

## Pantheon Report

Generated at 2019-01-22 03:31:27 (UTC).

Data path: GCE Iowa on **ens4** (*local*) → GCE Tokyo on **ens4** (*remote*).

Repeated the test of 21 congestion control schemes 5 times.

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

NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.

### System info:

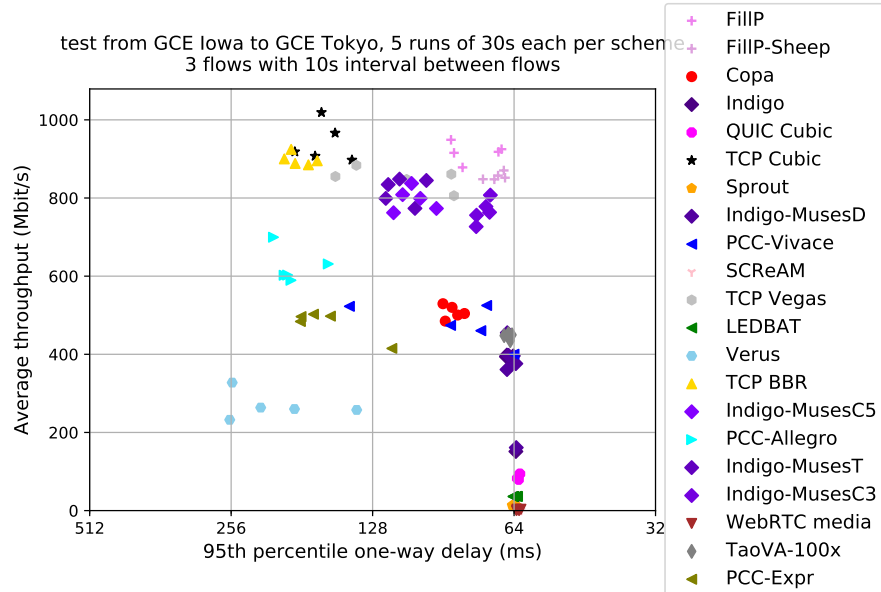
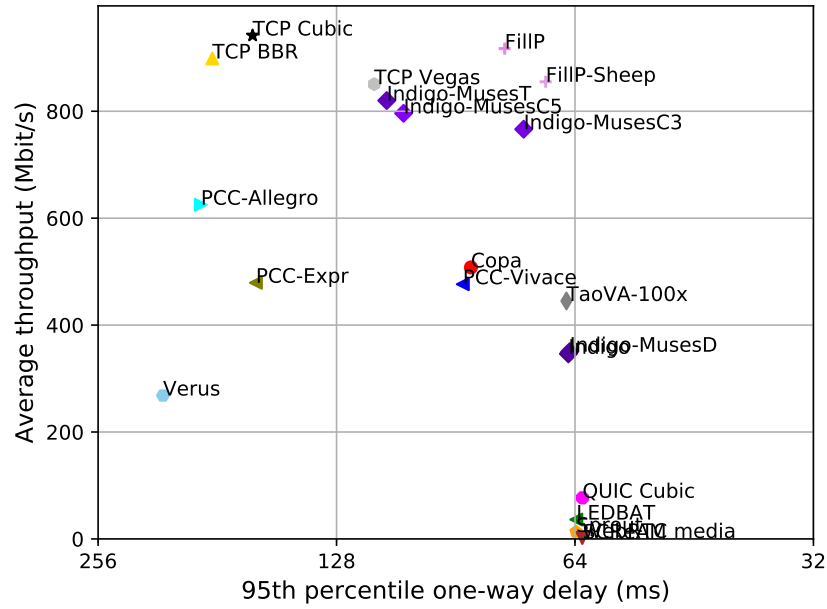
```
Linux 4.15.0-1026-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

### Git summary:

```
branch: muses @ 89d24e57783e7fbfec537a619071de937b639e38
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 1ddcff131048c6962f123bcd22b4d166a422adde
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 GCE Iowa to GCE Tokyo, 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	464.33	450.16	405.27	182.37	184.05	179.42	1.33	1.18	1.65
Copa	5	269.11	247.95	221.77	86.87	84.85	88.11	0.02	0.01	0.02
TCP Cubic	5	486.87	474.42	417.42	155.50	149.51	187.06	0.19	0.25	0.97
FillP	5	586.81	370.54	250.54	83.55	68.49	66.14	0.10	0.01	0.03
FillP-Sheep	5	541.44	343.04	255.79	71.97	65.86	65.09	0.00	0.00	0.00
Indigo	5	170.71	183.32	167.00	65.08	65.40	65.32	0.00	0.00	0.00
Indigo-MusesC3	5	458.57	364.94	266.42	77.51	67.08	66.65	0.00	0.01	0.00
Indigo-MusesC5	5	491.29	423.96	125.75	106.58	105.35	66.98	0.03	0.05	0.25
Indigo-MusesD	5	256.38	128.89	37.38	65.15	63.74	62.93	0.00	0.01	0.00
Indigo-MusesT	5	483.31	395.97	297.60	118.46	75.02	71.17	0.02	0.00	0.02
LEDBAT	5	23.33	15.59	7.68	63.86	63.53	63.28	0.01	0.00	0.00
PCC-Allegro	5	346.99	297.08	244.53	191.06	146.03	148.67	2.57	1.63	0.68
PCC-Expr	5	269.10	228.11	176.54	170.56	111.98	123.40	1.82	0.49	1.34
QUIC Cubic	5	41.30	36.32	35.13	62.59	62.54	62.55	0.00	0.00	0.00
SCReAM	5	0.22	0.22	0.22	62.57	62.58	62.53	0.00	0.00	0.00
Sprout	5	6.77	6.64	6.46	63.82	63.68	63.73	0.00	0.00	0.00
TaoVA-100x	5	231.91	219.20	201.31	65.07	65.57	67.51	0.00	0.00	0.00
TCP Vegas	5	456.16	396.71	391.52	111.54	97.73	133.16	0.05	0.06	0.15
Verus	5	158.08	127.18	79.03	197.33	216.03	106.69	4.21	6.42	0.01
PCC-Vivace	5	286.42	228.05	115.60	79.51	94.58	64.10	0.05	0.16	0.02
WebRTC media	5	0.83	0.83	0.33	62.62	62.58	62.58	0.00	0.00	0.01

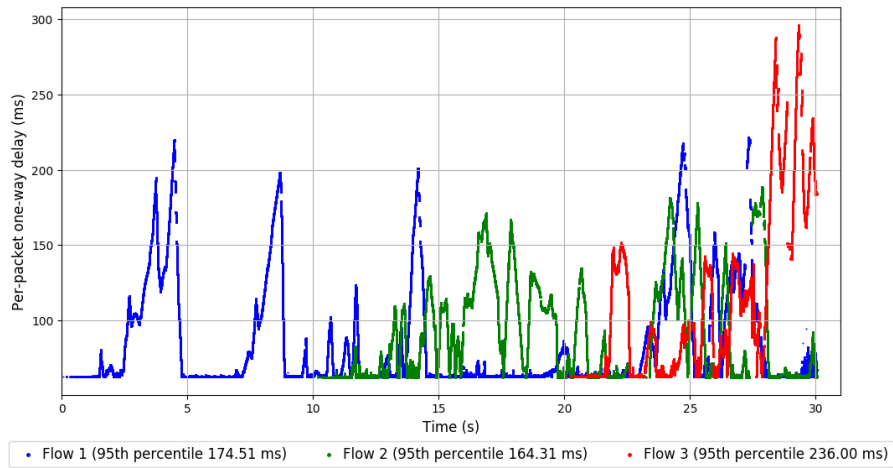
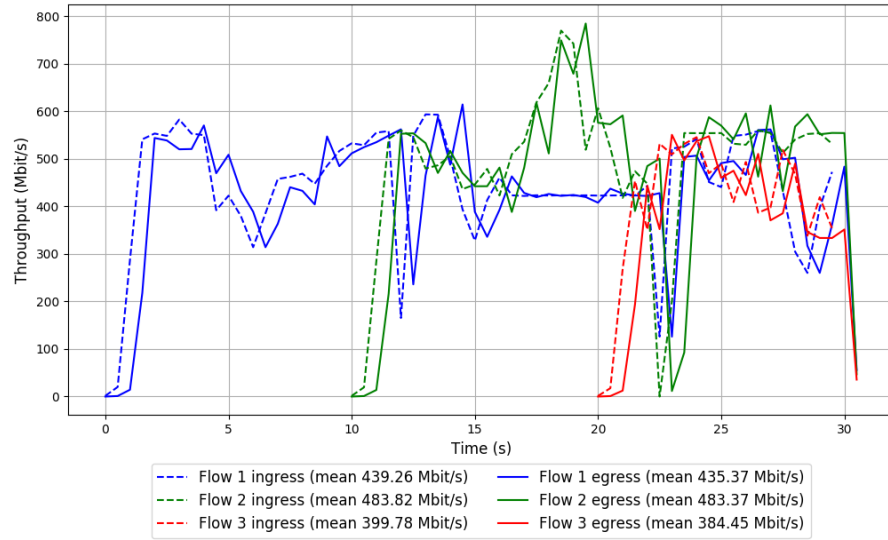


Run 1: Statistics of TCP BBR

Start at: 2019-01-21 21:02:13  
End at: 2019-01-21 21:02:43  
Local clock offset: -0.012 ms  
Remote clock offset: -0.623 ms

# Below is generated by plot.py at 2019-01-22 00:27:38  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 884.97 Mbit/s  
95th percentile per-packet one-way delay: 175.301 ms  
Loss rate: 1.03%  
-- Flow 1:  
Average throughput: 435.37 Mbit/s  
95th percentile per-packet one-way delay: 174.510 ms  
Loss rate: 0.88%  
-- Flow 2:  
Average throughput: 483.37 Mbit/s  
95th percentile per-packet one-way delay: 164.314 ms  
Loss rate: 0.09%  
-- Flow 3:  
Average throughput: 384.45 Mbit/s  
95th percentile per-packet one-way delay: 235.996 ms  
Loss rate: 3.83%

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

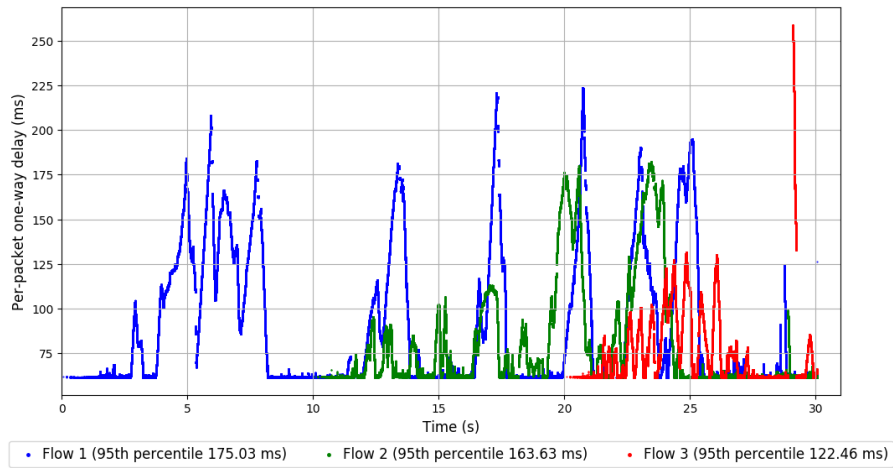
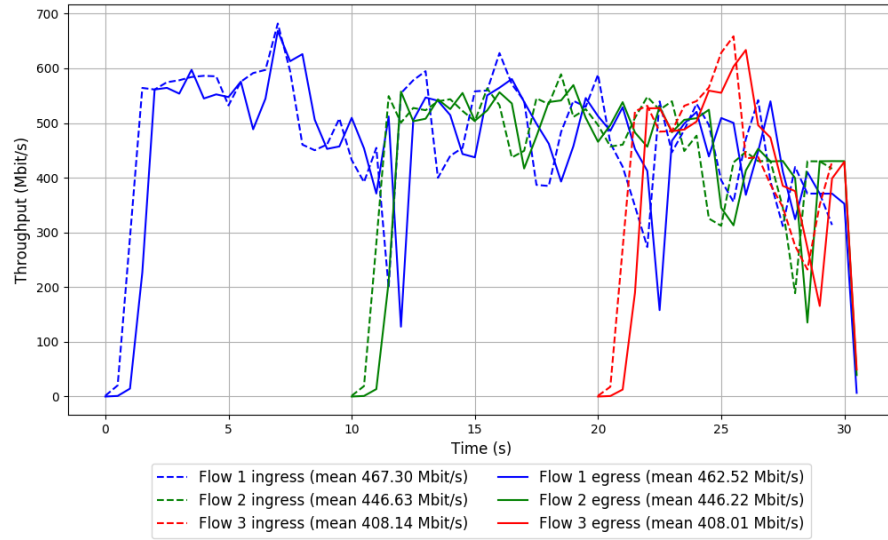


Run 2: Statistics of TCP BBR

Start at: 2019-01-21 21:38:29  
End at: 2019-01-21 21:38:59  
Local clock offset: 0.006 ms  
Remote clock offset: -1.235 ms

# Below is generated by plot.py at 2019-01-22 00:28:14  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 895.32 Mbit/s  
95th percentile per-packet one-way delay: 167.869 ms  
Loss rate: 0.56%  
-- Flow 1:  
Average throughput: 462.52 Mbit/s  
95th percentile per-packet one-way delay: 175.027 ms  
Loss rate: 1.02%  
-- Flow 2:  
Average throughput: 446.22 Mbit/s  
95th percentile per-packet one-way delay: 163.627 ms  
Loss rate: 0.09%  
-- Flow 3:  
Average throughput: 408.01 Mbit/s  
95th percentile per-packet one-way delay: 122.459 ms  
Loss rate: 0.03%

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

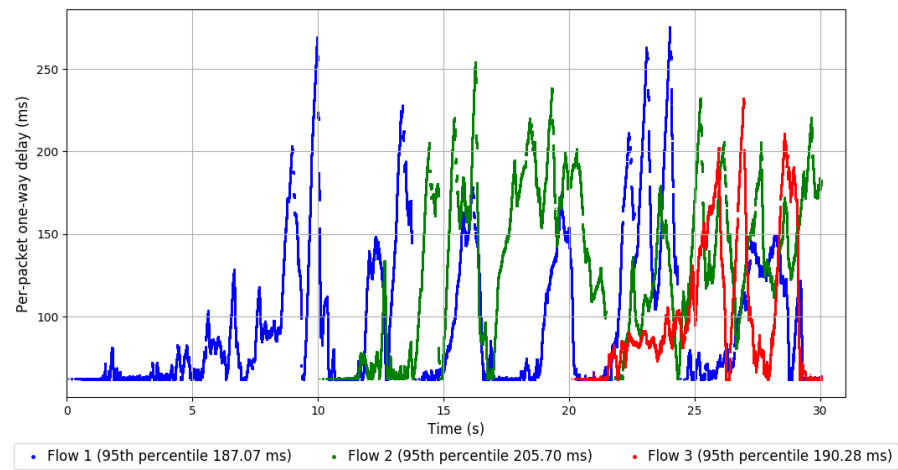
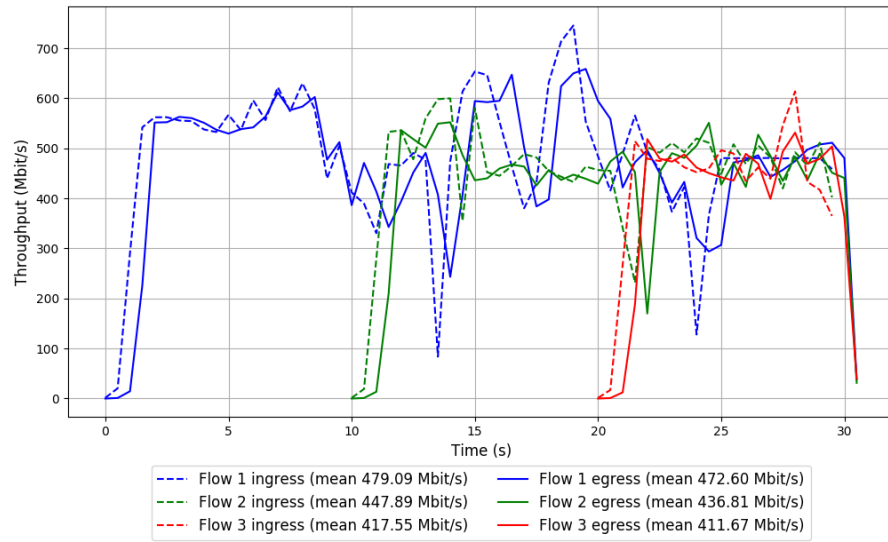


Run 3: Statistics of TCP BBR

Start at: 2019-01-21 22:14:49  
End at: 2019-01-21 22:15:19  
Local clock offset: 0.034 ms  
Remote clock offset: -0.833 ms

# Below is generated by plot.py at 2019-01-22 00:28:18  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 900.10 Mbit/s  
95th percentile per-packet one-way delay: 197.275 ms  
Loss rate: 1.72%  
-- Flow 1:  
Average throughput: 472.60 Mbit/s  
95th percentile per-packet one-way delay: 187.075 ms  
Loss rate: 1.35%  
-- Flow 2:  
Average throughput: 436.81 Mbit/s  
95th percentile per-packet one-way delay: 205.699 ms  
Loss rate: 2.47%  
-- Flow 3:  
Average throughput: 411.67 Mbit/s  
95th percentile per-packet one-way delay: 190.278 ms  
Loss rate: 1.41%

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

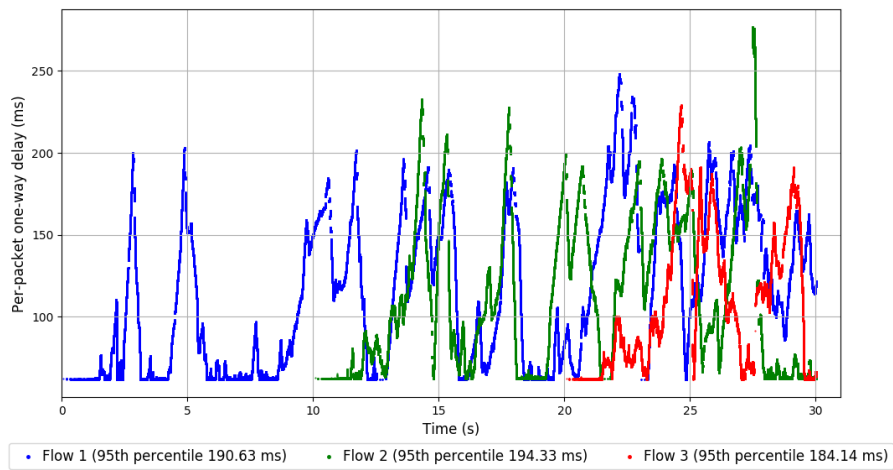
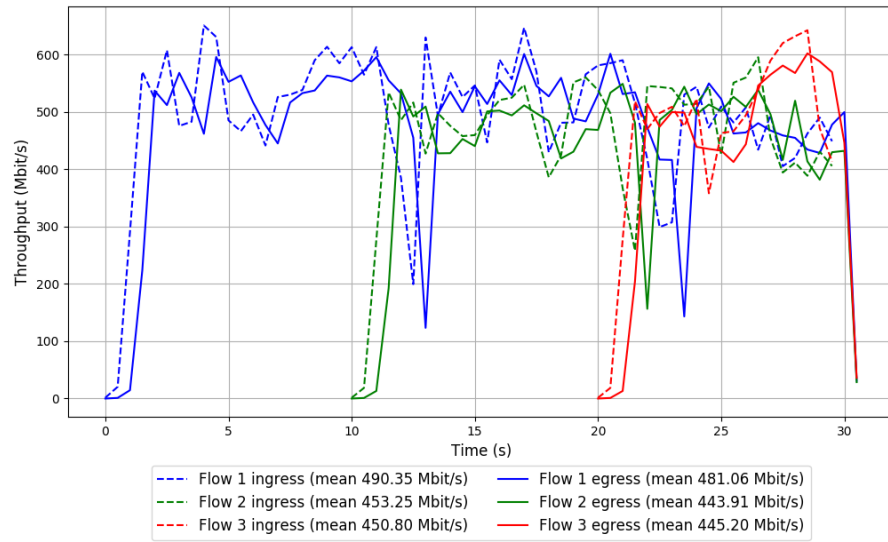


Run 4: Statistics of TCP BBR

Start at: 2019-01-21 22:51:03  
End at: 2019-01-21 22:51:33  
Local clock offset: -0.066 ms  
Remote clock offset: -0.968 ms

# Below is generated by plot.py at 2019-01-22 00:28:36  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 924.51 Mbit/s  
95th percentile per-packet one-way delay: 190.789 ms  
Loss rate: 1.84%  
-- Flow 1:  
Average throughput: 481.06 Mbit/s  
95th percentile per-packet one-way delay: 190.627 ms  
Loss rate: 1.89%  
-- Flow 2:  
Average throughput: 443.91 Mbit/s  
95th percentile per-packet one-way delay: 194.334 ms  
Loss rate: 2.06%  
-- Flow 3:  
Average throughput: 445.20 Mbit/s  
95th percentile per-packet one-way delay: 184.138 ms  
Loss rate: 1.23%

# Run 4: Report of TCP BBR — Data Link





Run 5: Statistics of TCP BBR

Start at: 2019-01-21 23:27:26

End at: 2019-01-21 23:27:56

Local clock offset: 0.015 ms

Remote clock offset: 0.088 ms

# Below is generated by plot.py at 2019-01-22 00:28:36

# Datalink statistics

-- Total of 3 flows:

Average throughput: 888.50 Mbit/s

95th percentile per-packet one-way delay: 187.077 ms

Loss rate: 1.45%

-- Flow 1:

Average throughput: 470.09 Mbit/s

95th percentile per-packet one-way delay: 184.622 ms

Loss rate: 1.51%

-- Flow 2:

Average throughput: 440.49 Mbit/s

95th percentile per-packet one-way delay: 192.299 ms

Loss rate: 1.21%

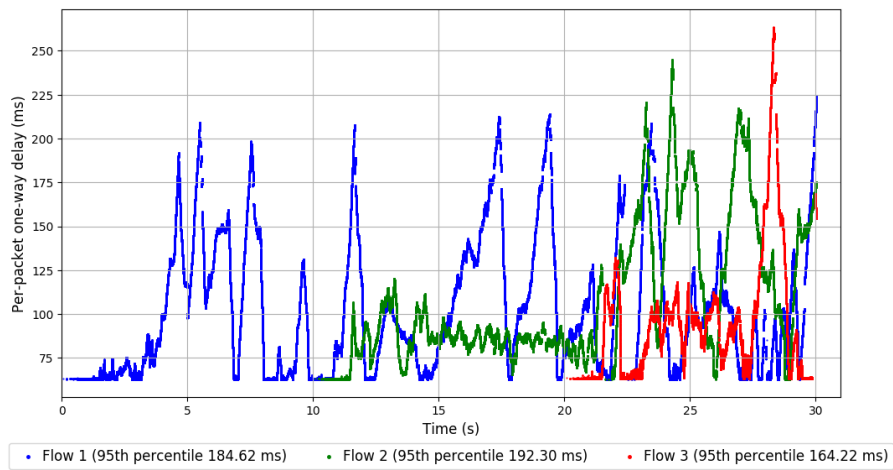
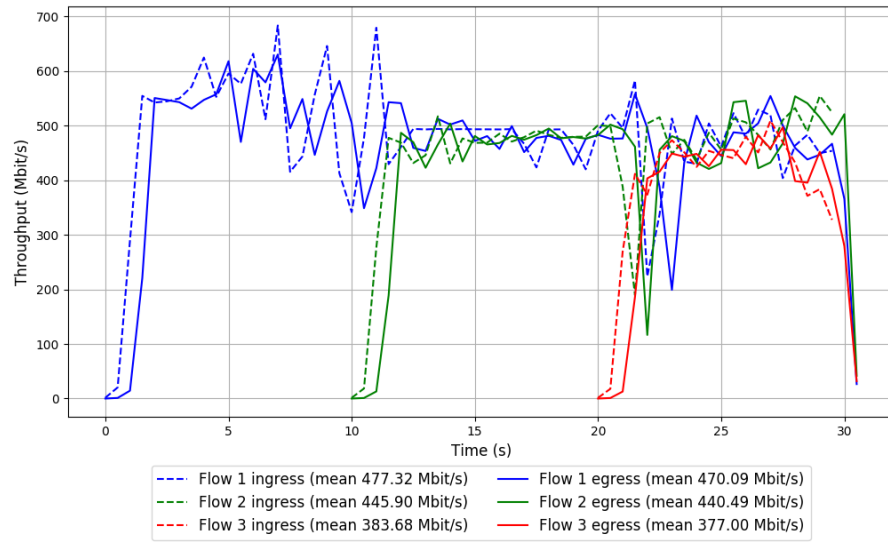
-- Flow 3:

Average throughput: 377.00 Mbit/s

95th percentile per-packet one-way delay: 164.218 ms

Loss rate: 1.74%

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

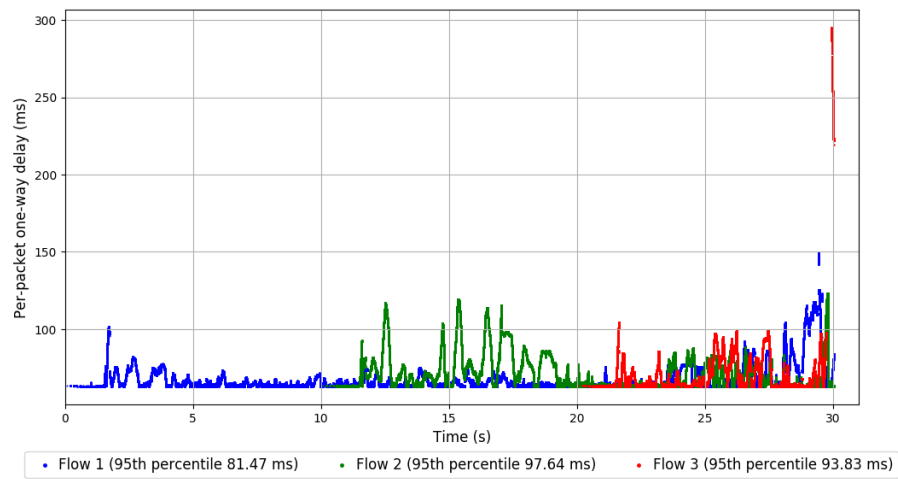
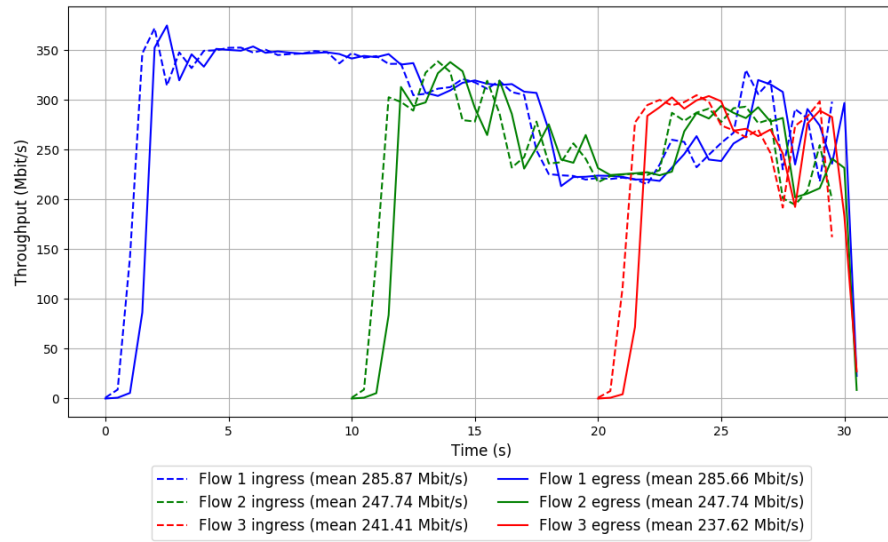


Run 1: Statistics of Copa

Start at: 2019-01-21 21:10:42  
End at: 2019-01-21 21:11:12  
Local clock offset: 0.007 ms  
Remote clock offset: -0.115 ms

# Below is generated by plot.py at 2019-01-22 00:29:59  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 529.47 Mbit/s  
95th percentile per-packet one-way delay: 90.676 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 285.66 Mbit/s  
95th percentile per-packet one-way delay: 81.474 ms  
Loss rate: 0.08%  
-- Flow 2:  
Average throughput: 247.74 Mbit/s  
95th percentile per-packet one-way delay: 97.636 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 237.62 Mbit/s  
95th percentile per-packet one-way delay: 93.829 ms  
Loss rate: 0.00%

# Run 1: Report of Copa — Data Link

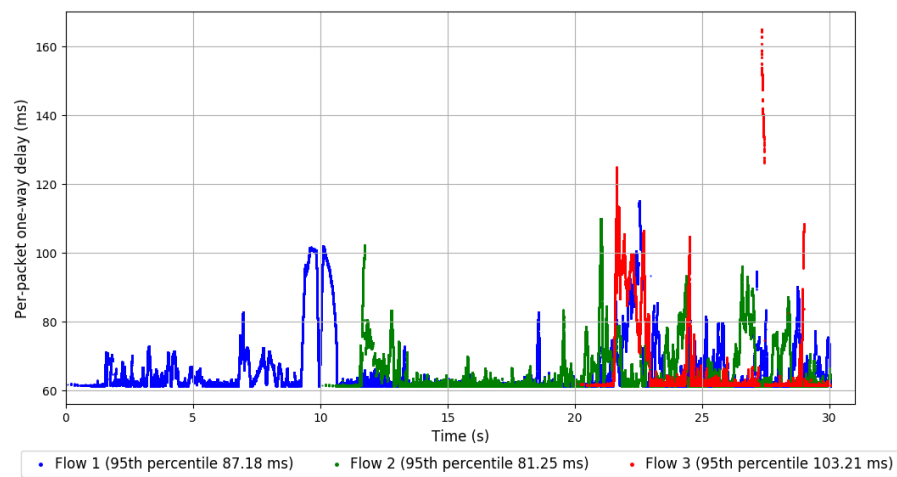
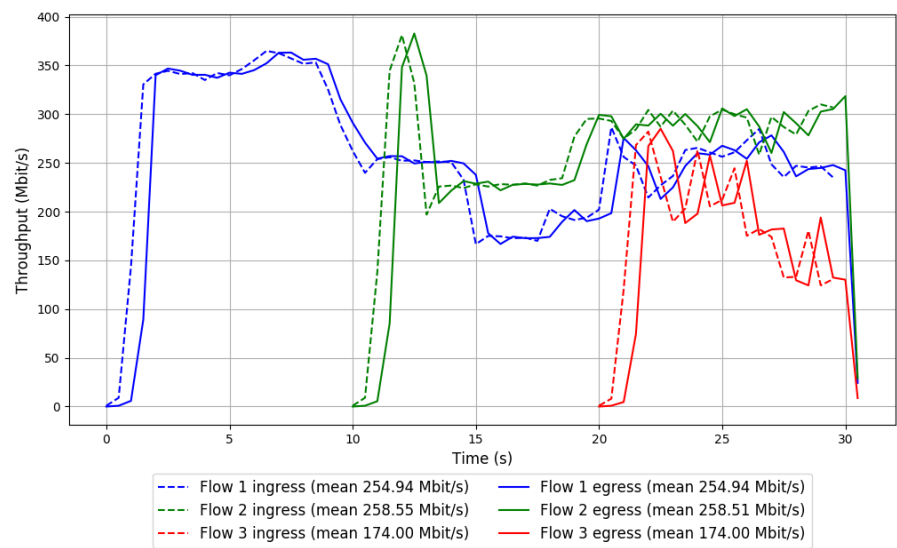


Run 2: Statistics of Copa

Start at: 2019-01-21 21:47:06  
End at: 2019-01-21 21:47:36  
Local clock offset: 0.014 ms  
Remote clock offset: -1.353 ms

# Below is generated by plot.py at 2019-01-22 00:29:59  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 484.93 Mbit/s  
95th percentile per-packet one-way delay: 89.661 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 254.94 Mbit/s  
95th percentile per-packet one-way delay: 87.184 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 258.51 Mbit/s  
95th percentile per-packet one-way delay: 81.252 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 174.00 Mbit/s  
95th percentile per-packet one-way delay: 103.206 ms  
Loss rate: 0.00%

Run 2: Report of Copa — Data Link

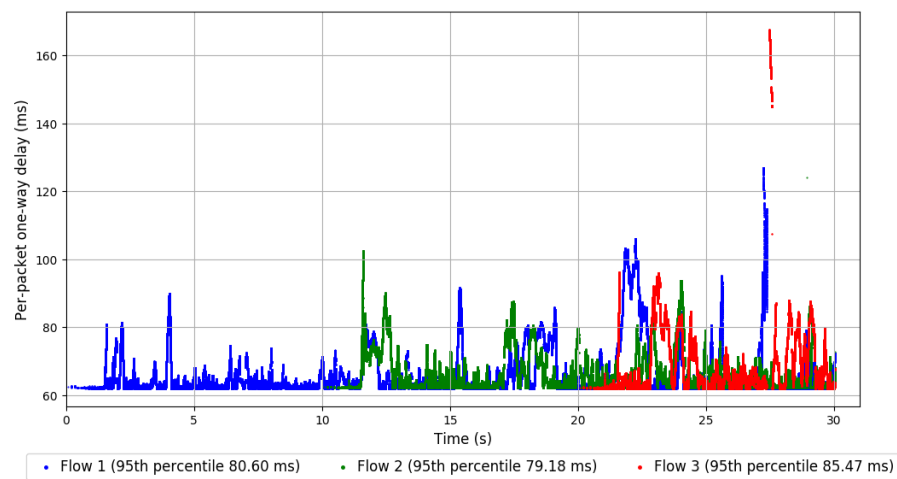
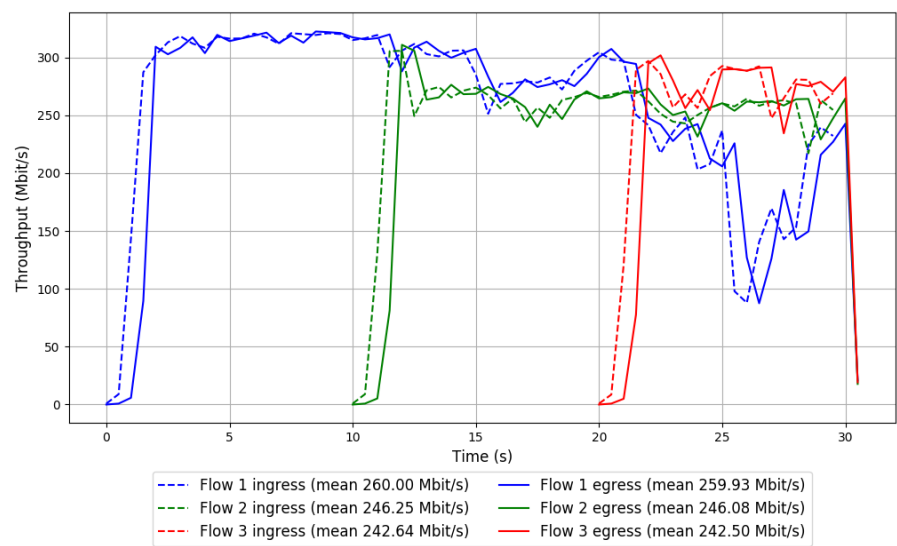


Run 3: Statistics of Copa

Start at: 2019-01-21 22:23:26  
End at: 2019-01-21 22:23:56  
Local clock offset: 0.033 ms  
Remote clock offset: -0.718 ms

# Below is generated by plot.py at 2019-01-22 00:29:59  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 504.41 Mbit/s  
95th percentile per-packet one-way delay: 81.607 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 259.93 Mbit/s  
95th percentile per-packet one-way delay: 80.602 ms  
Loss rate: 0.02%  
-- Flow 2:  
Average throughput: 246.08 Mbit/s  
95th percentile per-packet one-way delay: 79.180 ms  
Loss rate: 0.06%  
-- Flow 3:  
Average throughput: 242.50 Mbit/s  
95th percentile per-packet one-way delay: 85.469 ms  
Loss rate: 0.05%

Run 3: Report of Copa — Data Link





Run 4: Statistics of Copa

Start at: 2019-01-21 22:59:36

End at: 2019-01-21 23:00:06

Local clock offset: -0.078 ms

Remote clock offset: -1.31 ms

# Below is generated by plot.py at 2019-01-22 00:51:24

# Datalink statistics

-- Total of 3 flows:

Average throughput: 520.11 Mbit/s

95th percentile per-packet one-way delay: 86.725 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 273.49 Mbit/s

95th percentile per-packet one-way delay: 101.776 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 255.57 Mbit/s

95th percentile per-packet one-way delay: 79.392 ms

Loss rate: 0.00%

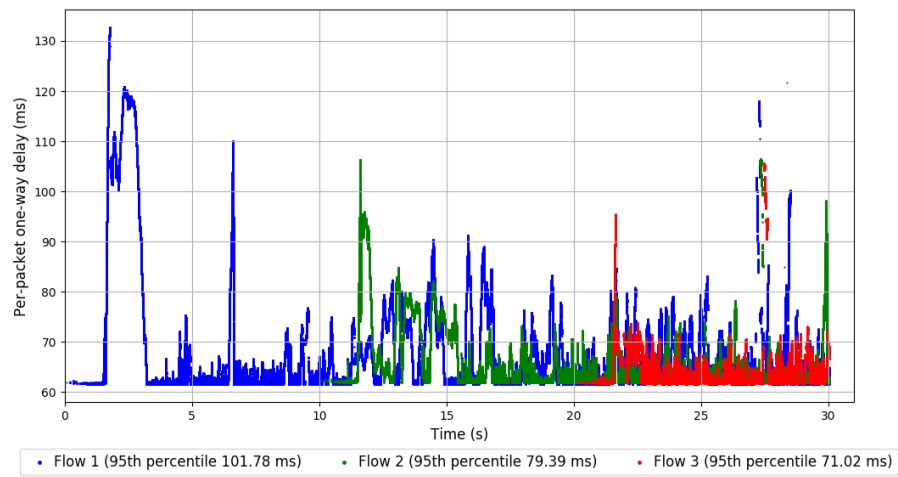
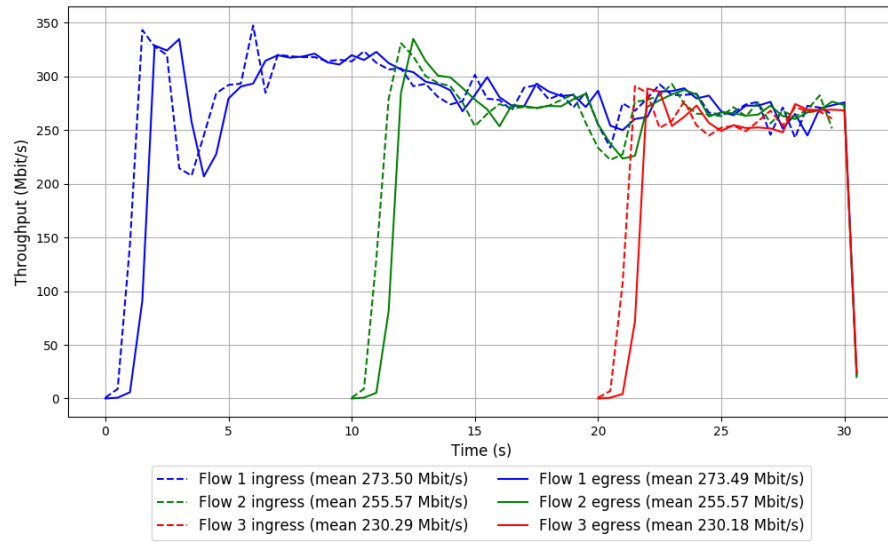
-- Flow 3:

Average throughput: 230.18 Mbit/s

95th percentile per-packet one-way delay: 71.015 ms

Loss rate: 0.04%

# Run 4: Report of Copa — Data Link

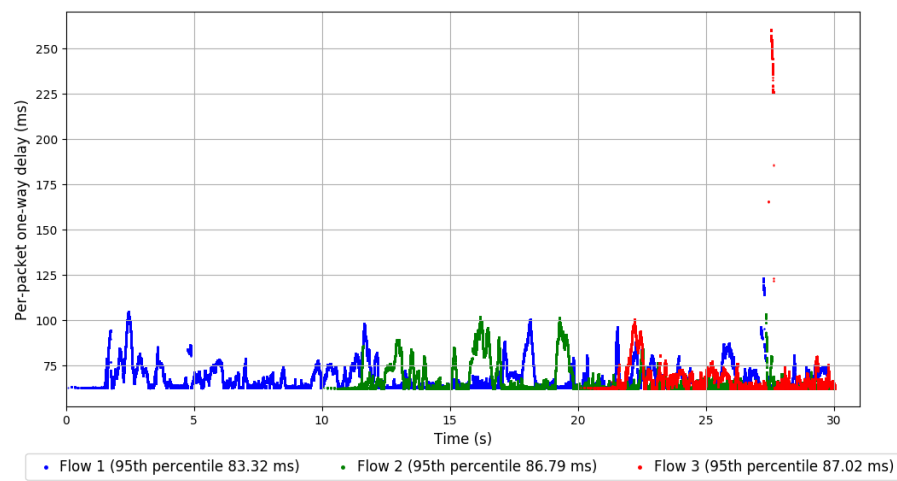
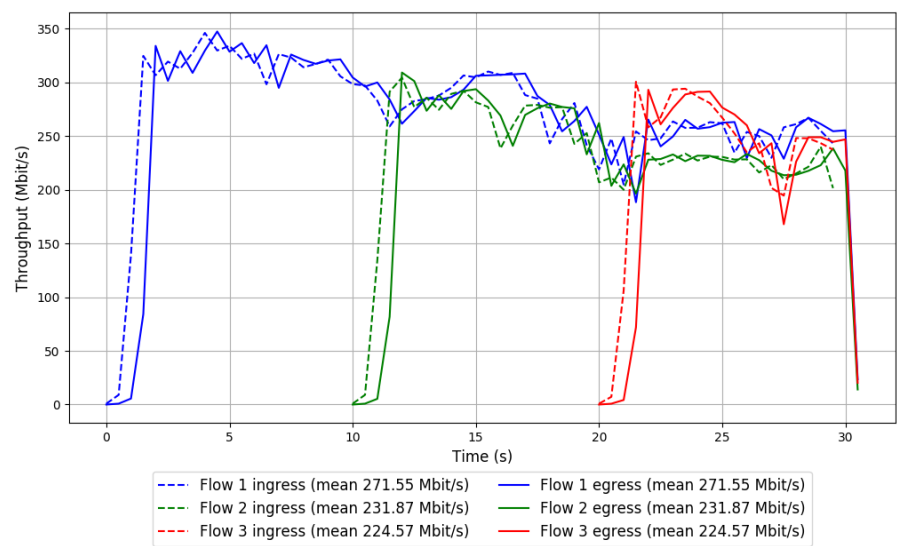


Run 5: Statistics of Copa

Start at: 2019-01-21 23:35:51  
End at: 2019-01-21 23:36:21  
Local clock offset: 0.01 ms  
Remote clock offset: -0.537 ms

# Below is generated by plot.py at 2019-01-22 00:51:24  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 500.48 Mbit/s  
95th percentile per-packet one-way delay: 84.375 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 271.55 Mbit/s  
95th percentile per-packet one-way delay: 83.318 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 231.87 Mbit/s  
95th percentile per-packet one-way delay: 86.786 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 224.57 Mbit/s  
95th percentile per-packet one-way delay: 87.015 ms  
Loss rate: 0.00%

Run 5: Report of Copa — Data Link

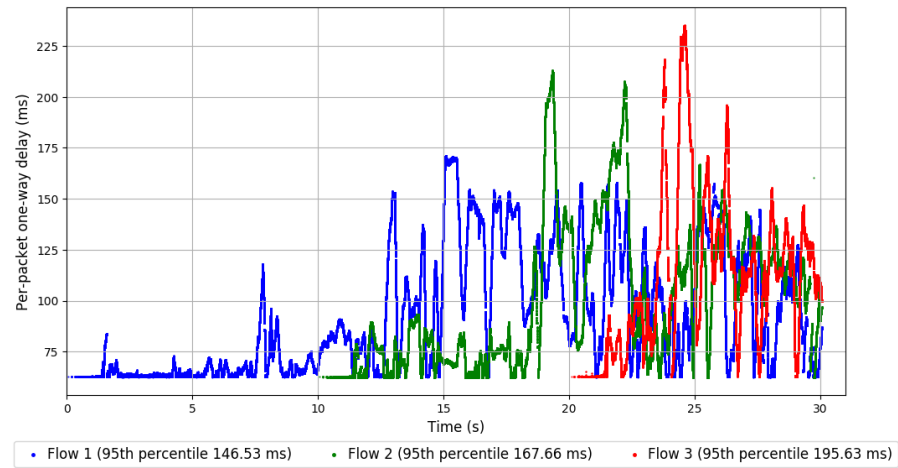
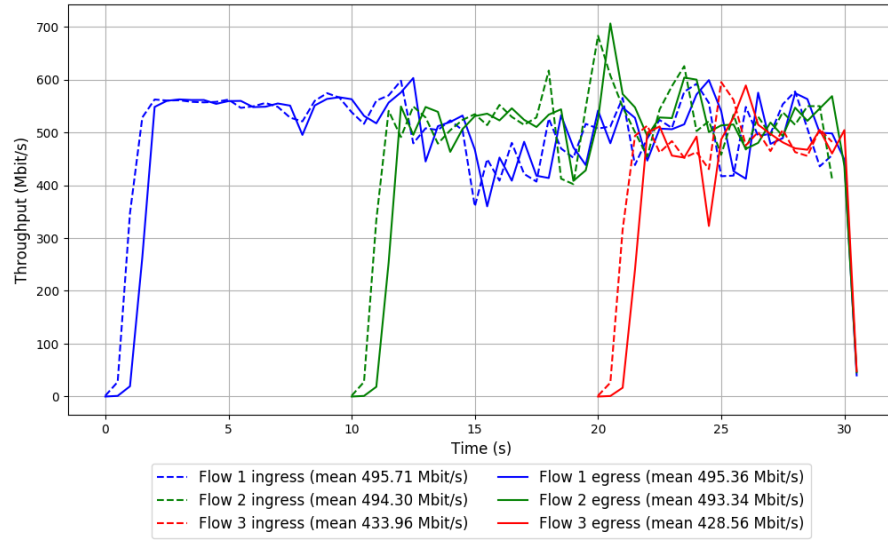


Run 1: Statistics of TCP Cubic

Start at: 2019-01-21 21:17:44  
End at: 2019-01-21 21:18:14  
Local clock offset: -0.015 ms  
Remote clock offset: -0.445 ms

# Below is generated by plot.py at 2019-01-22 00:51:33  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 966.41 Mbit/s  
95th percentile per-packet one-way delay: 153.808 ms  
Loss rate: 0.29%  
-- Flow 1:  
Average throughput: 495.36 Mbit/s  
95th percentile per-packet one-way delay: 146.530 ms  
Loss rate: 0.07%  
-- Flow 2:  
Average throughput: 493.34 Mbit/s  
95th percentile per-packet one-way delay: 167.665 ms  
Loss rate: 0.19%  
-- Flow 3:  
Average throughput: 428.56 Mbit/s  
95th percentile per-packet one-way delay: 195.626 ms  
Loss rate: 1.24%

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

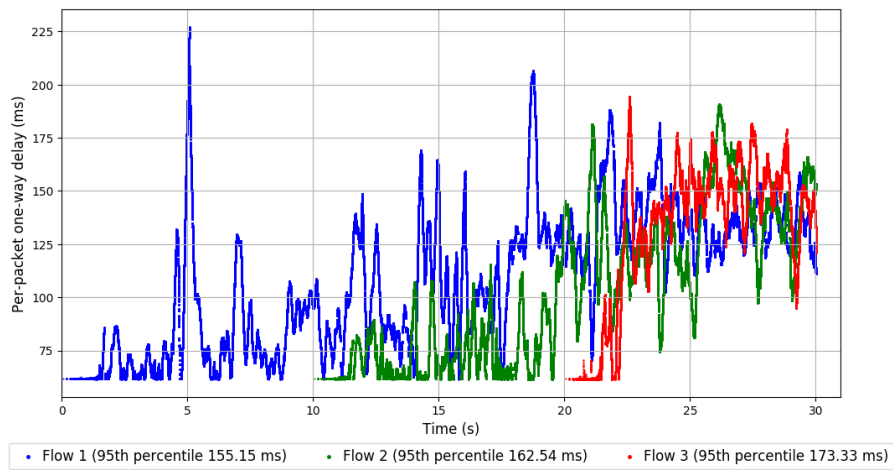
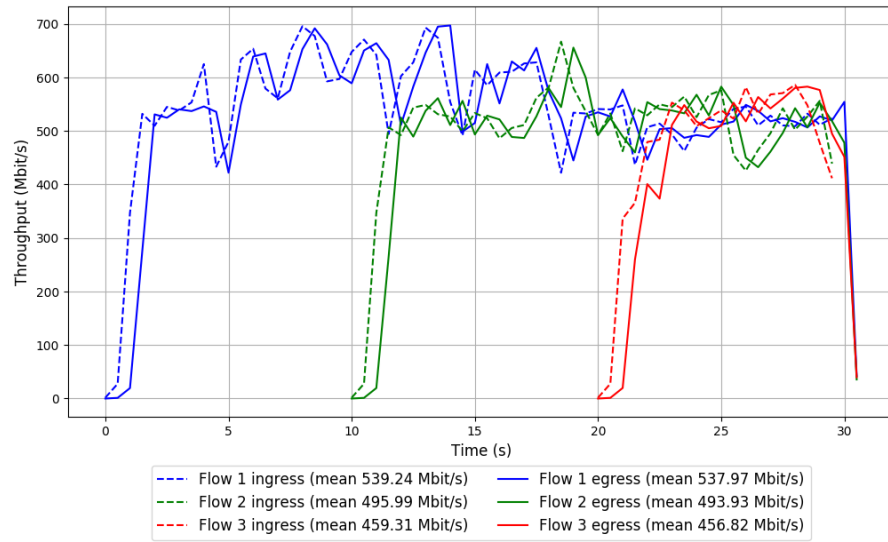


Run 2: Statistics of TCP Cubic

Start at: 2019-01-21 21:54:04  
End at: 2019-01-21 21:54:34  
Local clock offset: -0.007 ms  
Remote clock offset: -1.262 ms

# Below is generated by plot.py at 2019-01-22 00:52:44  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1019.05 Mbit/s  
95th percentile per-packet one-way delay: 164.451 ms  
Loss rate: 0.33%  
-- Flow 1:  
Average throughput: 537.97 Mbit/s  
95th percentile per-packet one-way delay: 155.153 ms  
Loss rate: 0.23%  
-- Flow 2:  
Average throughput: 493.93 Mbit/s  
95th percentile per-packet one-way delay: 162.540 ms  
Loss rate: 0.41%  
-- Flow 3:  
Average throughput: 456.82 Mbit/s  
95th percentile per-packet one-way delay: 173.333 ms  
Loss rate: 0.52%

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



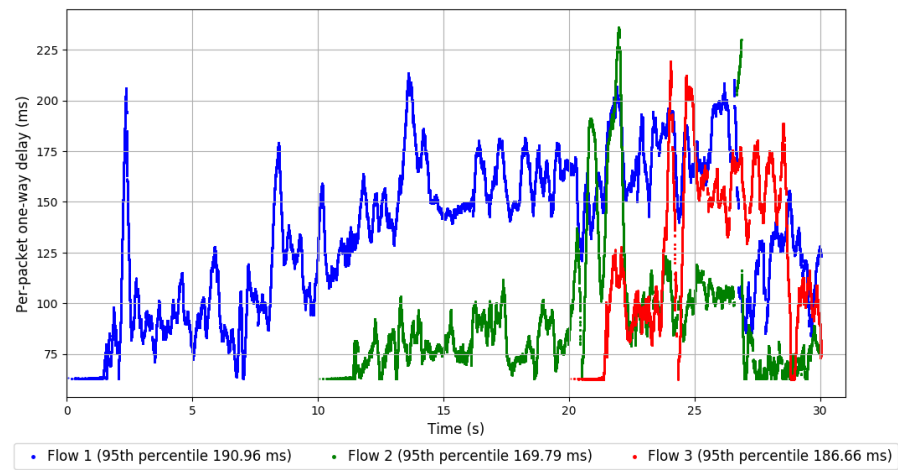
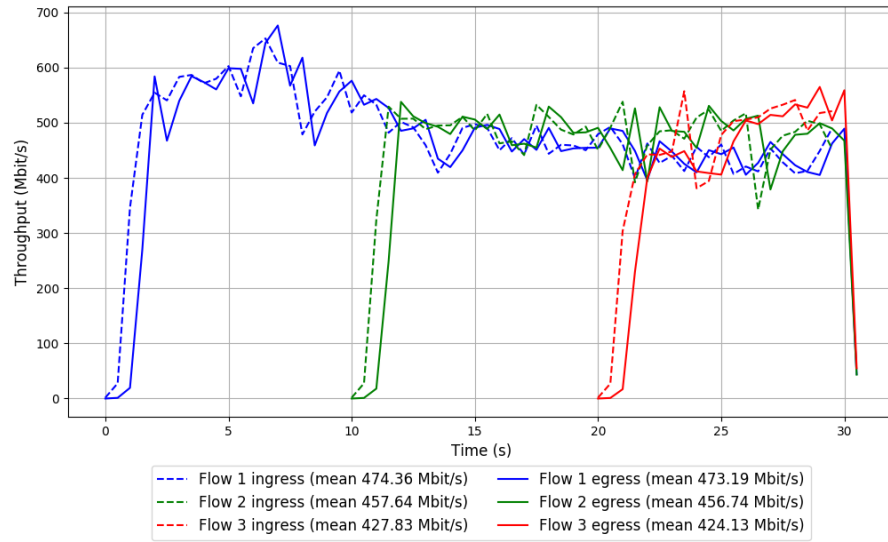


Run 3: Statistics of TCP Cubic

Start at: 2019-01-21 22:30:23  
End at: 2019-01-21 22:30:53  
Local clock offset: -0.035 ms  
Remote clock offset: -0.295 ms

# Below is generated by plot.py at 2019-01-22 00:52:44  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 918.38 Mbit/s  
95th percentile per-packet one-way delay: 187.369 ms  
Loss rate: 0.32%  
-- Flow 1:  
Average throughput: 473.19 Mbit/s  
95th percentile per-packet one-way delay: 190.961 ms  
Loss rate: 0.25%  
-- Flow 2:  
Average throughput: 456.74 Mbit/s  
95th percentile per-packet one-way delay: 169.786 ms  
Loss rate: 0.20%  
-- Flow 3:  
Average throughput: 424.13 Mbit/s  
95th percentile per-packet one-way delay: 186.658 ms  
Loss rate: 0.86%

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



Run 4: Statistics of TCP Cubic

Start at: 2019-01-21 23:06:38

End at: 2019-01-21 23:07:08

Local clock offset: 0.003 ms

Remote clock offset: 0.07 ms

# Below is generated by plot.py at 2019-01-22 00:52:44

# Datalink statistics

-- Total of 3 flows:

Average throughput: 907.26 Mbit/s

95th percentile per-packet one-way delay: 169.625 ms

Loss rate: 0.32%

-- Flow 1:

Average throughput: 481.44 Mbit/s

95th percentile per-packet one-way delay: 162.689 ms

Loss rate: 0.16%

-- Flow 2:

Average throughput: 462.99 Mbit/s

95th percentile per-packet one-way delay: 136.235 ms

Loss rate: 0.30%

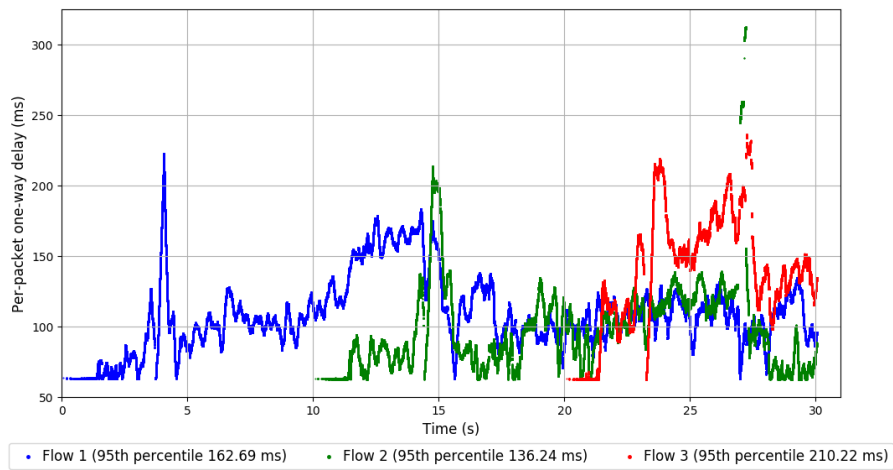
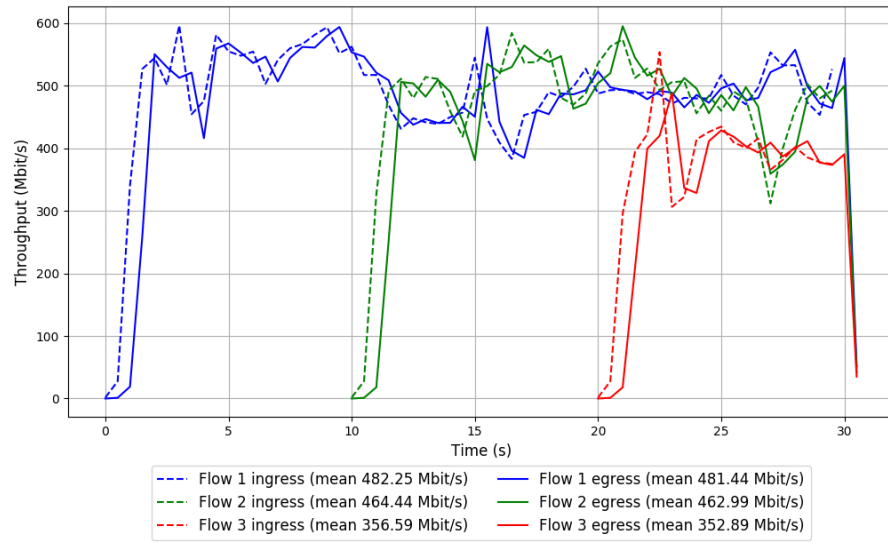
-- Flow 3:

Average throughput: 352.89 Mbit/s

95th percentile per-packet one-way delay: 210.220 ms

Loss rate: 1.03%

# Run 4: Report of TCP Cubic — Data Link

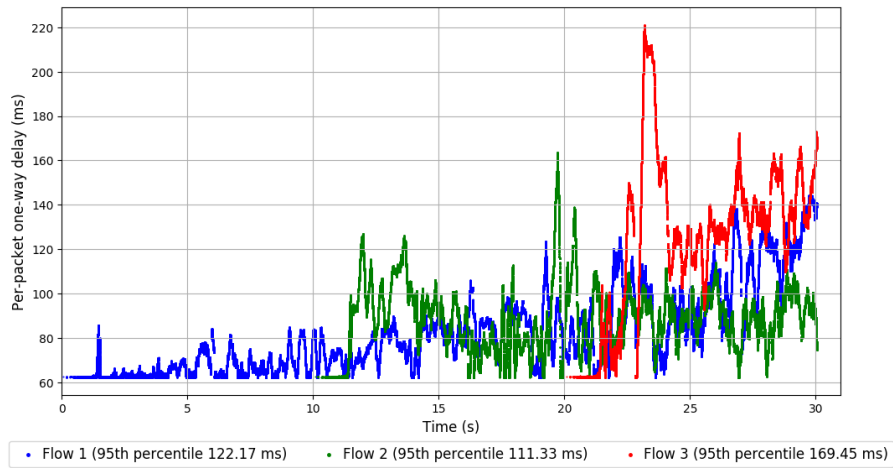
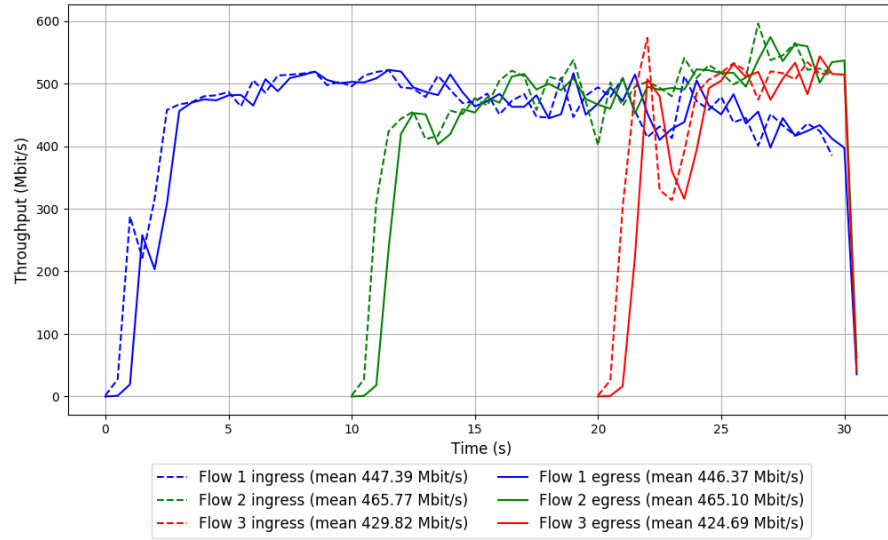


Run 5: Statistics of TCP Cubic

Start at: 2019-01-21 23:42:50  
End at: 2019-01-21 23:43:20  
Local clock offset: 0.106 ms  
Remote clock offset: -0.625 ms

# Below is generated by plot.py at 2019-01-22 00:52:44  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 897.33 Mbit/s  
95th percentile per-packet one-way delay: 141.626 ms  
Loss rate: 0.35%  
-- Flow 1:  
Average throughput: 446.37 Mbit/s  
95th percentile per-packet one-way delay: 122.165 ms  
Loss rate: 0.23%  
-- Flow 2:  
Average throughput: 465.10 Mbit/s  
95th percentile per-packet one-way delay: 111.331 ms  
Loss rate: 0.14%  
-- Flow 3:  
Average throughput: 424.69 Mbit/s  
95th percentile per-packet one-way delay: 169.454 ms  
Loss rate: 1.20%

# Run 5: Report of TCP Cubic — Data Link

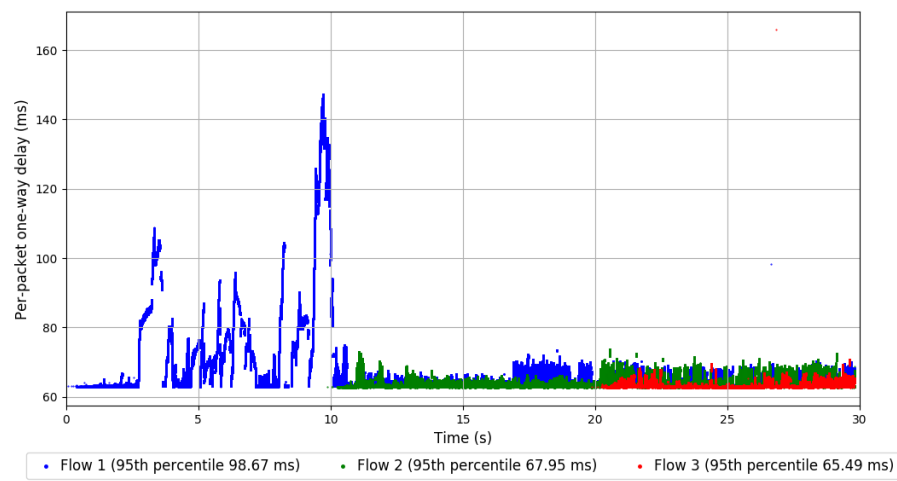
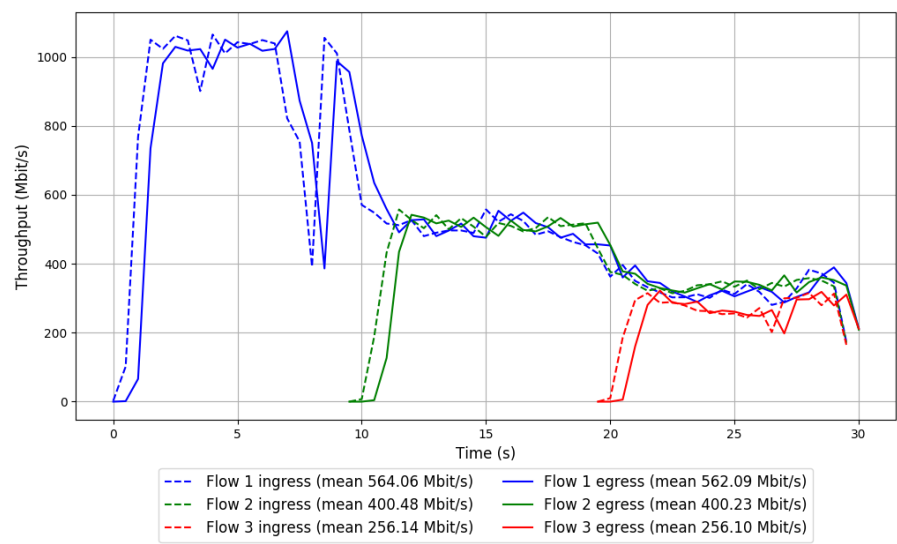


Run 1: Statistics of FillP

Start at: 2019-01-21 21:14:40  
End at: 2019-01-21 21:15:10  
Local clock offset: 0.014 ms  
Remote clock offset: -0.165 ms

# Below is generated by plot.py at 2019-01-22 00:56:13  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 915.58 Mbit/s  
95th percentile per-packet one-way delay: 85.888 ms  
Loss rate: 0.22%  
-- Flow 1:  
Average throughput: 562.09 Mbit/s  
95th percentile per-packet one-way delay: 98.666 ms  
Loss rate: 0.33%  
-- Flow 2:  
Average throughput: 400.23 Mbit/s  
95th percentile per-packet one-way delay: 67.950 ms  
Loss rate: 0.06%  
-- Flow 3:  
Average throughput: 256.10 Mbit/s  
95th percentile per-packet one-way delay: 65.493 ms  
Loss rate: 0.00%

Run 1: Report of FillP — Data Link



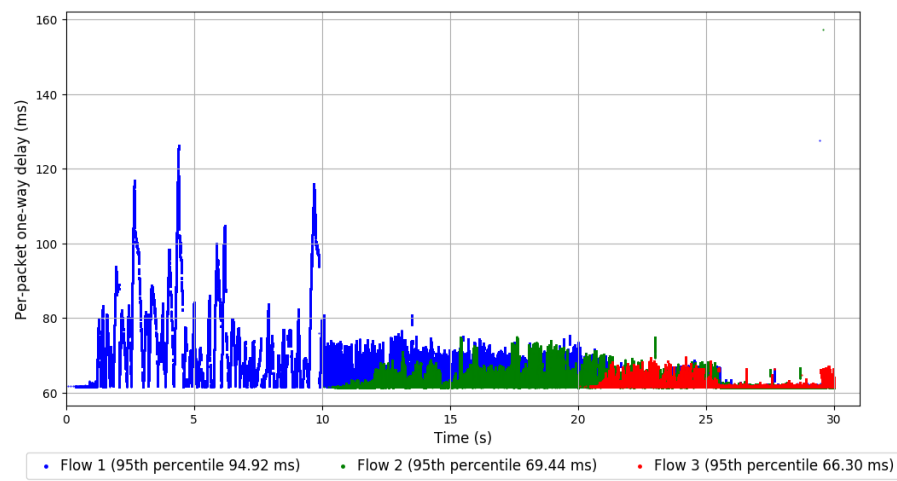
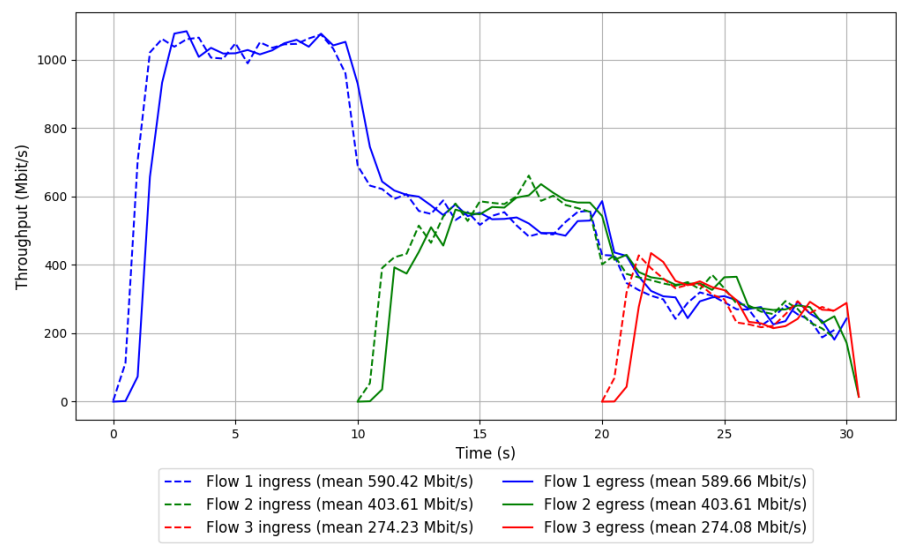


Run 2: Statistics of FillP

Start at: 2019-01-21 21:50:59  
End at: 2019-01-21 21:51:29  
Local clock offset: -0.016 ms  
Remote clock offset: -1.399 ms

# Below is generated by plot.py at 2019-01-22 01:18:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 948.95 Mbit/s  
95th percentile per-packet one-way delay: 87.172 ms  
Loss rate: 0.09%  
-- Flow 1:  
Average throughput: 589.66 Mbit/s  
95th percentile per-packet one-way delay: 94.924 ms  
Loss rate: 0.13%  
-- Flow 2:  
Average throughput: 403.61 Mbit/s  
95th percentile per-packet one-way delay: 69.445 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 274.08 Mbit/s  
95th percentile per-packet one-way delay: 66.298 ms  
Loss rate: 0.06%

Run 2: Report of FillP — Data Link

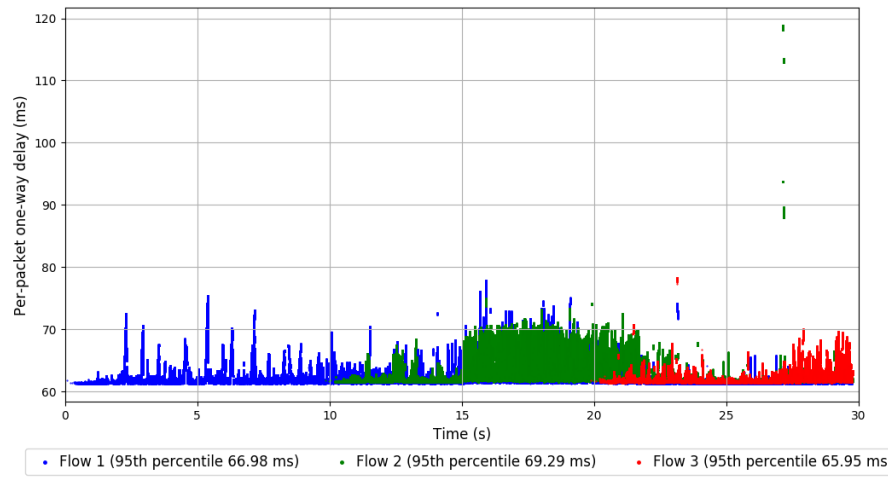
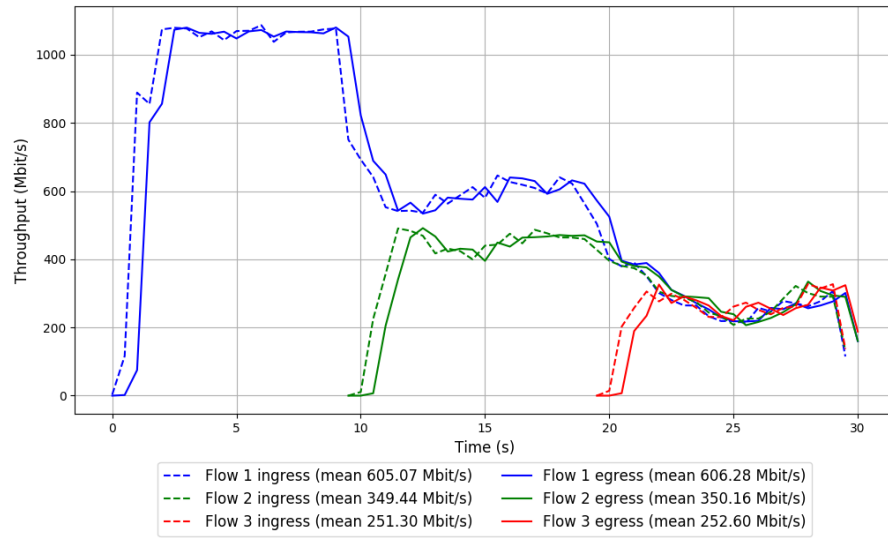


Run 3: Statistics of FillP

Start at: 2019-01-21 22:27:19  
End at: 2019-01-21 22:27:49  
Local clock offset: -0.007 ms  
Remote clock offset: -1.466 ms

# Below is generated by plot.py at 2019-01-22 01:18:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 924.90 Mbit/s  
95th percentile per-packet one-way delay: 68.045 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 606.28 Mbit/s  
95th percentile per-packet one-way delay: 66.976 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 350.16 Mbit/s  
95th percentile per-packet one-way delay: 69.292 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 252.60 Mbit/s  
95th percentile per-packet one-way delay: 65.953 ms  
Loss rate: 0.01%

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



Run 4: Statistics of FillP

Start at: 2019-01-21 23:03:33

End at: 2019-01-21 23:04:03

Local clock offset: -0.017 ms

Remote clock offset: -0.13 ms

# Below is generated by plot.py at 2019-01-22 01:18:35

# Datalink statistics

-- Total of 3 flows:

Average throughput: 918.15 Mbit/s

95th percentile per-packet one-way delay: 69.093 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 616.83 Mbit/s

95th percentile per-packet one-way delay: 70.744 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 330.95 Mbit/s

95th percentile per-packet one-way delay: 67.526 ms

Loss rate: 0.00%

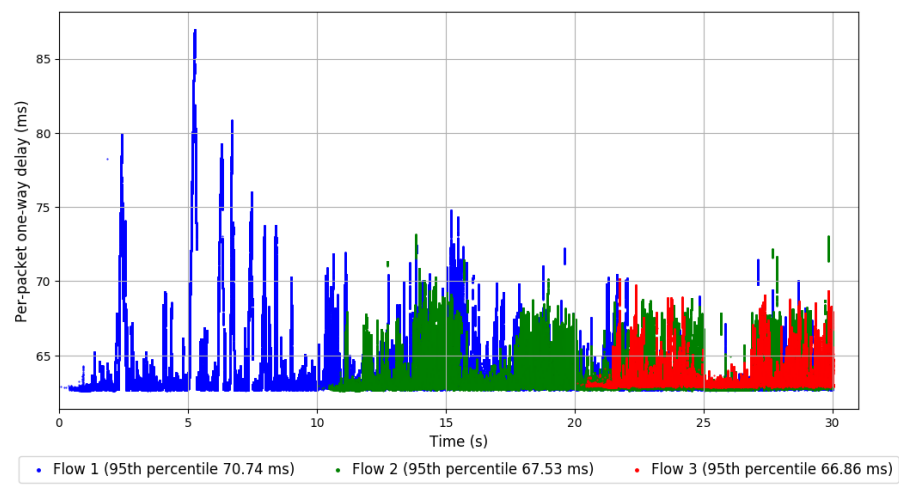
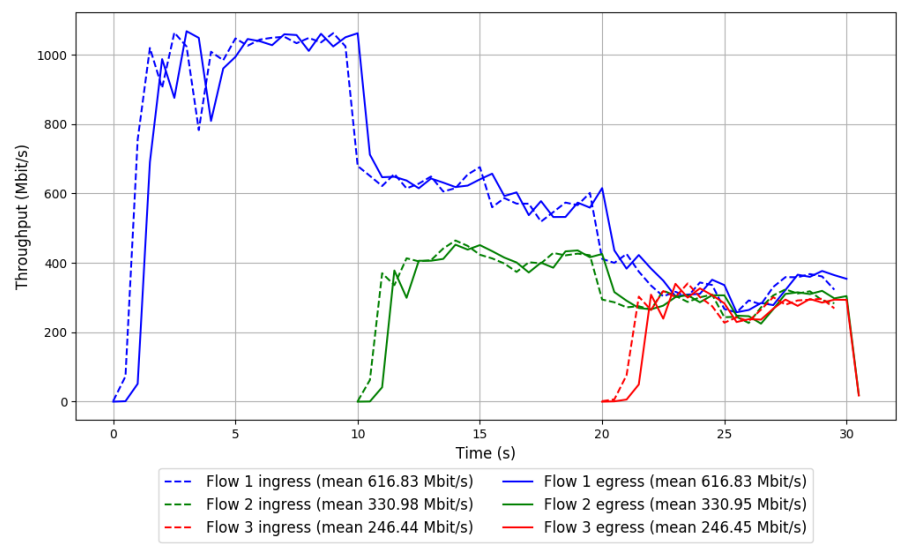
-- Flow 3:

Average throughput: 246.45 Mbit/s

95th percentile per-packet one-way delay: 66.859 ms

Loss rate: 0.00%

Run 4: Report of FillP — Data Link

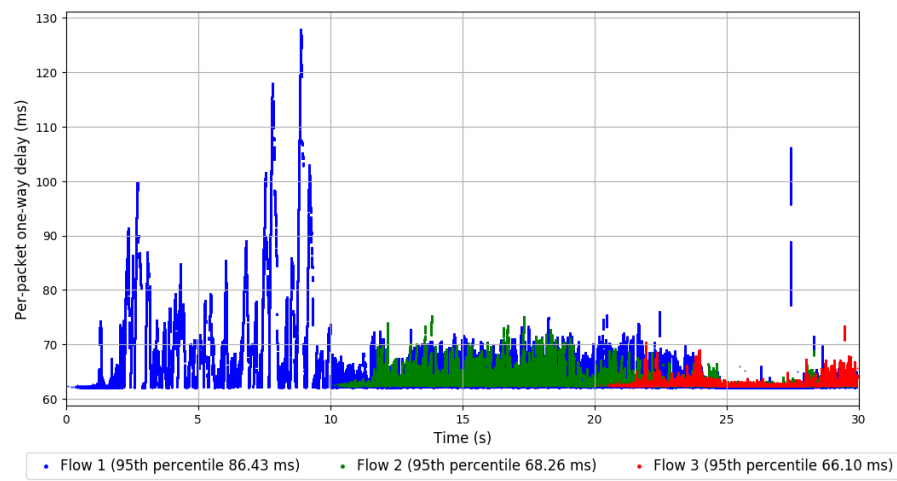
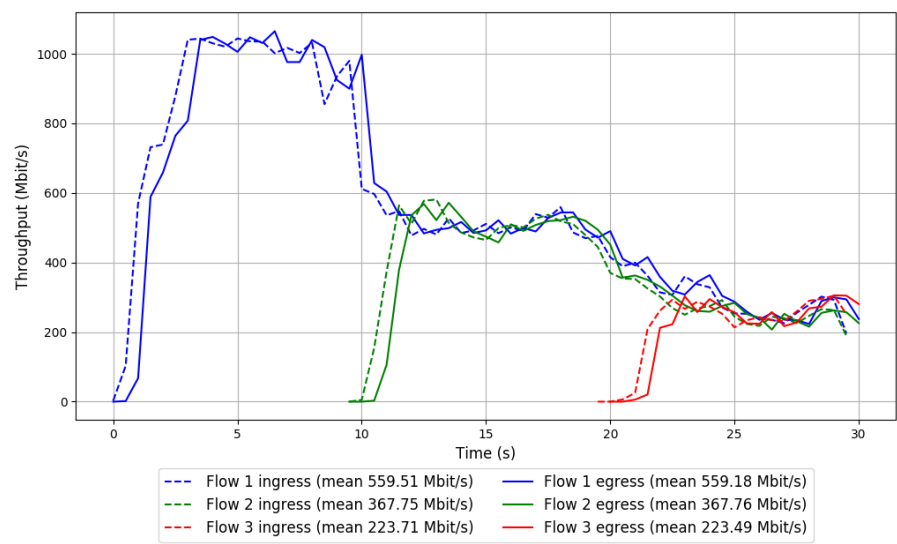


Run 5: Statistics of FillP

Start at: 2019-01-21 23:39:48  
End at: 2019-01-21 23:40:18  
Local clock offset: -0.031 ms  
Remote clock offset: -0.684 ms

# Below is generated by plot.py at 2019-01-22 01:18:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 878.32 Mbit/s  
95th percentile per-packet one-way delay: 82.374 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 559.18 Mbit/s  
95th percentile per-packet one-way delay: 86.427 ms  
Loss rate: 0.05%  
-- Flow 2:  
Average throughput: 367.76 Mbit/s  
95th percentile per-packet one-way delay: 68.261 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 223.49 Mbit/s  
95th percentile per-packet one-way delay: 66.096 ms  
Loss rate: 0.09%

Run 5: Report of FillP — Data Link



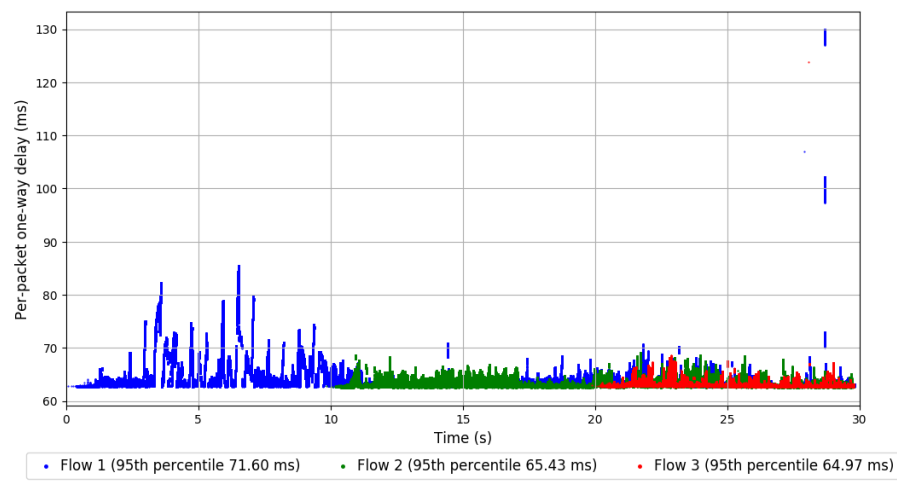
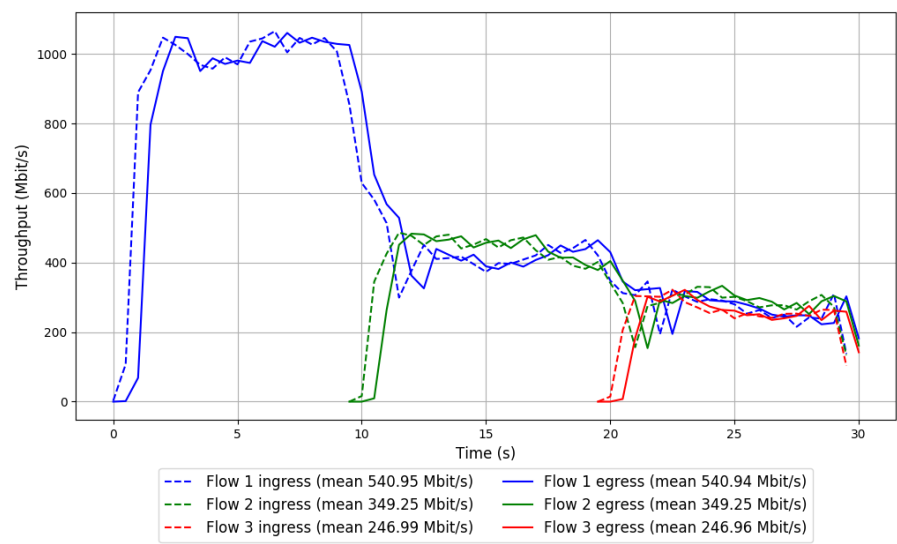


Run 1: Statistics of FillP-Sheep

Start at: 2019-01-21 21:05:31  
End at: 2019-01-21 21:06:01  
Local clock offset: -0.008 ms  
Remote clock offset: -0.378 ms

# Below is generated by plot.py at 2019-01-22 01:18:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 857.36 Mbit/s  
95th percentile per-packet one-way delay: 69.219 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 540.94 Mbit/s  
95th percentile per-packet one-way delay: 71.604 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 349.25 Mbit/s  
95th percentile per-packet one-way delay: 65.434 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 246.96 Mbit/s  
95th percentile per-packet one-way delay: 64.974 ms  
Loss rate: 0.01%

Run 1: Report of FillP-Sheep — Data Link

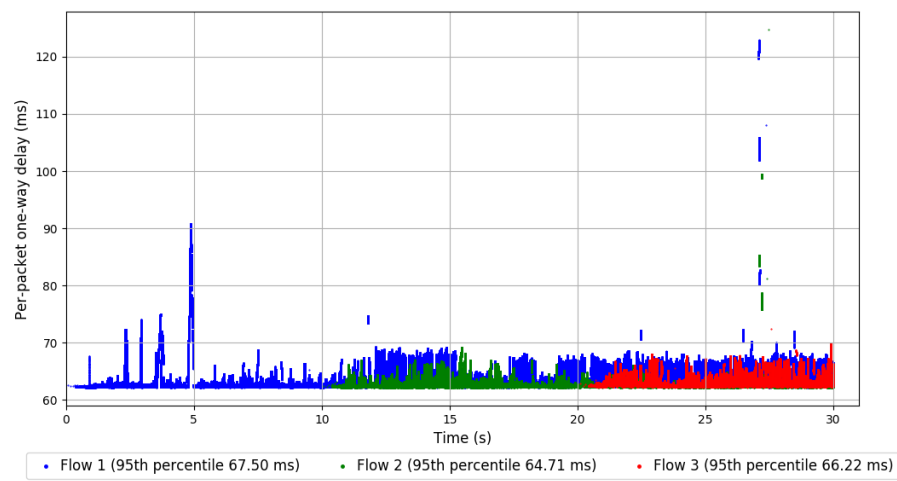
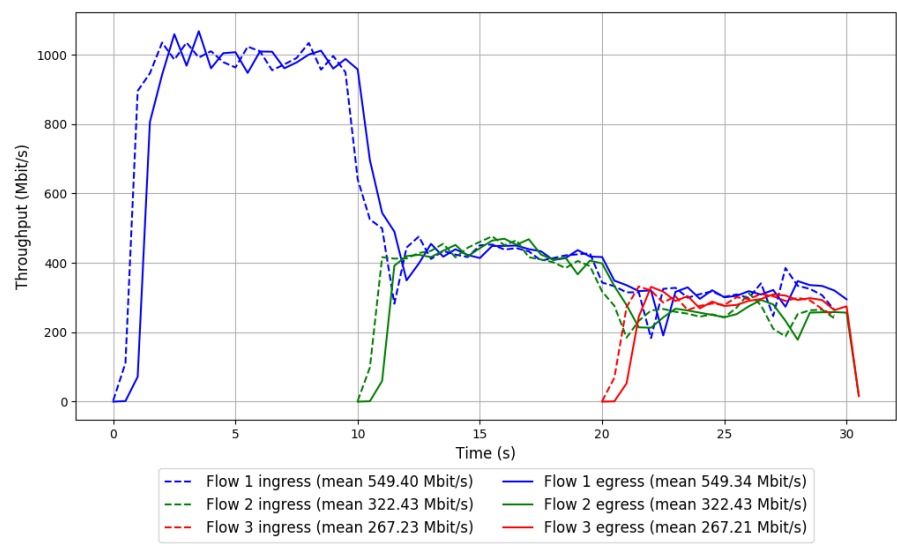


Run 2: Statistics of FillP-Sheep

Start at: 2019-01-21 21:41:54  
End at: 2019-01-21 21:42:24  
Local clock offset: -0.009 ms  
Remote clock offset: -0.628 ms

# Below is generated by plot.py at 2019-01-22 01:18:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 851.87 Mbit/s  
95th percentile per-packet one-way delay: 66.895 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 549.34 Mbit/s  
95th percentile per-packet one-way delay: 67.495 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 322.43 Mbit/s  
95th percentile per-packet one-way delay: 64.712 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 267.21 Mbit/s  
95th percentile per-packet one-way delay: 66.215 ms  
Loss rate: 0.00%

Run 2: Report of FillP-Sheep — Data Link

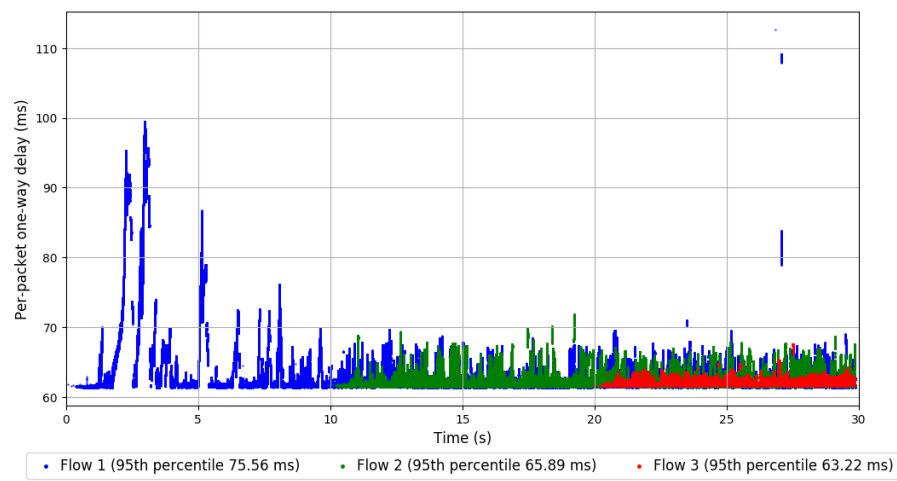
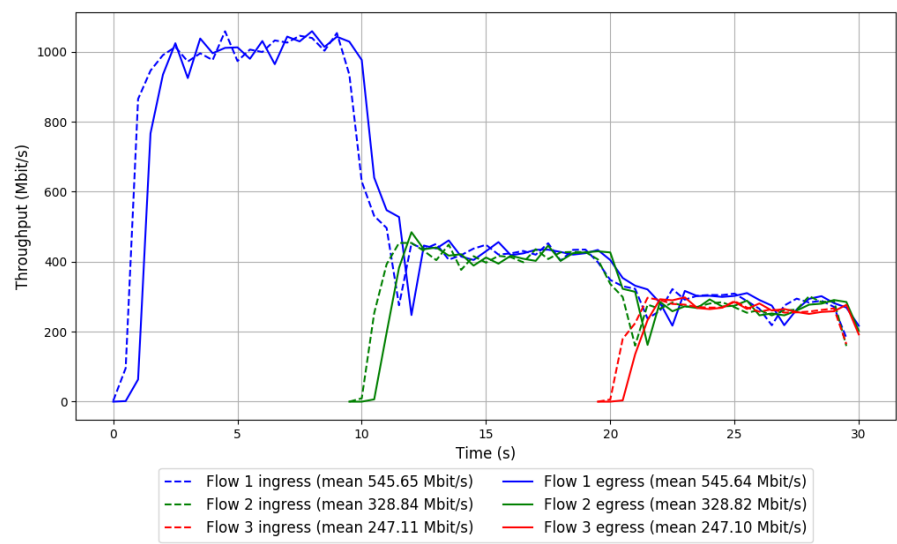


Run 3: Statistics of FillP-Sheep

Start at: 2019-01-21 22:18:12  
End at: 2019-01-21 22:18:42  
Local clock offset: 0.033 ms  
Remote clock offset: -1.448 ms

# Below is generated by plot.py at 2019-01-22 01:18:35  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 847.82 Mbit/s  
95th percentile per-packet one-way delay: 70.496 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 545.64 Mbit/s  
95th percentile per-packet one-way delay: 75.563 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 328.82 Mbit/s  
95th percentile per-packet one-way delay: 65.888 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 247.10 Mbit/s  
95th percentile per-packet one-way delay: 63.224 ms  
Loss rate: 0.00%

Run 3: Report of FillP-Sheep — Data Link

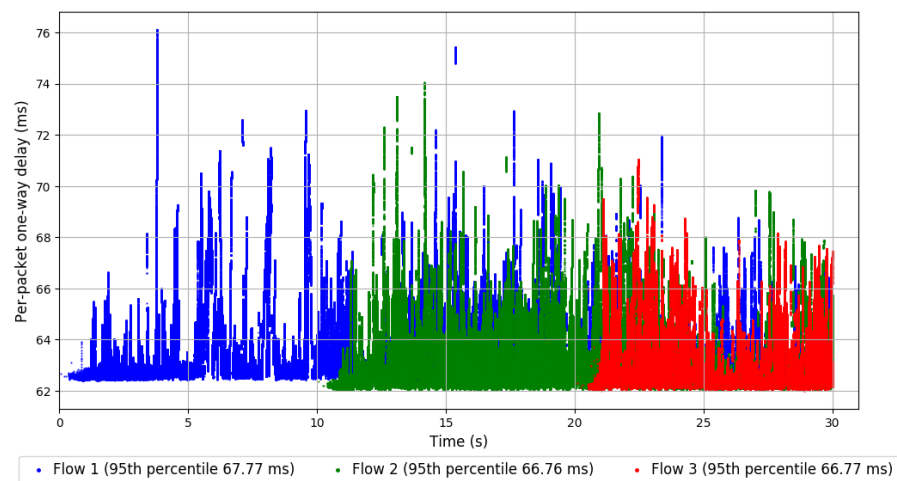
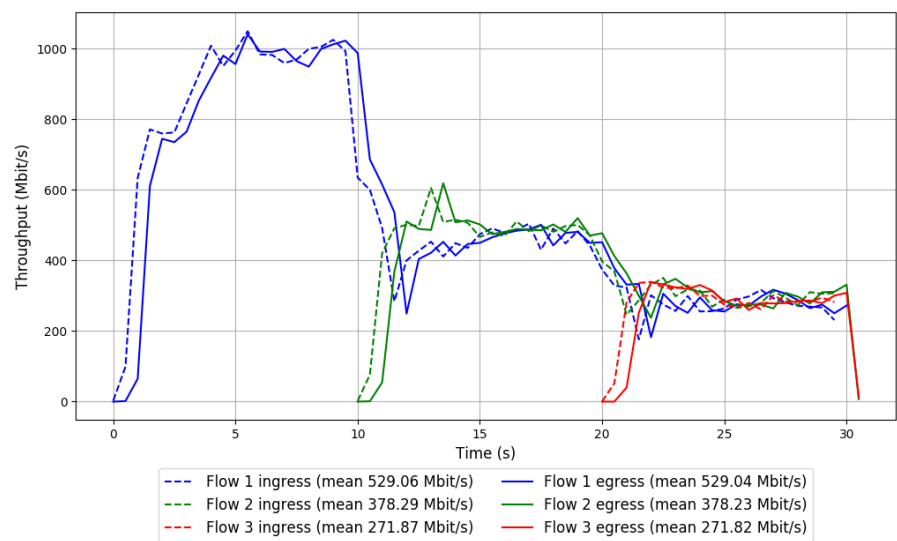


Run 4: Statistics of FillP-Sheep

Start at: 2019-01-21 22:54:27  
End at: 2019-01-21 22:54:57  
Local clock offset: -0.063 ms  
Remote clock offset: -0.767 ms

# Below is generated by plot.py at 2019-01-22 01:22:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 870.50 Mbit/s  
95th percentile per-packet one-way delay: 67.296 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 529.04 Mbit/s  
95th percentile per-packet one-way delay: 67.767 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 378.23 Mbit/s  
95th percentile per-packet one-way delay: 66.759 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 271.82 Mbit/s  
95th percentile per-packet one-way delay: 66.765 ms  
Loss rate: 0.01%

Run 4: Report of FillP-Sheep — Data Link



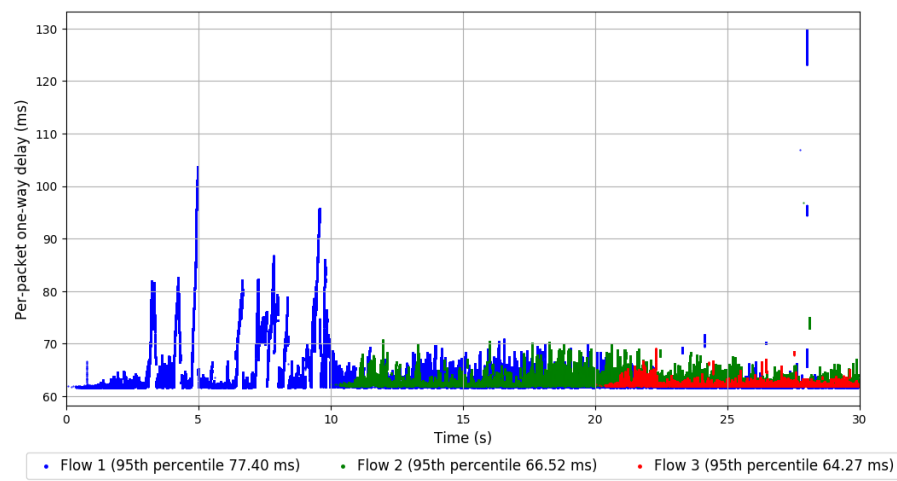
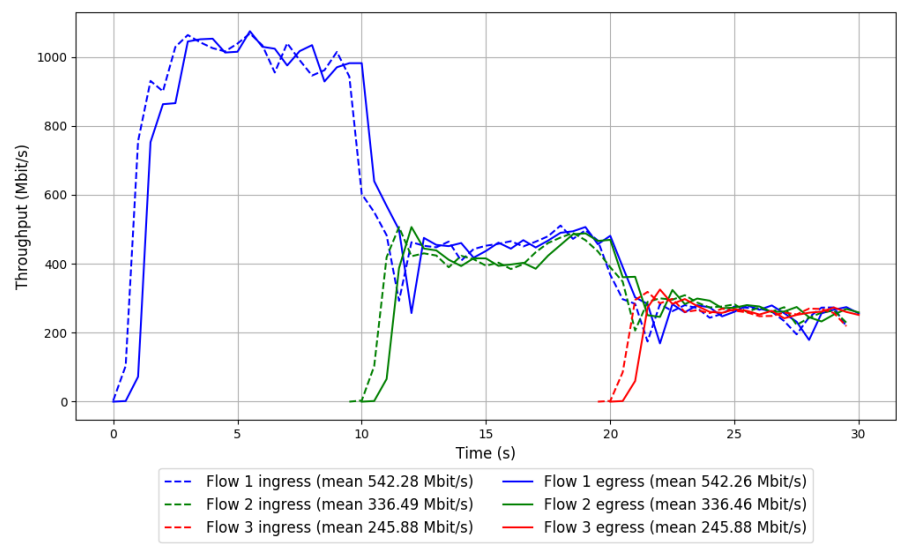


Run 5: Statistics of FillP-Sheep

Start at: 2019-01-21 23:30:48  
End at: 2019-01-21 23:31:18  
Local clock offset: 0.048 ms  
Remote clock offset: -1.132 ms

```
# Below is generated by plot.py at 2019-01-22 01:41:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 848.10 Mbit/s
95th percentile per-packet one-way delay: 74.539 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 542.26 Mbit/s
95th percentile per-packet one-way delay: 77.402 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 336.46 Mbit/s
95th percentile per-packet one-way delay: 66.521 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 245.88 Mbit/s
95th percentile per-packet one-way delay: 64.271 ms
Loss rate: 0.00%
```

Run 5: Report of FillP-Sheep — Data Link

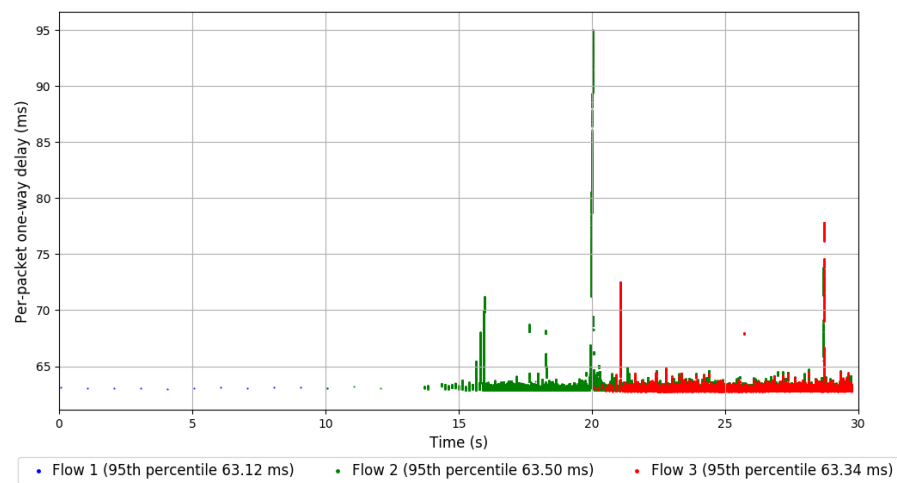
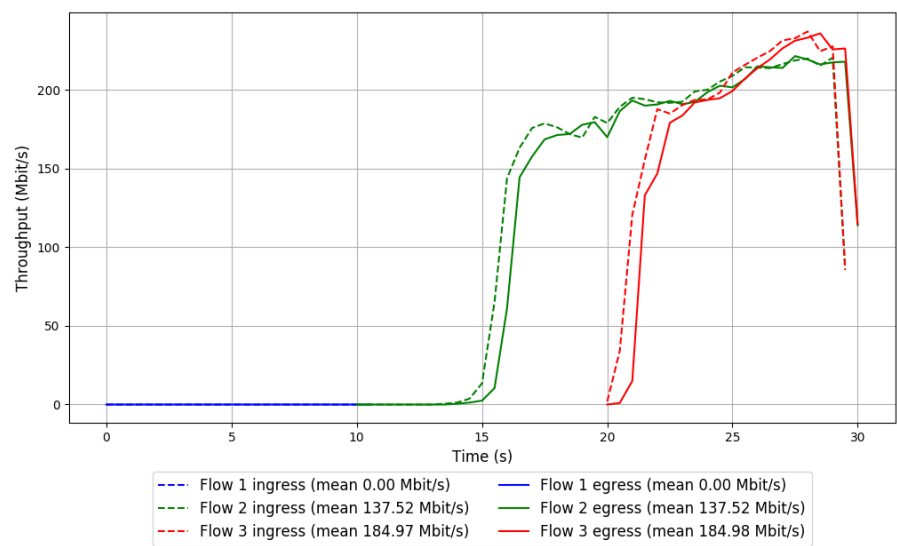


Run 1: Statistics of Indigo

Start at: 2019-01-21 20:53:37  
End at: 2019-01-21 20:54:07  
Local clock offset: 0.0 ms  
Remote clock offset: -0.024 ms

# Below is generated by plot.py at 2019-01-22 01:41:00  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 151.32 Mbit/s  
95th percentile per-packet one-way delay: 63.437 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 63.115 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 137.52 Mbit/s  
95th percentile per-packet one-way delay: 63.500 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 184.98 Mbit/s  
95th percentile per-packet one-way delay: 63.342 ms  
Loss rate: 0.00%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2019-01-21 21:29:38

End at: 2019-01-21 21:30:08

Local clock offset: -0.019 ms

Remote clock offset: 1.018 ms

# Below is generated by plot.py at 2019-01-22 01:41:00

# Datalink statistics

-- Total of 3 flows:

Average throughput: 398.04 Mbit/s

95th percentile per-packet one-way delay: 66.291 ms

Loss rate: 0.01%

-- Flow 1:

Average throughput: 217.66 Mbit/s

95th percentile per-packet one-way delay: 66.516 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 193.13 Mbit/s

95th percentile per-packet one-way delay: 66.000 ms

Loss rate: 0.01%

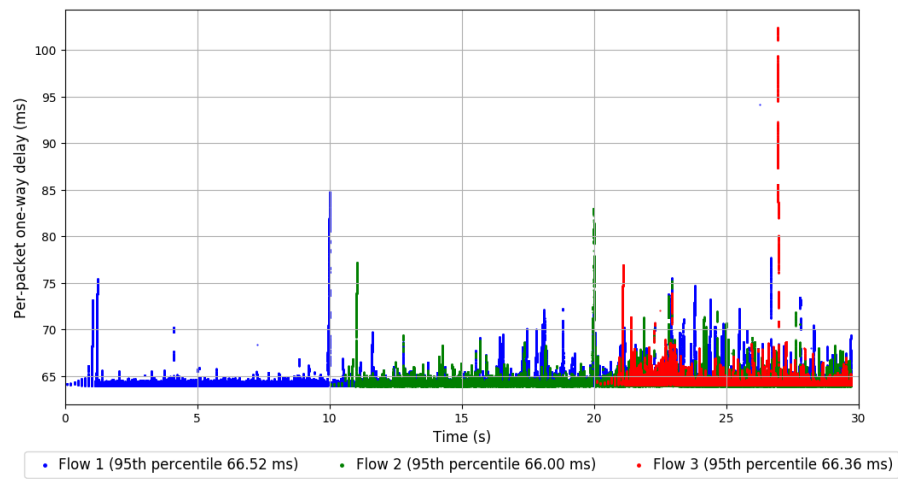
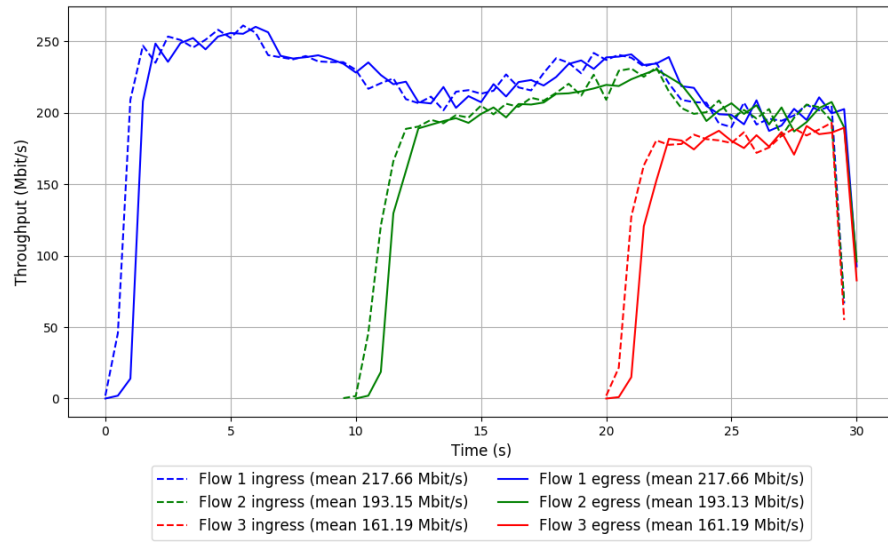
-- Flow 3:

Average throughput: 161.19 Mbit/s

95th percentile per-packet one-way delay: 66.355 ms

Loss rate: 0.00%

## Run 2: Report of Indigo — Data Link

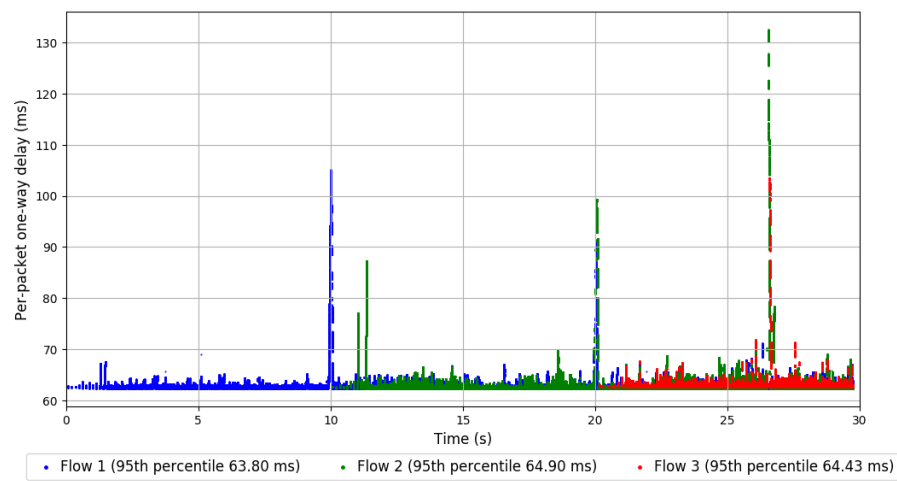
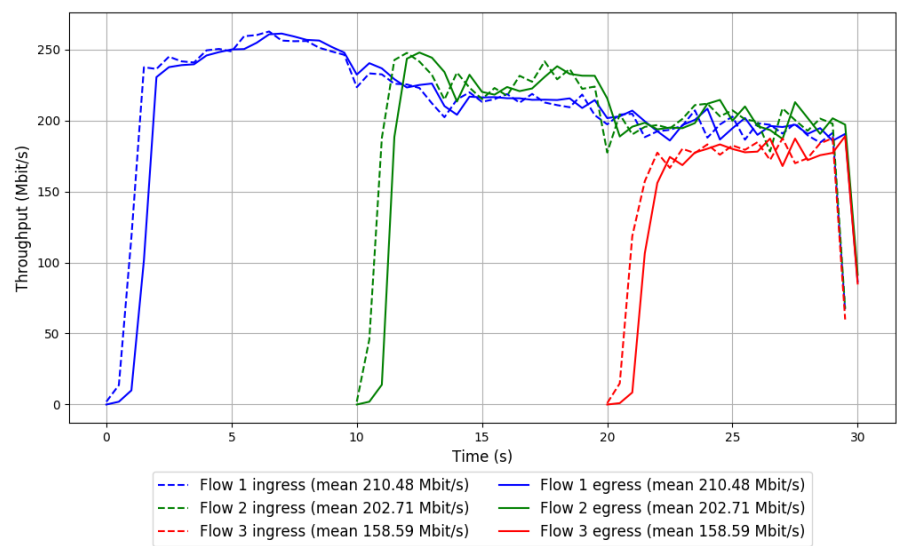


Run 3: Statistics of Indigo

Start at: 2019-01-21 22:06:01  
End at: 2019-01-21 22:06:31  
Local clock offset: 0.034 ms  
Remote clock offset: -0.238 ms

# Below is generated by plot.py at 2019-01-22 01:41:00  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 395.91 Mbit/s  
95th percentile per-packet one-way delay: 64.243 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 210.48 Mbit/s  
95th percentile per-packet one-way delay: 63.800 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 202.71 Mbit/s  
95th percentile per-packet one-way delay: 64.900 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 158.59 Mbit/s  
95th percentile per-packet one-way delay: 64.433 ms  
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link





Run 4: Statistics of Indigo

Start at: 2019-01-21 22:42:13

End at: 2019-01-21 22:42:43

Local clock offset: -0.066 ms

Remote clock offset: 1.154 ms

# Below is generated by plot.py at 2019-01-22 01:41:00

# Datalink statistics

-- Total of 3 flows:

Average throughput: 393.86 Mbit/s

95th percentile per-packet one-way delay: 66.444 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 214.51 Mbit/s

95th percentile per-packet one-way delay: 66.521 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 193.82 Mbit/s

95th percentile per-packet one-way delay: 66.547 ms

Loss rate: 0.00%

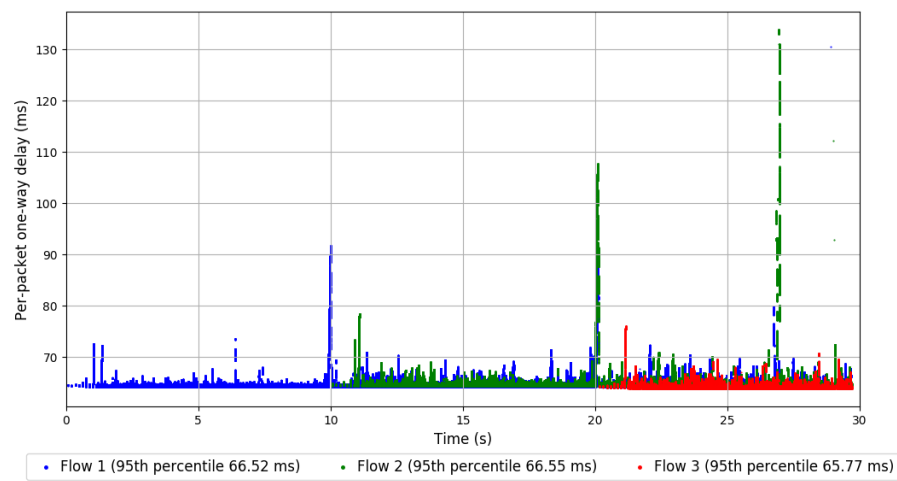
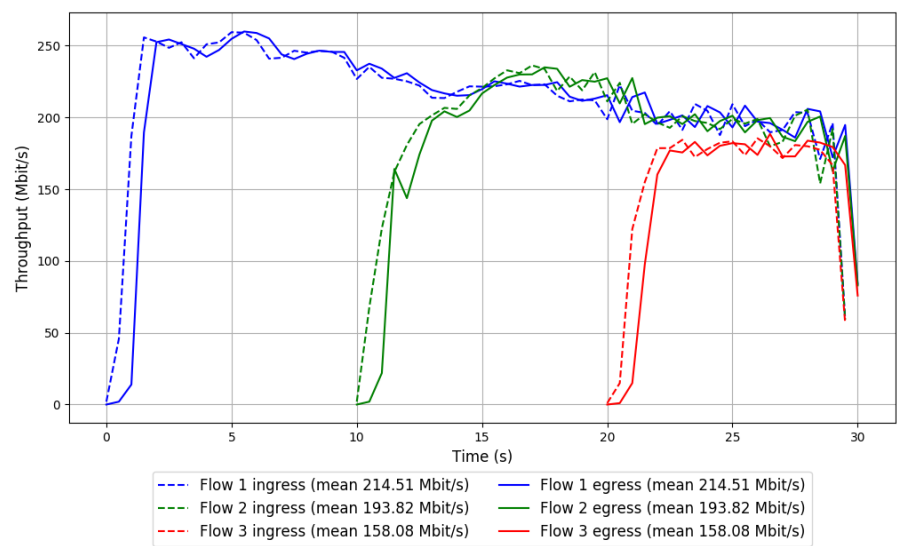
-- Flow 3:

Average throughput: 158.08 Mbit/s

95th percentile per-packet one-way delay: 65.771 ms

Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2019-01-21 23:18:32

End at: 2019-01-21 23:19:02

Local clock offset: 0.019 ms

Remote clock offset: 0.545 ms

# Below is generated by plot.py at 2019-01-22 01:41:00

# Datalink statistics

-- Total of 3 flows:

Average throughput: 392.36 Mbit/s

95th percentile per-packet one-way delay: 65.809 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 210.90 Mbit/s

95th percentile per-packet one-way delay: 65.423 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 189.42 Mbit/s

95th percentile per-packet one-way delay: 66.075 ms

Loss rate: 0.00%

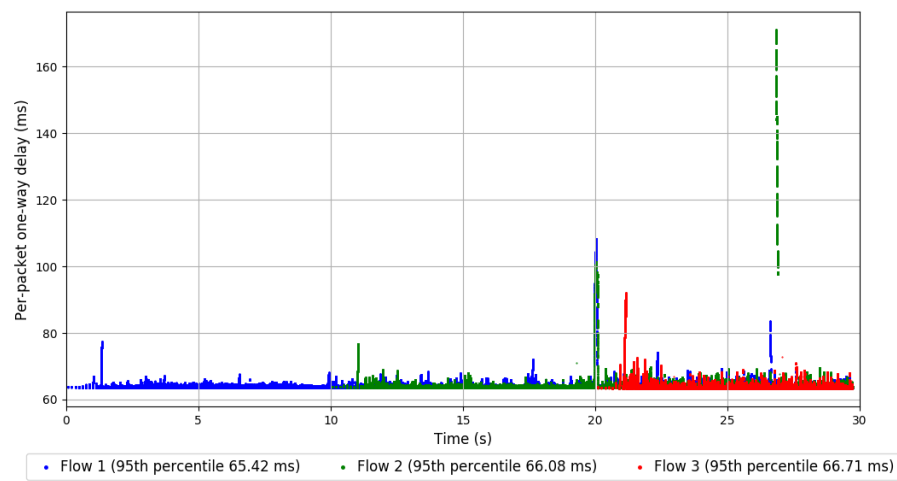
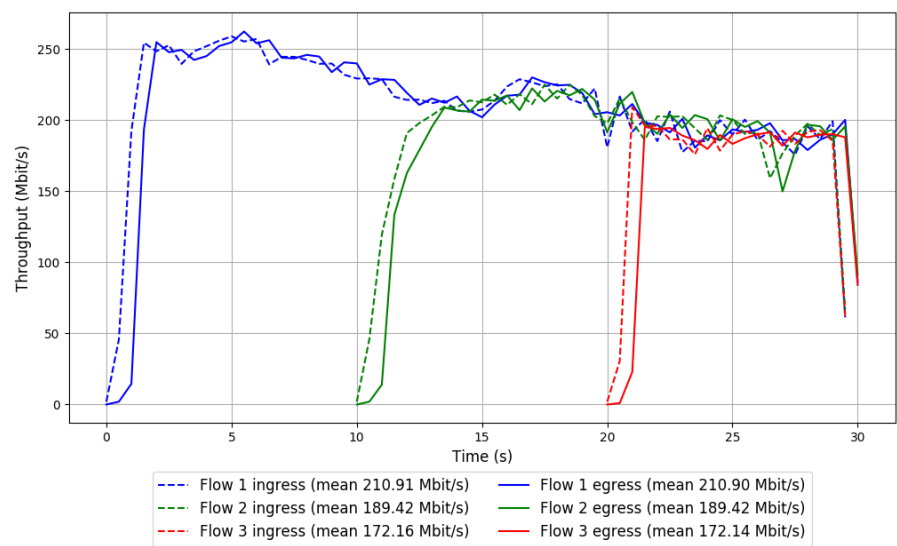
-- Flow 3:

Average throughput: 172.14 Mbit/s

95th percentile per-packet one-way delay: 66.710 ms

Loss rate: 0.01%

Run 5: Report of Indigo — Data Link

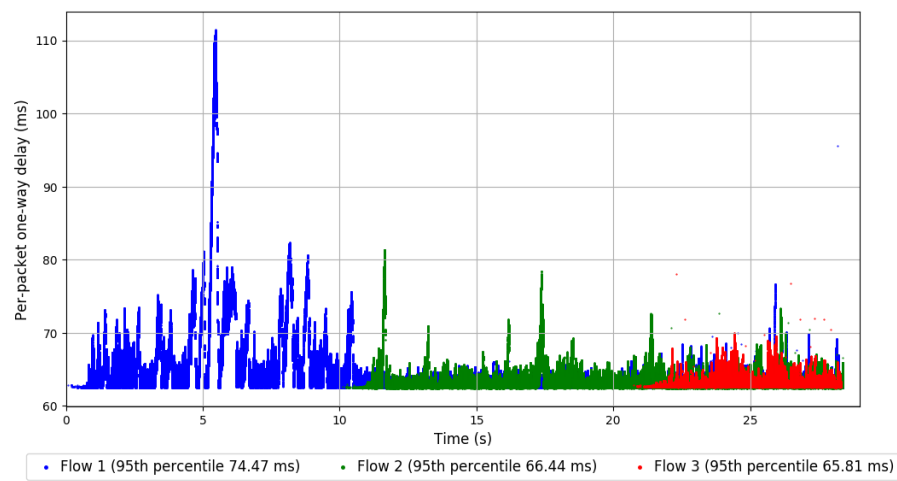
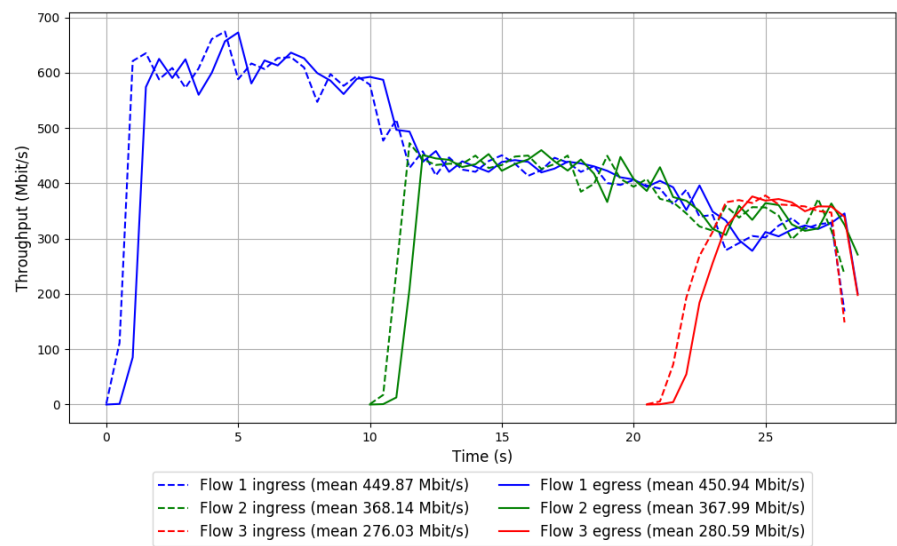


Run 1: Statistics of Indigo-MusesC3

Start at: 2019-01-21 21:08:52  
End at: 2019-01-21 21:09:22  
Local clock offset: 0.015 ms  
Remote clock offset: -0.523 ms

# Below is generated by plot.py at 2019-01-22 01:41:00  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 763.36 Mbit/s  
95th percentile per-packet one-way delay: 72.166 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 450.94 Mbit/s  
95th percentile per-packet one-way delay: 74.469 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 367.99 Mbit/s  
95th percentile per-packet one-way delay: 66.445 ms  
Loss rate: 0.03%  
-- Flow 3:  
Average throughput: 280.59 Mbit/s  
95th percentile per-packet one-way delay: 65.813 ms  
Loss rate: 0.00%

Run 1: Report of Indigo-MusesC3 — Data Link

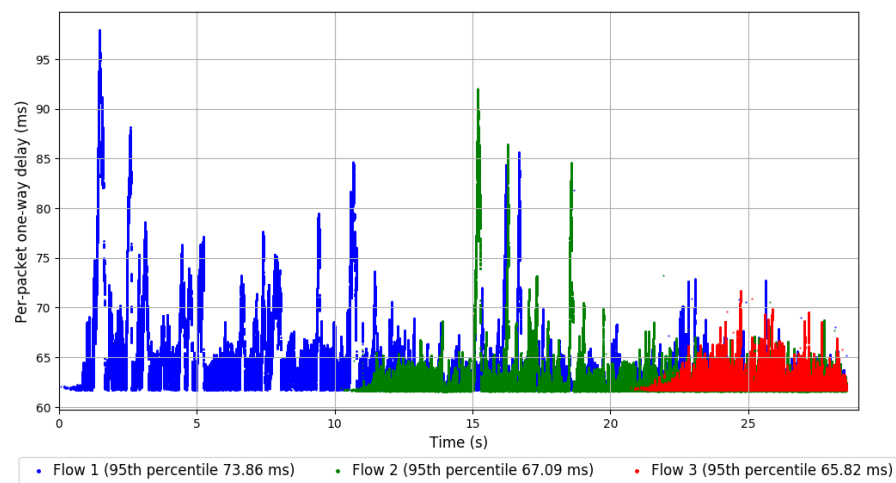
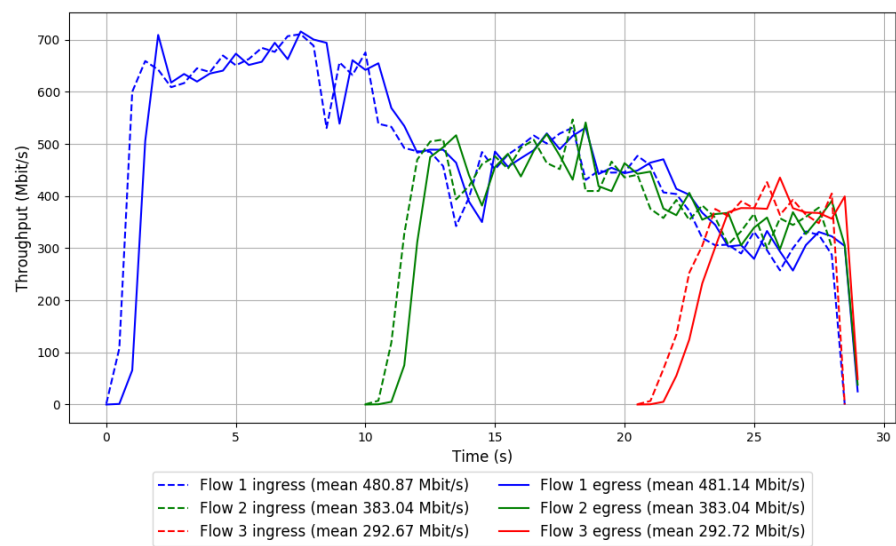


Run 2: Statistics of Indigo-MusesC3

Start at: 2019-01-21 21:45:14  
End at: 2019-01-21 21:45:44  
Local clock offset: -0.039 ms  
Remote clock offset: -1.199 ms

# Below is generated by plot.py at 2019-01-22 01:42:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 807.47 Mbit/s  
95th percentile per-packet one-way delay: 71.884 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 481.14 Mbit/s  
95th percentile per-packet one-way delay: 73.865 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 383.04 Mbit/s  
95th percentile per-packet one-way delay: 67.092 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 292.72 Mbit/s  
95th percentile per-packet one-way delay: 65.821 ms  
Loss rate: 0.00%

Run 2: Report of Indigo-MusesC3 — Data Link



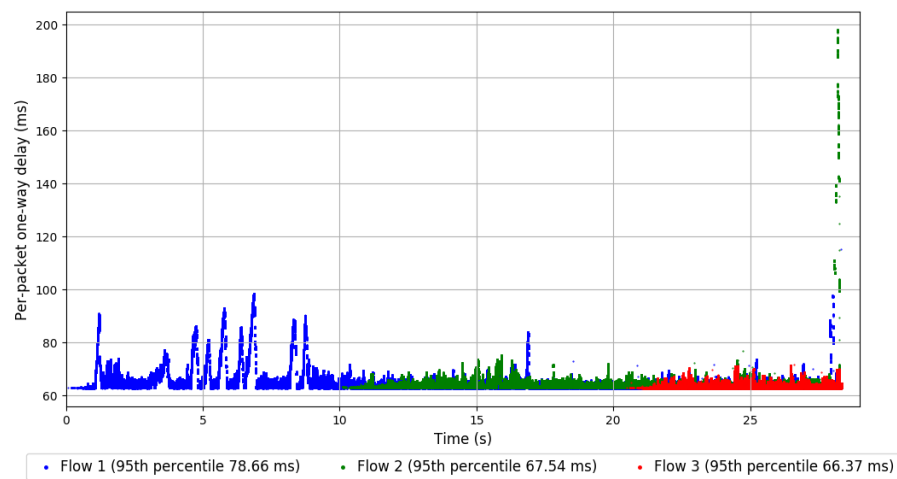
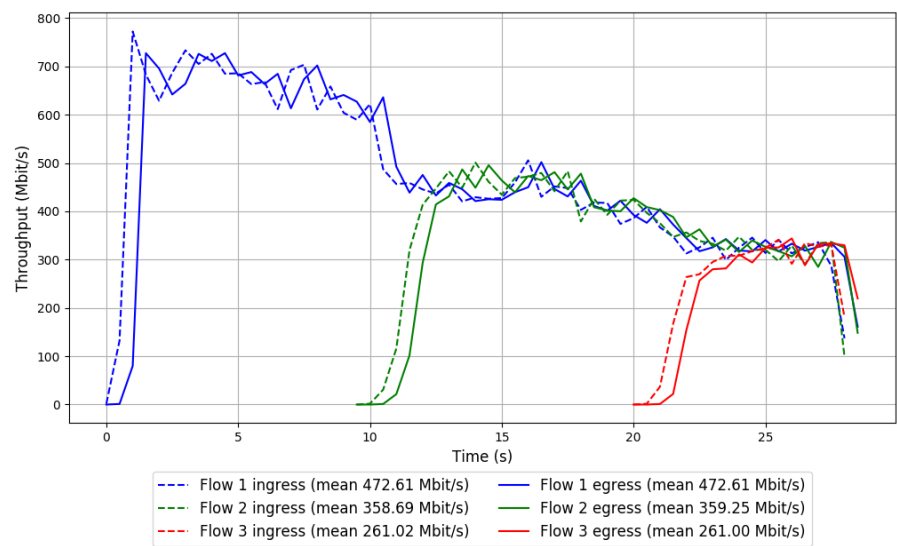


Run 3: Statistics of Indigo-MusesC3

Start at: 2019-01-21 22:21:36  
End at: 2019-01-21 22:22:06  
Local clock offset: 0.033 ms  
Remote clock offset: -0.192 ms

# Below is generated by plot.py at 2019-01-22 01:42:10  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 778.13 Mbit/s  
95th percentile per-packet one-way delay: 73.453 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 472.61 Mbit/s  
95th percentile per-packet one-way delay: 78.655 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 359.25 Mbit/s  
95th percentile per-packet one-way delay: 67.536 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 261.00 Mbit/s  
95th percentile per-packet one-way delay: 66.373 ms  
Loss rate: 0.00%

Run 3: Report of Indigo-MusesC3 — Data Link

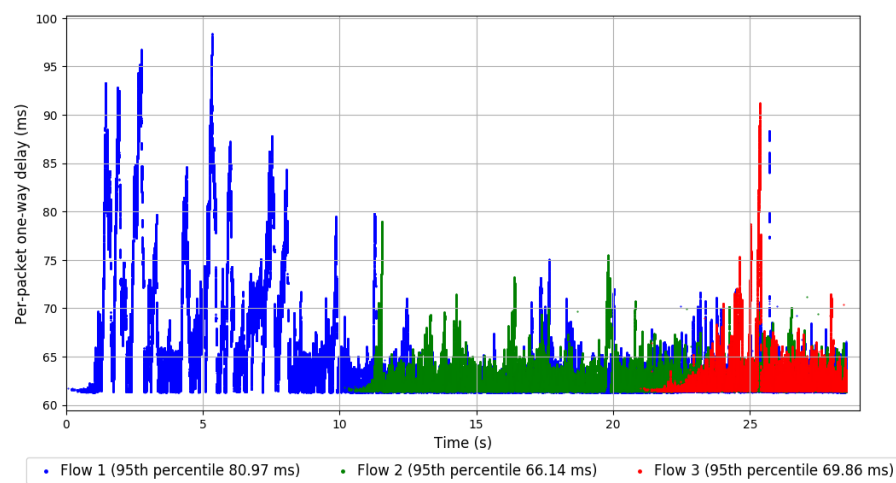
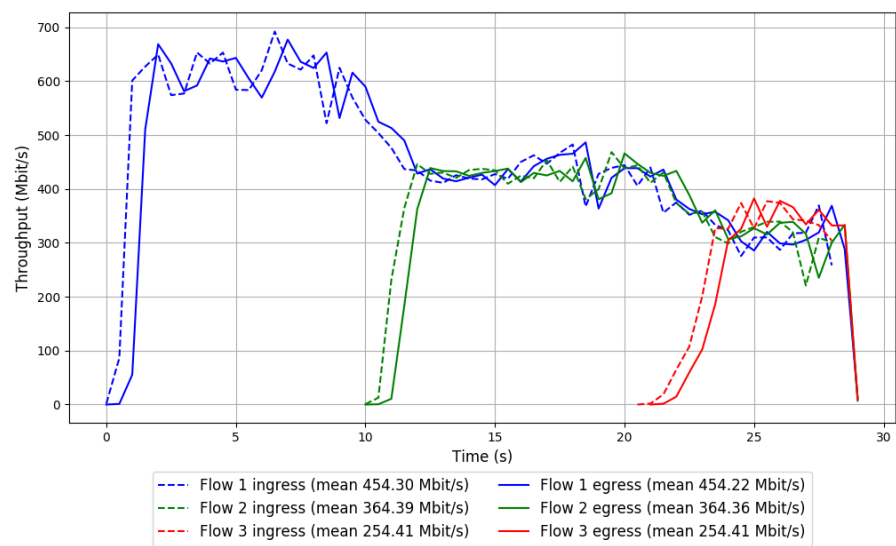


Run 4: Statistics of Indigo-MusesC3

Start at: 2019-01-21 22:57:47  
End at: 2019-01-21 22:58:17  
Local clock offset: -0.078 ms  
Remote clock offset: -1.508 ms

# Below is generated by plot.py at 2019-01-22 01:52:51  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 756.00 Mbit/s  
95th percentile per-packet one-way delay: 76.928 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 454.22 Mbit/s  
95th percentile per-packet one-way delay: 80.967 ms  
Loss rate: 0.02%  
-- Flow 2:  
Average throughput: 364.36 Mbit/s  
95th percentile per-packet one-way delay: 66.135 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 254.41 Mbit/s  
95th percentile per-packet one-way delay: 69.860 ms  
Loss rate: 0.00%

Run 4: Report of Indigo-MusesC3 — Data Link

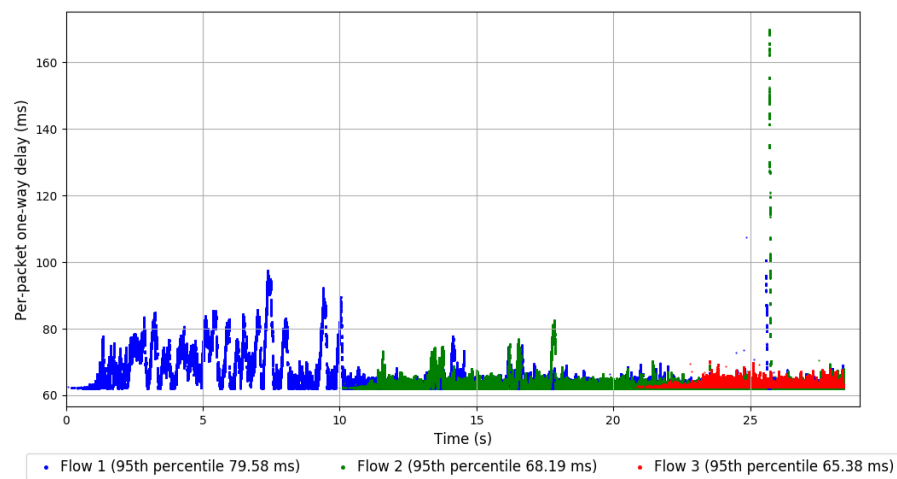
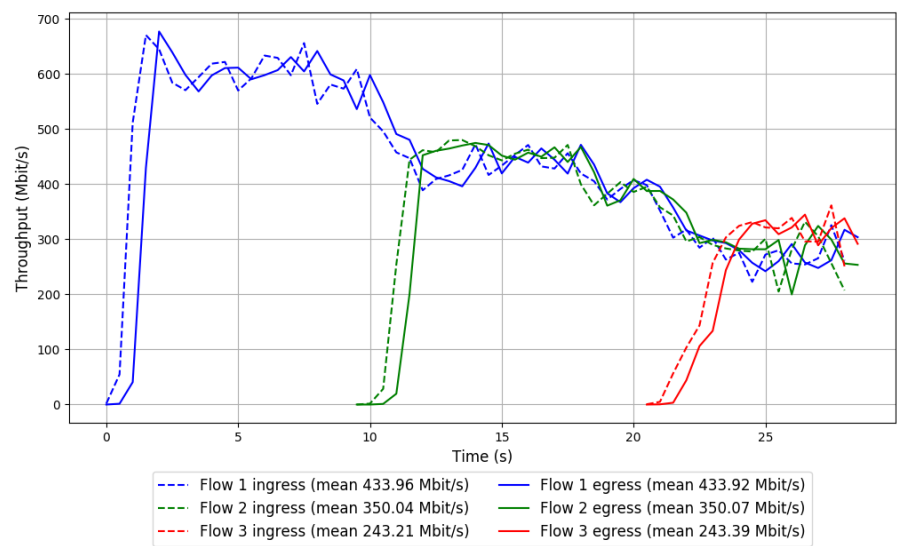


Run 5: Statistics of Indigo-MusesC3

Start at: 2019-01-21 23:34:01  
End at: 2019-01-21 23:34:31  
Local clock offset: 0.152 ms  
Remote clock offset: -0.623 ms

# Below is generated by plot.py at 2019-01-22 01:53:12  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 726.77 Mbit/s  
95th percentile per-packet one-way delay: 77.050 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 433.92 Mbit/s  
95th percentile per-packet one-way delay: 79.585 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 350.07 Mbit/s  
95th percentile per-packet one-way delay: 68.189 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 243.39 Mbit/s  
95th percentile per-packet one-way delay: 65.375 ms  
Loss rate: 0.02%

Run 5: Report of Indigo-MusesC3 — Data Link

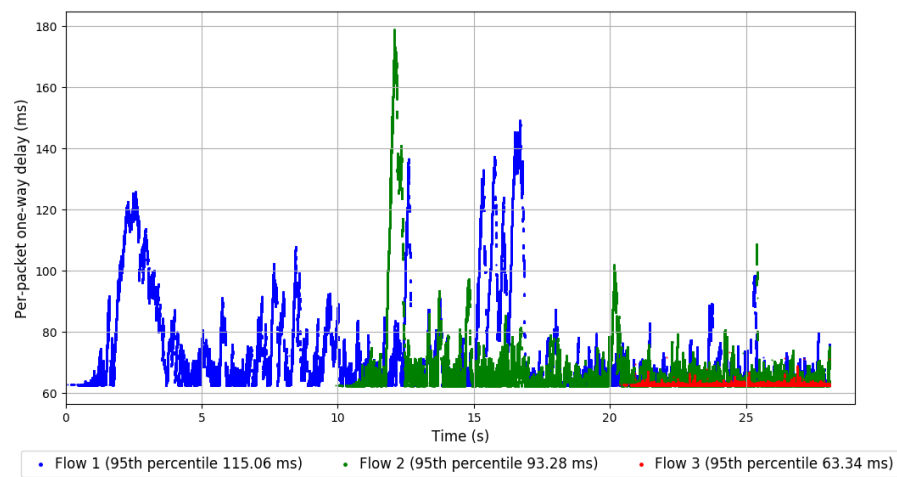
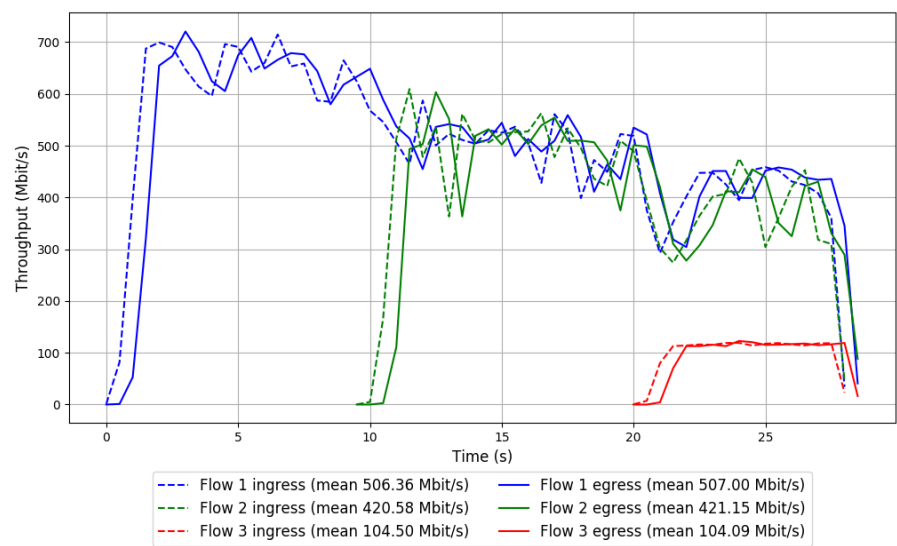


Run 1: Statistics of Indigo-MusesC5

Start at: 2019-01-21 20:58:24  
End at: 2019-01-21 20:58:54  
Local clock offset: -0.006 ms  
Remote clock offset: -0.523 ms

# Below is generated by plot.py at 2019-01-22 01:55:58  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 808.57 Mbit/s  
95th percentile per-packet one-way delay: 110.495 ms  
Loss rate: 0.20%  
-- Flow 1:  
Average throughput: 507.00 Mbit/s  
95th percentile per-packet one-way delay: 115.057 ms  
Loss rate: 0.11%  
-- Flow 2:  
Average throughput: 421.15 Mbit/s  
95th percentile per-packet one-way delay: 93.283 ms  
Loss rate: 0.24%  
-- Flow 3:  
Average throughput: 104.09 Mbit/s  
95th percentile per-packet one-way delay: 63.341 ms  
Loss rate: 1.27%

Run 1: Report of Indigo-MusesC5 — Data Link



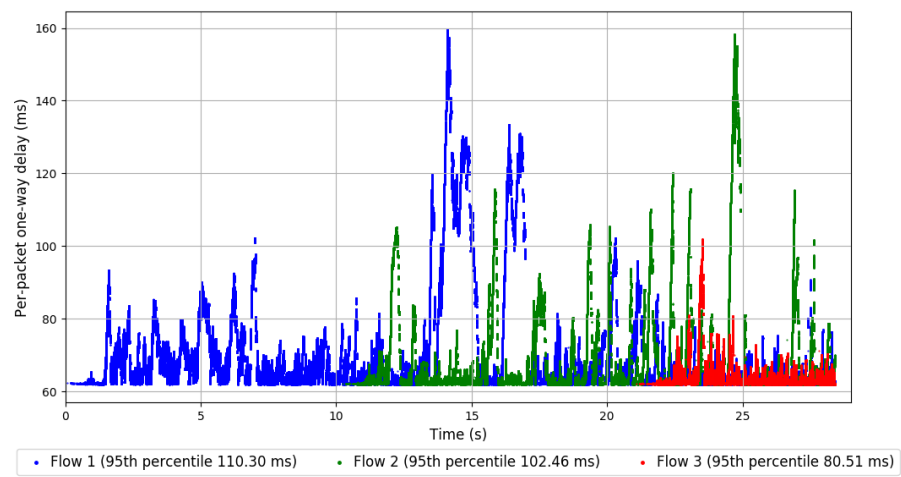
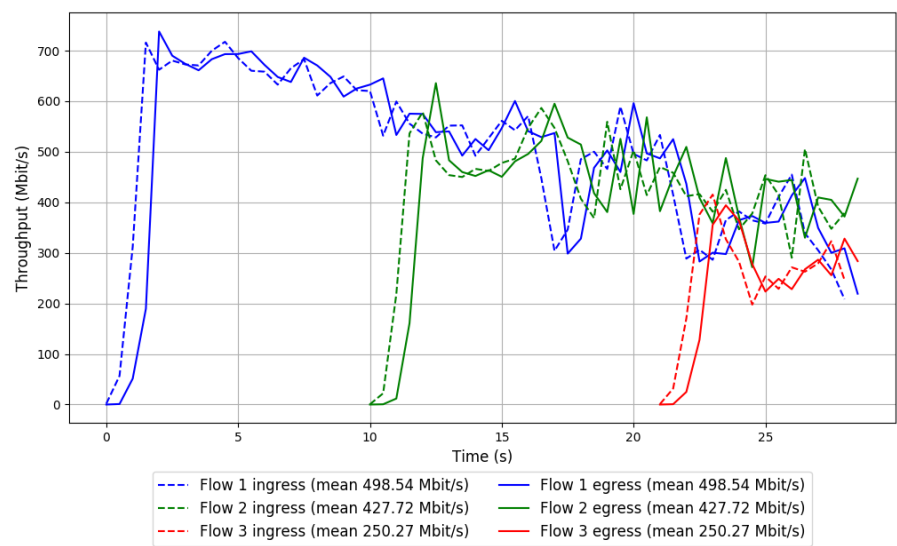


Run 2: Statistics of Indigo-MusesC5

Start at: 2019-01-21 21:34:39  
End at: 2019-01-21 21:35:09  
Local clock offset: -0.007 ms  
Remote clock offset: -0.951 ms

# Below is generated by plot.py at 2019-01-22 01:56:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 837.22 Mbit/s  
95th percentile per-packet one-way delay: 105.752 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 498.54 Mbit/s  
95th percentile per-packet one-way delay: 110.304 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 427.72 Mbit/s  
95th percentile per-packet one-way delay: 102.457 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 250.27 Mbit/s  
95th percentile per-packet one-way delay: 80.511 ms  
Loss rate: 0.00%

Run 2: Report of Indigo-MusesC5 — Data Link

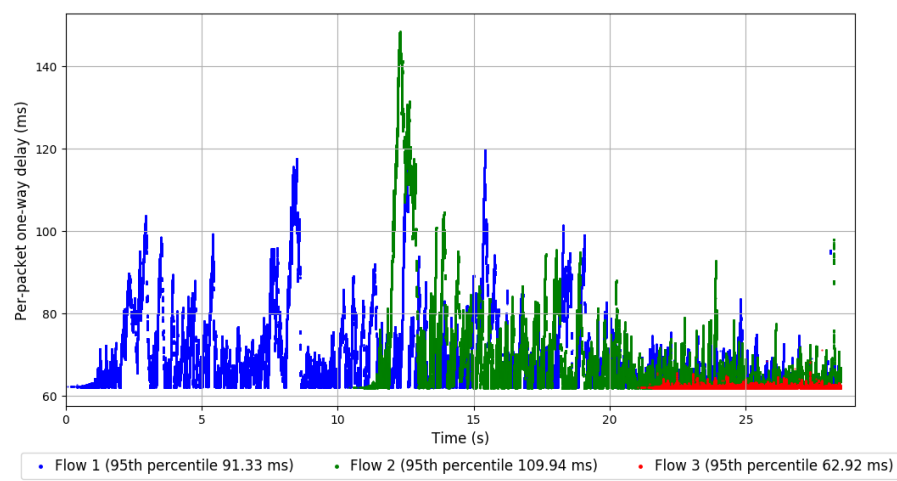
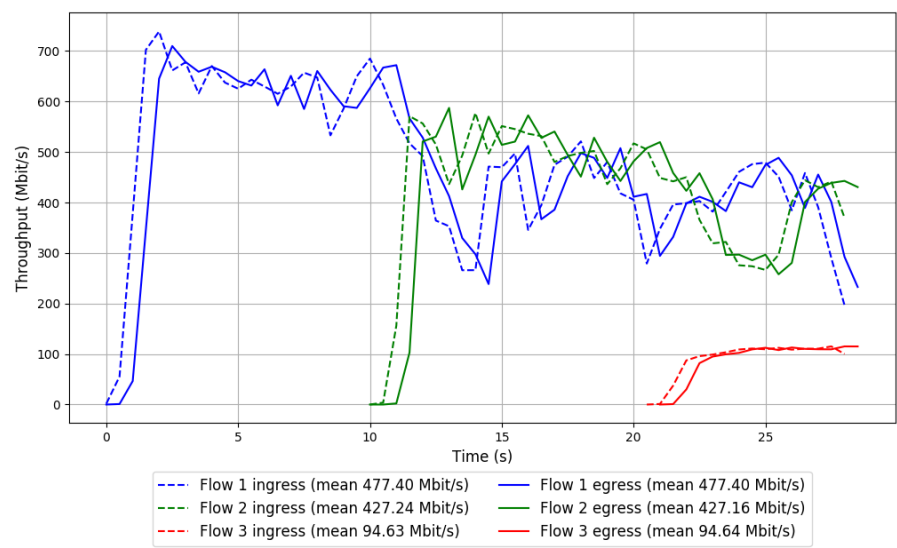


Run 3: Statistics of Indigo-MusesC5

Start at: 2019-01-21 22:11:02  
End at: 2019-01-21 22:11:32  
Local clock offset: 0.022 ms  
Remote clock offset: -0.929 ms

# Below is generated by plot.py at 2019-01-22 01:56:39  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 773.24 Mbit/s  
95th percentile per-packet one-way delay: 93.633 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 477.40 Mbit/s  
95th percentile per-packet one-way delay: 91.334 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 427.16 Mbit/s  
95th percentile per-packet one-way delay: 109.939 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 94.64 Mbit/s  
95th percentile per-packet one-way delay: 62.917 ms  
Loss rate: 0.00%

Run 3: Report of Indigo-MusesC5 — Data Link

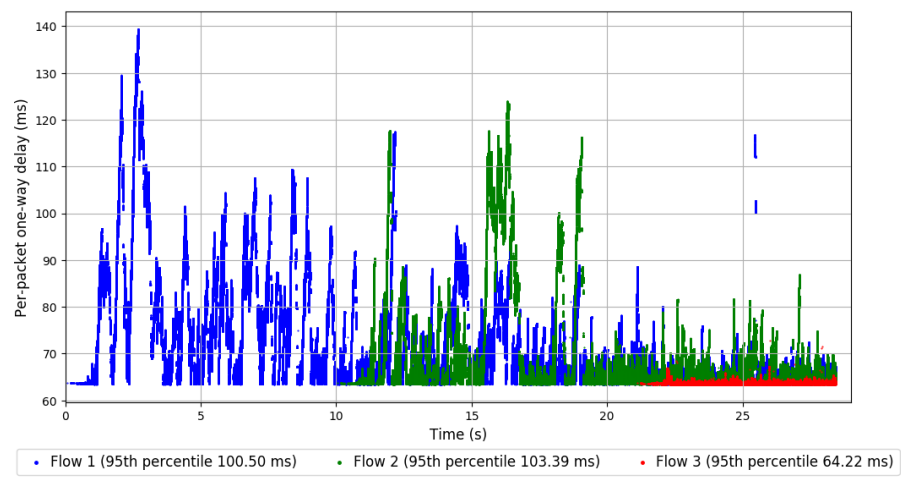
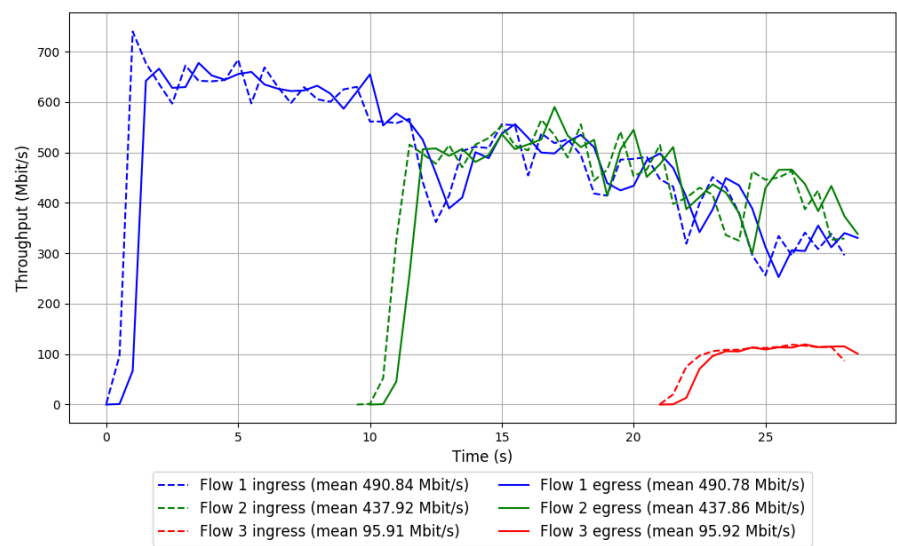


Run 4: Statistics of Indigo-MusesC5

Start at: 2019-01-21 22:47:14  
End at: 2019-01-21 22:47:44  
Local clock offset: -0.015 ms  
Remote clock offset: 0.703 ms

# Below is generated by plot.py at 2019-01-22 02:00:53  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 799.15 Mbit/s  
95th percentile per-packet one-way delay: 101.297 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 490.78 Mbit/s  
95th percentile per-packet one-way delay: 100.496 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 437.86 Mbit/s  
95th percentile per-packet one-way delay: 103.395 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 95.92 Mbit/s  
95th percentile per-packet one-way delay: 64.225 ms  
Loss rate: 0.00%

Run 4: Report of Indigo-MusesC5 — Data Link



Run 5: Statistics of Indigo-MusesC5

Start at: 2019-01-21 23:23:38

End at: 2019-01-21 23:24:08

Local clock offset: 0.034 ms

Remote clock offset: 0.356 ms

# Below is generated by plot.py at 2019-01-22 02:00:53

# Datalink statistics

-- Total of 3 flows:

Average throughput: 762.31 Mbit/s

95th percentile per-packet one-way delay: 115.517 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 482.75 Mbit/s

95th percentile per-packet one-way delay: 115.703 ms

Loss rate: 0.01%

-- Flow 2:

Average throughput: 405.90 Mbit/s

95th percentile per-packet one-way delay: 117.686 ms

Loss rate: 0.00%

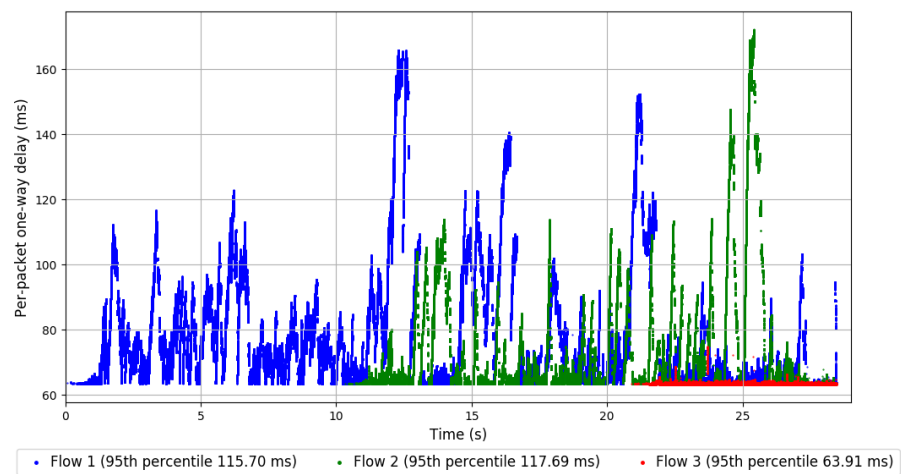
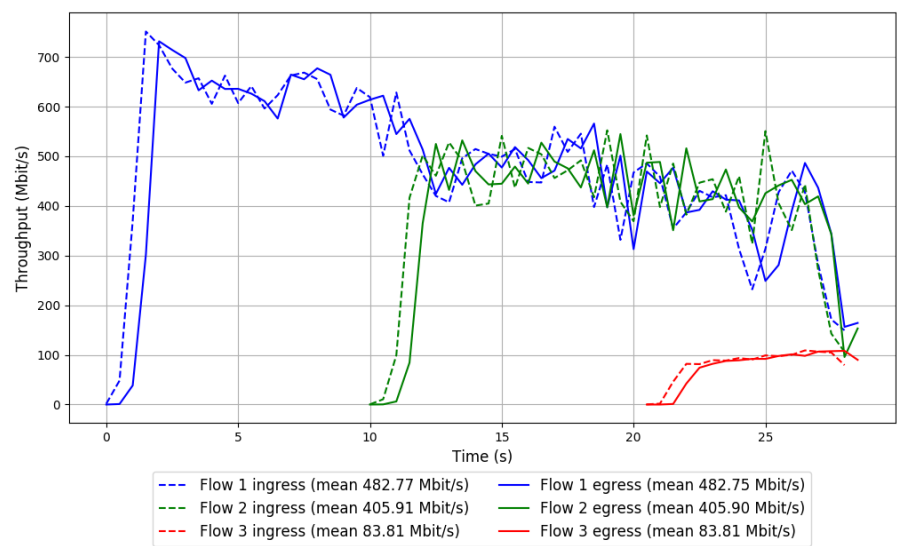
-- Flow 3:

Average throughput: 83.81 Mbit/s

95th percentile per-packet one-way delay: 63.907 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesC5 — Data Link



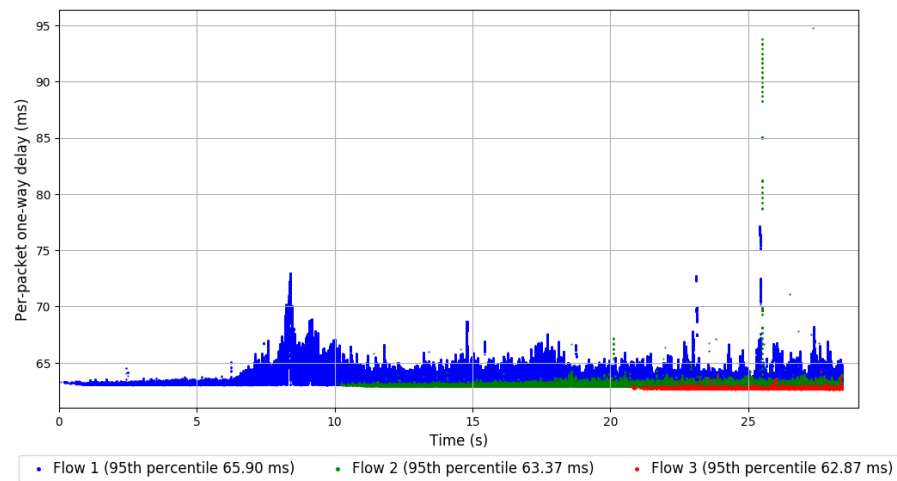
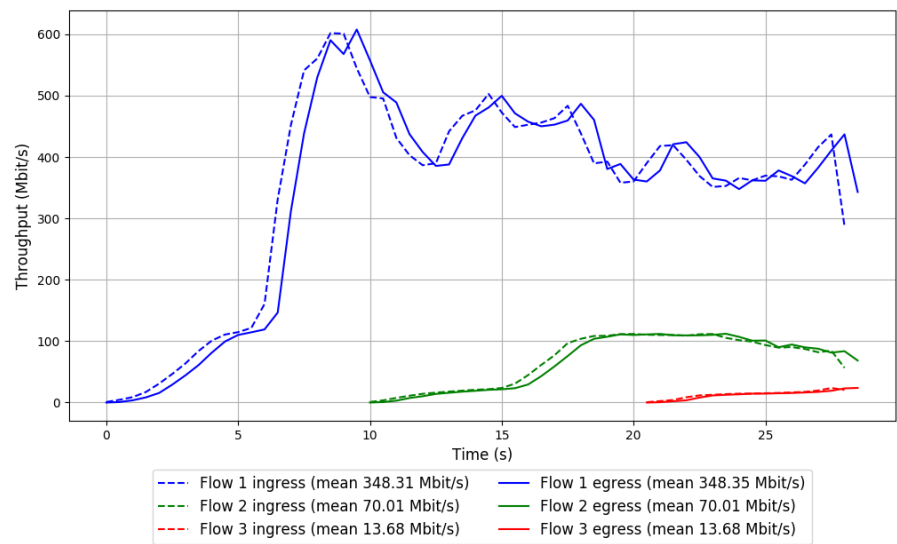


```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-01-21 21:07:20
End at: 2019-01-21 21:07:50
Local clock offset: 0.164 ms
Remote clock offset: -0.008 ms

# Below is generated by plot.py at 2019-01-22 02:00:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 397.28 Mbit/s
95th percentile per-packet one-way delay: 65.762 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 348.35 Mbit/s
95th percentile per-packet one-way delay: 65.900 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 70.01 Mbit/s
95th percentile per-packet one-way delay: 63.372 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 13.68 Mbit/s
95th percentile per-packet one-way delay: 62.866 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-MusesD — Data Link

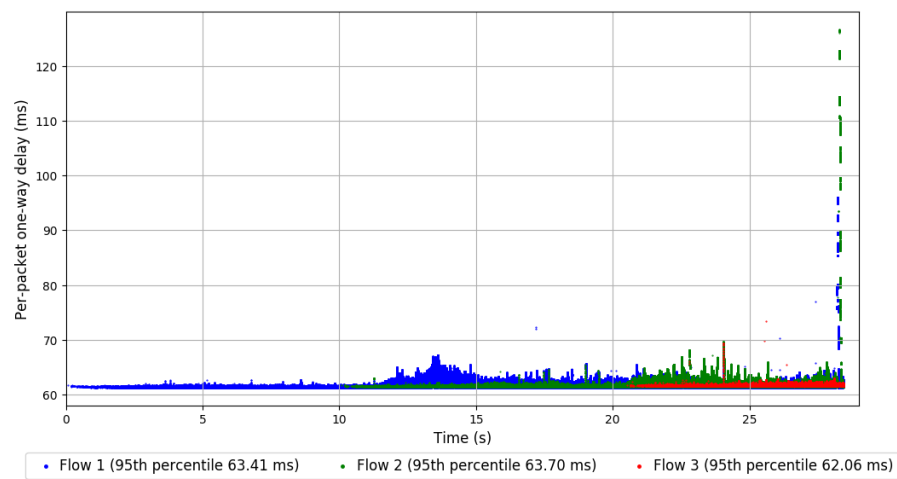
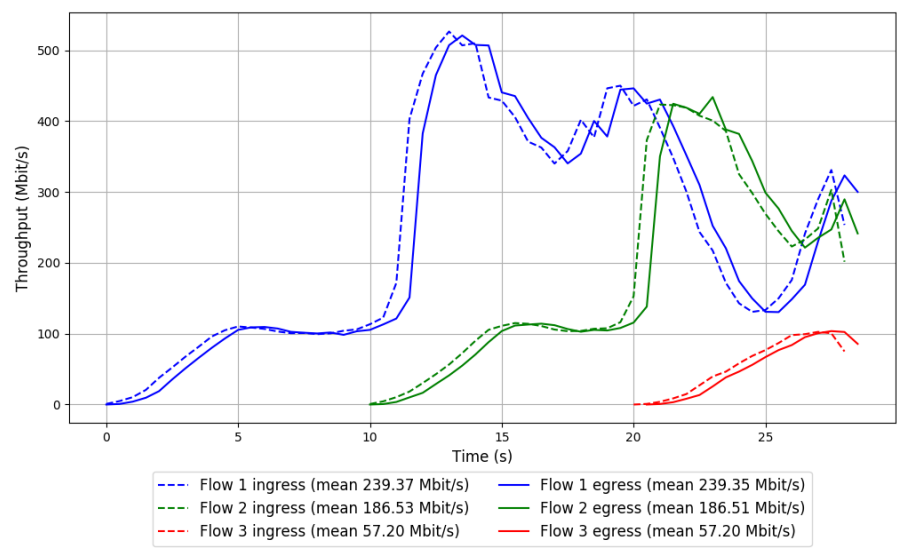


Run 2: Statistics of Indigo-MusesD

Start at: 2019-01-21 21:43:42  
End at: 2019-01-21 21:44:12  
Local clock offset: -0.015 ms  
Remote clock offset: -1.496 ms

# Below is generated by plot.py at 2019-01-22 02:01:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 376.11 Mbit/s  
95th percentile per-packet one-way delay: 63.447 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 239.35 Mbit/s  
95th percentile per-packet one-way delay: 63.406 ms  
Loss rate: 0.01%  
-- Flow 2:  
Average throughput: 186.51 Mbit/s  
95th percentile per-packet one-way delay: 63.697 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 57.20 Mbit/s  
95th percentile per-packet one-way delay: 62.062 ms  
Loss rate: 0.00%

Run 2: Report of Indigo-MusesD — Data Link

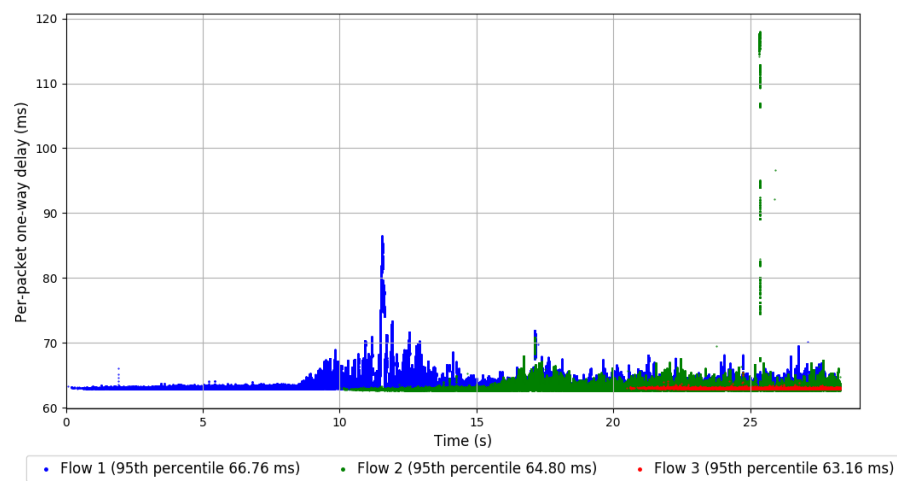
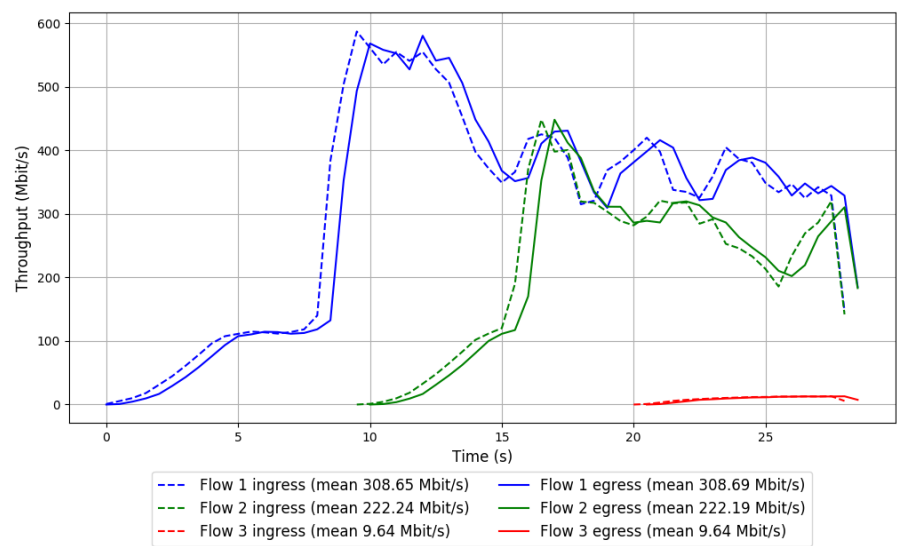


Run 3: Statistics of Indigo-MusesD

Start at: 2019-01-21 22:20:00  
End at: 2019-01-21 22:20:30  
Local clock offset: -0.018 ms  
Remote clock offset: -0.134 ms

# Below is generated by plot.py at 2019-01-22 02:04:16  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 455.15 Mbit/s  
95th percentile per-packet one-way delay: 66.163 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 308.69 Mbit/s  
95th percentile per-packet one-way delay: 66.756 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 222.19 Mbit/s  
95th percentile per-packet one-way delay: 64.799 ms  
Loss rate: 0.02%  
-- Flow 3:  
Average throughput: 9.64 Mbit/s  
95th percentile per-packet one-way delay: 63.157 ms  
Loss rate: 0.00%

Run 3: Report of Indigo-MusesD — Data Link



Run 4: Statistics of Indigo-MusesD

Start at: 2019-01-21 22:56:16

End at: 2019-01-21 22:56:46

Local clock offset: -0.073 ms

Remote clock offset: 0.006 ms

# Below is generated by plot.py at 2019-01-22 02:04:16

# Datalink statistics

-- Total of 3 flows:

Average throughput: 361.00 Mbit/s

95th percentile per-packet one-way delay: 66.258 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 293.41 Mbit/s

95th percentile per-packet one-way delay: 66.665 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 82.00 Mbit/s

95th percentile per-packet one-way delay: 63.384 ms

Loss rate: 0.00%

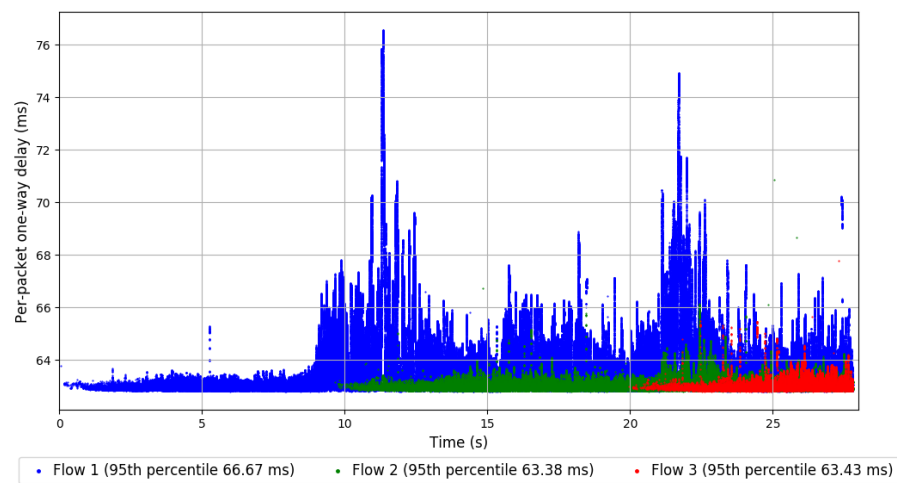
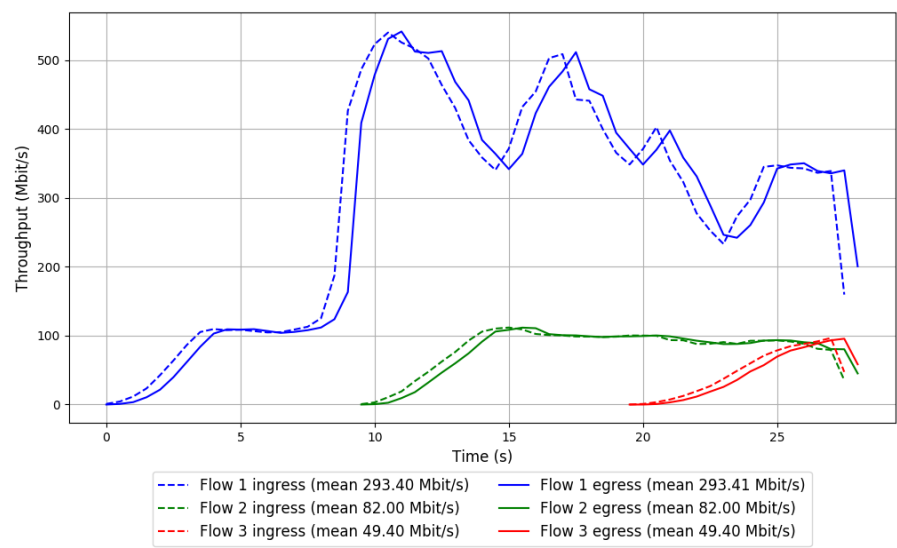
-- Flow 3:

Average throughput: 49.40 Mbit/s

95th percentile per-packet one-way delay: 63.431 ms

Loss rate: 0.00%

Run 4: Report of Indigo-MusesD — Data Link





Run 5: Statistics of Indigo-MusesD

Start at: 2019-01-21 23:32:39

End at: 2019-01-21 23:33:09

Local clock offset: 0.203 ms

Remote clock offset: 0.02 ms

# Below is generated by plot.py at 2019-01-22 02:04:16

# Datalink statistics

-- Total of 3 flows:

Average throughput: 161.27 Mbit/s

95th percentile per-packet one-way delay: 63.319 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 92.12 Mbit/s

95th percentile per-packet one-way delay: 63.043 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 83.74 Mbit/s

95th percentile per-packet one-way delay: 63.463 ms

Loss rate: 0.00%

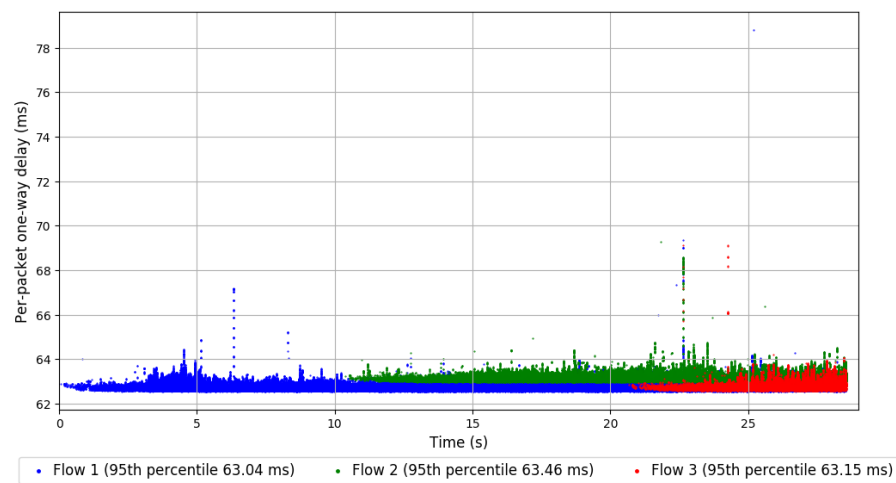
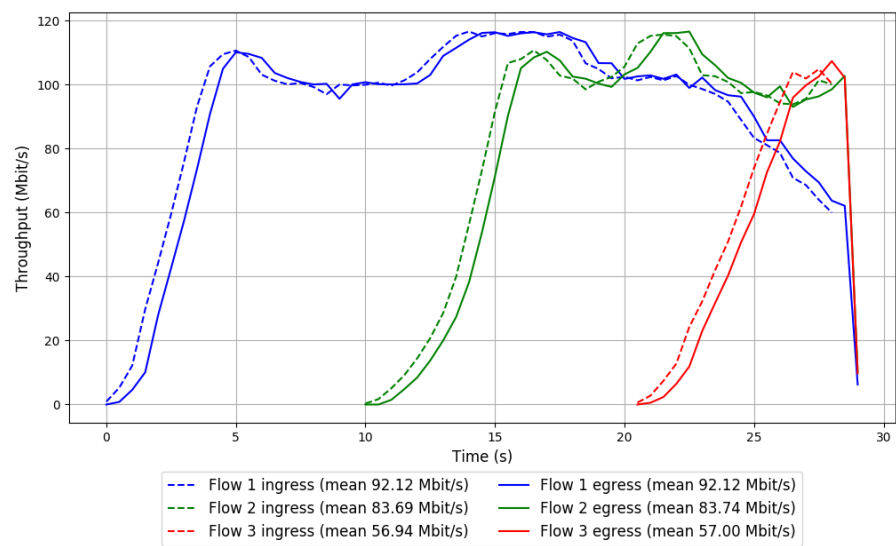
-- Flow 3:

Average throughput: 57.00 Mbit/s

95th percentile per-packet one-way delay: 63.149 ms

Loss rate: 0.00%

Run 5: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

Start at: 2019-01-21 21:12:45

End at: 2019-01-21 21:13:15

Local clock offset: 0.122 ms

Remote clock offset: -0.59 ms

# Below is generated by plot.py at 2019-01-22 02:15:00

# Datalink statistics

-- Total of 3 flows:

Average throughput: 844.92 Mbit/s

95th percentile per-packet one-way delay: 98.349 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 497.07 Mbit/s

95th percentile per-packet one-way delay: 109.542 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 404.03 Mbit/s

95th percentile per-packet one-way delay: 72.783 ms

Loss rate: 0.00%

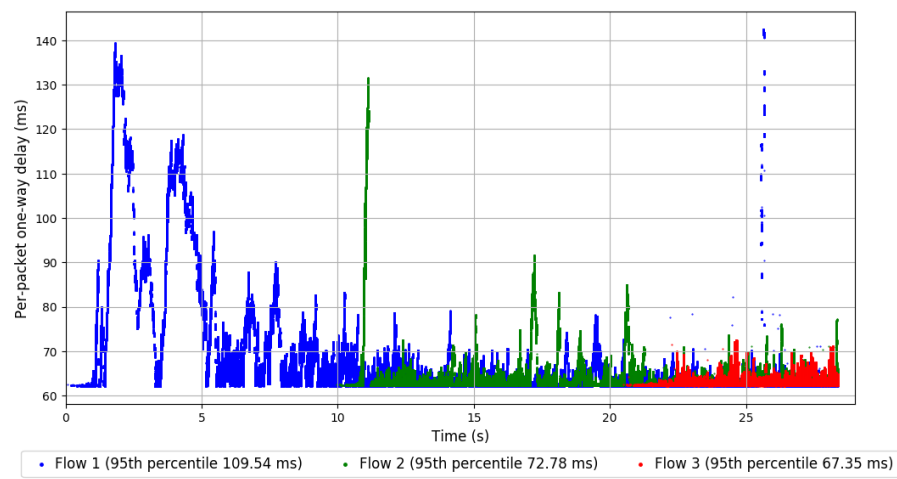
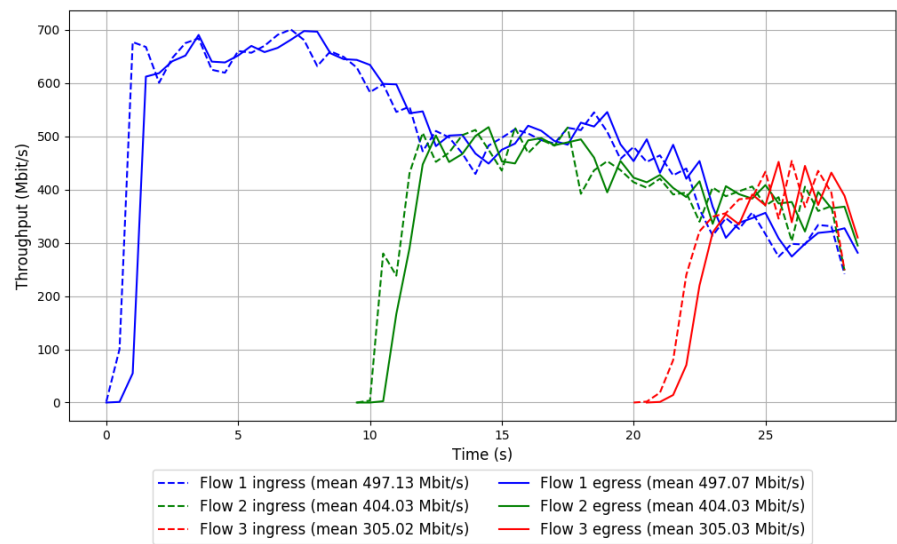
-- Flow 3:

Average throughput: 305.03 Mbit/s

95th percentile per-packet one-way delay: 67.349 ms

Loss rate: 0.00%

Run 1: Report of Indigo-MusesT — Data Link

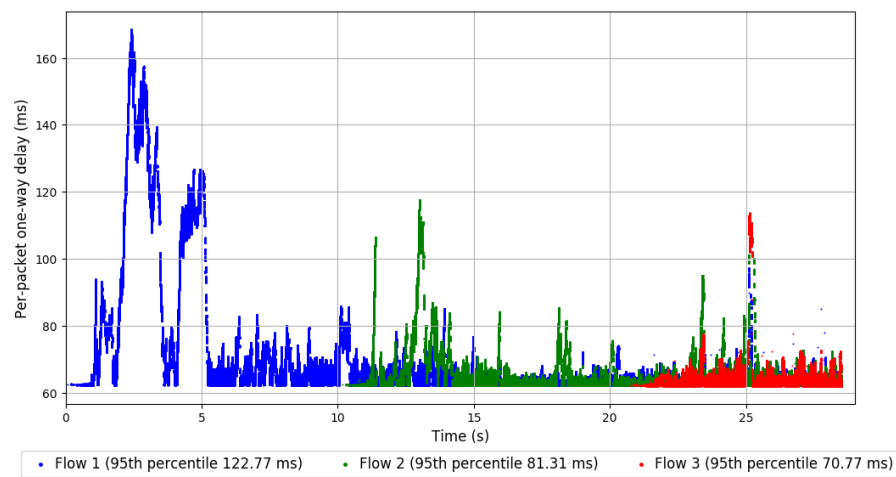
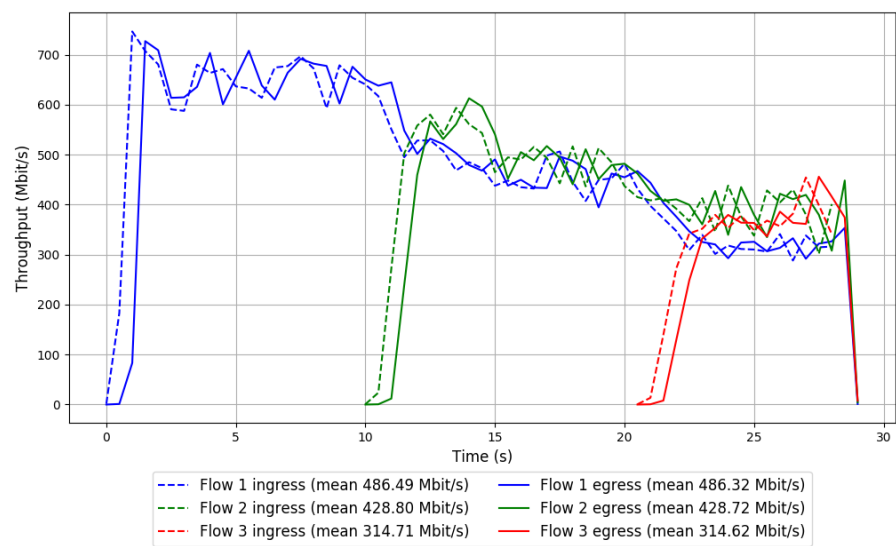


Run 2: Statistics of Indigo-MusesT

Start at: 2019-01-21 21:49:04  
End at: 2019-01-21 21:49:34  
Local clock offset: -0.04 ms  
Remote clock offset: -0.788 ms

# Below is generated by plot.py at 2019-01-22 02:15:55  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 848.40 Mbit/s  
95th percentile per-packet one-way delay: 112.167 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 486.32 Mbit/s  
95th percentile per-packet one-way delay: 122.766 ms  
Loss rate: 0.03%  
-- Flow 2:  
Average throughput: 428.72 Mbit/s  
95th percentile per-packet one-way delay: 81.308 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 314.62 Mbit/s  
95th percentile per-packet one-way delay: 70.774 ms  
Loss rate: 0.02%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

Start at: 2019-01-21 22:25:28

End at: 2019-01-21 22:25:58

Local clock offset: 0.032 ms

Remote clock offset: 0.409 ms

# Below is generated by plot.py at 2019-01-22 02:17:18

# Datalink statistics

-- Total of 3 flows:

Average throughput: 798.98 Mbit/s

95th percentile per-packet one-way delay: 119.998 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 476.47 Mbit/s

95th percentile per-packet one-way delay: 123.650 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 375.74 Mbit/s

95th percentile per-packet one-way delay: 72.074 ms

Loss rate: 0.00%

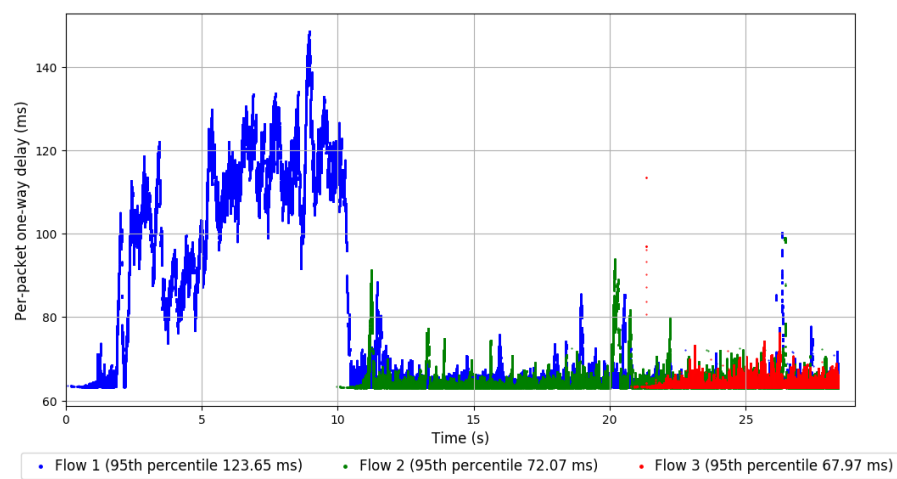
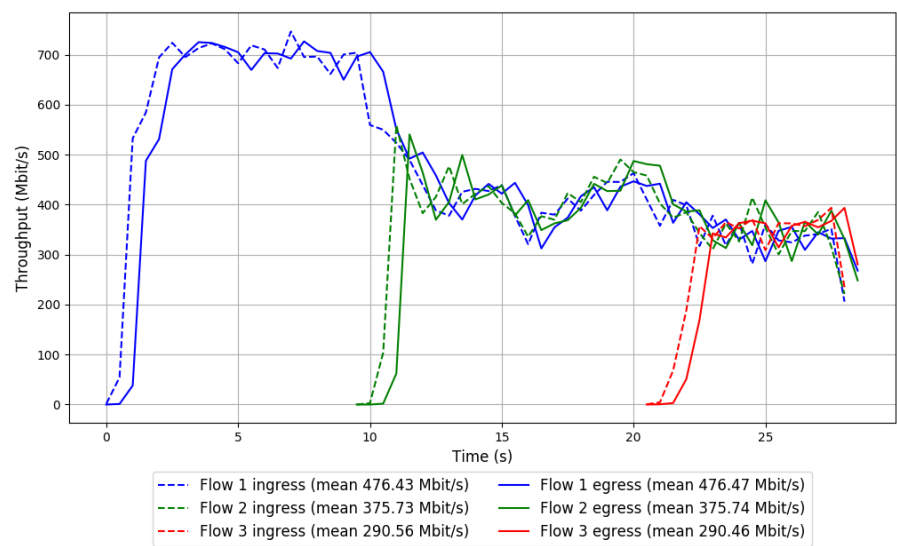
-- Flow 3:

Average throughput: 290.46 Mbit/s

95th percentile per-packet one-way delay: 67.968 ms

Loss rate: 0.02%

Run 3: Report of Indigo-MusesT — Data Link



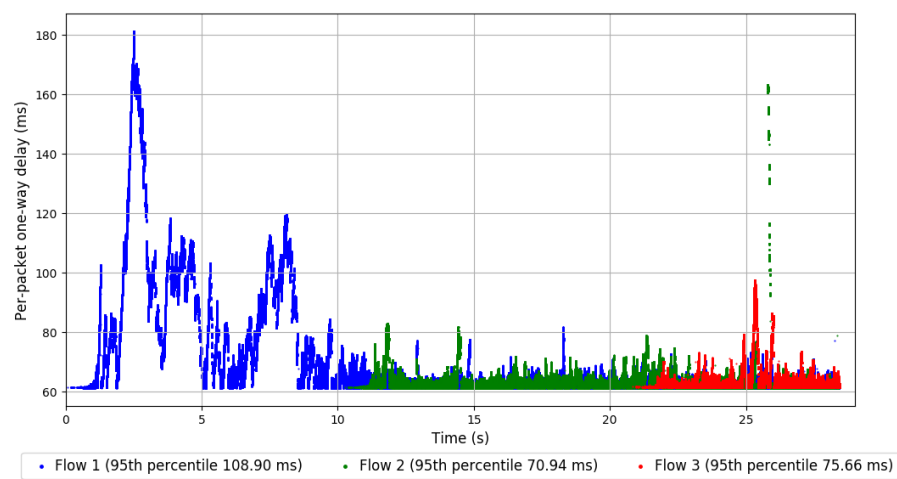
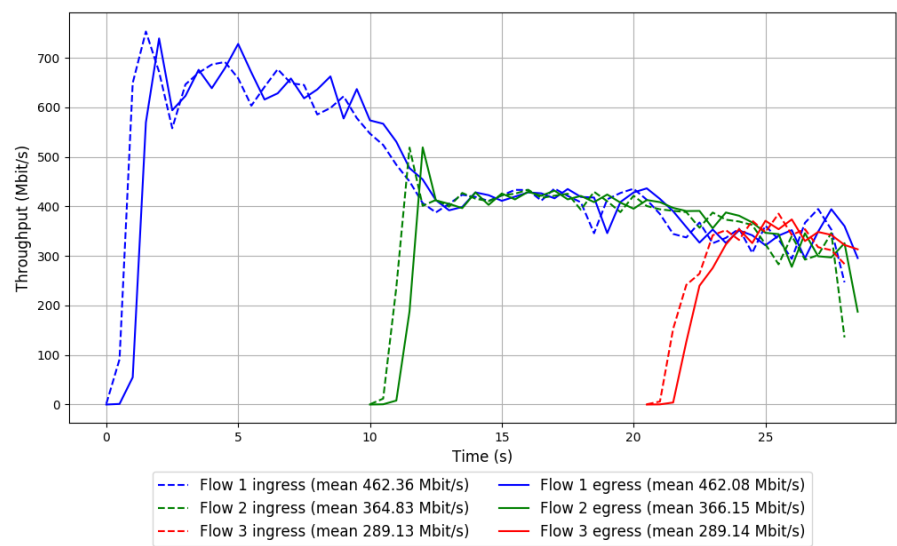


Run 4: Statistics of Indigo-MusesT

Start at: 2019-01-21 23:01:41  
End at: 2019-01-21 23:02:11  
Local clock offset: 0.009 ms  
Remote clock offset: -1.433 ms

# Below is generated by plot.py at 2019-01-22 02:18:05  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 773.41 Mbit/s  
95th percentile per-packet one-way delay: 104.017 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 462.08 Mbit/s  
95th percentile per-packet one-way delay: 108.901 ms  
Loss rate: 0.06%  
-- Flow 2:  
Average throughput: 366.15 Mbit/s  
95th percentile per-packet one-way delay: 70.939 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 289.14 Mbit/s  
95th percentile per-packet one-way delay: 75.663 ms  
Loss rate: 0.00%

Run 4: Report of Indigo-MusesT — Data Link

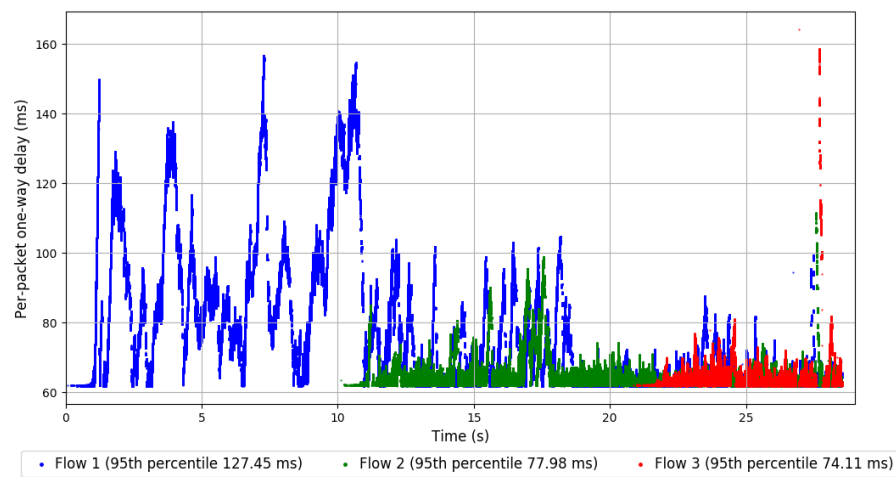
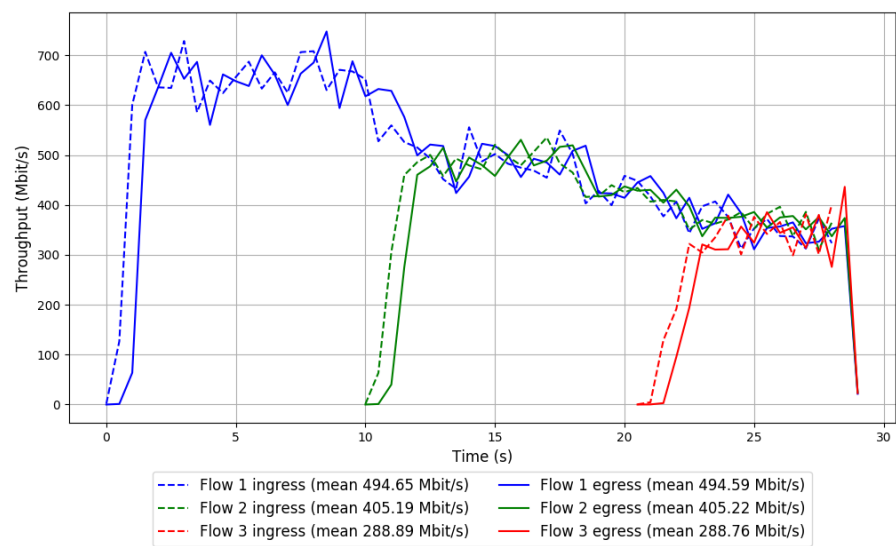


Run 5: Statistics of Indigo-MusesT

Start at: 2019-01-21 23:37:53  
End at: 2019-01-21 23:38:23  
Local clock offset: -0.004 ms  
Remote clock offset: -1.235 ms

# Below is generated by plot.py at 2019-01-22 02:19:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 834.46 Mbit/s  
95th percentile per-packet one-way delay: 118.580 ms  
Loss rate: 0.01%  
-- Flow 1:  
Average throughput: 494.59 Mbit/s  
95th percentile per-packet one-way delay: 127.451 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 405.22 Mbit/s  
95th percentile per-packet one-way delay: 77.985 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 288.76 Mbit/s  
95th percentile per-packet one-way delay: 74.112 ms  
Loss rate: 0.06%

Run 5: Report of Indigo-MusesT — Data Link

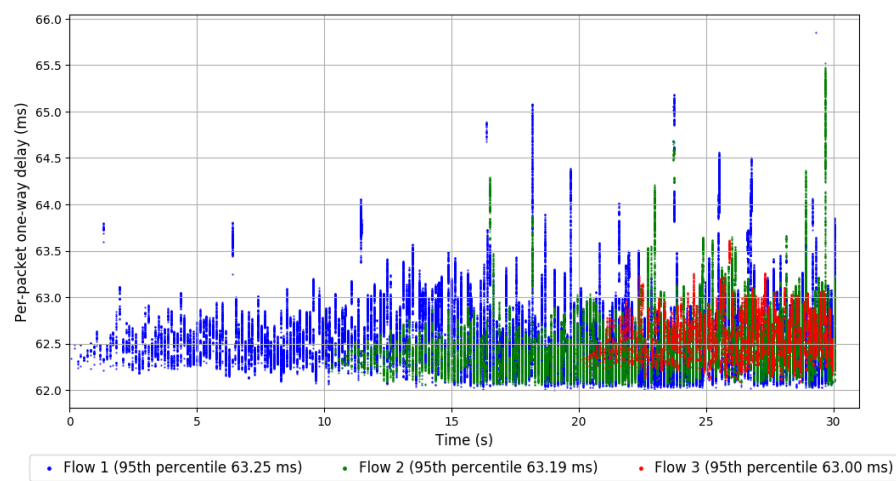
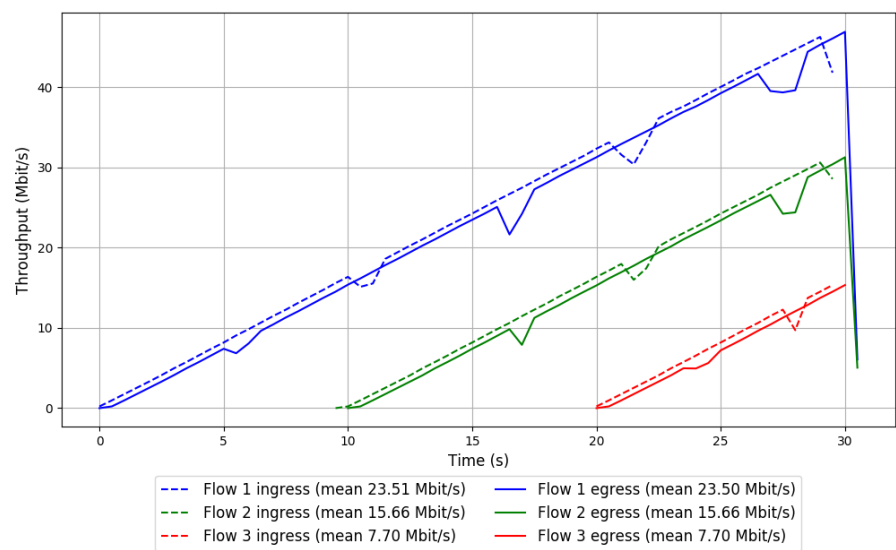


```
Run 1: Statistics of LEDBAT

Start at: 2019-01-21 20:55:05
End at: 2019-01-21 20:55:35
Local clock offset: 0.001 ms
Remote clock offset: -0.733 ms

# Below is generated by plot.py at 2019-01-22 02:19:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 36.47 Mbit/s
95th percentile per-packet one-way delay: 63.214 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 23.50 Mbit/s
95th percentile per-packet one-way delay: 63.248 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 15.66 Mbit/s
95th percentile per-packet one-way delay: 63.187 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 7.70 Mbit/s
95th percentile per-packet one-way delay: 63.002 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

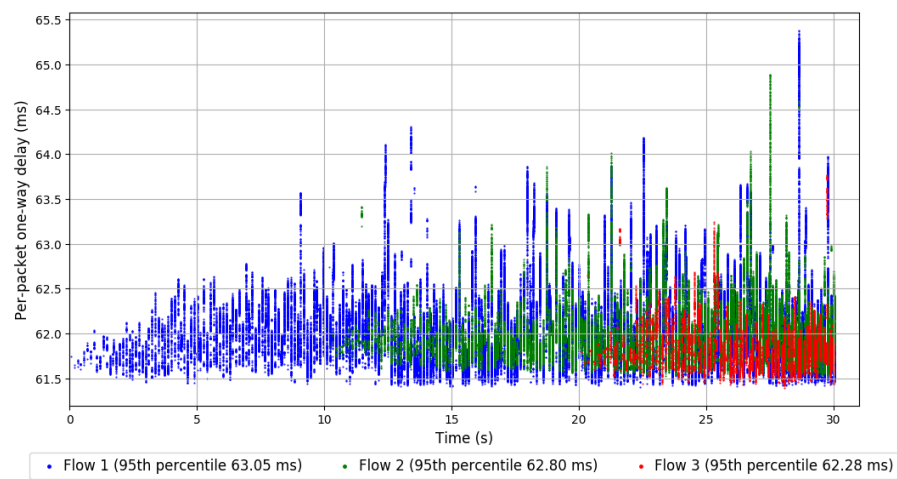
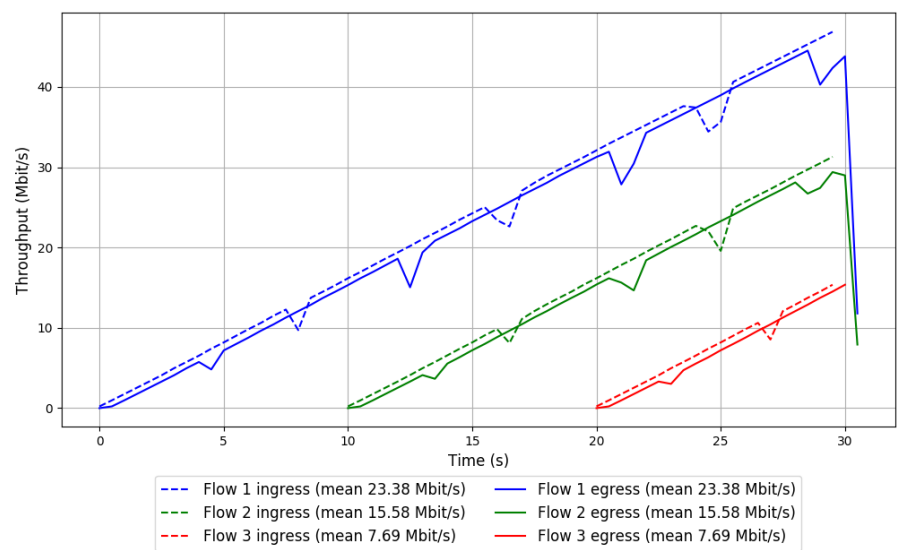


Run 2: Statistics of LEDBAT

Start at: 2019-01-21 21:31:29  
End at: 2019-01-21 21:31:59  
Local clock offset: -0.036 ms  
Remote clock offset: -1.502 ms

# Below is generated by plot.py at 2019-01-22 02:19:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 36.30 Mbit/s  
95th percentile per-packet one-way delay: 62.940 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 23.38 Mbit/s  
95th percentile per-packet one-way delay: 63.046 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 15.58 Mbit/s  
95th percentile per-packet one-way delay: 62.798 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 7.69 Mbit/s  
95th percentile per-packet one-way delay: 62.278 ms  
Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link



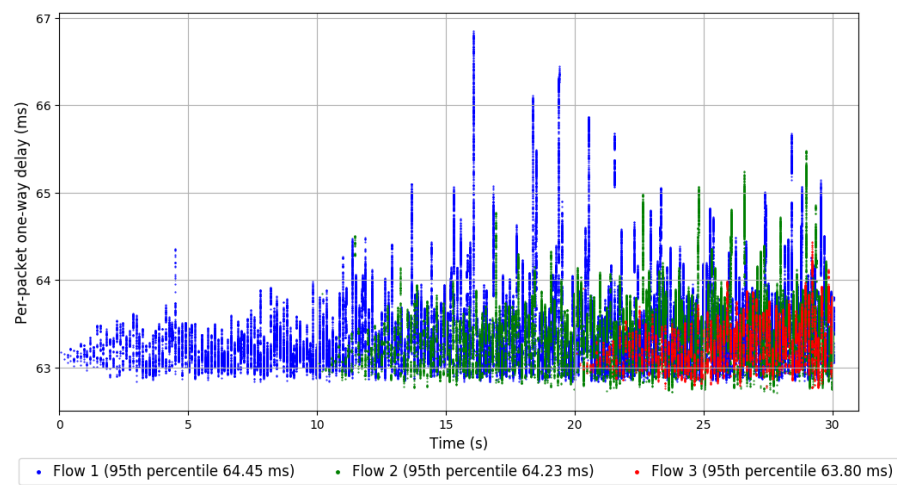
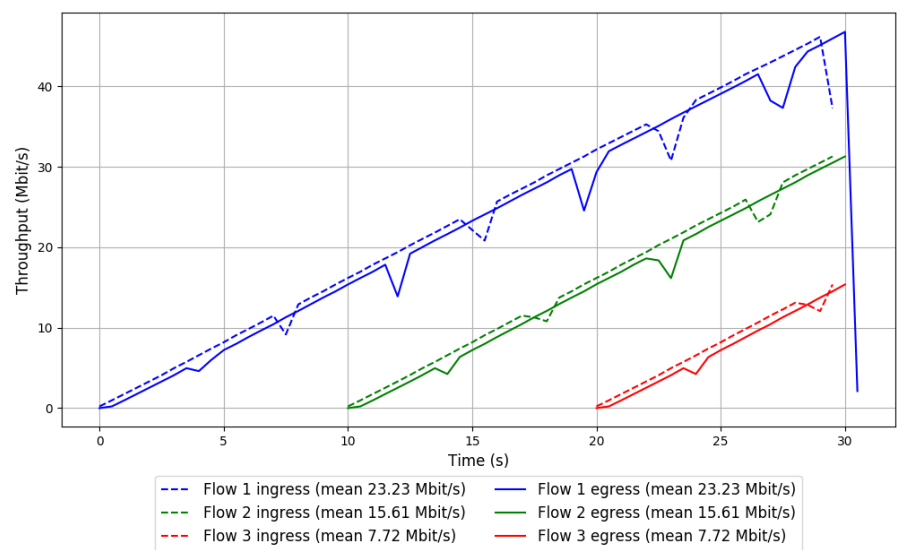


Run 3: Statistics of LEDBAT

Start at: 2019-01-21 22:07:51  
End at: 2019-01-21 22:08:21  
Local clock offset: -0.027 ms  
Remote clock offset: -0.084 ms

# Below is generated by plot.py at 2019-01-22 02:19:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 36.14 Mbit/s  
95th percentile per-packet one-way delay: 64.368 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 23.23 Mbit/s  
95th percentile per-packet one-way delay: 64.453 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 15.61 Mbit/s  
95th percentile per-packet one-way delay: 64.231 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 7.72 Mbit/s  
95th percentile per-packet one-way delay: 63.795 ms  
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link

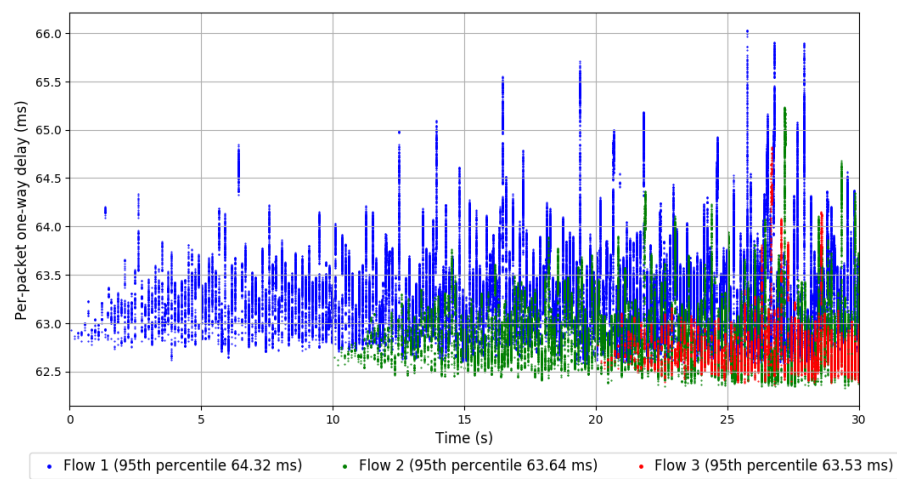
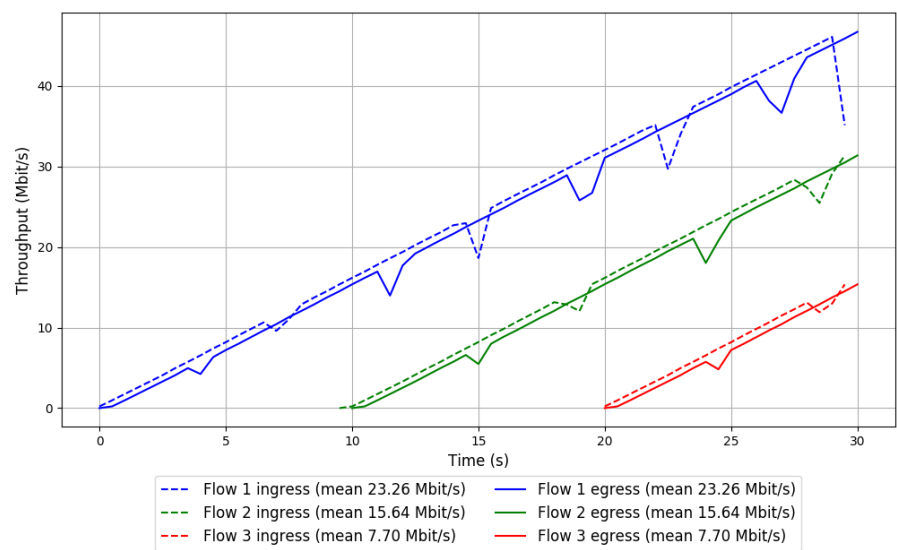


Run 4: Statistics of LEDBAT

Start at: 2019-01-21 22:44:04  
End at: 2019-01-21 22:44:34  
Local clock offset: -0.05 ms  
Remote clock offset: -0.435 ms

# Below is generated by plot.py at 2019-01-22 02:19:41  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 36.19 Mbit/s  
95th percentile per-packet one-way delay: 64.156 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 23.26 Mbit/s  
95th percentile per-packet one-way delay: 64.324 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 15.64 Mbit/s  
95th percentile per-packet one-way delay: 63.637 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 7.70 Mbit/s  
95th percentile per-packet one-way delay: 63.532 ms  
Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2019-01-21 23:20:25

End at: 2019-01-21 23:20:55

Local clock offset: 0.034 ms

Remote clock offset: -0.63 ms

# Below is generated by plot.py at 2019-01-22 02:19:41

# Datalink statistics

-- Total of 3 flows:

Average throughput: 36.00 Mbit/s

95th percentile per-packet one-way delay: 64.109 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 23.26 Mbit/s

95th percentile per-packet one-way delay: 64.231 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 15.46 Mbit/s

95th percentile per-packet one-way delay: 63.814 ms

Loss rate: 0.00%

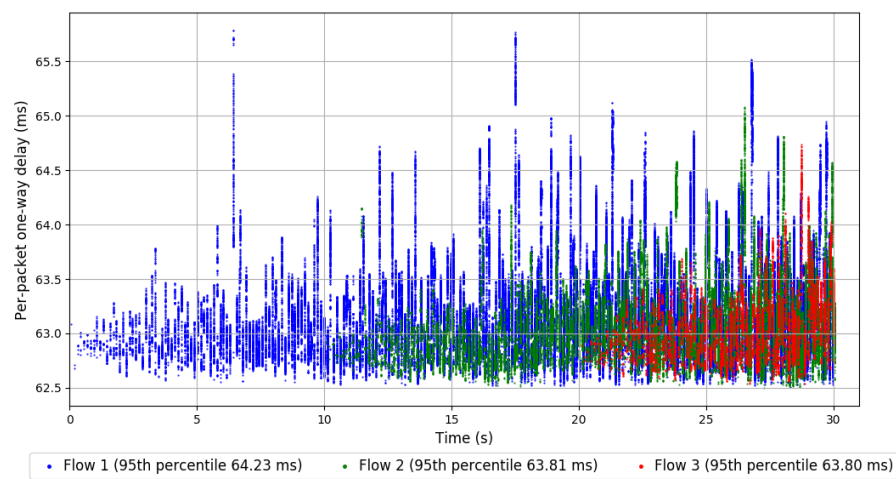
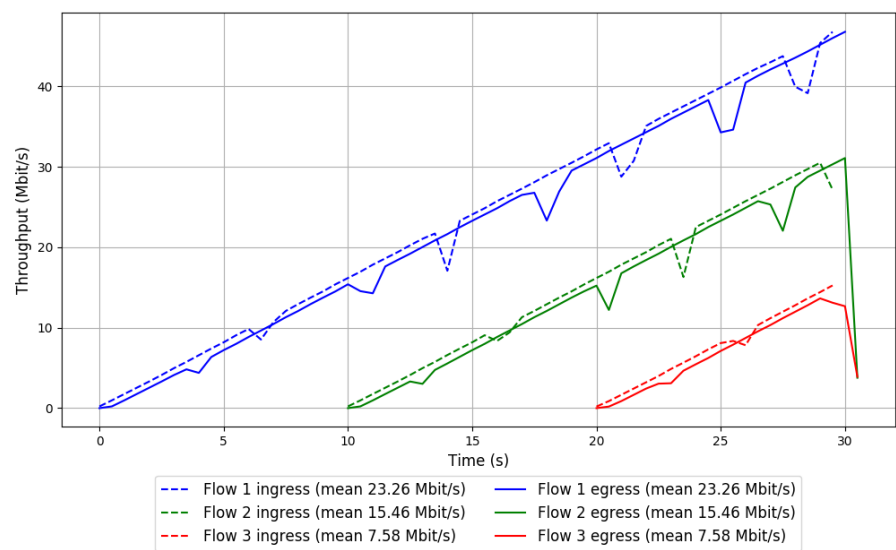
-- Flow 3:

Average throughput: 7.58 Mbit/s

95th percentile per-packet one-way delay: 63.798 ms

Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

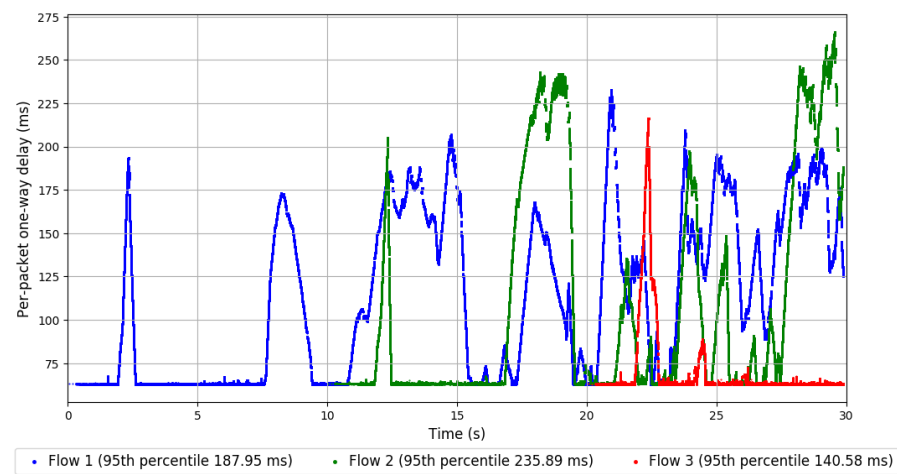
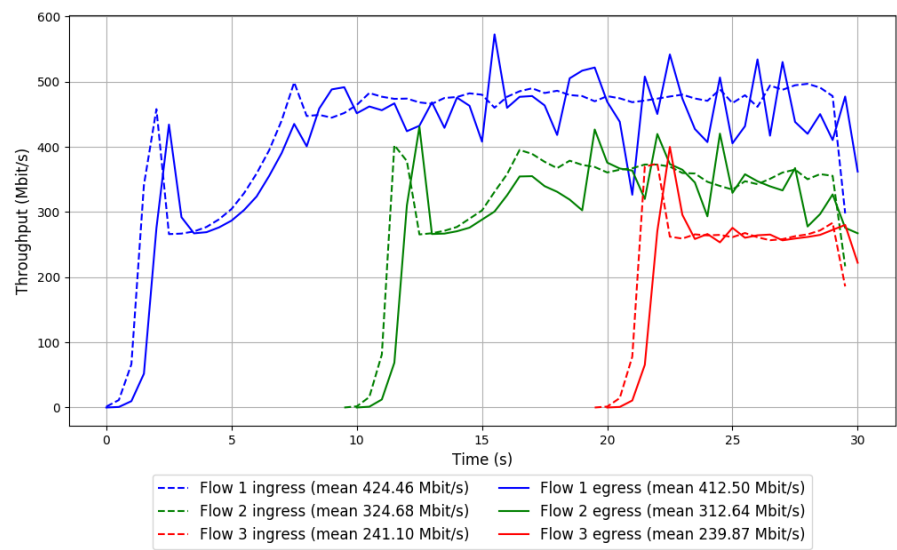


```
Run 1: Statistics of PCC-Allegro

Start at: 2019-01-21 20:56:22
End at: 2019-01-21 20:56:52
Local clock offset: -0.039 ms
Remote clock offset: -0.109 ms

# Below is generated by plot.py at 2019-01-22 02:38:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 699.62 Mbit/s
95th percentile per-packet one-way delay: 208.015 ms
Loss rate: 2.83%
-- Flow 1:
Average throughput: 412.50 Mbit/s
95th percentile per-packet one-way delay: 187.949 ms
Loss rate: 2.82%
-- Flow 2:
Average throughput: 312.64 Mbit/s
95th percentile per-packet one-way delay: 235.889 ms
Loss rate: 3.71%
-- Flow 3:
Average throughput: 239.87 Mbit/s
95th percentile per-packet one-way delay: 140.581 ms
Loss rate: 0.51%
```

Run 1: Report of PCC-Allegro — Data Link



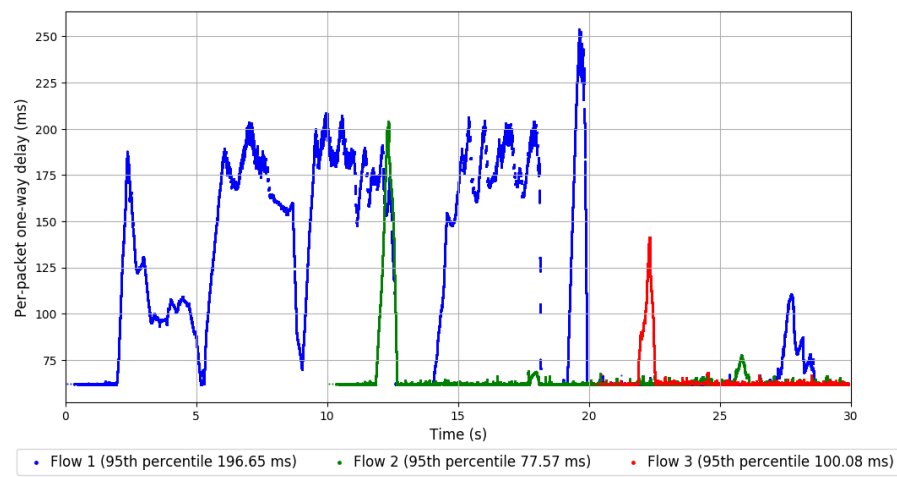
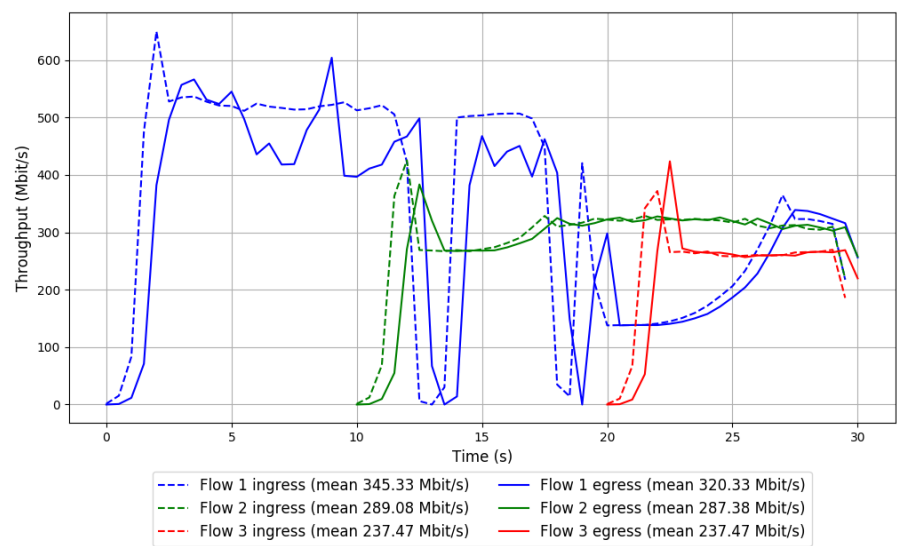


Run 2: Statistics of PCC-Allegro

Start at: 2019-01-21 21:32:46  
End at: 2019-01-21 21:33:16  
Local clock offset: -0.009 ms  
Remote clock offset: -1.092 ms

# Below is generated by plot.py at 2019-01-22 02:38:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 589.43 Mbit/s  
95th percentile per-packet one-way delay: 190.941 ms  
Loss rate: 4.25%  
-- Flow 1:  
Average throughput: 320.33 Mbit/s  
95th percentile per-packet one-way delay: 196.651 ms  
Loss rate: 7.24%  
-- Flow 2:  
Average throughput: 287.38 Mbit/s  
95th percentile per-packet one-way delay: 77.567 ms  
Loss rate: 0.59%  
-- Flow 3:  
Average throughput: 237.47 Mbit/s  
95th percentile per-packet one-way delay: 100.084 ms  
Loss rate: 0.00%

Run 2: Report of PCC-Allegro — Data Link

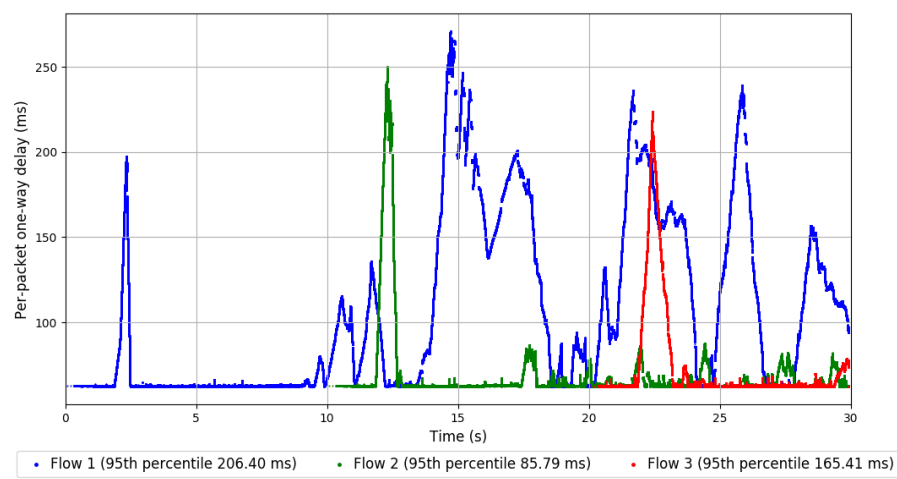
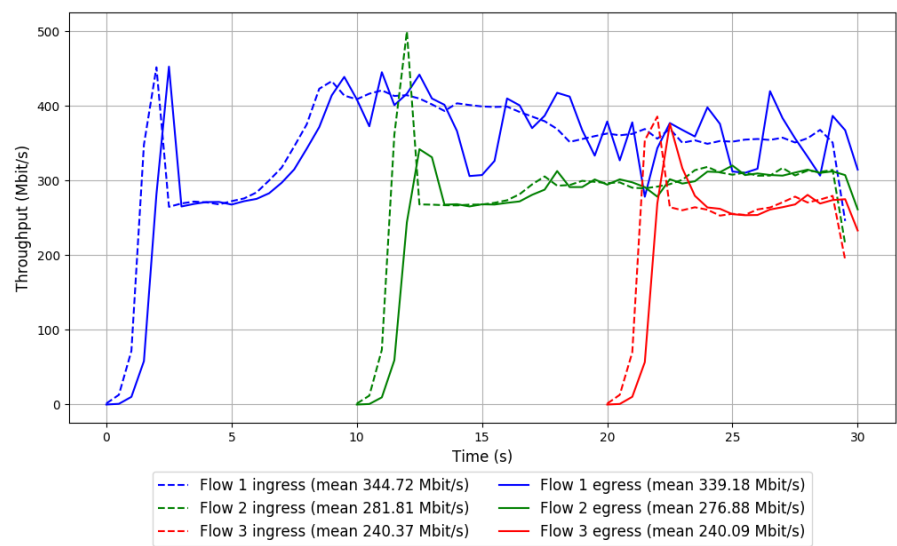


Run 3: Statistics of PCC-Allegro

Start at: 2019-01-21 22:09:08  
End at: 2019-01-21 22:09:38  
Local clock offset: -0.01 ms  
Remote clock offset: -0.178 ms

# Below is generated by plot.py at 2019-01-22 02:38:02  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 602.28 Mbit/s  
95th percentile per-packet one-way delay: 197.433 ms  
Loss rate: 1.45%  
-- Flow 1:  
Average throughput: 339.18 Mbit/s  
95th percentile per-packet one-way delay: 206.399 ms  
Loss rate: 1.60%  
-- Flow 2:  
Average throughput: 276.88 Mbit/s  
95th percentile per-packet one-way delay: 85.789 ms  
Loss rate: 1.75%  
-- Flow 3:  
Average throughput: 240.09 Mbit/s  
95th percentile per-packet one-way delay: 165.407 ms  
Loss rate: 0.12%

Run 3: Report of PCC-Allegro — Data Link

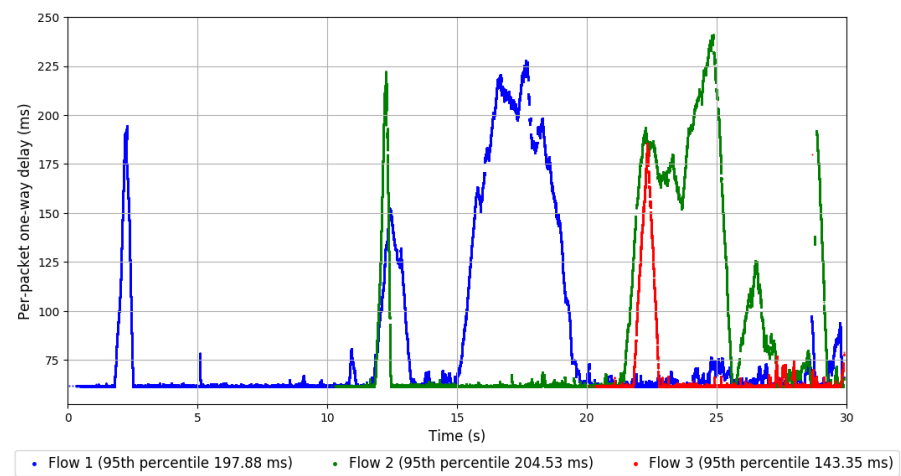
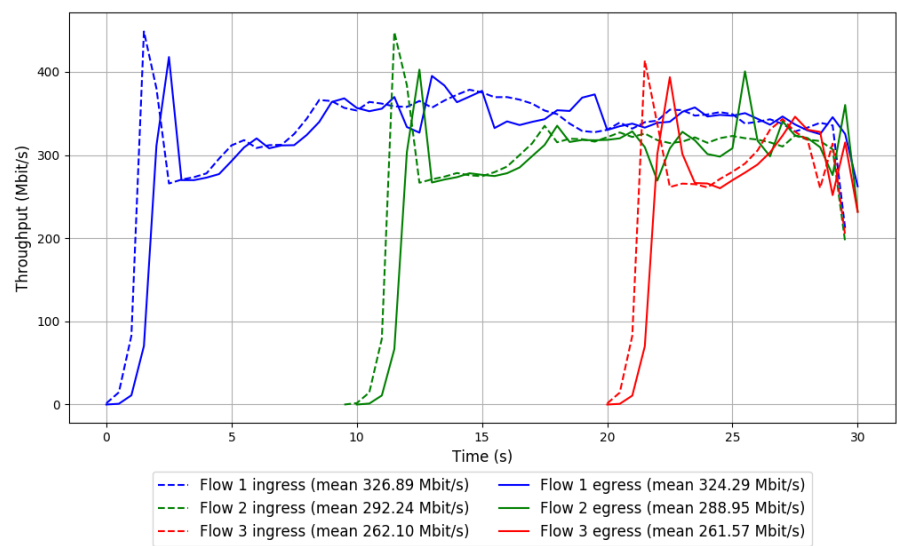


Run 4: Statistics of PCC-Allegro

Start at: 2019-01-21 22:45:20  
End at: 2019-01-21 22:45:50  
Local clock offset: -0.031 ms  
Remote clock offset: -1.264 ms

# Below is generated by plot.py at 2019-01-22 02:44:59  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 602.71 Mbit/s  
95th percentile per-packet one-way delay: 194.092 ms  
Loss rate: 0.81%  
-- Flow 1:  
Average throughput: 324.29 Mbit/s  
95th percentile per-packet one-way delay: 197.877 ms  
Loss rate: 0.79%  
-- Flow 2:  
Average throughput: 288.95 Mbit/s  
95th percentile per-packet one-way delay: 204.529 ms  
Loss rate: 1.12%  
-- Flow 3:  
Average throughput: 261.57 Mbit/s  
95th percentile per-packet one-way delay: 143.348 ms  
Loss rate: 0.19%

Run 4: Report of PCC-Allegro — Data Link

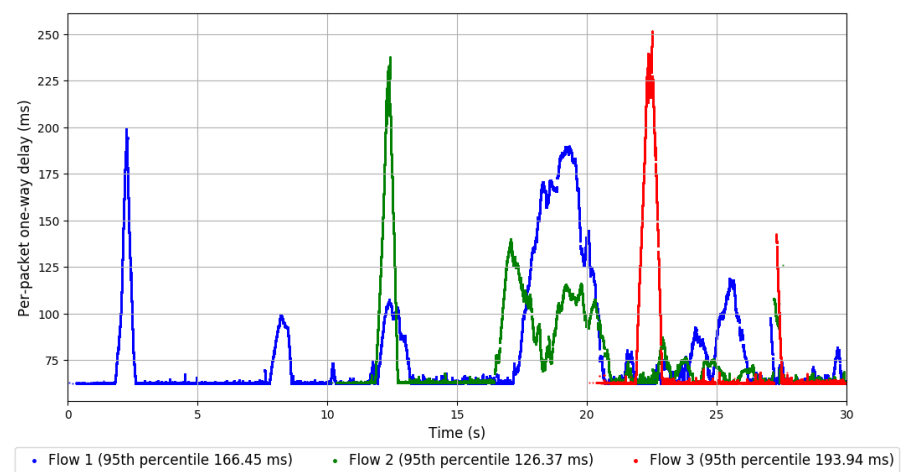
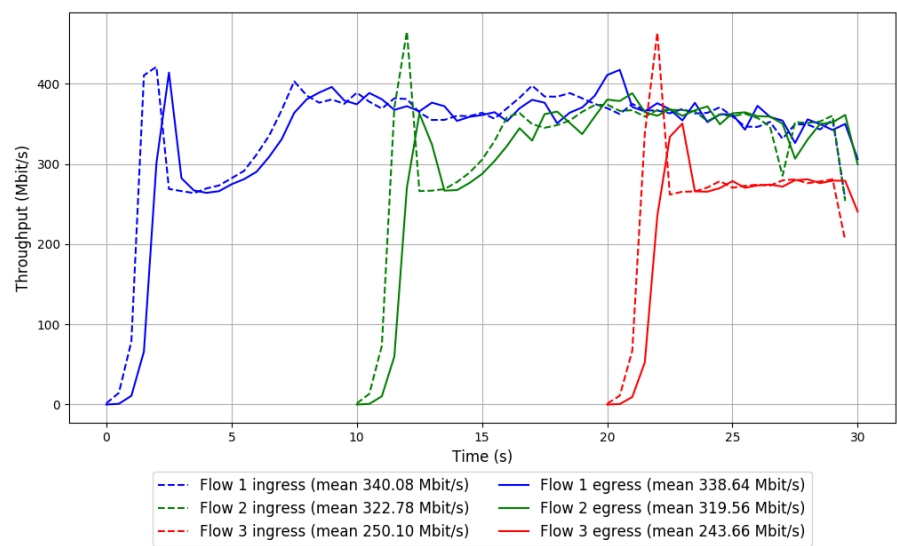


Run 5: Statistics of PCC-Allegro

Start at: 2019-01-21 23:21:42  
End at: 2019-01-21 23:22:12  
Local clock offset: 0.033 ms  
Remote clock offset: -0.218 ms

# Below is generated by plot.py at 2019-01-22 02:46:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 631.20 Mbit/s  
95th percentile per-packet one-way delay: 159.048 ms  
Loss rate: 0.89%  
-- Flow 1:  
Average throughput: 338.64 Mbit/s  
95th percentile per-packet one-way delay: 166.449 ms  
Loss rate: 0.42%  
-- Flow 2:  
Average throughput: 319.56 Mbit/s  
95th percentile per-packet one-way delay: 126.371 ms  
Loss rate: 1.00%  
-- Flow 3:  
Average throughput: 243.66 Mbit/s  
95th percentile per-packet one-way delay: 193.940 ms  
Loss rate: 2.57%

Run 5: Report of PCC-Allegro — Data Link



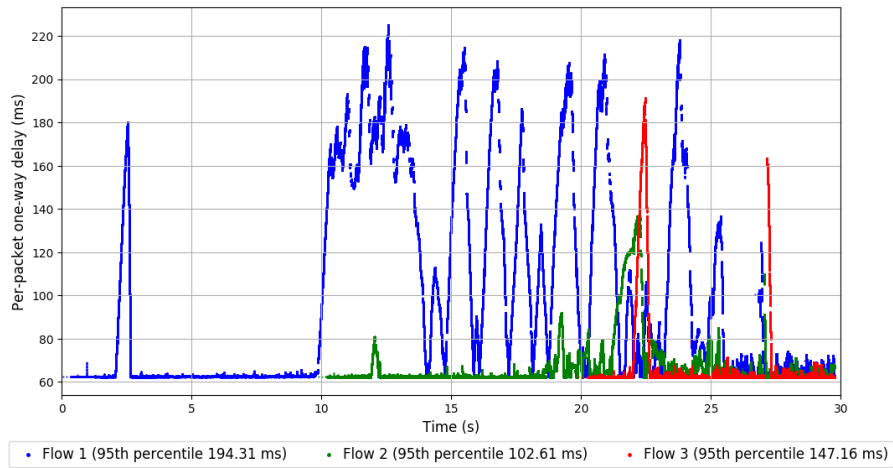
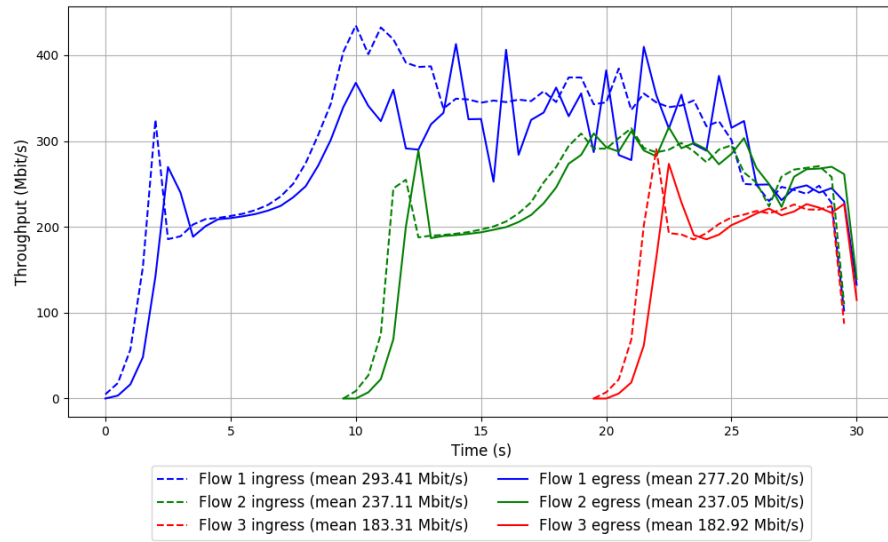


Run 1: Statistics of PCC-Expr

Start at: 2019-01-21 20:50:24  
End at: 2019-01-21 20:50:54  
Local clock offset: -0.048 ms  
Remote clock offset: -0.847 ms

# Below is generated by plot.py at 2019-01-22 02:46:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 496.52 Mbit/s  
95th percentile per-packet one-way delay: 181.787 ms  
Loss rate: 3.19%  
-- Flow 1:  
Average throughput: 277.20 Mbit/s  
95th percentile per-packet one-way delay: 194.307 ms  
Loss rate: 5.52%  
-- Flow 2:  
Average throughput: 237.05 Mbit/s  
95th percentile per-packet one-way delay: 102.610 ms  
Loss rate: 0.02%  
-- Flow 3:  
Average throughput: 182.92 Mbit/s  
95th percentile per-packet one-way delay: 147.160 ms  
Loss rate: 0.22%

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

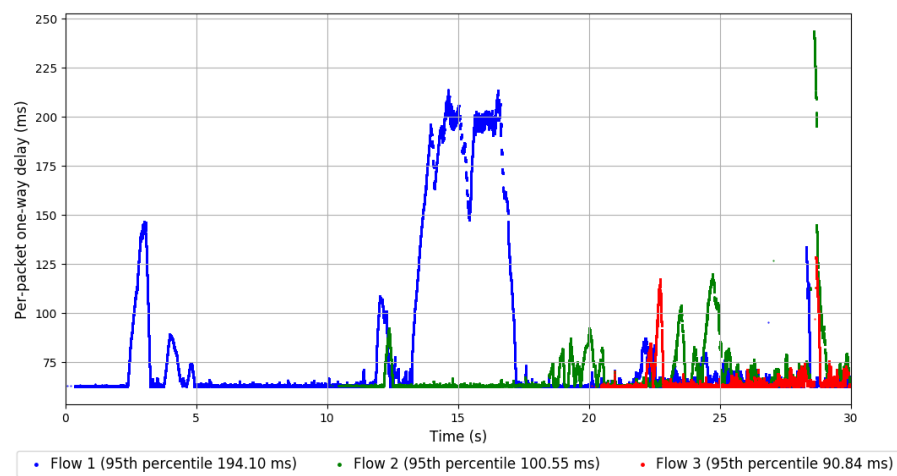
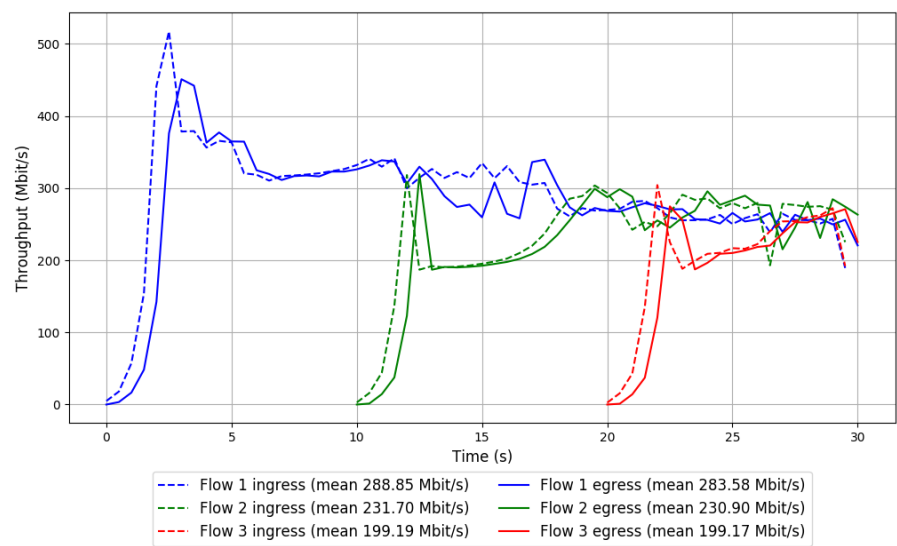


Run 2: Statistics of PCC-Expr

Start at: 2019-01-21 21:26:26  
End at: 2019-01-21 21:26:56  
Local clock offset: 0.01 ms  
Remote clock offset: -0.321 ms

# Below is generated by plot.py at 2019-01-22 02:46:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 502.59 Mbit/s  
95th percentile per-packet one-way delay: 171.057 ms  
Loss rate: 1.14%  
-- Flow 1:  
Average throughput: 283.58 Mbit/s  
95th percentile per-packet one-way delay: 194.103 ms  
Loss rate: 1.82%  
-- Flow 2:  
Average throughput: 230.90 Mbit/s  
95th percentile per-packet one-way delay: 100.549 ms  
Loss rate: 0.35%  
-- Flow 3:  
Average throughput: 199.17 Mbit/s  
95th percentile per-packet one-way delay: 90.837 ms  
Loss rate: 0.00%

Run 2: Report of PCC-Expr — Data Link

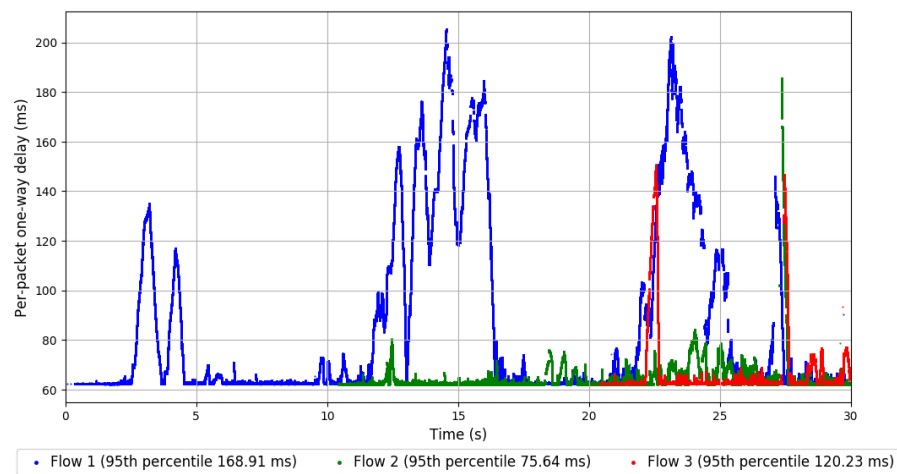
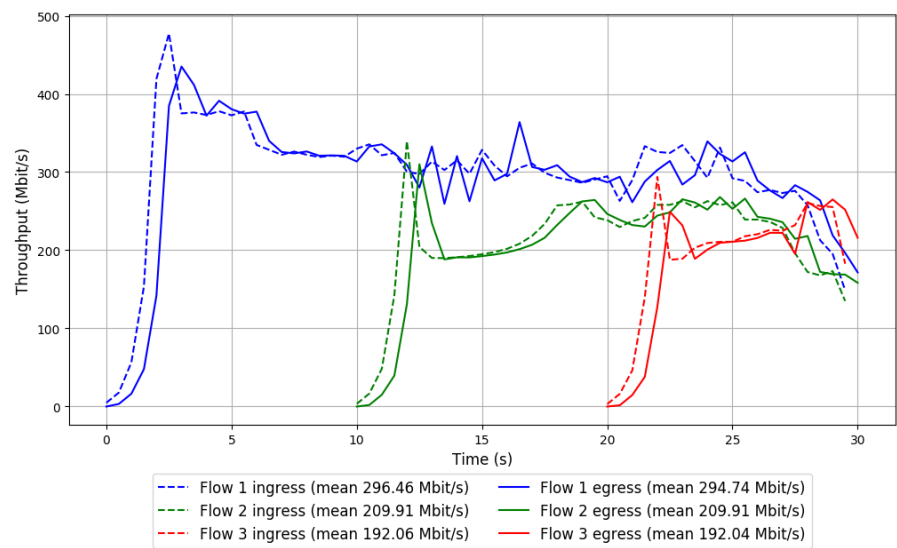


Run 3: Statistics of PCC-Expr

Start at: 2019-01-21 22:02:45  
End at: 2019-01-21 22:03:15  
Local clock offset: -0.003 ms  
Remote clock offset: -0.729 ms

# Below is generated by plot.py at 2019-01-22 02:46:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 497.65 Mbit/s  
95th percentile per-packet one-way delay: 157.430 ms  
Loss rate: 0.34%  
-- Flow 1:  
Average throughput: 294.74 Mbit/s  
95th percentile per-packet one-way delay: 168.914 ms  
Loss rate: 0.58%  
-- Flow 2:  
Average throughput: 209.91 Mbit/s  
95th percentile per-packet one-way delay: 75.644 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 192.04 Mbit/s  
95th percentile per-packet one-way delay: 120.235 ms  
Loss rate: 0.00%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-01-21 22:39:07

End at: 2019-01-21 22:39:37

Local clock offset: -0.047 ms

Remote clock offset: 0.036 ms

# Below is generated by plot.py at 2019-01-22 02:52:17

# Datalink statistics

-- Total of 3 flows:

Average throughput: 414.97 Mbit/s

95th percentile per-packet one-way delay: 116.499 ms

Loss rate: 0.32%

-- Flow 1:

Average throughput: 235.61 Mbit/s

95th percentile per-packet one-way delay: 134.733 ms

Loss rate: 0.45%

-- Flow 2:

Average throughput: 223.99 Mbit/s

95th percentile per-packet one-way delay: 93.041 ms

Loss rate: 0.20%

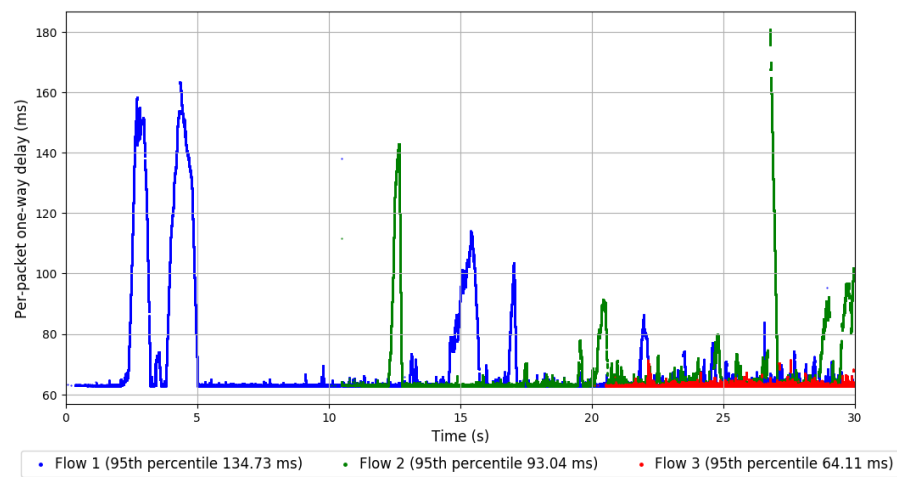
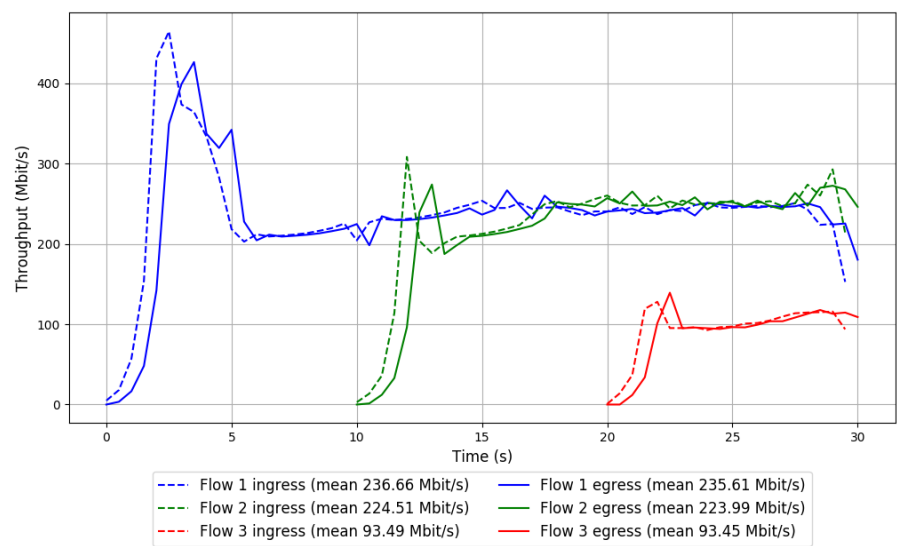
-- Flow 3:

Average throughput: 93.45 Mbit/s

95th percentile per-packet one-way delay: 64.113 ms

Loss rate: 0.00%

Run 4: Report of PCC-Expr — Data Link





Run 5: Statistics of PCC-Expr

Start at: 2019-01-21 23:15:16

End at: 2019-01-21 23:15:46

Local clock offset: -0.022 ms

Remote clock offset: -1.51 ms

# Below is generated by plot.py at 2019-01-22 02:55:49

# Datalink statistics

-- Total of 3 flows:

Average throughput: 483.97 Mbit/s

95th percentile per-packet one-way delay: 182.387 ms

Loss rate: 1.99%

-- Flow 1:

Average throughput: 254.39 Mbit/s

95th percentile per-packet one-way delay: 160.718 ms

Loss rate: 0.75%

-- Flow 2:

Average throughput: 238.72 Mbit/s

95th percentile per-packet one-way delay: 188.071 ms

Loss rate: 1.86%

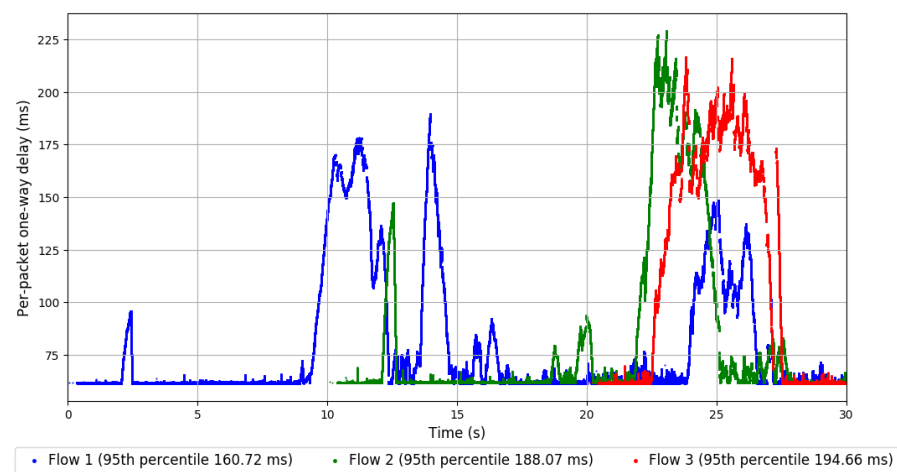
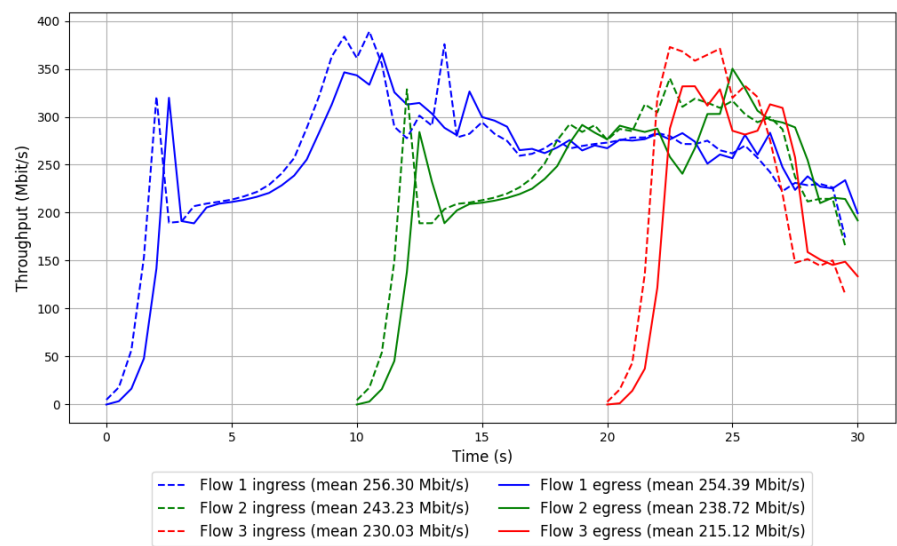
-- Flow 3:

Average throughput: 215.12 Mbit/s

95th percentile per-packet one-way delay: 194.660 ms

Loss rate: 6.48%

Run 5: Report of PCC-Expr — Data Link

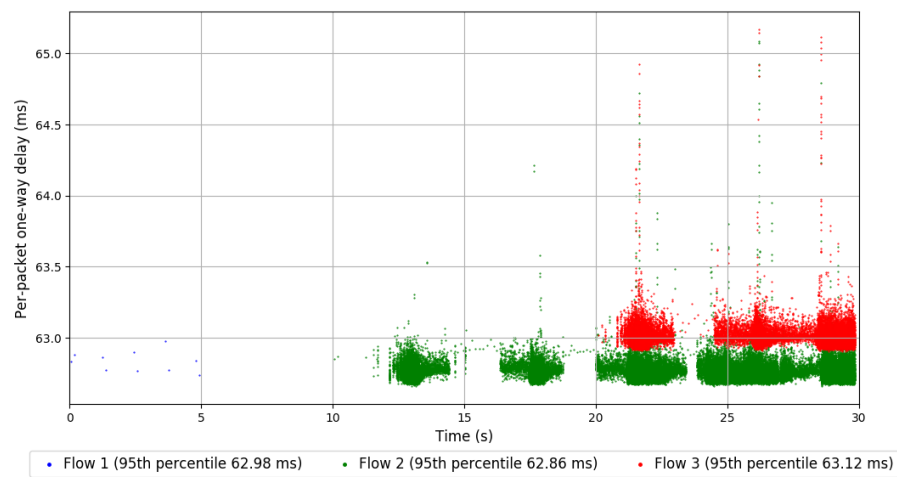
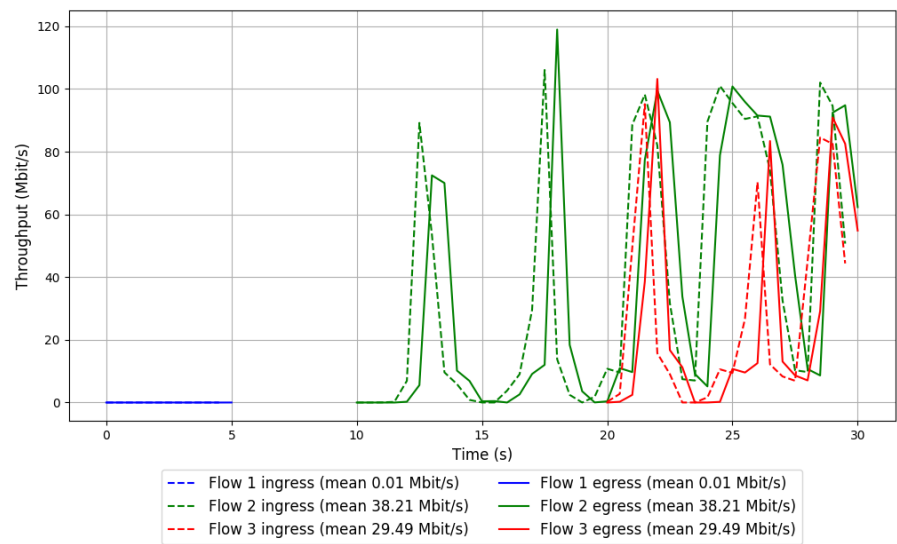


Run 1: Statistics of QUIC Cubic

Start at: 2019-01-21 21:04:16  
End at: 2019-01-21 21:04:46  
Local clock offset: 0.001 ms  
Remote clock offset: -0.119 ms

# Below is generated by plot.py at 2019-01-22 02:55:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 35.02 Mbit/s  
95th percentile per-packet one-way delay: 63.058 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.01 Mbit/s  
95th percentile per-packet one-way delay: 62.976 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 38.21 Mbit/s  
95th percentile per-packet one-way delay: 62.856 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 29.49 Mbit/s  
95th percentile per-packet one-way delay: 63.122 ms  
Loss rate: 0.00%

Run 1: Report of QUIC Cubic — Data Link

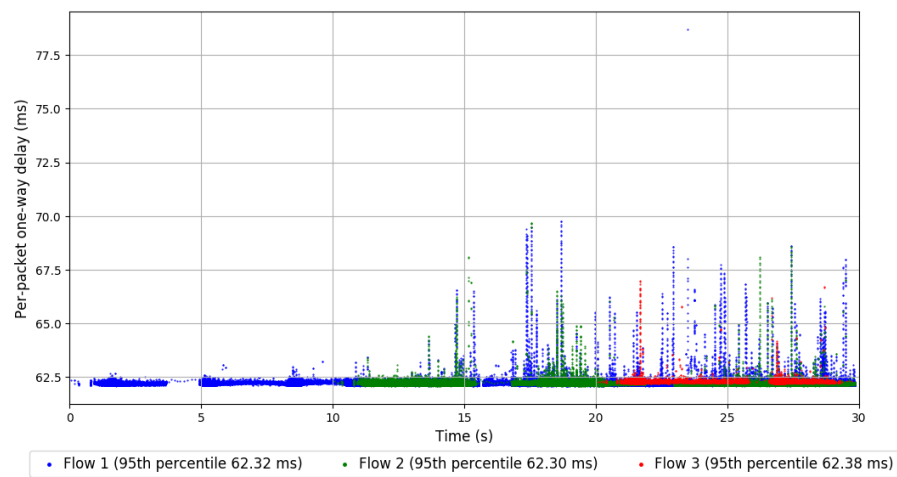
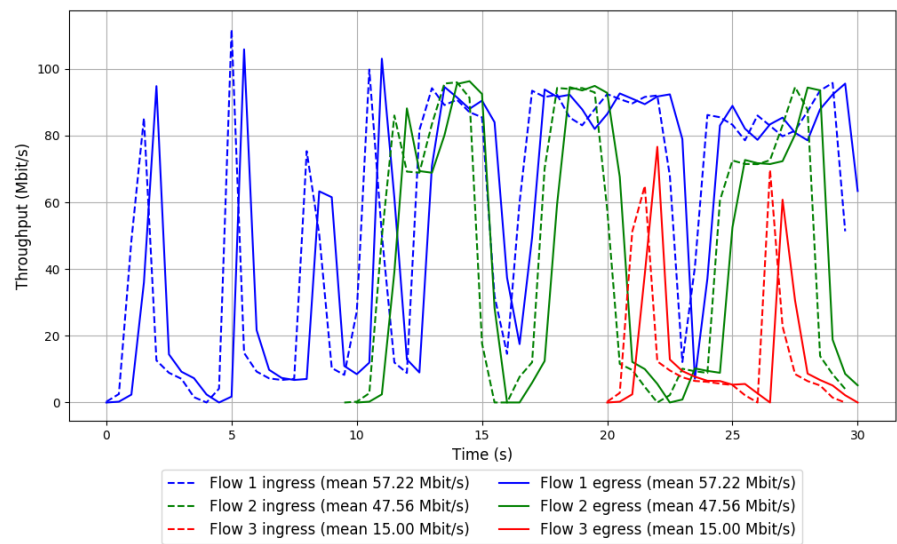


Run 2: Statistics of QUIC Cubic

Start at: 2019-01-21 21:40:36  
End at: 2019-01-21 21:41:06  
Local clock offset: -0.025 ms  
Remote clock offset: -0.668 ms

# Below is generated by plot.py at 2019-01-22 02:55:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 93.65 Mbit/s  
95th percentile per-packet one-way delay: 62.322 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 57.22 Mbit/s  
95th percentile per-packet one-way delay: 62.317 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 47.56 Mbit/s  
95th percentile per-packet one-way delay: 62.297 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 15.00 Mbit/s  
95th percentile per-packet one-way delay: 62.383 ms  
Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link

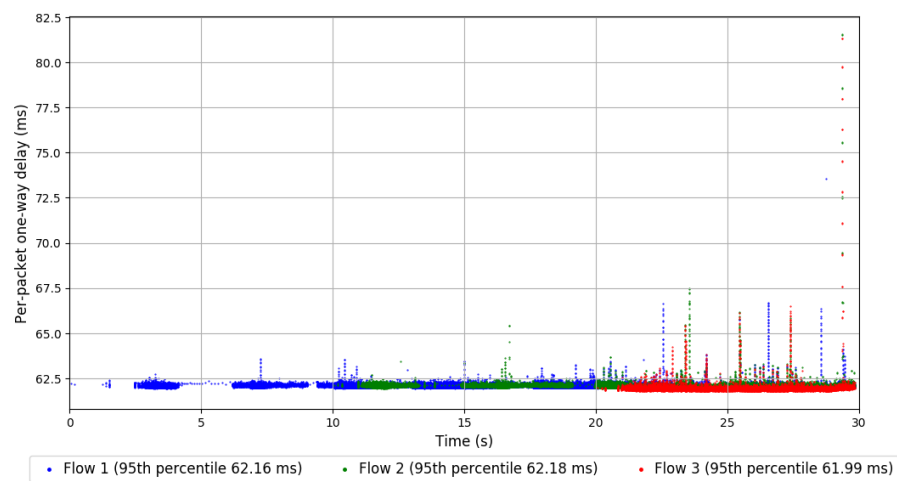
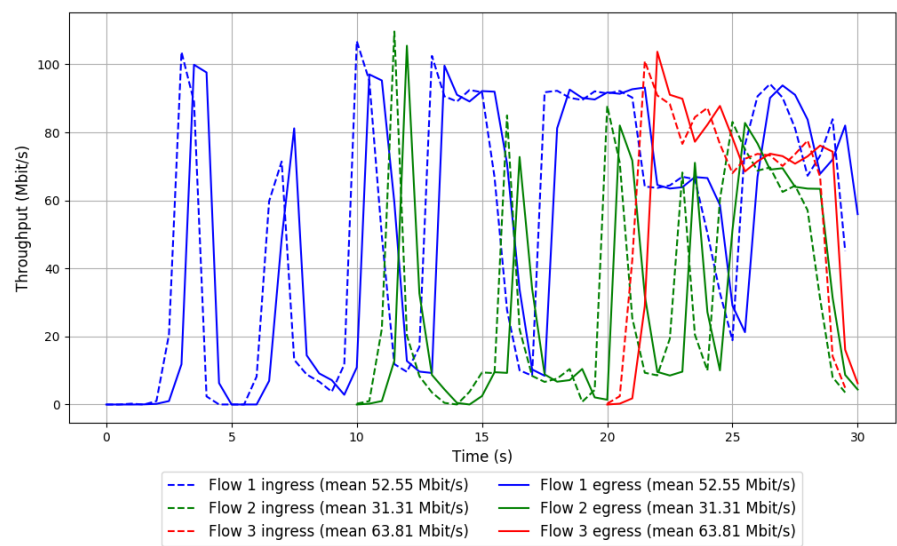


Run 3: Statistics of QUIC Cubic

Start at: 2019-01-21 22:16:53  
End at: 2019-01-21 22:17:23  
Local clock offset: 0.039 ms  
Remote clock offset: -0.809 ms

# Below is generated by plot.py at 2019-01-22 02:55:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 94.24 Mbit/s  
95th percentile per-packet one-way delay: 62.154 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 52.55 Mbit/s  
95th percentile per-packet one-way delay: 62.162 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 31.31 Mbit/s  
95th percentile per-packet one-way delay: 62.177 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 63.81 Mbit/s  
95th percentile per-packet one-way delay: 61.987 ms  
Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link



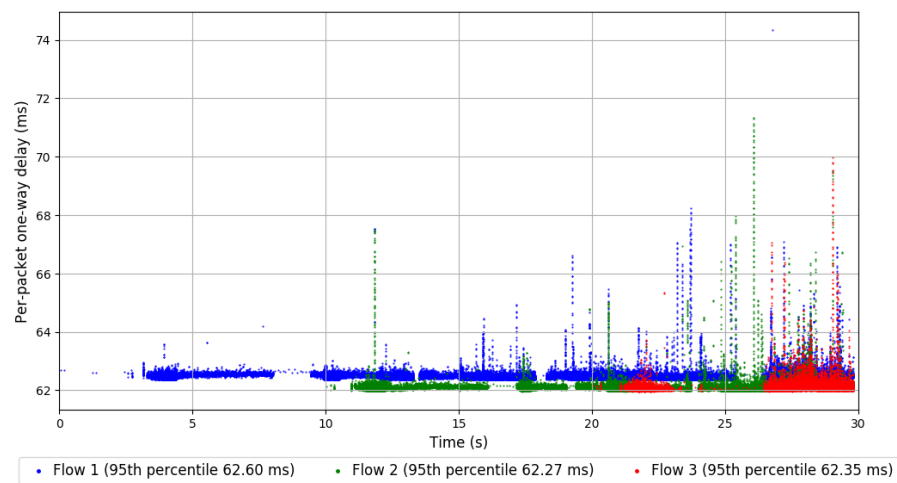
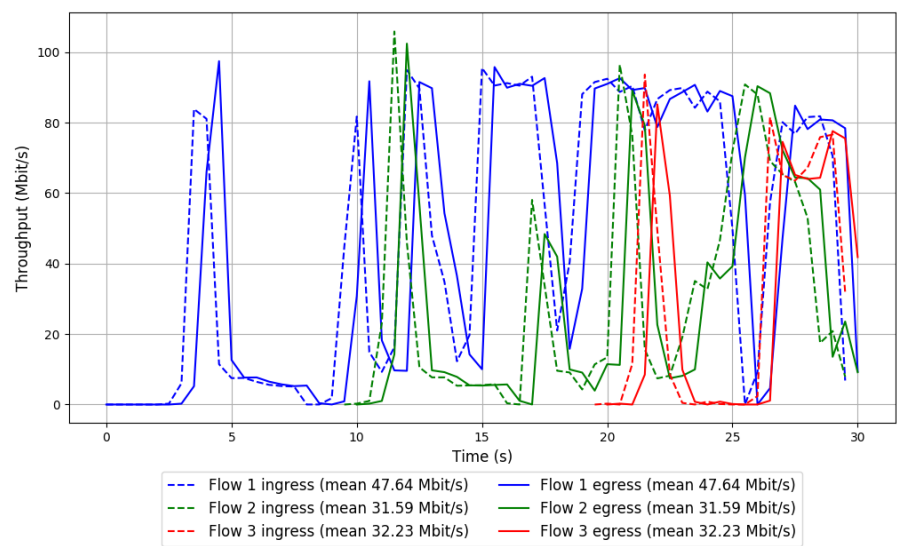


Run 4: Statistics of QUIC Cubic

Start at: 2019-01-21 22:53:09  
End at: 2019-01-21 22:53:39  
Local clock offset: -0.053 ms  
Remote clock offset: -0.808 ms

# Below is generated by plot.py at 2019-01-22 02:55:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 79.20 Mbit/s  
95th percentile per-packet one-way delay: 62.577 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 47.64 Mbit/s  
95th percentile per-packet one-way delay: 62.604 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 31.59 Mbit/s  
95th percentile per-packet one-way delay: 62.275 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 32.23 Mbit/s  
95th percentile per-packet one-way delay: 62.346 ms  
Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link

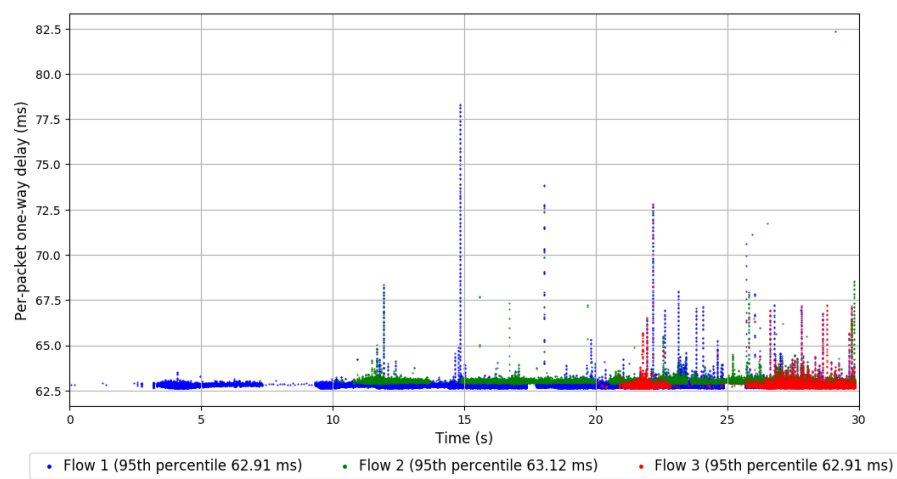
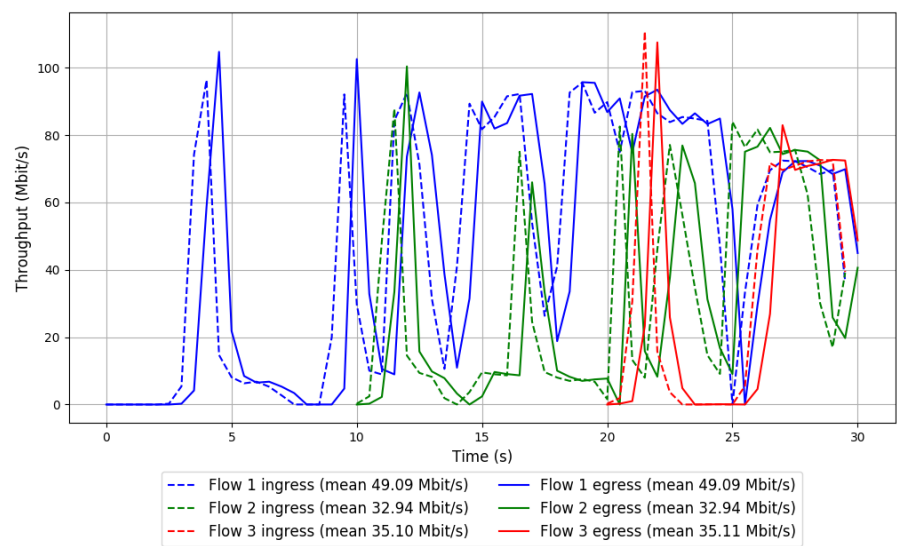


Run 5: Statistics of QUIC Cubic

Start at: 2019-01-21 23:29:30  
End at: 2019-01-21 23:30:00  
Local clock offset: 0.037 ms  
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2019-01-22 02:55:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 82.44 Mbit/s  
95th percentile per-packet one-way delay: 63.055 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 49.09 Mbit/s  
95th percentile per-packet one-way delay: 62.909 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 32.94 Mbit/s  
95th percentile per-packet one-way delay: 63.116 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 35.11 Mbit/s  
95th percentile per-packet one-way delay: 62.914 ms  
Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

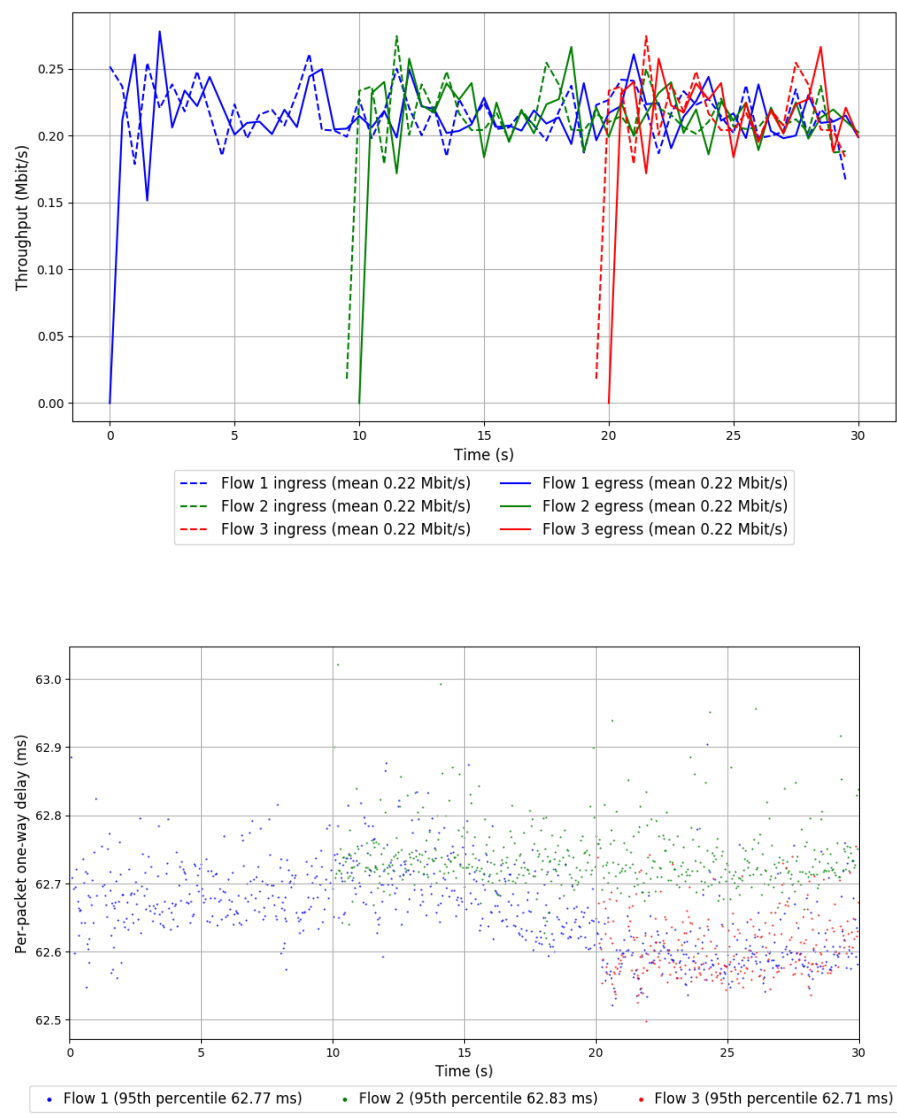


```
Run 1: Statistics of SReAM

Start at: 2019-01-21 21:16:31
End at: 2019-01-21 21:17:01
Local clock offset: 0.002 ms
Remote clock offset: -0.546 ms

# Below is generated by plot.py at 2019-01-22 02:55:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 62.792 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.771 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.829 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.706 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

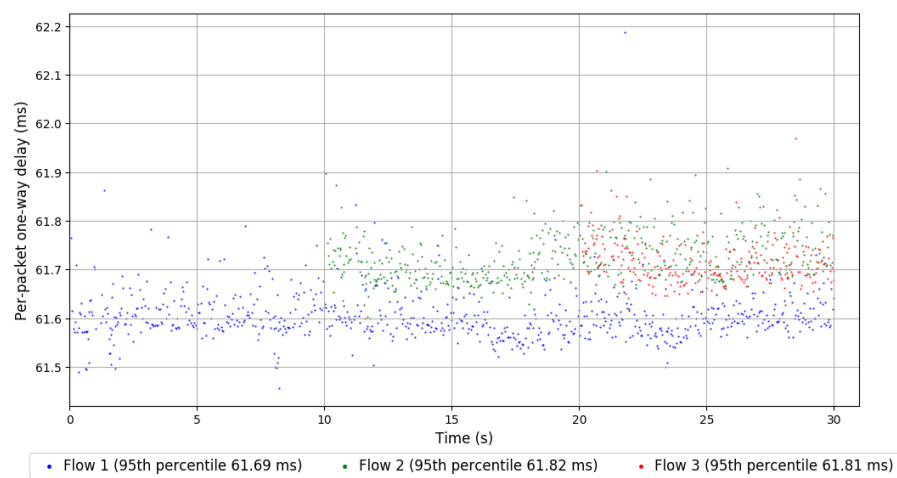
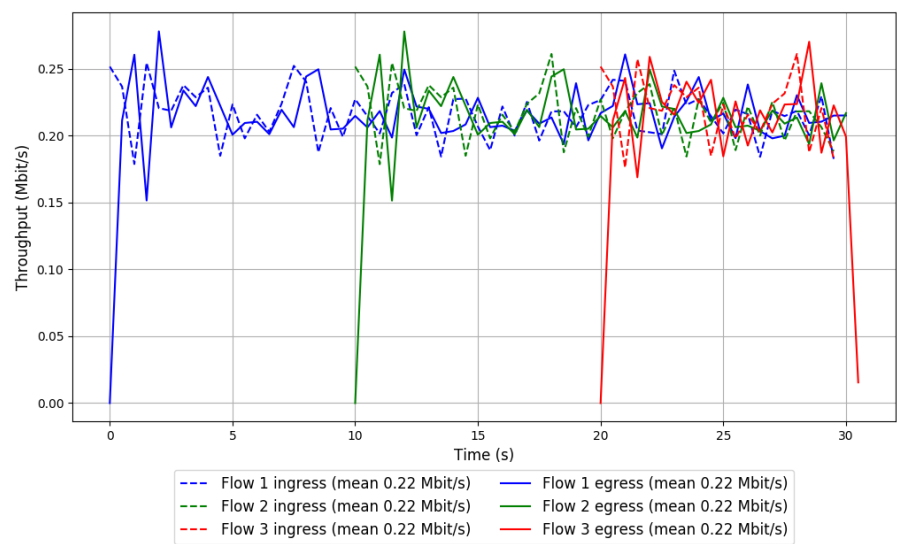


Run 2: Statistics of SReAM

Start at: 2019-01-21 21:52:51  
End at: 2019-01-21 21:53:21  
Local clock offset: 0.021 ms  
Remote clock offset: -1.377 ms

# Below is generated by plot.py at 2019-01-22 02:55:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 61.788 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 61.687 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 61.817 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 61.807 ms  
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



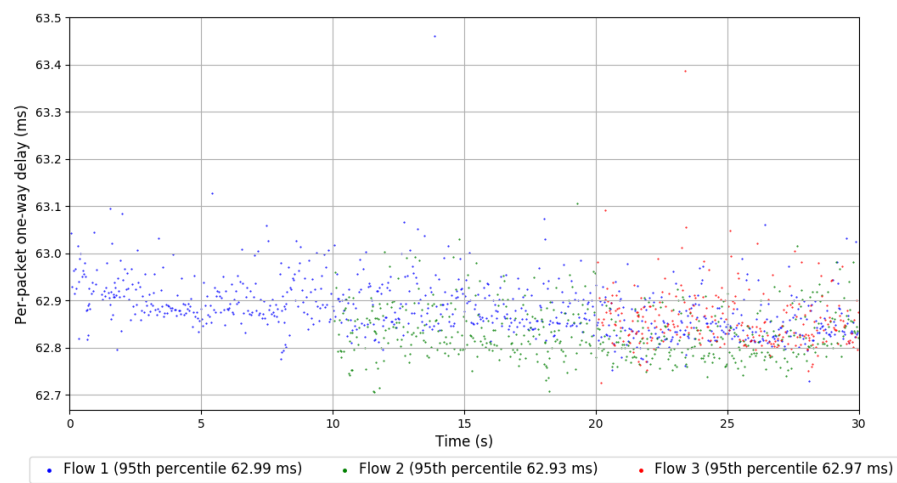
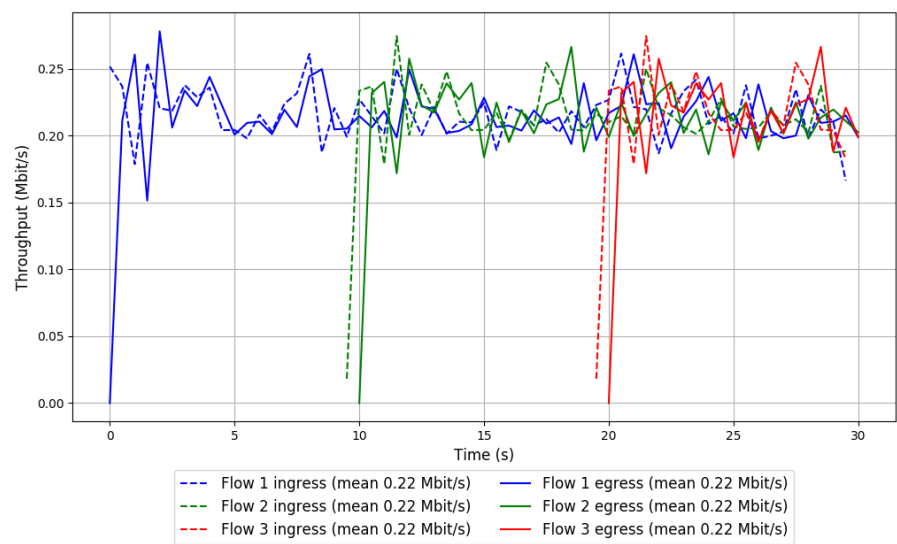


Run 3: Statistics of SReAM

Start at: 2019-01-21 22:29:11  
End at: 2019-01-21 22:29:41  
Local clock offset: 0.014 ms  
Remote clock offset: -0.215 ms

# Below is generated by plot.py at 2019-01-22 02:55:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 62.973 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 62.988 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 62.930 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 62.972 ms  
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

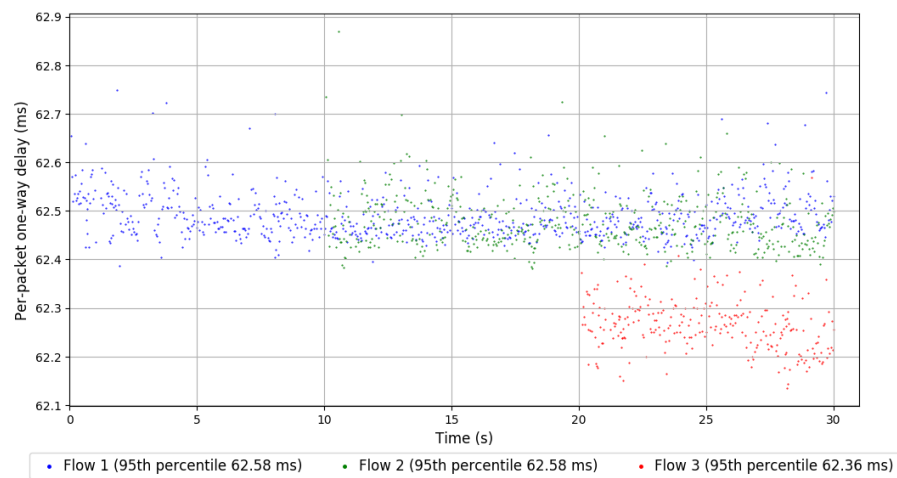
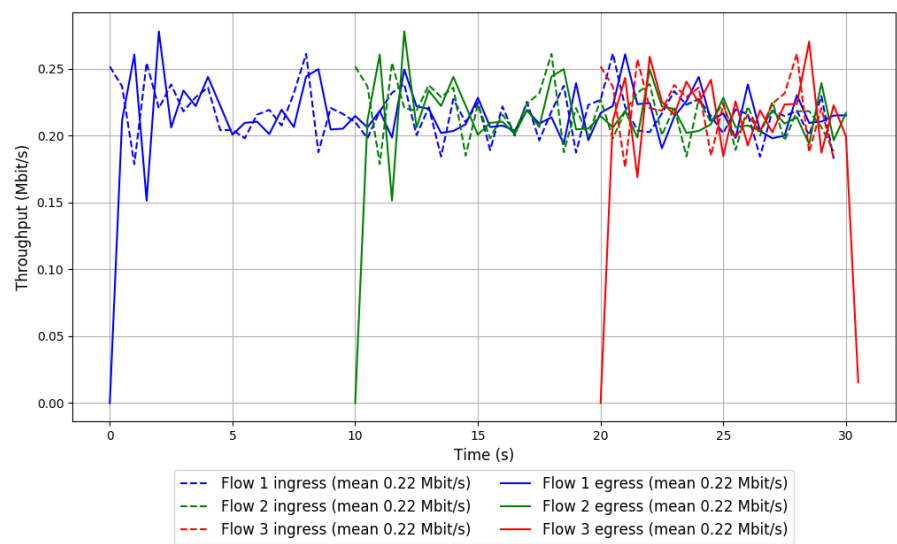


Run 4: Statistics of SReAM

Start at: 2019-01-21 23:05:25  
End at: 2019-01-21 23:05:55  
Local clock offset: -0.011 ms  
Remote clock offset: -0.763 ms

# Below is generated by plot.py at 2019-01-22 02:55:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 62.571 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 62.576 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 62.581 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 62.357 ms  
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

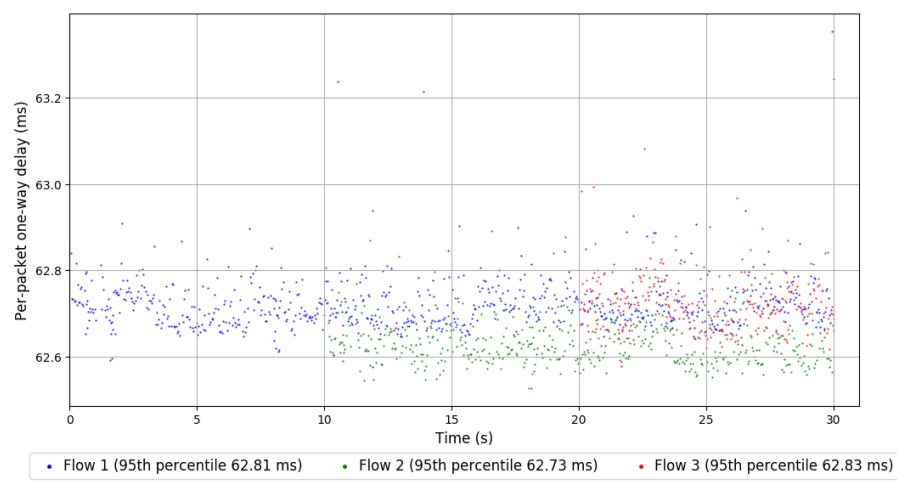
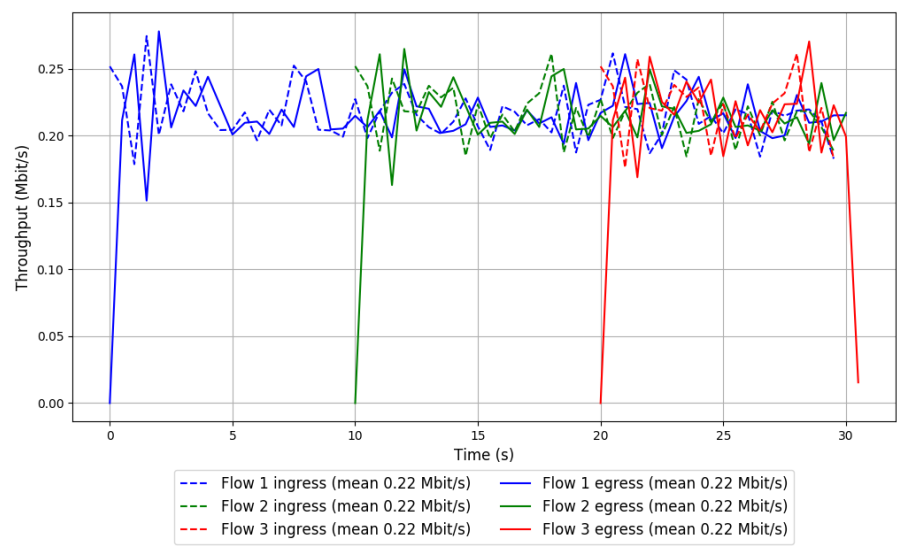


Run 5: Statistics of SReAM

Start at: 2019-01-21 23:41:38  
End at: 2019-01-21 23:42:08  
Local clock offset: 0.024 ms  
Remote clock offset: -0.474 ms

# Below is generated by plot.py at 2019-01-22 02:55:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 62.803 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 62.810 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 62.725 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.22 Mbit/s  
95th percentile per-packet one-way delay: 62.826 ms  
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

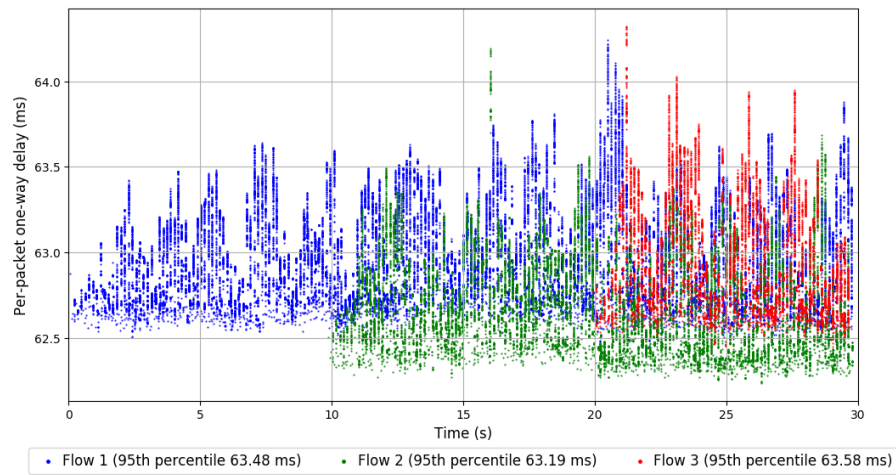
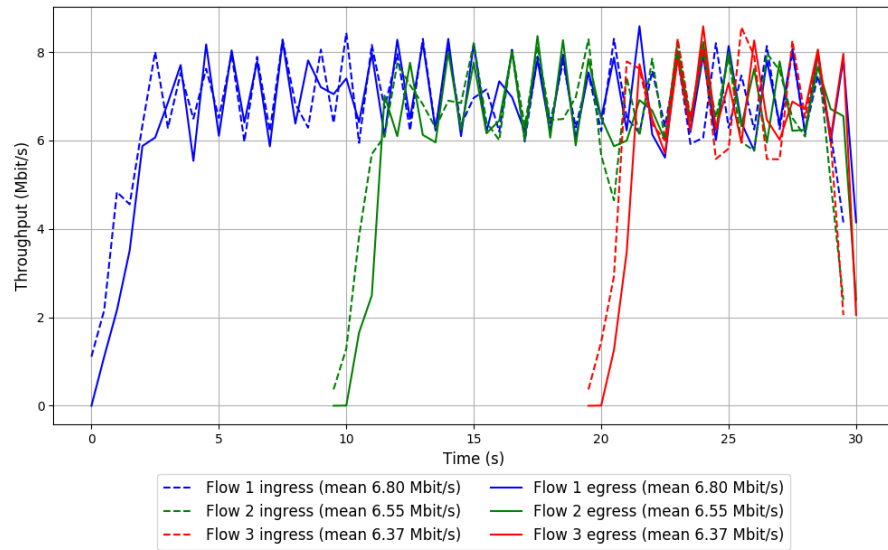


Run 1: Statistics of Sprout

Start at: 2019-01-21 21:21:33  
End at: 2019-01-21 21:22:03  
Local clock offset: 0.002 ms  
Remote clock offset: -0.745 ms

# Below is generated by plot.py at 2019-01-22 02:55:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 13.29 Mbit/s  
95th percentile per-packet one-way delay: 63.458 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 6.80 Mbit/s  
95th percentile per-packet one-way delay: 63.480 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 6.55 Mbit/s  
95th percentile per-packet one-way delay: 63.191 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 6.37 Mbit/s  
95th percentile per-packet one-way delay: 63.583 ms  
Loss rate: 0.00%

## Run 1: Report of Sprout — Data Link



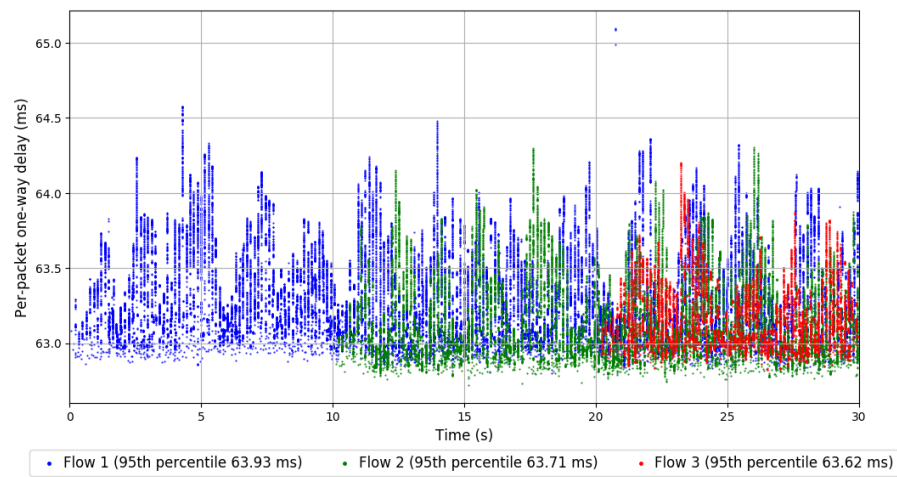
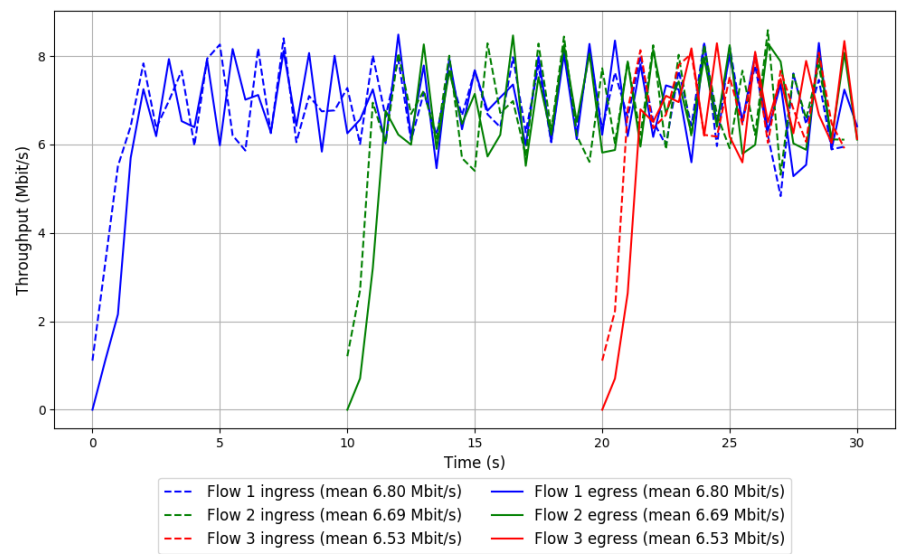


Run 2: Statistics of Sprout

Start at: 2019-01-21 21:57:50  
End at: 2019-01-21 21:58:20  
Local clock offset: -0.003 ms  
Remote clock offset: -0.123 ms

# Below is generated by plot.py at 2019-01-22 02:55:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 13.40 Mbit/s  
95th percentile per-packet one-way delay: 63.826 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 6.80 Mbit/s  
95th percentile per-packet one-way delay: 63.926 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 6.69 Mbit/s  
95th percentile per-packet one-way delay: 63.707 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 6.53 Mbit/s  
95th percentile per-packet one-way delay: 63.620 ms  
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

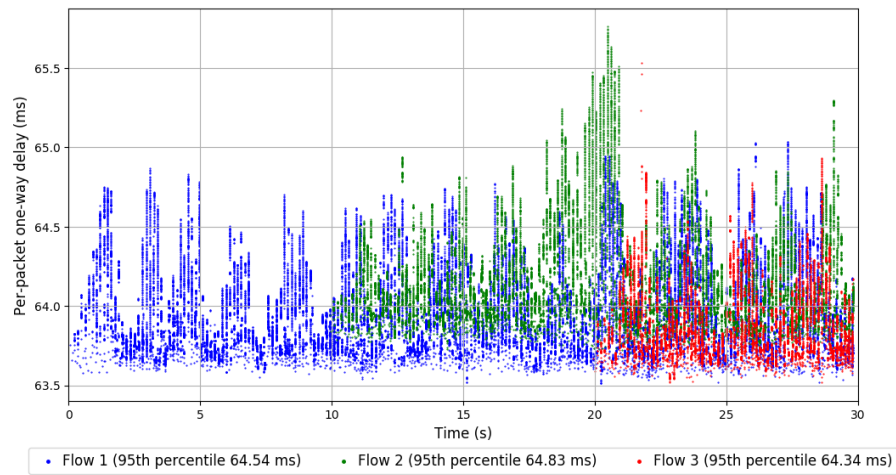
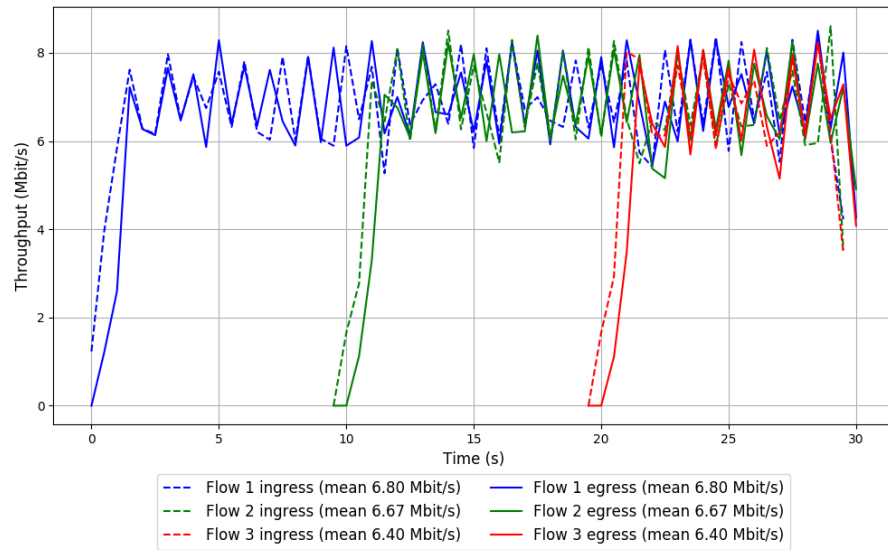


Run 3: Statistics of Sprout

Start at: 2019-01-21 22:34:04  
End at: 2019-01-21 22:34:34  
Local clock offset: -0.054 ms  
Remote clock offset: 0.398 ms

# Below is generated by plot.py at 2019-01-22 02:55:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 13.38 Mbit/s  
95th percentile per-packet one-way delay: 64.621 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 6.80 Mbit/s  
95th percentile per-packet one-way delay: 64.539 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 6.67 Mbit/s  
95th percentile per-packet one-way delay: 64.835 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 6.40 Mbit/s  
95th percentile per-packet one-way delay: 64.338 ms  
Loss rate: 0.00%

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

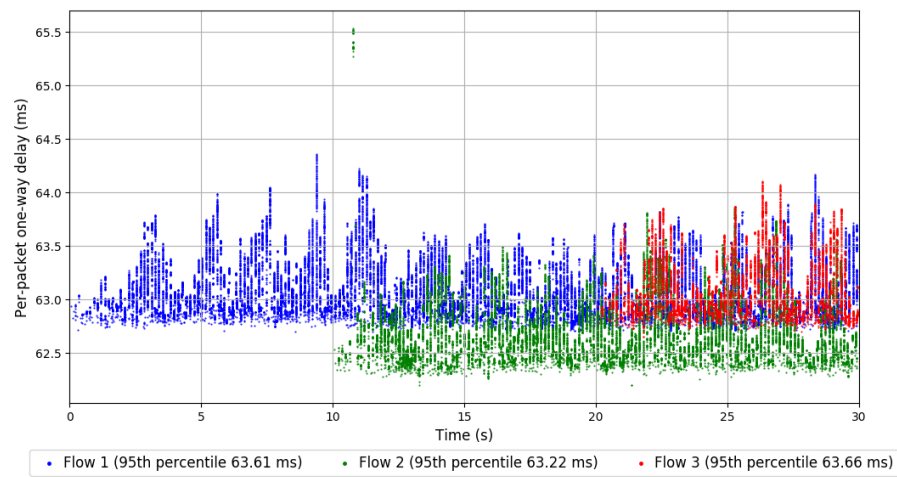
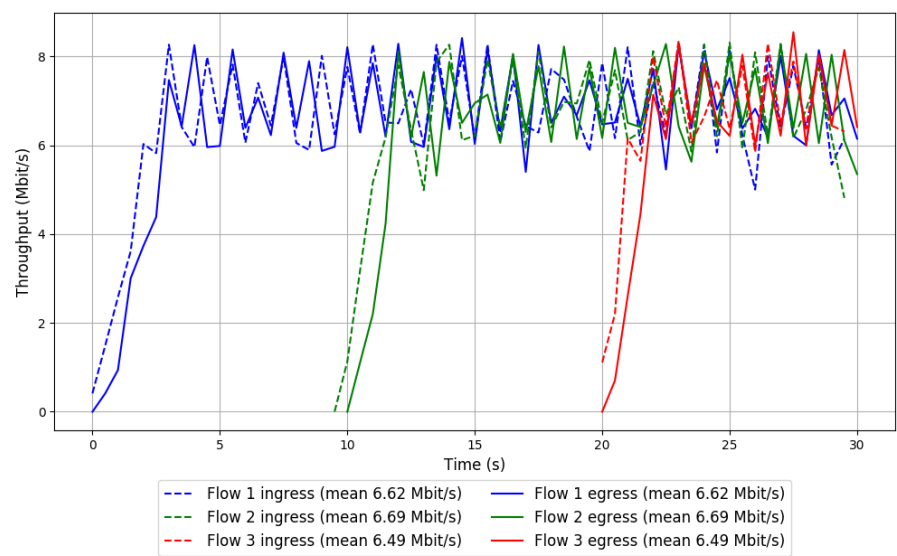


#### Run 4: Statistics of Sprout

Start at: 2019-01-21 23:10:18  
End at: 2019-01-21 23:10:48  
Local clock offset: -0.008 ms  
Remote clock offset: -0.606 ms

```
# Below is generated by plot.py at 2019-01-22 02:55:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.20 Mbit/s
95th percentile per-packet one-way delay: 63.570 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.62 Mbit/s
95th percentile per-packet one-way delay: 63.612 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 6.69 Mbit/s
95th percentile per-packet one-way delay: 63.218 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.49 Mbit/s
95th percentile per-packet one-way delay: 63.664 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

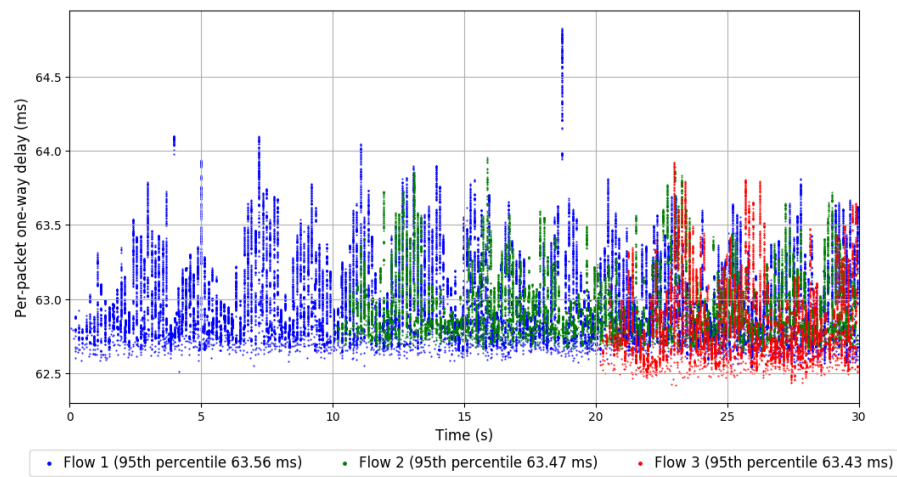
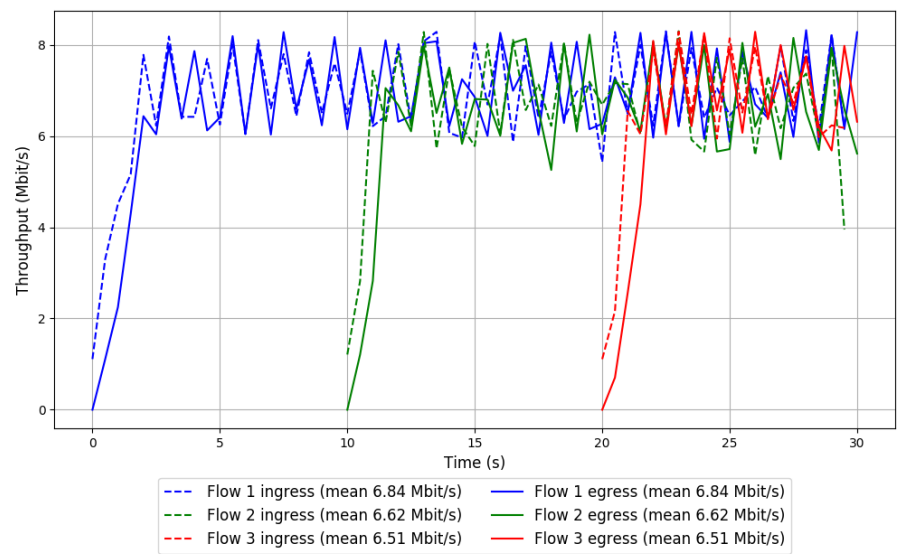


Run 5: Statistics of Sprout

Start at: 2019-01-21 23:46:27  
End at: 2019-01-21 23:46:57  
Local clock offset: -0.057 ms  
Remote clock offset: -0.535 ms

# Below is generated by plot.py at 2019-01-22 02:55:49  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 13.39 Mbit/s  
95th percentile per-packet one-way delay: 63.520 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 6.84 Mbit/s  
95th percentile per-packet one-way delay: 63.556 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 6.62 Mbit/s  
95th percentile per-packet one-way delay: 63.473 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 6.51 Mbit/s  
95th percentile per-packet one-way delay: 63.432 ms  
Loss rate: 0.00%

Run 5: Report of Sprout — Data Link



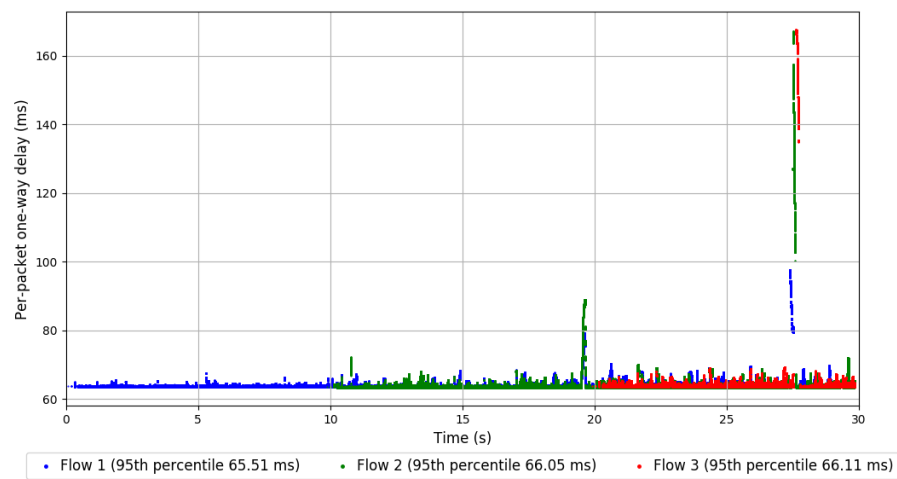
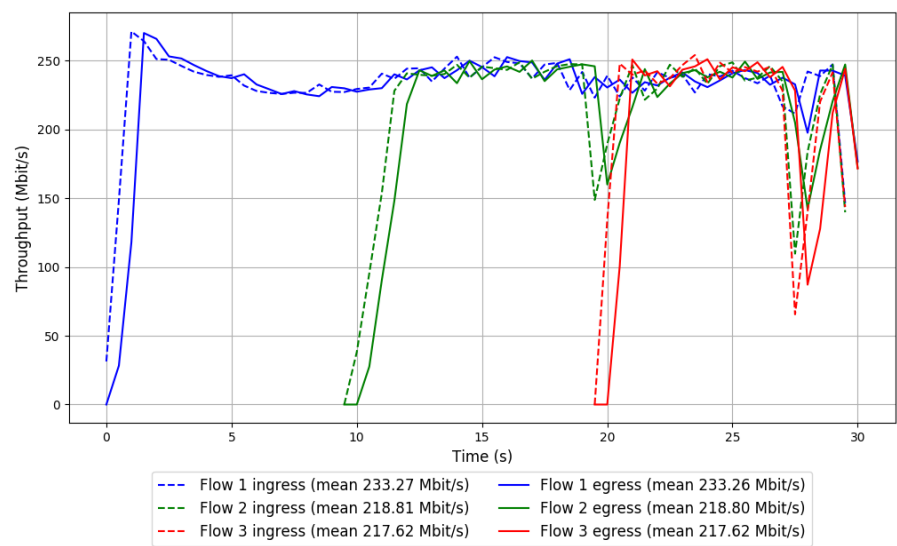


```
Run 1: Statistics of TaoVA-100x

Start at: 2019-01-21 21:00:16
End at: 2019-01-21 21:00:46
Local clock offset: -0.002 ms
Remote clock offset: 0.441 ms

# Below is generated by plot.py at 2019-01-22 03:06:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 452.59 Mbit/s
95th percentile per-packet one-way delay: 65.788 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 233.26 Mbit/s
95th percentile per-packet one-way delay: 65.508 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 218.80 Mbit/s
95th percentile per-packet one-way delay: 66.051 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 217.62 Mbit/s
95th percentile per-packet one-way delay: 66.113 ms
Loss rate: 0.00%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2019-01-21 21:36:33

End at: 2019-01-21 21:37:03

Local clock offset: -0.001 ms

Remote clock offset: 0.819 ms

# Below is generated by plot.py at 2019-01-22 03:06:10

# Datalink statistics

-- Total of 3 flows:

Average throughput: 440.43 Mbit/s

95th percentile per-packet one-way delay: 65.239 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 233.20 Mbit/s

95th percentile per-packet one-way delay: 65.420 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 215.38 Mbit/s

95th percentile per-packet one-way delay: 64.954 ms

Loss rate: 0.00%

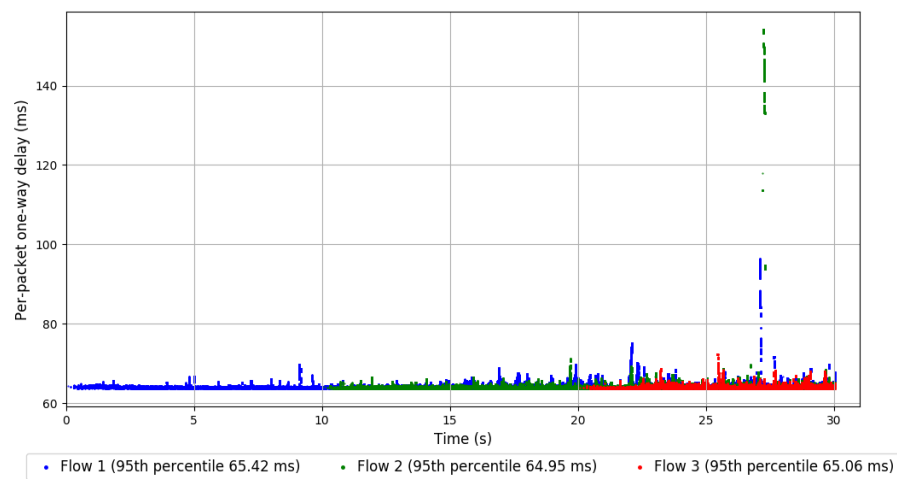
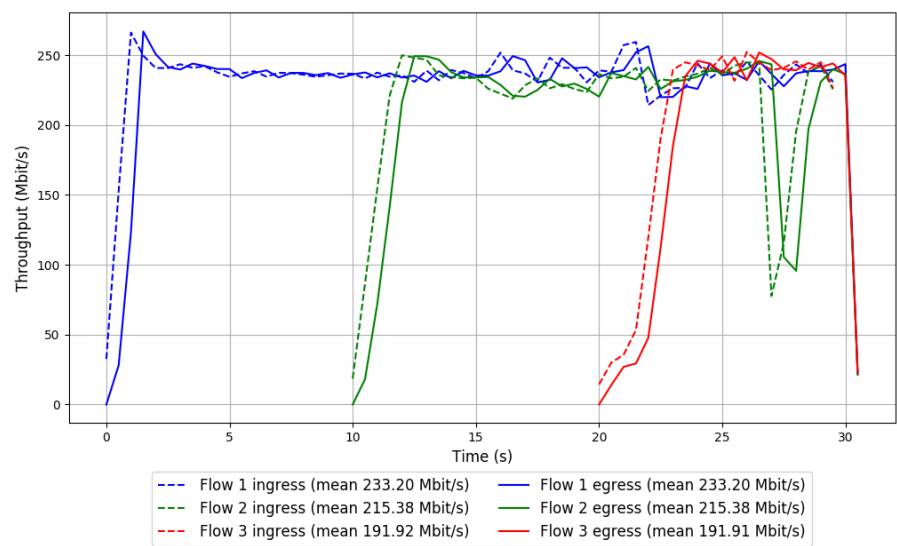
-- Flow 3:

Average throughput: 191.91 Mbit/s

95th percentile per-packet one-way delay: 65.057 ms

Loss rate: 0.00%

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



Run 3: Statistics of TaoVA-100x

Start at: 2019-01-21 22:12:53

End at: 2019-01-21 22:13:23

Local clock offset: -0.004 ms

Remote clock offset: -0.2 ms

# Below is generated by plot.py at 2019-01-22 03:06:22

# Datalink statistics

-- Total of 3 flows:

Average throughput: 449.77 Mbit/s

95th percentile per-packet one-way delay: 64.649 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 232.41 Mbit/s

95th percentile per-packet one-way delay: 64.566 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 227.20 Mbit/s

95th percentile per-packet one-way delay: 64.536 ms

Loss rate: 0.01%

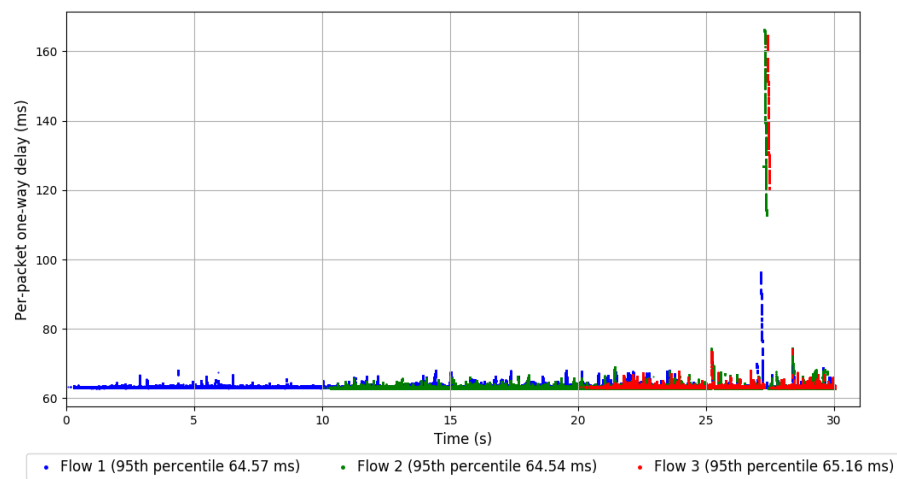
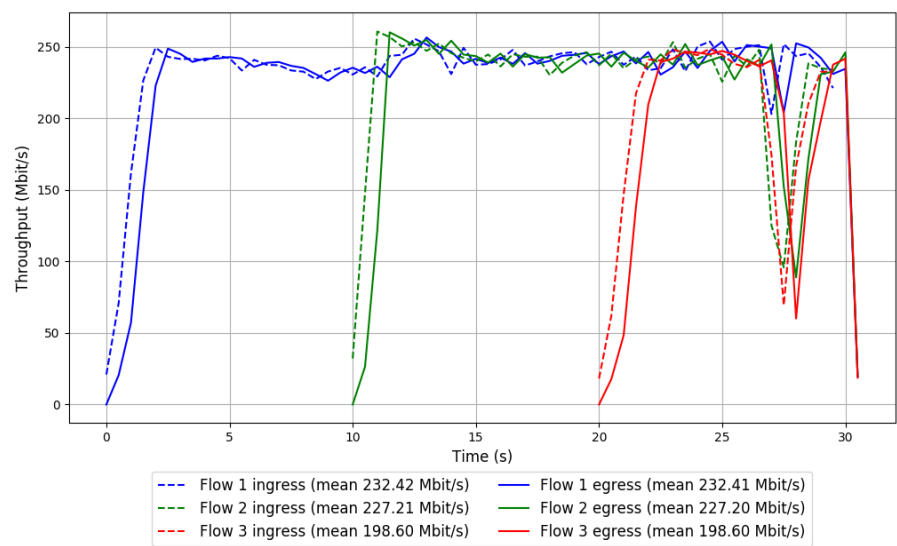
-- Flow 3:

Average throughput: 198.60 Mbit/s

95th percentile per-packet one-way delay: 65.158 ms

Loss rate: 0.00%

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



Run 4: Statistics of TaoVA-100x

Start at: 2019-01-21 22:49:07

End at: 2019-01-21 22:49:37

Local clock offset: -0.086 ms

Remote clock offset: 0.638 ms

# Below is generated by plot.py at 2019-01-22 03:06:22

# Datalink statistics

-- Total of 3 flows:

Average throughput: 447.82 Mbit/s

95th percentile per-packet one-way delay: 67.187 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 231.14 Mbit/s

95th percentile per-packet one-way delay: 66.106 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 223.40 Mbit/s

95th percentile per-packet one-way delay: 67.141 ms

Loss rate: 0.00%

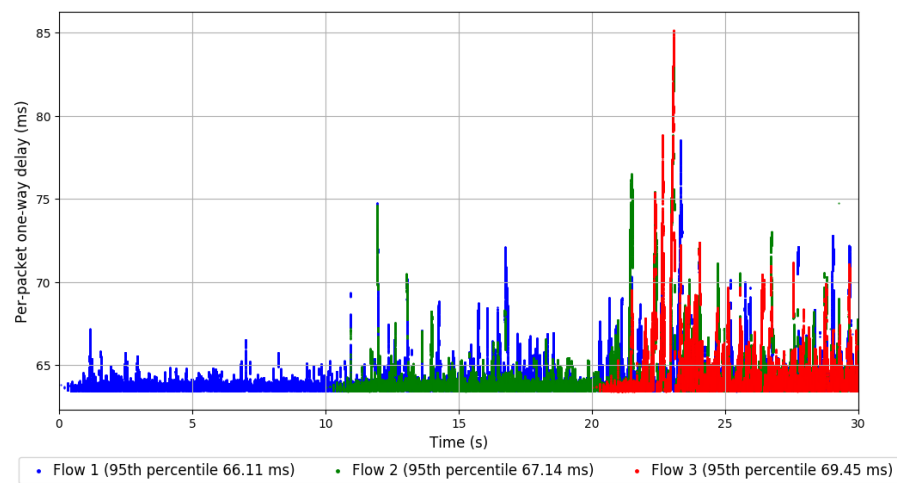
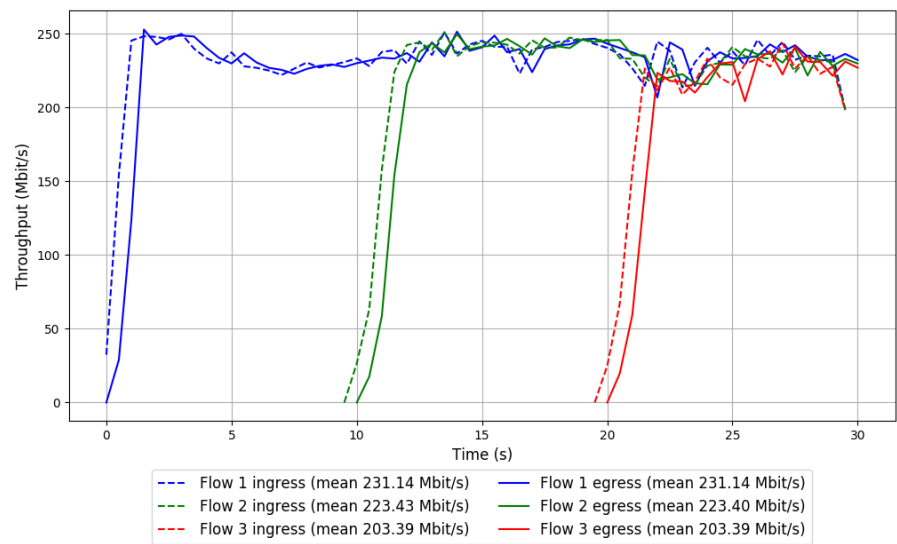
-- Flow 3:

Average throughput: 203.39 Mbit/s

95th percentile per-packet one-way delay: 69.446 ms

Loss rate: 0.00%

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



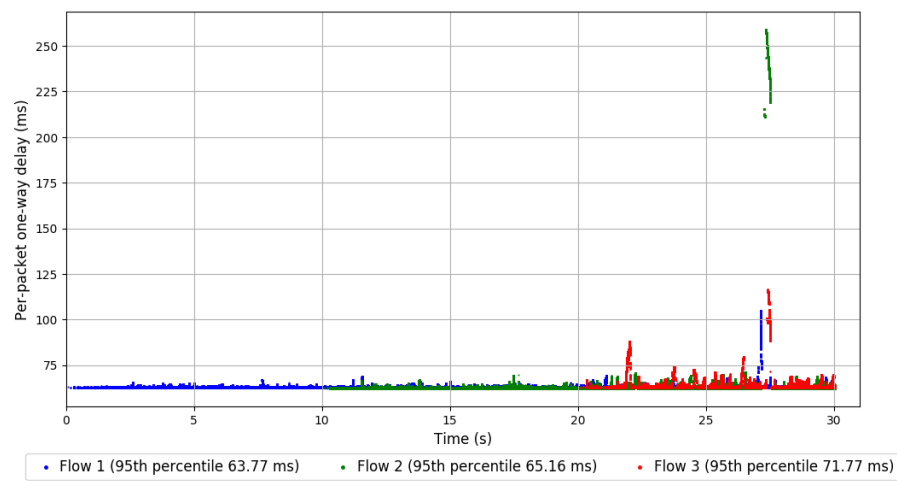
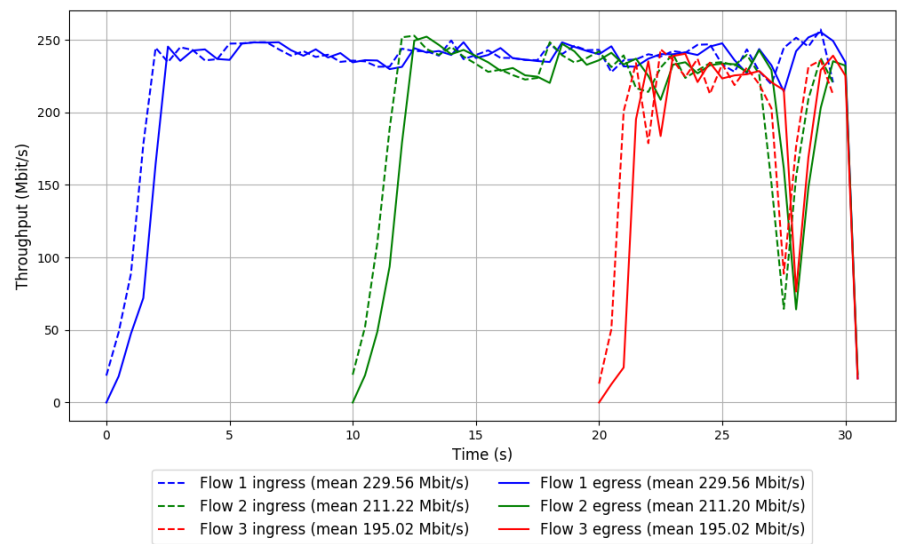


Run 5: Statistics of TaoVA-100x

Start at: 2019-01-21 23:25:29  
End at: 2019-01-21 23:25:59  
Local clock offset: 0.034 ms  
Remote clock offset: -0.583 ms

# Below is generated by plot.py at 2019-01-22 03:06:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 434.96 Mbit/s  
95th percentile per-packet one-way delay: 65.206 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 229.56 Mbit/s  
95th percentile per-packet one-way delay: 63.769 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 211.20 Mbit/s  
95th percentile per-packet one-way delay: 65.163 ms  
Loss rate: 0.01%  
-- Flow 3:  
Average throughput: 195.02 Mbit/s  
95th percentile per-packet one-way delay: 71.773 ms  
Loss rate: 0.00%

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



Run 1: Statistics of TCP Vegas

Start at: 2019-01-21 20:48:27

End at: 2019-01-21 20:48:57

Local clock offset: -0.046 ms

Remote clock offset: 0.074 ms

# Below is generated by plot.py at 2019-01-22 03:09:06

# Datalink statistics

-- Total of 3 flows:

Average throughput: 860.93 Mbit/s

95th percentile per-packet one-way delay: 87.039 ms

Loss rate: 0.10%

-- Flow 1:

Average throughput: 446.26 Mbit/s

95th percentile per-packet one-way delay: 79.410 ms

Loss rate: 0.06%

-- Flow 2:

Average throughput: 433.12 Mbit/s

95th percentile per-packet one-way delay: 85.210 ms

Loss rate: 0.11%

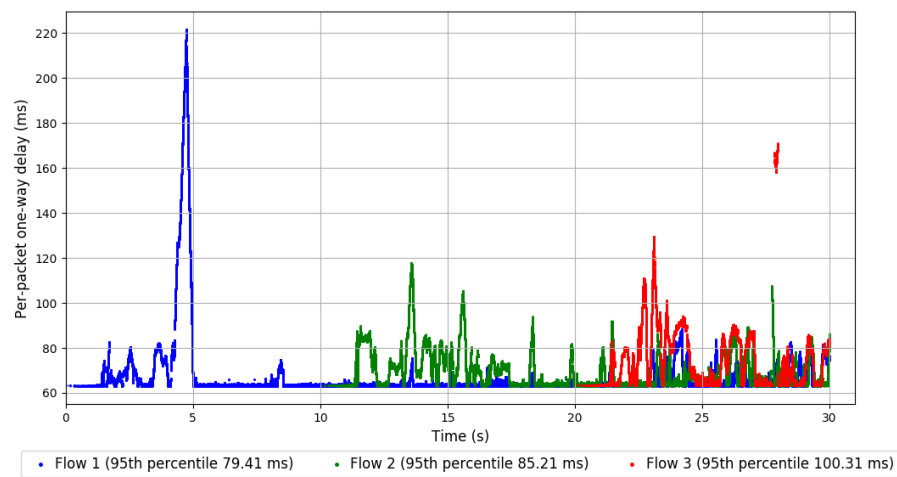
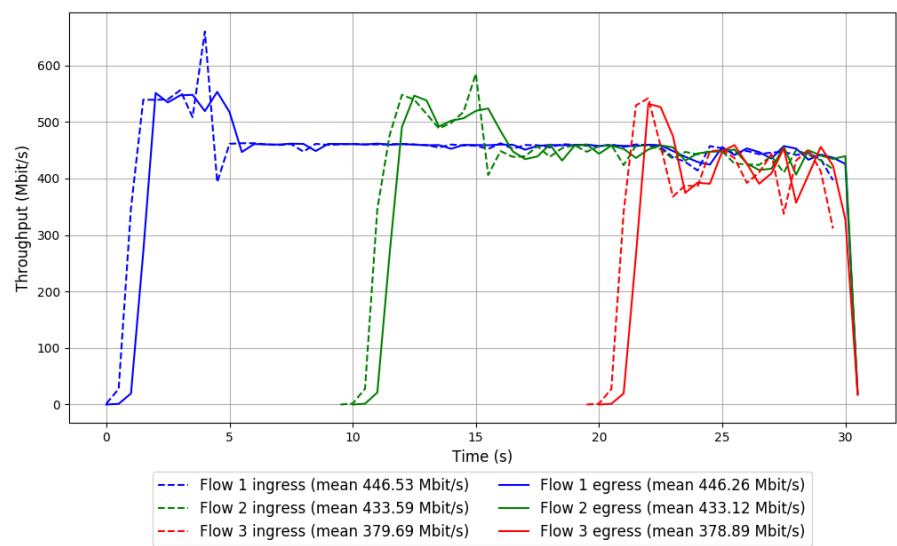
-- Flow 3:

Average throughput: 378.89 Mbit/s

95th percentile per-packet one-way delay: 100.309 ms

Loss rate: 0.21%

Run 1: Report of TCP Vegas — Data Link

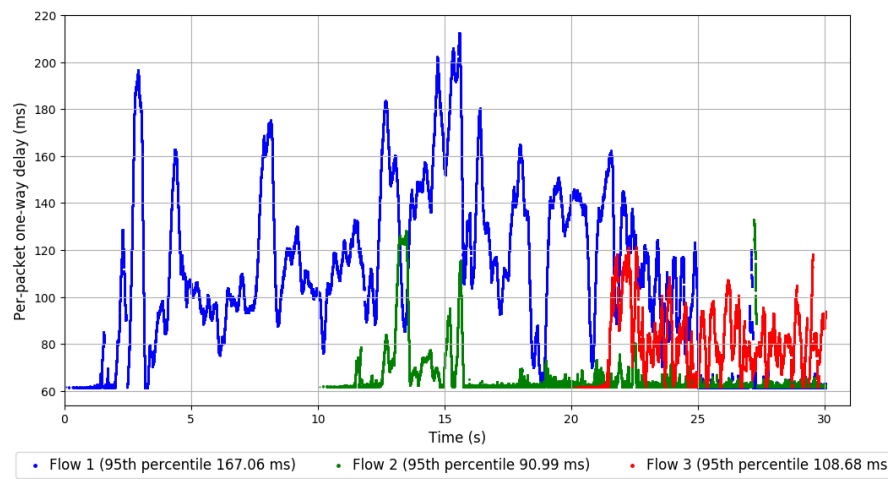
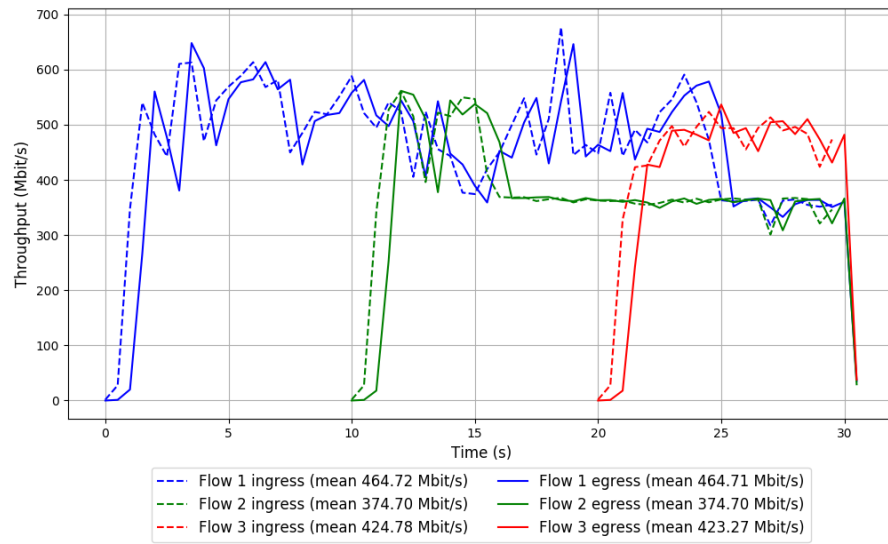


Run 2: Statistics of TCP Vegas

Start at: 2019-01-21 21:24:29  
End at: 2019-01-21 21:24:59  
Local clock offset: -0.005 ms  
Remote clock offset: -1.506 ms

# Below is generated by plot.py at 2019-01-22 03:14:57  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 855.05 Mbit/s  
95th percentile per-packet one-way delay: 153.603 ms  
Loss rate: 0.06%  
-- Flow 1:  
Average throughput: 464.71 Mbit/s  
95th percentile per-packet one-way delay: 167.065 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 374.70 Mbit/s  
95th percentile per-packet one-way delay: 90.994 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 423.27 Mbit/s  
95th percentile per-packet one-way delay: 108.683 ms  
Loss rate: 0.35%

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

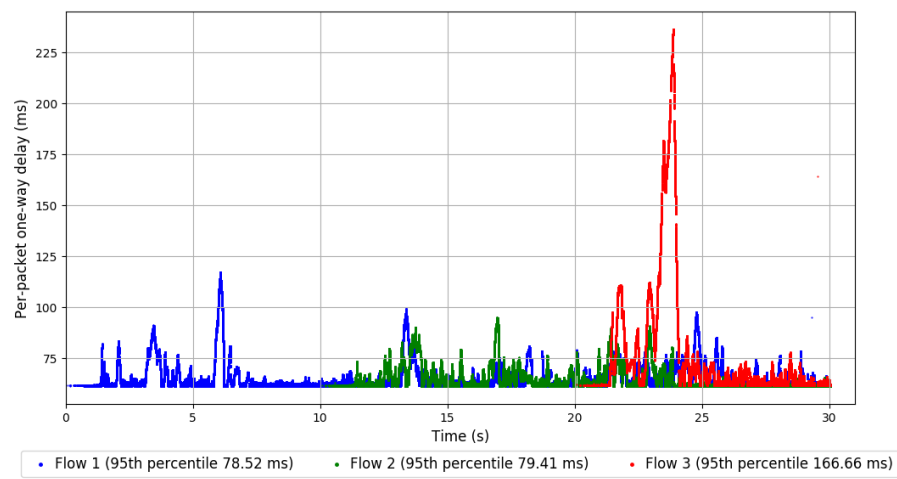
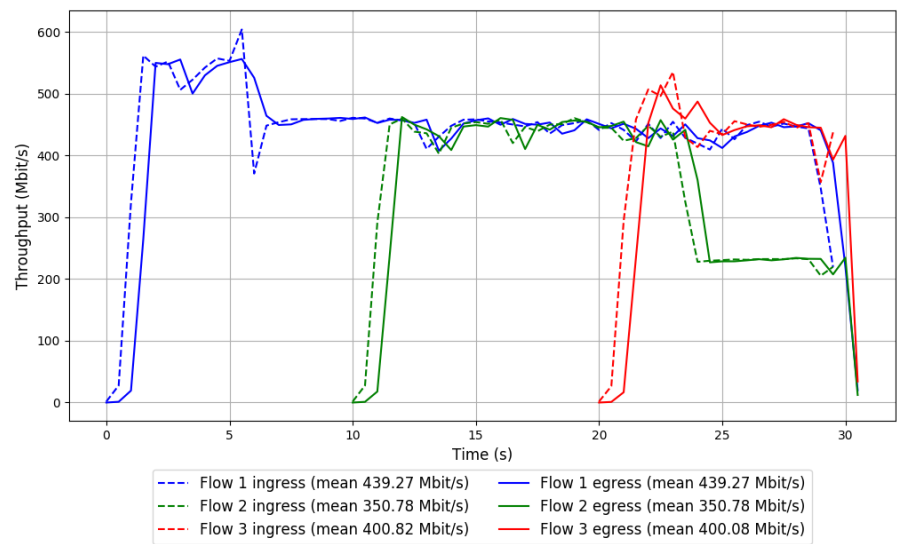


Run 3: Statistics of TCP Vegas

Start at: 2019-01-21 22:00:51  
End at: 2019-01-21 22:01:21  
Local clock offset: -0.007 ms  
Remote clock offset: -1.226 ms

# Below is generated by plot.py at 2019-01-22 03:18:27  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 805.79 Mbit/s  
95th percentile per-packet one-way delay: 85.920 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 439.27 Mbit/s  
95th percentile per-packet one-way delay: 78.515 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 350.78 Mbit/s  
95th percentile per-packet one-way delay: 79.405 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 400.08 Mbit/s  
95th percentile per-packet one-way delay: 166.658 ms  
Loss rate: 0.19%

Run 3: Report of TCP Vegas — Data Link



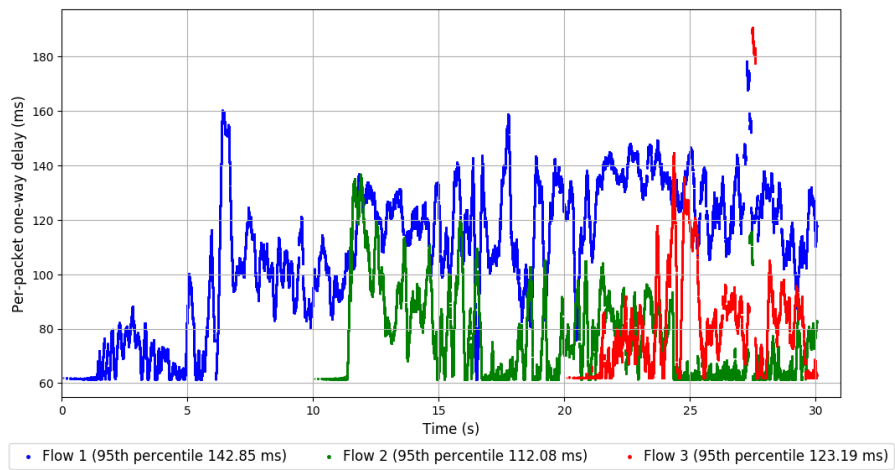
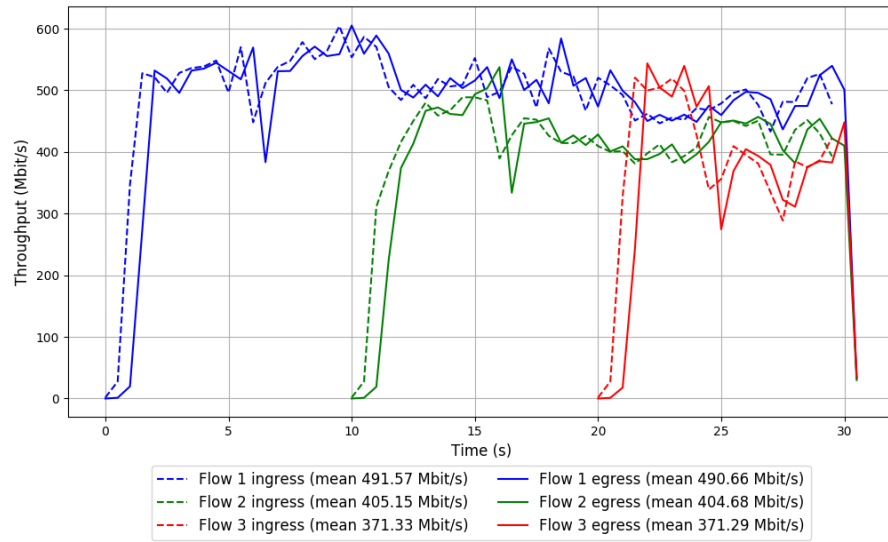


Run 4: Statistics of TCP Vegas

Start at: 2019-01-21 22:37:08  
End at: 2019-01-21 22:37:38  
Local clock offset: -0.04 ms  
Remote clock offset: -1.359 ms

# Below is generated by plot.py at 2019-01-22 03:28:34  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 883.70 Mbit/s  
95th percentile per-packet one-way delay: 138.614 ms  
Loss rate: 0.14%  
-- Flow 1:  
Average throughput: 490.66 Mbit/s  
95th percentile per-packet one-way delay: 142.846 ms  
Loss rate: 0.18%  
-- Flow 2:  
Average throughput: 404.68 Mbit/s  
95th percentile per-packet one-way delay: 112.079 ms  
Loss rate: 0.12%  
-- Flow 3:  
Average throughput: 371.29 Mbit/s  
95th percentile per-packet one-way delay: 123.188 ms  
Loss rate: 0.00%

# Run 4: Report of TCP Vegas — Data Link

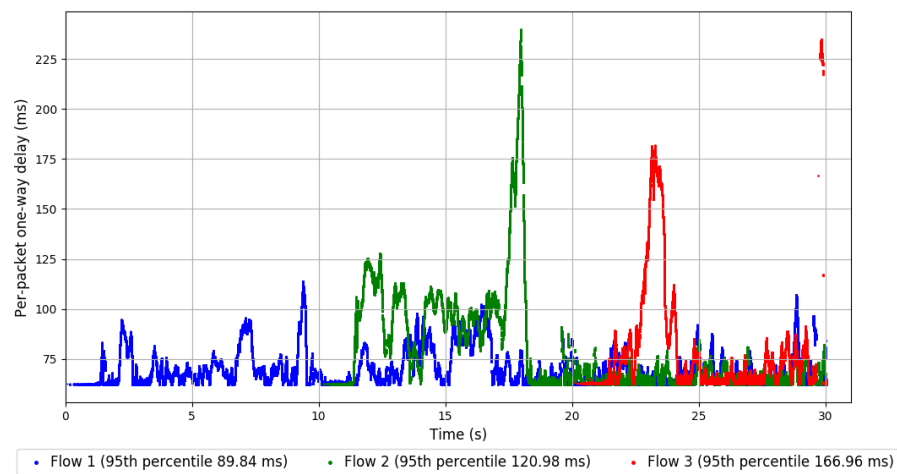
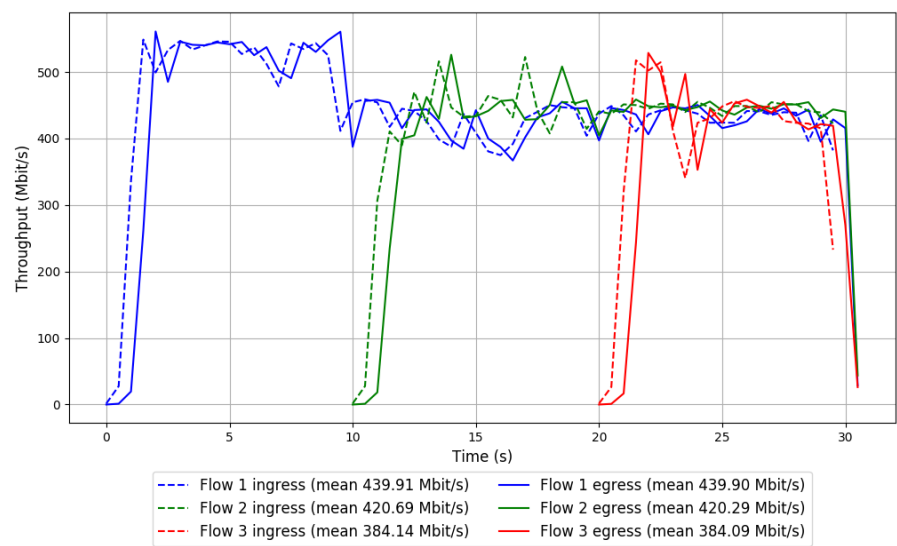


Run 5: Statistics of TCP Vegas

Start at: 2019-01-21 23:13:17  
End at: 2019-01-21 23:13:47  
Local clock offset: 0.026 ms  
Remote clock offset: -0.648 ms

# Below is generated by plot.py at 2019-01-22 03:28:34  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 847.53 Mbit/s  
95th percentile per-packet one-way delay: 108.359 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 439.90 Mbit/s  
95th percentile per-packet one-way delay: 89.845 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 420.29 Mbit/s  
95th percentile per-packet one-way delay: 120.981 ms  
Loss rate: 0.09%  
-- Flow 3:  
Average throughput: 384.09 Mbit/s  
95th percentile per-packet one-way delay: 166.960 ms  
Loss rate: 0.01%

Run 5: Report of TCP Vegas — Data Link

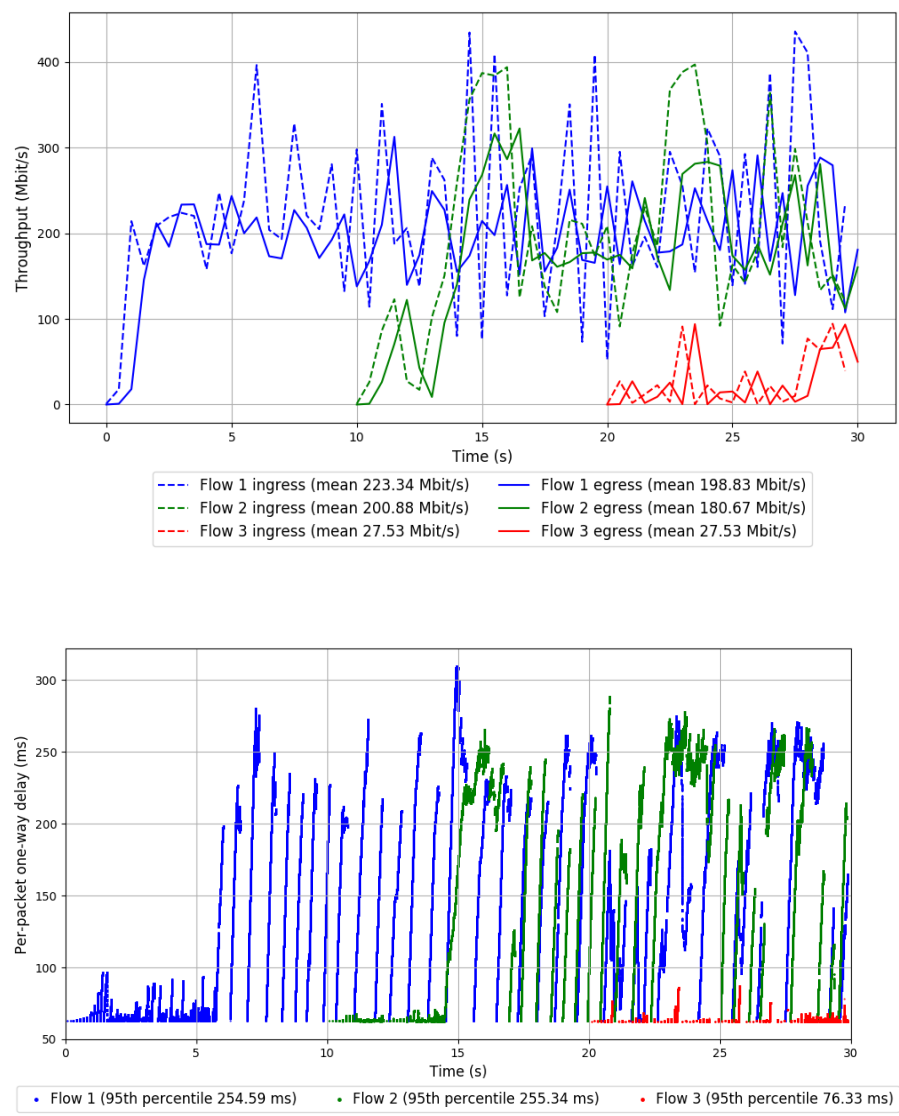


Run 1: Statistics of Verus

Start at: 2019-01-21 21:19:47  
End at: 2019-01-21 21:20:17  
Local clock offset: 0.006 ms  
Remote clock offset: -0.564 ms

# Below is generated by plot.py at 2019-01-22 03:28:34  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 327.59 Mbit/s  
95th percentile per-packet one-way delay: 254.680 ms  
Loss rate: 10.14%  
-- Flow 1:  
Average throughput: 198.83 Mbit/s  
95th percentile per-packet one-way delay: 254.588 ms  
Loss rate: 10.98%  
-- Flow 2:  
Average throughput: 180.67 Mbit/s  
95th percentile per-packet one-way delay: 255.340 ms  
Loss rate: 9.41%  
-- Flow 3:  
Average throughput: 27.53 Mbit/s  
95th percentile per-packet one-way delay: 76.325 ms  
Loss rate: 0.00%

Run 1: Report of Verus — Data Link

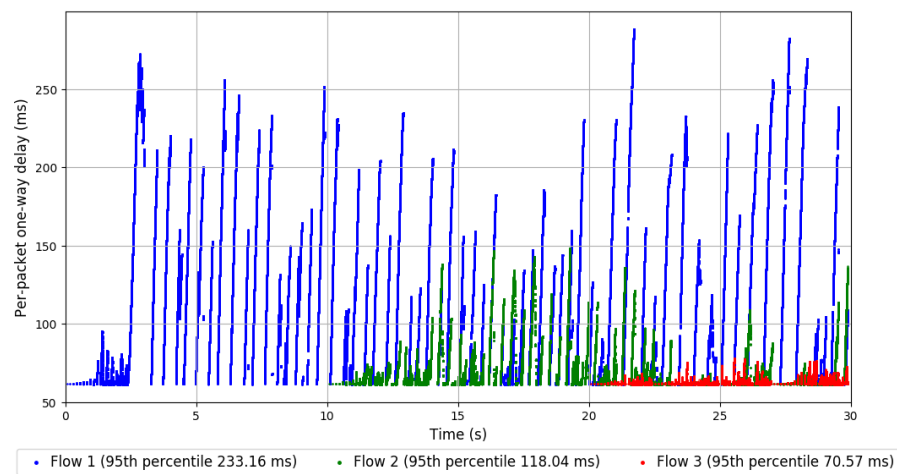
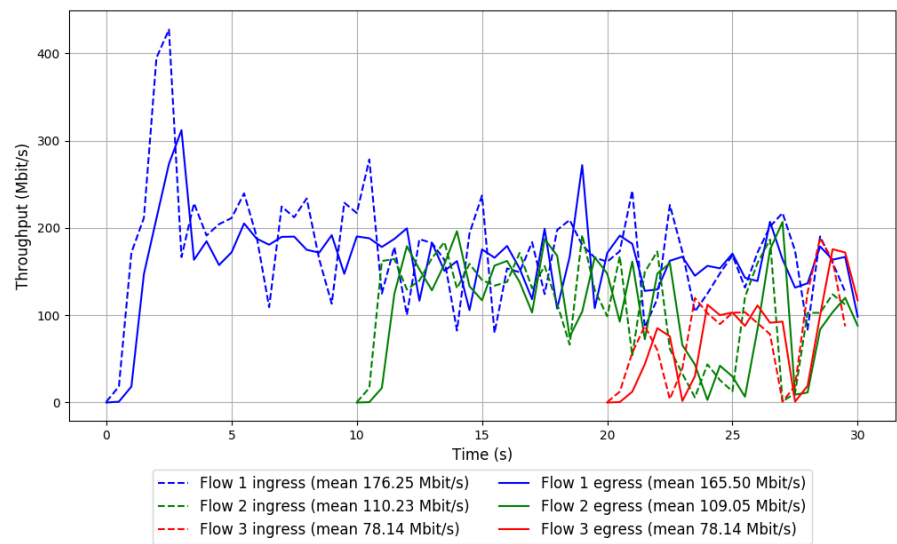


Run 2: Statistics of Verus

Start at: 2019-01-21 21:56:11  
End at: 2019-01-21 21:56:41  
Local clock offset: -0.001 ms  
Remote clock offset: -1.44 ms

# Below is generated by plot.py at 2019-01-22 03:28:34  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 263.63 Mbit/s  
95th percentile per-packet one-way delay: 221.475 ms  
Loss rate: 4.19%  
-- Flow 1:  
Average throughput: 165.50 Mbit/s  
95th percentile per-packet one-way delay: 233.165 ms  
Loss rate: 6.09%  
-- Flow 2:  
Average throughput: 109.05 Mbit/s  
95th percentile per-packet one-way delay: 118.042 ms  
Loss rate: 1.06%  
-- Flow 3:  
Average throughput: 78.14 Mbit/s  
95th percentile per-packet one-way delay: 70.567 ms  
Loss rate: 0.00%

Run 2: Report of Verus — Data Link



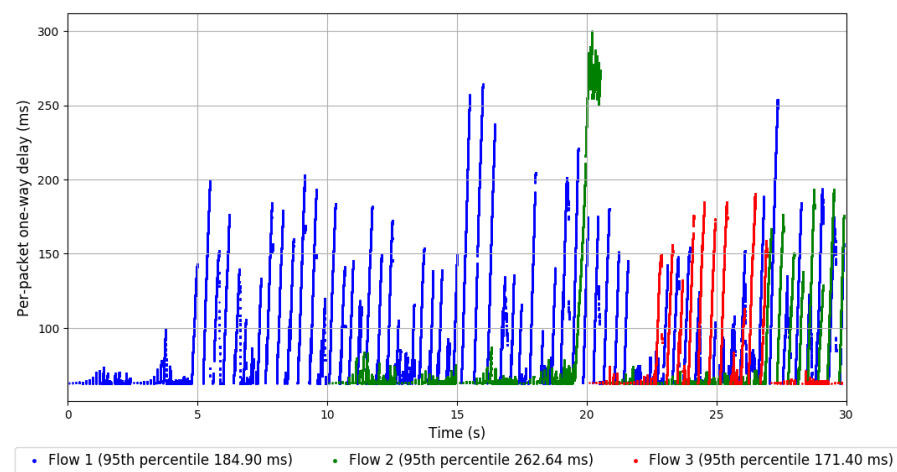
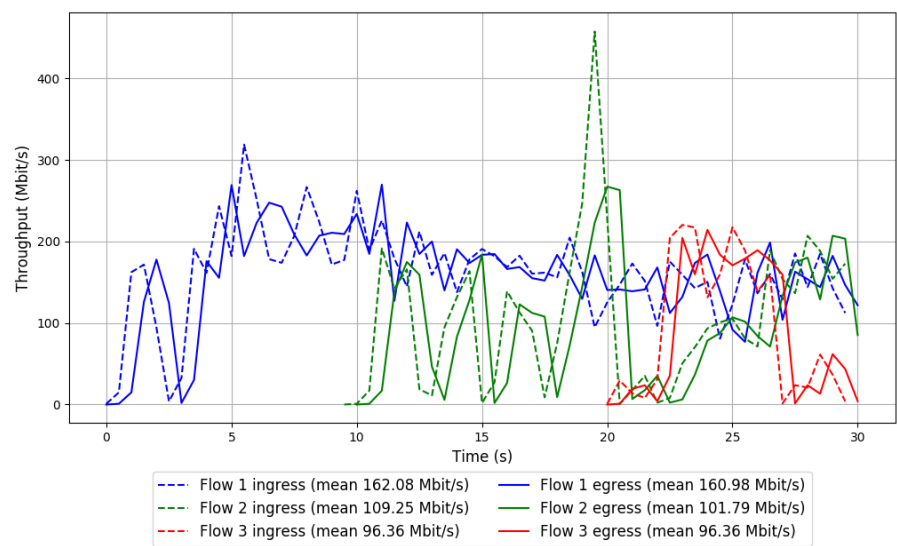


Run 3: Statistics of Verus

Start at: 2019-01-21 22:32:25  
End at: 2019-01-21 22:32:56  
Local clock offset: 0.121 ms  
Remote clock offset: -0.191 ms

# Below is generated by plot.py at 2019-01-22 03:28:34  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 259.99 Mbit/s  
95th percentile per-packet one-way delay: 187.686 ms  
Loss rate: 2.25%  
-- Flow 1:  
Average throughput: 160.98 Mbit/s  
95th percentile per-packet one-way delay: 184.902 ms  
Loss rate: 0.68%  
-- Flow 2:  
Average throughput: 101.79 Mbit/s  
95th percentile per-packet one-way delay: 262.643 ms  
Loss rate: 6.72%  
-- Flow 3:  
Average throughput: 96.36 Mbit/s  
95th percentile per-packet one-way delay: 171.400 ms  
Loss rate: 0.00%

Run 3: Report of Verus — Data Link

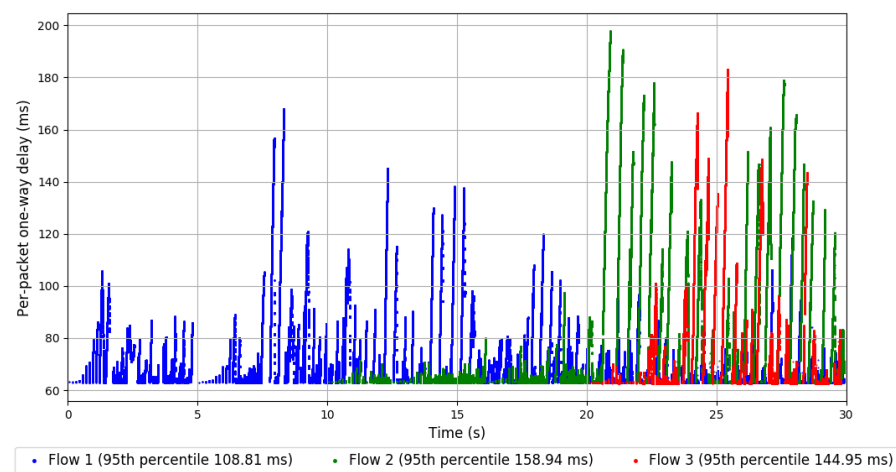
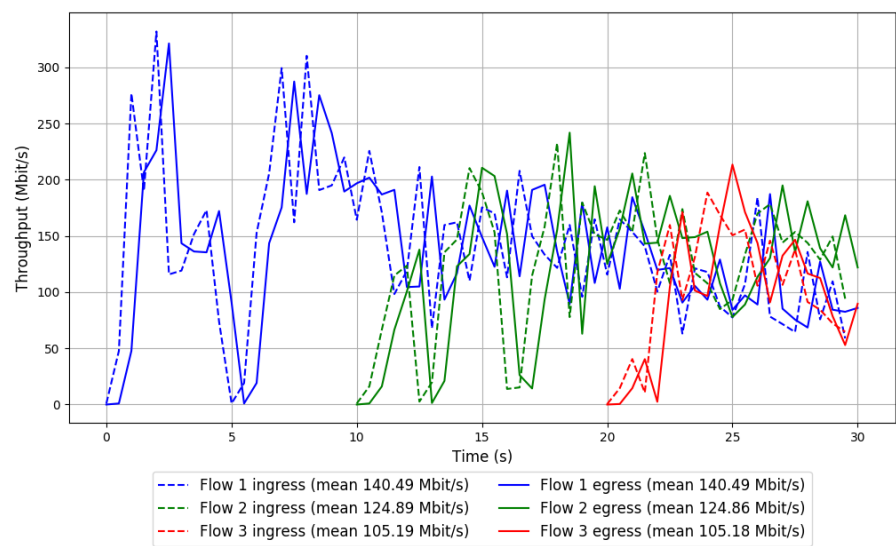


Run 4: Statistics of Verus

Start at: 2019-01-21 23:08:39  
End at: 2019-01-21 23:09:09  
Local clock offset: 0.011 ms  
Remote clock offset: -0.175 ms

# Below is generated by plot.py at 2019-01-22 03:28:34  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 257.64 Mbit/s  
95th percentile per-packet one-way delay: 138.373 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 140.49 Mbit/s  
95th percentile per-packet one-way delay: 108.815 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 124.86 Mbit/s  
95th percentile per-packet one-way delay: 158.945 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 105.18 Mbit/s  
95th percentile per-packet one-way delay: 144.946 ms  
Loss rate: 0.00%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2019-01-21 23:44:50

End at: 2019-01-21 23:45:20

Local clock offset: -0.06 ms

Remote clock offset: -0.55 ms

# Below is generated by plot.py at 2019-01-22 03:28:34

# Datalink statistics

-- Total of 3 flows:

Average throughput: 232.35 Mbit/s

95th percentile per-packet one-way delay: 257.775 ms

Loss rate: 7.23%

-- Flow 1:

Average throughput: 124.59 Mbit/s

95th percentile per-packet one-way delay: 205.198 ms

Loss rate: 3.32%

-- Flow 2:

Average throughput: 119.52 Mbit/s

95th percentile per-packet one-way delay: 285.180 ms

Loss rate: 14.91%

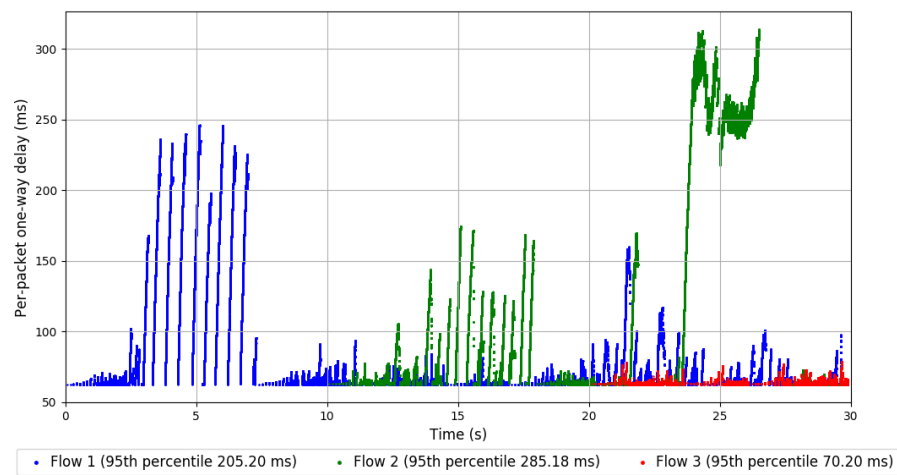
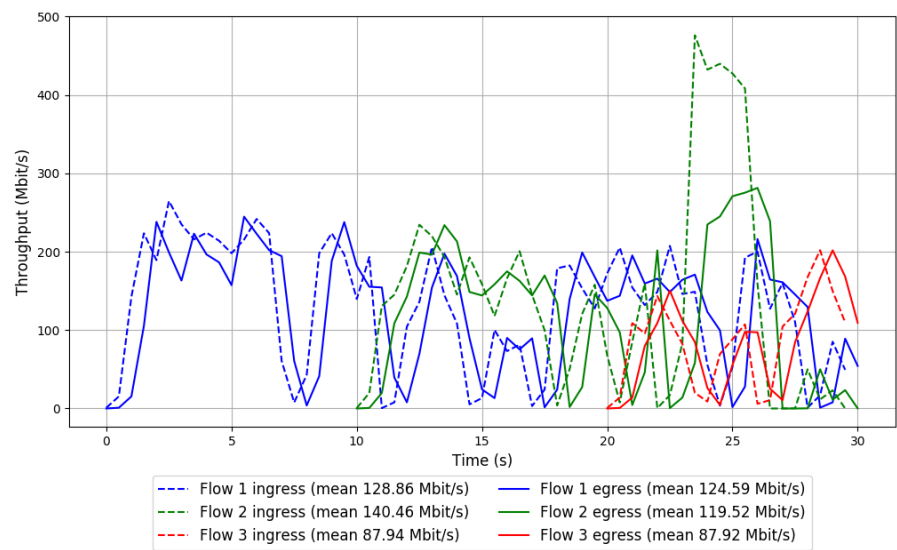
-- Flow 3:

Average throughput: 87.92 Mbit/s

95th percentile per-packet one-way delay: 70.203 ms

Loss rate: 0.03%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2019-01-21 20:46:37

End at: 2019-01-21 20:47:07

Local clock offset: -0.064 ms

Remote clock offset: 0.454 ms

# Below is generated by plot.py at 2019-01-22 03:30:54

# Datalink statistics

-- Total of 3 flows:

Average throughput: 524.96 Mbit/s

95th percentile per-packet one-way delay: 73.211 ms

Loss rate: 0.02%

-- Flow 1:

Average throughput: 335.89 Mbit/s

95th percentile per-packet one-way delay: 98.034 ms

Loss rate: 0.02%

-- Flow 2:

Average throughput: 242.02 Mbit/s

95th percentile per-packet one-way delay: 65.522 ms

Loss rate: 0.00%

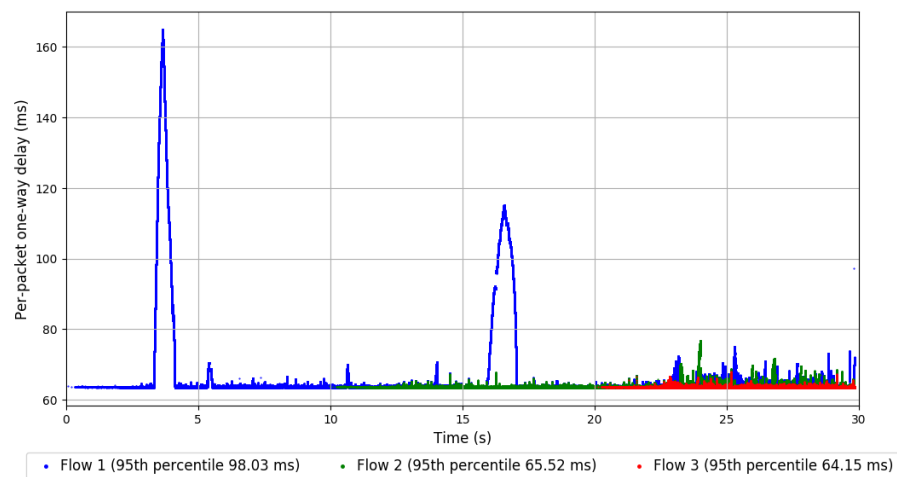
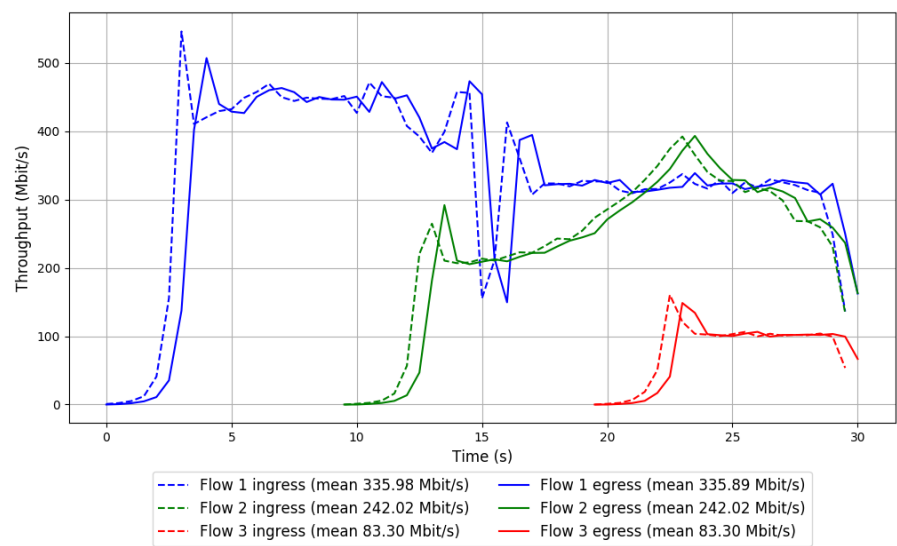
-- Flow 3:

Average throughput: 83.30 Mbit/s

95th percentile per-packet one-way delay: 64.153 ms

Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



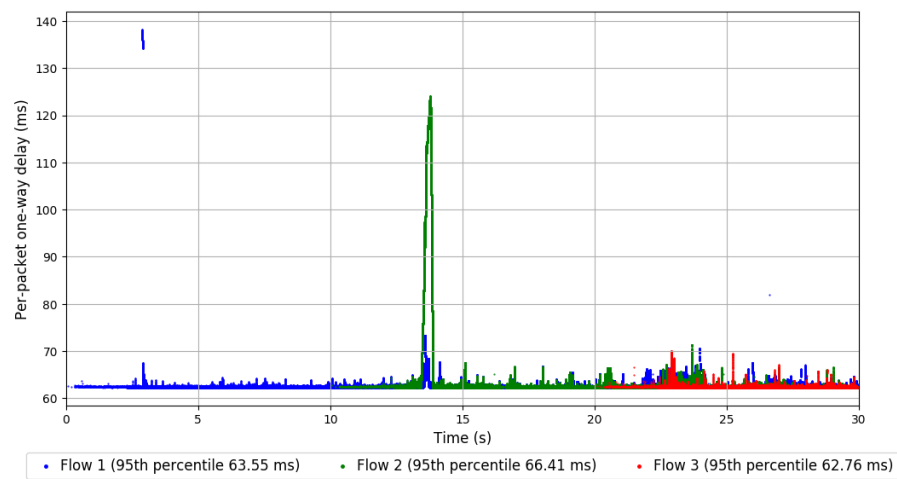
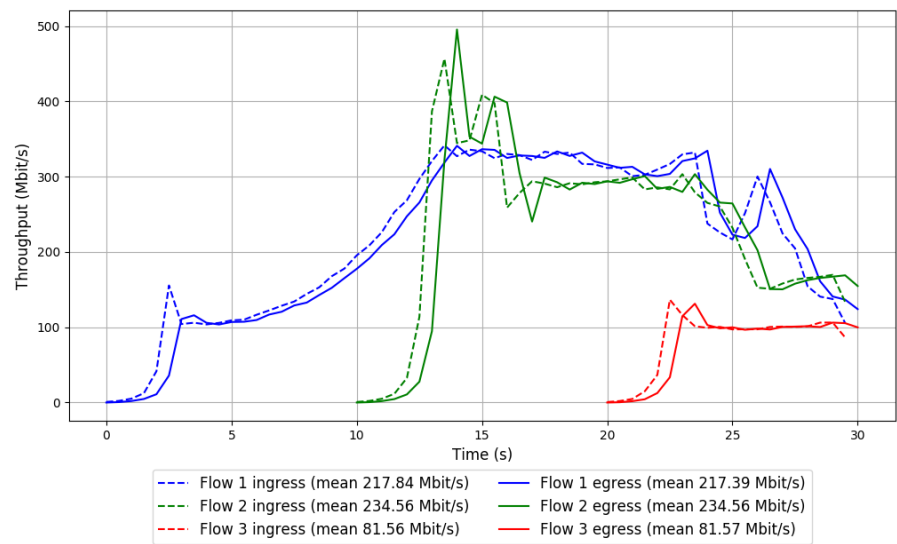


Run 2: Statistics of PCC-Vivace

Start at: 2019-01-21 21:22:48  
End at: 2019-01-21 21:23:18  
Local clock offset: 0.029 ms  
Remote clock offset: -0.687 ms

# Below is generated by plot.py at 2019-01-22 03:30:54  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 400.19 Mbit/s  
95th percentile per-packet one-way delay: 64.030 ms  
Loss rate: 0.11%  
-- Flow 1:  
Average throughput: 217.39 Mbit/s  
95th percentile per-packet one-way delay: 63.553 ms  
Loss rate: 0.21%  
-- Flow 2:  
Average throughput: 234.56 Mbit/s  
95th percentile per-packet one-way delay: 66.410 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 81.57 Mbit/s  
95th percentile per-packet one-way delay: 62.759 ms  
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link

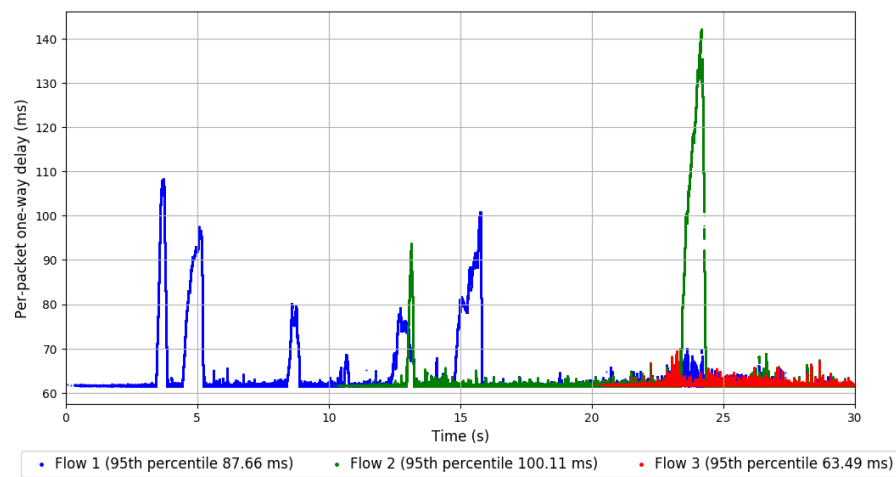
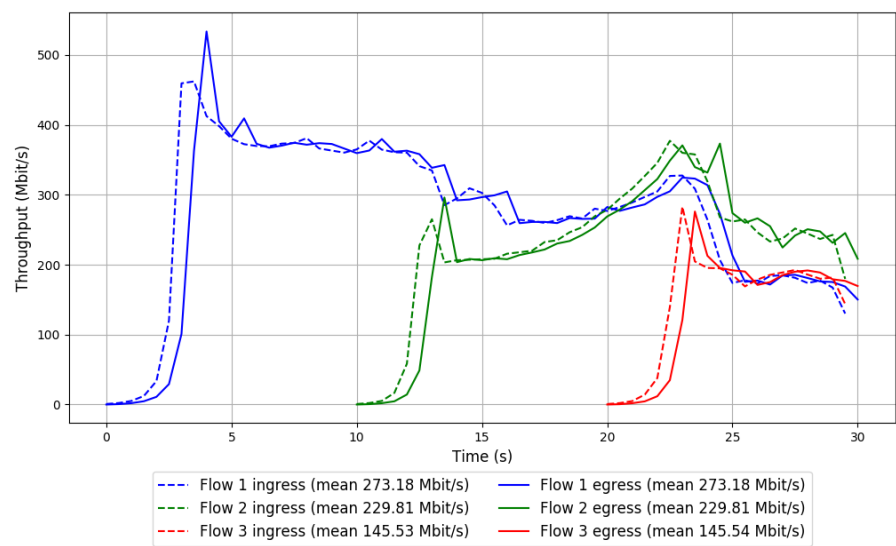


Run 3: Statistics of PCC-Vivace

Start at: 2019-01-21 21:59:04  
End at: 2019-01-21 21:59:34  
Local clock offset: 0.029 ms  
Remote clock offset: -1.328 ms

# Below is generated by plot.py at 2019-01-22 03:30:54  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 473.99 Mbit/s  
95th percentile per-packet one-way delay: 87.367 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 273.18 Mbit/s  
95th percentile per-packet one-way delay: 87.656 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 229.81 Mbit/s  
95th percentile per-packet one-way delay: 100.106 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 145.54 Mbit/s  
95th percentile per-packet one-way delay: 63.489 ms  
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

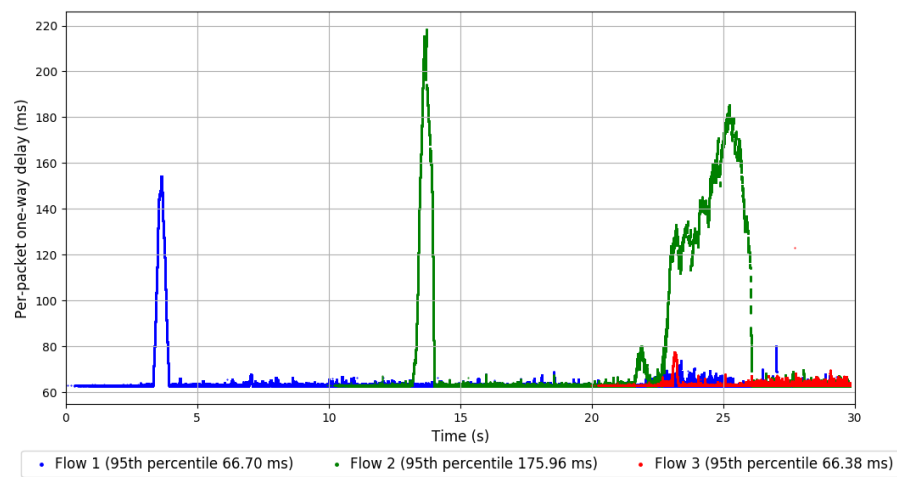
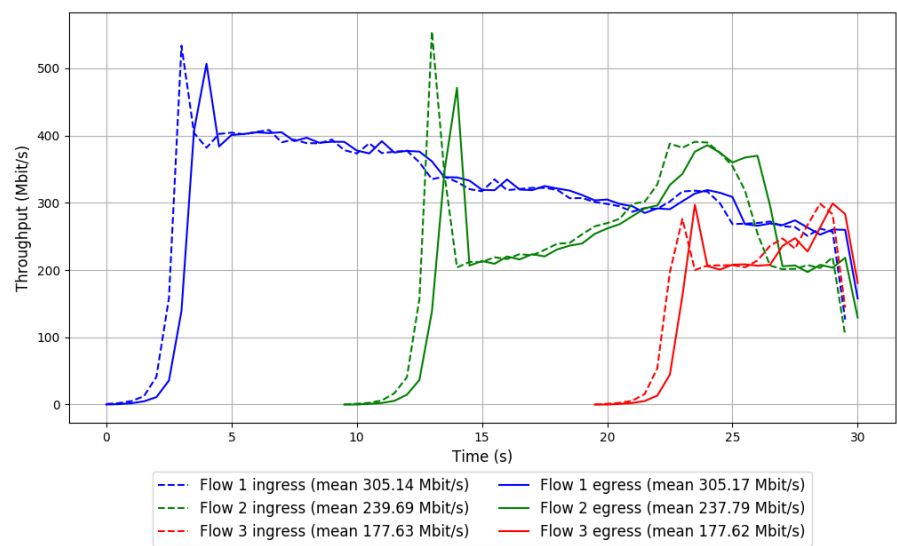


Run 4: Statistics of PCC-Vivace

Start at: 2019-01-21 22:35:18  
End at: 2019-01-21 22:35:48  
Local clock offset: -0.047 ms  
Remote clock offset: -0.141 ms

# Below is generated by plot.py at 2019-01-22 03:31:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 522.75 Mbit/s  
95th percentile per-packet one-way delay: 143.456 ms  
Loss rate: 0.24%  
-- Flow 1:  
Average throughput: 305.17 Mbit/s  
95th percentile per-packet one-way delay: 66.705 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 237.79 Mbit/s  
95th percentile per-packet one-way delay: 175.960 ms  
Loss rate: 0.79%  
-- Flow 3:  
Average throughput: 177.62 Mbit/s  
95th percentile per-packet one-way delay: 66.382 ms  
Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link

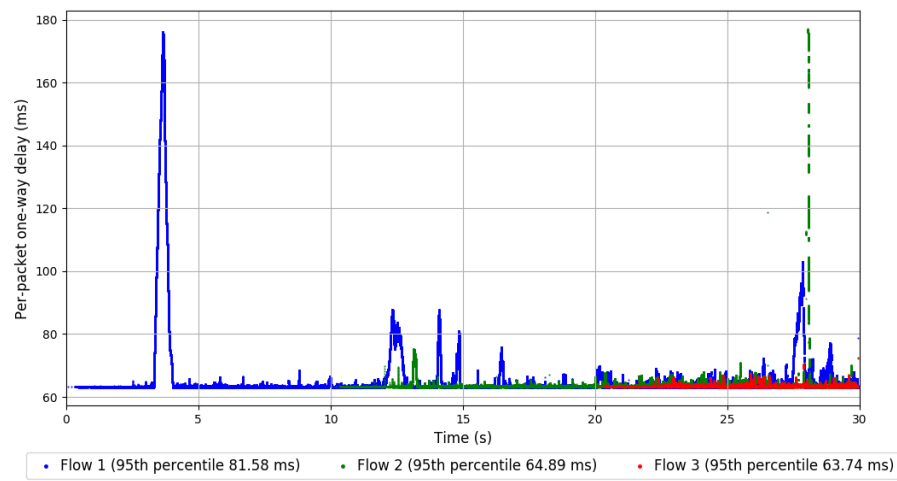
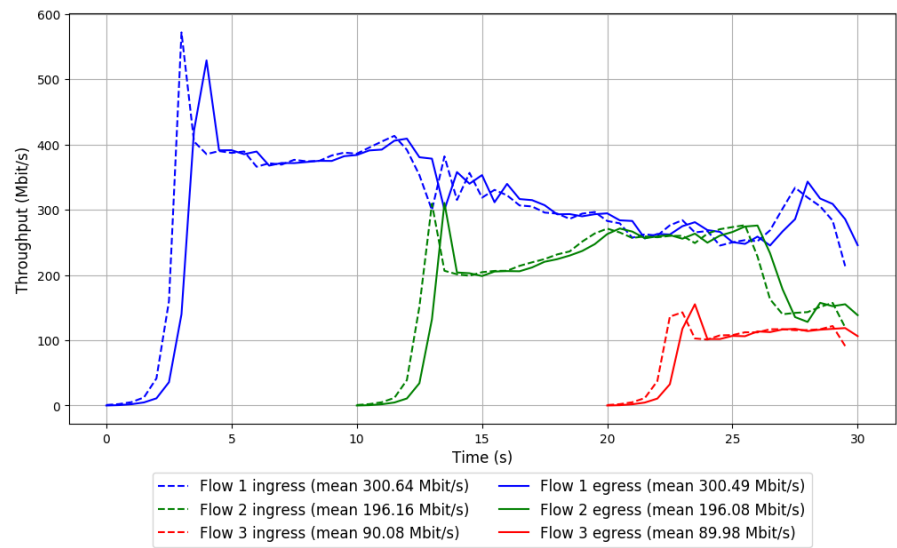


Run 5: Statistics of PCC-Vivace

Start at: 2019-01-21 23:11:31  
End at: 2019-01-21 23:12:01  
Local clock offset: 0.013 ms  
Remote clock offset: -0.096 ms

# Below is generated by plot.py at 2019-01-22 03:31:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 460.47 Mbit/s  
95th percentile per-packet one-way delay: 75.333 ms  
Loss rate: 0.03%  
-- Flow 1:  
Average throughput: 300.49 Mbit/s  
95th percentile per-packet one-way delay: 81.579 ms  
Loss rate: 0.02%  
-- Flow 2:  
Average throughput: 196.08 Mbit/s  
95th percentile per-packet one-way delay: 64.895 ms  
Loss rate: 0.03%  
-- Flow 3:  
Average throughput: 89.98 Mbit/s  
95th percentile per-packet one-way delay: 63.738 ms  
Loss rate: 0.10%

Run 5: Report of PCC-Vivace — Data Link



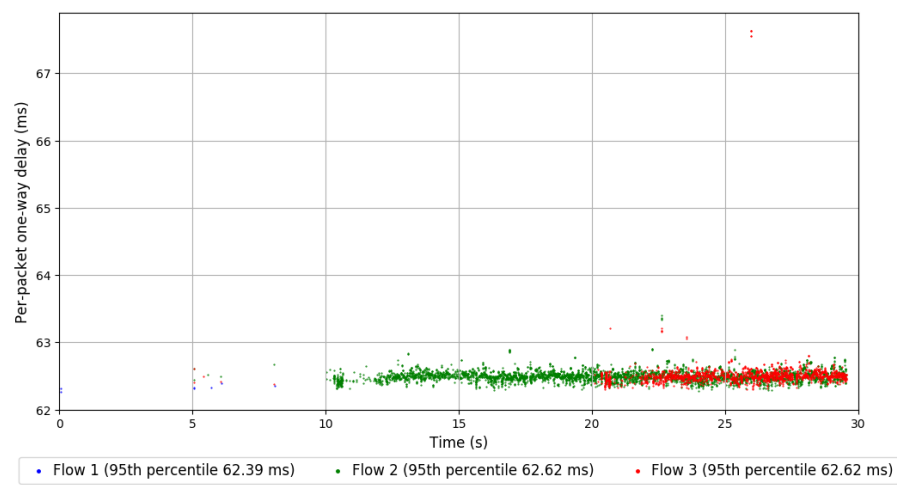
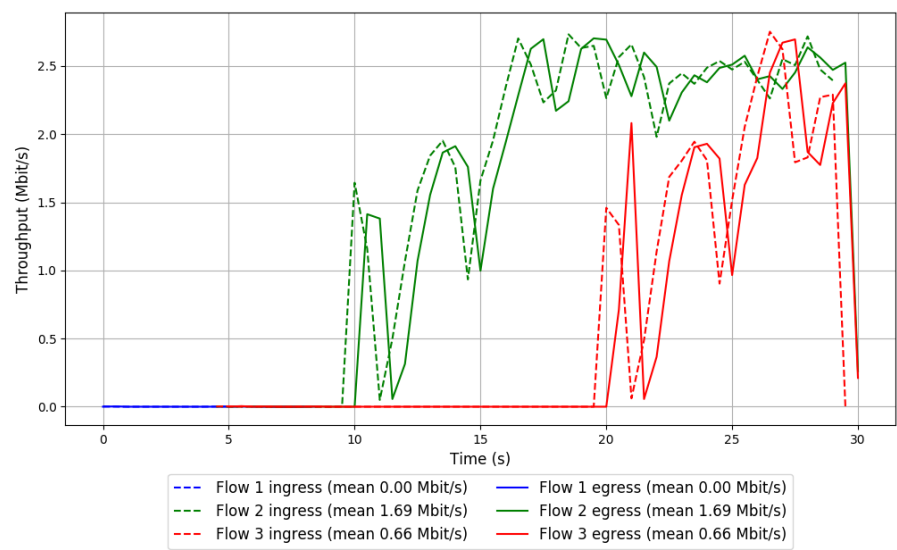


Run 1: Statistics of WebRTC media

Start at: 2019-01-21 20:52:24  
End at: 2019-01-21 20:52:54  
Local clock offset: -0.023 ms  
Remote clock offset: -0.766 ms

# Below is generated by plot.py at 2019-01-22 03:31:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 1.95 Mbit/s  
95th percentile per-packet one-way delay: 62.618 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 62.393 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 1.69 Mbit/s  
95th percentile per-packet one-way delay: 62.619 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.66 Mbit/s  
95th percentile per-packet one-way delay: 62.618 ms  
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

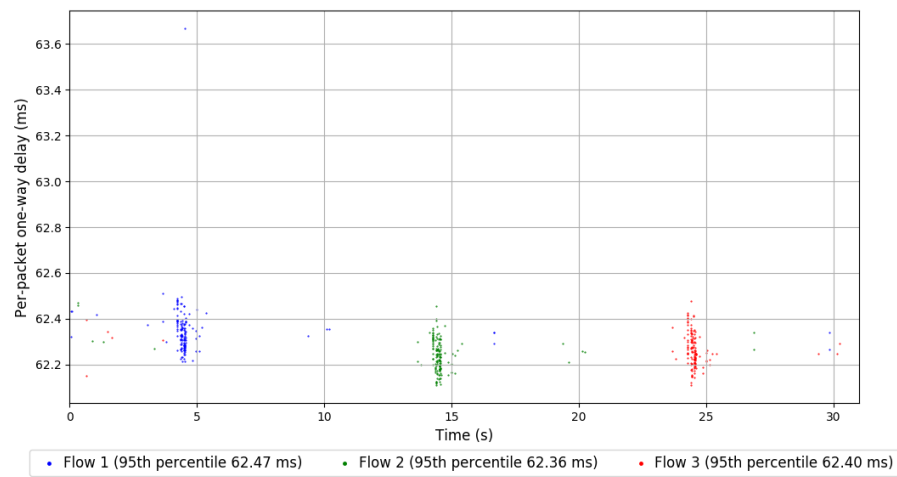
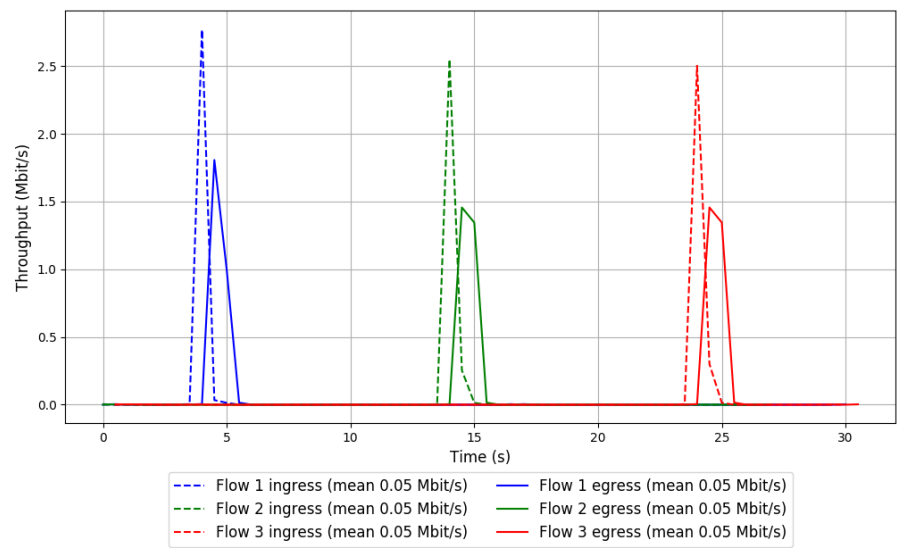


Run 2: Statistics of WebRTC media

Start at: 2019-01-21 21:28:26  
End at: 2019-01-21 21:28:56  
Local clock offset: -0.017 ms  
Remote clock offset: -0.843 ms

# Below is generated by plot.py at 2019-01-22 03:31:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 62.433 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 62.466 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 62.356 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 62.398 ms  
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

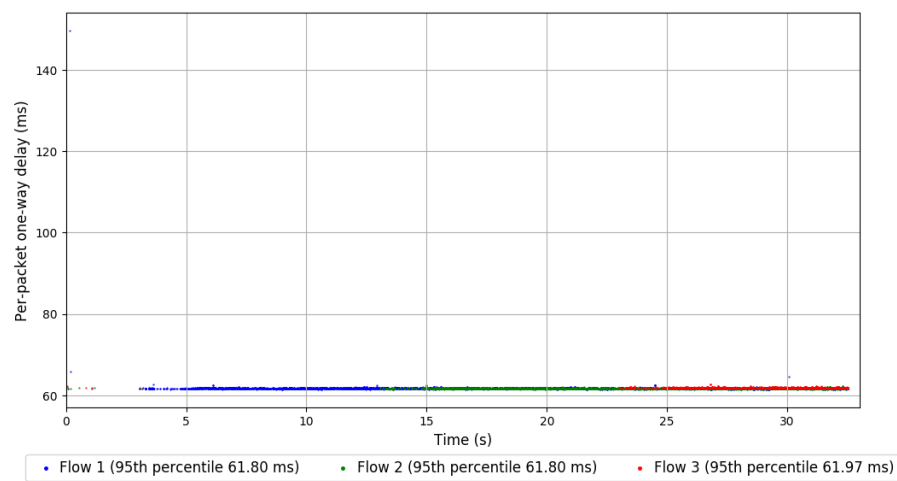
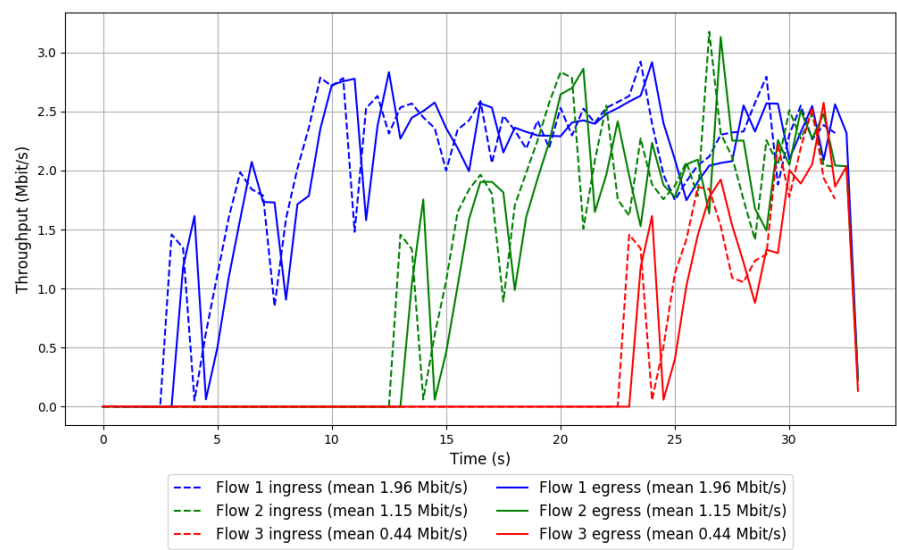


Run 3: Statistics of WebRTC media

Start at: 2019-01-21 22:04:47  
End at: 2019-01-21 22:05:17  
Local clock offset: -0.002 ms  
Remote clock offset: -1.375 ms

# Below is generated by plot.py at 2019-01-22 03:31:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.54 Mbit/s  
95th percentile per-packet one-way delay: 61.877 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 1.96 Mbit/s  
95th percentile per-packet one-way delay: 61.801 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 1.15 Mbit/s  
95th percentile per-packet one-way delay: 61.797 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.44 Mbit/s  
95th percentile per-packet one-way delay: 61.971 ms  
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

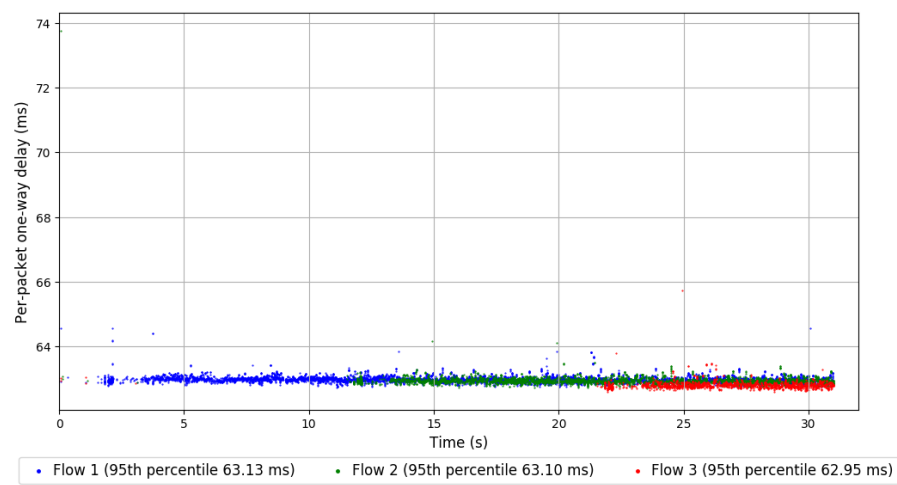
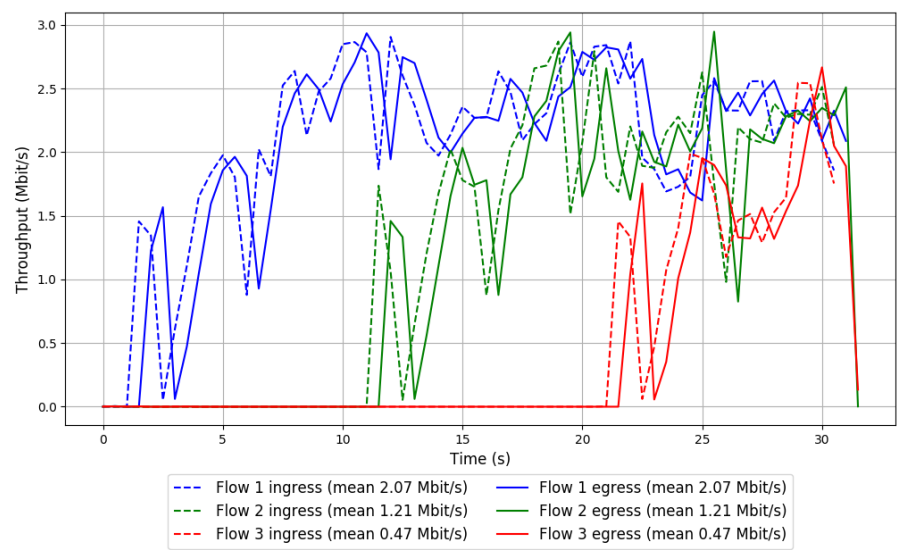


Run 4: Statistics of WebRTC media

Start at: 2019-01-21 22:41:00  
End at: 2019-01-21 22:41:30  
Local clock offset: 0.031 ms  
Remote clock offset: -0.384 ms

# Below is generated by plot.py at 2019-01-22 03:31:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 3.74 Mbit/s  
95th percentile per-packet one-way delay: 63.113 ms  
Loss rate: 0.00%  
-- Flow 1:  
Average throughput: 2.07 Mbit/s  
95th percentile per-packet one-way delay: 63.132 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 1.21 Mbit/s  
95th percentile per-packet one-way delay: 63.099 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.47 Mbit/s  
95th percentile per-packet one-way delay: 62.954 ms  
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link





Run 5: Statistics of WebRTC media

Start at: 2019-01-21 23:17:19  
End at: 2019-01-21 23:17:49  
Local clock offset: 0.019 ms  
Remote clock offset: -0.175 ms

# Below is generated by plot.py at 2019-01-22 03:31:22  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 0.14 Mbit/s  
95th percentile per-packet one-way delay: 63.256 ms  
Loss rate: 0.02%  
-- Flow 1:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 63.308 ms  
Loss rate: 0.00%  
-- Flow 2:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 63.052 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.05 Mbit/s  
95th percentile per-packet one-way delay: 62.968 ms  
Loss rate: 0.05%

Run 5: Report of WebRTC media — Data Link

