

## Pantheon Report

Generated at 2019-06-28 14:02:31 (UTC).

Data path: India on `em1` (*remote*) → AWS India 1 on `ens5` (*local*).

Repeated the test of 22 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:

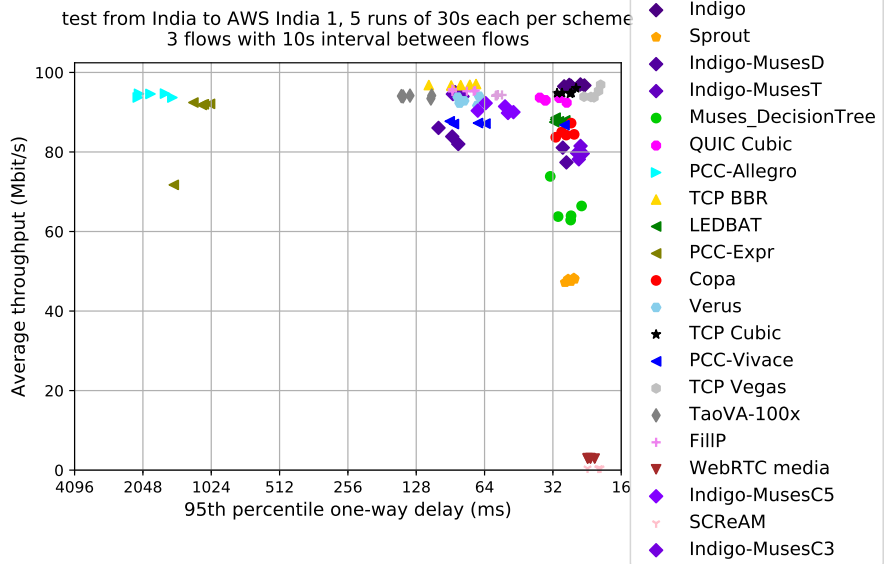
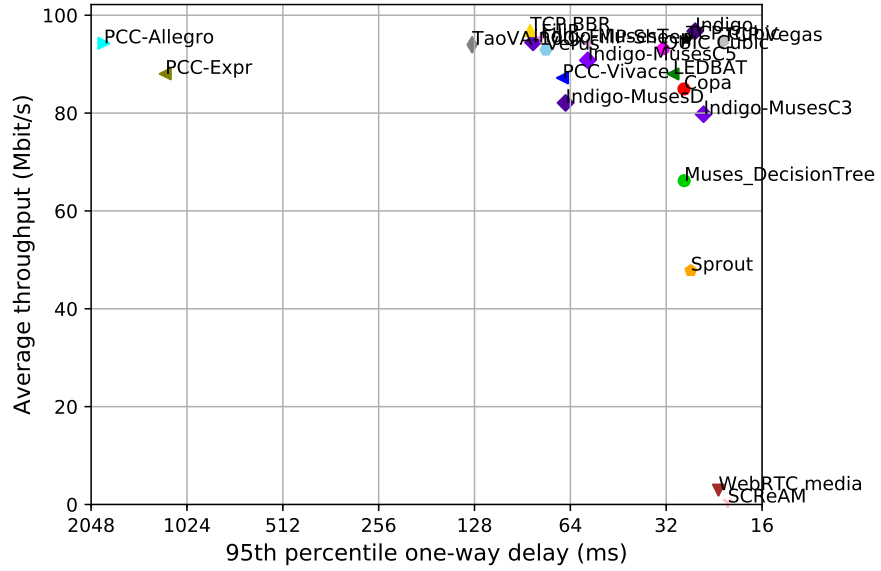
```
Linux 4.15.0-1039-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ c3953d08f32ec7ebbdede2d2f0cbdeed262571ef
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/muses_dtree @ 11c9498ecb1596b02ccd896791a02d03172af7ed
M helpers/__init__.pyc
M helpers/context.pyc
M helpers/utils.pyc
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 India to AWS India 1, 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	57.33	42.88	33.07	43.66	105.77	192.24	1.20	1.51	1.72
Copa	5	51.11	35.70	30.23	28.11	28.23	27.08	0.06	0.10	0.33
TCP Cubic	5	56.99	40.69	33.02	26.98	28.16	27.45	0.06	0.14	0.32
FillP	5	56.57	37.56	41.66	60.50	93.11	60.51	0.36	3.28	1.10
FillP-Sheep	5	56.44	40.35	33.05	47.35	60.86	74.66	0.12	0.33	0.59
Indigo	5	58.37	41.15	33.67	24.26	25.94	24.49	0.06	0.15	0.32
Indigo-MusesC3	5	53.78	33.34	18.02	24.34	24.16	24.18	0.03	0.13	0.45
Indigo-MusesC5	5	52.23	45.77	35.85	45.57	54.17	75.12	0.39	0.77	2.51
Indigo-MusesD	5	45.96	45.40	27.70	29.90	77.29	49.00	0.07	1.08	1.19
Indigo-MusesT	5	62.01	40.31	26.09	59.53	89.99	107.15	0.49	0.90	3.30
LEDBAT	5	51.62	39.62	30.10	30.32	29.77	31.25	0.06	0.17	0.35
Muses_DecisionTree	5	46.76	25.83	7.19	29.11	24.10	20.99	0.03	0.03	0.20
PCC-Allegro	5	59.97	37.18	29.12	1877.68	1878.37	159.45	12.88	13.50	2.03
PCC-Expr	5	56.19	36.67	22.59	1011.07	799.21	222.32	20.96	9.44	2.45
QUIC Cubic	5	56.65	39.62	30.64	31.00	33.30	58.05	0.10	0.20	0.48
SCReAM	5	0.21	0.21	0.21	18.97	19.89	19.59	0.08	0.19	0.21
Sprout	5	24.04	24.11	23.45	25.66	27.02	26.56	0.12	0.14	0.29
TaoVA-100x	5	57.17	37.44	35.72	114.34	168.28	121.93	0.36	1.02	2.94
TCP Vegas	5	57.70	37.53	36.31	20.97	20.96	22.71	0.05	0.12	0.27
Verus	5	54.45	40.85	34.04	75.98	68.48	123.18	0.17	0.48	0.96
PCC-Vivace	5	54.27	38.83	21.53	55.00	133.86	32.10	0.13	0.39	0.40
WebRTC media	5	1.59	0.94	0.42	21.50	18.76	19.17	0.05	0.07	0.70

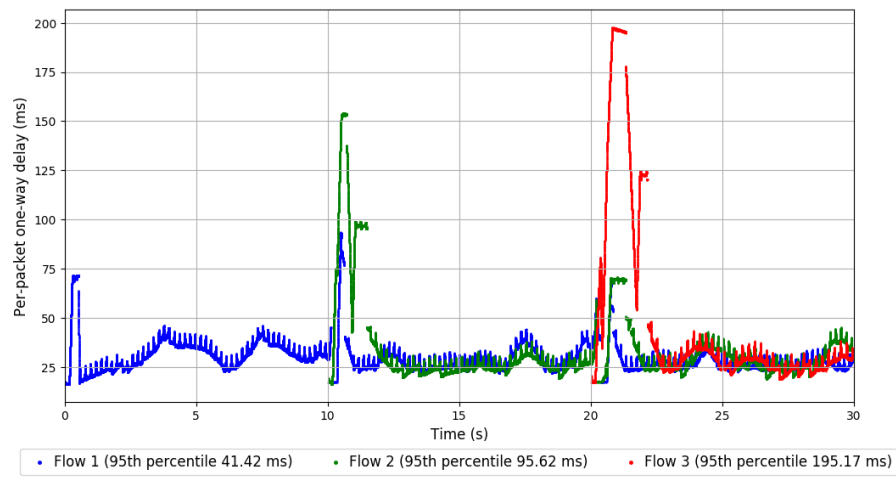
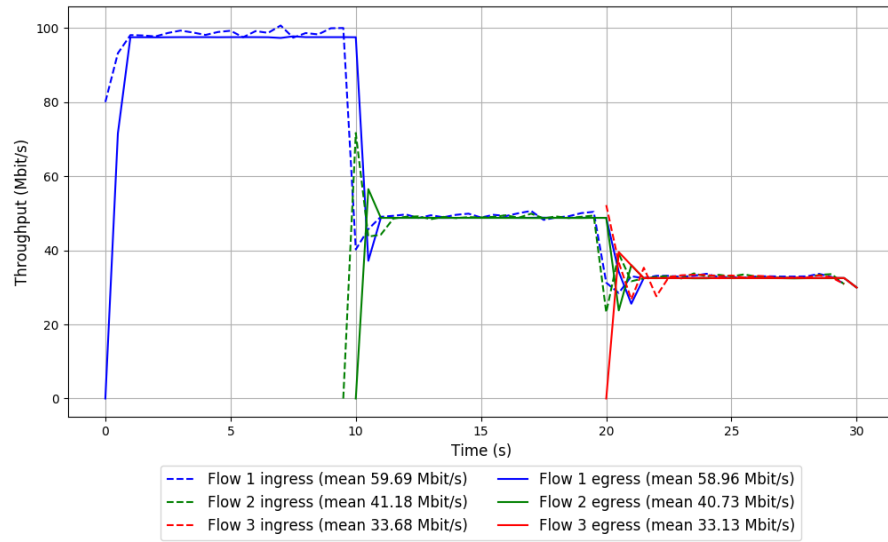


Run 1: Statistics of TCP BBR

Start at: 2019-06-28 11:49:45  
End at: 2019-06-28 11:50:15  
Local clock offset: -1.054 ms  
Remote clock offset: -0.871 ms

# Below is generated by plot.py at 2019-06-28 13:47:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 97.08 Mbit/s  
95th percentile per-packet one-way delay: 69.780 ms  
Loss rate: 1.35%  
-- Flow 1:  
Average throughput: 58.96 Mbit/s  
95th percentile per-packet one-way delay: 41.425 ms  
Loss rate: 1.30%  
-- Flow 2:  
Average throughput: 40.73 Mbit/s  
95th percentile per-packet one-way delay: 95.616 ms  
Loss rate: 1.22%  
-- Flow 3:  
Average throughput: 33.13 Mbit/s  
95th percentile per-packet one-way delay: 195.167 ms  
Loss rate: 1.89%

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



Run 2: Statistics of TCP BBR

Start at: 2019-06-28 12:16:53

End at: 2019-06-28 12:17:23

Local clock offset: -1.353 ms

Remote clock offset: -4.15 ms

# Below is generated by plot.py at 2019-06-28 13:47:32

# Datalink statistics

-- Total of 3 flows:

Average throughput: 96.72 Mbit/s

95th percentile per-packet one-way delay: 89.742 ms

Loss rate: 0.96%

-- Flow 1:

Average throughput: 56.28 Mbit/s

95th percentile per-packet one-way delay: 41.090 ms

Loss rate: 0.79%

-- Flow 2:

Average throughput: 36.67 Mbit/s

95th percentile per-packet one-way delay: 110.348 ms

Loss rate: 1.25%

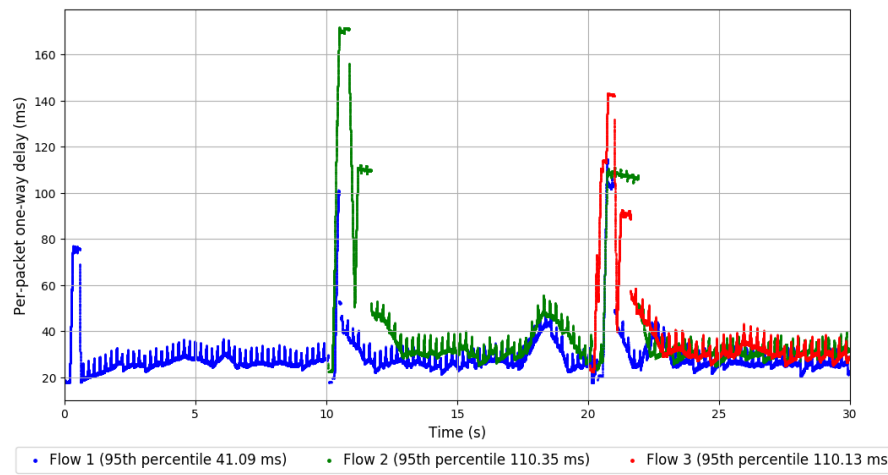
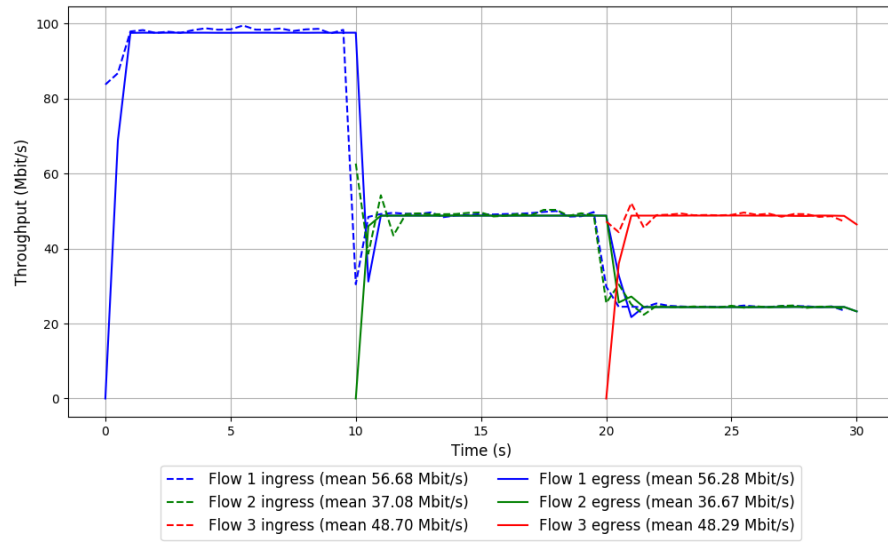
-- Flow 3:

Average throughput: 48.29 Mbit/s

95th percentile per-packet one-way delay: 110.134 ms

Loss rate: 1.13%

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

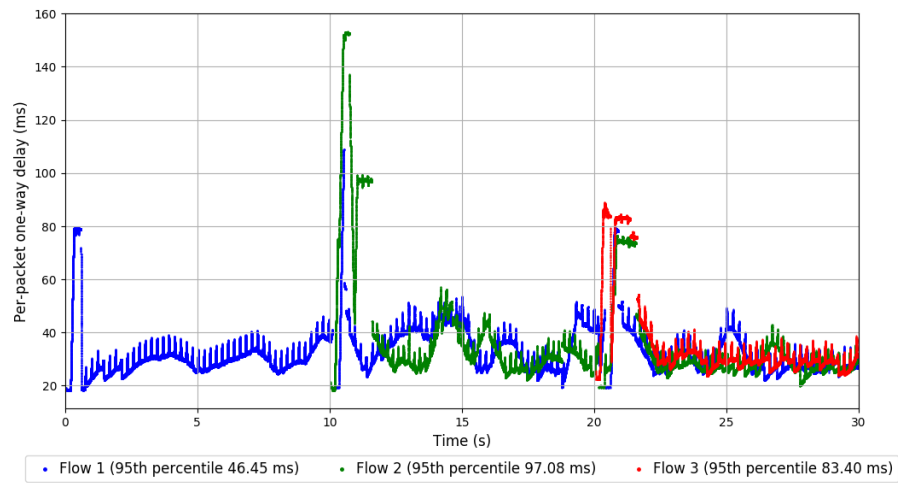
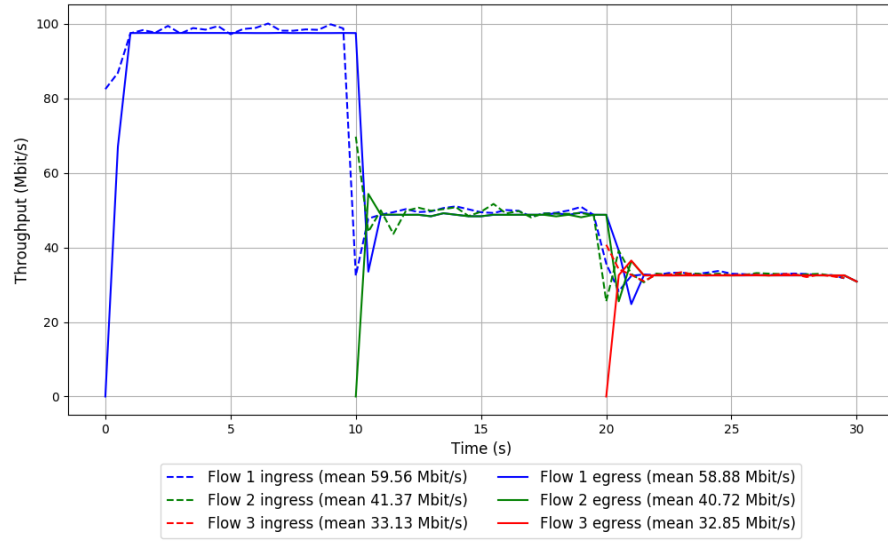


Run 3: Statistics of TCP BBR

Start at: 2019-06-28 12:43:27  
End at: 2019-06-28 12:43:57  
Local clock offset: -1.918 ms  
Remote clock offset: -5.078 ms

# Below is generated by plot.py at 2019-06-28 13:47:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.89 Mbit/s  
95th percentile per-packet one-way delay: 74.341 ms  
Loss rate: 1.35%  
-- Flow 1:  
Average throughput: 58.88 Mbit/s  
95th percentile per-packet one-way delay: 46.455 ms  
Loss rate: 1.23%  
-- Flow 2:  
Average throughput: 40.72 Mbit/s  
95th percentile per-packet one-way delay: 97.078 ms  
Loss rate: 1.71%  
-- Flow 3:  
Average throughput: 32.85 Mbit/s  
95th percentile per-packet one-way delay: 83.398 ms  
Loss rate: 1.11%

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

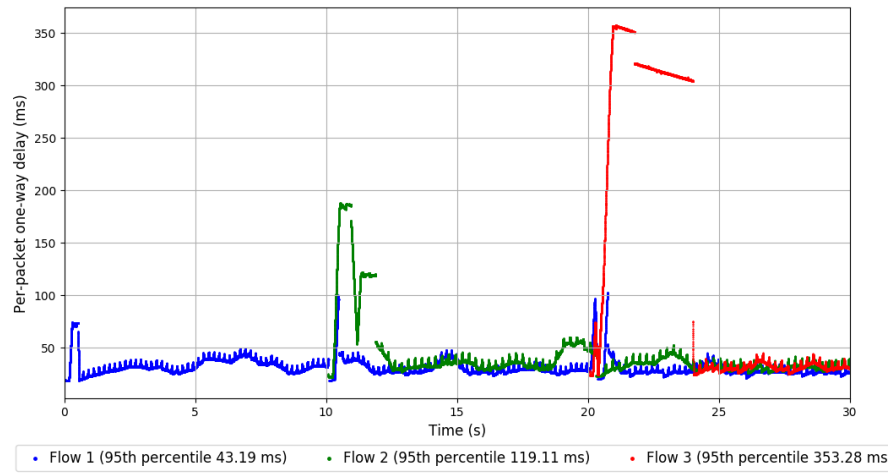
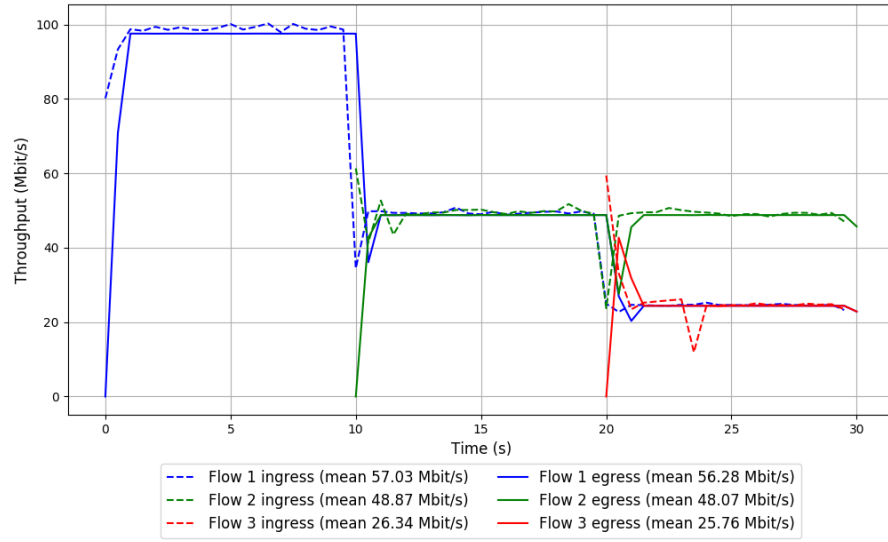


Run 4: Statistics of TCP BBR

Start at: 2019-06-28 13:10:06  
End at: 2019-06-28 13:10:36  
Local clock offset: -1.806 ms  
Remote clock offset: -5.686 ms

# Below is generated by plot.py at 2019-06-28 13:47:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.83 Mbit/s  
95th percentile per-packet one-way delay: 112.649 ms  
Loss rate: 1.63%  
-- Flow 1:  
Average throughput: 56.28 Mbit/s  
95th percentile per-packet one-way delay: 43.194 ms  
Loss rate: 1.40%  
-- Flow 2:  
Average throughput: 48.07 Mbit/s  
95th percentile per-packet one-way delay: 119.110 ms  
Loss rate: 1.79%  
-- Flow 3:  
Average throughput: 25.76 Mbit/s  
95th percentile per-packet one-way delay: 353.283 ms  
Loss rate: 2.55%

# Run 4: Report of TCP BBR — Data Link



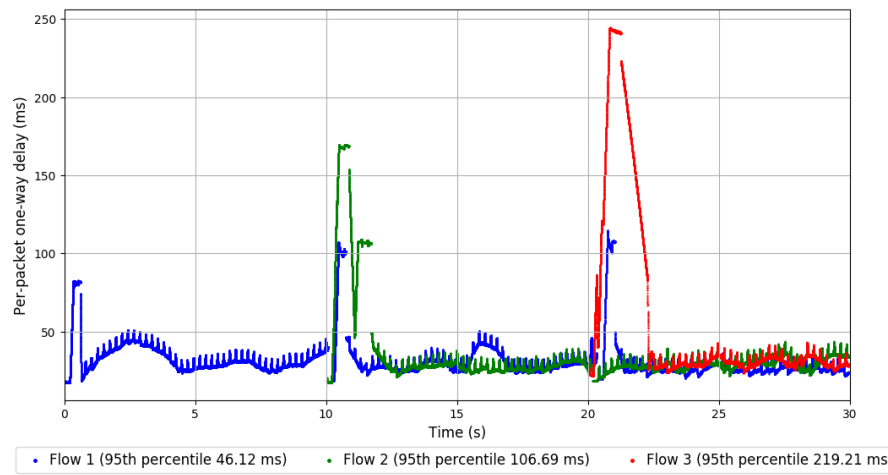
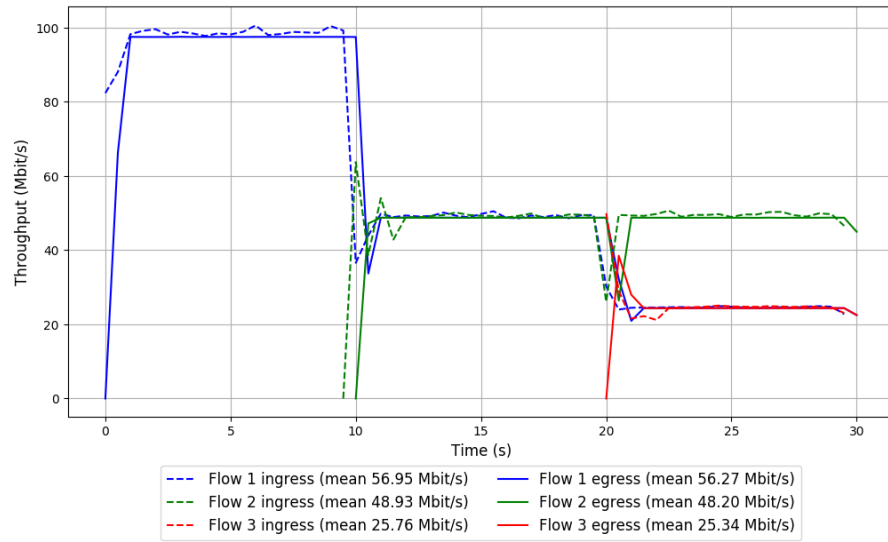


Run 5: Statistics of TCP BBR

Start at: 2019-06-28 13:37:08  
End at: 2019-06-28 13:37:38  
Local clock offset: -1.088 ms  
Remote clock offset: -4.735 ms

# Below is generated by plot.py at 2019-06-28 13:47:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.79 Mbit/s  
95th percentile per-packet one-way delay: 81.542 ms  
Loss rate: 1.44%  
-- Flow 1:  
Average throughput: 56.27 Mbit/s  
95th percentile per-packet one-way delay: 46.123 ms  
Loss rate: 1.28%  
-- Flow 2:  
Average throughput: 48.20 Mbit/s  
95th percentile per-packet one-way delay: 106.692 ms  
Loss rate: 1.60%  
-- Flow 3:  
Average throughput: 25.34 Mbit/s  
95th percentile per-packet one-way delay: 219.207 ms  
Loss rate: 1.93%

# Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2019-06-28 11:56:04

End at: 2019-06-28 11:56:34

Local clock offset: -1.215 ms

Remote clock offset: -2.69 ms

# Below is generated by plot.py at 2019-06-28 13:48:18

# Datalink statistics

-- Total of 3 flows:

Average throughput: 84.42 Mbit/s

95th percentile per-packet one-way delay: 25.790 ms

Loss rate: 0.10%

-- Flow 1:

Average throughput: 50.41 Mbit/s

95th percentile per-packet one-way delay: 26.280 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 36.14 Mbit/s

95th percentile per-packet one-way delay: 25.250 ms

Loss rate: 0.10%

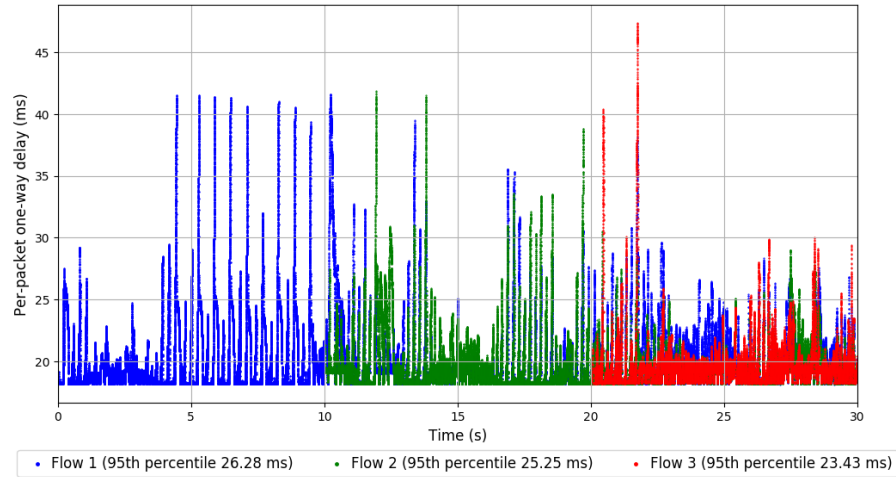
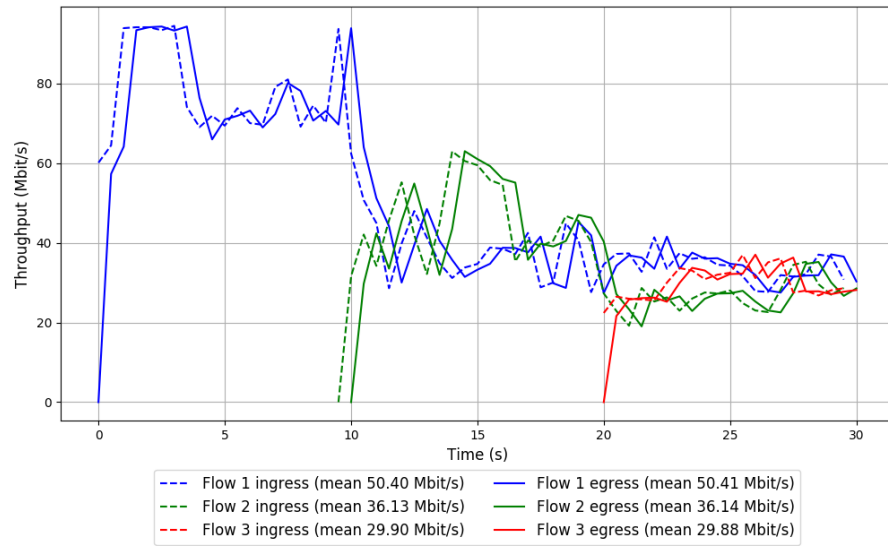
-- Flow 3:

Average throughput: 29.88 Mbit/s

95th percentile per-packet one-way delay: 23.432 ms

Loss rate: 0.28%

## Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2019-06-28 12:22:50

End at: 2019-06-28 12:23:20

Local clock offset: -1.0 ms

Remote clock offset: -3.48 ms

# Below is generated by plot.py at 2019-06-28 13:48:22

# Datalink statistics

-- Total of 3 flows:

Average throughput: 85.01 Mbit/s

95th percentile per-packet one-way delay: 29.277 ms

Loss rate: 0.10%

-- Flow 1:

Average throughput: 50.53 Mbit/s

95th percentile per-packet one-way delay: 29.442 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 35.78 Mbit/s

95th percentile per-packet one-way delay: 29.248 ms

Loss rate: 0.07%

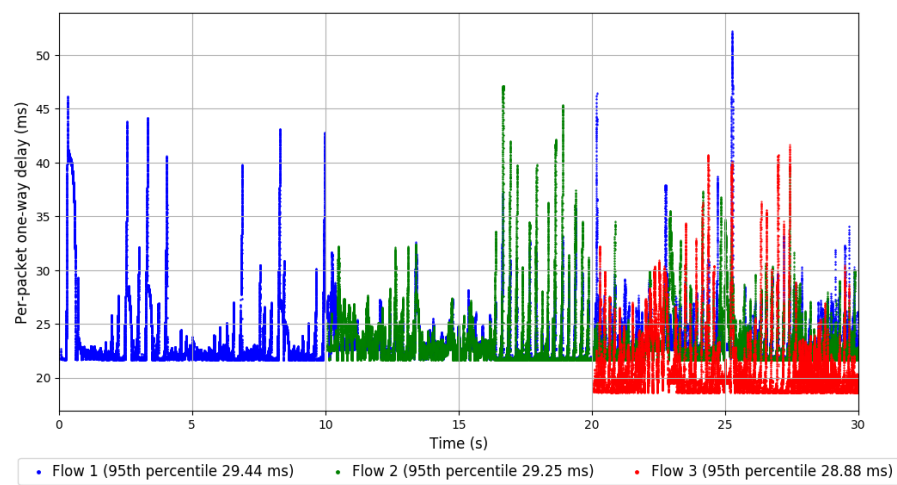
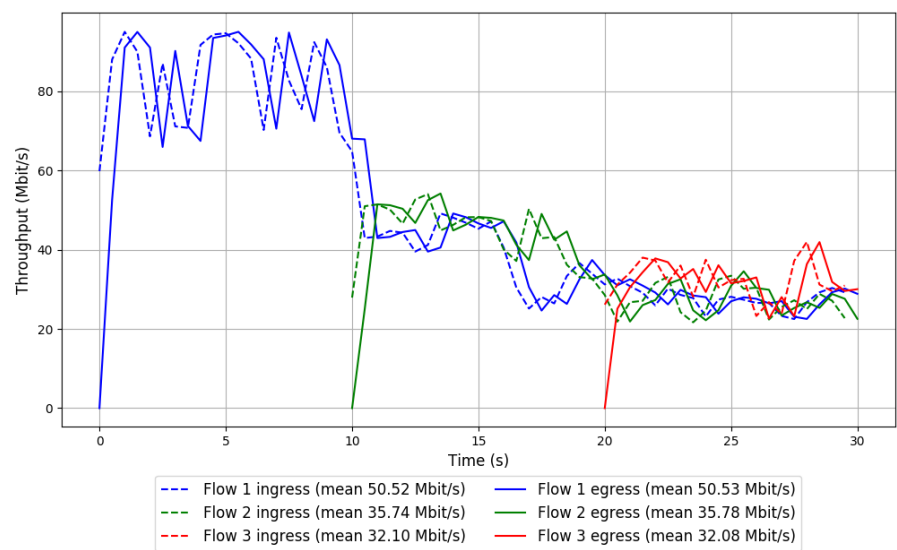
-- Flow 3:

Average throughput: 32.08 Mbit/s

95th percentile per-packet one-way delay: 28.876 ms

Loss rate: 0.32%

Run 2: Report of Copa — Data Link

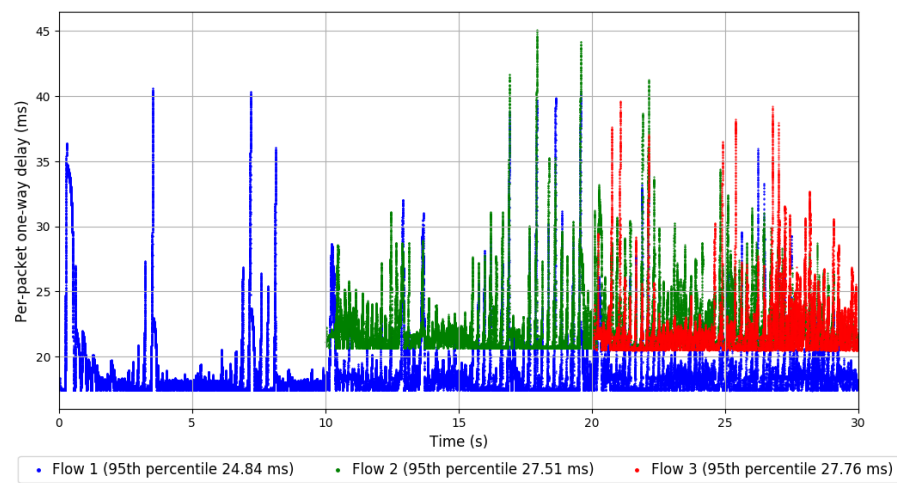
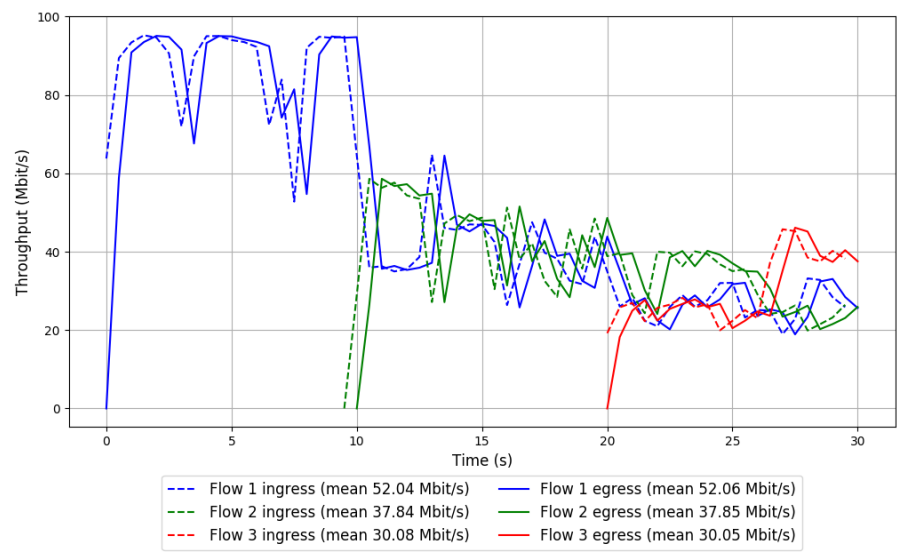


Run 3: Statistics of Copa

Start at: 2019-06-28 12:49:31  
End at: 2019-06-28 12:50:01  
Local clock offset: -2.207 ms  
Remote clock offset: -4.508 ms

# Below is generated by plot.py at 2019-06-28 13:48:26  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.25 Mbit/s  
95th percentile per-packet one-way delay: 26.601 ms  
Loss rate: 0.10%  
-- Flow 1:  
Average throughput: 52.06 Mbit/s  
95th percentile per-packet one-way delay: 24.842 ms  
Loss rate: 0.04%  
-- Flow 2:  
Average throughput: 37.85 Mbit/s  
95th percentile per-packet one-way delay: 27.508 ms  
Loss rate: 0.11%  
-- Flow 3:  
Average throughput: 30.05 Mbit/s  
95th percentile per-packet one-way delay: 27.758 ms  
Loss rate: 0.40%

Run 3: Report of Copa — Data Link



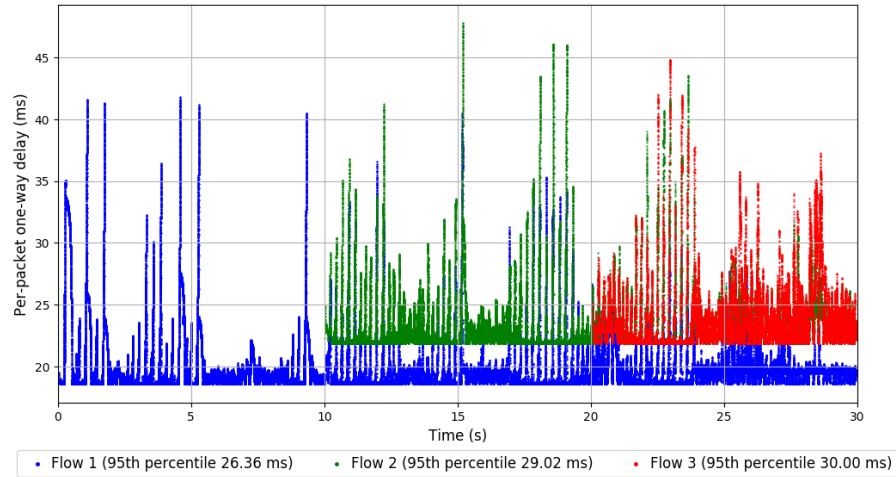
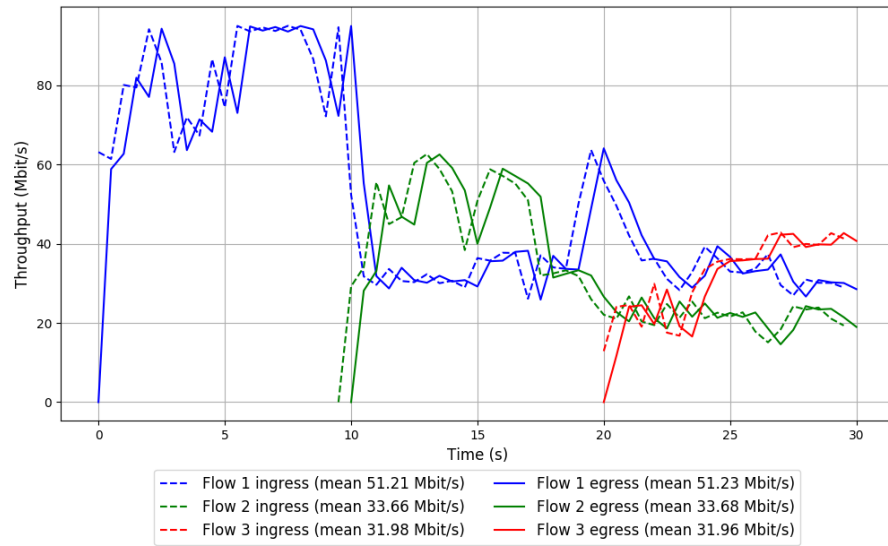


Run 4: Statistics of Copa

Start at: 2019-06-28 13:16:10  
End at: 2019-06-28 13:16:40  
Local clock offset: -1.9 ms  
Remote clock offset: -5.761 ms

```
# Below is generated by plot.py at 2019-06-28 13:49:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.25 Mbit/s
95th percentile per-packet one-way delay: 27.958 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 51.23 Mbit/s
95th percentile per-packet one-way delay: 26.355 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 33.68 Mbit/s
95th percentile per-packet one-way delay: 29.024 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 31.96 Mbit/s
95th percentile per-packet one-way delay: 29.995 ms
Loss rate: 0.41%
```

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

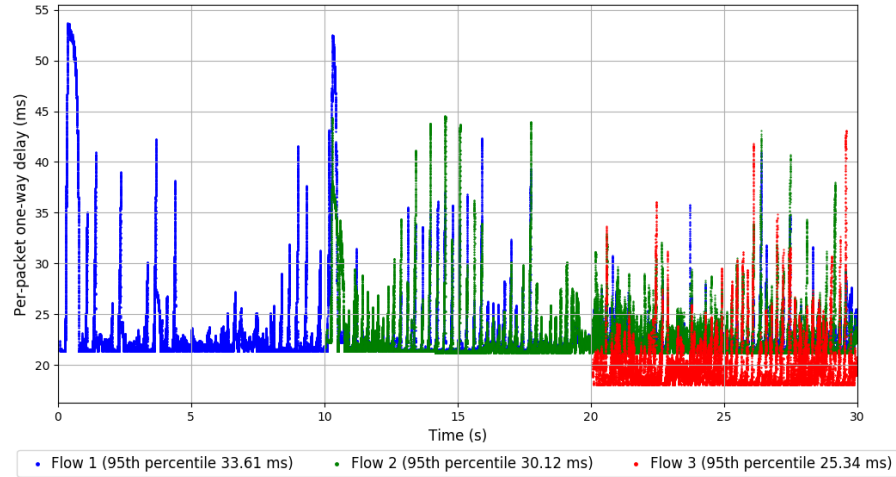
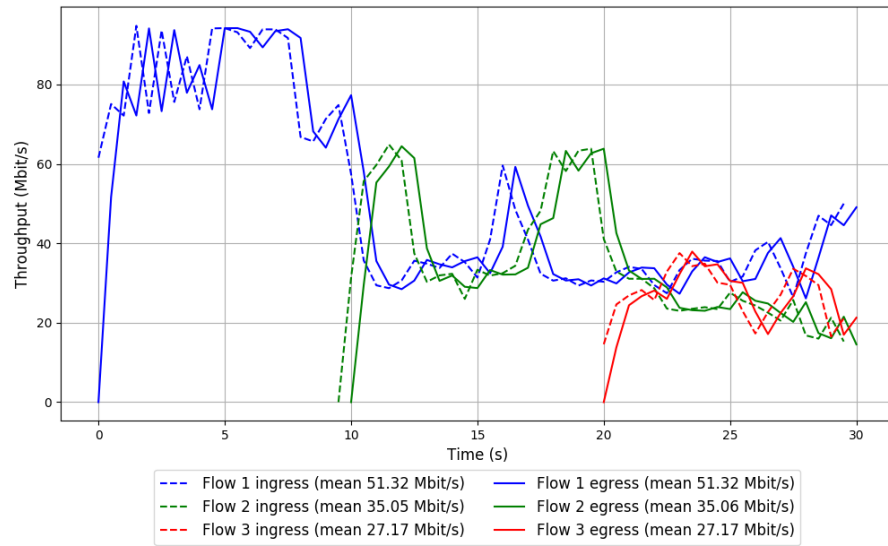


Run 5: Statistics of Copa

Start at: 2019-06-28 13:43:20  
End at: 2019-06-28 13:43:50  
Local clock offset: -0.719 ms  
Remote clock offset: -5.497 ms

# Below is generated by plot.py at 2019-06-28 13:49:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 83.69 Mbit/s  
95th percentile per-packet one-way delay: 31.089 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 51.32 Mbit/s  
95th percentile per-packet one-way delay: 33.611 ms  
Loss rate: 0.11%  
-- Flow 2:  
Average throughput: 35.06 Mbit/s  
95th percentile per-packet one-way delay: 30.120 ms  
Loss rate: 0.10%  
-- Flow 3:  
Average throughput: 27.17 Mbit/s  
95th percentile per-packet one-way delay: 25.344 ms  
Loss rate: 0.23%

## Run 5: Report of Copa — Data Link

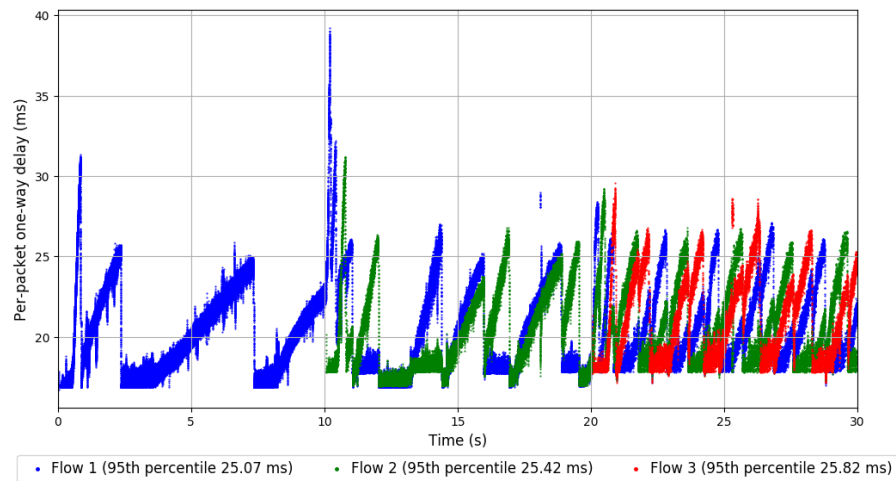
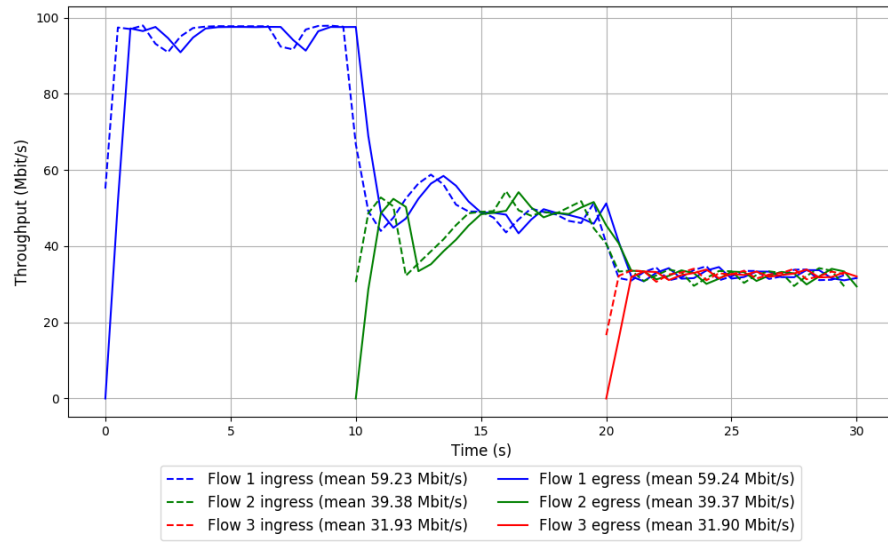


Run 1: Statistics of TCP Cubic

Start at: 2019-06-28 11:37:23  
End at: 2019-06-28 11:37:53  
Local clock offset: -0.799 ms  
Remote clock offset: -1.064 ms

# Below is generated by plot.py at 2019-06-28 13:49:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.04 Mbit/s  
95th percentile per-packet one-way delay: 25.295 ms  
Loss rate: 0.11%  
-- Flow 1:  
Average throughput: 59.24 Mbit/s  
95th percentile per-packet one-way delay: 25.066 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 39.37 Mbit/s  
95th percentile per-packet one-way delay: 25.419 ms  
Loss rate: 0.13%  
-- Flow 3:  
Average throughput: 31.90 Mbit/s  
95th percentile per-packet one-way delay: 25.817 ms  
Loss rate: 0.35%

# Run 1: Report of TCP Cubic — Data Link

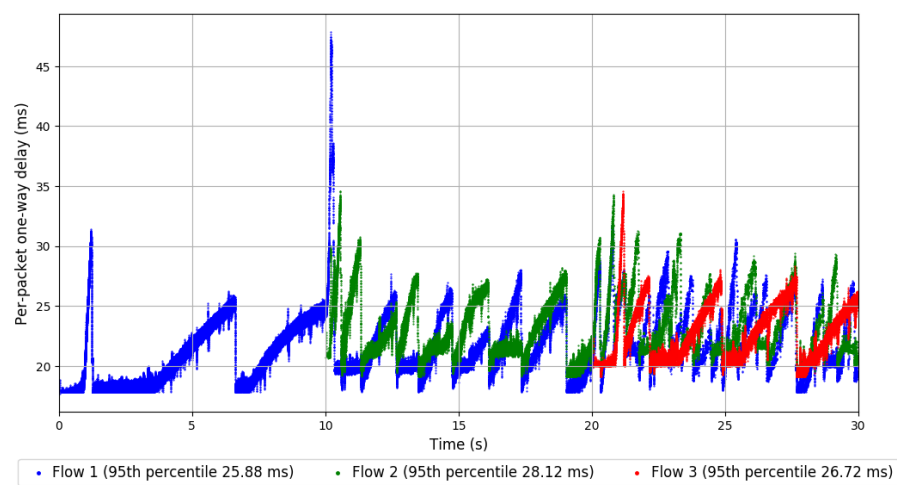
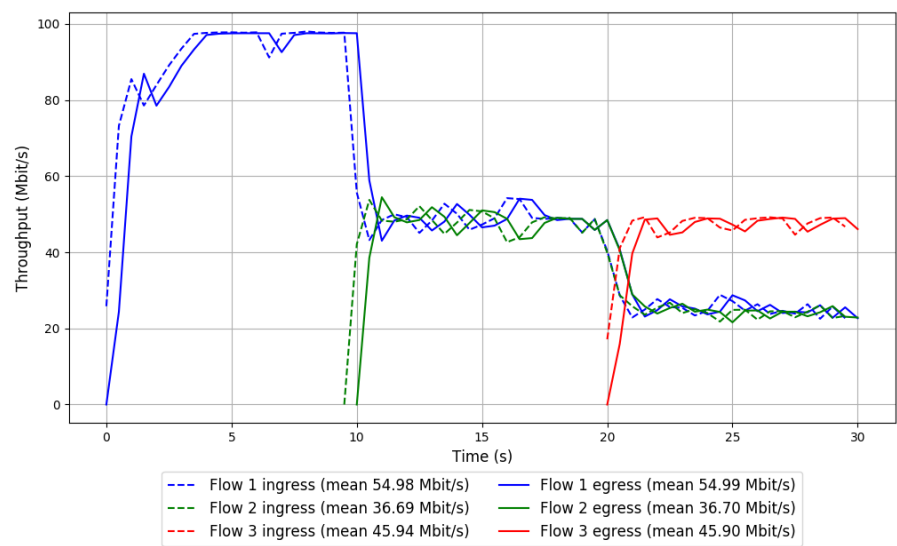


Run 2: Statistics of TCP Cubic

Start at: 2019-06-28 12:04:40  
End at: 2019-06-28 12:05:10  
Local clock offset: -1.507 ms  
Remote clock offset: -3.982 ms

# Below is generated by plot.py at 2019-06-28 13:49:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.67 Mbit/s  
95th percentile per-packet one-way delay: 26.890 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 54.99 Mbit/s  
95th percentile per-packet one-way delay: 25.878 ms  
Loss rate: 0.05%  
-- Flow 2:  
Average throughput: 36.70 Mbit/s  
95th percentile per-packet one-way delay: 28.121 ms  
Loss rate: 0.12%  
-- Flow 3:  
Average throughput: 45.90 Mbit/s  
95th percentile per-packet one-way delay: 26.721 ms  
Loss rate: 0.34%

Run 2: Report of TCP Cubic — Data Link



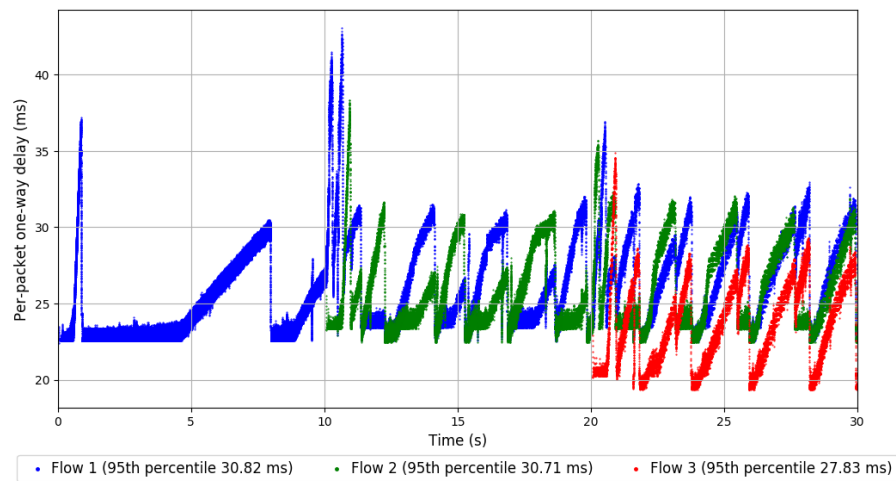
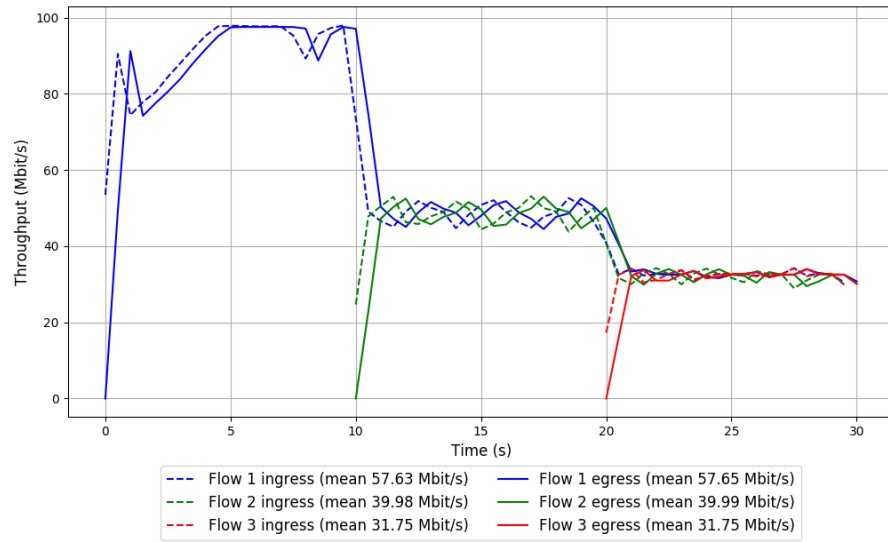


Run 3: Statistics of TCP Cubic

Start at: 2019-06-28 12:31:16  
End at: 2019-06-28 12:31:46  
Local clock offset: -1.547 ms  
Remote clock offset: -5.248 ms

# Below is generated by plot.py at 2019-06-28 13:49:29  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.81 Mbit/s  
95th percentile per-packet one-way delay: 30.670 ms  
Loss rate: 0.10%  
-- Flow 1:  
Average throughput: 57.65 Mbit/s  
95th percentile per-packet one-way delay: 30.816 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 39.99 Mbit/s  
95th percentile per-packet one-way delay: 30.706 ms  
Loss rate: 0.12%  
-- Flow 3:  
Average throughput: 31.75 Mbit/s  
95th percentile per-packet one-way delay: 27.829 ms  
Loss rate: 0.26%

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

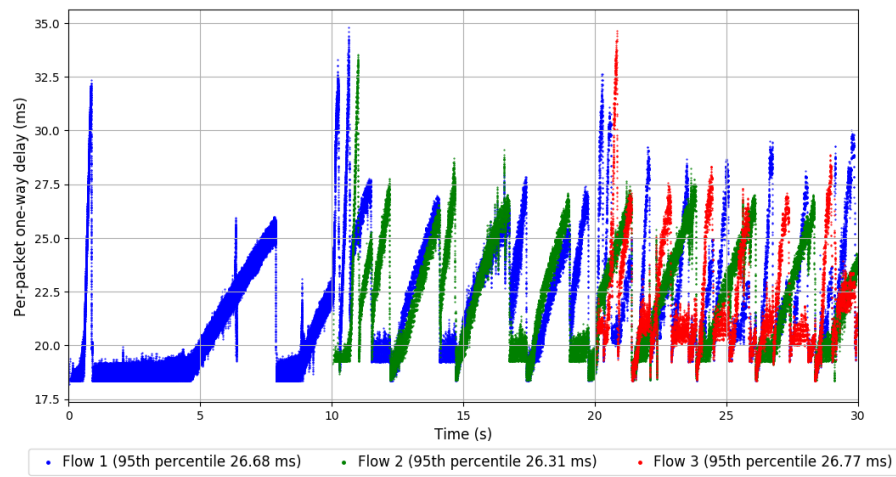
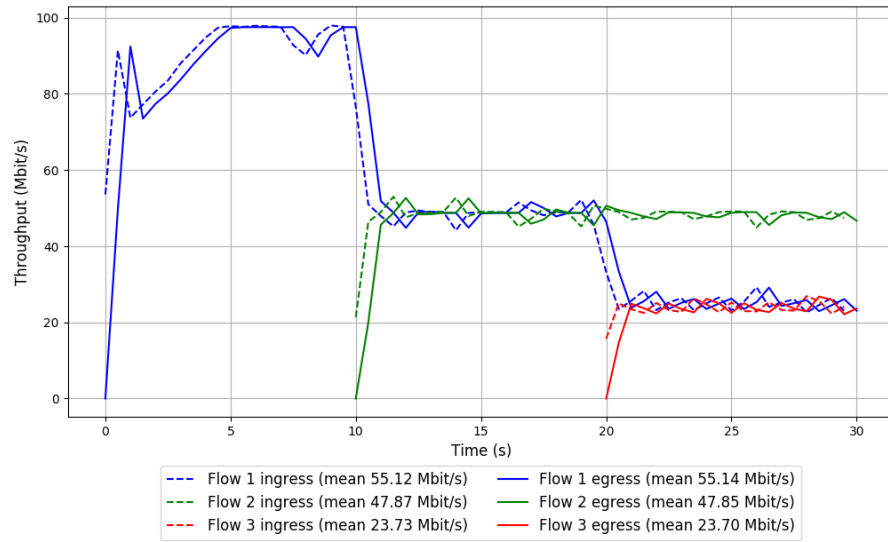


Run 4: Statistics of TCP Cubic

Start at: 2019-06-28 12:57:49  
End at: 2019-06-28 12:58:19  
Local clock offset: -0.762 ms  
Remote clock offset: -4.169 ms

# Below is generated by plot.py at 2019-06-28 13:49:30  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.86 Mbit/s  
95th percentile per-packet one-way delay: 26.506 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 55.14 Mbit/s  
95th percentile per-packet one-way delay: 26.677 ms  
Loss rate: 0.05%  
-- Flow 2:  
Average throughput: 47.85 Mbit/s  
95th percentile per-packet one-way delay: 26.312 ms  
Loss rate: 0.16%  
-- Flow 3:  
Average throughput: 23.70 Mbit/s  
95th percentile per-packet one-way delay: 26.771 ms  
Loss rate: 0.35%

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



Run 5: Statistics of TCP Cubic

Start at: 2019-06-28 13:24:43

End at: 2019-06-28 13:25:13

Local clock offset: -0.924 ms

Remote clock offset: -5.16 ms

# Below is generated by plot.py at 2019-06-28 13:49:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.83 Mbit/s

95th percentile per-packet one-way delay: 29.183 ms

Loss rate: 0.12%

-- Flow 1:

Average throughput: 57.93 Mbit/s

95th percentile per-packet one-way delay: 26.464 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 39.53 Mbit/s

95th percentile per-packet one-way delay: 30.267 ms

Loss rate: 0.16%

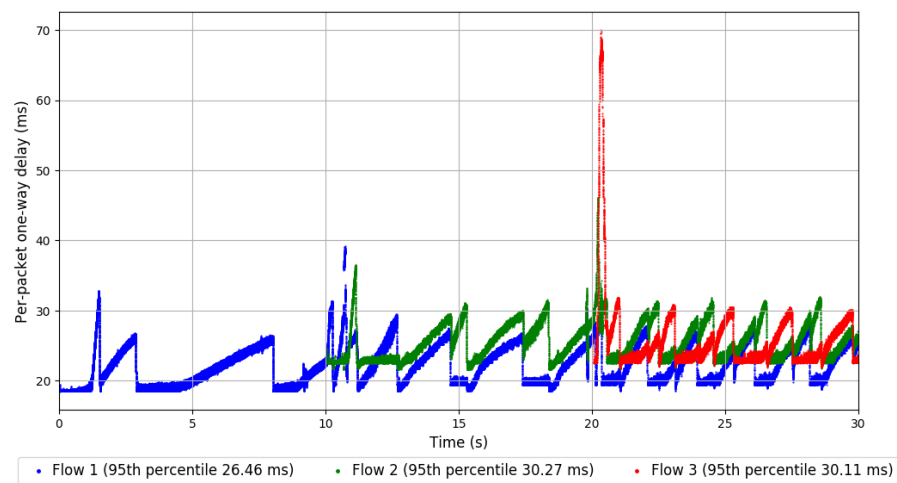
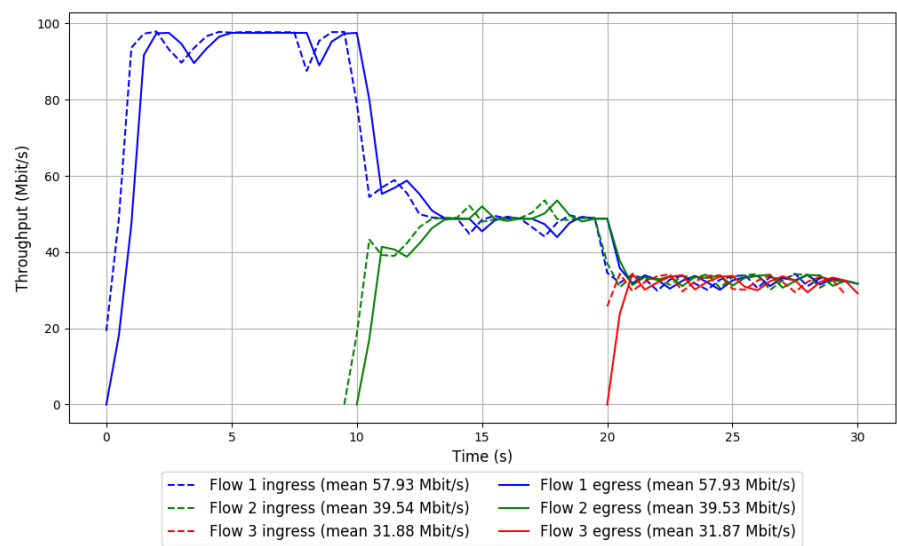
-- Flow 3:

Average throughput: 31.87 Mbit/s

95th percentile per-packet one-way delay: 30.106 ms

Loss rate: 0.29%

Run 5: Report of TCP Cubic — Data Link

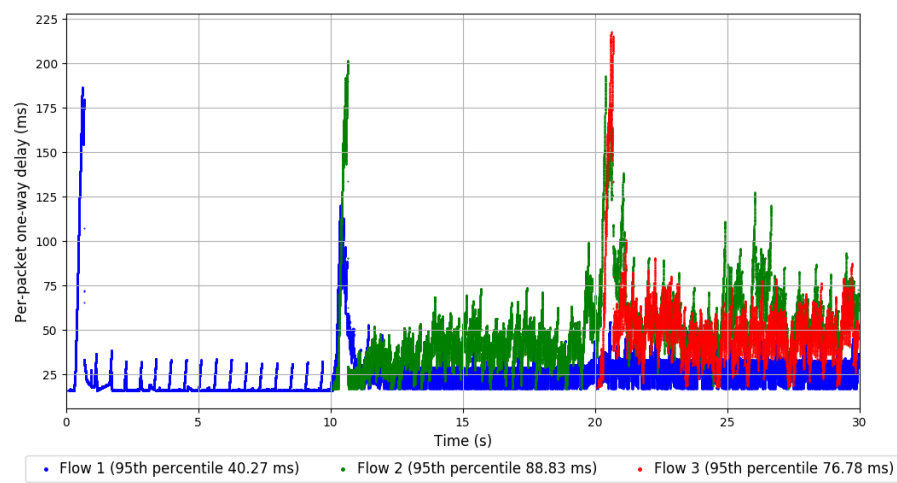
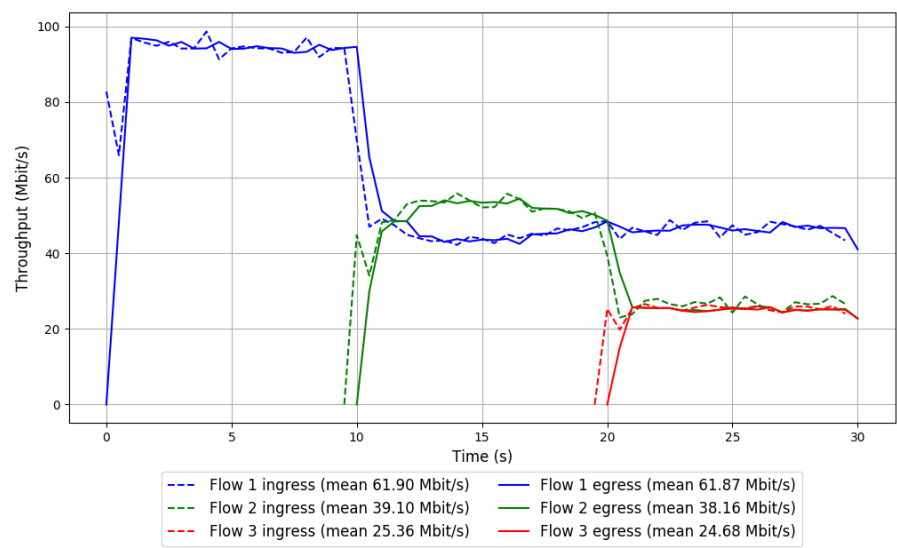


Run 1: Statistics of FillP

Start at: 2019-06-28 11:42:28  
End at: 2019-06-28 11:42:58  
Local clock offset: -1.318 ms  
Remote clock offset: -0.658 ms

# Below is generated by plot.py at 2019-06-28 13:49:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.47 Mbit/s  
95th percentile per-packet one-way delay: 70.434 ms  
Loss rate: 1.00%  
-- Flow 1:  
Average throughput: 61.87 Mbit/s  
95th percentile per-packet one-way delay: 40.271 ms  
Loss rate: 0.12%  
-- Flow 2:  
Average throughput: 38.16 Mbit/s  
95th percentile per-packet one-way delay: 88.832 ms  
Loss rate: 2.50%  
-- Flow 3:  
Average throughput: 24.68 Mbit/s  
95th percentile per-packet one-way delay: 76.784 ms  
Loss rate: 2.79%

Run 1: Report of FillP — Data Link



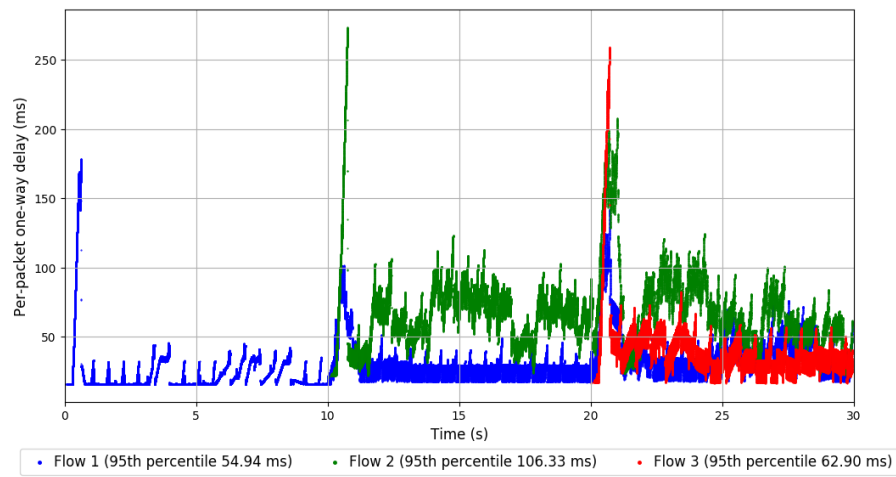
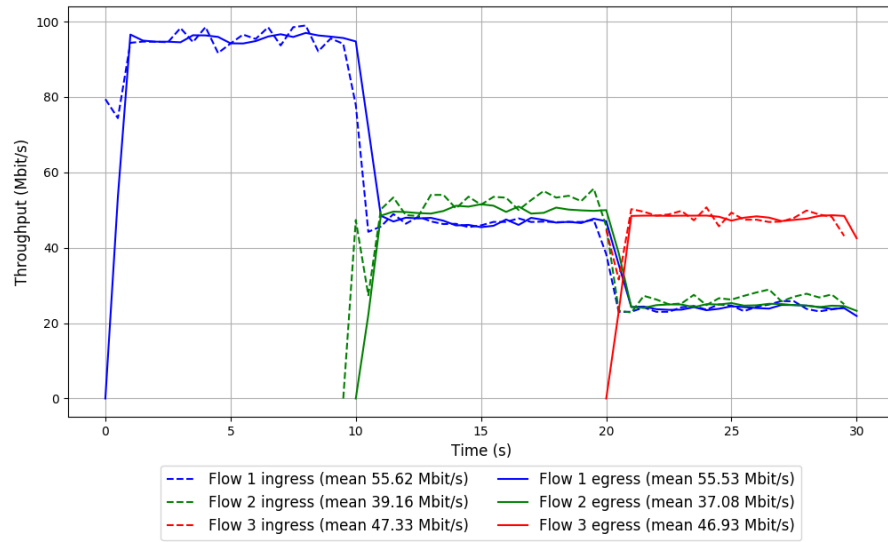


Run 2: Statistics of FillP

Start at: 2019-06-28 12:09:39  
End at: 2019-06-28 12:10:09  
Local clock offset: -1.579 ms  
Remote clock offset: -2.239 ms

# Below is generated by plot.py at 2019-06-28 13:50:06  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.79 Mbit/s  
95th percentile per-packet one-way delay: 88.637 ms  
Loss rate: 1.77%  
-- Flow 1:  
Average throughput: 55.53 Mbit/s  
95th percentile per-packet one-way delay: 54.939 ms  
Loss rate: 0.24%  
-- Flow 2:  
Average throughput: 37.08 Mbit/s  
95th percentile per-packet one-way delay: 106.331 ms  
Loss rate: 5.43%  
-- Flow 3:  
Average throughput: 46.93 Mbit/s  
95th percentile per-packet one-way delay: 62.900 ms  
Loss rate: 1.09%

## Run 2: Report of FillP — Data Link

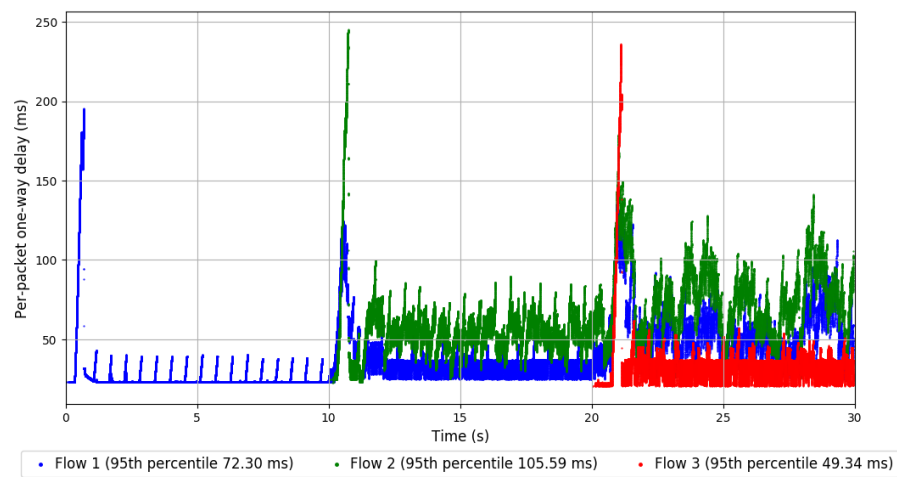
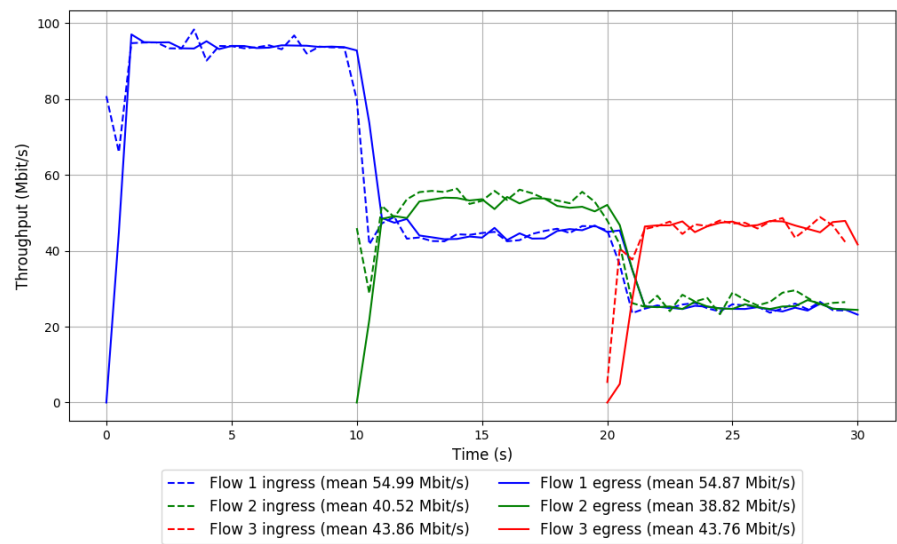


Run 3: Statistics of FillP

Start at: 2019-06-28 12:36:15  
End at: 2019-06-28 12:36:45  
Local clock offset: -0.722 ms  
Remote clock offset: -5.156 ms

# Below is generated by plot.py at 2019-06-28 13:50:07  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.22 Mbit/s  
95th percentile per-packet one-way delay: 88.678 ms  
Loss rate: 1.44%  
-- Flow 1:  
Average throughput: 54.87 Mbit/s  
95th percentile per-packet one-way delay: 72.297 ms  
Loss rate: 0.31%  
-- Flow 2:  
Average throughput: 38.82 Mbit/s  
95th percentile per-packet one-way delay: 105.589 ms  
Loss rate: 4.30%  
-- Flow 3:  
Average throughput: 43.76 Mbit/s  
95th percentile per-packet one-way delay: 49.339 ms  
Loss rate: 0.45%

Run 3: Report of FillP — Data Link

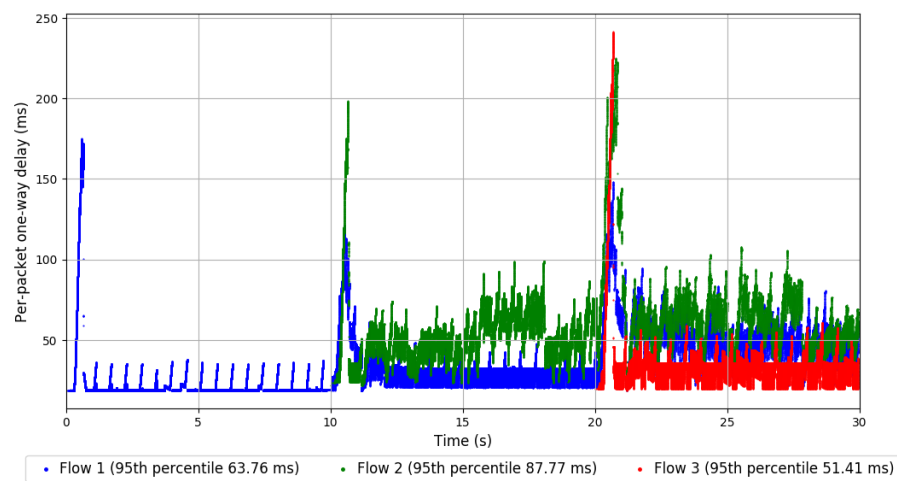
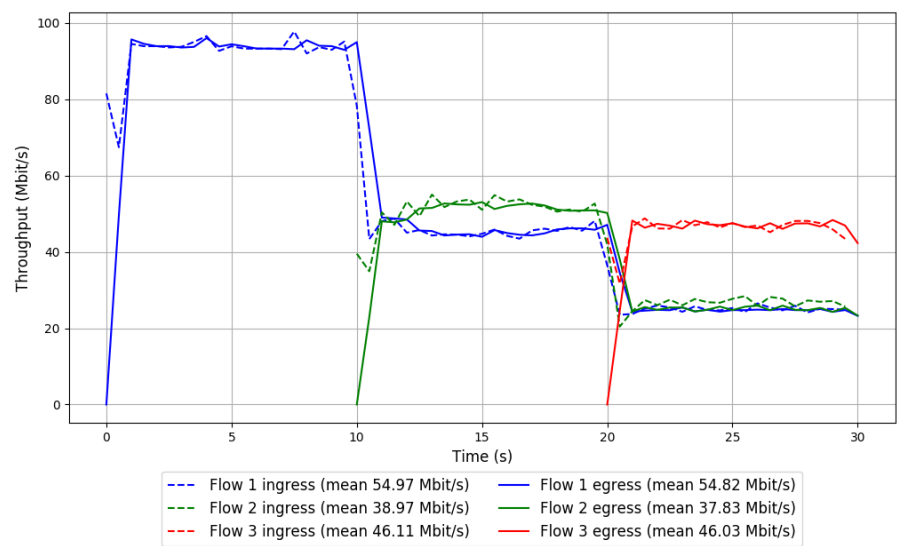


Run 4: Statistics of FillP

Start at: 2019-06-28 13:02:45  
End at: 2019-06-28 13:03:15  
Local clock offset: -2.045 ms  
Remote clock offset: -5.792 ms

# Below is generated by plot.py at 2019-06-28 13:50:08  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.27 Mbit/s  
95th percentile per-packet one-way delay: 76.574 ms  
Loss rate: 1.09%  
-- Flow 1:  
Average throughput: 54.82 Mbit/s  
95th percentile per-packet one-way delay: 63.764 ms  
Loss rate: 0.36%  
-- Flow 2:  
Average throughput: 37.83 Mbit/s  
95th percentile per-packet one-way delay: 87.765 ms  
Loss rate: 3.04%  
-- Flow 3:  
Average throughput: 46.03 Mbit/s  
95th percentile per-packet one-way delay: 51.408 ms  
Loss rate: 0.42%

Run 4: Report of FillP — Data Link

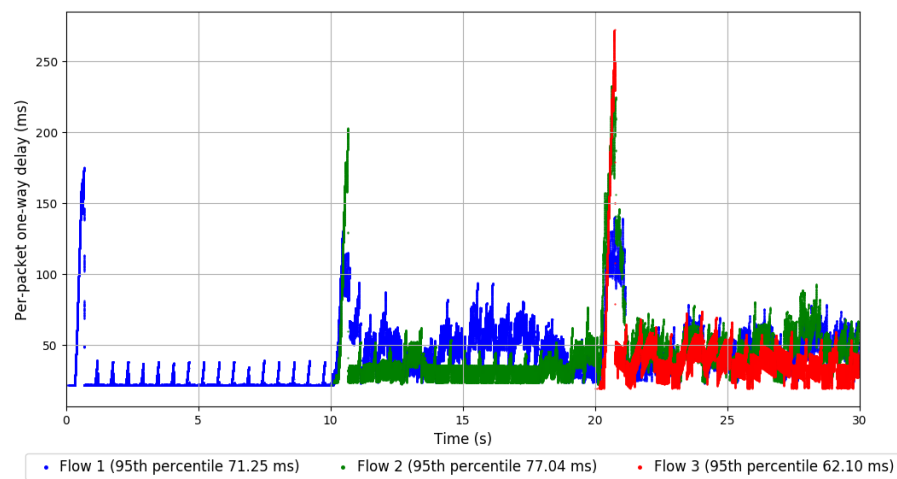
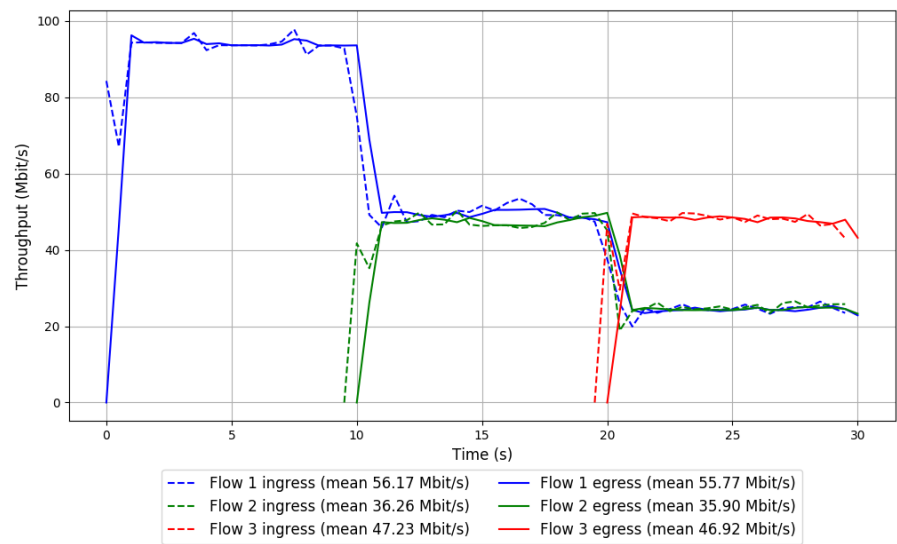


Run 5: Statistics of FillP

Start at: 2019-06-28 13:29:41  
End at: 2019-06-28 13:30:11  
Local clock offset: -0.478 ms  
Remote clock offset: -4.908 ms

# Below is generated by plot.py at 2019-06-28 13:50:55  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.27 Mbit/s  
95th percentile per-packet one-way delay: 71.409 ms  
Loss rate: 0.87%  
-- Flow 1:  
Average throughput: 55.77 Mbit/s  
95th percentile per-packet one-way delay: 71.246 ms  
Loss rate: 0.79%  
-- Flow 2:  
Average throughput: 35.90 Mbit/s  
95th percentile per-packet one-way delay: 77.036 ms  
Loss rate: 1.13%  
-- Flow 3:  
Average throughput: 46.92 Mbit/s  
95th percentile per-packet one-way delay: 62.103 ms  
Loss rate: 0.74%

Run 5: Report of FillP — Data Link



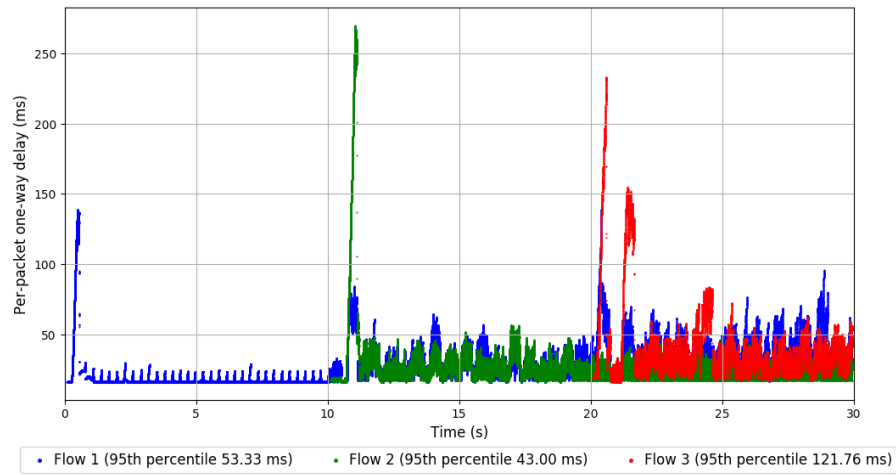
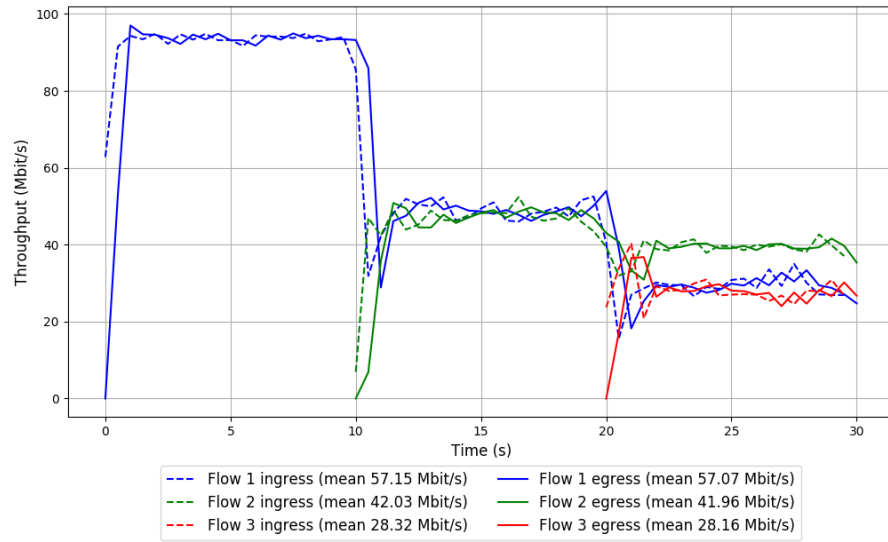


Run 1: Statistics of FillP-Sheep

Start at: 2019-06-28 11:31:28  
End at: 2019-06-28 11:31:58  
Local clock offset: -1.233 ms  
Remote clock offset: -0.684 ms

# Below is generated by plot.py at 2019-06-28 13:50:55  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.34 Mbit/s  
95th percentile per-packet one-way delay: 53.617 ms  
Loss rate: 0.26%  
-- Flow 1:  
Average throughput: 57.07 Mbit/s  
95th percentile per-packet one-way delay: 53.327 ms  
Loss rate: 0.19%  
-- Flow 2:  
Average throughput: 41.96 Mbit/s  
95th percentile per-packet one-way delay: 42.998 ms  
Loss rate: 0.25%  
-- Flow 3:  
Average throughput: 28.16 Mbit/s  
95th percentile per-packet one-way delay: 121.757 ms  
Loss rate: 0.75%

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

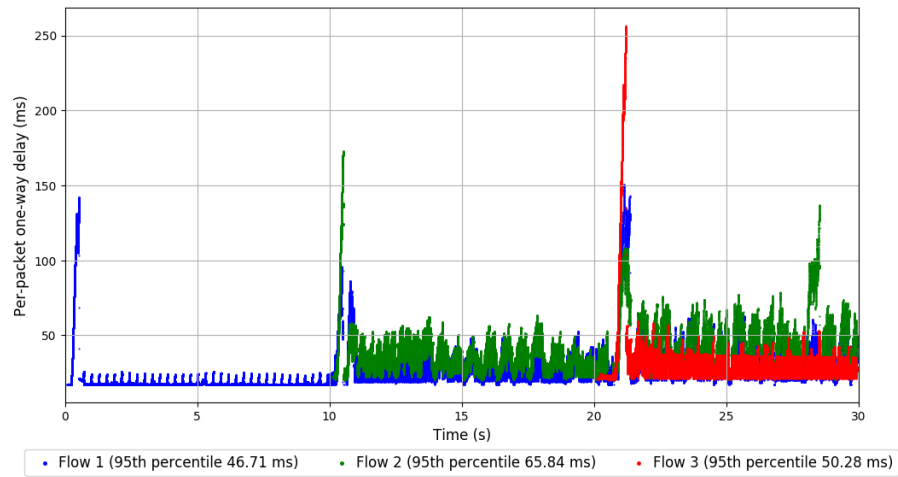
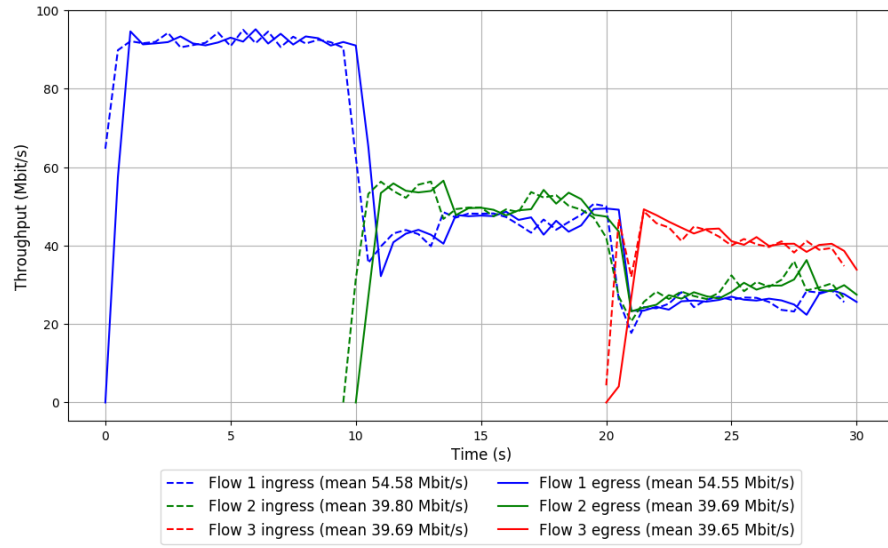


Run 2: Statistics of FillP-Sheep

Start at: 2019-06-28 11:58:34  
End at: 2019-06-28 11:59:04  
Local clock offset: -1.568 ms  
Remote clock offset: -2.076 ms

# Below is generated by plot.py at 2019-06-28 13:50:55  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.11 Mbit/s  
95th percentile per-packet one-way delay: 57.169 ms  
Loss rate: 0.22%  
-- Flow 1:  
Average throughput: 54.55 Mbit/s  
95th percentile per-packet one-way delay: 46.712 ms  
Loss rate: 0.10%  
-- Flow 2:  
Average throughput: 39.69 Mbit/s  
95th percentile per-packet one-way delay: 65.836 ms  
Loss rate: 0.35%  
-- Flow 3:  
Average throughput: 39.65 Mbit/s  
95th percentile per-packet one-way delay: 50.280 ms  
Loss rate: 0.48%

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

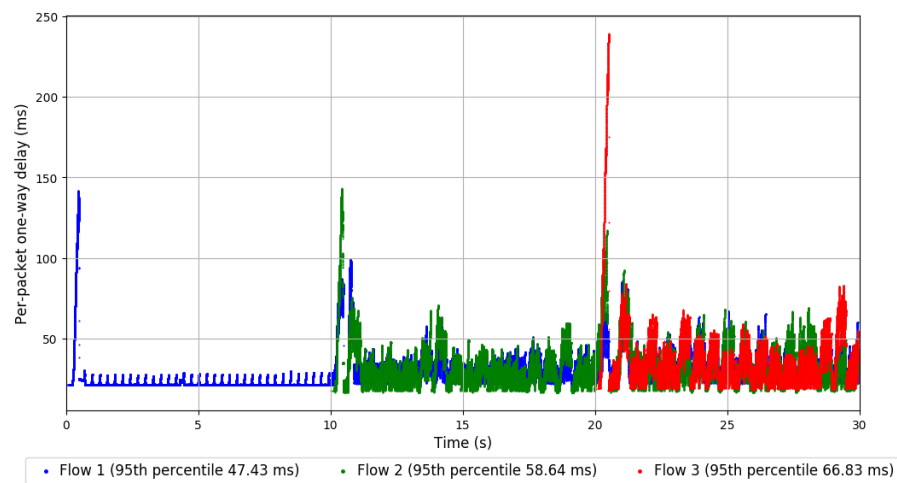
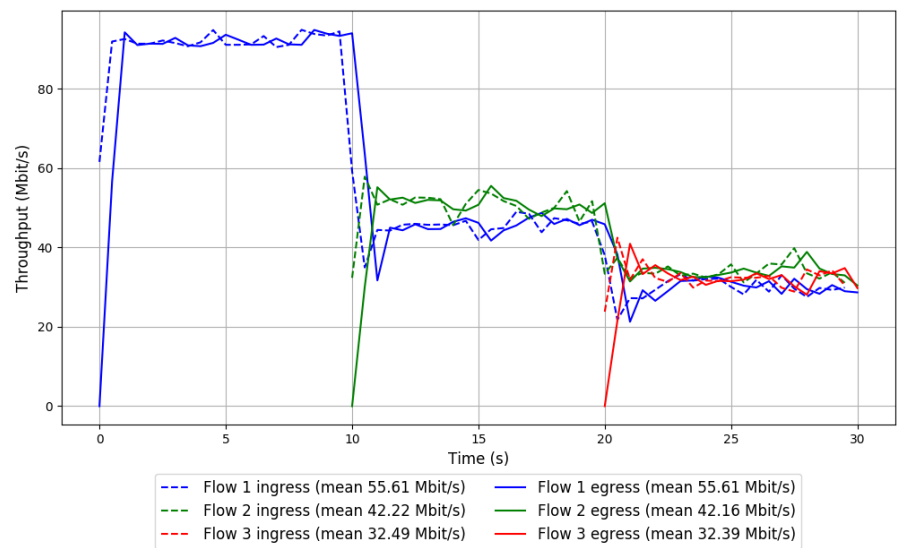


Run 3: Statistics of FillP-Sheep

Start at: 2019-06-28 12:25:18  
End at: 2019-06-28 12:25:48  
Local clock offset: -1.585 ms  
Remote clock offset: -3.634 ms

# Below is generated by plot.py at 2019-06-28 13:50:55  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.42 Mbit/s  
95th percentile per-packet one-way delay: 55.908 ms  
Loss rate: 0.17%  
-- Flow 1:  
Average throughput: 55.61 Mbit/s  
95th percentile per-packet one-way delay: 47.428 ms  
Loss rate: 0.10%  
-- Flow 2:  
Average throughput: 42.16 Mbit/s  
95th percentile per-packet one-way delay: 58.638 ms  
Loss rate: 0.24%  
-- Flow 3:  
Average throughput: 32.39 Mbit/s  
95th percentile per-packet one-way delay: 66.826 ms  
Loss rate: 0.40%

Run 3: Report of FillP-Sheep — Data Link

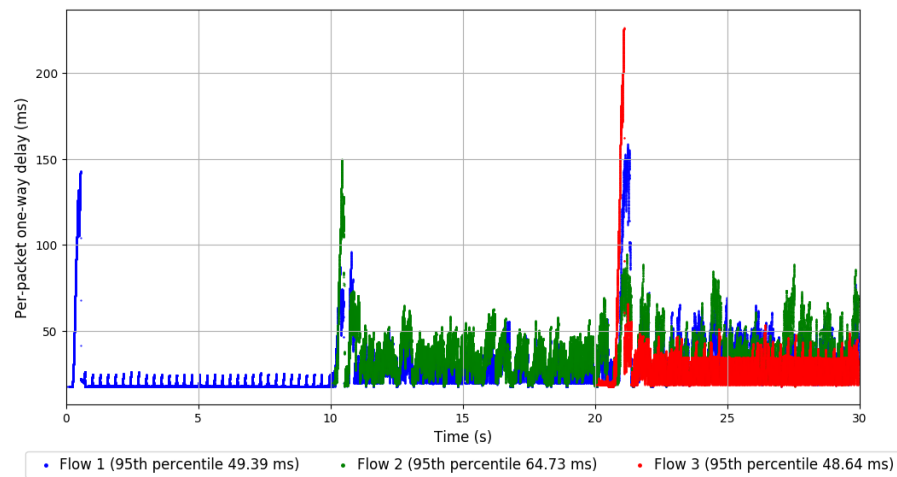
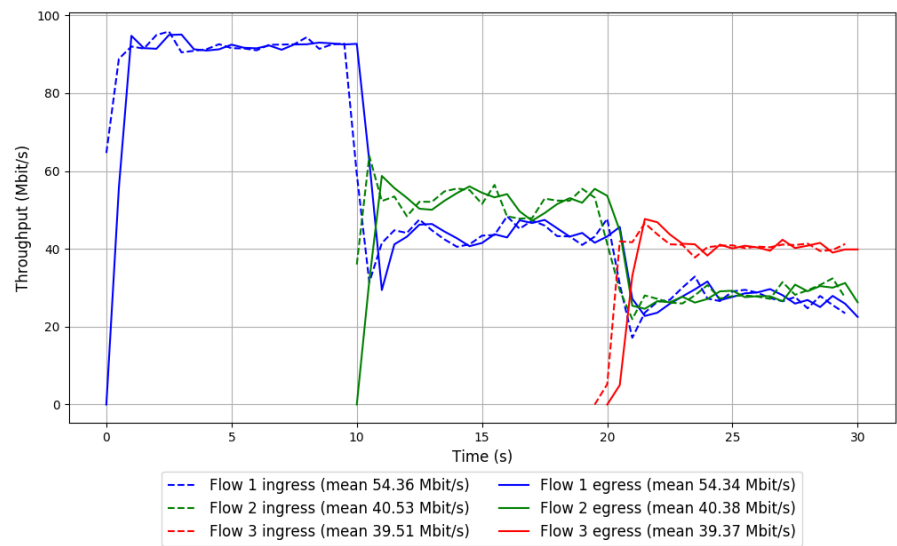


Run 4: Statistics of FillP-Sheep

Start at: 2019-06-28 12:51:58  
End at: 2019-06-28 12:52:28  
Local clock offset: -2.249 ms  
Remote clock offset: -5.252 ms

# Below is generated by plot.py at 2019-06-28 13:51:20  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.30 Mbit/s  
95th percentile per-packet one-way delay: 56.830 ms  
Loss rate: 0.27%  
-- Flow 1:  
Average throughput: 54.34 Mbit/s  
95th percentile per-packet one-way delay: 49.393 ms  
Loss rate: 0.11%  
-- Flow 2:  
Average throughput: 40.38 Mbit/s  
95th percentile per-packet one-way delay: 64.727 ms  
Loss rate: 0.50%  
-- Flow 3:  
Average throughput: 39.37 Mbit/s  
95th percentile per-packet one-way delay: 48.637 ms  
Loss rate: 0.48%

Run 4: Report of FillP-Sheep — Data Link



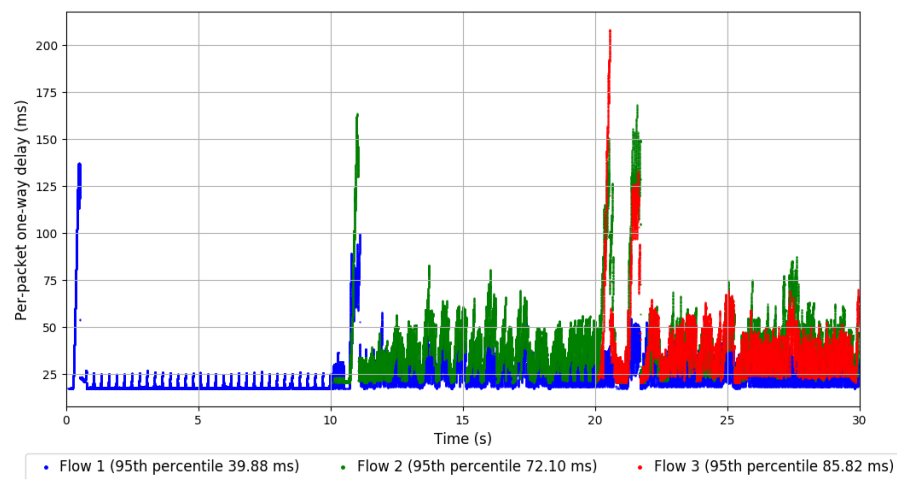
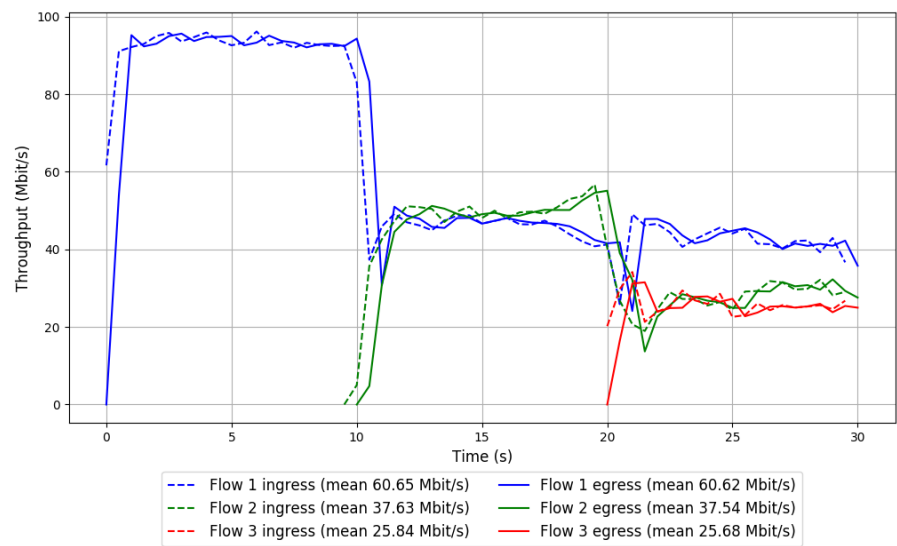


Run 5: Statistics of FillP-Sheep

Start at: 2019-06-28 13:18:42  
End at: 2019-06-28 13:19:12  
Local clock offset: -1.876 ms  
Remote clock offset: -4.655 ms

```
# Below is generated by plot.py at 2019-06-28 13:51:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.13 Mbit/s
95th percentile per-packet one-way delay: 56.513 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 60.62 Mbit/s
95th percentile per-packet one-way delay: 39.880 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 37.54 Mbit/s
95th percentile per-packet one-way delay: 72.103 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 25.68 Mbit/s
95th percentile per-packet one-way delay: 85.822 ms
Loss rate: 0.86%
```

Run 5: Report of FillP-Sheep — Data Link

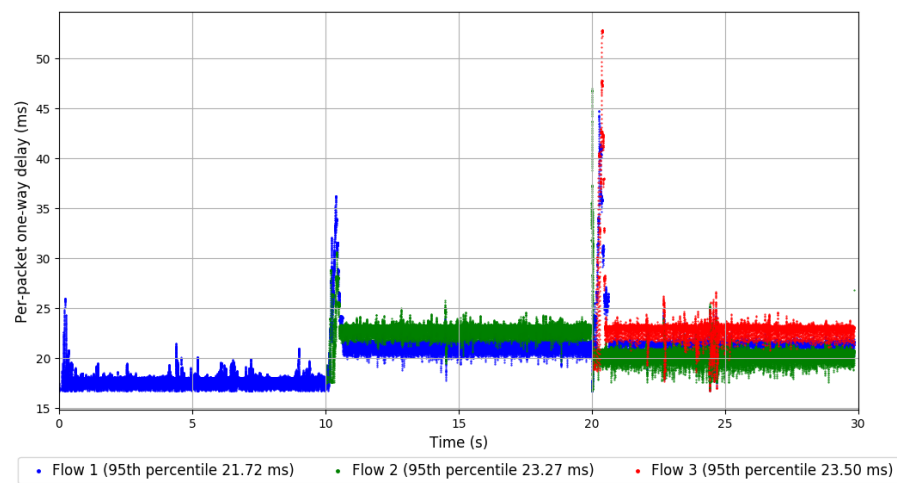
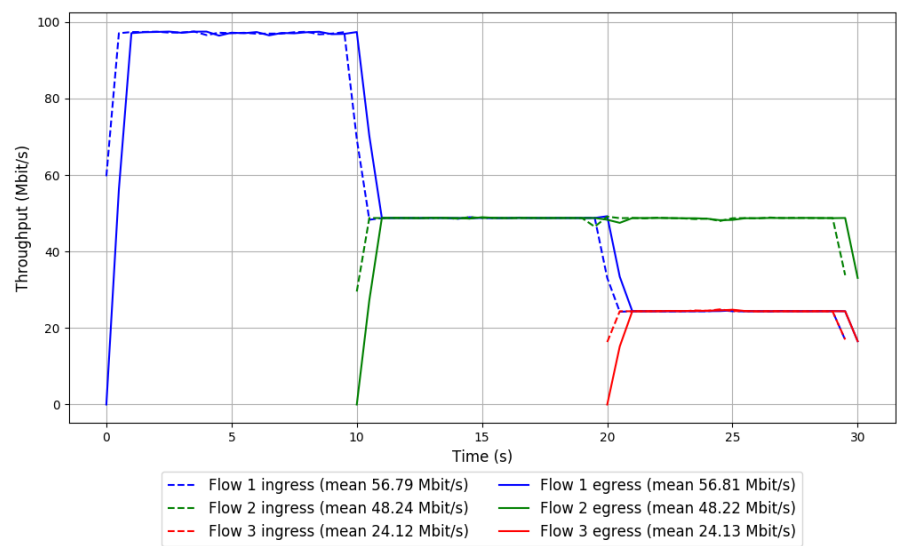


Run 1: Statistics of Indigo

Start at: 2019-06-28 11:41:08  
End at: 2019-06-28 11:41:38  
Local clock offset: -0.656 ms  
Remote clock offset: -0.746 ms

# Below is generated by plot.py at 2019-06-28 13:51:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.73 Mbit/s  
95th percentile per-packet one-way delay: 23.242 ms  
Loss rate: 0.10%  
-- Flow 1:  
Average throughput: 56.81 Mbit/s  
95th percentile per-packet one-way delay: 21.721 ms  
Loss rate: 0.05%  
-- Flow 2:  
Average throughput: 48.22 Mbit/s  
95th percentile per-packet one-way delay: 23.268 ms  
Loss rate: 0.14%  
-- Flow 3:  
Average throughput: 24.13 Mbit/s  
95th percentile per-packet one-way delay: 23.504 ms  
Loss rate: 0.32%

Run 1: Report of Indigo — Data Link

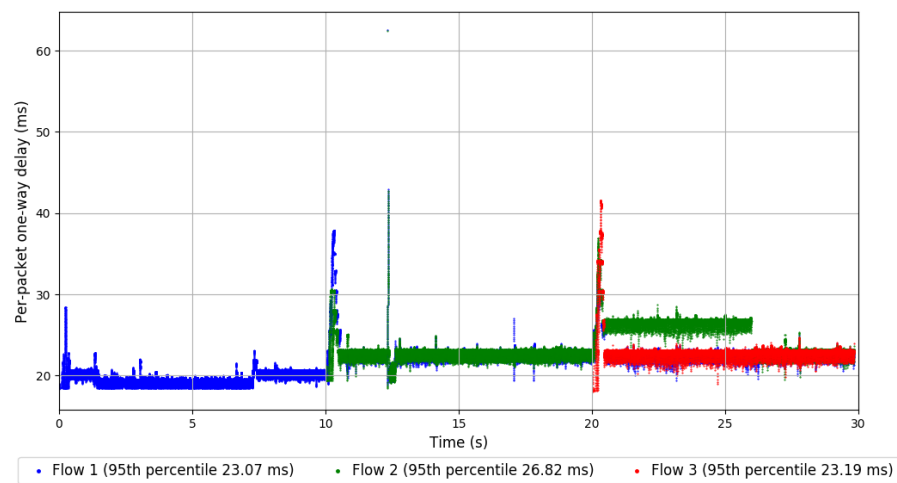
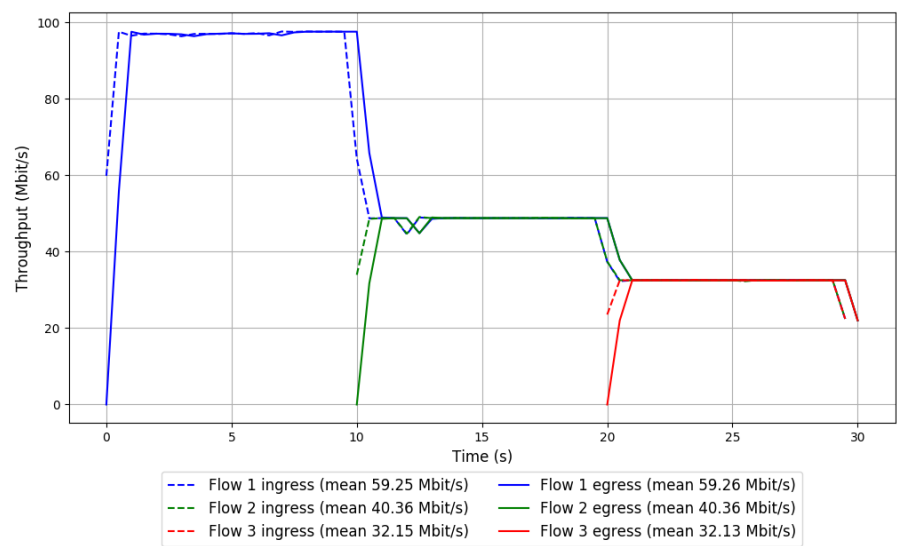


Run 2: Statistics of Indigo

Start at: 2019-06-28 12:08:24  
End at: 2019-06-28 12:08:54  
Local clock offset: -0.667 ms  
Remote clock offset: -2.447 ms

# Below is generated by plot.py at 2019-06-28 13:51:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.62 Mbit/s  
95th percentile per-packet one-way delay: 26.653 ms  
Loss rate: 0.10%  
-- Flow 1:  
Average throughput: 59.26 Mbit/s  
95th percentile per-packet one-way delay: 23.066 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 40.36 Mbit/s  
95th percentile per-packet one-way delay: 26.817 ms  
Loss rate: 0.13%  
-- Flow 3:  
Average throughput: 32.13 Mbit/s  
95th percentile per-packet one-way delay: 23.189 ms  
Loss rate: 0.30%

Run 2: Report of Indigo — Data Link

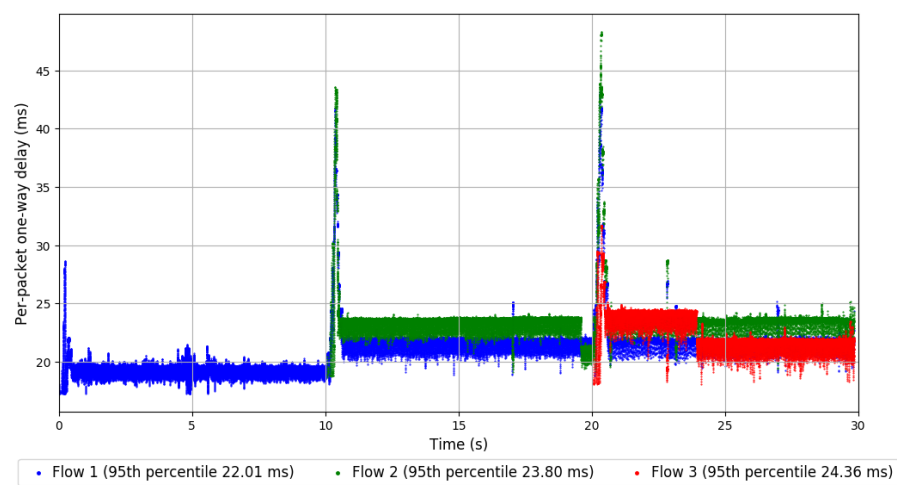
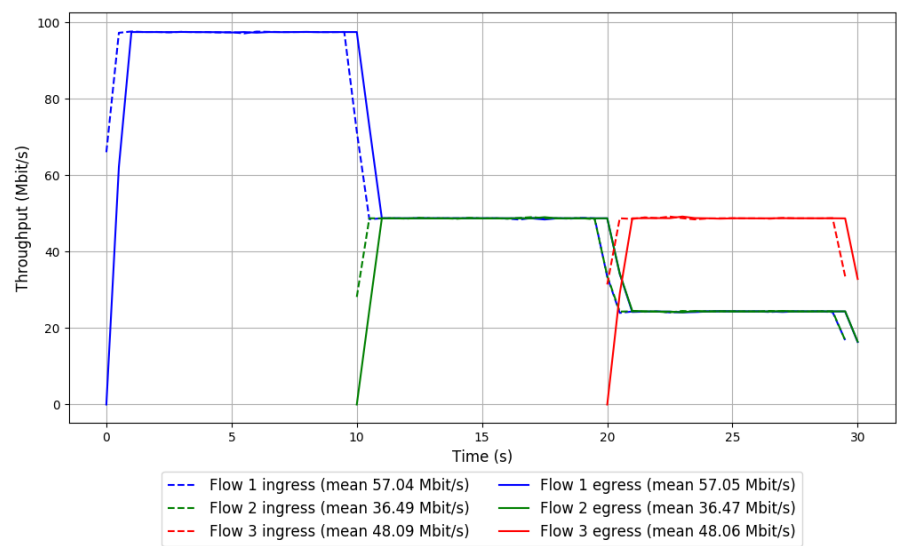


Run 3: Statistics of Indigo

Start at: 2019-06-28 12:35:01  
End at: 2019-06-28 12:35:31  
Local clock offset: -2.086 ms  
Remote clock offset: -3.907 ms

# Below is generated by plot.py at 2019-06-28 13:52:07  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.98 Mbit/s  
95th percentile per-packet one-way delay: 24.198 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 57.05 Mbit/s  
95th percentile per-packet one-way delay: 22.013 ms  
Loss rate: 0.05%  
-- Flow 2:  
Average throughput: 36.47 Mbit/s  
95th percentile per-packet one-way delay: 23.804 ms  
Loss rate: 0.20%  
-- Flow 3:  
Average throughput: 48.06 Mbit/s  
95th percentile per-packet one-way delay: 24.356 ms  
Loss rate: 0.30%

Run 3: Report of Indigo — Data Link



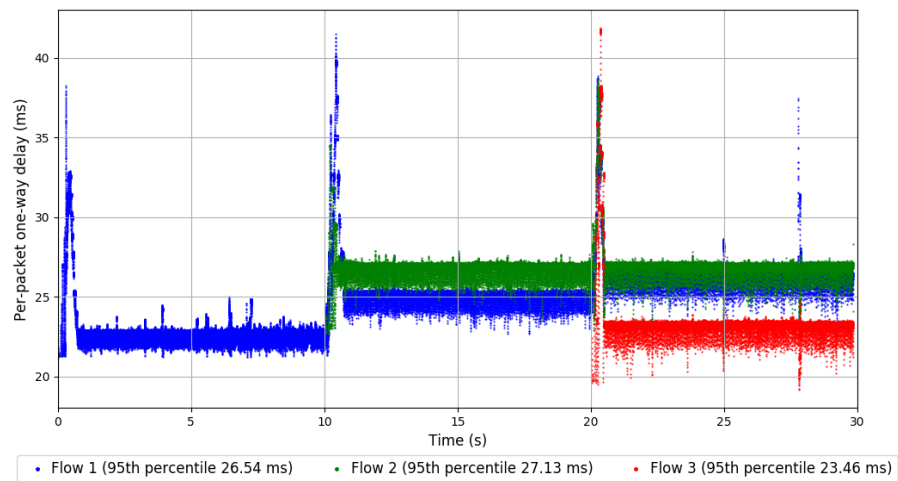
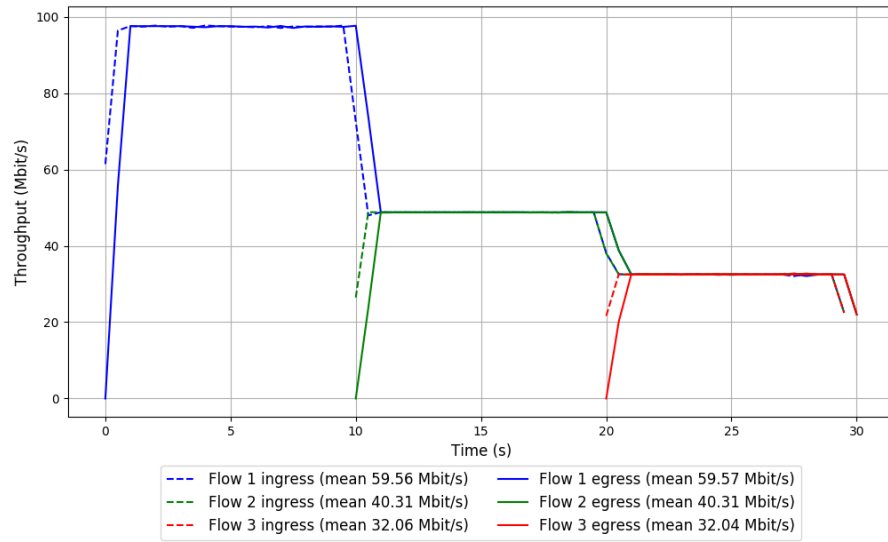


Run 4: Statistics of Indigo

Start at: 2019-06-28 13:01:30  
End at: 2019-06-28 13:02:00  
Local clock offset: -2.284 ms  
Remote clock offset: -5.567 ms

# Below is generated by plot.py at 2019-06-28 13:52:08  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.86 Mbit/s  
95th percentile per-packet one-way delay: 27.098 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 59.57 Mbit/s  
95th percentile per-packet one-way delay: 26.540 ms  
Loss rate: 0.07%  
-- Flow 2:  
Average throughput: 40.31 Mbit/s  
95th percentile per-packet one-way delay: 27.133 ms  
Loss rate: 0.14%  
-- Flow 3:  
Average throughput: 32.04 Mbit/s  
95th percentile per-packet one-way delay: 23.456 ms  
Loss rate: 0.31%

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

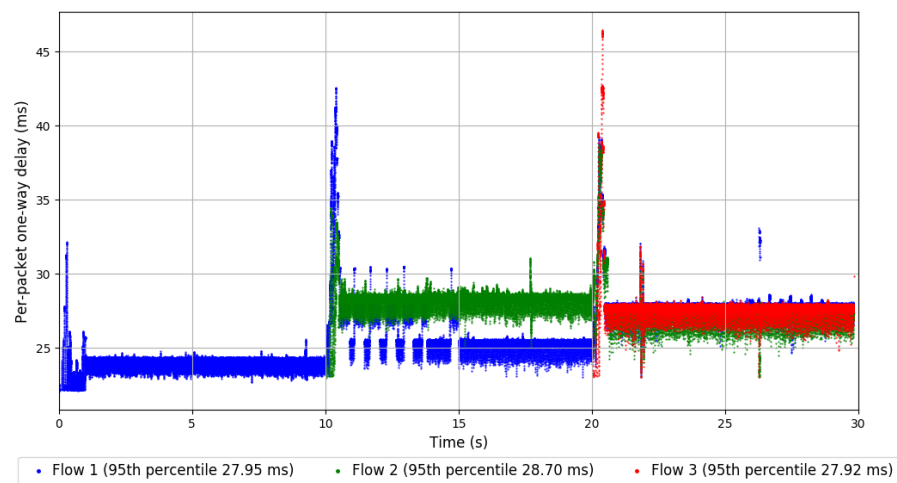
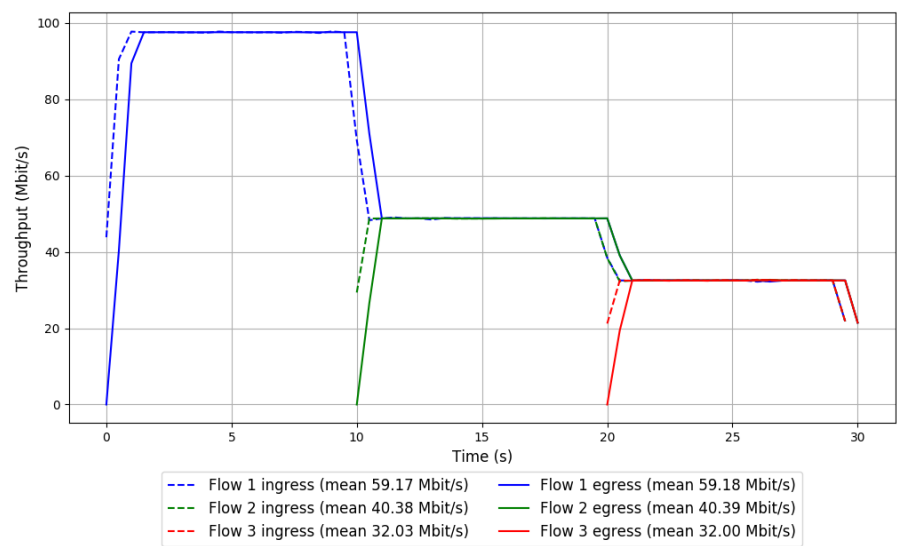


Run 5: Statistics of Indigo

Start at: 2019-06-28 13:28:27  
End at: 2019-06-28 13:28:57  
Local clock offset: -0.899 ms  
Remote clock offset: -5.867 ms

# Below is generated by plot.py at 2019-06-28 13:52:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.50 Mbit/s  
95th percentile per-packet one-way delay: 28.539 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 59.18 Mbit/s  
95th percentile per-packet one-way delay: 27.950 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 40.39 Mbit/s  
95th percentile per-packet one-way delay: 28.695 ms  
Loss rate: 0.14%  
-- Flow 3:  
Average throughput: 32.00 Mbit/s  
95th percentile per-packet one-way delay: 27.921 ms  
Loss rate: 0.35%

Run 5: Report of Indigo — Data Link

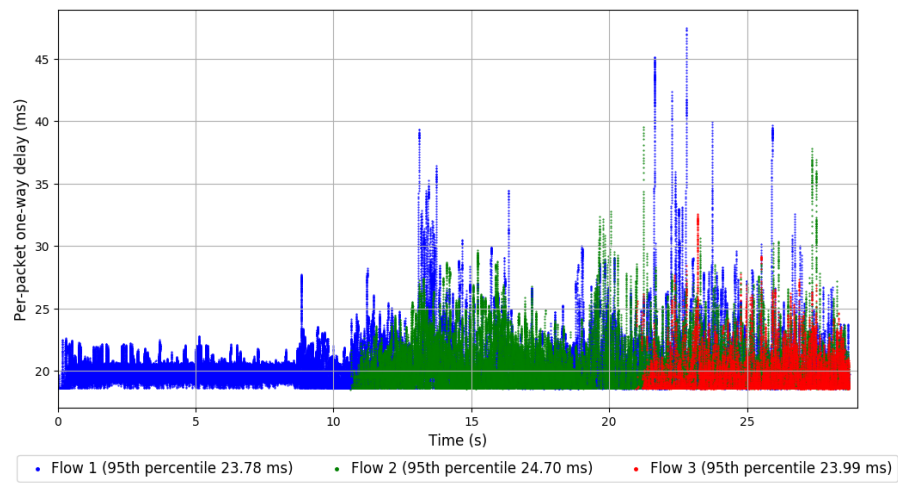
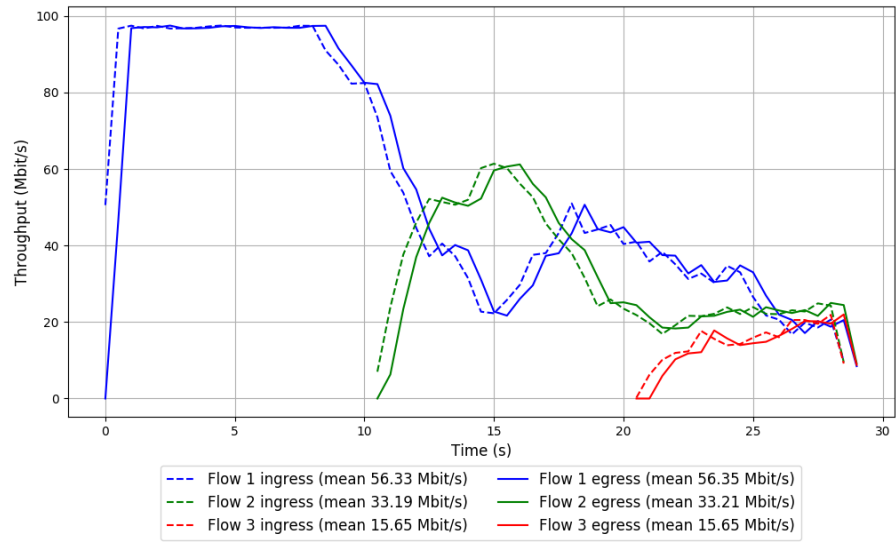


Run 1: Statistics of Indigo-MusesC3

Start at: 2019-06-28 11:36:10  
End at: 2019-06-28 11:36:40  
Local clock offset: -1.375 ms  
Remote clock offset: -3.277 ms

# Below is generated by plot.py at 2019-06-28 13:52:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 81.51 Mbit/s  
95th percentile per-packet one-way delay: 24.171 ms  
Loss rate: 0.09%  
-- Flow 1:  
Average throughput: 56.35 Mbit/s  
95th percentile per-packet one-way delay: 23.781 ms  
Loss rate: 0.05%  
-- Flow 2:  
Average throughput: 33.21 Mbit/s  
95th percentile per-packet one-way delay: 24.704 ms  
Loss rate: 0.15%  
-- Flow 3:  
Average throughput: 15.65 Mbit/s  
95th percentile per-packet one-way delay: 23.993 ms  
Loss rate: 0.38%

# Run 1: Report of Indigo-MusesC3 — Data Link

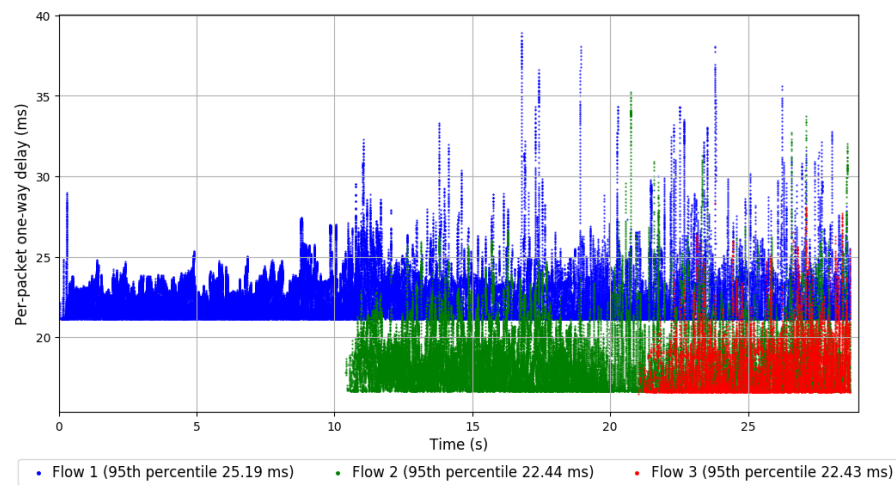
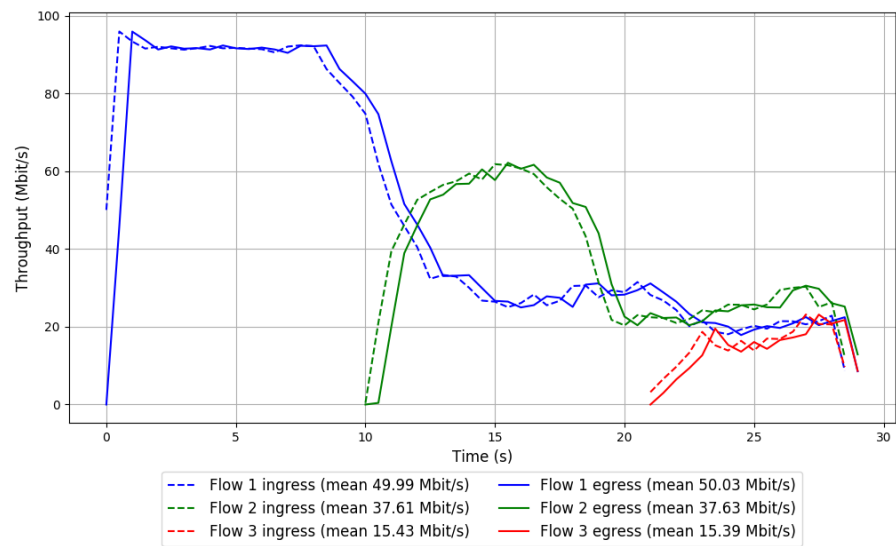


Run 2: Statistics of Indigo-MusesC3

Start at: 2019-06-28 12:03:25  
End at: 2019-06-28 12:03:55  
Local clock offset: -1.659 ms  
Remote clock offset: -2.933 ms

# Below is generated by plot.py at 2019-06-28 13:52:18  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 78.16 Mbit/s  
95th percentile per-packet one-way delay: 24.604 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 50.03 Mbit/s  
95th percentile per-packet one-way delay: 25.190 ms  
Loss rate: 0.03%  
-- Flow 2:  
Average throughput: 37.63 Mbit/s  
95th percentile per-packet one-way delay: 22.441 ms  
Loss rate: 0.07%  
-- Flow 3:  
Average throughput: 15.39 Mbit/s  
95th percentile per-packet one-way delay: 22.431 ms  
Loss rate: 0.43%

Run 2: Report of Indigo-MusesC3 — Data Link



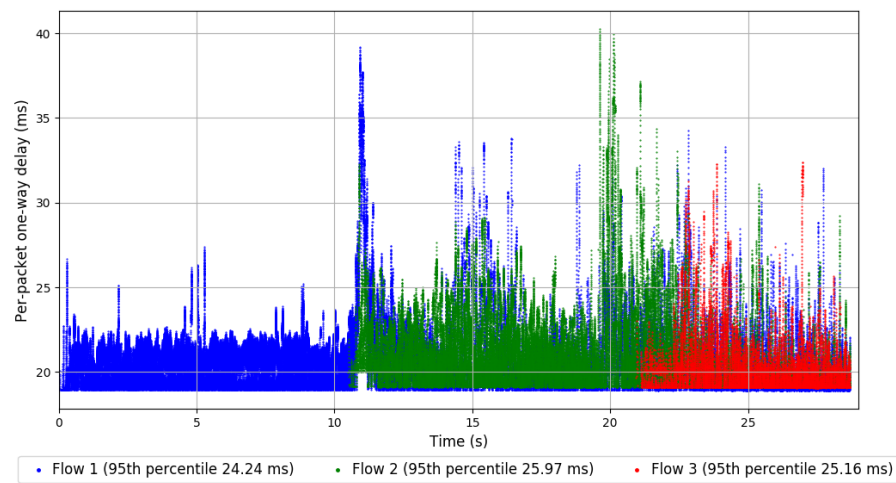
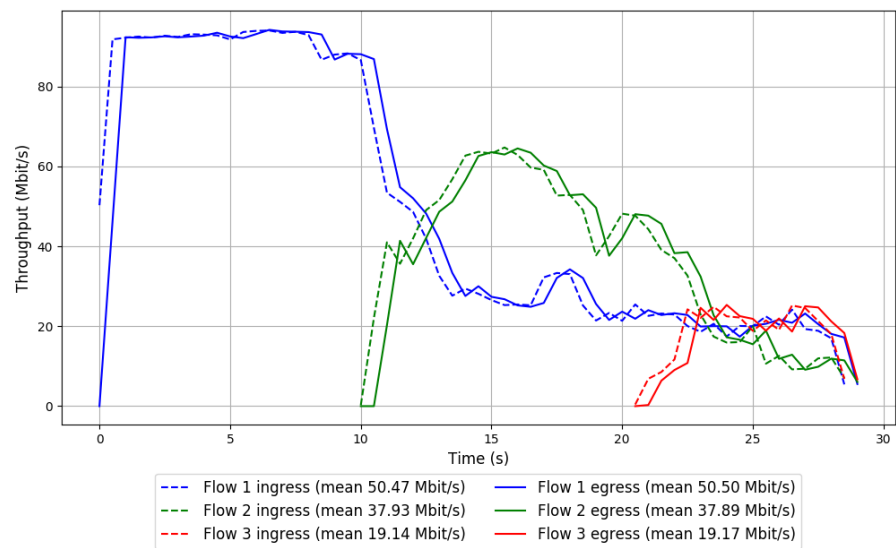


Run 3: Statistics of Indigo-MusesC3

Start at: 2019-06-28 12:30:03  
End at: 2019-06-28 12:30:33  
Local clock offset: -0.87 ms  
Remote clock offset: -4.222 ms

# Below is generated by plot.py at 2019-06-28 13:52:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 79.76 Mbit/s  
95th percentile per-packet one-way delay: 25.026 ms  
Loss rate: 0.07%  
-- Flow 1:  
Average throughput: 50.50 Mbit/s  
95th percentile per-packet one-way delay: 24.236 ms  
Loss rate: 0.02%  
-- Flow 2:  
Average throughput: 37.89 Mbit/s  
95th percentile per-packet one-way delay: 25.970 ms  
Loss rate: 0.14%  
-- Flow 3:  
Average throughput: 19.17 Mbit/s  
95th percentile per-packet one-way delay: 25.158 ms  
Loss rate: 0.27%

Run 3: Report of Indigo-MusesC3 — Data Link

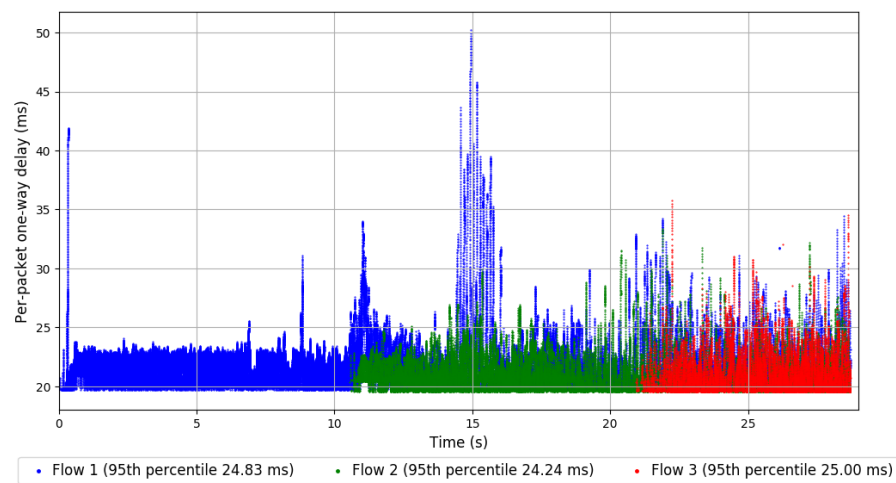
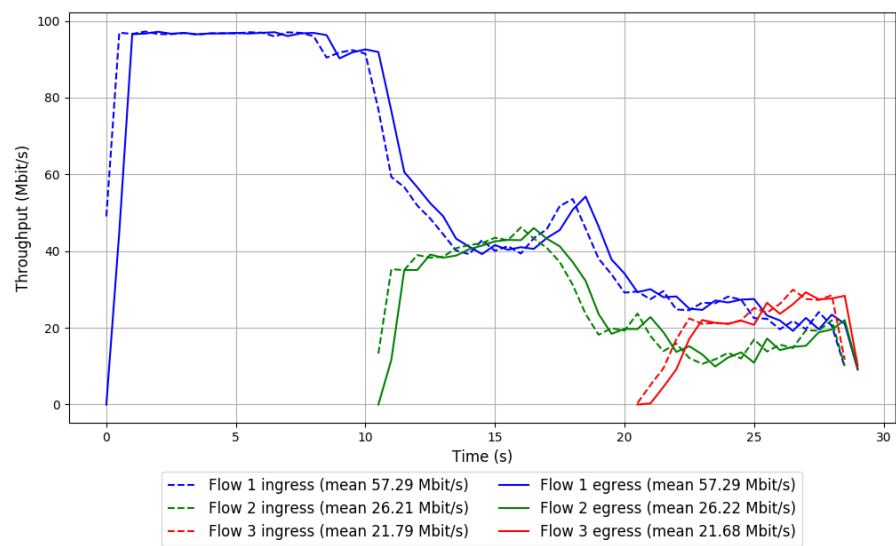


Run 4: Statistics of Indigo-MusesC3

Start at: 2019-06-28 12:56:38  
End at: 2019-06-28 12:57:08  
Local clock offset: -0.79 ms  
Remote clock offset: -5.572 ms

# Below is generated by plot.py at 2019-06-28 13:52:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 79.75 Mbit/s  
95th percentile per-packet one-way delay: 24.711 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 57.29 Mbit/s  
95th percentile per-packet one-way delay: 24.834 ms  
Loss rate: 0.04%  
-- Flow 2:  
Average throughput: 26.22 Mbit/s  
95th percentile per-packet one-way delay: 24.236 ms  
Loss rate: 0.15%  
-- Flow 3:  
Average throughput: 21.68 Mbit/s  
95th percentile per-packet one-way delay: 24.999 ms  
Loss rate: 0.76%

Run 4: Report of Indigo-MusesC3 — Data Link

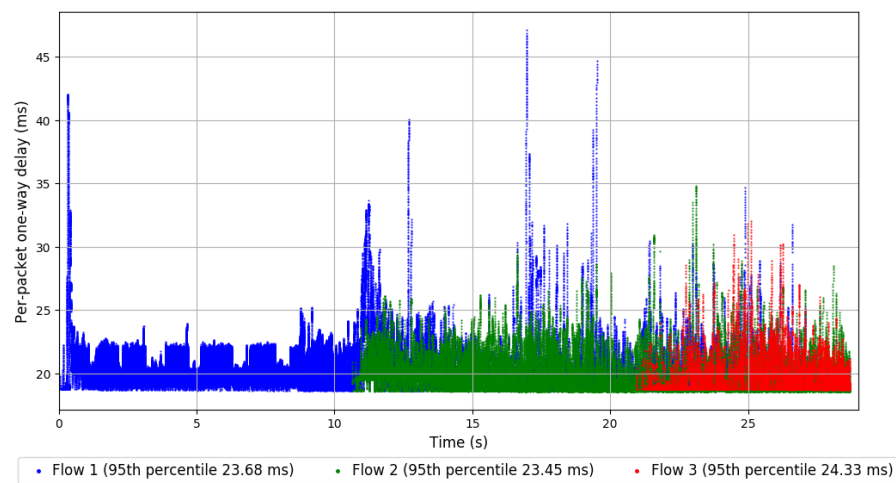
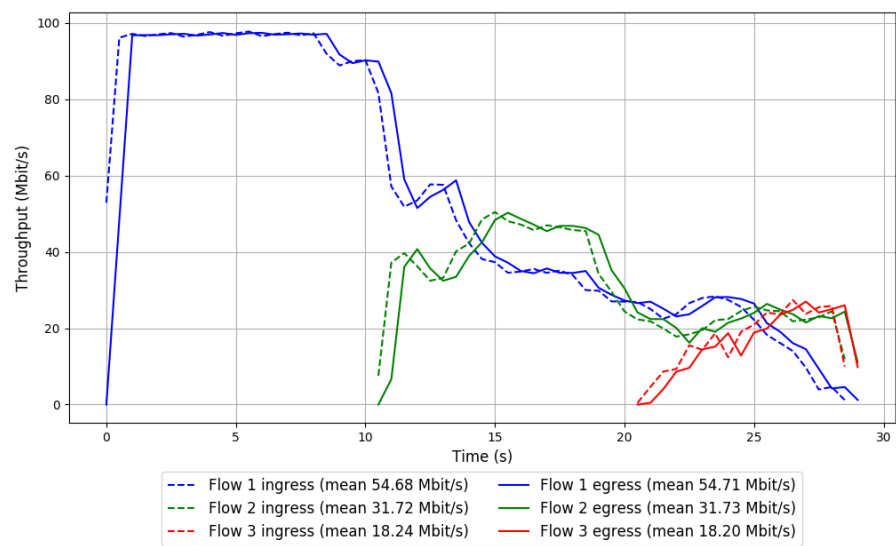


Run 5: Statistics of Indigo-MusesC3

Start at: 2019-06-28 13:23:30  
End at: 2019-06-28 13:24:00  
Local clock offset: -0.909 ms  
Remote clock offset: -5.362 ms

# Below is generated by plot.py at 2019-06-28 13:52:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 79.63 Mbit/s  
95th percentile per-packet one-way delay: 23.642 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 54.71 Mbit/s  
95th percentile per-packet one-way delay: 23.678 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 31.73 Mbit/s  
95th percentile per-packet one-way delay: 23.454 ms  
Loss rate: 0.15%  
-- Flow 3:  
Average throughput: 18.20 Mbit/s  
95th percentile per-packet one-way delay: 24.327 ms  
Loss rate: 0.42%

Run 5: Report of Indigo-MusesC3 — Data Link

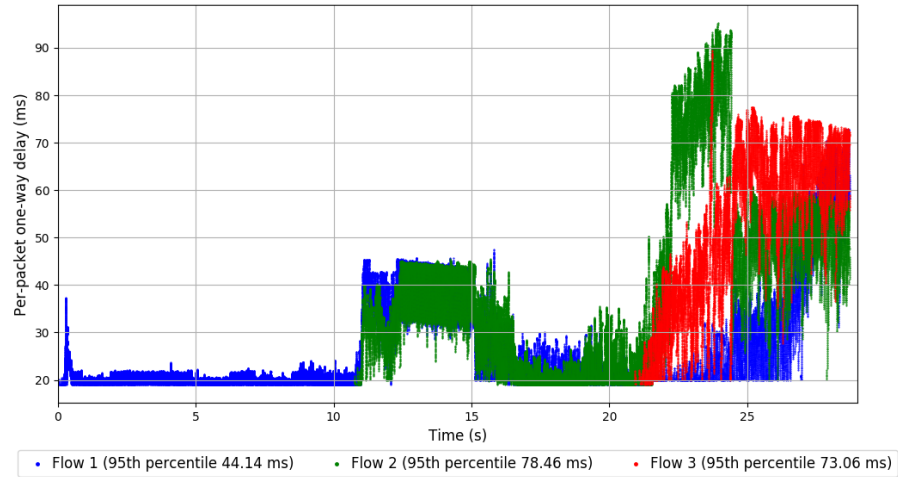
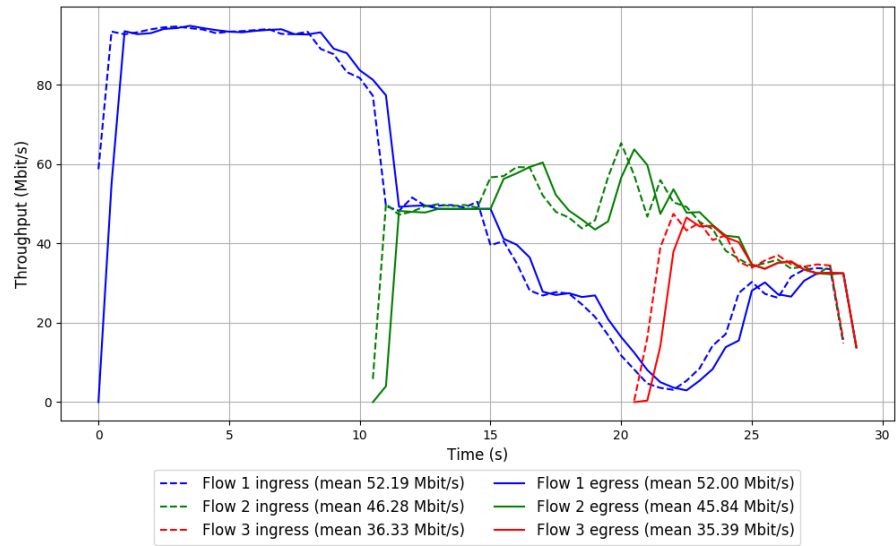


Run 1: Statistics of Indigo-MusesC5

Start at: 2019-06-28 11:33:52  
End at: 2019-06-28 11:34:22  
Local clock offset: -0.603 ms  
Remote clock offset: -2.879 ms

# Below is generated by plot.py at 2019-06-28 13:53:03  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 90.39 Mbit/s  
95th percentile per-packet one-way delay: 68.575 ms  
Loss rate: 0.91%  
-- Flow 1:  
Average throughput: 52.00 Mbit/s  
95th percentile per-packet one-way delay: 44.136 ms  
Loss rate: 0.43%  
-- Flow 2:  
Average throughput: 45.84 Mbit/s  
95th percentile per-packet one-way delay: 78.460 ms  
Loss rate: 1.05%  
-- Flow 3:  
Average throughput: 35.39 Mbit/s  
95th percentile per-packet one-way delay: 73.059 ms  
Loss rate: 3.00%

# Run 1: Report of Indigo-MusesC5 — Data Link



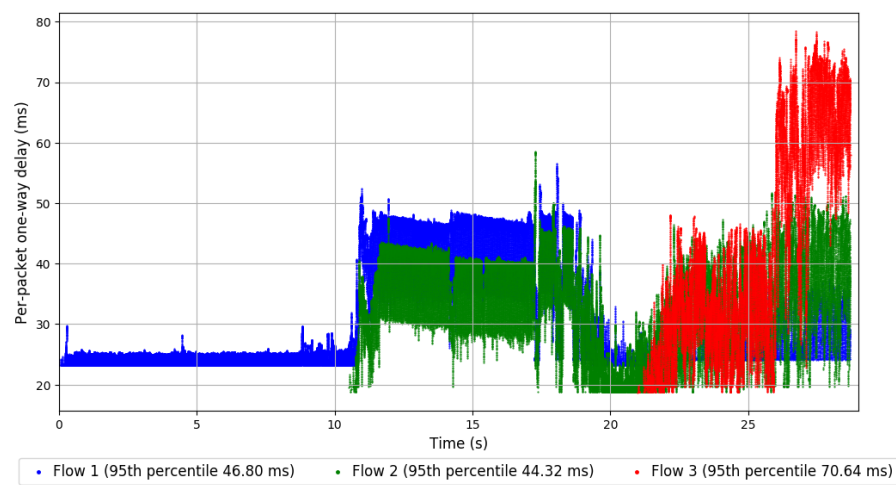
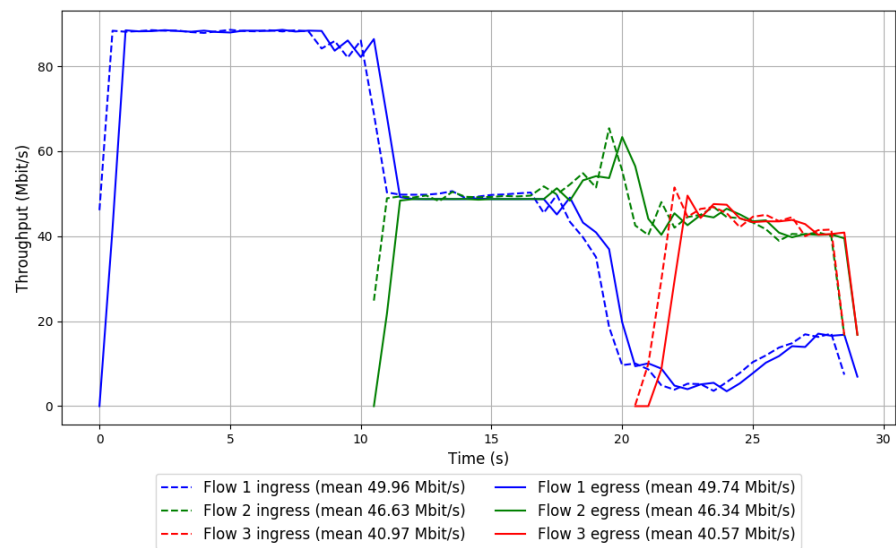


Run 2: Statistics of Indigo-MusesC5

Start at: 2019-06-28 12:01:04  
End at: 2019-06-28 12:01:34  
Local clock offset: -0.551 ms  
Remote clock offset: -3.925 ms

# Below is generated by plot.py at 2019-06-28 13:53:12  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 90.02 Mbit/s  
95th percentile per-packet one-way delay: 47.746 ms  
Loss rate: 0.69%  
-- Flow 1:  
Average throughput: 49.74 Mbit/s  
95th percentile per-packet one-way delay: 46.803 ms  
Loss rate: 0.57%  
-- Flow 2:  
Average throughput: 46.34 Mbit/s  
95th percentile per-packet one-way delay: 44.318 ms  
Loss rate: 0.73%  
-- Flow 3:  
Average throughput: 40.57 Mbit/s  
95th percentile per-packet one-way delay: 70.638 ms  
Loss rate: 1.17%

Run 2: Report of Indigo-MusesC5 — Data Link

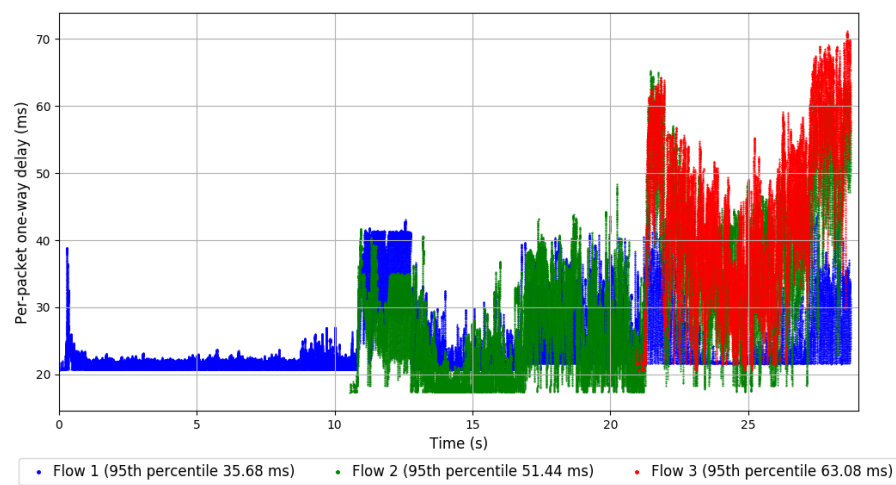
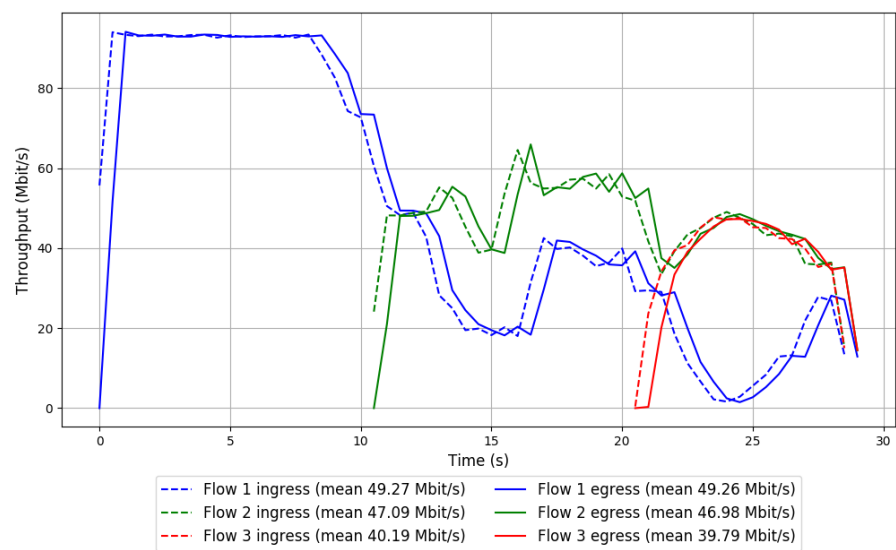


Run 3: Statistics of Indigo-MusesC5

Start at: 2019-06-28 12:27:45  
End at: 2019-06-28 12:28:15  
Local clock offset: -1.998 ms  
Remote clock offset: -3.636 ms

# Below is generated by plot.py at 2019-06-28 13:53:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 89.81 Mbit/s  
95th percentile per-packet one-way delay: 50.468 ms  
Loss rate: 0.32%  
-- Flow 1:  
Average throughput: 49.26 Mbit/s  
95th percentile per-packet one-way delay: 35.682 ms  
Loss rate: 0.09%  
-- Flow 2:  
Average throughput: 46.98 Mbit/s  
95th percentile per-packet one-way delay: 51.438 ms  
Loss rate: 0.36%  
-- Flow 3:  
Average throughput: 39.79 Mbit/s  
95th percentile per-packet one-way delay: 63.080 ms  
Loss rate: 1.28%

Run 3: Report of Indigo-MusesC5 — Data Link

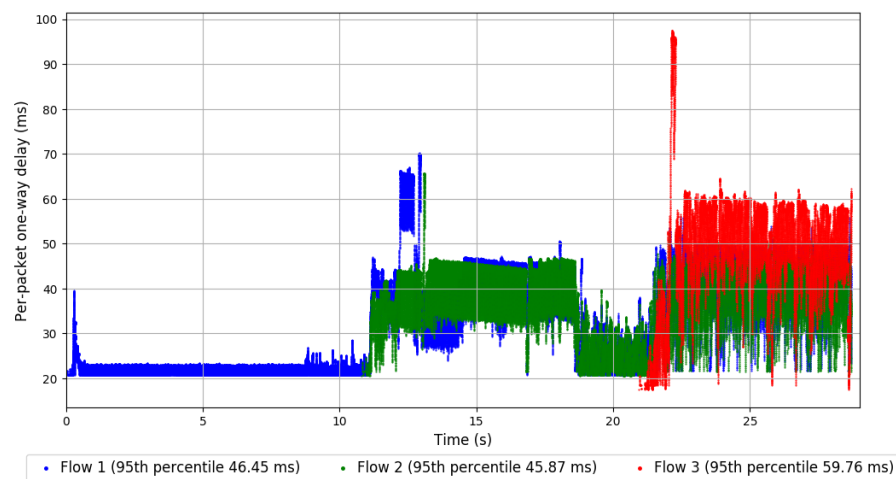
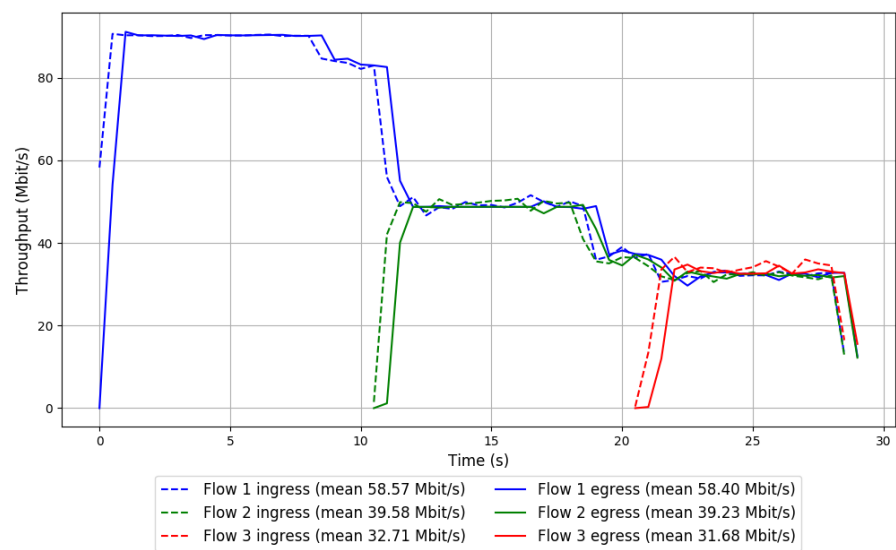


Run 4: Statistics of Indigo-MusesC5

Start at: 2019-06-28 12:54:20  
End at: 2019-06-28 12:54:50  
Local clock offset: -1.786 ms  
Remote clock offset: -4.357 ms

# Below is generated by plot.py at 2019-06-28 13:53:15  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 91.45 Mbit/s  
95th percentile per-packet one-way delay: 51.975 ms  
Loss rate: 0.83%  
-- Flow 1:  
Average throughput: 58.40 Mbit/s  
95th percentile per-packet one-way delay: 46.447 ms  
Loss rate: 0.36%  
-- Flow 2:  
Average throughput: 39.23 Mbit/s  
95th percentile per-packet one-way delay: 45.871 ms  
Loss rate: 1.01%  
-- Flow 3:  
Average throughput: 31.68 Mbit/s  
95th percentile per-packet one-way delay: 59.759 ms  
Loss rate: 3.44%

Run 4: Report of Indigo-MusesC5 — Data Link

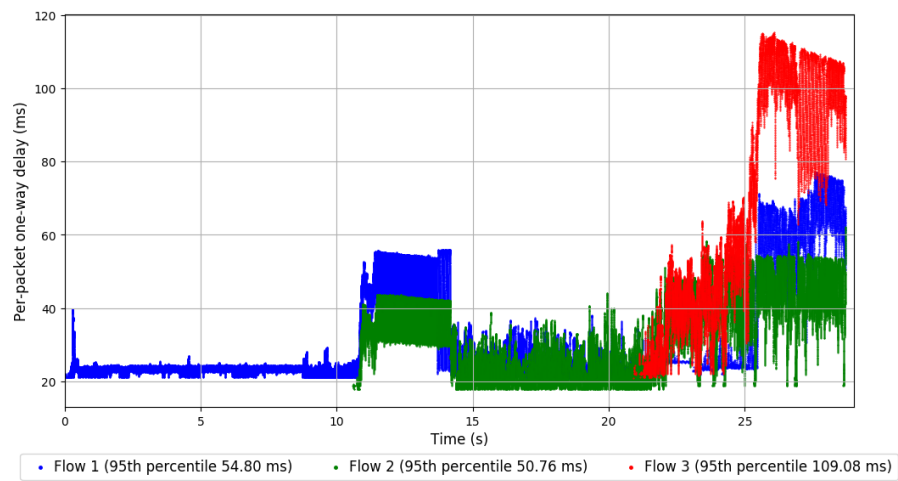
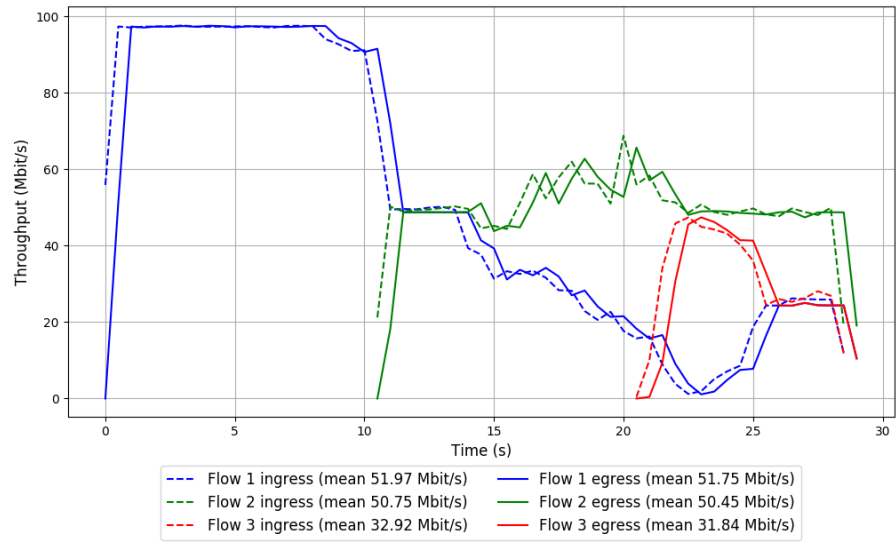


Run 5: Statistics of Indigo-MusesC5

Start at: 2019-06-28 13:21:09  
End at: 2019-06-28 13:21:39  
Local clock offset: -1.93 ms  
Remote clock offset: -5.239 ms

# Below is generated by plot.py at 2019-06-28 13:53:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.27 Mbit/s  
95th percentile per-packet one-way delay: 63.288 ms  
Loss rate: 0.88%  
-- Flow 1:  
Average throughput: 51.75 Mbit/s  
95th percentile per-packet one-way delay: 54.799 ms  
Loss rate: 0.52%  
-- Flow 2:  
Average throughput: 50.45 Mbit/s  
95th percentile per-packet one-way delay: 50.759 ms  
Loss rate: 0.68%  
-- Flow 3:  
Average throughput: 31.84 Mbit/s  
95th percentile per-packet one-way delay: 109.080 ms  
Loss rate: 3.64%

# Run 5: Report of Indigo-MusesC5 — Data Link



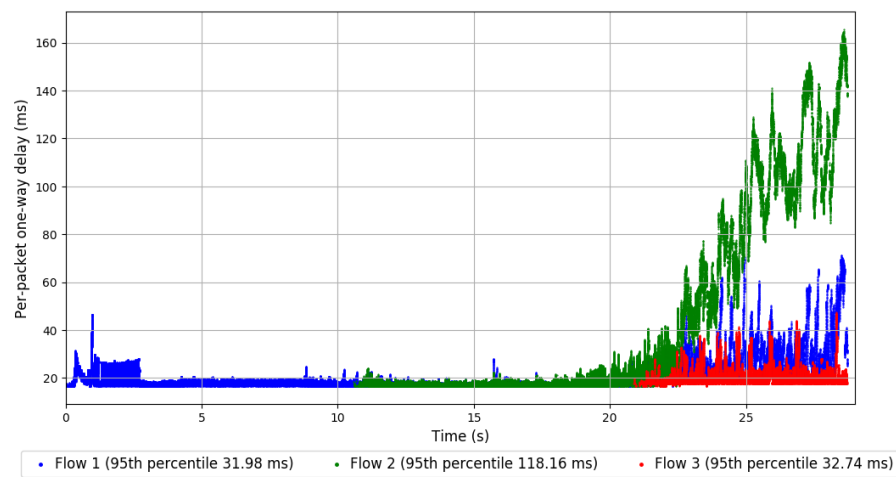
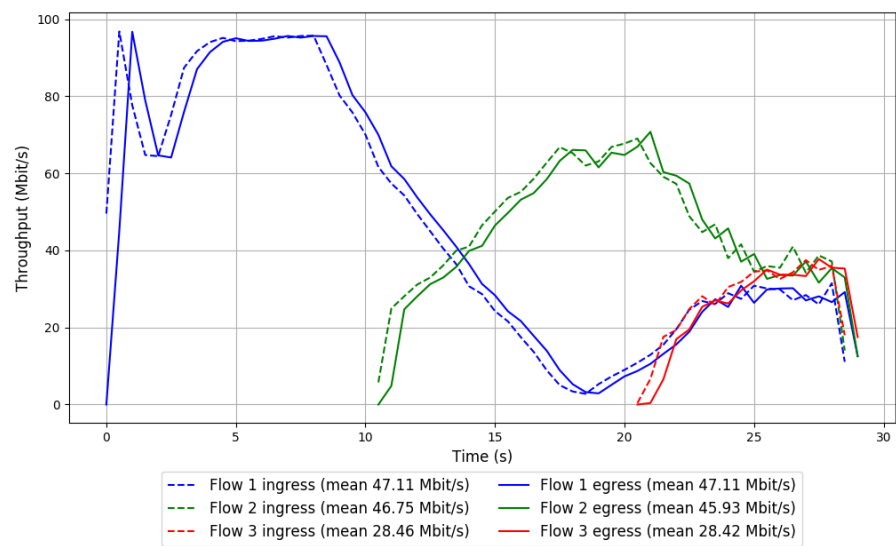


Run 1: Statistics of Indigo-MusesD

Start at: 2019-06-28 11:44:55  
End at: 2019-06-28 11:45:25  
Local clock offset: -0.807 ms  
Remote clock offset: -0.851 ms

# Below is generated by plot.py at 2019-06-28 13:53:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 83.88 Mbit/s  
95th percentile per-packet one-way delay: 88.845 ms  
Loss rate: 0.76%  
-- Flow 1:  
Average throughput: 47.11 Mbit/s  
95th percentile per-packet one-way delay: 31.984 ms  
Loss rate: 0.09%  
-- Flow 2:  
Average throughput: 45.93 Mbit/s  
95th percentile per-packet one-way delay: 118.155 ms  
Loss rate: 1.90%  
-- Flow 3:  
Average throughput: 28.42 Mbit/s  
95th percentile per-packet one-way delay: 32.741 ms  
Loss rate: 0.49%

Run 1: Report of Indigo-MusesD — Data Link

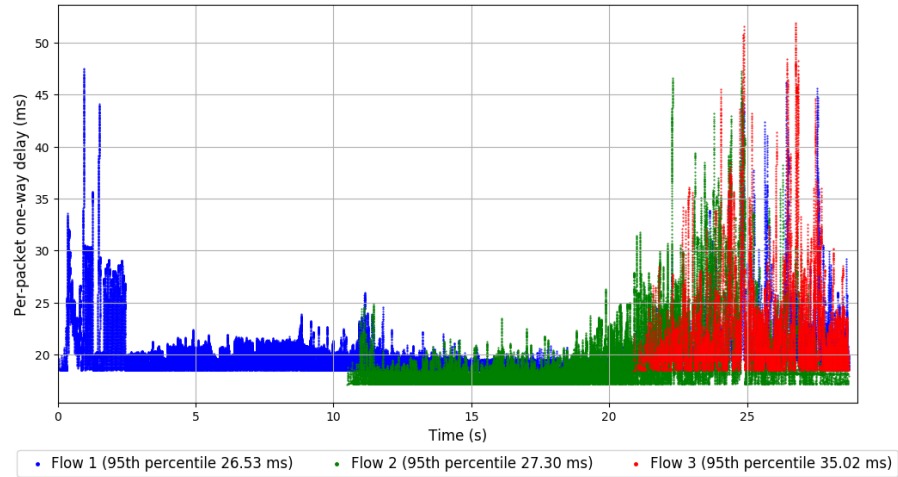
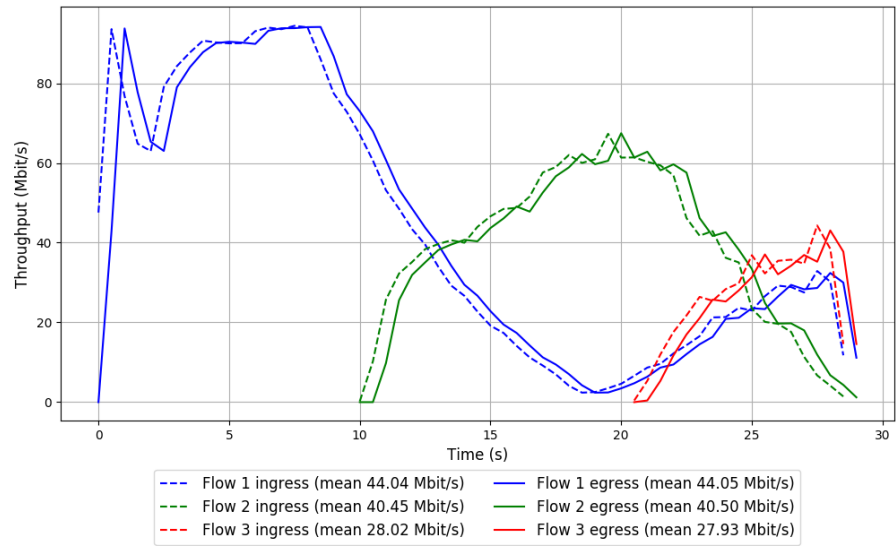


Run 2: Statistics of Indigo-MusesD

Start at: 2019-06-28 12:12:04  
End at: 2019-06-28 12:12:34  
Local clock offset: -1.453 ms  
Remote clock offset: -3.435 ms

# Below is generated by plot.py at 2019-06-28 13:53:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 77.38 Mbit/s  
95th percentile per-packet one-way delay: 27.893 ms  
Loss rate: 0.10%  
-- Flow 1:  
Average throughput: 44.05 Mbit/s  
95th percentile per-packet one-way delay: 26.529 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 40.50 Mbit/s  
95th percentile per-packet one-way delay: 27.300 ms  
Loss rate: 0.02%  
-- Flow 3:  
Average throughput: 27.93 Mbit/s  
95th percentile per-packet one-way delay: 35.016 ms  
Loss rate: 0.63%

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



Run 3: Statistics of Indigo-MusesD

Start at: 2019-06-28 12:38:39

End at: 2019-06-28 12:39:09

Local clock offset: -2.023 ms

Remote clock offset: -4.69 ms

# Below is generated by plot.py at 2019-06-28 13:53:42

# Datalink statistics

-- Total of 3 flows:

Average throughput: 86.05 Mbit/s

95th percentile per-packet one-way delay: 102.115 ms

Loss rate: 0.97%

-- Flow 1:

Average throughput: 45.64 Mbit/s

95th percentile per-packet one-way delay: 41.473 ms

Loss rate: 0.07%

-- Flow 2:

Average throughput: 54.12 Mbit/s

95th percentile per-packet one-way delay: 114.420 ms

Loss rate: 1.99%

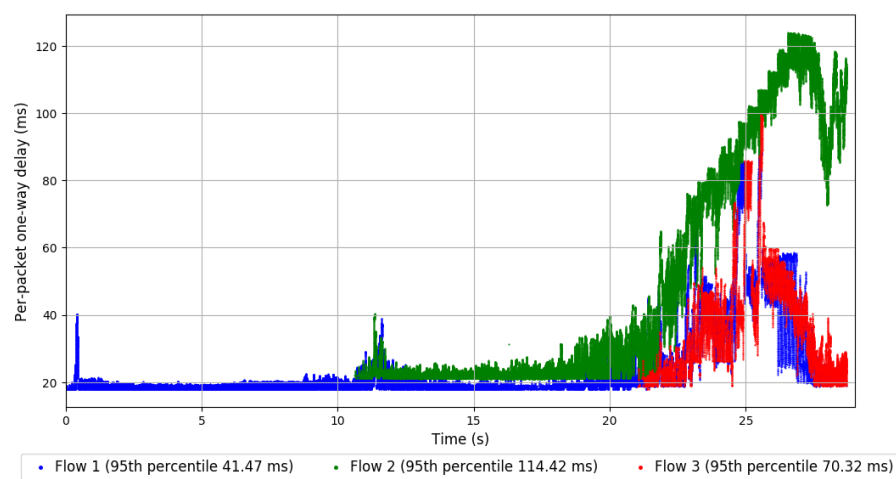
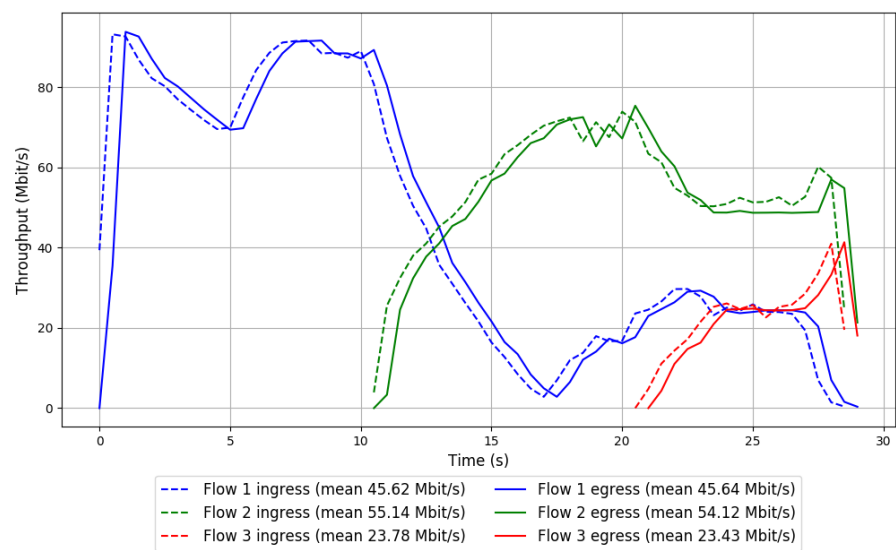
-- Flow 3:

Average throughput: 23.43 Mbit/s

95th percentile per-packet one-way delay: 70.321 ms

Loss rate: 1.81%

Run 3: Report of Indigo-MusesD — Data Link

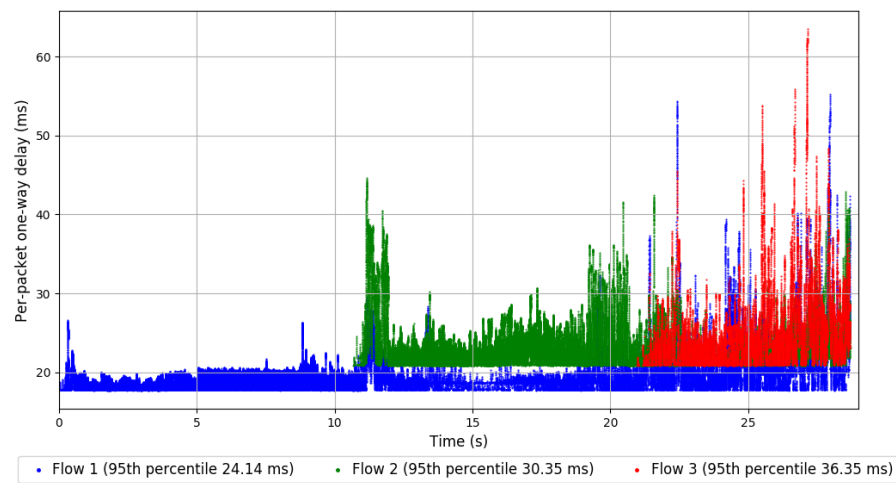
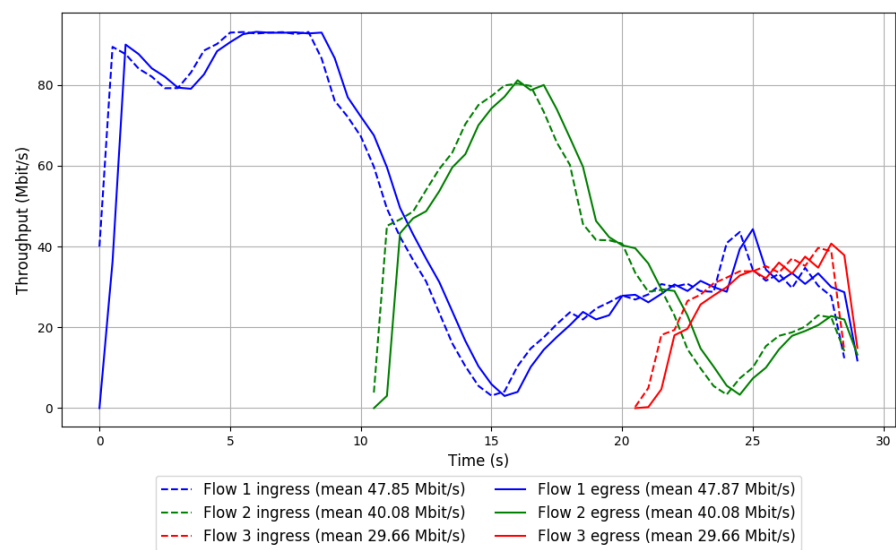


Run 4: Statistics of Indigo-MusesD

Start at: 2019-06-28 13:05:11  
End at: 2019-06-28 13:05:41  
Local clock offset: -2.207 ms  
Remote clock offset: -5.119 ms

# Below is generated by plot.py at 2019-06-28 13:54:03  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 81.09 Mbit/s  
95th percentile per-packet one-way delay: 28.947 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 47.87 Mbit/s  
95th percentile per-packet one-way delay: 24.139 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 40.08 Mbit/s  
95th percentile per-packet one-way delay: 30.351 ms  
Loss rate: 0.13%  
-- Flow 3:  
Average throughput: 29.66 Mbit/s  
95th percentile per-packet one-way delay: 36.350 ms  
Loss rate: 0.39%

Run 4: Report of Indigo-MusesD — Data Link



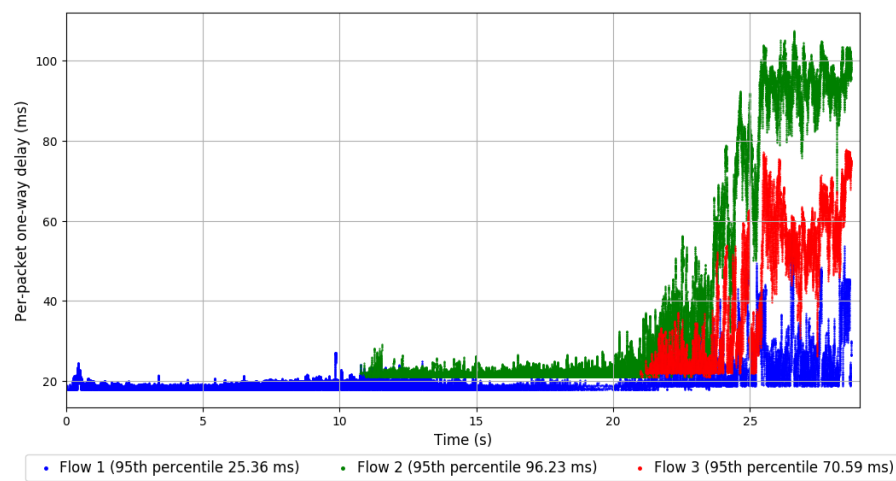
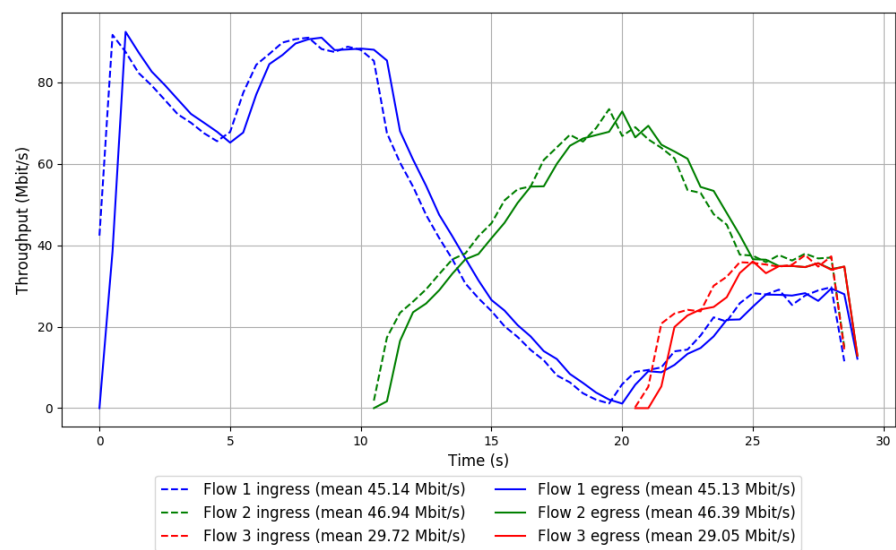


Run 5: Statistics of Indigo-MusesD

Start at: 2019-06-28 13:32:08  
End at: 2019-06-28 13:32:38  
Local clock offset: -0.235 ms  
Remote clock offset: -4.322 ms

# Below is generated by plot.py at 2019-06-28 13:54:09  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 81.98 Mbit/s  
95th percentile per-packet one-way delay: 83.535 ms  
Loss rate: 0.79%  
-- Flow 1:  
Average throughput: 45.13 Mbit/s  
95th percentile per-packet one-way delay: 25.355 ms  
Loss rate: 0.09%  
-- Flow 2:  
Average throughput: 46.39 Mbit/s  
95th percentile per-packet one-way delay: 96.234 ms  
Loss rate: 1.37%  
-- Flow 3:  
Average throughput: 29.05 Mbit/s  
95th percentile per-packet one-way delay: 70.595 ms  
Loss rate: 2.62%

Run 5: Report of Indigo-MusesD — Data Link

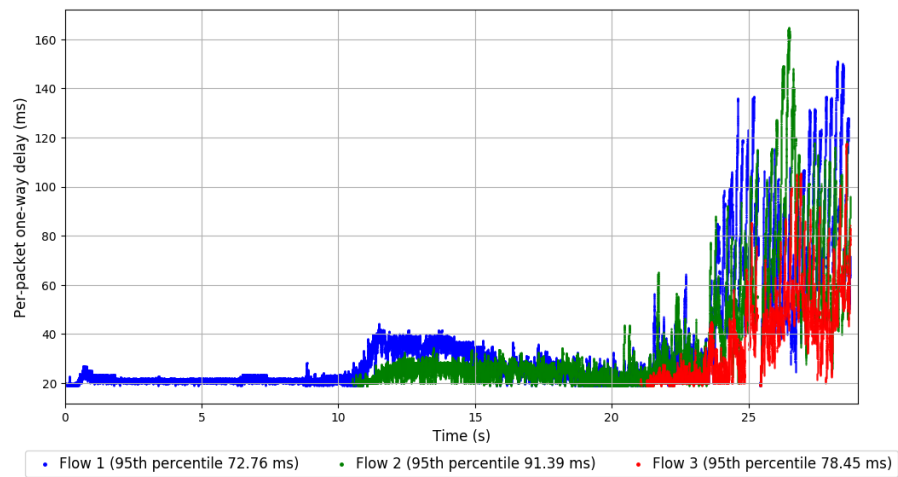
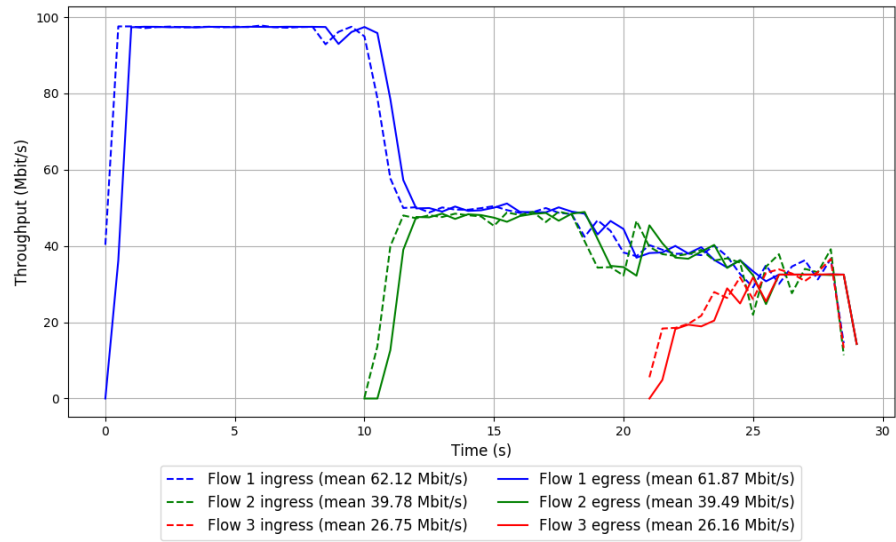


Run 1: Statistics of Indigo-MusesT

Start at: 2019-06-28 11:32:40  
End at: 2019-06-28 11:33:10  
Local clock offset: -0.708 ms  
Remote clock offset: -2.907 ms

# Below is generated by plot.py at 2019-06-28 13:54:21  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.97 Mbit/s  
95th percentile per-packet one-way delay: 80.036 ms  
Loss rate: 0.67%  
-- Flow 1:  
Average throughput: 61.87 Mbit/s  
95th percentile per-packet one-way delay: 72.764 ms  
Loss rate: 0.47%  
-- Flow 2:  
Average throughput: 39.49 Mbit/s  
95th percentile per-packet one-way delay: 91.392 ms  
Loss rate: 0.87%  
-- Flow 3:  
Average throughput: 26.16 Mbit/s  
95th percentile per-packet one-way delay: 78.451 ms  
Loss rate: 1.73%

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

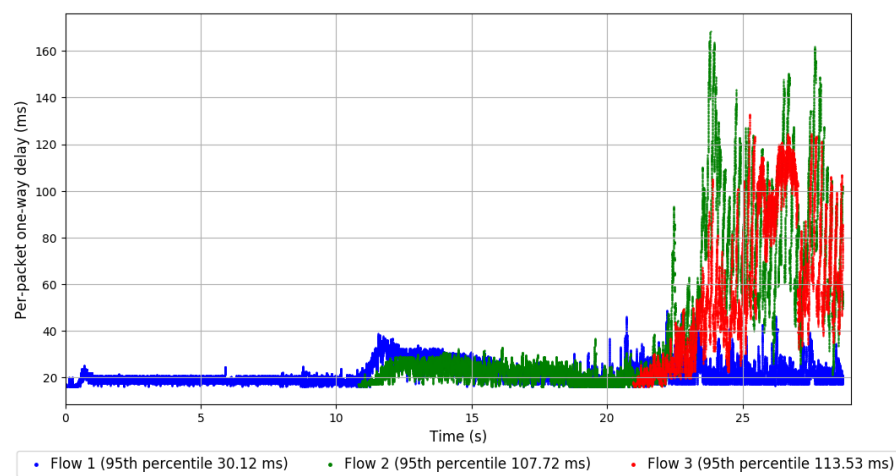
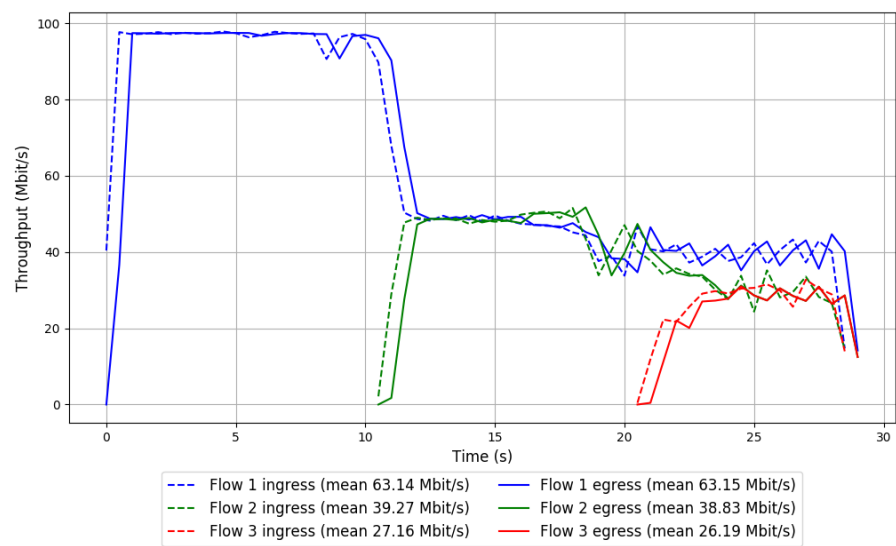


Run 2: Statistics of Indigo-MusesT

Start at: 2019-06-28 11:59:48  
End at: 2019-06-28 12:00:18  
Local clock offset: -1.389 ms  
Remote clock offset: -2.221 ms

# Below is generated by plot.py at 2019-06-28 13:54:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.50 Mbit/s  
95th percentile per-packet one-way delay: 81.632 ms  
Loss rate: 0.68%  
-- Flow 1:  
Average throughput: 63.15 Mbit/s  
95th percentile per-packet one-way delay: 30.122 ms  
Loss rate: 0.07%  
-- Flow 2:  
Average throughput: 38.83 Mbit/s  
95th percentile per-packet one-way delay: 107.715 ms  
Loss rate: 1.26%  
-- Flow 3:  
Average throughput: 26.19 Mbit/s  
95th percentile per-packet one-way delay: 113.533 ms  
Loss rate: 3.93%

Run 2: Report of Indigo-MusesT — Data Link

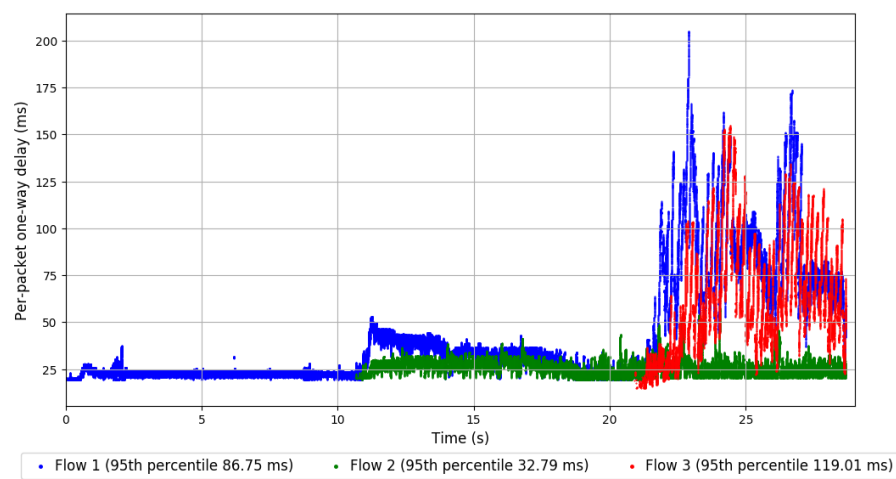
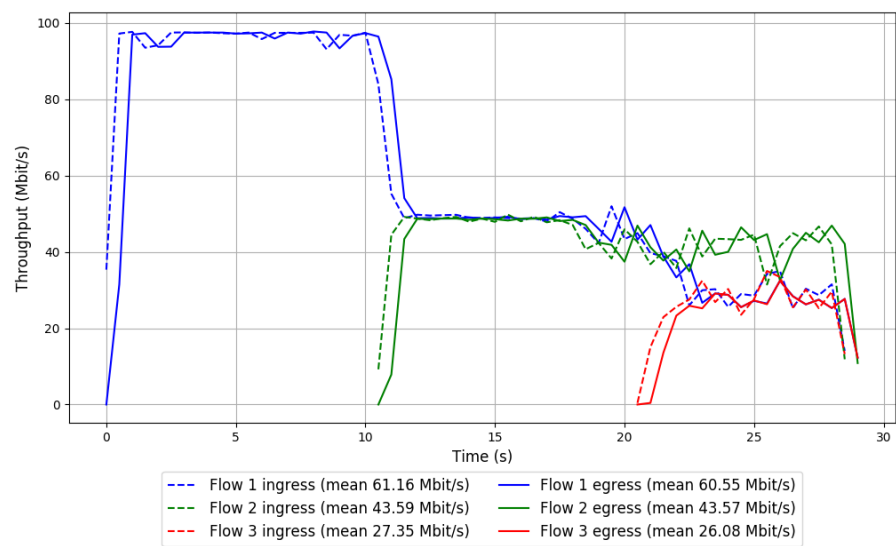


Run 3: Statistics of Indigo-MusesT

Start at: 2019-06-28 12:26:29  
End at: 2019-06-28 12:26:59  
Local clock offset: -1.567 ms  
Remote clock offset: -1.963 ms

# Below is generated by plot.py at 2019-06-28 13:54:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.04 Mbit/s  
95th percentile per-packet one-way delay: 86.312 ms  
Loss rate: 1.09%  
-- Flow 1:  
Average throughput: 60.55 Mbit/s  
95th percentile per-packet one-way delay: 86.754 ms  
Loss rate: 1.07%  
-- Flow 2:  
Average throughput: 43.57 Mbit/s  
95th percentile per-packet one-way delay: 32.792 ms  
Loss rate: 0.20%  
-- Flow 3:  
Average throughput: 26.08 Mbit/s  
95th percentile per-packet one-way delay: 119.011 ms  
Loss rate: 4.52%

Run 3: Report of Indigo-MusesT — Data Link



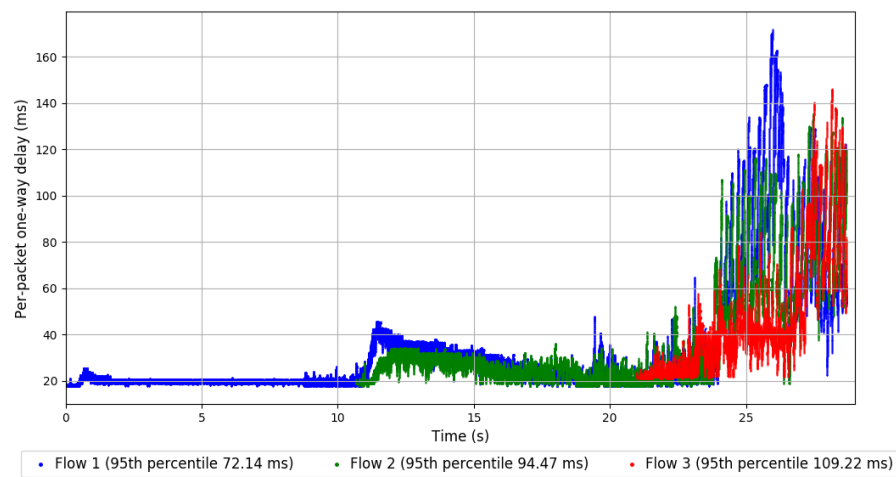
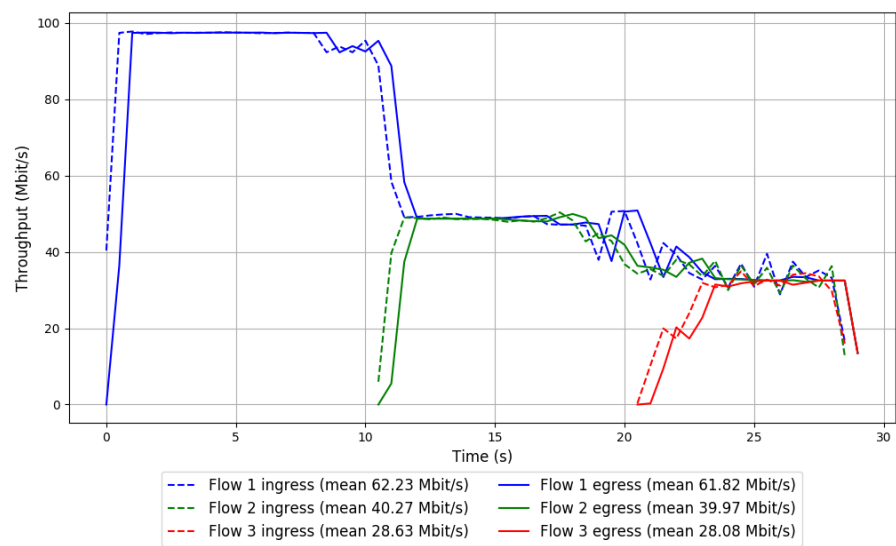


Run 4: Statistics of Indigo-MusesT

Start at: 2019-06-28 12:53:09  
End at: 2019-06-28 12:53:39  
Local clock offset: -1.746 ms  
Remote clock offset: -4.422 ms

# Below is generated by plot.py at 2019-06-28 13:54:31  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.56 Mbit/s  
95th percentile per-packet one-way delay: 88.263 ms  
Loss rate: 0.83%  
-- Flow 1:  
Average throughput: 61.82 Mbit/s  
95th percentile per-packet one-way delay: 72.135 ms  
Loss rate: 0.71%  
-- Flow 2:  
Average throughput: 39.97 Mbit/s  
95th percentile per-packet one-way delay: 94.467 ms  
Loss rate: 0.87%  
-- Flow 3:  
Average throughput: 28.08 Mbit/s  
95th percentile per-packet one-way delay: 109.217 ms  
Loss rate: 1.73%

Run 4: Report of Indigo-MusesT — Data Link

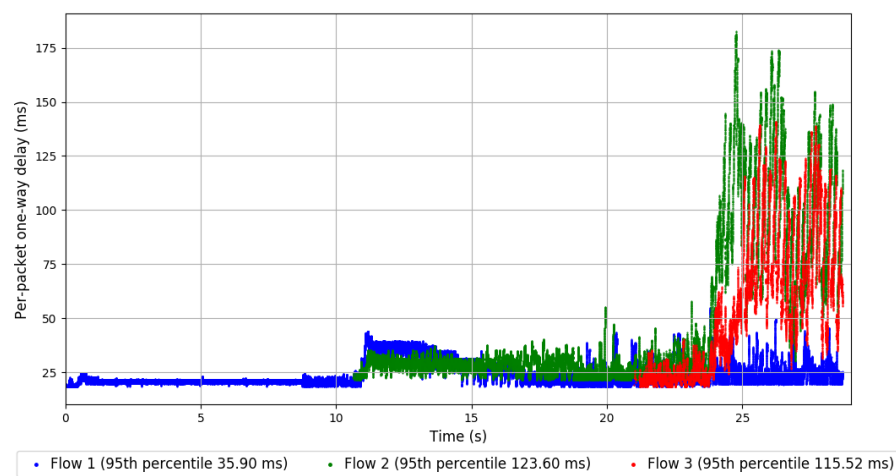
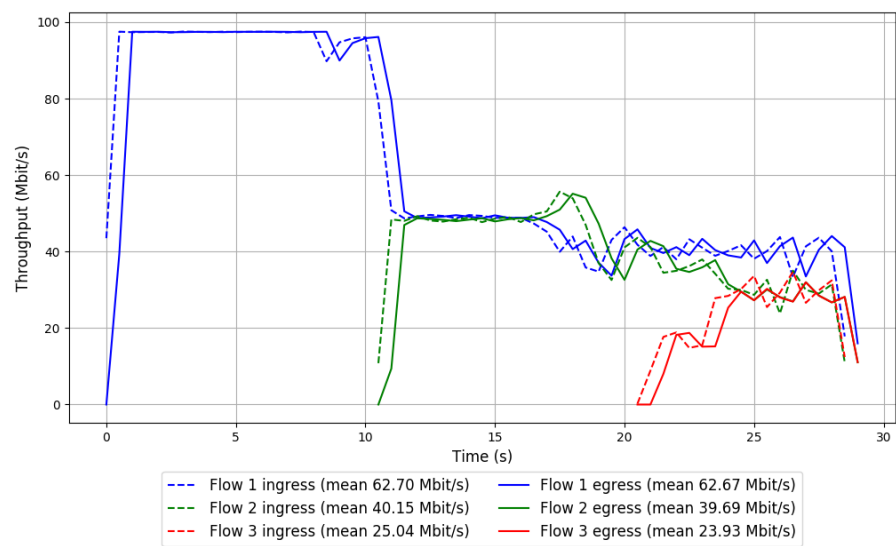


Run 5: Statistics of Indigo-MusesT

Start at: 2019-06-28 13:19:55  
End at: 2019-06-28 13:20:25  
Local clock offset: -1.769 ms  
Remote clock offset: -5.565 ms

# Below is generated by plot.py at 2019-06-28 13:54:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.14 Mbit/s  
95th percentile per-packet one-way delay: 82.724 ms  
Loss rate: 0.76%  
-- Flow 1:  
Average throughput: 62.67 Mbit/s  
95th percentile per-packet one-way delay: 35.897 ms  
Loss rate: 0.14%  
-- Flow 2:  
Average throughput: 39.69 Mbit/s  
95th percentile per-packet one-way delay: 123.597 ms  
Loss rate: 1.28%  
-- Flow 3:  
Average throughput: 23.93 Mbit/s  
95th percentile per-packet one-way delay: 115.520 ms  
Loss rate: 4.61%

Run 5: Report of Indigo-MusesT — Data Link

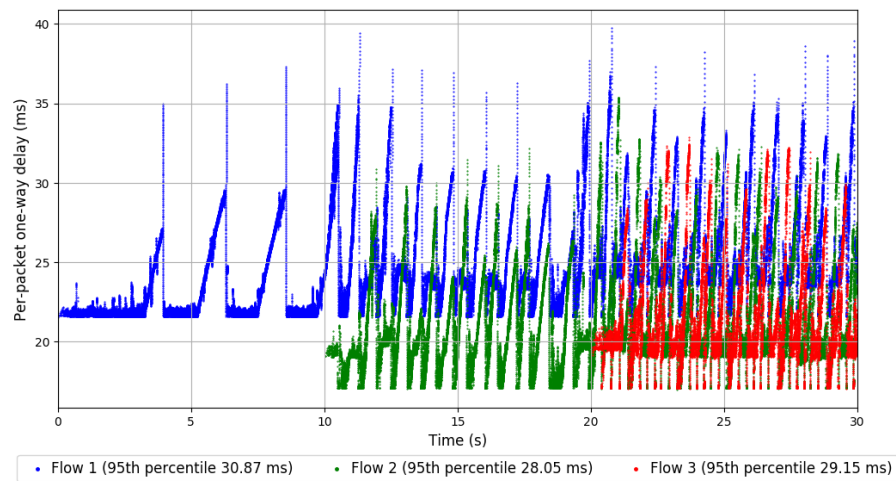
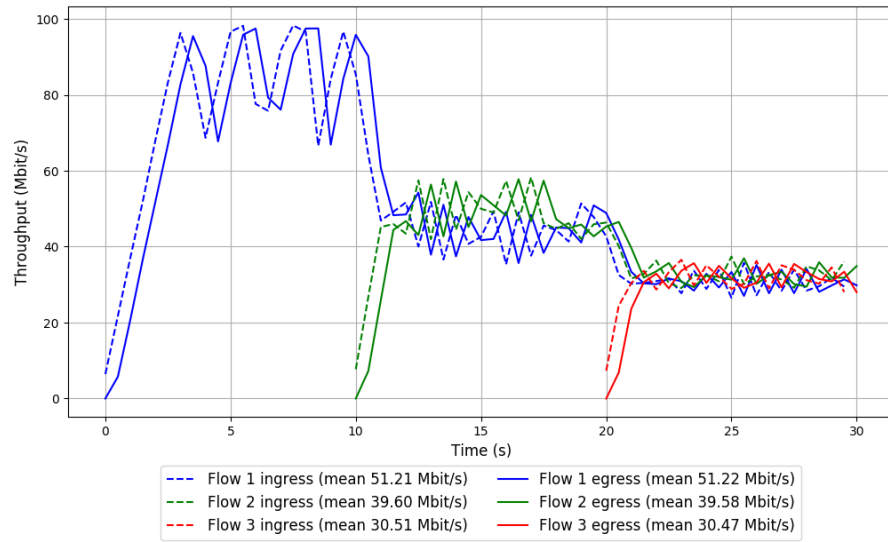


Run 1: Statistics of LEDBAT

Start at: 2019-06-28 11:54:47  
End at: 2019-06-28 11:55:17  
Local clock offset: -1.587 ms  
Remote clock offset: -3.241 ms

# Below is generated by plot.py at 2019-06-28 13:54:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.70 Mbit/s  
95th percentile per-packet one-way delay: 30.113 ms  
Loss rate: 0.14%  
-- Flow 1:  
Average throughput: 51.22 Mbit/s  
95th percentile per-packet one-way delay: 30.869 ms  
Loss rate: 0.07%  
-- Flow 2:  
Average throughput: 39.58 Mbit/s  
95th percentile per-packet one-way delay: 28.052 ms  
Loss rate: 0.19%  
-- Flow 3:  
Average throughput: 30.47 Mbit/s  
95th percentile per-packet one-way delay: 29.149 ms  
Loss rate: 0.37%

# Run 1: Report of LEDBAT — Data Link

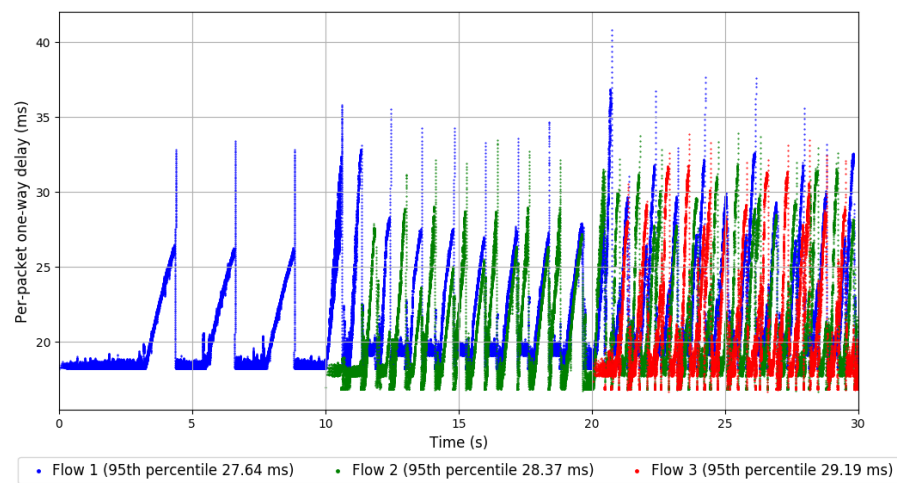
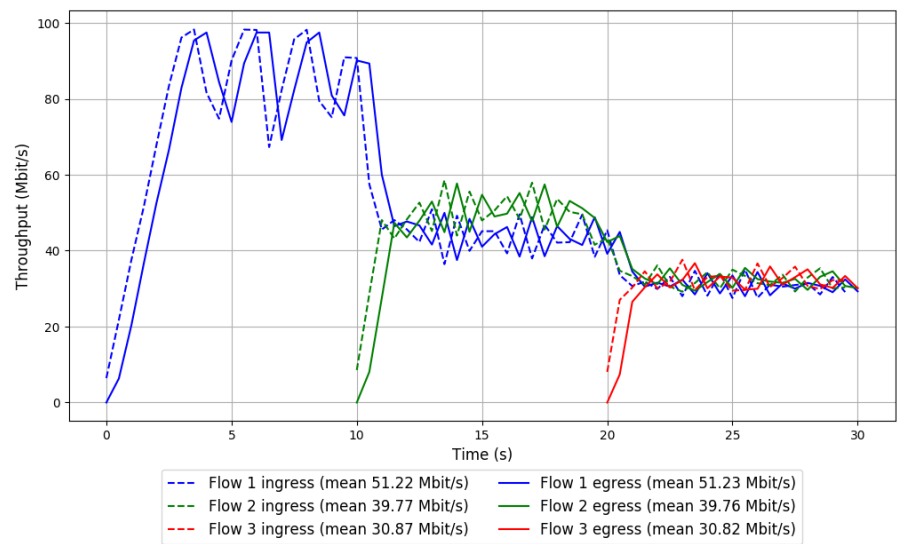


Run 2: Statistics of LEDBAT

Start at: 2019-06-28 12:21:36  
End at: 2019-06-28 12:22:06  
Local clock offset: -1.358 ms  
Remote clock offset: -3.412 ms

# Below is generated by plot.py at 2019-06-28 13:55:16  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.95 Mbit/s  
95th percentile per-packet one-way delay: 28.241 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 51.23 Mbit/s  
95th percentile per-packet one-way delay: 27.635 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 39.76 Mbit/s  
95th percentile per-packet one-way delay: 28.369 ms  
Loss rate: 0.13%  
-- Flow 3:  
Average throughput: 30.82 Mbit/s  
95th percentile per-packet one-way delay: 29.191 ms  
Loss rate: 0.38%

Run 2: Report of LEDBAT — Data Link



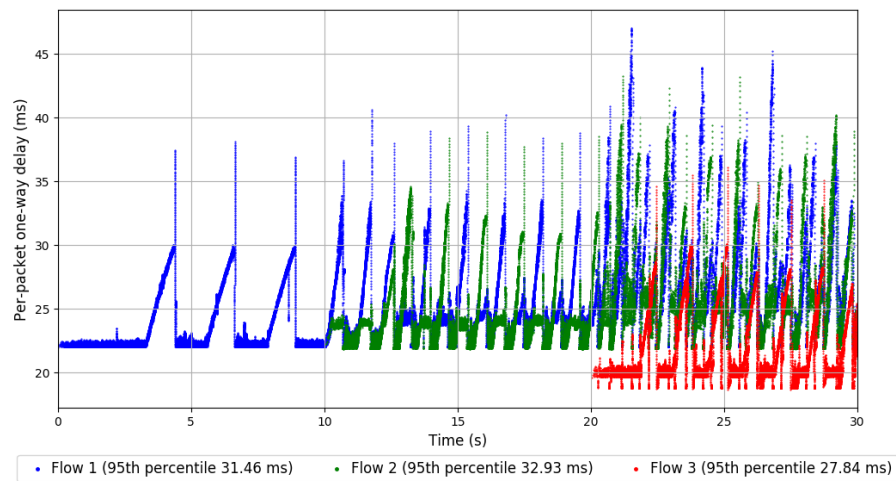
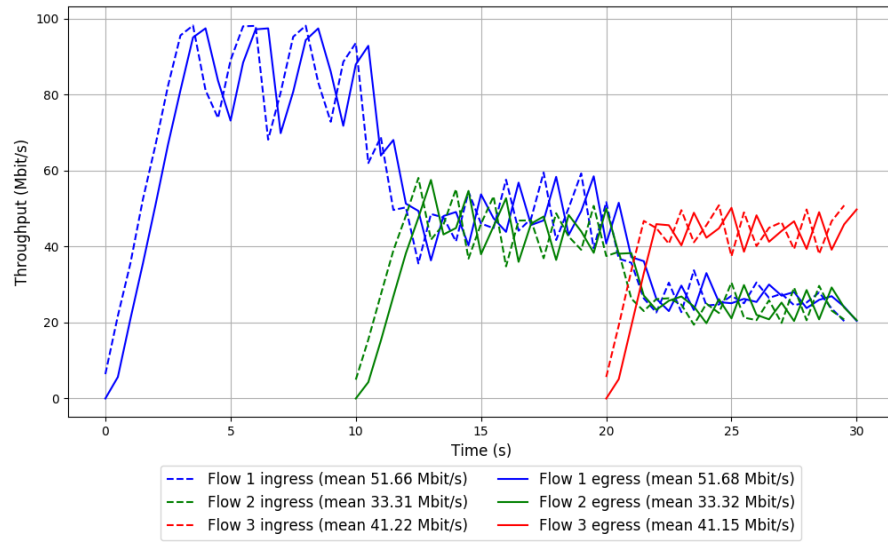


Run 3: Statistics of LEDBAT

Start at: 2019-06-28 12:48:14  
End at: 2019-06-28 12:48:44  
Local clock offset: -1.11 ms  
Remote clock offset: -4.637 ms

# Below is generated by plot.py at 2019-06-28 13:55:20  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.51 Mbit/s  
95th percentile per-packet one-way delay: 31.562 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 51.68 Mbit/s  
95th percentile per-packet one-way delay: 31.460 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 33.32 Mbit/s  
95th percentile per-packet one-way delay: 32.926 ms  
Loss rate: 0.13%  
-- Flow 3:  
Average throughput: 41.15 Mbit/s  
95th percentile per-packet one-way delay: 27.835 ms  
Loss rate: 0.42%

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

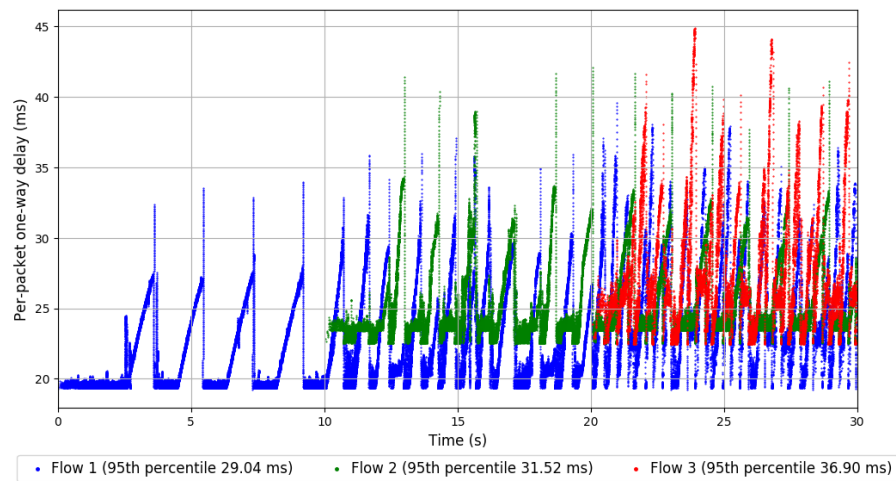
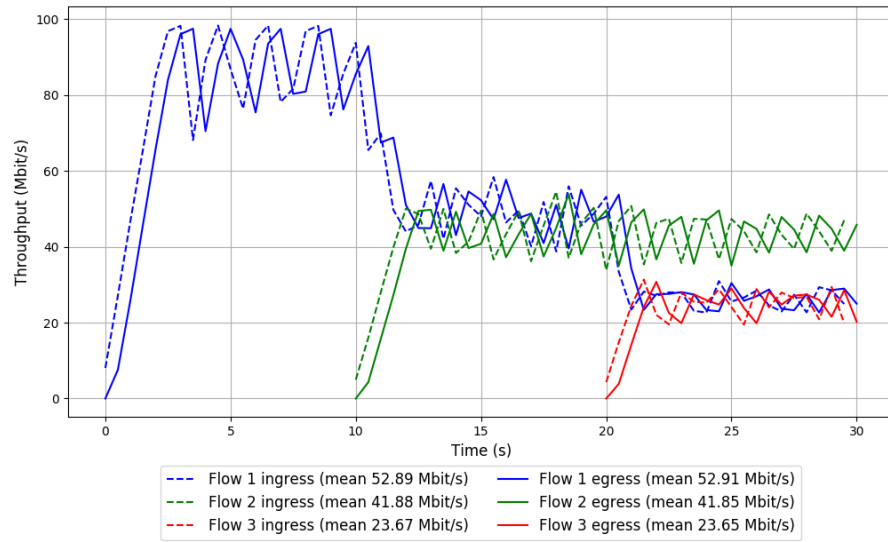


Run 4: Statistics of LEDBAT

Start at: 2019-06-28 13:14:54  
End at: 2019-06-28 13:15:24  
Local clock offset: -0.885 ms  
Remote clock offset: -5.328 ms

# Below is generated by plot.py at 2019-06-28 13:55:30  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 88.62 Mbit/s  
95th percentile per-packet one-way delay: 31.138 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 52.91 Mbit/s  
95th percentile per-packet one-way delay: 29.042 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 41.85 Mbit/s  
95th percentile per-packet one-way delay: 31.519 ms  
Loss rate: 0.21%  
-- Flow 3:  
Average throughput: 23.65 Mbit/s  
95th percentile per-packet one-way delay: 36.896 ms  
Loss rate: 0.37%

# Run 4: Report of LEDBAT — Data Link

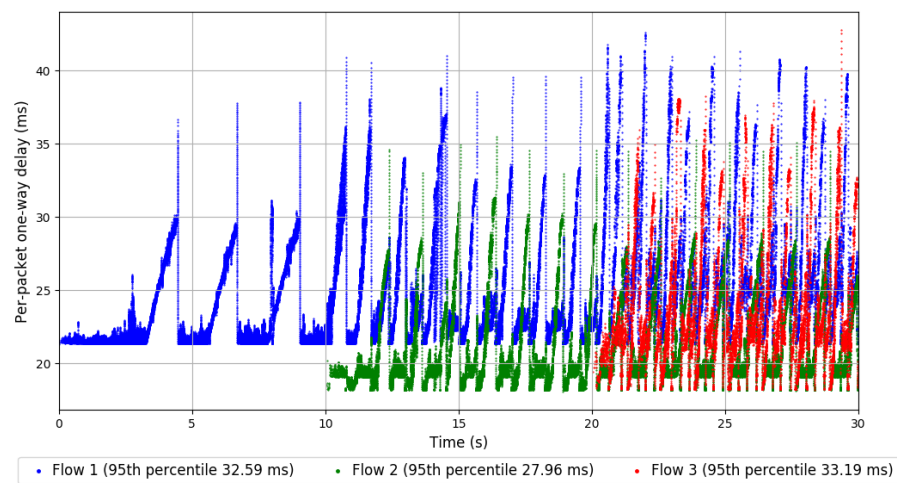
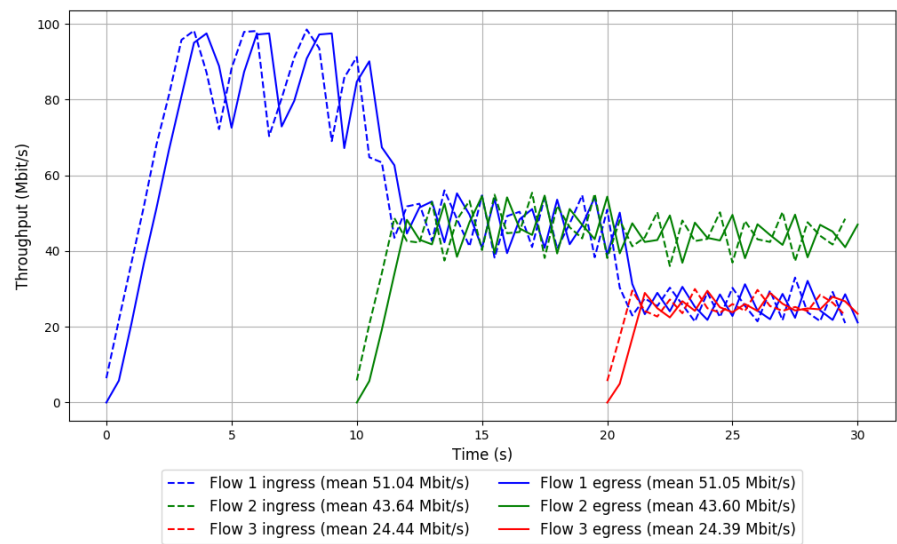


Run 5: Statistics of LEDBAT

Start at: 2019-06-28 13:42:02  
End at: 2019-06-28 13:42:32  
Local clock offset: -0.077 ms  
Remote clock offset: -4.898 ms

# Below is generated by plot.py at 2019-06-28 13:55:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 88.18 Mbit/s  
95th percentile per-packet one-way delay: 31.286 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 51.05 Mbit/s  
95th percentile per-packet one-way delay: 32.591 ms  
Loss rate: 0.07%  
-- Flow 2:  
Average throughput: 43.60 Mbit/s  
95th percentile per-packet one-way delay: 27.960 ms  
Loss rate: 0.21%  
-- Flow 3:  
Average throughput: 24.39 Mbit/s  
95th percentile per-packet one-way delay: 33.191 ms  
Loss rate: 0.19%

Run 5: Report of LEDBAT — Data Link

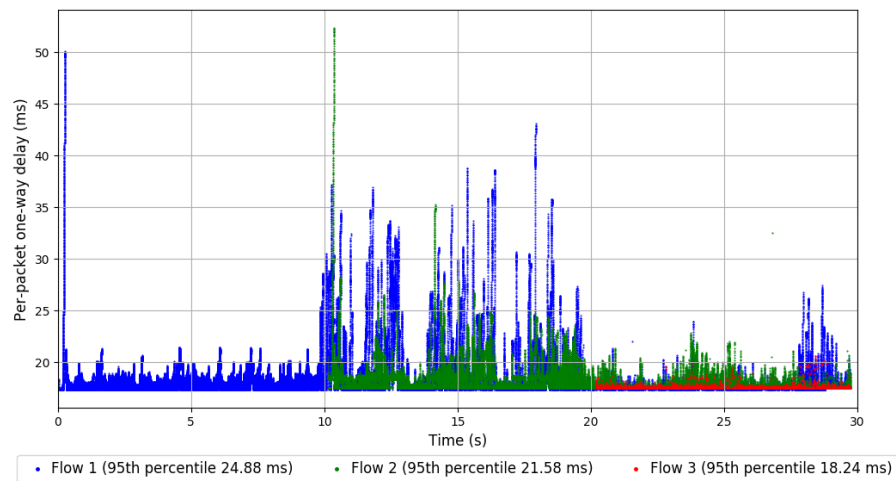
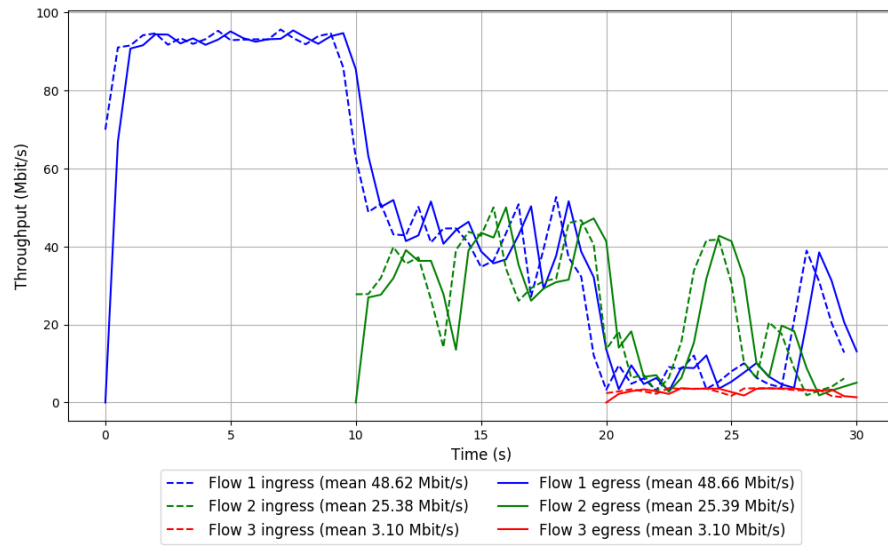


Run 1: Statistics of Muses\\_DecisionTree

Start at: 2019-06-28 11:50:59  
End at: 2019-06-28 11:51:29  
Local clock offset: -0.118 ms  
Remote clock offset: -1.044 ms

# Below is generated by plot.py at 2019-06-28 13:55:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 66.42 Mbit/s  
95th percentile per-packet one-way delay: 23.918 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 48.66 Mbit/s  
95th percentile per-packet one-way delay: 24.875 ms  
Loss rate: 0.02%  
-- Flow 2:  
Average throughput: 25.39 Mbit/s  
95th percentile per-packet one-way delay: 21.582 ms  
Loss rate: 0.11%  
-- Flow 3:  
Average throughput: 3.10 Mbit/s  
95th percentile per-packet one-way delay: 18.244 ms  
Loss rate: 0.16%

# Run 1: Report of Muses\_DecisionTree — Data Link



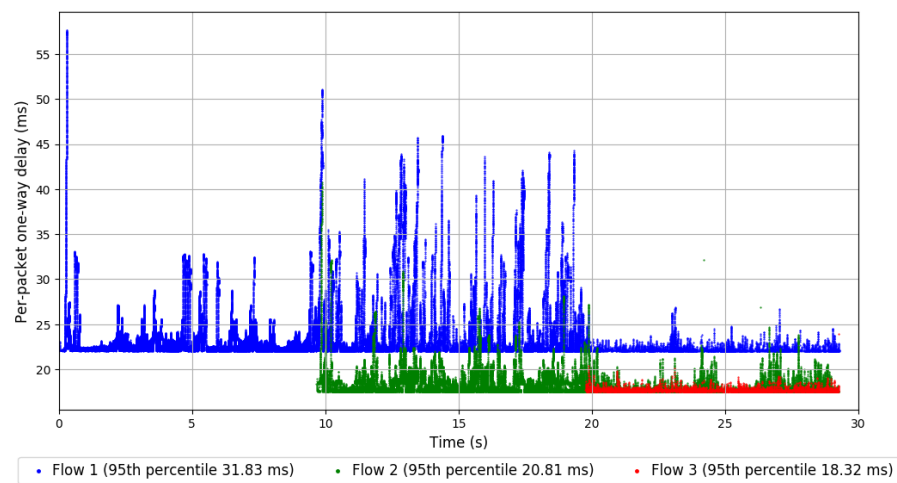
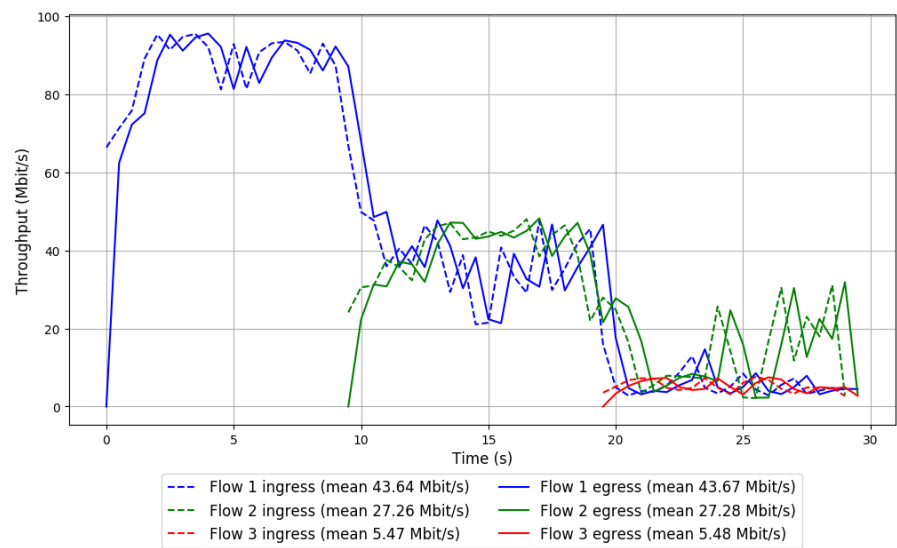


Run 2: Statistics of Muses\\_DecisionTree

Start at: 2019-06-28 12:18:06  
End at: 2019-06-28 12:18:36  
Local clock offset: -1.926 ms  
Remote clock offset: -4.465 ms

# Below is generated by plot.py at 2019-06-28 13:55:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 63.75 Mbit/s  
95th percentile per-packet one-way delay: 30.347 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 43.67 Mbit/s  
95th percentile per-packet one-way delay: 31.833 ms  
Loss rate: 0.02%  
-- Flow 2:  
Average throughput: 27.28 Mbit/s  
95th percentile per-packet one-way delay: 20.813 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 5.48 Mbit/s  
95th percentile per-packet one-way delay: 18.317 ms  
Loss rate: 0.04%

Run 2: Report of Muses\_DecisionTree — Data Link

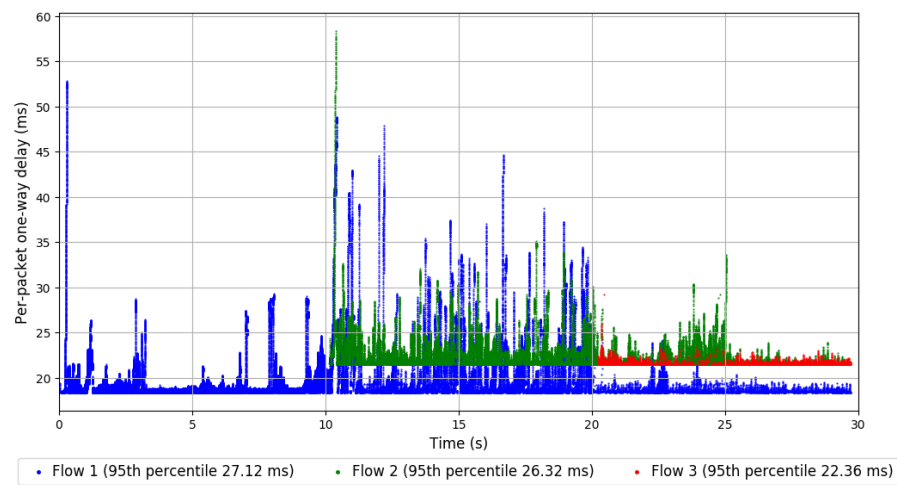
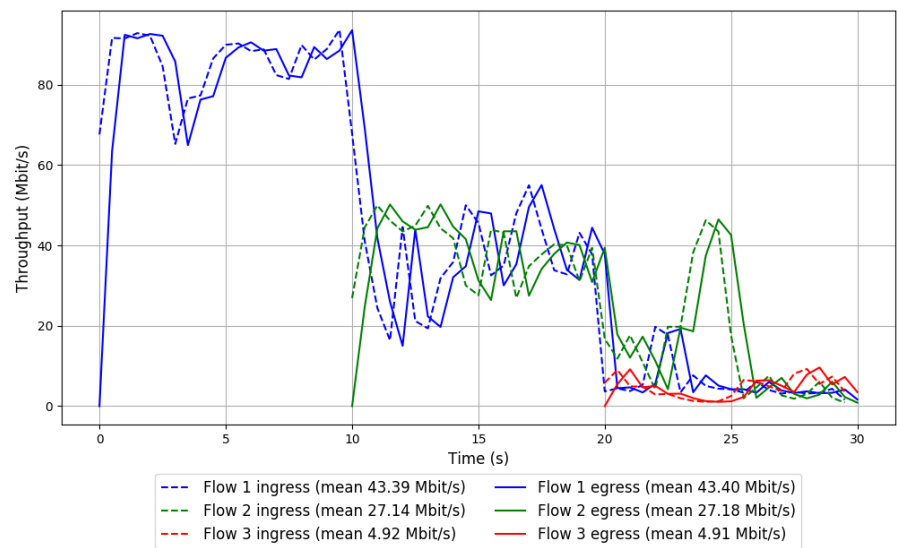


Run 3: Statistics of Muses\\_DecisionTree

Start at: 2019-06-28 12:44:42  
End at: 2019-06-28 12:45:12  
Local clock offset: -0.702 ms  
Remote clock offset: -3.937 ms

# Below is generated by plot.py at 2019-06-28 13:55:32  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 62.88 Mbit/s  
95th percentile per-packet one-way delay: 26.721 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 43.40 Mbit/s  
95th percentile per-packet one-way delay: 27.122 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 27.18 Mbit/s  
95th percentile per-packet one-way delay: 26.315 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 4.91 Mbit/s  
95th percentile per-packet one-way delay: 22.359 ms  
Loss rate: 0.52%

Run 3: Report of Muses\_DecisionTree — Data Link

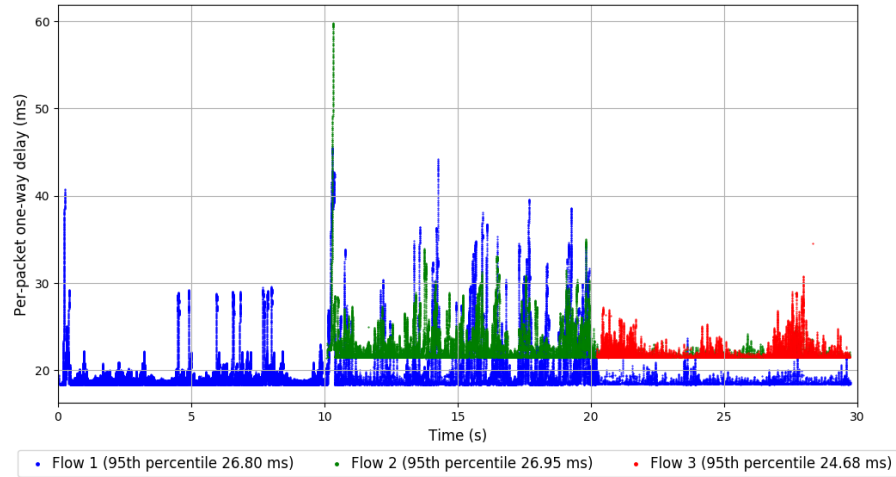
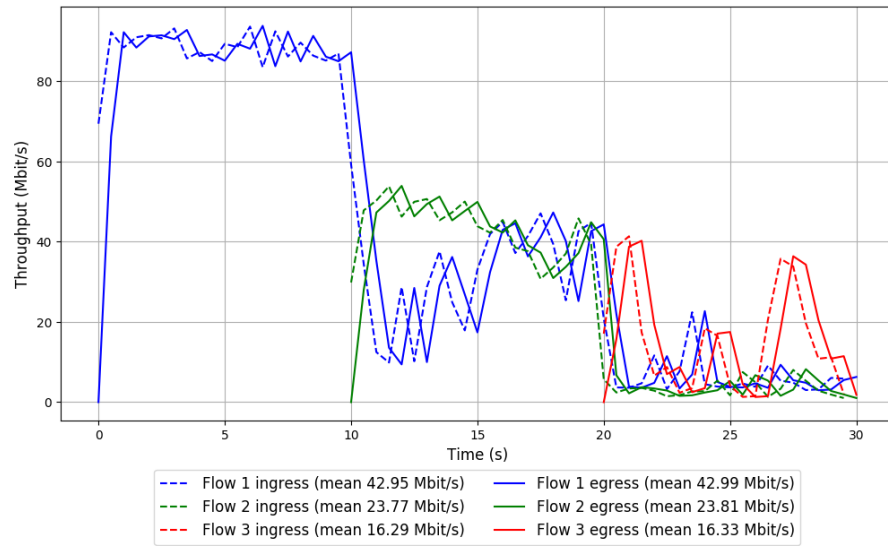


Run 4: Statistics of Muses\\_DecisionTree

Start at: 2019-06-28 13:11:18  
End at: 2019-06-28 13:11:48  
Local clock offset: -1.604 ms  
Remote clock offset: -5.235 ms

# Below is generated by plot.py at 2019-06-28 13:55:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 63.97 Mbit/s  
95th percentile per-packet one-way delay: 26.614 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 42.99 Mbit/s  
95th percentile per-packet one-way delay: 26.795 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 23.81 Mbit/s  
95th percentile per-packet one-way delay: 26.948 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 16.33 Mbit/s  
95th percentile per-packet one-way delay: 24.684 ms  
Loss rate: 0.16%

#### Run 4: Report of Muses\_DecisionTree — Data Link

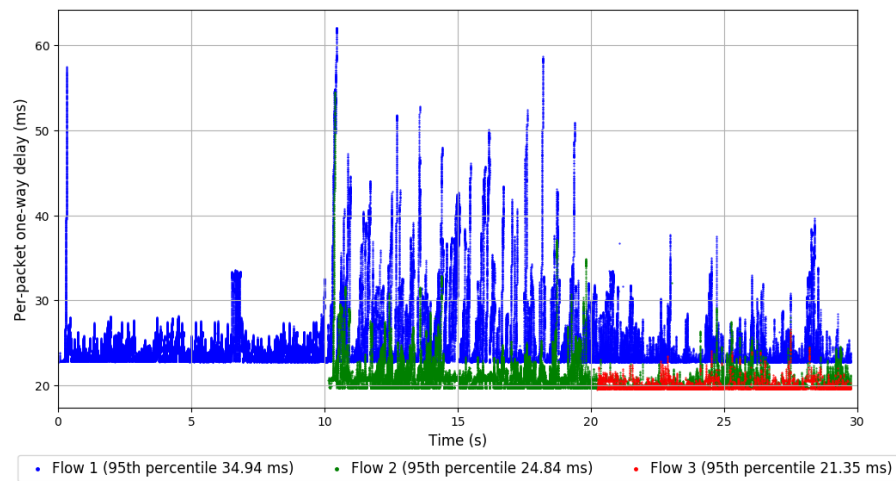
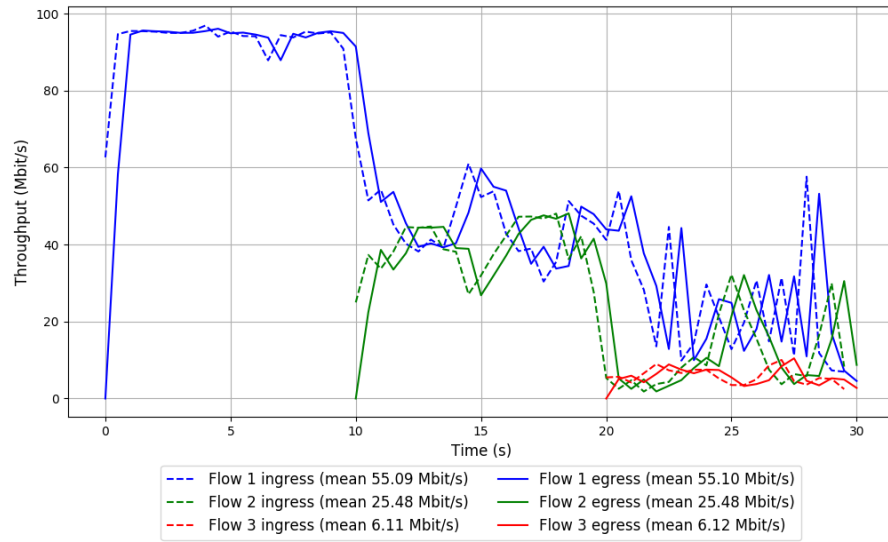


Run 5: Statistics of Muses\\_DecisionTree

Start at: 2019-06-28 13:38:23  
End at: 2019-06-28 13:38:53  
Local clock offset: -0.155 ms  
Remote clock offset: -6.017 ms

# Below is generated by plot.py at 2019-06-28 13:56:06  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 73.86 Mbit/s  
95th percentile per-packet one-way delay: 32.869 ms  
Loss rate: 0.07%  
-- Flow 1:  
Average throughput: 55.10 Mbit/s  
95th percentile per-packet one-way delay: 34.942 ms  
Loss rate: 0.08%  
-- Flow 2:  
Average throughput: 25.48 Mbit/s  
95th percentile per-packet one-way delay: 24.843 ms  
Loss rate: 0.03%  
-- Flow 3:  
Average throughput: 6.12 Mbit/s  
95th percentile per-packet one-way delay: 21.348 ms  
Loss rate: 0.10%

## Run 5: Report of Muses\_DecisionTree — Data Link



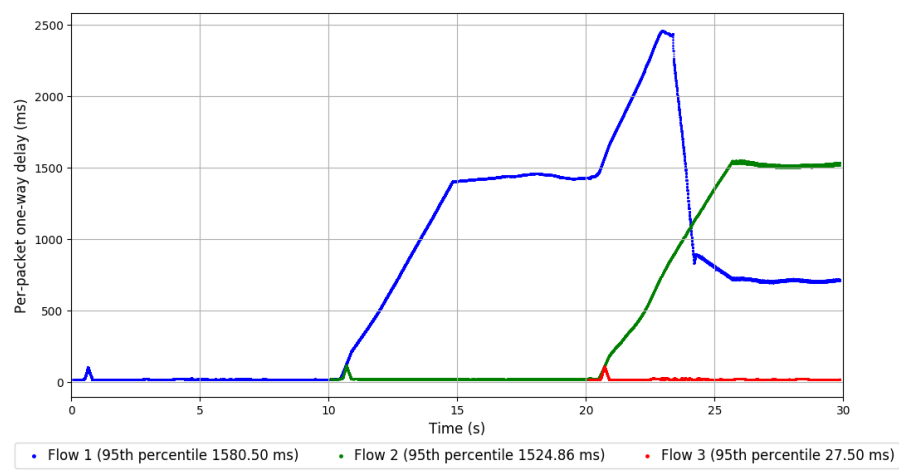
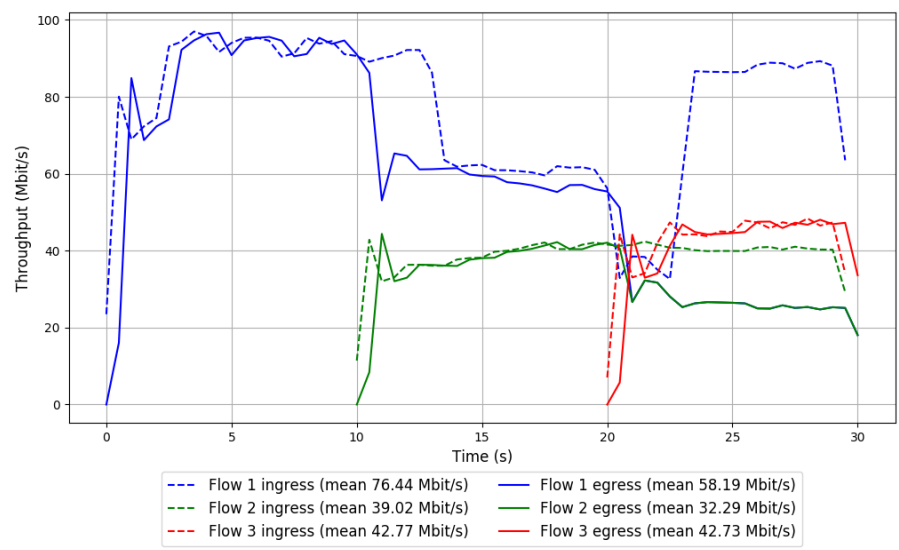


Run 1: Statistics of PCC-Allegro

Start at: 2019-06-28 11:38:35  
End at: 2019-06-28 11:39:05  
Local clock offset: -0.358 ms  
Remote clock offset: -2.817 ms

# Below is generated by plot.py at 2019-06-28 13:56:31  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.68 Mbit/s  
95th percentile per-packet one-way delay: 1518.776 ms  
Loss rate: 19.62%  
-- Flow 1:  
Average throughput: 58.19 Mbit/s  
95th percentile per-packet one-way delay: 1580.497 ms  
Loss rate: 23.95%  
-- Flow 2:  
Average throughput: 32.29 Mbit/s  
95th percentile per-packet one-way delay: 1524.862 ms  
Loss rate: 17.34%  
-- Flow 3:  
Average throughput: 42.73 Mbit/s  
95th percentile per-packet one-way delay: 27.499 ms  
Loss rate: 0.31%

Run 1: Report of PCC-Allegro — Data Link

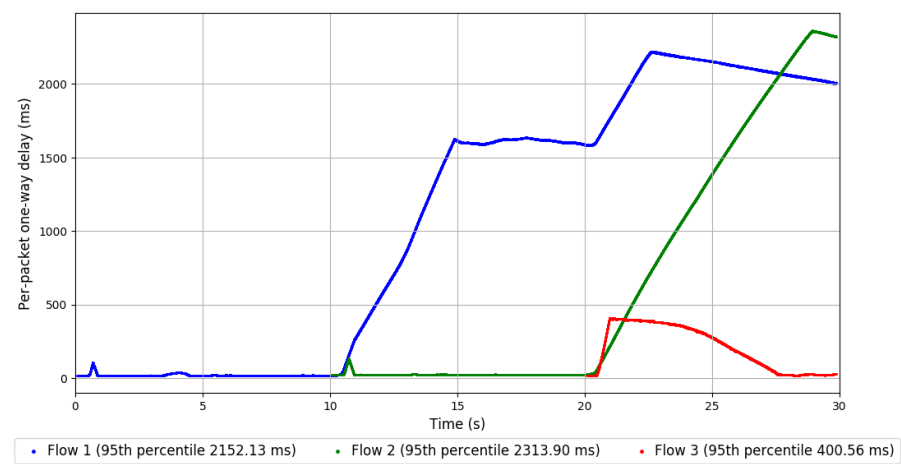
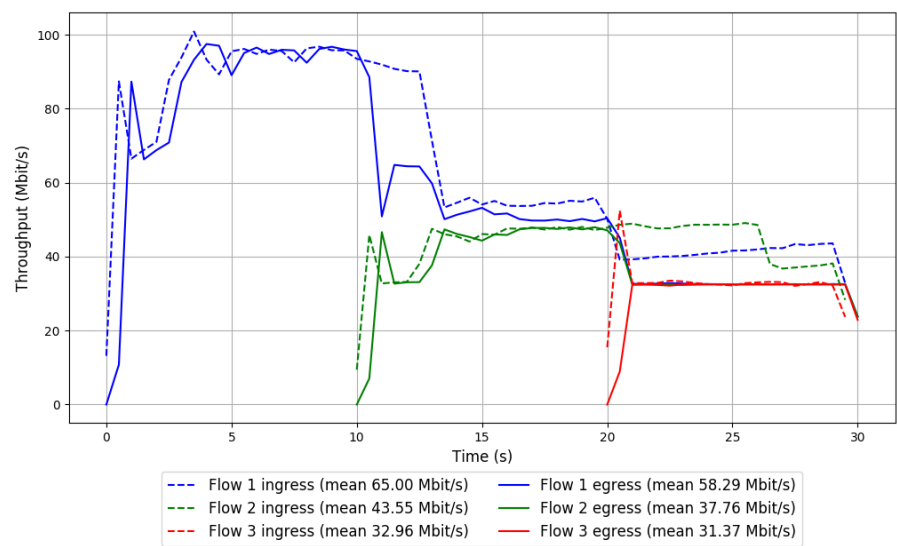


Run 2: Statistics of PCC-Allegro

Start at: 2019-06-28 12:05:55  
End at: 2019-06-28 12:06:25  
Local clock offset: -1.92 ms  
Remote clock offset: -3.569 ms

# Below is generated by plot.py at 2019-06-28 13:56:31  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.70 Mbit/s  
95th percentile per-packet one-way delay: 2157.050 ms  
Loss rate: 10.68%  
-- Flow 1:  
Average throughput: 58.29 Mbit/s  
95th percentile per-packet one-way delay: 2152.134 ms  
Loss rate: 10.38%  
-- Flow 2:  
Average throughput: 37.76 Mbit/s  
95th percentile per-packet one-way delay: 2313.903 ms  
Loss rate: 13.43%  
-- Flow 3:  
Average throughput: 31.37 Mbit/s  
95th percentile per-packet one-way delay: 400.561 ms  
Loss rate: 5.11%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-06-28 12:32:28

End at: 2019-06-28 12:32:58

Local clock offset: -1.37 ms

Remote clock offset: -3.34 ms

# Below is generated by plot.py at 2019-06-28 13:56:31

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.63 Mbit/s

95th percentile per-packet one-way delay: 2130.216 ms

Loss rate: 10.47%

-- Flow 1:

Average throughput: 58.74 Mbit/s

95th percentile per-packet one-way delay: 2143.627 ms

Loss rate: 10.34%

-- Flow 2:

Average throughput: 38.83 Mbit/s

95th percentile per-packet one-way delay: 2149.133 ms

Loss rate: 13.01%

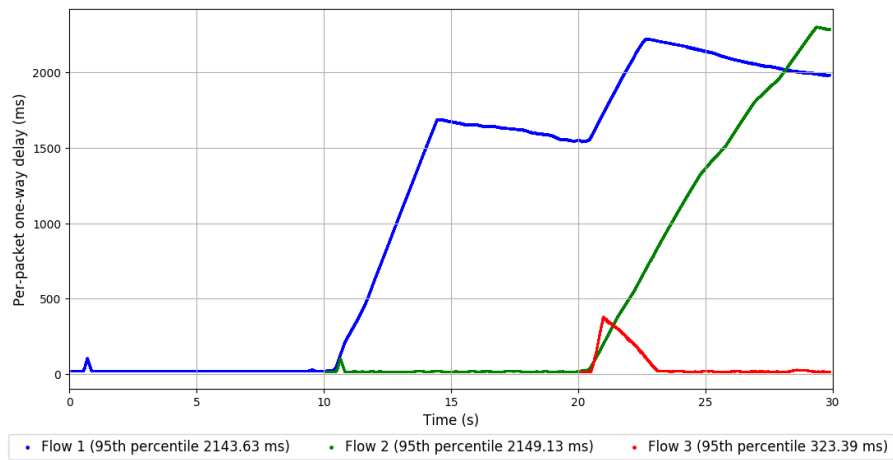
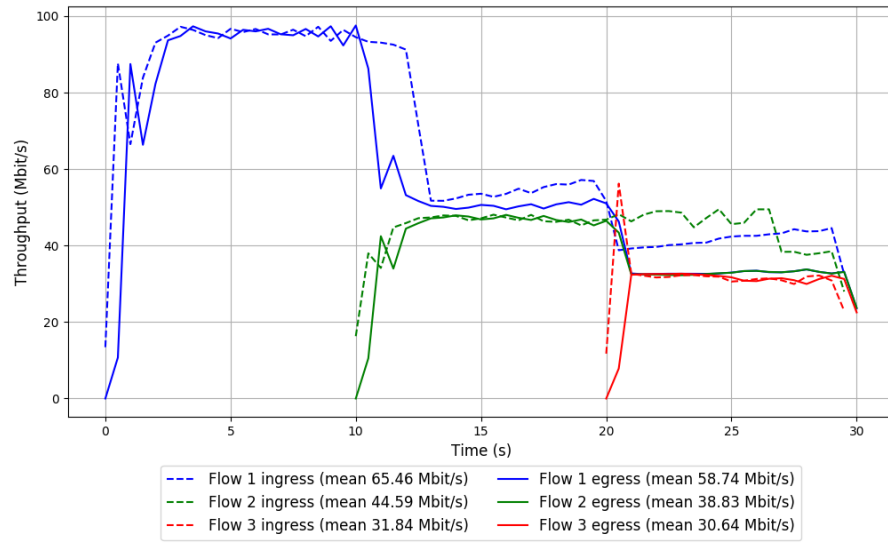
-- Flow 3:

Average throughput: 30.64 Mbit/s

95th percentile per-packet one-way delay: 323.391 ms

Loss rate: 4.13%

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

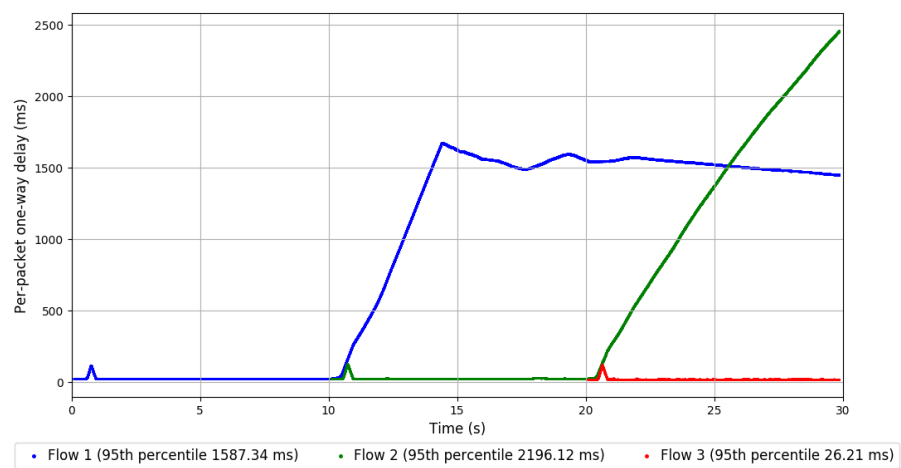
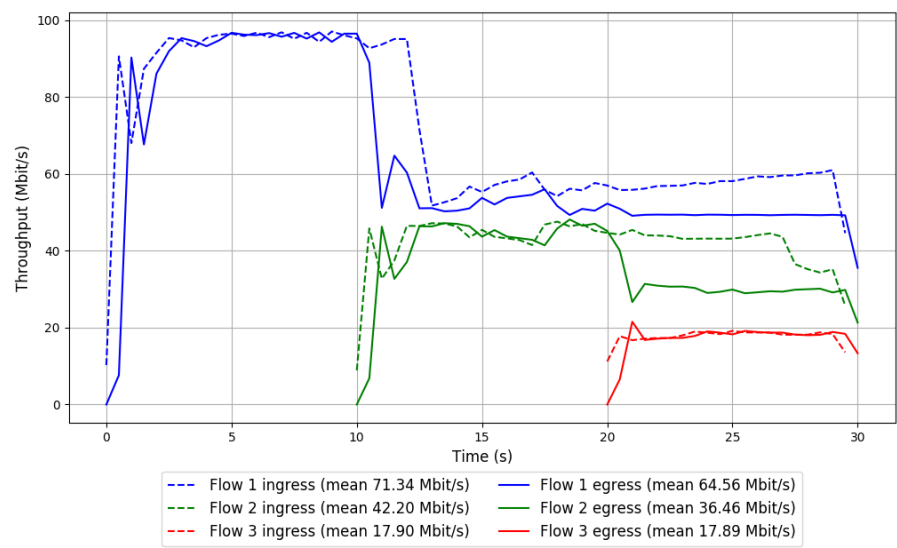


Run 4: Statistics of PCC-Allegro

Start at: 2019-06-28 12:59:01  
End at: 2019-06-28 12:59:31  
Local clock offset: -1.677 ms  
Remote clock offset: -5.403 ms

# Below is generated by plot.py at 2019-06-28 13:56:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.68 Mbit/s  
95th percentile per-packet one-way delay: 1636.180 ms  
Loss rate: 10.18%  
-- Flow 1:  
Average throughput: 64.56 Mbit/s  
95th percentile per-packet one-way delay: 1587.343 ms  
Loss rate: 9.59%  
-- Flow 2:  
Average throughput: 36.46 Mbit/s  
95th percentile per-packet one-way delay: 2196.121 ms  
Loss rate: 13.76%  
-- Flow 3:  
Average throughput: 17.89 Mbit/s  
95th percentile per-packet one-way delay: 26.213 ms  
Loss rate: 0.32%

Run 4: Report of PCC-Allegro — Data Link



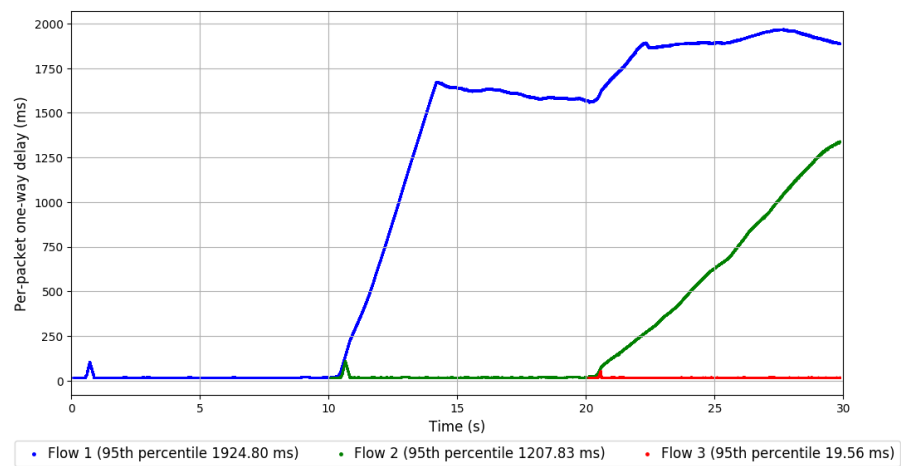
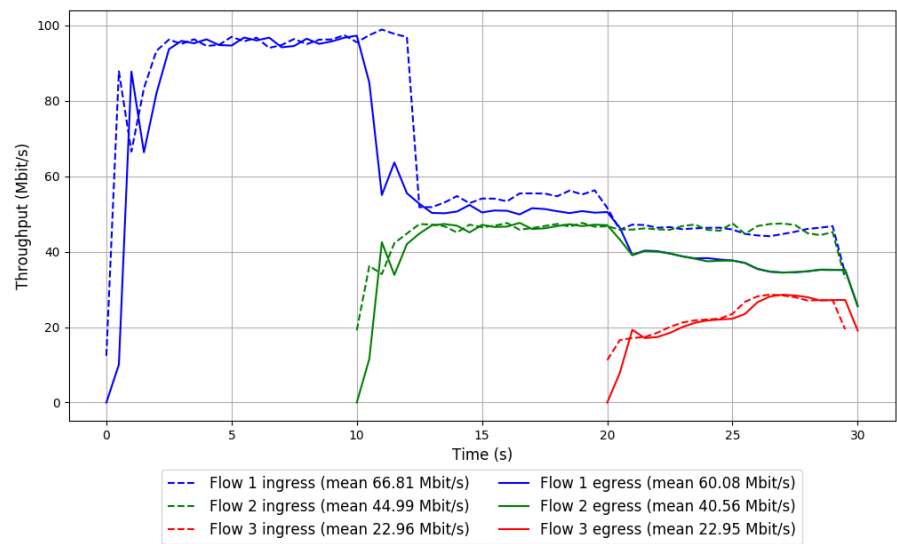


Run 5: Statistics of PCC-Allegro

Start at: 2019-06-28 13:25:57  
End at: 2019-06-28 13:26:27  
Local clock offset: -0.84 ms  
Remote clock offset: -4.635 ms

# Below is generated by plot.py at 2019-06-28 13:56:40  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.59 Mbit/s  
95th percentile per-packet one-way delay: 1896.389 ms  
Loss rate: 9.38%  
-- Flow 1:  
Average throughput: 60.08 Mbit/s  
95th percentile per-packet one-way delay: 1924.801 ms  
Loss rate: 10.15%  
-- Flow 2:  
Average throughput: 40.56 Mbit/s  
95th percentile per-packet one-way delay: 1207.833 ms  
Loss rate: 9.96%  
-- Flow 3:  
Average throughput: 22.95 Mbit/s  
95th percentile per-packet one-way delay: 19.562 ms  
Loss rate: 0.28%

Run 5: Report of PCC-Allegro — Data Link

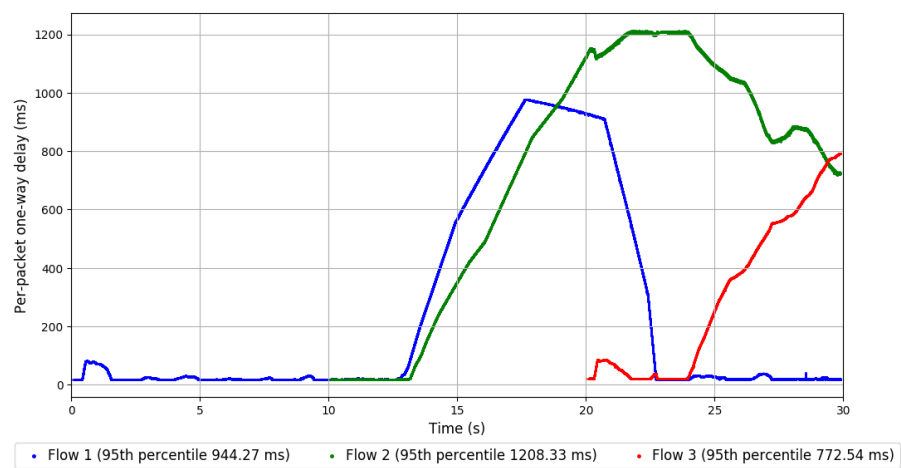
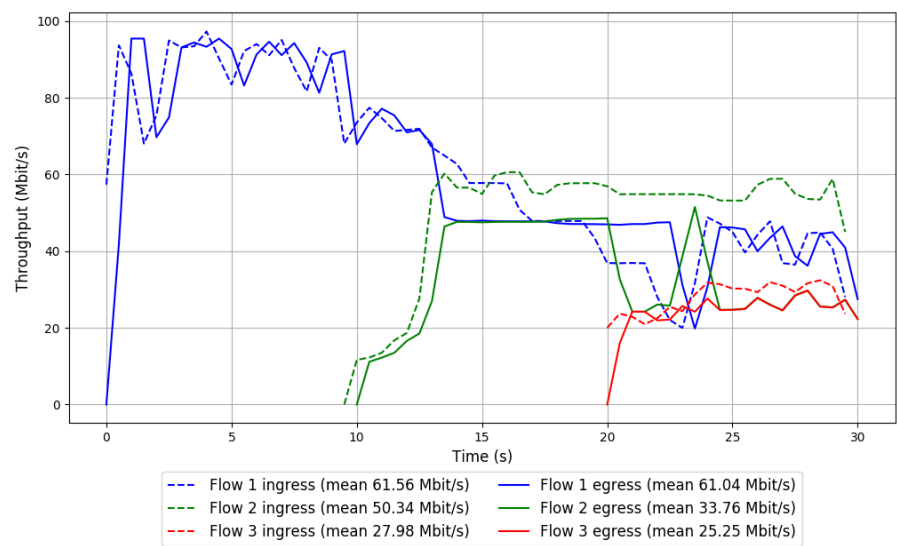


```
Run 1: Statistics of PCC-Expr

Start at: 2019-06-28 11:47:20
End at: 2019-06-28 11:47:50
Local clock offset: -0.579 ms
Remote clock offset: -2.818 ms

# Below is generated by plot.py at 2019-06-28 13:57:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.83 Mbit/s
95th percentile per-packet one-way delay: 1125.333 ms
Loss rate: 12.04%
-- Flow 1:
Average throughput: 61.04 Mbit/s
95th percentile per-packet one-way delay: 944.271 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 33.76 Mbit/s
95th percentile per-packet one-way delay: 1208.326 ms
Loss rate: 33.02%
-- Flow 3:
Average throughput: 25.25 Mbit/s
95th percentile per-packet one-way delay: 772.540 ms
Loss rate: 9.97%
```

Run 1: Report of PCC-Expr — Data Link

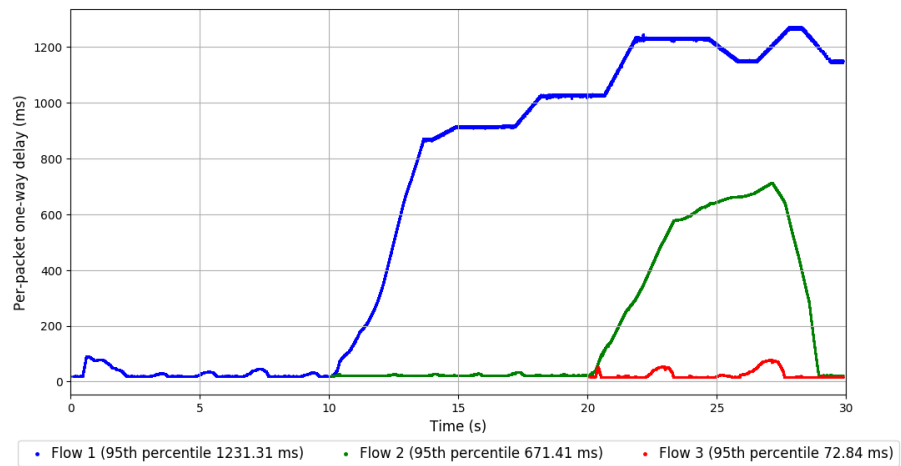
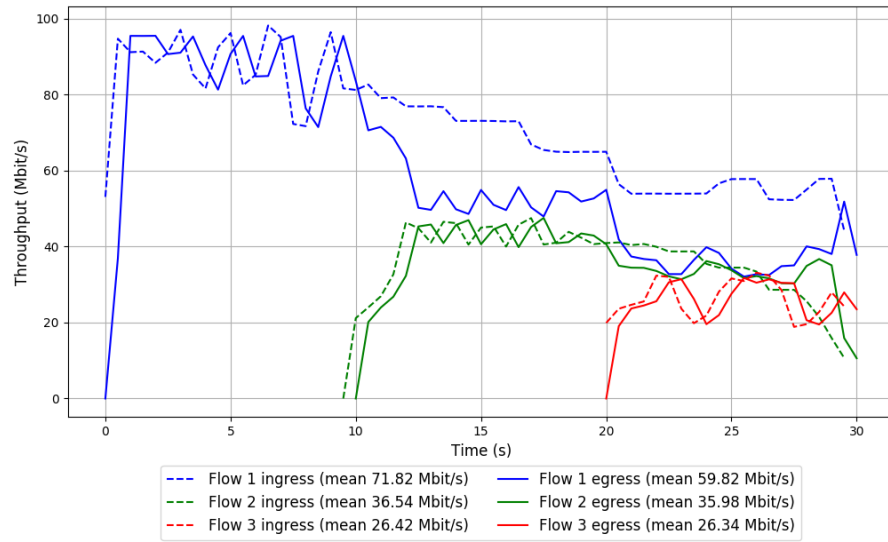


Run 2: Statistics of PCC-Expr

Start at: 2019-06-28 12:14:28  
End at: 2019-06-28 12:14:58  
Local clock offset: -1.707 ms  
Remote clock offset: -2.245 ms

# Below is generated by plot.py at 2019-06-28 13:57:56  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.44 Mbit/s  
95th percentile per-packet one-way delay: 1227.627 ms  
Loss rate: 11.93%  
-- Flow 1:  
Average throughput: 59.82 Mbit/s  
95th percentile per-packet one-way delay: 1231.313 ms  
Loss rate: 16.78%  
-- Flow 2:  
Average throughput: 35.98 Mbit/s  
95th percentile per-packet one-way delay: 671.407 ms  
Loss rate: 1.68%  
-- Flow 3:  
Average throughput: 26.34 Mbit/s  
95th percentile per-packet one-way delay: 72.843 ms  
Loss rate: 0.55%

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

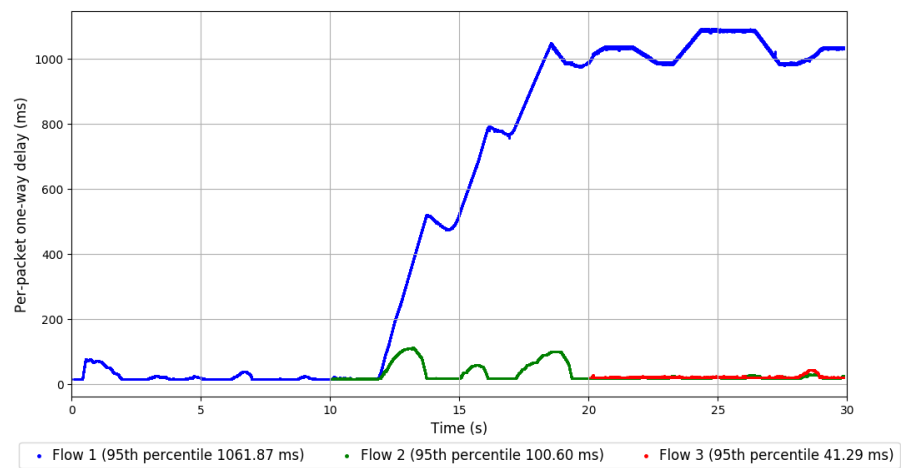
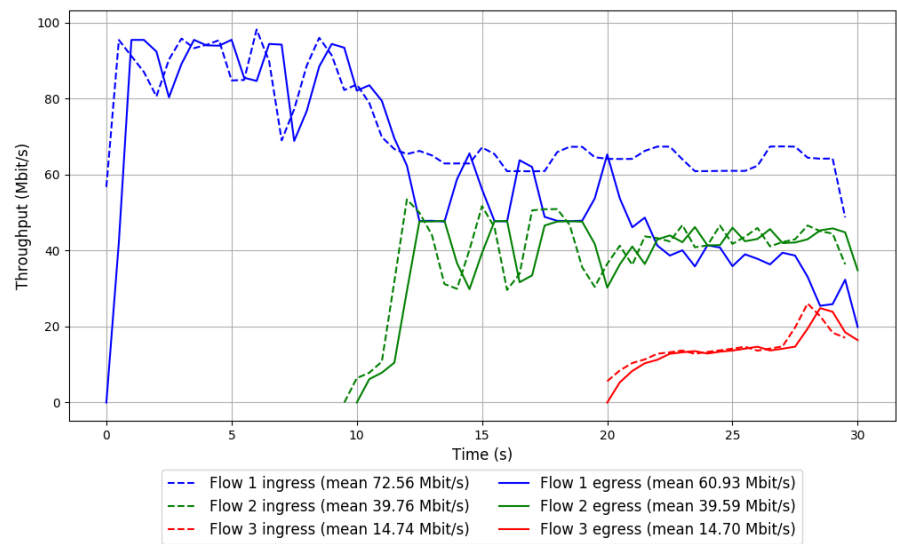


Run 3: Statistics of PCC-Expr

Start at: 2019-06-28 12:41:02  
End at: 2019-06-28 12:41:32  
Local clock offset: -1.267 ms  
Remote clock offset: -3.047 ms

# Below is generated by plot.py at 2019-06-28 13:58:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.10 Mbit/s  
95th percentile per-packet one-way delay: 1036.776 ms  
Loss rate: 11.42%  
-- Flow 1:  
Average throughput: 60.93 Mbit/s  
95th percentile per-packet one-way delay: 1061.872 ms  
Loss rate: 16.09%  
-- Flow 2:  
Average throughput: 39.59 Mbit/s  
95th percentile per-packet one-way delay: 100.598 ms  
Loss rate: 0.59%  
-- Flow 3:  
Average throughput: 14.70 Mbit/s  
95th percentile per-packet one-way delay: 41.286 ms  
Loss rate: 0.56%

Run 3: Report of PCC-Expr — Data Link



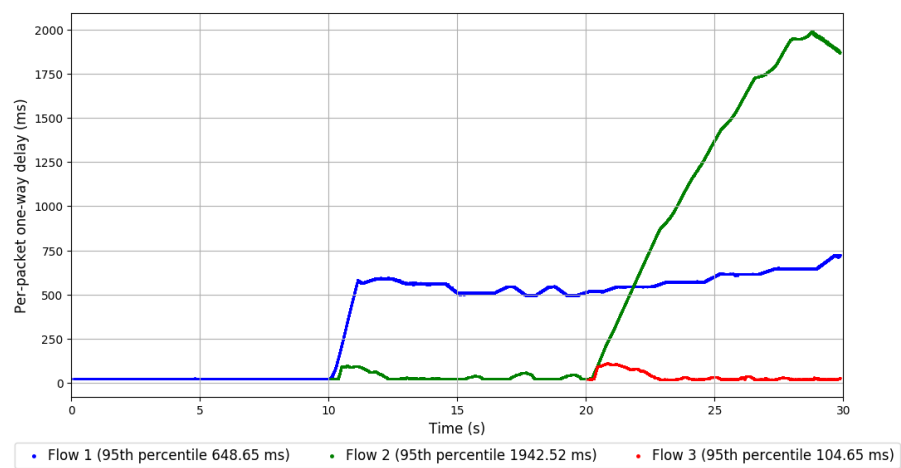
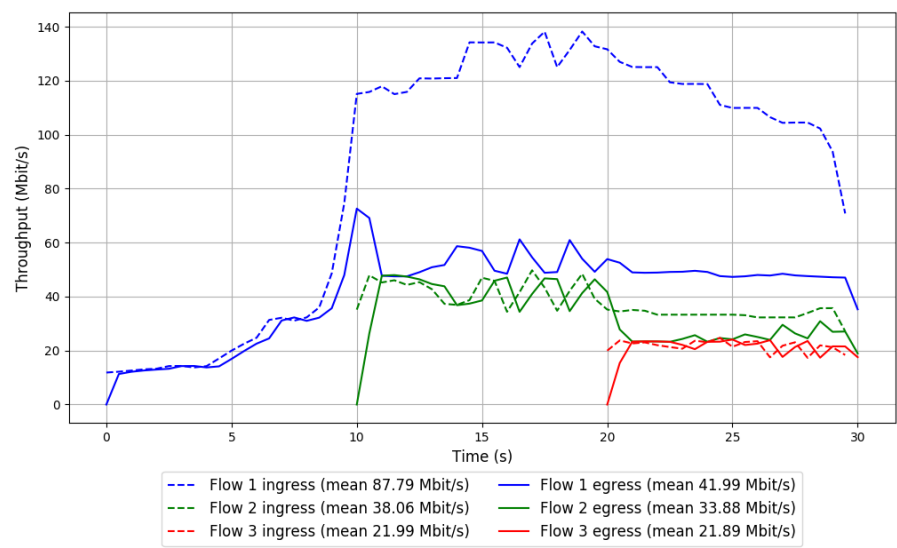


Run 4: Statistics of PCC-Expr

Start at: 2019-06-28 13:07:36  
End at: 2019-06-28 13:08:06  
Local clock offset: -1.092 ms  
Remote clock offset: -5.452 ms

# Below is generated by plot.py at 2019-06-28 13:58:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 71.73 Mbit/s  
95th percentile per-packet one-way delay: 1497.566 ms  
Loss rate: 40.48%  
-- Flow 1:  
Average throughput: 41.99 Mbit/s  
95th percentile per-packet one-way delay: 648.646 ms  
Loss rate: 52.23%  
-- Flow 2:  
Average throughput: 33.88 Mbit/s  
95th percentile per-packet one-way delay: 1942.522 ms  
Loss rate: 11.12%  
-- Flow 3:  
Average throughput: 21.89 Mbit/s  
95th percentile per-packet one-way delay: 104.646 ms  
Loss rate: 0.72%

Run 4: Report of PCC-Expr — Data Link

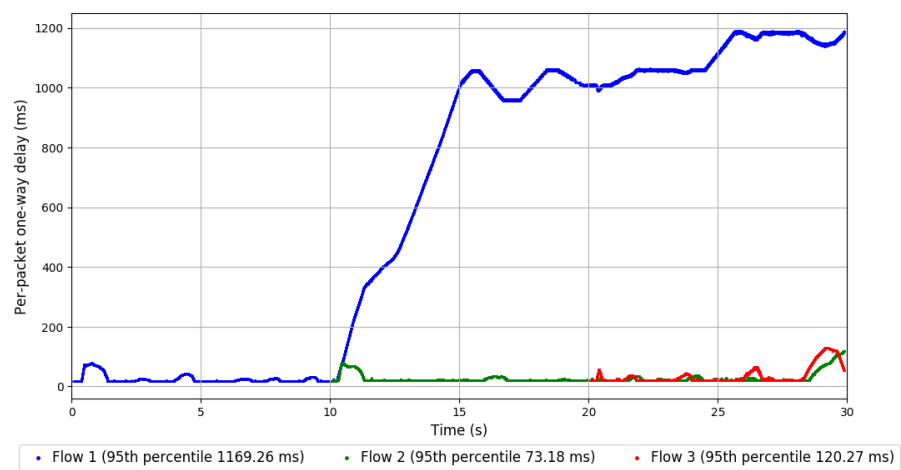
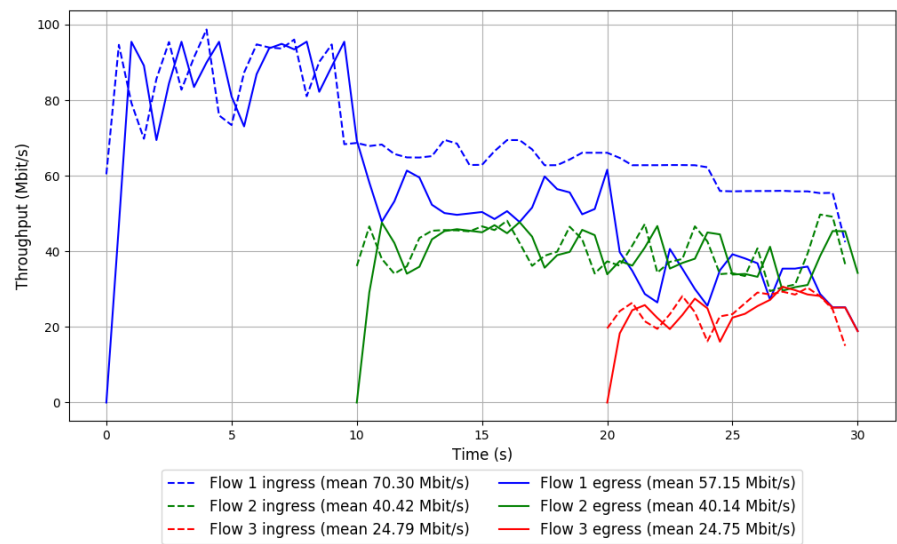


Run 5: Statistics of PCC-Expr

Start at: 2019-06-28 13:34:38  
End at: 2019-06-28 13:35:08  
Local clock offset: -1.063 ms  
Remote clock offset: -6.096 ms

# Below is generated by plot.py at 2019-06-28 13:58:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.00 Mbit/s  
95th percentile per-packet one-way delay: 1103.937 ms  
Loss rate: 12.77%  
-- Flow 1:  
Average throughput: 57.15 Mbit/s  
95th percentile per-packet one-way delay: 1169.259 ms  
Loss rate: 18.77%  
-- Flow 2:  
Average throughput: 40.14 Mbit/s  
95th percentile per-packet one-way delay: 73.184 ms  
Loss rate: 0.81%  
-- Flow 3:  
Average throughput: 24.75 Mbit/s  
95th percentile per-packet one-way delay: 120.270 ms  
Loss rate: 0.44%

Run 5: Report of PCC-Expr — Data Link

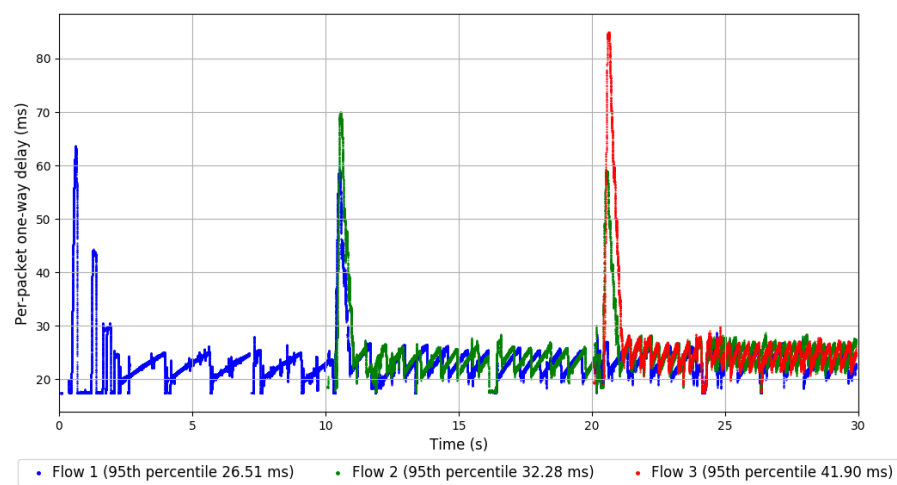
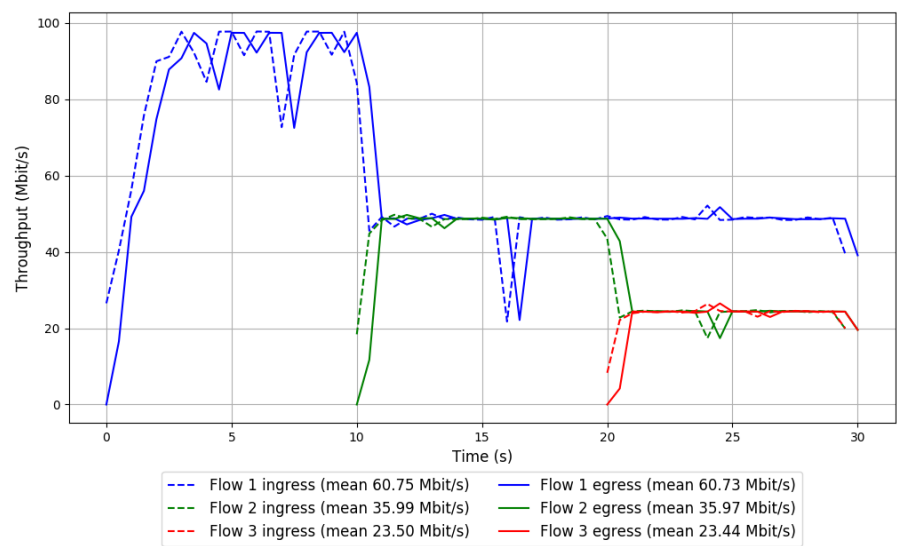


Run 1: Statistics of QUIC Cubic

Start at: 2019-06-28 11:46:06  
End at: 2019-06-28 11:46:36  
Local clock offset: -1.211 ms  
Remote clock offset: -2.321 ms

# Below is generated by plot.py at 2019-06-28 13:58:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.38 Mbit/s  
95th percentile per-packet one-way delay: 27.822 ms  
Loss rate: 0.17%  
-- Flow 1:  
Average throughput: 60.73 Mbit/s  
95th percentile per-packet one-way delay: 26.510 ms  
Loss rate: 0.12%  
-- Flow 2:  
Average throughput: 35.97 Mbit/s  
95th percentile per-packet one-way delay: 32.285 ms  
Loss rate: 0.19%  
-- Flow 3:  
Average throughput: 23.44 Mbit/s  
95th percentile per-packet one-way delay: 41.895 ms  
Loss rate: 0.52%

Run 1: Report of QUIC Cubic — Data Link

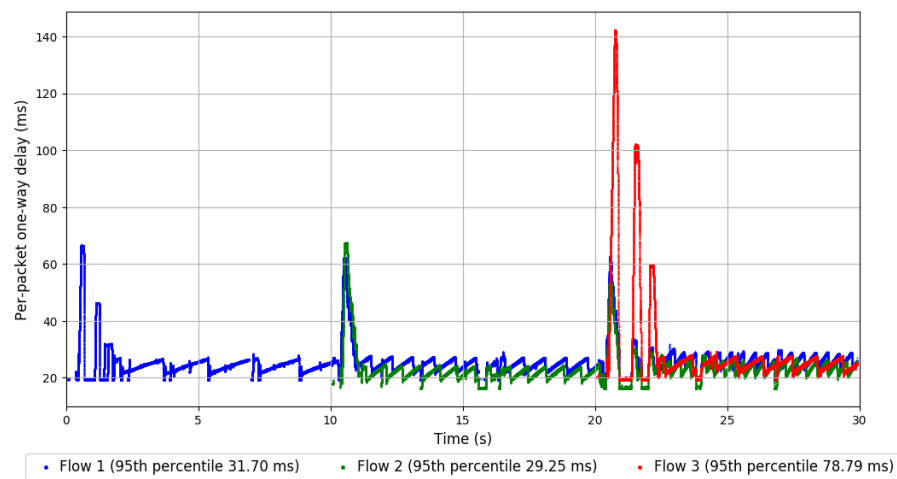
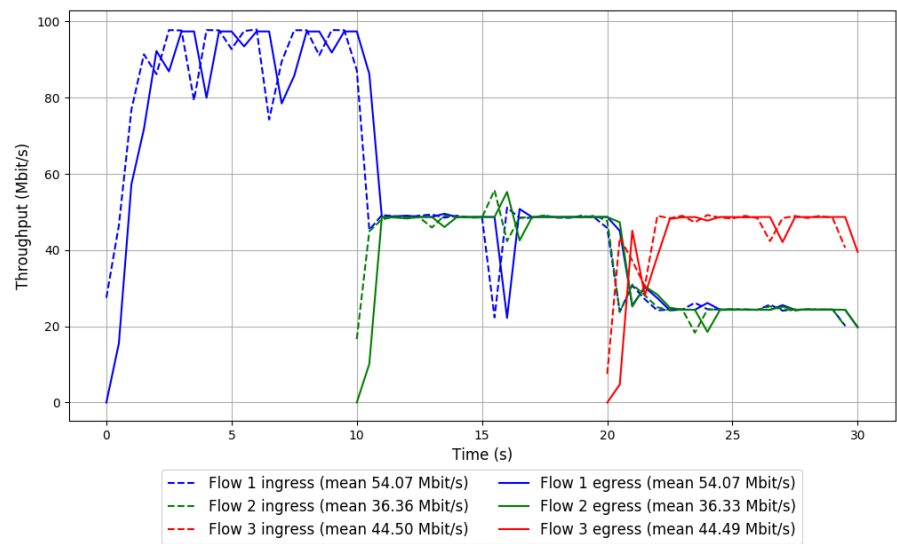


Run 2: Statistics of QUIC Cubic

Start at: 2019-06-28 12:13:16  
End at: 2019-06-28 12:13:46  
Local clock offset: -2.149 ms  
Remote clock offset: -1.844 ms

# Below is generated by plot.py at 2019-06-28 13:58:46  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.91 Mbit/s  
95th percentile per-packet one-way delay: 34.577 ms  
Loss rate: 0.17%  
-- Flow 1:  
Average throughput: 54.07 Mbit/s  
95th percentile per-packet one-way delay: 31.697 ms  
Loss rate: 0.10%  
-- Flow 2:  
Average throughput: 36.33 Mbit/s  
95th percentile per-packet one-way delay: 29.249 ms  
Loss rate: 0.18%  
-- Flow 3:  
Average throughput: 44.49 Mbit/s  
95th percentile per-packet one-way delay: 78.788 ms  
Loss rate: 0.44%

Run 2: Report of QUIC Cubic — Data Link





Run 3: Statistics of QUIC Cubic

Start at: 2019-06-28 12:39:50

End at: 2019-06-28 12:40:20

Local clock offset: -1.543 ms

Remote clock offset: -3.69 ms

# Below is generated by plot.py at 2019-06-28 13:58:46

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.05 Mbit/s

95th percentile per-packet one-way delay: 34.457 ms

Loss rate: 0.16%

-- Flow 1:

Average throughput: 54.53 Mbit/s

95th percentile per-packet one-way delay: 30.267 ms

Loss rate: 0.09%

-- Flow 2:

Average throughput: 46.30 Mbit/s

95th percentile per-packet one-way delay: 46.079 ms

Loss rate: 0.22%

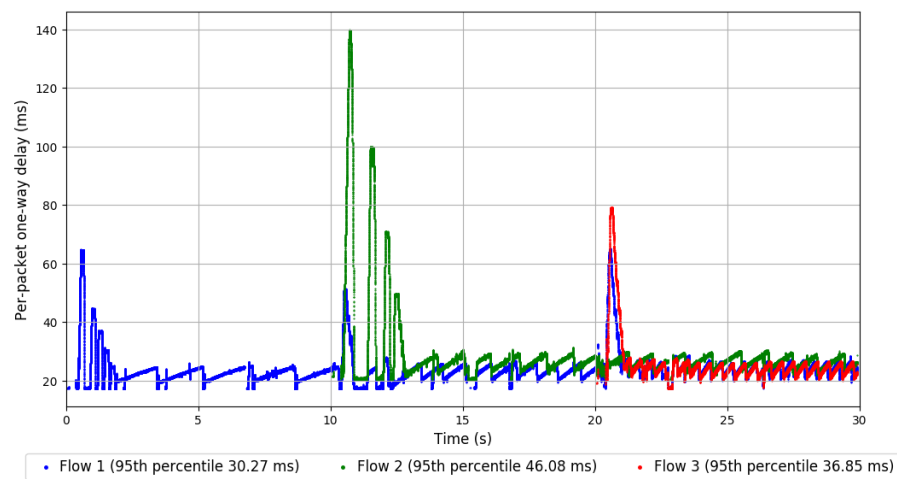
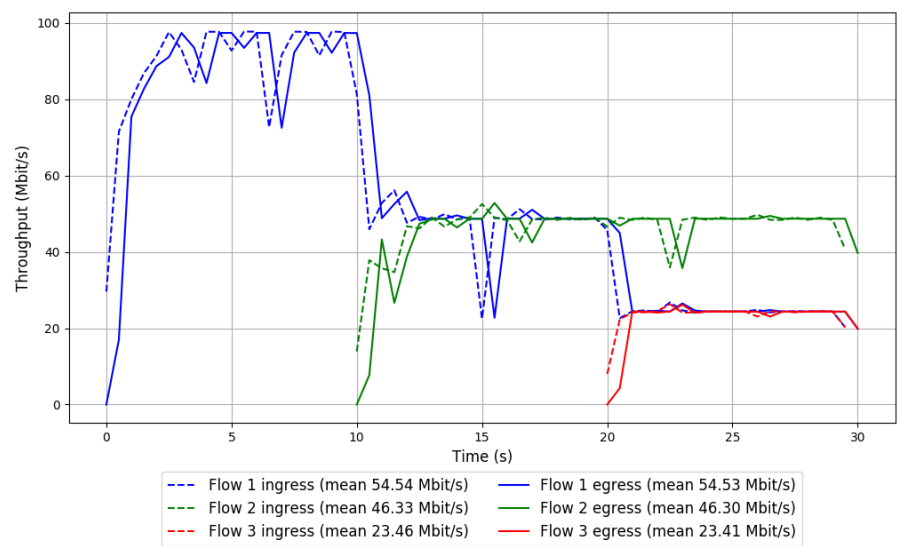
-- Flow 3:

Average throughput: 23.41 Mbit/s

95th percentile per-packet one-way delay: 36.847 ms

Loss rate: 0.47%

Run 3: Report of QUIC Cubic — Data Link

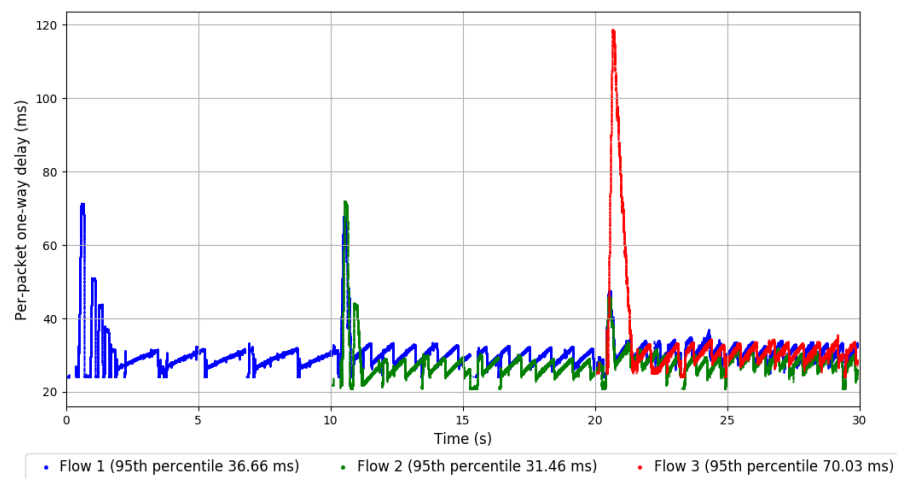
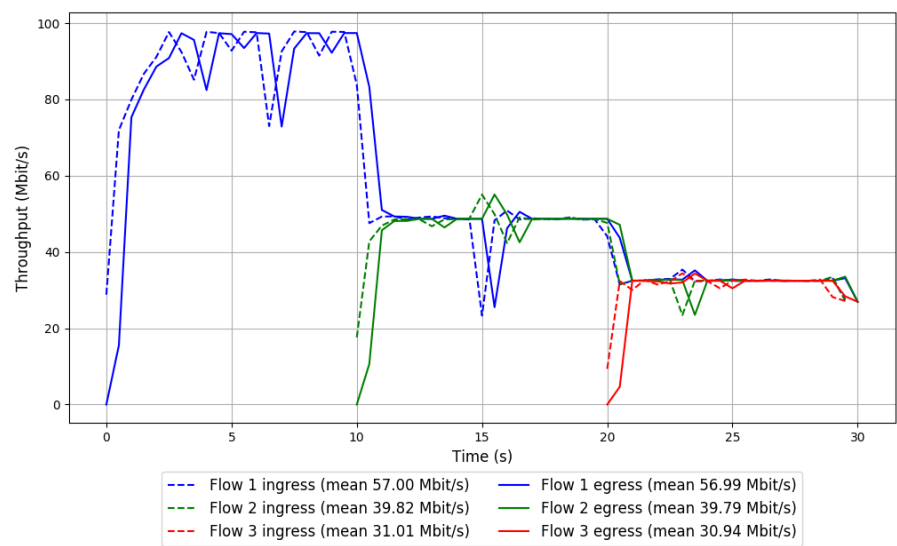


Run 4: Statistics of QUIC Cubic

Start at: 2019-06-28 13:06:22  
End at: 2019-06-28 13:06:52  
Local clock offset: -3.464 ms  
Remote clock offset: -9.556 ms

# Below is generated by plot.py at 2019-06-28 13:58:59  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.66 Mbit/s  
95th percentile per-packet one-way delay: 36.539 ms  
Loss rate: 0.17%  
-- Flow 1:  
Average throughput: 56.99 Mbit/s  
95th percentile per-packet one-way delay: 36.660 ms  
Loss rate: 0.10%  
-- Flow 2:  
Average throughput: 39.79 Mbit/s  
95th percentile per-packet one-way delay: 31.460 ms  
Loss rate: 0.20%  
-- Flow 3:  
Average throughput: 30.94 Mbit/s  
95th percentile per-packet one-way delay: 70.034 ms  
Loss rate: 0.49%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2019-06-28 13:33:23

End at: 2019-06-28 13:33:53

Local clock offset: -0.692 ms

Remote clock offset: -4.59 ms

# Below is generated by plot.py at 2019-06-28 13:59:01

# Datalink statistics

-- Total of 3 flows:

Average throughput: 93.56 Mbit/s

95th percentile per-packet one-way delay: 29.980 ms

Loss rate: 0.16%

-- Flow 1:

Average throughput: 56.91 Mbit/s

95th percentile per-packet one-way delay: 29.872 ms

Loss rate: 0.09%

-- Flow 2:

Average throughput: 39.73 Mbit/s

95th percentile per-packet one-way delay: 27.417 ms

Loss rate: 0.20%

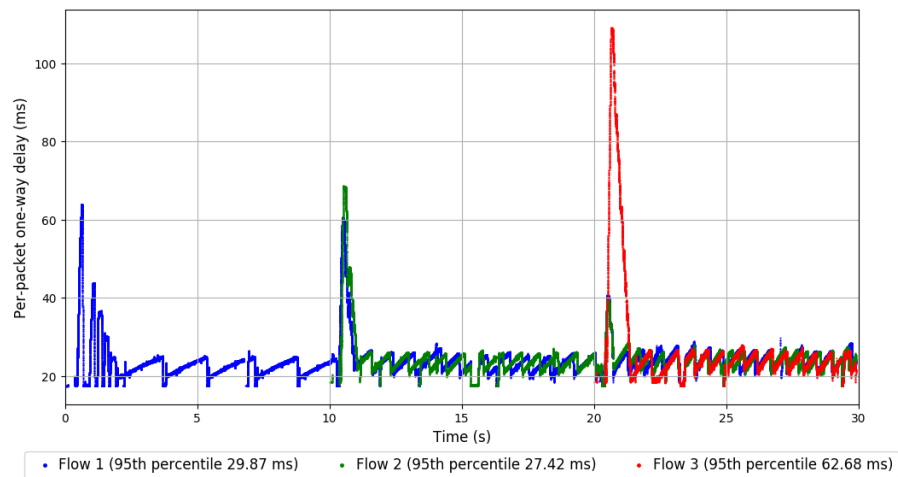
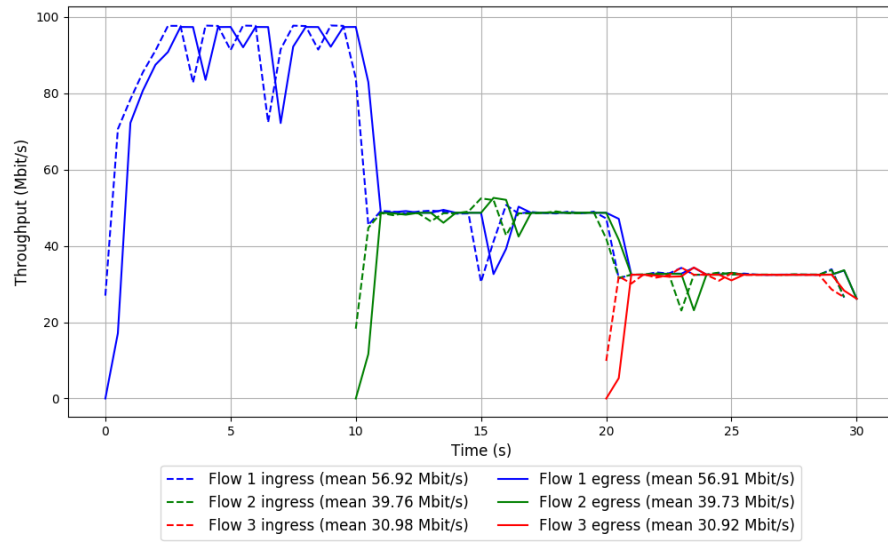
-- Flow 3:

Average throughput: 30.92 Mbit/s

95th percentile per-packet one-way delay: 62.676 ms

Loss rate: 0.46%

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

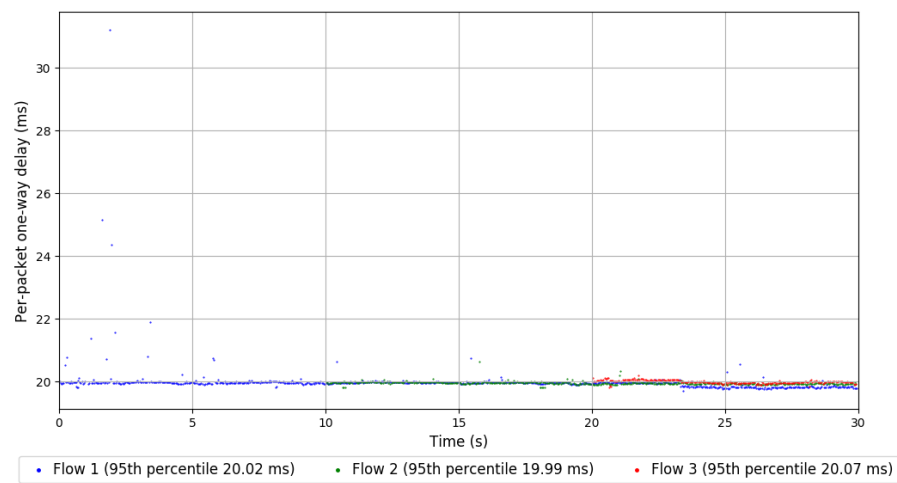
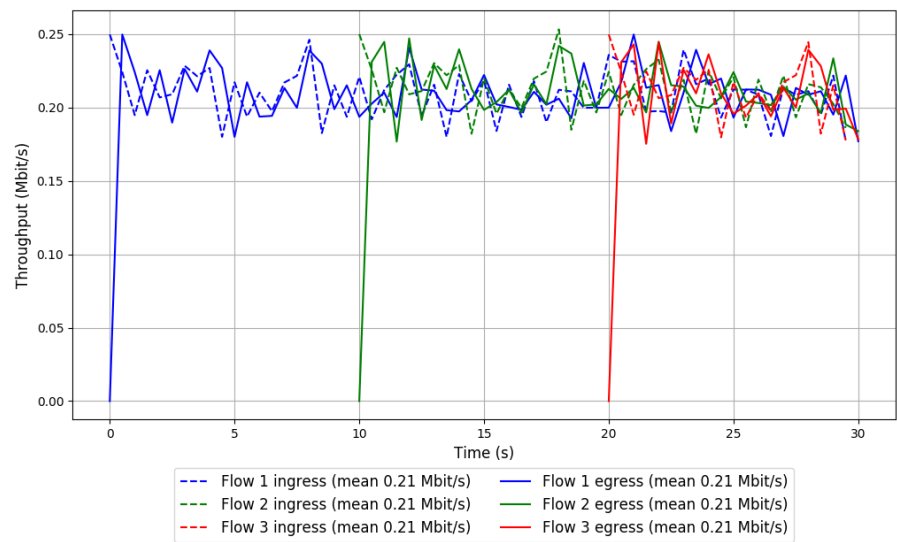


Run 1: Statistics of SReAM

Start at: 2019-06-28 11:35:04  
End at: 2019-06-28 11:35:34  
Local clock offset: -0.002 ms  
Remote clock offset: -3.202 ms

# Below is generated by plot.py at 2019-06-28 13:59:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.42 Mbit/s  
95th percentile per-packet one-way delay: 20.048 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 20.020 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 19.989 ms  
Loss rate: 0.19%  
-- Flow 3:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 20.067 ms  
Loss rate: 0.36%

Run 1: Report of SReAM — Data Link



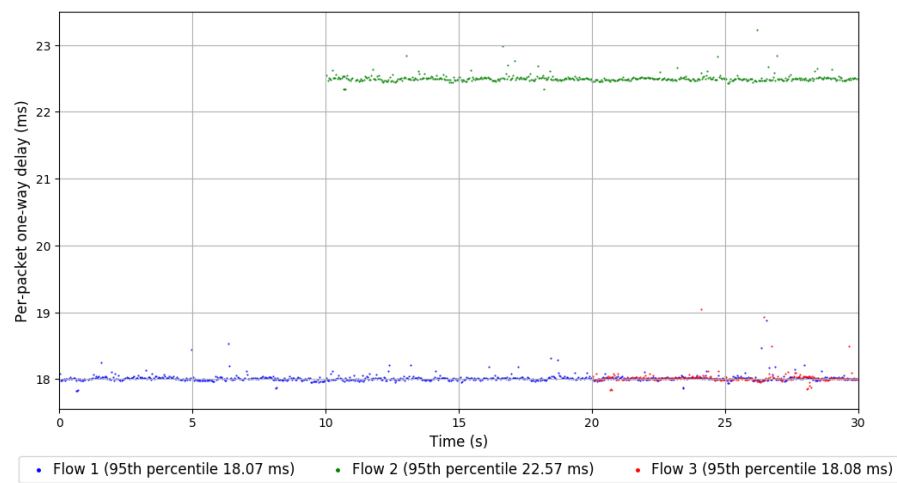
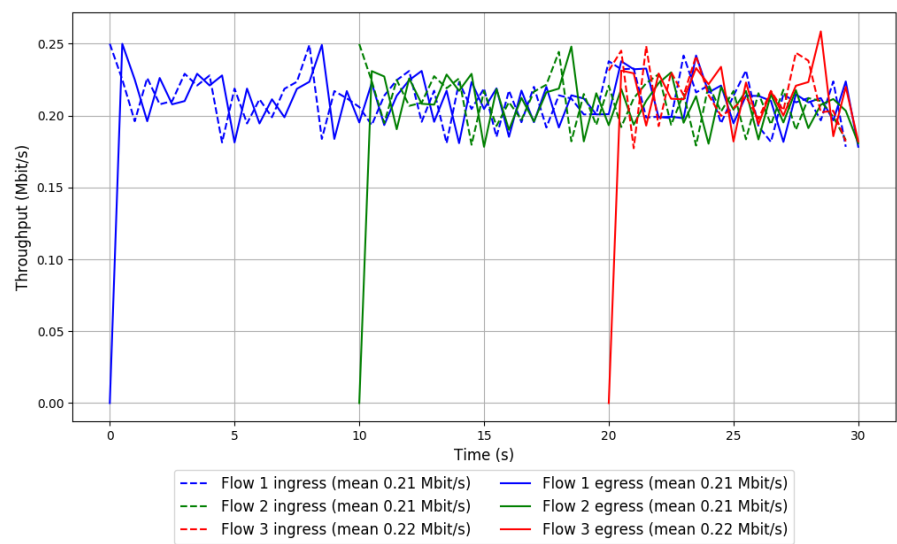


Run 2: Statistics of SReAM

Start at: 2019-06-28 12:02:18  
End at: 2019-06-28 12:02:48  
Local clock offset: -1.54 ms  
Remote clock offset: -4.133 ms

# Below is generated by plot.py at 2019-06-28 13:59:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.42 Mbit/s  
95th percentile per-packet one-way delay: 22.518 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 18.069 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 22.571 ms  
Loss rate: 0.19%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 18.079 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

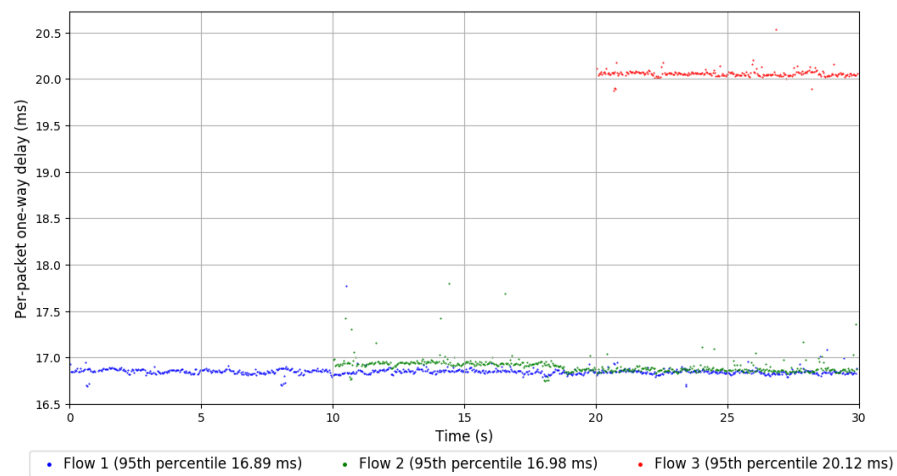
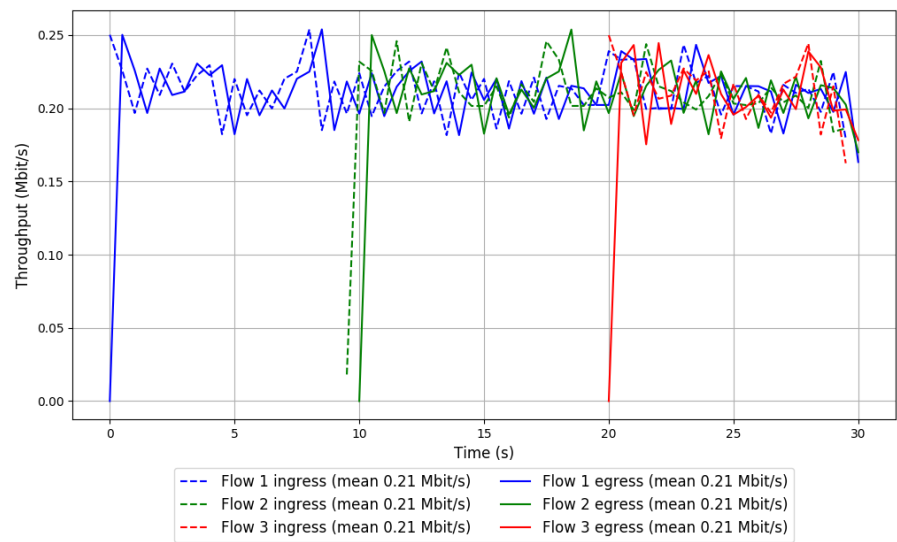


Run 3: Statistics of SCReAM

Start at: 2019-06-28 12:28:56  
End at: 2019-06-28 12:29:26  
Local clock offset: -1.447 ms  
Remote clock offset: -2.443 ms

# Below is generated by plot.py at 2019-06-28 13:59:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 20.068 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 16.889 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 16.983 ms  
Loss rate: 0.19%  
-- Flow 3:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 20.120 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

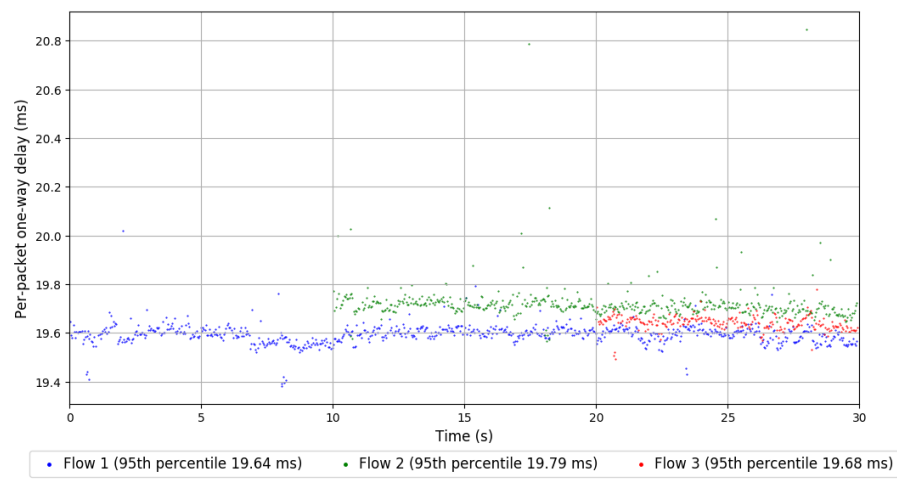
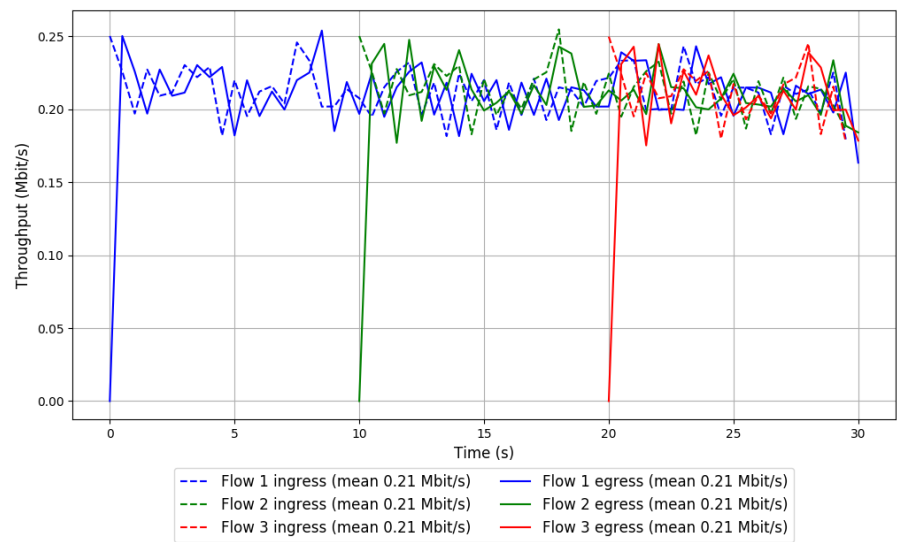


Run 4: Statistics of SCReAM

Start at: 2019-06-28 12:55:32  
End at: 2019-06-28 12:56:02  
Local clock offset: -0.952 ms  
Remote clock offset: -5.565 ms

# Below is generated by plot.py at 2019-06-28 13:59:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 19.741 ms  
Loss rate: 0.19%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 19.638 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 19.786 ms  
Loss rate: 0.19%  
-- Flow 3:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 19.682 ms  
Loss rate: 0.35%

Run 4: Report of SReAM — Data Link

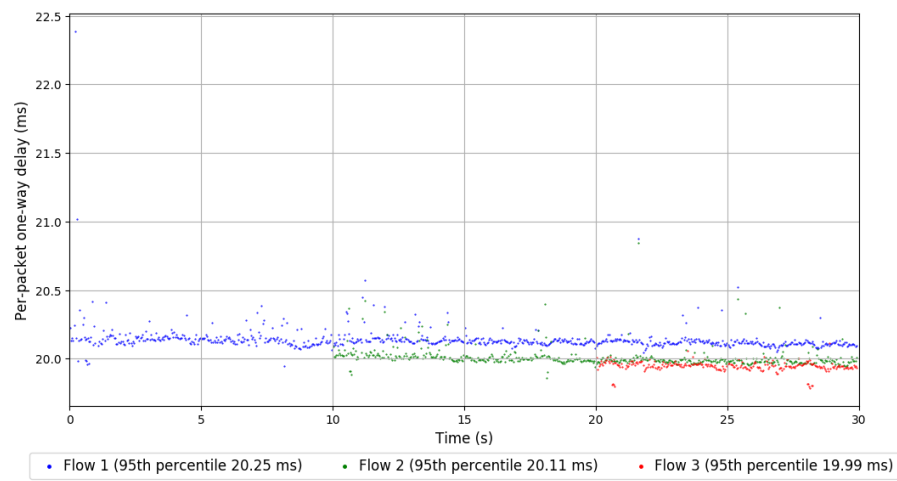
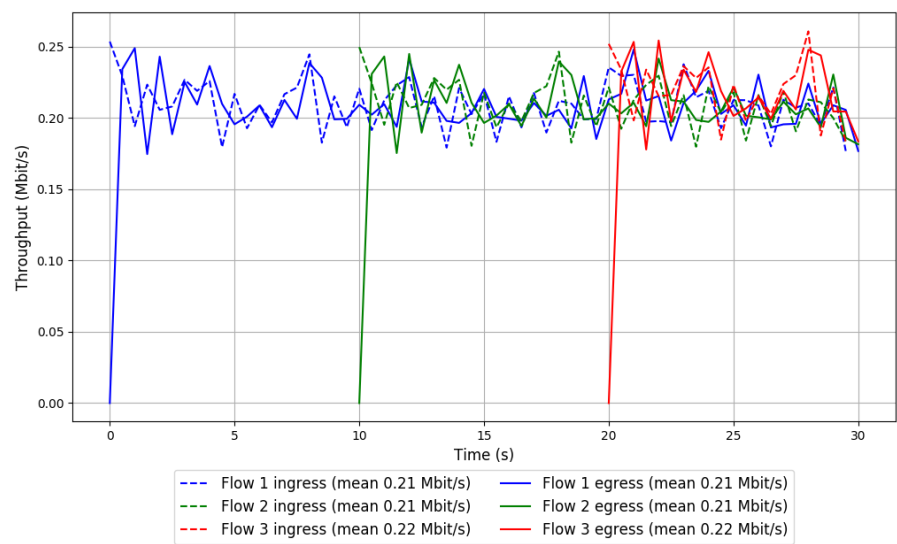


Run 5: Statistics of SReAM

Start at: 2019-06-28 13:22:23  
End at: 2019-06-28 13:22:53  
Local clock offset: -1.331 ms  
Remote clock offset: -3.707 ms

# Below is generated by plot.py at 2019-06-28 13:59:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.42 Mbit/s  
95th percentile per-packet one-way delay: 20.186 ms  
Loss rate: 0.19%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 20.247 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 20.109 ms  
Loss rate: 0.19%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 19.993 ms  
Loss rate: 0.35%

Run 5: Report of SReAM — Data Link



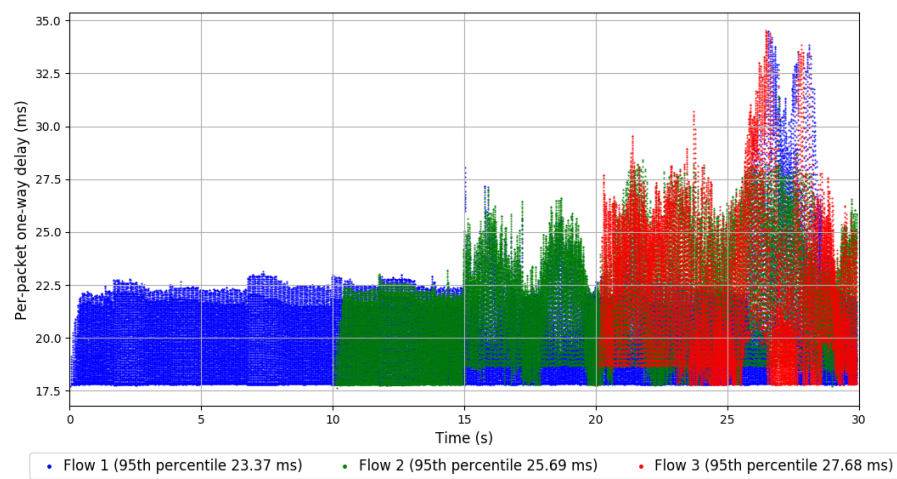
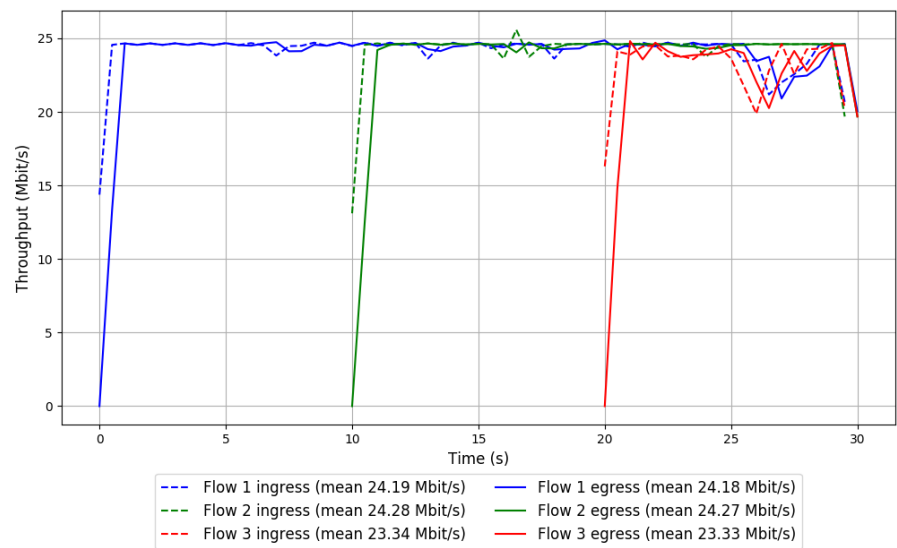


Run 1: Statistics of Sprout

Start at: 2019-06-28 11:48:37  
End at: 2019-06-28 11:49:07  
Local clock offset: -0.667 ms  
Remote clock offset: -1.897 ms

# Below is generated by plot.py at 2019-06-28 13:59:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 48.02 Mbit/s  
95th percentile per-packet one-way delay: 25.684 ms  
Loss rate: 0.15%  
-- Flow 1:  
Average throughput: 24.18 Mbit/s  
95th percentile per-packet one-way delay: 23.372 ms  
Loss rate: 0.11%  
-- Flow 2:  
Average throughput: 24.27 Mbit/s  
95th percentile per-packet one-way delay: 25.688 ms  
Loss rate: 0.10%  
-- Flow 3:  
Average throughput: 23.33 Mbit/s  
95th percentile per-packet one-way delay: 27.685 ms  
Loss rate: 0.35%

Run 1: Report of Sprout — Data Link

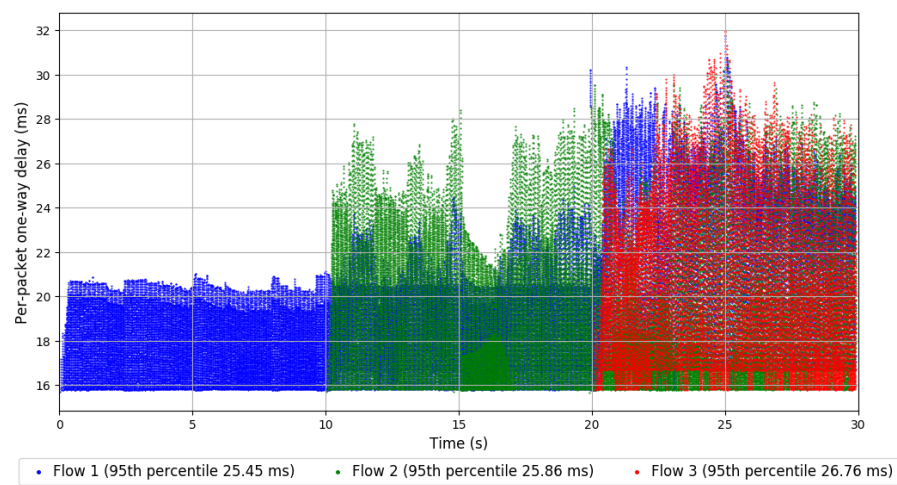
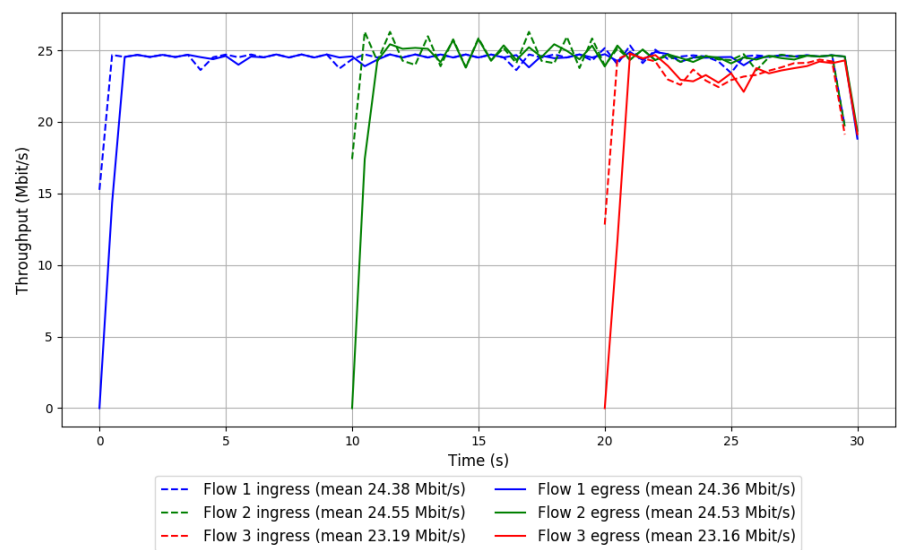


Run 2: Statistics of Sprout

Start at: 2019-06-28 12:15:45  
End at: 2019-06-28 12:16:15  
Local clock offset: -1.476 ms  
Remote clock offset: -2.137 ms

# Below is generated by plot.py at 2019-06-28 13:59:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 48.32 Mbit/s  
95th percentile per-packet one-way delay: 25.875 ms  
Loss rate: 0.15%  
-- Flow 1:  
Average throughput: 24.36 Mbit/s  
95th percentile per-packet one-way delay: 25.448 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 24.53 Mbit/s  
95th percentile per-packet one-way delay: 25.865 ms  
Loss rate: 0.14%  
-- Flow 3:  
Average throughput: 23.16 Mbit/s  
95th percentile per-packet one-way delay: 26.757 ms  
Loss rate: 0.22%

Run 2: Report of Sprout — Data Link

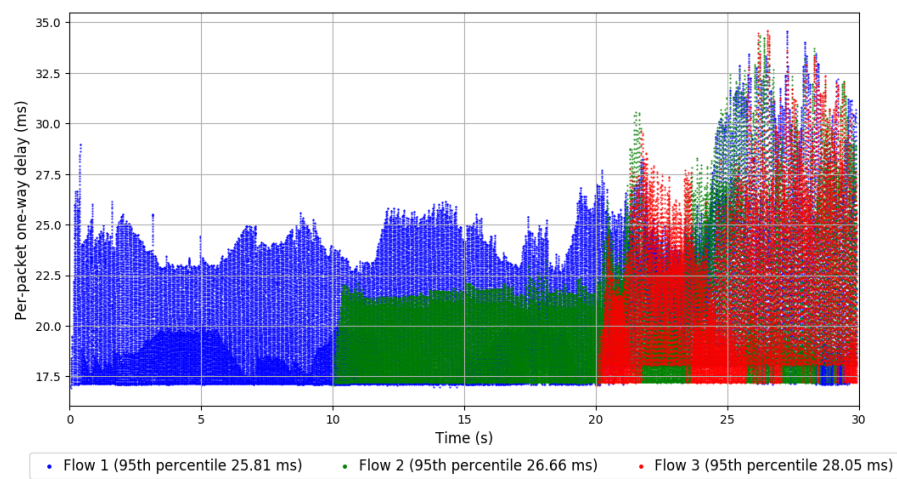
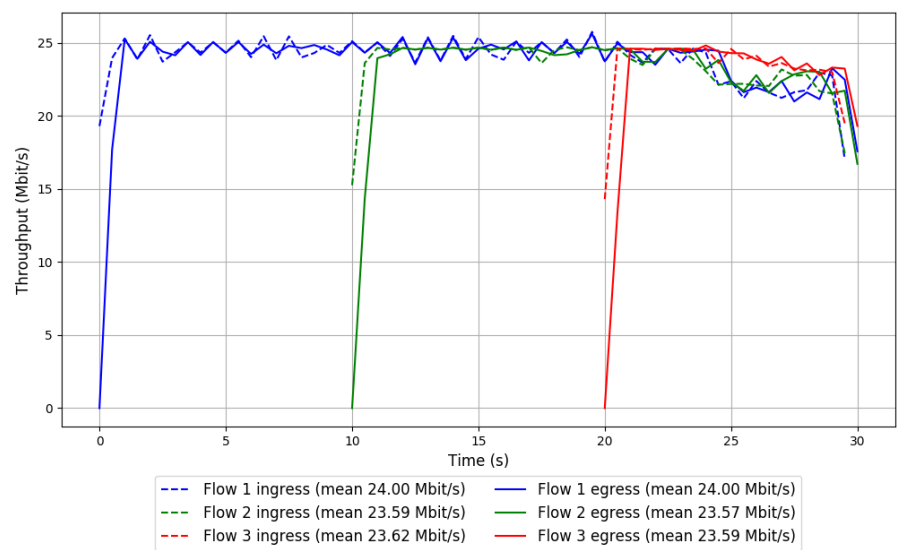


Run 3: Statistics of Sprout

Start at: 2019-06-28 12:42:17  
End at: 2019-06-28 12:42:47  
Local clock offset: -1.815 ms  
Remote clock offset: -3.716 ms

# Below is generated by plot.py at 2019-06-28 13:59:01  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 47.46 Mbit/s  
95th percentile per-packet one-way delay: 26.685 ms  
Loss rate: 0.11%  
-- Flow 1:  
Average throughput: 24.00 Mbit/s  
95th percentile per-packet one-way delay: 25.806 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 23.57 Mbit/s  
95th percentile per-packet one-way delay: 26.655 ms  
Loss rate: 0.14%  
-- Flow 3:  
Average throughput: 23.59 Mbit/s  
95th percentile per-packet one-way delay: 28.047 ms  
Loss rate: 0.21%

Run 3: Report of Sprout — Data Link

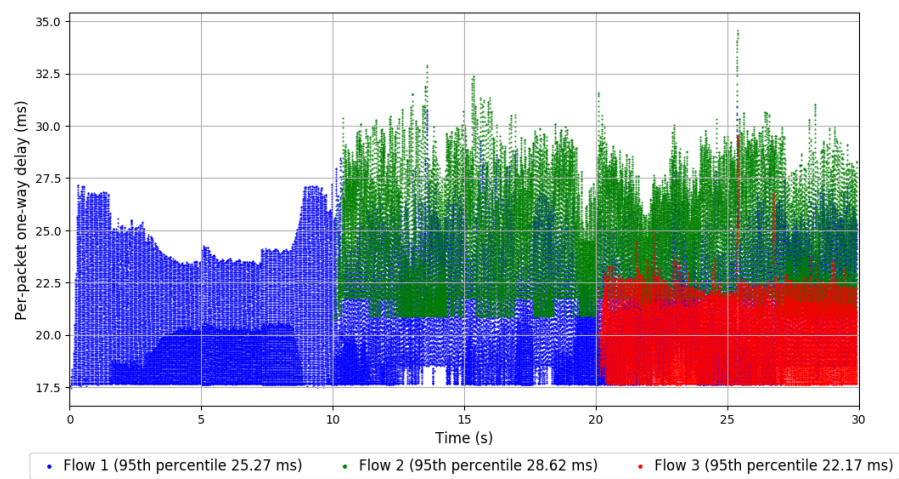
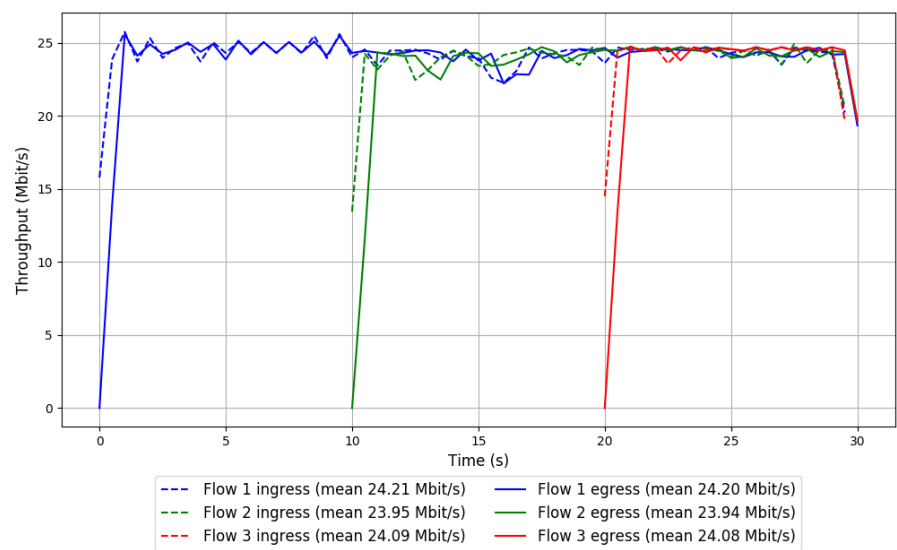


Run 4: Statistics of Sprout

Start at: 2019-06-28 13:08:57  
End at: 2019-06-28 13:09:27  
Local clock offset: -1.389 ms  
Remote clock offset: -4.159 ms

# Below is generated by plot.py at 2019-06-28 13:59:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 48.06 Mbit/s  
95th percentile per-packet one-way delay: 27.419 ms  
Loss rate: 0.17%  
-- Flow 1:  
Average throughput: 24.20 Mbit/s  
95th percentile per-packet one-way delay: 25.271 ms  
Loss rate: 0.14%  
-- Flow 2:  
Average throughput: 23.94 Mbit/s  
95th percentile per-packet one-way delay: 28.623 ms  
Loss rate: 0.21%  
-- Flow 3:  
Average throughput: 24.08 Mbit/s  
95th percentile per-packet one-way delay: 22.174 ms  
Loss rate: 0.23%

Run 4: Report of Sprout — Data Link



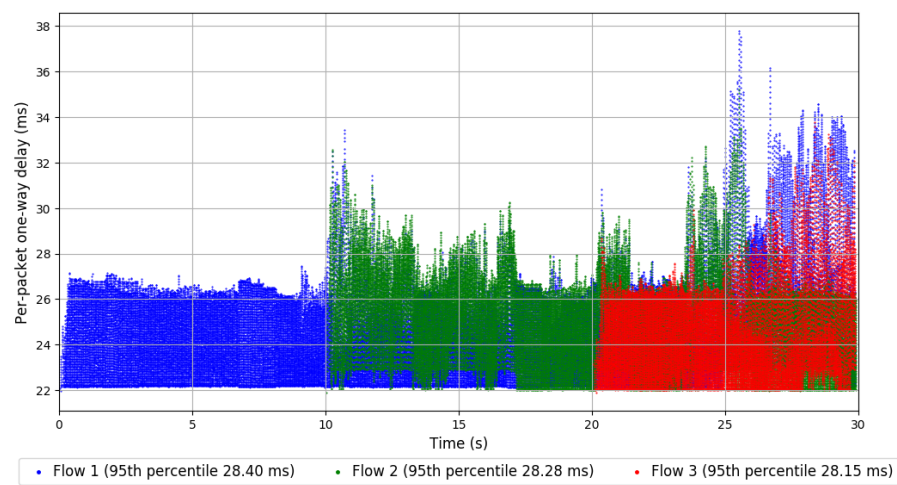
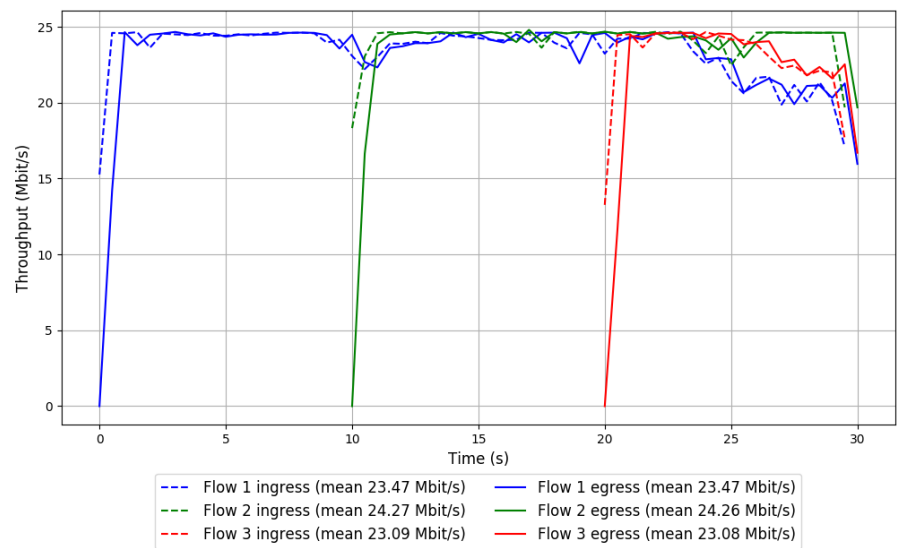


Run 5: Statistics of Sprout

Start at: 2019-06-28 13:35:59  
End at: 2019-06-28 13:36:29  
Local clock offset: -0.326 ms  
Remote clock offset: -5.319 ms

```
# Below is generated by plot.py at 2019-06-28 13:59:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.19 Mbit/s
95th percentile per-packet one-way delay: 28.297 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 23.47 Mbit/s
95th percentile per-packet one-way delay: 28.403 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 24.26 Mbit/s
95th percentile per-packet one-way delay: 28.279 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 23.08 Mbit/s
95th percentile per-packet one-way delay: 28.150 ms
Loss rate: 0.43%
```

Run 5: Report of Sprout — Data Link

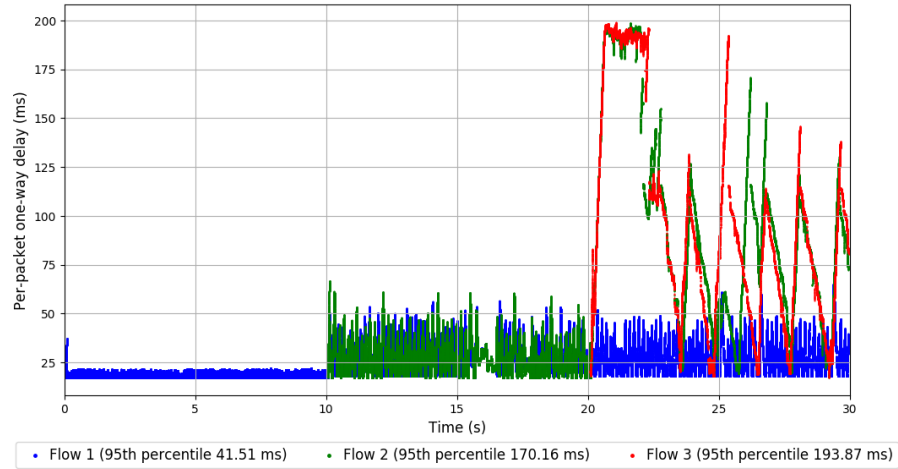
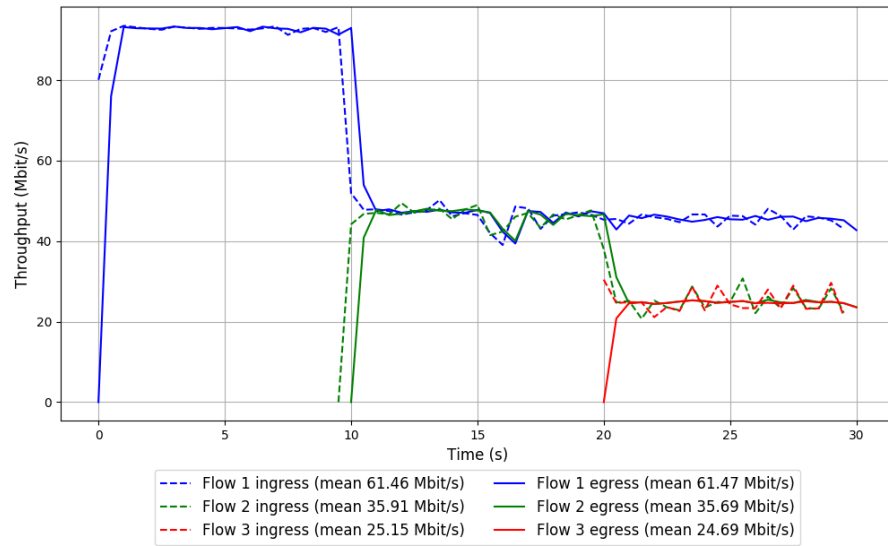


Run 1: Statistics of TaoVA-100x

Start at: 2019-06-28 11:39:47  
End at: 2019-06-28 11:40:17  
Local clock offset: -0.468 ms  
Remote clock offset: -1.146 ms

# Below is generated by plot.py at 2019-06-28 14:00:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.44 Mbit/s  
95th percentile per-packet one-way delay: 110.327 ms  
Loss rate: 0.42%  
-- Flow 1:  
Average throughput: 61.47 Mbit/s  
95th percentile per-packet one-way delay: 41.508 ms  
Loss rate: 0.07%  
-- Flow 2:  
Average throughput: 35.69 Mbit/s  
95th percentile per-packet one-way delay: 170.164 ms  
Loss rate: 0.74%  
-- Flow 3:  
Average throughput: 24.69 Mbit/s  
95th percentile per-packet one-way delay: 193.866 ms  
Loss rate: 2.08%

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

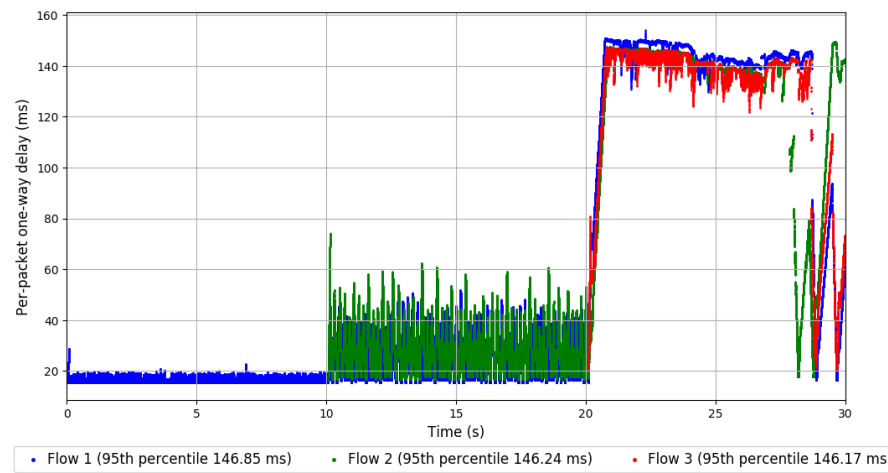
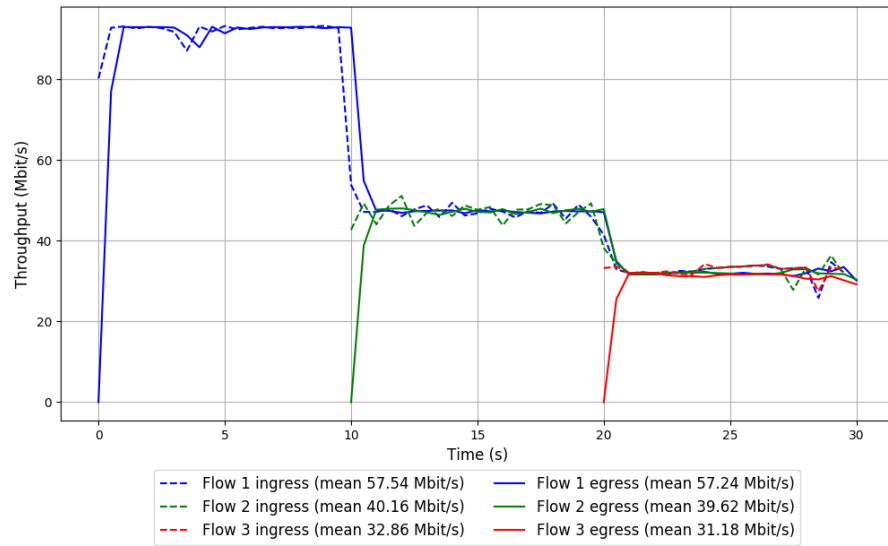


Run 2: Statistics of TaoVA-100x

Start at: 2019-06-28 12:07:08  
End at: 2019-06-28 12:07:38  
Local clock offset: -1.603 ms  
Remote clock offset: -1.778 ms

# Below is generated by plot.py at 2019-06-28 14:00:43  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.96 Mbit/s  
95th percentile per-packet one-way delay: 146.260 ms  
Loss rate: 1.40%  
-- Flow 1:  
Average throughput: 57.24 Mbit/s  
95th percentile per-packet one-way delay: 146.852 ms  
Loss rate: 0.61%  
-- Flow 2:  
Average throughput: 39.62 Mbit/s  
95th percentile per-packet one-way delay: 146.238 ms  
Loss rate: 1.47%  
-- Flow 3:  
Average throughput: 31.18 Mbit/s  
95th percentile per-packet one-way delay: 146.173 ms  
Loss rate: 5.40%

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

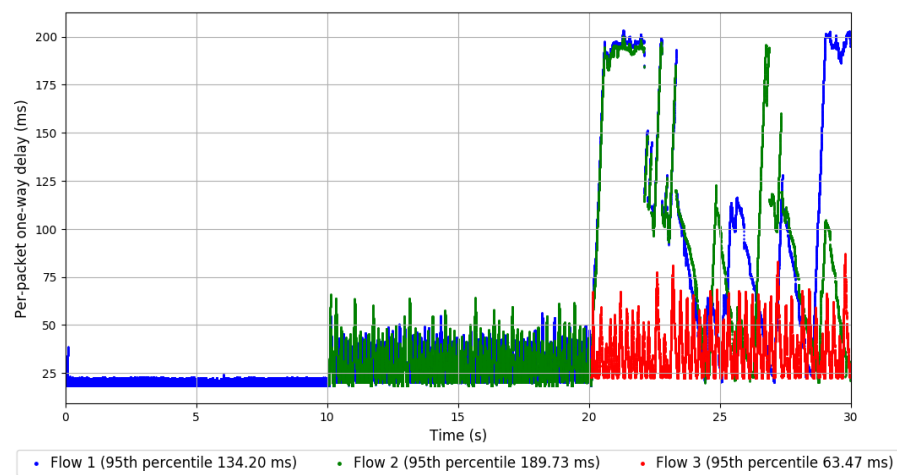
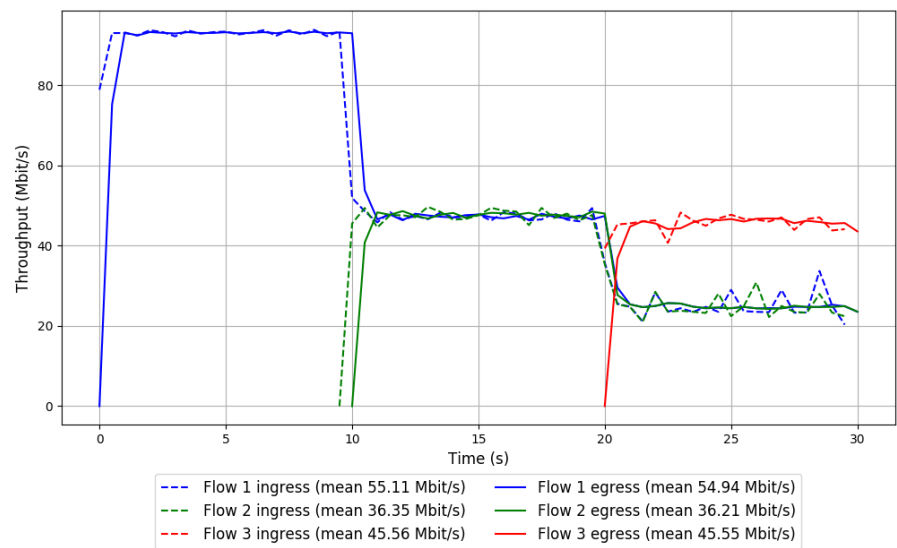


Run 3: Statistics of TaoVA-100x

Start at: 2019-06-28 12:33:41  
End at: 2019-06-28 12:34:11  
Local clock offset: -1.128 ms  
Remote clock offset: -4.292 ms

# Below is generated by plot.py at 2019-06-28 14:00:45  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.17 Mbit/s  
95th percentile per-packet one-way delay: 136.364 ms  
Loss rate: 0.42%  
-- Flow 1:  
Average throughput: 54.94 Mbit/s  
95th percentile per-packet one-way delay: 134.199 ms  
Loss rate: 0.41%  
-- Flow 2:  
Average throughput: 36.21 Mbit/s  
95th percentile per-packet one-way delay: 189.726 ms  
Loss rate: 0.51%  
-- Flow 3:  
Average throughput: 45.55 Mbit/s  
95th percentile per-packet one-way delay: 63.466 ms  
Loss rate: 0.35%

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





Run 4: Statistics of TaoVA-100x

Start at: 2019-06-28 13:00:13

End at: 2019-06-28 13:00:43

Local clock offset: -1.098 ms

Remote clock offset: -5.69 ms

# Below is generated by plot.py at 2019-06-28 14:00:54

# Datalink statistics

-- Total of 3 flows:

Average throughput: 94.18 Mbit/s

95th percentile per-packet one-way delay: 109.390 ms

Loss rate: 0.45%

-- Flow 1:

Average throughput: 54.84 Mbit/s

95th percentile per-packet one-way delay: 103.703 ms

Loss rate: 0.24%

-- Flow 2:

Average throughput: 36.11 Mbit/s

95th percentile per-packet one-way delay: 184.071 ms

Loss rate: 0.95%

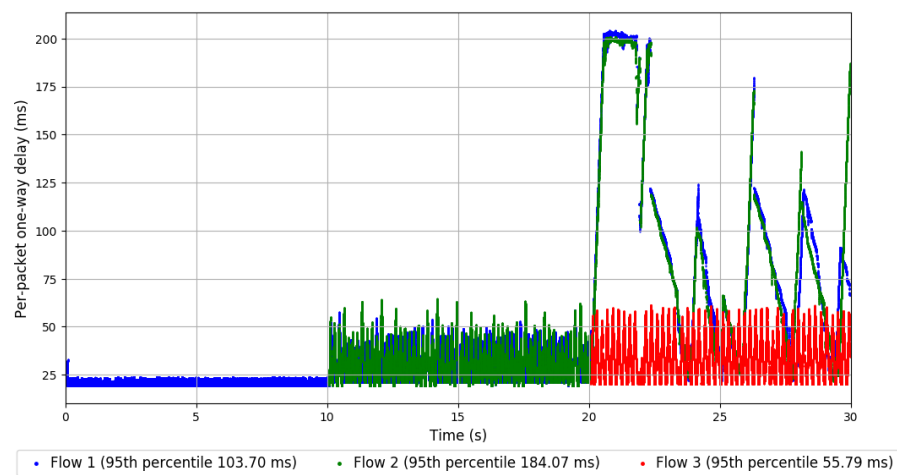
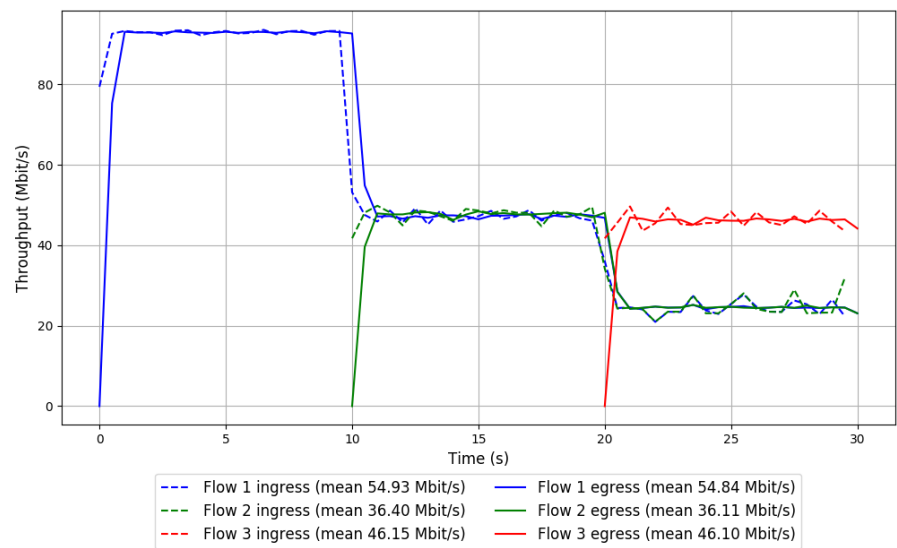
-- Flow 3:

Average throughput: 46.10 Mbit/s

95th percentile per-packet one-way delay: 55.787 ms

Loss rate: 0.38%

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

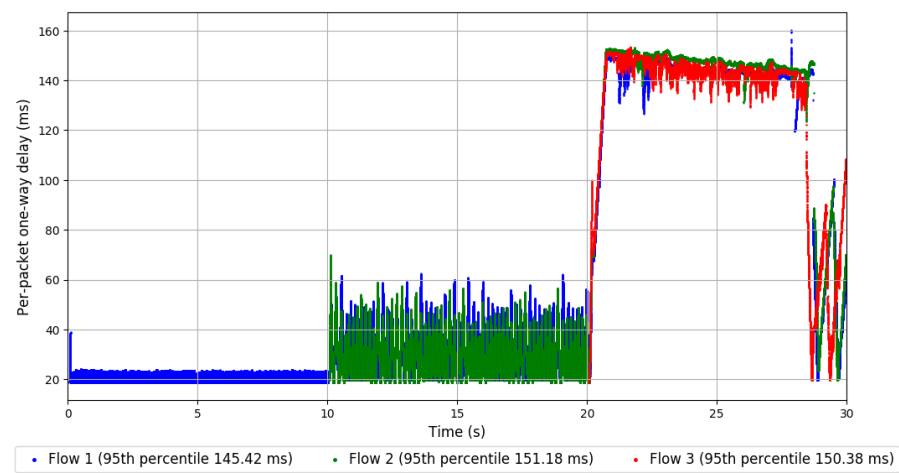
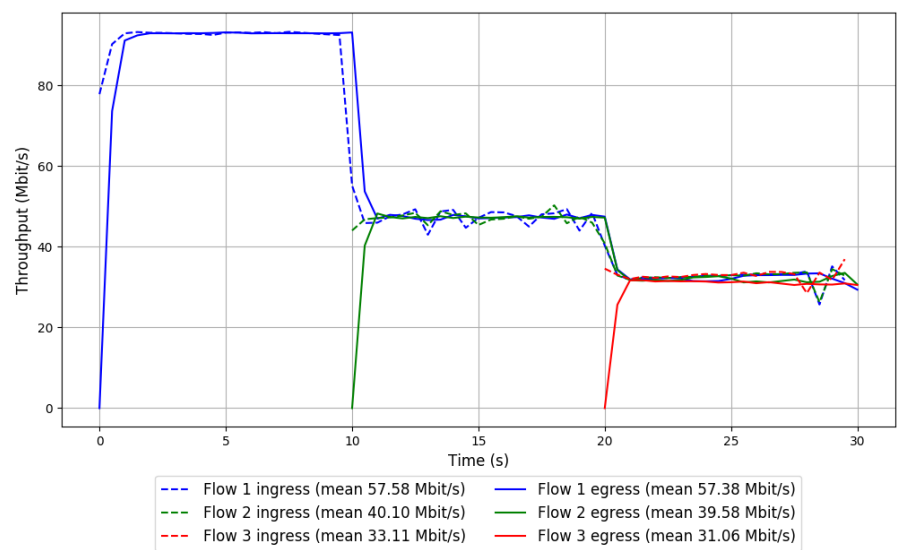


Run 5: Statistics of TaoVA-100x

Start at: 2019-06-28 13:27:08  
End at: 2019-06-28 13:27:38  
Local clock offset: -0.653 ms  
Remote clock offset: -5.457 ms

# Below is generated by plot.py at 2019-06-28 14:01:11  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.06 Mbit/s  
95th percentile per-packet one-way delay: 148.821 ms  
Loss rate: 1.42%  
-- Flow 1:  
Average throughput: 57.38 Mbit/s  
95th percentile per-packet one-way delay: 145.417 ms  
Loss rate: 0.45%  
-- Flow 2:  
Average throughput: 39.58 Mbit/s  
95th percentile per-packet one-way delay: 151.182 ms  
Loss rate: 1.43%  
-- Flow 3:  
Average throughput: 31.06 Mbit/s  
95th percentile per-packet one-way delay: 150.383 ms  
Loss rate: 6.47%

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

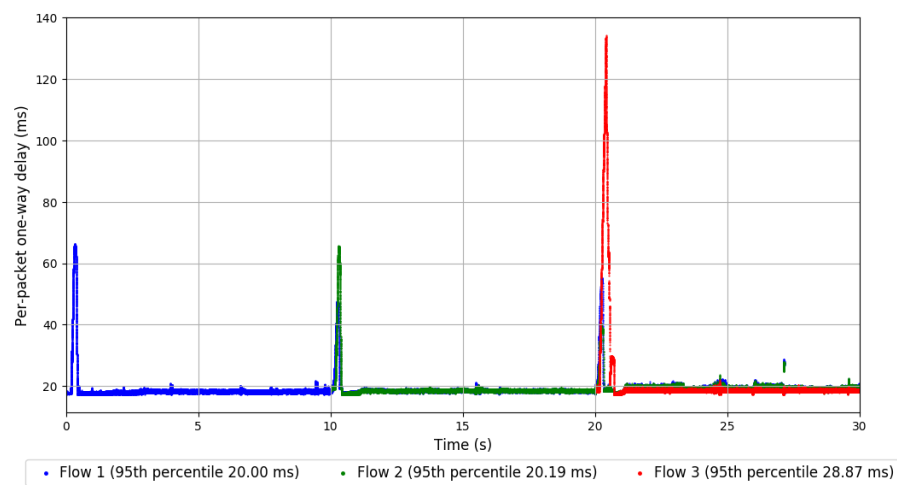
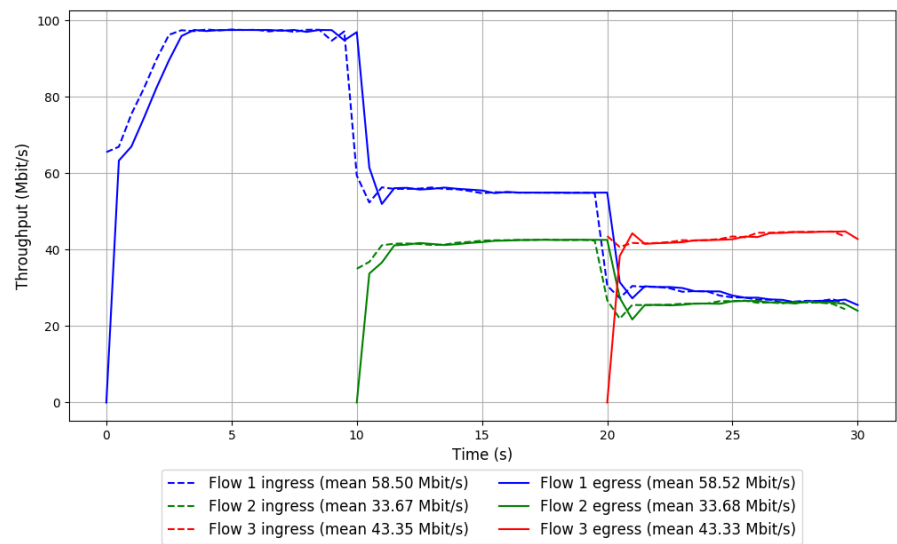


Run 1: Statistics of TCP Vegas

Start at: 2019-06-28 11:30:15  
End at: 2019-06-28 11:30:45  
Local clock offset: -1.396 ms  
Remote clock offset: -1.984 ms

# Below is generated by plot.py at 2019-06-28 14:01:11  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 95.33 Mbit/s  
95th percentile per-packet one-way delay: 20.142 ms  
Loss rate: 0.09%  
-- Flow 1:  
Average throughput: 58.52 Mbit/s  
95th percentile per-packet one-way delay: 20.004 ms  
Loss rate: 0.04%  
-- Flow 2:  
Average throughput: 33.68 Mbit/s  
95th percentile per-packet one-way delay: 20.193 ms  
Loss rate: 0.11%  
-- Flow 3:  
Average throughput: 43.33 Mbit/s  
95th percentile per-packet one-way delay: 28.867 ms  
Loss rate: 0.28%

Run 1: Report of TCP Vegas — Data Link

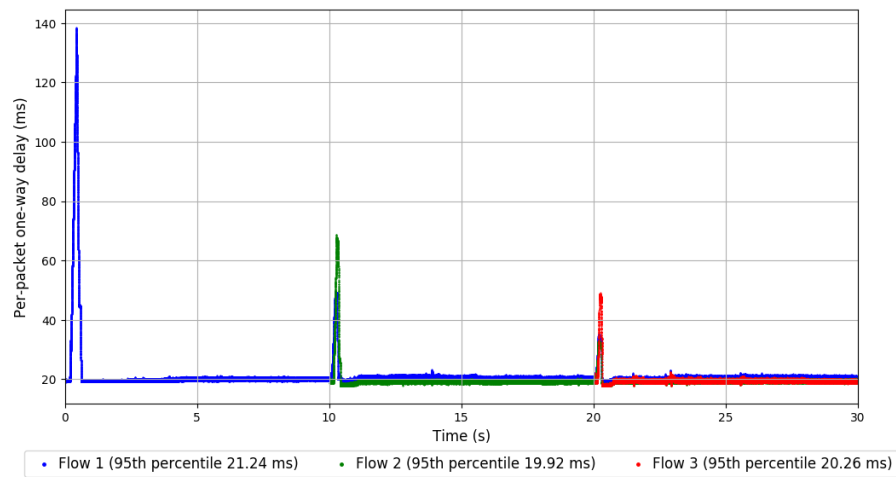
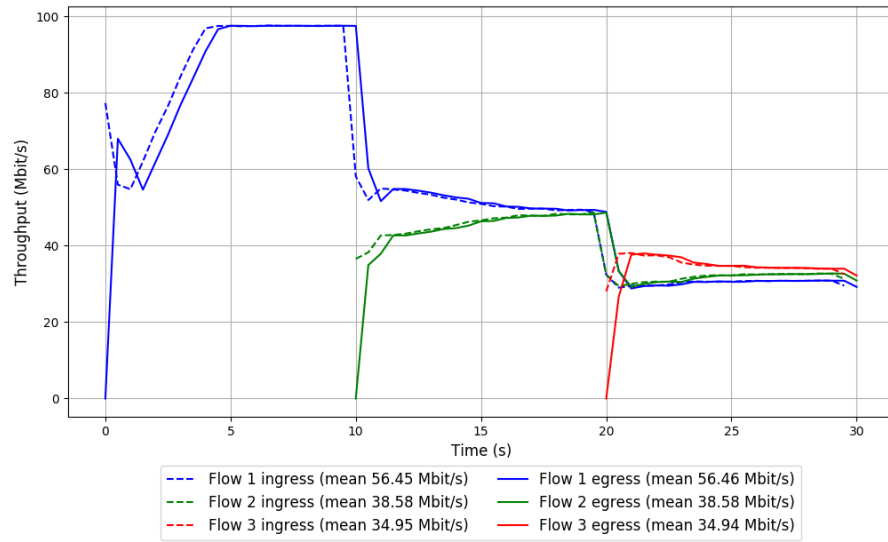


Run 2: Statistics of TCP Vegas

Start at: 2019-06-28 11:57:21  
End at: 2019-06-28 11:57:51  
Local clock offset: -0.92 ms  
Remote clock offset: -3.366 ms

# Below is generated by plot.py at 2019-06-28 14:01:11  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.74 Mbit/s  
95th percentile per-packet one-way delay: 21.093 ms  
Loss rate: 0.11%  
-- Flow 1:  
Average throughput: 56.46 Mbit/s  
95th percentile per-packet one-way delay: 21.244 ms  
Loss rate: 0.07%  
-- Flow 2:  
Average throughput: 38.58 Mbit/s  
95th percentile per-packet one-way delay: 19.924 ms  
Loss rate: 0.14%  
-- Flow 3:  
Average throughput: 34.94 Mbit/s  
95th percentile per-packet one-way delay: 20.256 ms  
Loss rate: 0.26%

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



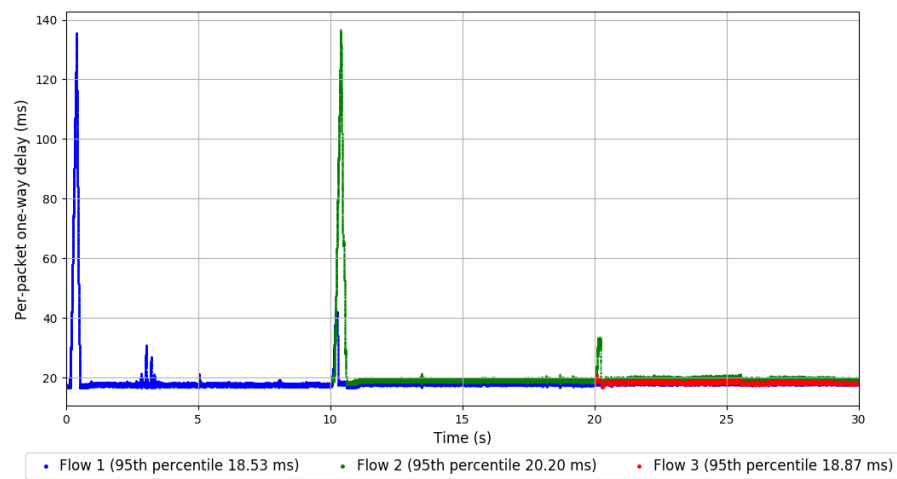
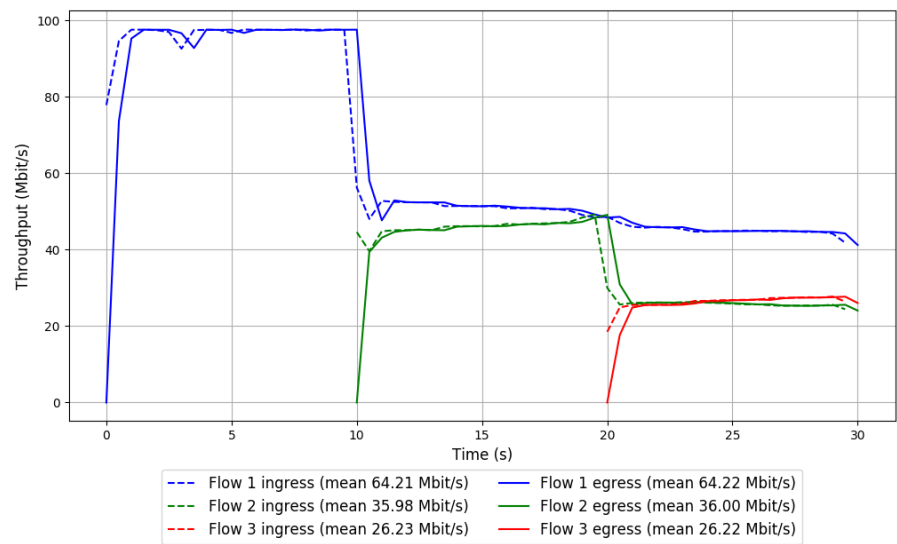


Run 3: Statistics of TCP Vegas

Start at: 2019-06-28 12:24:06  
End at: 2019-06-28 12:24:36  
Local clock offset: -1.454 ms  
Remote clock offset: -3.349 ms

# Below is generated by plot.py at 2019-06-28 14:01:11  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 96.90 Mbit/s  
95th percentile per-packet one-way delay: 19.715 ms  
Loss rate: 0.09%  
-- Flow 1:  
Average throughput: 64.22 Mbit/s  
95th percentile per-packet one-way delay: 18.534 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 36.00 Mbit/s  
95th percentile per-packet one-way delay: 20.197 ms  
Loss rate: 0.10%  
-- Flow 3:  
Average throughput: 26.22 Mbit/s  
95th percentile per-packet one-way delay: 18.868 ms  
Loss rate: 0.26%

Run 3: Report of TCP Vegas — Data Link

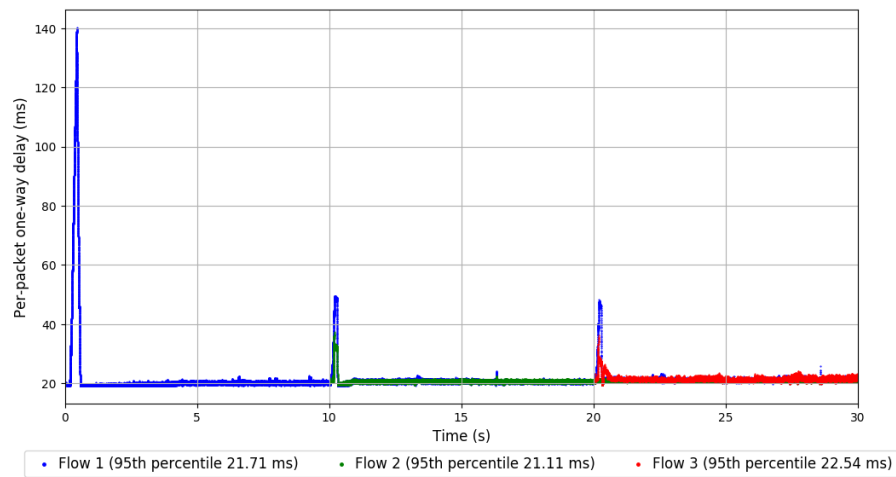
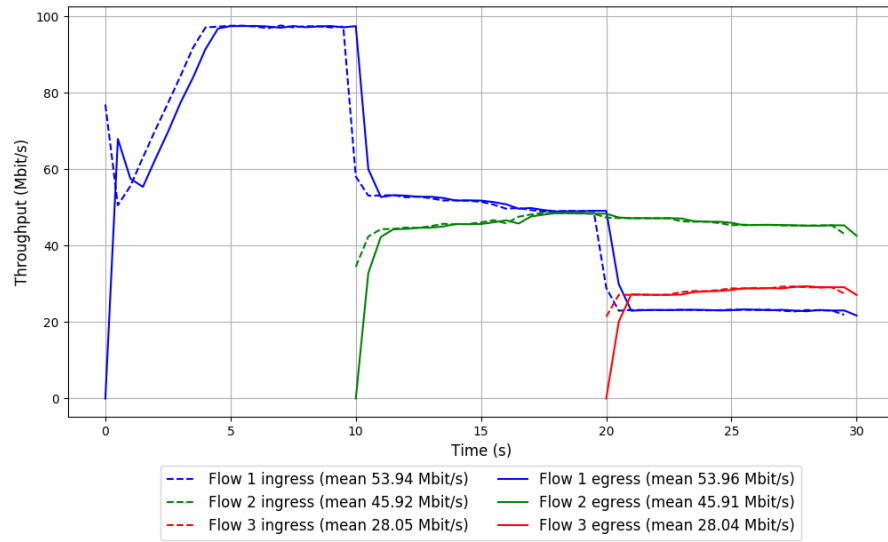


Run 4: Statistics of TCP Vegas

Start at: 2019-06-28 12:50:47  
End at: 2019-06-28 12:51:17  
Local clock offset: -1.75 ms  
Remote clock offset: -5.936 ms

# Below is generated by plot.py at 2019-06-28 14:01:16  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.83 Mbit/s  
95th percentile per-packet one-way delay: 21.754 ms  
Loss rate: 0.10%  
-- Flow 1:  
Average throughput: 53.96 Mbit/s  
95th percentile per-packet one-way delay: 21.707 ms  
Loss rate: 0.04%  
-- Flow 2:  
Average throughput: 45.91 Mbit/s  
95th percentile per-packet one-way delay: 21.109 ms  
Loss rate: 0.13%  
-- Flow 3:  
Average throughput: 28.04 Mbit/s  
95th percentile per-packet one-way delay: 22.539 ms  
Loss rate: 0.28%

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

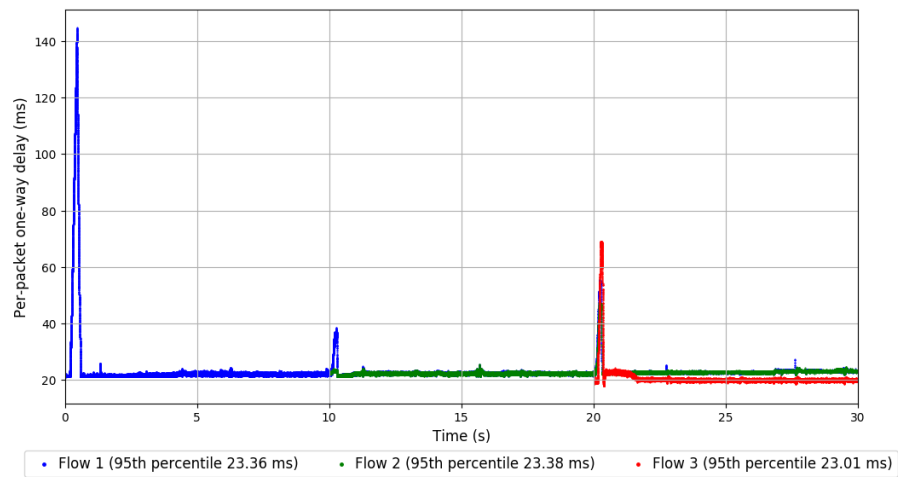
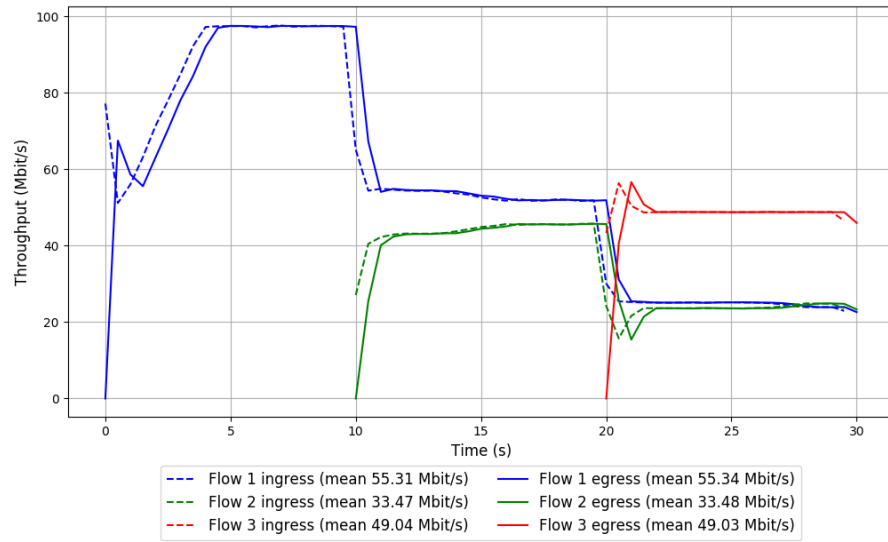


Run 5: Statistics of TCP Vegas

Start at: 2019-06-28 13:17:30  
End at: 2019-06-28 13:18:00  
Local clock offset: -1.587 ms  
Remote clock offset: -4.735 ms

# Below is generated by plot.py at 2019-06-28 14:01:17  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.90 Mbit/s  
95th percentile per-packet one-way delay: 23.334 ms  
Loss rate: 0.10%  
-- Flow 1:  
Average throughput: 55.34 Mbit/s  
95th percentile per-packet one-way delay: 23.358 ms  
Loss rate: 0.05%  
-- Flow 2:  
Average throughput: 33.48 Mbit/s  
95th percentile per-packet one-way delay: 23.381 ms  
Loss rate: 0.12%  
-- Flow 3:  
Average throughput: 49.03 Mbit/s  
95th percentile per-packet one-way delay: 23.008 ms  
Loss rate: 0.27%

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

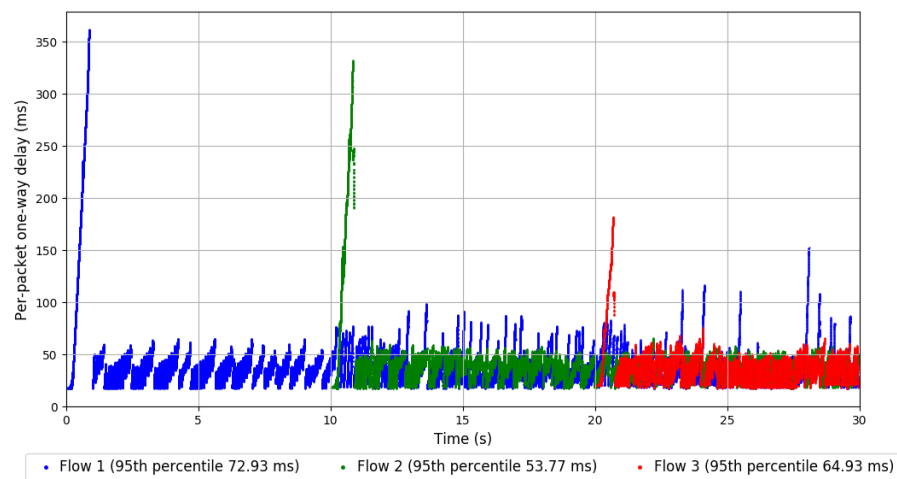
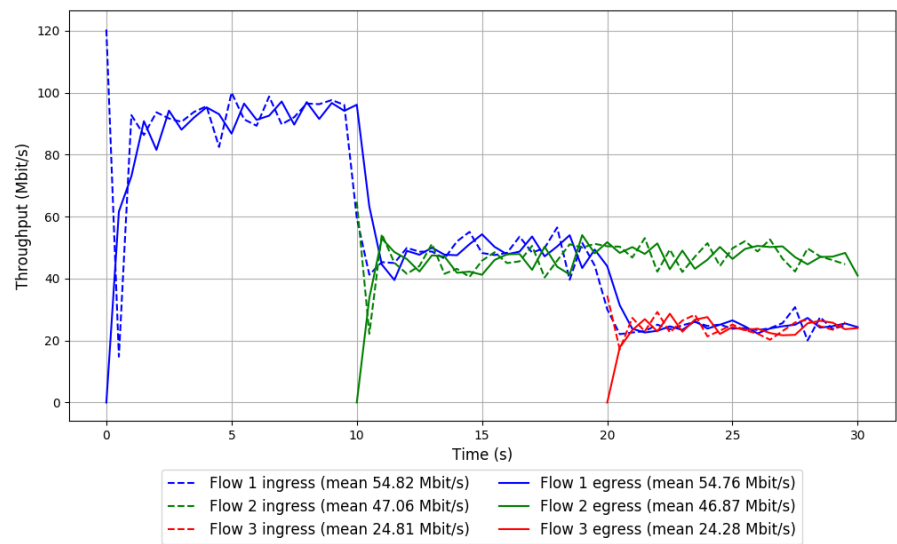


Run 1: Statistics of Verus

Start at: 2019-06-28 11:43:41  
End at: 2019-06-28 11:44:11  
Local clock offset: -1.373 ms  
Remote clock offset: -2.086 ms

# Below is generated by plot.py at 2019-06-28 14:01:23  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.02 Mbit/s  
95th percentile per-packet one-way delay: 67.621 ms  
Loss rate: 0.48%  
-- Flow 1:  
Average throughput: 54.76 Mbit/s  
95th percentile per-packet one-way delay: 72.931 ms  
Loss rate: 0.17%  
-- Flow 2:  
Average throughput: 46.87 Mbit/s  
95th percentile per-packet one-way delay: 53.767 ms  
Loss rate: 0.52%  
-- Flow 3:  
Average throughput: 24.28 Mbit/s  
95th percentile per-packet one-way delay: 64.927 ms  
Loss rate: 2.39%

Run 1: Report of Verus — Data Link



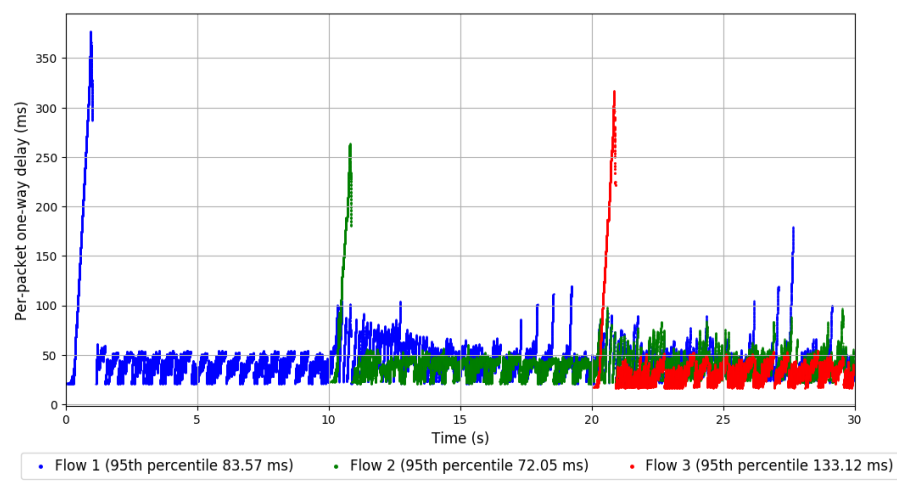
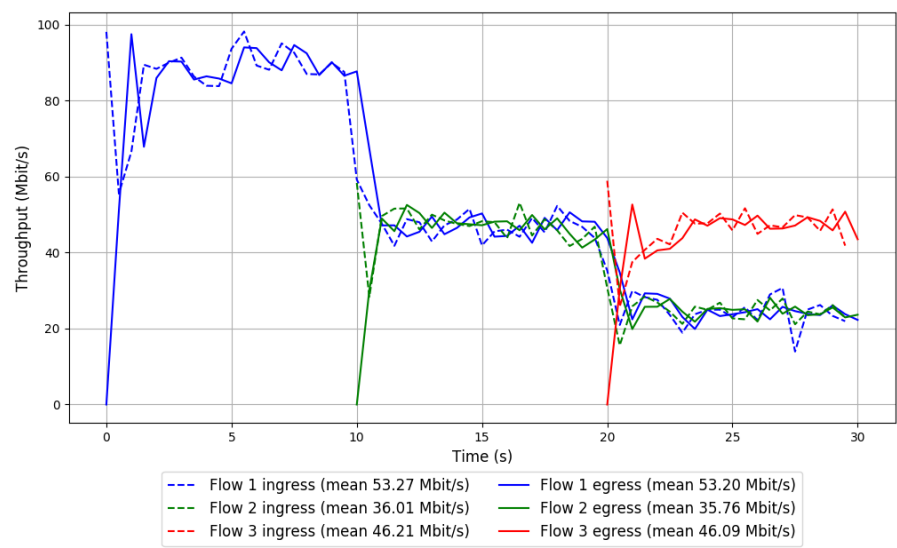


Run 2: Statistics of Verus

Start at: 2019-06-28 12:10:50  
End at: 2019-06-28 12:11:20  
Local clock offset: -1.173 ms  
Remote clock offset: -2.356 ms

# Below is generated by plot.py at 2019-06-28 14:01:48  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.29 Mbit/s  
95th percentile per-packet one-way delay: 82.456 ms  
Loss rate: 0.41%  
-- Flow 1:  
Average throughput: 53.20 Mbit/s  
95th percentile per-packet one-way delay: 83.573 ms  
Loss rate: 0.22%  
-- Flow 2:  
Average throughput: 35.76 Mbit/s  
95th percentile per-packet one-way delay: 72.049 ms  
Loss rate: 0.82%  
-- Flow 3:  
Average throughput: 46.09 Mbit/s  
95th percentile per-packet one-way delay: 133.119 ms  
Loss rate: 0.45%

Run 2: Report of Verus — Data Link

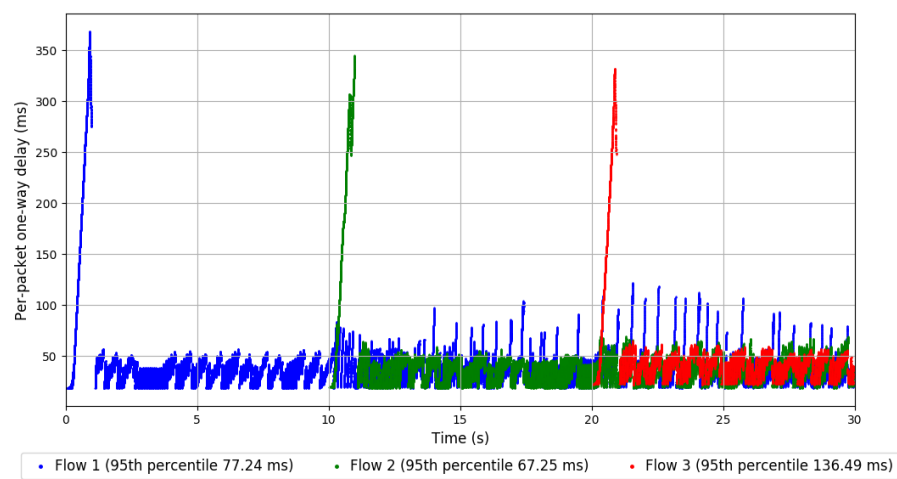
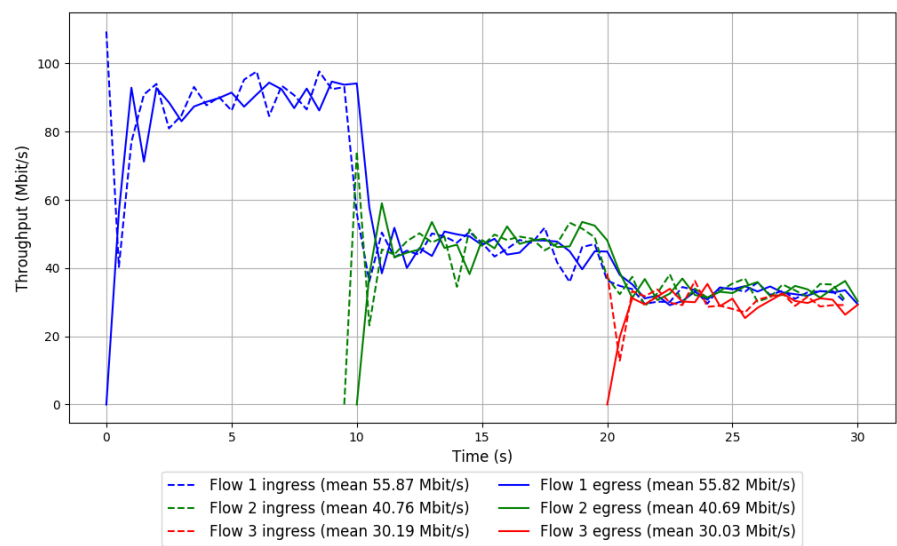


Run 3: Statistics of Verus

Start at: 2019-06-28 12:37:26  
End at: 2019-06-28 12:37:56  
Local clock offset: -1.033 ms  
Remote clock offset: -4.412 ms

# Below is generated by plot.py at 2019-06-28 14:01:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 92.86 Mbit/s  
95th percentile per-packet one-way delay: 78.740 ms  
Loss rate: 0.27%  
-- Flow 1:  
Average throughput: 55.82 Mbit/s  
95th percentile per-packet one-way delay: 77.237 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 40.69 Mbit/s  
95th percentile per-packet one-way delay: 67.252 ms  
Loss rate: 0.27%  
-- Flow 3:  
Average throughput: 30.03 Mbit/s  
95th percentile per-packet one-way delay: 136.490 ms  
Loss rate: 0.80%

Run 3: Report of Verus — Data Link

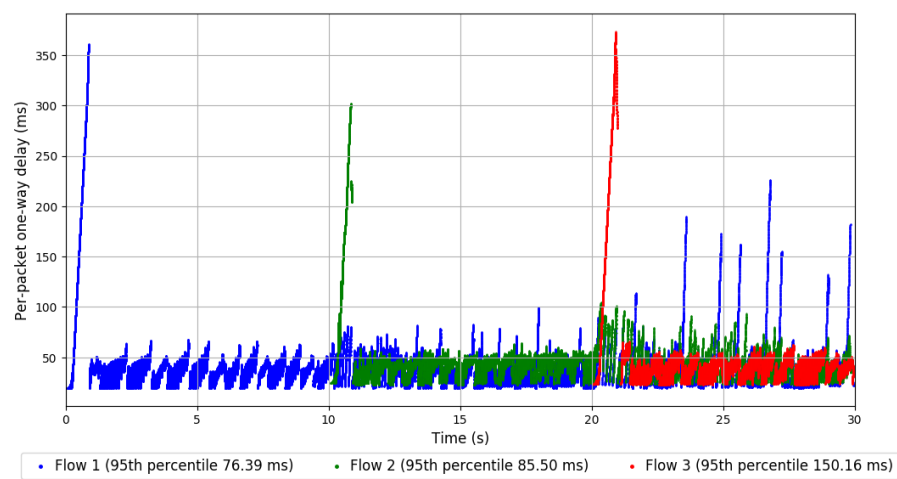
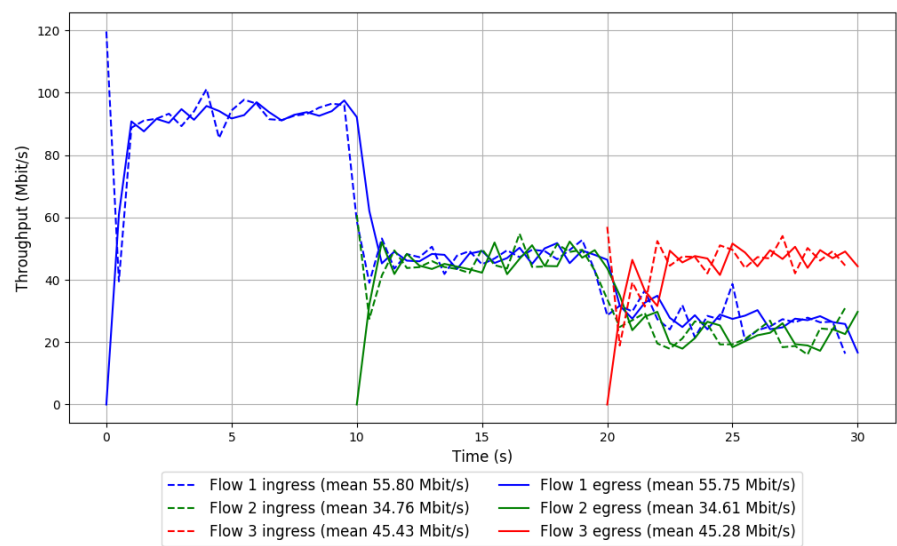


Run 4: Statistics of Verus

Start at: 2019-06-28 13:03:56  
End at: 2019-06-28 13:04:26  
Local clock offset: -0.71 ms  
Remote clock offset: -5.175 ms

# Below is generated by plot.py at 2019-06-28 14:01:54  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.80 Mbit/s  
95th percentile per-packet one-way delay: 84.094 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 55.75 Mbit/s  
95th percentile per-packet one-way delay: 76.393 ms  
Loss rate: 0.14%  
-- Flow 2:  
Average throughput: 34.61 Mbit/s  
95th percentile per-packet one-way delay: 85.504 ms  
Loss rate: 0.46%  
-- Flow 3:  
Average throughput: 45.28 Mbit/s  
95th percentile per-packet one-way delay: 150.162 ms  
Loss rate: 0.60%

Run 4: Report of Verus — Data Link

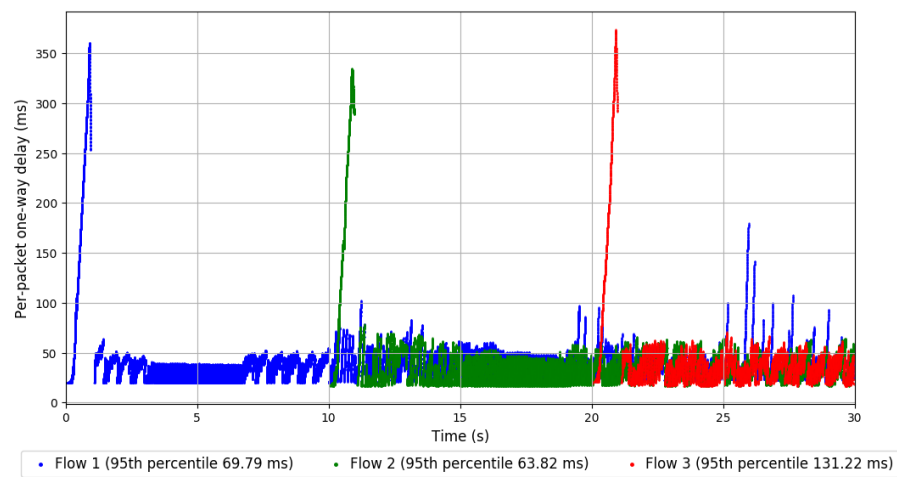
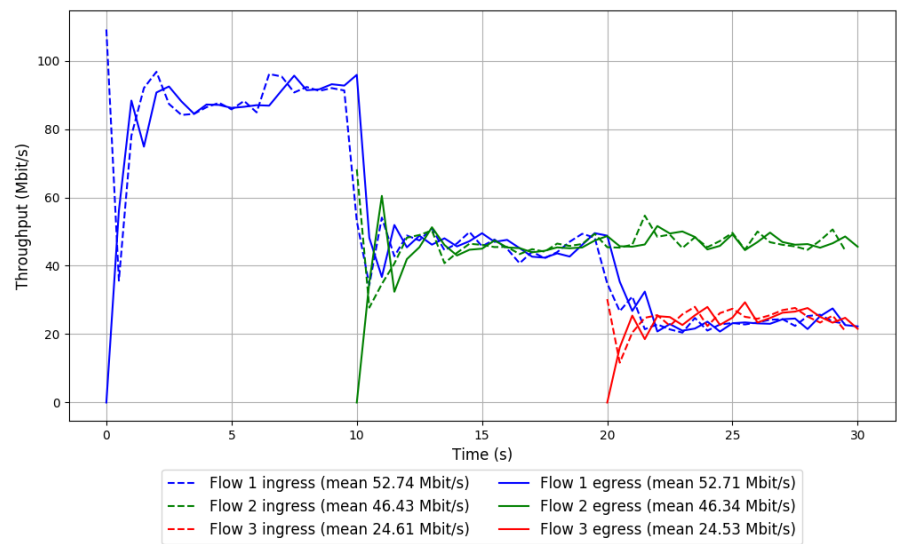


Run 5: Statistics of Verus

Start at: 2019-06-28 13:30:53  
End at: 2019-06-28 13:31:23  
Local clock offset: -0.645 ms  
Remote clock offset: -3.686 ms

# Below is generated by plot.py at 2019-06-28 14:02:07  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 91.68 Mbit/s  
95th percentile per-packet one-way delay: 68.861 ms  
Loss rate: 0.24%  
-- Flow 1:  
Average throughput: 52.71 Mbit/s  
95th percentile per-packet one-way delay: 69.788 ms  
Loss rate: 0.14%  
-- Flow 2:  
Average throughput: 46.34 Mbit/s  
95th percentile per-packet one-way delay: 63.816 ms  
Loss rate: 0.31%  
-- Flow 3:  
Average throughput: 24.53 Mbit/s  
95th percentile per-packet one-way delay: 131.220 ms  
Loss rate: 0.57%

Run 5: Report of Verus — Data Link





Run 1: Statistics of PCC-Vivace

Start at: 2019-06-28 11:53:30

End at: 2019-06-28 11:54:00

Local clock offset: -1.318 ms

Remote clock offset: -2.48 ms

# Below is generated by plot.py at 2019-06-28 14:02:21

# Datalink statistics

-- Total of 3 flows:

Average throughput: 87.27 Mbit/s

95th percentile per-packet one-way delay: 68.406 ms

Loss rate: 0.16%

-- Flow 1:

Average throughput: 54.32 Mbit/s

95th percentile per-packet one-way delay: 127.219 ms

Loss rate: 0.13%

-- Flow 2:

Average throughput: 40.30 Mbit/s

95th percentile per-packet one-way delay: 21.455 ms

Loss rate: 0.20%

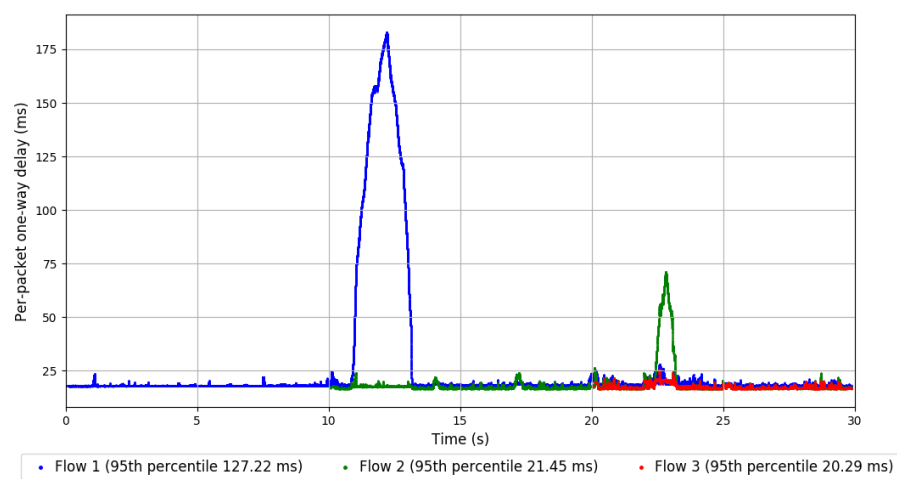
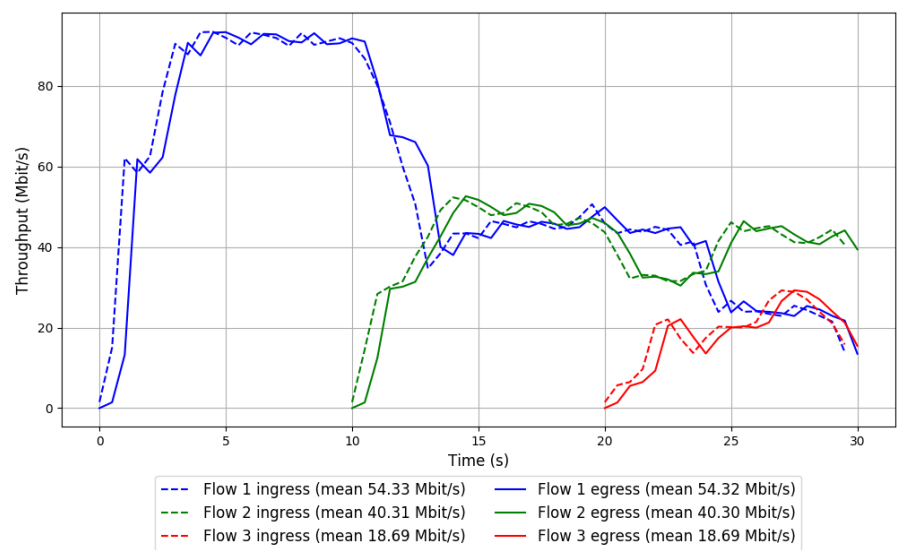
-- Flow 3:

Average throughput: 18.69 Mbit/s

95th percentile per-packet one-way delay: 20.289 ms

Loss rate: 0.27%

Run 1: Report of PCC-Vivace — Data Link

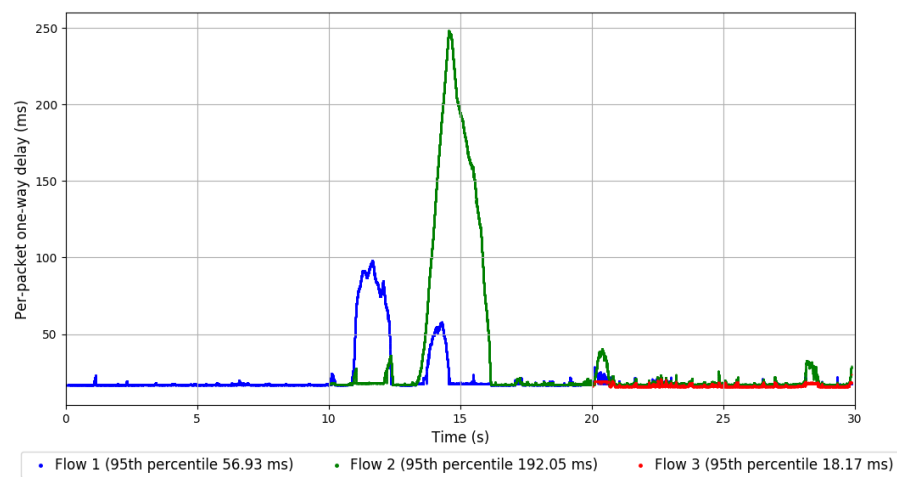
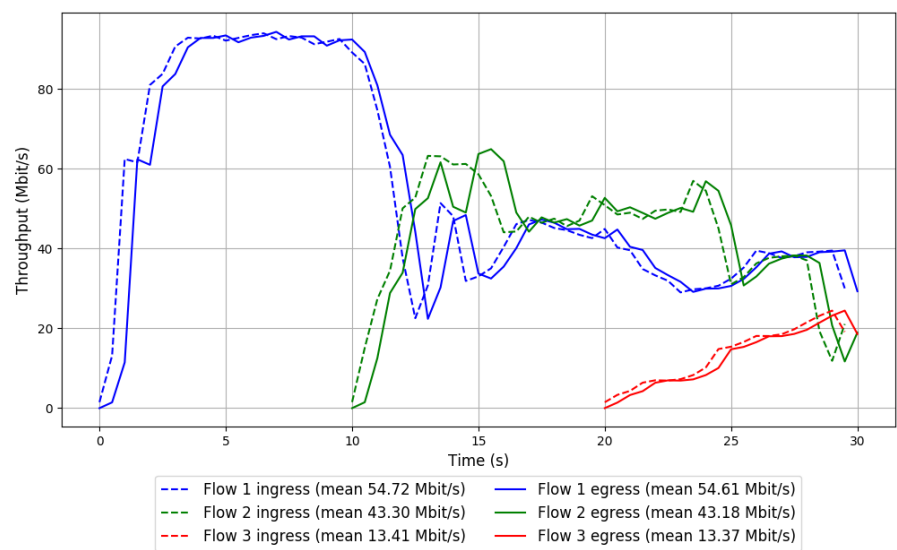


Run 2: Statistics of PCC-Vivace

Start at: 2019-06-28 12:20:23  
End at: 2019-06-28 12:20:53  
Local clock offset: -1.376 ms  
Remote clock offset: -2.126 ms

# Below is generated by plot.py at 2019-06-28 14:02:24  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.72 Mbit/s  
95th percentile per-packet one-way delay: 91.135 ms  
Loss rate: 0.33%  
-- Flow 1:  
Average throughput: 54.61 Mbit/s  
95th percentile per-packet one-way delay: 56.931 ms  
Loss rate: 0.27%  
-- Flow 2:  
Average throughput: 43.18 Mbit/s  
95th percentile per-packet one-way delay: 192.047 ms  
Loss rate: 0.42%  
-- Flow 3:  
Average throughput: 13.37 Mbit/s  
95th percentile per-packet one-way delay: 18.167 ms  
Loss rate: 0.49%

Run 2: Report of PCC-Vivace — Data Link

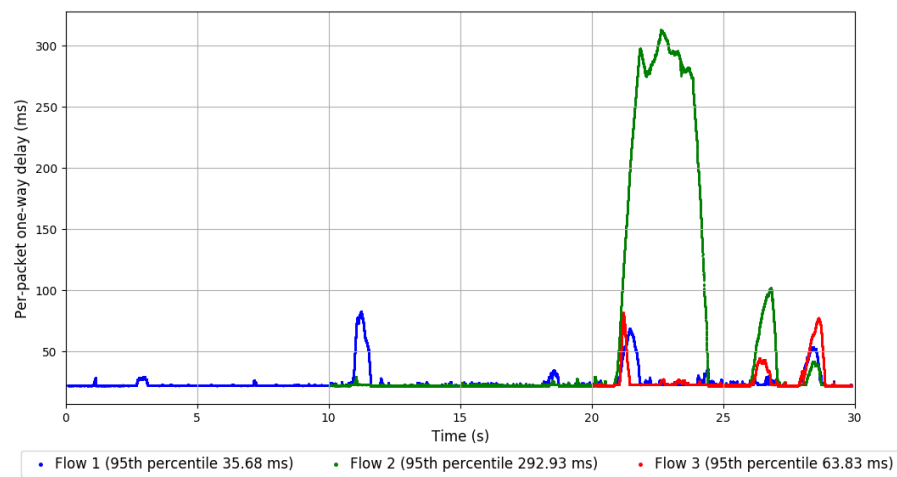
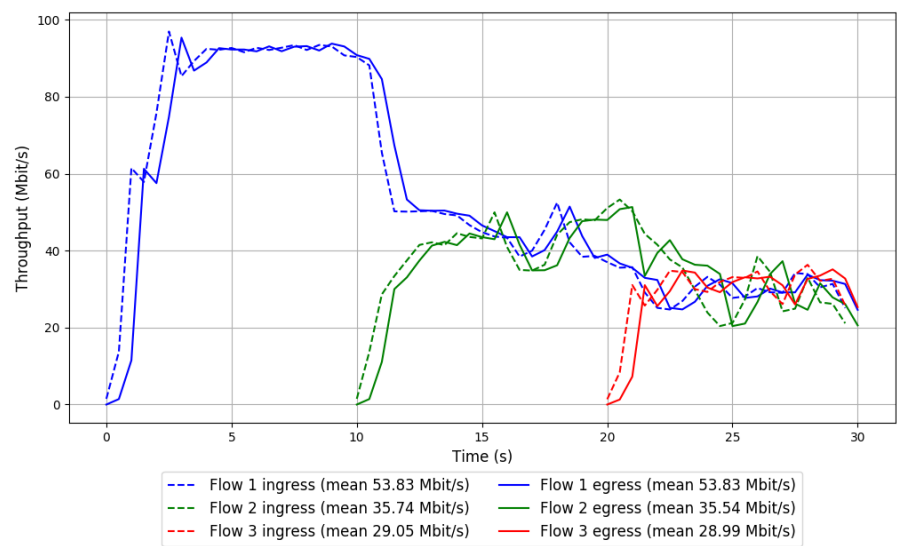


Run 3: Statistics of PCC-Vivace

Start at: 2019-06-28 12:46:59  
End at: 2019-06-28 12:47:29  
Local clock offset: -1.164 ms  
Remote clock offset: -4.814 ms

# Below is generated by plot.py at 2019-06-28 14:02:24  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.03 Mbit/s  
95th percentile per-packet one-way delay: 87.346 ms  
Loss rate: 0.30%  
-- Flow 1:  
Average throughput: 53.83 Mbit/s  
95th percentile per-packet one-way delay: 35.678 ms  
Loss rate: 0.09%  
-- Flow 2:  
Average throughput: 35.54 Mbit/s  
95th percentile per-packet one-way delay: 292.931 ms  
Loss rate: 0.70%  
-- Flow 3:  
Average throughput: 28.99 Mbit/s  
95th percentile per-packet one-way delay: 63.828 ms  
Loss rate: 0.52%

Run 3: Report of PCC-Vivace — Data Link

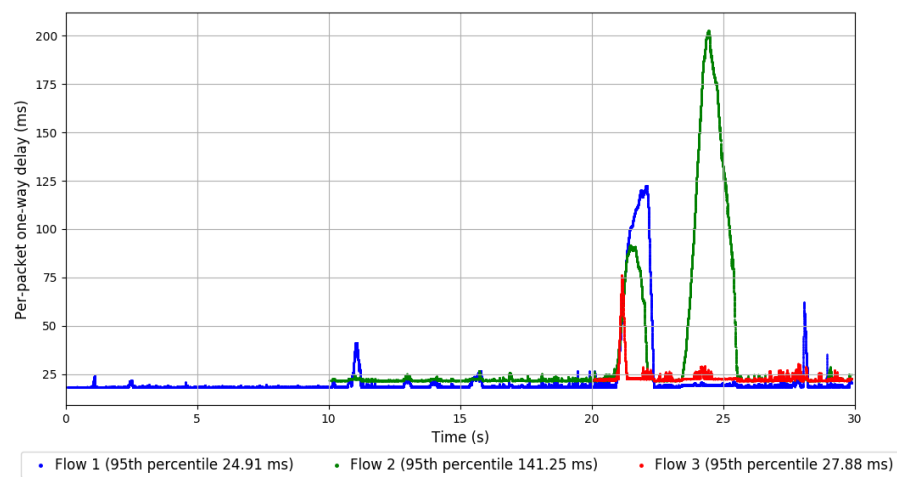
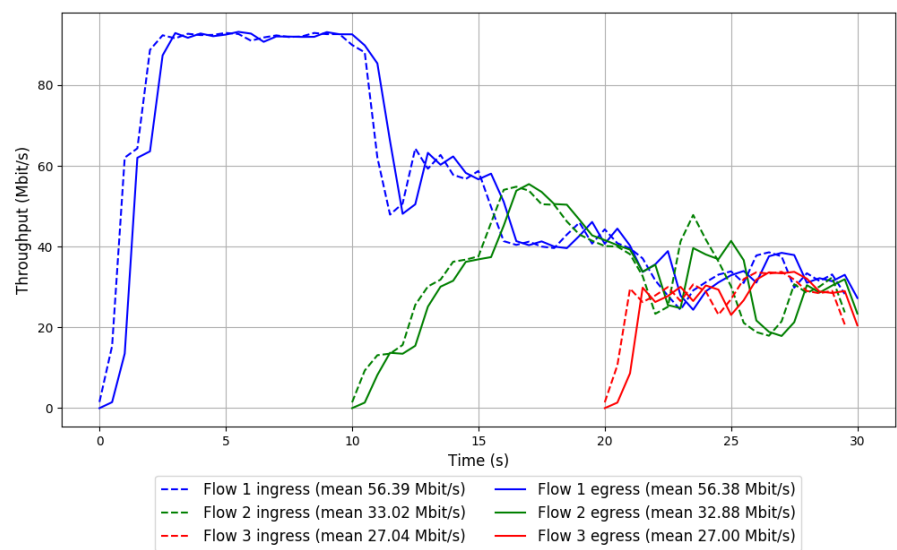


Run 4: Statistics of PCC-Vivace

Start at: 2019-06-28 13:13:38  
End at: 2019-06-28 13:14:08  
Local clock offset: -1.037 ms  
Remote clock offset: -4.645 ms

# Below is generated by plot.py at 2019-06-28 14:02:26  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 87.14 Mbit/s  
95th percentile per-packet one-way delay: 63.438 ms  
Loss rate: 0.25%  
-- Flow 1:  
Average throughput: 56.38 Mbit/s  
95th percentile per-packet one-way delay: 24.914 ms  
Loss rate: 0.10%  
-- Flow 2:  
Average throughput: 32.88 Mbit/s  
95th percentile per-packet one-way delay: 141.246 ms  
Loss rate: 0.54%  
-- Flow 3:  
Average throughput: 27.00 Mbit/s  
95th percentile per-packet one-way delay: 27.884 ms  
Loss rate: 0.41%

Run 4: Report of PCC-Vivace — Data Link



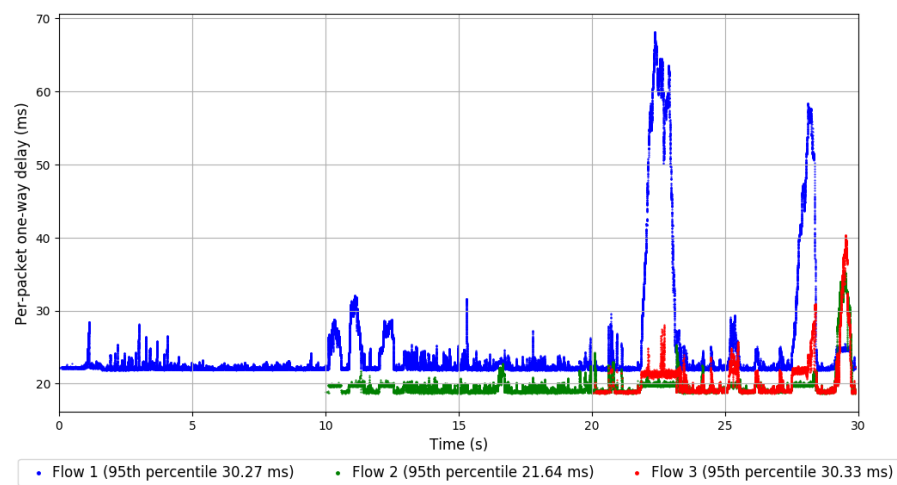
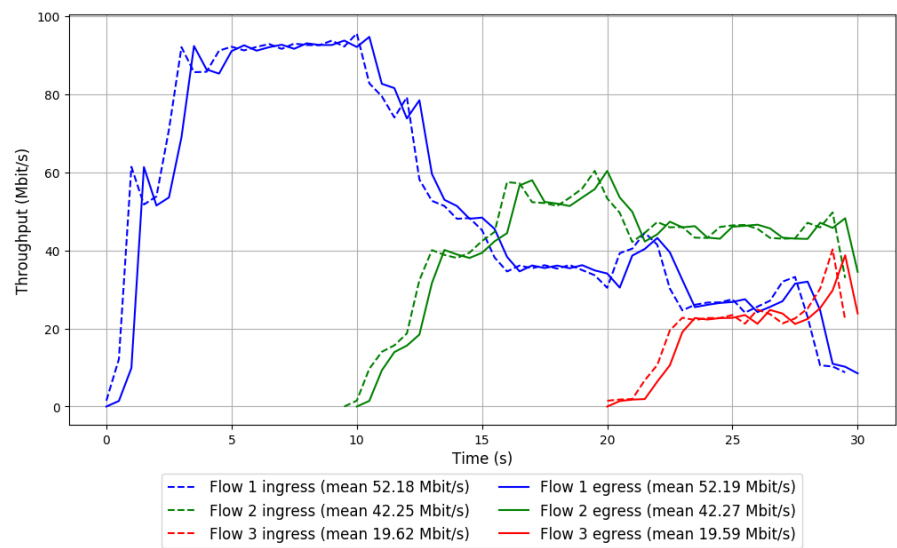


Run 5: Statistics of PCC-Vivace

Start at: 2019-06-28 13:40:42  
End at: 2019-06-28 13:41:12  
Local clock offset: -0.182 ms  
Remote clock offset: -5.605 ms

# Below is generated by plot.py at 2019-06-28 14:02:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 86.75 Mbit/s  
95th percentile per-packet one-way delay: 28.462 ms  
Loss rate: 0.11%  
-- Flow 1:  
Average throughput: 52.19 Mbit/s  
95th percentile per-packet one-way delay: 30.273 ms  
Loss rate: 0.08%  
-- Flow 2:  
Average throughput: 42.27 Mbit/s  
95th percentile per-packet one-way delay: 21.644 ms  
Loss rate: 0.11%  
-- Flow 3:  
Average throughput: 19.59 Mbit/s  
95th percentile per-packet one-way delay: 30.327 ms  
Loss rate: 0.33%

Run 5: Report of PCC-Vivace — Data Link

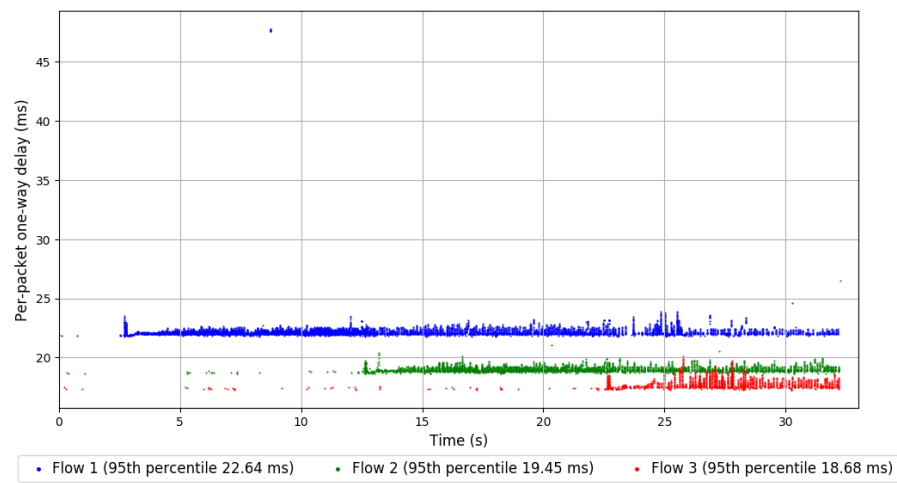
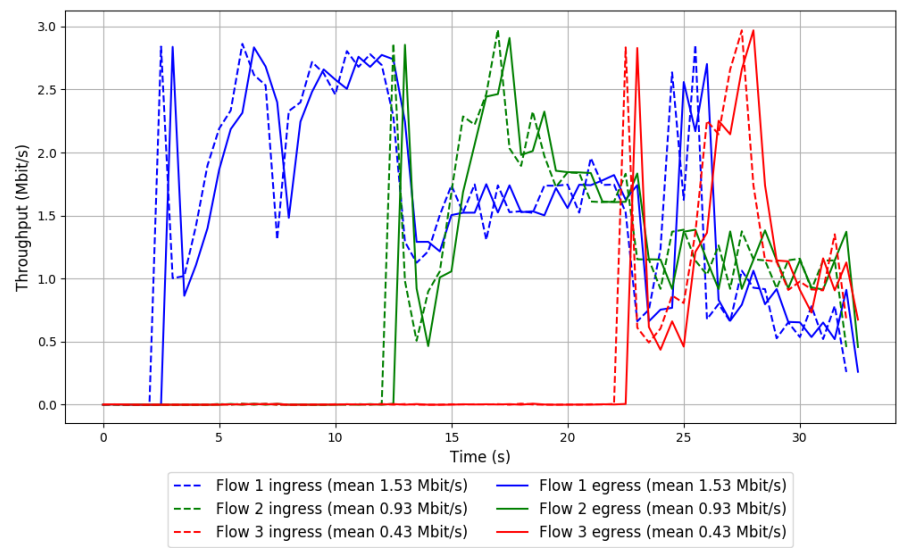


Run 1: Statistics of WebRTC media

Start at: 2019-06-28 11:52:22  
End at: 2019-06-28 11:52:52  
Local clock offset: -3.059 ms  
Remote clock offset: -5.131 ms

# Below is generated by plot.py at 2019-06-28 14:02:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.86 Mbit/s  
95th percentile per-packet one-way delay: 22.481 ms  
Loss rate: 0.12%  
-- Flow 1:  
Average throughput: 1.53 Mbit/s  
95th percentile per-packet one-way delay: 22.639 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.93 Mbit/s  
95th percentile per-packet one-way delay: 19.451 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 18.685 ms  
Loss rate: 0.82%

Run 1: Report of WebRTC media — Data Link

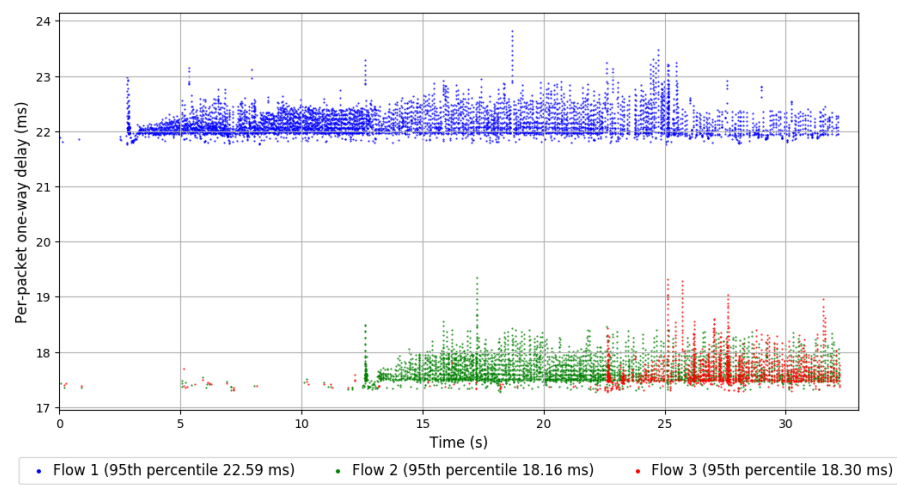
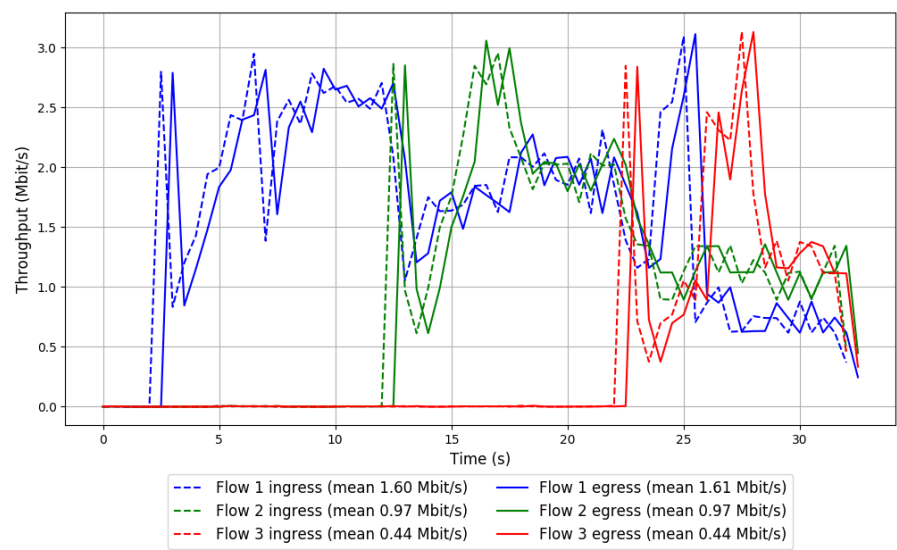


Run 2: Statistics of WebRTC media

Start at: 2019-06-28 12:19:16  
End at: 2019-06-28 12:19:46  
Local clock offset: -1.751 ms  
Remote clock offset: -4.267 ms

# Below is generated by plot.py at 2019-06-28 14:02:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.01 Mbit/s  
95th percentile per-packet one-way delay: 22.477 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 1.61 Mbit/s  
95th percentile per-packet one-way delay: 22.595 ms  
Loss rate: 0.12%  
-- Flow 2:  
Average throughput: 0.97 Mbit/s  
95th percentile per-packet one-way delay: 18.157 ms  
Loss rate: 0.03%  
-- Flow 3:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 18.303 ms  
Loss rate: 0.39%

Run 2: Report of WebRTC media — Data Link

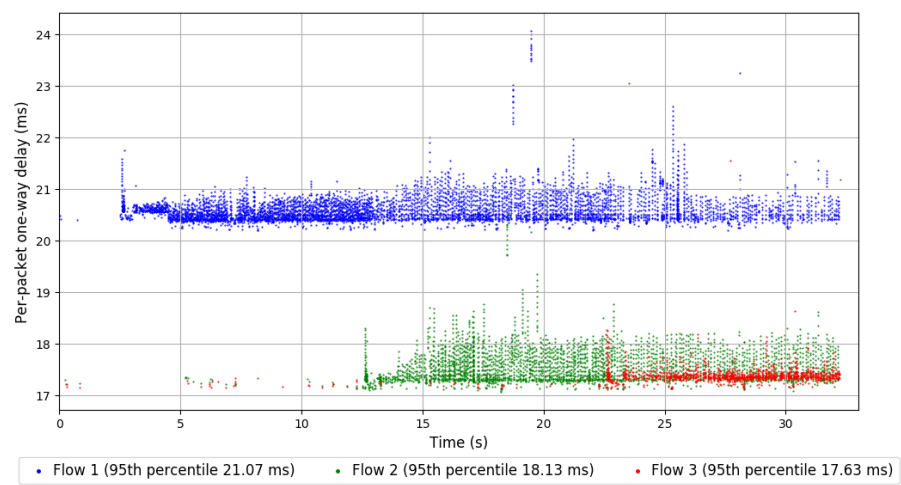
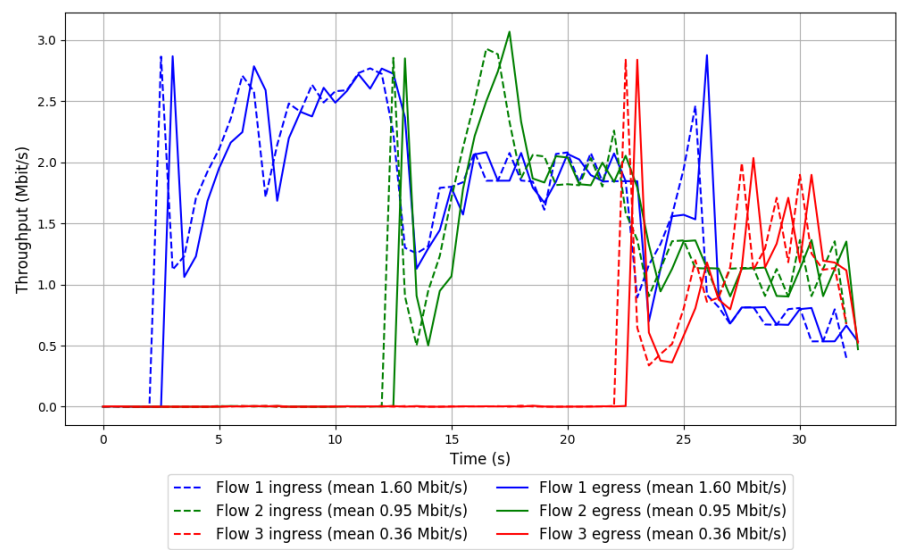


Run 3: Statistics of WebRTC media

Start at: 2019-06-28 12:45:52  
End at: 2019-06-28 12:46:22  
Local clock offset: -1.133 ms  
Remote clock offset: -3.222 ms

# Below is generated by plot.py at 2019-06-28 14:02:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.89 Mbit/s  
95th percentile per-packet one-way delay: 20.944 ms  
Loss rate: 0.20%  
-- Flow 1:  
Average throughput: 1.60 Mbit/s  
95th percentile per-packet one-way delay: 21.073 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.95 Mbit/s  
95th percentile per-packet one-way delay: 18.129 ms  
Loss rate: 0.34%  
-- Flow 3:  
Average throughput: 0.36 Mbit/s  
95th percentile per-packet one-way delay: 17.631 ms  
Loss rate: 0.74%

Run 3: Report of WebRTC media — Data Link



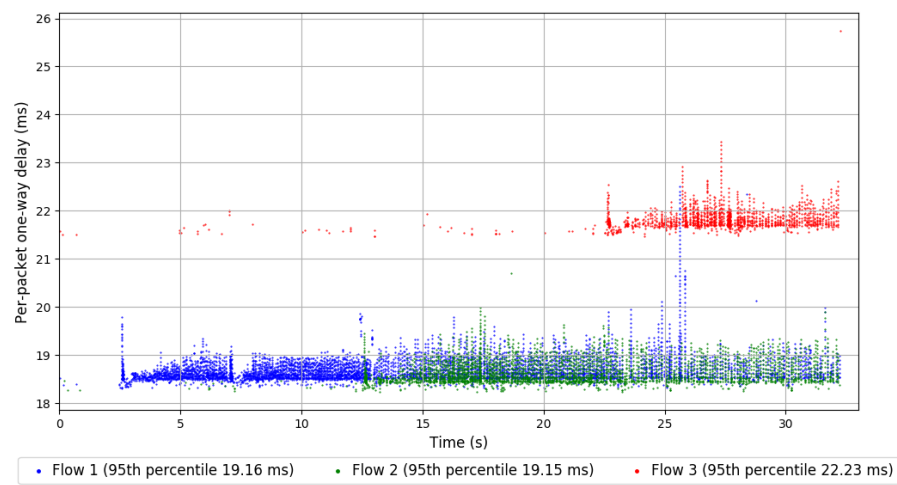
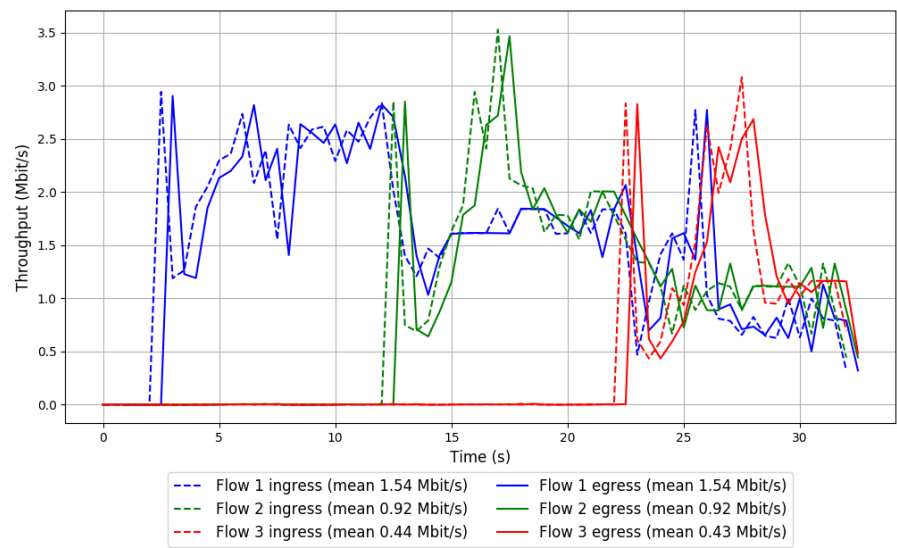


Run 4: Statistics of WebRTC media

Start at: 2019-06-28 13:12:31  
End at: 2019-06-28 13:13:01  
Local clock offset: -1.952 ms  
Remote clock offset: -5.644 ms

# Below is generated by plot.py at 2019-06-28 14:02:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 2.89 Mbit/s  
95th percentile per-packet one-way delay: 21.858 ms  
Loss rate: 0.11%  
-- Flow 1:  
Average throughput: 1.54 Mbit/s  
95th percentile per-packet one-way delay: 19.159 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.92 Mbit/s  
95th percentile per-packet one-way delay: 19.148 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 22.230 ms  
Loss rate: 0.75%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2019-06-28 13:39:35  
End at: 2019-06-28 13:40:05  
Local clock offset: -0.397 ms  
Remote clock offset: -4.833 ms

# Below is generated by plot.py at 2019-06-28 14:02:28  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.03 Mbit/s  
95th percentile per-packet one-way delay: 21.876 ms  
Loss rate: 0.19%  
-- Flow 1:  
Average throughput: 1.65 Mbit/s  
95th percentile per-packet one-way delay: 22.045 ms  
Loss rate: 0.12%  
-- Flow 2:  
Average throughput: 0.93 Mbit/s  
95th percentile per-packet one-way delay: 18.939 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.46 Mbit/s  
95th percentile per-packet one-way delay: 18.979 ms  
Loss rate: 0.78%

Run 5: Report of WebRTC media — Data Link

