Link



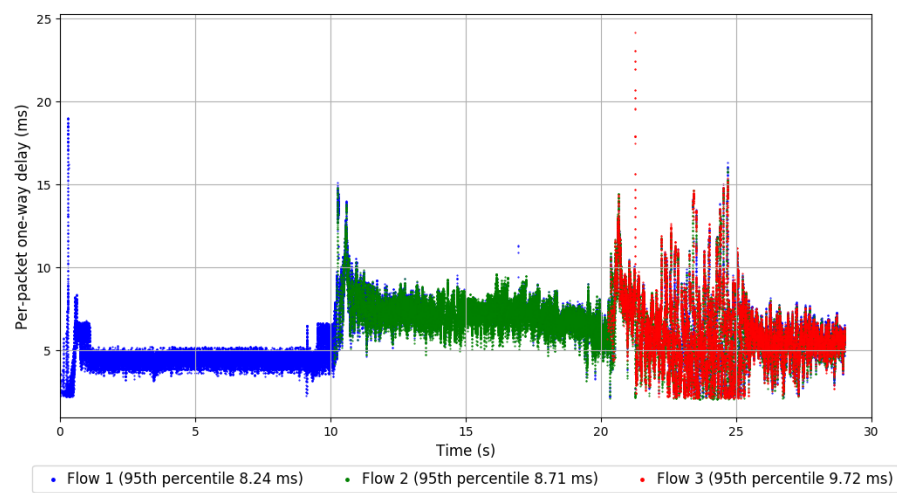
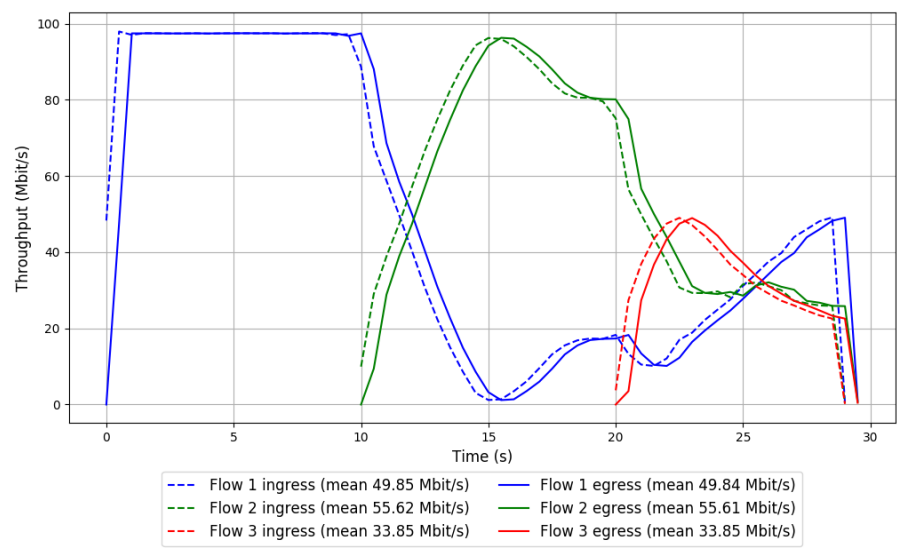


Run 3: Statistics of Indigo-MusesC3

Start at: 2019-03-27 02:00:23  
End at: 2019-03-27 02:00:54  
Local clock offset: -3.636 ms  
Remote clock offset: -5.395 ms

# Below is generated by plot.py at 2019-03-27 03:15:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.35 Mbit/s  
95th percentile per-packet one-way delay: 8.608 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 49.84 Mbit/s  
95th percentile per-packet one-way delay: 8.241 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 55.61 Mbit/s  
95th percentile per-packet one-way delay: 8.713 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 33.85 Mbit/s  
95th percentile per-packet one-way delay: 9.723 ms  
Loss rate: 0.00%

Run 3: Report of Indigo-MusesC3 — Data Link

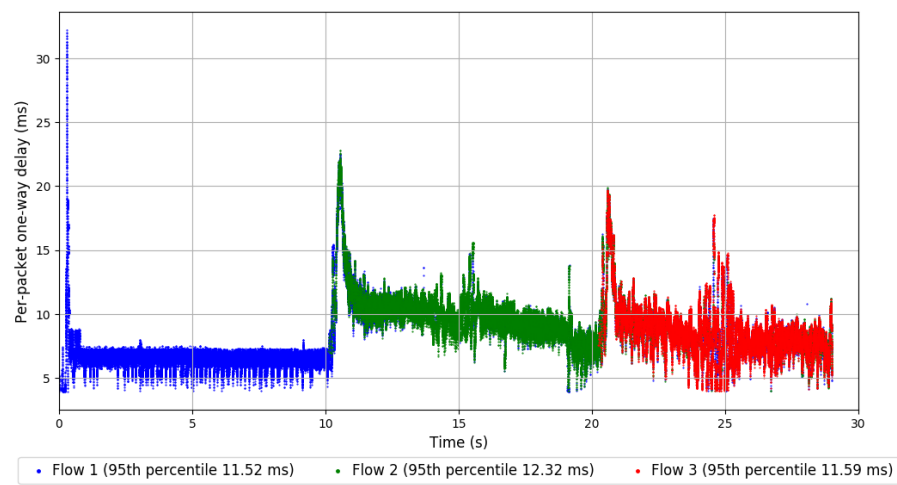
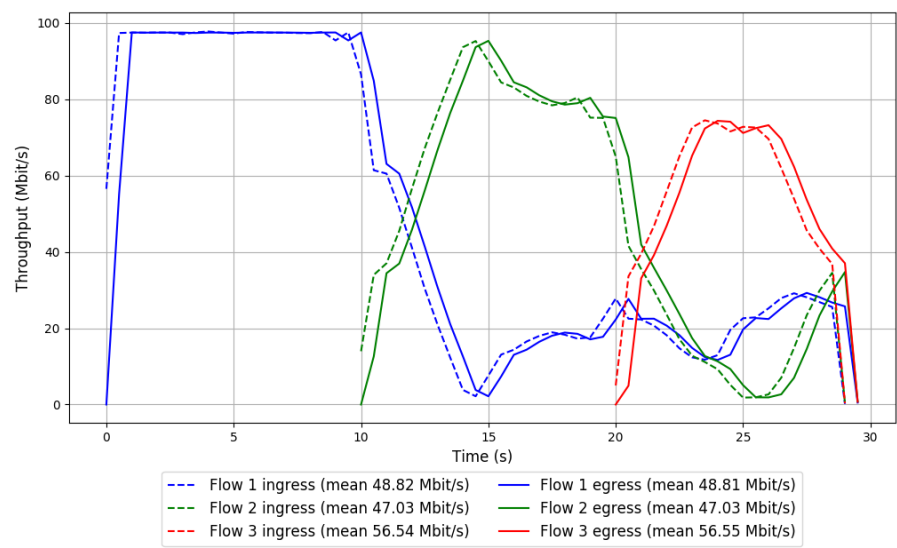


Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-27 02:25:41  
End at: 2019-03-27 02:26:11  
Local clock offset: -0.103 ms  
Remote clock offset: -0.018 ms

# Below is generated by plot.py at 2019-03-27 03:15:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.56 Mbit/s  
95th percentile per-packet one-way delay: 11.819 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 48.81 Mbit/s  
95th percentile per-packet one-way delay: 11.521 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 47.03 Mbit/s  
95th percentile per-packet one-way delay: 12.322 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 56.55 Mbit/s  
95th percentile per-packet one-way delay: 11.586 ms  
Loss rate: 0.00%

Run 4: Report of Indigo-MusesC3 — Data Link



Run 5: Statistics of Indigo-MusesC3

Start at: 2019-03-27 02:50:31

End at: 2019-03-27 02:51:01

Local clock offset: -0.916 ms

Remote clock offset: 1.331 ms

# Below is generated by plot.py at 2019-03-27 03:15:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.58 Mbit/s

95th percentile per-packet one-way delay: 16.812 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 50.03 Mbit/s

95th percentile per-packet one-way delay: 16.062 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 57.29 Mbit/s

95th percentile per-packet one-way delay: 17.003 ms

Loss rate: 0.00%

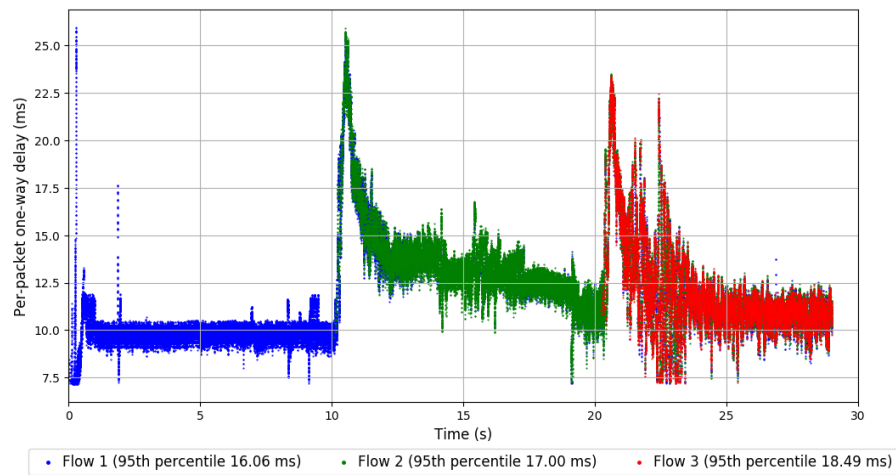
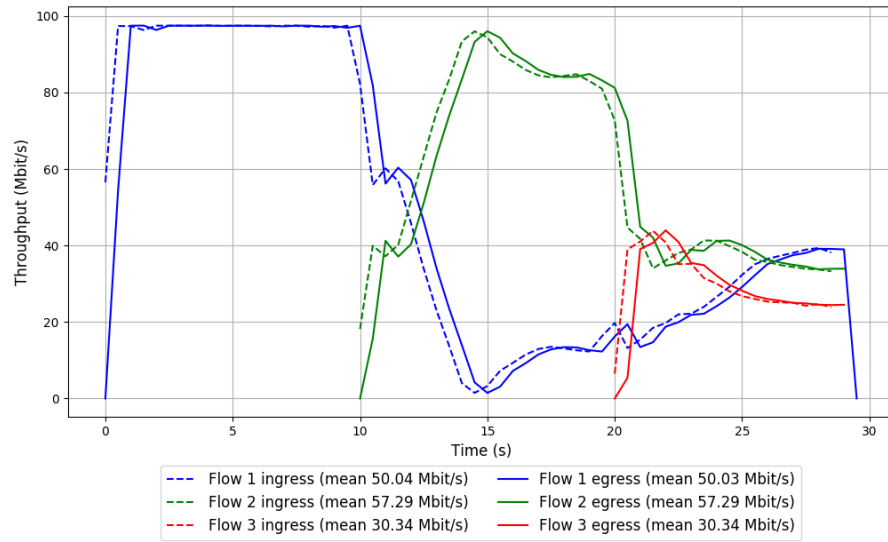
-- Flow 3:

Average throughput: 30.34 Mbit/s

95th percentile per-packet one-way delay: 18.491 ms

Loss rate: 0.00%

# Run 5: Report of Indigo-MusesC3 — Data Link



Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-27 01:12:06

End at: 2019-03-27 01:12:36

Local clock offset: 0.902 ms

Remote clock offset: -1.44 ms

# Below is generated by plot.py at 2019-03-27 03:15:51

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.41 Mbit/s

95th percentile per-packet one-way delay: 38.805 ms

Loss rate: 5.20%

-- Flow 1:

Average throughput: 59.16 Mbit/s

95th percentile per-packet one-way delay: 36.723 ms

Loss rate: 2.90%

-- Flow 2:

Average throughput: 43.42 Mbit/s

95th percentile per-packet one-way delay: 40.367 ms

Loss rate: 6.77%

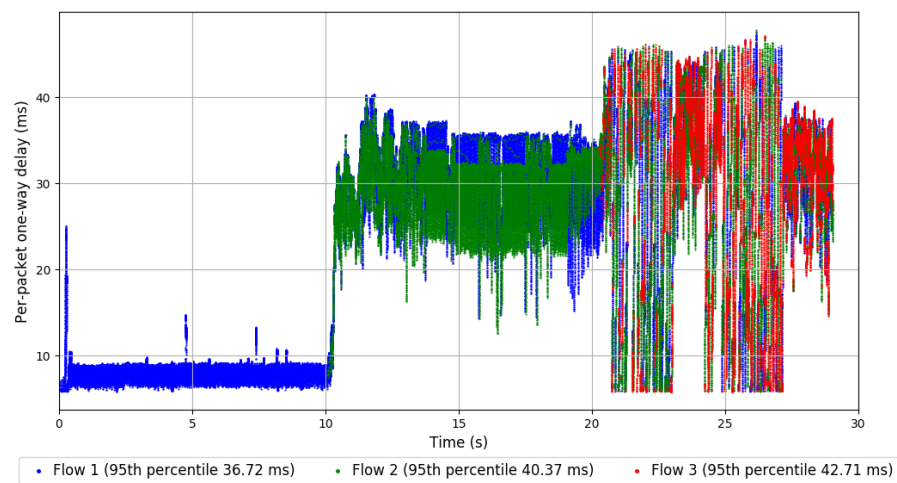
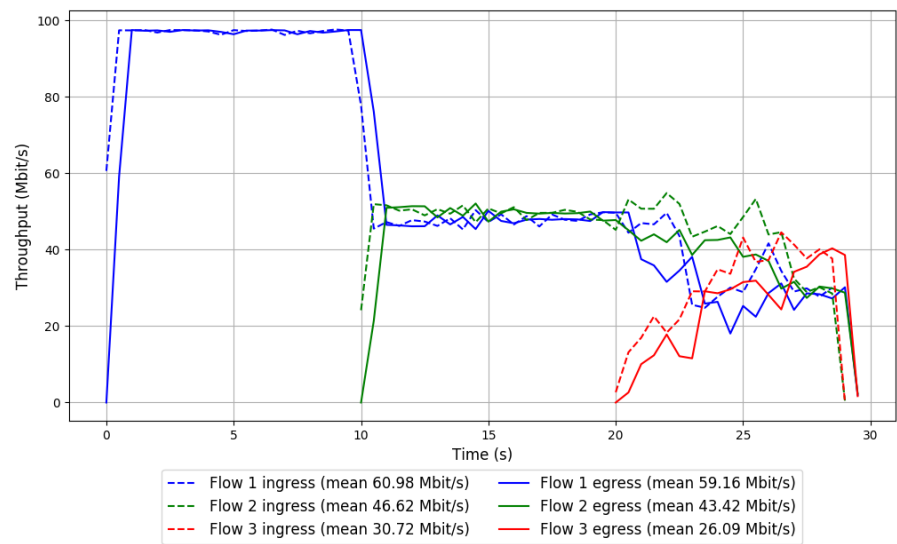
-- Flow 3:

Average throughput: 26.09 Mbit/s

95th percentile per-packet one-way delay: 42.713 ms

Loss rate: 15.12%

Run 1: Report of Indigo-MusesC5 — Data Link





Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-27 01:36:52

End at: 2019-03-27 01:37:22

Local clock offset: -0.878 ms

Remote clock offset: 1.039 ms

# Below is generated by plot.py at 2019-03-27 03:16:07

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.17 Mbit/s

95th percentile per-packet one-way delay: 41.343 ms

Loss rate: 7.67%

-- Flow 1:

Average throughput: 59.44 Mbit/s

95th percentile per-packet one-way delay: 38.014 ms

Loss rate: 3.94%

-- Flow 2:

Average throughput: 43.43 Mbit/s

95th percentile per-packet one-way delay: 42.753 ms

Loss rate: 9.59%

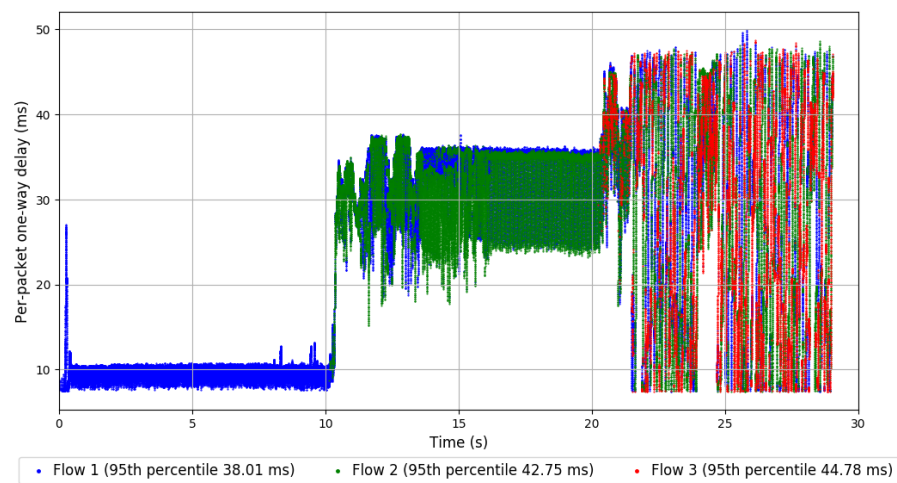
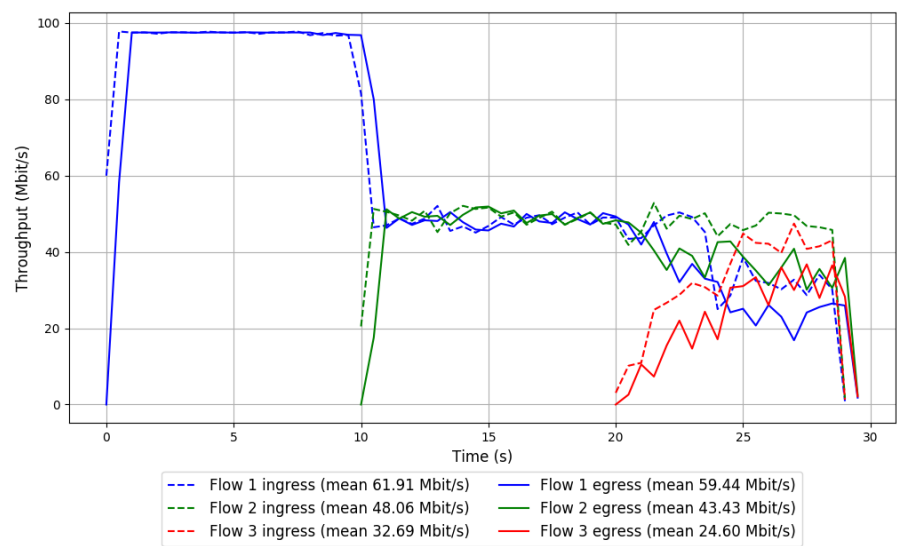
-- Flow 3:

Average throughput: 24.60 Mbit/s

95th percentile per-packet one-way delay: 44.782 ms

Loss rate: 24.84%

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-27 02:01:38

End at: 2019-03-27 02:02:08

Local clock offset: -1.465 ms

Remote clock offset: 1.274 ms

# Below is generated by plot.py at 2019-03-27 03:16:22

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.68 Mbit/s

95th percentile per-packet one-way delay: 39.736 ms

Loss rate: 9.32%

-- Flow 1:

Average throughput: 56.74 Mbit/s

95th percentile per-packet one-way delay: 38.761 ms

Loss rate: 3.93%

-- Flow 2:

Average throughput: 45.08 Mbit/s

95th percentile per-packet one-way delay: 40.319 ms

Loss rate: 12.40%

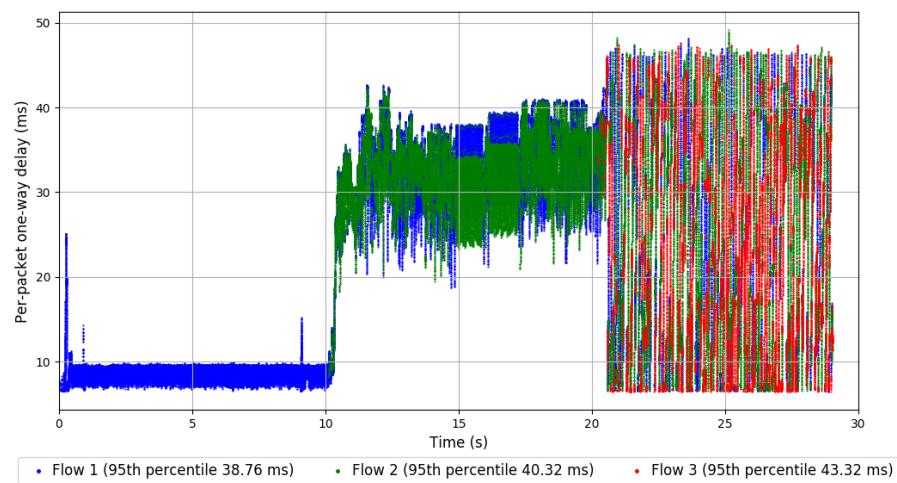
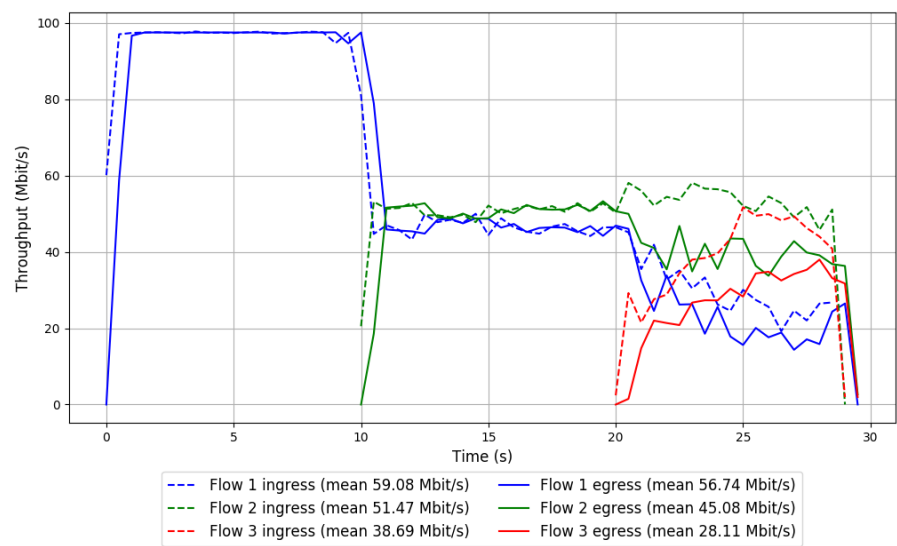
-- Flow 3:

Average throughput: 28.11 Mbit/s

95th percentile per-packet one-way delay: 43.319 ms

Loss rate: 27.55%

Run 3: Report of Indigo-MusesC5 — Data Link



Run 4: Statistics of Indigo-MusesC5

Start at: 2019-03-27 02:26:52

End at: 2019-03-27 02:27:22

Local clock offset: -1.852 ms

Remote clock offset: 1.472 ms

# Below is generated by plot.py at 2019-03-27 03:16:22

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.73 Mbit/s

95th percentile per-packet one-way delay: 39.911 ms

Loss rate: 9.08%

-- Flow 1:

Average throughput: 60.91 Mbit/s

95th percentile per-packet one-way delay: 37.013 ms

Loss rate: 4.78%

-- Flow 2:

Average throughput: 40.45 Mbit/s

95th percentile per-packet one-way delay: 41.860 ms

Loss rate: 13.03%

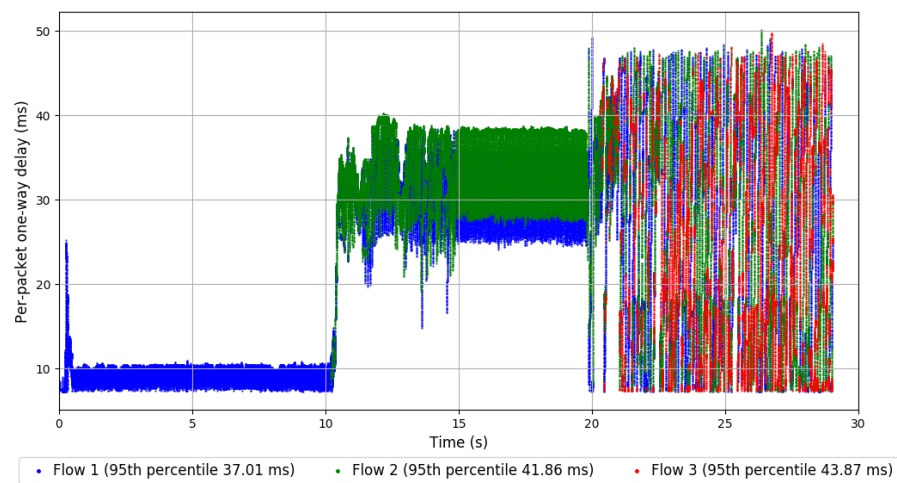
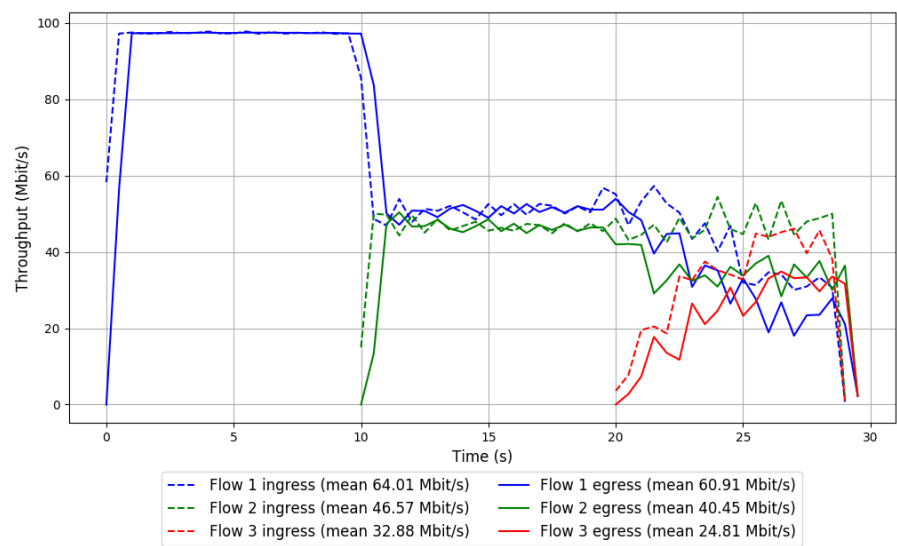
-- Flow 3:

Average throughput: 24.81 Mbit/s

95th percentile per-packet one-way delay: 43.866 ms

Loss rate: 24.61%

Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-03-27 02:51:43

End at: 2019-03-27 02:52:13

Local clock offset: -0.982 ms

Remote clock offset: 0.986 ms

# Below is generated by plot.py at 2019-03-27 03:16:39

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.91 Mbit/s

95th percentile per-packet one-way delay: 41.861 ms

Loss rate: 6.79%

-- Flow 1:

Average throughput: 58.66 Mbit/s

95th percentile per-packet one-way delay: 38.612 ms

Loss rate: 3.70%

-- Flow 2:

Average throughput: 43.67 Mbit/s

95th percentile per-packet one-way delay: 42.947 ms

Loss rate: 8.25%

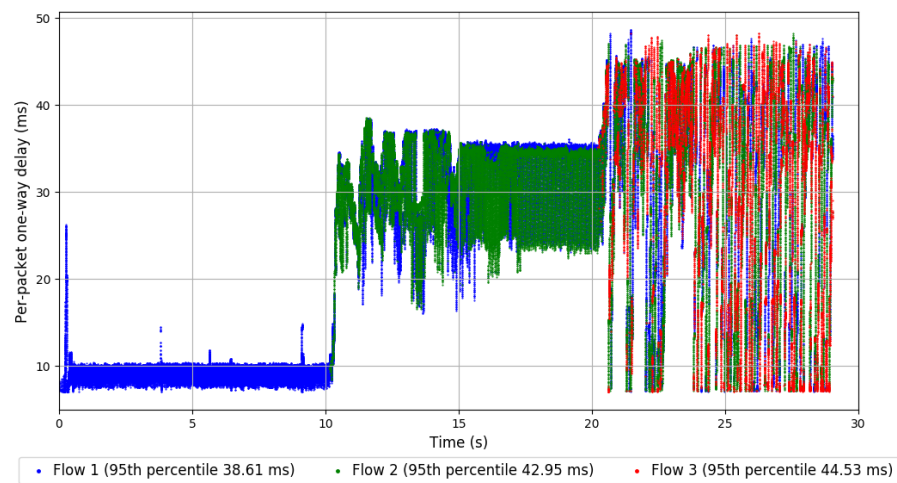
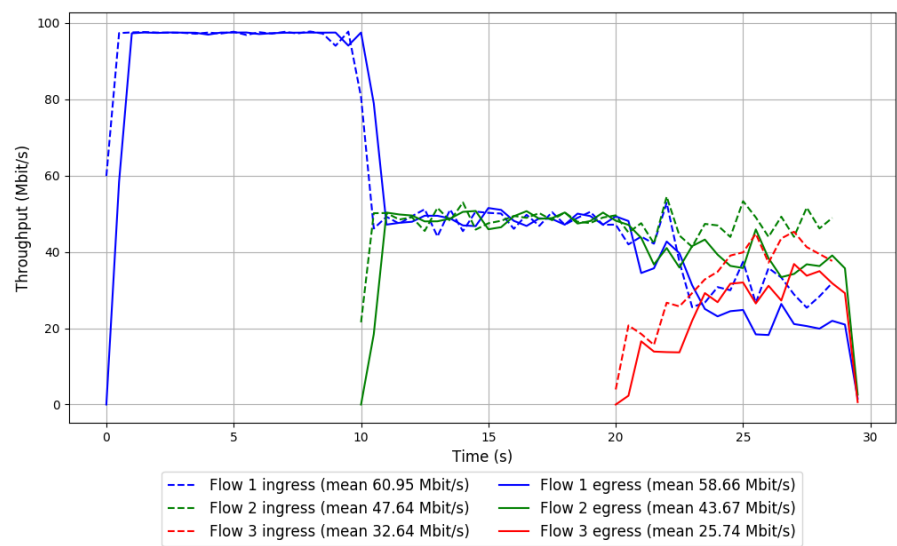
-- Flow 3:

Average throughput: 25.74 Mbit/s

95th percentile per-packet one-way delay: 44.532 ms

Loss rate: 21.21%

Run 5: Report of Indigo-MusesC5 — Data Link



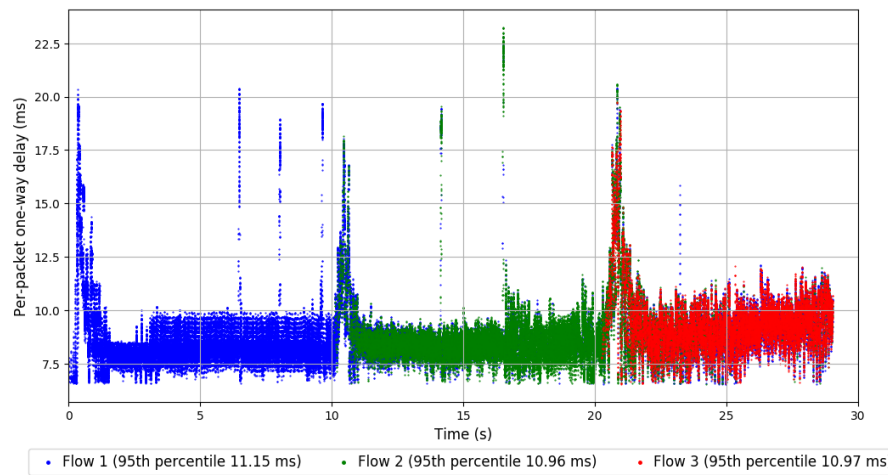
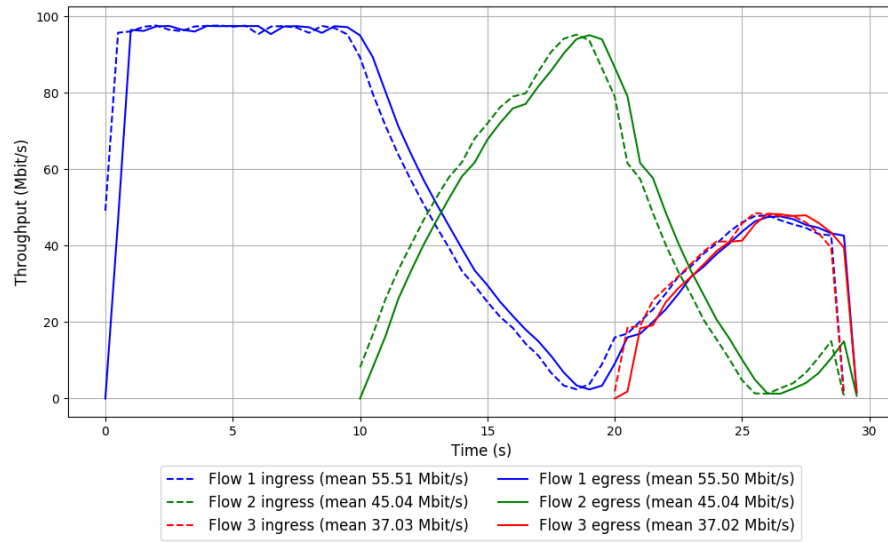


Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-27 01:20:22  
End at: 2019-03-27 01:20:52  
Local clock offset: 0.48 ms  
Remote clock offset: -0.445 ms

# Below is generated by plot.py at 2019-03-27 03:16:47  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.07 Mbit/s  
95th percentile per-packet one-way delay: 11.065 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 55.50 Mbit/s  
95th percentile per-packet one-way delay: 11.146 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 45.04 Mbit/s  
95th percentile per-packet one-way delay: 10.958 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 37.02 Mbit/s  
95th percentile per-packet one-way delay: 10.974 ms  
Loss rate: 0.00%

# Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-27 01:45:04

End at: 2019-03-27 01:45:34

Local clock offset: -2.542 ms

Remote clock offset: 1.99 ms

# Below is generated by plot.py at 2019-03-27 03:16:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.75 Mbit/s

95th percentile per-packet one-way delay: 13.653 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 54.16 Mbit/s

95th percentile per-packet one-way delay: 14.284 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 49.34 Mbit/s

95th percentile per-packet one-way delay: 12.856 ms

Loss rate: 0.00%

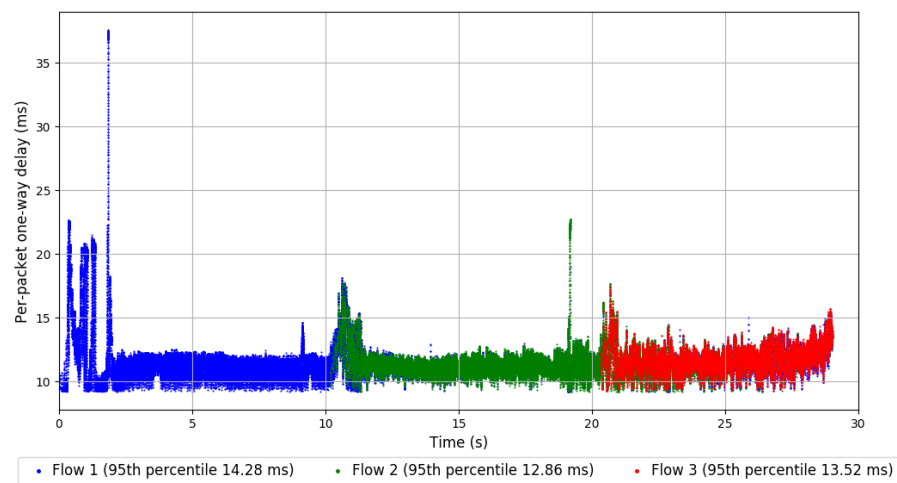
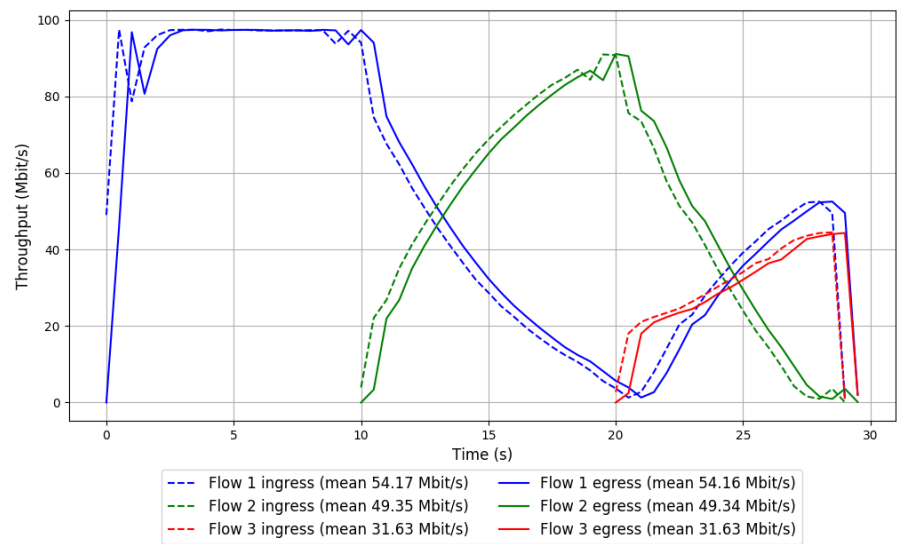
-- Flow 3:

Average throughput: 31.63 Mbit/s

95th percentile per-packet one-way delay: 13.520 ms

Loss rate: 0.00%

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-27 02:10:00

End at: 2019-03-27 02:10:30

Local clock offset: -1.149 ms

Remote clock offset: 2.611 ms

# Below is generated by plot.py at 2019-03-27 03:16:50

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.48 Mbit/s

95th percentile per-packet one-way delay: 12.219 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 51.84 Mbit/s

95th percentile per-packet one-way delay: 12.796 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 48.03 Mbit/s

95th percentile per-packet one-way delay: 10.692 ms

Loss rate: 0.00%

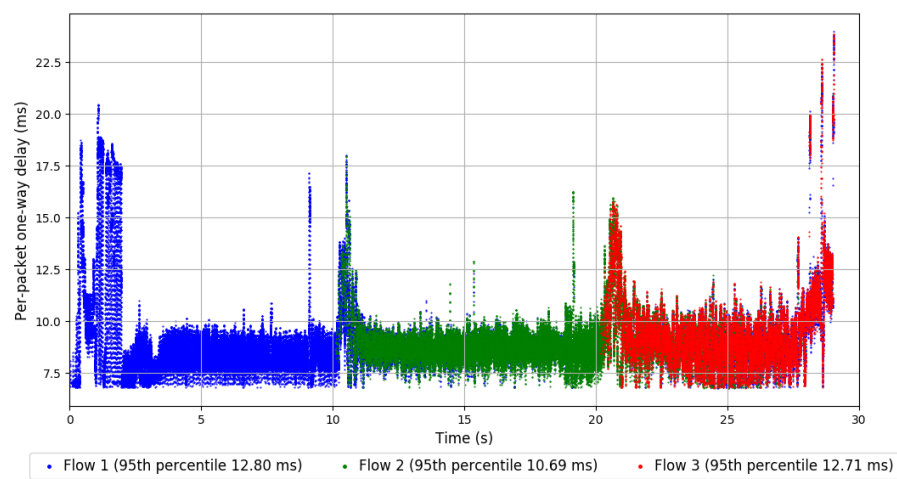
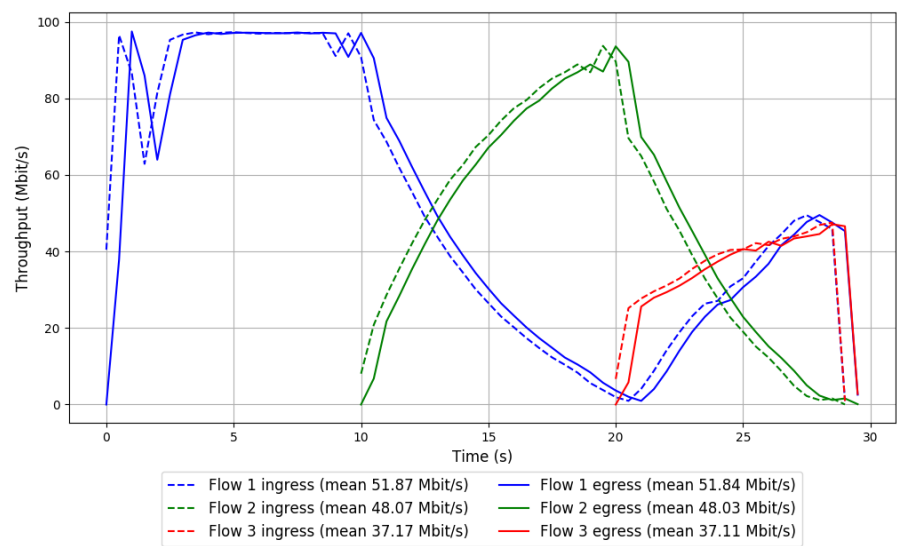
-- Flow 3:

Average throughput: 37.11 Mbit/s

95th percentile per-packet one-way delay: 12.710 ms

Loss rate: 0.00%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

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

End at: 2019-03-27 02:35:32

Local clock offset: -1.251 ms

Remote clock offset: 1.198 ms

# Below is generated by plot.py at 2019-03-27 03:16:58

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.05 Mbit/s

95th percentile per-packet one-way delay: 11.317 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 54.87 Mbit/s

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

Loss rate: 0.00%

-- Flow 2:

Average throughput: 45.49 Mbit/s

95th percentile per-packet one-way delay: 10.810 ms

Loss rate: 0.00%

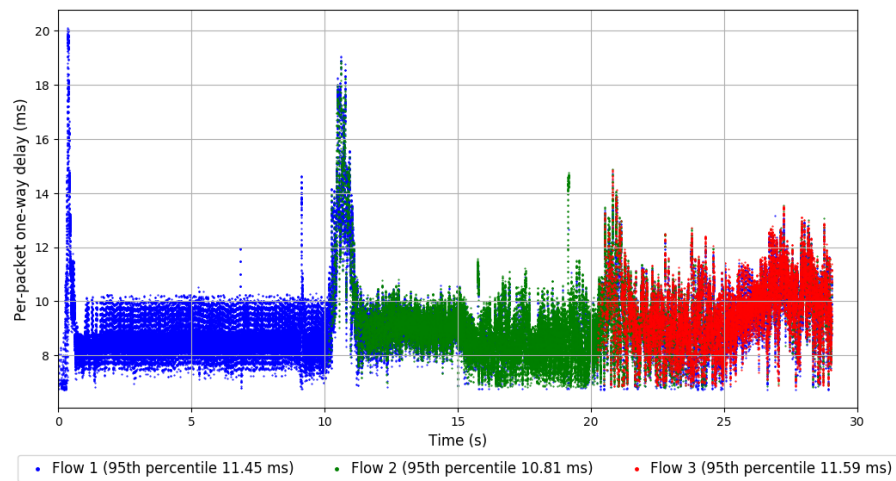
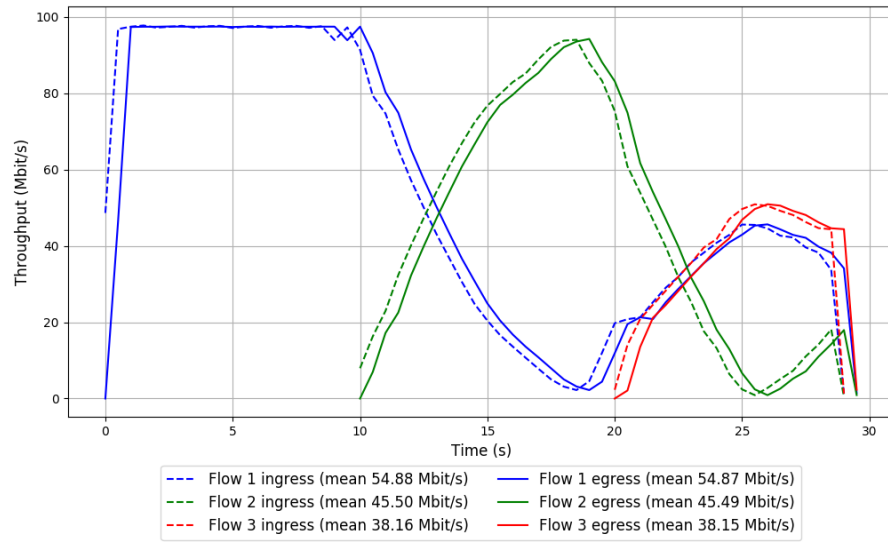
-- Flow 3:

Average throughput: 38.15 Mbit/s

95th percentile per-packet one-way delay: 11.589 ms

Loss rate: 0.00%

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





Run 5: Statistics of Indigo-MusesD

Start at: 2019-03-27 03:00:01

End at: 2019-03-27 03:00:31

Local clock offset: 0.032 ms

Remote clock offset: 0.043 ms

# Below is generated by plot.py at 2019-03-27 03:17:13

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.71 Mbit/s

95th percentile per-packet one-way delay: 39.739 ms

Loss rate: 5.11%

-- Flow 1:

Average throughput: 46.11 Mbit/s

95th percentile per-packet one-way delay: 28.903 ms

Loss rate: 1.46%

-- Flow 2:

Average throughput: 65.21 Mbit/s

95th percentile per-packet one-way delay: 40.449 ms

Loss rate: 7.25%

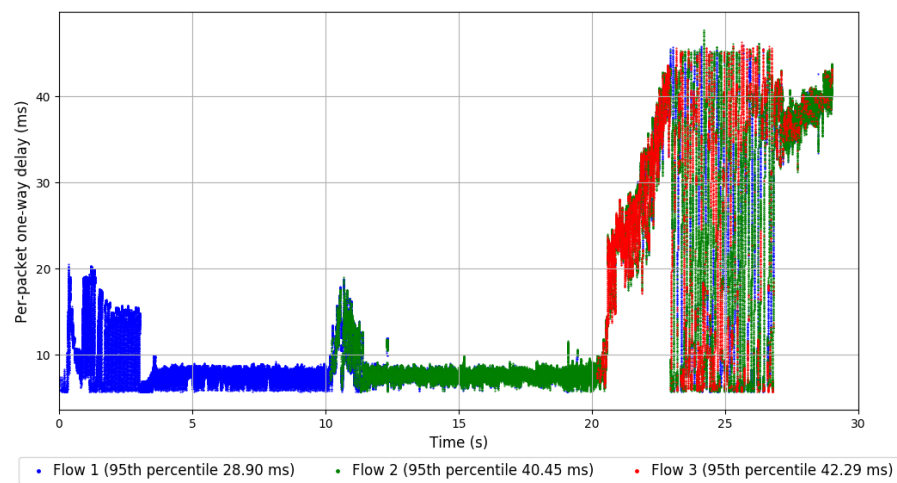
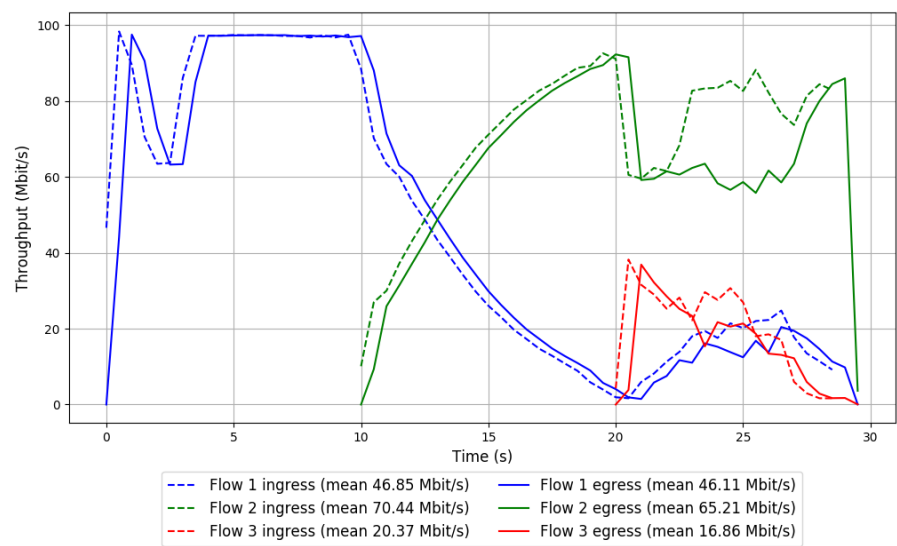
-- Flow 3:

Average throughput: 16.86 Mbit/s

95th percentile per-packet one-way delay: 42.294 ms

Loss rate: 16.91%

Run 5: Report of Indigo-MusesD — Data Link

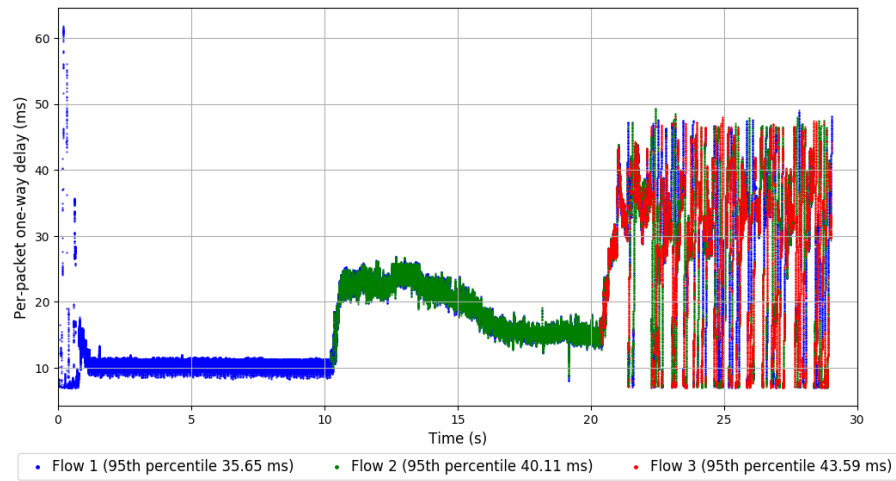
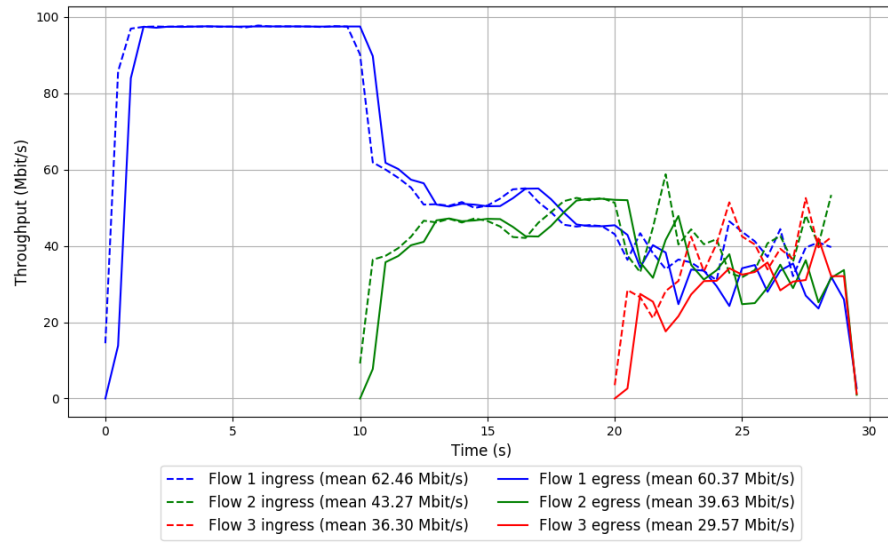


Run 1: Statistics of Indigo-MusesT

Start at: 2019-03-27 01:07:06  
End at: 2019-03-27 01:07:36  
Local clock offset: 0.571 ms  
Remote clock offset: -0.699 ms

# Below is generated by plot.py at 2019-03-27 03:17:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.97 Mbit/s  
95th percentile per-packet one-way delay: 39.075 ms  
Loss rate: 6.33%  
-- Flow 1:  
Average throughput: 60.37 Mbit/s  
95th percentile per-packet one-way delay: 35.650 ms  
Loss rate: 3.29%  
-- Flow 2:  
Average throughput: 39.63 Mbit/s  
95th percentile per-packet one-way delay: 40.110 ms  
Loss rate: 8.37%  
-- Flow 3:  
Average throughput: 29.57 Mbit/s  
95th percentile per-packet one-way delay: 43.585 ms  
Loss rate: 18.46%

# Run 1: Report of Indigo-MusesT — Data Link

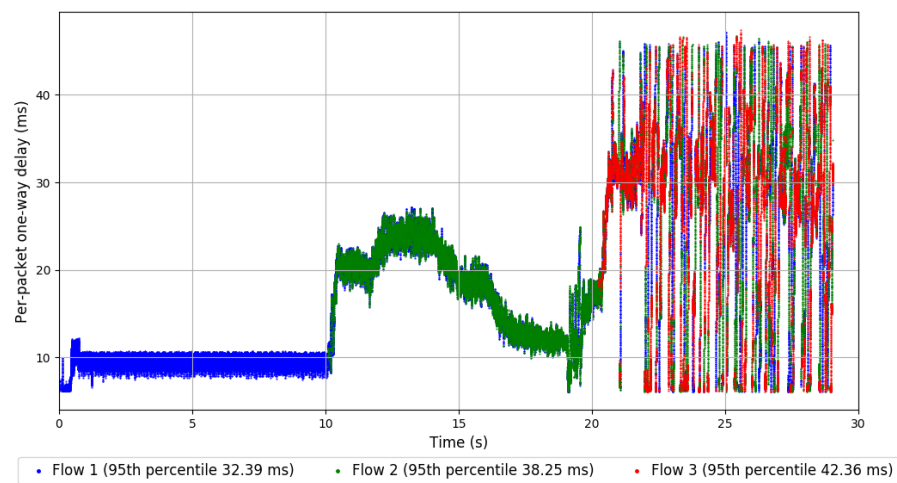
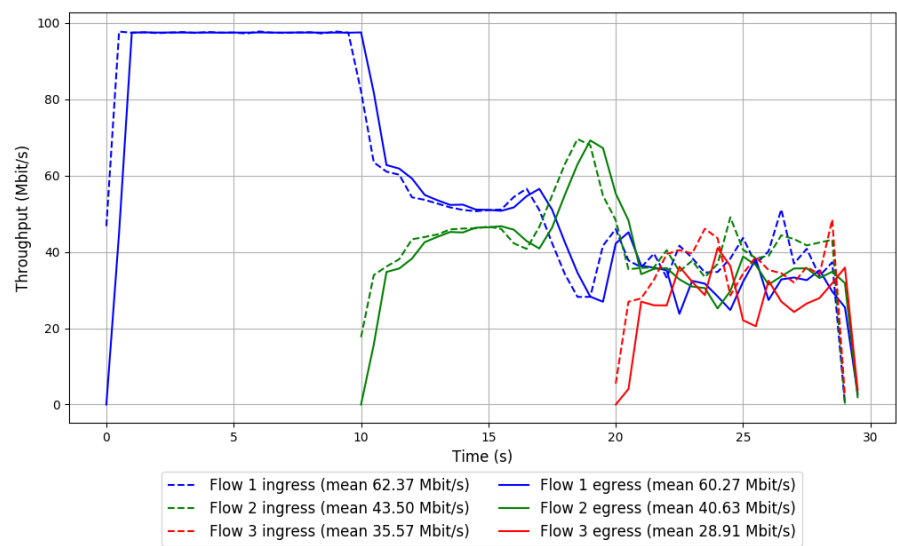


Run 2: Statistics of Indigo-MusesT

Start at: 2019-03-27 01:32:08  
End at: 2019-03-27 01:32:38  
Local clock offset: -0.691 ms  
Remote clock offset: -0.669 ms

# Below is generated by plot.py at 2019-03-27 03:17:31  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.57 Mbit/s  
95th percentile per-packet one-way delay: 36.808 ms  
Loss rate: 5.80%  
-- Flow 1:  
Average throughput: 60.27 Mbit/s  
95th percentile per-packet one-way delay: 32.391 ms  
Loss rate: 3.29%  
-- Flow 2:  
Average throughput: 40.63 Mbit/s  
95th percentile per-packet one-way delay: 38.246 ms  
Loss rate: 6.46%  
-- Flow 3:  
Average throughput: 28.91 Mbit/s  
95th percentile per-packet one-way delay: 42.360 ms  
Loss rate: 18.63%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-27 01:56:49

End at: 2019-03-27 01:57:19

Local clock offset: -1.696 ms

Remote clock offset: 1.937 ms

# Below is generated by plot.py at 2019-03-27 03:17:47

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.49 Mbit/s

95th percentile per-packet one-way delay: 20.241 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 62.53 Mbit/s

95th percentile per-packet one-way delay: 20.244 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 32.23 Mbit/s

95th percentile per-packet one-way delay: 20.377 ms

Loss rate: 0.00%

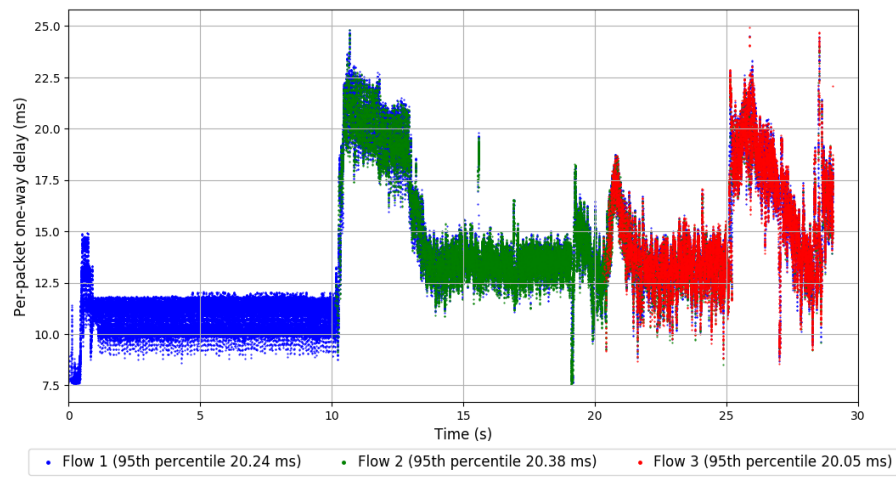
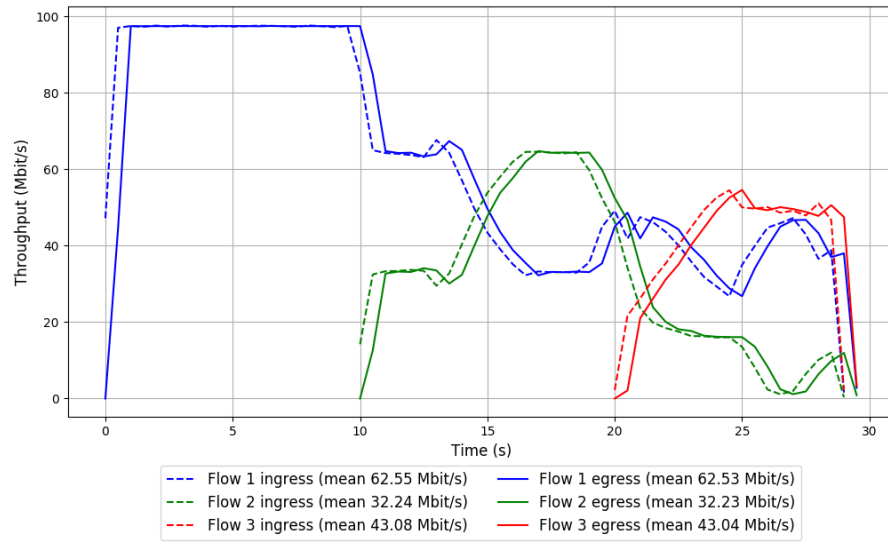
-- Flow 3:

Average throughput: 43.04 Mbit/s

95th percentile per-packet one-way delay: 20.047 ms

Loss rate: 0.00%

### Run 3: Report of Indigo-MusesT — Data Link





Run 4: Statistics of Indigo-MusesT

Start at: 2019-03-27 02:22:04

End at: 2019-03-27 02:22:34

Local clock offset: -0.795 ms

Remote clock offset: 0.627 ms

# Below is generated by plot.py at 2019-03-27 03:17:55

# Datalink statistics

-- Total of 3 flows:

Average throughput: 95.60 Mbit/s

95th percentile per-packet one-way delay: 37.032 ms

Loss rate: 5.89%

-- Flow 1:

Average throughput: 61.64 Mbit/s

95th percentile per-packet one-way delay: 34.200 ms

Loss rate: 2.84%

-- Flow 2:

Average throughput: 38.44 Mbit/s

95th percentile per-packet one-way delay: 38.072 ms

Loss rate: 7.26%

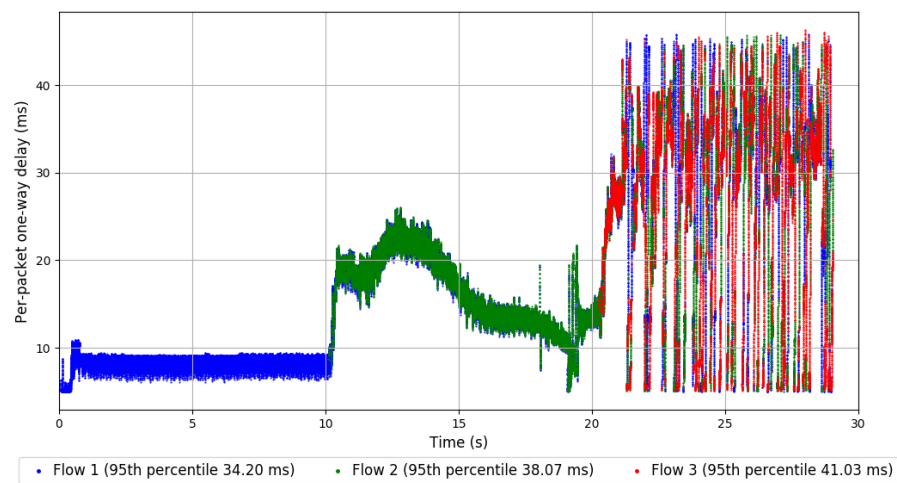
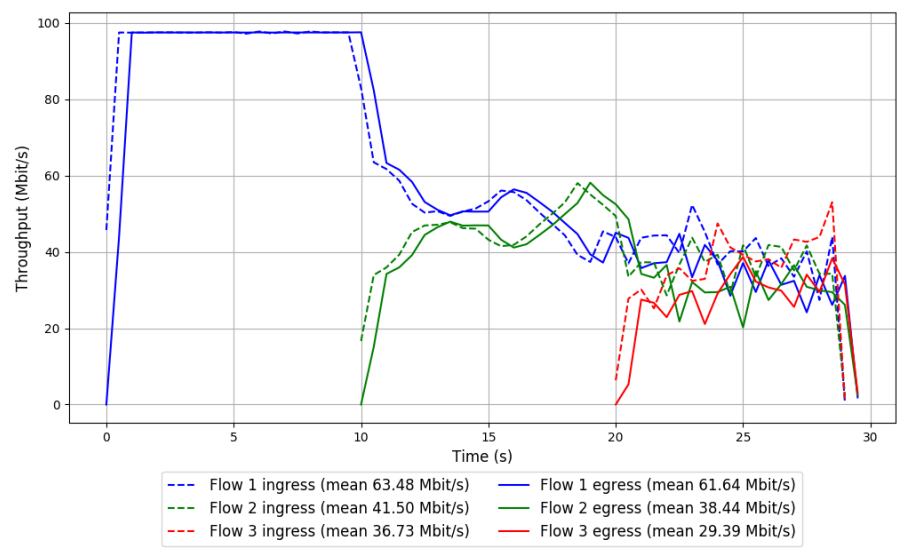
-- Flow 3:

Average throughput: 29.39 Mbit/s

95th percentile per-packet one-way delay: 41.028 ms

Loss rate: 19.87%

Run 4: Report of Indigo-MusesT — Data Link

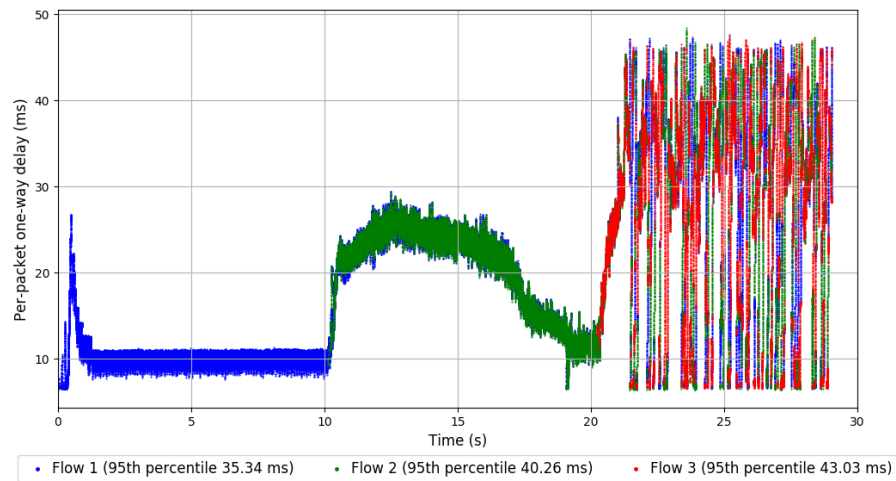
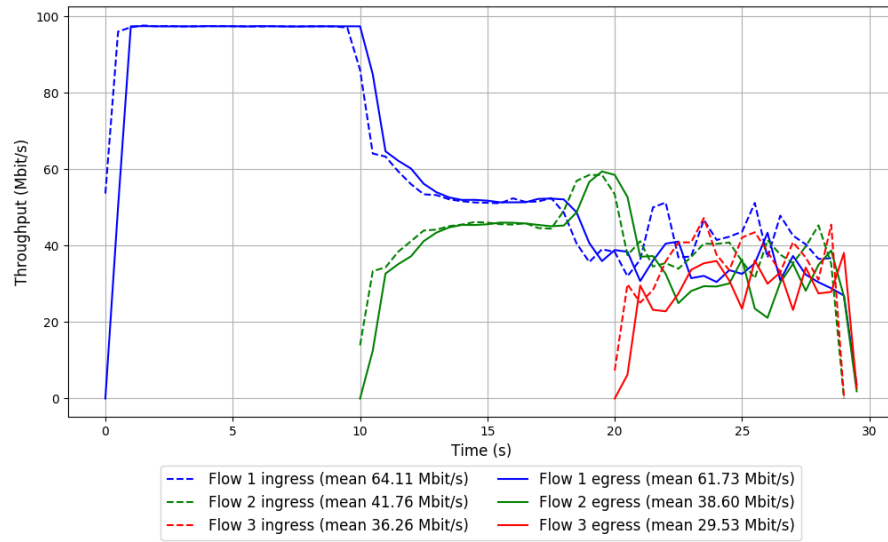


Run 5: Statistics of Indigo-MusesT

Start at: 2019-03-27 02:46:56  
End at: 2019-03-27 02:47:26  
Local clock offset: -2.245 ms  
Remote clock offset: -0.153 ms

# Below is generated by plot.py at 2019-03-27 03:17:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.86 Mbit/s  
95th percentile per-packet one-way delay: 38.879 ms  
Loss rate: 6.23%  
-- Flow 1:  
Average throughput: 61.73 Mbit/s  
95th percentile per-packet one-way delay: 35.342 ms  
Loss rate: 3.58%  
-- Flow 2:  
Average throughput: 38.60 Mbit/s  
95th percentile per-packet one-way delay: 40.261 ms  
Loss rate: 7.56%  
-- Flow 3:  
Average throughput: 29.53 Mbit/s  
95th percentile per-packet one-way delay: 43.028 ms  
Loss rate: 18.33%

## Run 5: Report of Indigo-MusesT — Data Link

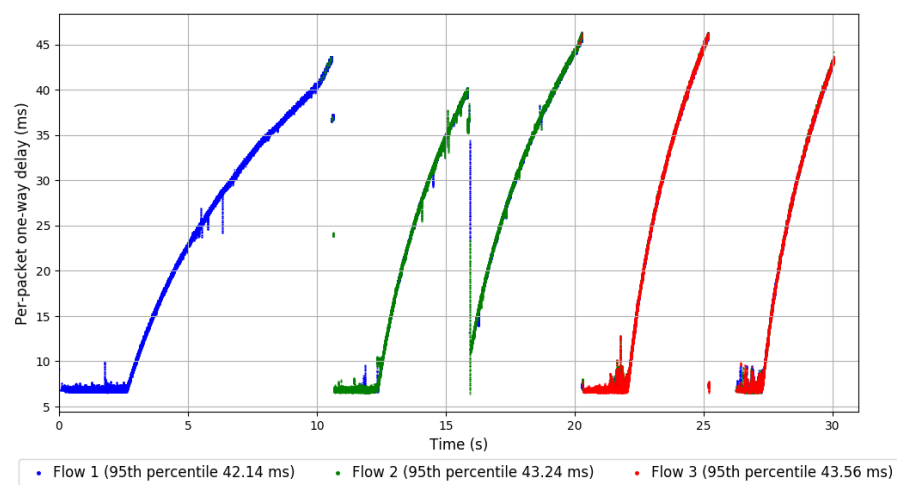
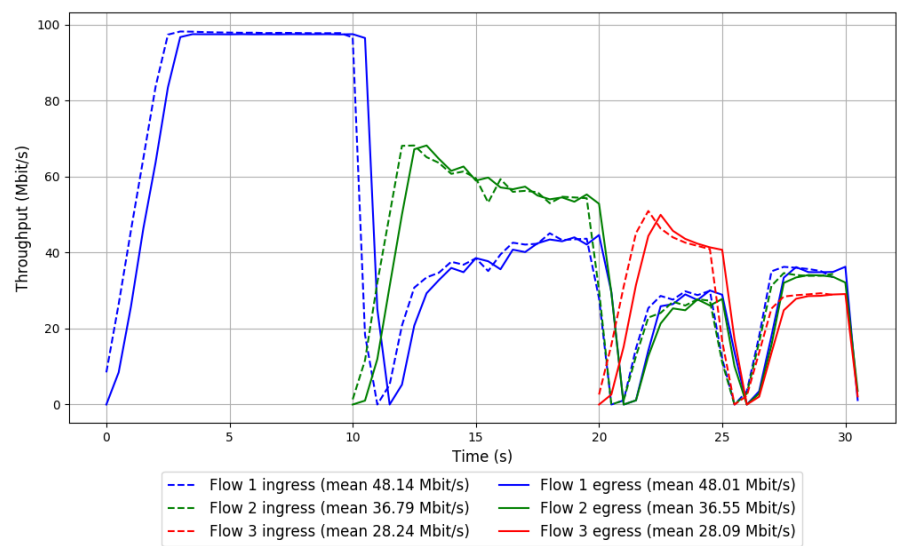


Run 1: Statistics of LEDBAT

Start at: 2019-03-27 01:05:53  
End at: 2019-03-27 01:06:23  
Local clock offset: 0.748 ms  
Remote clock offset: -1.052 ms

# Below is generated by plot.py at 2019-03-27 03:17:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 81.64 Mbit/s  
95th percentile per-packet one-way delay: 42.718 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 48.01 Mbit/s  
95th percentile per-packet one-way delay: 42.142 ms  
Loss rate: 0.16%  
-- Flow 2:  
Average throughput: 36.55 Mbit/s  
95th percentile per-packet one-way delay: 43.236 ms  
Loss rate: 0.64%  
-- Flow 3:  
Average throughput: 28.09 Mbit/s  
95th percentile per-packet one-way delay: 43.559 ms  
Loss rate: 0.55%

Run 1: Report of LEDBAT — Data Link

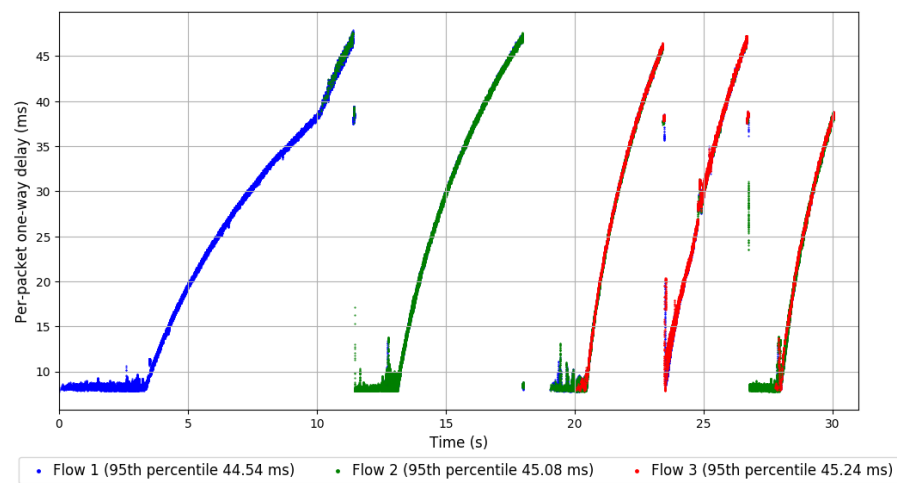
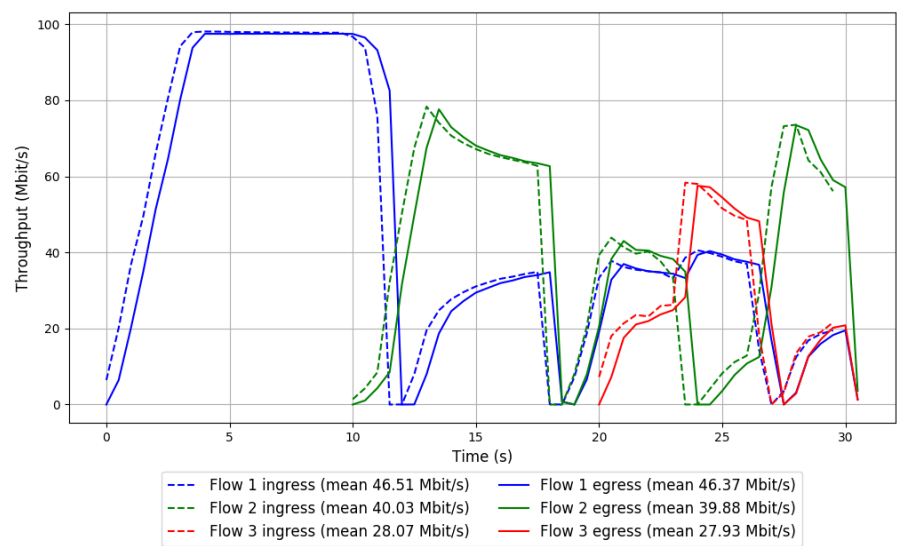


Run 2: Statistics of LEDBAT

Start at: 2019-03-27 01:30:56  
End at: 2019-03-27 01:31:26  
Local clock offset: -1.597 ms  
Remote clock offset: -0.013 ms

# Below is generated by plot.py at 2019-03-27 03:17:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 82.22 Mbit/s  
95th percentile per-packet one-way delay: 44.812 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 46.37 Mbit/s  
95th percentile per-packet one-way delay: 44.539 ms  
Loss rate: 0.20%  
-- Flow 2:  
Average throughput: 39.88 Mbit/s  
95th percentile per-packet one-way delay: 45.079 ms  
Loss rate: 0.38%  
-- Flow 3:  
Average throughput: 27.93 Mbit/s  
95th percentile per-packet one-way delay: 45.236 ms  
Loss rate: 0.18%

Run 2: Report of LEDBAT — Data Link





Run 3: Statistics of LEDBAT

Start at: 2019-03-27 01:55:37

End at: 2019-03-27 01:56:07

Local clock offset: -1.904 ms

Remote clock offset: 1.178 ms

# Below is generated by plot.py at 2019-03-27 03:18:13

# Datalink statistics

-- Total of 3 flows:

Average throughput: 82.88 Mbit/s

95th percentile per-packet one-way delay: 43.155 ms

Loss rate: 0.24%

-- Flow 1:

Average throughput: 51.79 Mbit/s

95th percentile per-packet one-way delay: 42.339 ms

Loss rate: 0.22%

-- Flow 2:

Average throughput: 38.69 Mbit/s

95th percentile per-packet one-way delay: 43.699 ms

Loss rate: 0.16%

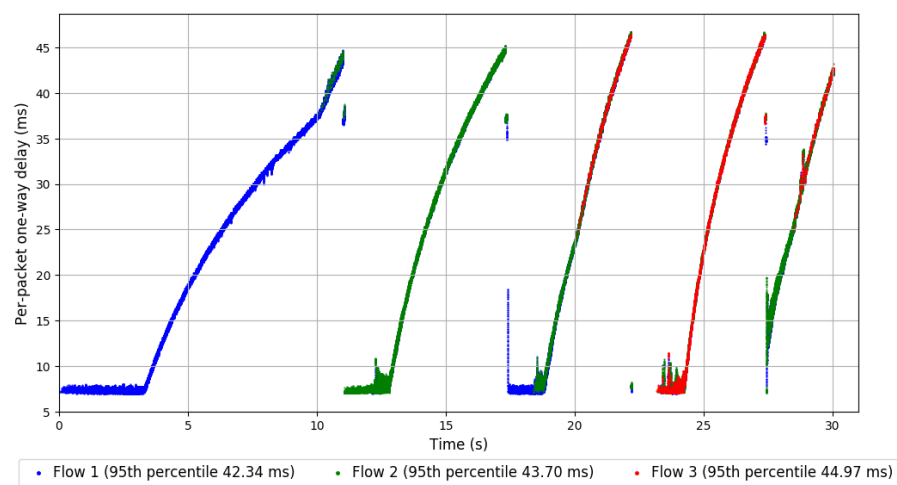
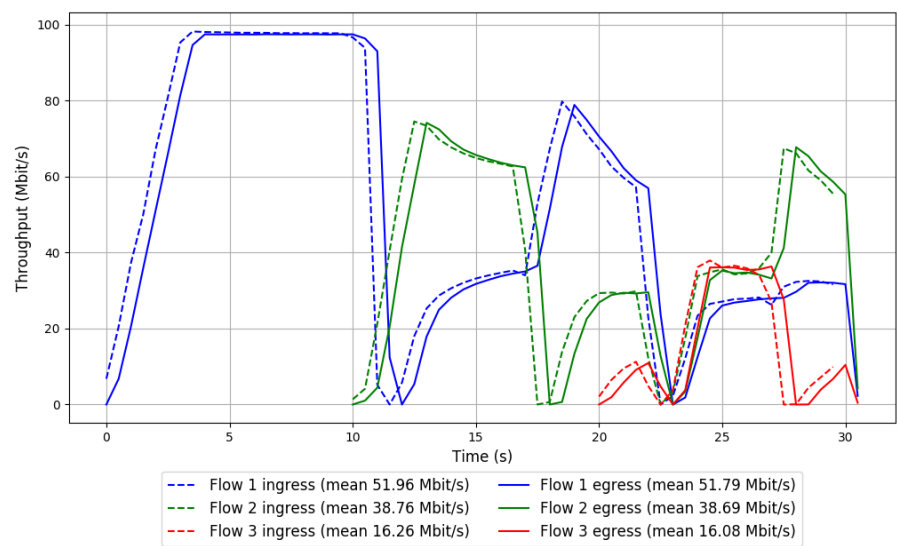
-- Flow 3:

Average throughput: 16.08 Mbit/s

95th percentile per-packet one-way delay: 44.967 ms

Loss rate: 0.90%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2019-03-27 02:20:52

End at: 2019-03-27 02:21:22

Local clock offset: -0.844 ms

Remote clock offset: 2.213 ms

# Below is generated by plot.py at 2019-03-27 03:18:26

# Datalink statistics

-- Total of 3 flows:

Average throughput: 77.35 Mbit/s

95th percentile per-packet one-way delay: 44.045 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 43.50 Mbit/s

95th percentile per-packet one-way delay: 43.555 ms

Loss rate: 0.45%

-- Flow 2:

Average throughput: 32.32 Mbit/s

95th percentile per-packet one-way delay: 44.643 ms

Loss rate: 0.61%

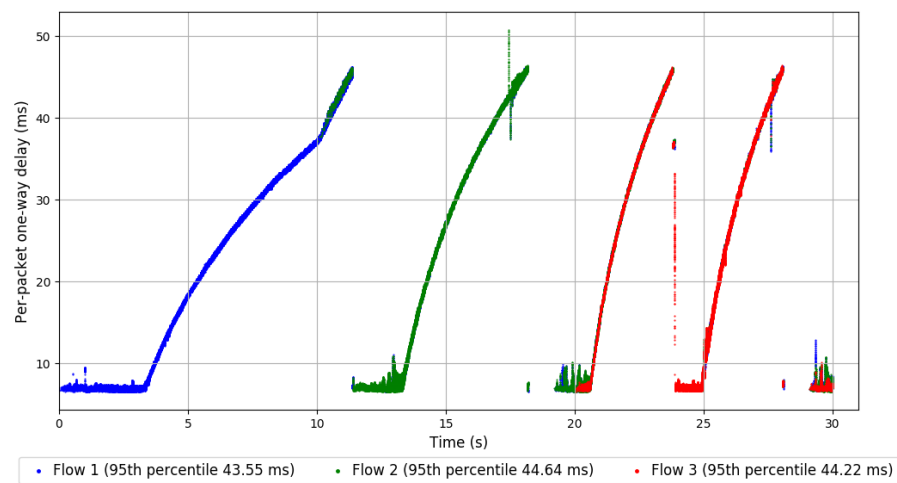
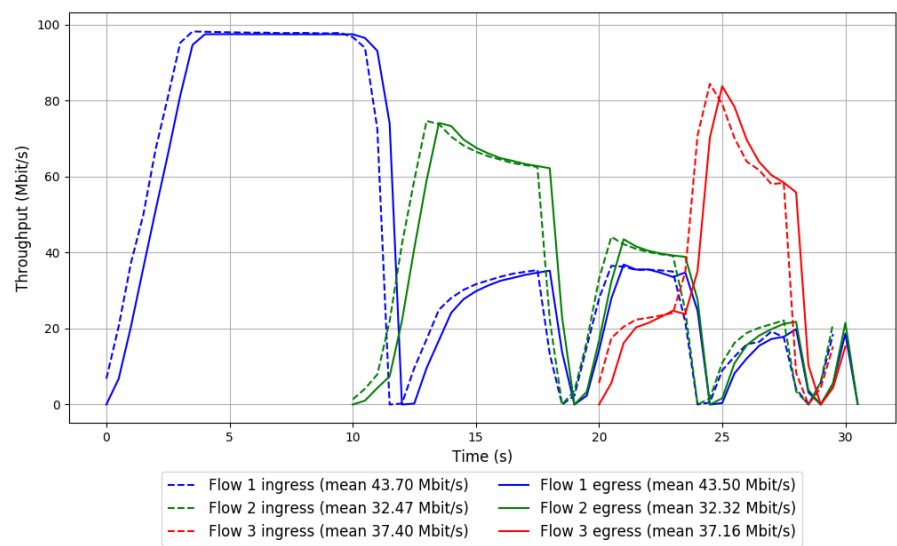
-- Flow 3:

Average throughput: 37.16 Mbit/s

95th percentile per-packet one-way delay: 44.221 ms

Loss rate: 0.63%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-03-27 02:45:44

End at: 2019-03-27 02:46:14

Local clock offset: -2.179 ms

Remote clock offset: 2.113 ms

# Below is generated by plot.py at 2019-03-27 03:18:30

# Datalink statistics

-- Total of 3 flows:

Average throughput: 82.06 Mbit/s

95th percentile per-packet one-way delay: 45.189 ms

Loss rate: 0.48%

-- Flow 1:

Average throughput: 48.72 Mbit/s

95th percentile per-packet one-way delay: 45.206 ms

Loss rate: 0.53%

-- Flow 2:

Average throughput: 34.28 Mbit/s

95th percentile per-packet one-way delay: 44.634 ms

Loss rate: 0.43%

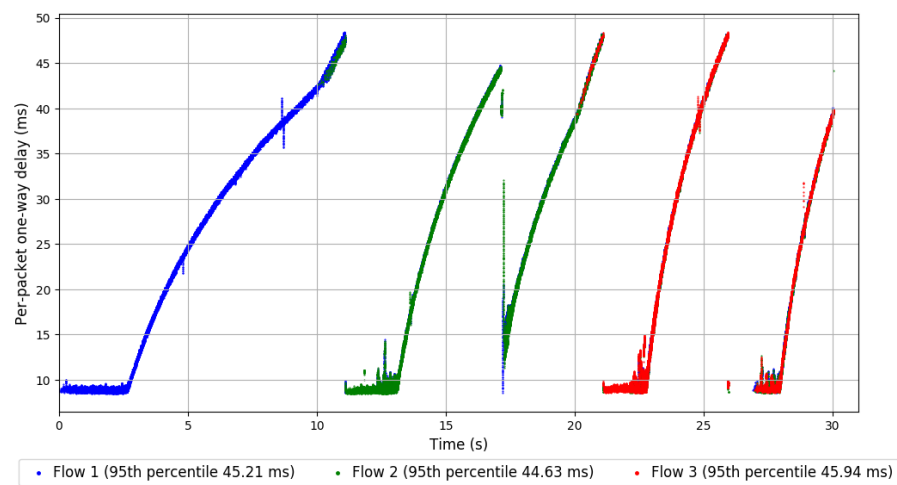
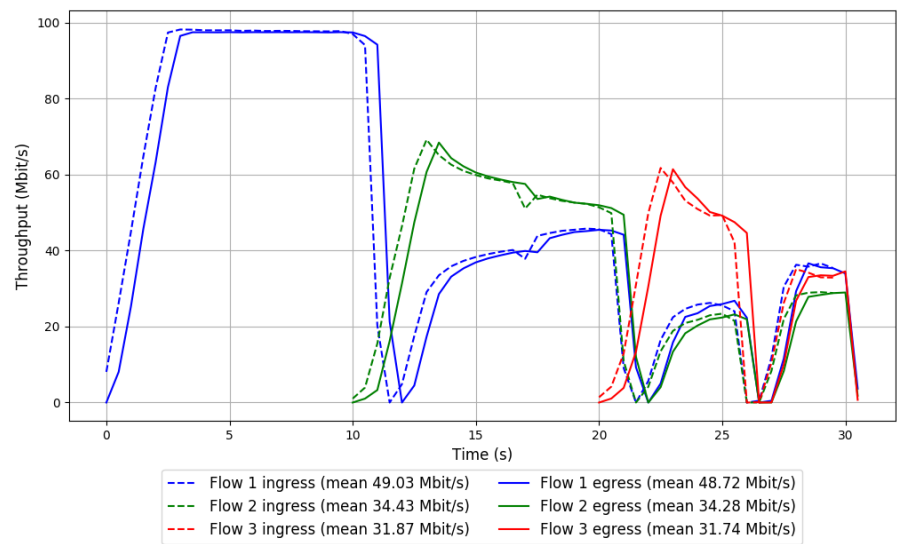
-- Flow 3:

Average throughput: 31.74 Mbit/s

95th percentile per-packet one-way delay: 45.942 ms

Loss rate: 0.39%

Run 5: Report of LEDBAT — Data Link

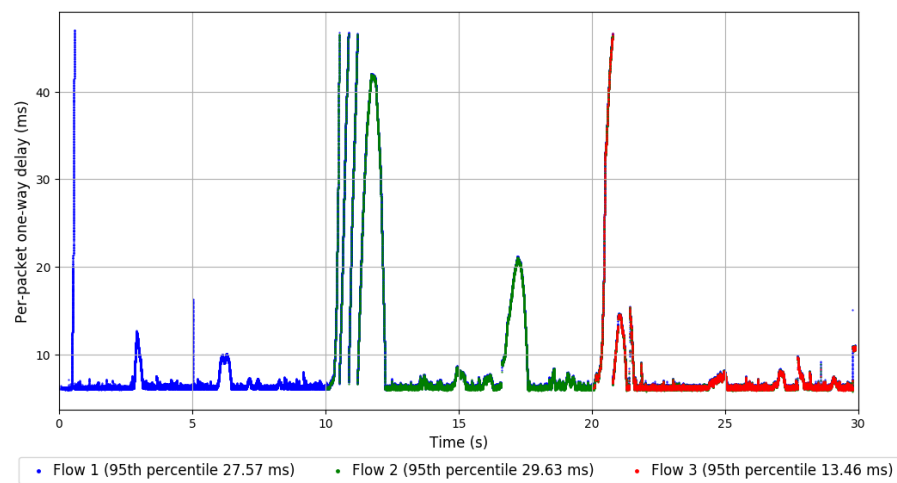
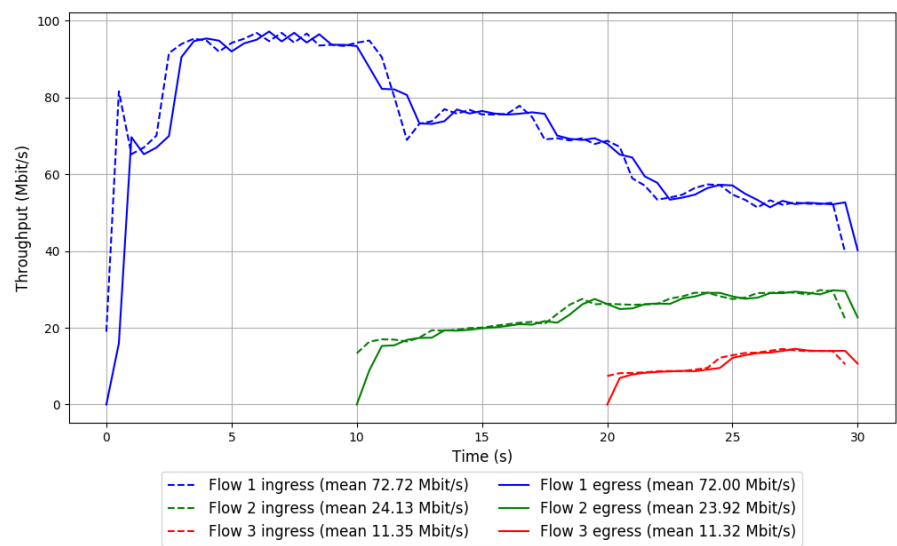


Run 1: Statistics of PCC-Allegro

Start at: 2019-03-27 01:18:05  
End at: 2019-03-27 01:18:35  
Local clock offset: 0.925 ms  
Remote clock offset: -0.887 ms

# Below is generated by plot.py at 2019-03-27 03:18:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 91.64 Mbit/s  
95th percentile per-packet one-way delay: 27.354 ms  
Loss rate: 0.92%  
-- Flow 1:  
Average throughput: 72.00 Mbit/s  
95th percentile per-packet one-way delay: 27.571 ms  
Loss rate: 0.97%  
-- Flow 2:  
Average throughput: 23.92 Mbit/s  
95th percentile per-packet one-way delay: 29.628 ms  
Loss rate: 0.84%  
-- Flow 3:  
Average throughput: 11.32 Mbit/s  
95th percentile per-packet one-way delay: 13.455 ms  
Loss rate: 0.29%

Run 1: Report of PCC-Allegro — Data Link





Run 2: Statistics of PCC-Allegro

Start at: 2019-03-27 01:42:47

End at: 2019-03-27 01:43:17

Local clock offset: -1.658 ms

Remote clock offset: 0.443 ms

# Below is generated by plot.py at 2019-03-27 03:18:59

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.81 Mbit/s

95th percentile per-packet one-way delay: 16.222 ms

Loss rate: 0.57%

-- Flow 1:

Average throughput: 79.07 Mbit/s

95th percentile per-packet one-way delay: 16.122 ms

Loss rate: 0.61%

-- Flow 2:

Average throughput: 15.68 Mbit/s

95th percentile per-packet one-way delay: 16.618 ms

Loss rate: 0.31%

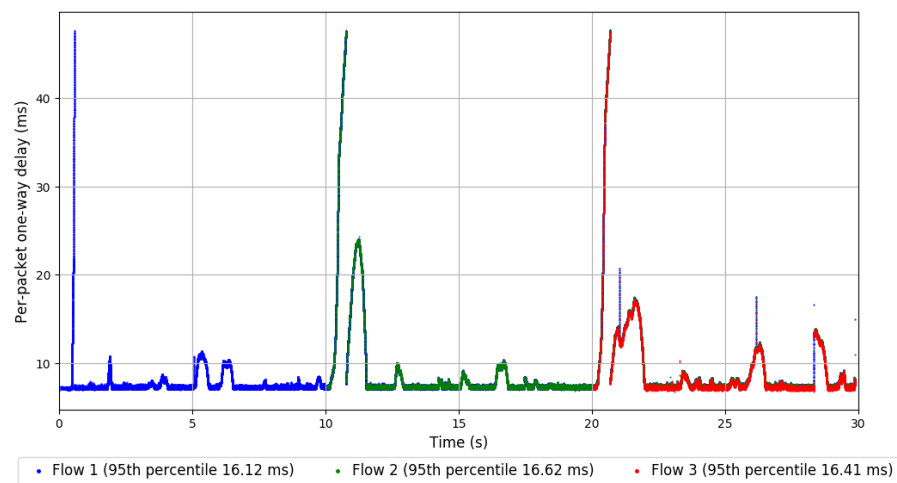
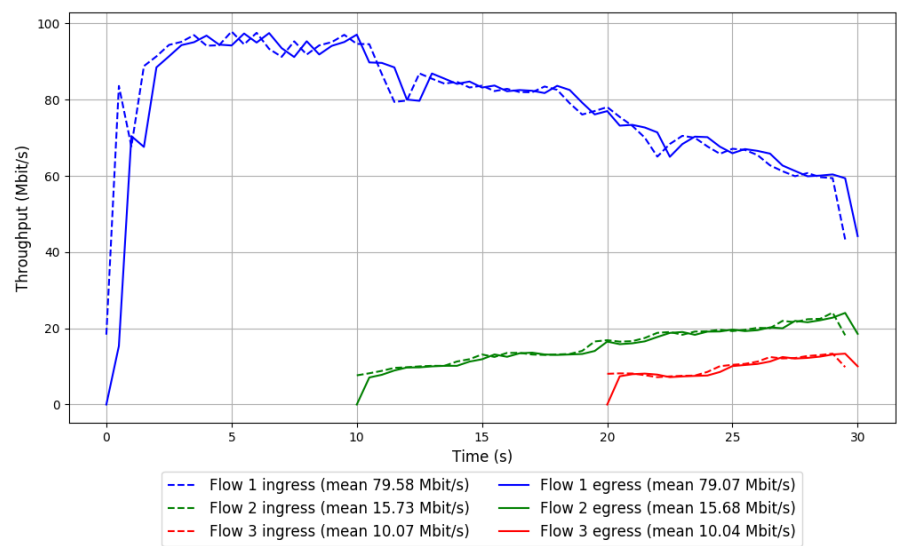
-- Flow 3:

Average throughput: 10.04 Mbit/s

95th percentile per-packet one-way delay: 16.411 ms

Loss rate: 0.33%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-03-27 02:07:38

End at: 2019-03-27 02:08:08

Local clock offset: -0.824 ms

Remote clock offset: 2.687 ms

# Below is generated by plot.py at 2019-03-27 03:19:05

# Datalink statistics

-- Total of 3 flows:

Average throughput: 92.73 Mbit/s

95th percentile per-packet one-way delay: 18.450 ms

Loss rate: 0.56%

-- Flow 1:

Average throughput: 79.49 Mbit/s

95th percentile per-packet one-way delay: 18.389 ms

Loss rate: 0.60%

-- Flow 2:

Average throughput: 14.66 Mbit/s

95th percentile per-packet one-way delay: 18.663 ms

Loss rate: 0.32%

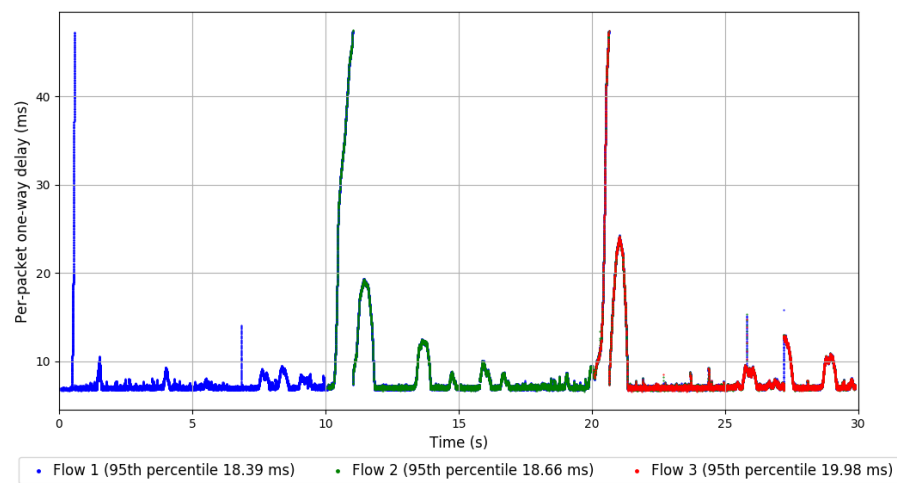
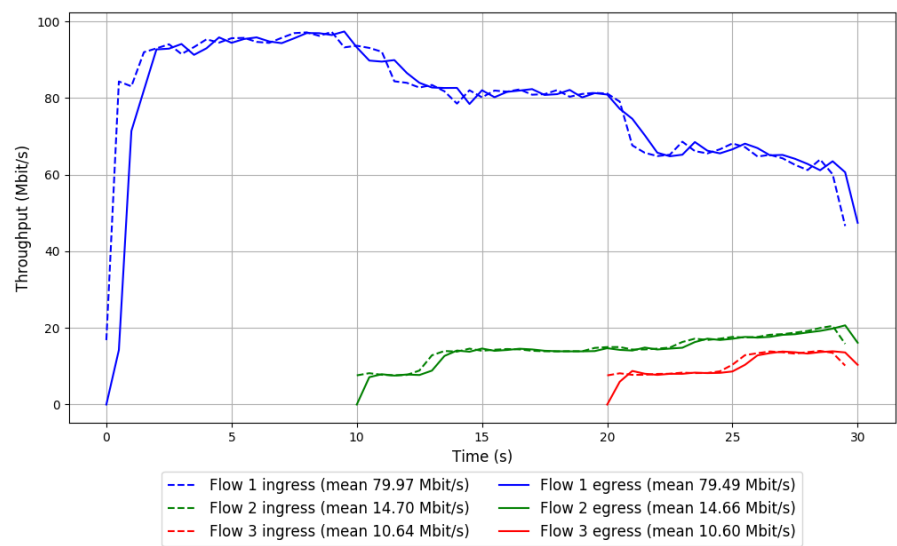
-- Flow 3:

Average throughput: 10.60 Mbit/s

95th percentile per-packet one-way delay: 19.983 ms

Loss rate: 0.31%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-03-27 02:32:45

End at: 2019-03-27 02:33:15

Local clock offset: -2.06 ms

Remote clock offset: 0.949 ms

# Below is generated by plot.py at 2019-03-27 03:19:06

# Datalink statistics

-- Total of 3 flows:

Average throughput: 91.57 Mbit/s

95th percentile per-packet one-way delay: 24.426 ms

Loss rate: 0.57%

-- Flow 1:

Average throughput: 80.06 Mbit/s

95th percentile per-packet one-way delay: 24.387 ms

Loss rate: 0.59%

-- Flow 2:

Average throughput: 10.85 Mbit/s

95th percentile per-packet one-way delay: 25.594 ms

Loss rate: 0.37%

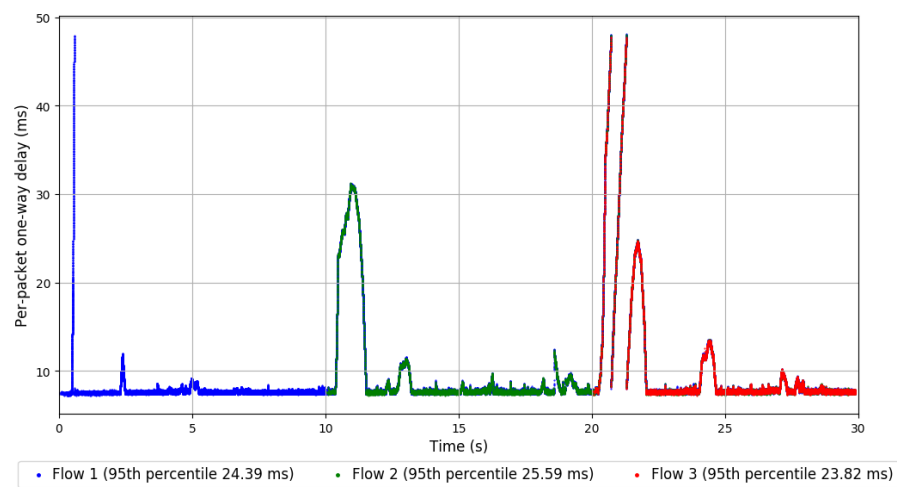
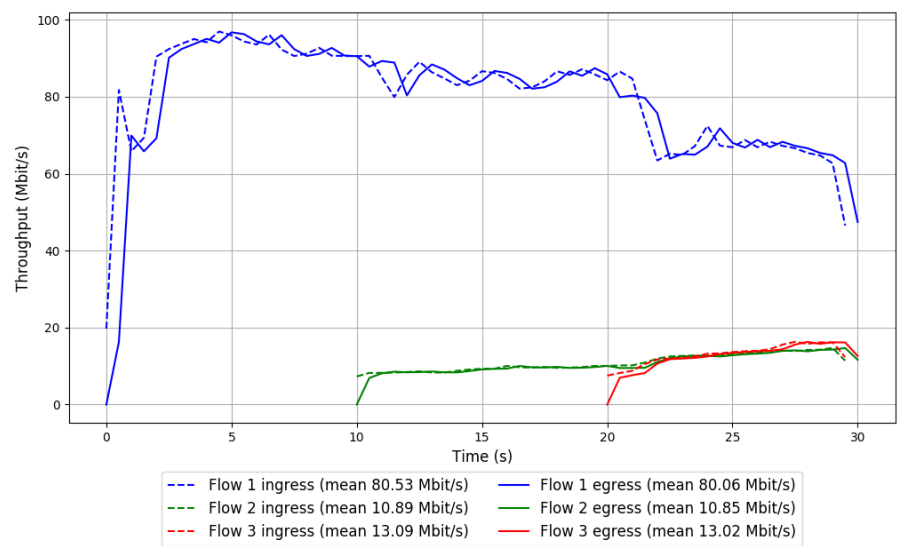
-- Flow 3:

Average throughput: 13.02 Mbit/s

95th percentile per-packet one-way delay: 23.815 ms

Loss rate: 0.52%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-03-27 02:57:42

End at: 2019-03-27 02:58:12

Local clock offset: 0.047 ms

Remote clock offset: 1.824 ms

# Below is generated by plot.py at 2019-03-27 03:19:08

# Datalink statistics

-- Total of 3 flows:

Average throughput: 91.57 Mbit/s

95th percentile per-packet one-way delay: 35.108 ms

Loss rate: 0.97%

-- Flow 1:

Average throughput: 74.75 Mbit/s

95th percentile per-packet one-way delay: 34.040 ms

Loss rate: 0.98%

-- Flow 2:

Average throughput: 19.82 Mbit/s

95th percentile per-packet one-way delay: 38.292 ms

Loss rate: 1.22%

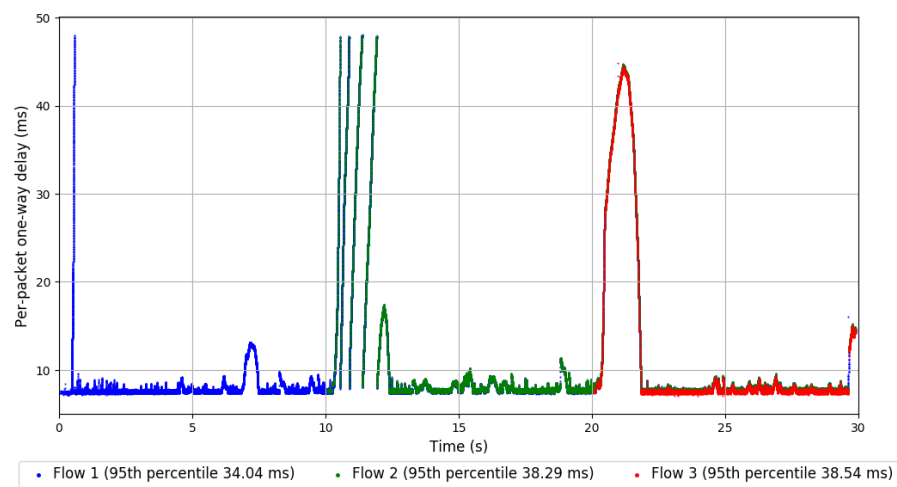
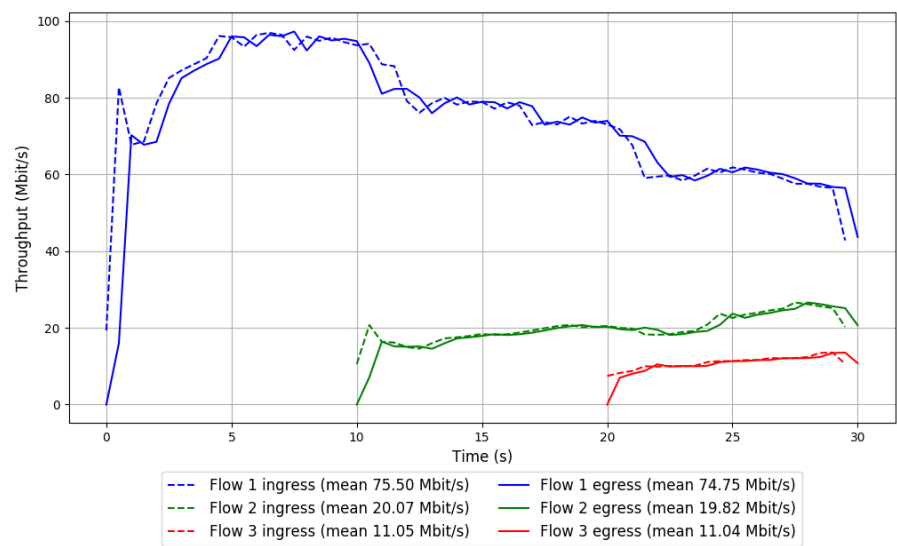
-- Flow 3:

Average throughput: 11.04 Mbit/s

95th percentile per-packet one-way delay: 38.540 ms

Loss rate: 0.00%

Run 5: Report of PCC-Allegro — Data Link



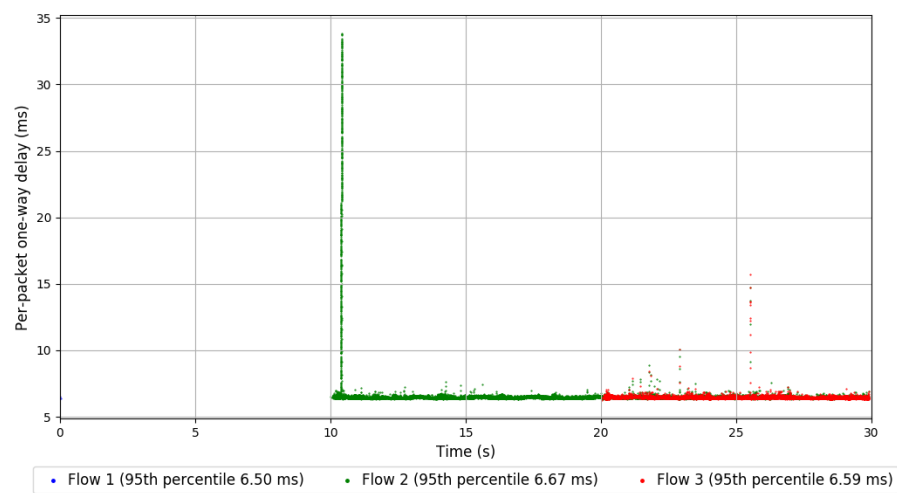
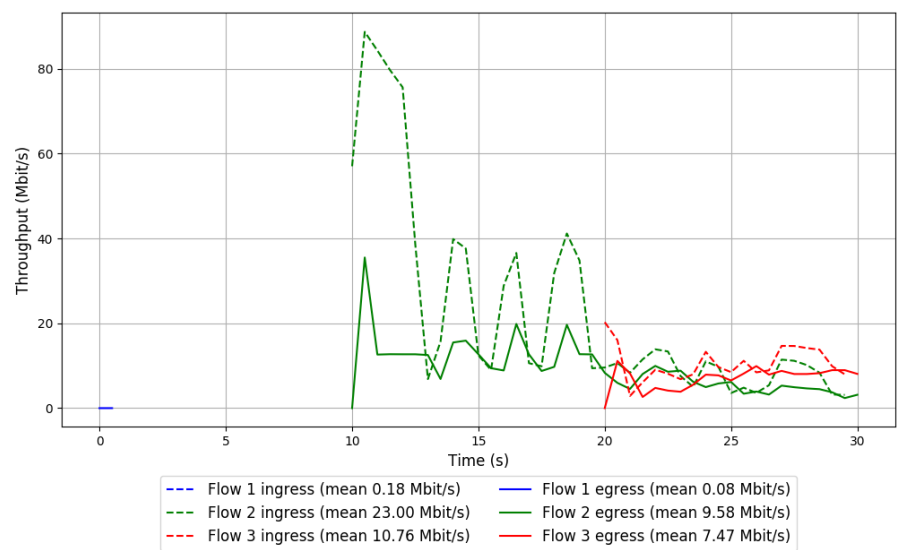


Run 1: Statistics of PCC-Expr

Start at: 2019-03-27 01:19:15  
End at: 2019-03-27 01:19:45  
Local clock offset: 0.066 ms  
Remote clock offset: -1.218 ms

# Below is generated by plot.py at 2019-03-27 03:19:08  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 8.84 Mbit/s  
95th percentile per-packet one-way delay: 6.635 ms  
Loss rate: 53.12%  
-- Flow 1:  
Average throughput: 0.08 Mbit/s  
95th percentile per-packet one-way delay: 6.498 ms  
Loss rate: 85.71%  
-- Flow 2:  
Average throughput: 9.58 Mbit/s  
95th percentile per-packet one-way delay: 6.667 ms  
Loss rate: 58.36%  
-- Flow 3:  
Average throughput: 7.47 Mbit/s  
95th percentile per-packet one-way delay: 6.590 ms  
Loss rate: 30.56%

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-03-27 01:43:56

End at: 2019-03-27 01:44:26

Local clock offset: -0.588 ms

Remote clock offset: 0.068 ms

# Below is generated by plot.py at 2019-03-27 03:19:08

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.83 Mbit/s

95th percentile per-packet one-way delay: 5.842 ms

Loss rate: 55.73%

-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 5.505 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 10.74 Mbit/s

95th percentile per-packet one-way delay: 5.852 ms

Loss rate: 59.01%

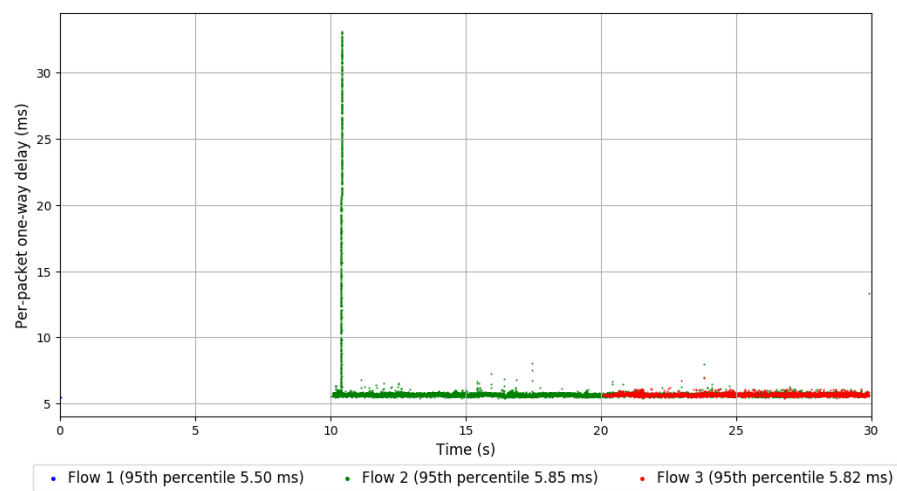
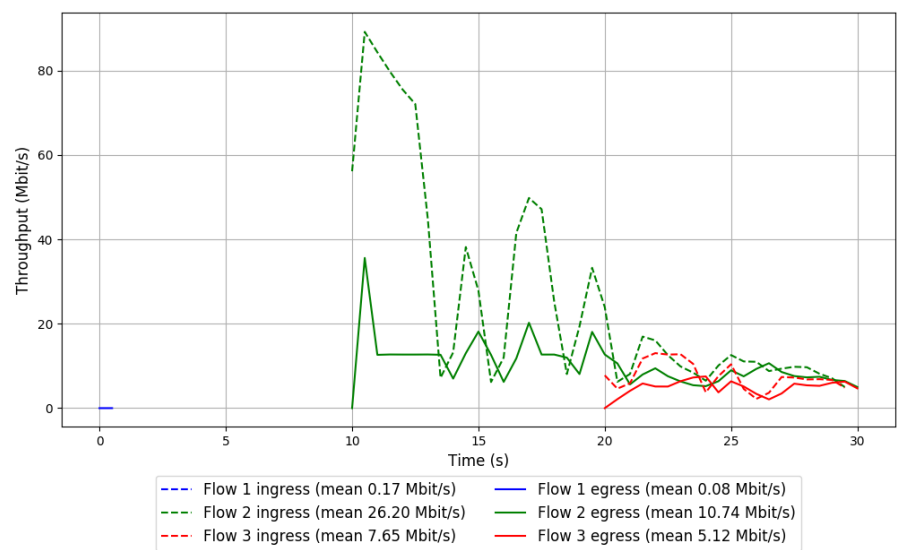
-- Flow 3:

Average throughput: 5.12 Mbit/s

95th percentile per-packet one-way delay: 5.824 ms

Loss rate: 33.03%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-03-27 02:08:49

End at: 2019-03-27 02:09:19

Local clock offset: -1.983 ms

Remote clock offset: 0.932 ms

# Below is generated by plot.py at 2019-03-27 03:19:08

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.84 Mbit/s

95th percentile per-packet one-way delay: 6.362 ms

Loss rate: 42.67%

-- Flow 1:

Average throughput: 0.07 Mbit/s

95th percentile per-packet one-way delay: 6.185 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 11.04 Mbit/s

95th percentile per-packet one-way delay: 6.369 ms

Loss rate: 42.21%

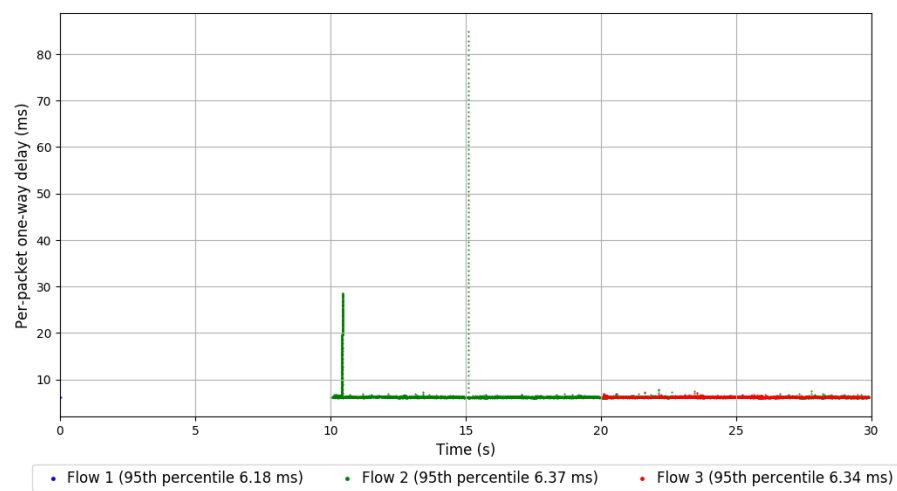
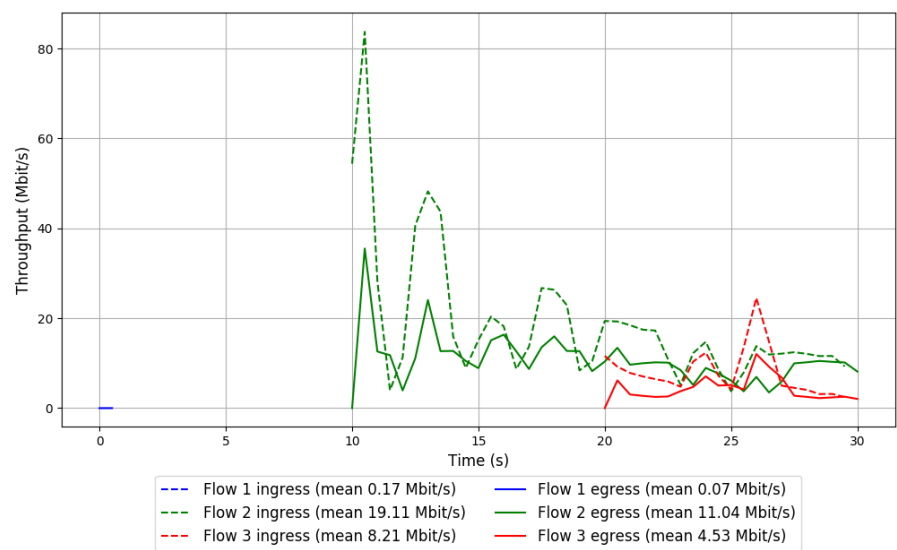
-- Flow 3:

Average throughput: 4.53 Mbit/s

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

Loss rate: 44.83%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-03-27 02:33:55

End at: 2019-03-27 02:34:25

Local clock offset: -1.679 ms

Remote clock offset: 1.583 ms

# Below is generated by plot.py at 2019-03-27 03:19:08

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.84 Mbit/s

95th percentile per-packet one-way delay: 8.077 ms

Loss rate: 43.05%

-- Flow 1:

Average throughput: 0.07 Mbit/s

95th percentile per-packet one-way delay: 7.862 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 10.02 Mbit/s

95th percentile per-packet one-way delay: 8.085 ms

Loss rate: 46.94%

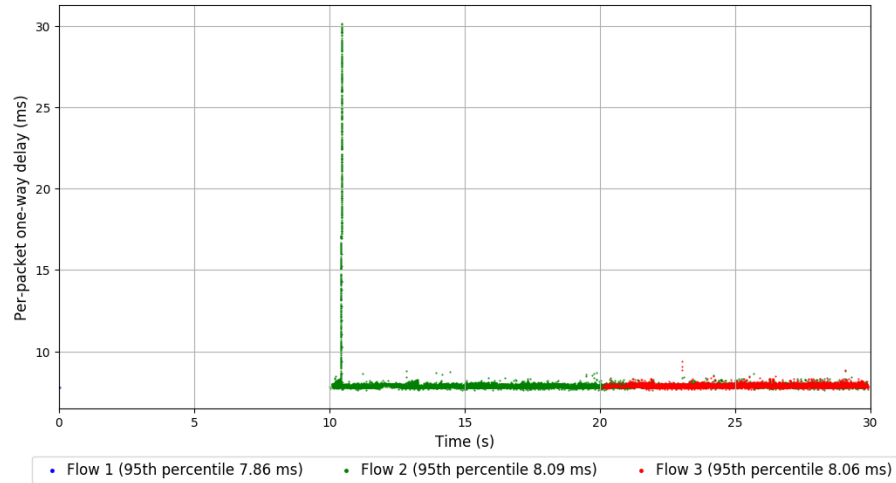
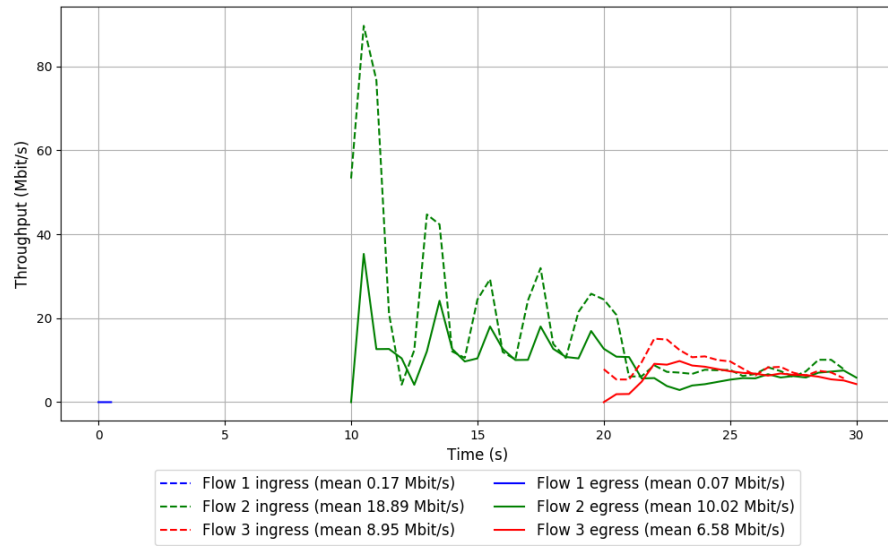
-- Flow 3:

Average throughput: 6.58 Mbit/s

95th percentile per-packet one-way delay: 8.062 ms

Loss rate: 26.48%

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





Run 5: Statistics of PCC-Expr

Start at: 2019-03-27 02:58:53

End at: 2019-03-27 02:59:23

Local clock offset: 0.514 ms

Remote clock offset: 0.638 ms

# Below is generated by plot.py at 2019-03-27 03:19:08

# Datalink statistics

-- Total of 3 flows:

Average throughput: 8.84 Mbit/s

95th percentile per-packet one-way delay: 6.147 ms

Loss rate: 50.63%

-- Flow 1:

Average throughput: 0.07 Mbit/s

95th percentile per-packet one-way delay: 5.870 ms

Loss rate: 85.71%

-- Flow 2:

Average throughput: 9.71 Mbit/s

95th percentile per-packet one-way delay: 6.193 ms

Loss rate: 54.39%

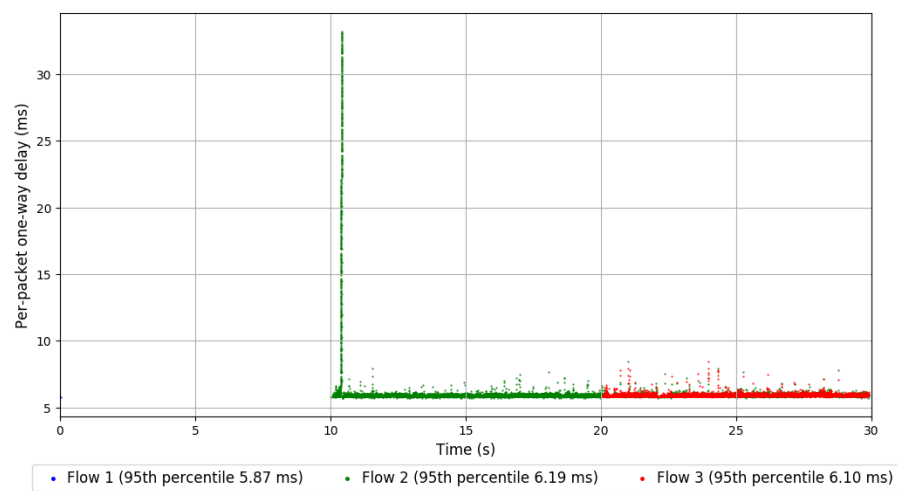
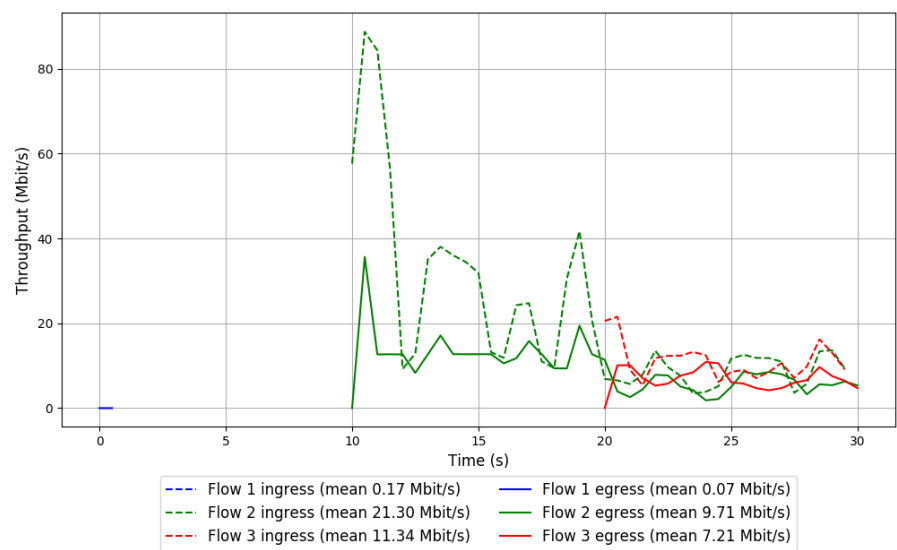
-- Flow 3:

Average throughput: 7.21 Mbit/s

95th percentile per-packet one-way delay: 6.096 ms

Loss rate: 36.42%

Run 5: Report of PCC-Expr — Data Link

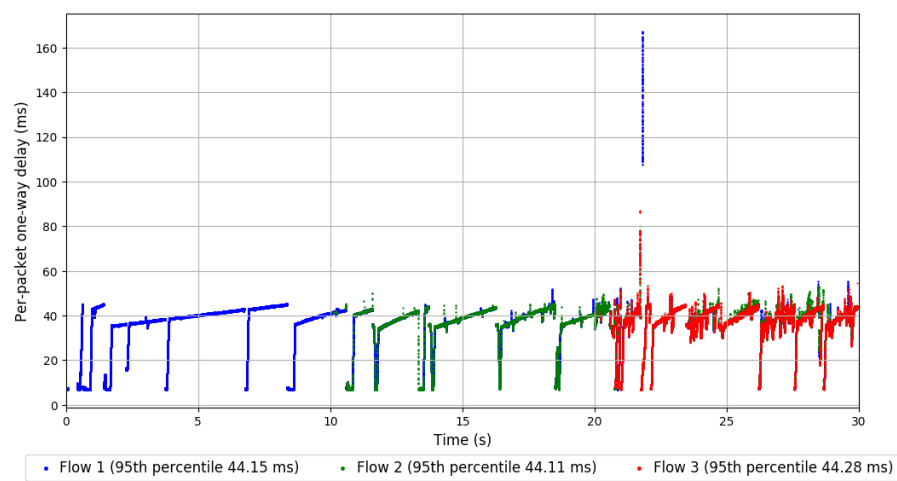
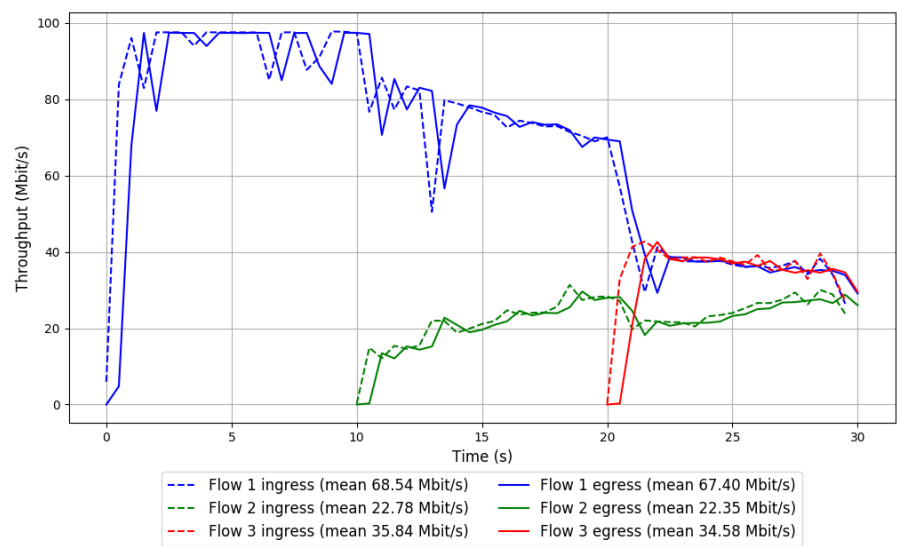


Run 1: Statistics of QUIC Cubic

Start at: 2019-03-27 01:09:35  
End at: 2019-03-27 01:10:05  
Local clock offset: 0.664 ms  
Remote clock offset: -0.641 ms

# Below is generated by plot.py at 2019-03-27 03:19:52  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.57 Mbit/s  
95th percentile per-packet one-way delay: 44.162 ms  
Loss rate: 1.82%  
-- Flow 1:  
Average throughput: 67.40 Mbit/s  
95th percentile per-packet one-way delay: 44.150 ms  
Loss rate: 1.54%  
-- Flow 2:  
Average throughput: 22.35 Mbit/s  
95th percentile per-packet one-way delay: 44.107 ms  
Loss rate: 1.88%  
-- Flow 3:  
Average throughput: 34.58 Mbit/s  
95th percentile per-packet one-way delay: 44.284 ms  
Loss rate: 3.41%

Run 1: Report of QUIC Cubic — Data Link

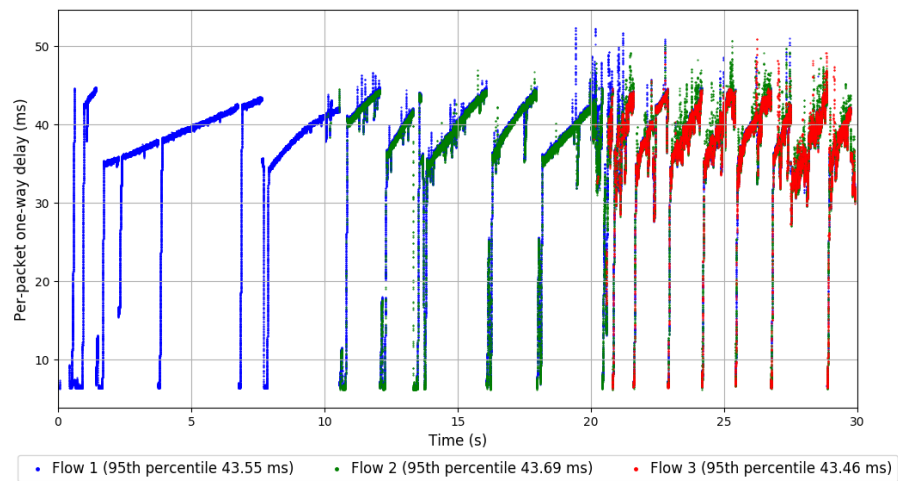
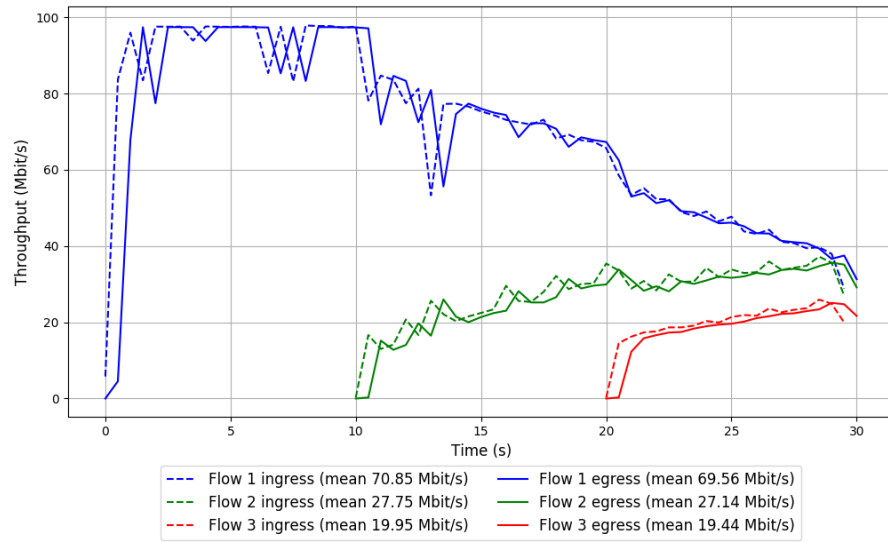


Run 2: Statistics of QUIC Cubic

Start at: 2019-03-27 01:34:30  
End at: 2019-03-27 01:35:00  
Local clock offset: -0.623 ms  
Remote clock offset: -0.061 ms

# Below is generated by plot.py at 2019-03-27 03:19:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.93 Mbit/s  
95th percentile per-packet one-way delay: 43.569 ms  
Loss rate: 1.90%  
-- Flow 1:  
Average throughput: 69.56 Mbit/s  
95th percentile per-packet one-way delay: 43.555 ms  
Loss rate: 1.74%  
-- Flow 2:  
Average throughput: 27.14 Mbit/s  
95th percentile per-packet one-way delay: 43.689 ms  
Loss rate: 2.23%  
-- Flow 3:  
Average throughput: 19.44 Mbit/s  
95th percentile per-packet one-way delay: 43.458 ms  
Loss rate: 2.66%

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



Run 3: Statistics of QUIC Cubic

Start at: 2019-03-27 01:59:10

End at: 2019-03-27 01:59:40

Local clock offset: -1.916 ms

Remote clock offset: 2.105 ms

# Below is generated by plot.py at 2019-03-27 03:20:00

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.18 Mbit/s

95th percentile per-packet one-way delay: 45.144 ms

Loss rate: 1.72%

-- Flow 1:

Average throughput: 66.65 Mbit/s

95th percentile per-packet one-way delay: 45.088 ms

Loss rate: 1.62%

-- Flow 2:

Average throughput: 29.94 Mbit/s

95th percentile per-packet one-way delay: 45.415 ms

Loss rate: 1.77%

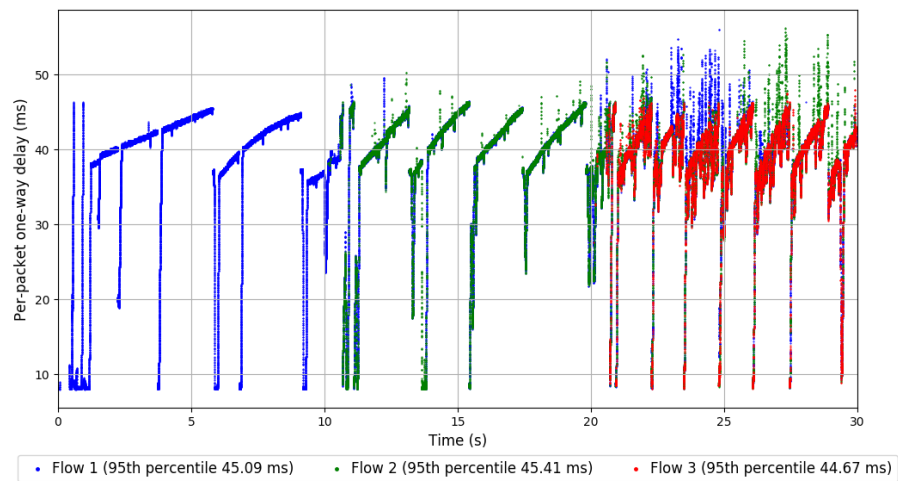
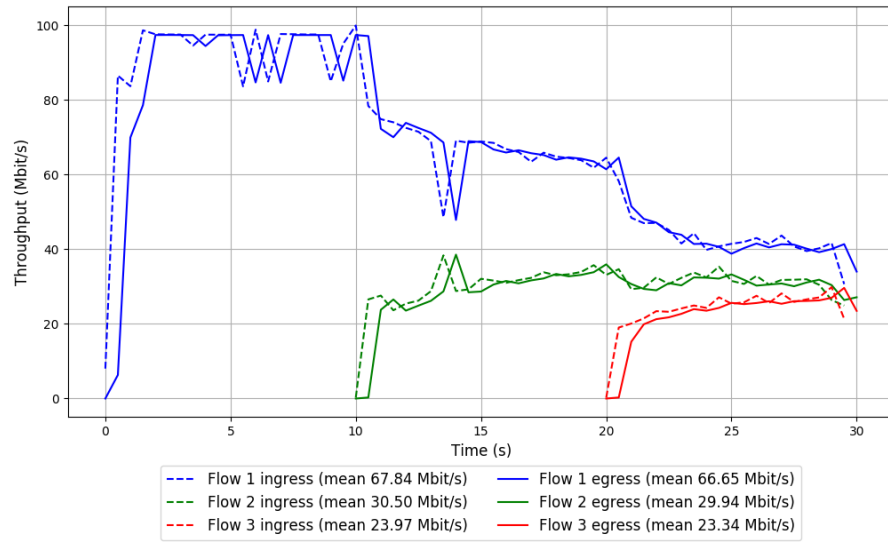
-- Flow 3:

Average throughput: 23.34 Mbit/s

95th percentile per-packet one-way delay: 44.673 ms

Loss rate: 2.48%

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





Run 4: Statistics of QUIC Cubic

Start at: 2019-03-27 02:24:27

End at: 2019-03-27 02:24:57

Local clock offset: -2.397 ms

Remote clock offset: 1.181 ms

# Below is generated by plot.py at 2019-03-27 03:20:12

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.73 Mbit/s

95th percentile per-packet one-way delay: 44.938 ms

Loss rate: 2.49%

-- Flow 1:

Average throughput: 67.47 Mbit/s

95th percentile per-packet one-way delay: 44.961 ms

Loss rate: 2.20%

-- Flow 2:

Average throughput: 26.32 Mbit/s

95th percentile per-packet one-way delay: 44.839 ms

Loss rate: 2.88%

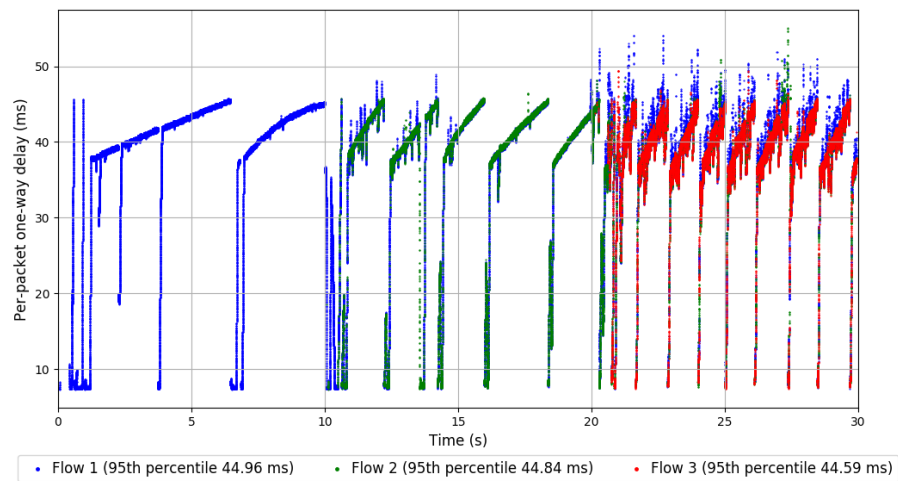
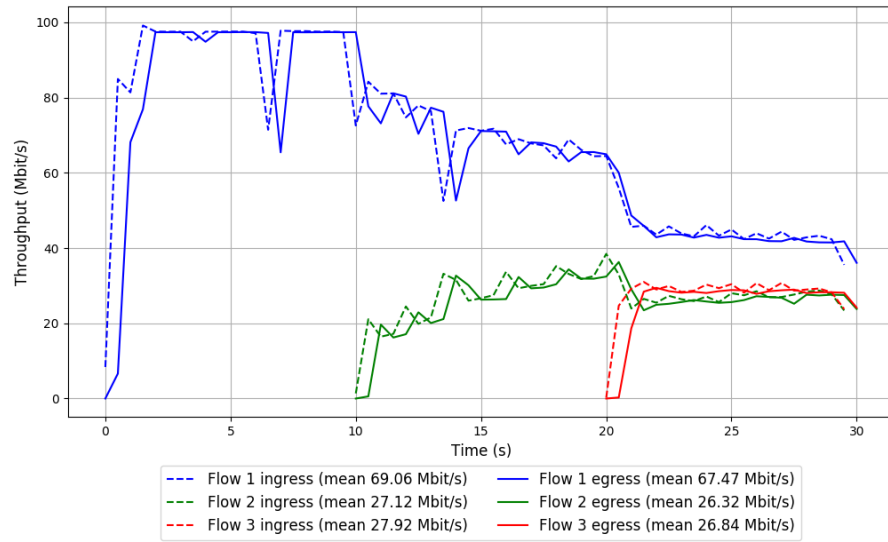
-- Flow 3:

Average throughput: 26.84 Mbit/s

95th percentile per-packet one-way delay: 44.588 ms

Loss rate: 3.90%

# Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-03-27 02:49:18

End at: 2019-03-27 02:49:48

Local clock offset: -2.057 ms

Remote clock offset: 1.834 ms

# Below is generated by plot.py at 2019-03-27 03:20:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.86 Mbit/s

95th percentile per-packet one-way delay: 45.631 ms

Loss rate: 2.13%

-- Flow 1:

Average throughput: 68.44 Mbit/s

95th percentile per-packet one-way delay: 45.516 ms

Loss rate: 1.86%

-- Flow 2:

Average throughput: 24.09 Mbit/s

95th percentile per-packet one-way delay: 45.633 ms

Loss rate: 2.59%

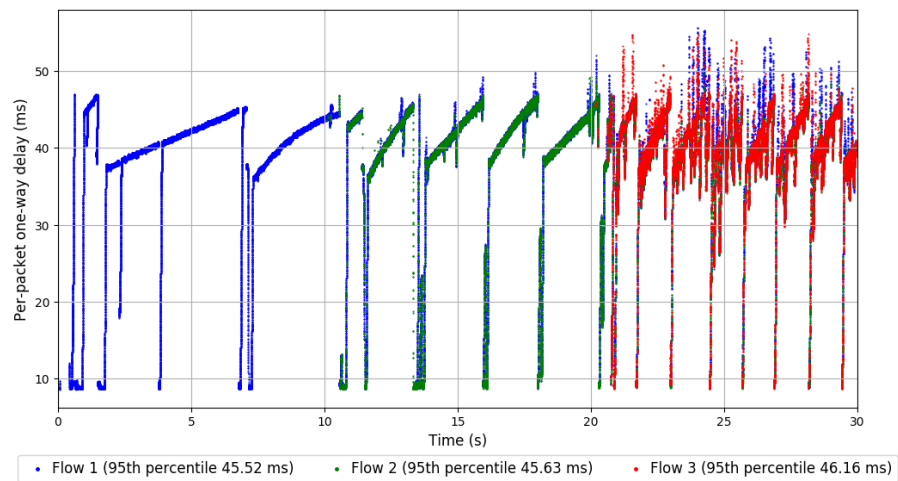
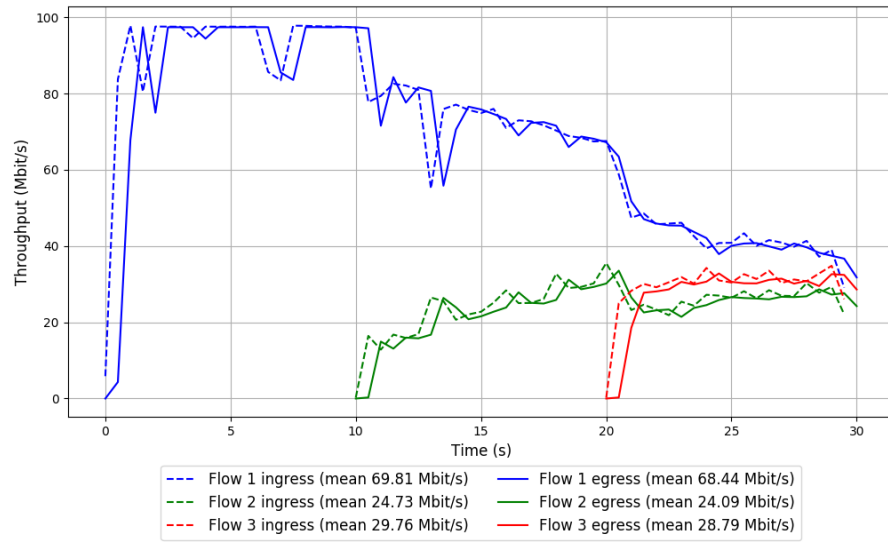
-- Flow 3:

Average throughput: 28.79 Mbit/s

95th percentile per-packet one-way delay: 46.161 ms

Loss rate: 3.32%

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

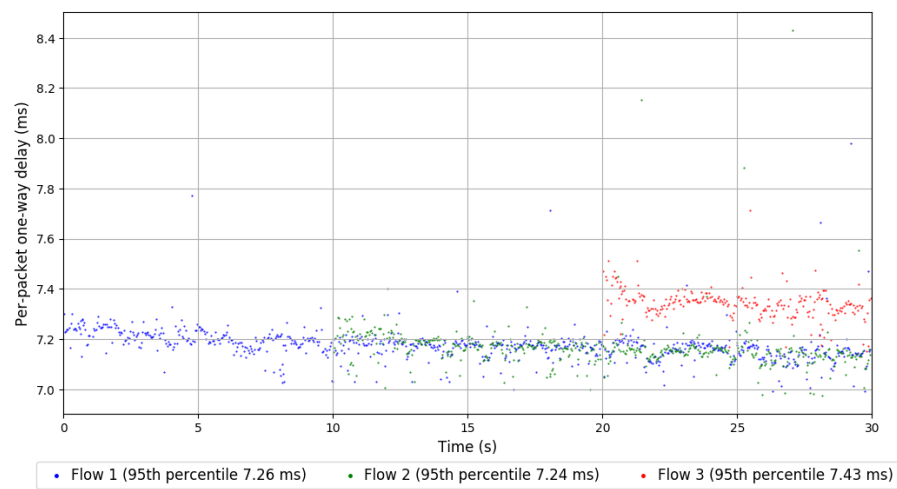
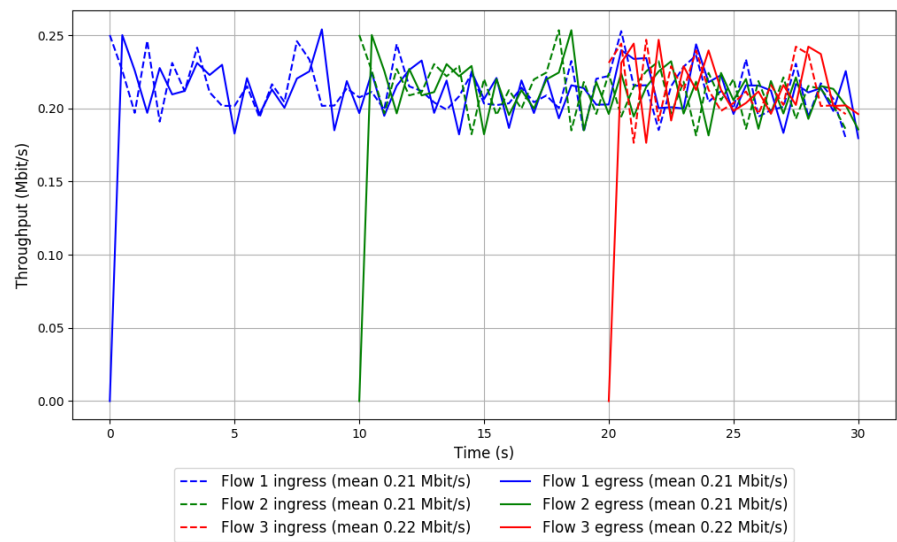


Run 1: Statistics of SReAM

Start at: 2019-03-27 01:16:59  
End at: 2019-03-27 01:17:29  
Local clock offset: 0.496 ms  
Remote clock offset: -0.255 ms

# Below is generated by plot.py at 2019-03-27 03:20:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 7.364 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 7.256 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 7.243 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 7.433 ms  
Loss rate: 0.00%

Run 1: Report of SReAM — Data Link

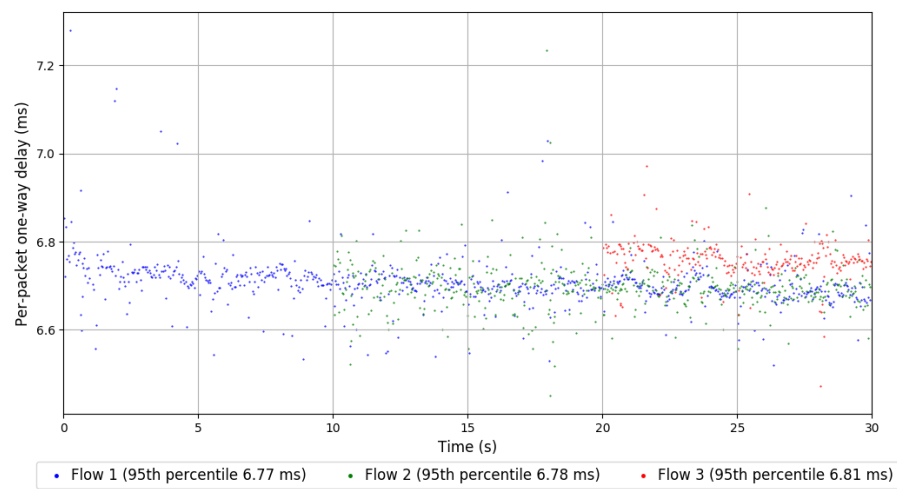
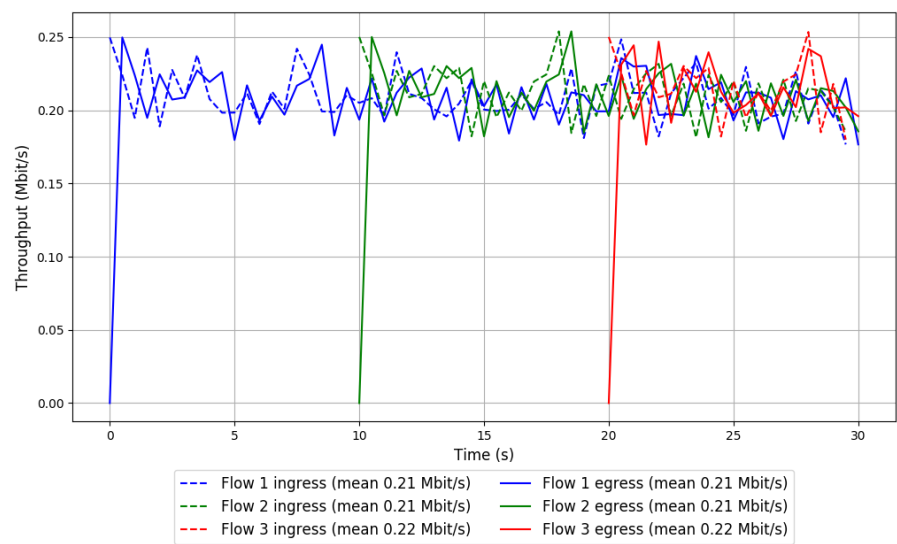


Run 2: Statistics of SReAM

Start at: 2019-03-27 01:41:40  
End at: 2019-03-27 01:42:10  
Local clock offset: -0.768 ms  
Remote clock offset: 0.874 ms

# Below is generated by plot.py at 2019-03-27 03:20:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.42 Mbit/s  
95th percentile per-packet one-way delay: 6.793 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 6.772 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 6.782 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 6.806 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link





Run 3: Statistics of SReAM

Start at: 2019-03-27 02:06:32

End at: 2019-03-27 02:07:02

Local clock offset: -0.489 ms

Remote clock offset: 2.496 ms

# Below is generated by plot.py at 2019-03-27 03:20:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 6.496 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 6.464 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 6.507 ms

Loss rate: 0.00%

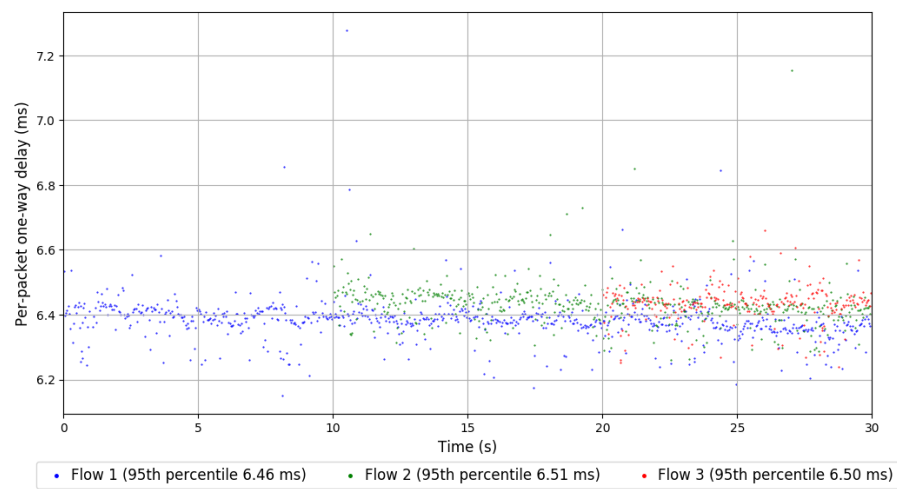
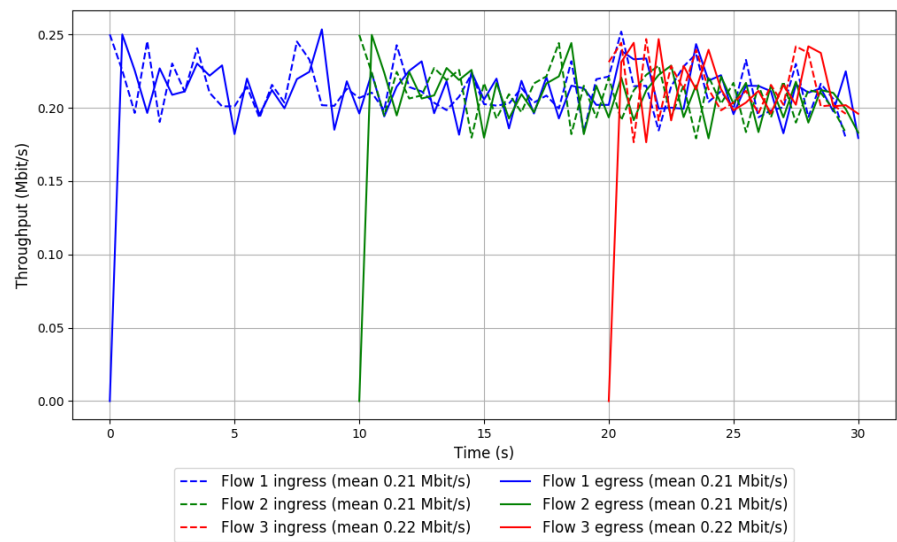
-- Flow 3:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 6.505 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

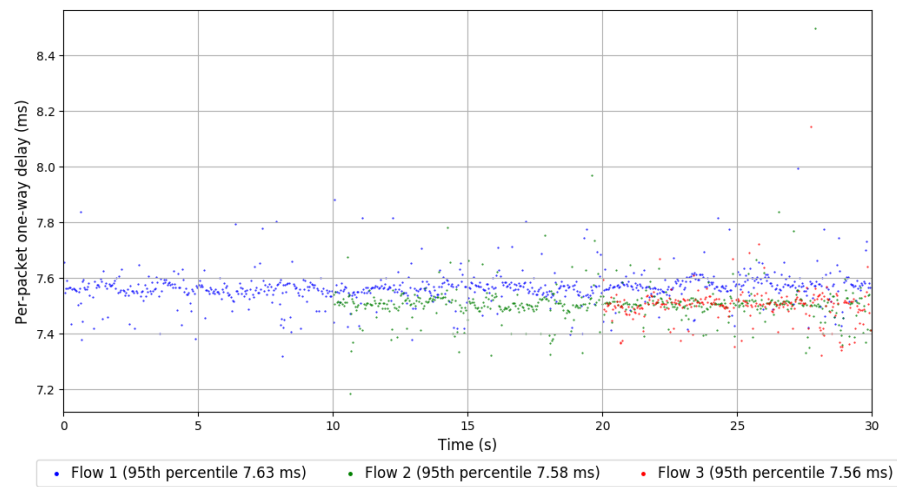
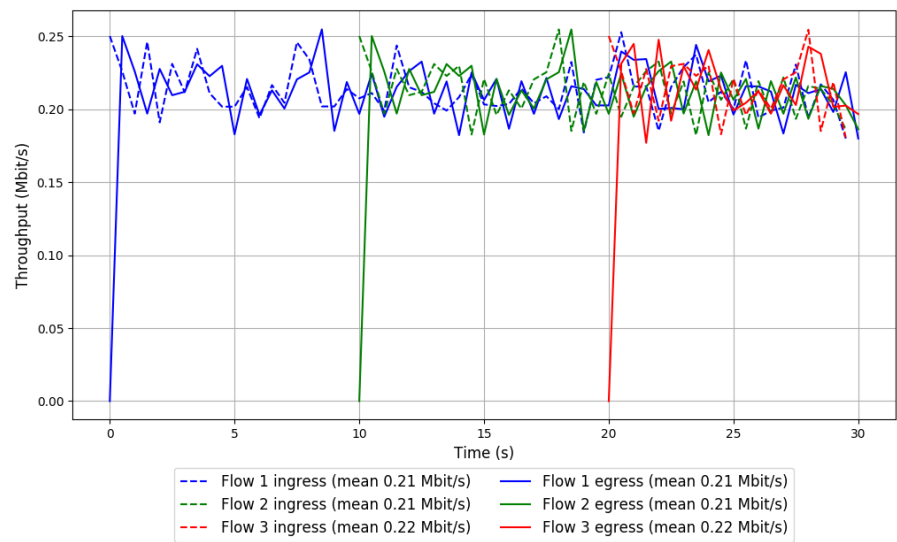


Run 4: Statistics of SReAM

Start at: 2019-03-27 02:31:39  
End at: 2019-03-27 02:32:09  
Local clock offset: -1.059 ms  
Remote clock offset: 2.03 ms

# Below is generated by plot.py at 2019-03-27 03:20:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 7.623 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 7.635 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 7.585 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 7.560 ms  
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SReAM

Start at: 2019-03-27 02:56:36

End at: 2019-03-27 02:57:06

Local clock offset: -0.947 ms

Remote clock offset: 0.098 ms

# Below is generated by plot.py at 2019-03-27 03:20:14

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 6.780 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 6.765 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 6.771 ms

Loss rate: 0.00%

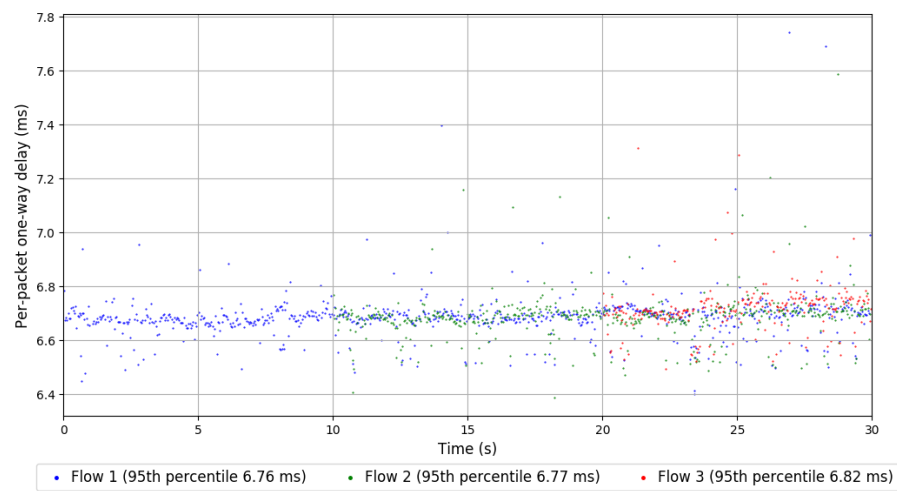
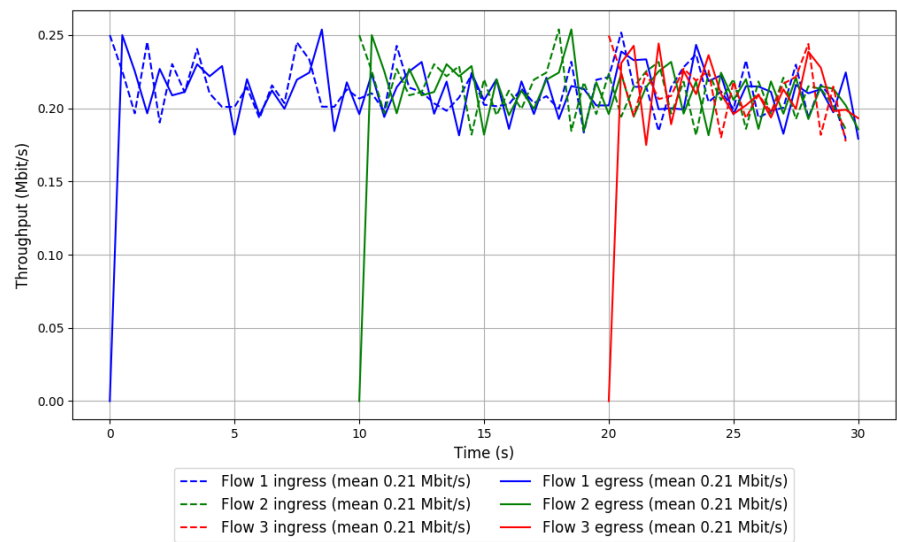
-- Flow 3:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 6.824 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

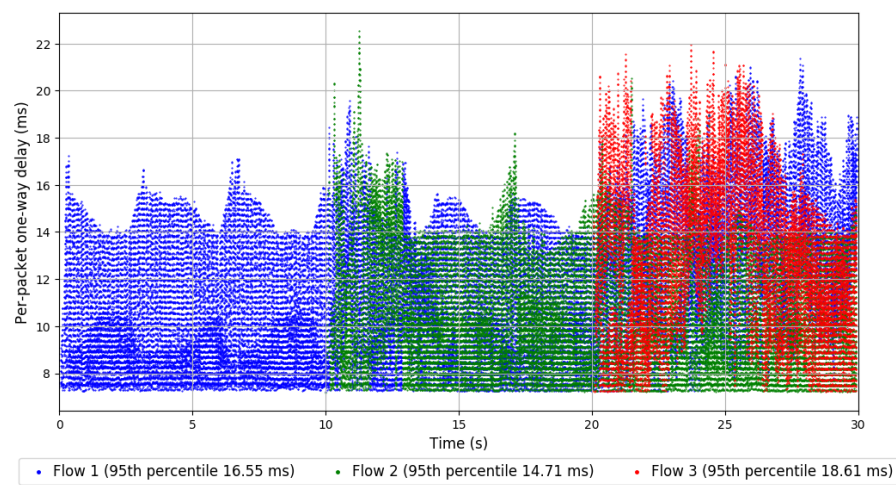
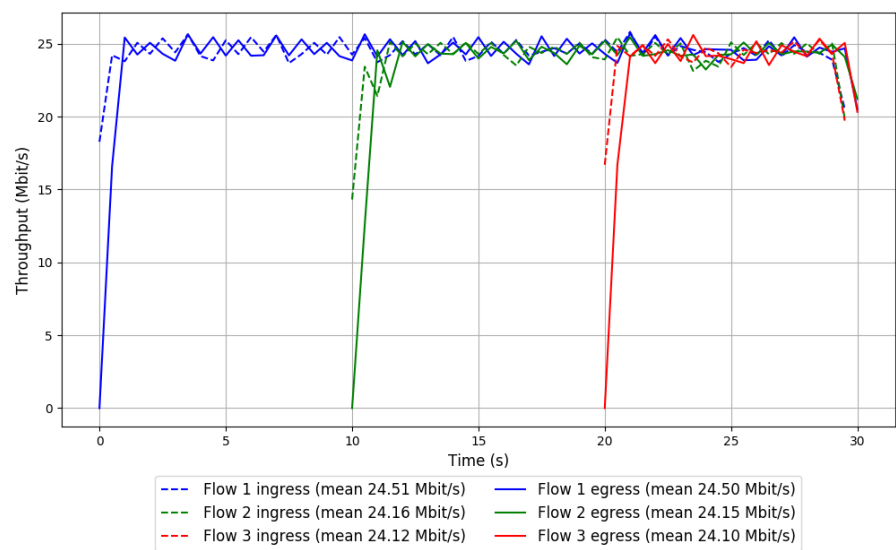


Run 1: Statistics of Sprout

Start at: 2019-03-27 01:23:47  
End at: 2019-03-27 01:24:17  
Local clock offset: -1.125 ms  
Remote clock offset: -1.074 ms

# Below is generated by plot.py at 2019-03-27 03:20:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 48.54 Mbit/s  
95th percentile per-packet one-way delay: 16.823 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 24.50 Mbit/s  
95th percentile per-packet one-way delay: 16.555 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 24.15 Mbit/s  
95th percentile per-packet one-way delay: 14.709 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 24.10 Mbit/s  
95th percentile per-packet one-way delay: 18.611 ms  
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



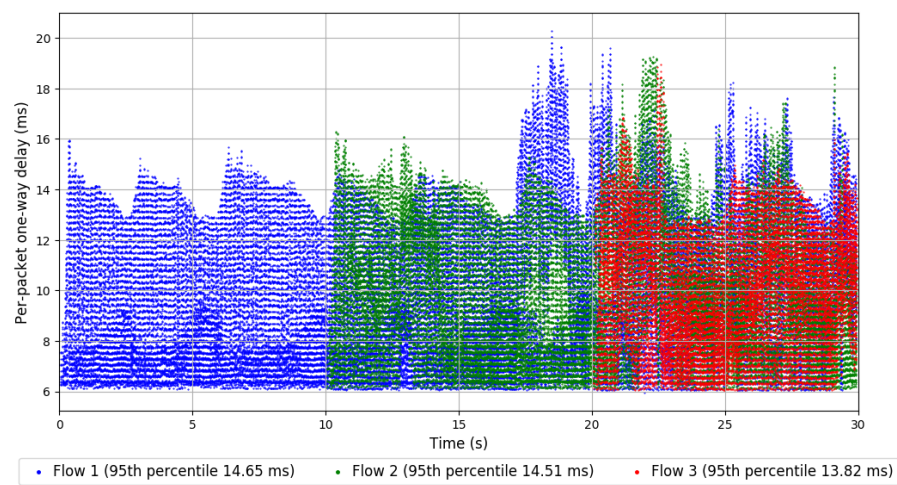
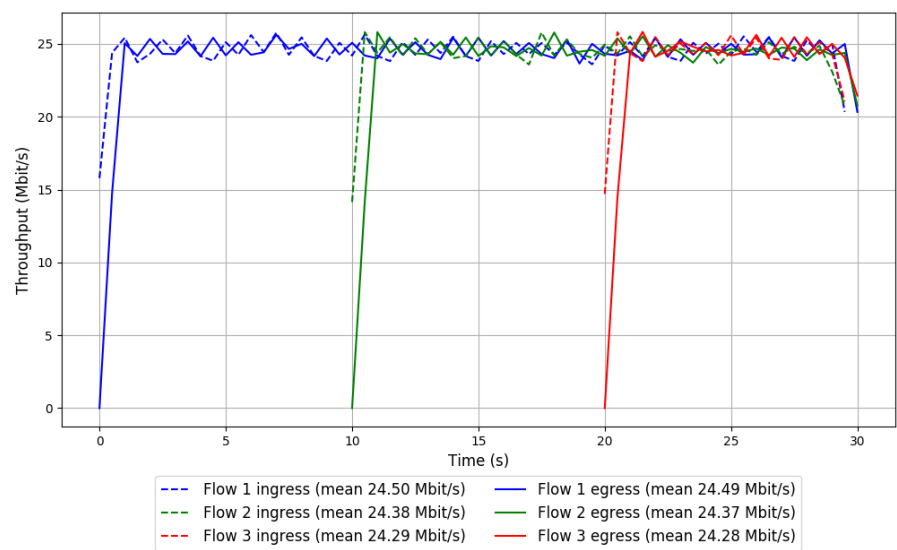


Run 2: Statistics of Sprout

Start at: 2019-03-27 01:48:30  
End at: 2019-03-27 01:49:00  
Local clock offset: -1.206 ms  
Remote clock offset: 0.399 ms

```
# Below is generated by plot.py at 2019-03-27 03:20:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.72 Mbit/s
95th percentile per-packet one-way delay: 14.431 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.49 Mbit/s
95th percentile per-packet one-way delay: 14.653 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.37 Mbit/s
95th percentile per-packet one-way delay: 14.506 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.28 Mbit/s
95th percentile per-packet one-way delay: 13.816 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link

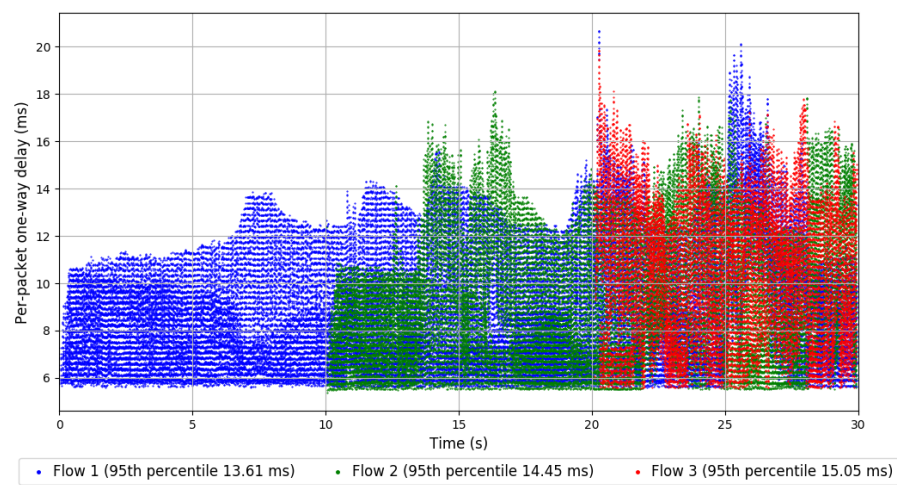
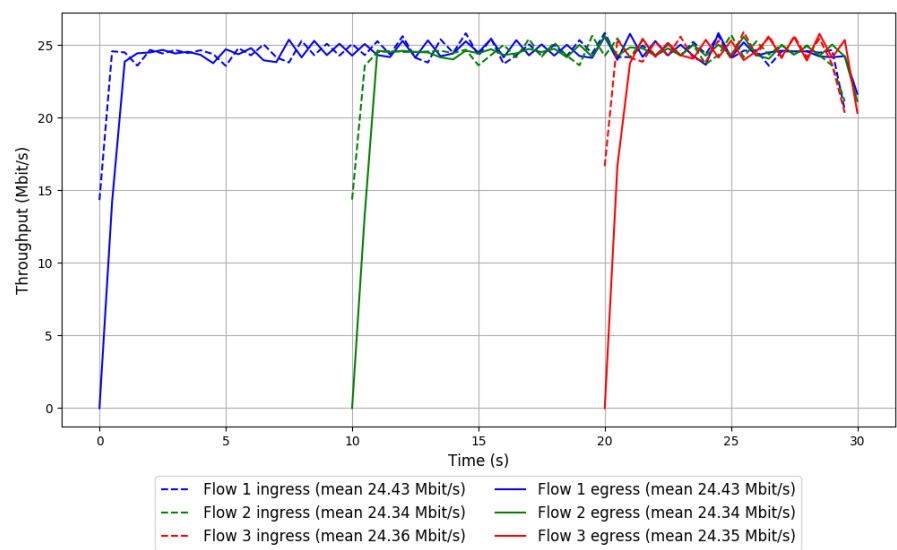


Run 3: Statistics of Sprout

Start at: 2019-03-27 02:13:29  
End at: 2019-03-27 02:13:59  
Local clock offset: -1.832 ms  
Remote clock offset: 0.794 ms

```
# Below is generated by plot.py at 2019-03-27 03:20:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.67 Mbit/s
95th percentile per-packet one-way delay: 14.255 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.43 Mbit/s
95th percentile per-packet one-way delay: 13.612 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.34 Mbit/s
95th percentile per-packet one-way delay: 14.445 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.35 Mbit/s
95th percentile per-packet one-way delay: 15.046 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

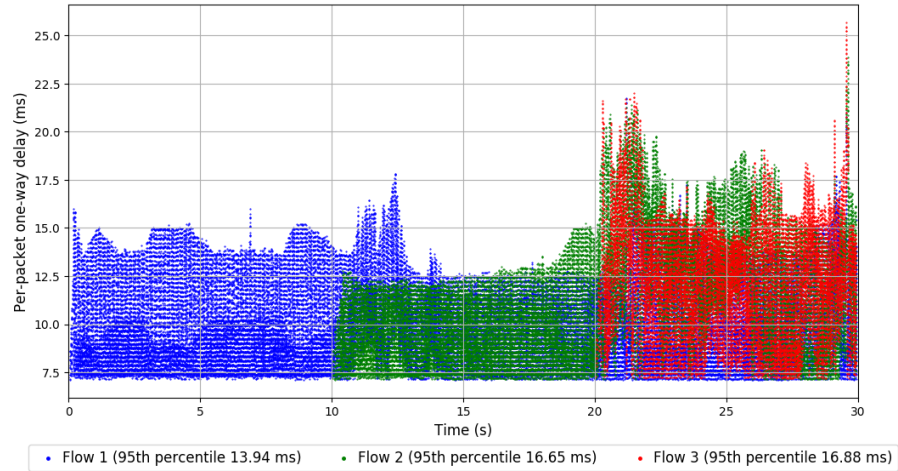
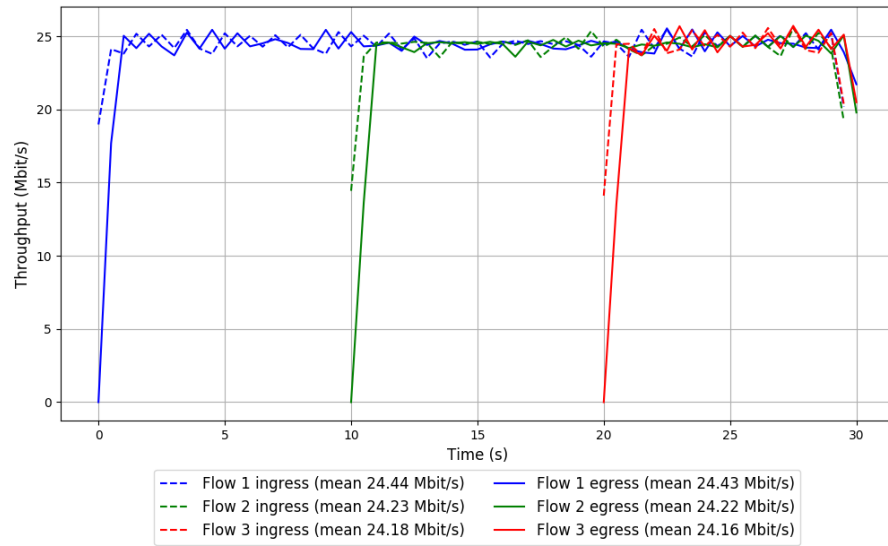


#### Run 4: Statistics of Sprout

Start at: 2019-03-27 02:38:27  
End at: 2019-03-27 02:38:57  
Local clock offset: -1.139 ms  
Remote clock offset: 1.665 ms

```
# Below is generated by plot.py at 2019-03-27 03:20:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.52 Mbit/s
95th percentile per-packet one-way delay: 15.502 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.43 Mbit/s
95th percentile per-packet one-way delay: 13.938 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.22 Mbit/s
95th percentile per-packet one-way delay: 16.648 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.16 Mbit/s
95th percentile per-packet one-way delay: 16.884 ms
Loss rate: 0.00%
```

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

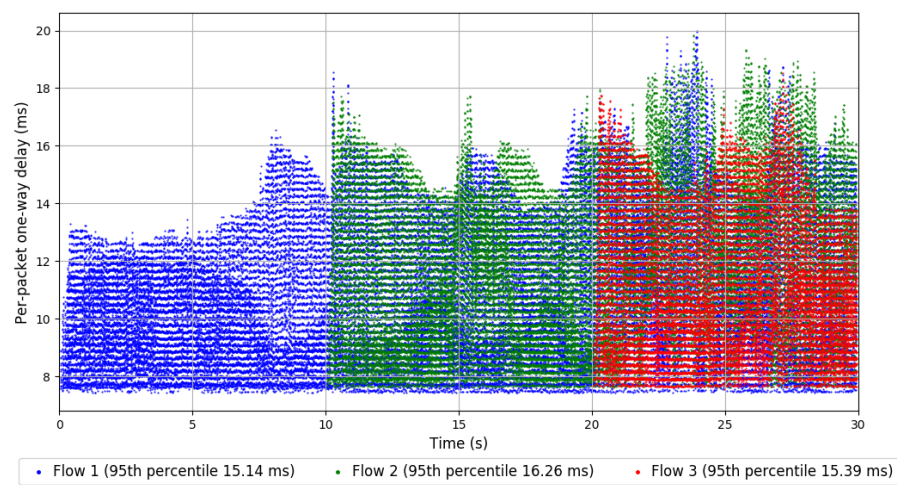
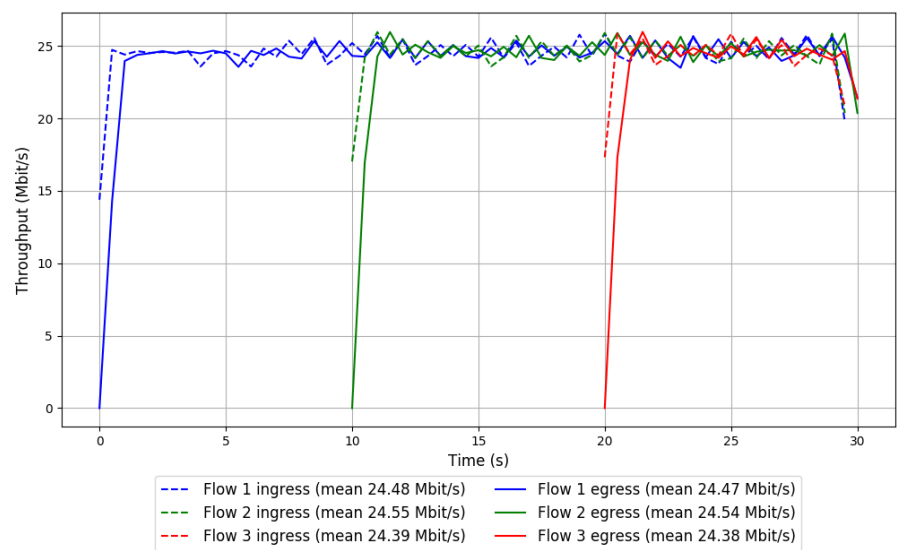


Run 5: Statistics of Sprout

Start at: 2019-03-27 03:03:27  
End at: 2019-03-27 03:03:57  
Local clock offset: -0.232 ms  
Remote clock offset: 1.502 ms

```
# Below is generated by plot.py at 2019-03-27 03:20:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.85 Mbit/s
95th percentile per-packet one-way delay: 15.610 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.47 Mbit/s
95th percentile per-packet one-way delay: 15.144 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.54 Mbit/s
95th percentile per-packet one-way delay: 16.260 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.38 Mbit/s
95th percentile per-packet one-way delay: 15.390 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link



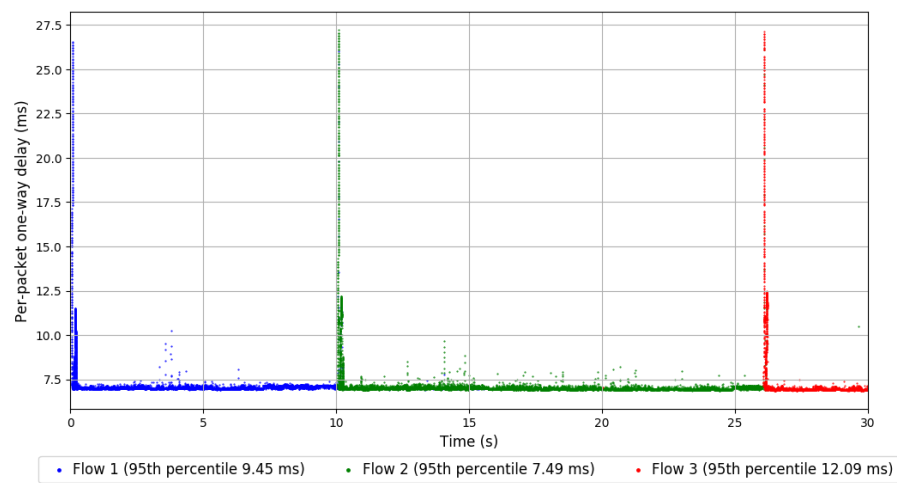
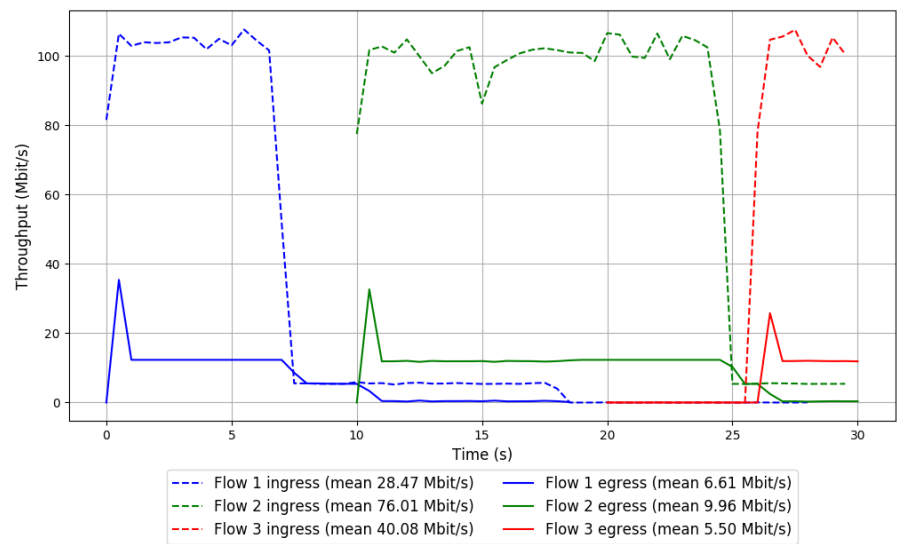


Run 1: Statistics of TaoVA-100x

Start at: 2019-03-27 01:24:55  
End at: 2019-03-27 01:25:25  
Local clock offset: -0.08 ms  
Remote clock offset: -0.118 ms

# Below is generated by plot.py at 2019-03-27 03:20:21  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.47 Mbit/s  
95th percentile per-packet one-way delay: 9.413 ms  
Loss rate: 86.26%  
-- Flow 1:  
Average throughput: 6.61 Mbit/s  
95th percentile per-packet one-way delay: 9.454 ms  
Loss rate: 85.02%  
-- Flow 2:  
Average throughput: 9.96 Mbit/s  
95th percentile per-packet one-way delay: 7.486 ms  
Loss rate: 86.92%  
-- Flow 3:  
Average throughput: 5.50 Mbit/s  
95th percentile per-packet one-way delay: 12.086 ms  
Loss rate: 86.29%

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

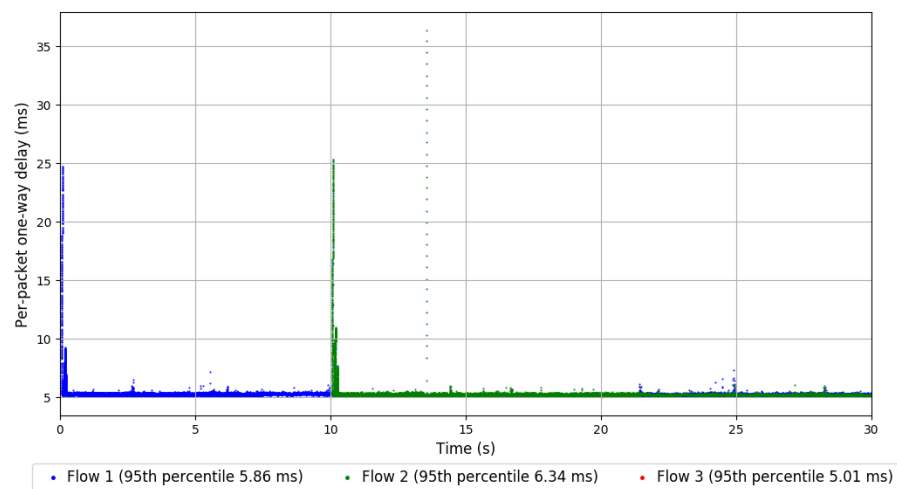
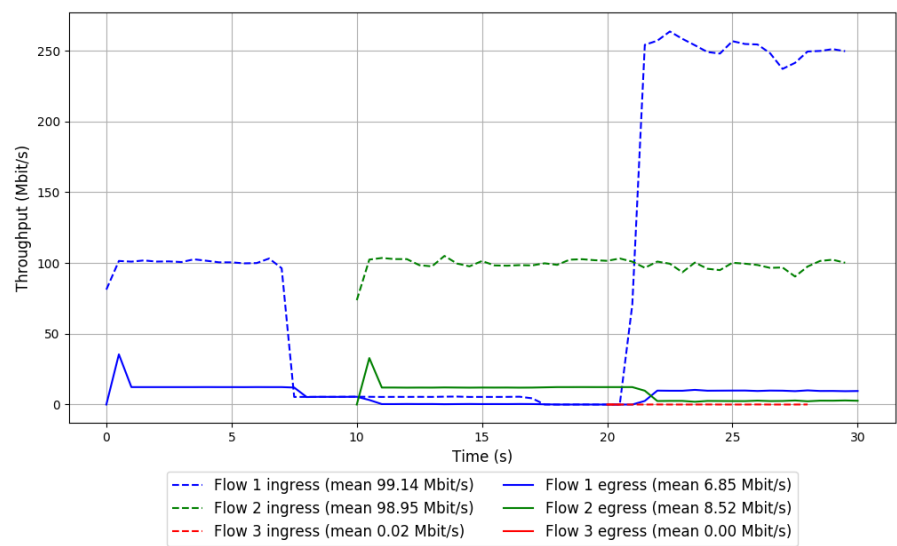


Run 2: Statistics of TaoVA-100x

Start at: 2019-03-27 01:49:39  
End at: 2019-03-27 01:50:09  
Local clock offset: -0.769 ms  
Remote clock offset: -0.035 ms

# Below is generated by plot.py at 2019-03-27 03:20:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 12.52 Mbit/s  
95th percentile per-packet one-way delay: 5.970 ms  
Loss rate: 92.41%  
-- Flow 1:  
Average throughput: 6.85 Mbit/s  
95th percentile per-packet one-way delay: 5.860 ms  
Loss rate: 93.09%  
-- Flow 2:  
Average throughput: 8.52 Mbit/s  
95th percentile per-packet one-way delay: 6.337 ms  
Loss rate: 91.39%  
-- Flow 3:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 5.014 ms  
Loss rate: 99.16%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-03-27 02:14:39

End at: 2019-03-27 02:15:09

Local clock offset: -1.657 ms

Remote clock offset: 0.833 ms

# Below is generated by plot.py at 2019-03-27 03:20:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.71 Mbit/s

95th percentile per-packet one-way delay: 5.834 ms

Loss rate: 94.30%

-- Flow 1:

Average throughput: 7.52 Mbit/s

95th percentile per-packet one-way delay: 5.988 ms

Loss rate: 92.11%

-- Flow 2:

Average throughput: 7.79 Mbit/s

95th percentile per-packet one-way delay: 5.806 ms

Loss rate: 95.93%

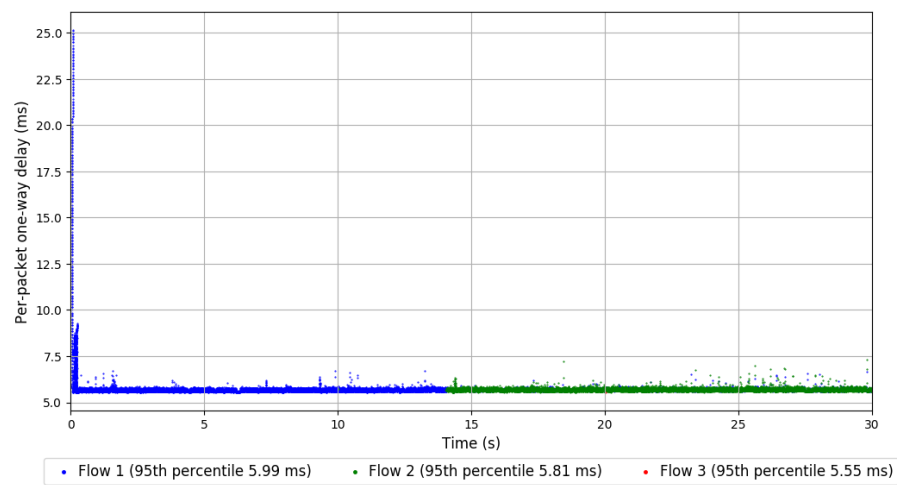
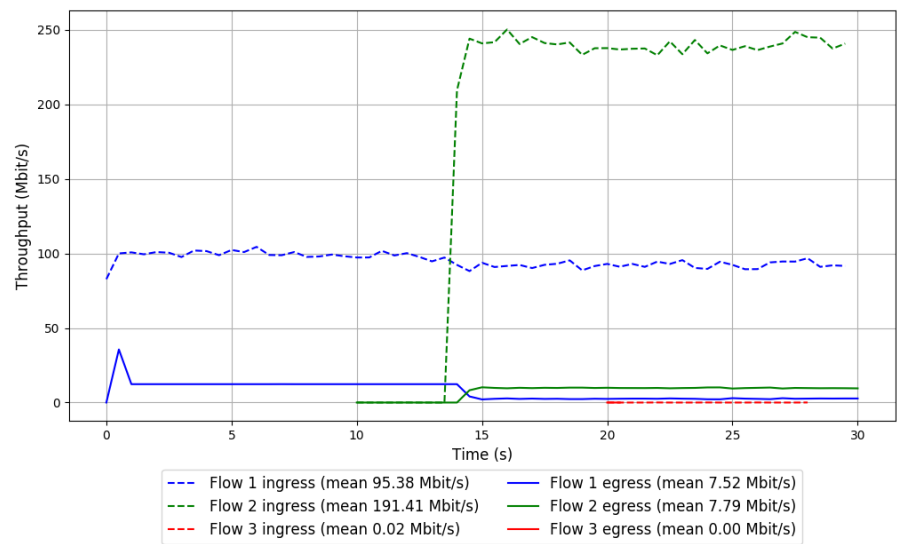
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5.553 ms

Loss rate: 99.16%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-03-27 02:39:36

End at: 2019-03-27 02:40:06

Local clock offset: -1.942 ms

Remote clock offset: 0.499 ms

# Below is generated by plot.py at 2019-03-27 03:20:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.62 Mbit/s

95th percentile per-packet one-way delay: 7.193 ms

Loss rate: 86.65%

-- Flow 1:

Average throughput: 8.84 Mbit/s

95th percentile per-packet one-way delay: 7.603 ms

Loss rate: 86.62%

-- Flow 2:

Average throughput: 8.60 Mbit/s

95th percentile per-packet one-way delay: 7.071 ms

Loss rate: 86.69%

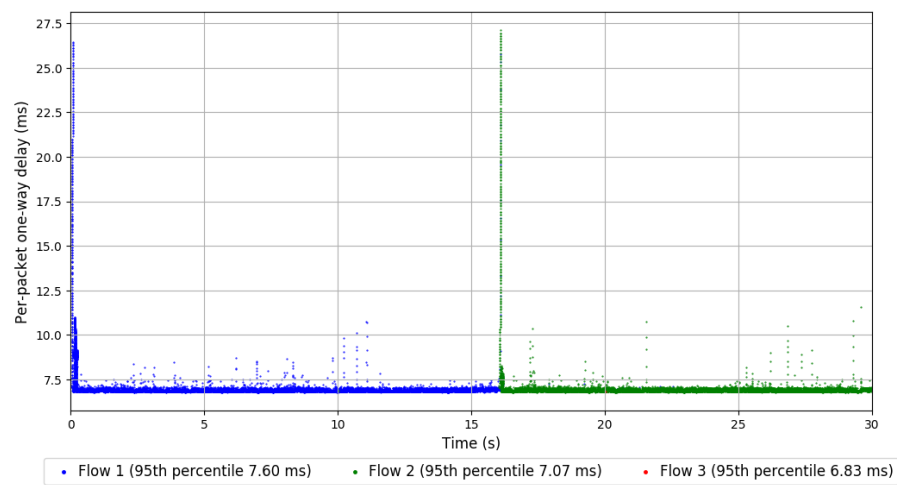
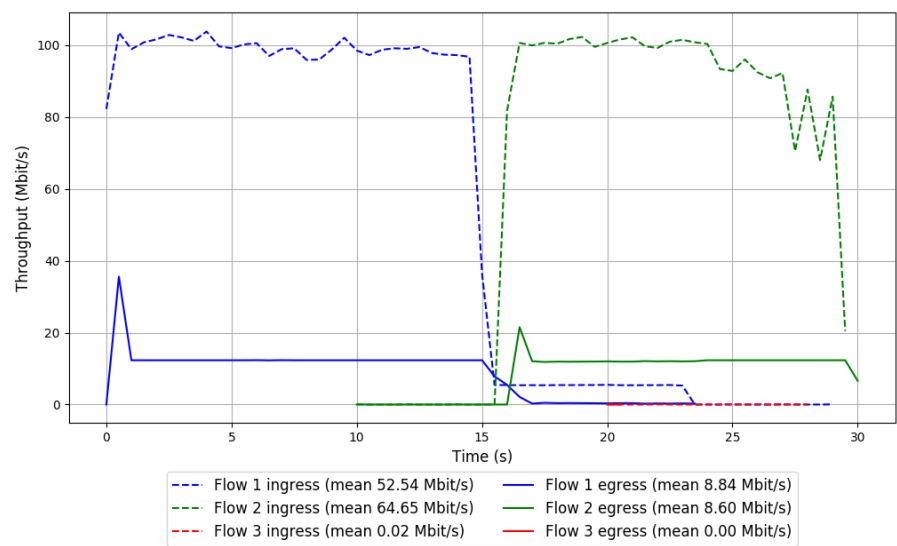
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 6.831 ms

Loss rate: 99.16%

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





Run 5: Statistics of TaoVA-100x

Start at: 2019-03-27 03:04:37

End at: 2019-03-27 03:05:07

Local clock offset: 26.451 ms

Remote clock offset: 1.423 ms

# Below is generated by plot.py at 2019-03-27 03:20:45

# Datalink statistics

-- Total of 3 flows:

Average throughput: 12.53 Mbit/s

95th percentile per-packet one-way delay: -17.599 ms

Loss rate: 86.07%

-- Flow 1:

Average throughput: 8.18 Mbit/s

95th percentile per-packet one-way delay: -17.594 ms

Loss rate: 84.67%

-- Flow 2:

Average throughput: 10.13 Mbit/s

95th percentile per-packet one-way delay: -18.463 ms

Loss rate: 86.72%

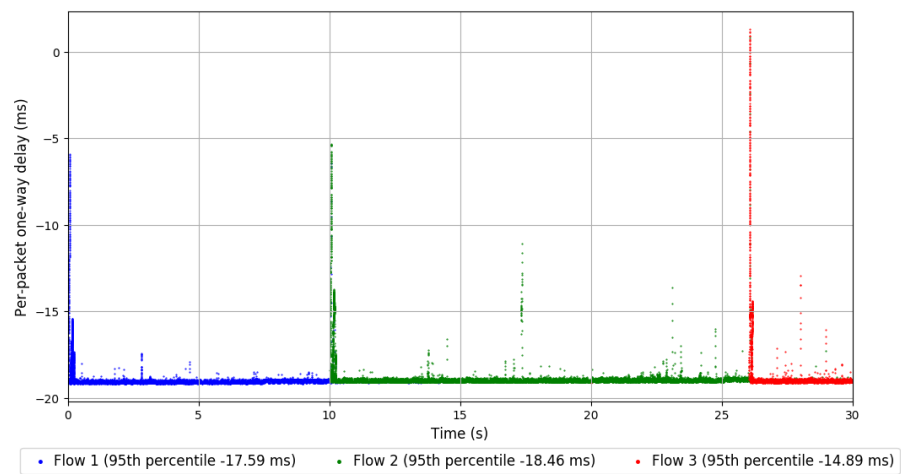
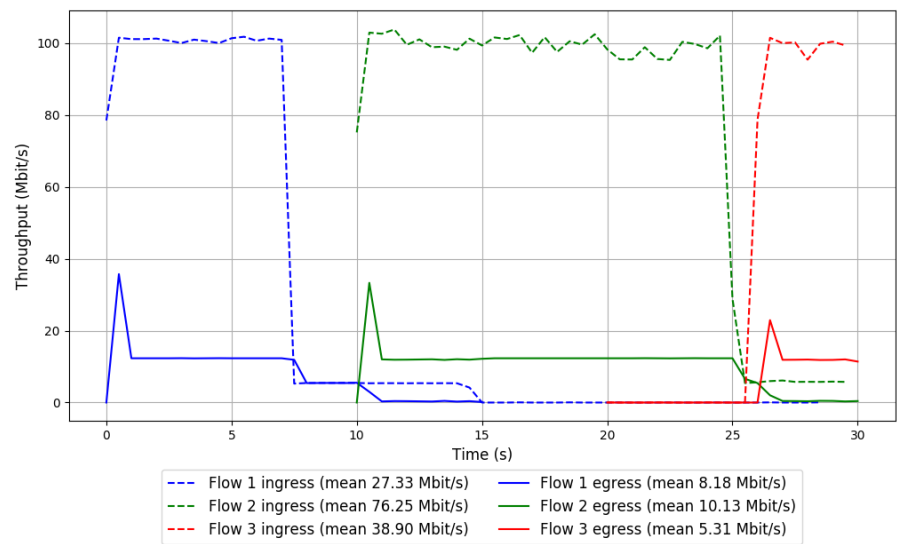
-- Flow 3:

Average throughput: 5.31 Mbit/s

95th percentile per-packet one-way delay: -14.889 ms

Loss rate: 86.36%

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

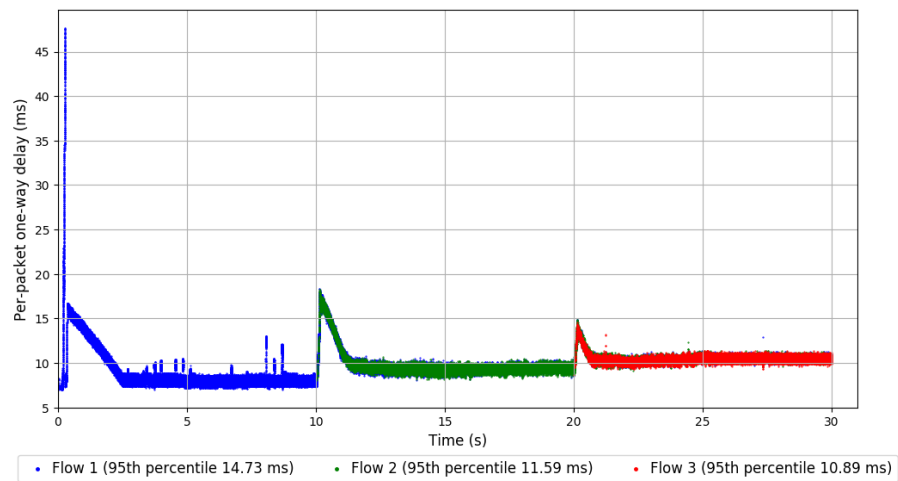
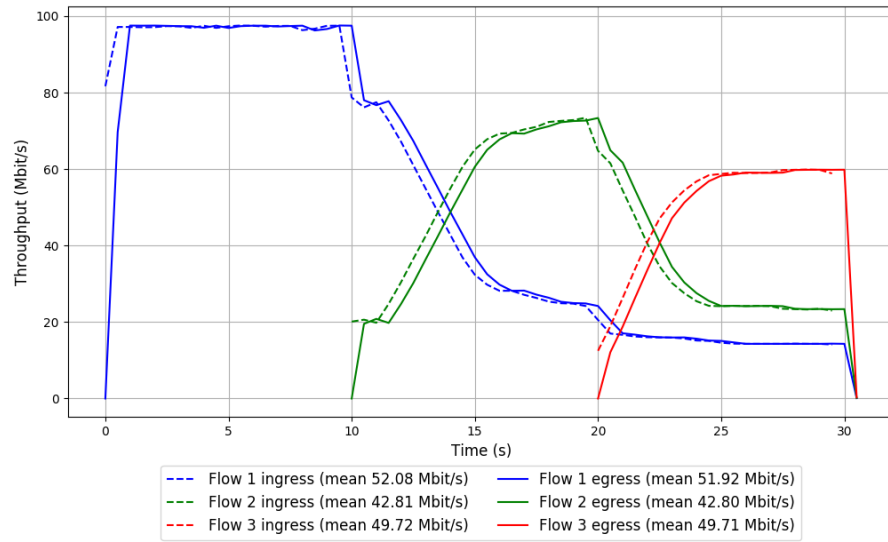


Run 1: Statistics of TCP Vegas

Start at: 2019-03-27 01:27:16  
End at: 2019-03-27 01:27:46  
Local clock offset: -1.115 ms  
Remote clock offset: -0.928 ms

# Below is generated by plot.py at 2019-03-27 03:21:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.01 Mbit/s  
95th percentile per-packet one-way delay: 13.509 ms  
Loss rate: 0.15%  
-- Flow 1:  
Average throughput: 51.92 Mbit/s  
95th percentile per-packet one-way delay: 14.729 ms  
Loss rate: 0.28%  
-- Flow 2:  
Average throughput: 42.80 Mbit/s  
95th percentile per-packet one-way delay: 11.586 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 49.71 Mbit/s  
95th percentile per-packet one-way delay: 10.889 ms  
Loss rate: 0.00%

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



Run 2: Statistics of TCP Vegas

Start at: 2019-03-27 01:52:00

End at: 2019-03-27 01:52:30

Local clock offset: -2.018 ms

Remote clock offset: 0.308 ms

# Below is generated by plot.py at 2019-03-27 03:21:15

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.06 Mbit/s

95th percentile per-packet one-way delay: 12.110 ms

Loss rate: 0.15%

-- Flow 1:

Average throughput: 65.78 Mbit/s

95th percentile per-packet one-way delay: 13.715 ms

Loss rate: 0.22%

-- Flow 2:

Average throughput: 28.52 Mbit/s

95th percentile per-packet one-way delay: 9.372 ms

Loss rate: 0.00%

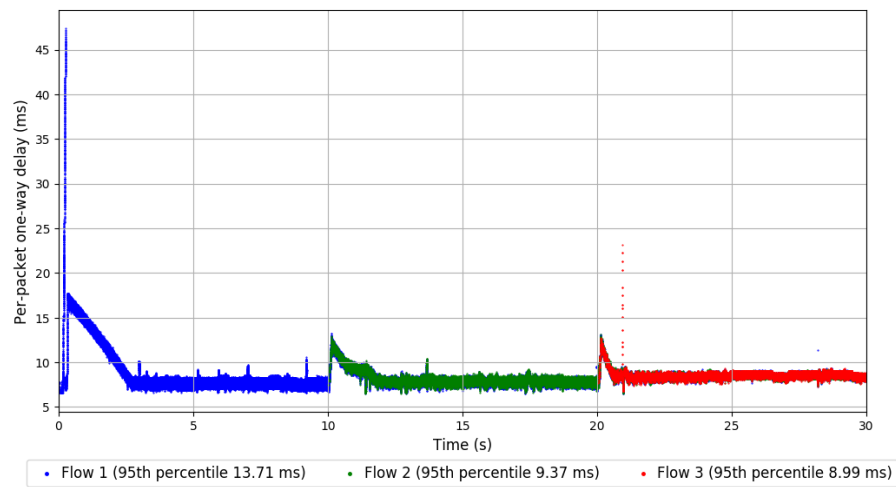
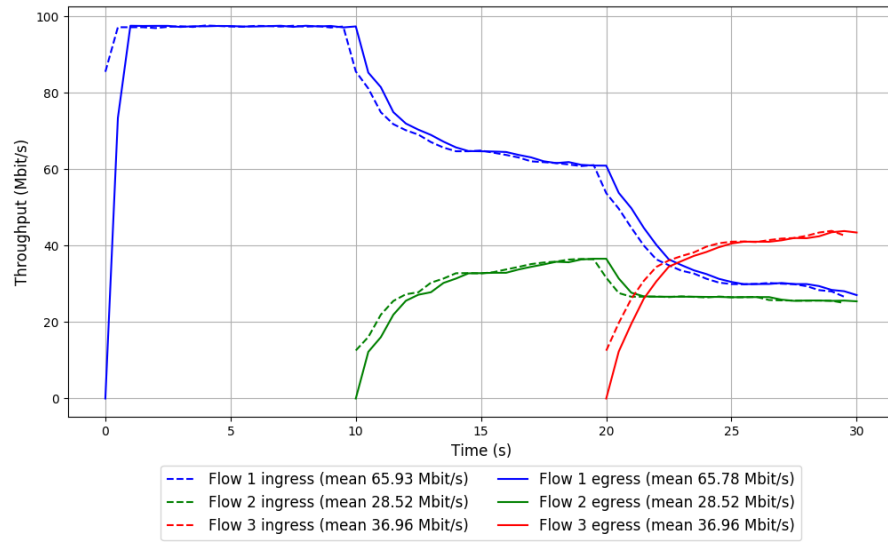
-- Flow 3:

Average throughput: 36.96 Mbit/s

95th percentile per-packet one-way delay: 8.988 ms

Loss rate: 0.00%

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



Run 3: Statistics of TCP Vegas

Start at: 2019-03-27 02:17:01

End at: 2019-03-27 02:17:31

Local clock offset: -1.825 ms

Remote clock offset: 2.502 ms

# Below is generated by plot.py at 2019-03-27 03:21:25

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.12 Mbit/s

95th percentile per-packet one-way delay: 14.051 ms

Loss rate: 0.40%

-- Flow 1:

Average throughput: 50.89 Mbit/s

95th percentile per-packet one-way delay: 14.565 ms

Loss rate: 0.76%

-- Flow 2:

Average throughput: 43.46 Mbit/s

95th percentile per-packet one-way delay: 13.523 ms

Loss rate: 0.00%

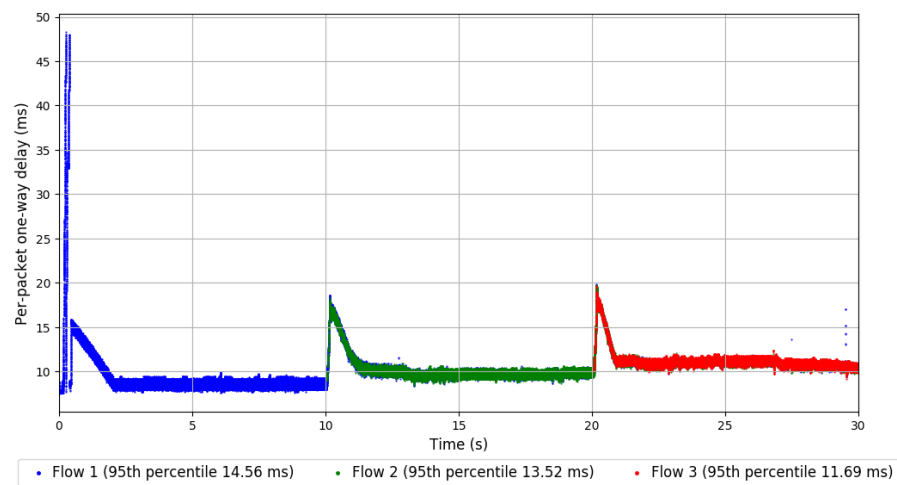
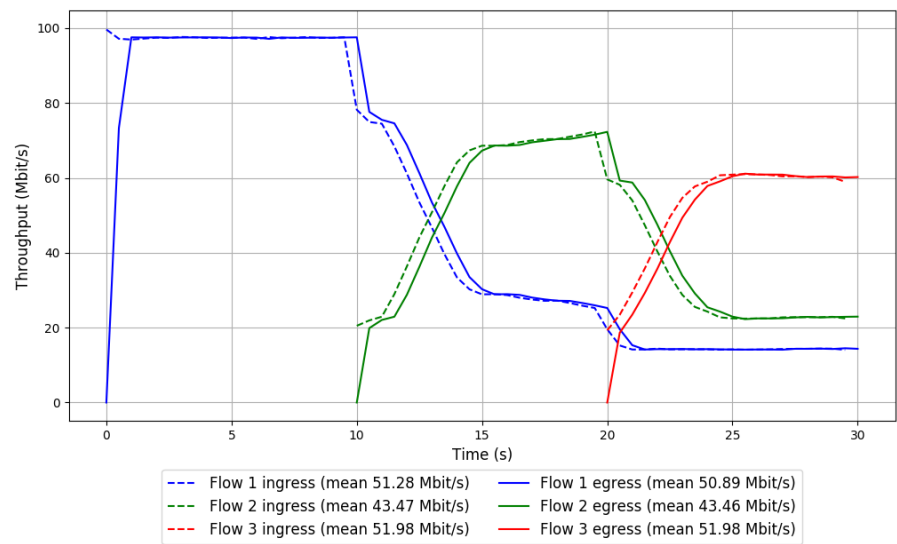
-- Flow 3:

Average throughput: 51.98 Mbit/s

95th percentile per-packet one-way delay: 11.687 ms

Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link





Run 4: Statistics of TCP Vegas

Start at: 2019-03-27 02:42:04

End at: 2019-03-27 02:42:34

Local clock offset: -2.428 ms

Remote clock offset: 0.481 ms

# Below is generated by plot.py at 2019-03-27 03:21:26

# Datalink statistics

-- Total of 3 flows:

Average throughput: 97.08 Mbit/s

95th percentile per-packet one-way delay: 12.408 ms

Loss rate: 0.40%

-- Flow 1:

Average throughput: 58.41 Mbit/s

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

Loss rate: 0.66%

-- Flow 2:

Average throughput: 36.62 Mbit/s

95th percentile per-packet one-way delay: 10.400 ms

Loss rate: 0.00%

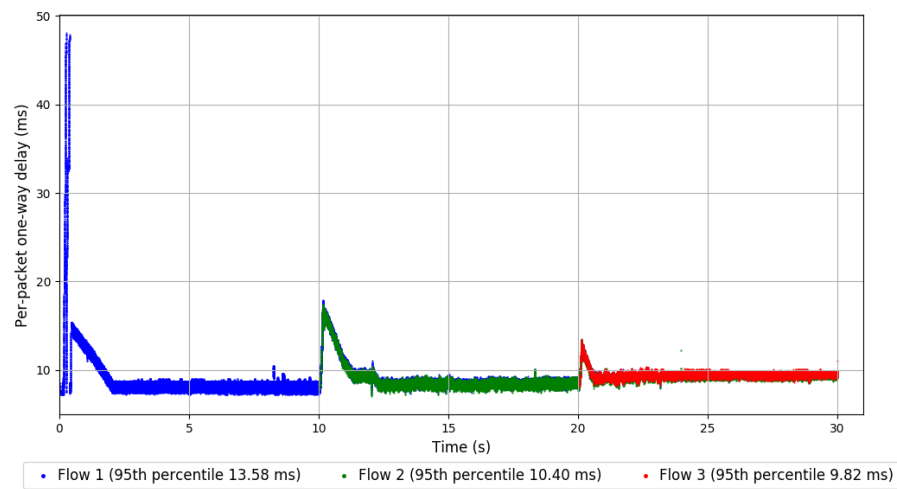
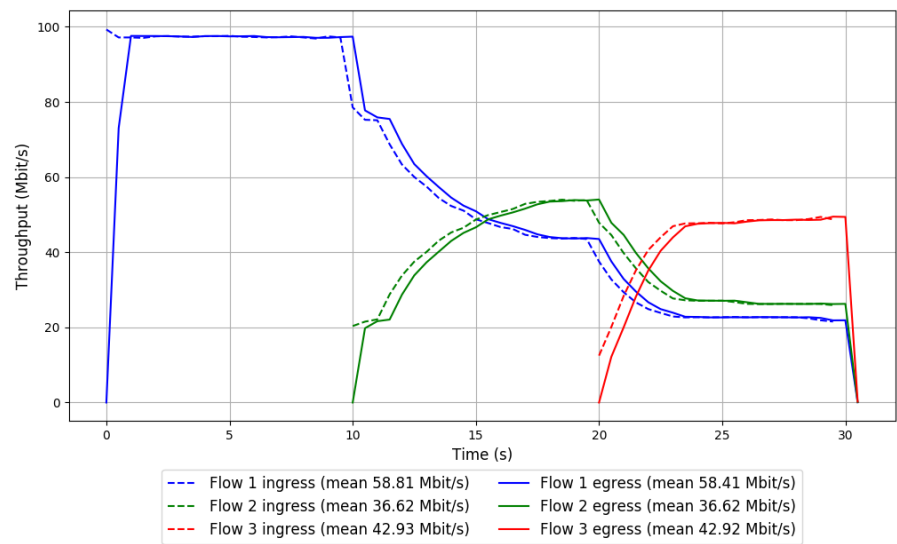
-- Flow 3:

Average throughput: 42.92 Mbit/s

95th percentile per-packet one-way delay: 9.819 ms

Loss rate: 0.01%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2019-03-27 03:07:00

End at: 2019-03-27 03:07:30

Local clock offset: 0.518 ms

Remote clock offset: 1.543 ms

# Below is generated by plot.py at 2019-03-27 03:21:30

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.66 Mbit/s

95th percentile per-packet one-way delay: 12.946 ms

Loss rate: 0.40%

-- Flow 1:

Average throughput: 56.75 Mbit/s

95th percentile per-packet one-way delay: 13.333 ms

Loss rate: 0.68%

-- Flow 2:

Average throughput: 38.03 Mbit/s

95th percentile per-packet one-way delay: 12.970 ms

Loss rate: 0.00%

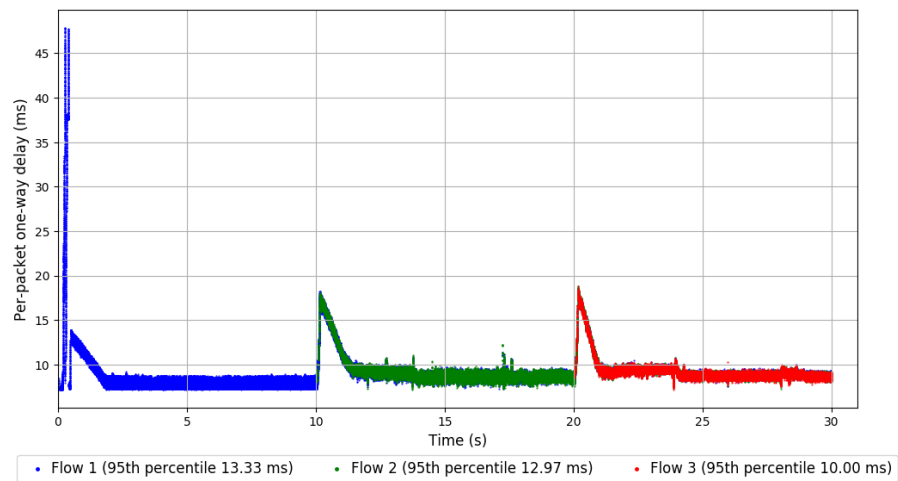
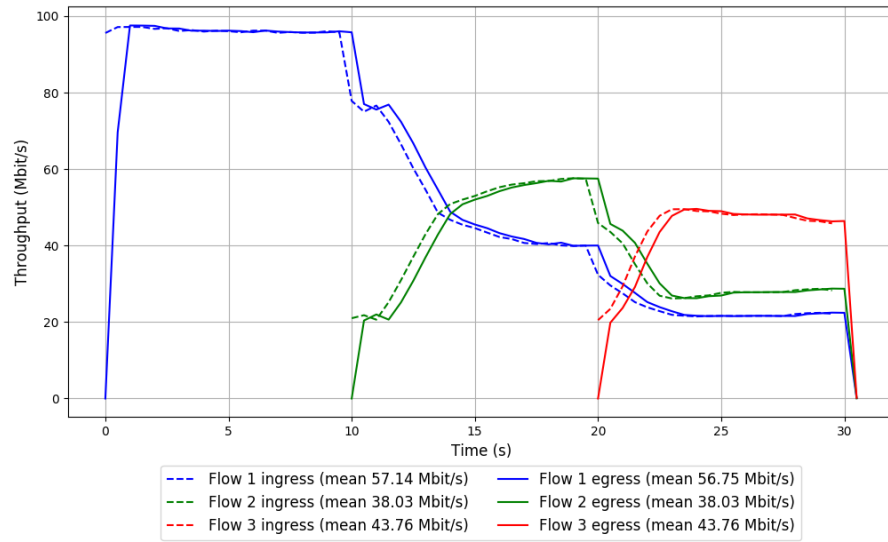
-- Flow 3:

Average throughput: 43.76 Mbit/s

95th percentile per-packet one-way delay: 10.004 ms

Loss rate: 0.00%

# Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-03-27 01:28:27

End at: 2019-03-27 01:28:57

Local clock offset: -1.04 ms

Remote clock offset: 0.561 ms

# Below is generated by plot.py at 2019-03-27 03:21:34

# Datalink statistics

-- Total of 3 flows:

Average throughput: 79.15 Mbit/s

95th percentile per-packet one-way delay: 44.067 ms

Loss rate: 27.85%

-- Flow 1:

Average throughput: 57.27 Mbit/s

95th percentile per-packet one-way delay: 43.234 ms

Loss rate: 18.65%

-- Flow 2:

Average throughput: 25.77 Mbit/s

95th percentile per-packet one-way delay: 45.671 ms

Loss rate: 45.44%

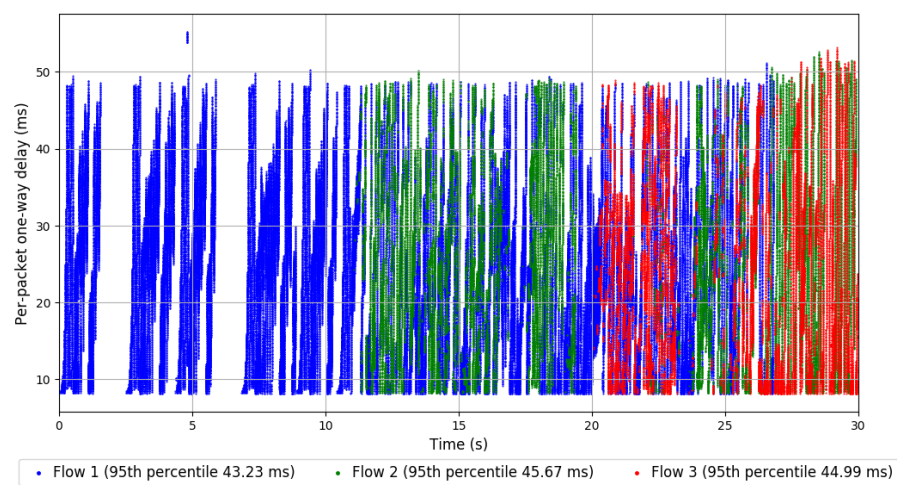
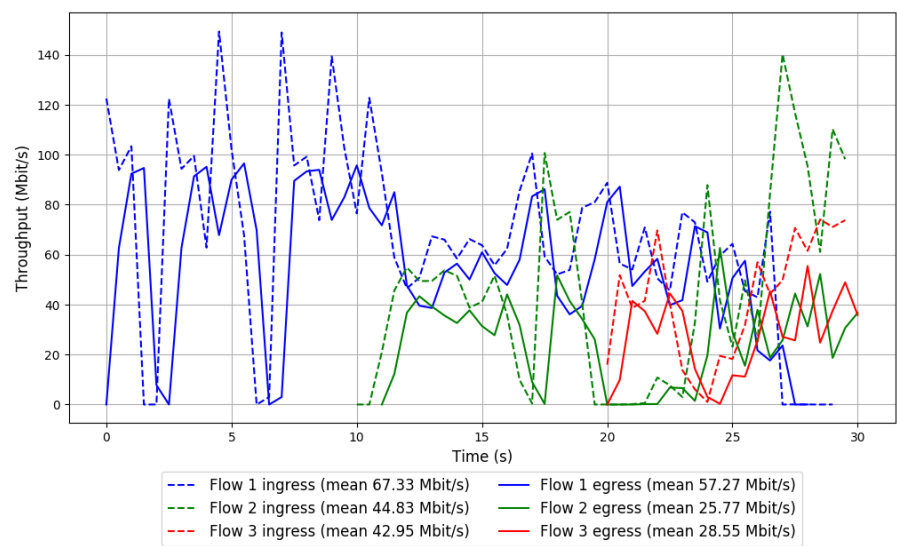
-- Flow 3:

Average throughput: 28.55 Mbit/s

95th percentile per-packet one-way delay: 44.995 ms

Loss rate: 33.52%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2019-03-27 01:53:11

End at: 2019-03-27 01:53:41

Local clock offset: -1.596 ms

Remote clock offset: 1.338 ms

# Below is generated by plot.py at 2019-03-27 03:21:35

# Datalink statistics

-- Total of 3 flows:

Average throughput: 76.09 Mbit/s

95th percentile per-packet one-way delay: 42.846 ms

Loss rate: 27.64%

-- Flow 1:

Average throughput: 62.13 Mbit/s

95th percentile per-packet one-way delay: 42.614 ms

Loss rate: 25.78%

-- Flow 2:

Average throughput: 16.54 Mbit/s

95th percentile per-packet one-way delay: 43.746 ms

Loss rate: 37.97%

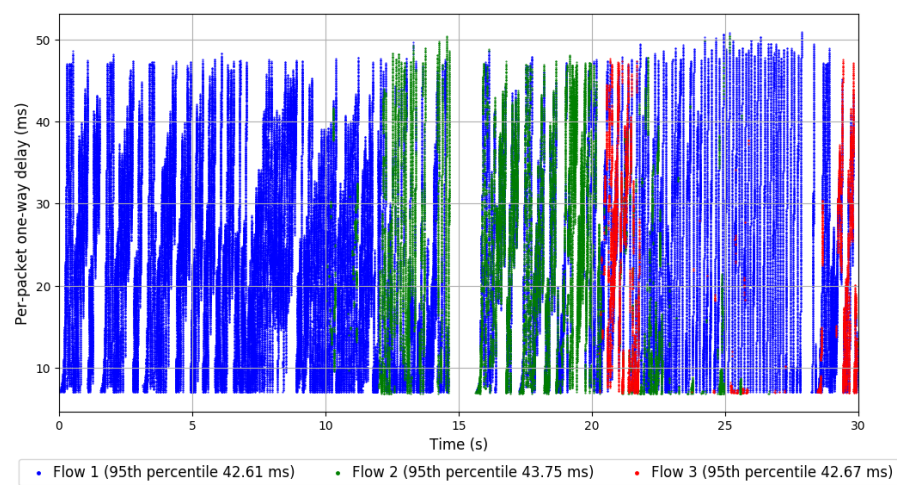
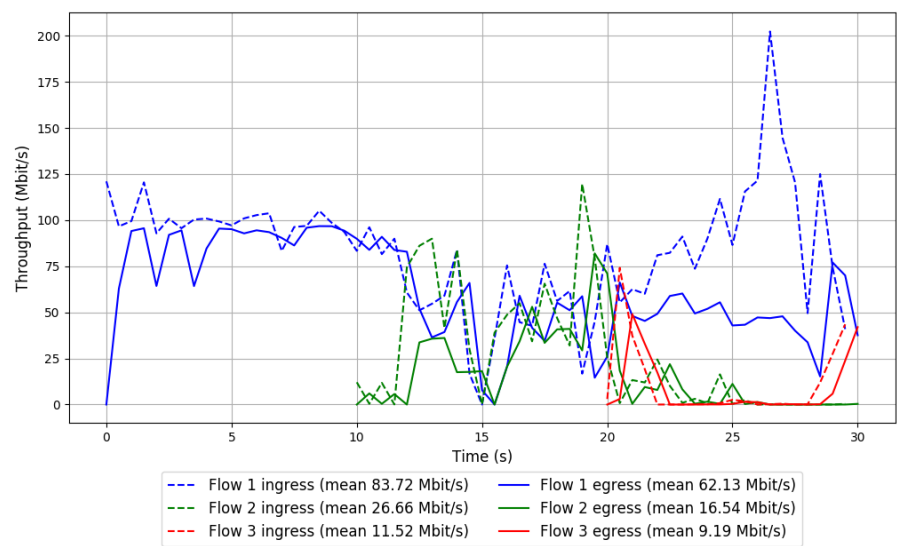
-- Flow 3:

Average throughput: 9.19 Mbit/s

95th percentile per-packet one-way delay: 42.667 ms

Loss rate: 20.22%

Run 2: Report of Verus — Data Link





Run 3: Statistics of Verus

Start at: 2019-03-27 02:18:13

End at: 2019-03-27 02:18:43

Local clock offset: -1.977 ms

Remote clock offset: 0.775 ms

# Below is generated by plot.py at 2019-03-27 03:21:50

# Datalink statistics

-- Total of 3 flows:

Average throughput: 82.57 Mbit/s

95th percentile per-packet one-way delay: 41.858 ms

Loss rate: 25.93%

-- Flow 1:

Average throughput: 53.30 Mbit/s

95th percentile per-packet one-way delay: 42.009 ms

Loss rate: 26.78%

-- Flow 2:

Average throughput: 38.01 Mbit/s

95th percentile per-packet one-way delay: 41.330 ms

Loss rate: 20.67%

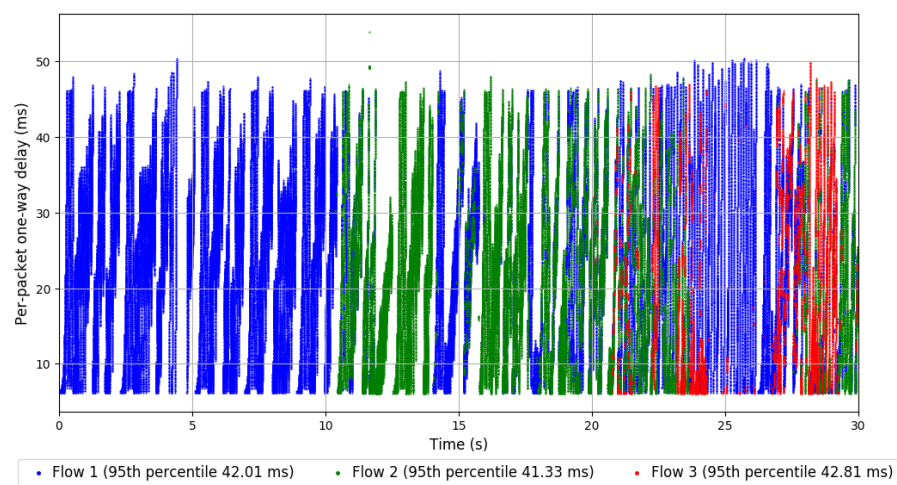
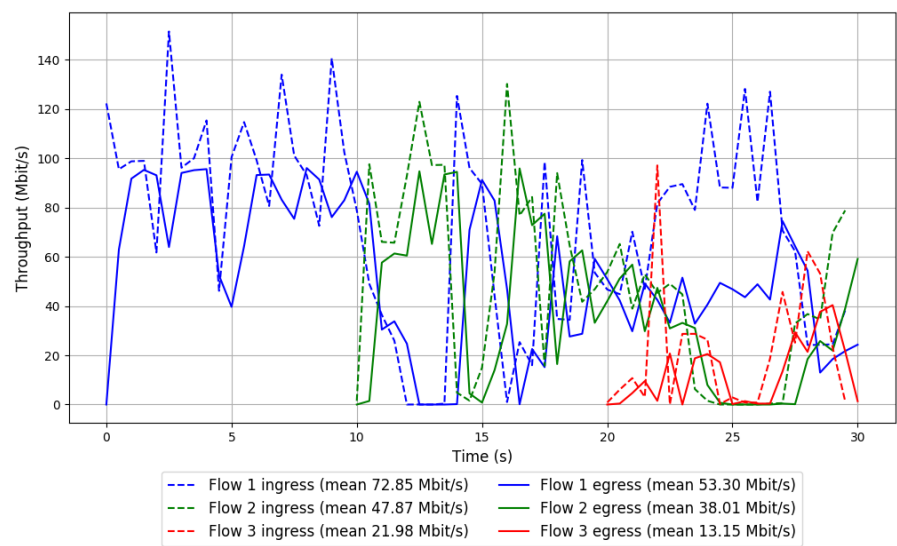
-- Flow 3:

Average throughput: 13.15 Mbit/s

95th percentile per-packet one-way delay: 42.807 ms

Loss rate: 40.14%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2019-03-27 02:43:16

End at: 2019-03-27 02:43:46

Local clock offset: -1.93 ms

Remote clock offset: 1.409 ms

# Below is generated by plot.py at 2019-03-27 03:22:18

# Datalink statistics

-- Total of 3 flows:

Average throughput: 77.12 Mbit/s

95th percentile per-packet one-way delay: 43.809 ms

Loss rate: 33.86%

-- Flow 1:

Average throughput: 40.22 Mbit/s

95th percentile per-packet one-way delay: 42.620 ms

Loss rate: 19.45%

-- Flow 2:

Average throughput: 48.33 Mbit/s

95th percentile per-packet one-way delay: 45.186 ms

Loss rate: 43.98%

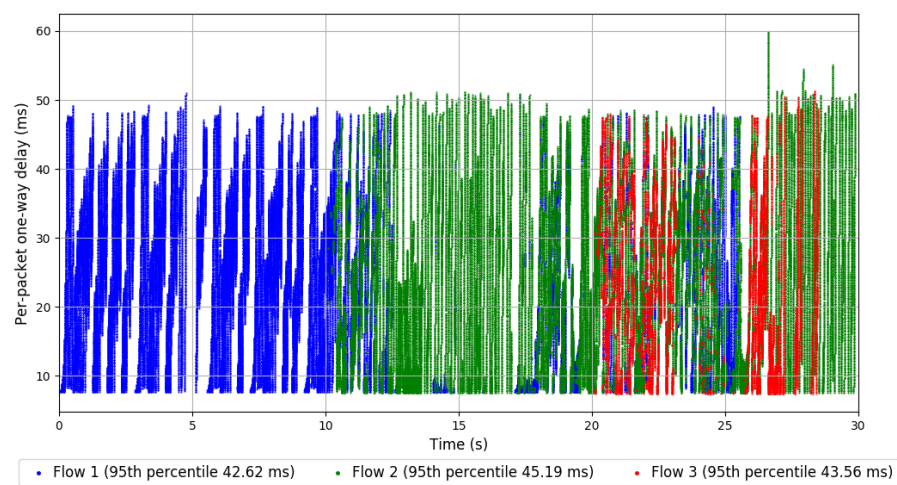
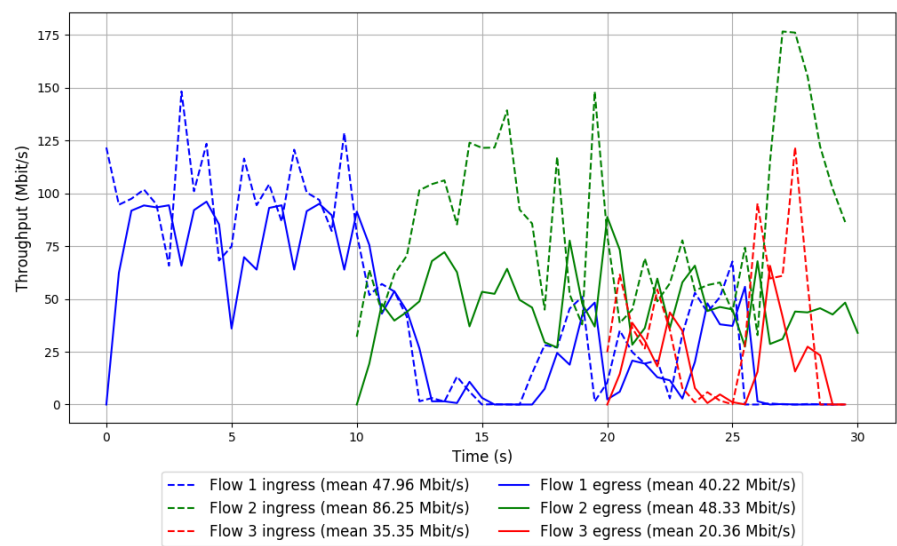
-- Flow 3:

Average throughput: 20.36 Mbit/s

95th percentile per-packet one-way delay: 43.559 ms

Loss rate: 43.53%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2019-03-27 03:08:14

End at: 2019-03-27 03:08:44

Local clock offset: 0.408 ms

Remote clock offset: 1.742 ms

# Below is generated by plot.py at 2019-03-27 03:22:18

# Datalink statistics

-- Total of 3 flows:

Average throughput: 77.38 Mbit/s

95th percentile per-packet one-way delay: 43.126 ms

Loss rate: 28.92%

-- Flow 1:

Average throughput: 45.48 Mbit/s

95th percentile per-packet one-way delay: 42.130 ms

Loss rate: 19.25%

-- Flow 2:

Average throughput: 35.42 Mbit/s

95th percentile per-packet one-way delay: 45.097 ms

Loss rate: 44.94%

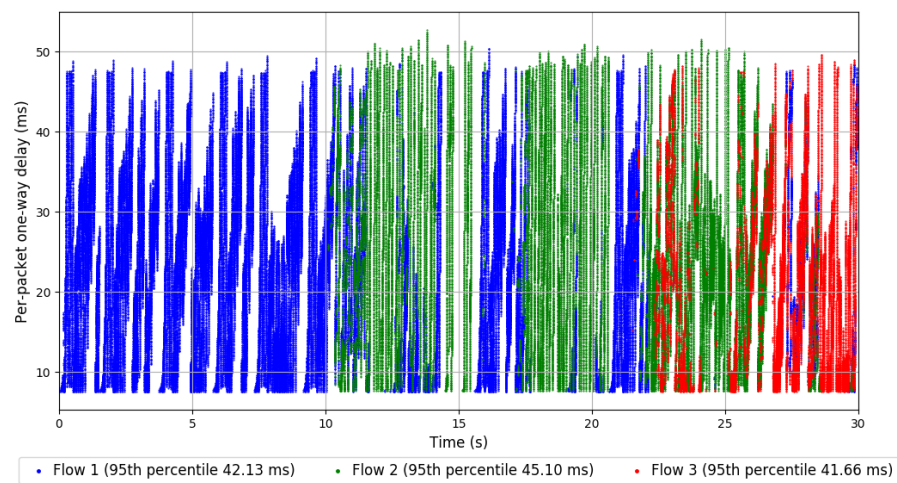
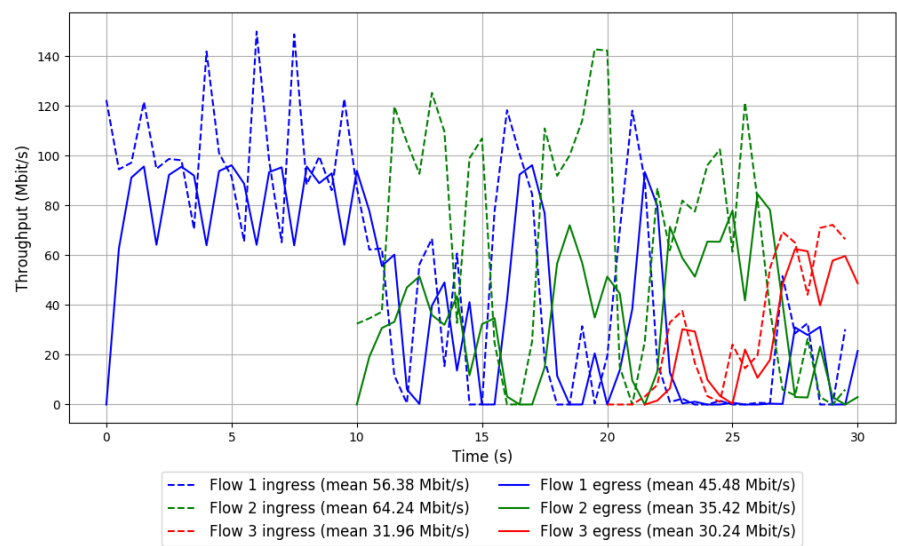
-- Flow 3:

Average throughput: 30.24 Mbit/s

95th percentile per-packet one-way delay: 41.664 ms

Loss rate: 15.49%

Run 5: Report of Verus — Data Link

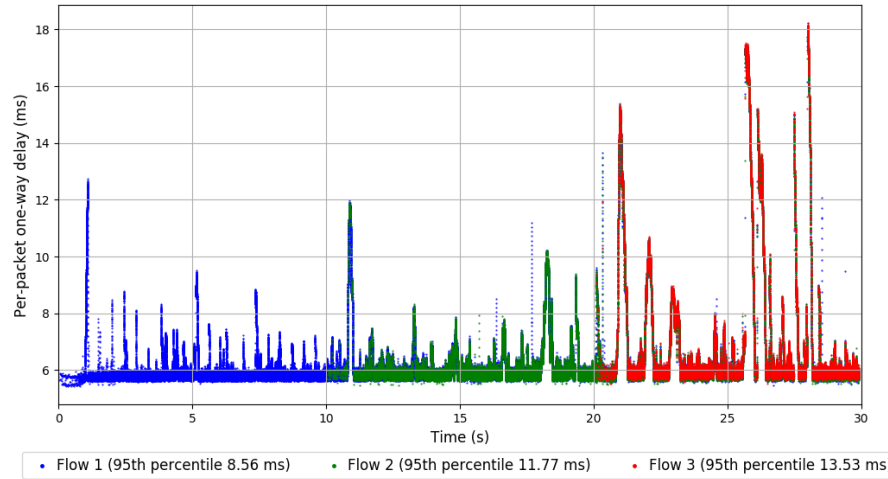
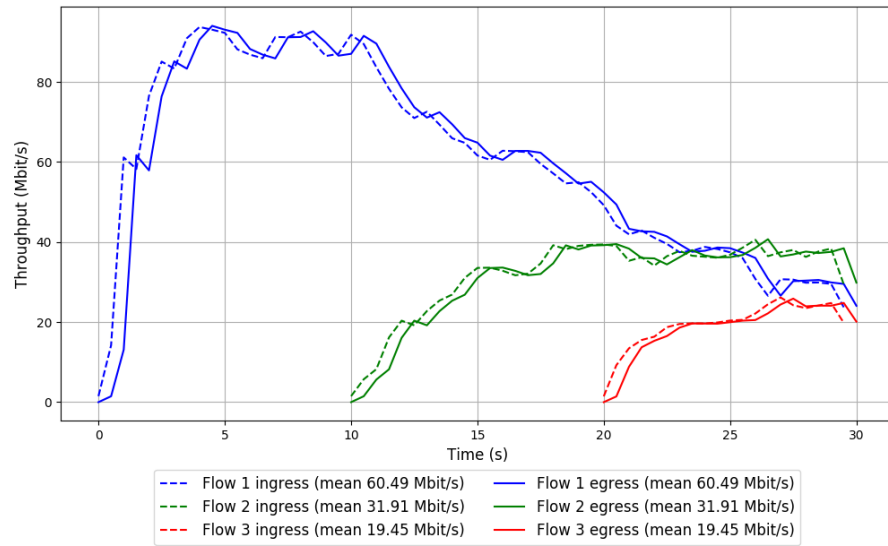


Run 1: Statistics of PCC-Vivace

Start at: 2019-03-27 01:04:41  
End at: 2019-03-27 01:05:11  
Local clock offset: 0.59 ms  
Remote clock offset: -2.153 ms

# Below is generated by plot.py at 2019-03-27 03:22:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 88.13 Mbit/s  
95th percentile per-packet one-way delay: 9.631 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 60.49 Mbit/s  
95th percentile per-packet one-way delay: 8.558 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 31.91 Mbit/s  
95th percentile per-packet one-way delay: 11.771 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 19.45 Mbit/s  
95th percentile per-packet one-way delay: 13.529 ms  
Loss rate: 0.00%

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



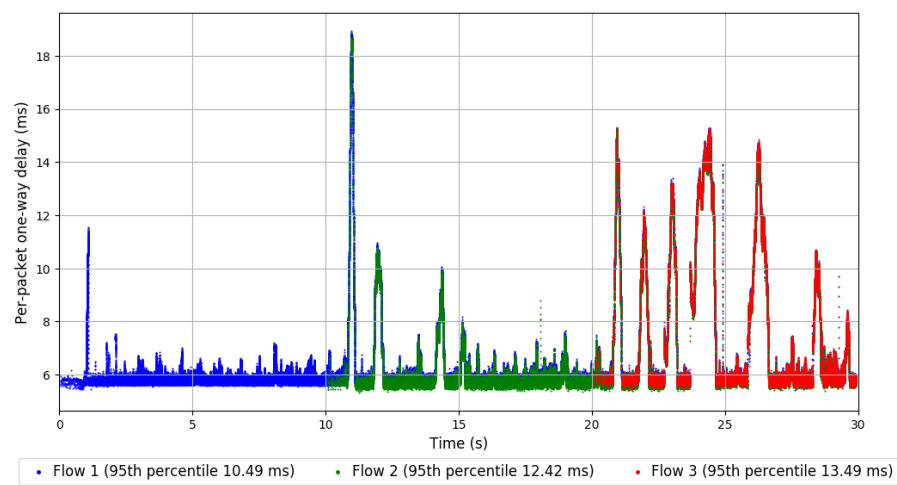
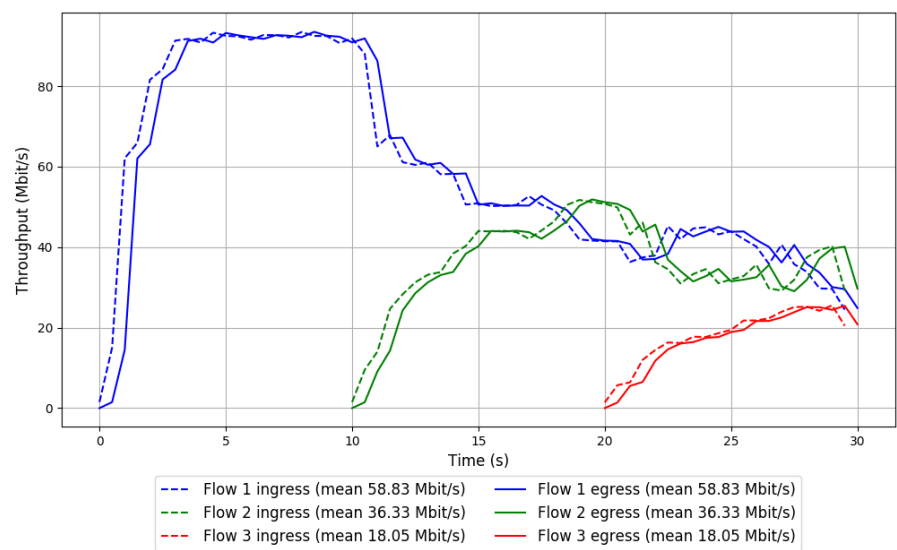


Run 2: Statistics of PCC-Vivace

Start at: 2019-03-27 01:29:40  
End at: 2019-03-27 01:30:10  
Local clock offset: -0.714 ms  
Remote clock offset: -1.515 ms

# Below is generated by plot.py at 2019-03-27 03:22:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 88.95 Mbit/s  
95th percentile per-packet one-way delay: 11.644 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 58.83 Mbit/s  
95th percentile per-packet one-way delay: 10.493 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 36.33 Mbit/s  
95th percentile per-packet one-way delay: 12.419 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 18.05 Mbit/s  
95th percentile per-packet one-way delay: 13.492 ms  
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2019-03-27 01:54:23

End at: 2019-03-27 01:54:53

Local clock offset: -1.468 ms

Remote clock offset: 0.864 ms

# Below is generated by plot.py at 2019-03-27 03:22:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.12 Mbit/s

95th percentile per-packet one-way delay: 10.981 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 57.99 Mbit/s

95th percentile per-packet one-way delay: 11.100 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 37.41 Mbit/s

95th percentile per-packet one-way delay: 10.788 ms

Loss rate: 0.00%

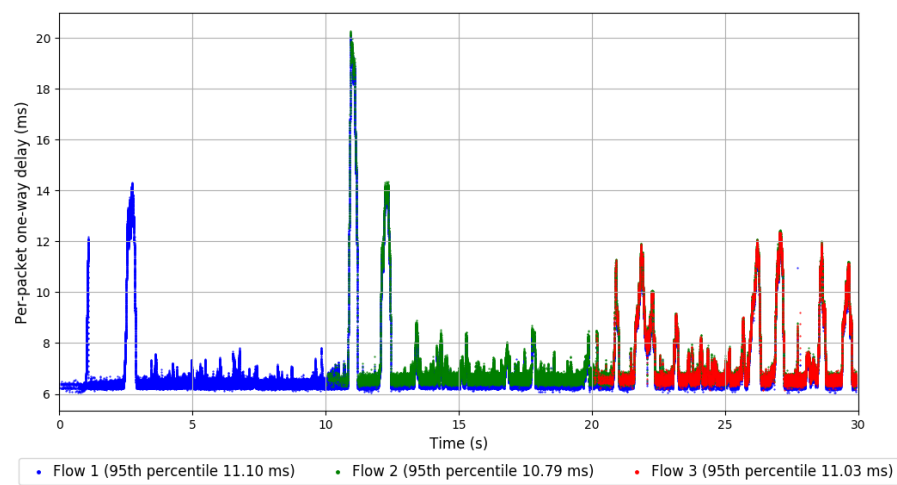
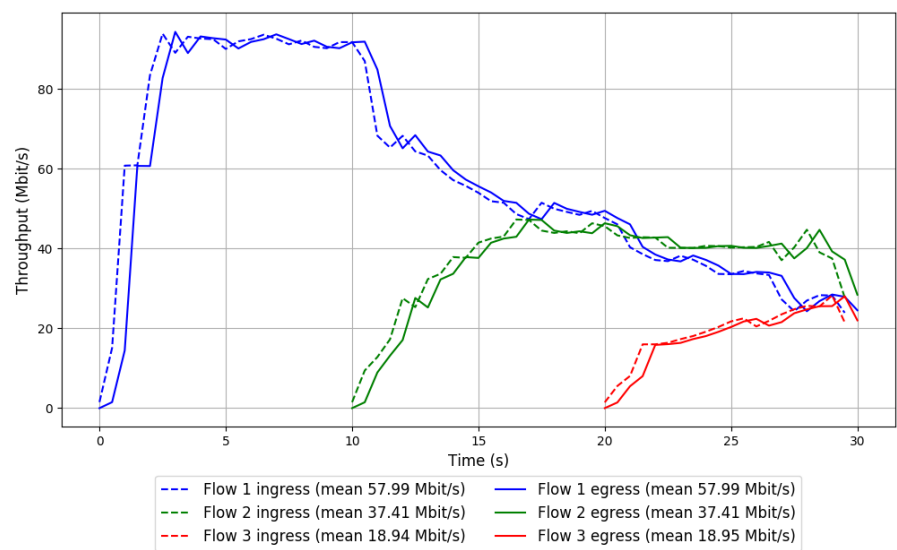
-- Flow 3:

Average throughput: 18.95 Mbit/s

95th percentile per-packet one-way delay: 11.028 ms

Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

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

End at: 2019-03-27 02:19:57

Local clock offset: -1.744 ms

Remote clock offset: 1.36 ms

# Below is generated by plot.py at 2019-03-27 03:22:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.41 Mbit/s

95th percentile per-packet one-way delay: 9.779 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 63.41 Mbit/s

95th percentile per-packet one-way delay: 9.304 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 29.72 Mbit/s

95th percentile per-packet one-way delay: 10.037 ms

Loss rate: 0.00%

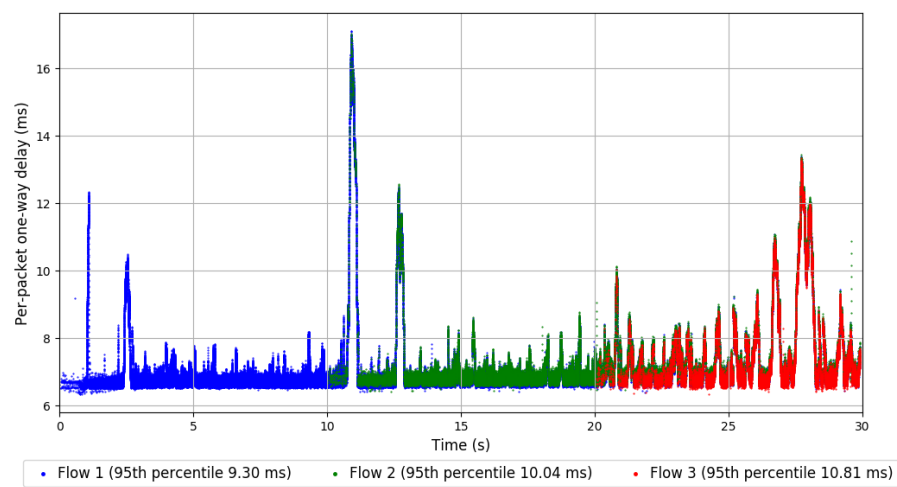
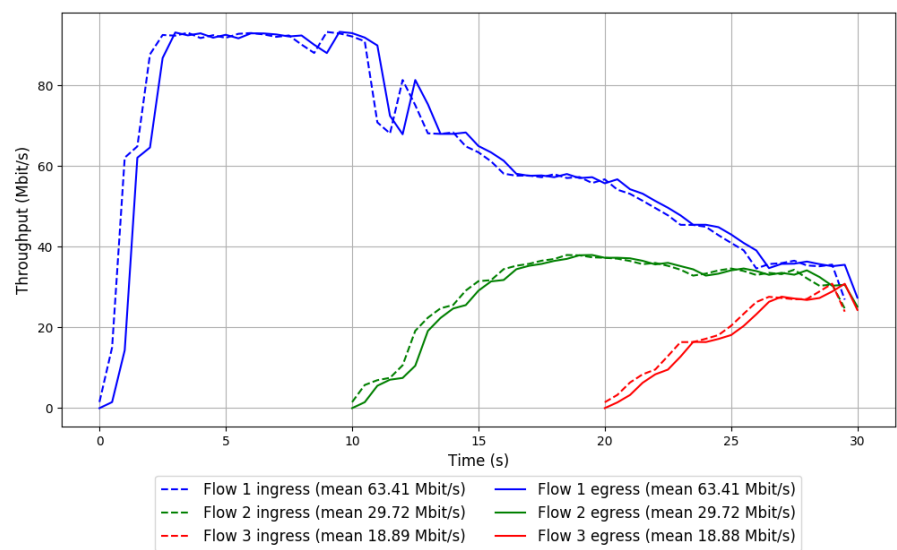
-- Flow 3:

Average throughput: 18.88 Mbit/s

95th percentile per-packet one-way delay: 10.814 ms

Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2019-03-27 02:44:30

End at: 2019-03-27 02:45:00

Local clock offset: -1.814 ms

Remote clock offset: 1.232 ms

# Below is generated by plot.py at 2019-03-27 03:22:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 89.49 Mbit/s

95th percentile per-packet one-way delay: 10.733 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 59.09 Mbit/s

95th percentile per-packet one-way delay: 11.291 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 33.46 Mbit/s

95th percentile per-packet one-way delay: 9.996 ms

Loss rate: 0.00%

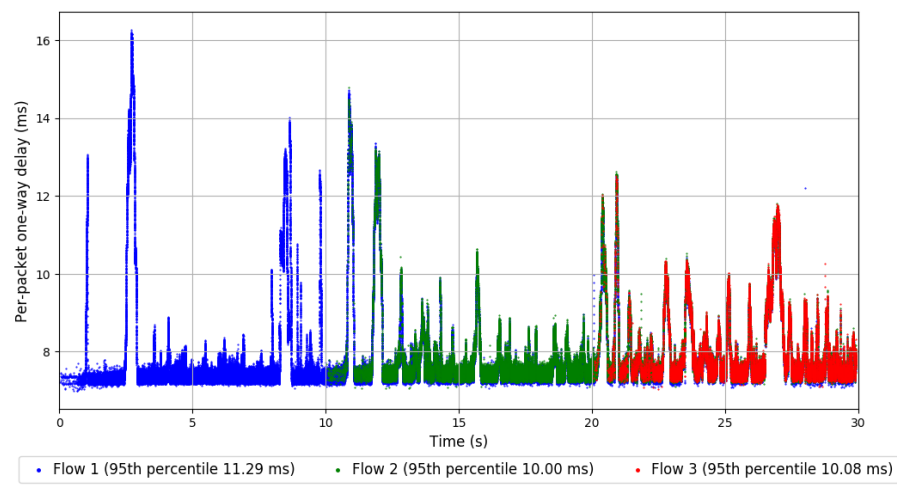
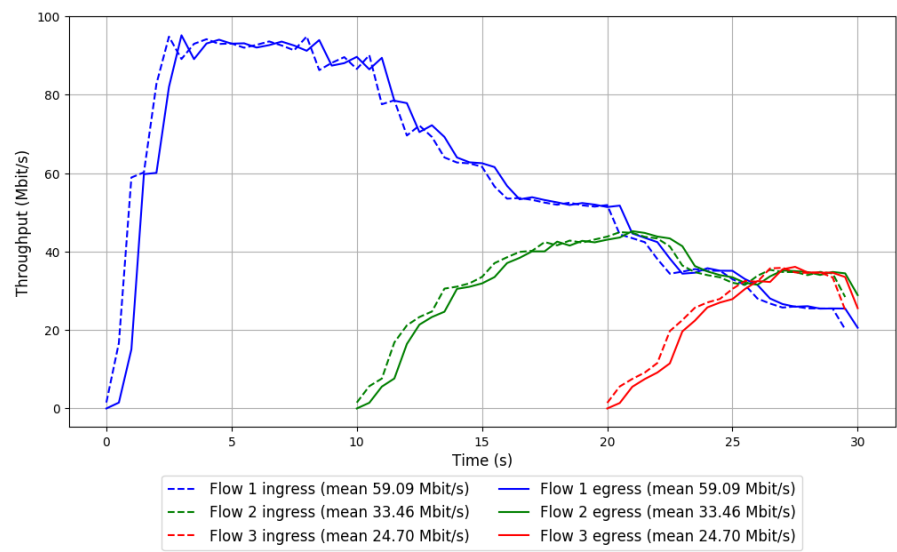
-- Flow 3:

Average throughput: 24.70 Mbit/s

95th percentile per-packet one-way delay: 10.083 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link



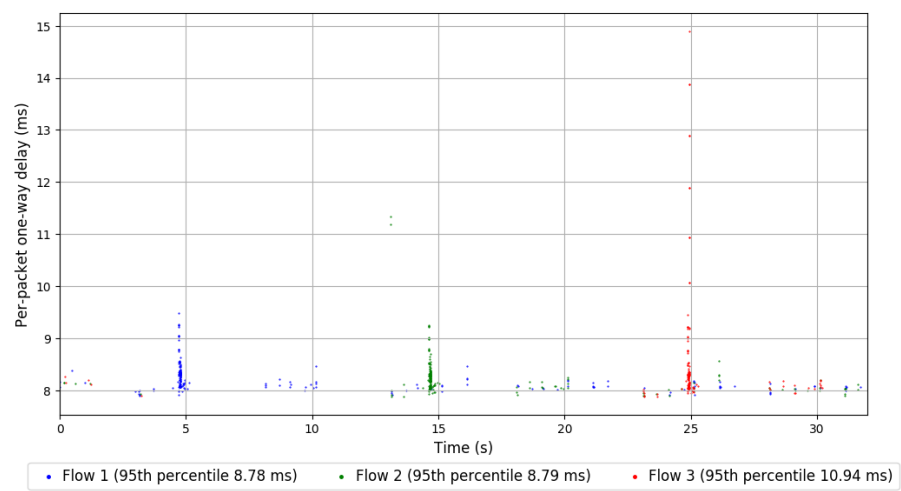
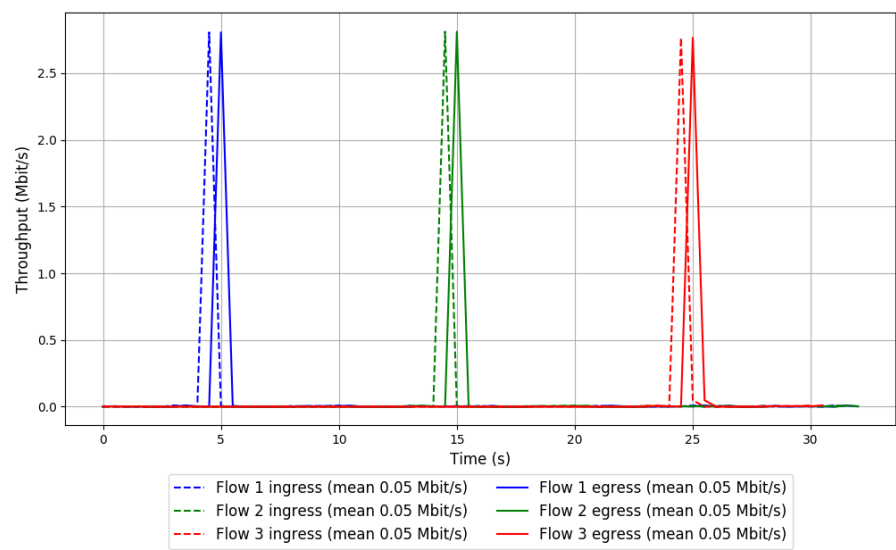


Run 1: Statistics of WebRTC media

Start at: 2019-03-27 01:22:41  
End at: 2019-03-27 01:23:11  
Local clock offset: -0.891 ms  
Remote clock offset: -0.115 ms

# Below is generated by plot.py at 2019-03-27 03:22:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 9.052 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 8.780 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 8.794 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 10.944 ms  
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2019-03-27 01:47:24

End at: 2019-03-27 01:47:54

Local clock offset: -1.509 ms

Remote clock offset: 1.988 ms

# Below is generated by plot.py at 2019-03-27 03:22:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 8.874 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 8.874 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 8.747 ms

Loss rate: 0.00%

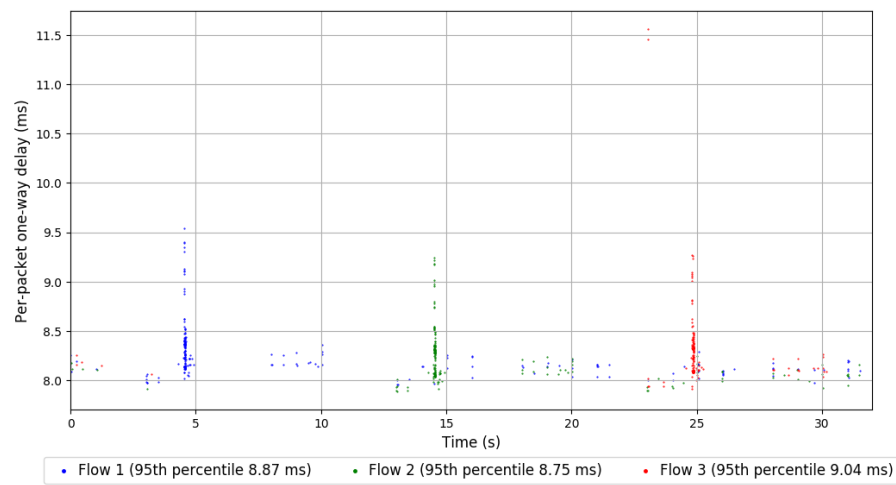
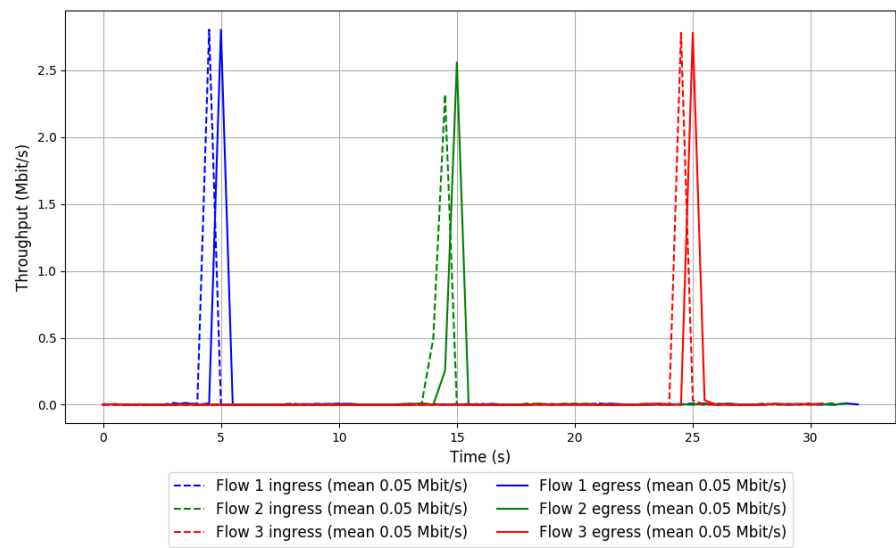
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 9.041 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-03-27 02:12:23

End at: 2019-03-27 02:12:53

Local clock offset: -2.124 ms

Remote clock offset: 3.039 ms

# Below is generated by plot.py at 2019-03-27 03:22:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 8.838 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 8.838 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 8.774 ms

Loss rate: 0.00%

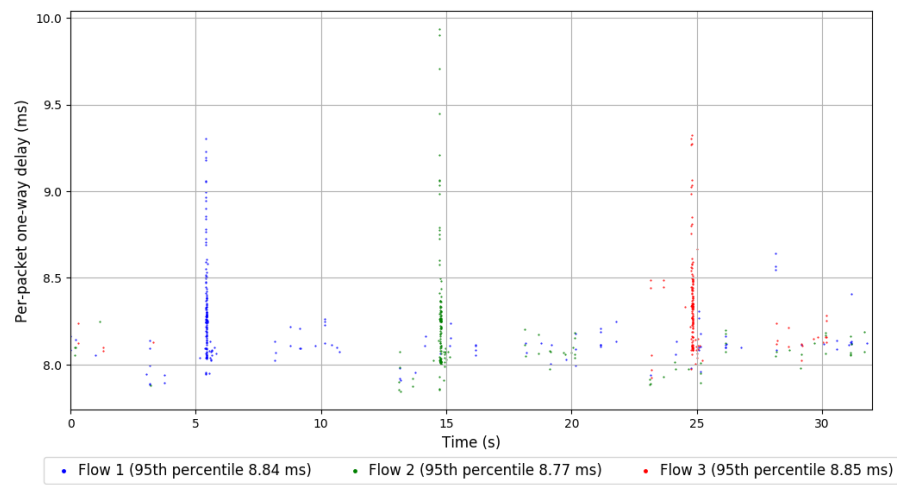
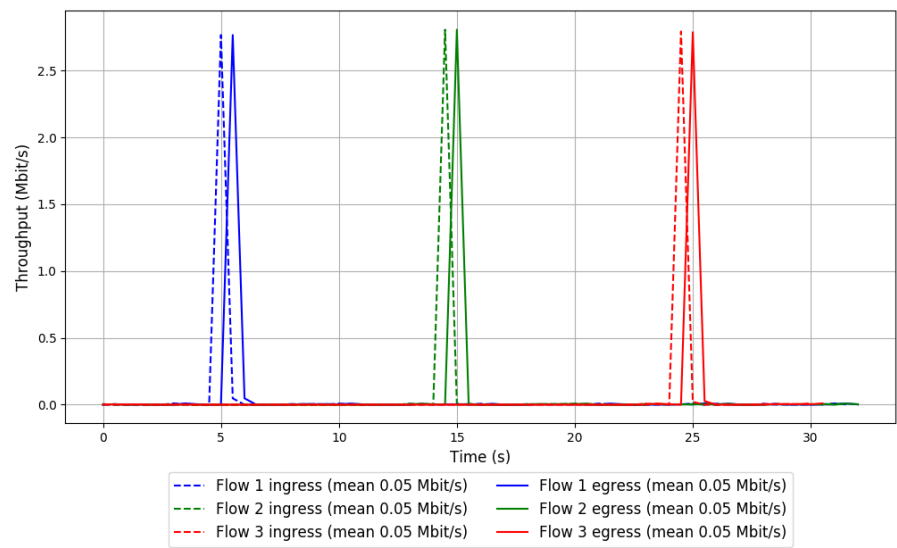
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 8.850 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2019-03-27 02:37:20

End at: 2019-03-27 02:37:50

Local clock offset: -1.051 ms

Remote clock offset: 1.379 ms

# Below is generated by plot.py at 2019-03-27 03:22:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 7.712 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 7.481 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 7.796 ms

Loss rate: 0.00%

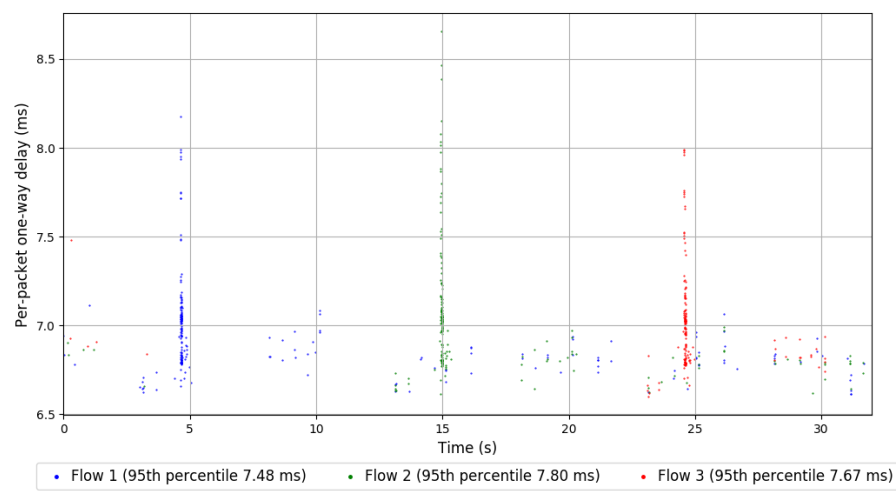
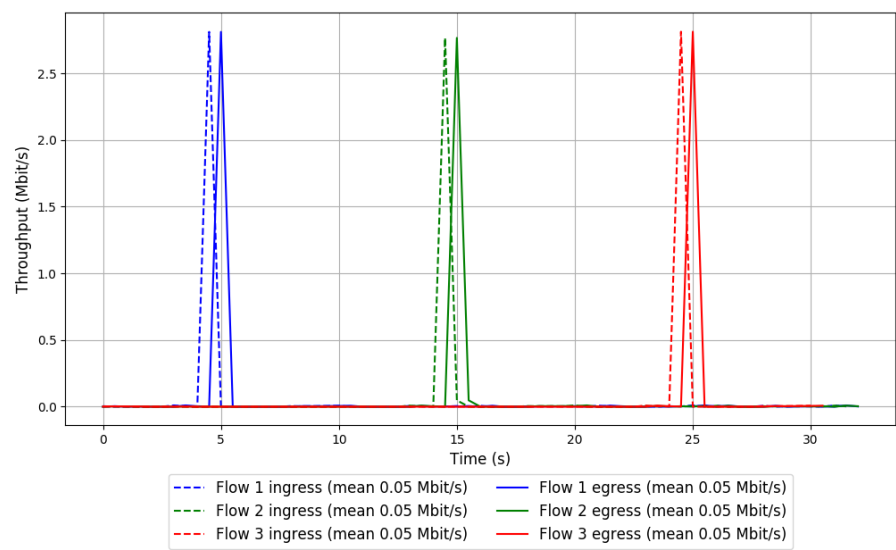
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 7.672 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link





Run 5: Statistics of WebRTC media

Start at: 2019-03-27 03:02:21

End at: 2019-03-27 03:02:51

Local clock offset: 0.873 ms

Remote clock offset: 1.31 ms

# Below is generated by plot.py at 2019-03-27 03:22:33

# Datalink statistics

-- Total of 3 flows:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 6.939 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 6.897 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 6.921 ms

Loss rate: 0.00%

-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 7.145 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

