

Pantheon Report

Generated at 2018-09-11 01:54:42 (UTC).

Tested in mahimahi: mm-delay 130 mm-link 3.04mbps-poisson.trace 3.04mbps-poisson.trace
--uplink-queue=droptail --uplink-queue-args=packets=426

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

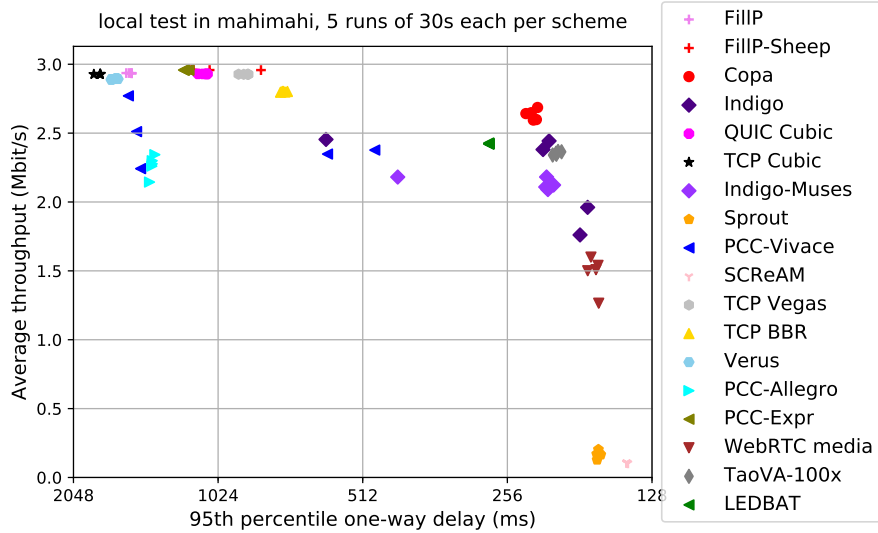
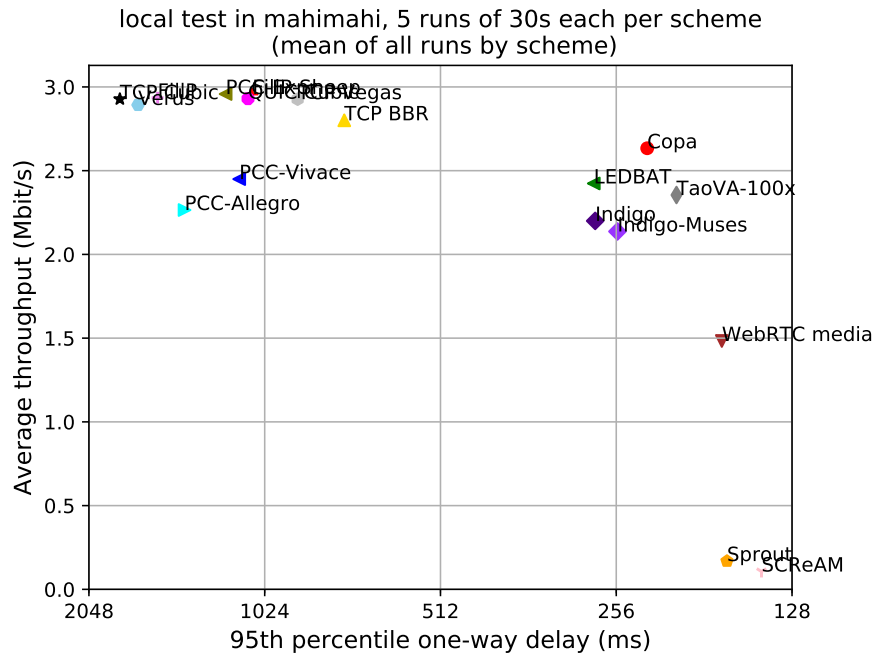
System info:

```
Linux 4.15.0-1018-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
net.ipv4.tcp_mem = 190986 254651 381972
```

Git summary:

```
branch: muses @ f30bceca2aec2ef14a3cf71e25642f4a30905a03
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfc58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ cbfce6db5ff5740dafa1771f813cd646339e1952
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



scheme	# runs	mean avg tput (Mbit/s)	mean 95th-%ile delay (ms)	mean loss rate (%)
		flow 1	flow 1	flow 1
TCP BBR	5	2.80	748.20	1.52
Copa	5	2.63	226.59	0.73
TCP Cubic	5	2.93	1812.95	8.24
FillP	5	2.94	1562.17	60.52
FillP-Sheep	5	2.96	1075.14	7.81
Indigo	5	2.20	278.18	1.16
LEDBAT	5	2.42	279.76	1.05
Indigo-Muses	5	2.14	254.81	0.43
PCC-Allegro	5	2.26	1404.52	2.15
PCC-Expr	5	2.96	1194.72	48.88
QUIC Cubic	5	2.93	1093.72	4.04
SReAM	5	0.11	144.38	0.39
Sprout	5	0.17	165.44	0.34
TaoVA-100x	5	2.35	201.90	0.56
TCP Vegas	5	2.93	899.27	2.60
Verus	5	2.89	1687.11	4.09
PCC-Vivace	5	2.45	1132.39	1.82
WebRTC media	5	1.48	168.84	0.67

Run 1: Statistics of TCP BBR

Start at: 2018-09-11 01:02:37

End at: 2018-09-11 01:03:07

Below is generated by plot.py at 2018-09-11 01:52:51

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.80 Mbit/s (104.1% utilization)

95th percentile per-packet one-way delay: 734.625 ms

Loss rate: 1.79%

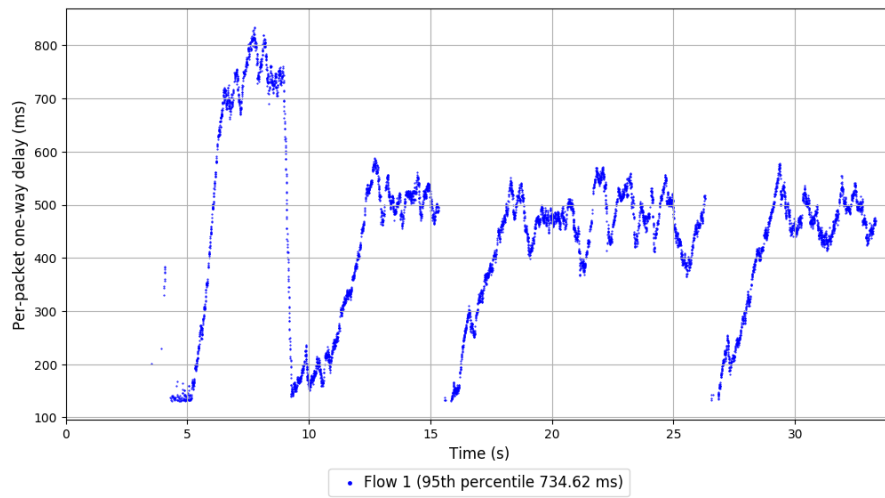
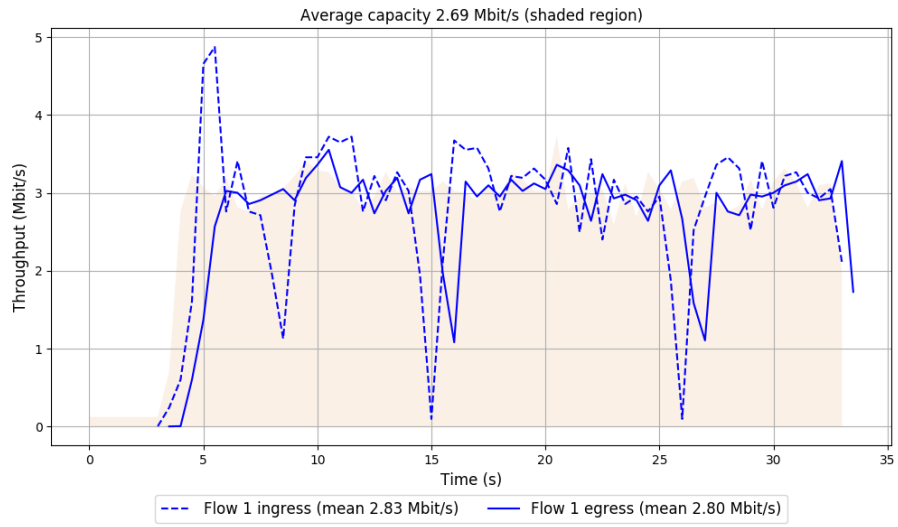
-- Flow 1:

Average throughput: 2.80 Mbit/s

95th percentile per-packet one-way delay: 734.625 ms

Loss rate: 1.79%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-09-11 01:13:12

End at: 2018-09-11 01:13:42

Below is generated by plot.py at 2018-09-11 01:52:52

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.80 Mbit/s (104.1% utilization)

95th percentile per-packet one-way delay: 753.342 ms

Loss rate: 1.40%

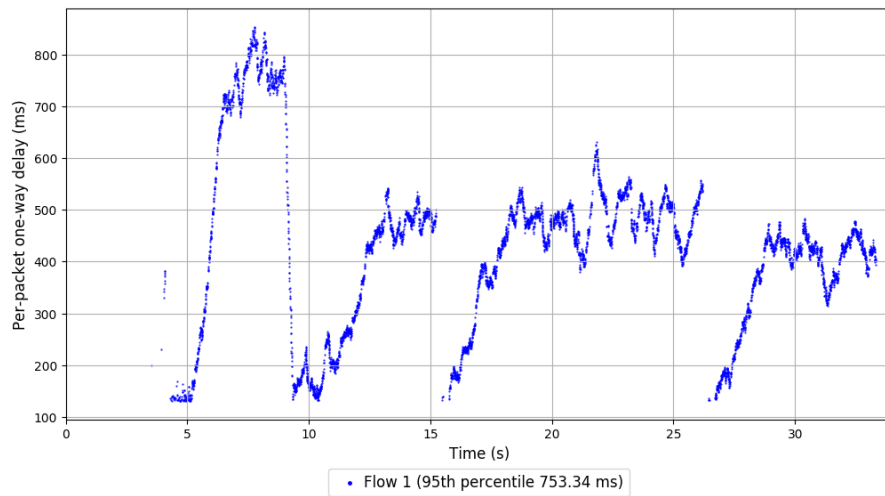
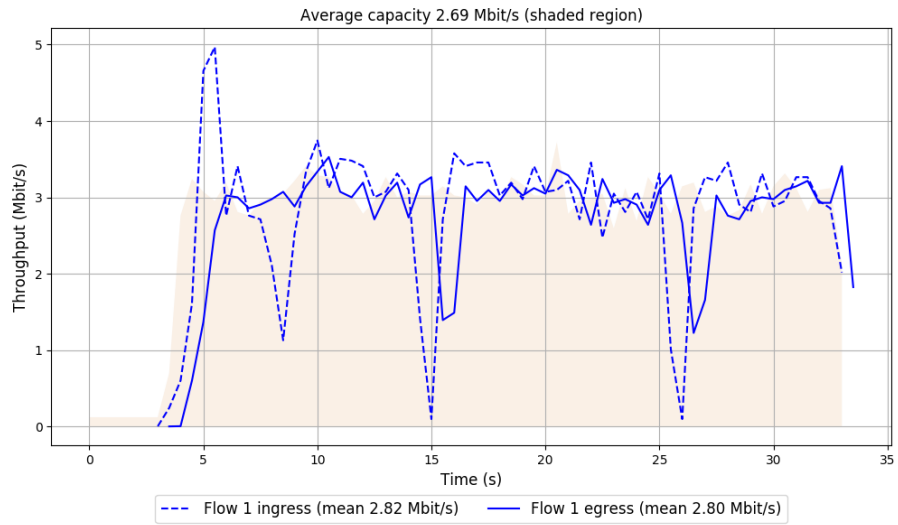
-- Flow 1:

Average throughput: 2.80 Mbit/s

95th percentile per-packet one-way delay: 753.342 ms

Loss rate: 1.40%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-09-11 01:23:47

End at: 2018-09-11 01:24:17

Below is generated by plot.py at 2018-09-11 01:52:52

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.80 Mbit/s (103.9% utilization)

95th percentile per-packet one-way delay: 759.138 ms

Loss rate: 1.36%

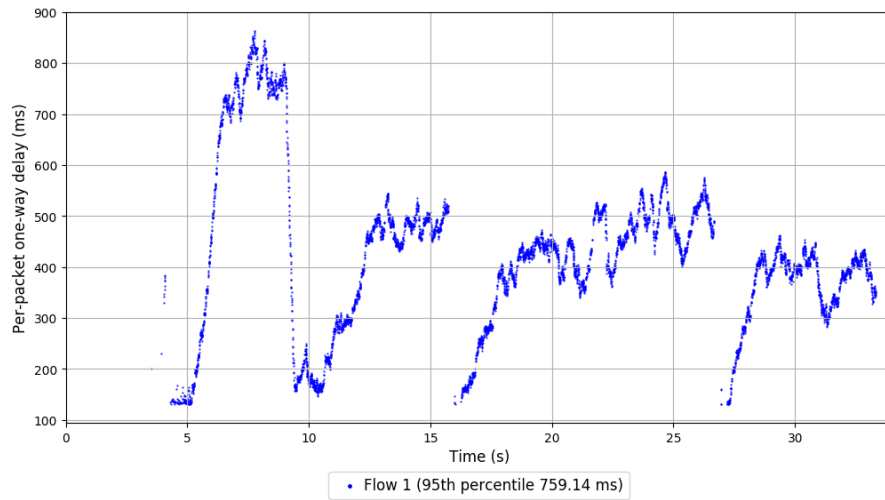
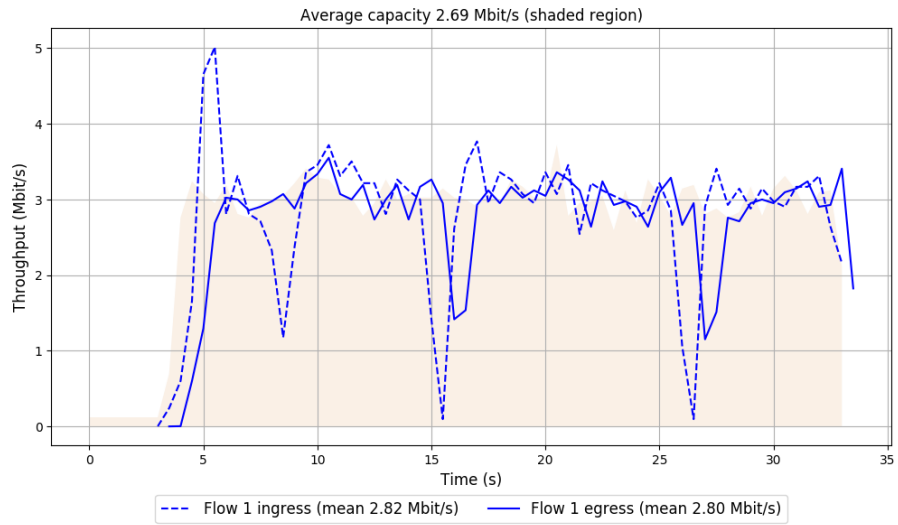
-- Flow 1:

Average throughput: 2.80 Mbit/s

95th percentile per-packet one-way delay: 759.138 ms

Loss rate: 1.36%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-09-11 01:34:22

End at: 2018-09-11 01:34:52

Below is generated by plot.py at 2018-09-11 01:52:52

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.80 Mbit/s (104.0% utilization)

95th percentile per-packet one-way delay: 743.635 ms

Loss rate: 1.52%

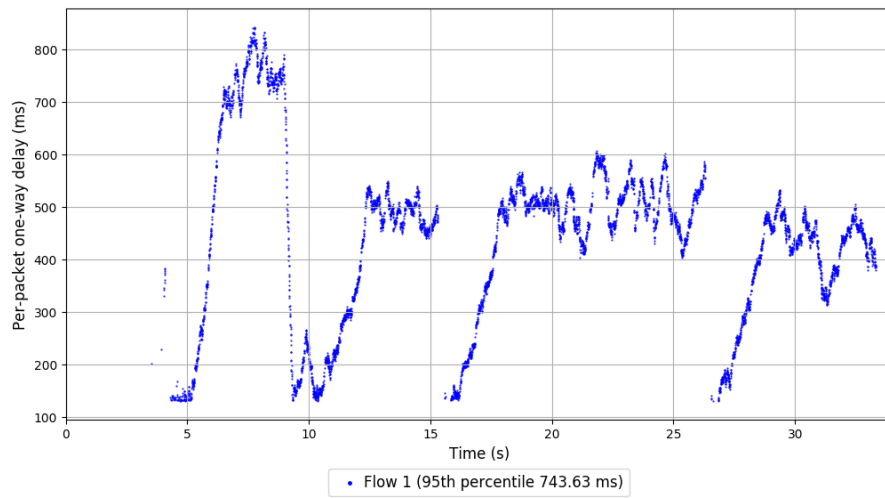
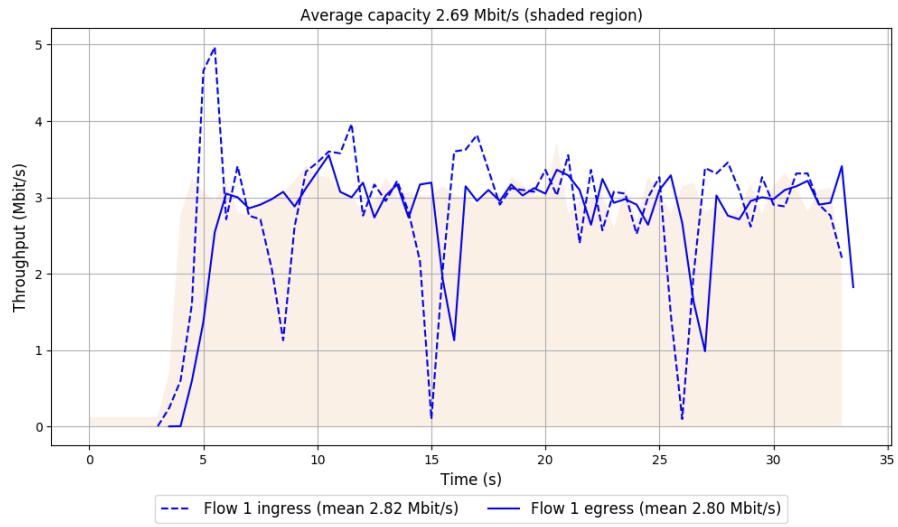
-- Flow 1:

Average throughput: 2.80 Mbit/s

95th percentile per-packet one-way delay: 743.635 ms

Loss rate: 1.52%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-09-11 01:44:58

End at: 2018-09-11 01:45:28

Below is generated by plot.py at 2018-09-11 01:52:52

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.80 Mbit/s (104.1% utilization)

95th percentile per-packet one-way delay: 750.280 ms

Loss rate: 1.51%

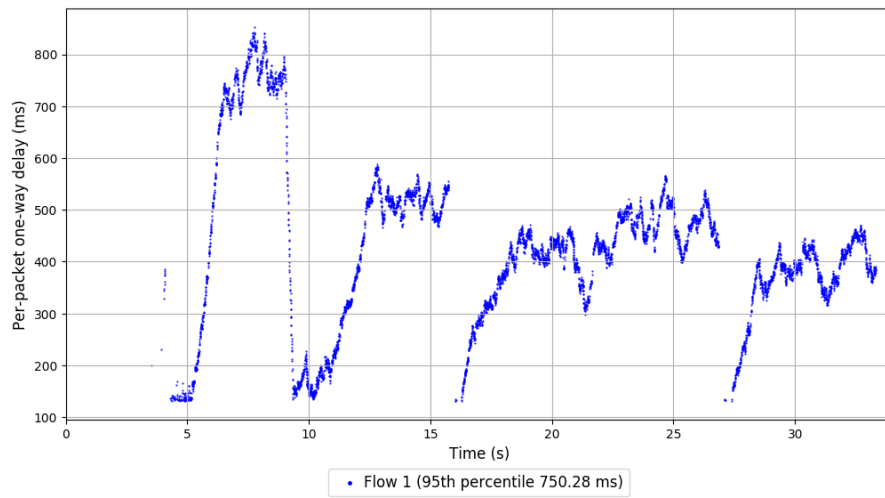
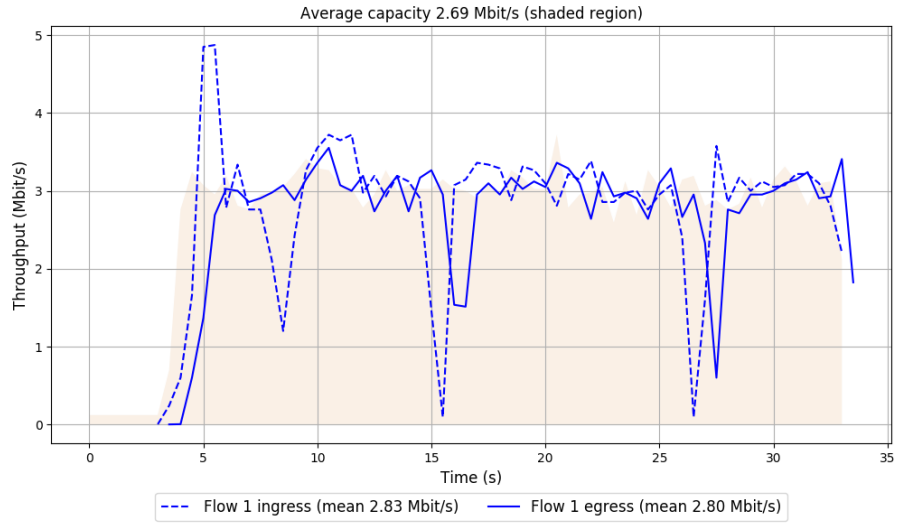
-- Flow 1:

Average throughput: 2.80 Mbit/s

95th percentile per-packet one-way delay: 750.280 ms

Loss rate: 1.51%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-09-11 01:06:44

End at: 2018-09-11 01:07:14

Below is generated by plot.py at 2018-09-11 01:52:54

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.59 Mbit/s (96.4% utilization)

95th percentile per-packet one-way delay: 226.030 ms

Loss rate: 0.77%

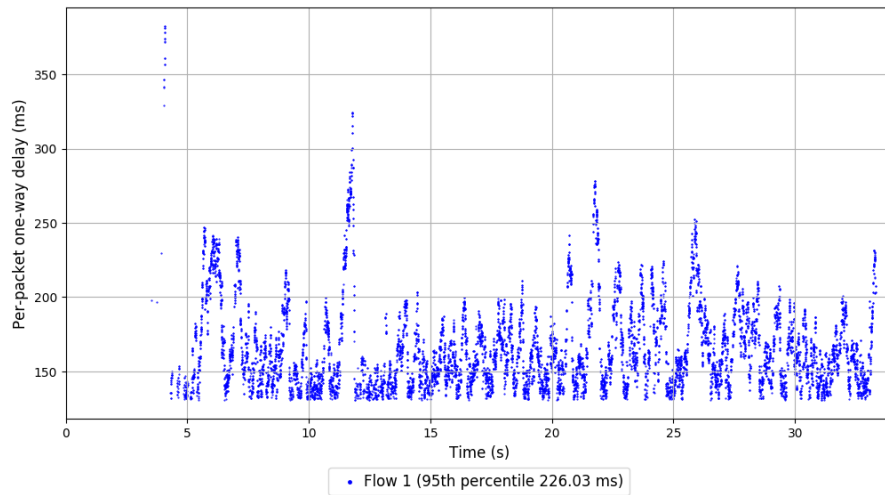
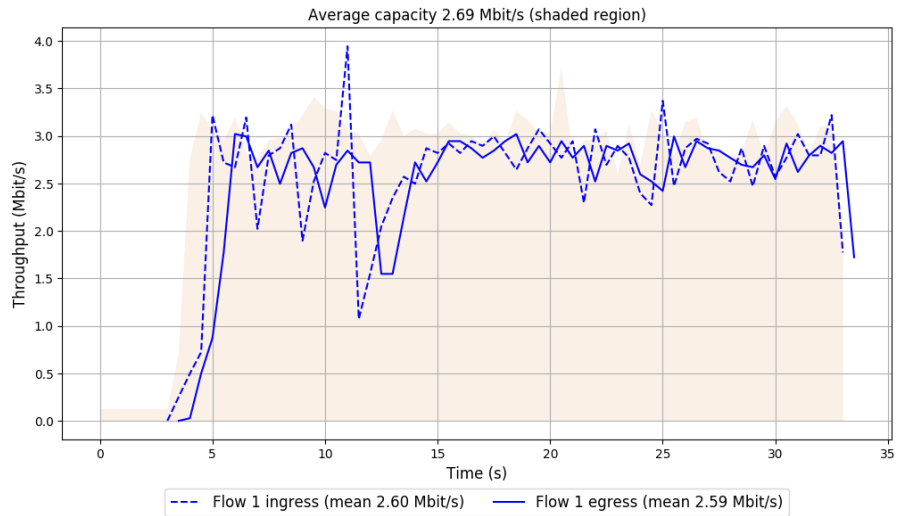
-- Flow 1:

Average throughput: 2.59 Mbit/s

95th percentile per-packet one-way delay: 226.030 ms

Loss rate: 0.77%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-09-11 01:17:19

End at: 2018-09-11 01:17:49

Below is generated by plot.py at 2018-09-11 01:52:54

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.60 Mbit/s (96.5% utilization)

95th percentile per-packet one-way delay: 222.785 ms

Loss rate: 0.67%

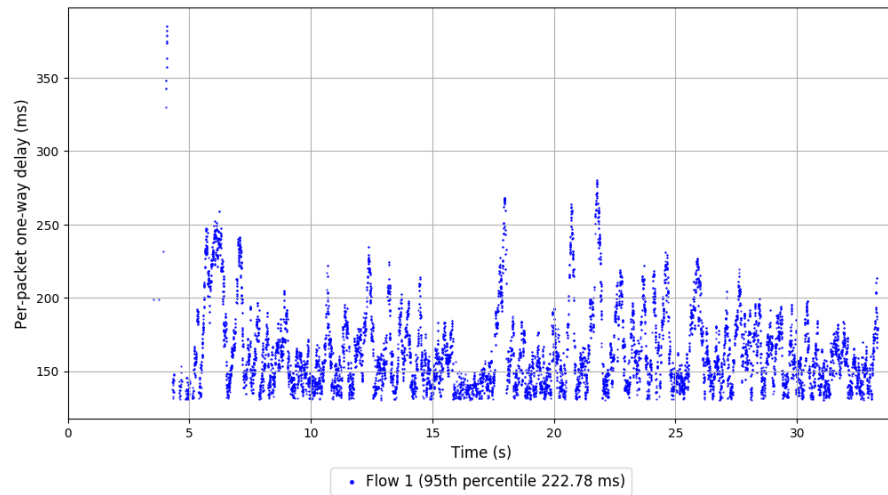
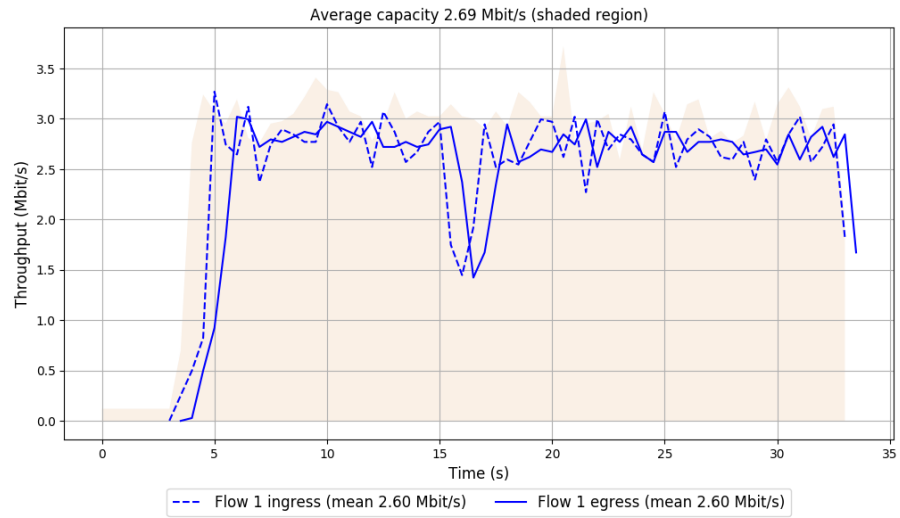
-- Flow 1:

Average throughput: 2.60 Mbit/s

95th percentile per-packet one-way delay: 222.785 ms

Loss rate: 0.67%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-09-11 01:27:54

End at: 2018-09-11 01:28:24

Below is generated by plot.py at 2018-09-11 01:52:55

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.69 Mbit/s (99.8% utilization)

95th percentile per-packet one-way delay: 221.518 ms

Loss rate: 0.65%

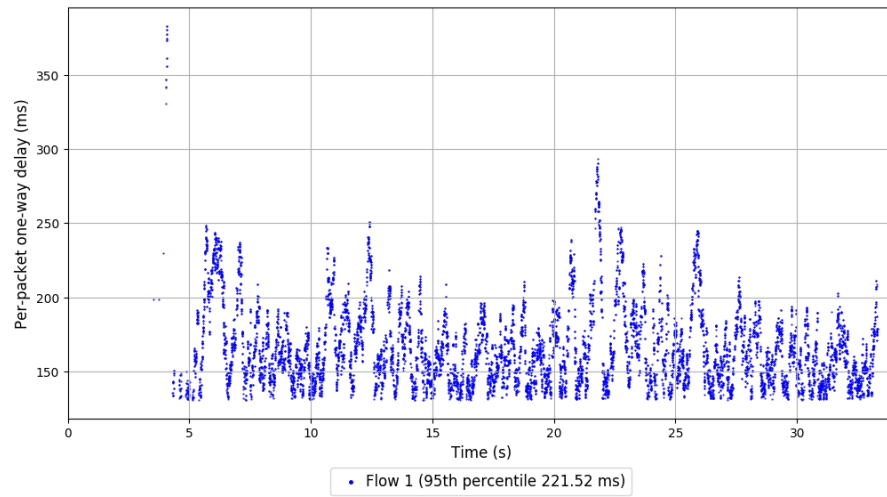
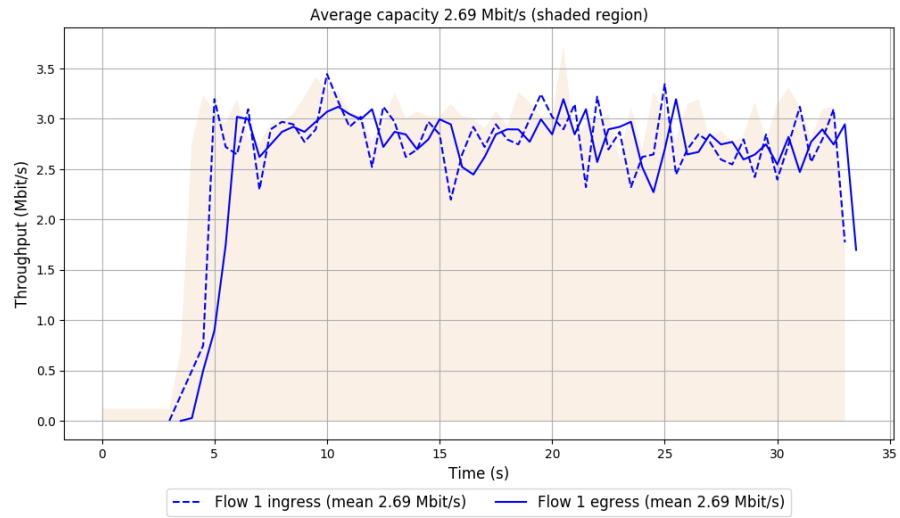
-- Flow 1:

Average throughput: 2.69 Mbit/s

95th percentile per-packet one-way delay: 221.518 ms

Loss rate: 0.65%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-09-11 01:38:29

End at: 2018-09-11 01:38:59

Below is generated by plot.py at 2018-09-11 01:53:03

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.65 Mbit/s (98.4% utilization)

95th percentile per-packet one-way delay: 228.367 ms

Loss rate: 0.79%

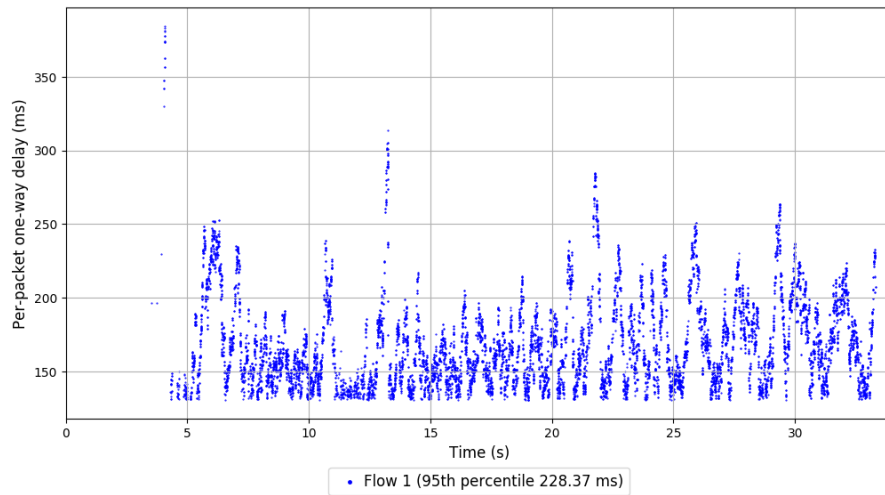
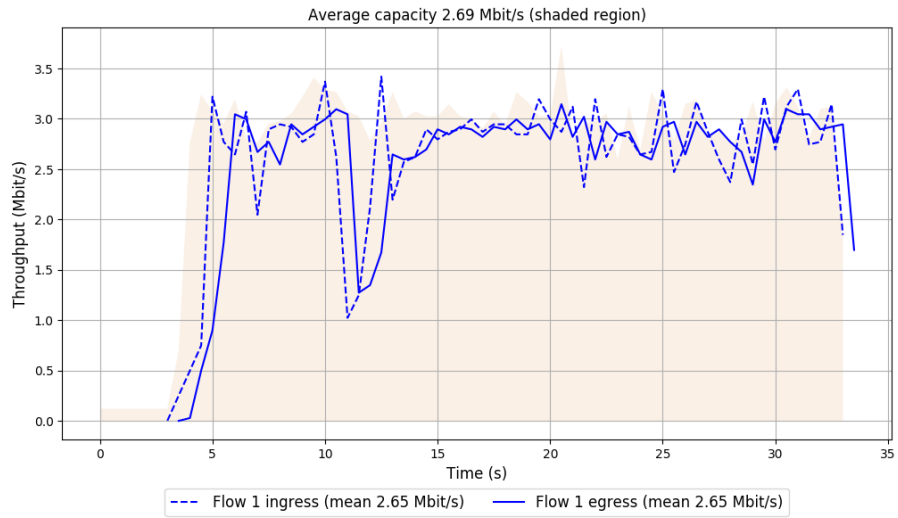
-- Flow 1:

Average throughput: 2.65 Mbit/s

95th percentile per-packet one-way delay: 228.367 ms

Loss rate: 0.79%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-09-11 01:49:05

End at: 2018-09-11 01:49:35

Below is generated by plot.py at 2018-09-11 01:53:04

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.64 Mbit/s (98.2% utilization)

95th percentile per-packet one-way delay: 234.261 ms

Loss rate: 0.77%

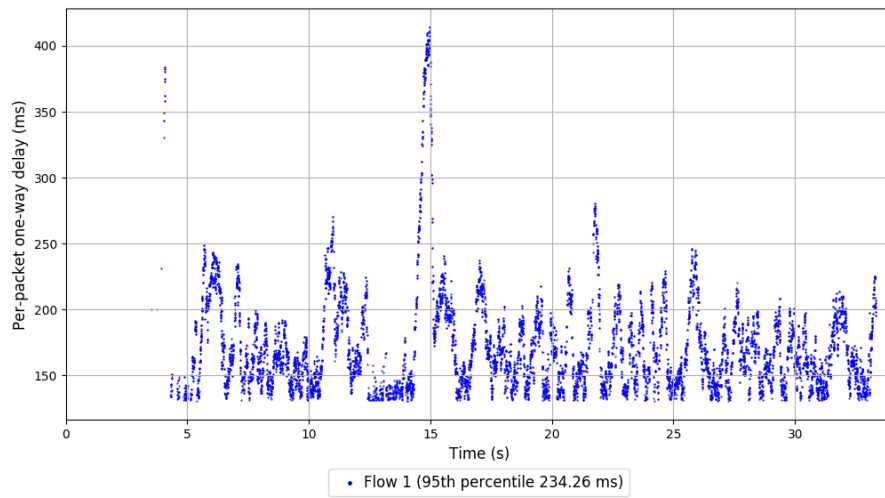
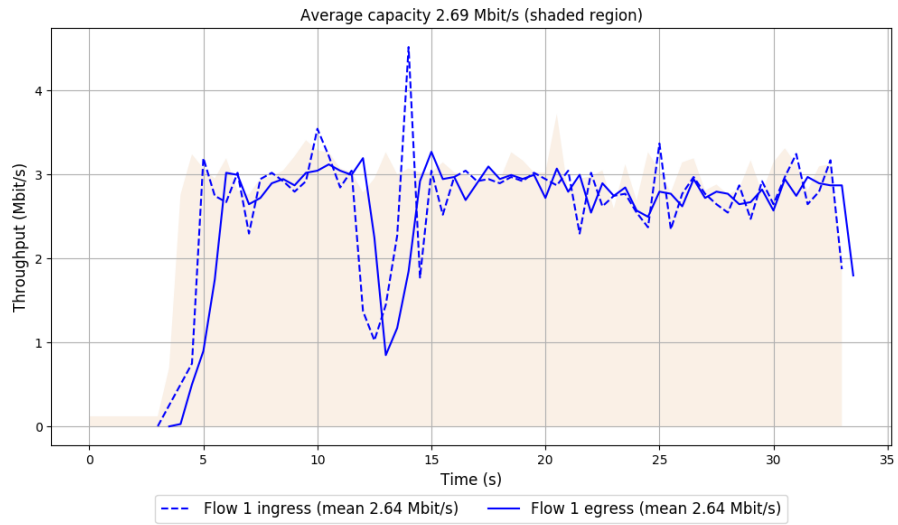
-- Flow 1:

Average throughput: 2.64 Mbit/s

95th percentile per-packet one-way delay: 234.261 ms

Loss rate: 0.77%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-09-11 01:02:02

End at: 2018-09-11 01:02:32

Below is generated by plot.py at 2018-09-11 01:53:04

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.8% utilization)

95th percentile per-packet one-way delay: 1802.244 ms

Loss rate: 7.99%

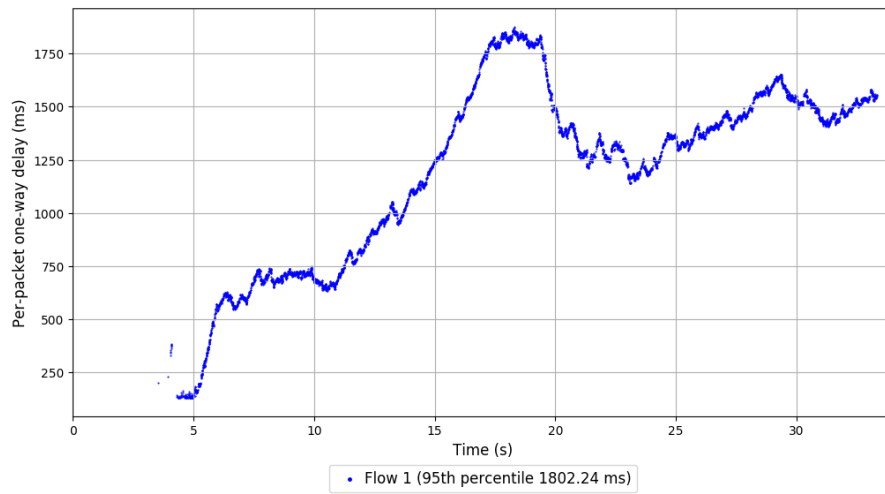
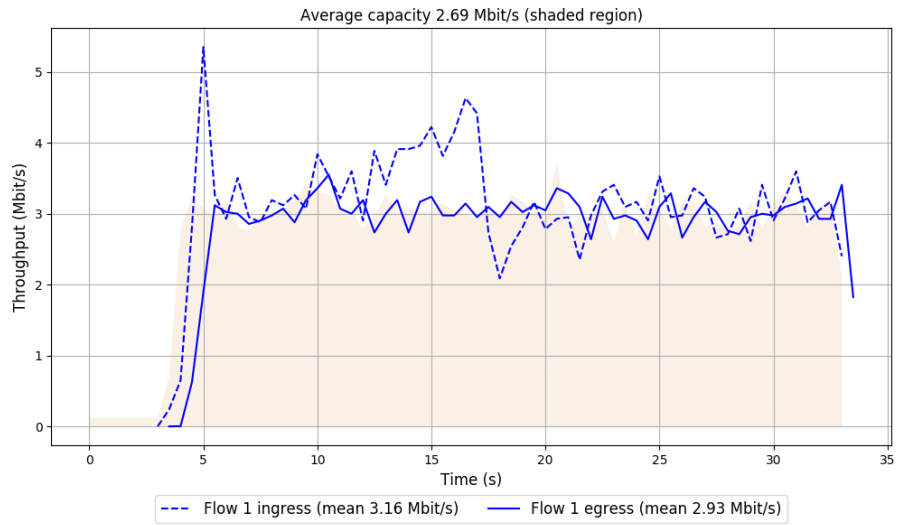
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 1802.244 ms

Loss rate: 7.99%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-09-11 01:12:36

End at: 2018-09-11 01:13:06

Below is generated by plot.py at 2018-09-11 01:53:04

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.7% utilization)

95th percentile per-packet one-way delay: 1802.784 ms

Loss rate: 7.96%

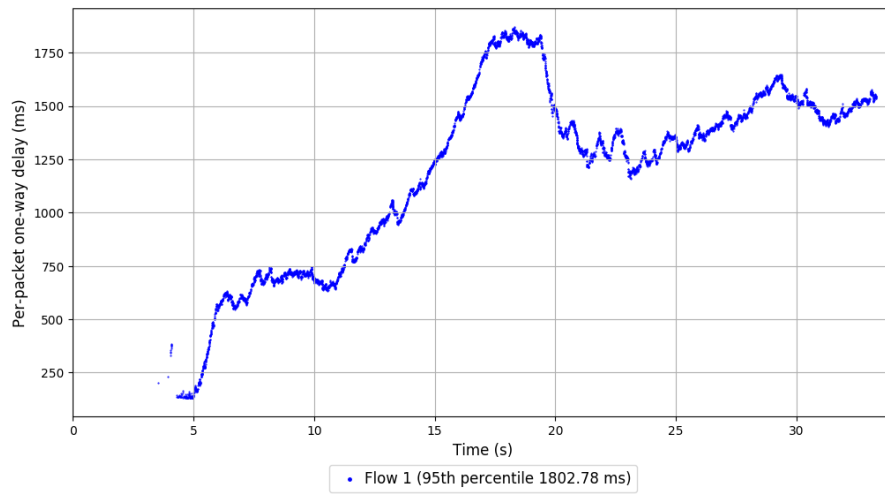
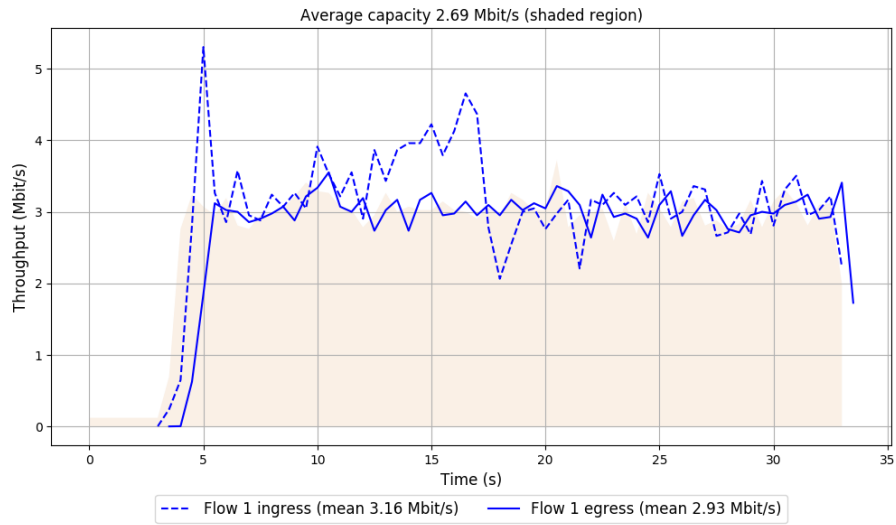
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 1802.784 ms

Loss rate: 7.96%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-09-11 01:23:12

End at: 2018-09-11 01:23:42

Below is generated by plot.py at 2018-09-11 01:53:04

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.8% utilization)

95th percentile per-packet one-way delay: 1800.341 ms

Loss rate: 7.96%

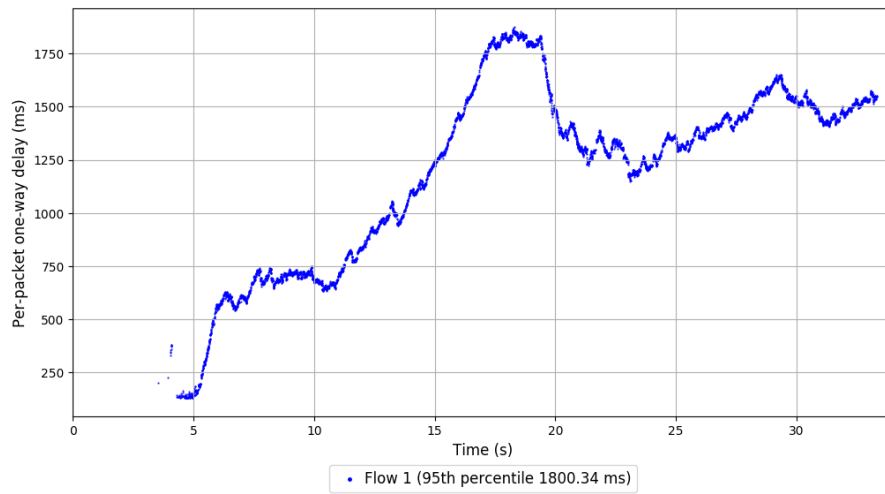
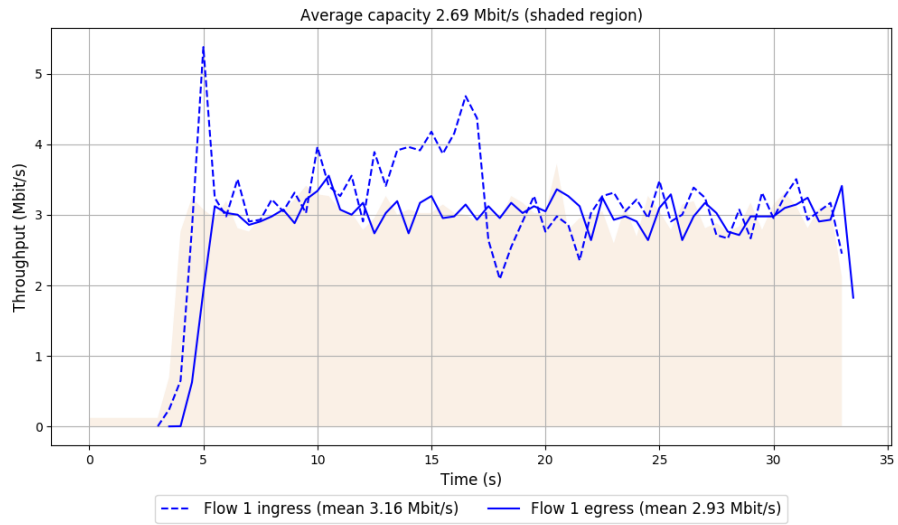
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 1800.341 ms

Loss rate: 7.96%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-09-11 01:33:47

End at: 2018-09-11 01:34:17

Below is generated by plot.py at 2018-09-11 01:53:04

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.7% utilization)

95th percentile per-packet one-way delay: 1857.468 ms

Loss rate: 9.28%

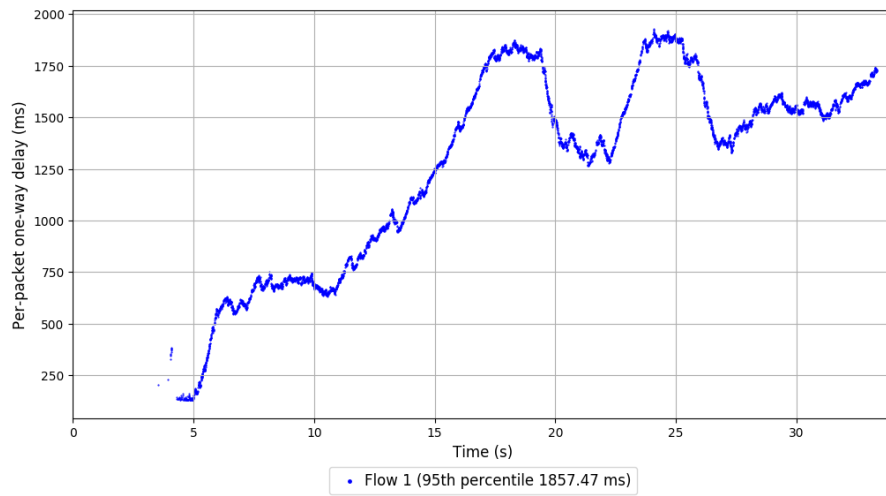
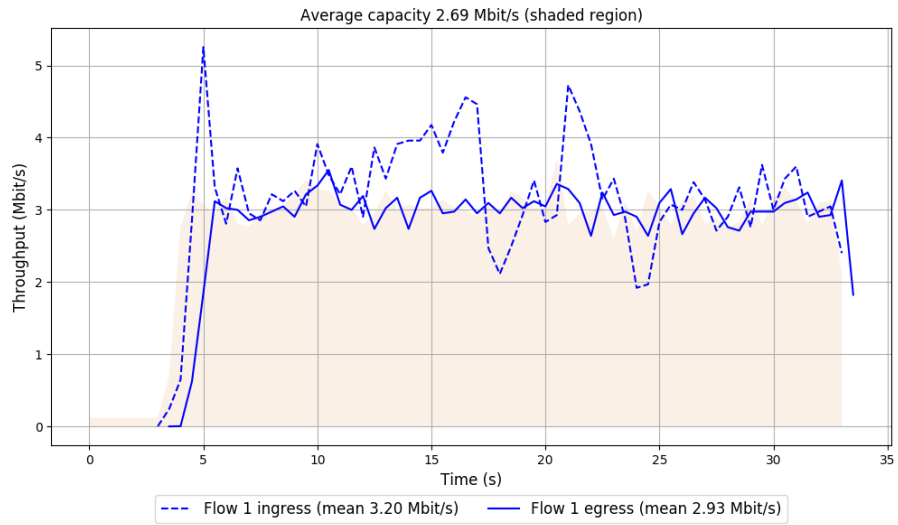
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 1857.468 ms

Loss rate: 9.28%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-09-11 01:44:23

End at: 2018-09-11 01:44:53

Below is generated by plot.py at 2018-09-11 01:53:04

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.7% utilization)

95th percentile per-packet one-way delay: 1801.914 ms

Loss rate: 8.01%

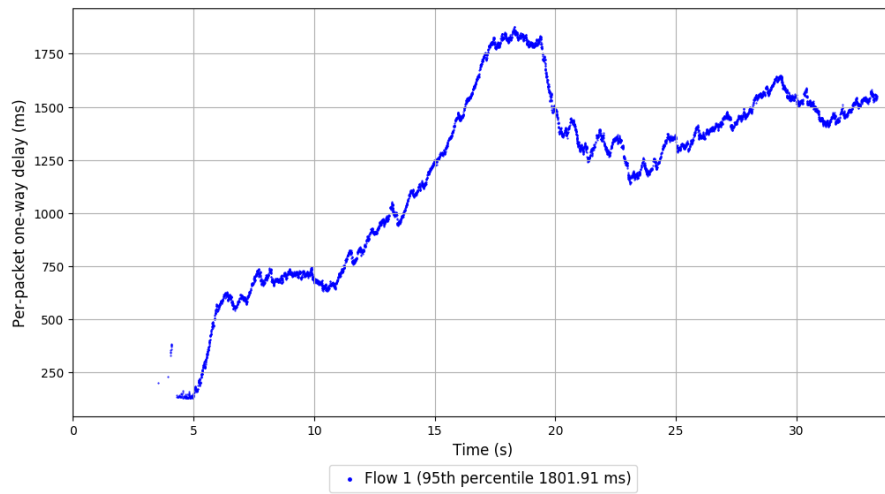
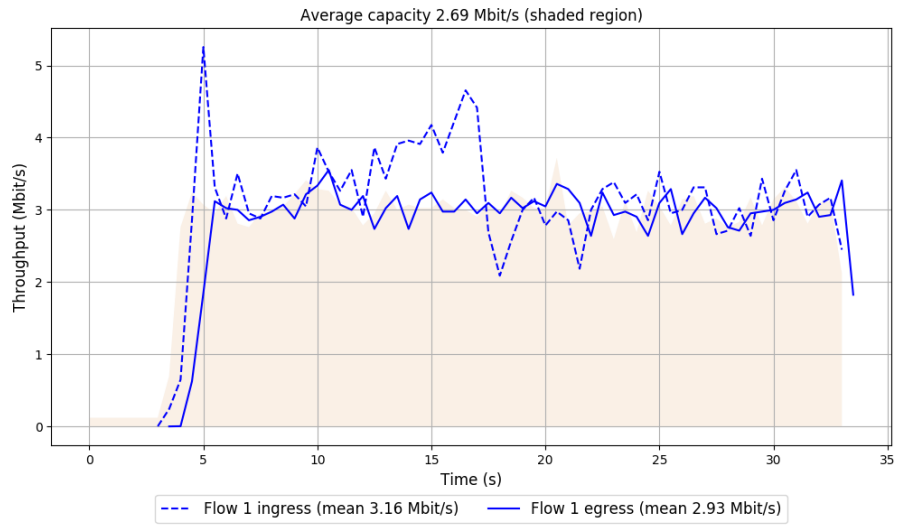
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 1801.914 ms

Loss rate: 8.01%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-09-11 01:08:30

End at: 2018-09-11 01:09:00

Below is generated by plot.py at 2018-09-11 01:53:07

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.94 Mbit/s (109.0% utilization)

95th percentile per-packet one-way delay: 1590.009 ms

Loss rate: 60.11%

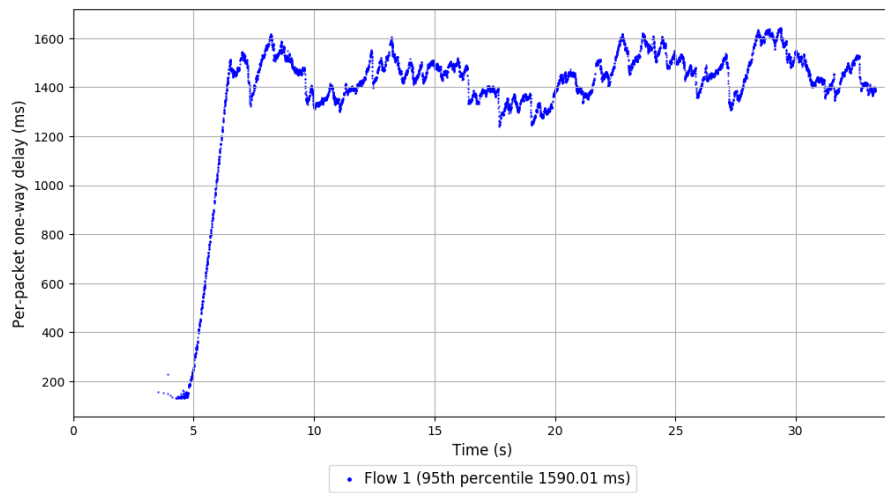
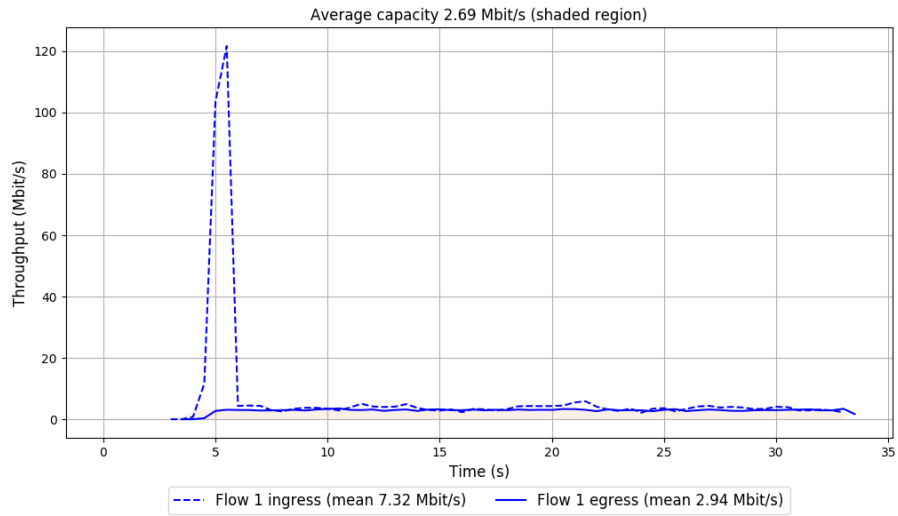
-- Flow 1:

Average throughput: 2.94 Mbit/s

95th percentile per-packet one-way delay: 1590.009 ms

Loss rate: 60.11%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-09-11 01:19:05

End at: 2018-09-11 01:19:35

Below is generated by plot.py at 2018-09-11 01:53:13

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.94 Mbit/s (109.1% utilization)

95th percentile per-packet one-way delay: 1553.334 ms

Loss rate: 60.97%

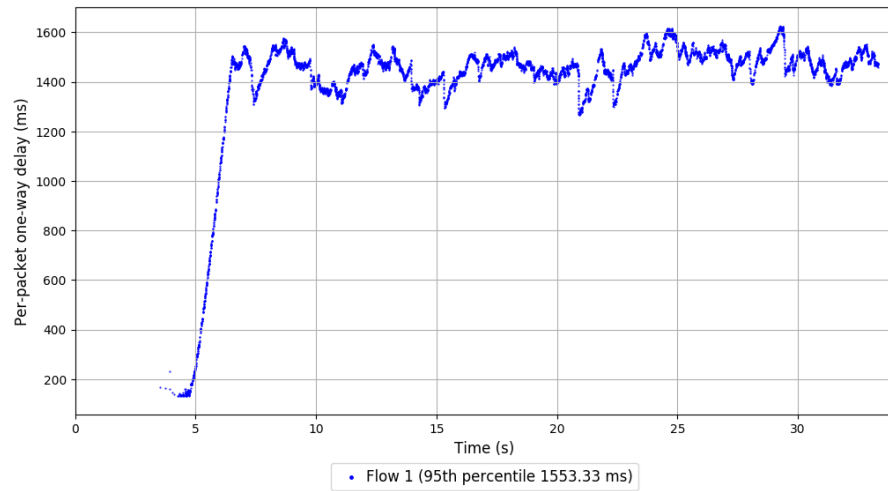
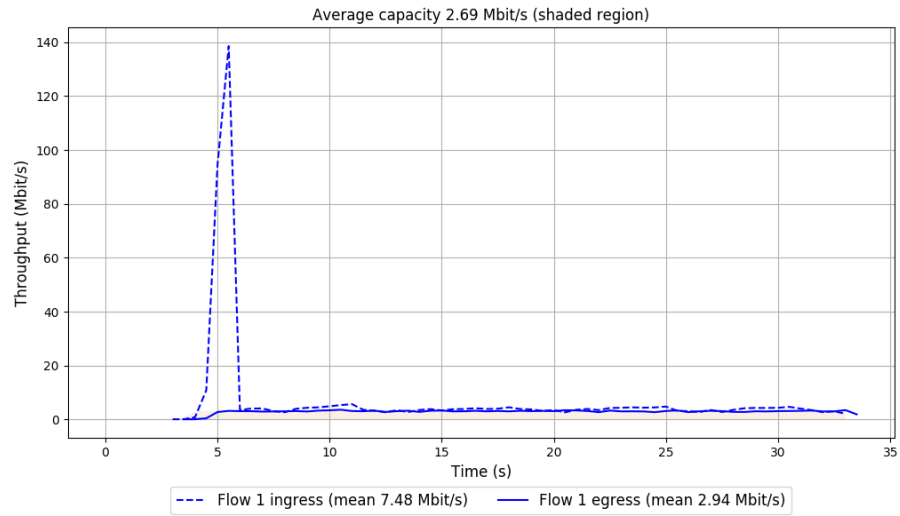
-- Flow 1:

Average throughput: 2.94 Mbit/s

95th percentile per-packet one-way delay: 1553.334 ms

Loss rate: 60.97%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-09-11 01:29:40

End at: 2018-09-11 01:30:10

Below is generated by plot.py at 2018-09-11 01:53:15

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.94 Mbit/s (109.1% utilization)

95th percentile per-packet one-way delay: 1549.927 ms

Loss rate: 60.57%

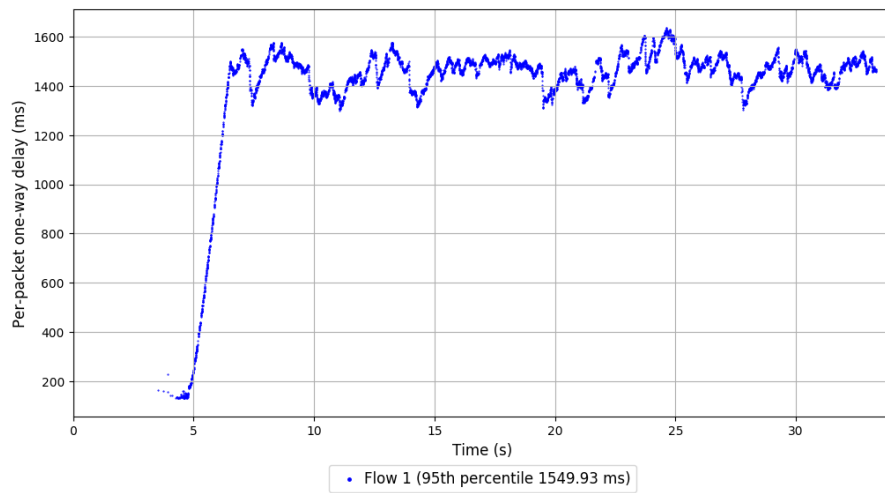
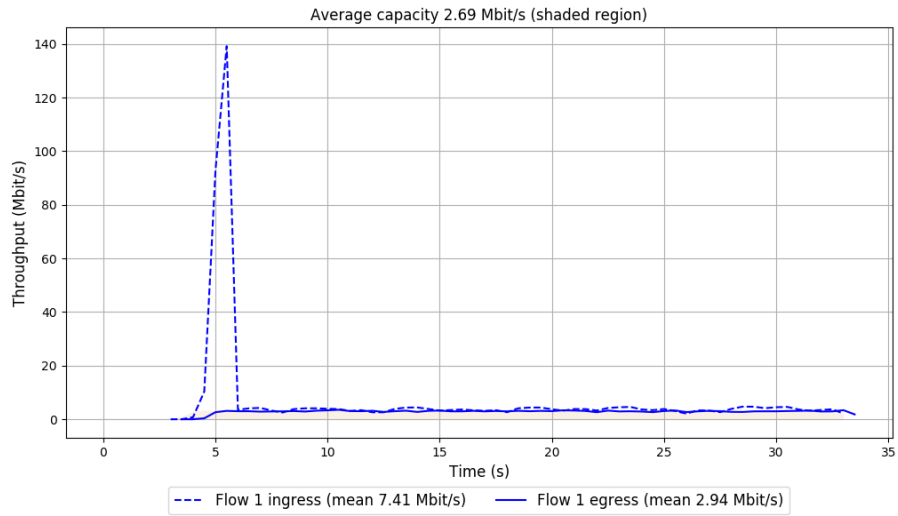
-- Flow 1:

Average throughput: 2.94 Mbit/s

95th percentile per-packet one-way delay: 1549.927 ms

Loss rate: 60.57%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-09-11 01:40:16

End at: 2018-09-11 01:40:46

Below is generated by plot.py at 2018-09-11 01:53:15

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (109.0% utilization)

95th percentile per-packet one-way delay: 1548.776 ms

Loss rate: 61.15%

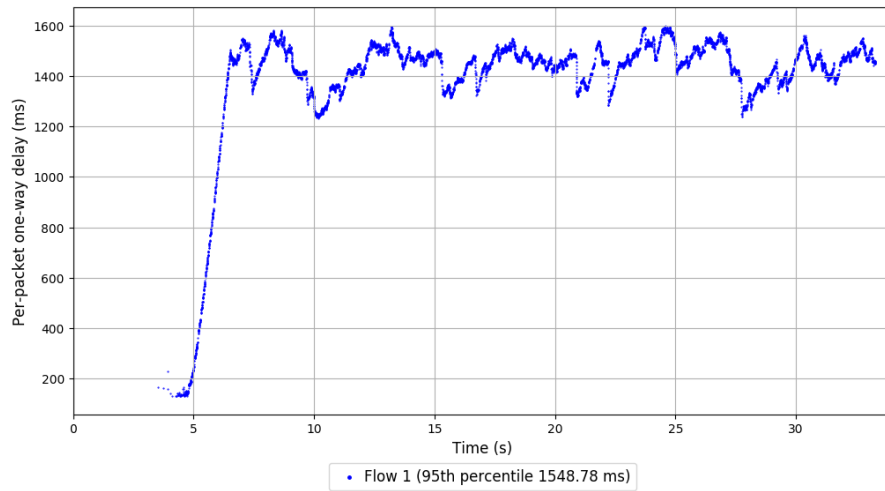
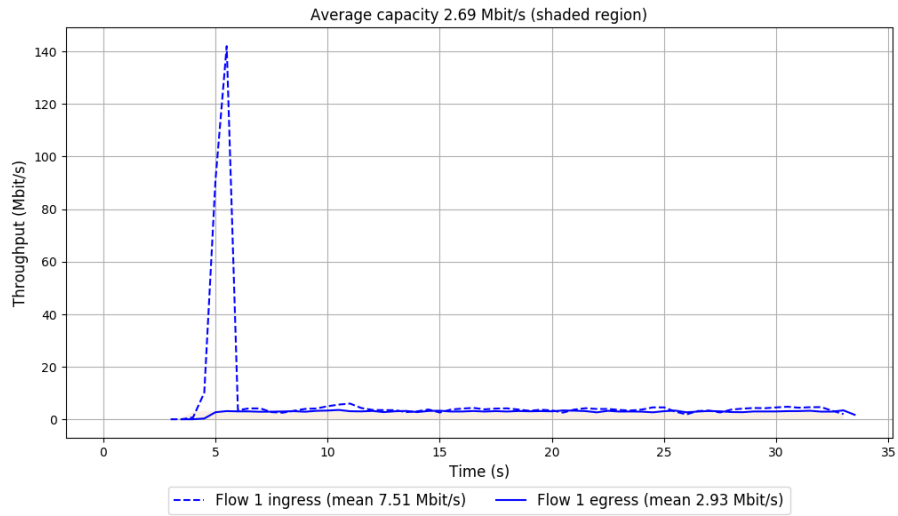
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 1548.776 ms

Loss rate: 61.15%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-09-11 01:50:51

End at: 2018-09-11 01:51:21

Below is generated by plot.py at 2018-09-11 01:53:16

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.94 Mbit/s (109.1% utilization)

95th percentile per-packet one-way delay: 1568.811 ms

Loss rate: 59.80%

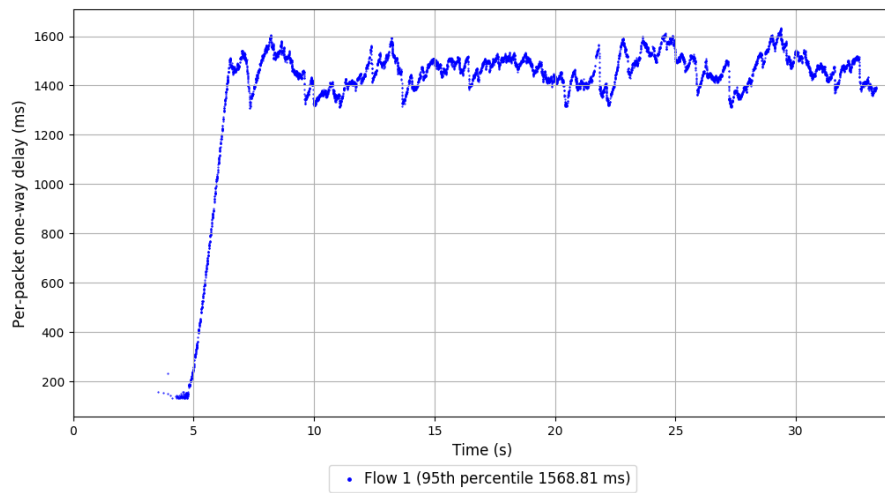
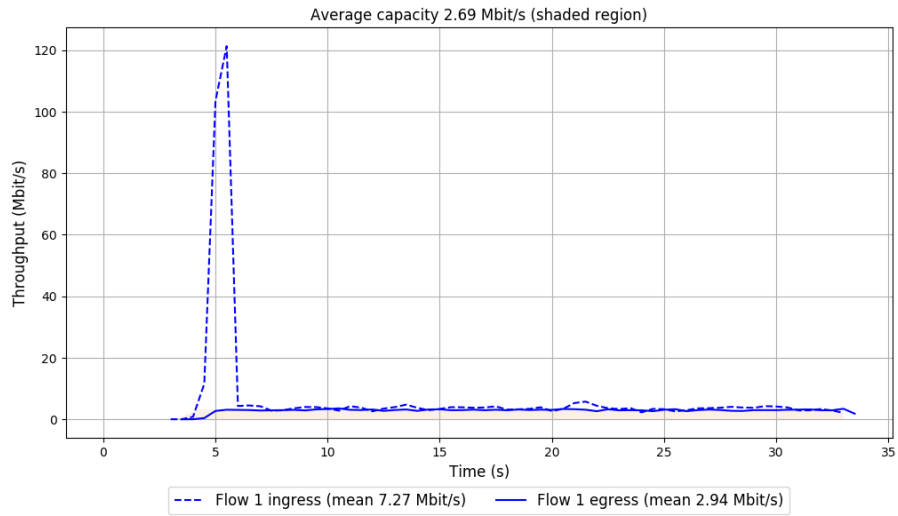
-- Flow 1:

Average throughput: 2.94 Mbit/s

95th percentile per-packet one-way delay: 1568.811 ms

Loss rate: 59.80%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-09-11 01:06:09

End at: 2018-09-11 01:06:39

Below is generated by plot.py at 2018-09-11 01:53:16

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.96 Mbit/s (109.9% utilization)

95th percentile per-packet one-way delay: 833.807 ms

Loss rate: 4.27%

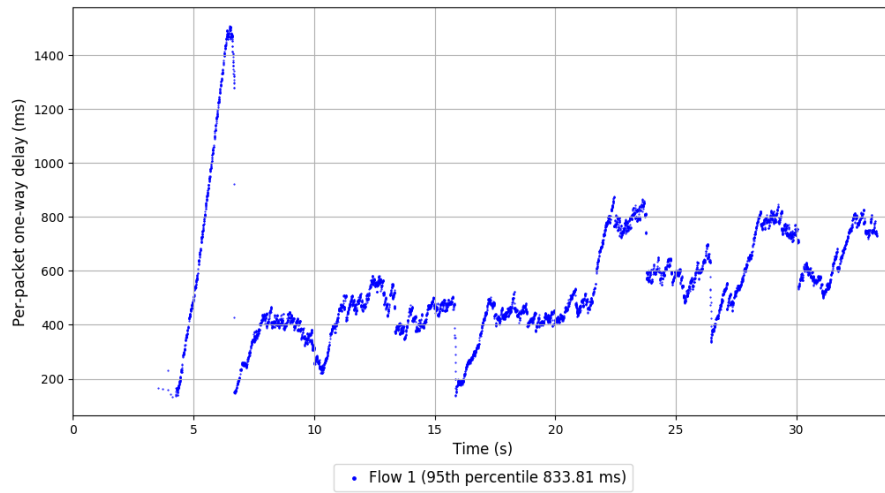
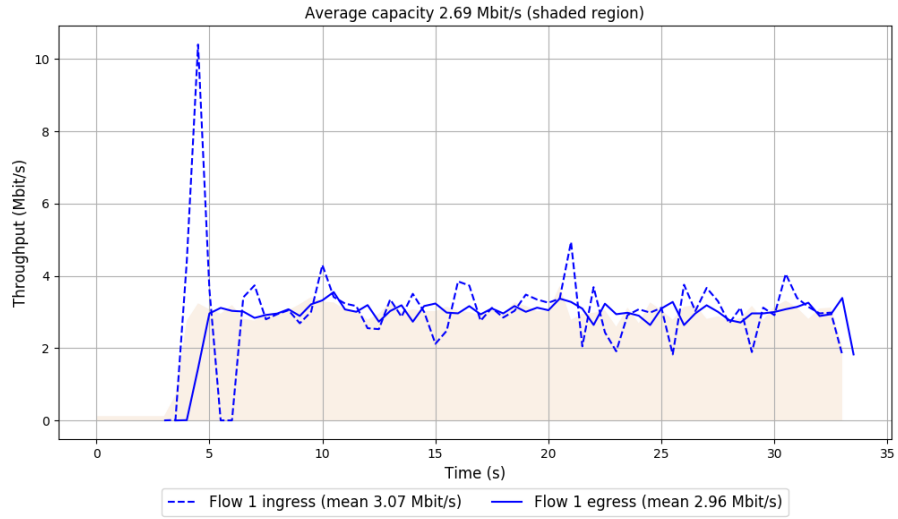
-- Flow 1:

Average throughput: 2.96 Mbit/s

95th percentile per-packet one-way delay: 833.807 ms

Loss rate: 4.27%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-09-11 01:16:43

End at: 2018-09-11 01:17:13

Below is generated by plot.py at 2018-09-11 01:53:16

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.96 Mbit/s (109.9% utilization)

95th percentile per-packet one-way delay: 1162.529 ms

Loss rate: 8.73%

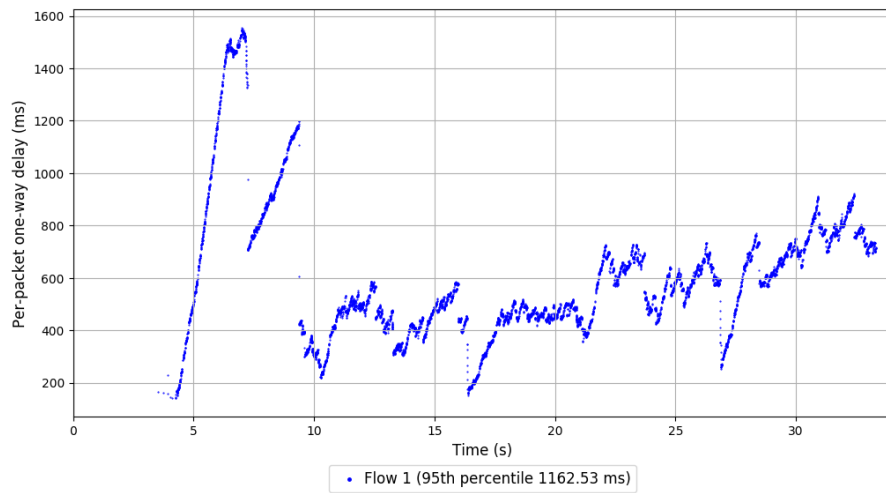
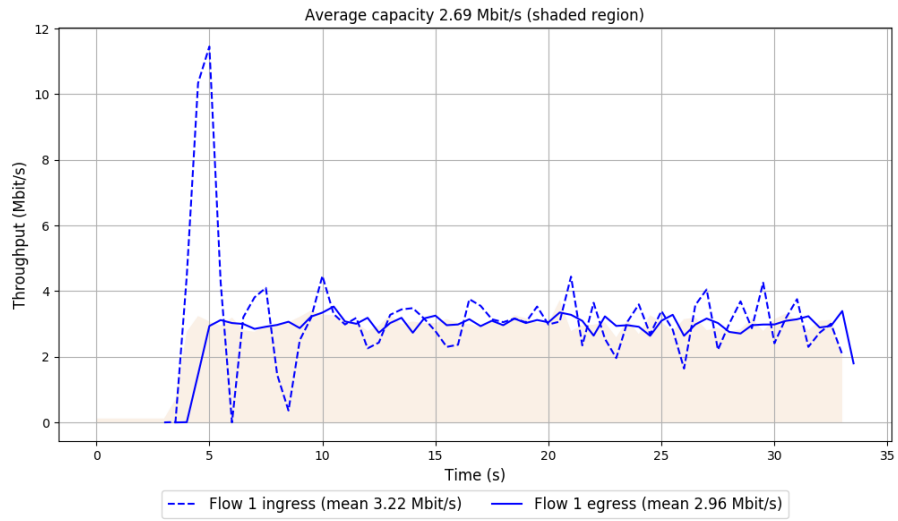
-- Flow 1:

Average throughput: 2.96 Mbit/s

95th percentile per-packet one-way delay: 1162.529 ms

Loss rate: 8.73%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-09-11 01:27:19

End at: 2018-09-11 01:27:49

Below is generated by plot.py at 2018-09-11 01:53:16

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.96 Mbit/s (109.9% utilization)

95th percentile per-packet one-way delay: 1066.444 ms

Loss rate: 8.72%

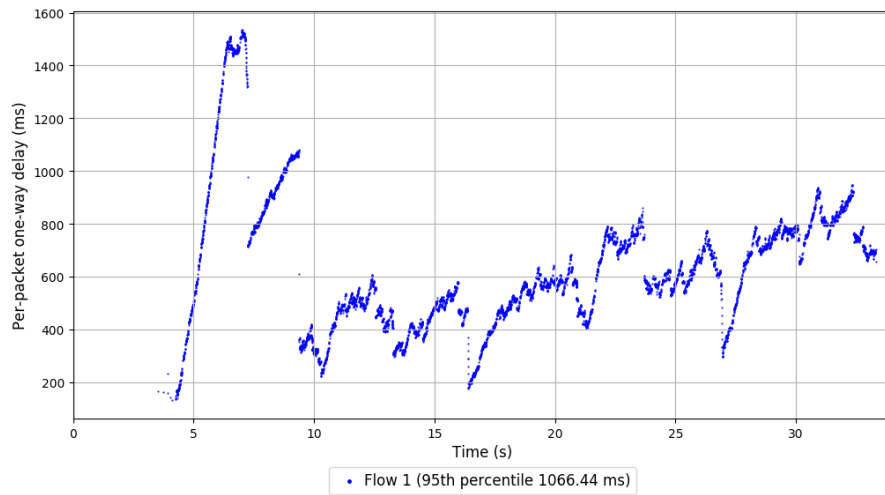
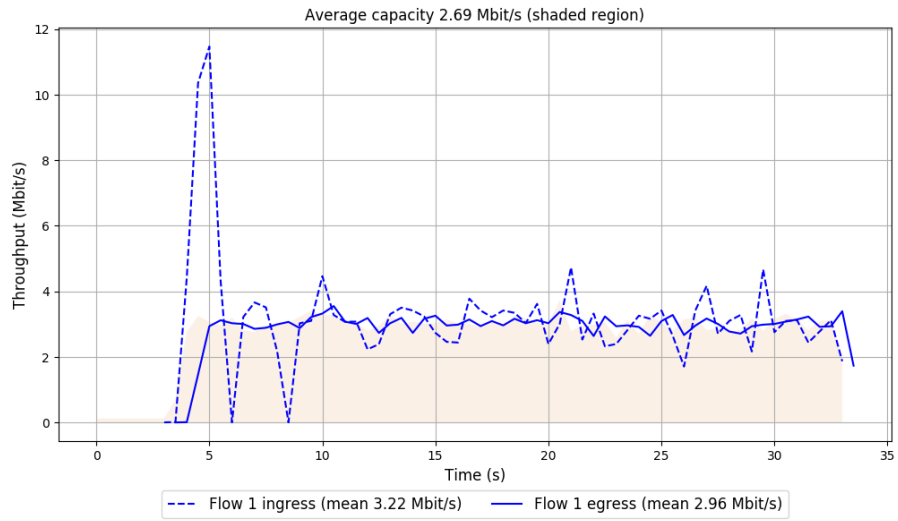
-- Flow 1:

Average throughput: 2.96 Mbit/s

95th percentile per-packet one-way delay: 1066.444 ms

Loss rate: 8.72%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-09-11 01:37:54

End at: 2018-09-11 01:38:24

Below is generated by plot.py at 2018-09-11 01:53:18

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.96 Mbit/s (109.9% utilization)

95th percentile per-packet one-way delay: 1151.391 ms

Loss rate: 8.84%

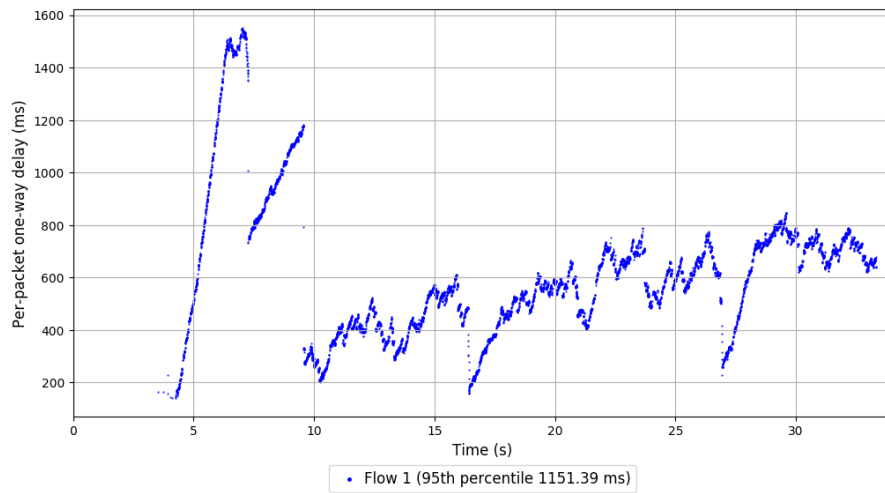
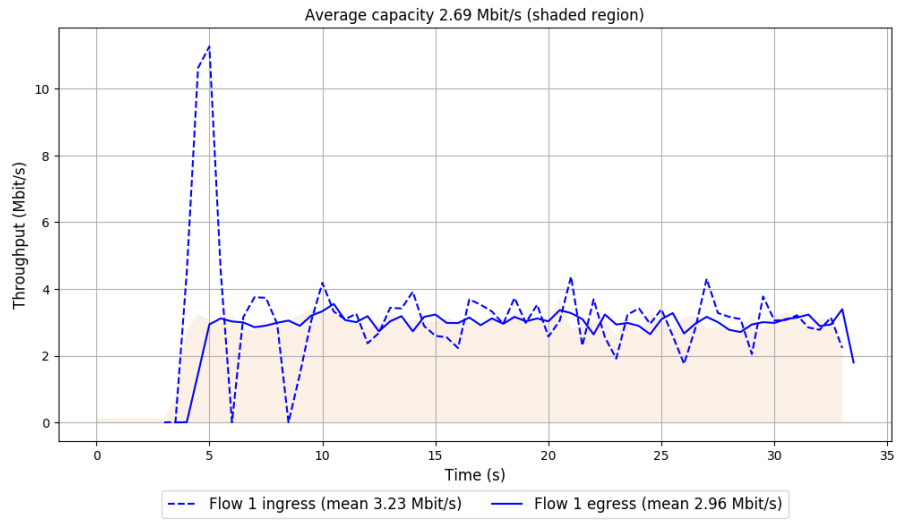
-- Flow 1:

Average throughput: 2.96 Mbit/s

95th percentile per-packet one-way delay: 1151.391 ms

Loss rate: 8.84%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-11 01:48:30

End at: 2018-09-11 01:49:00

Below is generated by plot.py at 2018-09-11 01:53:25

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.96 Mbit/s (109.9% utilization)

95th percentile per-packet one-way delay: 1161.505 ms

Loss rate: 8.51%

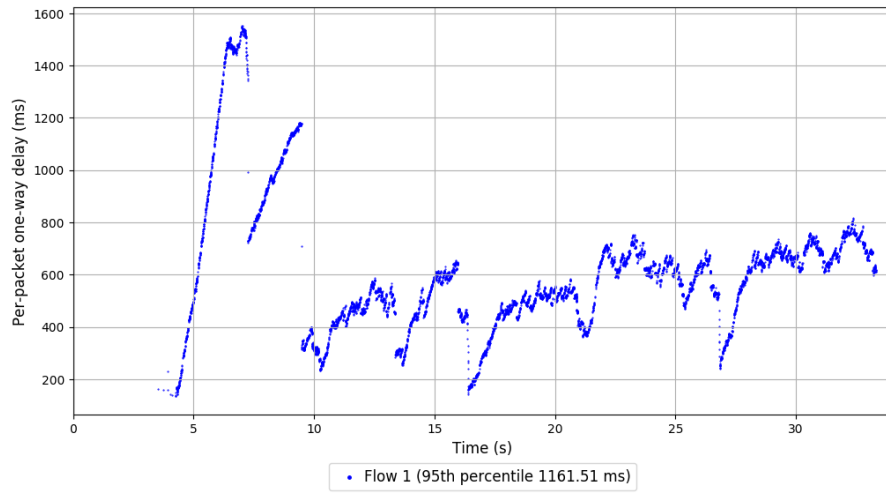
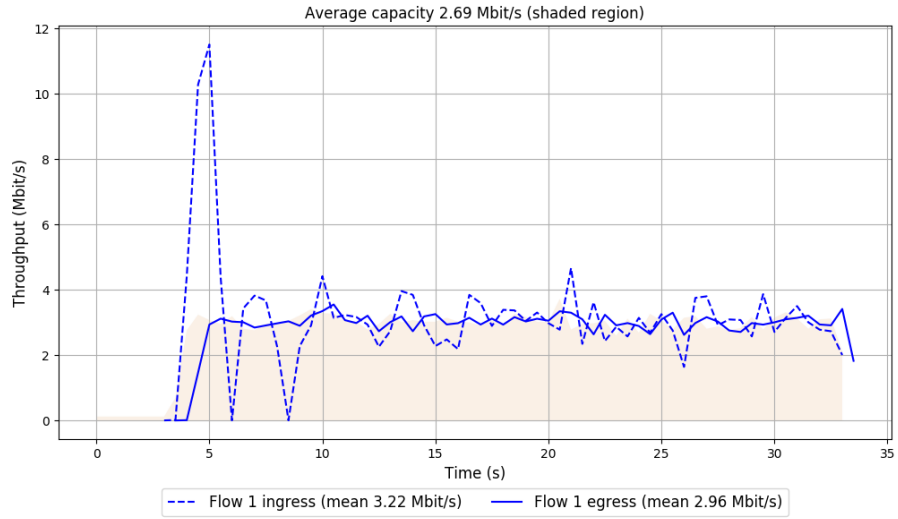
-- Flow 1:

Average throughput: 2.96 Mbit/s

95th percentile per-packet one-way delay: 1161.505 ms

Loss rate: 8.51%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2018-09-11 01:05:34

End at: 2018-09-11 01:06:04

Below is generated by plot.py at 2018-09-11 01:53:25

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.44 Mbit/s (90.7% utilization)

95th percentile per-packet one-way delay: 209.626 ms

Loss rate: 0.52%

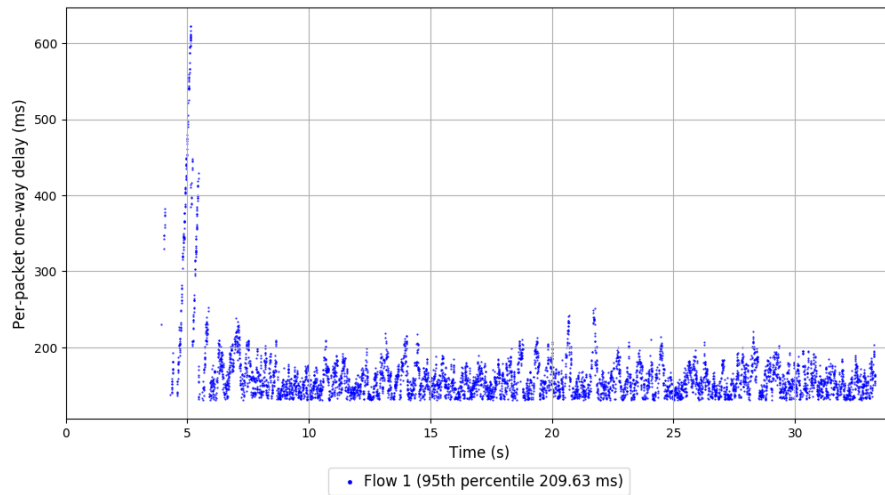
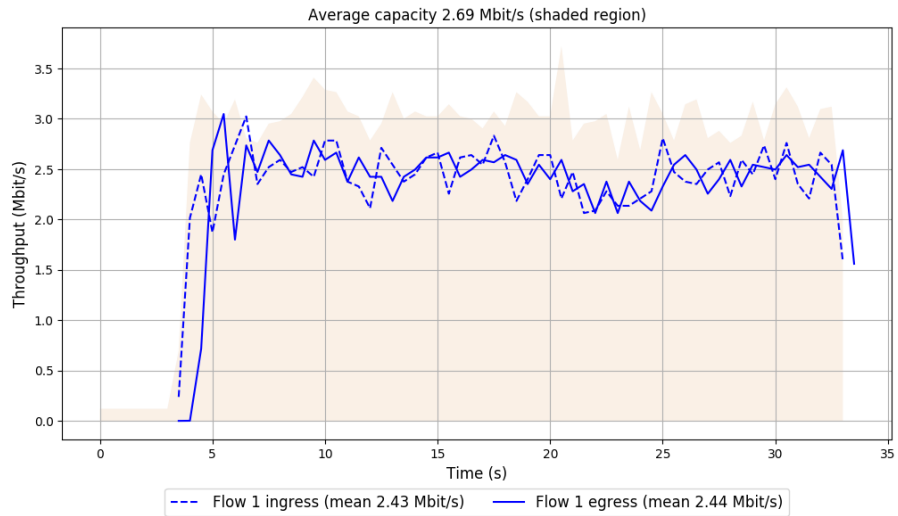
-- Flow 1:

Average throughput: 2.44 Mbit/s

95th percentile per-packet one-way delay: 209.626 ms

Loss rate: 0.52%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-09-11 01:16:08

End at: 2018-09-11 01:16:38

Below is generated by plot.py at 2018-09-11 01:53:25

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 1.96 Mbit/s (72.8% utilization)

95th percentile per-packet one-way delay: 174.259 ms

Loss rate: 0.56%

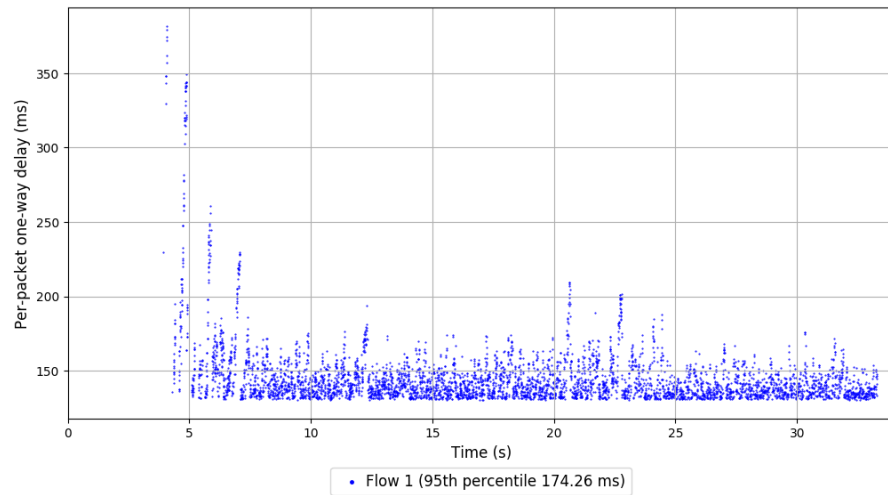
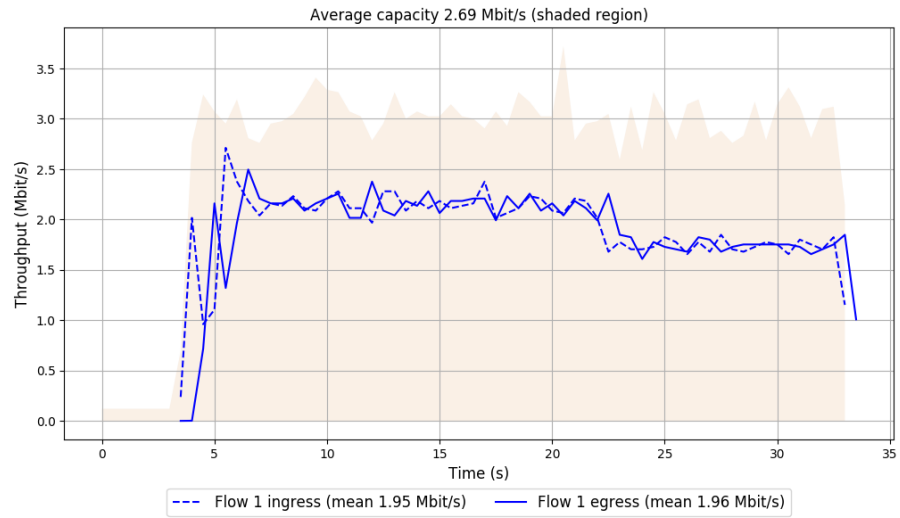
-- Flow 1:

Average throughput: 1.96 Mbit/s

95th percentile per-packet one-way delay: 174.259 ms

Loss rate: 0.56%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-09-11 01:26:43

End at: 2018-09-11 01:27:13

Below is generated by plot.py at 2018-09-11 01:53:25

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.45 Mbit/s (91.1% utilization)

95th percentile per-packet one-way delay: 610.521 ms

Loss rate: 3.33%

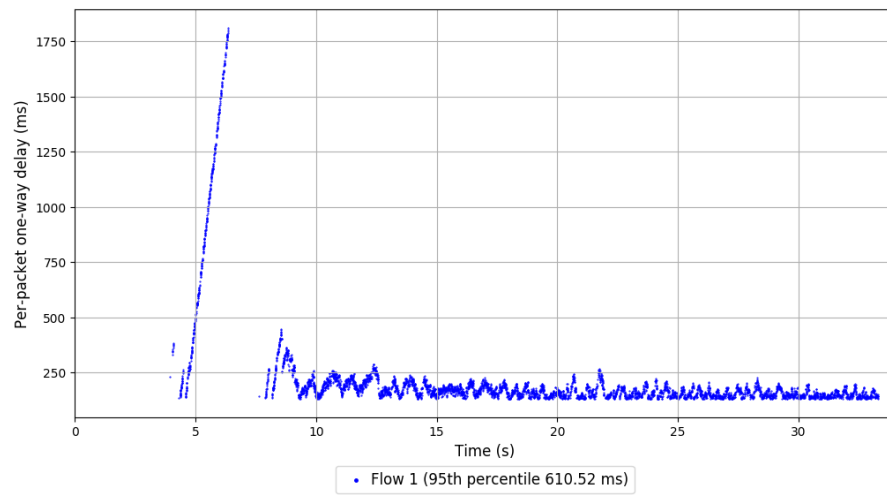
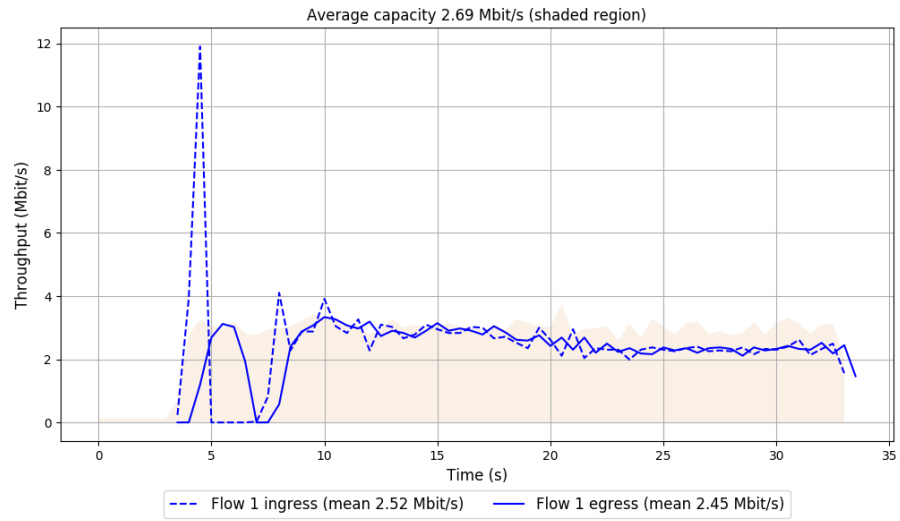
-- Flow 1:

Average throughput: 2.45 Mbit/s

95th percentile per-packet one-way delay: 610.521 ms

Loss rate: 3.33%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-09-11 01:37:19

End at: 2018-09-11 01:37:49

Below is generated by plot.py at 2018-09-11 01:53:25

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 1.76 Mbit/s (65.4% utilization)

95th percentile per-packet one-way delay: 180.716 ms

Loss rate: 0.74%

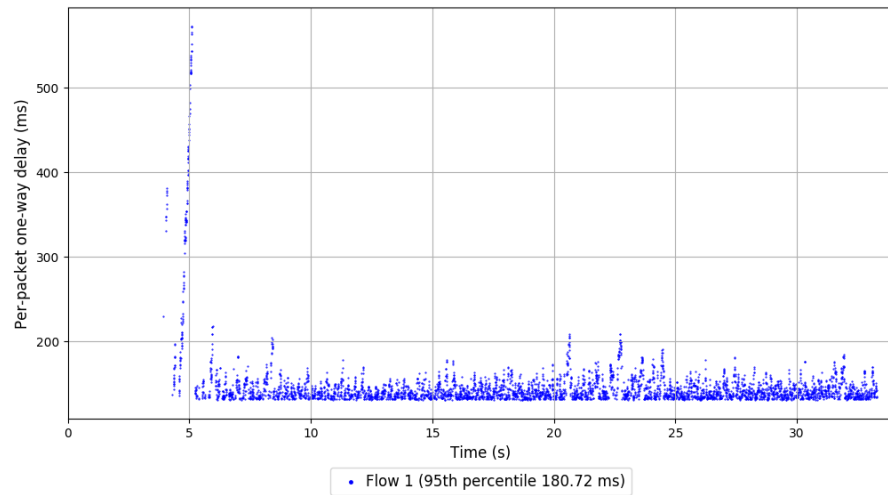
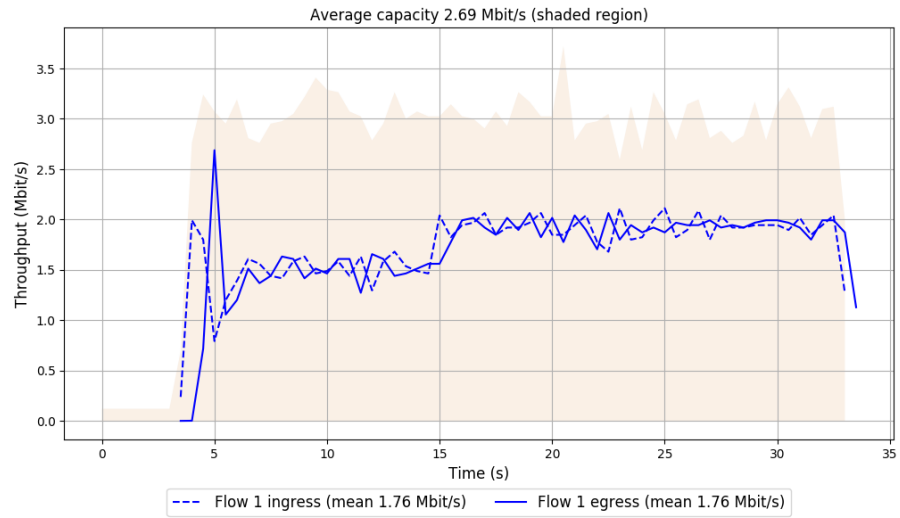
-- Flow 1:

Average throughput: 1.76 Mbit/s

95th percentile per-packet one-way delay: 180.716 ms

Loss rate: 0.74%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-09-11 01:47:55

End at: 2018-09-11 01:48:25

Below is generated by plot.py at 2018-09-11 01:53:25

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.38 Mbit/s (88.4% utilization)

95th percentile per-packet one-way delay: 215.783 ms

Loss rate: 0.66%

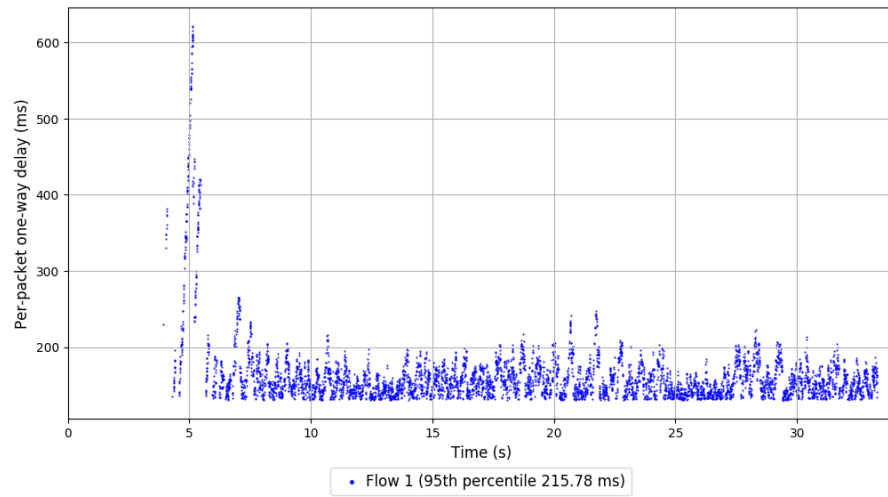
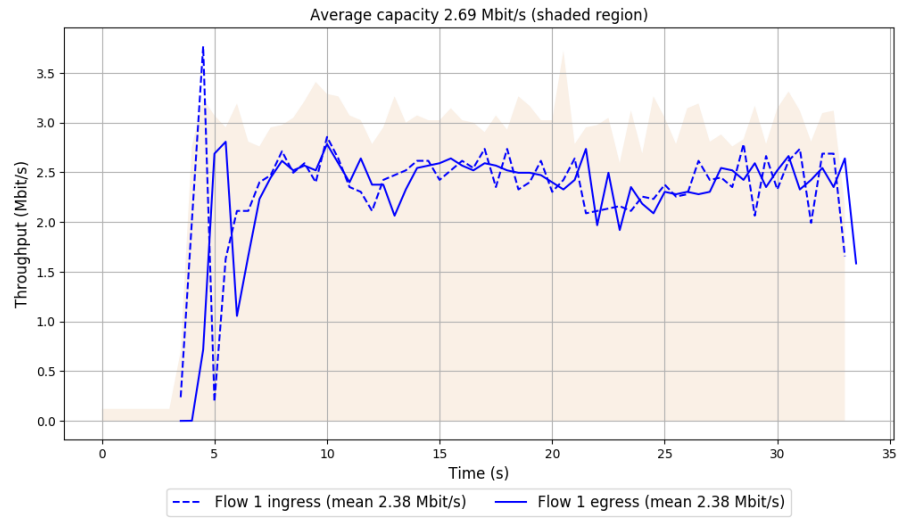
-- Flow 1:

Average throughput: 2.38 Mbit/s

95th percentile per-packet one-way delay: 215.783 ms

Loss rate: 0.66%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of LEDBAT

Start at: 2018-09-11 01:01:27

End at: 2018-09-11 01:01:57

Below is generated by plot.py at 2018-09-11 01:53:26

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.43 Mbit/s (90.2% utilization)

95th percentile per-packet one-way delay: 279.807 ms

Loss rate: 1.03%

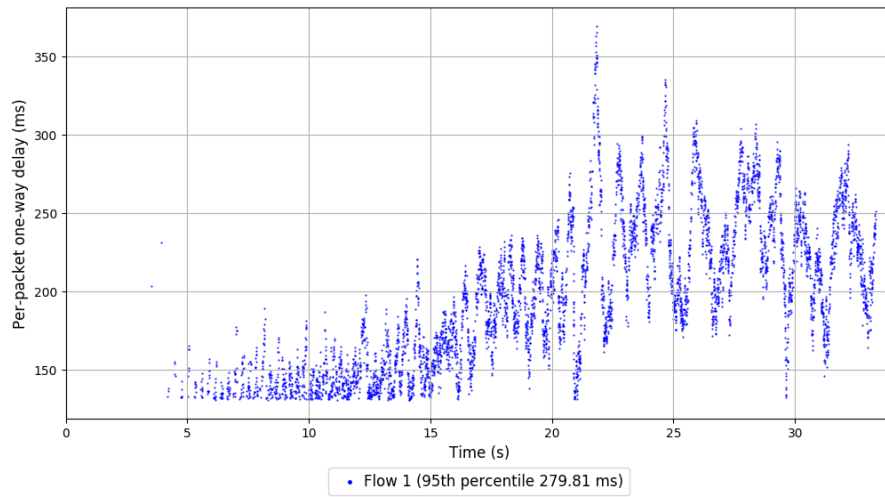
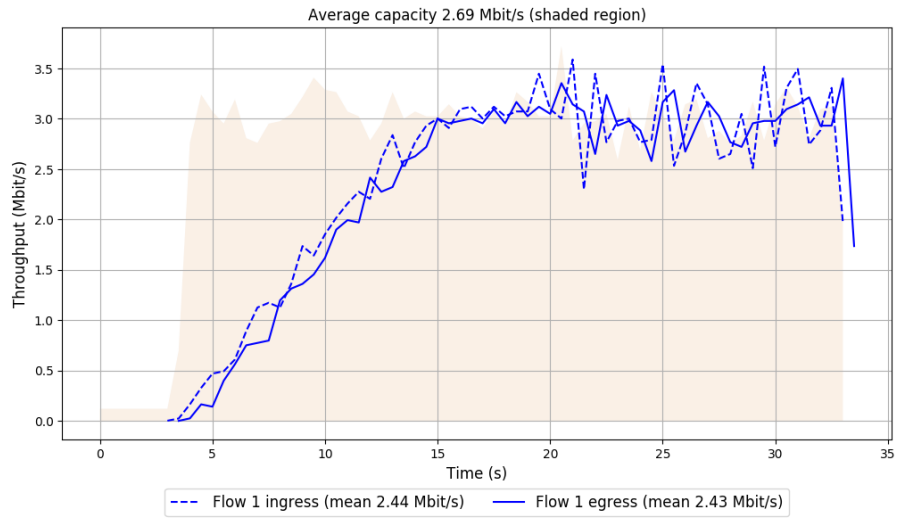
-- Flow 1:

Average throughput: 2.43 Mbit/s

95th percentile per-packet one-way delay: 279.807 ms

Loss rate: 1.03%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-09-11 01:12:01

End at: 2018-09-11 01:12:31

Below is generated by plot.py at 2018-09-11 01:53:27

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.42 Mbit/s (90.0% utilization)

95th percentile per-packet one-way delay: 280.031 ms

Loss rate: 1.08%

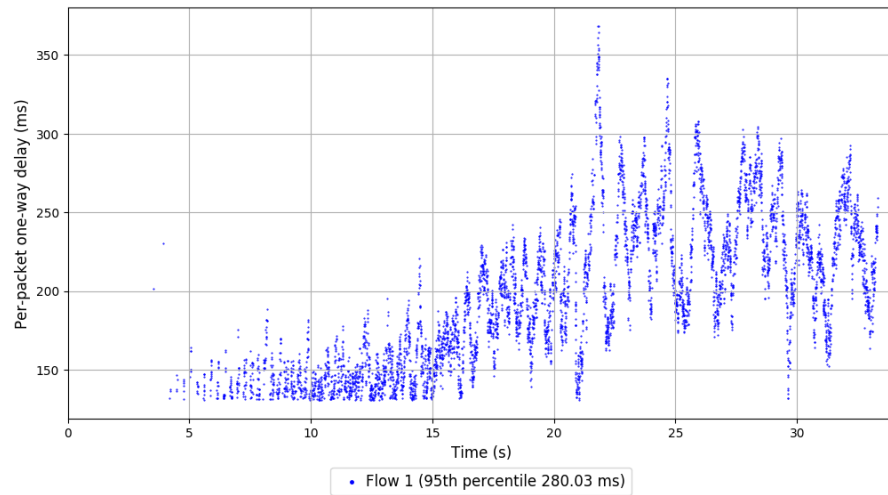
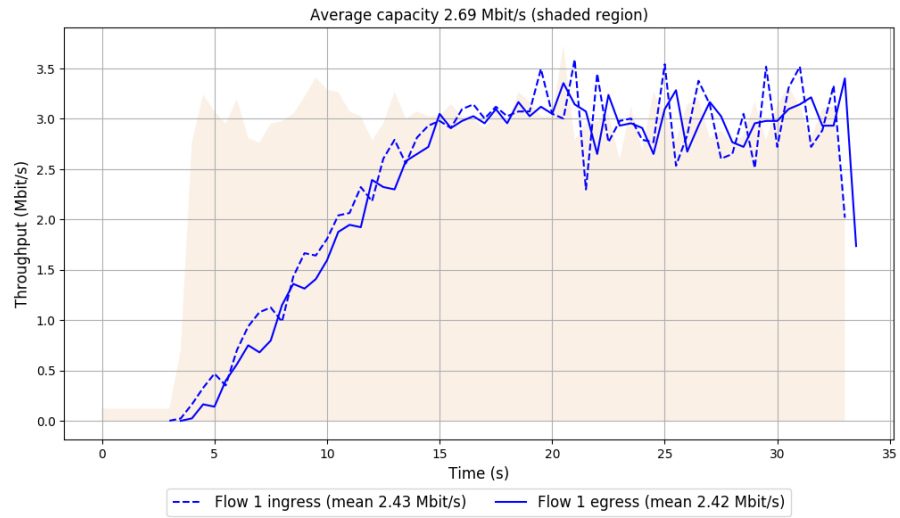
-- Flow 1:

Average throughput: 2.42 Mbit/s

95th percentile per-packet one-way delay: 280.031 ms

Loss rate: 1.08%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-09-11 01:22:36

End at: 2018-09-11 01:23:06

Below is generated by plot.py at 2018-09-11 01:53:32

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.43 Mbit/s (90.1% utilization)

95th percentile per-packet one-way delay: 279.645 ms

Loss rate: 1.04%

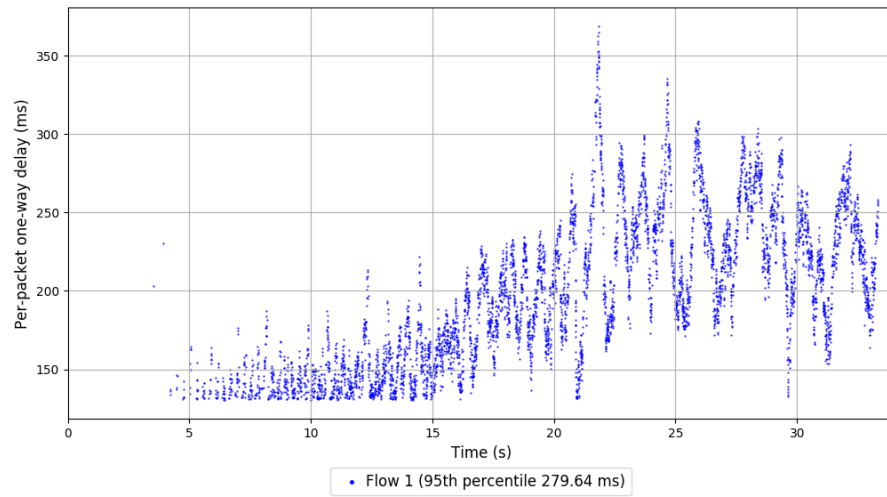
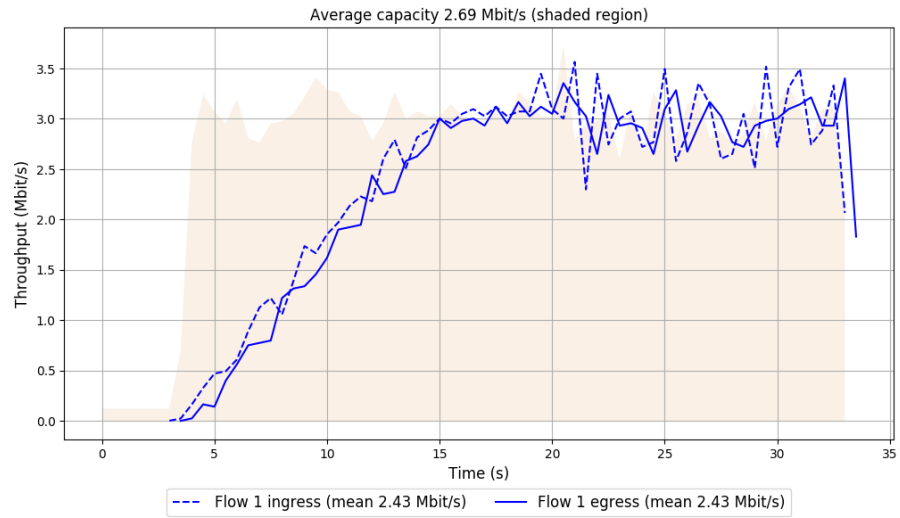
-- Flow 1:

Average throughput: 2.43 Mbit/s

95th percentile per-packet one-way delay: 279.645 ms

Loss rate: 1.04%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-09-11 01:33:12

End at: 2018-09-11 01:33:42

Below is generated by plot.py at 2018-09-11 01:53:34

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.42 Mbit/s (89.9% utilization)

95th percentile per-packet one-way delay: 279.347 ms

Loss rate: 1.06%

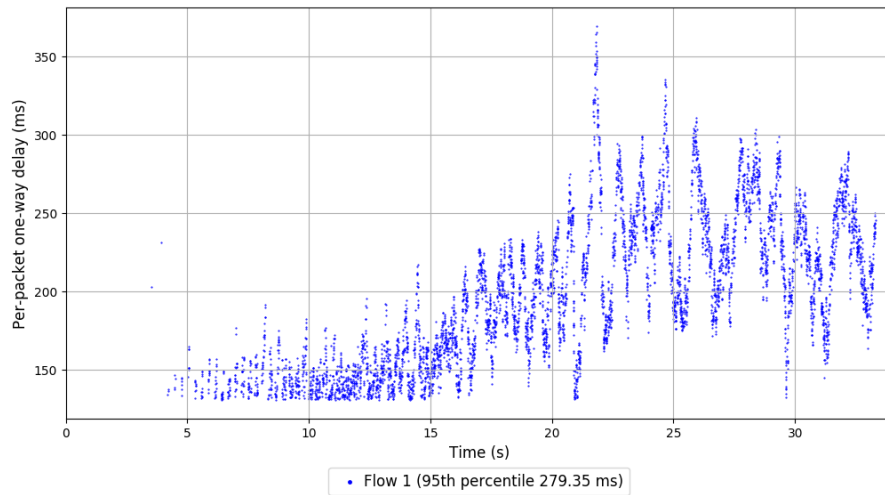
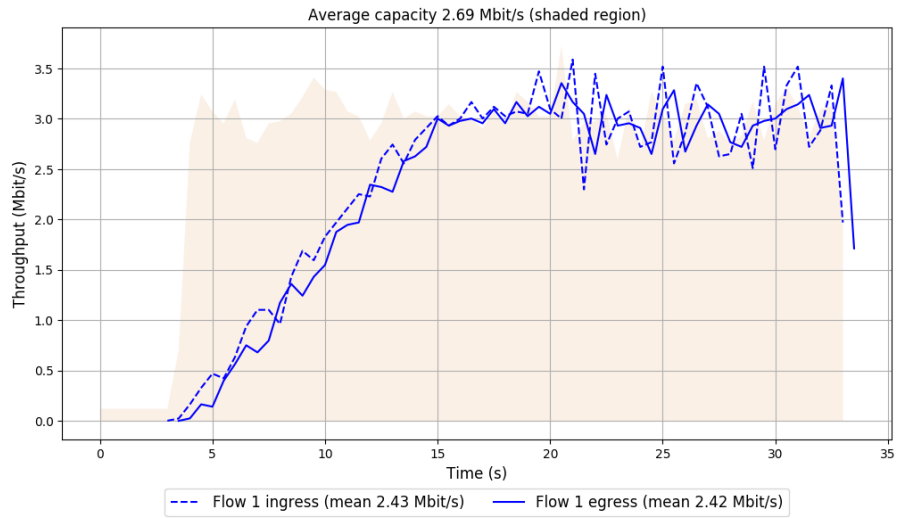
-- Flow 1:

Average throughput: 2.42 Mbit/s

95th percentile per-packet one-way delay: 279.347 ms

Loss rate: 1.06%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-09-11 01:43:47

End at: 2018-09-11 01:44:17

Below is generated by plot.py at 2018-09-11 01:53:34

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.42 Mbit/s (89.9% utilization)

95th percentile per-packet one-way delay: 279.972 ms

Loss rate: 1.05%

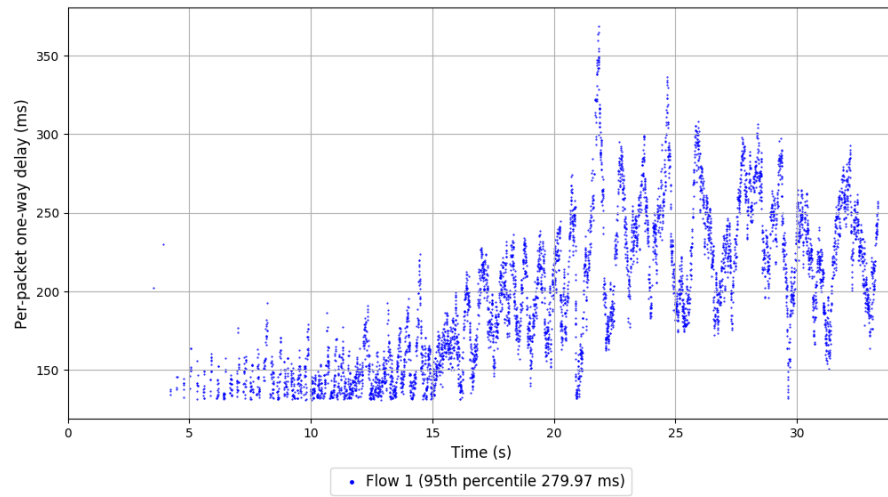
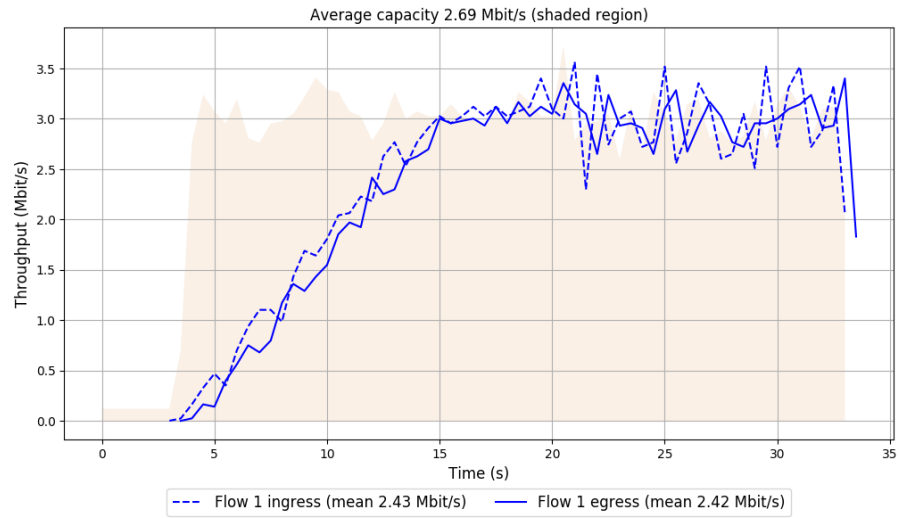
-- Flow 1:

Average throughput: 2.42 Mbit/s

95th percentile per-packet one-way delay: 279.972 ms

Loss rate: 1.05%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of Indigo-Muses

Start at: 2018-09-11 01:07:55

End at: 2018-09-11 01:08:25

Below is generated by plot.py at 2018-09-11 01:53:34

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.18 Mbit/s (81.0% utilization)

95th percentile per-packet one-way delay: 432.956 ms

Loss rate: 0.40%

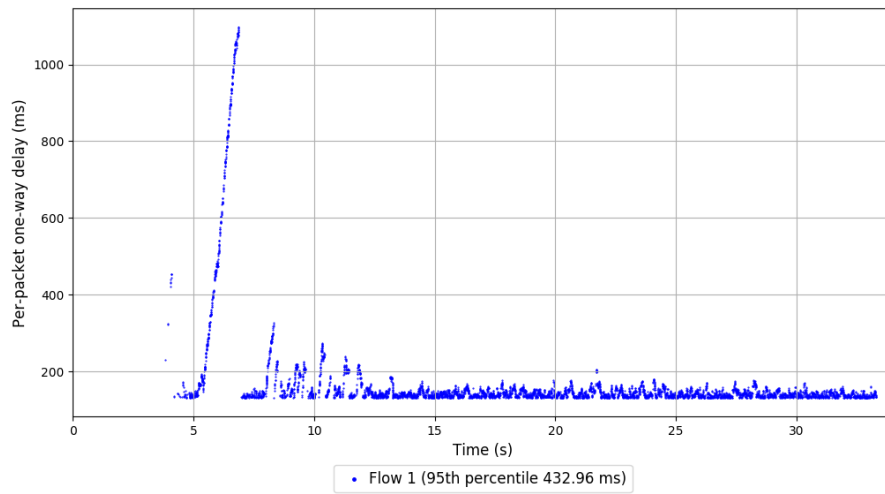
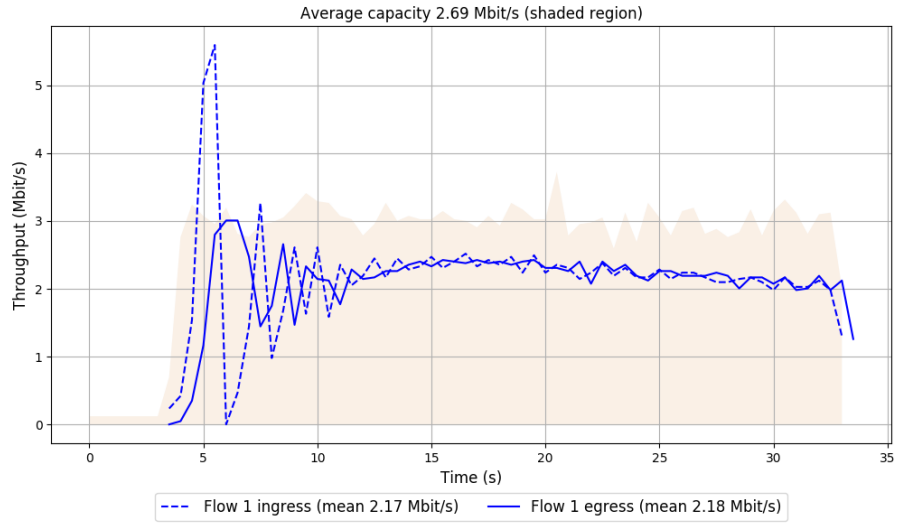
-- Flow 1:

Average throughput: 2.18 Mbit/s

95th percentile per-packet one-way delay: 432.956 ms

Loss rate: 0.40%

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-09-11 01:18:29

End at: 2018-09-11 01:18:59

Below is generated by plot.py at 2018-09-11 01:53:35

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.18 Mbit/s (81.0% utilization)

95th percentile per-packet one-way delay: 212.160 ms

Loss rate: 0.43%

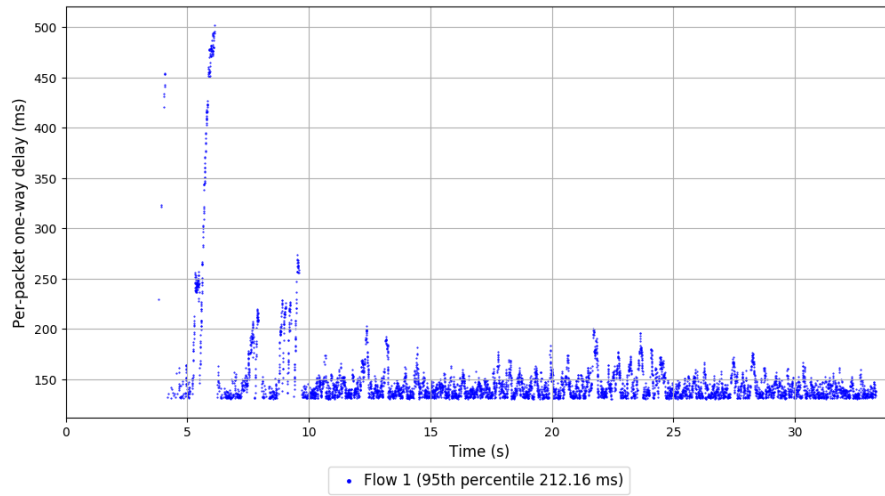
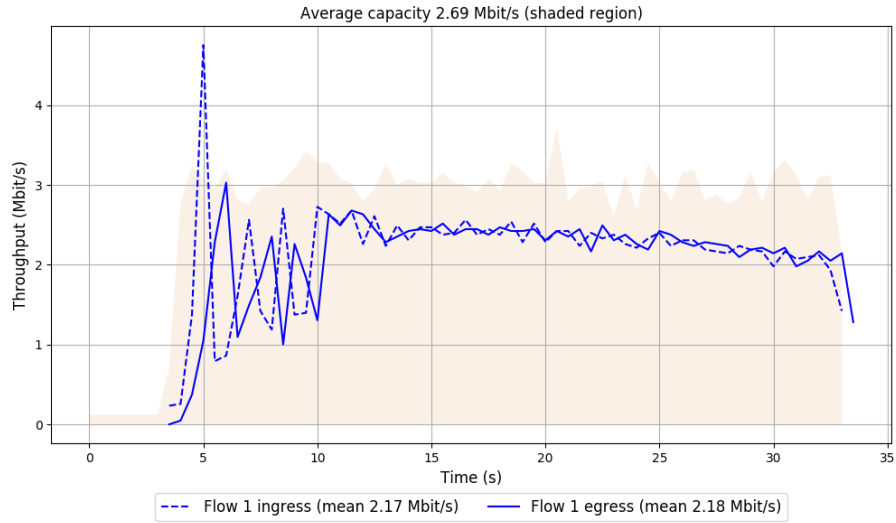
-- Flow 1:

Average throughput: 2.18 Mbit/s

95th percentile per-packet one-way delay: 212.160 ms

Loss rate: 0.43%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-09-11 01:29:05

End at: 2018-09-11 01:29:35

Below is generated by plot.py at 2018-09-11 01:53:35

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.12 Mbit/s (78.9% utilization)

95th percentile per-packet one-way delay: 205.137 ms

Loss rate: 0.41%

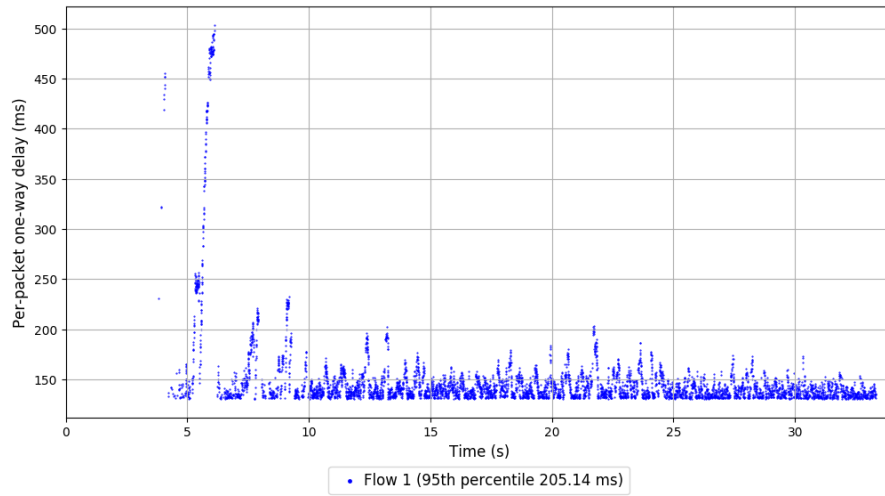
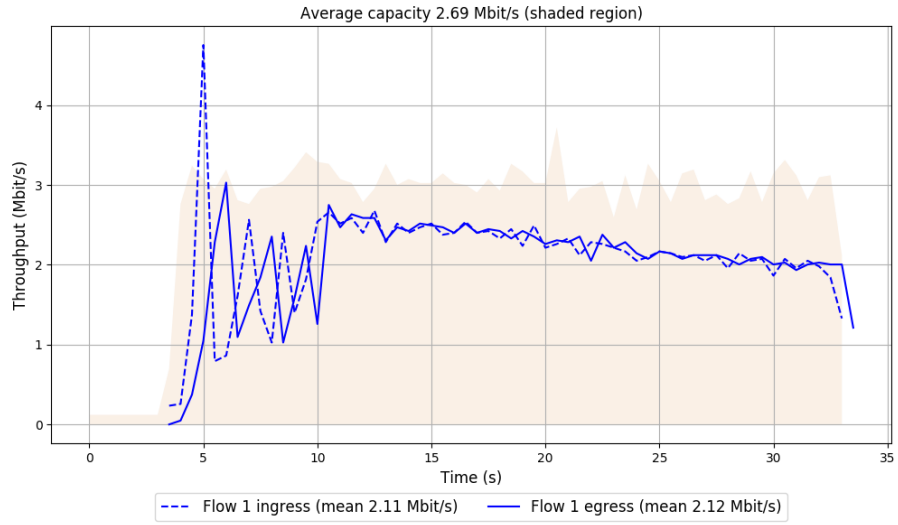
-- Flow 1:

Average throughput: 2.12 Mbit/s

95th percentile per-packet one-way delay: 205.137 ms

Loss rate: 0.41%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-09-11 01:39:40

End at: 2018-09-11 01:40:10

Below is generated by plot.py at 2018-09-11 01:53:36

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.11 Mbit/s (78.3% utilization)

95th percentile per-packet one-way delay: 213.002 ms

Loss rate: 0.45%

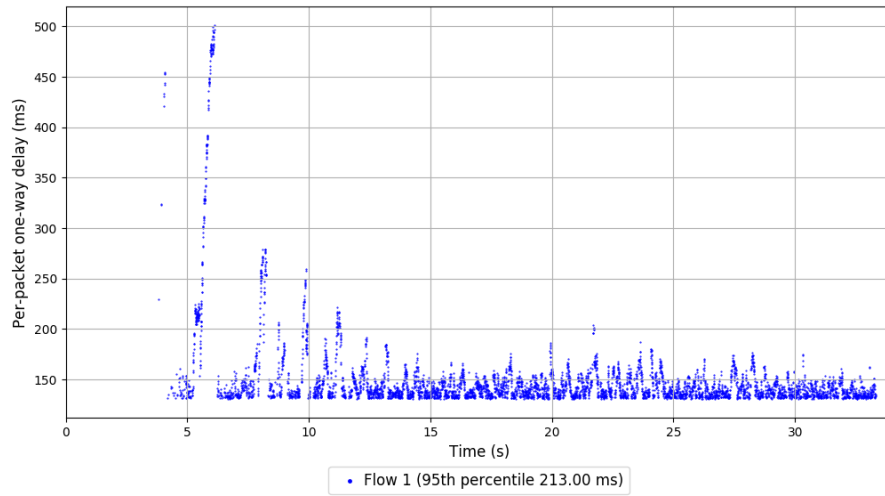
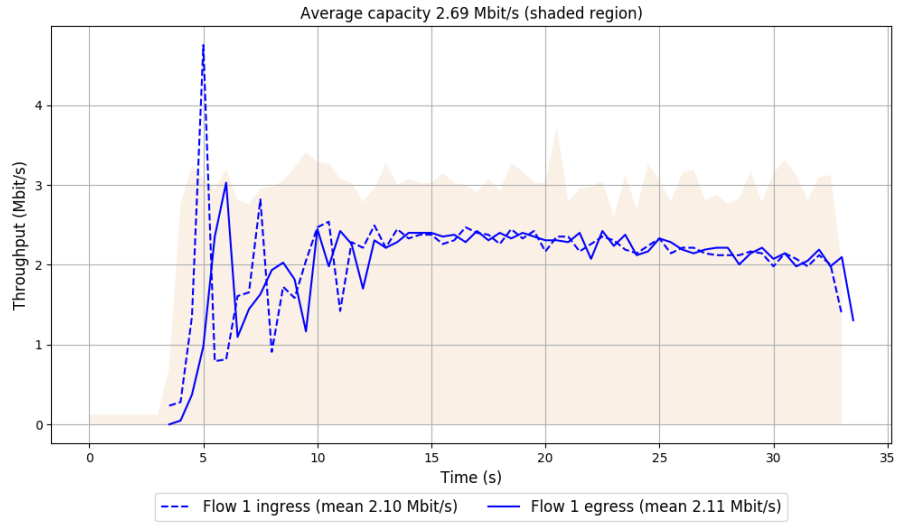
-- Flow 1:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 213.002 ms

Loss rate: 0.45%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-09-11 01:50:16

End at: 2018-09-11 01:50:46

Below is generated by plot.py at 2018-09-11 01:53:37

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.09 Mbit/s (77.6% utilization)

95th percentile per-packet one-way delay: 210.797 ms

Loss rate: 0.47%

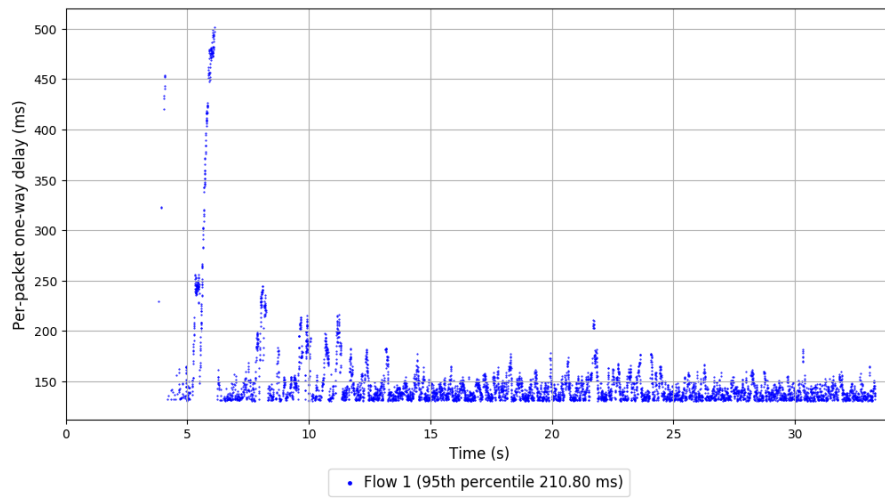
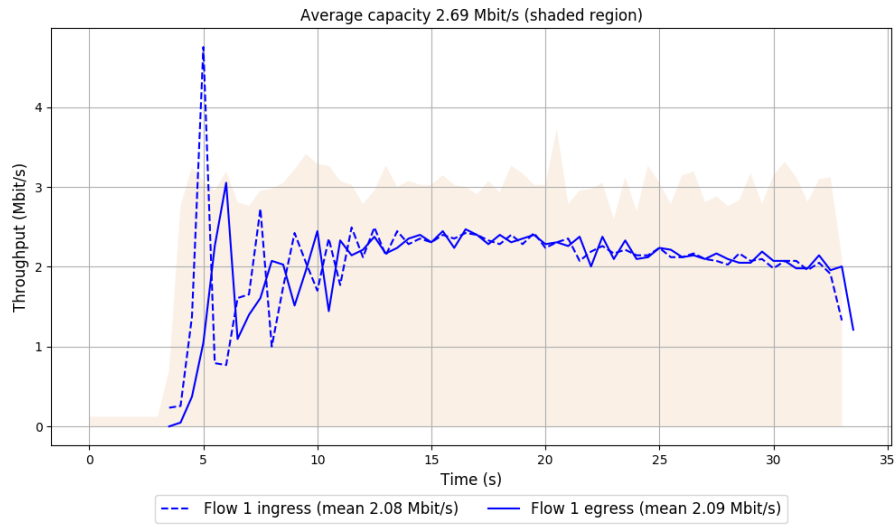
-- Flow 1:

Average throughput: 2.09 Mbit/s

95th percentile per-packet one-way delay: 210.797 ms

Loss rate: 0.47%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-09-11 01:03:48

End at: 2018-09-11 01:04:18

Below is generated by plot.py at 2018-09-11 01:53:42

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.28 Mbit/s (84.6% utilization)

95th percentile per-packet one-way delay: 1403.670 ms

Loss rate: 2.37%

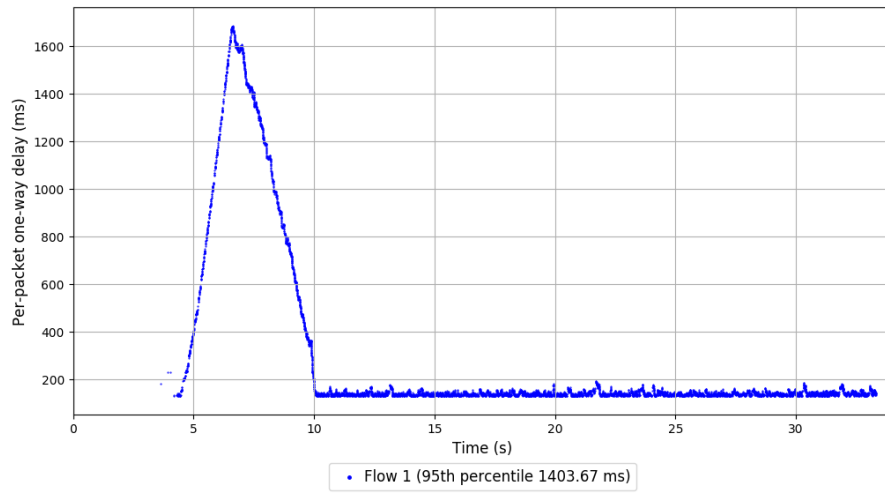
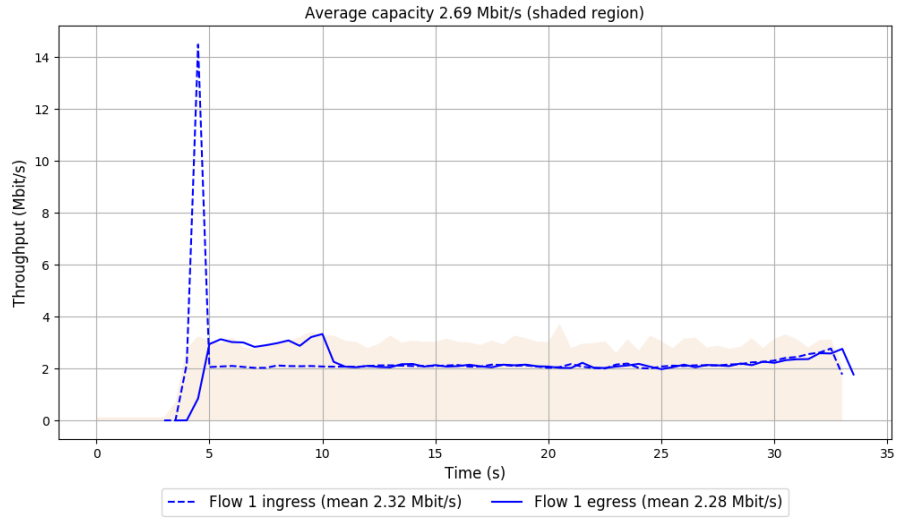
-- Flow 1:

Average throughput: 2.28 Mbit/s

95th percentile per-packet one-way delay: 1403.670 ms

Loss rate: 2.37%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-11 01:14:22

End at: 2018-09-11 01:14:52

Below is generated by plot.py at 2018-09-11 01:53:42

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.14 Mbit/s (79.7% utilization)

95th percentile per-packet one-way delay: 1422.337 ms

Loss rate: 2.62%

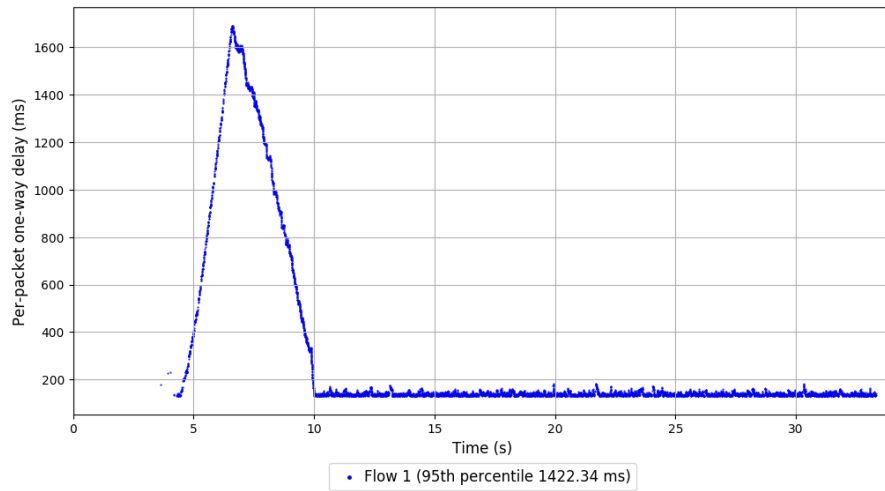
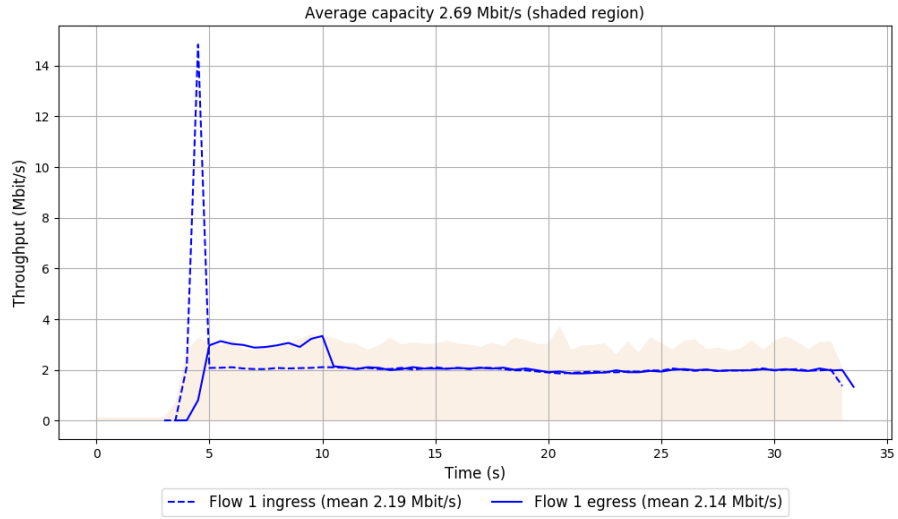
-- Flow 1:

Average throughput: 2.14 Mbit/s

95th percentile per-packet one-way delay: 1422.337 ms

Loss rate: 2.62%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-11 01:24:58

End at: 2018-09-11 01:25:28

Below is generated by plot.py at 2018-09-11 01:53:43

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.34 Mbit/s (87.1% utilization)

95th percentile per-packet one-way delay: 1386.315 ms

Loss rate: 1.14%

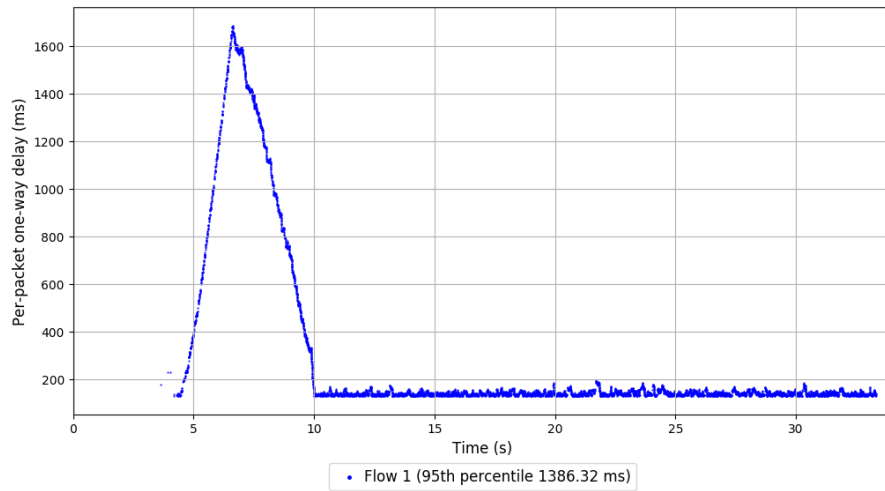
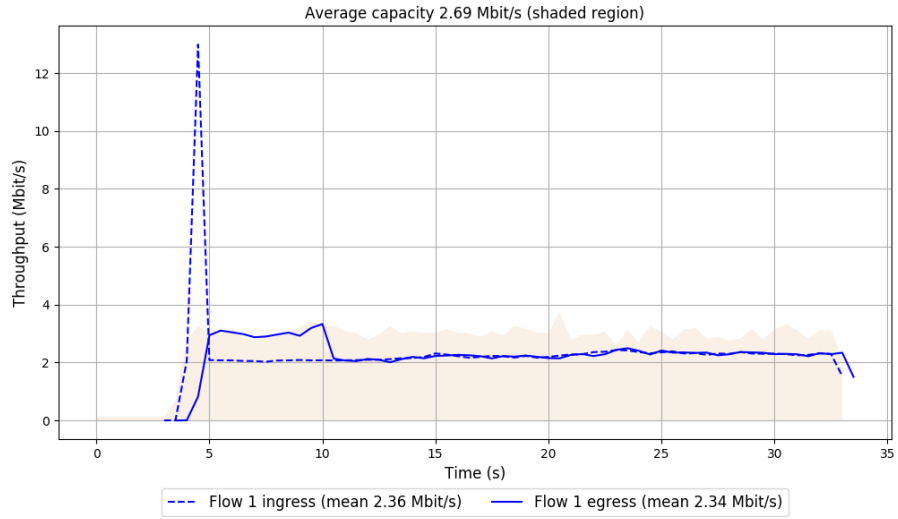
-- Flow 1:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 1386.315 ms

Loss rate: 1.14%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-11 01:35:33

End at: 2018-09-11 01:36:03

Below is generated by plot.py at 2018-09-11 01:53:43

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.26 Mbit/s (83.9% utilization)

95th percentile per-packet one-way delay: 1406.423 ms

Loss rate: 2.33%

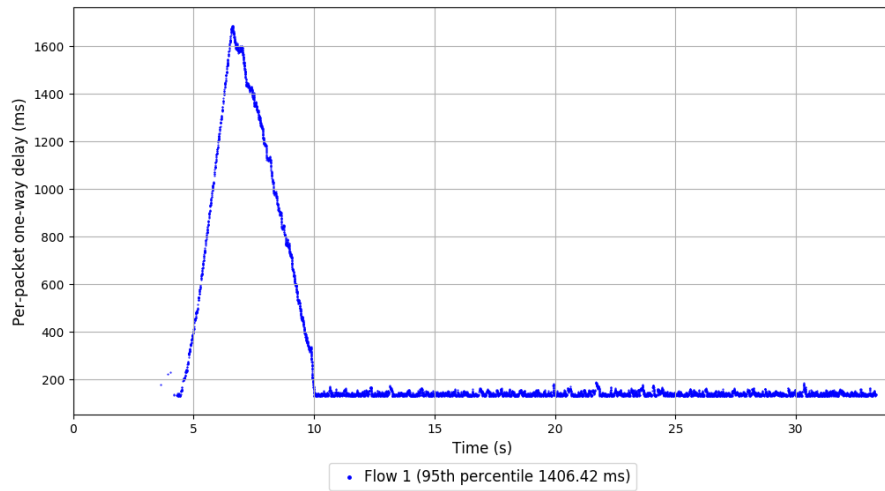
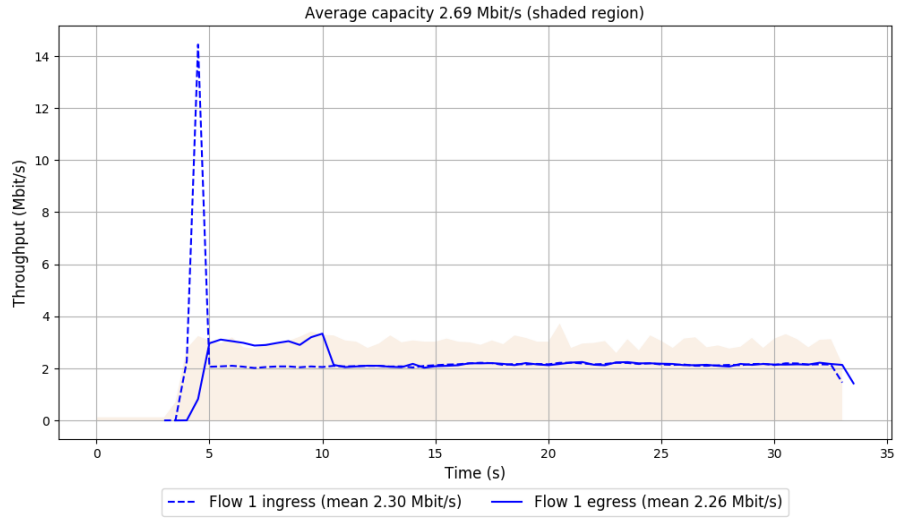
-- Flow 1:

Average throughput: 2.26 Mbit/s

95th percentile per-packet one-way delay: 1406.423 ms

Loss rate: 2.33%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-11 01:46:09

End at: 2018-09-11 01:46:39

Below is generated by plot.py at 2018-09-11 01:53:44

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.30 Mbit/s (85.4% utilization)

95th percentile per-packet one-way delay: 1403.861 ms

Loss rate: 2.30%

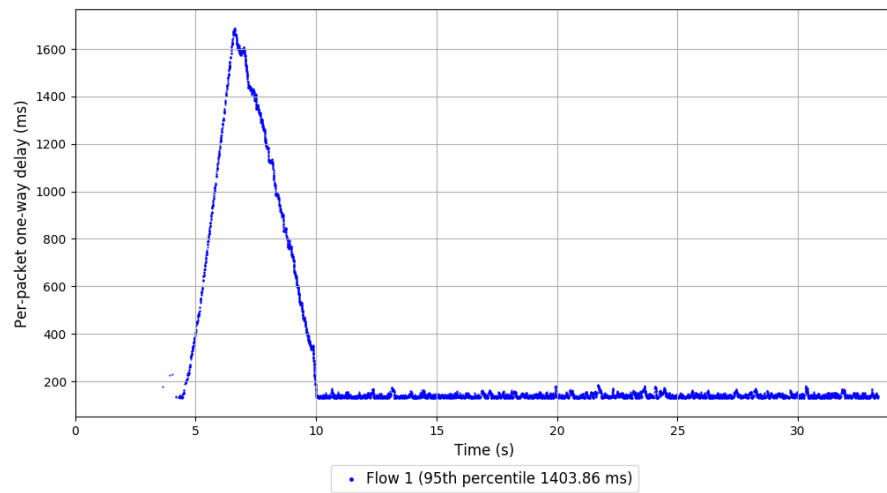
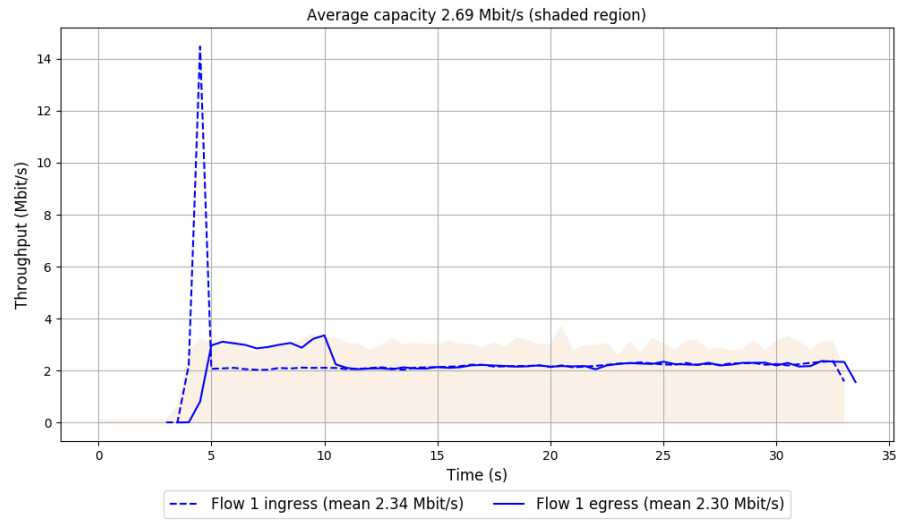
-- Flow 1:

Average throughput: 2.30 Mbit/s

95th percentile per-packet one-way delay: 1403.861 ms

Loss rate: 2.30%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2018-09-11 00:59:41

End at: 2018-09-11 01:00:11

Below is generated by plot.py at 2018-09-11 01:53:51

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.96 Mbit/s (109.8% utilization)

95th percentile per-packet one-way delay: 1204.556 ms

Loss rate: 52.49%

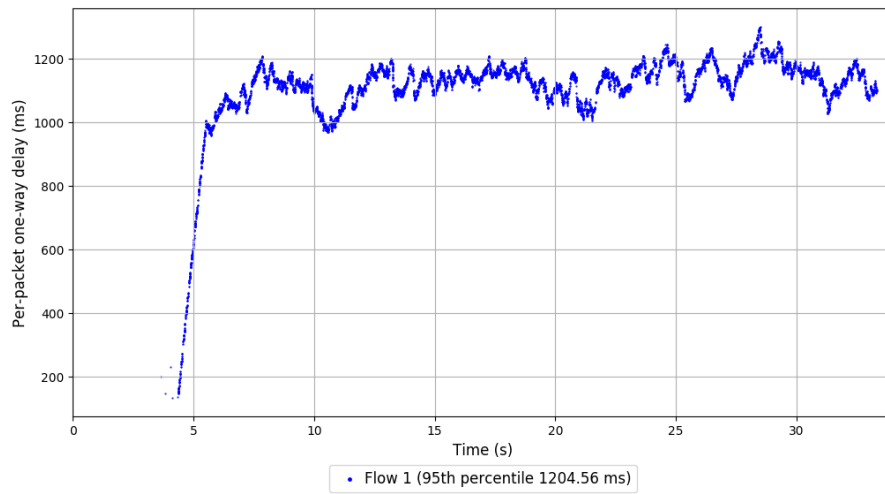
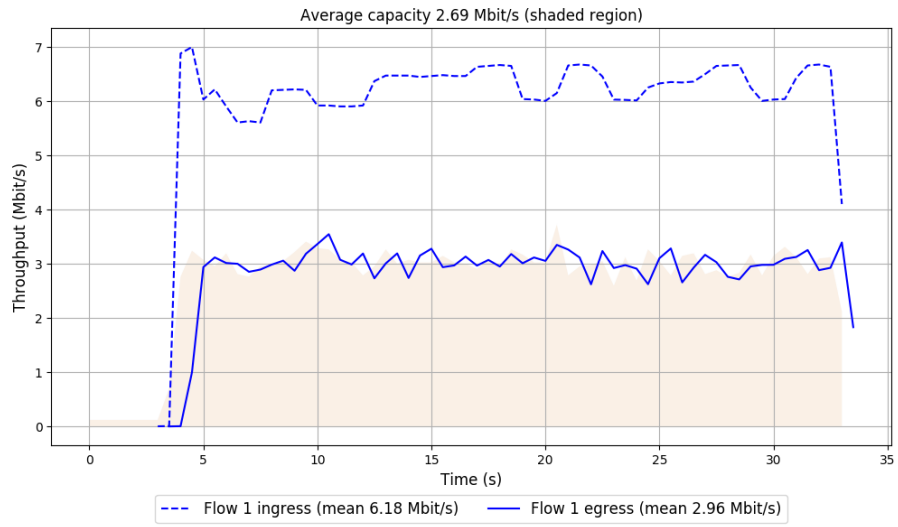
-- Flow 1:

Average throughput: 2.96 Mbit/s

95th percentile per-packet one-way delay: 1204.556 ms

Loss rate: 52.49%

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-09-11 01:10:16

End at: 2018-09-11 01:10:46

Below is generated by plot.py at 2018-09-11 01:53:51

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.96 Mbit/s (109.9% utilization)

95th percentile per-packet one-way delay: 1202.578 ms

Loss rate: 46.52%

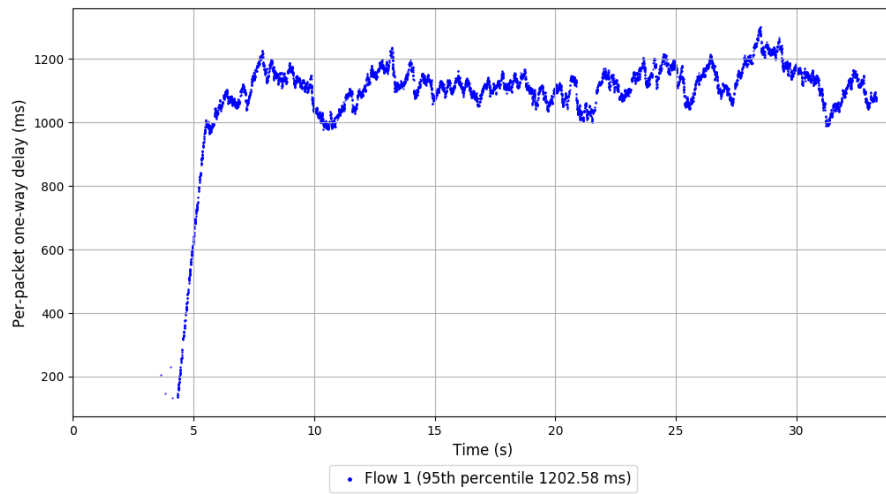
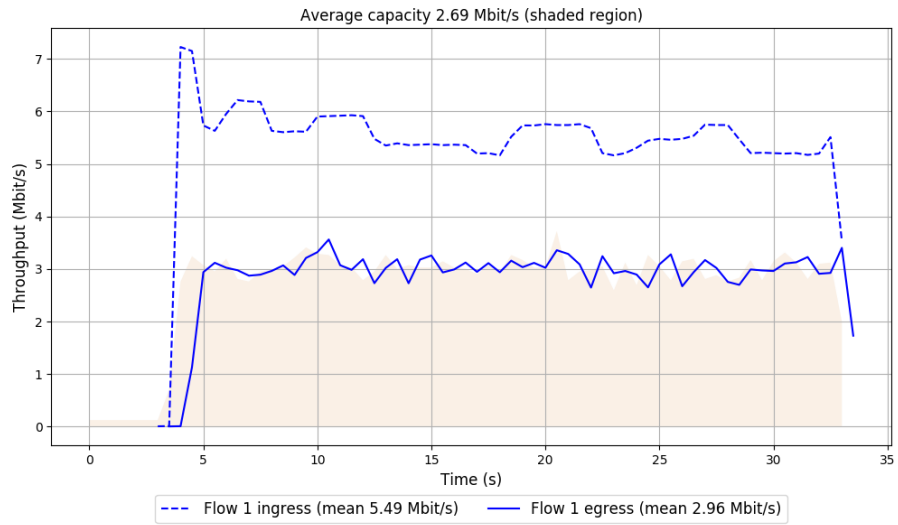
-- Flow 1:

Average throughput: 2.96 Mbit/s

95th percentile per-packet one-way delay: 1202.578 ms

Loss rate: 46.52%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-09-11 01:20:51

End at: 2018-09-11 01:21:21

Below is generated by plot.py at 2018-09-11 01:53:53

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.96 Mbit/s (109.9% utilization)

95th percentile per-packet one-way delay: 1208.828 ms

Loss rate: 52.22%

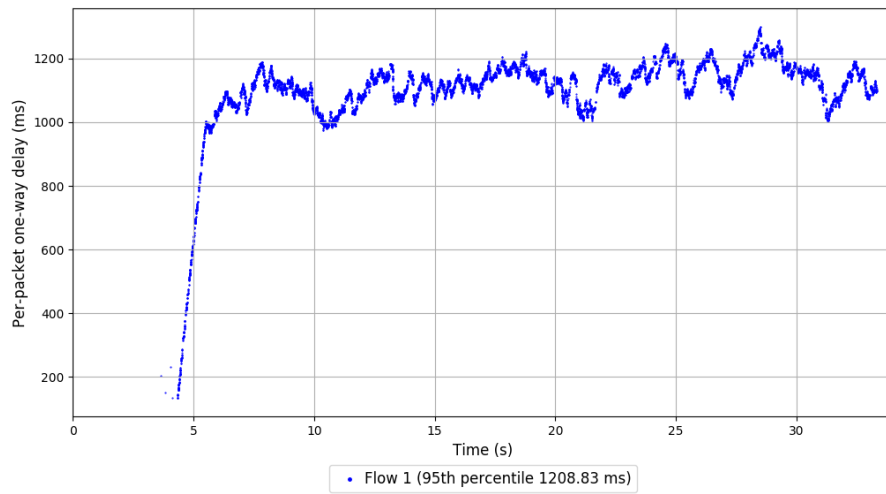
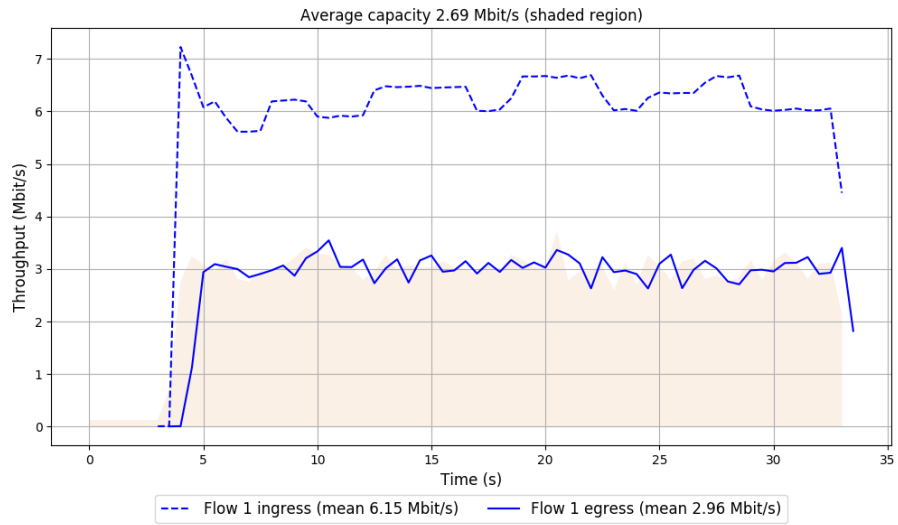
-- Flow 1:

Average throughput: 2.96 Mbit/s

95th percentile per-packet one-way delay: 1208.828 ms

Loss rate: 52.22%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-09-11 01:31:26

End at: 2018-09-11 01:31:56

Below is generated by plot.py at 2018-09-11 01:54:00

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.96 Mbit/s (109.8% utilization)

95th percentile per-packet one-way delay: 1178.028 ms

Loss rate: 46.15%

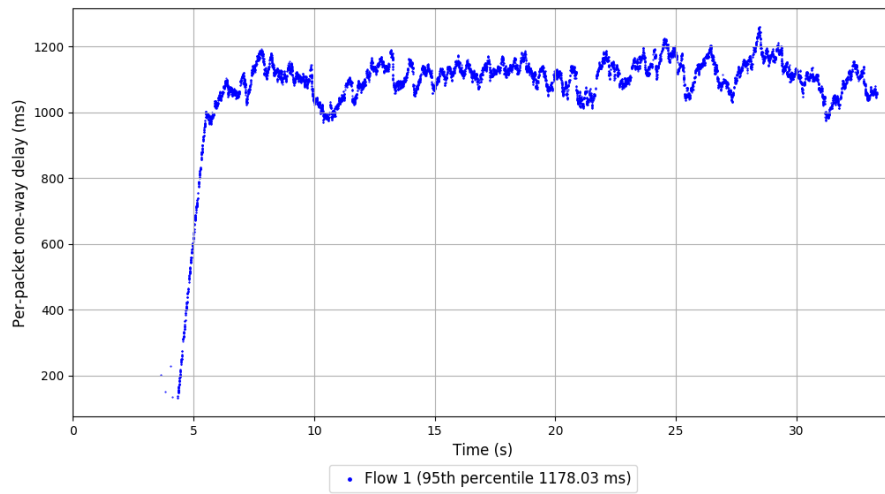
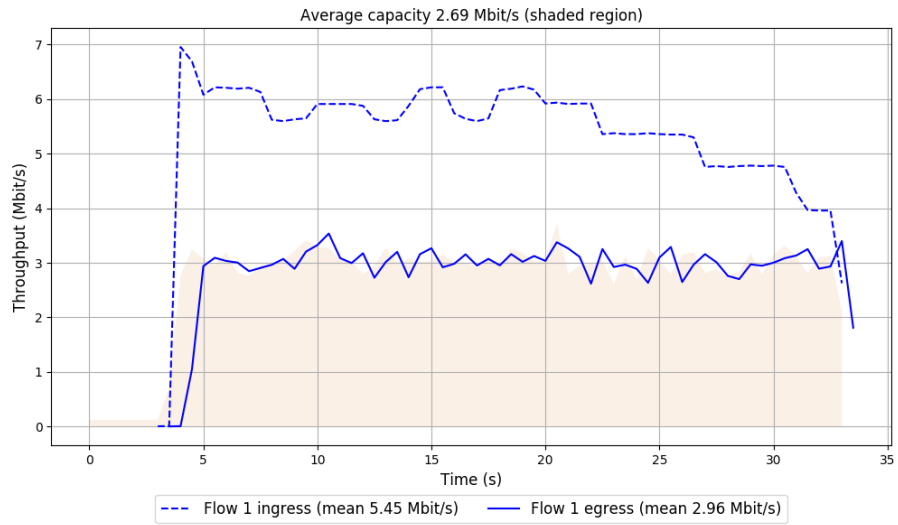
-- Flow 1:

Average throughput: 2.96 Mbit/s

95th percentile per-packet one-way delay: 1178.028 ms

Loss rate: 46.15%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-11 01:42:01

End at: 2018-09-11 01:42:31

Below is generated by plot.py at 2018-09-11 01:54:00

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.96 Mbit/s (109.9% utilization)

95th percentile per-packet one-way delay: 1179.630 ms

Loss rate: 47.03%

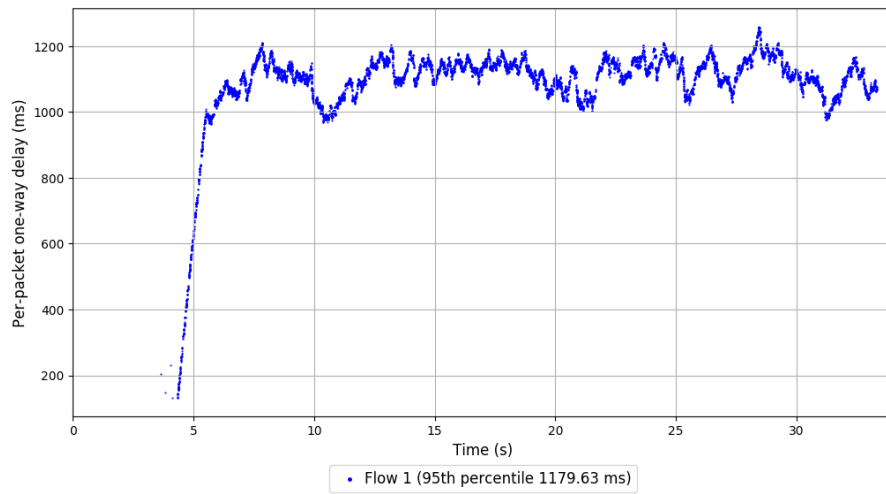
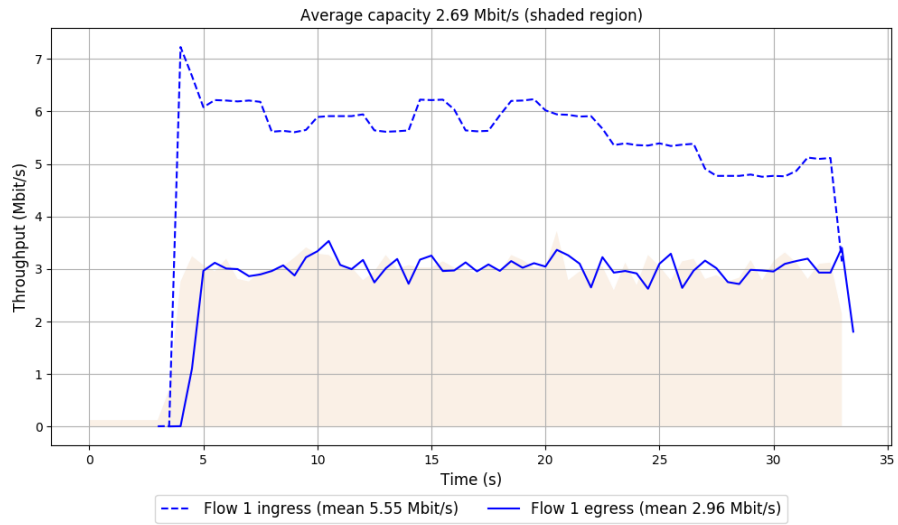
-- Flow 1:

Average throughput: 2.96 Mbit/s

95th percentile per-packet one-way delay: 1179.630 ms

Loss rate: 47.03%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-09-11 01:00:52

End at: 2018-09-11 01:01:22

Below is generated by plot.py at 2018-09-11 01:54:00

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.8% utilization)

95th percentile per-packet one-way delay: 1078.744 ms

Loss rate: 3.96%

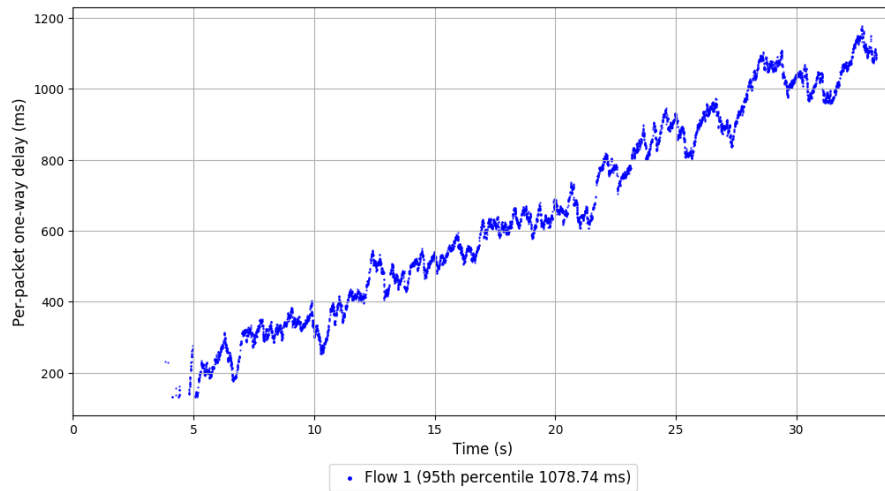
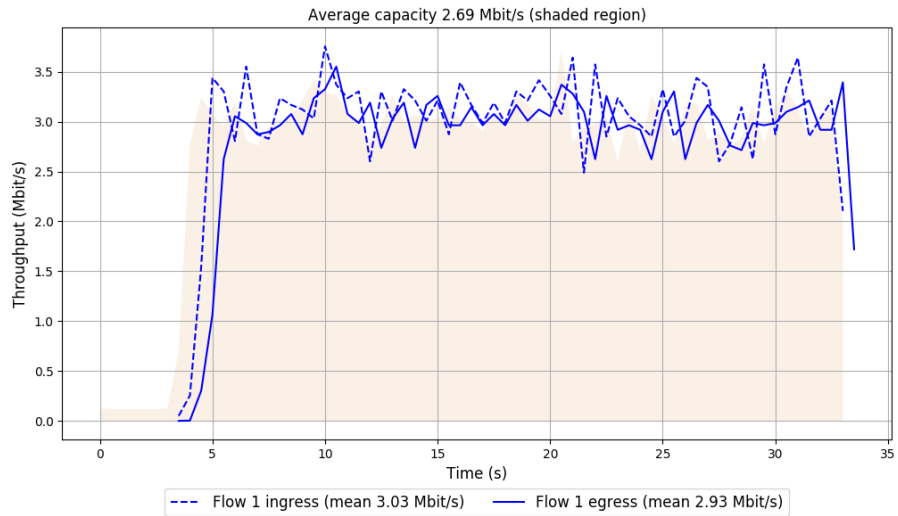
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 1078.744 ms

Loss rate: 3.96%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-09-11 01:11:26

End at: 2018-09-11 01:11:56

Below is generated by plot.py at 2018-09-11 01:54:00

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.8% utilization)

95th percentile per-packet one-way delay: 1083.670 ms

Loss rate: 3.96%

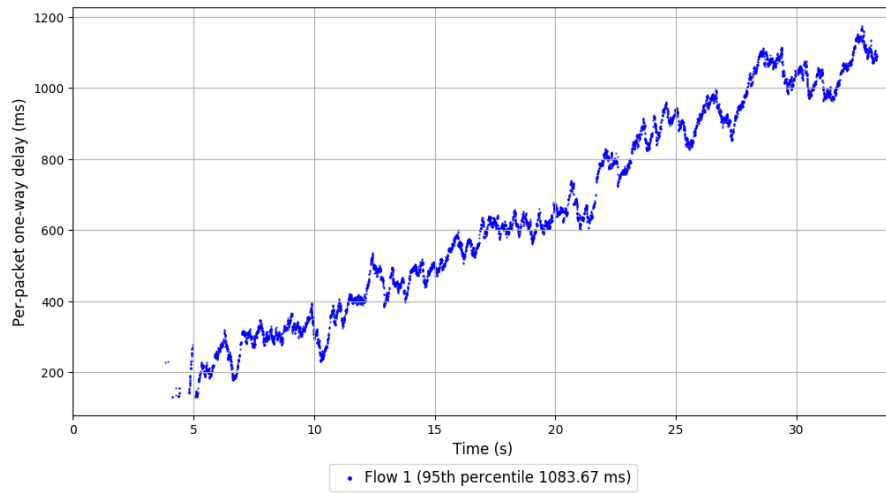
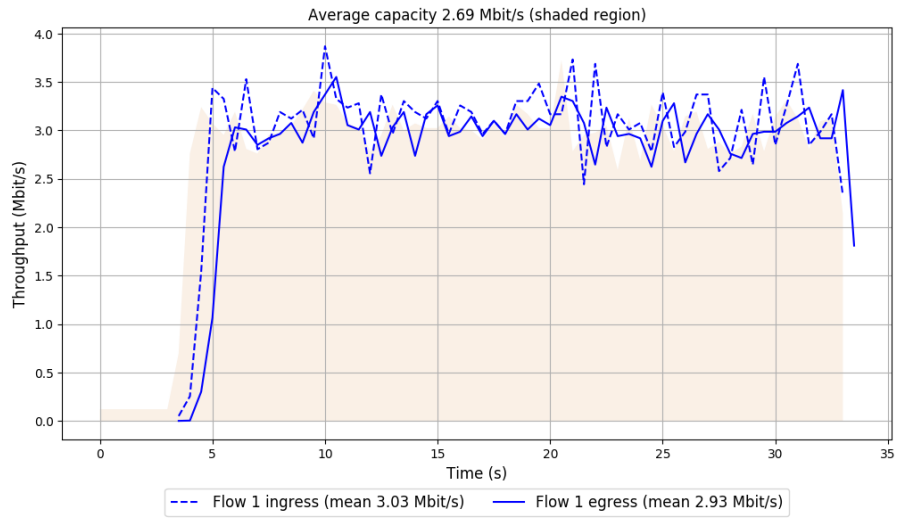
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 1083.670 ms

Loss rate: 3.96%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-11 01:22:01

End at: 2018-09-11 01:22:31

Below is generated by plot.py at 2018-09-11 01:54:00

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.8% utilization)

95th percentile per-packet one-way delay: 1127.909 ms

Loss rate: 4.15%

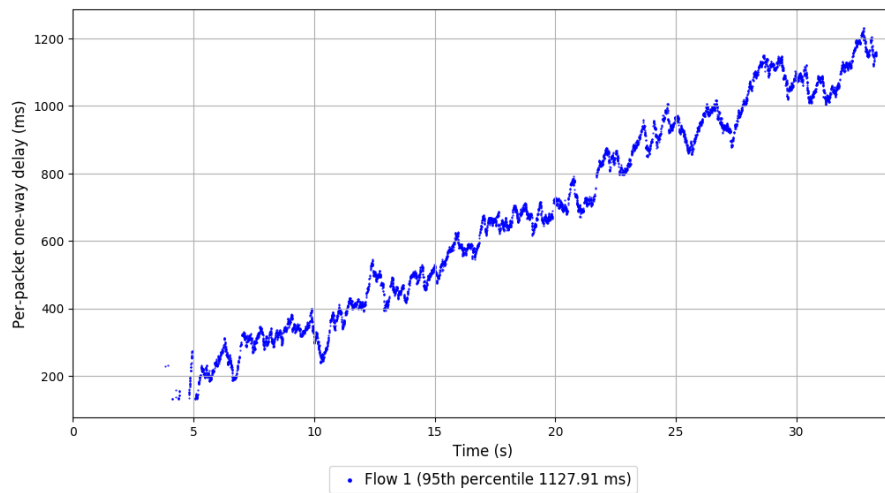
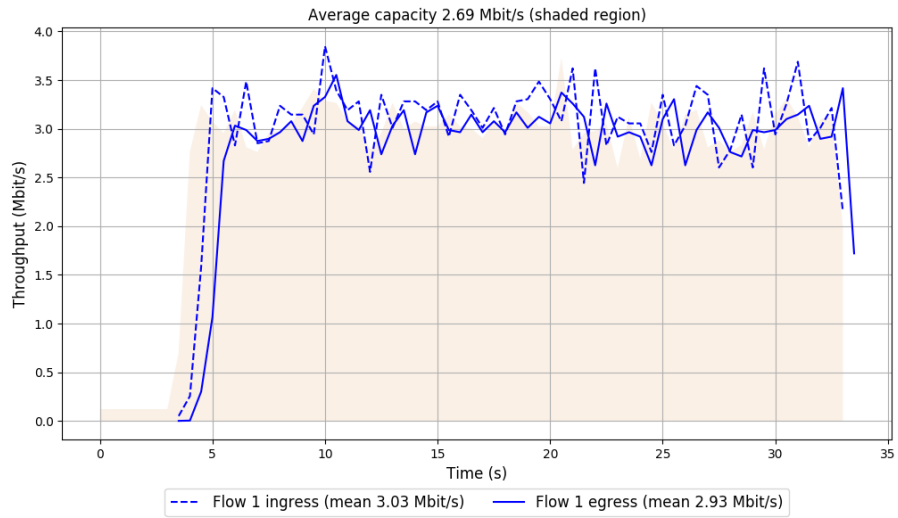
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 1127.909 ms

Loss rate: 4.15%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-11 01:32:37

End at: 2018-09-11 01:33:07

Below is generated by plot.py at 2018-09-11 01:54:04

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.8% utilization)

95th percentile per-packet one-way delay: 1077.911 ms

Loss rate: 4.04%

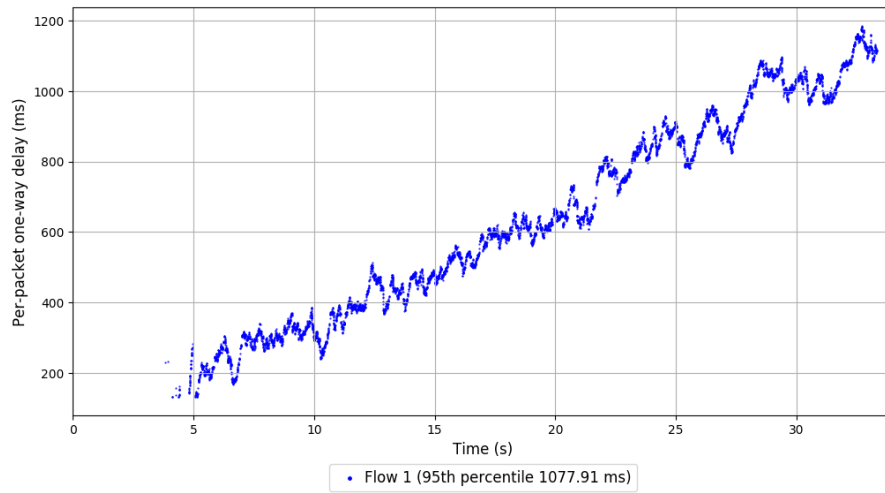
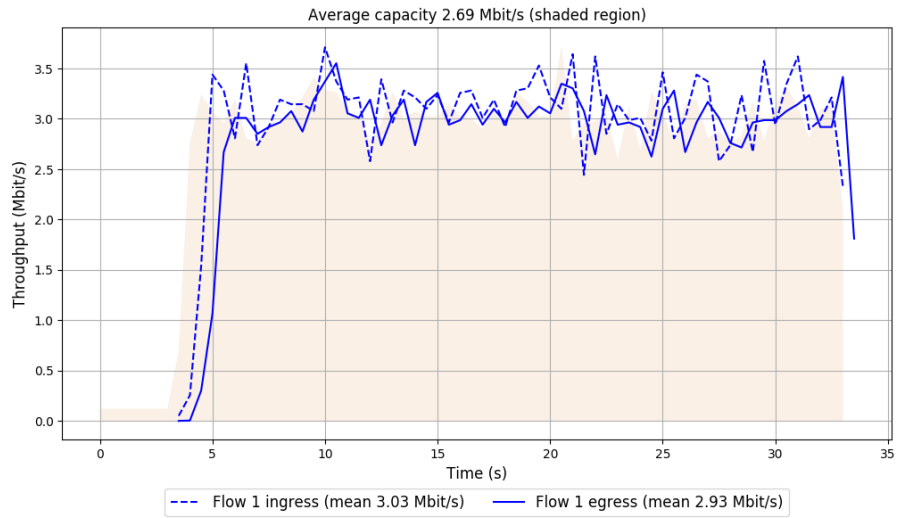
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 1077.911 ms

Loss rate: 4.04%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-09-11 01:43:12

End at: 2018-09-11 01:43:42

Below is generated by plot.py at 2018-09-11 01:54:06

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.8% utilization)

95th percentile per-packet one-way delay: 1100.381 ms

Loss rate: 4.09%

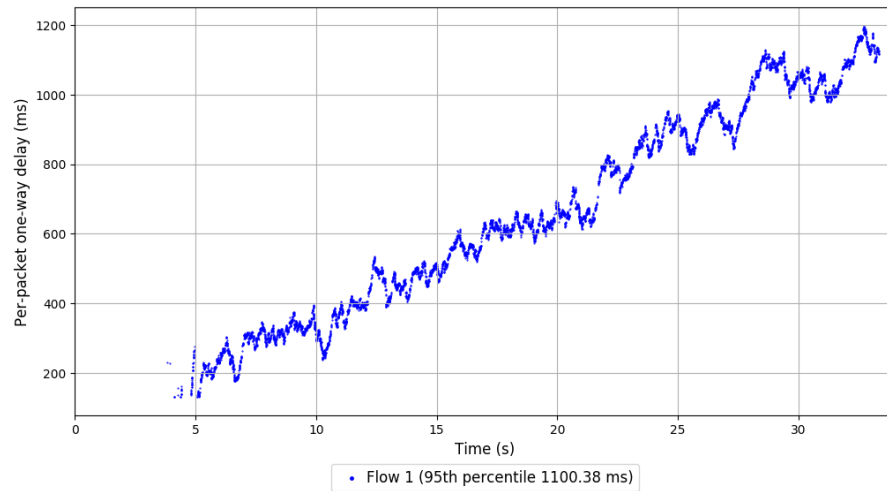
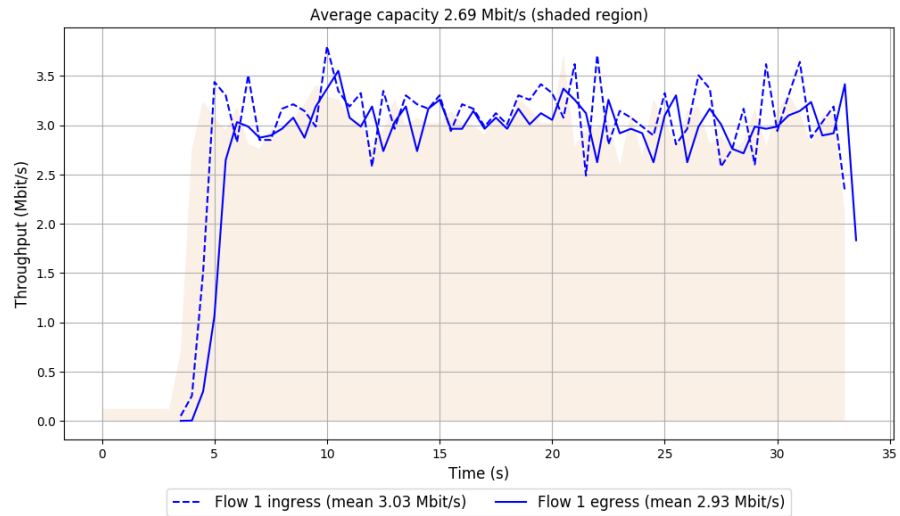
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 1100.381 ms

Loss rate: 4.09%

Run 5: Report of QUIC Cubic — Data Link



Run 1: Statistics of SCReAM

Start at: 2018-09-11 01:00:17

End at: 2018-09-11 01:00:47

Below is generated by plot.py at 2018-09-11 01:54:06

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 0.11 Mbit/s (4.1% utilization)

95th percentile per-packet one-way delay: 144.640 ms

Loss rate: 0.37%

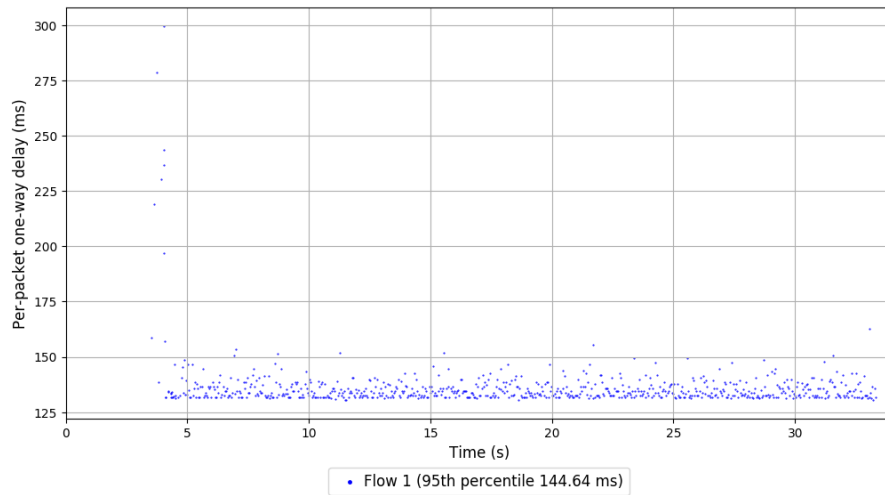
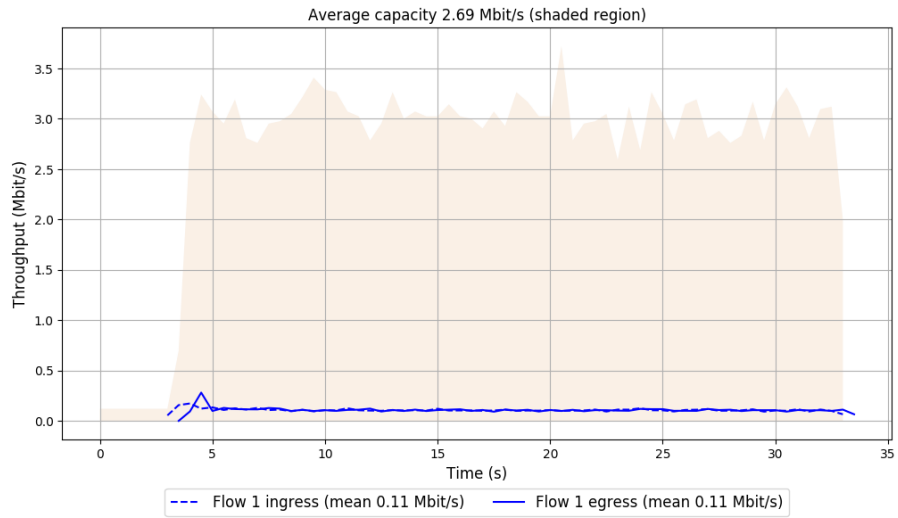
-- Flow 1:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 144.640 ms

Loss rate: 0.37%

Run 1: Report of SCReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-09-11 01:10:51

End at: 2018-09-11 01:11:21

Below is generated by plot.py at 2018-09-11 01:54:06

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 0.11 Mbit/s (4.0% utilization)

95th percentile per-packet one-way delay: 144.569 ms

Loss rate: 0.37%

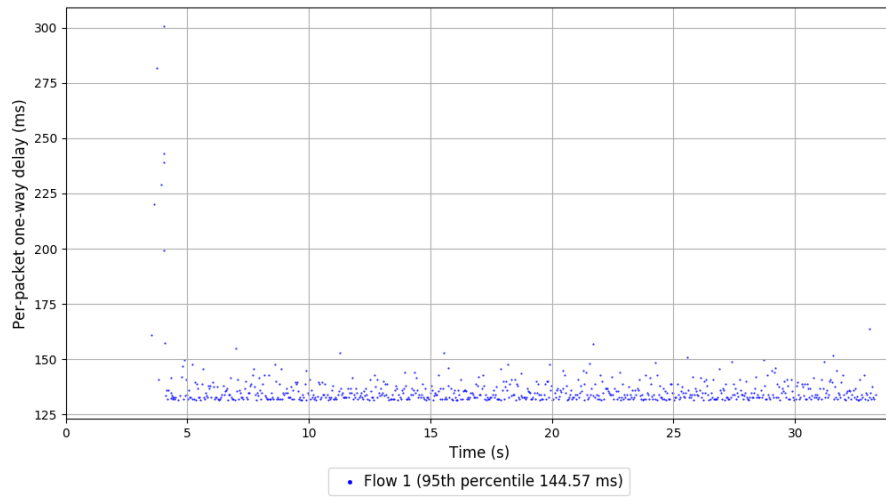
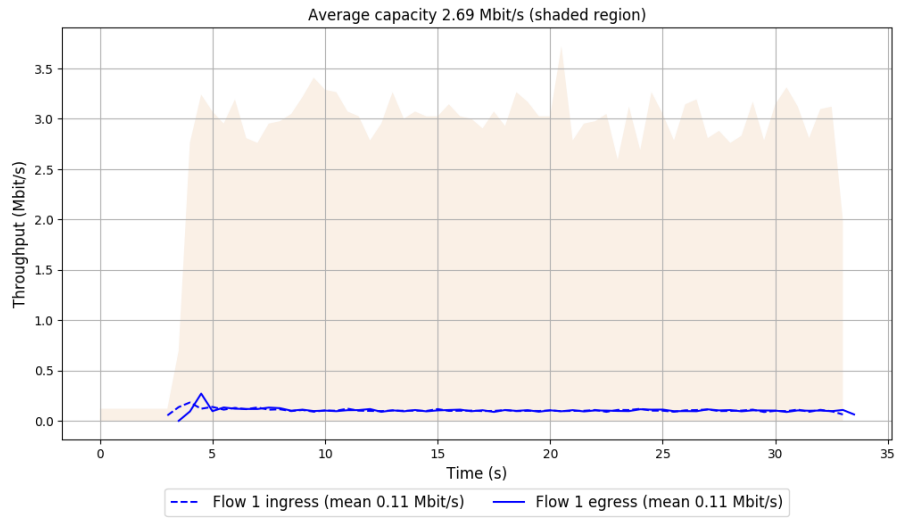
-- Flow 1:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 144.569 ms

Loss rate: 0.37%

Run 2: Report of SCReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-09-11 01:21:26

End at: 2018-09-11 01:21:56

Below is generated by plot.py at 2018-09-11 01:54:06

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 0.10 Mbit/s (3.8% utilization)

95th percentile per-packet one-way delay: 143.621 ms

Loss rate: 0.36%

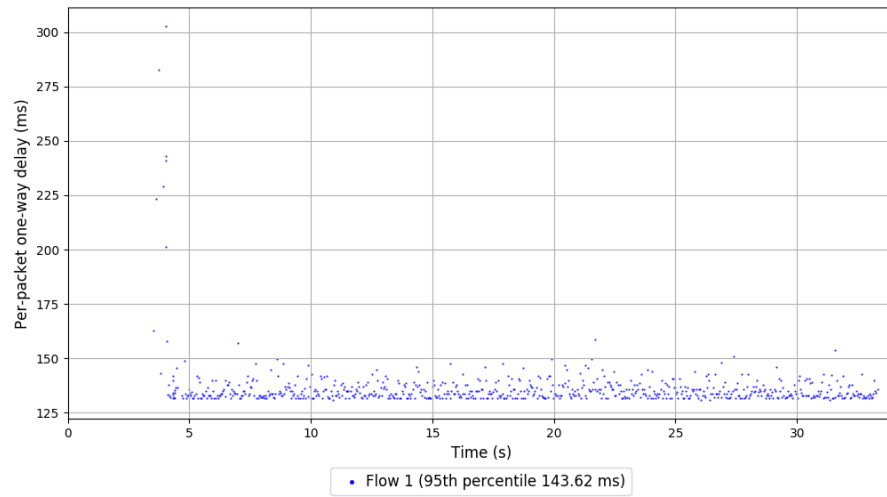
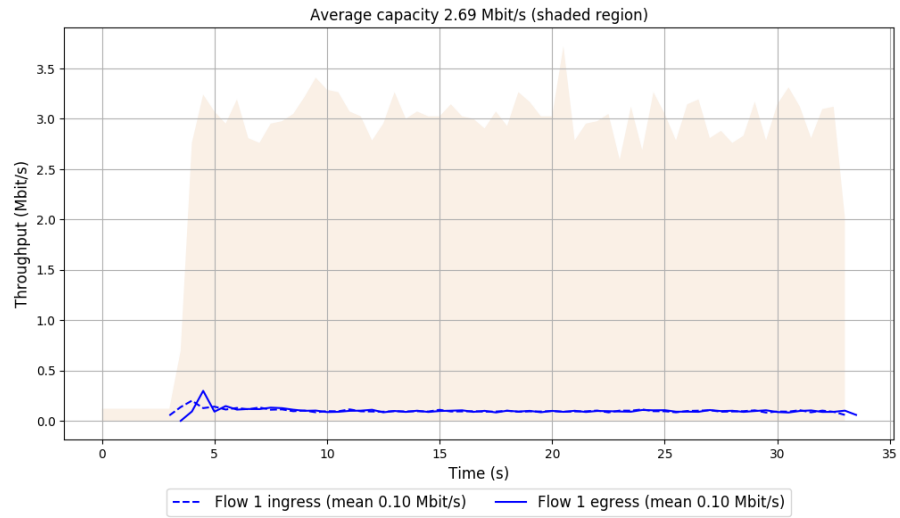
-- Flow 1:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 143.621 ms

Loss rate: 0.36%

Run 3: Report of SCReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-09-11 01:32:01

End at: 2018-09-11 01:32:31

Below is generated by plot.py at 2018-09-11 01:54:06

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 0.11 Mbit/s (4.0% utilization)

95th percentile per-packet one-way delay: 144.601 ms

Loss rate: 0.49%

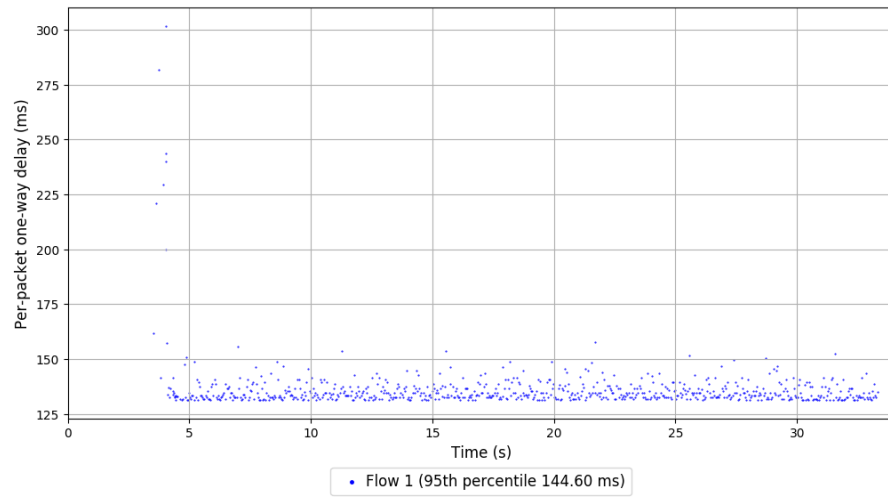
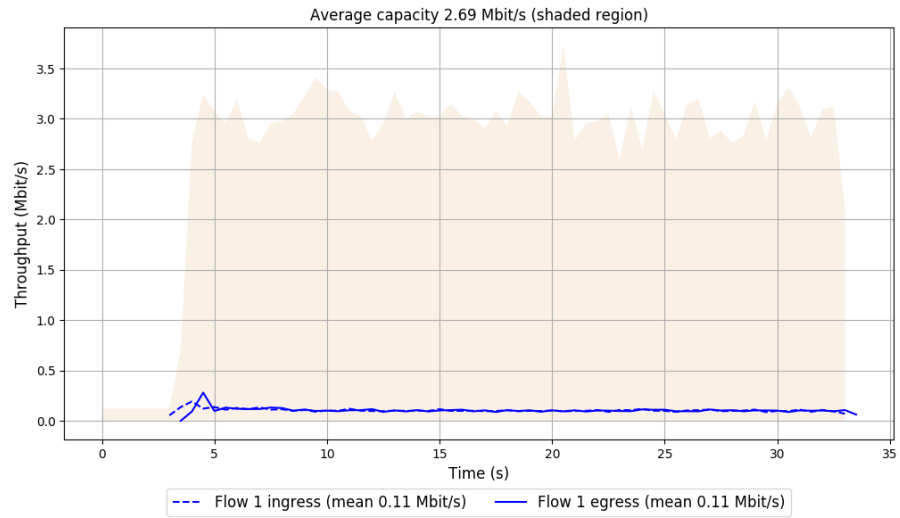
-- Flow 1:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 144.601 ms

Loss rate: 0.49%

Run 4: Report of SCReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-09-11 01:42:37

End at: 2018-09-11 01:43:07

Below is generated by plot.py at 2018-09-11 01:54:06

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 0.11 Mbit/s (3.9% utilization)

95th percentile per-packet one-way delay: 144.489 ms

Loss rate: 0.36%

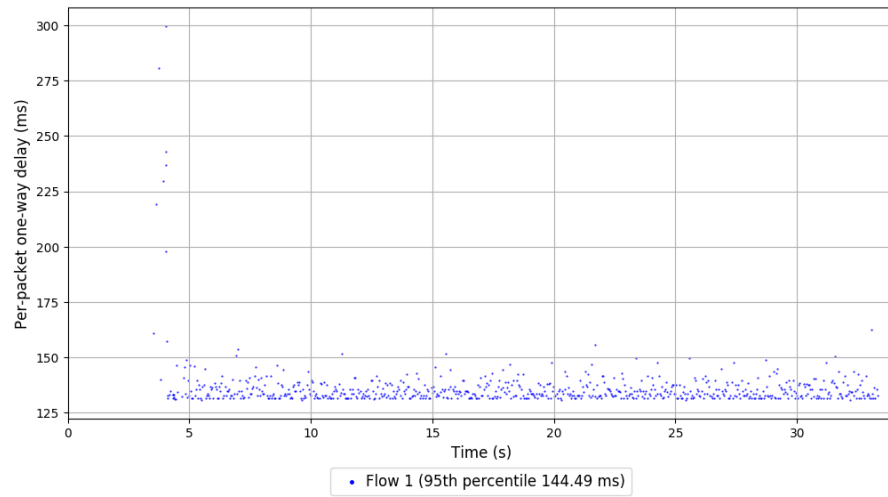
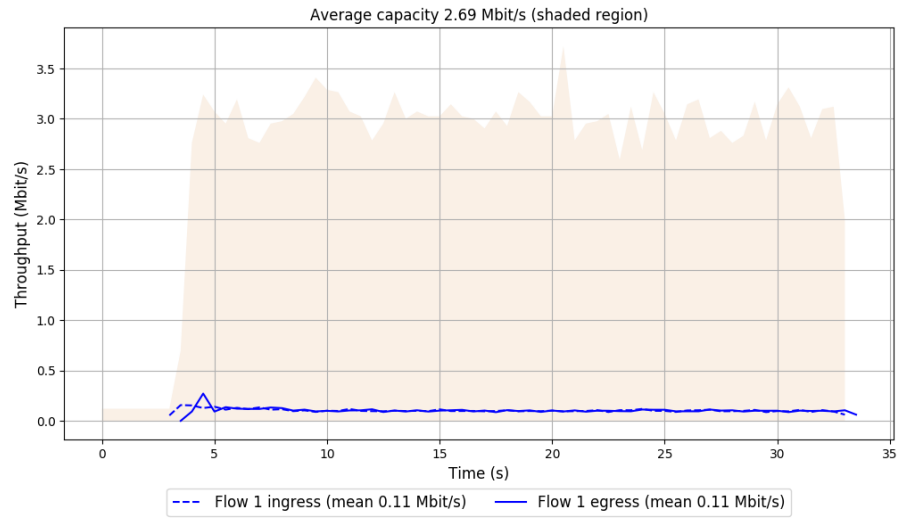
-- Flow 1:

Average throughput: 0.11 Mbit/s

95th percentile per-packet one-way delay: 144.489 ms

Loss rate: 0.36%

Run 5: Report of SCReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-09-11 01:09:40

End at: 2018-09-11 01:10:10

Below is generated by plot.py at 2018-09-11 01:54:06

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 0.20 Mbit/s (7.6% utilization)

95th percentile per-packet one-way delay: 165.466 ms

Loss rate: 0.74%

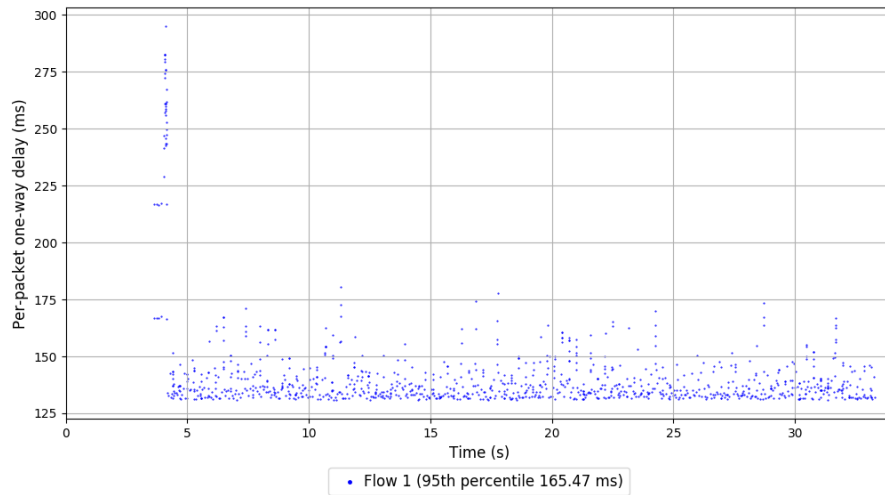
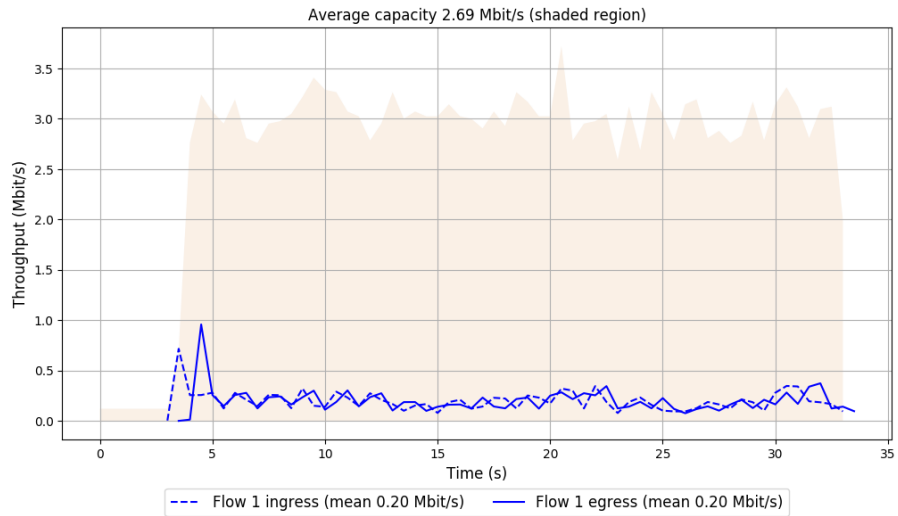
-- Flow 1:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 165.466 ms

Loss rate: 0.74%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-09-11 01:20:15

End at: 2018-09-11 01:20:45

Below is generated by plot.py at 2018-09-11 01:54:06

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 0.13 Mbit/s (4.7% utilization)

95th percentile per-packet one-way delay: 166.510 ms

Loss rate: 0.04%

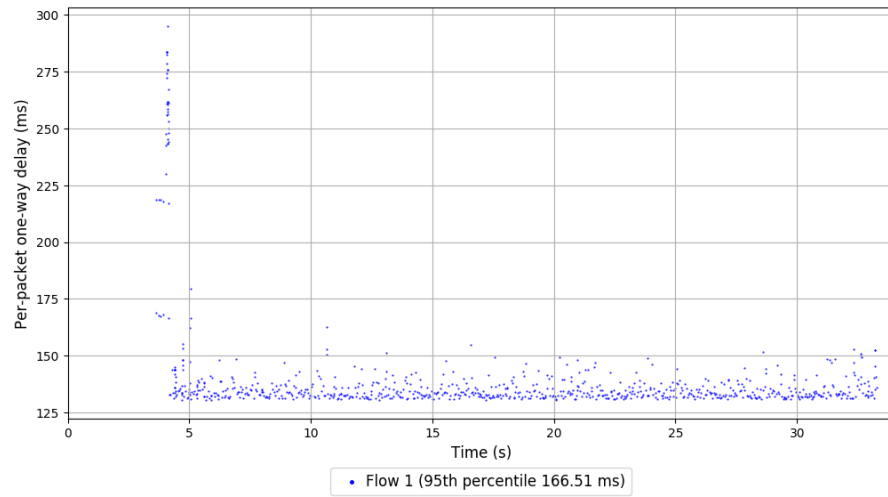
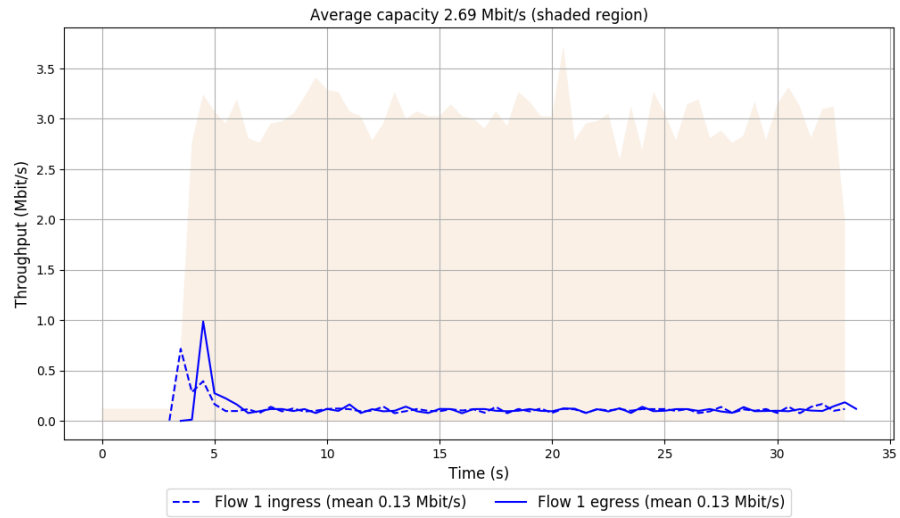
-- Flow 1:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 166.510 ms

Loss rate: 0.04%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-09-11 01:30:51

End at: 2018-09-11 01:31:21

Below is generated by plot.py at 2018-09-11 01:54:07

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 0.17 Mbit/s (6.3% utilization)

95th percentile per-packet one-way delay: 166.835 ms

Loss rate: 0.05%

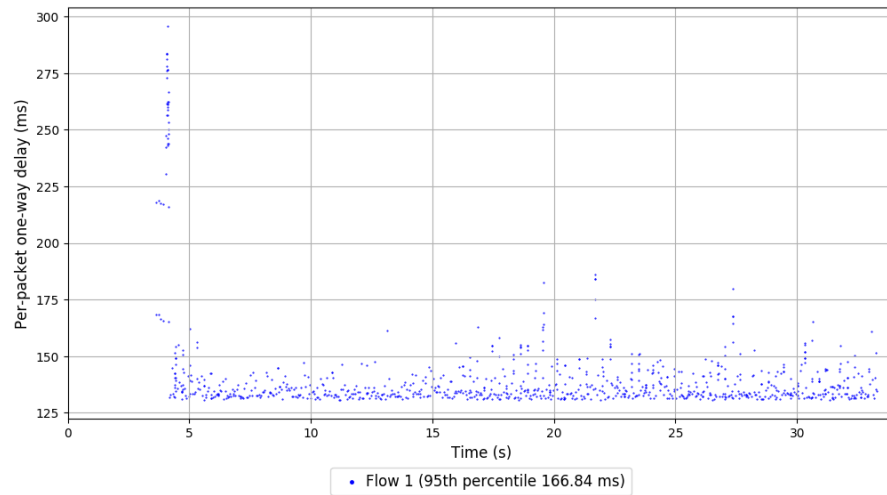
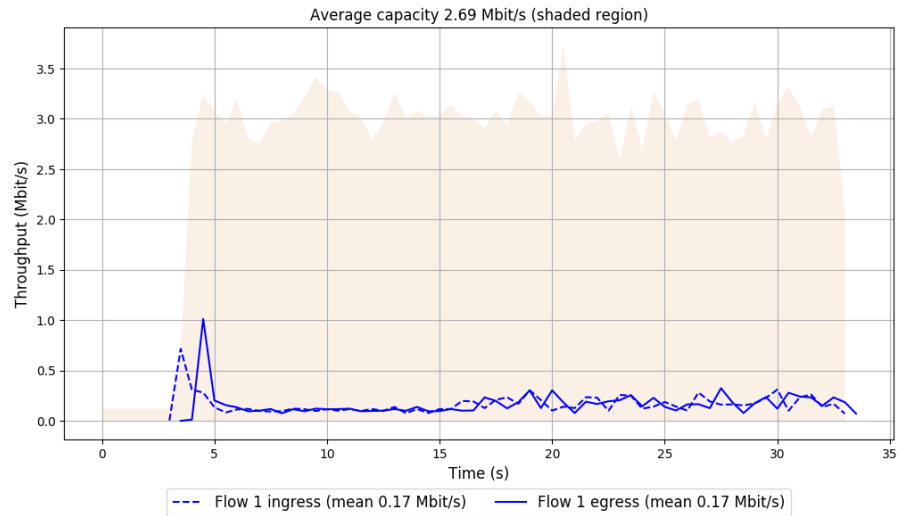
-- Flow 1:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 166.835 ms

Loss rate: 0.05%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-09-11 01:41:26

End at: 2018-09-11 01:41:56

Below is generated by plot.py at 2018-09-11 01:54:07

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 0.18 Mbit/s (6.6% utilization)

95th percentile per-packet one-way delay: 164.766 ms

Loss rate: 0.84%

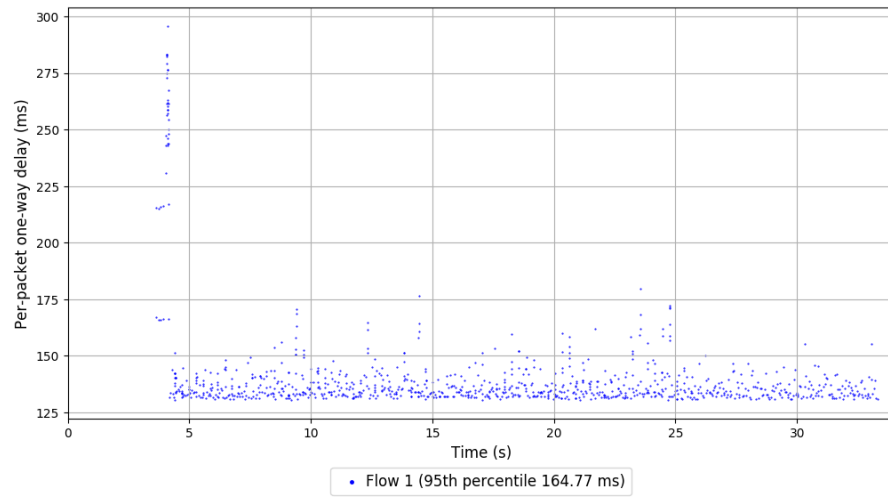
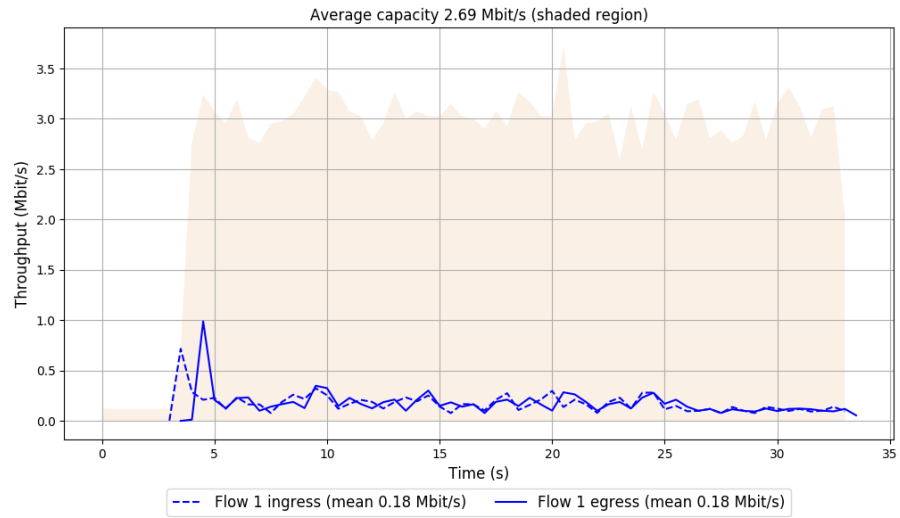
-- Flow 1:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 164.766 ms

Loss rate: 0.84%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-09-11 01:52:02

End at: 2018-09-11 01:52:32

Below is generated by plot.py at 2018-09-11 01:54:08

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 0.17 Mbit/s (6.1% utilization)

95th percentile per-packet one-way delay: 163.622 ms

Loss rate: 0.05%

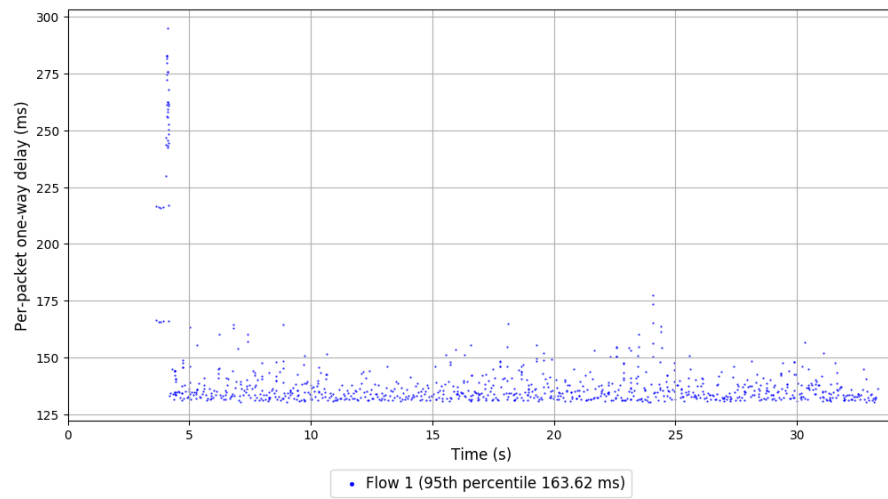
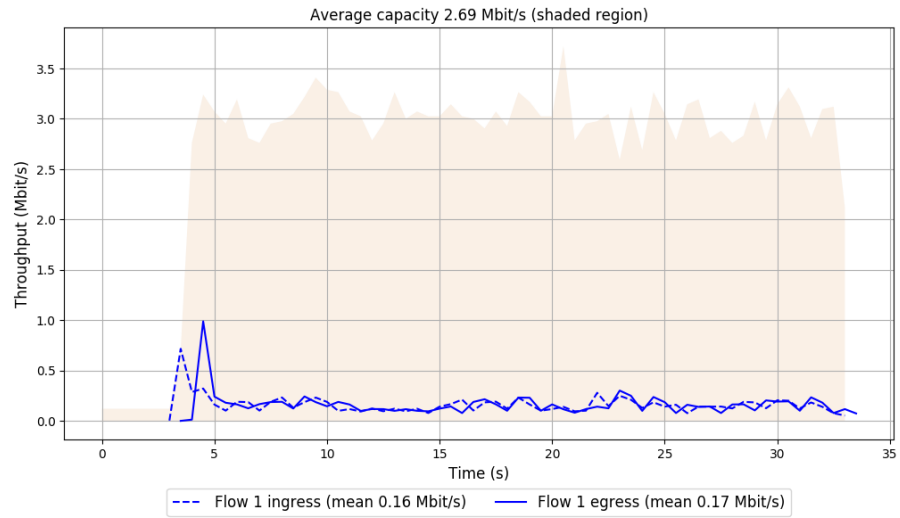
-- Flow 1:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 163.622 ms

Loss rate: 0.05%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-09-11 01:04:58

End at: 2018-09-11 01:05:28

Below is generated by plot.py at 2018-09-11 01:54:16

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.36 Mbit/s (87.8% utilization)

95th percentile per-packet one-way delay: 197.444 ms

Loss rate: 0.53%

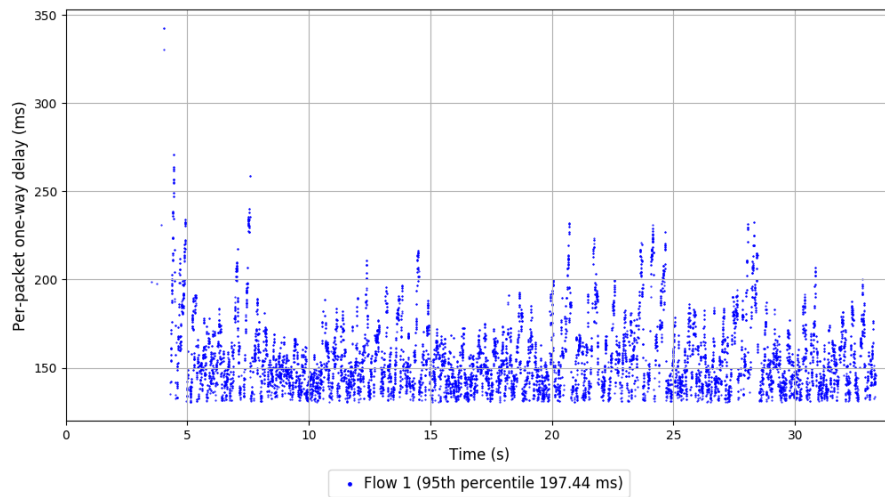
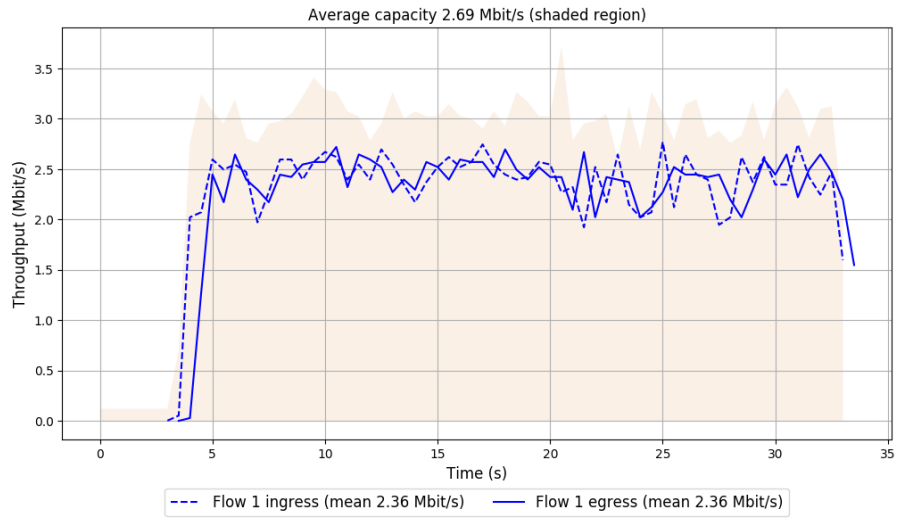
-- Flow 1:

Average throughput: 2.36 Mbit/s

95th percentile per-packet one-way delay: 197.444 ms

Loss rate: 0.53%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-09-11 01:15:33

End at: 2018-09-11 01:16:03

Below is generated by plot.py at 2018-09-11 01:54:17

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.37 Mbit/s (87.9% utilization)

95th percentile per-packet one-way delay: 200.794 ms

Loss rate: 0.51%

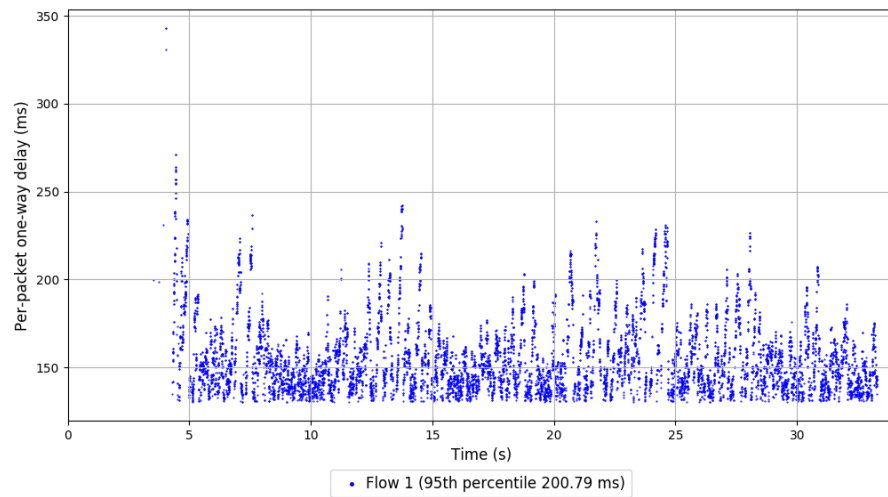
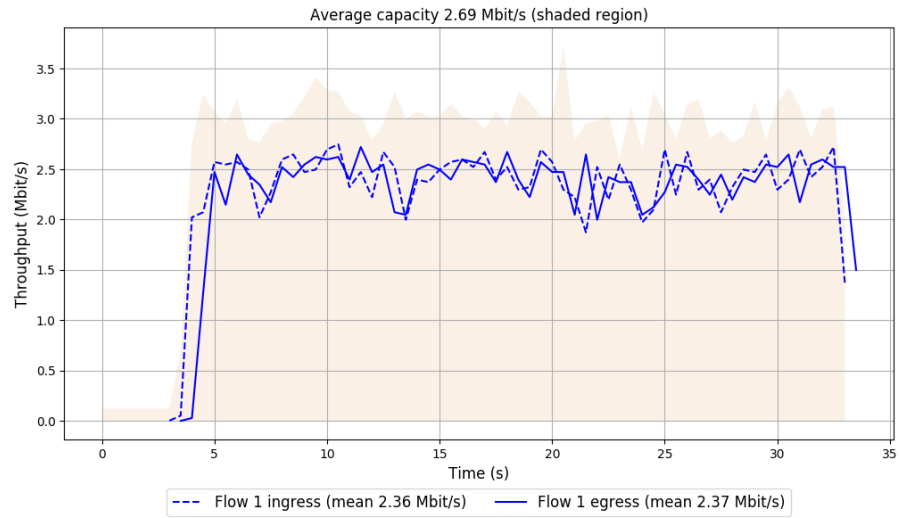
-- Flow 1:

Average throughput: 2.37 Mbit/s

95th percentile per-packet one-way delay: 200.794 ms

Loss rate: 0.51%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-09-11 01:26:08

End at: 2018-09-11 01:26:38

Below is generated by plot.py at 2018-09-11 01:54:18

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.35 Mbit/s (87.4% utilization)

95th percentile per-packet one-way delay: 202.753 ms

Loss rate: 0.58%

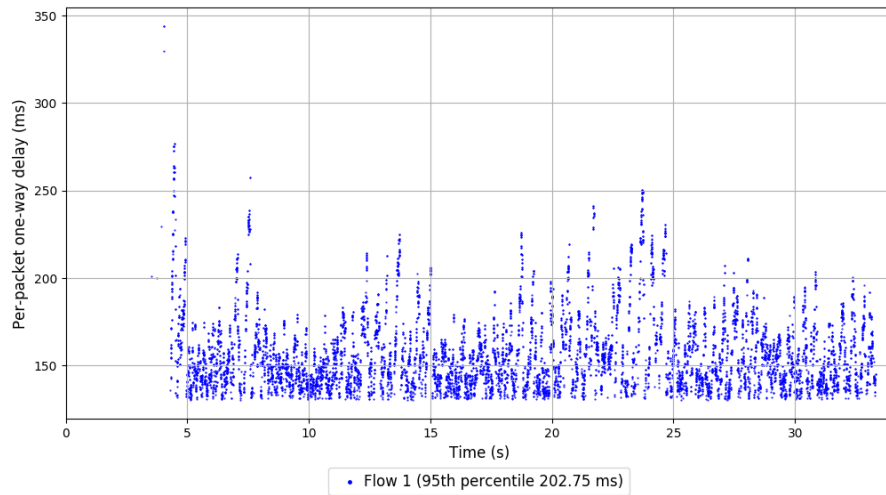
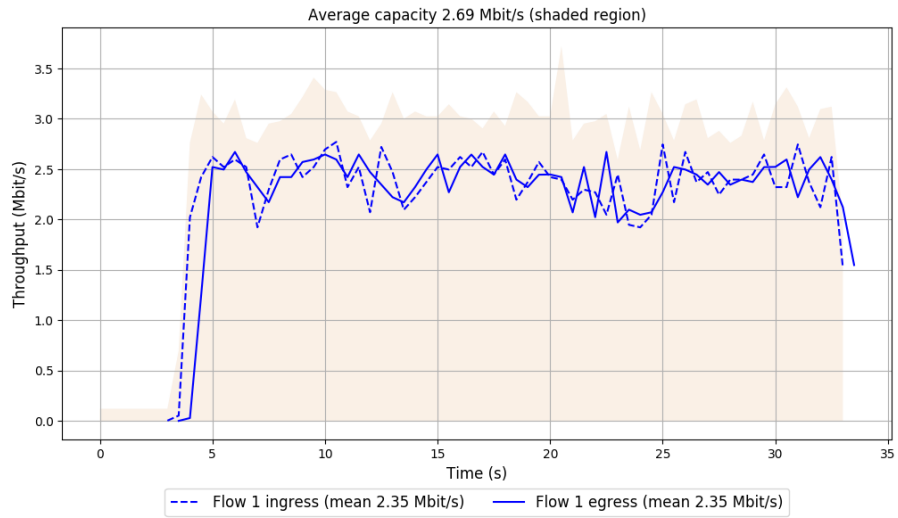
-- Flow 1:

Average throughput: 2.35 Mbit/s

95th percentile per-packet one-way delay: 202.753 ms

Loss rate: 0.58%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-09-11 01:36:43

End at: 2018-09-11 01:37:13

Below is generated by plot.py at 2018-09-11 01:54:18

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.35 Mbit/s (87.1% utilization)

95th percentile per-packet one-way delay: 202.415 ms

Loss rate: 0.52%

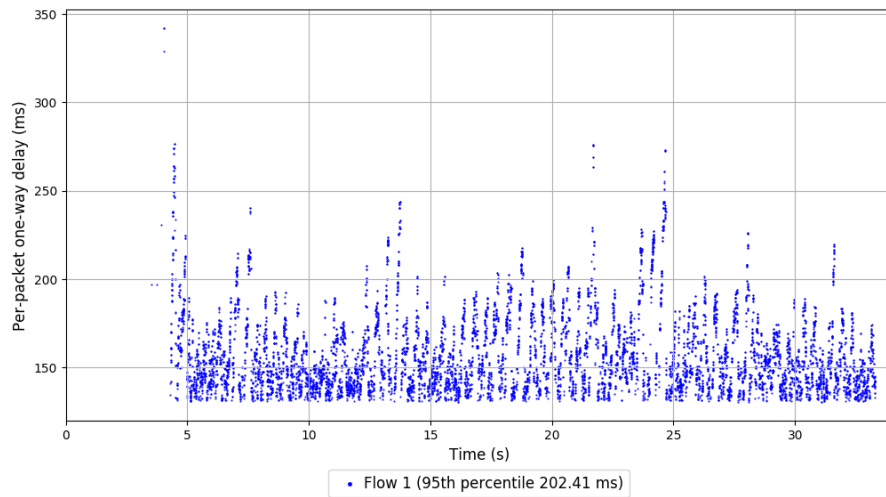
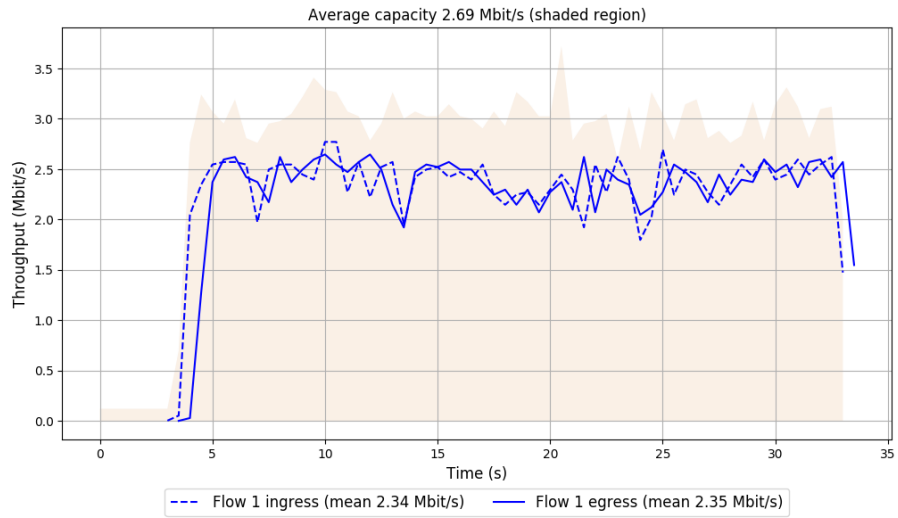
-- Flow 1:

Average throughput: 2.35 Mbit/s

95th percentile per-packet one-way delay: 202.415 ms

Loss rate: 0.52%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-11 01:47:19

End at: 2018-09-11 01:47:49

Below is generated by plot.py at 2018-09-11 01:54:19

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.34 Mbit/s (87.0% utilization)

95th percentile per-packet one-way delay: 206.077 ms

Loss rate: 0.66%

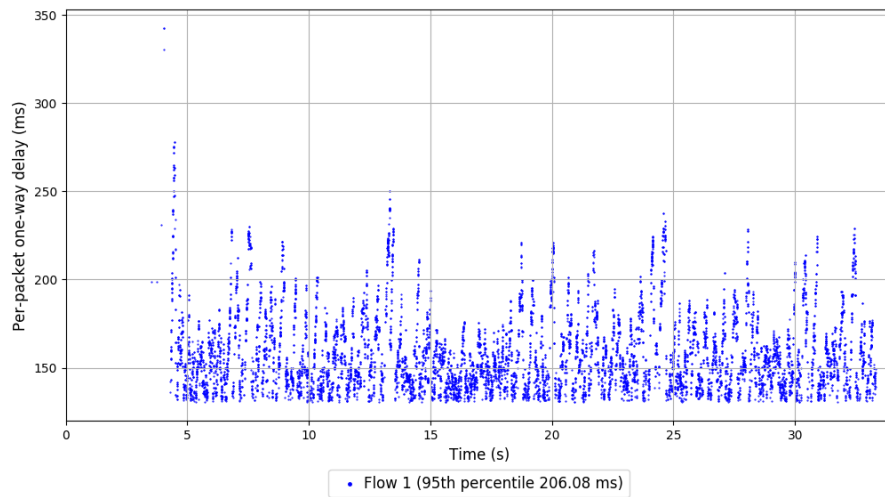
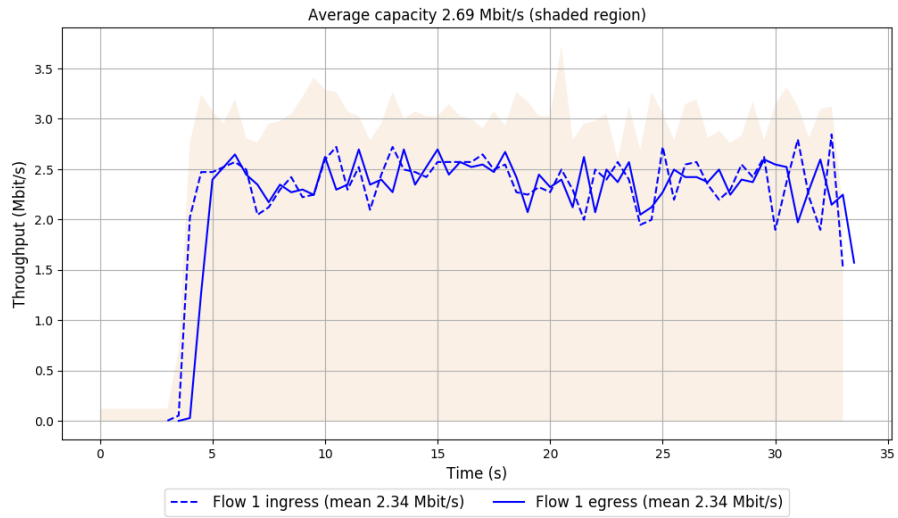
-- Flow 1:

Average throughput: 2.34 Mbit/s

95th percentile per-packet one-way delay: 206.077 ms

Loss rate: 0.66%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-11 01:09:05

End at: 2018-09-11 01:09:35

Below is generated by plot.py at 2018-09-11 01:54:19

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.7% utilization)

95th percentile per-packet one-way delay: 905.859 ms

Loss rate: 2.63%

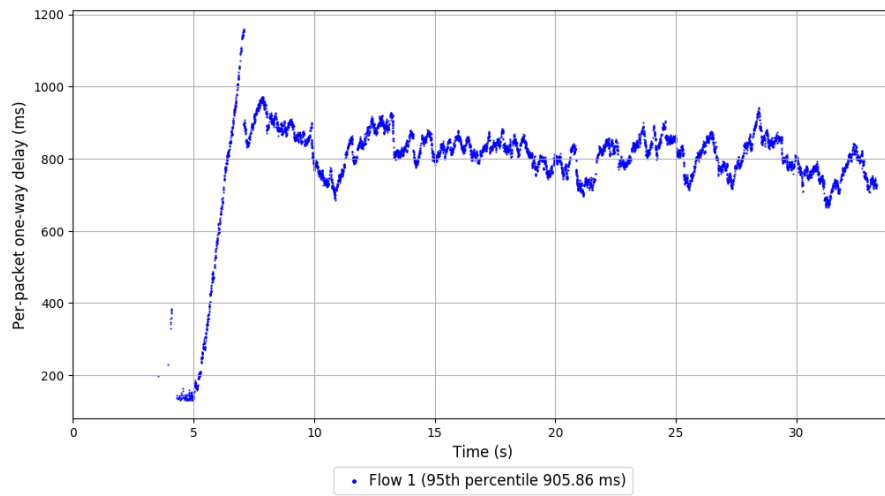
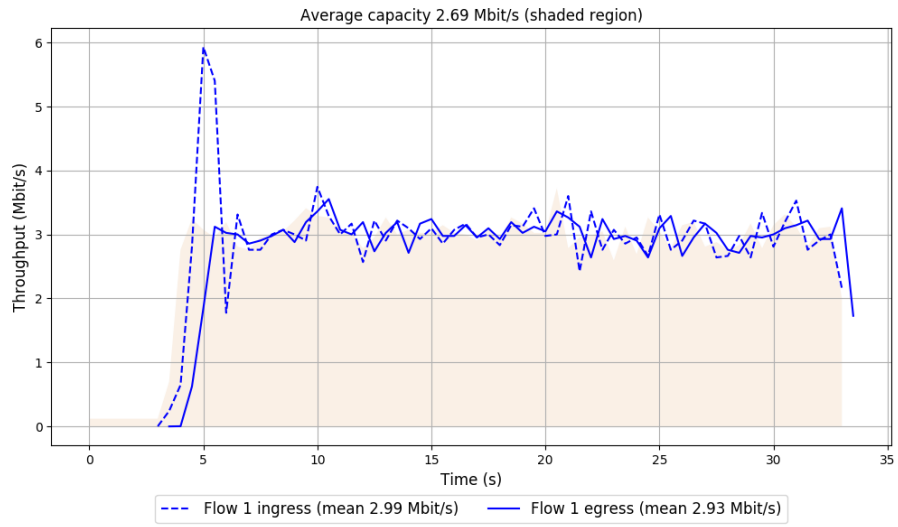
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 905.859 ms

Loss rate: 2.63%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-09-11 01:19:40

End at: 2018-09-11 01:20:10

Below is generated by plot.py at 2018-09-11 01:54:19

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.7% utilization)

95th percentile per-packet one-way delay: 889.555 ms

Loss rate: 2.55%

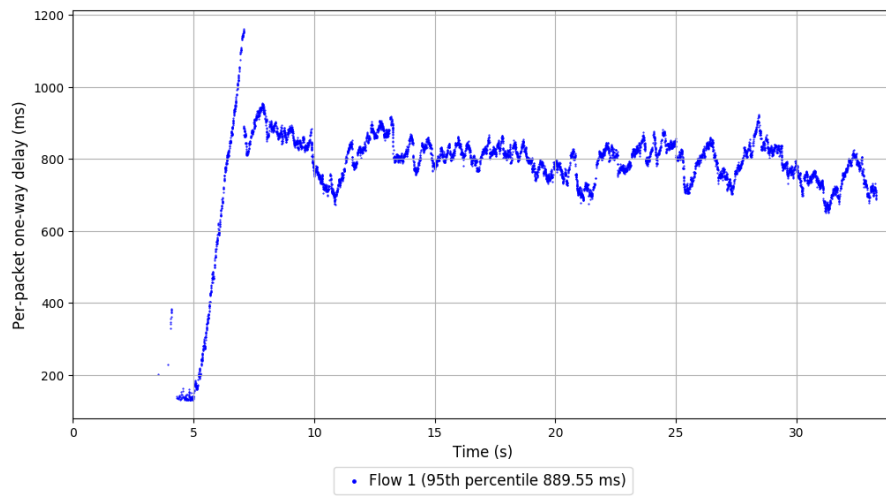
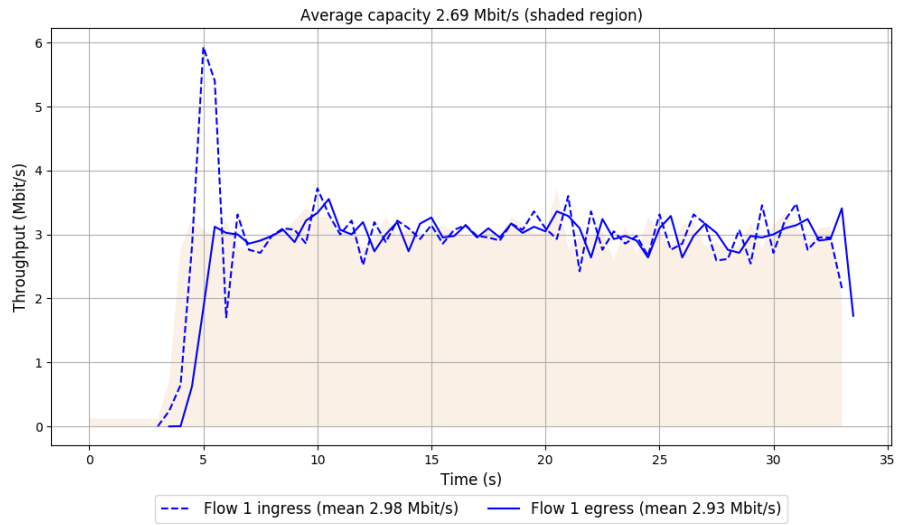
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 889.555 ms

Loss rate: 2.55%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-09-11 01:30:15

End at: 2018-09-11 01:30:45

Below is generated by plot.py at 2018-09-11 01:54:19

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.7% utilization)

95th percentile per-packet one-way delay: 886.314 ms

Loss rate: 2.50%

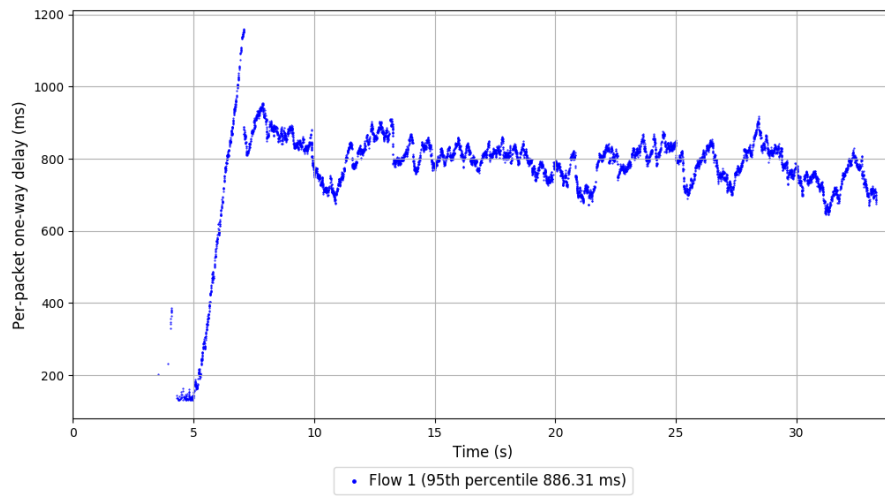
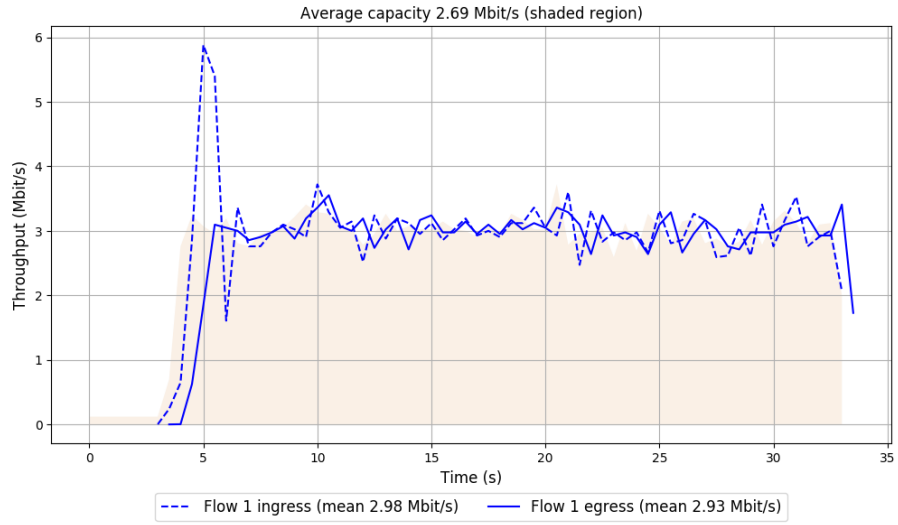
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 886.314 ms

Loss rate: 2.50%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-09-11 01:40:51

End at: 2018-09-11 01:41:21

Below is generated by plot.py at 2018-09-11 01:54:25

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.7% utilization)

95th percentile per-packet one-way delay: 928.408 ms

Loss rate: 2.74%

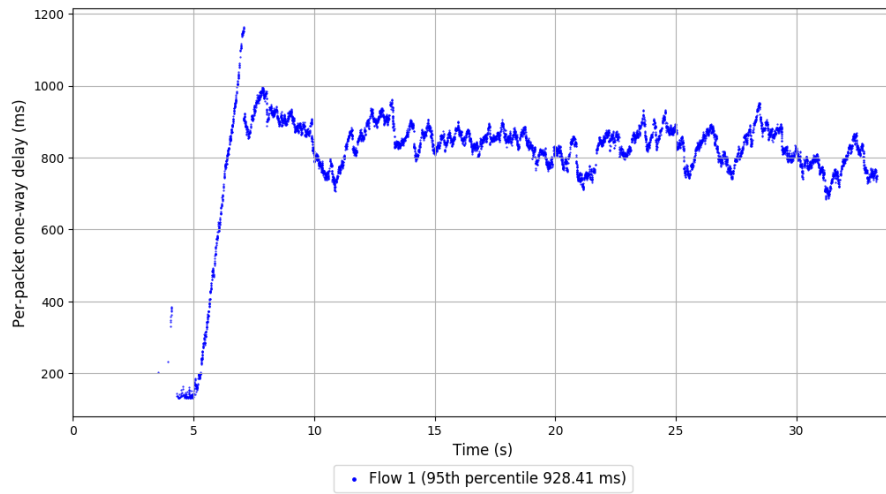
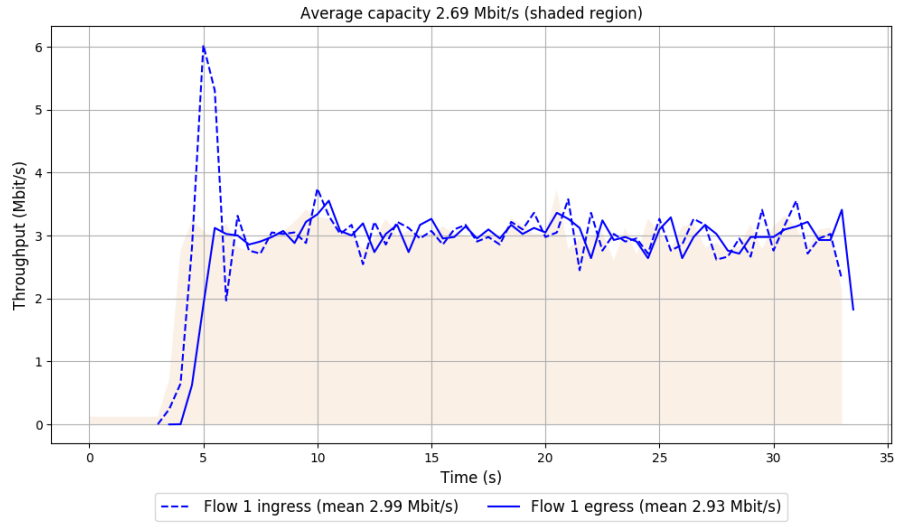
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 928.408 ms

Loss rate: 2.74%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-09-11 01:51:27

End at: 2018-09-11 01:51:57

Below is generated by plot.py at 2018-09-11 01:54:26

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.93 Mbit/s (108.7% utilization)

95th percentile per-packet one-way delay: 886.213 ms

Loss rate: 2.57%

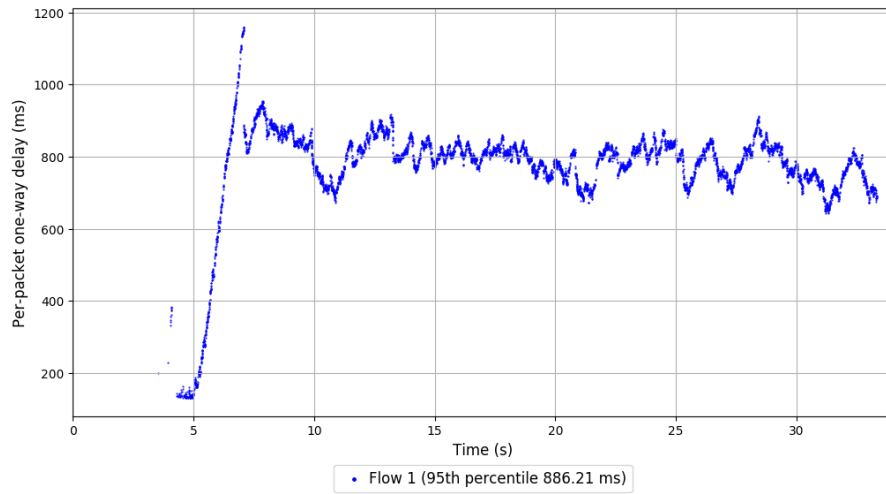
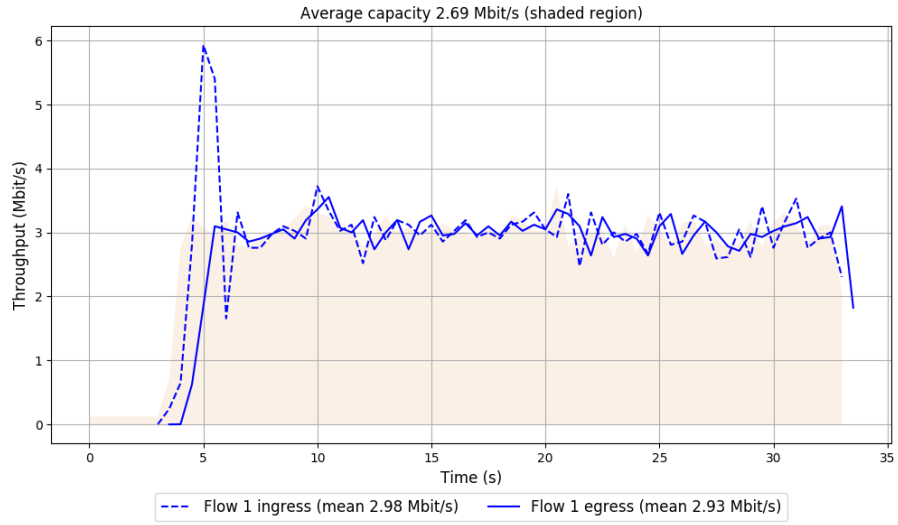
-- Flow 1:

Average throughput: 2.93 Mbit/s

95th percentile per-packet one-way delay: 886.213 ms

Loss rate: 2.57%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-09-11 01:07:19

End at: 2018-09-11 01:07:49

Below is generated by plot.py at 2018-09-11 01:54:27

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.89 Mbit/s (107.4% utilization)

95th percentile per-packet one-way delay: 1708.523 ms

Loss rate: 3.35%

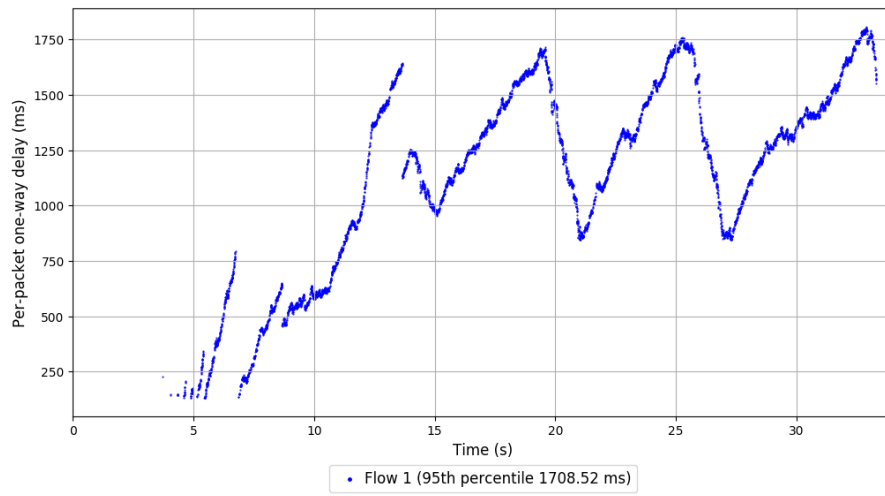
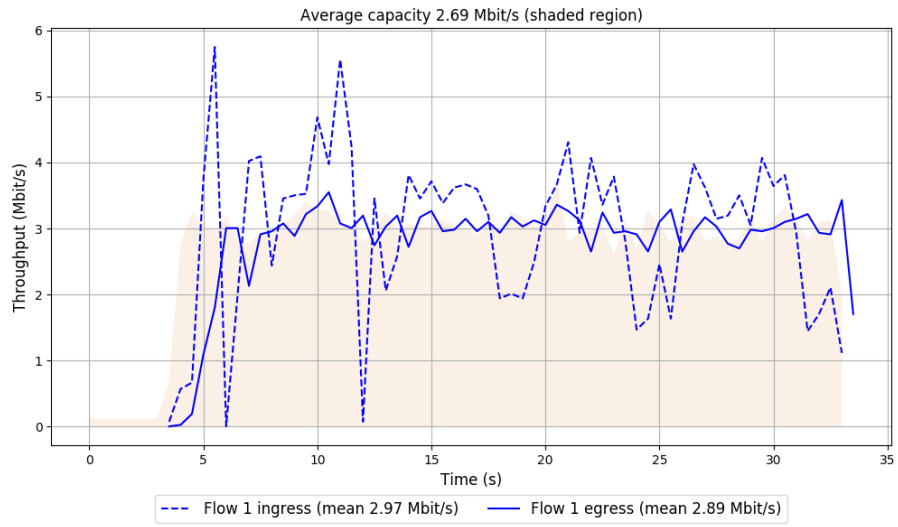
-- Flow 1:

Average throughput: 2.89 Mbit/s

95th percentile per-packet one-way delay: 1708.523 ms

Loss rate: 3.35%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-09-11 01:17:54

End at: 2018-09-11 01:18:24

Below is generated by plot.py at 2018-09-11 01:54:28

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.90 Mbit/s (107.7% utilization)

95th percentile per-packet one-way delay: 1666.709 ms

Loss rate: 4.59%

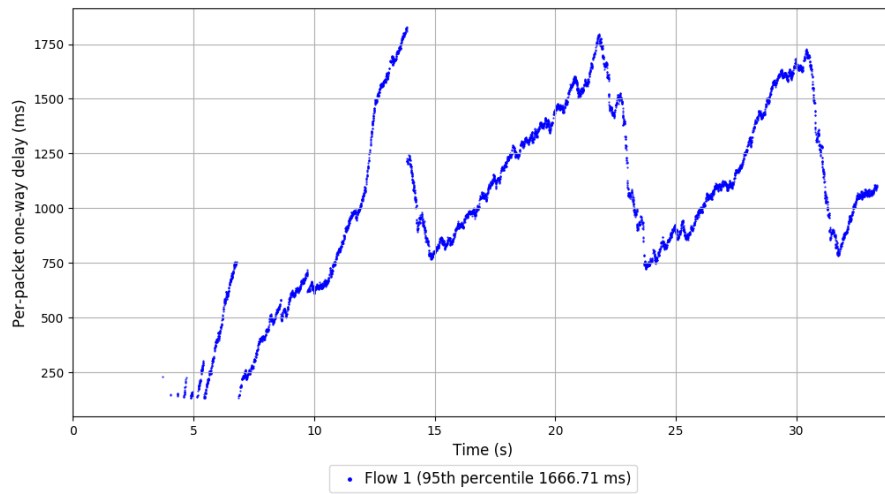
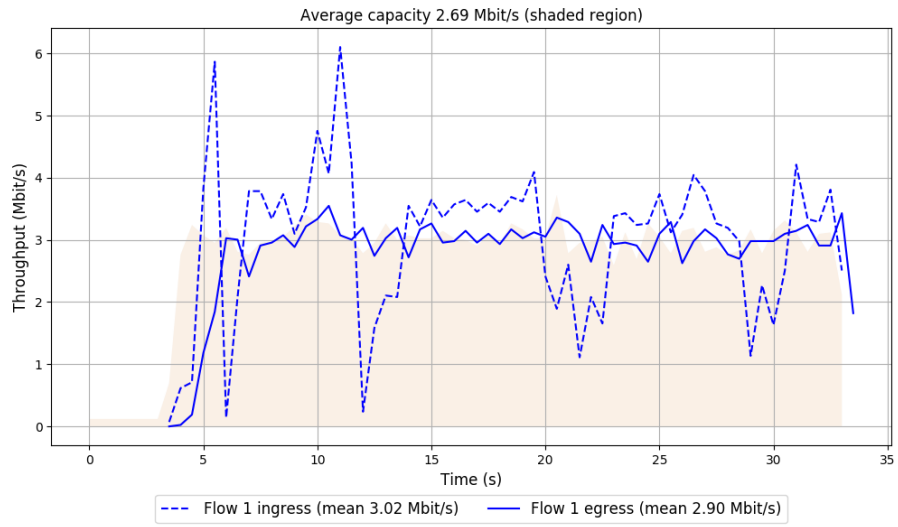
-- Flow 1:

Average throughput: 2.90 Mbit/s

95th percentile per-packet one-way delay: 1666.709 ms

Loss rate: 4.59%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-09-11 01:28:29

End at: 2018-09-11 01:28:59

Below is generated by plot.py at 2018-09-11 01:54:28

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.89 Mbit/s (107.4% utilization)

95th percentile per-packet one-way delay: 1697.601 ms

Loss rate: 4.20%

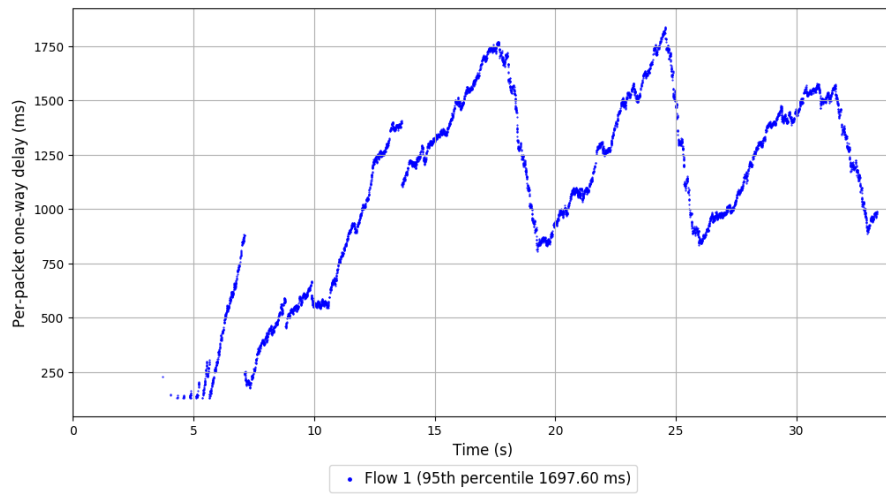
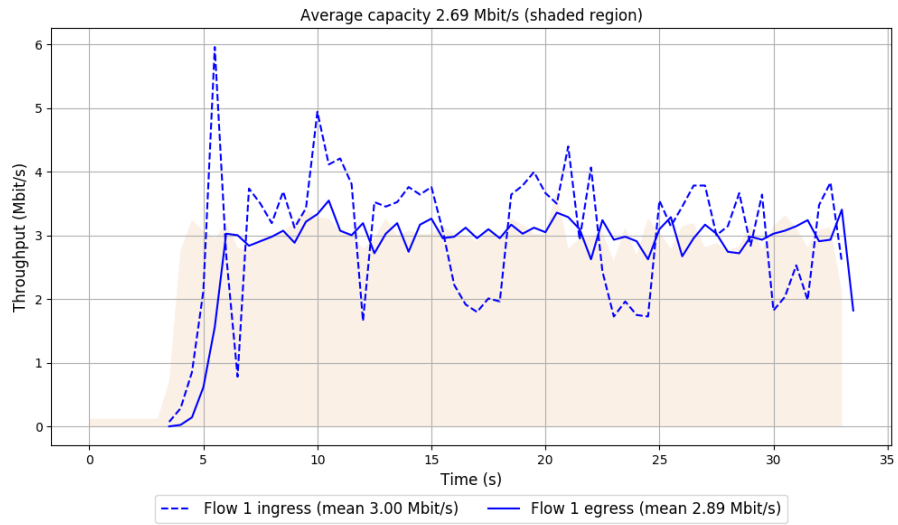
-- Flow 1:

Average throughput: 2.89 Mbit/s

95th percentile per-packet one-way delay: 1697.601 ms

Loss rate: 4.20%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-09-11 01:39:05

End at: 2018-09-11 01:39:35

Below is generated by plot.py at 2018-09-11 01:54:28

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.89 Mbit/s (107.5% utilization)

95th percentile per-packet one-way delay: 1653.750 ms

Loss rate: 4.94%

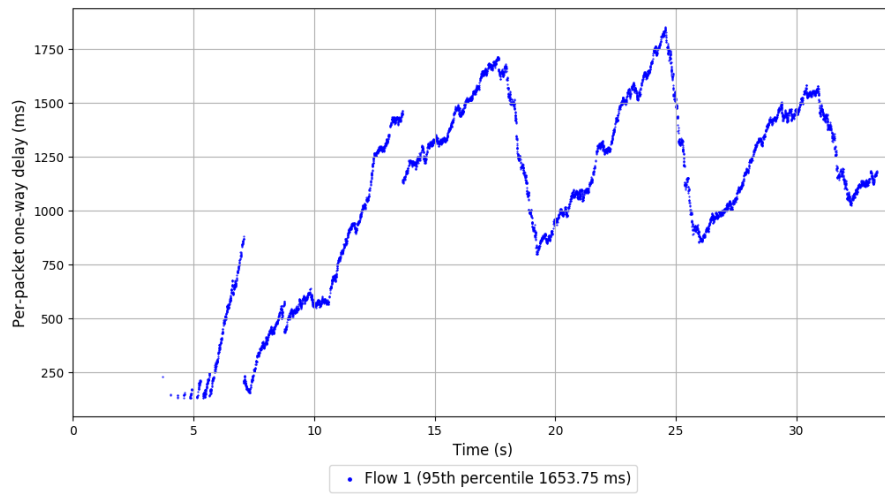
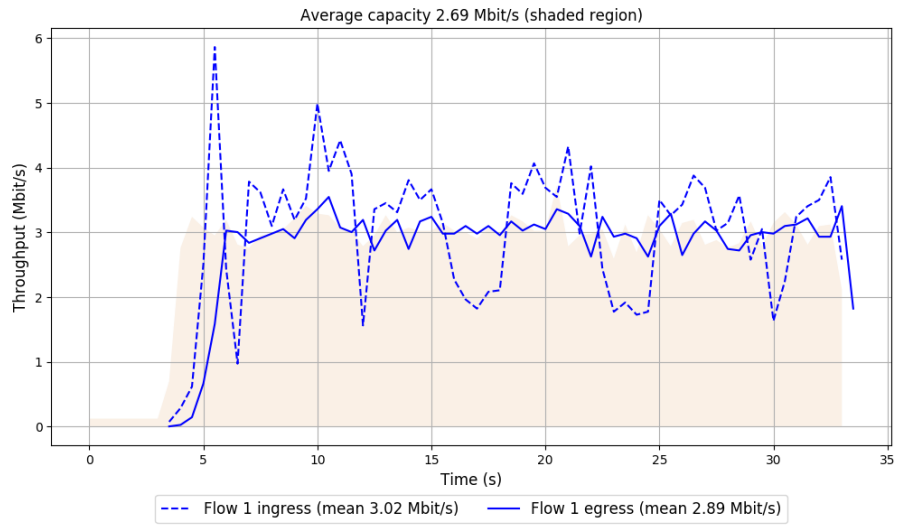
-- Flow 1:

Average throughput: 2.89 Mbit/s

95th percentile per-packet one-way delay: 1653.750 ms

Loss rate: 4.94%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-09-11 01:49:41

End at: 2018-09-11 01:50:11

Below is generated by plot.py at 2018-09-11 01:54:29

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.89 Mbit/s (107.2% utilization)

95th percentile per-packet one-way delay: 1708.964 ms

Loss rate: 3.36%

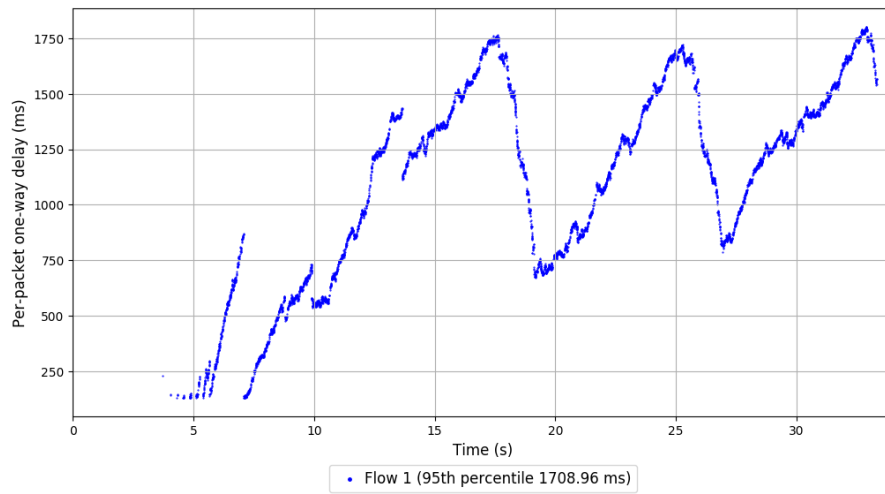
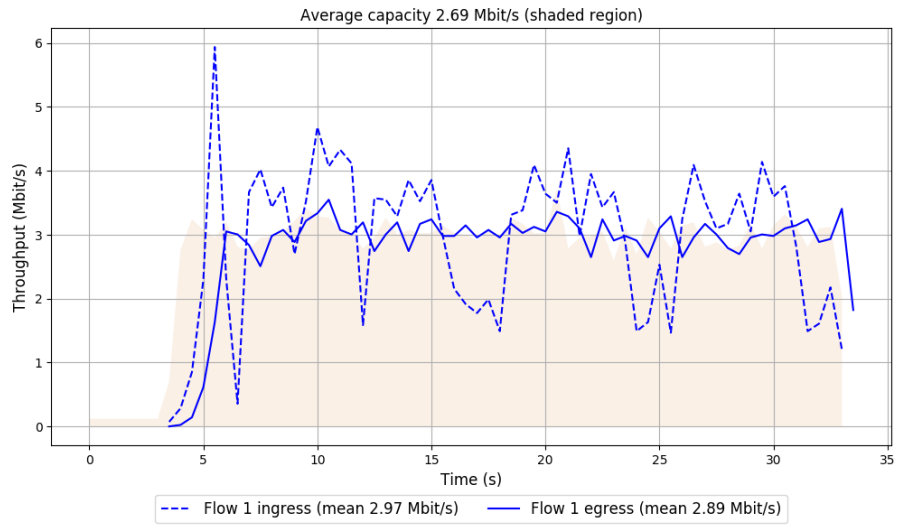
-- Flow 1:

Average throughput: 2.89 Mbit/s

95th percentile per-packet one-way delay: 1708.964 ms

Loss rate: 3.36%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-09-11 01:04:23

End at: 2018-09-11 01:04:53

Below is generated by plot.py at 2018-09-11 01:54:29

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.35 Mbit/s (87.2% utilization)

95th percentile per-packet one-way delay: 606.206 ms

Loss rate: 0.40%

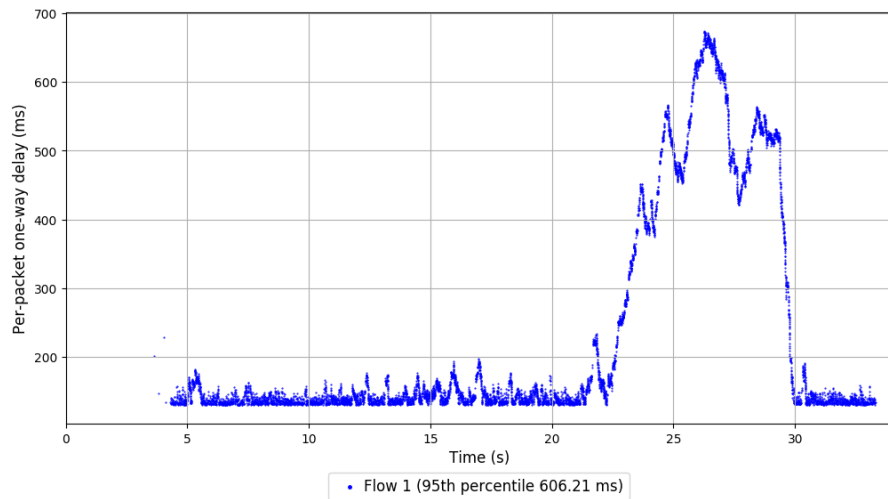
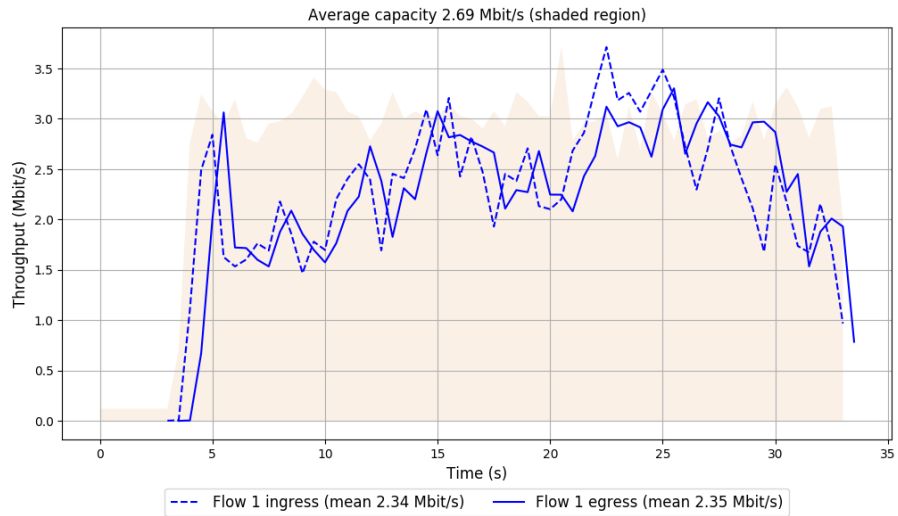
-- Flow 1:

Average throughput: 2.35 Mbit/s

95th percentile per-packet one-way delay: 606.206 ms

Loss rate: 0.40%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-09-11 01:14:57

End at: 2018-09-11 01:15:27

Below is generated by plot.py at 2018-09-11 01:54:36

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.24 Mbit/s (83.3% utilization)

95th percentile per-packet one-way delay: 1484.524 ms

Loss rate: 1.74%

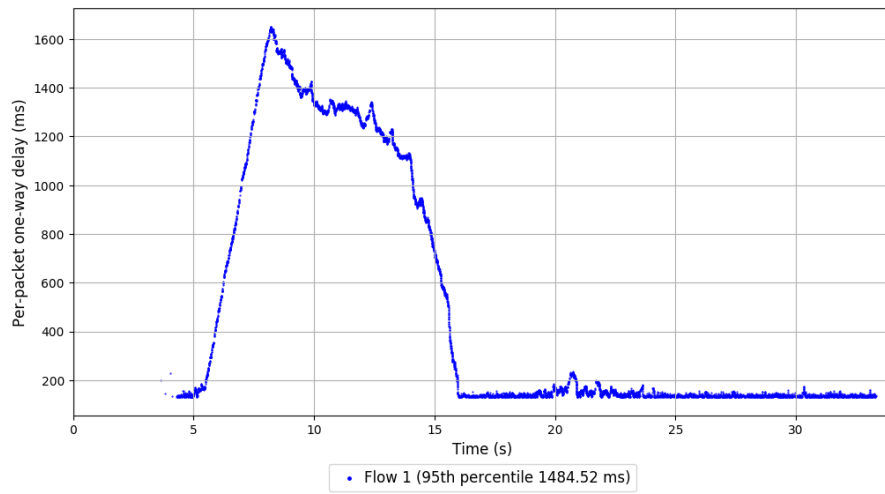
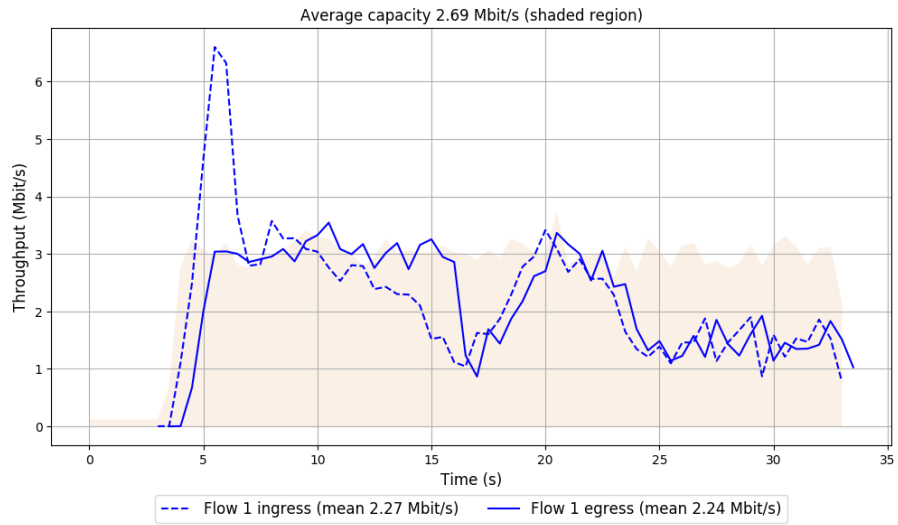
-- Flow 1:

Average throughput: 2.24 Mbit/s

95th percentile per-packet one-way delay: 1484.524 ms

Loss rate: 1.74%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-09-11 01:25:33

End at: 2018-09-11 01:26:03

Below is generated by plot.py at 2018-09-11 01:54:38

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.77 Mbit/s (102.9% utilization)

95th percentile per-packet one-way delay: 1574.297 ms

Loss rate: 3.53%

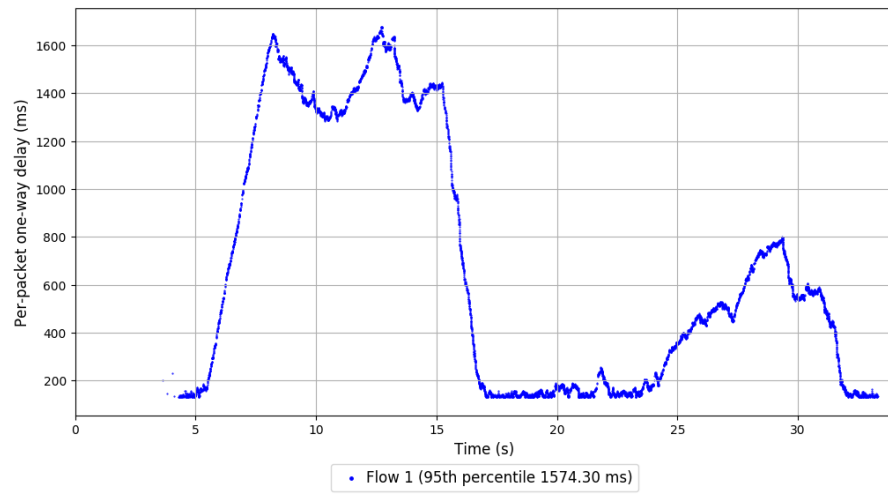
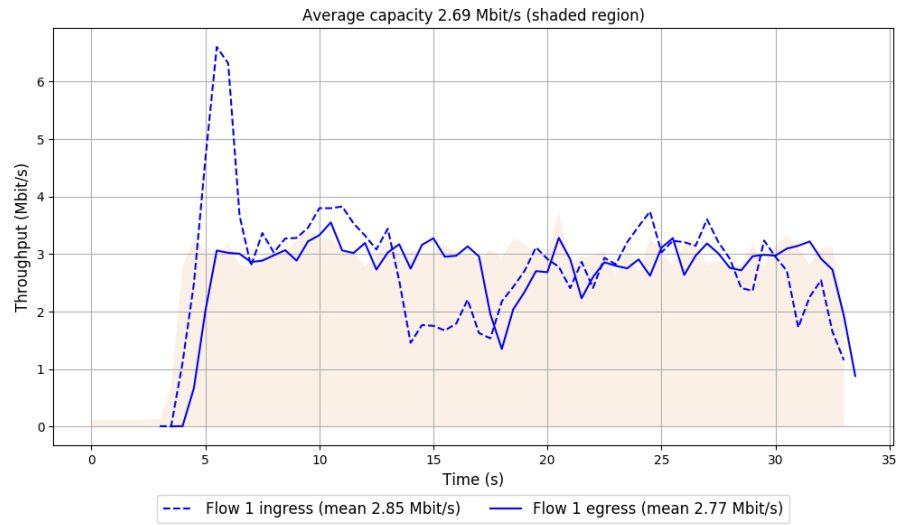
-- Flow 1:

Average throughput: 2.77 Mbit/s

95th percentile per-packet one-way delay: 1574.297 ms

Loss rate: 3.53%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-09-11 01:36:08

End at: 2018-09-11 01:36:38

Below is generated by plot.py at 2018-09-11 01:54:38

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.38 Mbit/s (88.3% utilization)

95th percentile per-packet one-way delay: 483.336 ms

Loss rate: 0.44%

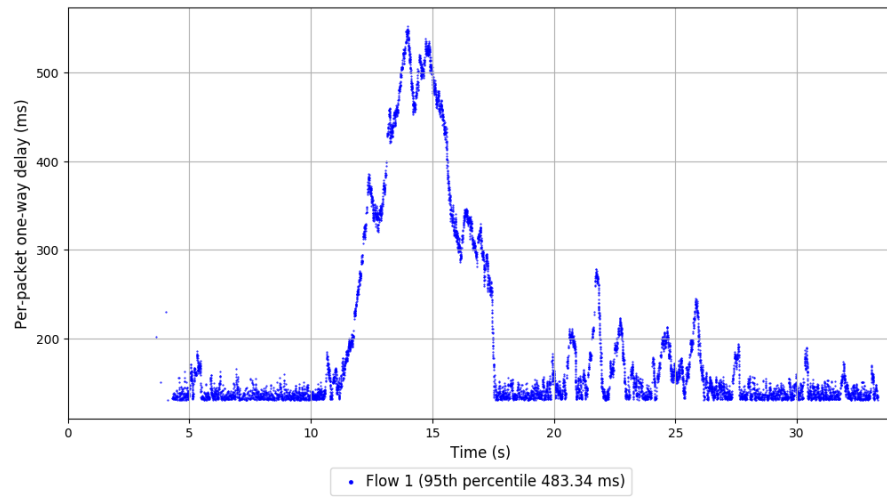
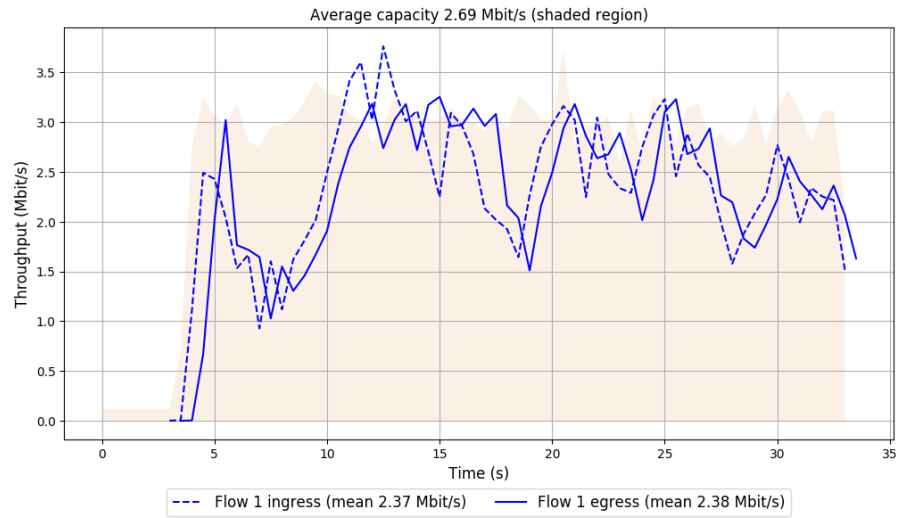
-- Flow 1:

Average throughput: 2.38 Mbit/s

95th percentile per-packet one-way delay: 483.336 ms

Loss rate: 0.44%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-09-11 01:46:44

End at: 2018-09-11 01:47:14

Below is generated by plot.py at 2018-09-11 01:54:39

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 2.51 Mbit/s (93.3% utilization)

95th percentile per-packet one-way delay: 1513.607 ms

Loss rate: 2.98%

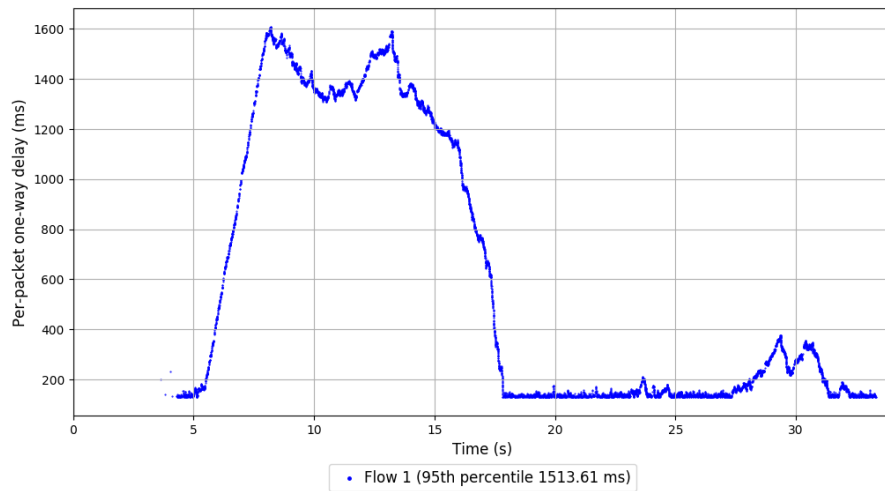
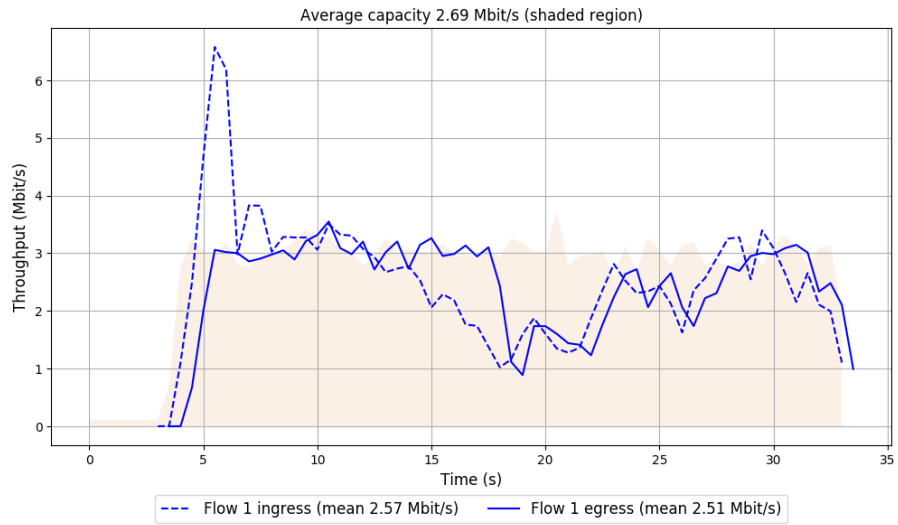
-- Flow 1:

Average throughput: 2.51 Mbit/s

95th percentile per-packet one-way delay: 1513.607 ms

Loss rate: 2.98%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-09-11 01:03:13

End at: 2018-09-11 01:03:43

Below is generated by plot.py at 2018-09-11 01:54:39

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 1.51 Mbit/s (56.0% utilization)

95th percentile per-packet one-way delay: 167.425 ms

Loss rate: 0.62%

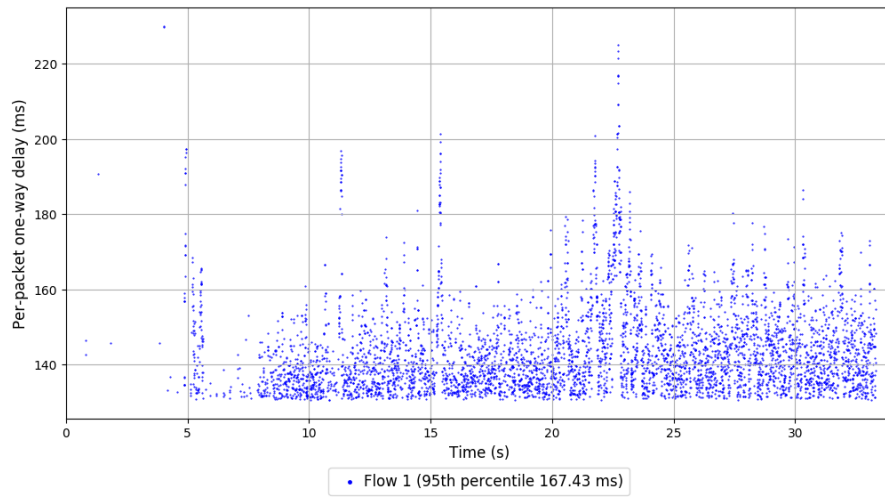
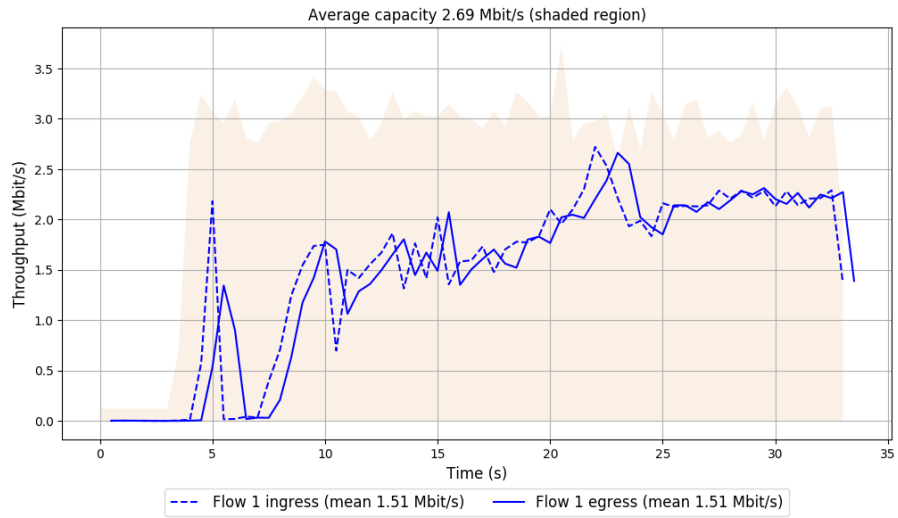
-- Flow 1:

Average throughput: 1.51 Mbit/s

95th percentile per-packet one-way delay: 167.425 ms

Loss rate: 0.62%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-09-11 01:13:47

End at: 2018-09-11 01:14:17

Below is generated by plot.py at 2018-09-11 01:54:39

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 1.27 Mbit/s (47.0% utilization)

95th percentile per-packet one-way delay: 165.255 ms

Loss rate: 0.85%

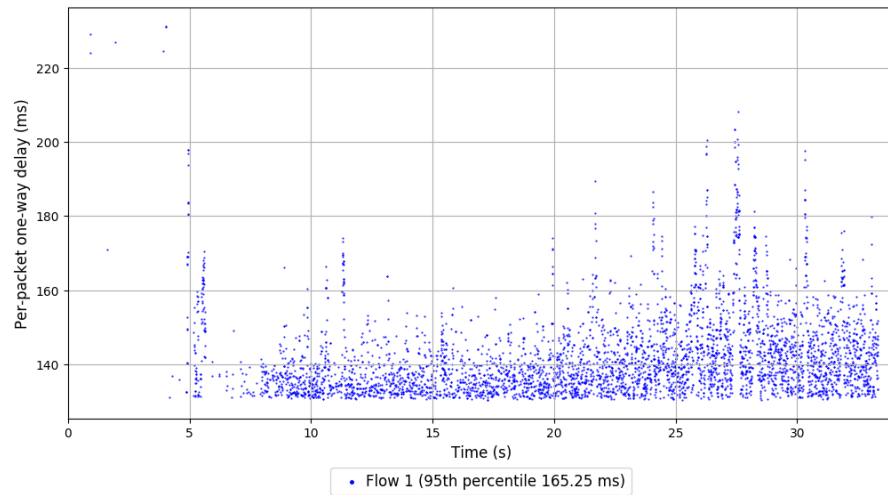
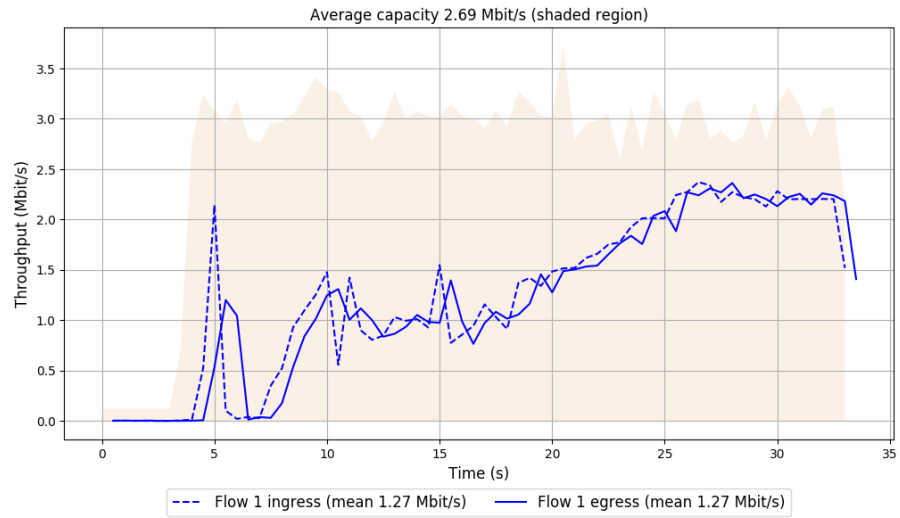
-- Flow 1:

Average throughput: 1.27 Mbit/s

95th percentile per-packet one-way delay: 165.255 ms

Loss rate: 0.85%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-09-11 01:24:22

End at: 2018-09-11 01:24:52

Below is generated by plot.py at 2018-09-11 01:54:39

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 1.54 Mbit/s (57.2% utilization)

95th percentile per-packet one-way delay: 165.801 ms

Loss rate: 0.66%

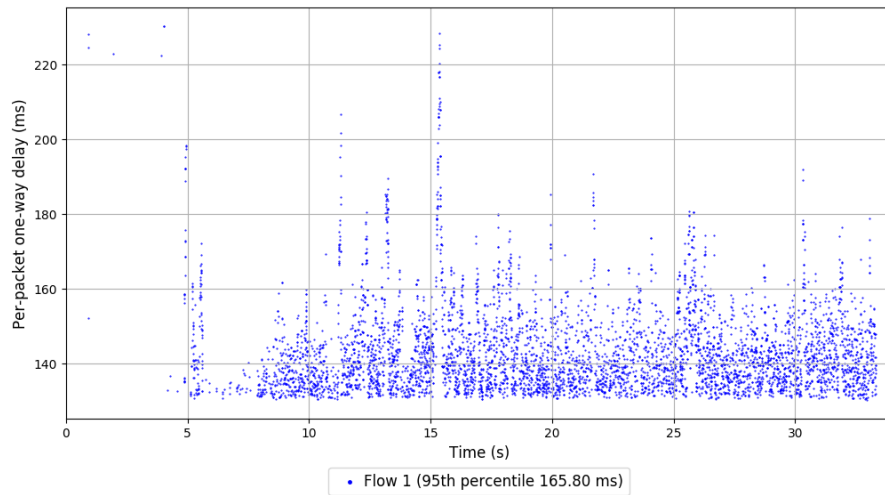
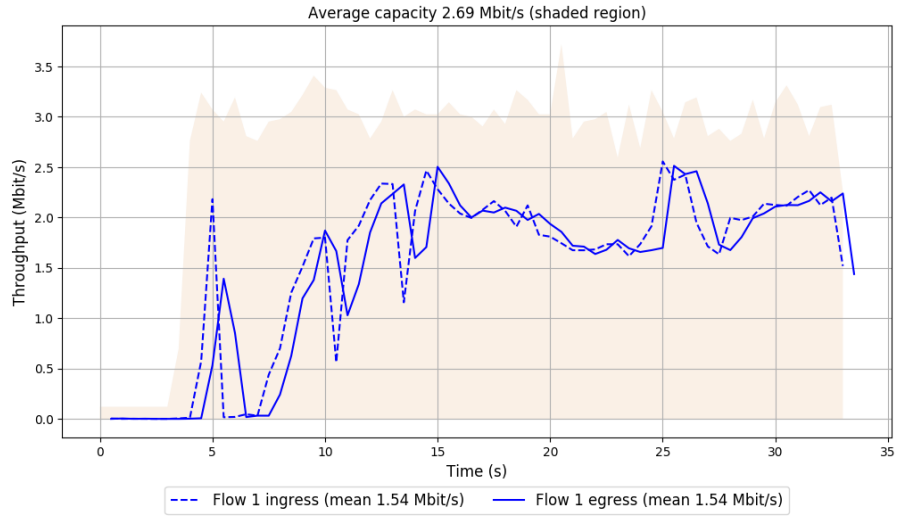
-- Flow 1:

Average throughput: 1.54 Mbit/s

95th percentile per-packet one-way delay: 165.801 ms

Loss rate: 0.66%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-09-11 01:34:58

End at: 2018-09-11 01:35:28

Below is generated by plot.py at 2018-09-11 01:54:39

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 1.60 Mbit/s (59.4% utilization)

95th percentile per-packet one-way delay: 171.507 ms

Loss rate: 0.67%

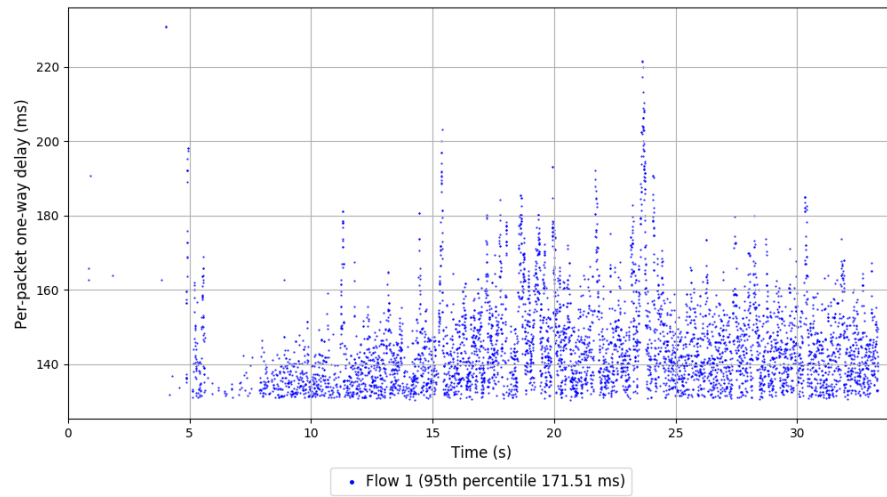
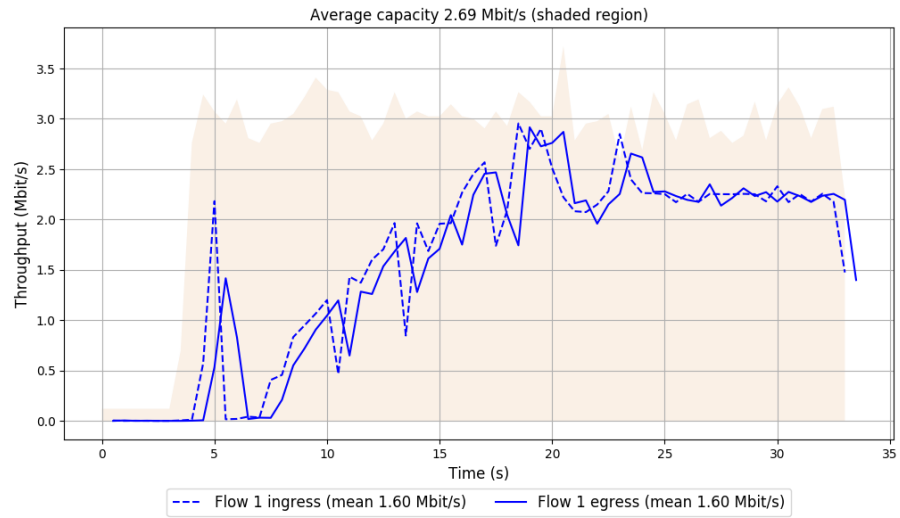
-- Flow 1:

Average throughput: 1.60 Mbit/s

95th percentile per-packet one-way delay: 171.507 ms

Loss rate: 0.67%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-11 01:45:33

End at: 2018-09-11 01:46:03

Below is generated by plot.py at 2018-09-11 01:54:39

Datalink statistics

-- Total of 1 flow:

Average capacity: 2.69 Mbit/s

Average throughput: 1.50 Mbit/s (55.7% utilization)

95th percentile per-packet one-way delay: 174.194 ms

Loss rate: 0.55%

-- Flow 1:

Average throughput: 1.50 Mbit/s

95th percentile per-packet one-way delay: 174.194 ms

Loss rate: 0.55%

Run 5: Report of WebRTC media — Data Link

