

Pantheon Report

Generated at 2019-02-05 17:52:42 (UTC).

Data path: Colombia cellular on ppp0 (*remote*) → AWS Brazil 2 on ens5 (*local*).

Repeated the test of 21 congestion control schemes 3 times.

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

NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

System info:

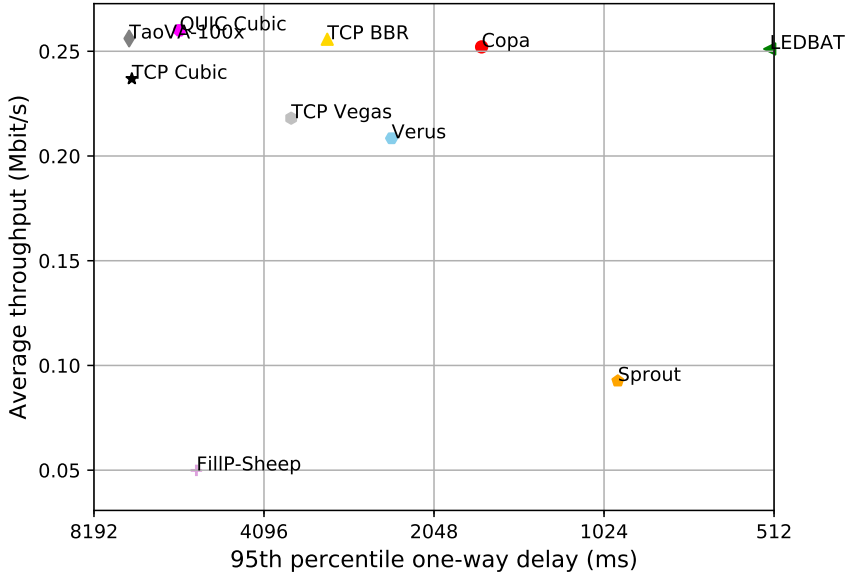
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

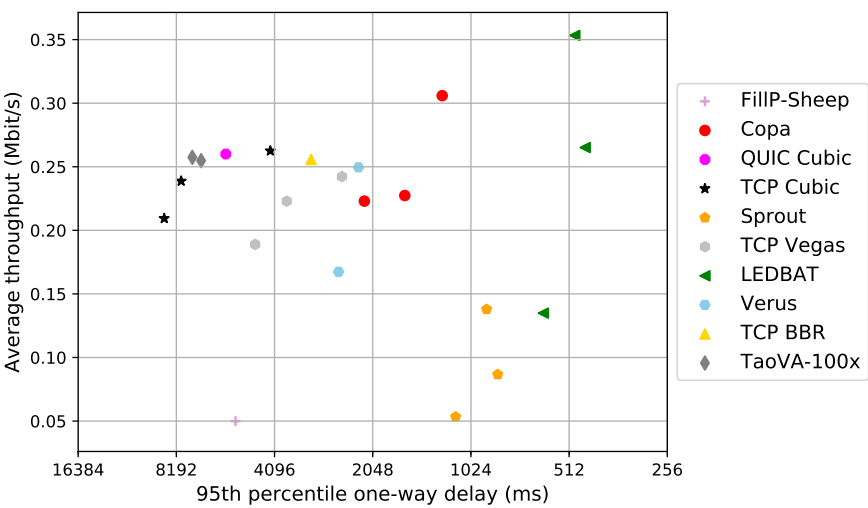
```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
```

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

test from Colombia cellular to AWS Brazil 2, 3 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)



test from Colombia cellular to AWS Brazil 2, 3 runs of 30s each per scheme
3 flows with 10s interval between flows

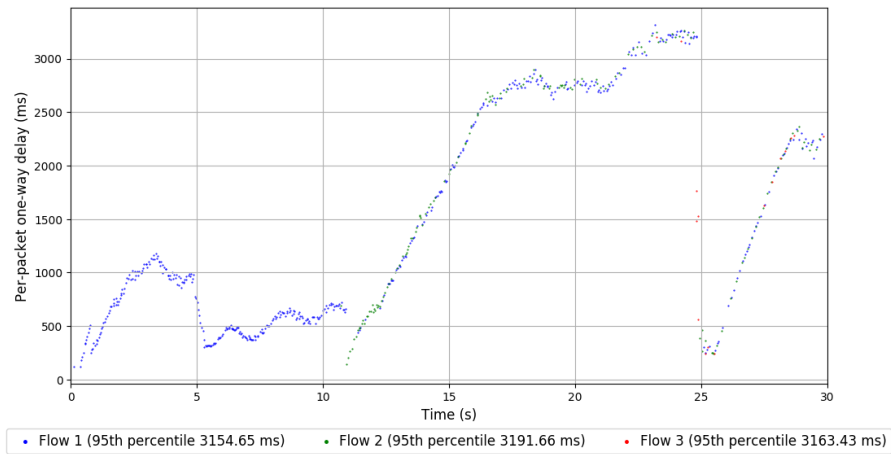
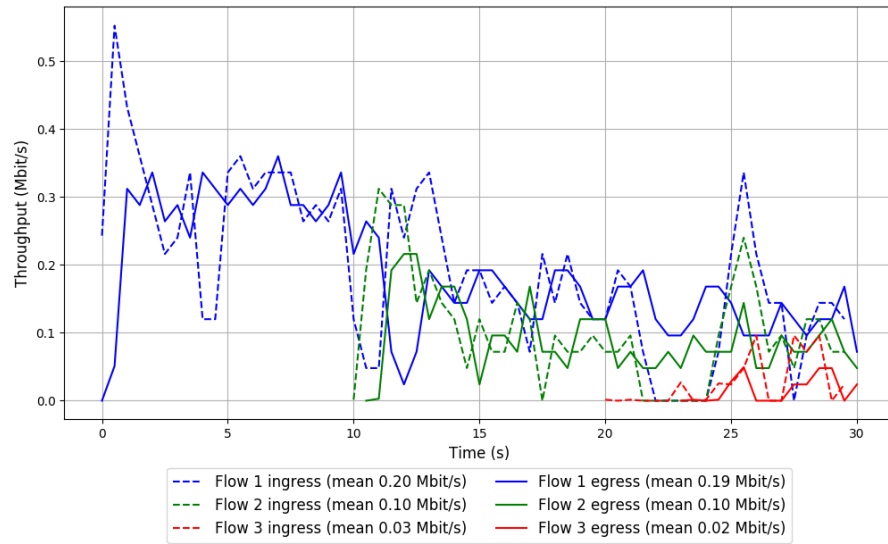


Run 1: Statistics of TCP BBR

Start at: 2019-02-05 16:52:45
End at: 2019-02-05 16:53:15
Local clock offset: -23.546 ms
Remote clock offset: 6.125 ms

Below is generated by plot.py at 2019-02-05 17:52:15
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 3164.739 ms
Loss rate: 7.31%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 3154.654 ms
Loss rate: 4.28%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 3191.656 ms
Loss rate: 10.52%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 3163.430 ms
Loss rate: 51.48%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 2: Report of TCP BBR — Data Link

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Run 3: Statistics of TCP BBR

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 3: Report of TCP BBR — Data Link

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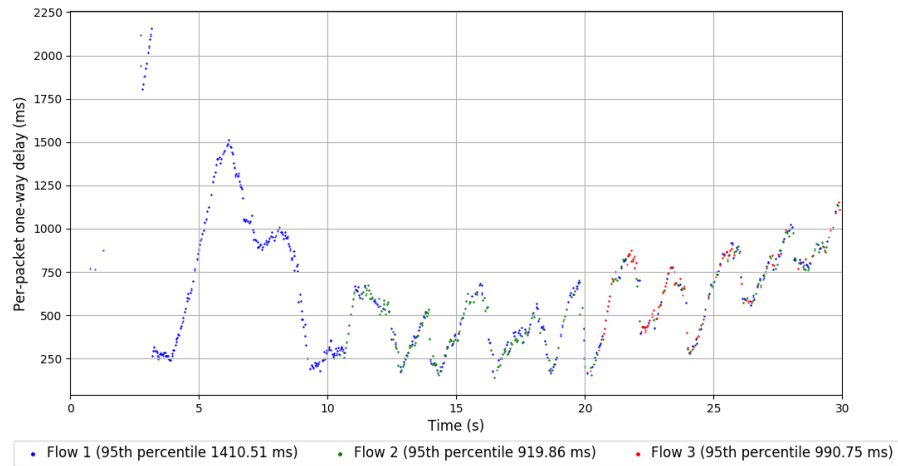
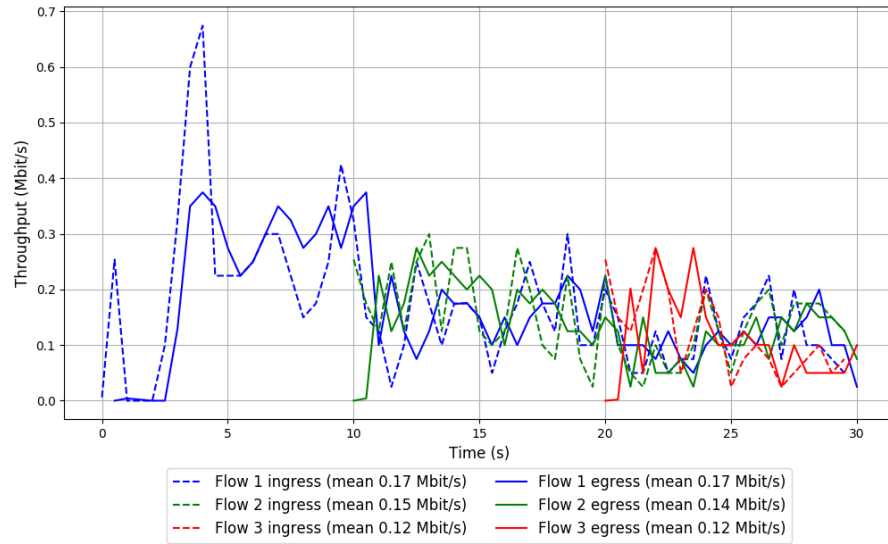
Figure is missing

Run 1: Statistics of Copa

Start at: 2019-02-05 16:37:55
End at: 2019-02-05 16:38:25
Local clock offset: -19.836 ms
Remote clock offset: 6.473 ms

Below is generated by plot.py at 2019-02-05 17:52:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 1254.196 ms
Loss rate: 3.77%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 1410.508 ms
Loss rate: 1.96%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 919.855 ms
Loss rate: 6.28%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 990.753 ms
Loss rate: 5.25%

Run 1: Report of Copa — Data Link

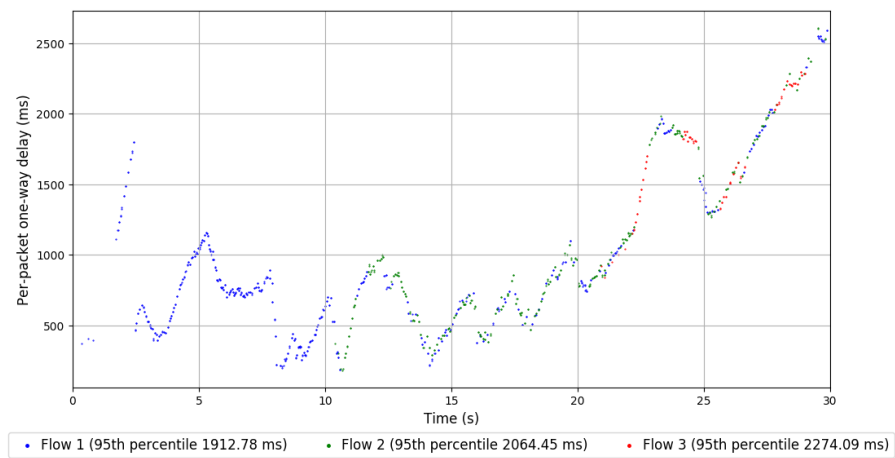
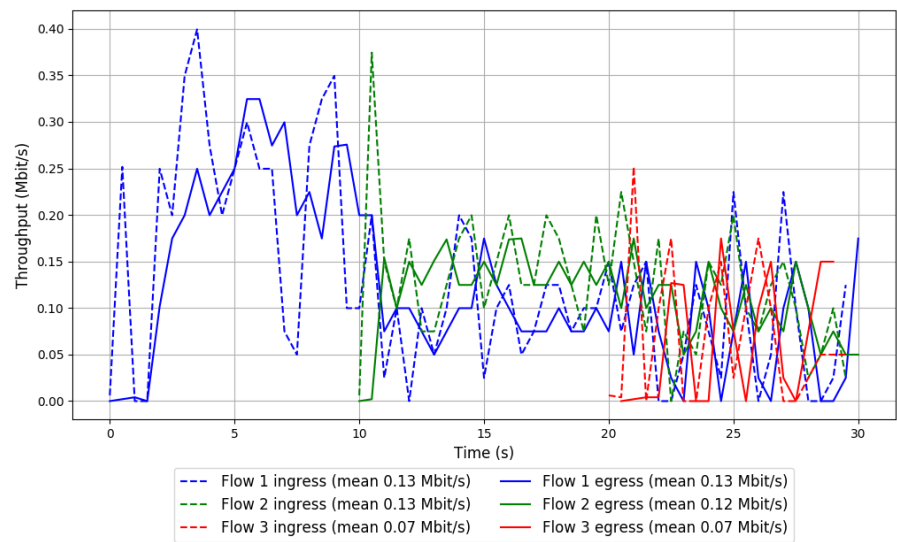


Run 2: Statistics of Copa

Start at: 2019-02-05 17:06:15
End at: 2019-02-05 17:06:45
Local clock offset: -26.485 ms
Remote clock offset: 5.011 ms

Below is generated by plot.py at 2019-02-05 17:52:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2172.613 ms
Loss rate: 6.72%
-- Flow 1:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 1912.782 ms
Loss rate: 4.20%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 2064.447 ms
Loss rate: 8.47%
-- Flow 3:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 2274.085 ms
Loss rate: 14.61%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-02-05 17:34:21

End at: 2019-02-05 17:34:51

Local clock offset: -0.016 ms

Remote clock offset: 5.66 ms

Below is generated by plot.py at 2019-02-05 17:52:16

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.23 Mbit/s

95th percentile per-packet one-way delay: 1633.496 ms

Loss rate: 3.41%

-- Flow 1:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 1720.515 ms

Loss rate: 1.93%

-- Flow 2:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 1457.241 ms

Loss rate: 4.48%

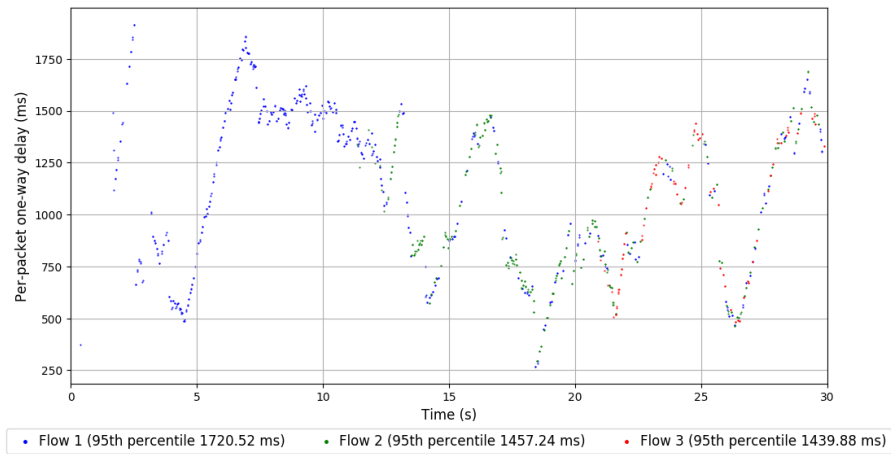
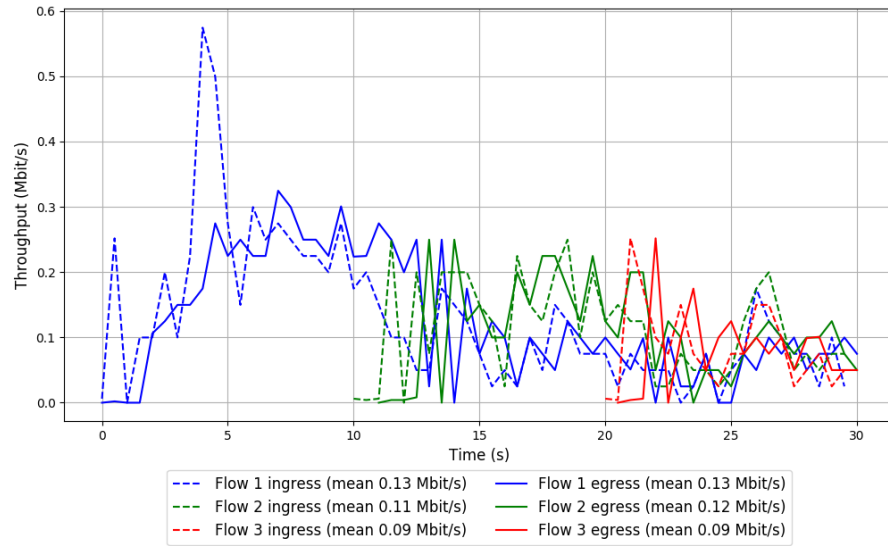
-- Flow 3:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 1439.875 ms

Loss rate: 7.41%

Run 3: Report of Copa — Data Link

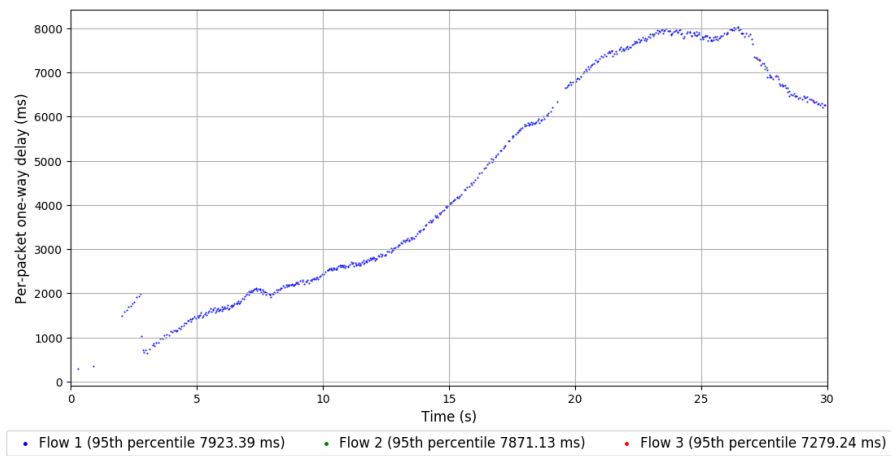
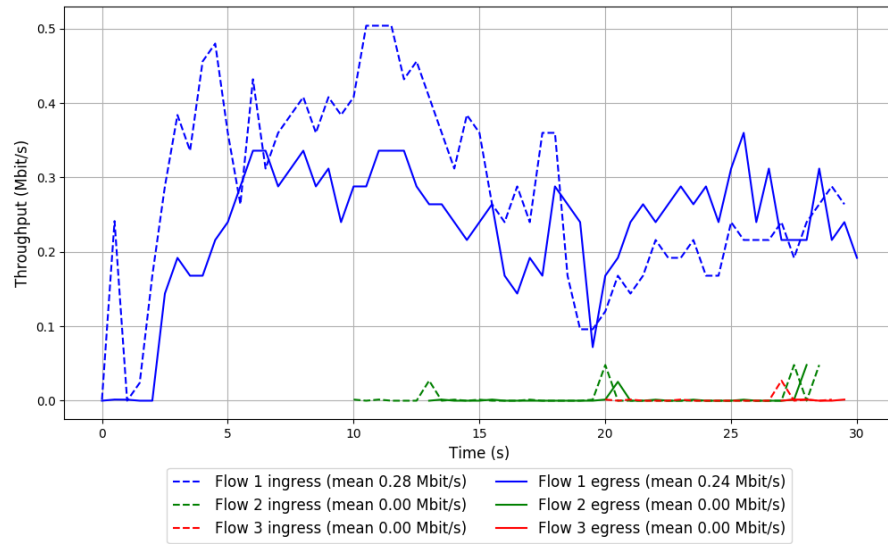


Run 1: Statistics of TCP Cubic

Start at: 2019-02-05 16:43:11
End at: 2019-02-05 16:43:41
Local clock offset: -21.411 ms
Remote clock offset: 6.143 ms

Below is generated by plot.py at 2019-02-05 17:52:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 7917.903 ms
Loss rate: 17.54%
-- Flow 1:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 7923.388 ms
Loss rate: 17.02%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7871.134 ms
Loss rate: 53.44%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7279.242 ms
Loss rate: 86.59%

Run 1: Report of TCP Cubic — Data Link

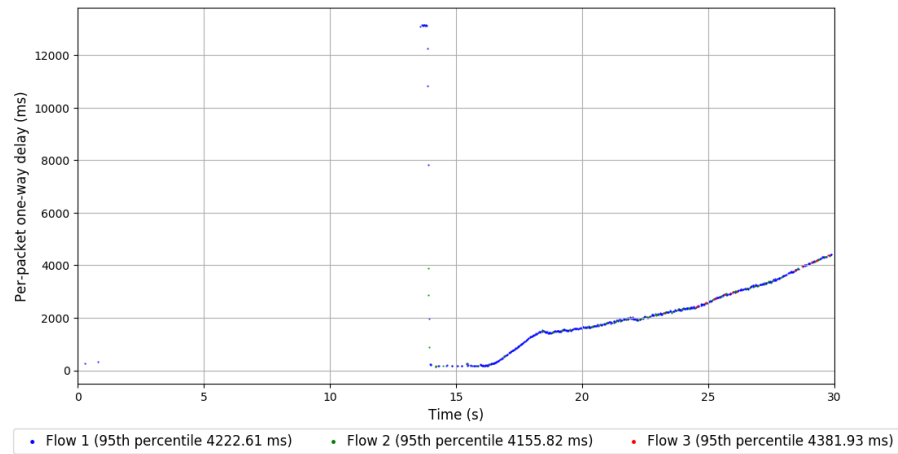
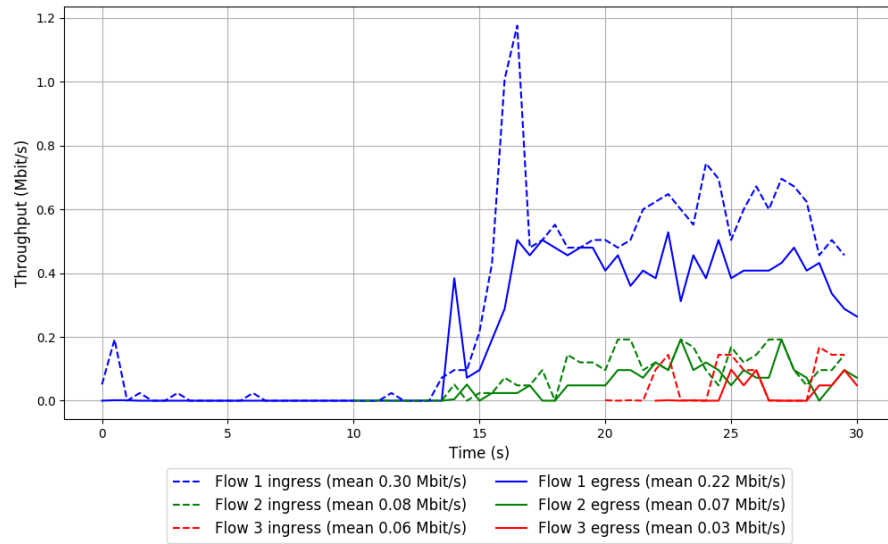


Run 2: Statistics of TCP Cubic

Start at: 2019-02-05 17:11:31
End at: 2019-02-05 17:12:01
Local clock offset: -27.497 ms
Remote clock offset: 1.09 ms

Below is generated by plot.py at 2019-02-05 17:52:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 4218.895 ms
Loss rate: 31.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 4222.607 ms
Loss rate: 29.32%
-- Flow 2:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 4155.821 ms
Loss rate: 33.74%
-- Flow 3:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 4381.927 ms
Loss rate: 58.89%

Run 2: Report of TCP Cubic — Data Link

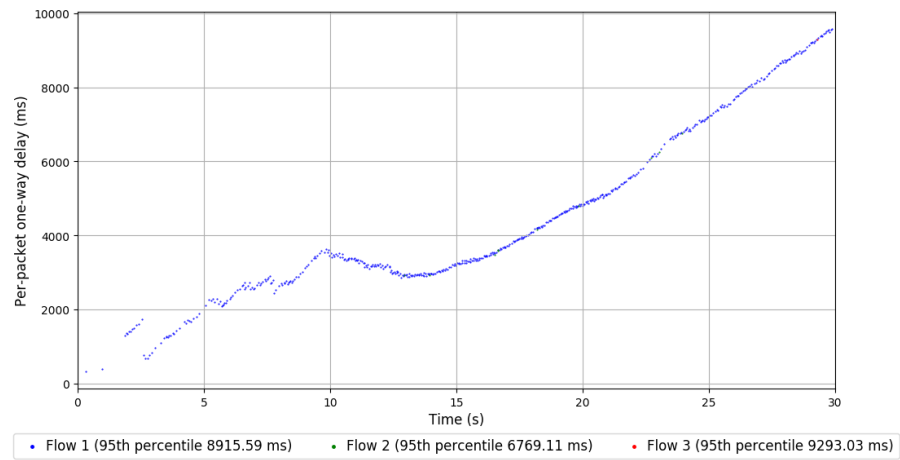
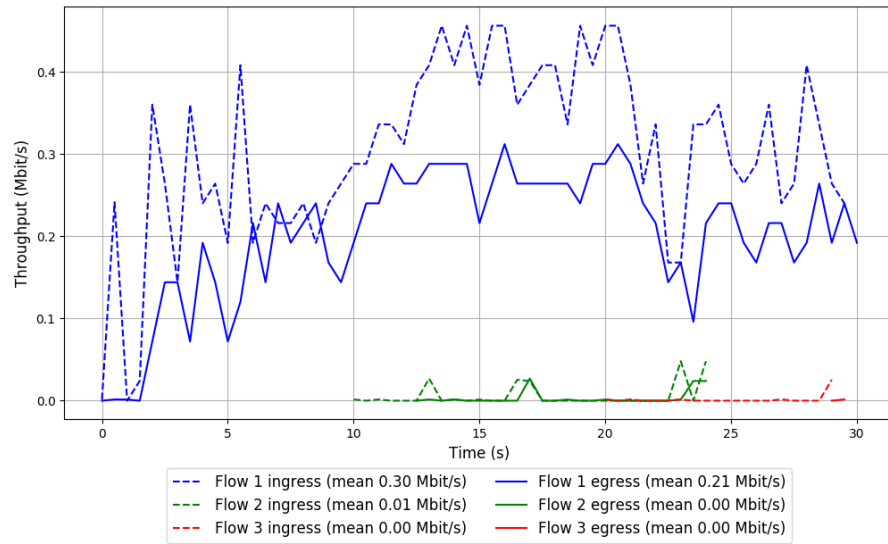


Run 3: Statistics of TCP Cubic

Start at: 2019-02-05 17:39:35
End at: 2019-02-05 17:40:05
Local clock offset: 3.04 ms
Remote clock offset: -0.681 ms

Below is generated by plot.py at 2019-02-05 17:52:16
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 8923.715 ms
Loss rate: 32.94%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 8915.587 ms
Loss rate: 32.63%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6769.111 ms
Loss rate: 53.86%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 9293.033 ms
Loss rate: 95.13%

Run 3: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

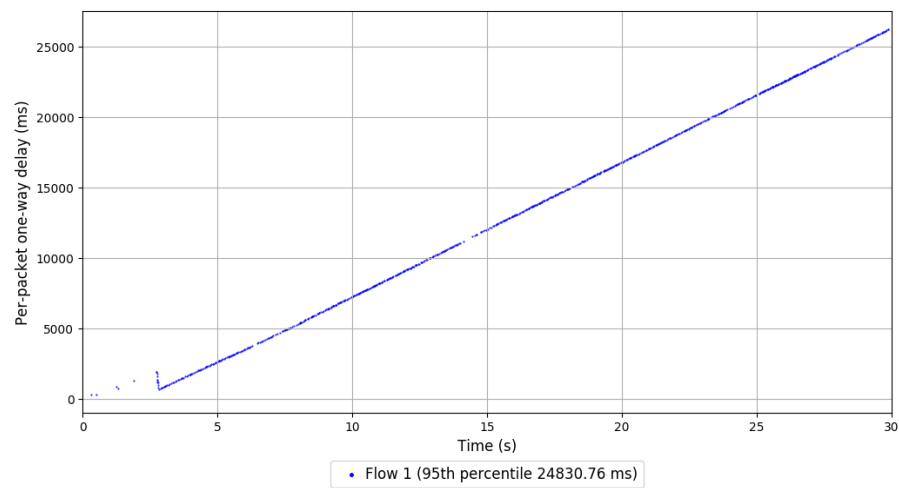
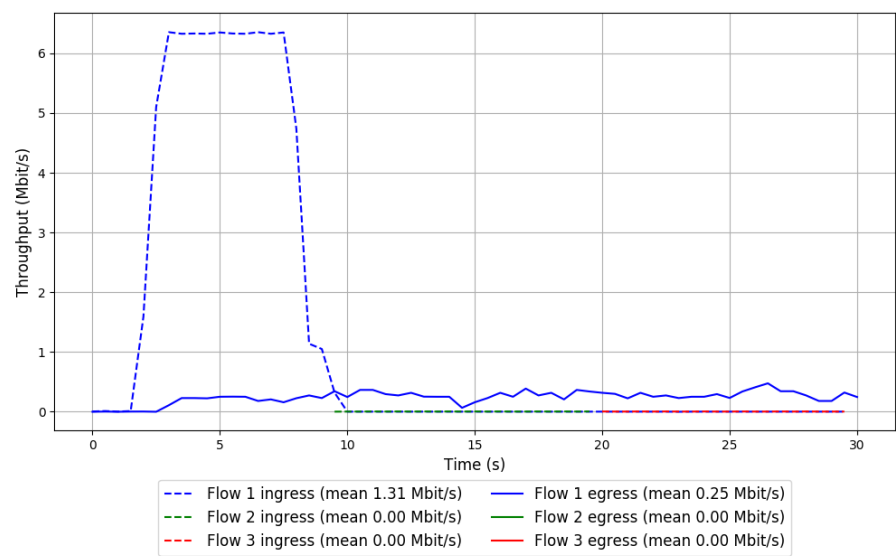
Start at: 2019-02-05 16:31:12

End at: 2019-02-05 16:31:42

Local clock offset: -17.148 ms

Remote clock offset: 1.554 ms

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

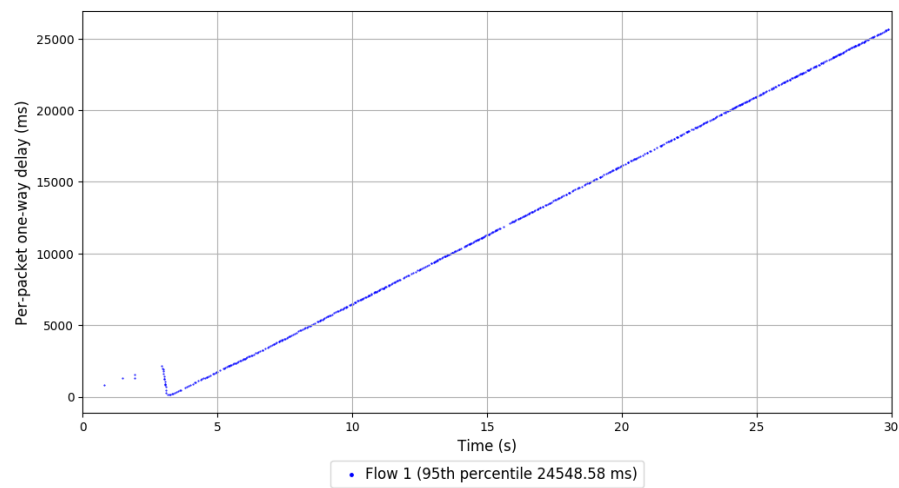
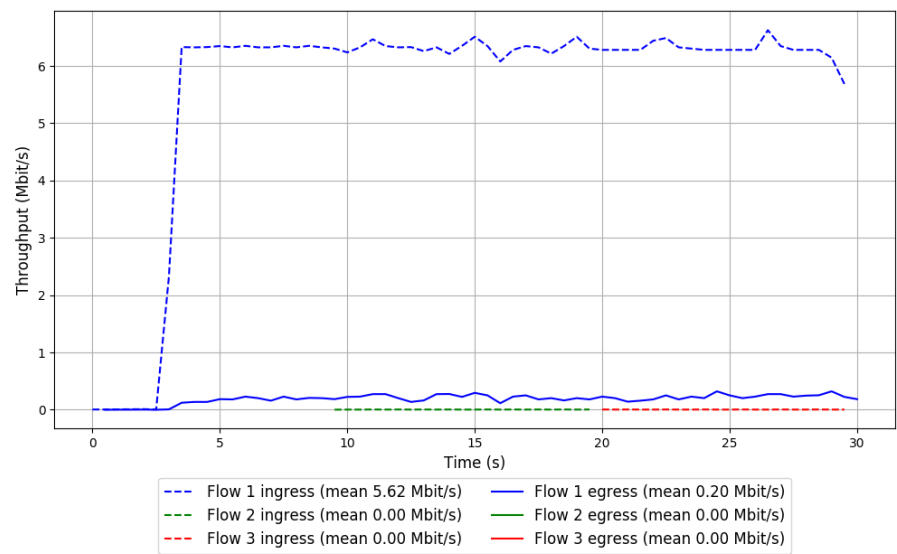
Start at: 2019-02-05 16:59:30

End at: 2019-02-05 17:00:00

Local clock offset: -25.137 ms

Remote clock offset: 0.184 ms

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

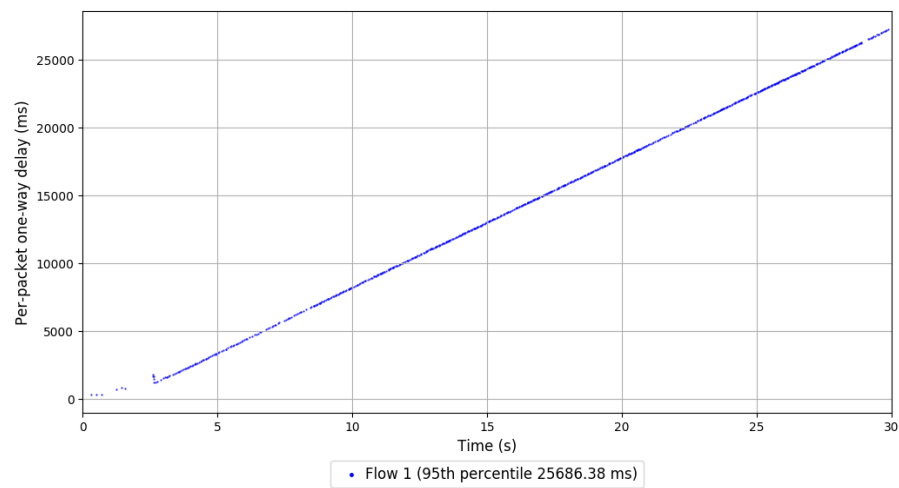
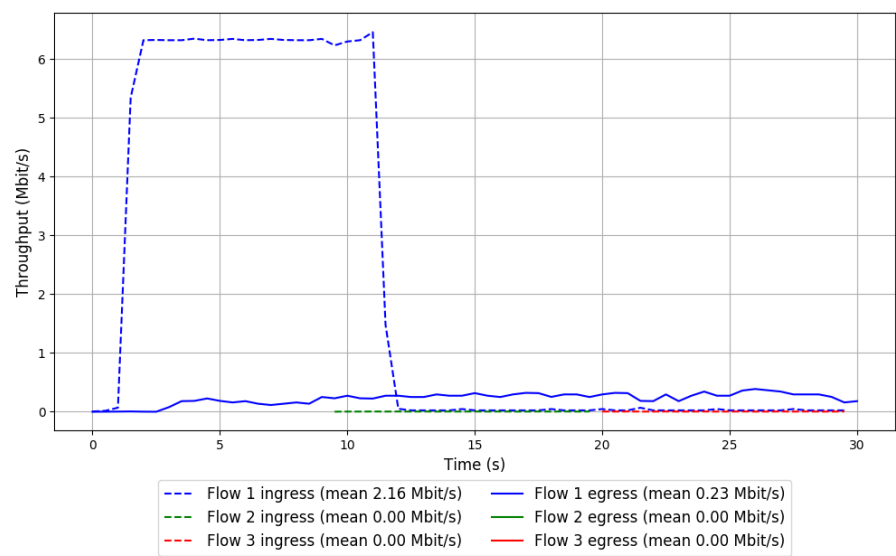
Start at: 2019-02-05 17:27:33

End at: 2019-02-05 17:28:03

Local clock offset: -5.616 ms

Remote clock offset: 5.98 ms

Run 3: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

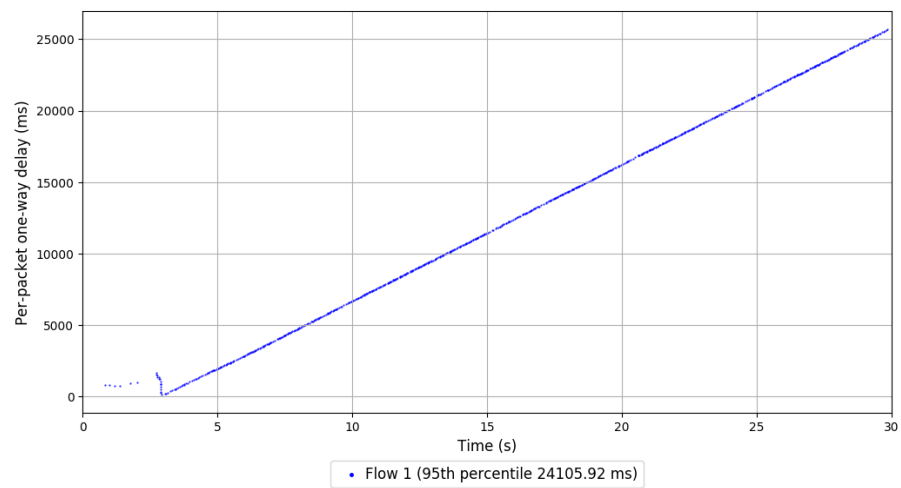
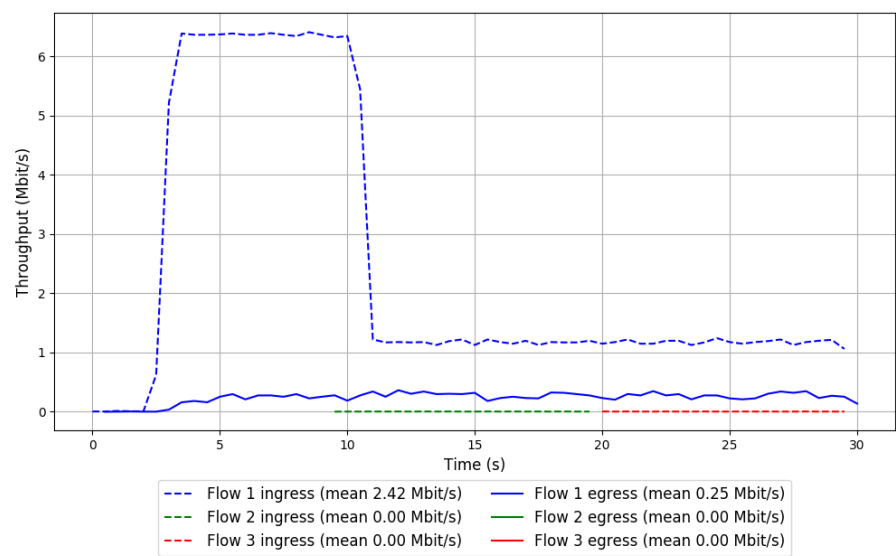
Start at: 2019-02-05 16:28:26

End at: 2019-02-05 16:28:56

Local clock offset: -15.57 ms

Remote clock offset: 1.657 ms

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

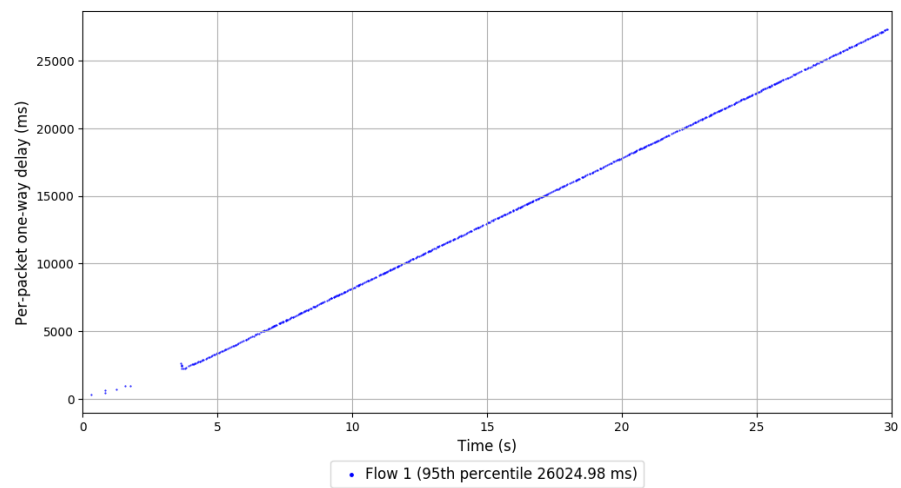
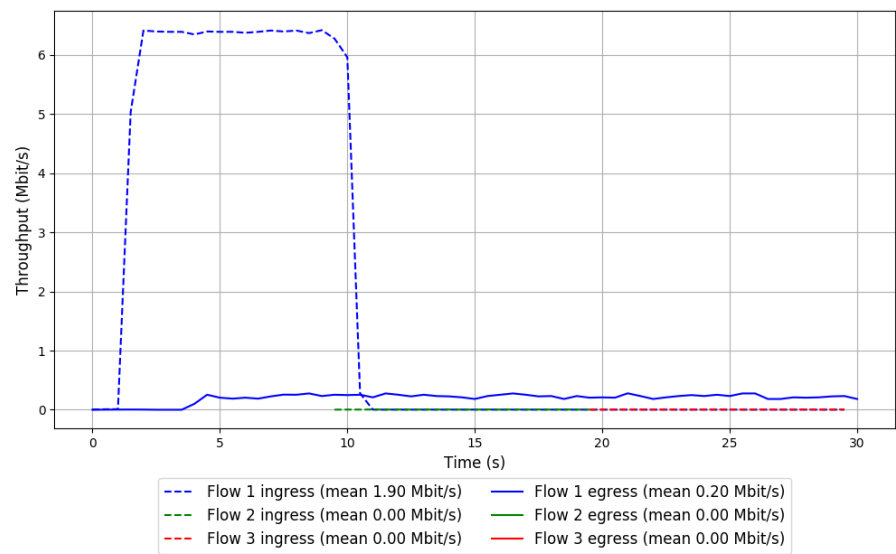
Start at: 2019-02-05 16:56:45

End at: 2019-02-05 16:57:15

Local clock offset: -24.521 ms

Remote clock offset: -0.106 ms

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2019-02-05 17:24:48

End at: 2019-02-05 17:25:18

Local clock offset: -9.171 ms

Remote clock offset: 5.606 ms

Below is generated by plot.py at 2019-02-05 17:52:21

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 5395.480 ms

Loss rate: 95.37%

-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 7525.035 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 3468.442 ms

Loss rate: 0.00%

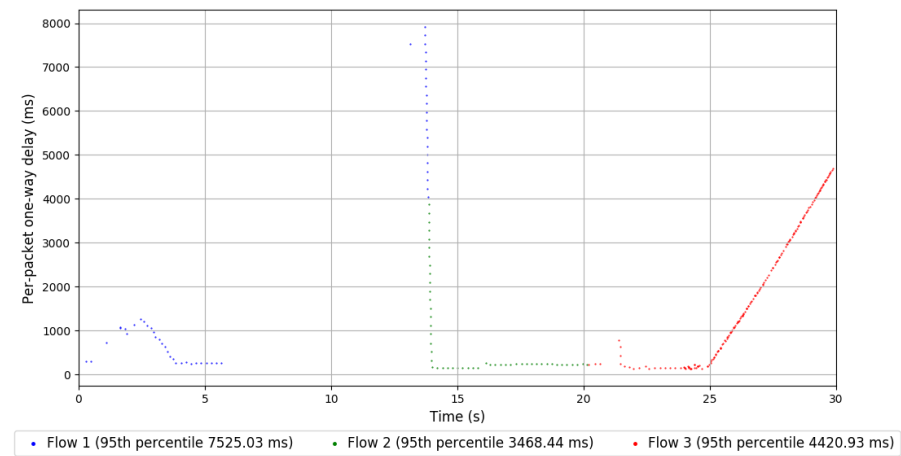
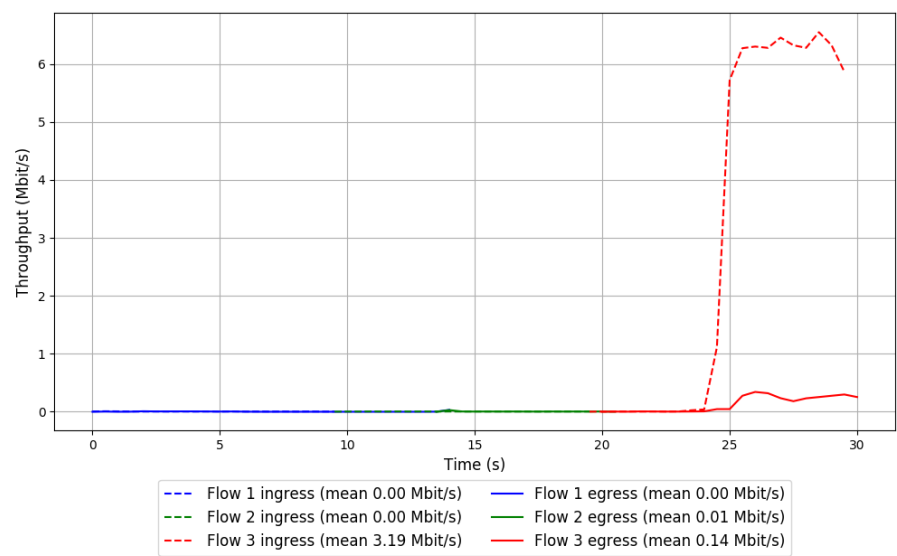
-- Flow 3:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 4420.929 ms

Loss rate: 95.61%

Run 3: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 1: Report of Indigo — Data Link

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Run 2: Statistics of Indigo

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 2: Report of Indigo — Data Link

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Run 3: Statistics of Indigo

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 3: Report of Indigo — Data Link

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Run 1: Statistics of Indigo-MusesC3

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 1: Report of Indigo-MusesC3 — Data Link

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Run 2: Statistics of Indigo-MusesC3

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 2: Report of Indigo-MusesC3 — Data Link

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Run 3: Statistics of Indigo-MusesC3

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 3: Report of Indigo-MusesC3 — Data Link

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Figure is missing

Run 1: Statistics of Indigo-MusesC5

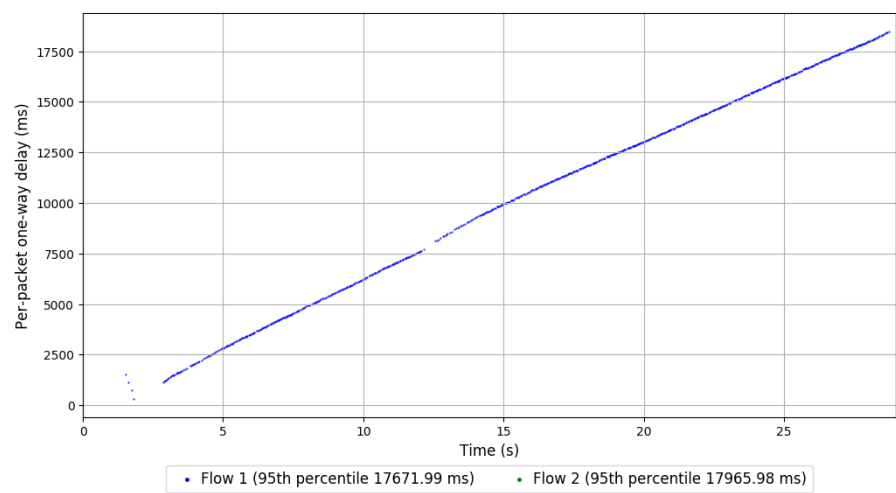
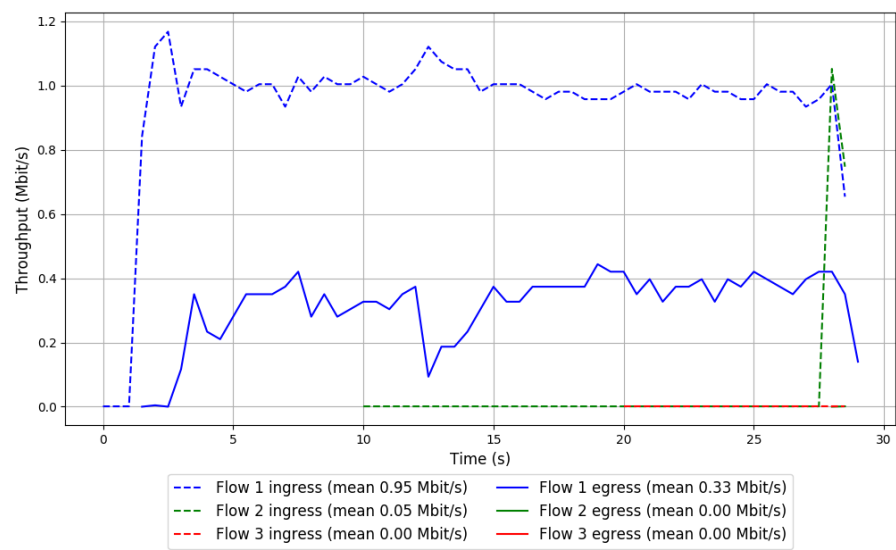
Start at: 2019-02-05 16:35:10

End at: 2019-02-05 16:35:40

Local clock offset: -18.807 ms

Remote clock offset: 0.336 ms

Run 1: Report of Indigo-MusesC5 — Data Link



Run 2: Statistics of Indigo-MusesC5

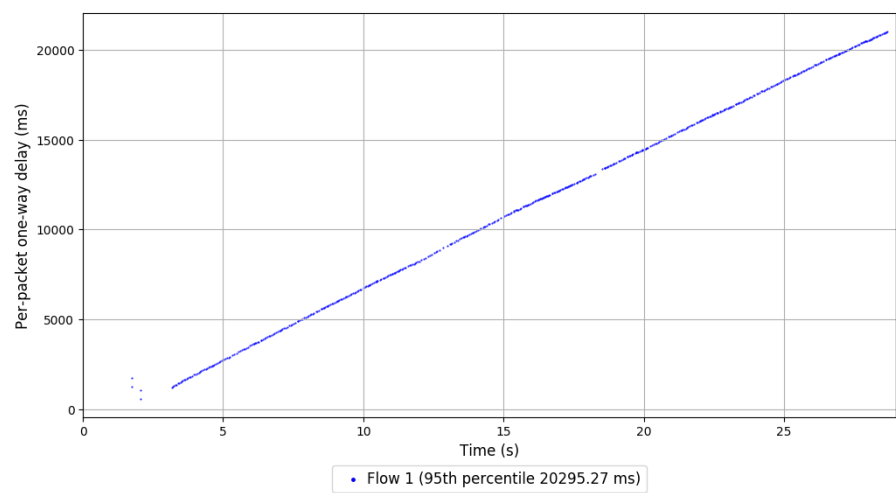
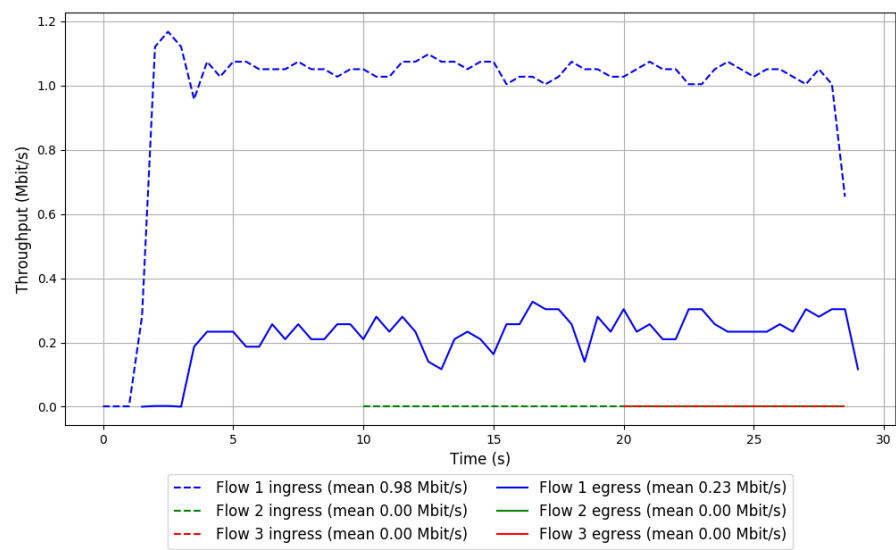
Start at: 2019-02-05 17:03:29

End at: 2019-02-05 17:03:59

Local clock offset: -25.872 ms

Remote clock offset: 5.021 ms

Run 2: Report of Indigo-MusesC5 — Data Link



Run 3: Statistics of Indigo-MusesC5

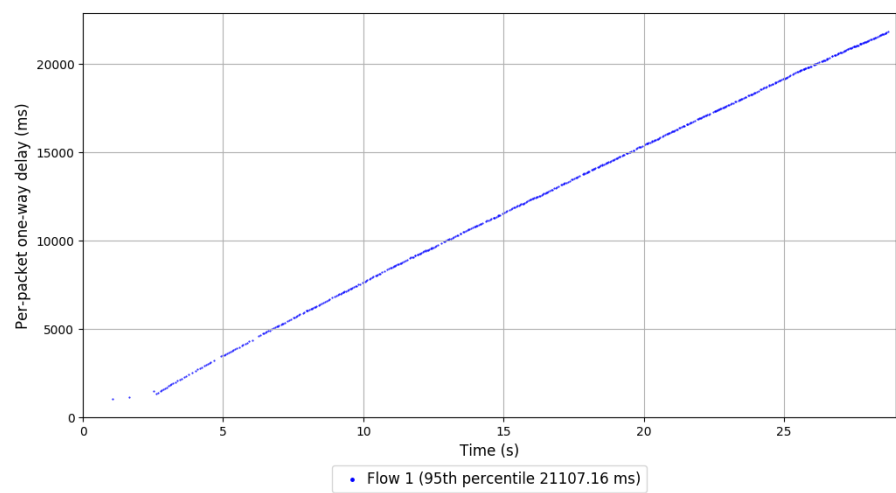
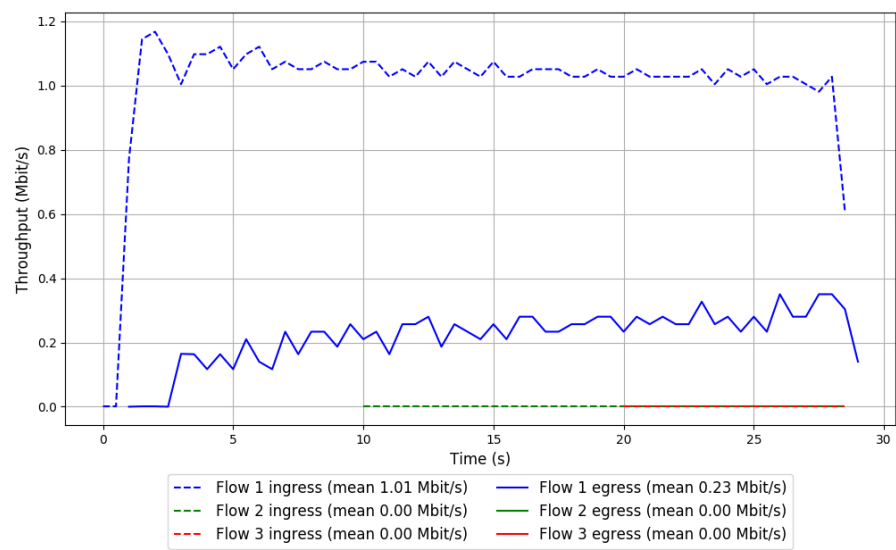
Start at: 2019-02-05 17:31:35

End at: 2019-02-05 17:32:05

Local clock offset: -1.998 ms

Remote clock offset: 5.767 ms

Run 3: Report of Indigo-MusesC5 — Data Link



Run 1: Statistics of Indigo-MusesD

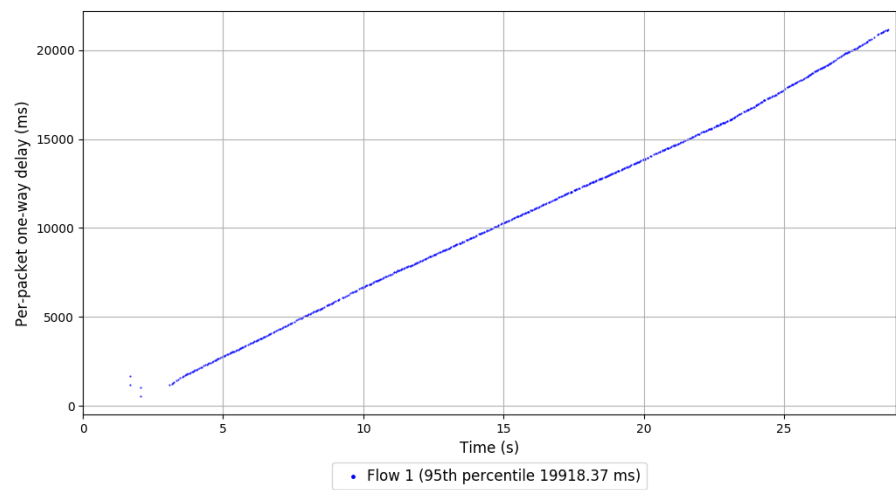
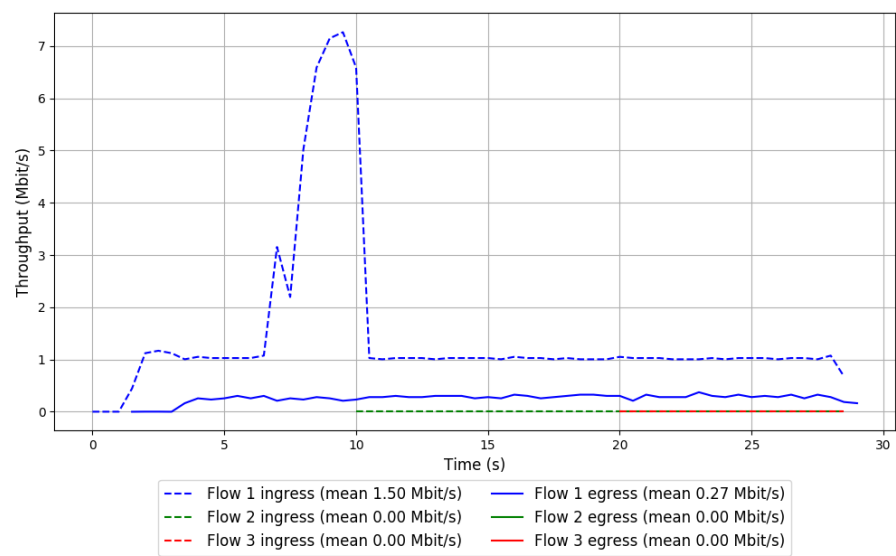
Start at: 2019-02-05 16:53:59

End at: 2019-02-05 16:54:29

Local clock offset: -23.897 ms

Remote clock offset: 3.906 ms

Run 1: Report of Indigo-MusesD — Data Link



Run 2: Statistics of Indigo-MusesD

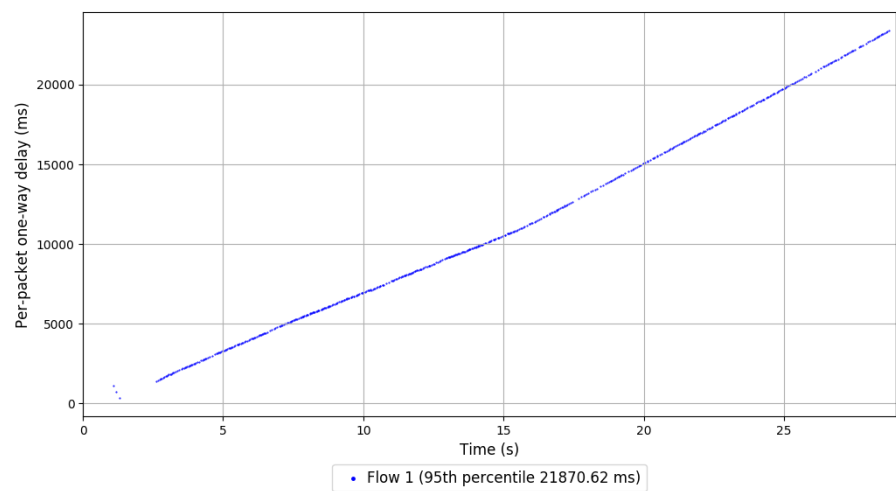
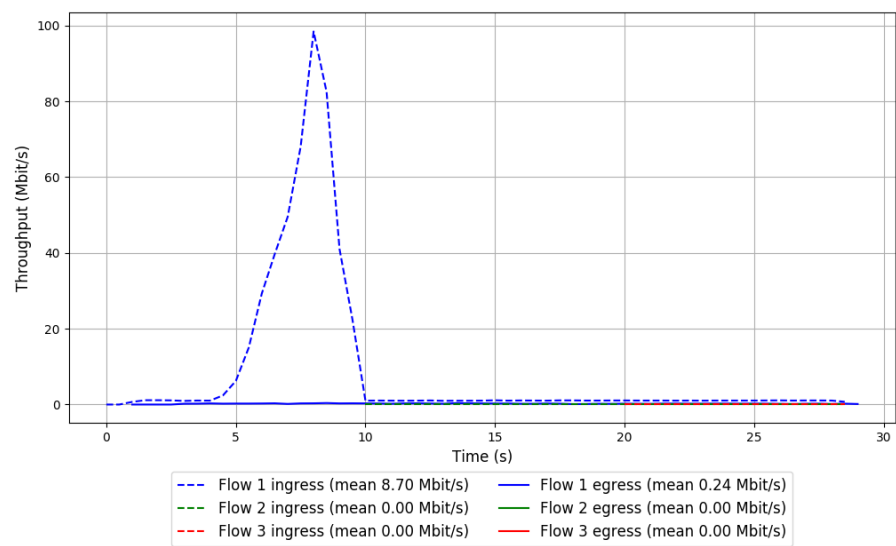
Start at: 2019-02-05 17:22:01

End at: 2019-02-05 17:22:31

Local clock offset: -13.645 ms

Remote clock offset: -0.264 ms

Run 2: Report of Indigo-MusesD — Data Link



Run 3: Statistics of Indigo-MusesD

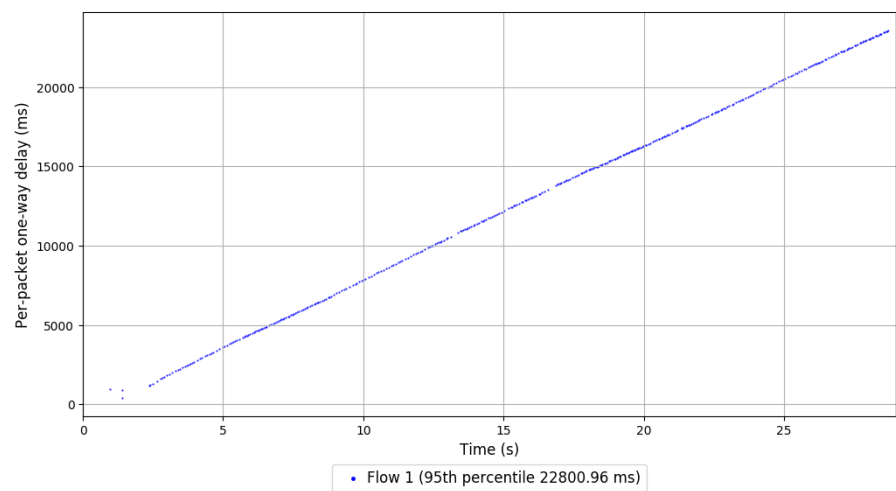
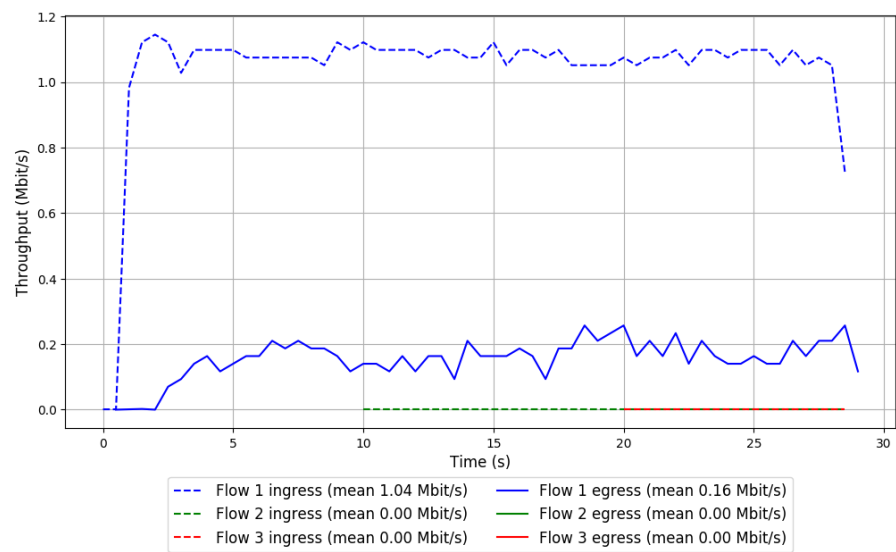
Start at: 2019-02-05 17:50:00

End at: 2019-02-05 17:50:30

Local clock offset: 3.581 ms

Remote clock offset: 0.459 ms

Run 3: Report of Indigo-MusesD — Data Link



Run 1: Statistics of Indigo-MusesT

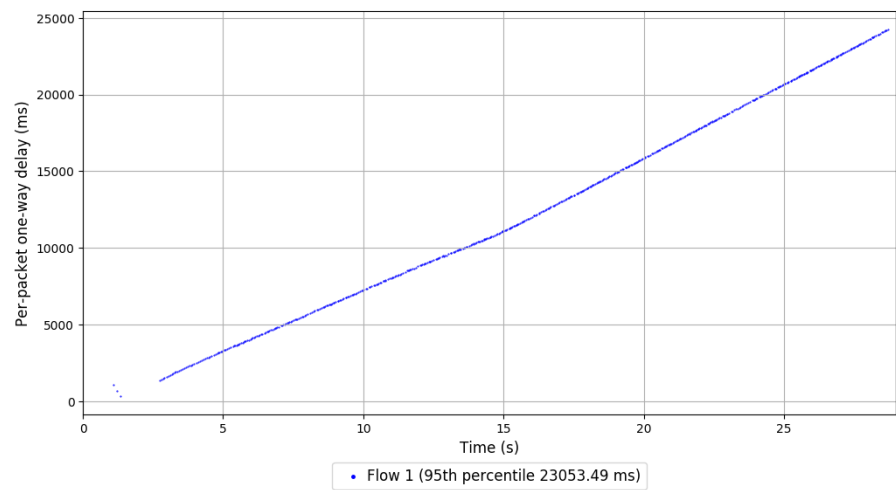
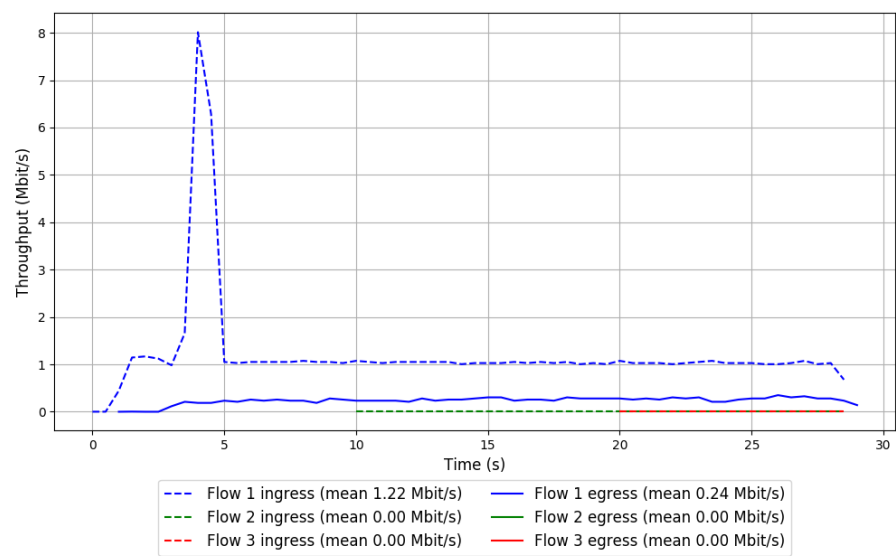
Start at: 2019-02-05 16:50:51

End at: 2019-02-05 16:51:21

Local clock offset: -23.202 ms

Remote clock offset: 0.135 ms

Run 1: Report of Indigo-MusesT — Data Link



Run 2: Statistics of Indigo-MusesT

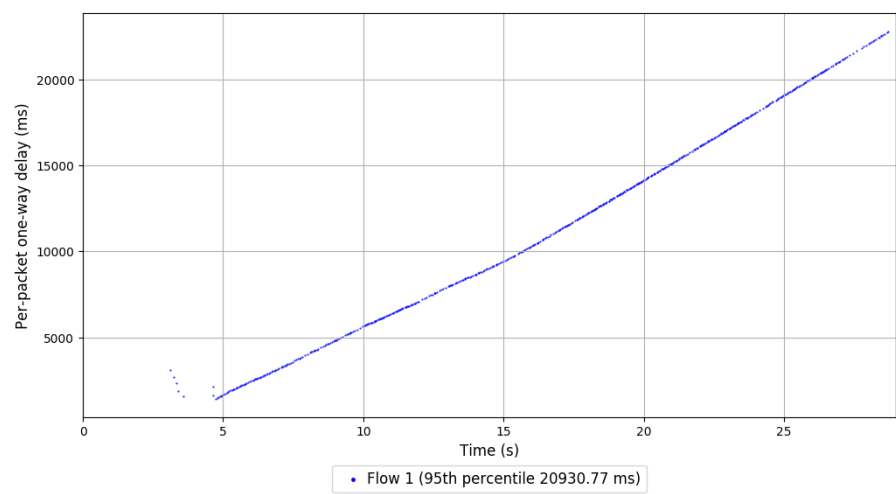
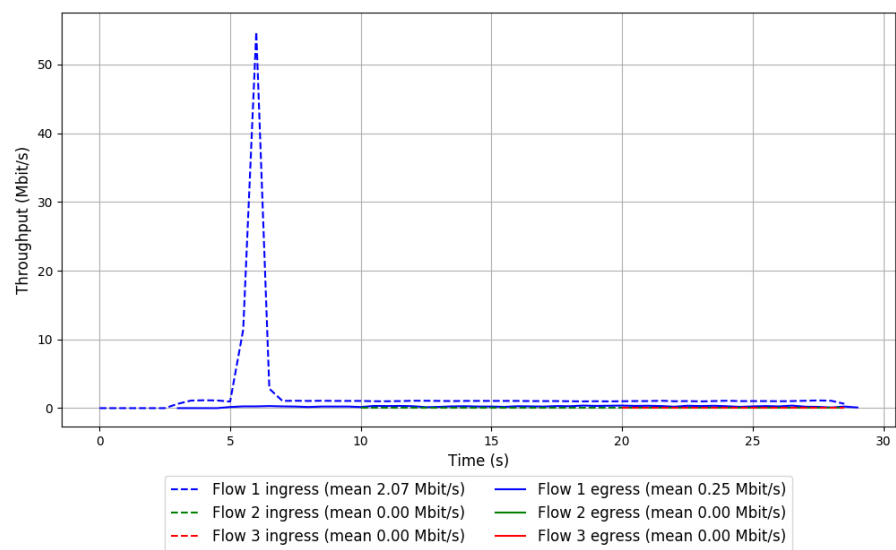
Start at: 2019-02-05 17:19:16

End at: 2019-02-05 17:19:46

Local clock offset: -19.533 ms

Remote clock offset: 0.925 ms

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

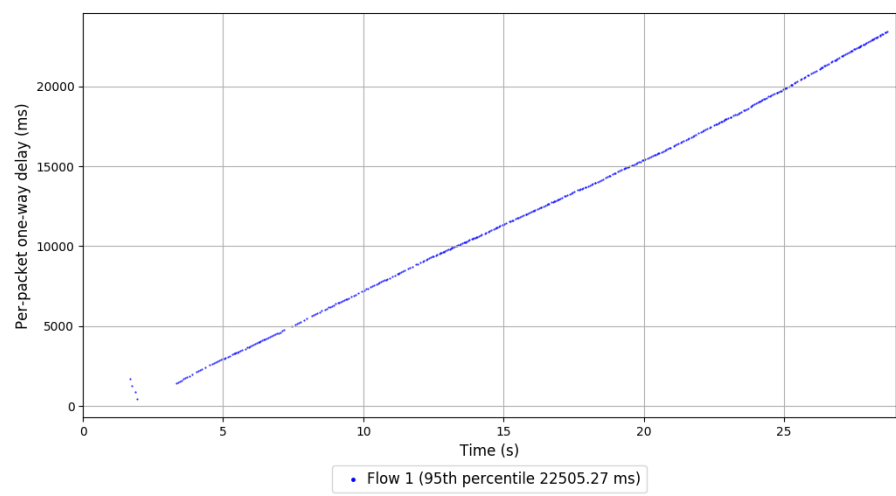
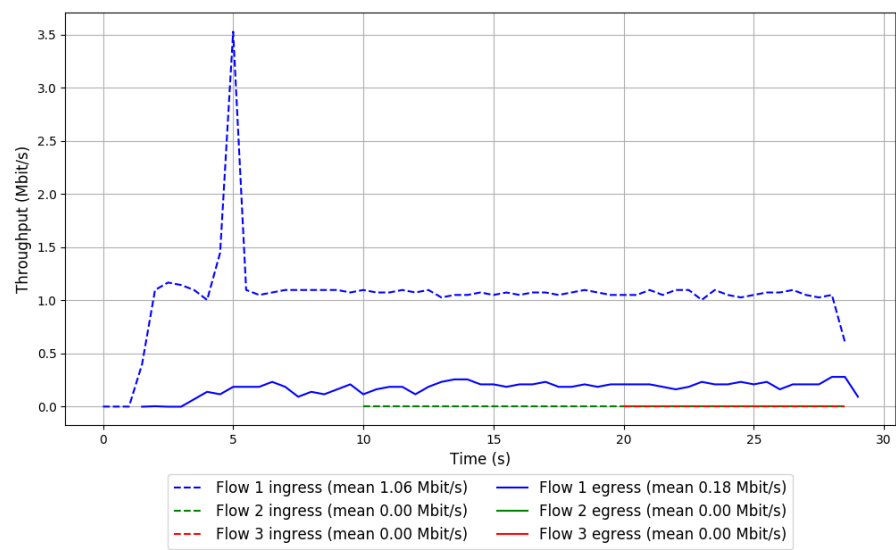
Start at: 2019-02-05 17:47:15

End at: 2019-02-05 17:47:45

Local clock offset: 5.033 ms

Remote clock offset: 0.675 ms

Run 3: Report of Indigo-MusesT — Data Link

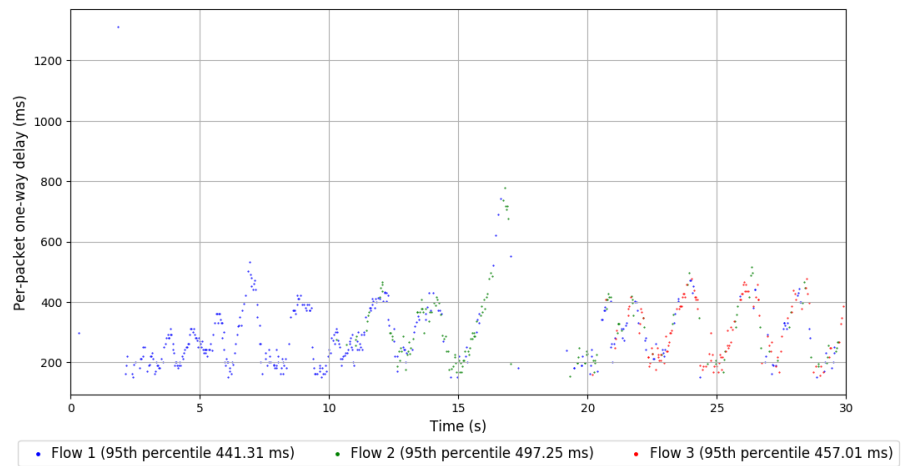
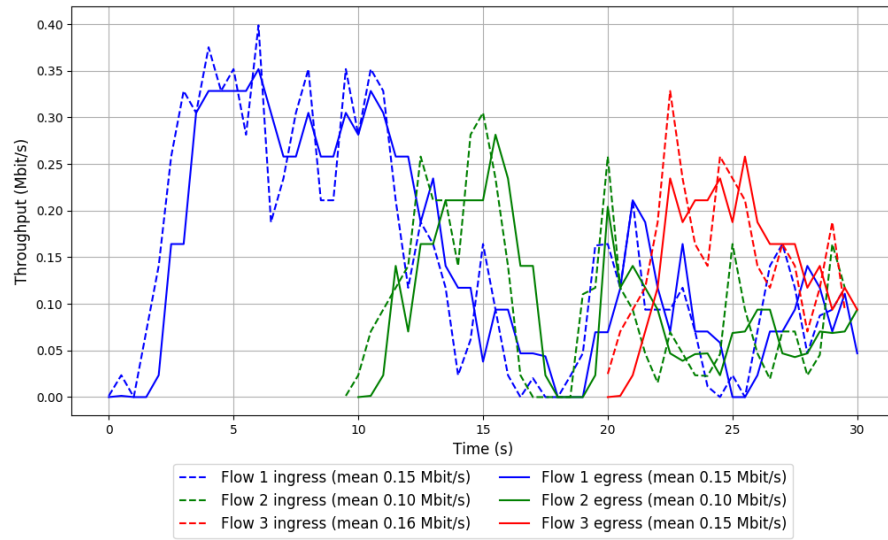


Run 1: Statistics of LEDBAT

Start at: 2019-02-05 16:41:55
End at: 2019-02-05 16:42:25
Local clock offset: -21.029 ms
Remote clock offset: 4.973 ms

Below is generated by plot.py at 2019-02-05 17:52:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 457.252 ms
Loss rate: 2.34%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 441.309 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 497.249 ms
Loss rate: 3.49%
-- Flow 3:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 457.010 ms
Loss rate: 3.79%

Run 1: Report of LEDBAT — Data Link

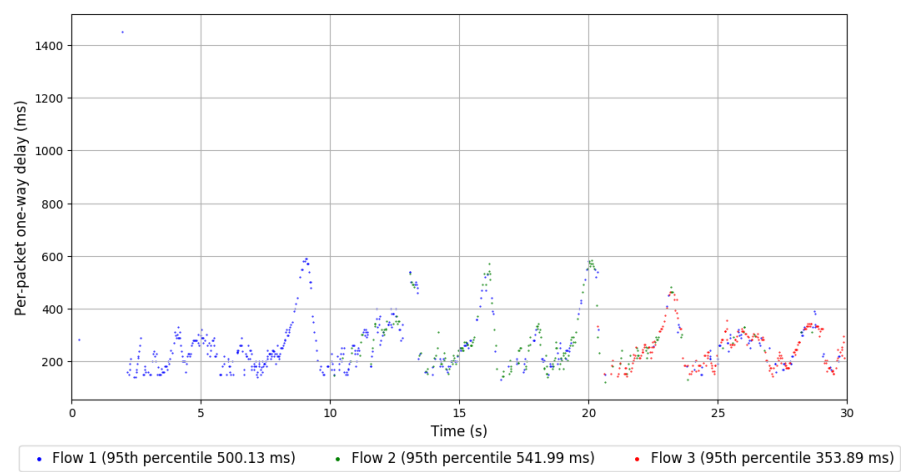
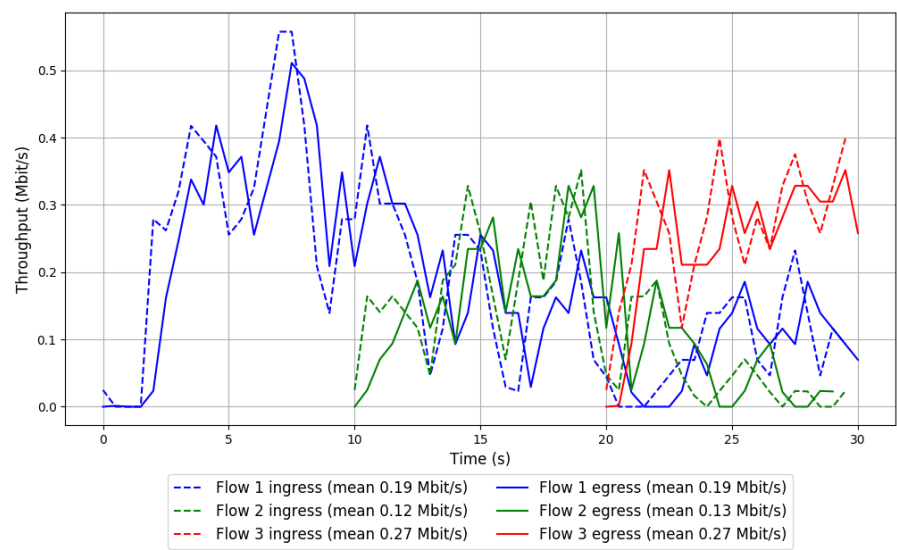


Run 2: Statistics of LEDBAT

Start at: 2019-02-05 17:10:18
End at: 2019-02-05 17:10:48
Local clock offset: -27.324 ms
Remote clock offset: 5.118 ms

Below is generated by plot.py at 2019-02-05 17:52:27
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 491.949 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 500.133 ms
Loss rate: 1.04%
-- Flow 2:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 541.987 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 353.890 ms
Loss rate: 4.42%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2019-02-05 17:38:22

End at: 2019-02-05 17:38:52

Local clock offset: 2.469 ms

Remote clock offset: 0.744 ms

Below is generated by plot.py at 2019-02-05 17:52:27

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 614.306 ms

Loss rate: 0.30%

-- Flow 1:

Average throughput: 0.06 Mbit/s

95th percentile per-packet one-way delay: 683.790 ms

Loss rate: 0.00%

-- Flow 2:

Average throughput: 0.09 Mbit/s

95th percentile per-packet one-way delay: 550.410 ms

Loss rate: 0.66%

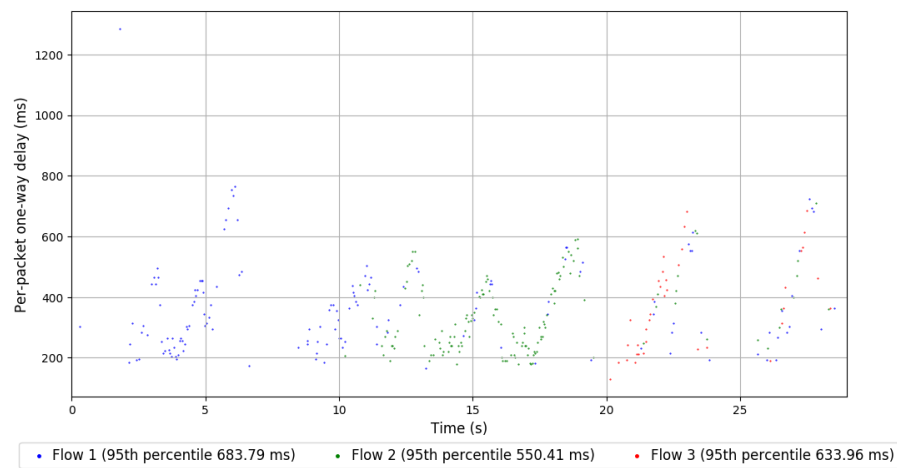
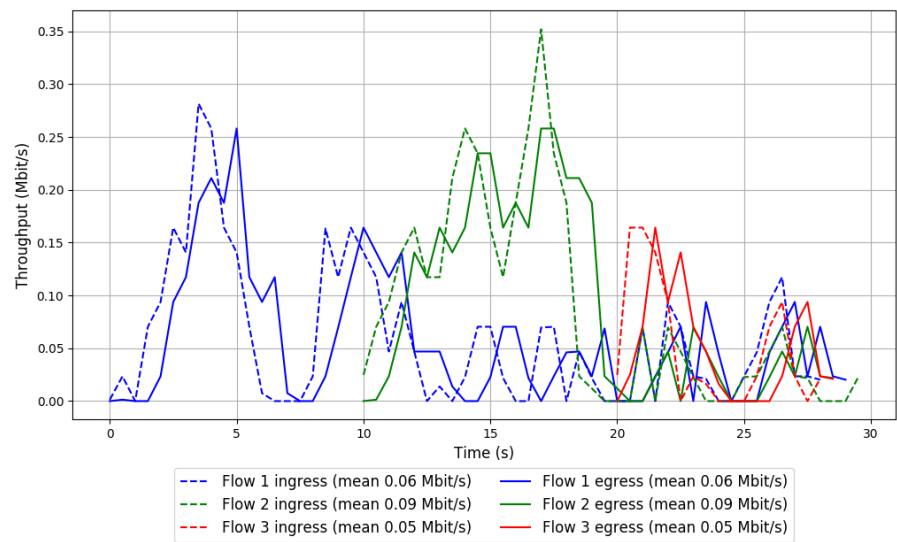
-- Flow 3:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 633.958 ms

Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

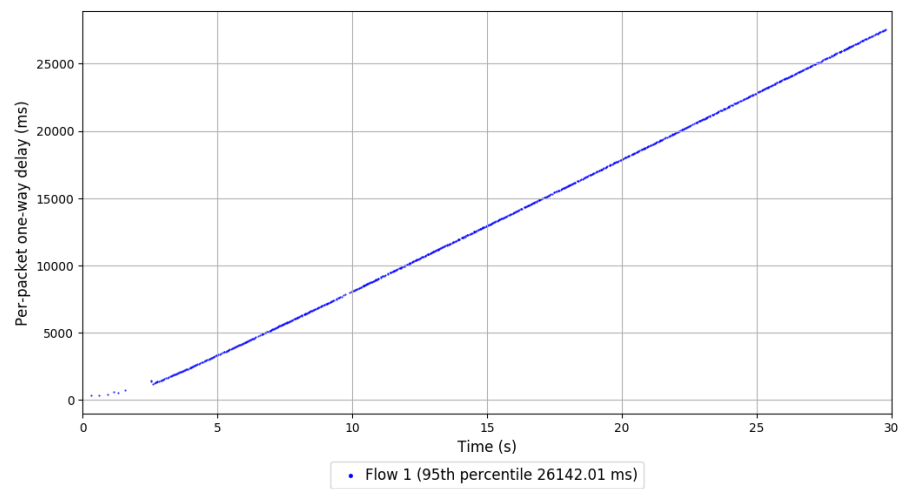
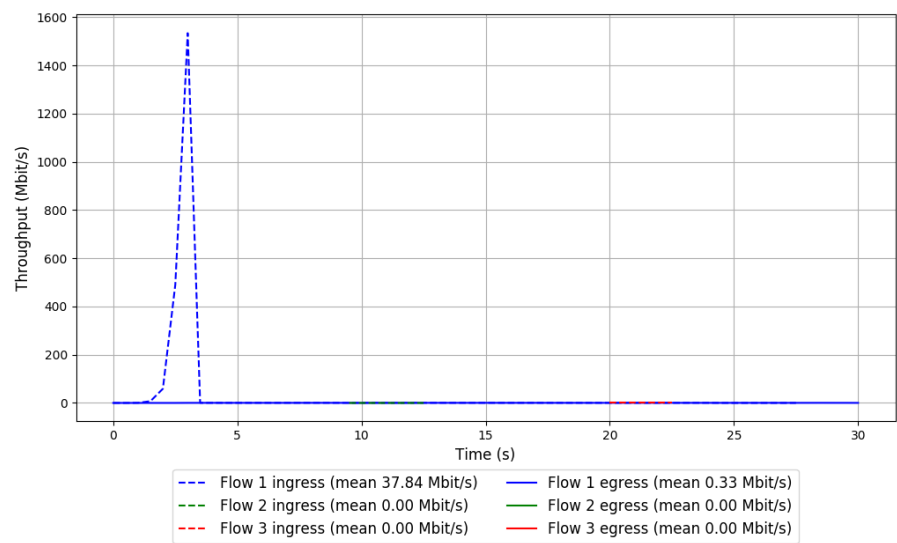
Start at: 2019-02-05 16:39:09

End at: 2019-02-05 16:39:39

Local clock offset: -20.197 ms

Remote clock offset: 0.179 ms

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

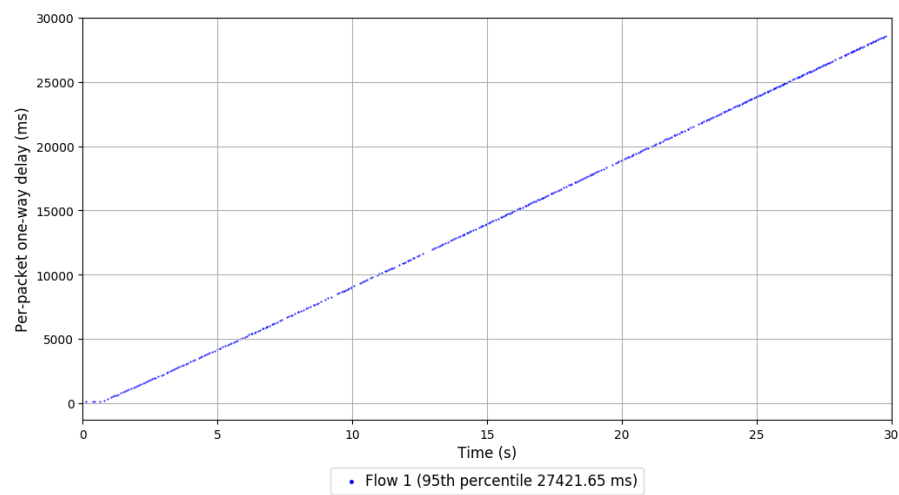
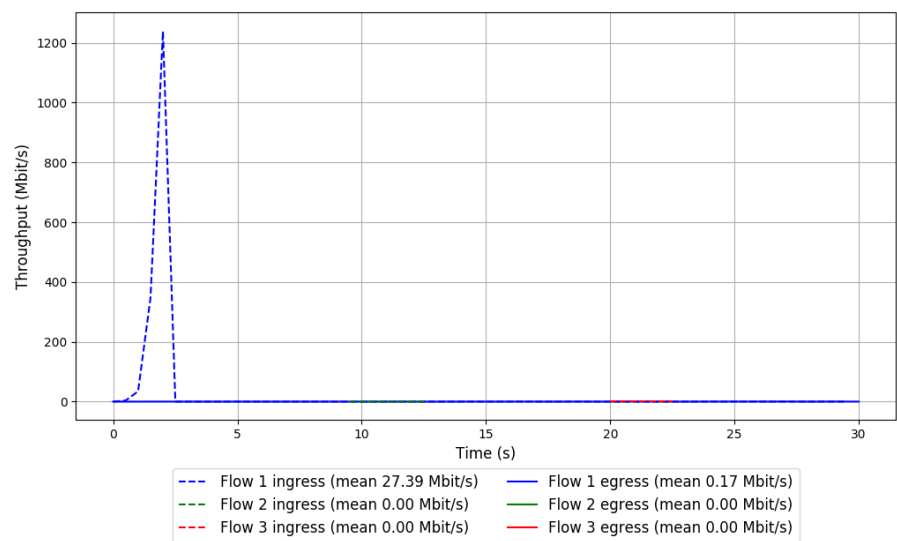
Start at: 2019-02-05 17:07:30

End at: 2019-02-05 17:08:00

Local clock offset: -26.673 ms

Remote clock offset: -0.14 ms

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

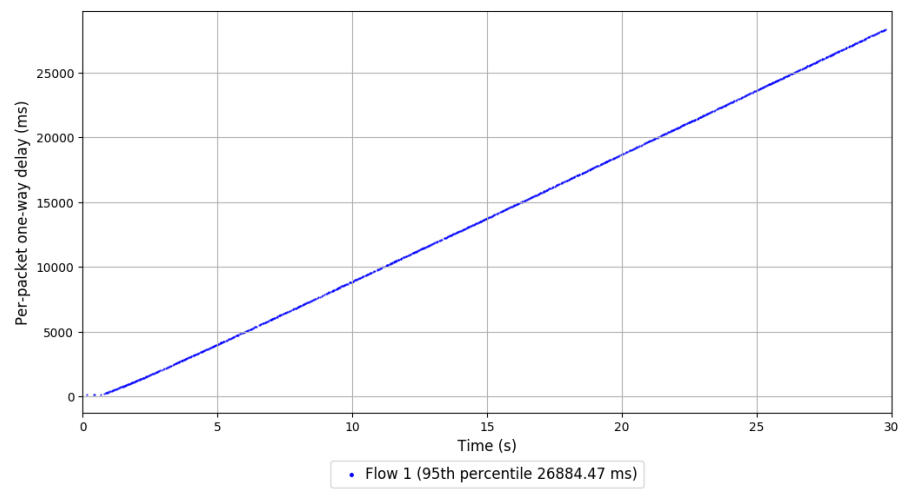
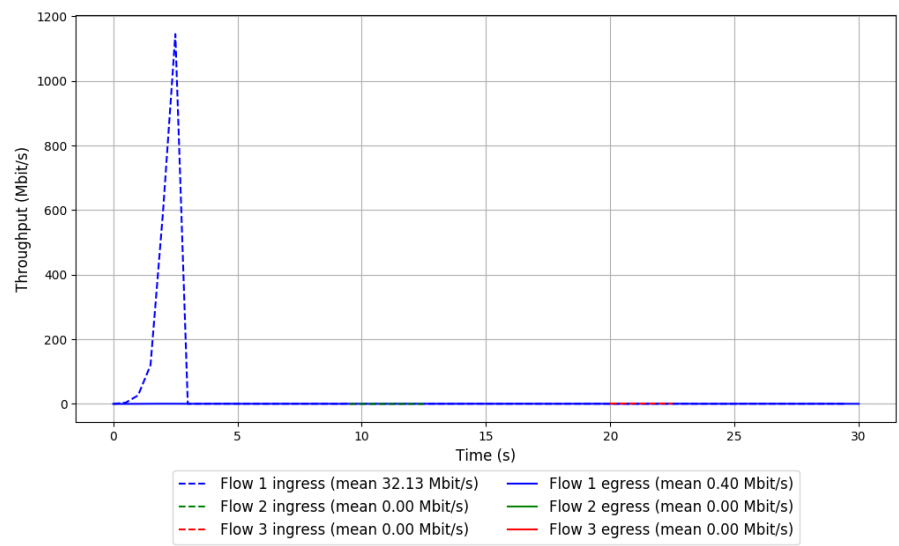
Start at: 2019-02-05 17:35:35

End at: 2019-02-05 17:36:05

Local clock offset: 0.852 ms

Remote clock offset: 3.392 ms

Run 3: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

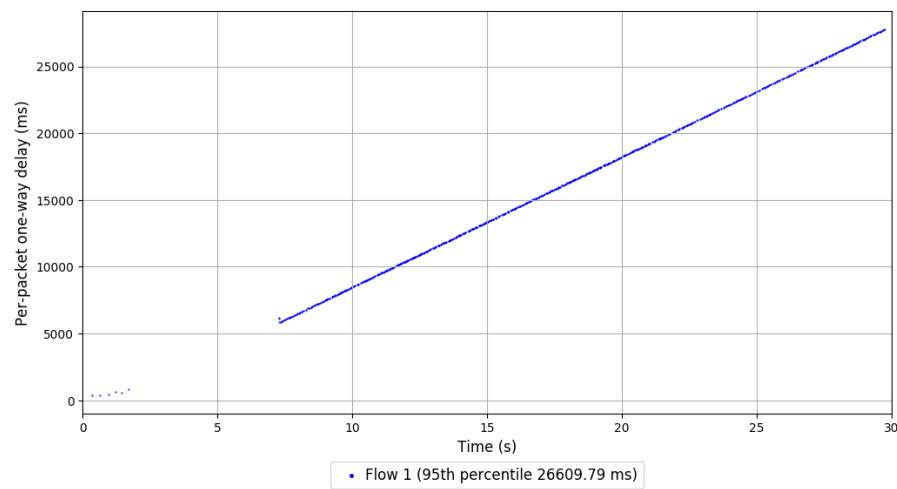
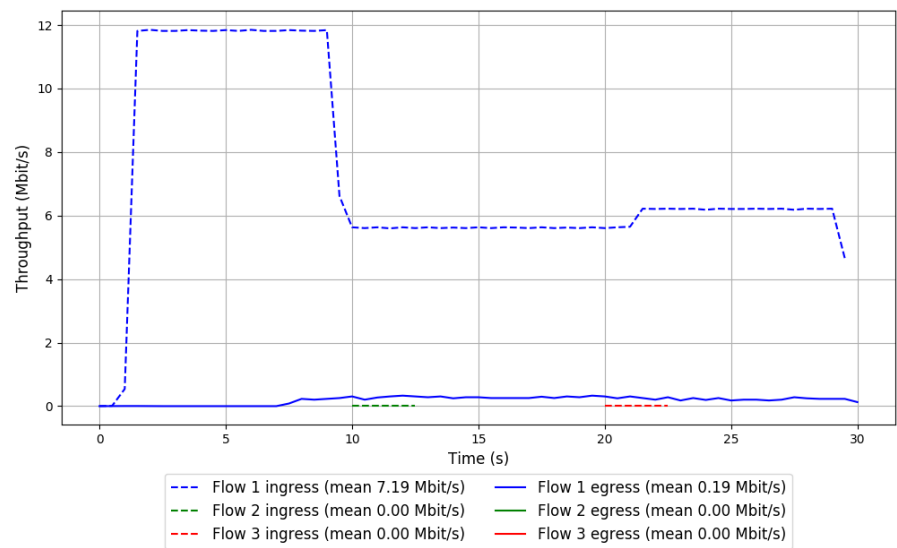
Start at: 2019-02-05 16:45:38

End at: 2019-02-05 16:46:08

Local clock offset: -22.001 ms

Remote clock offset: 4.978 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

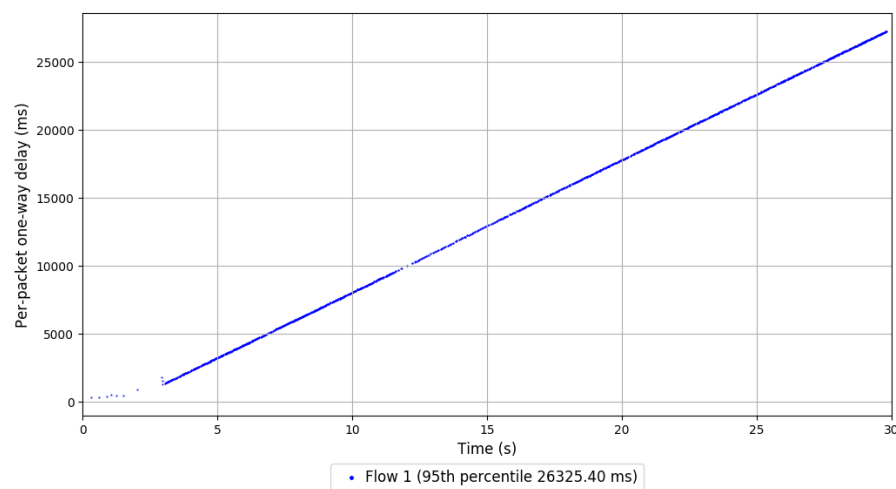
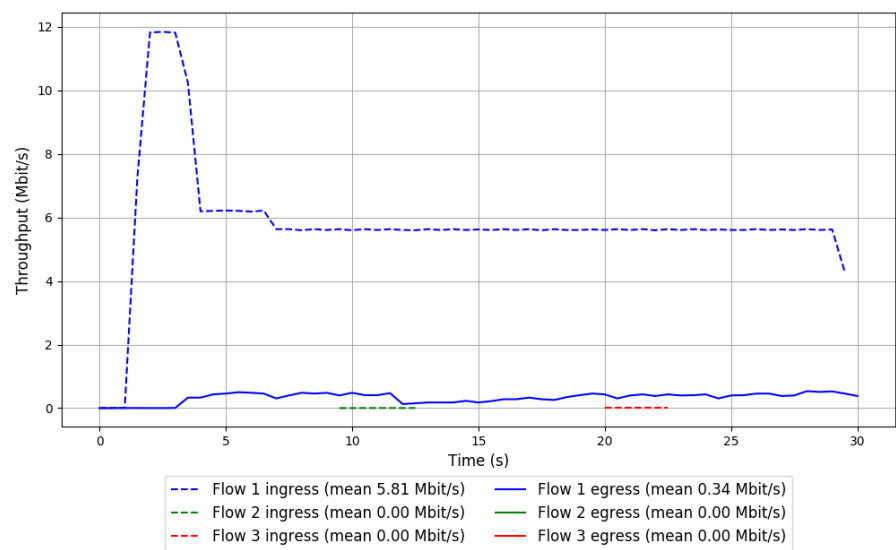
Start at: 2019-02-05 17:14:03

End at: 2019-02-05 17:14:33

Local clock offset: -28.058 ms

Remote clock offset: 6.081 ms

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

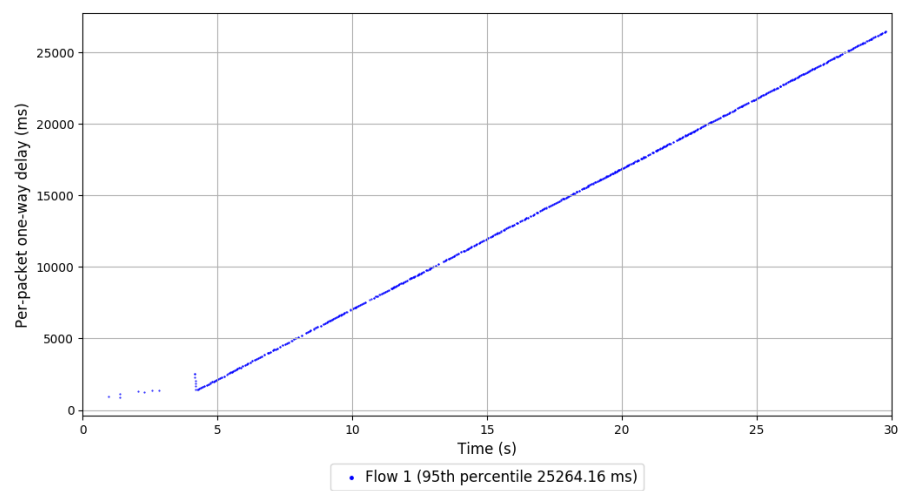
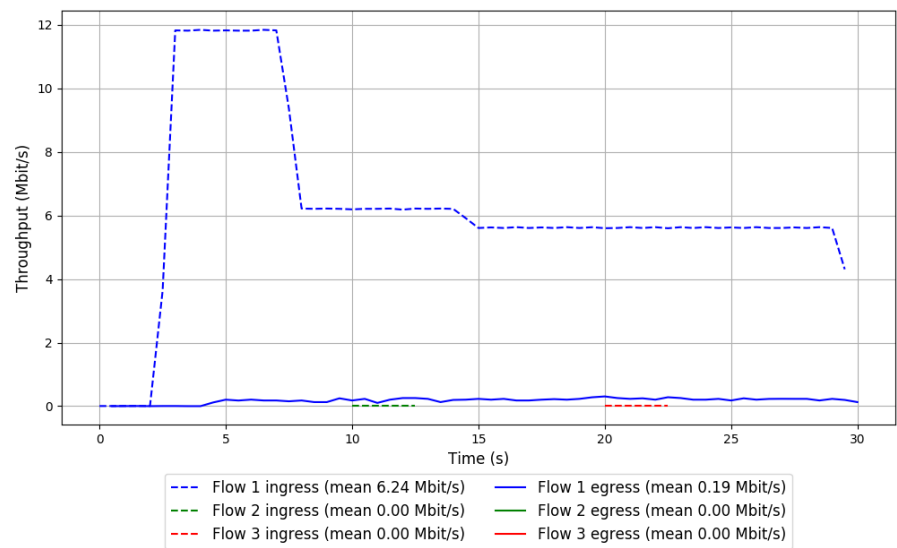
Start at: 2019-02-05 17:42:02

End at: 2019-02-05 17:42:32

Local clock offset: 4.195 ms

Remote clock offset: 4.359 ms

Run 3: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 1: Report of QUIC Cubic — Data Link

Figure is missing

Figure is missing

Run 2: Statistics of QUIC Cubic

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 2: Report of QUIC Cubic — Data Link

Figure is missing

Figure is missing

Run 3: Statistics of QUIC Cubic

Start at: 2019-02-05 17:29:09

End at: 2019-02-05 17:29:39

Local clock offset: -4.518 ms

Remote clock offset: 0.781 ms

Below is generated by plot.py at 2019-02-05 17:52:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 5778.435 ms

Loss rate: 20.77%

-- Flow 1:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 5784.780 ms

Loss rate: 20.72%

-- Flow 2:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5666.071 ms

Loss rate: 29.17%

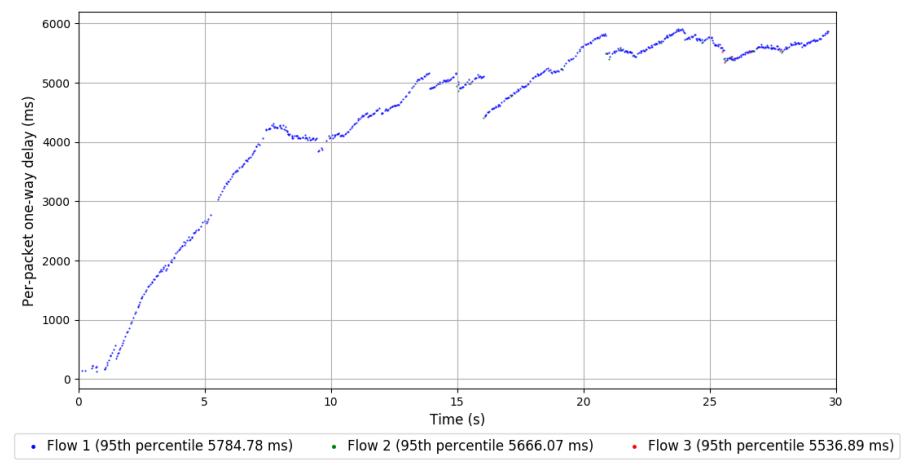
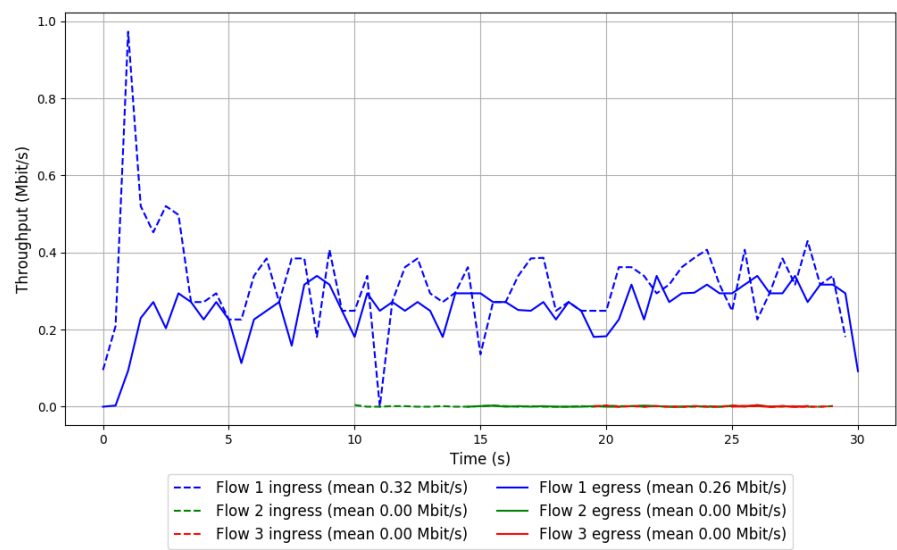
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5536.891 ms

Loss rate: 58.33%

Run 3: Report of QUIC Cubic — Data Link



Run 1: Statistics of SCReAM

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 1: Report of SReAM — Data Link

Figure is missing

Figure is missing

Run 2: Statistics of SCReAM

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 2: Report of SReAM — Data Link

Figure is missing

Figure is missing

Run 3: Statistics of SCReAM

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 3: Report of SReAM — Data Link

Figure is missing

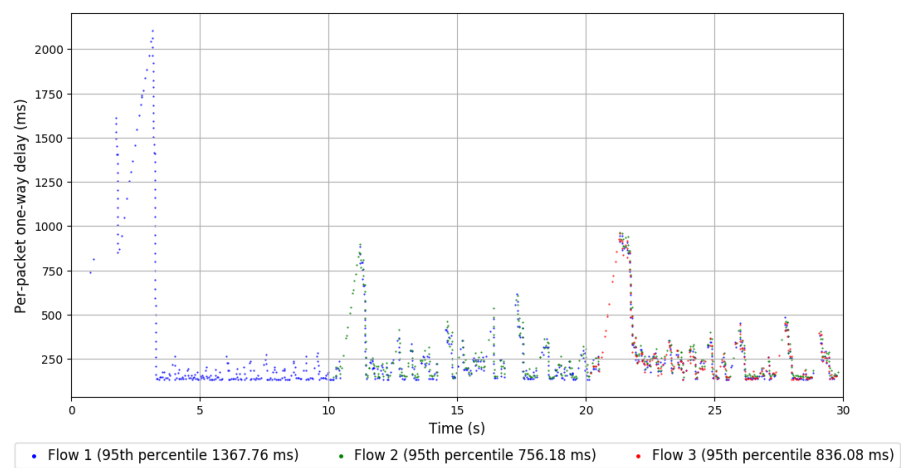
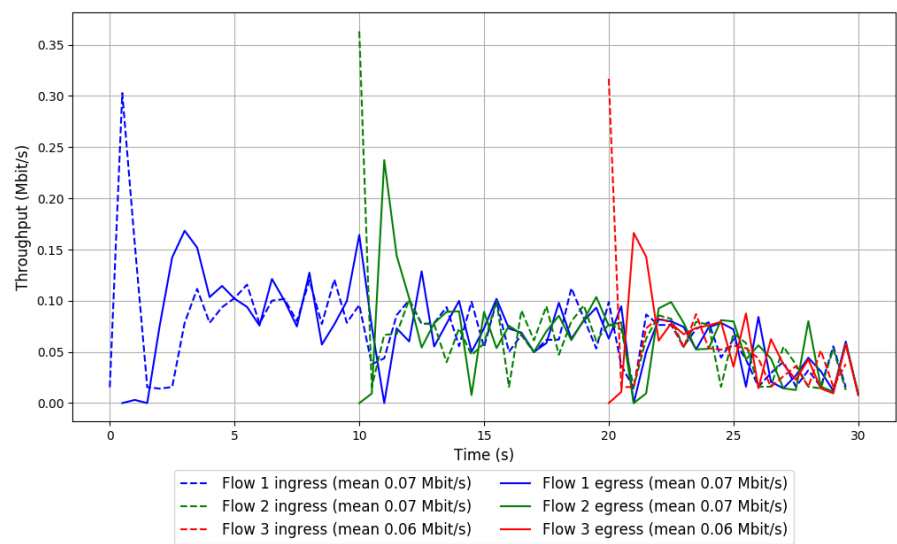
Figure is missing

Run 1: Statistics of Sprout

Start at: 2019-02-05 16:49:38
End at: 2019-02-05 16:50:08
Local clock offset: -22.922 ms
Remote clock offset: 3.957 ms

Below is generated by plot.py at 2019-02-05 17:52:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 916.516 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 1367.761 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 756.184 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 836.081 ms
Loss rate: 2.96%

Run 1: Report of Sprout — Data Link

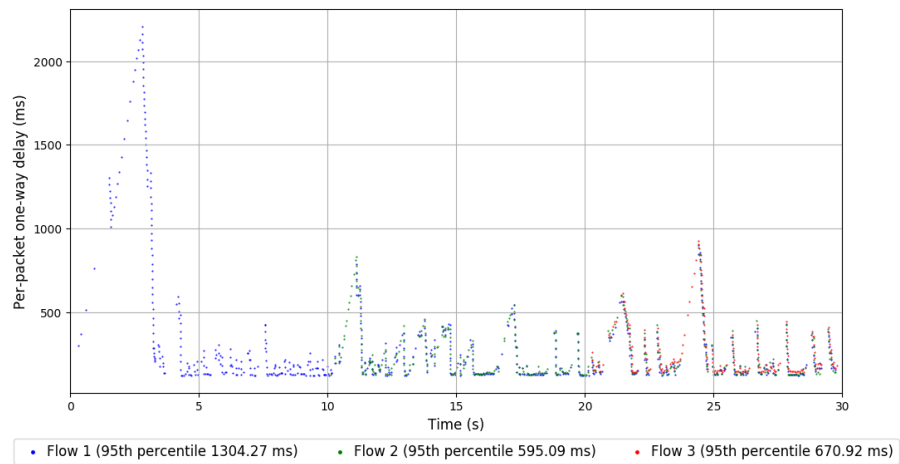
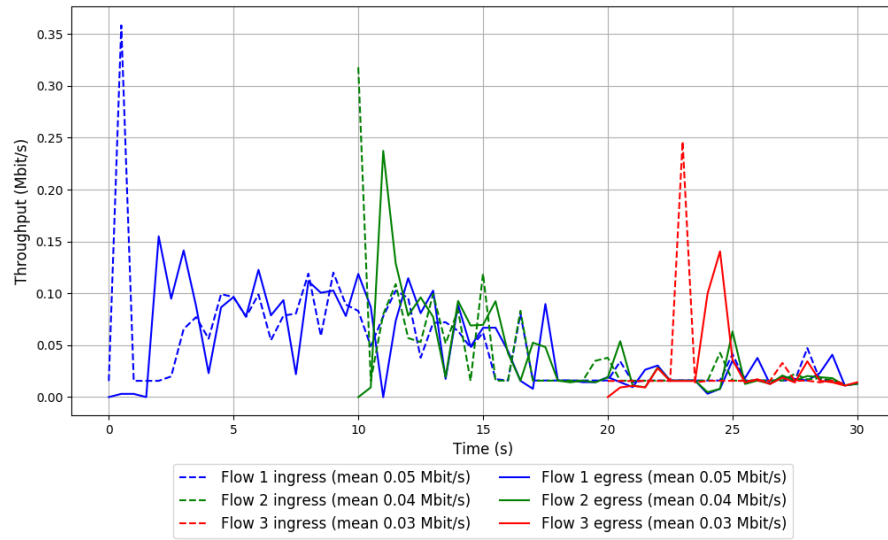


Run 2: Statistics of Sprout

Start at: 2019-02-05 17:18:02
End at: 2019-02-05 17:18:32
Local clock offset: -22.622 ms
Remote clock offset: 5.019 ms

```
# Below is generated by plot.py at 2019-02-05 17:52:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 847.560 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 1304.266 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 595.086 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 670.921 ms
Loss rate: 1.43%
```

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2019-02-05 17:46:01

End at: 2019-02-05 17:46:31

Local clock offset: 5.778 ms

Remote clock offset: 0.691 ms

Below is generated by plot.py at 2019-02-05 17:52:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.05 Mbit/s

95th percentile per-packet one-way delay: 1140.556 ms

Loss rate: 0.81%

-- Flow 1:

Average throughput: 0.03 Mbit/s

95th percentile per-packet one-way delay: 1460.015 ms

Loss rate: 0.43%

-- Flow 2:

Average throughput: 0.03 Mbit/s

95th percentile per-packet one-way delay: 981.081 ms

Loss rate: 0.92%

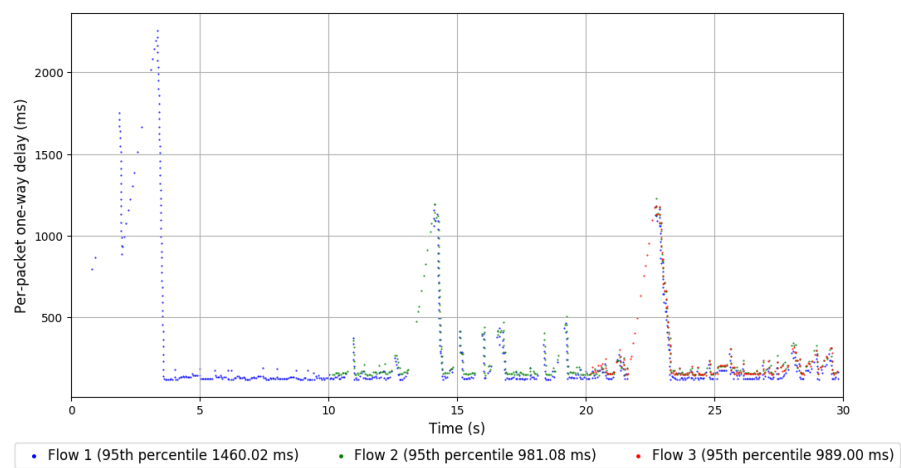
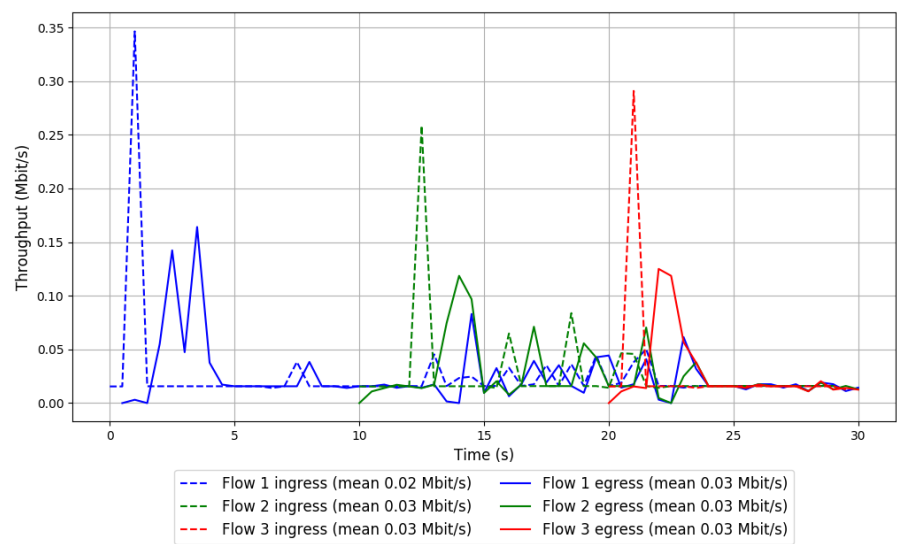
-- Flow 3:

Average throughput: 0.03 Mbit/s

95th percentile per-packet one-way delay: 988.997 ms

Loss rate: 1.61%

Run 3: Report of Sprout — Data Link

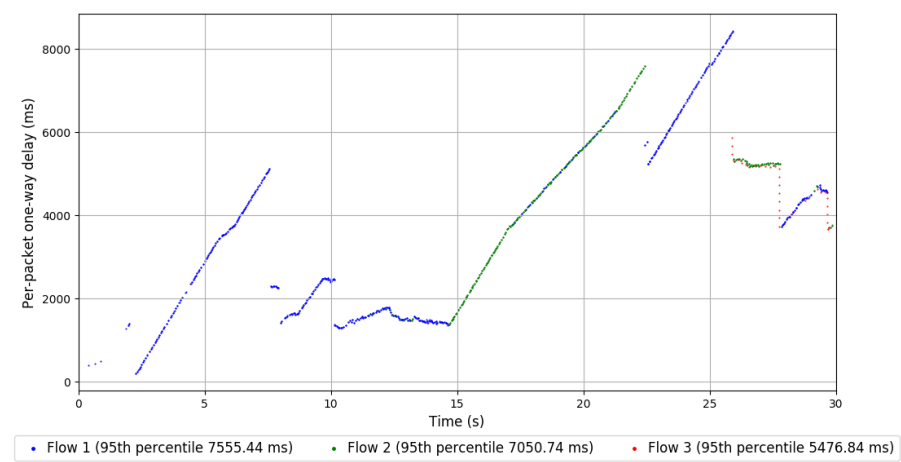
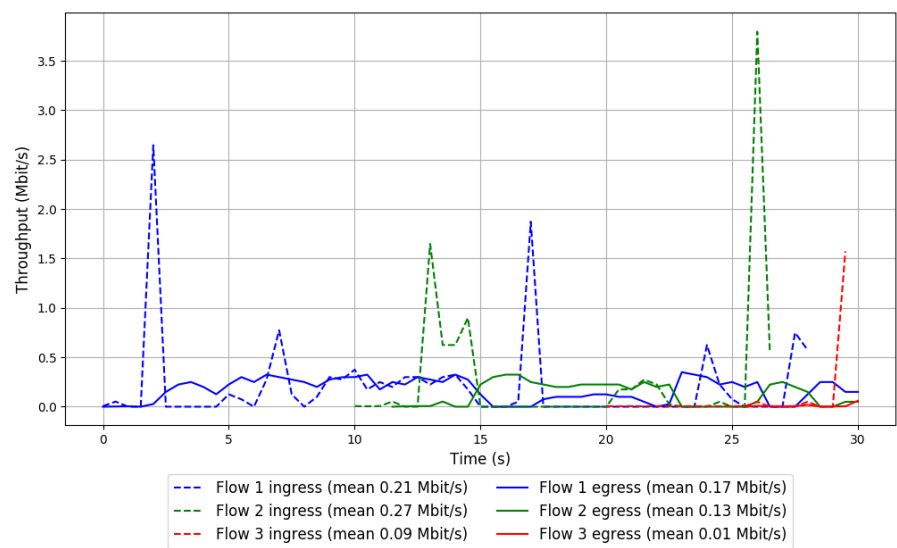


Run 1: Statistics of TaoVA-100x

Start at: 2019-02-05 16:33:56
End at: 2019-02-05 16:34:26
Local clock offset: -18.457 ms
Remote clock offset: 1.46 ms

Below is generated by plot.py at 2019-02-05 17:52:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 7317.186 ms
Loss rate: 32.32%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 7555.443 ms
Loss rate: 11.47%
-- Flow 2:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 7050.736 ms
Loss rate: 47.03%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 5476.843 ms
Loss rate: 93.58%

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

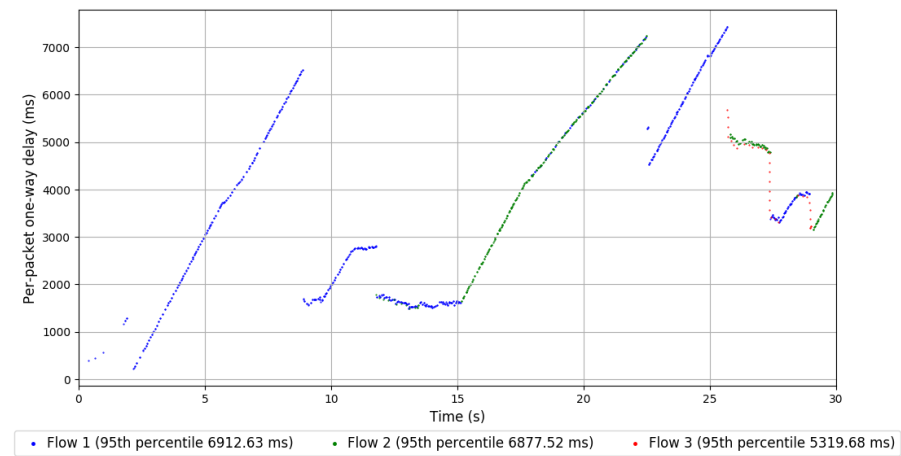
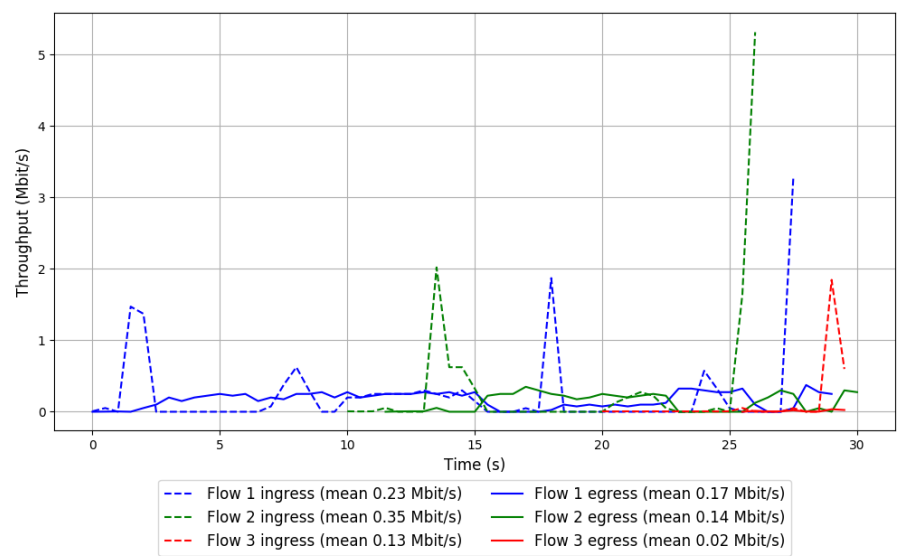


Run 2: Statistics of TaoVA-100x

Start at: 2019-02-05 17:02:15
End at: 2019-02-05 17:02:45
Local clock offset: -25.675 ms
Remote clock offset: 1.053 ms

Below is generated by plot.py at 2019-02-05 17:52:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 6877.825 ms
Loss rate: 44.79%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 6912.630 ms
Loss rate: 25.27%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 6877.519 ms
Loss rate: 55.31%
-- Flow 3:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 5319.678 ms
Loss rate: 95.80%

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



Run 3: Statistics of TaoVA-100x

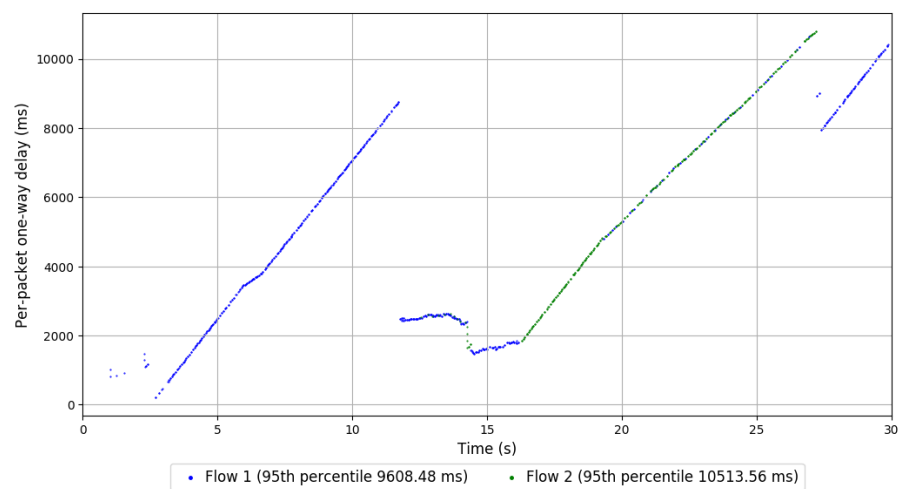
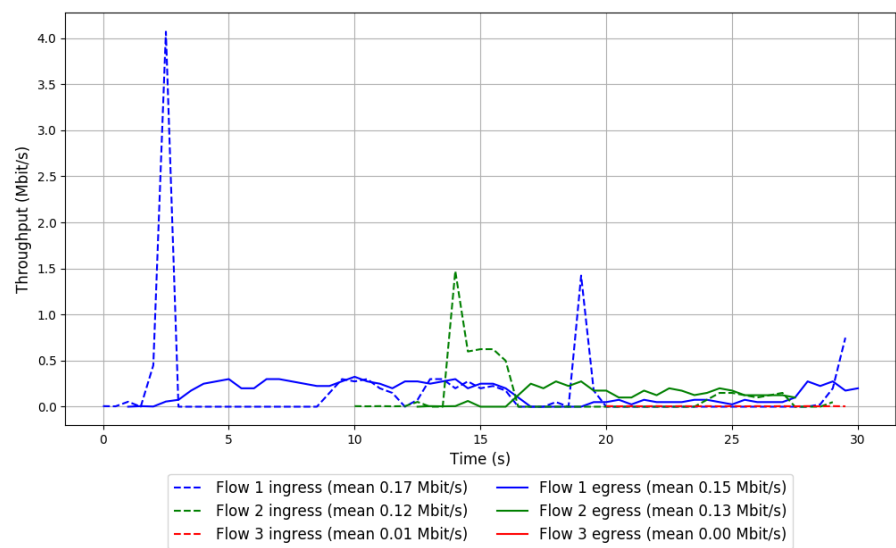
Start at: 2019-02-05 17:30:22

End at: 2019-02-05 17:30:52

Local clock offset: -2.965 ms

Remote clock offset: 4.61 ms

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

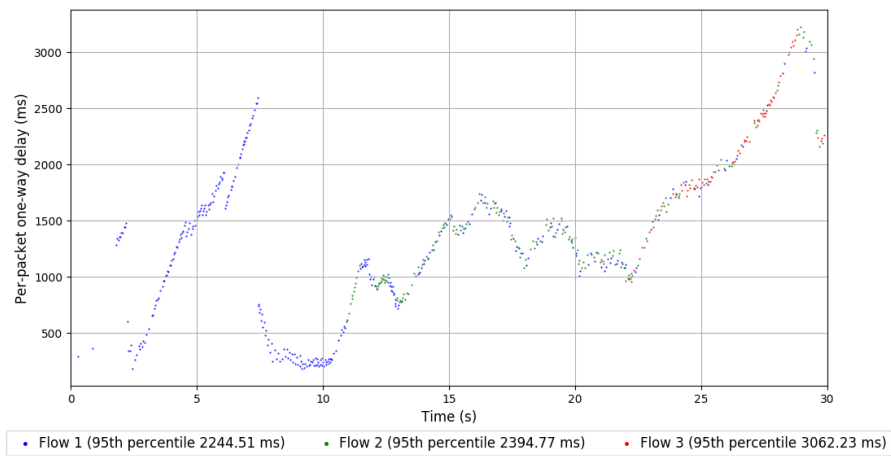
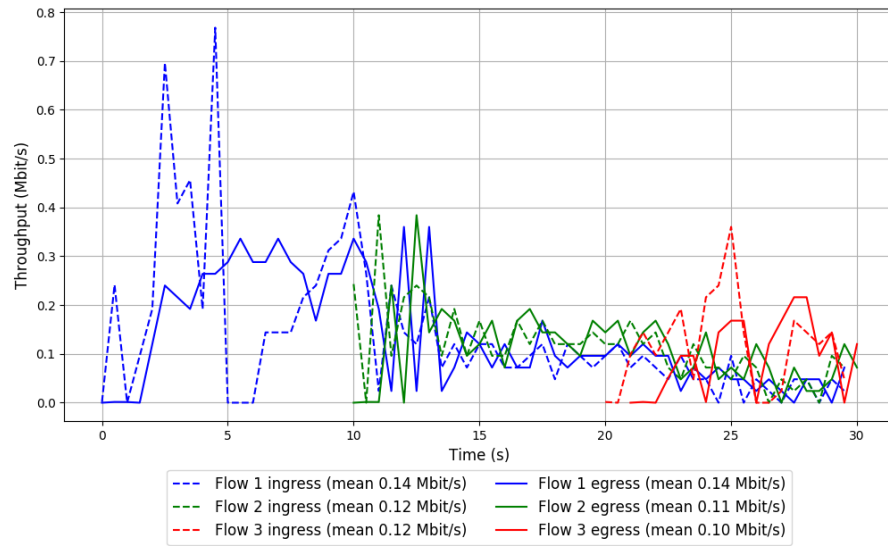


Run 1: Statistics of TCP Vegas

Start at: 2019-02-05 16:48:24
End at: 2019-02-05 16:48:54
Local clock offset: -22.669 ms
Remote clock offset: -0.173 ms

Below is generated by plot.py at 2019-02-05 17:52:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 2544.789 ms
Loss rate: 5.98%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 2244.509 ms
Loss rate: 2.03%
-- Flow 2:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 2394.769 ms
Loss rate: 4.64%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 3062.233 ms
Loss rate: 22.62%

Run 1: Report of TCP Vegas — Data Link

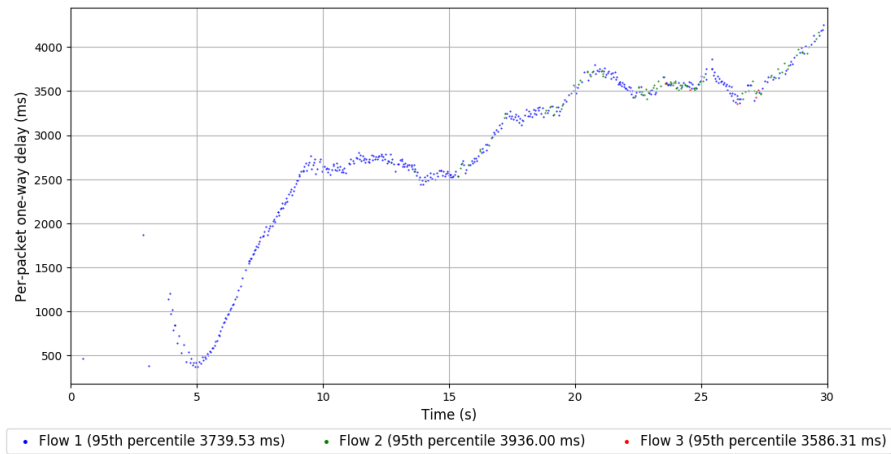
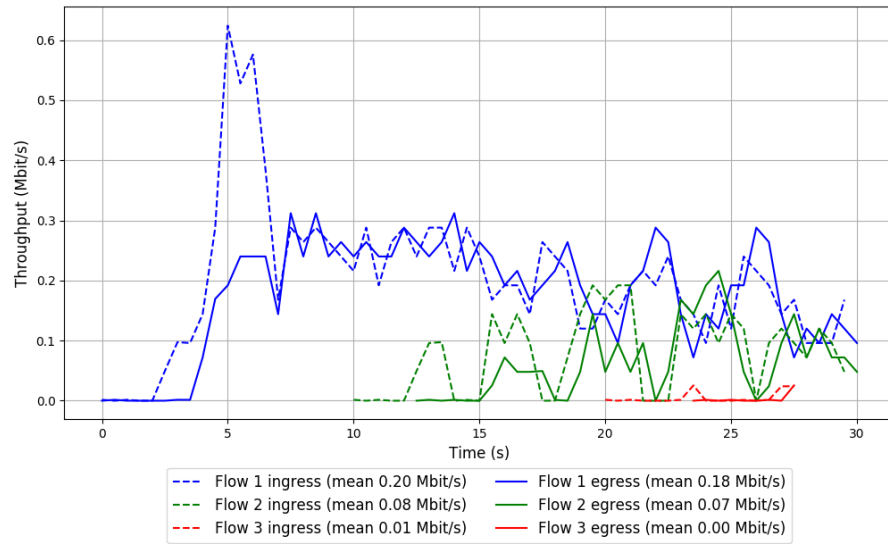


Run 2: Statistics of TCP Vegas

Start at: 2019-02-05 17:16:49
End at: 2019-02-05 17:17:19
Local clock offset: -26.454 ms
Remote clock offset: 4.986 ms

Below is generated by plot.py at 2019-02-05 17:52:41
Datalink statistics
-- Total of 3 flows:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3757.998 ms
Loss rate: 14.04%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 3739.535 ms
Loss rate: 10.95%
-- Flow 2:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 3936.003 ms
Loss rate: 24.75%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 3586.313 ms
Loss rate: 62.87%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2019-02-05 17:44:48

End at: 2019-02-05 17:45:18

Local clock offset: 5.322 ms

Remote clock offset: 3.073 ms

Below is generated by plot.py at 2019-02-05 17:52:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 4696.277 ms

Loss rate: 6.62%

-- Flow 1:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 4616.587 ms

Loss rate: 5.63%

-- Flow 2:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 4929.133 ms

Loss rate: 8.18%

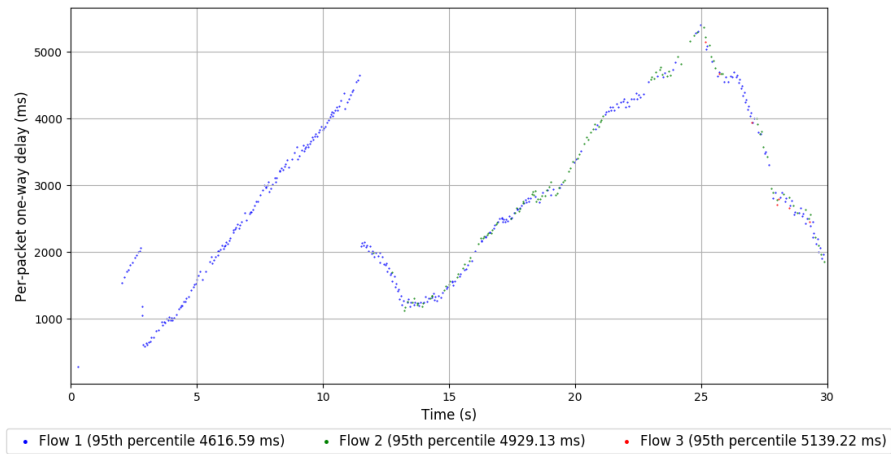
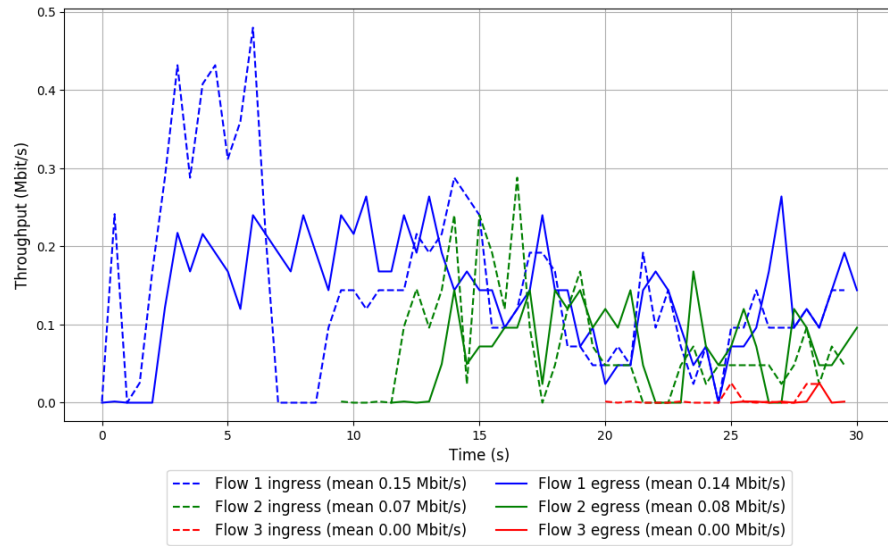
-- Flow 3:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 5139.220 ms

Loss rate: 59.38%

Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2019-02-05 16:44:25

End at: 2019-02-05 16:44:55

Local clock offset: -21.67 ms

Remote clock offset: 0.051 ms

Below is generated by plot.py at 2019-02-05 17:52:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.25 Mbit/s

95th percentile per-packet one-way delay: 2263.138 ms

Loss rate: 4.98%

-- Flow 1:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 2039.796 ms

Loss rate: 2.70%

-- Flow 2:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 2428.415 ms

Loss rate: 8.26%

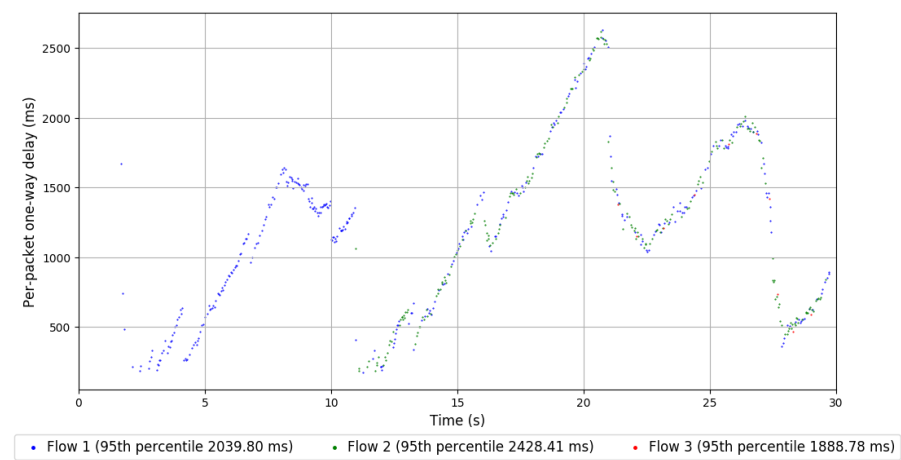
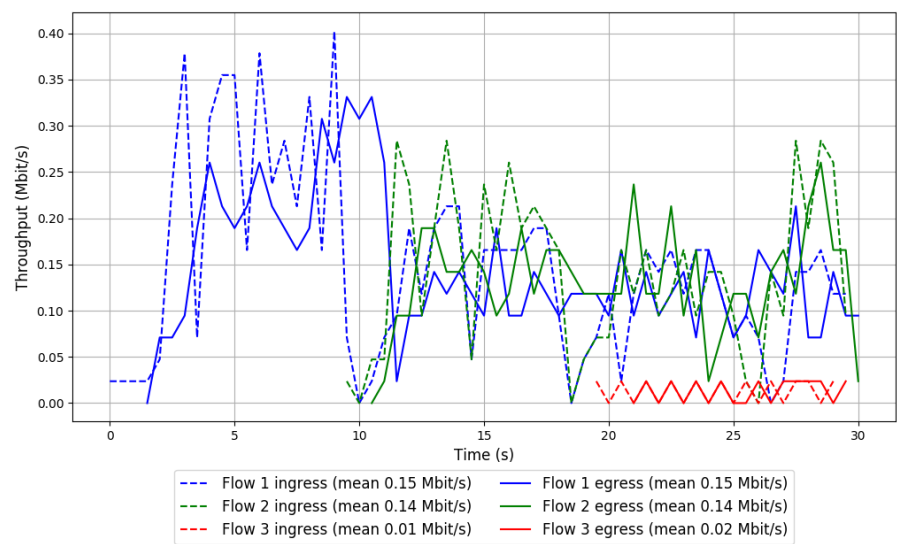
-- Flow 3:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 1888.783 ms

Loss rate: 9.09%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

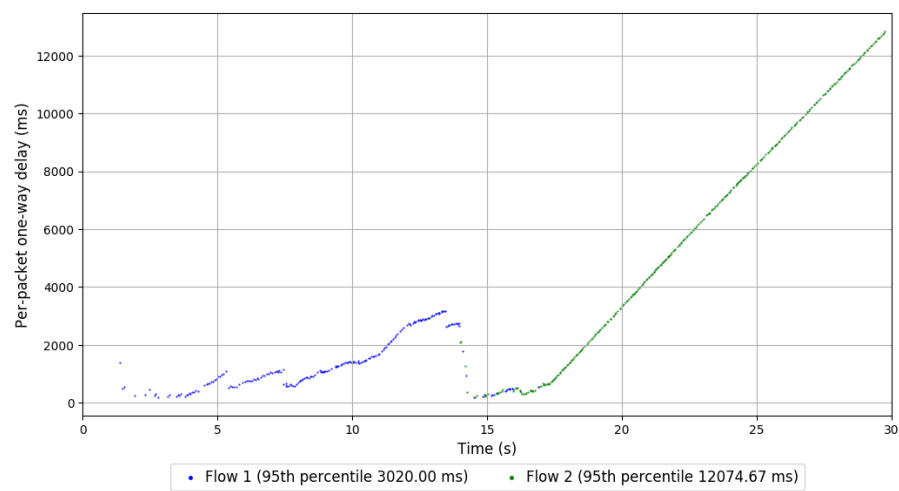
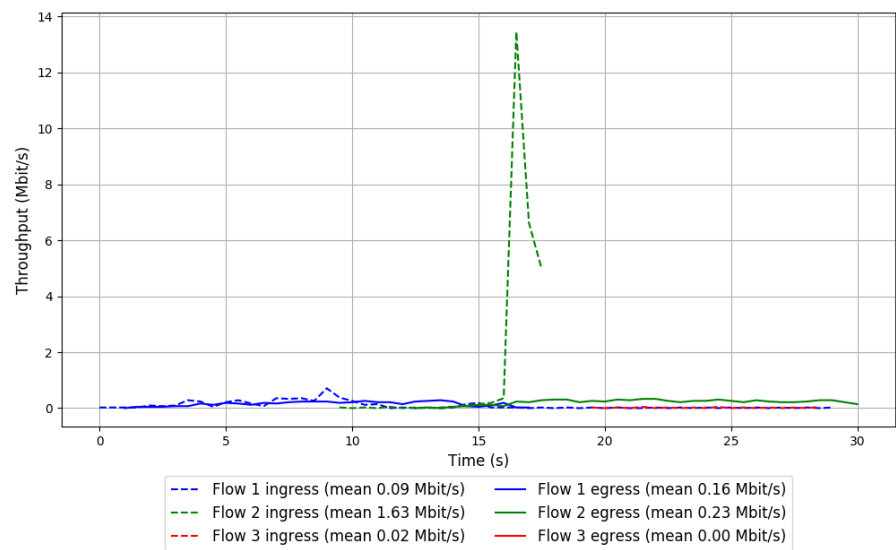
Start at: 2019-02-05 17:12:46

End at: 2019-02-05 17:13:16

Local clock offset: -27.803 ms

Remote clock offset: 4.7 ms

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2019-02-05 17:40:49

End at: 2019-02-05 17:41:19

Local clock offset: 3.598 ms

Remote clock offset: 0.76 ms

Below is generated by plot.py at 2019-02-05 17:52:41

Datalink statistics

-- Total of 3 flows:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 2605.943 ms

Loss rate: 5.66%

-- Flow 1:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 2605.943 ms

Loss rate: 5.65%

-- Flow 2:

Average throughput: 0.01 Mbit/s

95th percentile per-packet one-way delay: 2502.486 ms

Loss rate: 4.35%

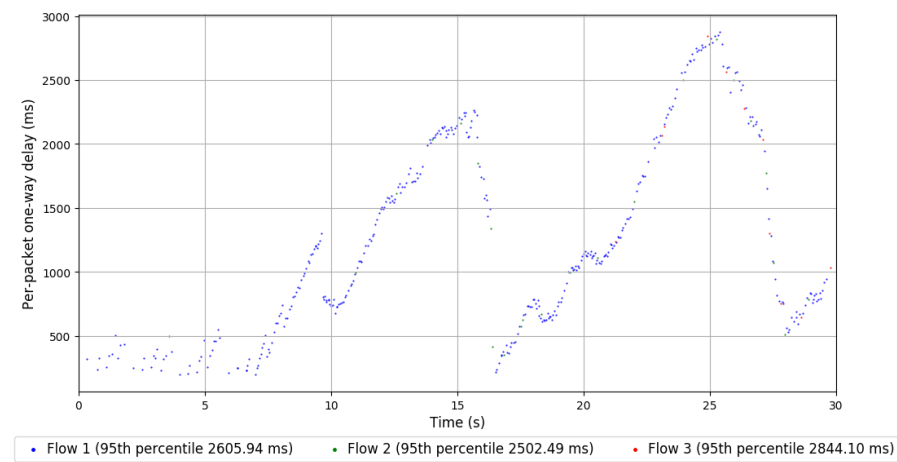
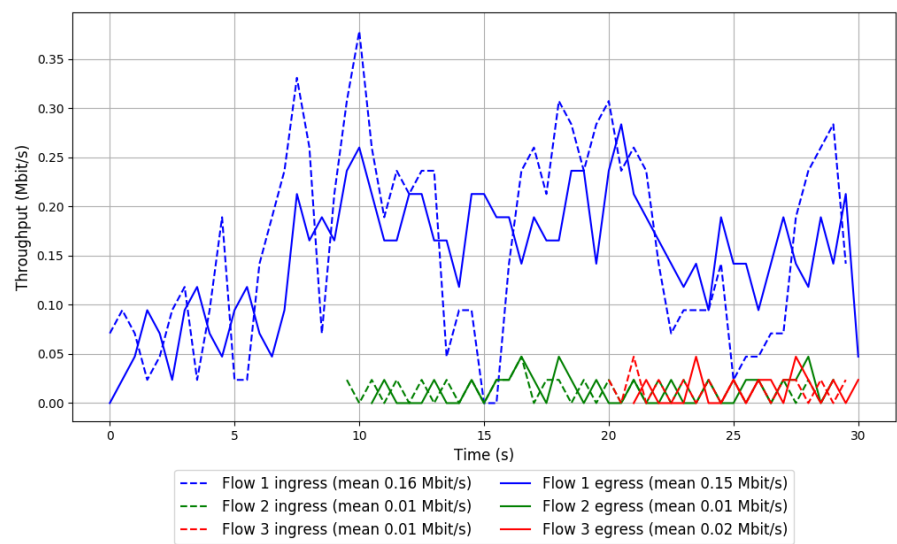
-- Flow 3:

Average throughput: 0.02 Mbit/s

95th percentile per-packet one-way delay: 2844.102 ms

Loss rate: 8.33%

Run 3: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 1: Report of PCC-Vivace — Data Link

Figure is missing

Figure is missing

Run 2: Statistics of PCC-Vivace

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 2: Report of PCC-Vivace — Data Link

Figure is missing

Figure is missing

Run 3: Statistics of PCC-Vivace

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 3: Report of PCC-Vivace — Data Link

Figure is missing

Figure is missing

Run 1: Statistics of WebRTC media

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 1: Report of WebRTC media — Data Link

Figure is missing

Figure is missing

Run 2: Statistics of WebRTC media

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 2: Report of WebRTC media — Data Link

Figure is missing

Figure is missing

Run 3: Statistics of WebRTC media

/home/ubuntu/pantheon/data/2019-02-05T16-27-Colombia-cellular-to-AWS-Brazil-2-3-runs-3-flows

Run 3: Report of WebRTC media — Data Link

Figure is missing

Figure is missing