

Pantheon Report

Generated at 2018-11-15 09:57:46 (UTC).

Data path: China on `eno1` (*remote*) → AWS Korea on `ens5` (*local*).

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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

System info:

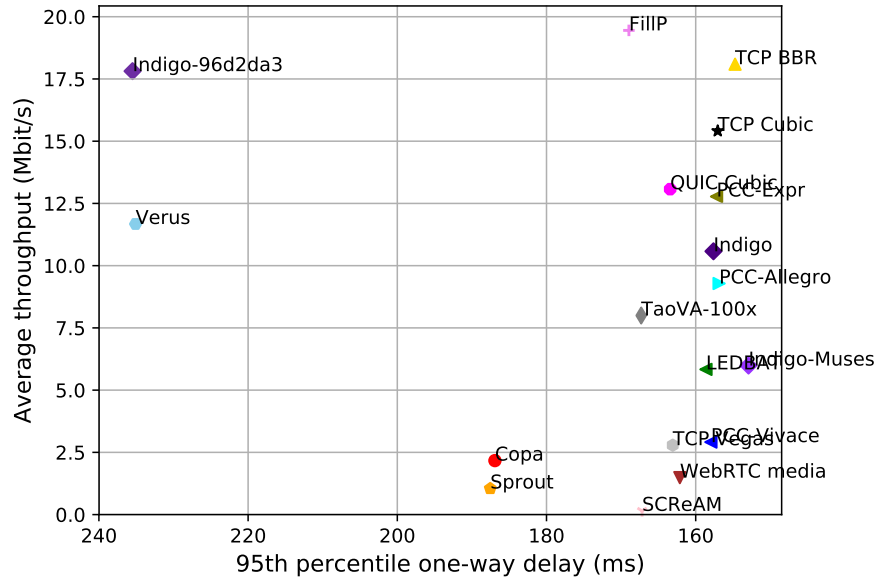
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

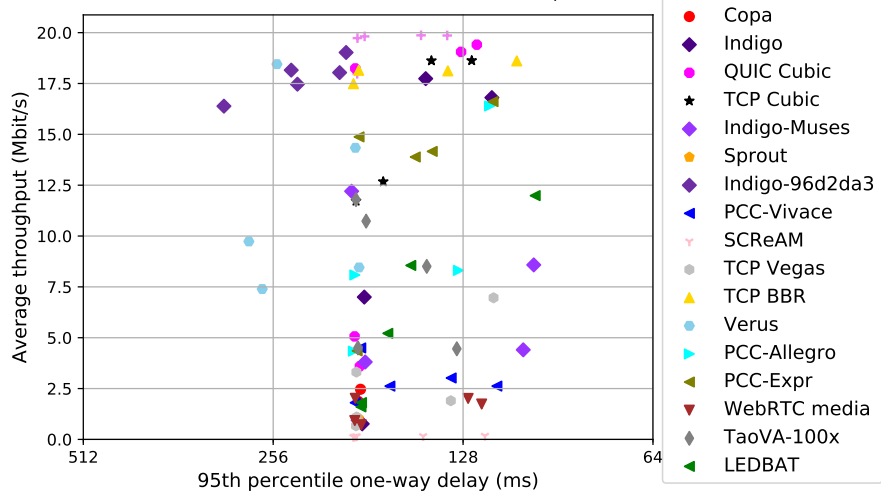
```
branch: muses @ 794ca3866981572cb73700a276691acf79c60f2b
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
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 China to AWS Korea, 5 runs of 30s each per scheme
(mean of all runs by scheme)



test from China to AWS Korea, 5 runs of 30s each per scheme



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	4	18.09	154.72	14.99
Copa	2	2.17	186.91	0.95
TCP Cubic	4	15.41	157.05	8.27
FillP	5	19.45	168.95	24.71
Indigo	4	10.58	157.62	32.18
Indigo-96d2da3	5	17.82	235.49	57.35
LEDBAT	5	5.83	158.63	1.25
Indigo-Muses	5	5.99	152.92	8.36
PCC-Allegro	4	9.29	156.86	0.90
PCC-Expr	5	12.78	157.21	17.41
QUIC Cubic	5	13.07	163.43	2.09
SCReAM	5	0.15	167.19	0.72
Sprout	1	1.05	187.54	1.02
TaoVA-100x	5	8.00	167.31	1.68
TCP Vegas	5	2.79	163.08	1.04
Verus	5	11.68	235.08	52.97
PCC-Vivace	5	2.91	157.97	0.66
WebRTC media	5	1.48	162.13	1.27

Run 1: Statistics of TCP BBR

Start at: 2018-11-15 08:12:14

End at: 2018-11-15 08:12:44

Local clock offset: 7.397 ms

Remote clock offset: 44.091 ms

Below is generated by plot.py at 2018-11-15 09:55:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 17.49 Mbit/s

95th percentile per-packet one-way delay: 190.963 ms

Loss rate: 16.62%

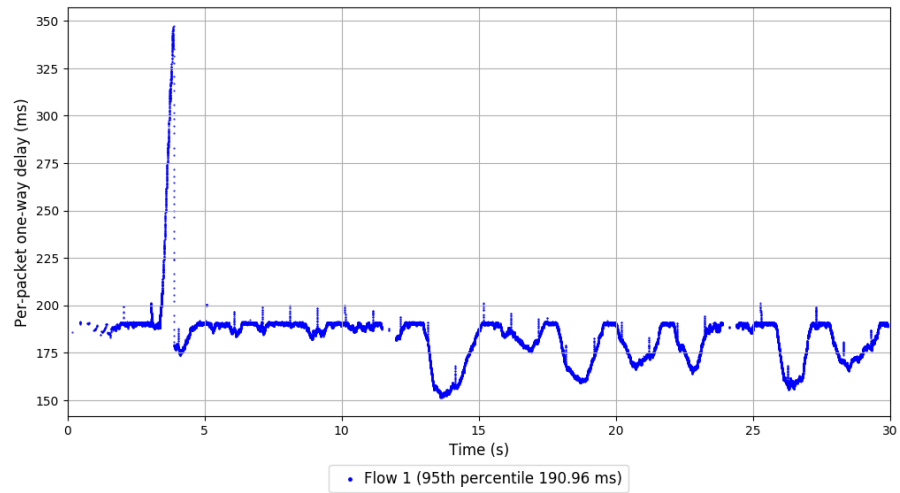
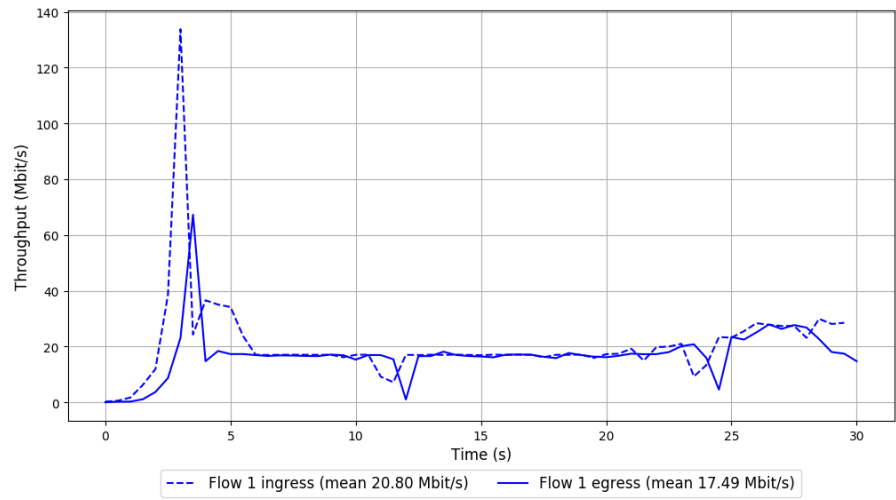
-- Flow 1:

Average throughput: 17.49 Mbit/s

95th percentile per-packet one-way delay: 190.963 ms

Loss rate: 16.62%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

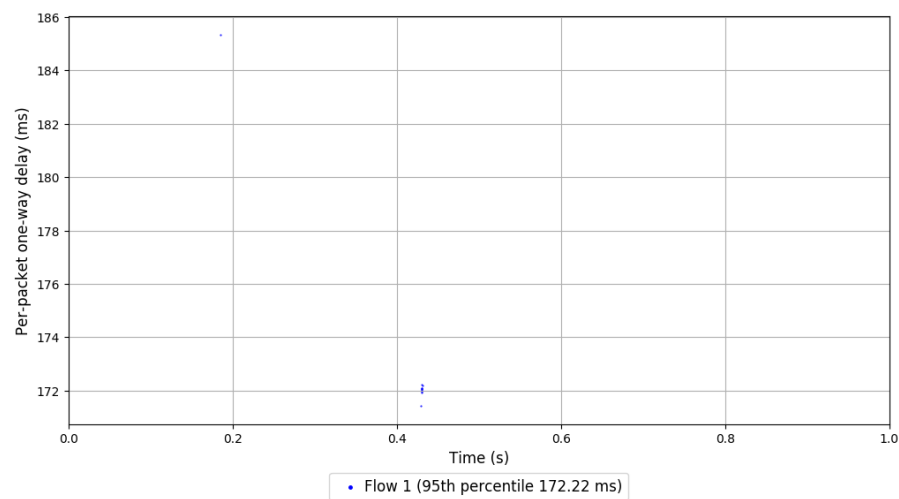
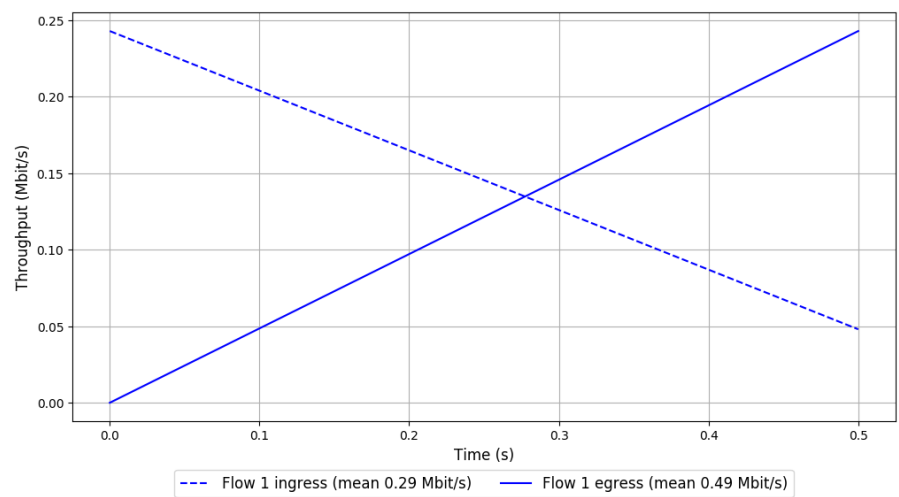
Start at: 2018-11-15 08:41:36

End at: 2018-11-15 08:42:06

Local clock offset: 8.643 ms

Remote clock offset: -8.687 ms

Run 2: Report of TCP BBR — Data Link

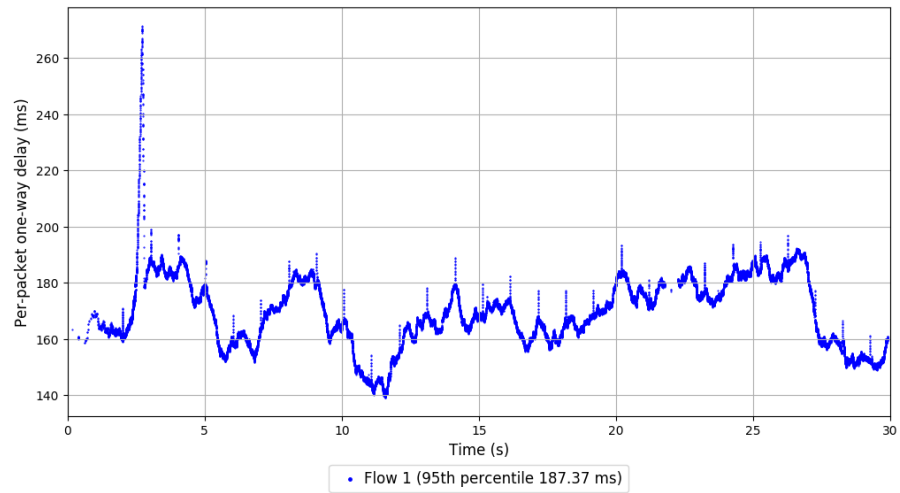
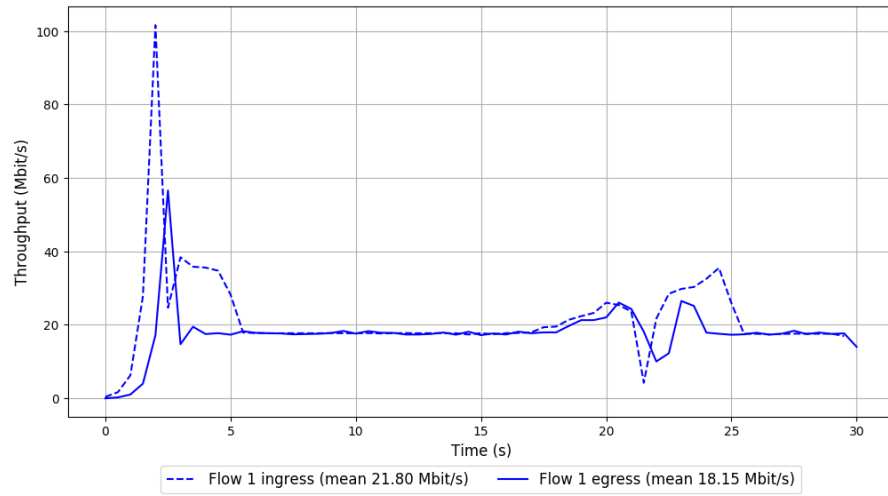


Run 3: Statistics of TCP BBR

Start at: 2018-11-15 09:04:09
End at: 2018-11-15 09:04:39
Local clock offset: 2.628 ms
Remote clock offset: 27.084 ms

Below is generated by plot.py at 2018-11-15 09:55:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 18.15 Mbit/s
95th percentile per-packet one-way delay: 187.371 ms
Loss rate: 17.40%
-- Flow 1:
Average throughput: 18.15 Mbit/s
95th percentile per-packet one-way delay: 187.371 ms
Loss rate: 17.40%

Run 3: Report of TCP BBR — Data Link

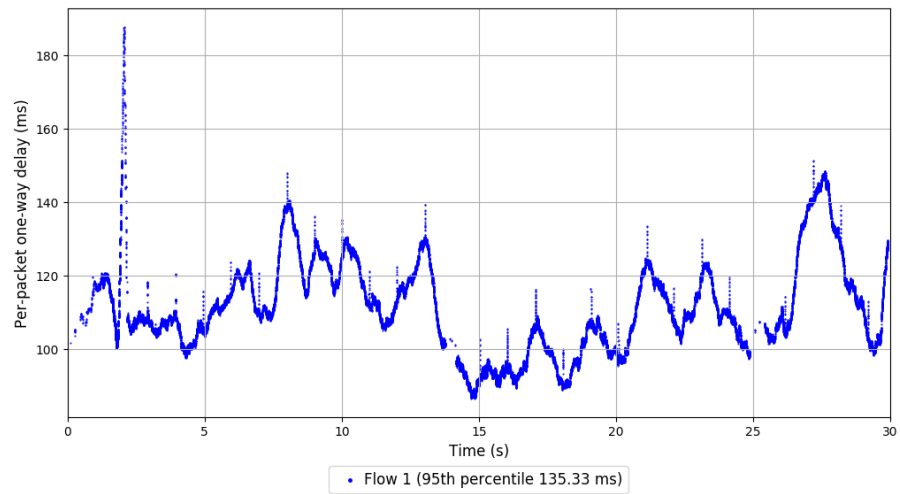
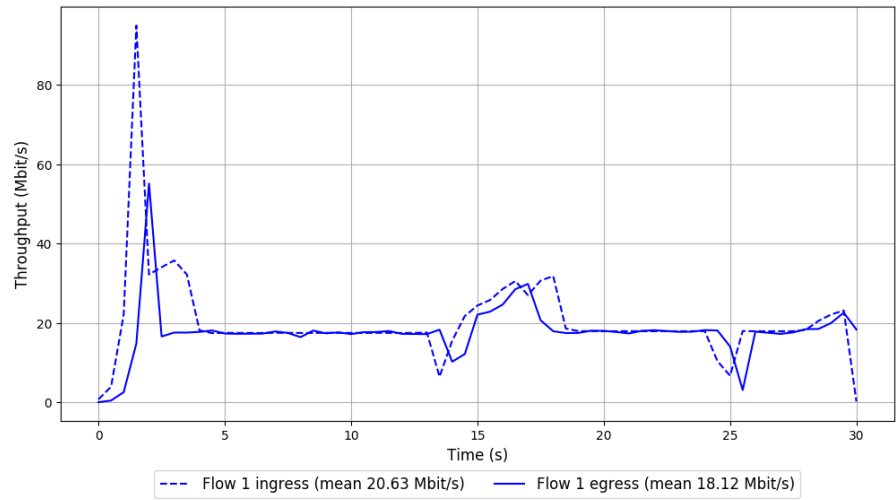


Run 4: Statistics of TCP BBR

Start at: 2018-11-15 09:26:22
End at: 2018-11-15 09:26:52
Local clock offset: -3.816 ms
Remote clock offset: 45.237 ms

Below is generated by plot.py at 2018-11-15 09:55:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 18.12 Mbit/s
95th percentile per-packet one-way delay: 135.327 ms
Loss rate: 12.68%
-- Flow 1:
Average throughput: 18.12 Mbit/s
95th percentile per-packet one-way delay: 135.327 ms
Loss rate: 12.68%

Run 4: Report of TCP BBR — Data Link

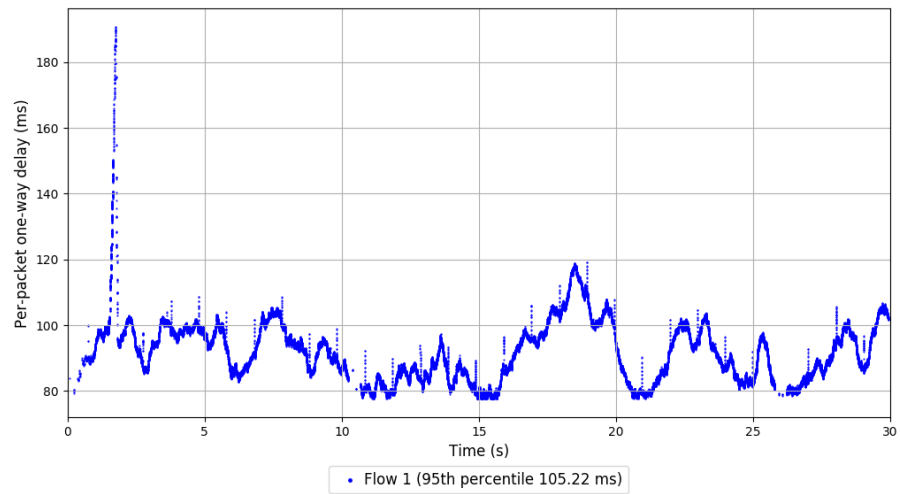
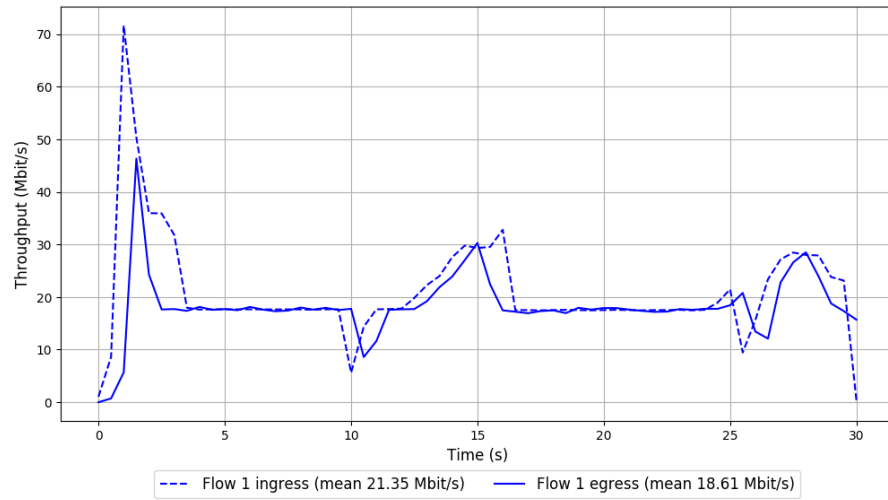


Run 5: Statistics of TCP BBR

Start at: 2018-11-15 09:48:24
End at: 2018-11-15 09:48:54
Local clock offset: -2.63 ms
Remote clock offset: 22.661 ms

Below is generated by plot.py at 2018-11-15 09:55:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 18.61 Mbit/s
95th percentile per-packet one-way delay: 105.225 ms
Loss rate: 13.28%
-- Flow 1:
Average throughput: 18.61 Mbit/s
95th percentile per-packet one-way delay: 105.225 ms
Loss rate: 13.28%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

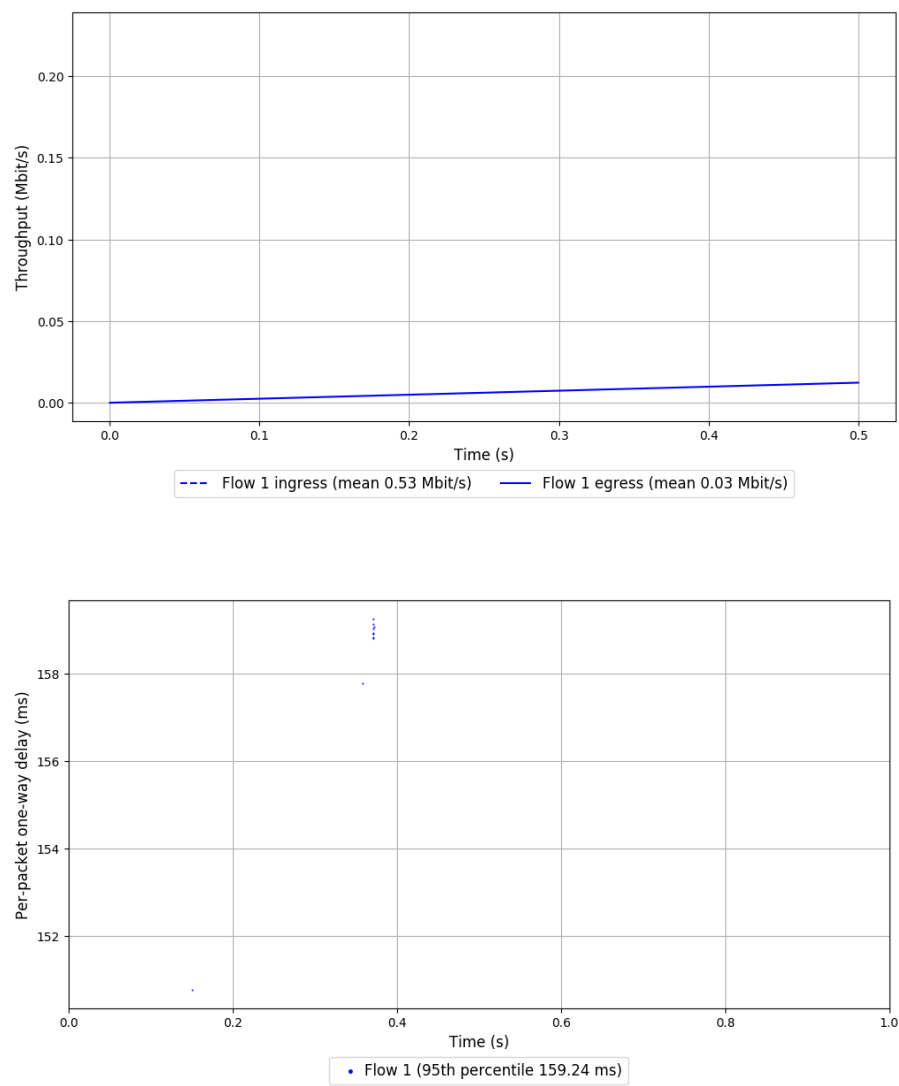
Start at: 2018-11-15 07:57:10

End at: 2018-11-15 07:57:40

Local clock offset: 9.343 ms

Remote clock offset: 38.735 ms

Run 1: Report of Copa — Data Link

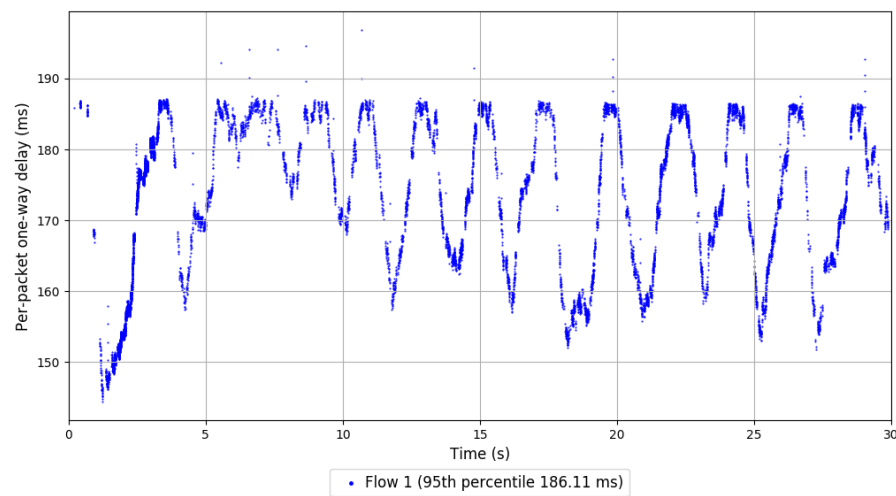
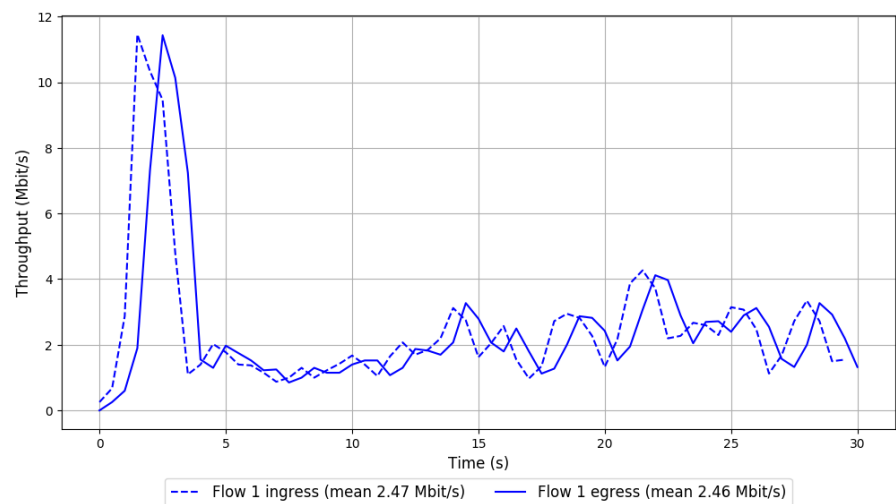


Run 2: Statistics of Copa

Start at: 2018-11-15 08:27:57
End at: 2018-11-15 08:28:27
Local clock offset: 7.376 ms
Remote clock offset: 11.362 ms

Below is generated by plot.py at 2018-11-15 09:55:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.46 Mbit/s
95th percentile per-packet one-way delay: 186.113 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 2.46 Mbit/s
95th percentile per-packet one-way delay: 186.113 ms
Loss rate: 0.97%

Run 2: Report of Copa — Data Link

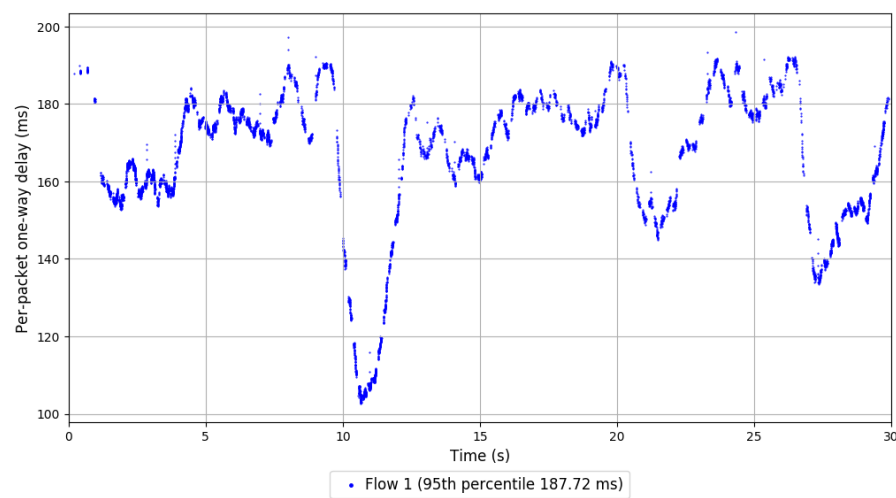
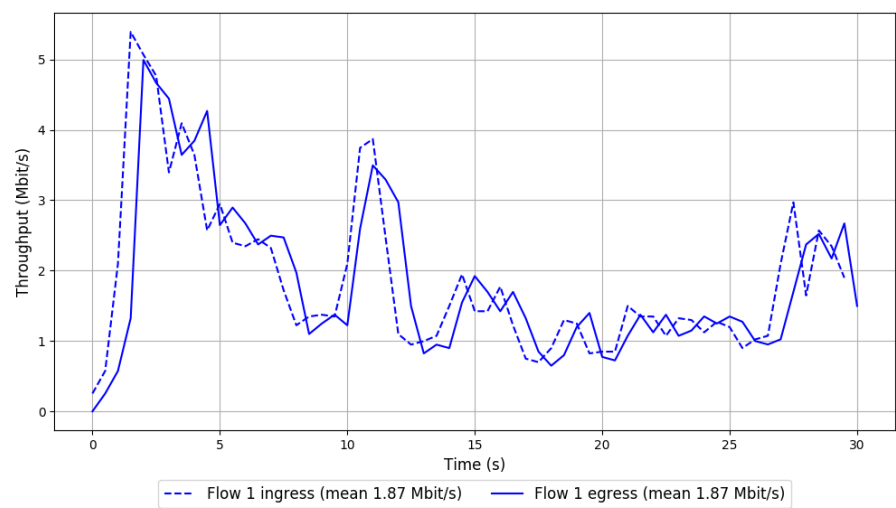


Run 3: Statistics of Copa

Start at: 2018-11-15 08:50:31
End at: 2018-11-15 08:51:01
Local clock offset: 9.538 ms
Remote clock offset: -14.185 ms

Below is generated by plot.py at 2018-11-15 09:55:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 187.716 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 1.87 Mbit/s
95th percentile per-packet one-way delay: 187.716 ms
Loss rate: 0.93%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

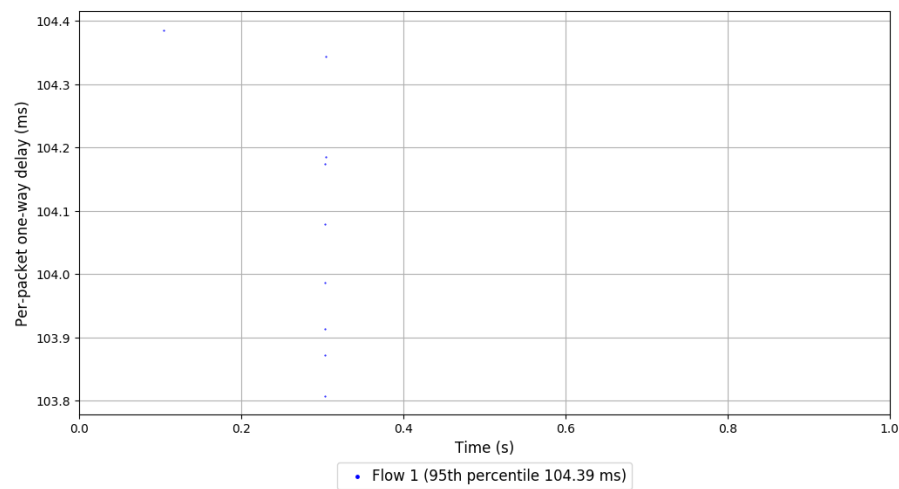
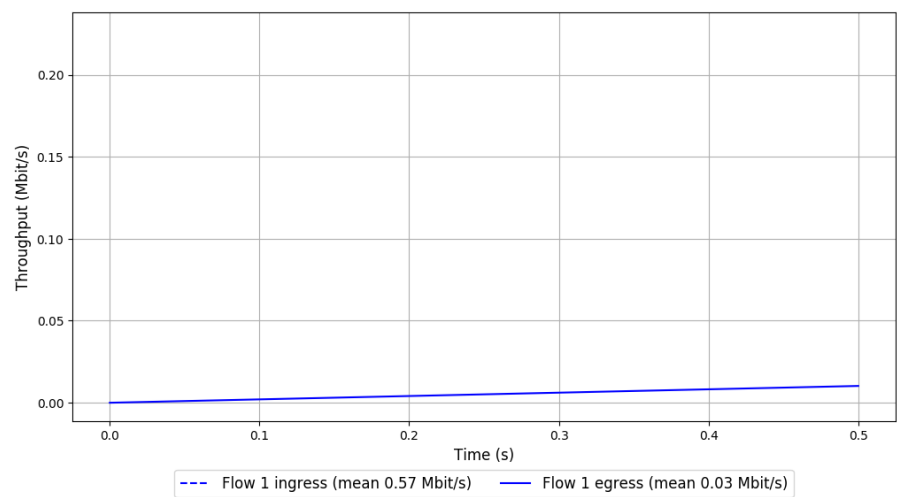
Start at: 2018-11-15 09:13:06

End at: 2018-11-15 09:13:36

Local clock offset: -1.323 ms

Remote clock offset: 38.805 ms

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

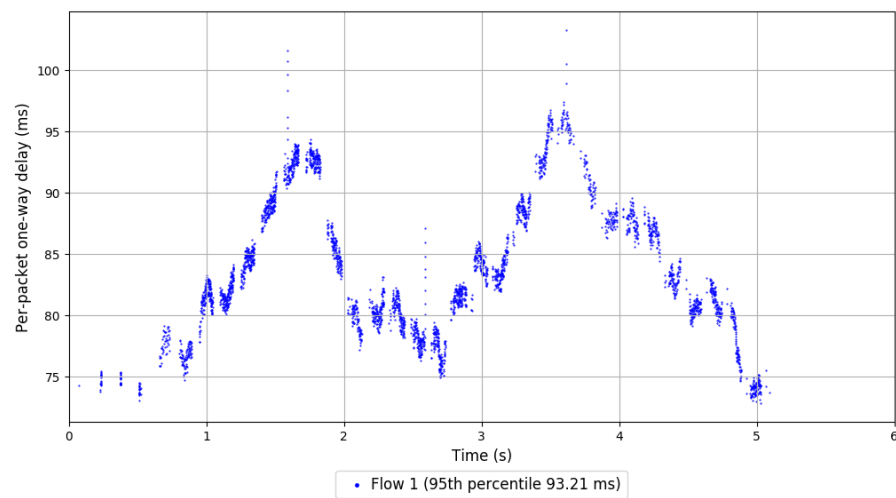
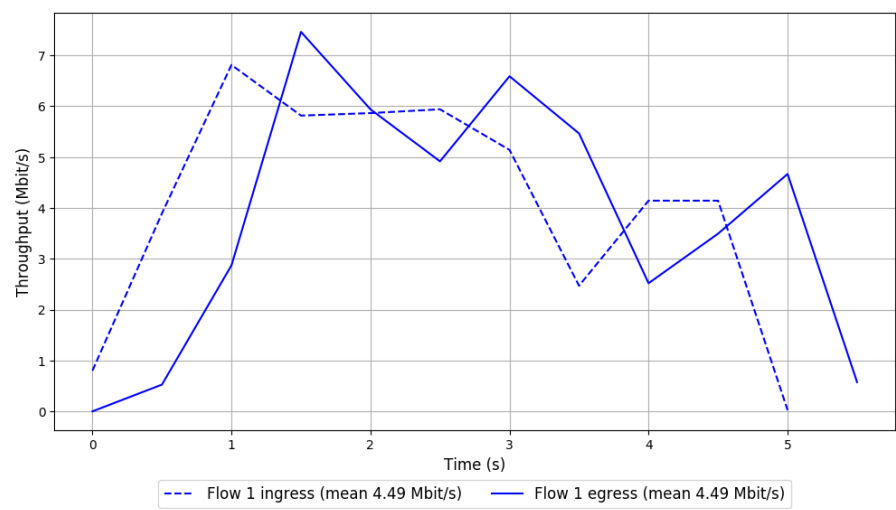
Start at: 2018-11-15 09:35:08

End at: 2018-11-15 09:35:38

Local clock offset: -2.662 ms

Remote clock offset: 32.503 ms

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

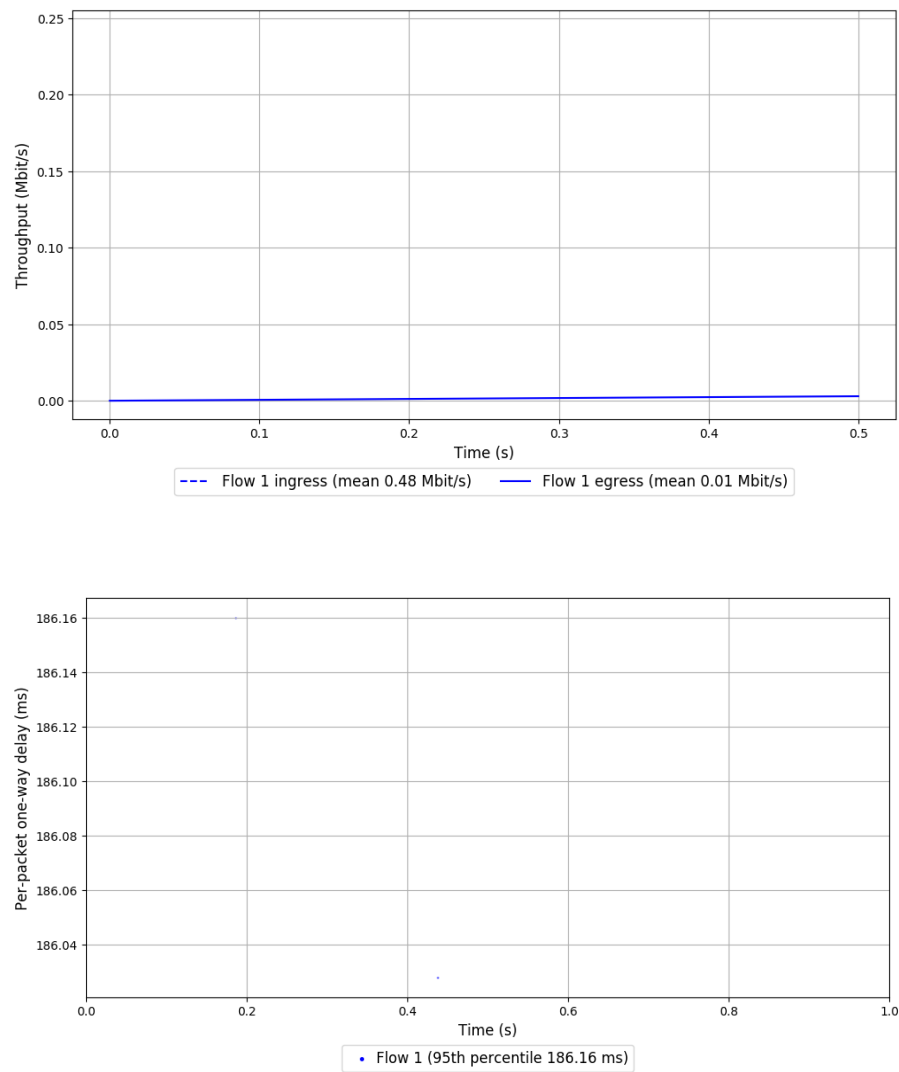
Start at: 2018-11-15 08:21:08

End at: 2018-11-15 08:21:38

Local clock offset: 7.111 ms

Remote clock offset: 29.594 ms

Run 1: Report of TCP Cubic — Data Link

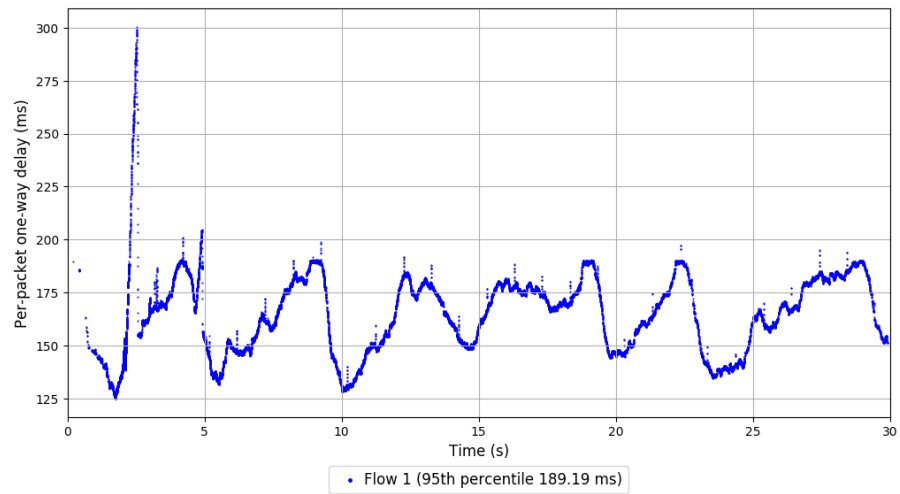
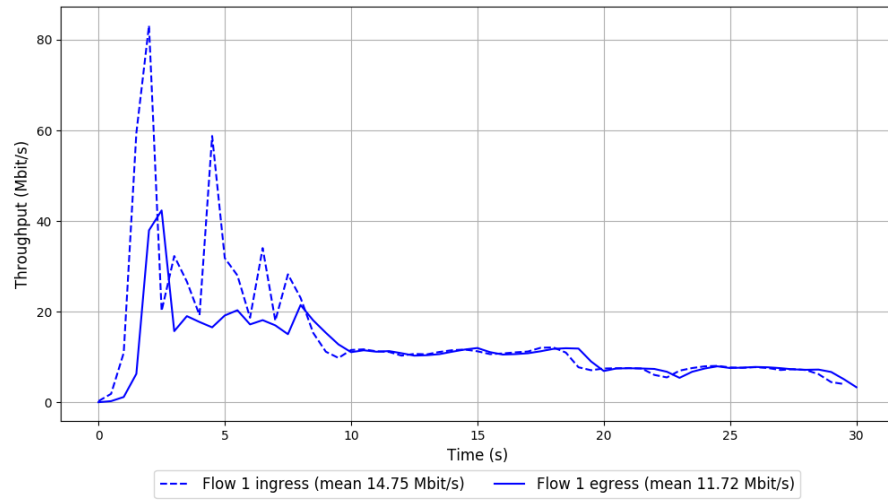


Run 2: Statistics of TCP Cubic

Start at: 2018-11-15 08:48:00
End at: 2018-11-15 08:48:30
Local clock offset: 9.207 ms
Remote clock offset: -13.77 ms

Below is generated by plot.py at 2018-11-15 09:55:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 11.72 Mbit/s
95th percentile per-packet one-way delay: 189.187 ms
Loss rate: 21.20%
-- Flow 1:
Average throughput: 11.72 Mbit/s
95th percentile per-packet one-way delay: 189.187 ms
Loss rate: 21.20%

Run 2: Report of TCP Cubic — Data Link

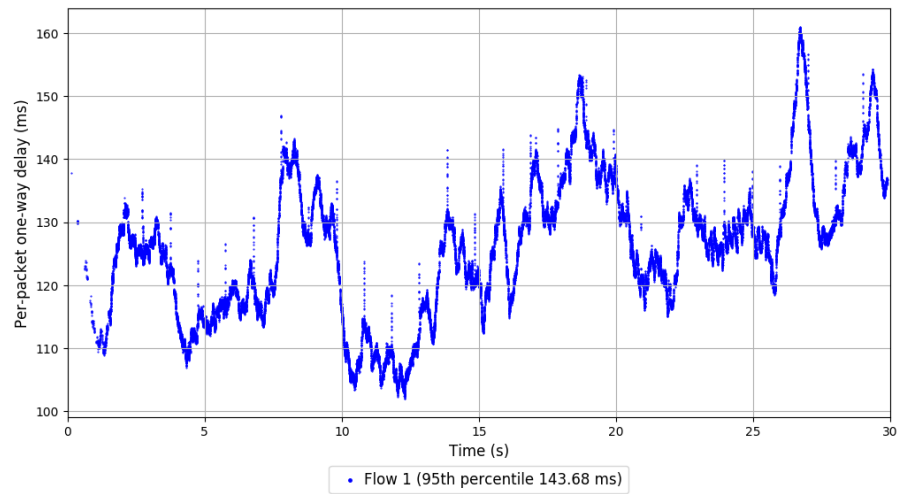
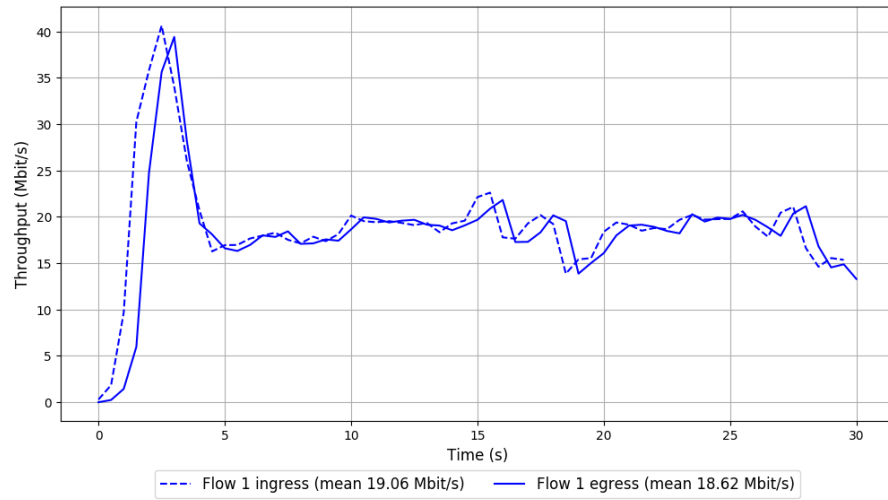


Run 3: Statistics of TCP Cubic

Start at: 2018-11-15 09:10:32
End at: 2018-11-15 09:11:02
Local clock offset: -0.52 ms
Remote clock offset: 35.558 ms

Below is generated by plot.py at 2018-11-15 09:55:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 18.62 Mbit/s
95th percentile per-packet one-way delay: 143.681 ms
Loss rate: 2.94%
-- Flow 1:
Average throughput: 18.62 Mbit/s
95th percentile per-packet one-way delay: 143.681 ms
Loss rate: 2.94%

Run 3: Report of TCP Cubic — Data Link

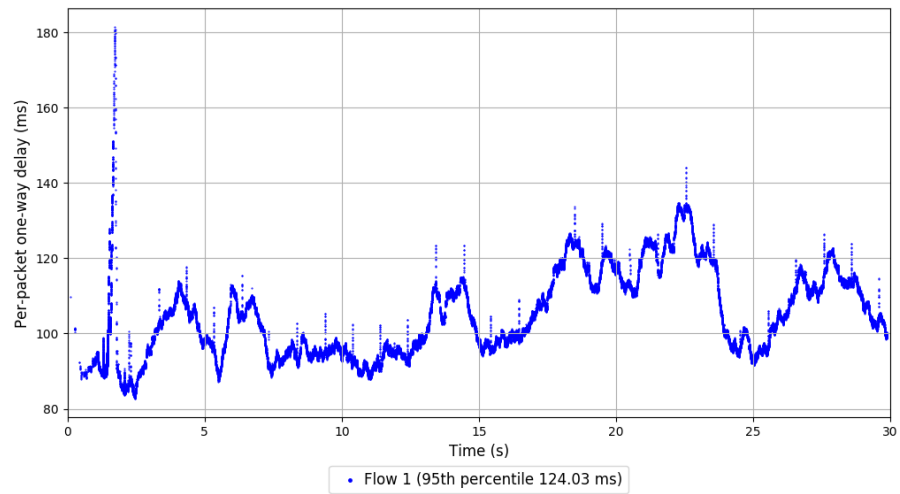
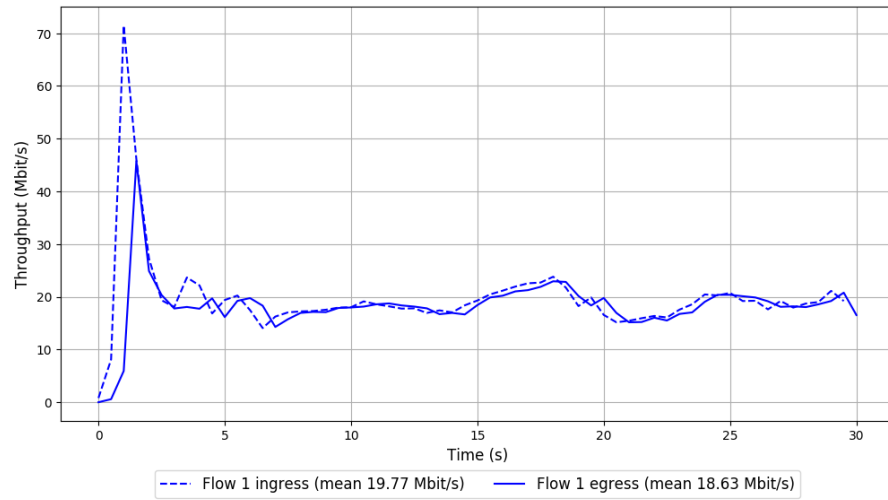


Run 4: Statistics of TCP Cubic

Start at: 2018-11-15 09:32:35
End at: 2018-11-15 09:33:05
Local clock offset: -2.821 ms
Remote clock offset: 32.951 ms

Below is generated by plot.py at 2018-11-15 09:56:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 18.63 Mbit/s
95th percentile per-packet one-way delay: 124.034 ms
Loss rate: 6.30%
-- Flow 1:
Average throughput: 18.63 Mbit/s
95th percentile per-packet one-way delay: 124.034 ms
Loss rate: 6.30%

Run 4: Report of TCP Cubic — Data Link

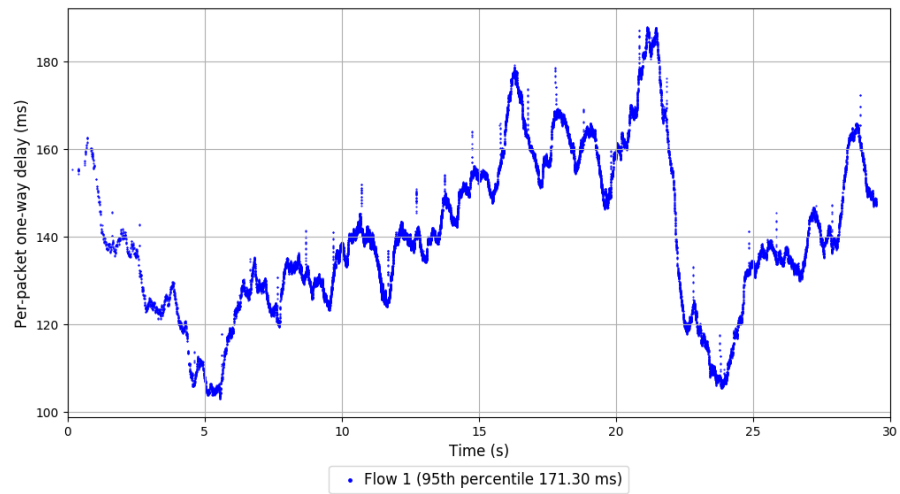
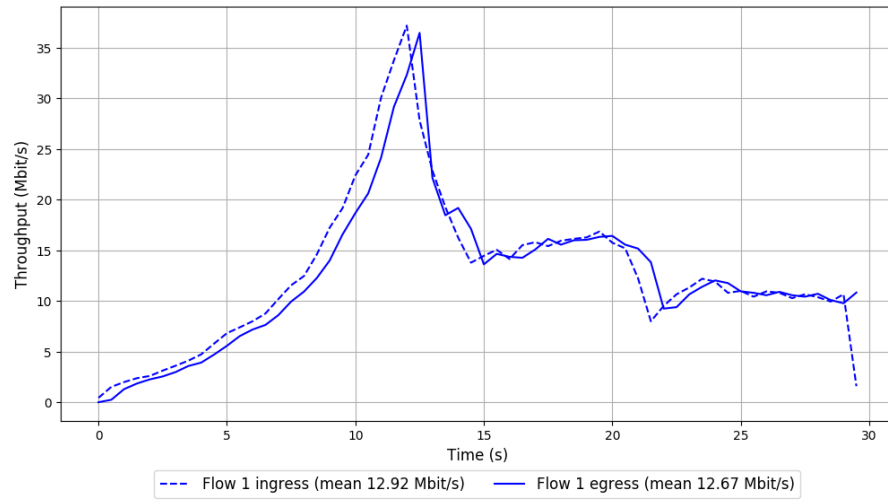


Run 5: Statistics of TCP Cubic

Start at: 2018-11-15 09:54:43
End at: 2018-11-15 09:55:13
Local clock offset: -2.987 ms
Remote clock offset: 24.698 ms

Below is generated by plot.py at 2018-11-15 09:56:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.67 Mbit/s
95th percentile per-packet one-way delay: 171.304 ms
Loss rate: 2.64%
-- Flow 1:
Average throughput: 12.67 Mbit/s
95th percentile per-packet one-way delay: 171.304 ms
Loss rate: 2.64%

Run 5: Report of TCP Cubic — Data Link

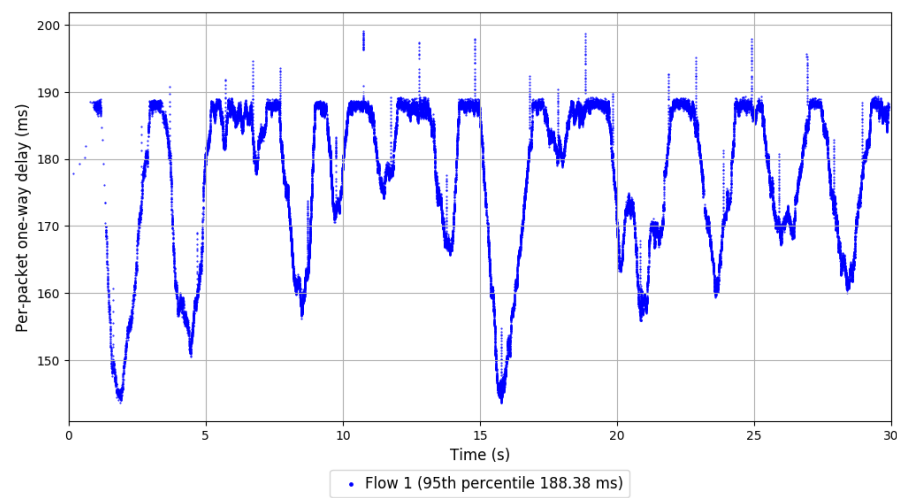
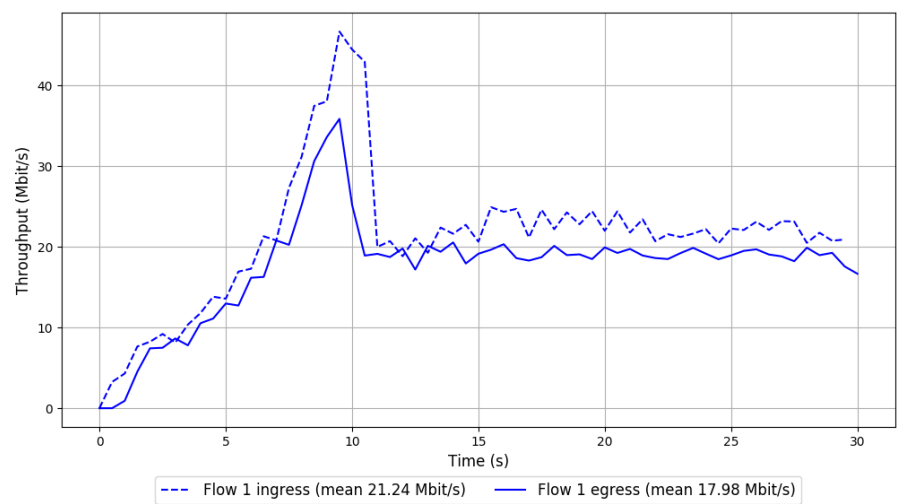


Run 1: Statistics of FillP

Start at: 2018-11-15 08:15:05
End at: 2018-11-15 08:15:35
Local clock offset: 7.082 ms
Remote clock offset: 46.479 ms

Below is generated by plot.py at 2018-11-15 09:56:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 17.98 Mbit/s
95th percentile per-packet one-way delay: 188.380 ms
Loss rate: 16.08%
-- Flow 1:
Average throughput: 17.98 Mbit/s
95th percentile per-packet one-way delay: 188.380 ms
Loss rate: 16.08%

Run 1: Report of FillP — Data Link

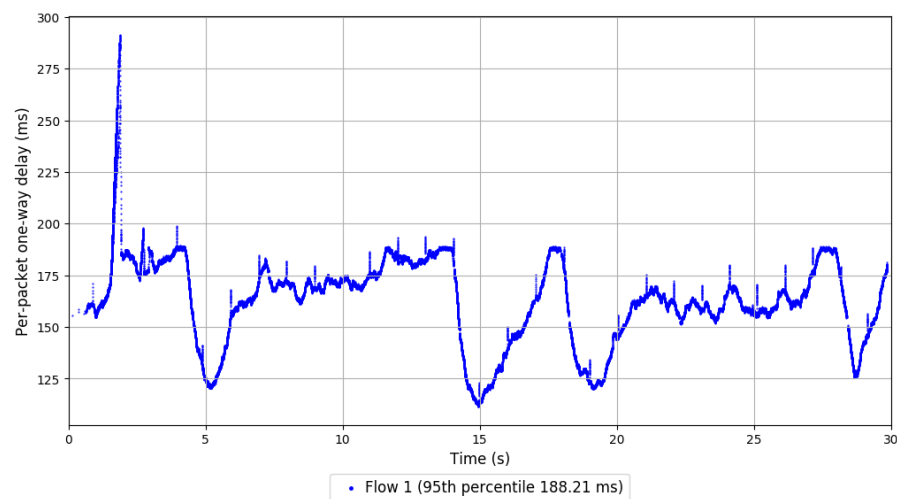
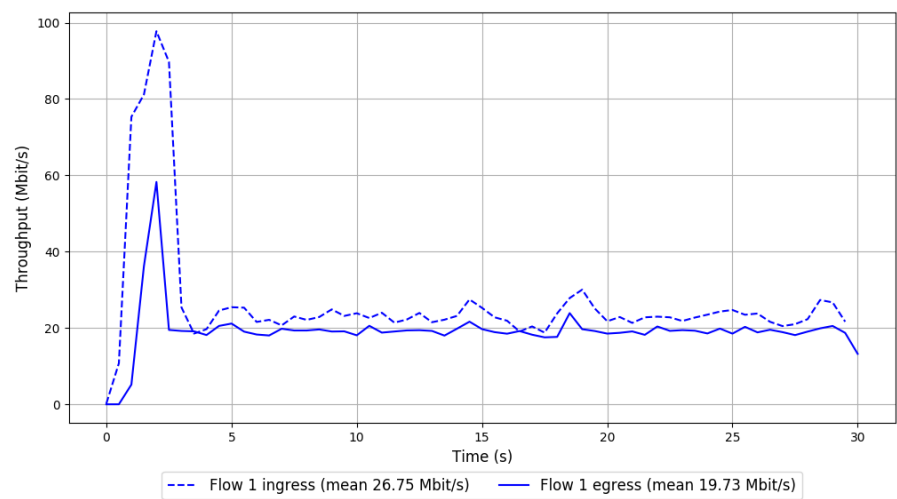


Run 2: Statistics of FillP

Start at: 2018-11-15 08:44:00
End at: 2018-11-15 08:44:30
Local clock offset: 9.077 ms
Remote clock offset: -9.433 ms

Below is generated by plot.py at 2018-11-15 09:56:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 19.73 Mbit/s
95th percentile per-packet one-way delay: 188.209 ms
Loss rate: 26.80%
-- Flow 1:
Average throughput: 19.73 Mbit/s
95th percentile per-packet one-way delay: 188.209 ms
Loss rate: 26.80%

Run 2: Report of FillP — Data Link

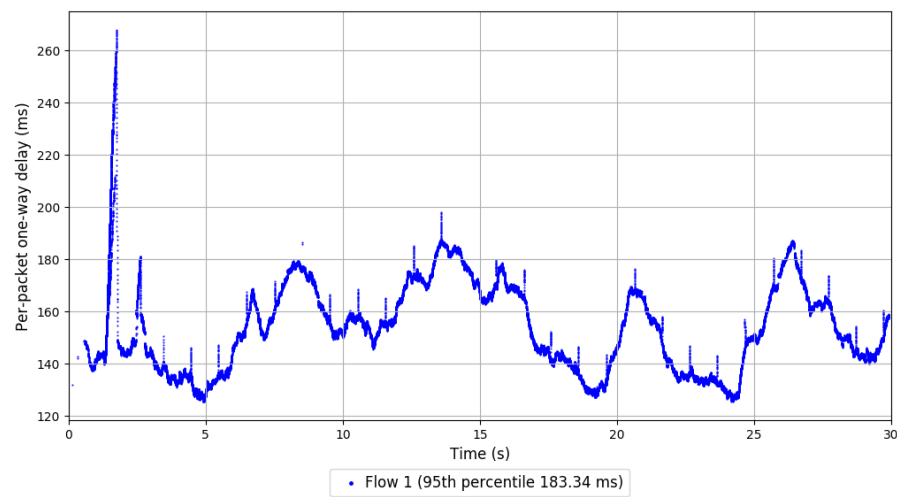
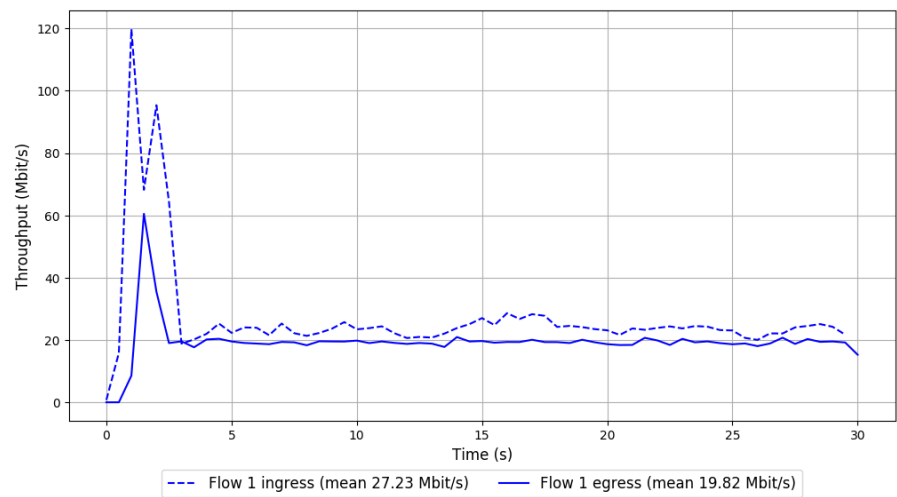


Run 3: Statistics of FillP

Start at: 2018-11-15 09:06:38
End at: 2018-11-15 09:07:08
Local clock offset: 1.325 ms
Remote clock offset: 32.347 ms

Below is generated by plot.py at 2018-11-15 09:56:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 19.82 Mbit/s
95th percentile per-packet one-way delay: 183.339 ms
Loss rate: 27.72%
-- Flow 1:
Average throughput: 19.82 Mbit/s
95th percentile per-packet one-way delay: 183.339 ms
Loss rate: 27.72%

Run 3: Report of FillP — Data Link

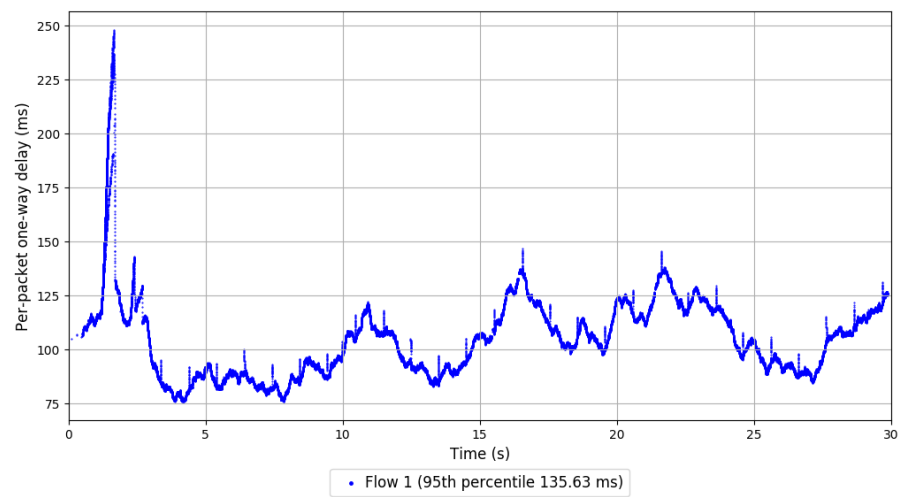
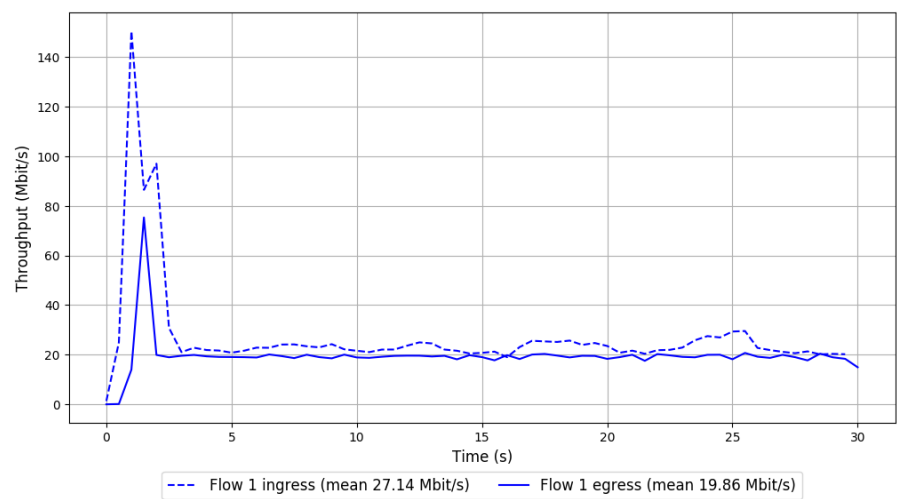


Run 4: Statistics of FillP

Start at: 2018-11-15 09:28:48
End at: 2018-11-15 09:29:18
Local clock offset: -3.312 ms
Remote clock offset: 37.344 ms

Below is generated by plot.py at 2018-11-15 09:56:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 19.86 Mbit/s
95th percentile per-packet one-way delay: 135.632 ms
Loss rate: 27.27%
-- Flow 1:
Average throughput: 19.86 Mbit/s
95th percentile per-packet one-way delay: 135.632 ms
Loss rate: 27.27%

Run 4: Report of FillP — Data Link

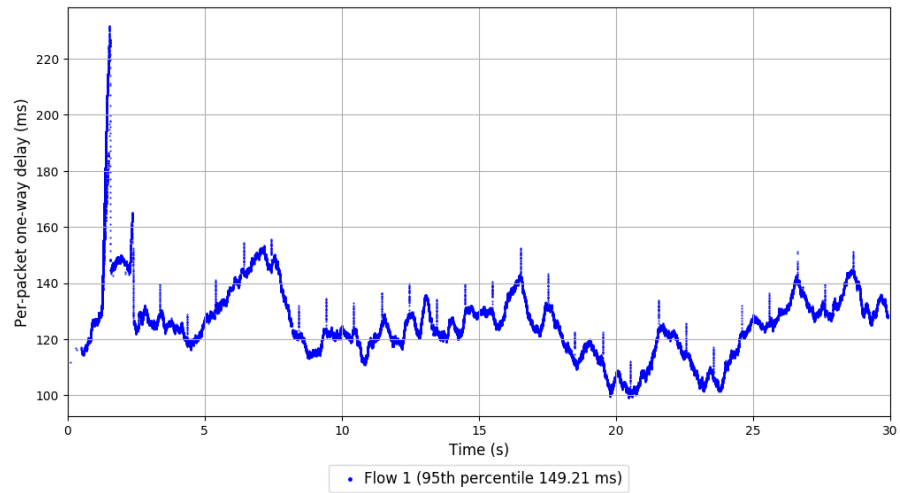
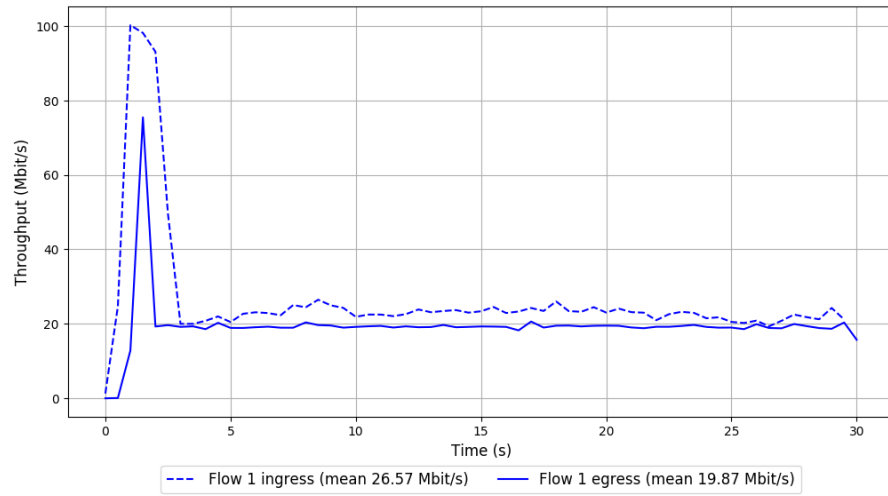


Run 5: Statistics of FillP

Start at: 2018-11-15 09:50:49
End at: 2018-11-15 09:51:19
Local clock offset: -2.64 ms
Remote clock offset: 22.265 ms

Below is generated by plot.py at 2018-11-15 09:56:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 19.87 Mbit/s
95th percentile per-packet one-way delay: 149.211 ms
Loss rate: 25.68%
-- Flow 1:
Average throughput: 19.87 Mbit/s
95th percentile per-packet one-way delay: 149.211 ms
Loss rate: 25.68%

Run 5: Report of FillP — Data Link

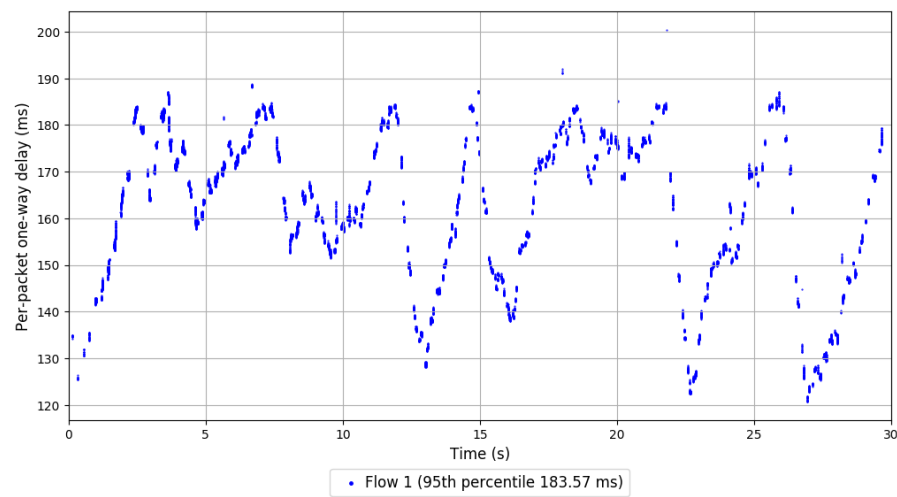
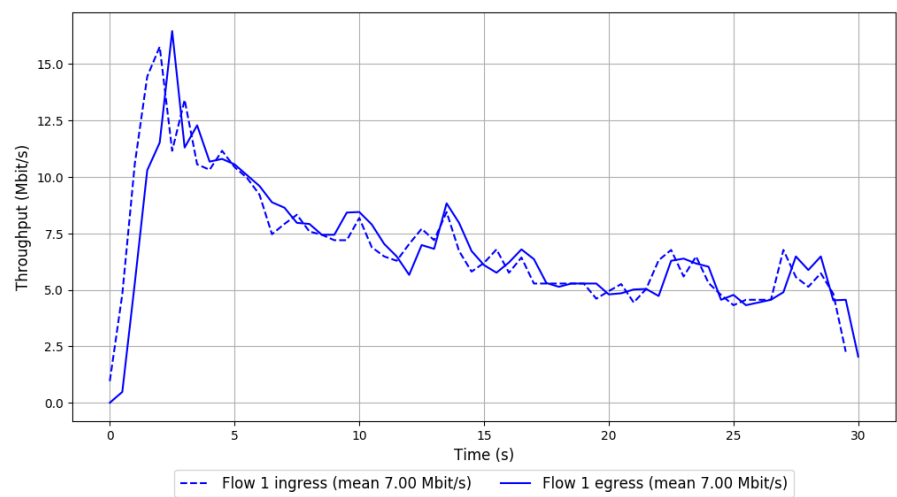


```
Run 1: Statistics of Indigo

Start at: 2018-11-15 07:58:21
End at: 2018-11-15 07:58:51
Local clock offset: 8.747 ms
Remote clock offset: 43.471 ms

# Below is generated by plot.py at 2018-11-15 09:56:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.00 Mbit/s
95th percentile per-packet one-way delay: 183.574 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 7.00 Mbit/s
95th percentile per-packet one-way delay: 183.574 ms
Loss rate: 0.67%
```

Run 1: Report of Indigo — Data Link

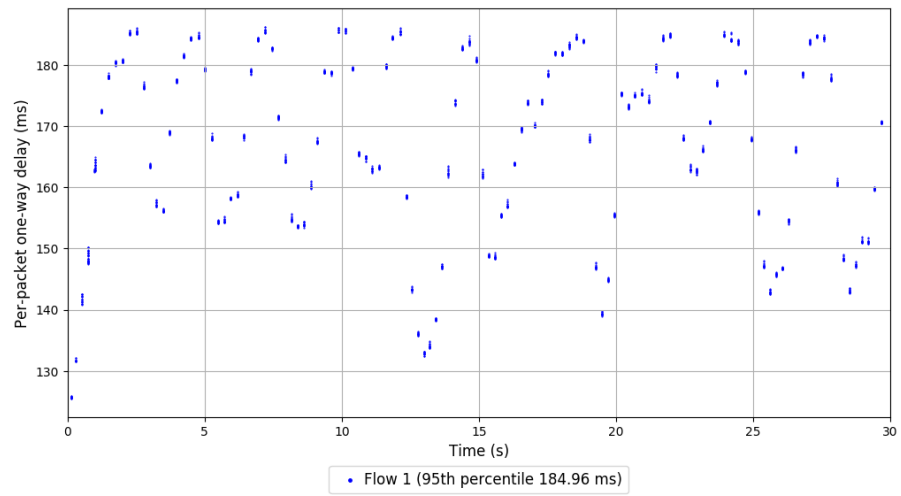
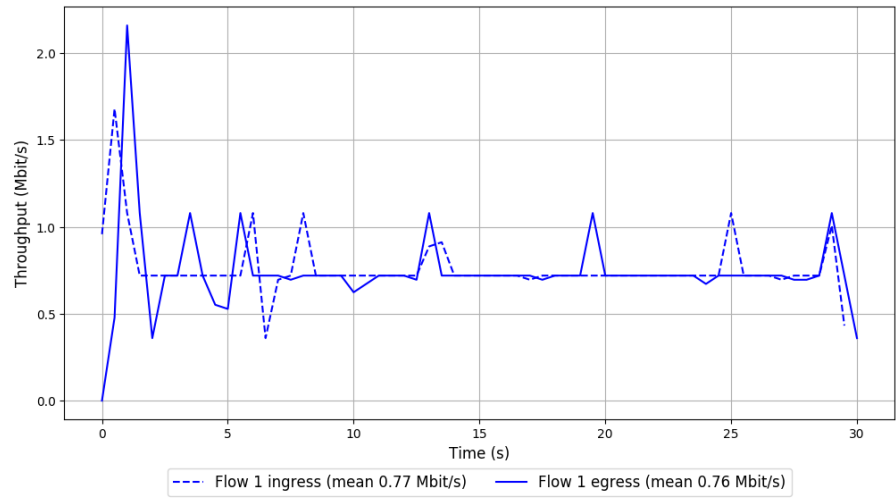


Run 2: Statistics of Indigo

Start at: 2018-11-15 08:29:11
End at: 2018-11-15 08:29:41
Local clock offset: 7.806 ms
Remote clock offset: 10.746 ms

Below is generated by plot.py at 2018-11-15 09:56:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 184.963 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 184.963 ms
Loss rate: 1.31%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

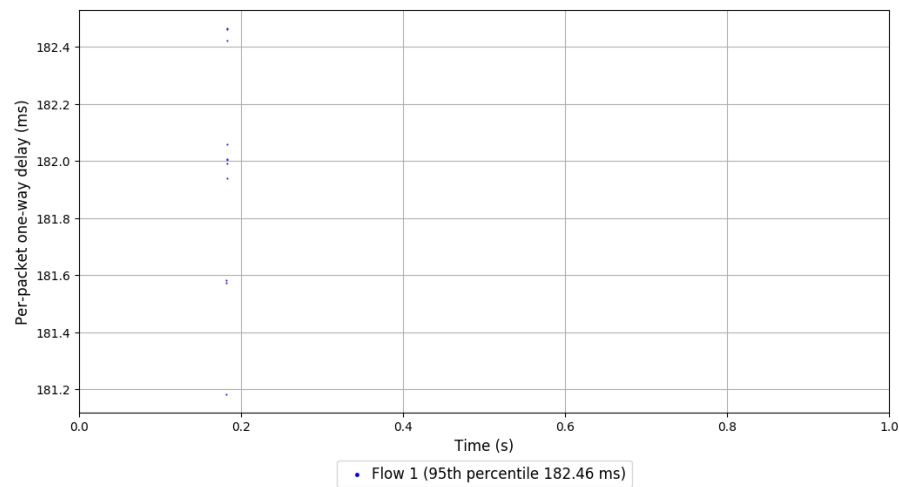
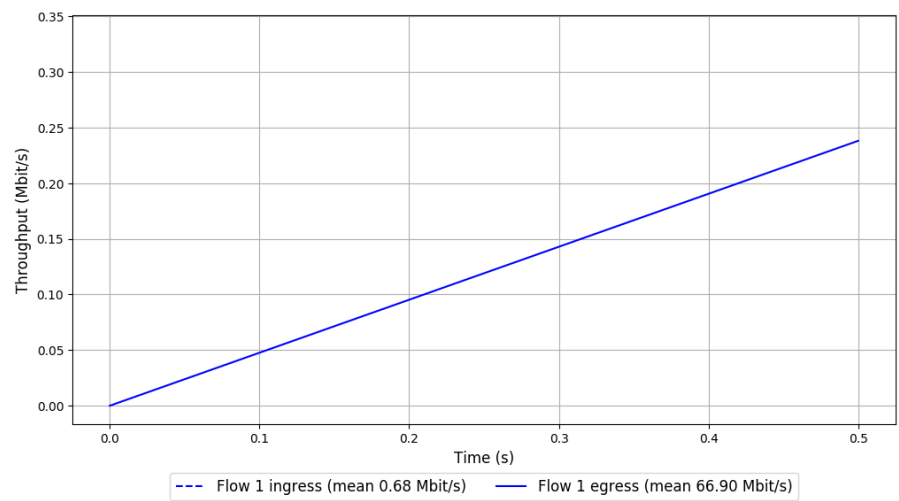
Start at: 2018-11-15 08:51:50

End at: 2018-11-15 08:52:20

Local clock offset: 9.493 ms

Remote clock offset: -9.427 ms

Run 3: Report of Indigo — Data Link

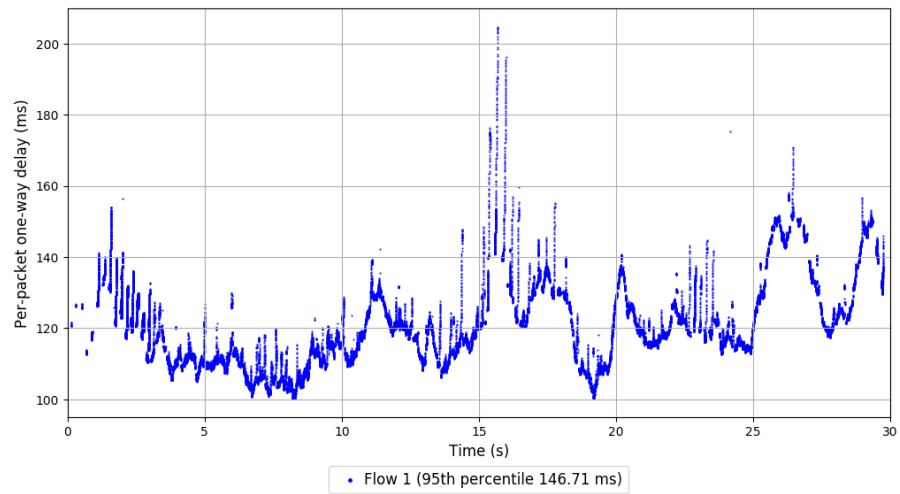
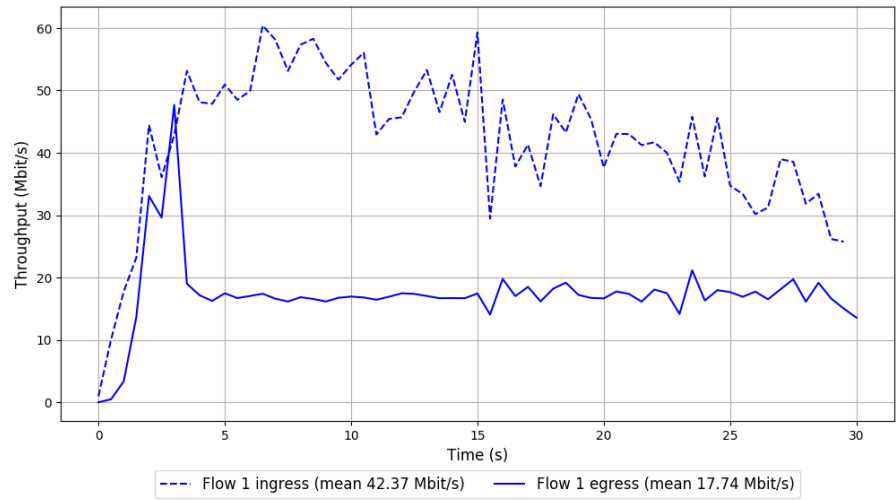


Run 4: Statistics of Indigo

Start at: 2018-11-15 09:14:16
End at: 2018-11-15 09:14:46
Local clock offset: -1.664 ms
Remote clock offset: 42.157 ms

Below is generated by plot.py at 2018-11-15 09:56:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 17.74 Mbit/s
95th percentile per-packet one-way delay: 146.709 ms
Loss rate: 58.40%
-- Flow 1:
Average throughput: 17.74 Mbit/s
95th percentile per-packet one-way delay: 146.709 ms
Loss rate: 58.40%

Run 4: Report of Indigo — Data Link

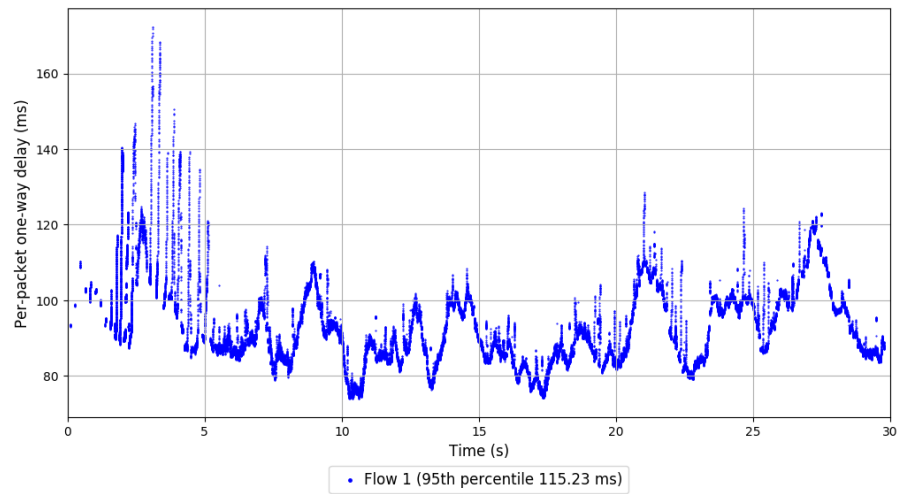
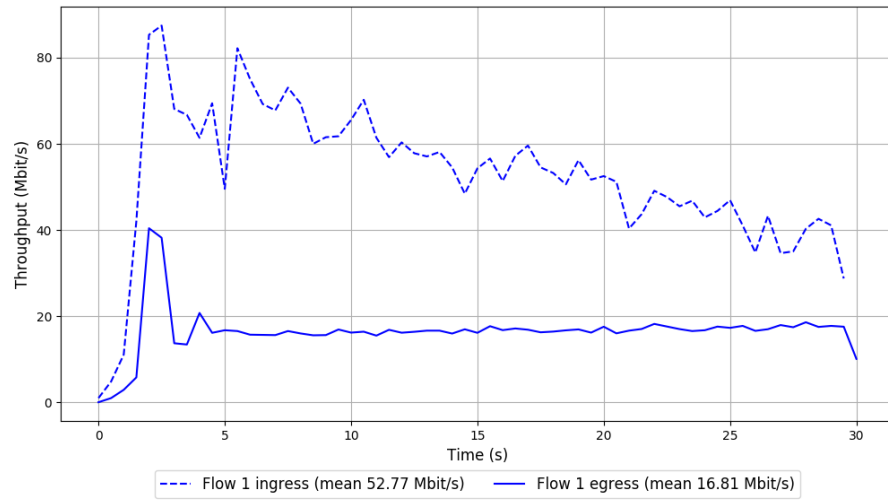


Run 5: Statistics of Indigo

Start at: 2018-11-15 09:36:17
End at: 2018-11-15 09:36:47
Local clock offset: -2.581 ms
Remote clock offset: 31.294 ms

Below is generated by plot.py at 2018-11-15 09:56:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 16.81 Mbit/s
95th percentile per-packet one-way delay: 115.235 ms
Loss rate: 68.33%
-- Flow 1:
Average throughput: 16.81 Mbit/s
95th percentile per-packet one-way delay: 115.235 ms
Loss rate: 68.33%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-11-15 08:06:24

End at: 2018-11-15 08:06:54

Local clock offset: 7.536 ms

Remote clock offset: 45.514 ms

Below is generated by plot.py at 2018-11-15 09:56:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 16.39 Mbit/s

95th percentile per-packet one-way delay: 306.427 ms

Loss rate: 67.45%

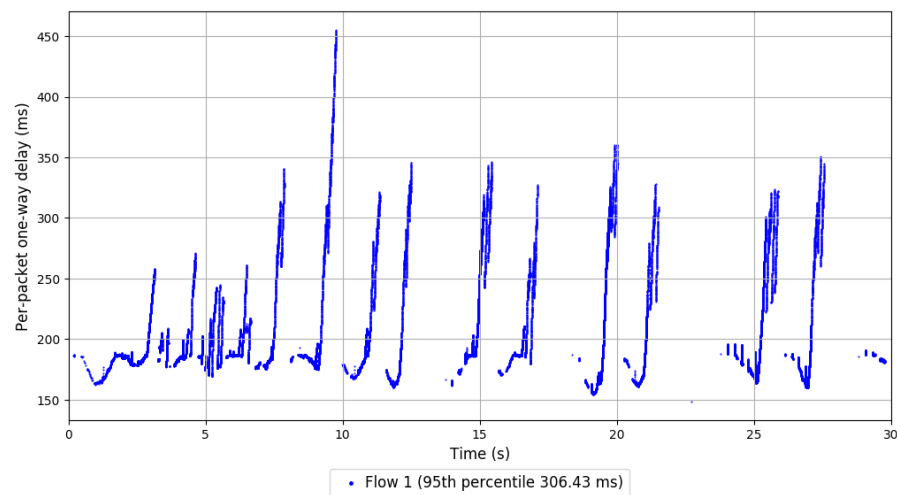
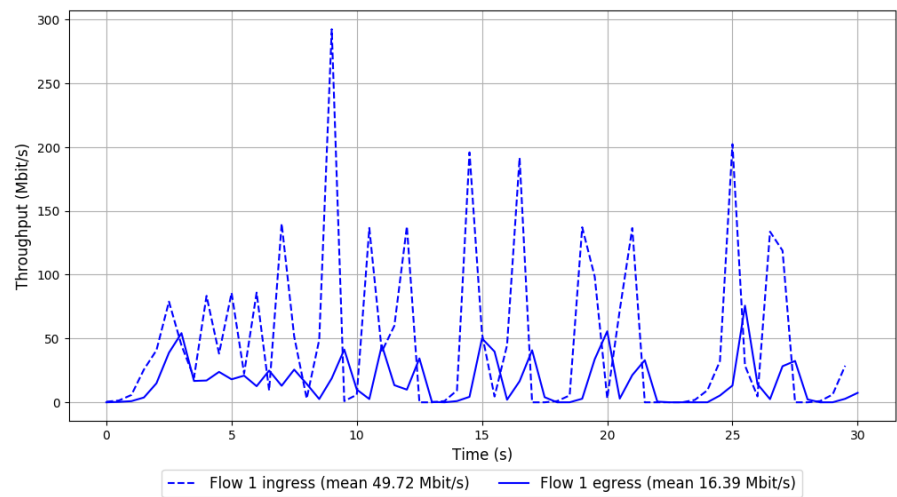
-- Flow 1:

Average throughput: 16.39 Mbit/s

95th percentile per-packet one-way delay: 306.427 ms

Loss rate: 67.45%

Run 1: Report of Indigo-96d2da3 — Data Link



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-11-15 08:36:33

End at: 2018-11-15 08:37:03

Local clock offset: 8.581 ms

Remote clock offset: -4.02 ms

Below is generated by plot.py at 2018-11-15 09:56:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 18.16 Mbit/s

95th percentile per-packet one-way delay: 239.677 ms

Loss rate: 54.36%

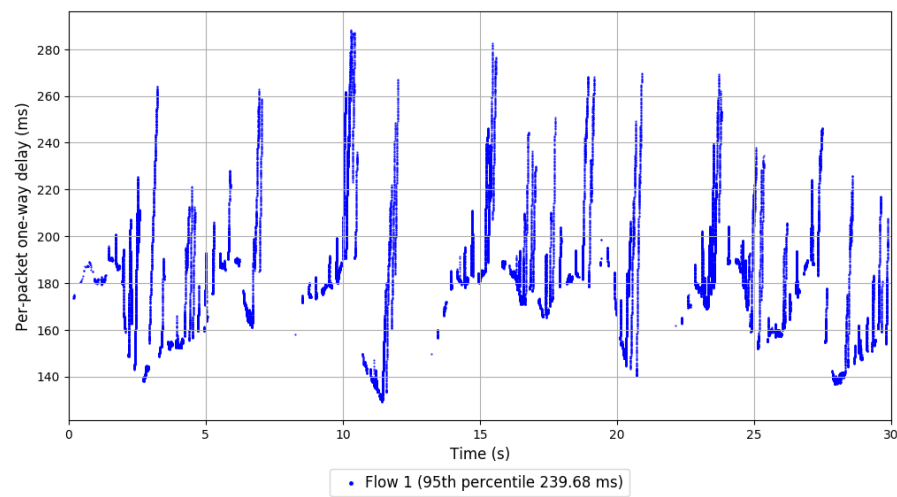
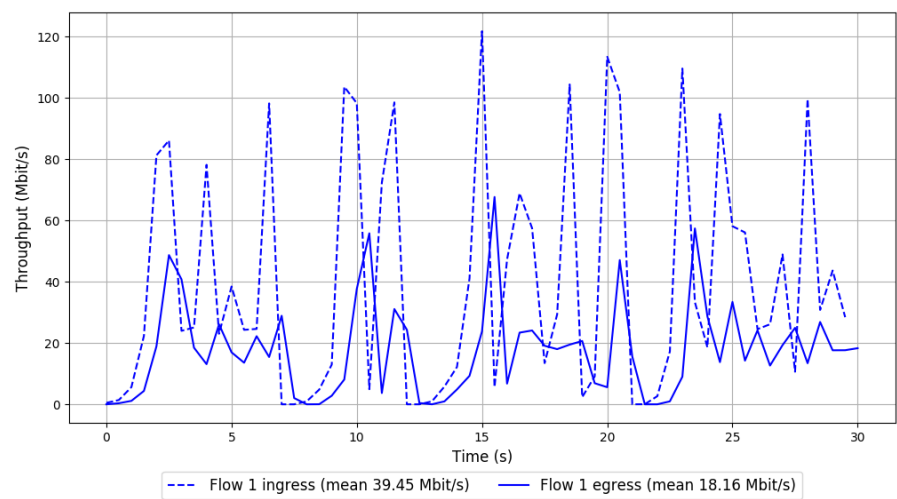
-- Flow 1:

Average throughput: 18.16 Mbit/s

95th percentile per-packet one-way delay: 239.677 ms

Loss rate: 54.36%

Run 2: Report of Indigo-96d2da3 — Data Link

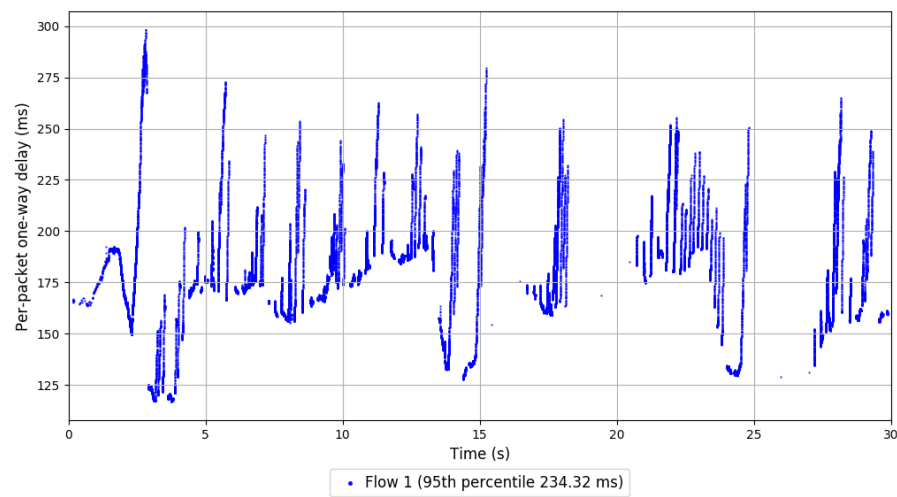
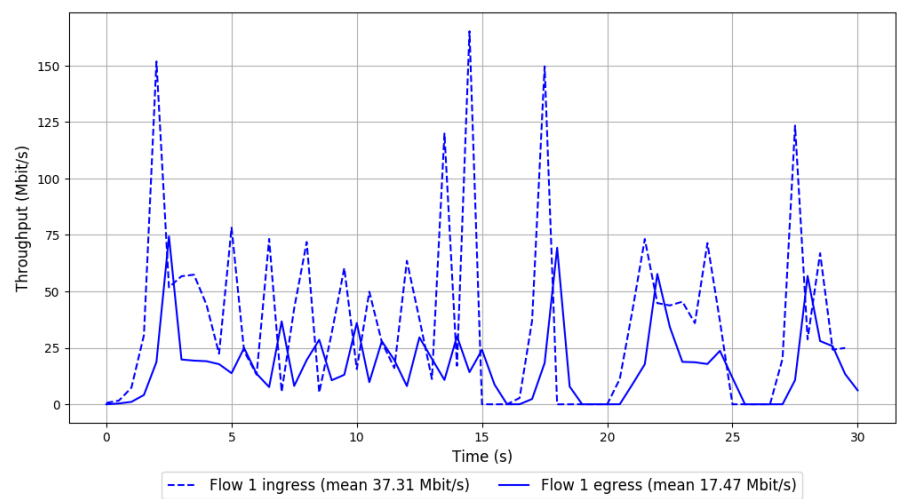


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-11-15 08:59:16
End at: 2018-11-15 08:59:46
Local clock offset: 6.865 ms
Remote clock offset: 17.444 ms

Below is generated by plot.py at 2018-11-15 09:56:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 17.47 Mbit/s
95th percentile per-packet one-way delay: 234.322 ms
Loss rate: 53.55%
-- Flow 1:
Average throughput: 17.47 Mbit/s
95th percentile per-packet one-way delay: 234.322 ms
Loss rate: 53.55%

Run 3: Report of Indigo-96d2da3 — Data Link

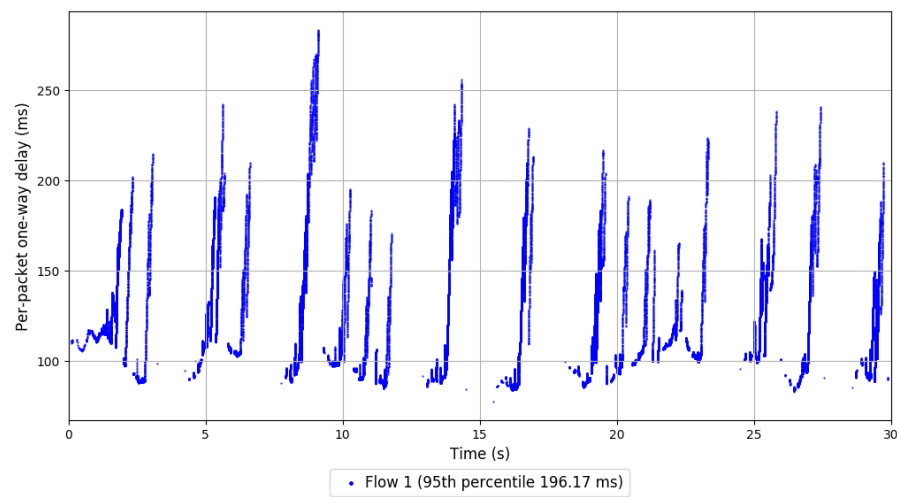
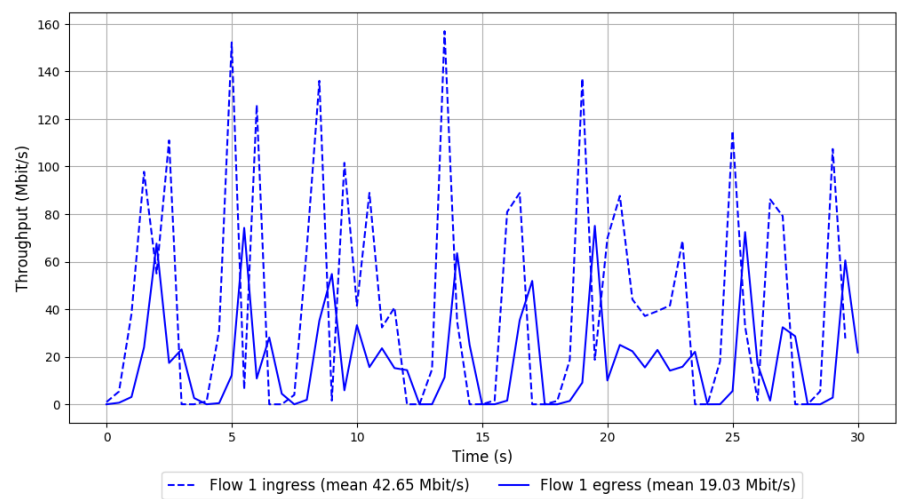


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-11-15 09:21:35
End at: 2018-11-15 09:22:05
Local clock offset: -3.017 ms
Remote clock offset: 45.438 ms

Below is generated by plot.py at 2018-11-15 09:56:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 19.03 Mbit/s
95th percentile per-packet one-way delay: 196.168 ms
Loss rate: 55.62%
-- Flow 1:
Average throughput: 19.03 Mbit/s
95th percentile per-packet one-way delay: 196.168 ms
Loss rate: 55.62%

Run 4: Report of Indigo-96d2da3 — Data Link

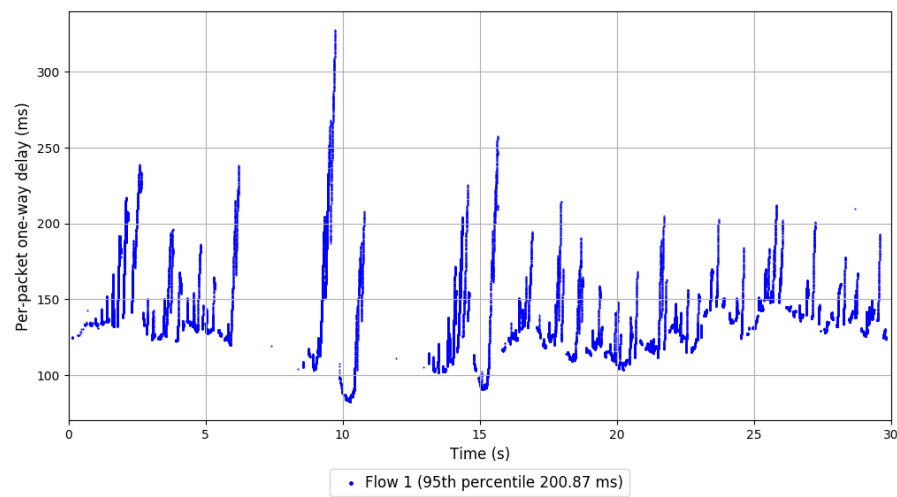
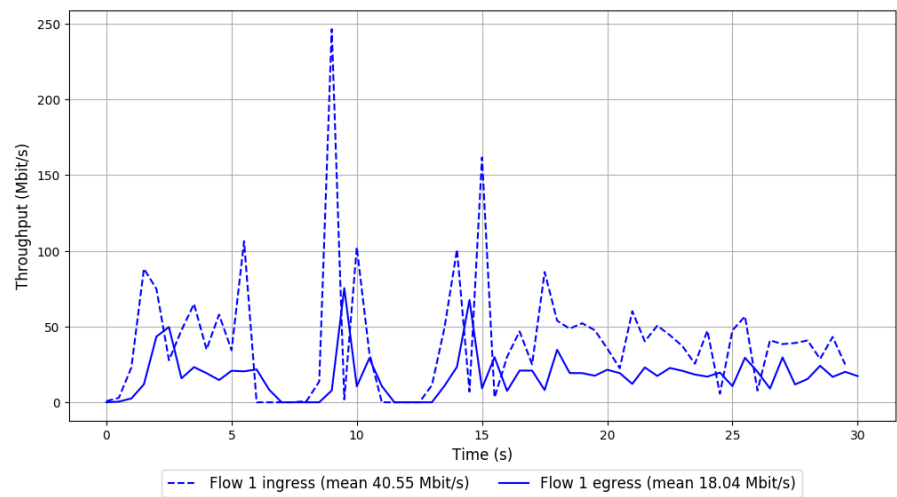


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-11-15 09:43:36
End at: 2018-11-15 09:44:06
Local clock offset: -2.349 ms
Remote clock offset: 24.598 ms

Below is generated by plot.py at 2018-11-15 09:56:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 18.04 Mbit/s
95th percentile per-packet one-way delay: 200.870 ms
Loss rate: 55.78%
-- Flow 1:
Average throughput: 18.04 Mbit/s
95th percentile per-packet one-way delay: 200.870 ms
Loss rate: 55.78%

Run 5: Report of Indigo-96d2da3 — Data Link

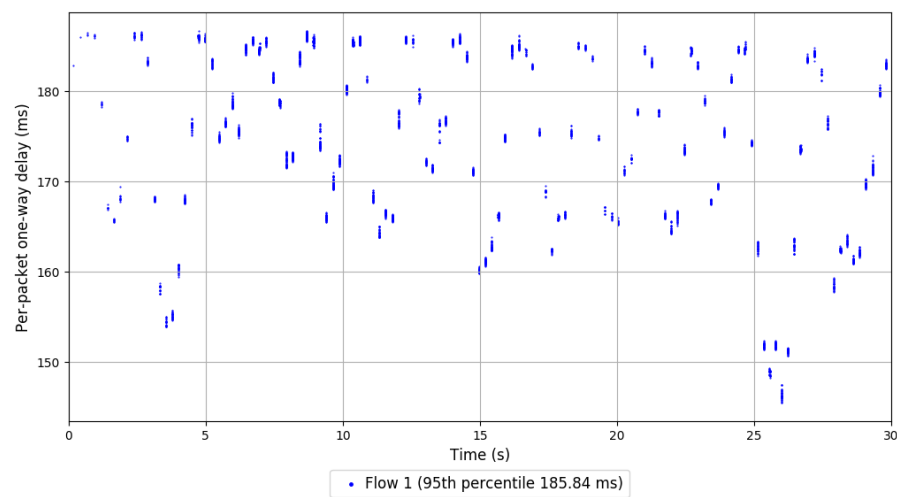
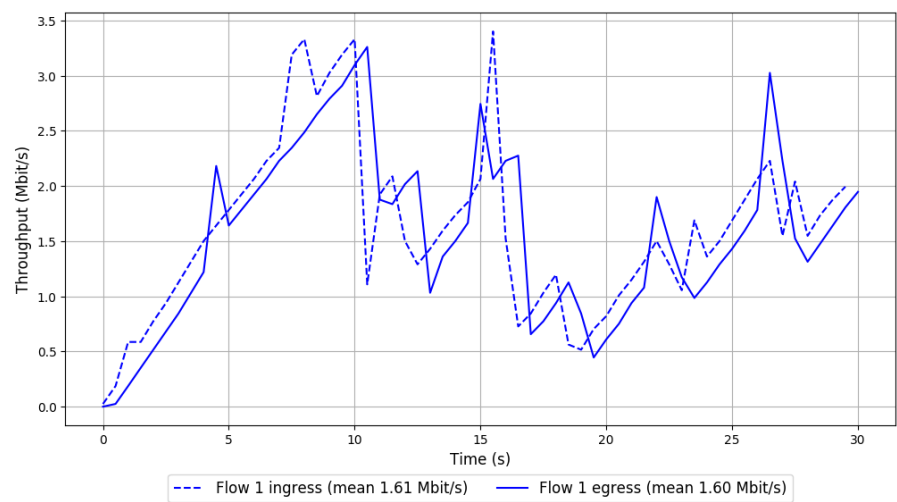


```
Run 1: Statistics of LEDBAT

Start at: 2018-11-15 08:16:53
End at: 2018-11-15 08:17:23
Local clock offset: 7.287 ms
Remote clock offset: 45.327 ms

# Below is generated by plot.py at 2018-11-15 09:56:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.60 Mbit/s
95th percentile per-packet one-way delay: 185.841 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 1.60 Mbit/s
95th percentile per-packet one-way delay: 185.841 ms
Loss rate: 1.49%
```

Run 1: Report of LEDBAT — Data Link

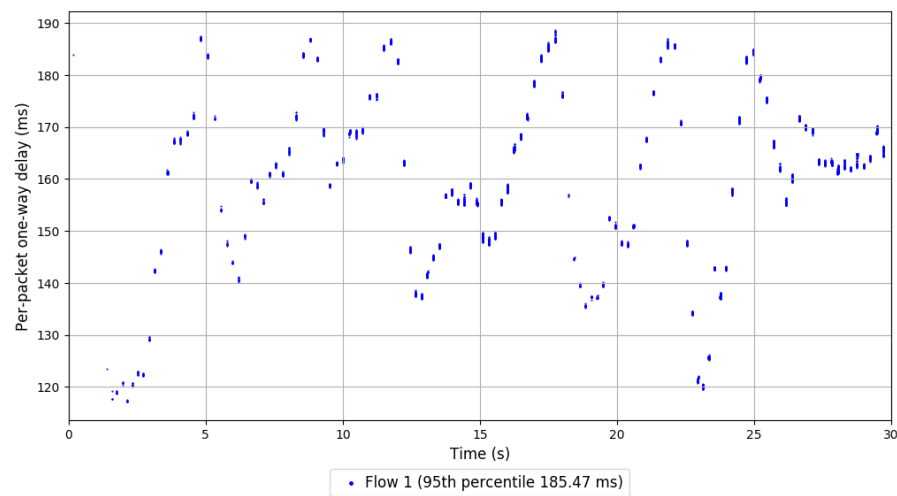
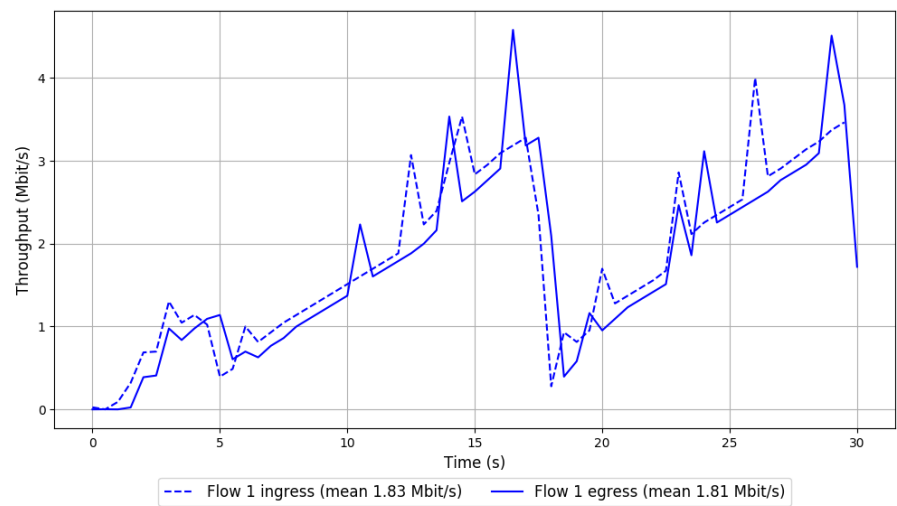


Run 2: Statistics of LEDBAT

Start at: 2018-11-15 08:45:29
End at: 2018-11-15 08:45:59
Local clock offset: 8.901 ms
Remote clock offset: -9.164 ms

Below is generated by plot.py at 2018-11-15 09:56:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 185.473 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 185.473 ms
Loss rate: 1.79%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-11-15 09:08:02

End at: 2018-11-15 09:08:32

Local clock offset: 0.589 ms

Remote clock offset: 32.44 ms

Below is generated by plot.py at 2018-11-15 09:56:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 5.21 Mbit/s

95th percentile per-packet one-way delay: 168.489 ms

Loss rate: 1.46%

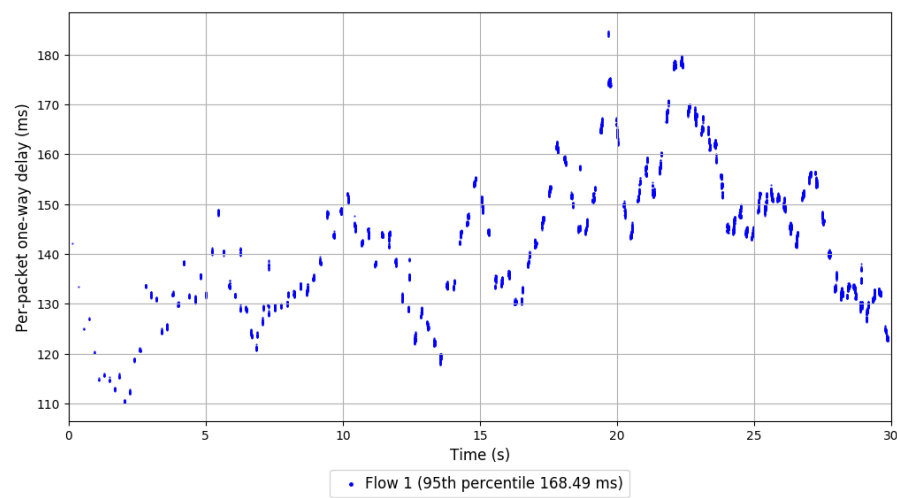
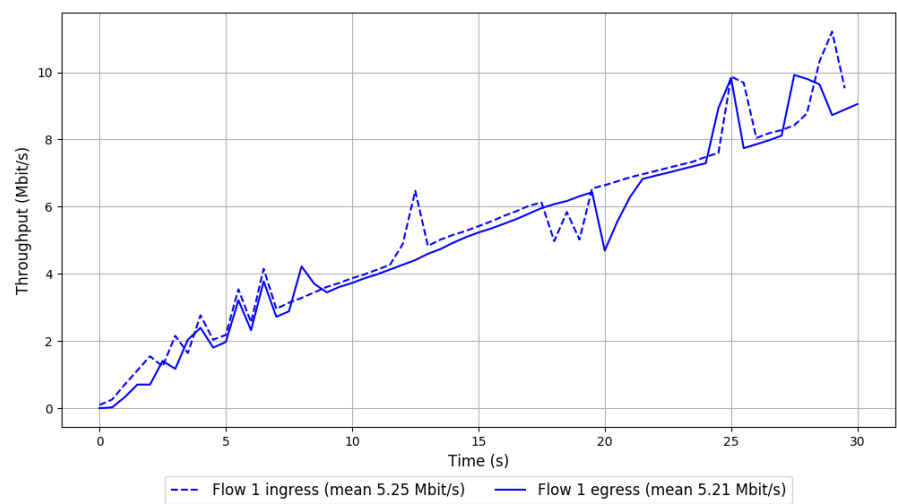
-- Flow 1:

Average throughput: 5.21 Mbit/s

95th percentile per-packet one-way delay: 168.489 ms

Loss rate: 1.46%

Run 3: Report of LEDBAT — Data Link

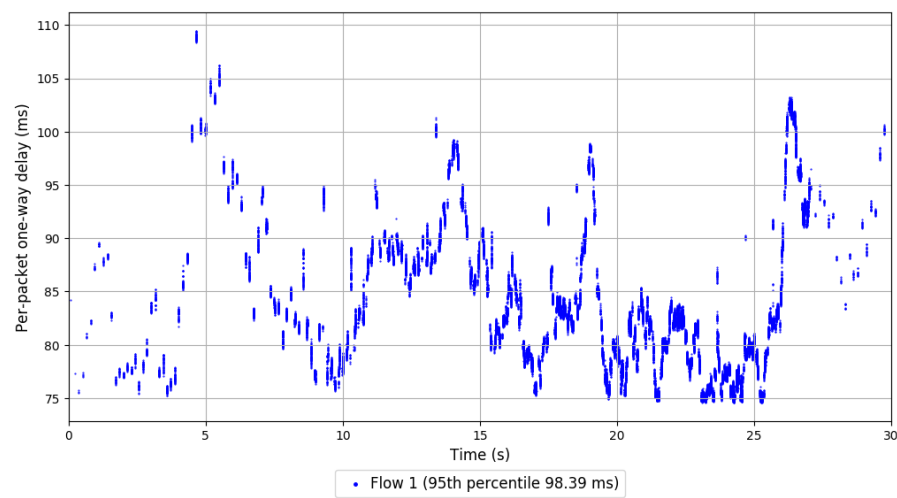
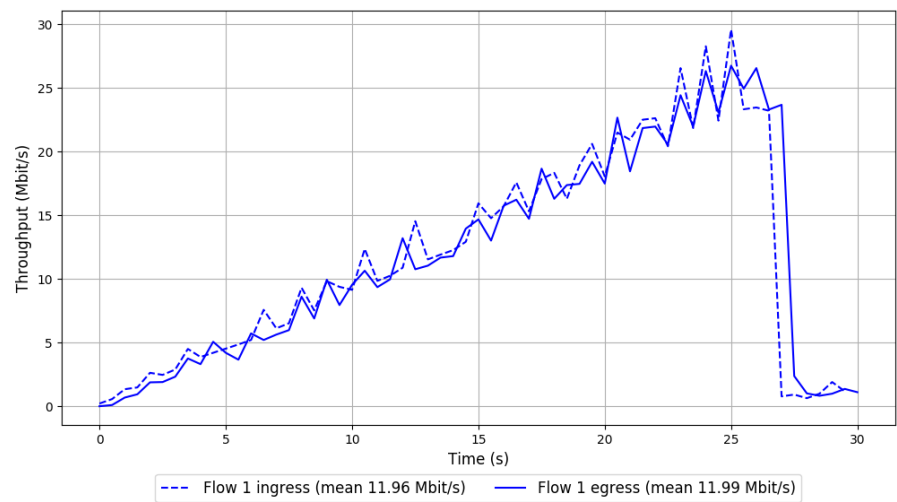


Run 4: Statistics of LEDBAT

Start at: 2018-11-15 09:30:04
End at: 2018-11-15 09:30:34
Local clock offset: -3.209 ms
Remote clock offset: 36.519 ms

Below is generated by plot.py at 2018-11-15 09:56:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 11.99 Mbit/s
95th percentile per-packet one-way delay: 98.394 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 11.99 Mbit/s
95th percentile per-packet one-way delay: 98.394 ms
Loss rate: 0.33%

Run 4: Report of LEDBAT — Data Link

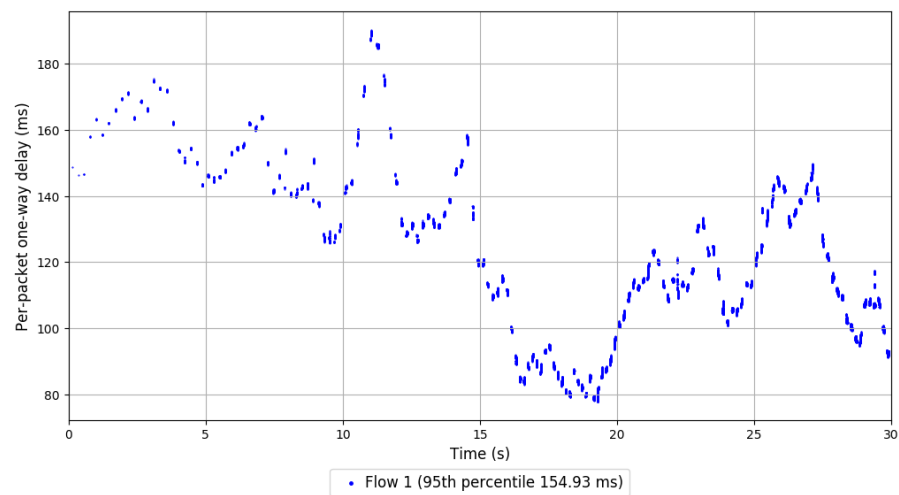
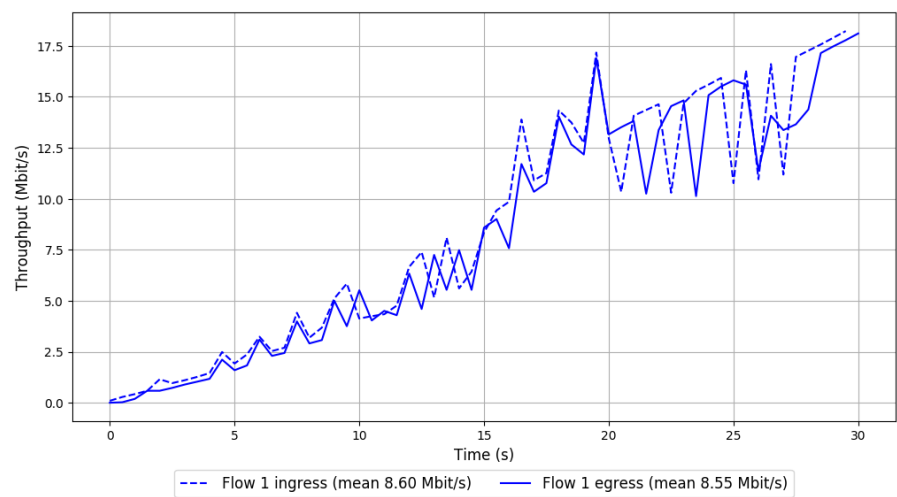


Run 5: Statistics of LEDBAT

Start at: 2018-11-15 09:52:13
End at: 2018-11-15 09:52:43
Local clock offset: -2.777 ms
Remote clock offset: 21.352 ms

Below is generated by plot.py at 2018-11-15 09:56:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 154.932 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 154.932 ms
Loss rate: 1.19%

Run 5: Report of LEDBAT — Data Link

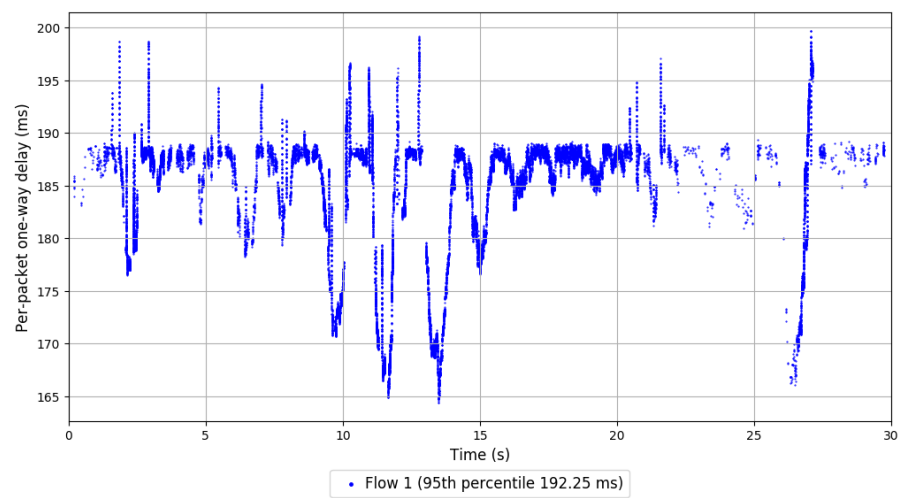
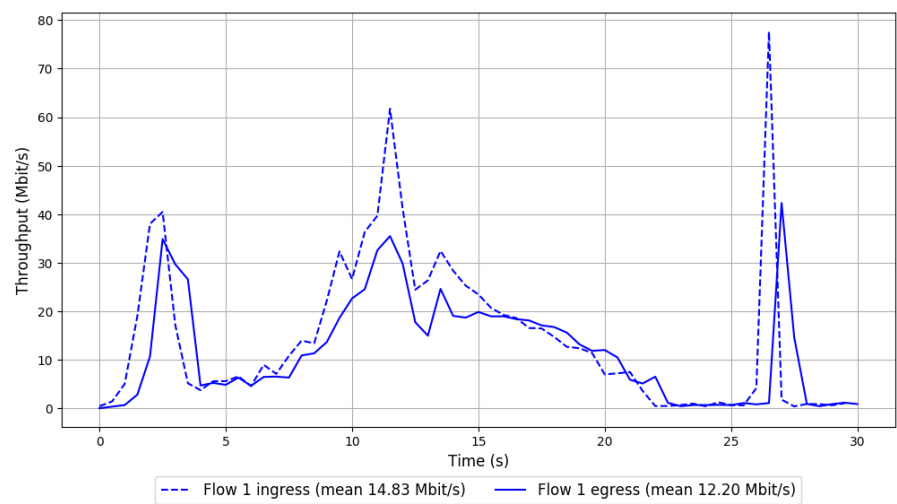


Run 1: Statistics of Indigo-Muses

Start at: 2018-11-15 08:09:27
End at: 2018-11-15 08:09:57
Local clock offset: 7.342 ms
Remote clock offset: 44.902 ms

Below is generated by plot.py at 2018-11-15 09:56:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.20 Mbit/s
95th percentile per-packet one-way delay: 192.255 ms
Loss rate: 18.69%
-- Flow 1:
Average throughput: 12.20 Mbit/s
95th percentile per-packet one-way delay: 192.255 ms
Loss rate: 18.69%

Run 1: Report of Indigo-Muses — Data Link

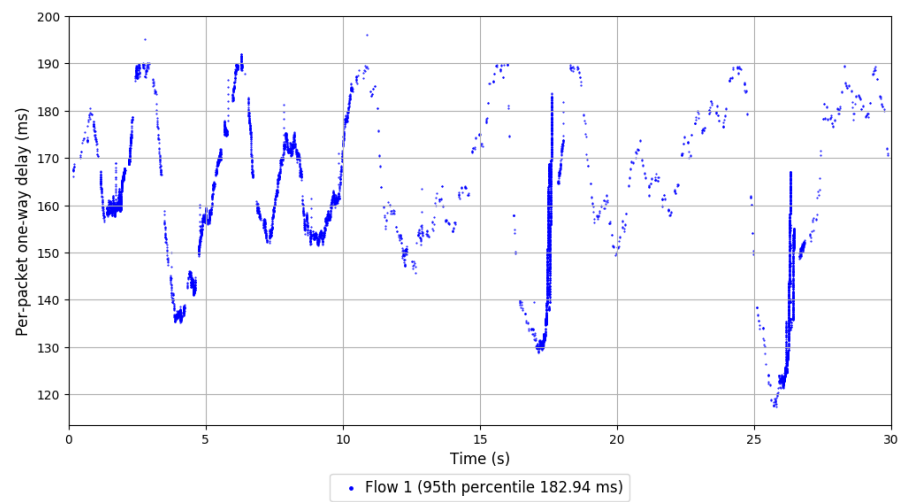
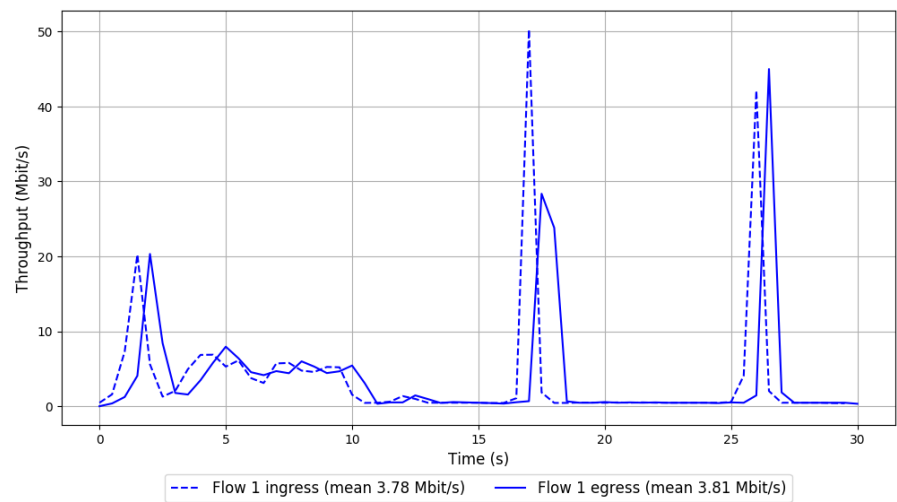


Run 2: Statistics of Indigo-Muses

Start at: 2018-11-15 08:39:11
End at: 2018-11-15 08:39:41
Local clock offset: 8.792 ms
Remote clock offset: -5.453 ms

Below is generated by plot.py at 2018-11-15 09:56:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.81 Mbit/s
95th percentile per-packet one-way delay: 182.938 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 3.81 Mbit/s
95th percentile per-packet one-way delay: 182.938 ms
Loss rate: 0.13%

Run 2: Report of Indigo-Muses — Data Link

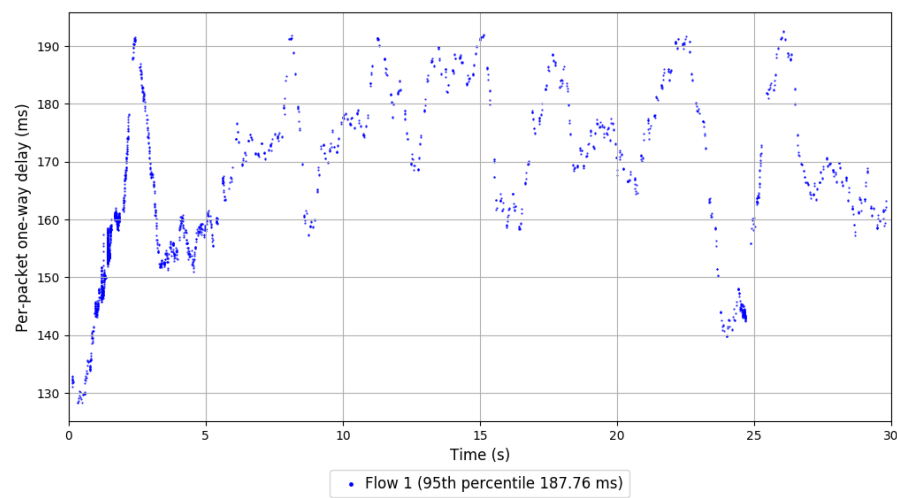
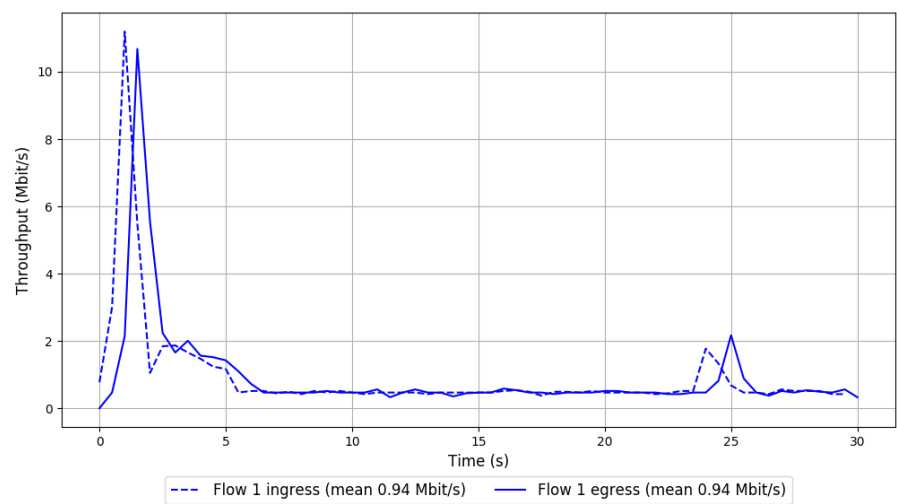


Run 3: Statistics of Indigo-Muses

Start at: 2018-11-15 09:01:47
End at: 2018-11-15 09:02:17
Local clock offset: 4.58 ms
Remote clock offset: 22.592 ms

Below is generated by plot.py at 2018-11-15 09:56:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 187.759 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 187.759 ms
Loss rate: 0.46%

Run 3: Report of Indigo-Muses — Data Link

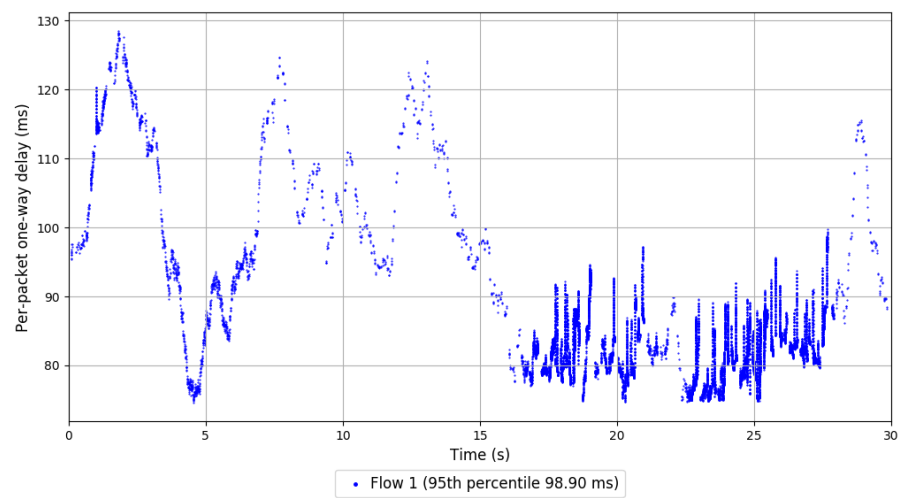
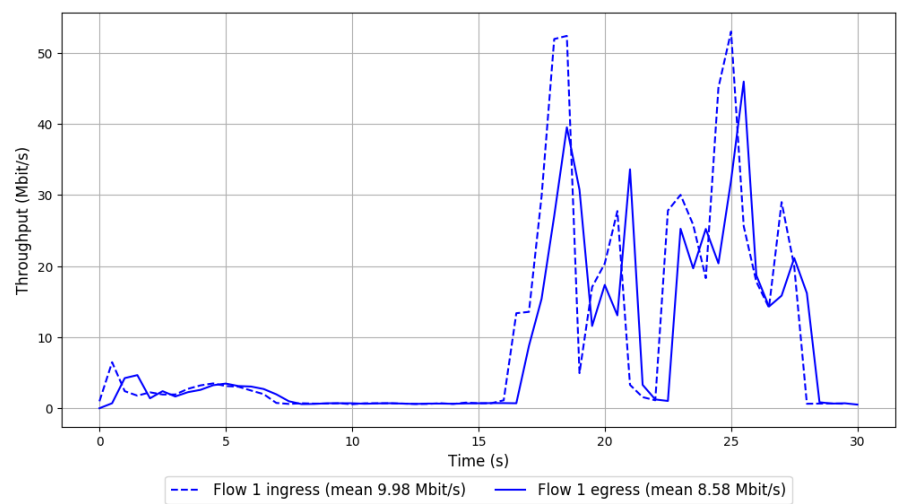


Run 4: Statistics of Indigo-Muses

Start at: 2018-11-15 09:24:01
End at: 2018-11-15 09:24:31
Local clock offset: -3.766 ms
Remote clock offset: 46.052 ms

Below is generated by plot.py at 2018-11-15 09:56:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.58 Mbit/s
95th percentile per-packet one-way delay: 98.896 ms
Loss rate: 14.53%
-- Flow 1:
Average throughput: 8.58 Mbit/s
95th percentile per-packet one-way delay: 98.896 ms
Loss rate: 14.53%

Run 4: Report of Indigo-Muses — Data Link

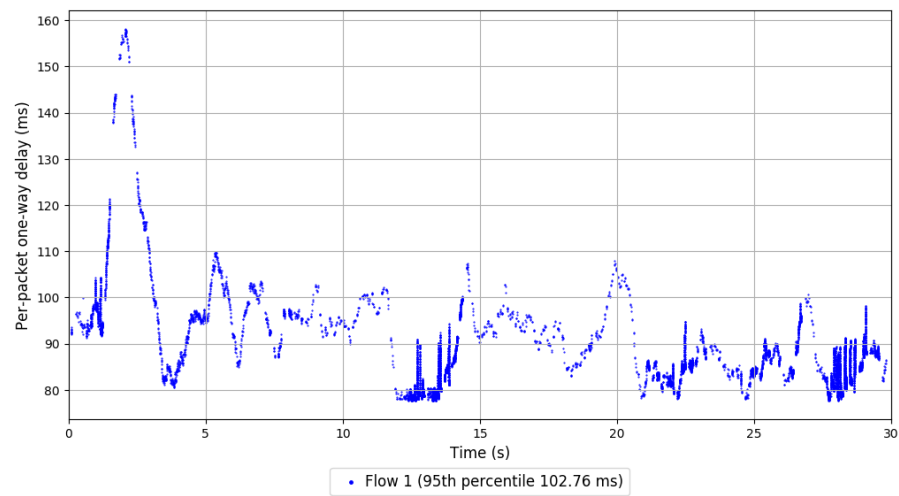
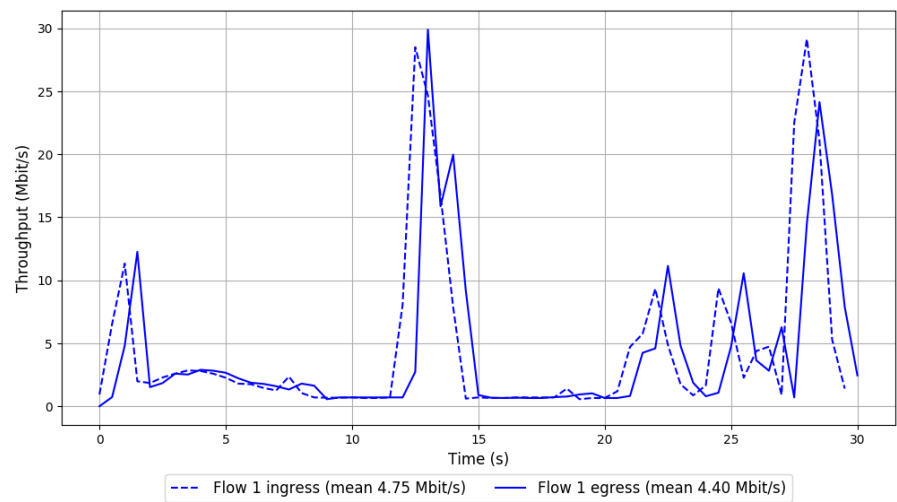


Run 5: Statistics of Indigo-Muses

Start at: 2018-11-15 09:46:04
End at: 2018-11-15 09:46:34
Local clock offset: -2.391 ms
Remote clock offset: 23.138 ms

Below is generated by plot.py at 2018-11-15 09:56:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.40 Mbit/s
95th percentile per-packet one-way delay: 102.758 ms
Loss rate: 7.99%
-- Flow 1:
Average throughput: 4.40 Mbit/s
95th percentile per-packet one-way delay: 102.758 ms
Loss rate: 7.99%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-11-15 08:00:58

End at: 2018-11-15 08:01:28

Local clock offset: 8.356 ms

Remote clock offset: 38.286 ms

Below is generated by plot.py at 2018-11-15 09:56:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.34 Mbit/s

95th percentile per-packet one-way delay: 191.038 ms

Loss rate: 1.35%

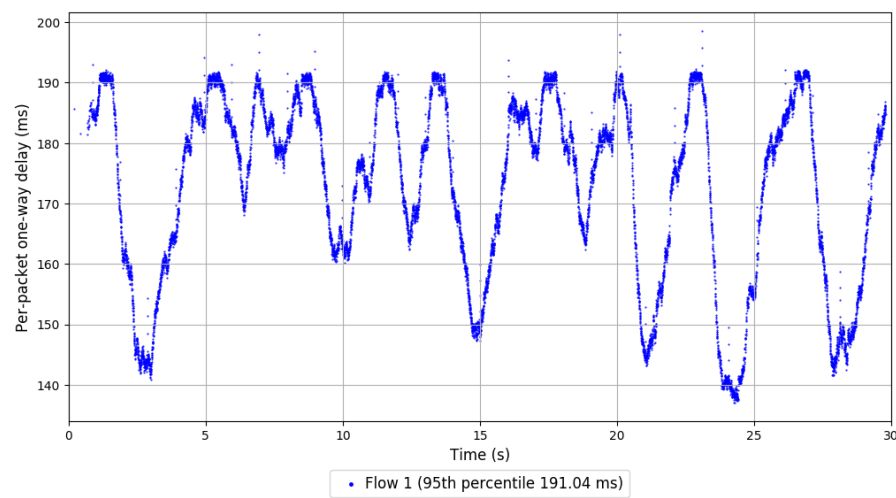
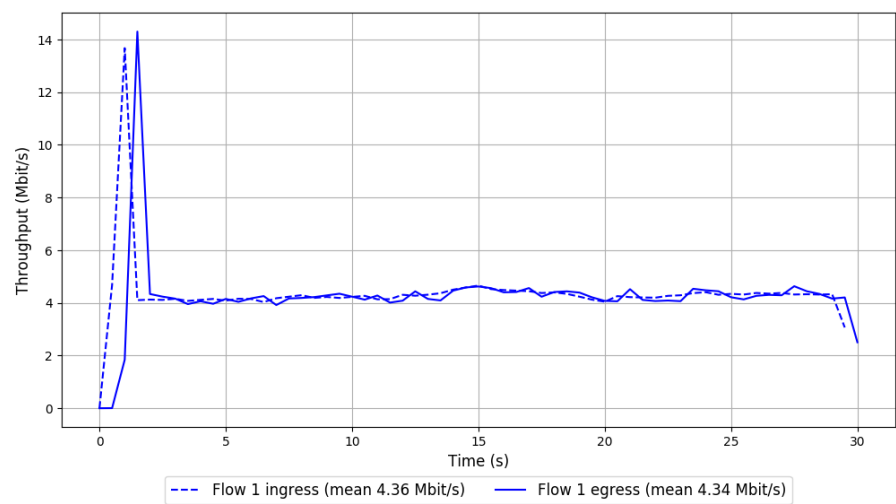
-- Flow 1:

Average throughput: 4.34 Mbit/s

95th percentile per-packet one-way delay: 191.038 ms

Loss rate: 1.35%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

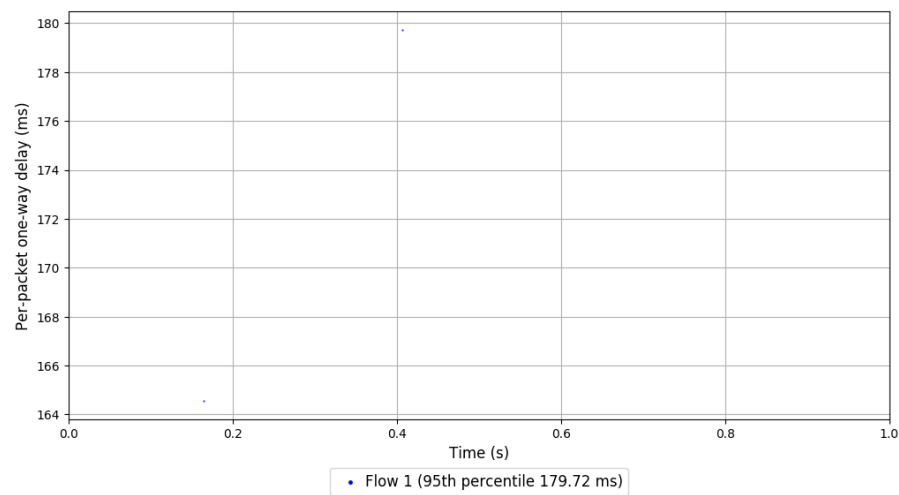
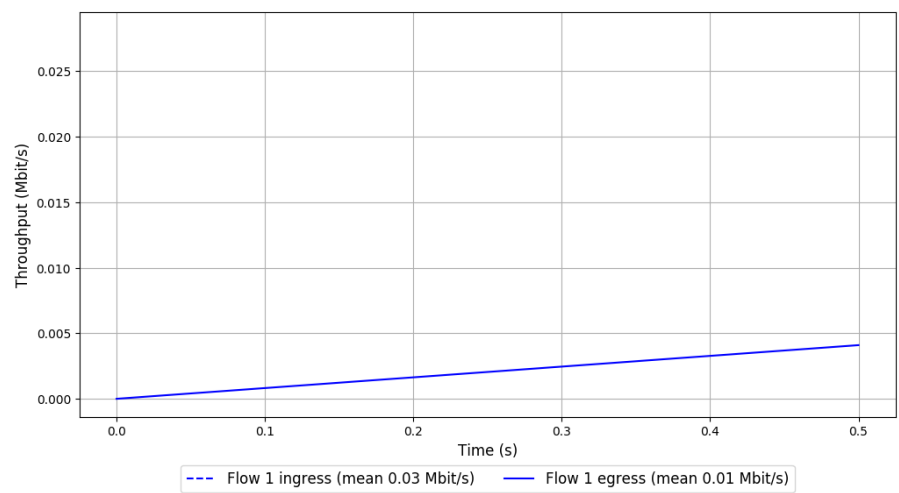
Start at: 2018-11-15 08:31:35

End at: 2018-11-15 08:32:05

Local clock offset: 7.961 ms

Remote clock offset: 2.629 ms

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-11-15 08:54:17

End at: 2018-11-15 08:54:47

Local clock offset: 9.47 ms

Remote clock offset: 2.707 ms

Below is generated by plot.py at 2018-11-15 09:56:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 8.09 Mbit/s

95th percentile per-packet one-way delay: 190.021 ms

Loss rate: 1.05%

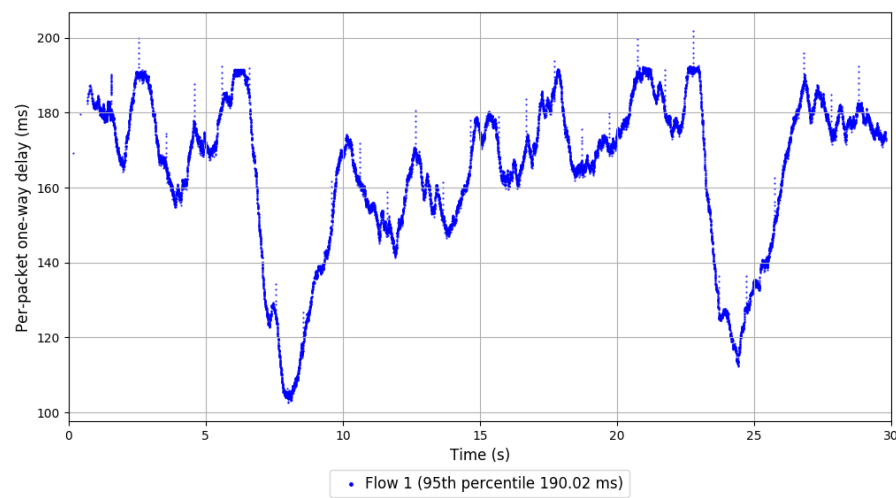
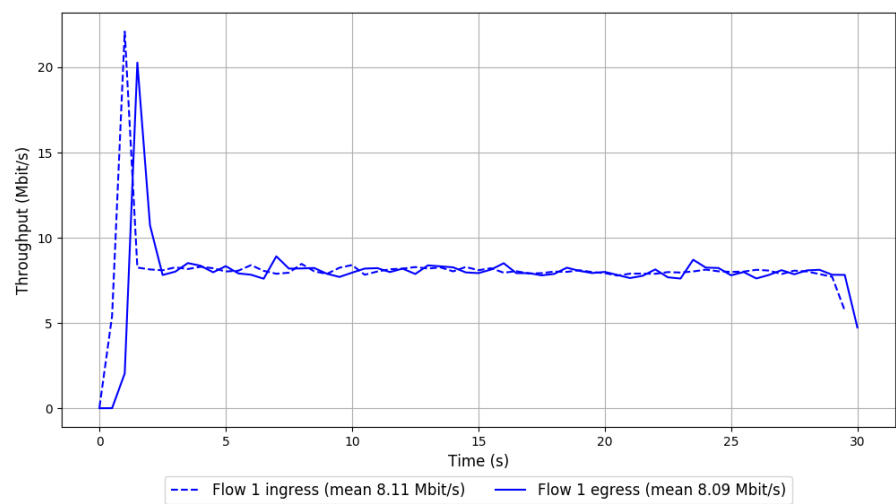
-- Flow 1:

Average throughput: 8.09 Mbit/s

95th percentile per-packet one-way delay: 190.021 ms

Loss rate: 1.05%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-11-15 09:16:48

End at: 2018-11-15 09:17:18

Local clock offset: -2.158 ms

Remote clock offset: 41.216 ms

Below is generated by plot.py at 2018-11-15 09:56:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 8.31 Mbit/s

95th percentile per-packet one-way delay: 130.194 ms

Loss rate: 0.63%

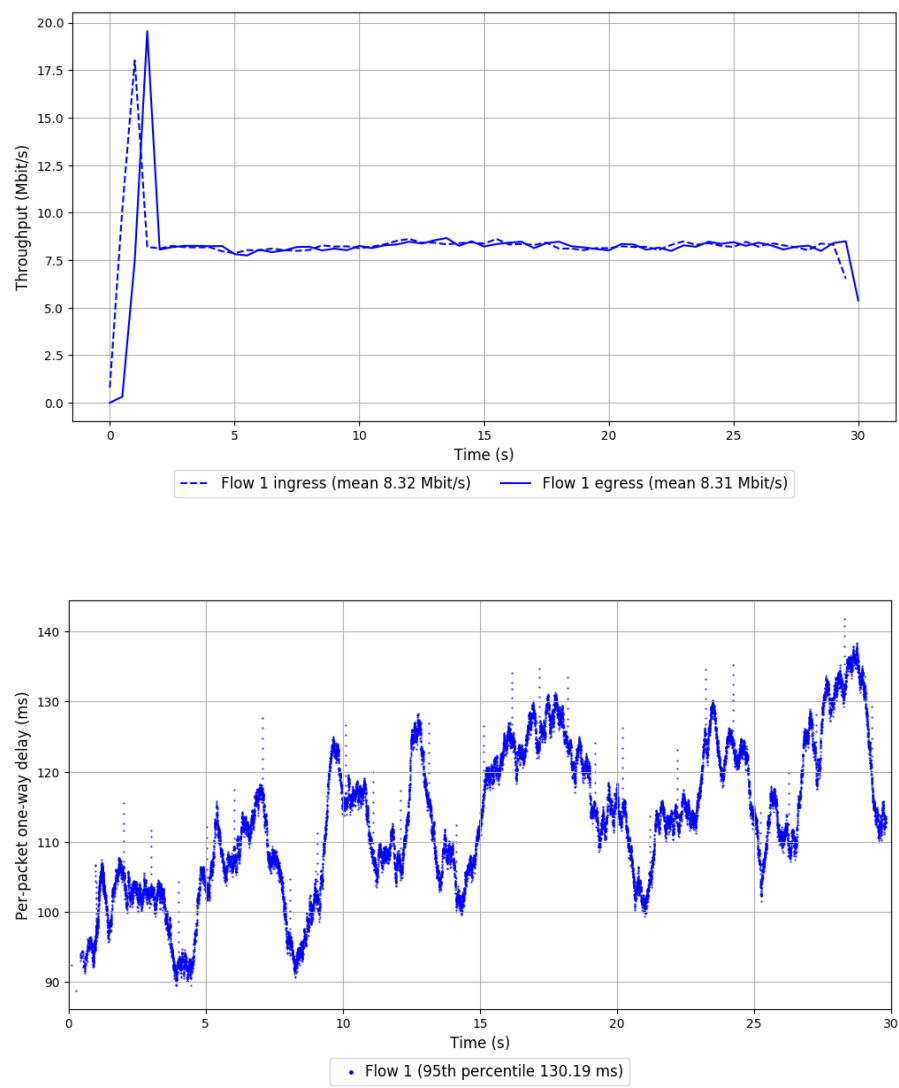
-- Flow 1:

Average throughput: 8.31 Mbit/s

95th percentile per-packet one-way delay: 130.194 ms

Loss rate: 0.63%

Run 4: Report of PCC-Allegro — Data Link

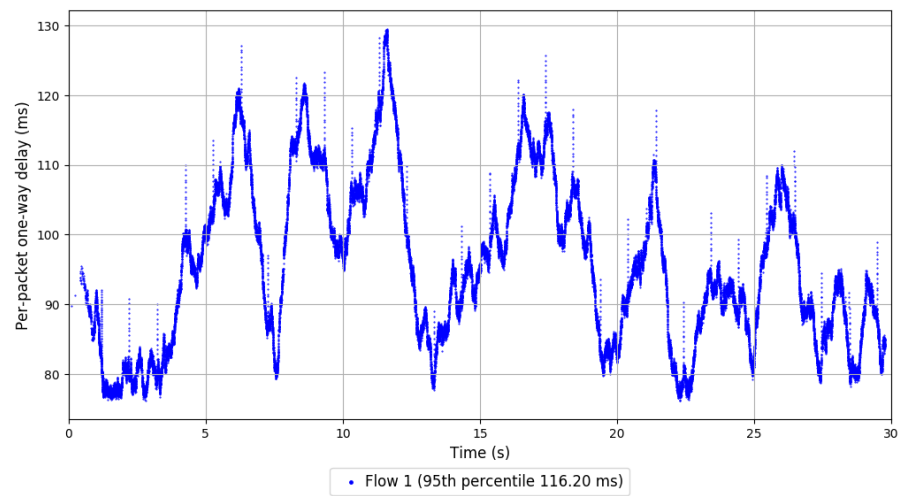
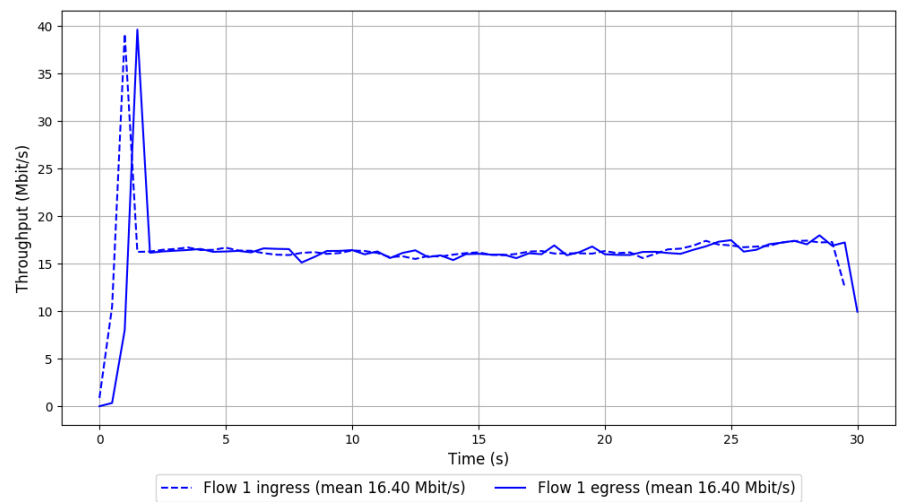


Run 5: Statistics of PCC-Allegro

Start at: 2018-11-15 09:38:49
End at: 2018-11-15 09:39:19
Local clock offset: -2.486 ms
Remote clock offset: 26.866 ms

Below is generated by plot.py at 2018-11-15 09:56:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 16.40 Mbit/s
95th percentile per-packet one-way delay: 116.197 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 16.40 Mbit/s
95th percentile per-packet one-way delay: 116.197 ms
Loss rate: 0.58%

Run 5: Report of PCC-Allegro — Data Link

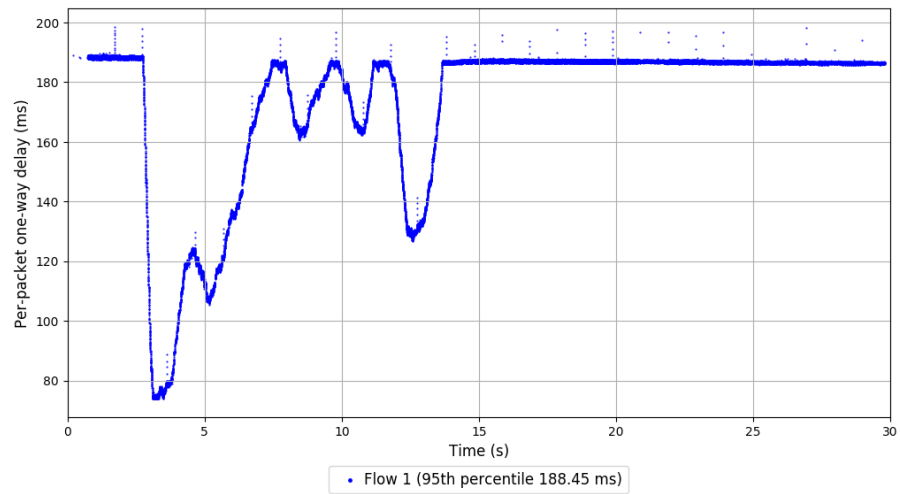
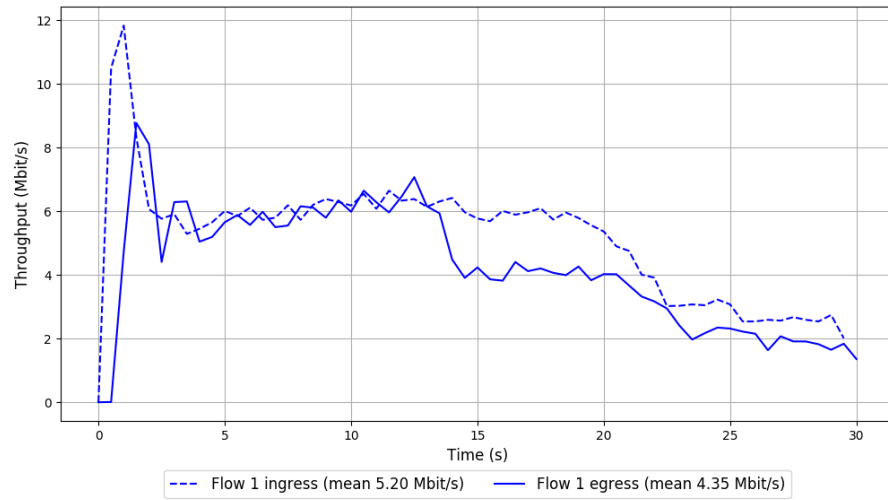


```
Run 1: Statistics of PCC-Expr

Start at: 2018-11-15 08:18:08
End at: 2018-11-15 08:18:38
Local clock offset: 7.29 ms
Remote clock offset: 38.831 ms

# Below is generated by plot.py at 2018-11-15 09:56:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: 188.447 ms
Loss rate: 16.97%
-- Flow 1:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: 188.447 ms
Loss rate: 16.97%
```

Run 1: Report of PCC-Expr — Data Link

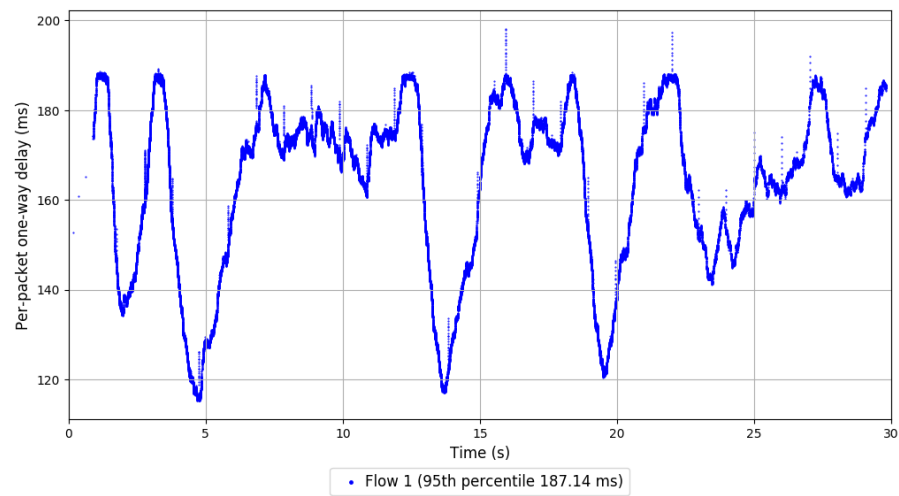
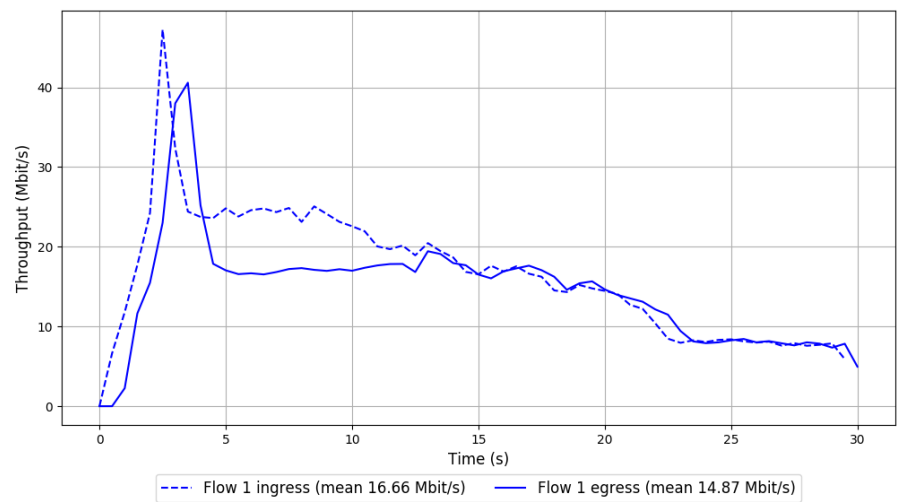


Run 2: Statistics of PCC-Expr

Start at: 2018-11-15 08:46:42
End at: 2018-11-15 08:47:12
Local clock offset: 9.294 ms
Remote clock offset: -10.744 ms

Below is generated by plot.py at 2018-11-15 09:57:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 14.87 Mbit/s
95th percentile per-packet one-way delay: 187.143 ms
Loss rate: 11.38%
-- Flow 1:
Average throughput: 14.87 Mbit/s
95th percentile per-packet one-way delay: 187.143 ms
Loss rate: 11.38%

Run 2: Report of PCC-Expr — Data Link

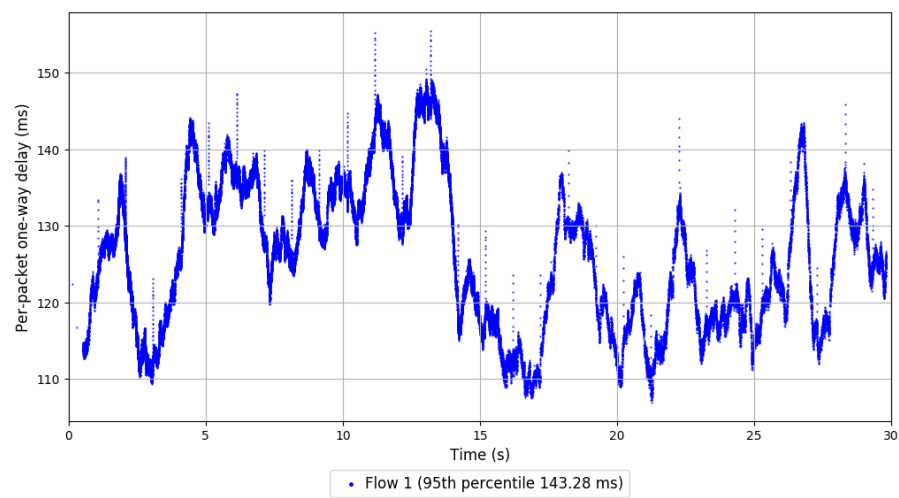
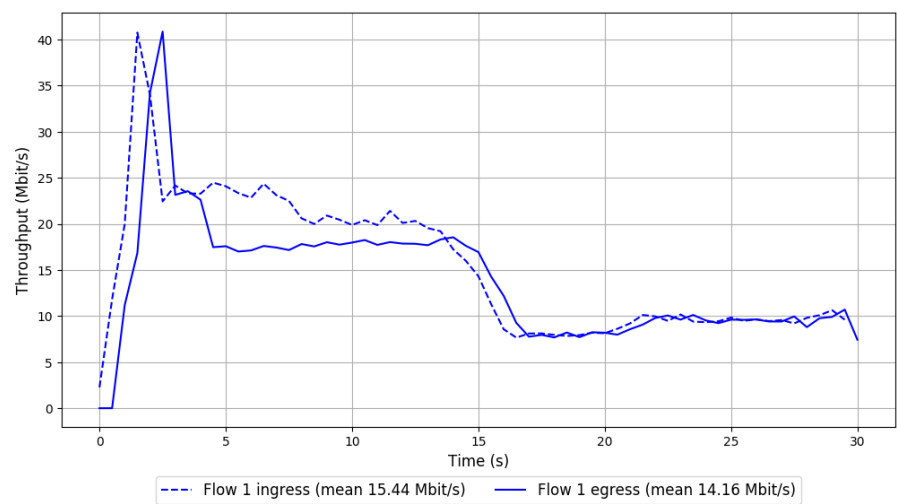


Run 3: Statistics of PCC-Expr

Start at: 2018-11-15 09:09:15
End at: 2018-11-15 09:09:45
Local clock offset: 0.261 ms
Remote clock offset: 33.374 ms

Below is generated by plot.py at 2018-11-15 09:57:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 14.16 Mbit/s
95th percentile per-packet one-way delay: 143.279 ms
Loss rate: 8.92%
-- Flow 1:
Average throughput: 14.16 Mbit/s
95th percentile per-packet one-way delay: 143.279 ms
Loss rate: 8.92%

Run 3: Report of PCC-Expr — Data Link

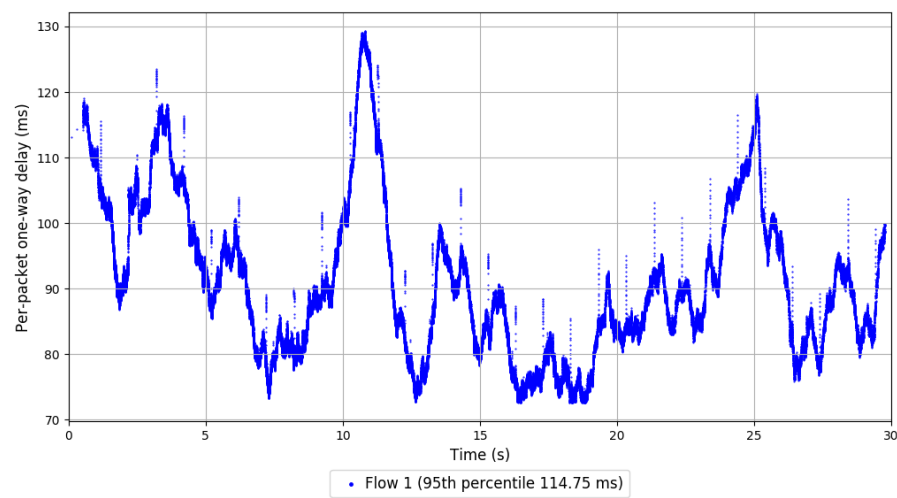
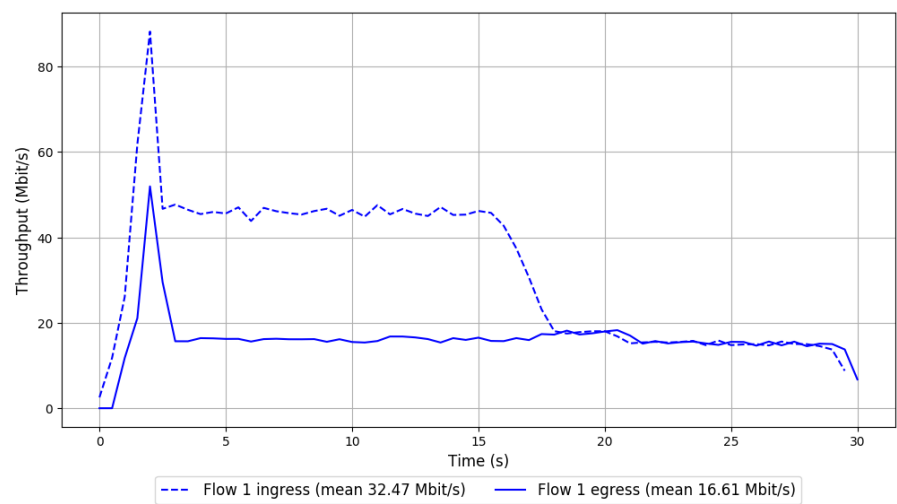


Run 4: Statistics of PCC-Expr

Start at: 2018-11-15 09:31:17
End at: 2018-11-15 09:31:47
Local clock offset: -2.911 ms
Remote clock offset: 36.429 ms

Below is generated by plot.py at 2018-11-15 09:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 16.61 Mbit/s
95th percentile per-packet one-way delay: 114.745 ms
Loss rate: 49.17%
-- Flow 1:
Average throughput: 16.61 Mbit/s
95th percentile per-packet one-way delay: 114.745 ms
Loss rate: 49.17%

Run 4: Report of PCC-Expr — Data Link

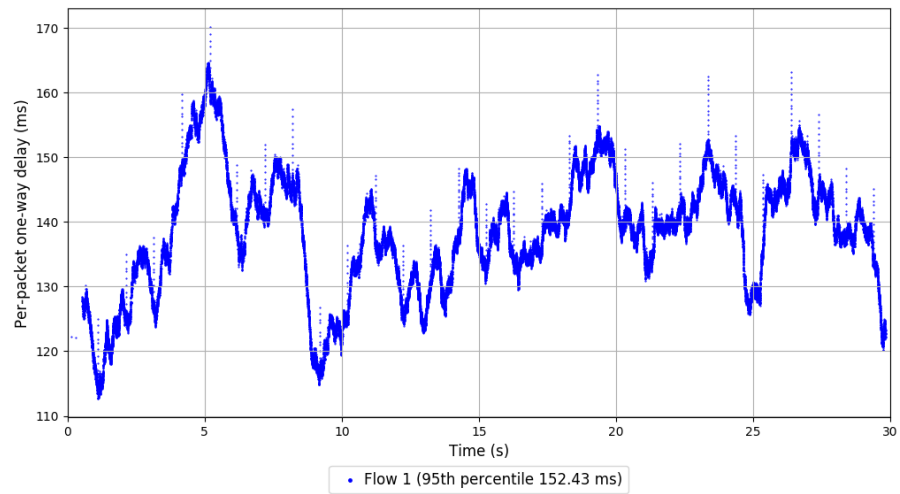
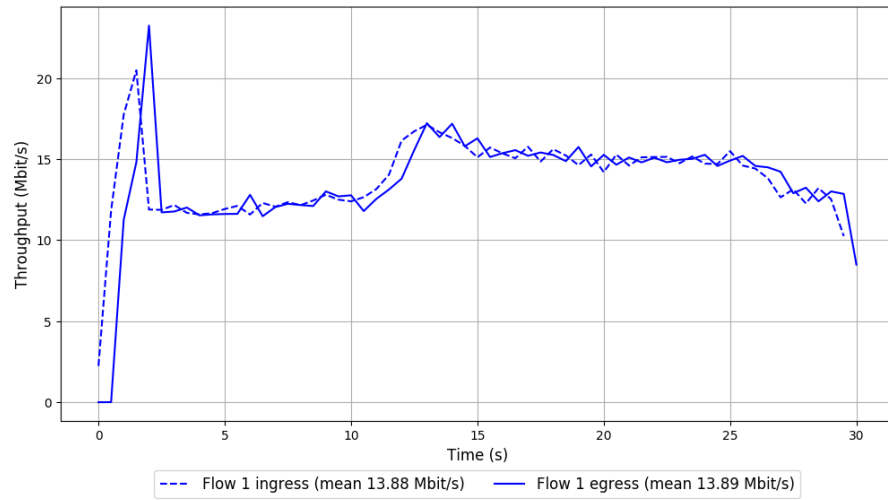


Run 5: Statistics of PCC-Expr

Start at: 2018-11-15 09:53:26
End at: 2018-11-15 09:53:56
Local clock offset: -2.832 ms
Remote clock offset: 22.035 ms

Below is generated by plot.py at 2018-11-15 09:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 13.89 Mbit/s
95th percentile per-packet one-way delay: 152.425 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 13.89 Mbit/s
95th percentile per-packet one-way delay: 152.425 ms
Loss rate: 0.61%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-11-15 07:59:43

End at: 2018-11-15 08:00:13

Local clock offset: 8.585 ms

Remote clock offset: 38.04 ms

Below is generated by plot.py at 2018-11-15 09:57:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 5.06 Mbit/s

95th percentile per-packet one-way delay: 190.181 ms

Loss rate: 1.18%

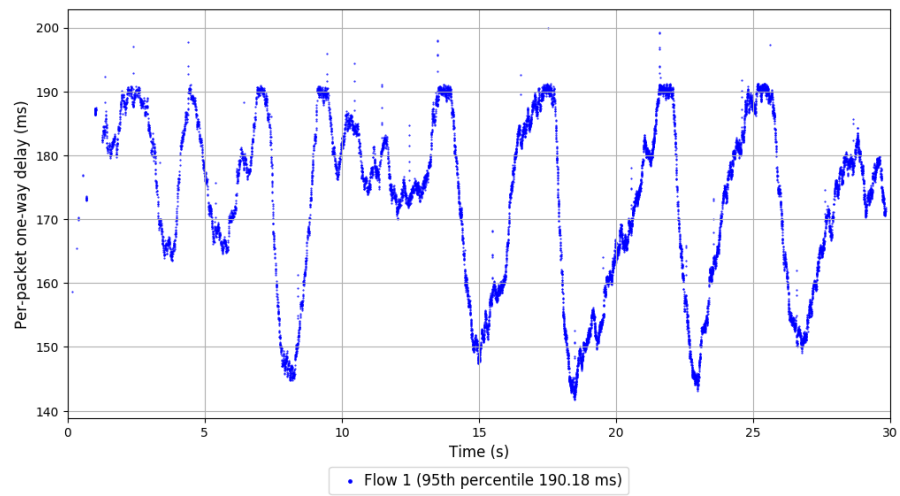
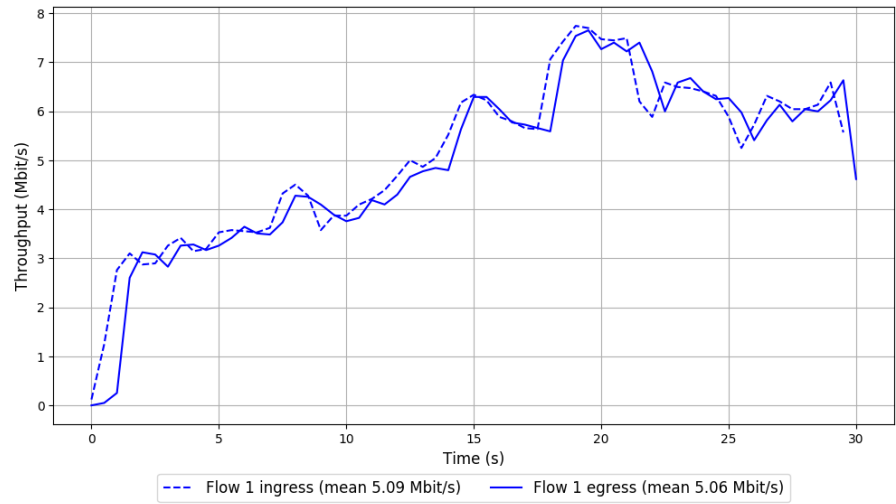
-- Flow 1:

Average throughput: 5.06 Mbit/s

95th percentile per-packet one-way delay: 190.181 ms

Loss rate: 1.18%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-11-15 08:30:23

End at: 2018-11-15 08:30:53

Local clock offset: 7.809 ms

Remote clock offset: 7.116 ms

Below is generated by plot.py at 2018-11-15 09:57:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.60 Mbit/s

95th percentile per-packet one-way delay: 186.558 ms

Loss rate: 1.06%

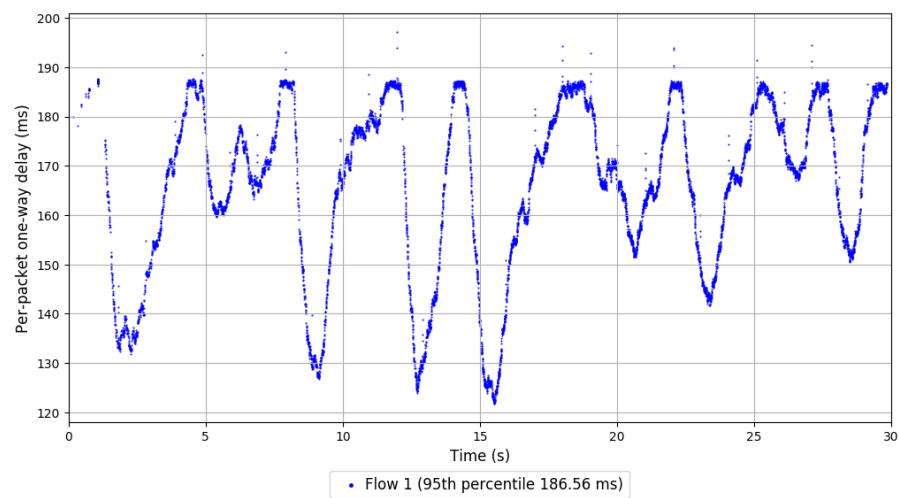
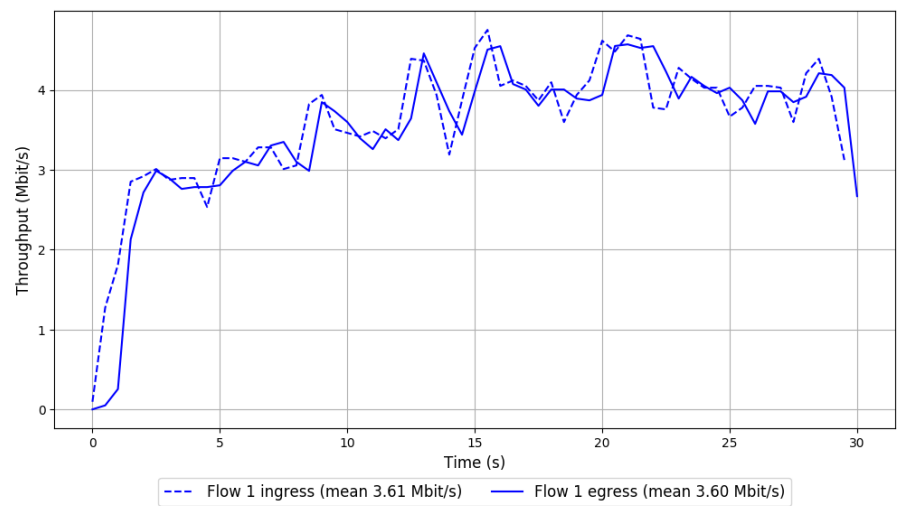
-- Flow 1:

Average throughput: 3.60 Mbit/s

95th percentile per-packet one-way delay: 186.558 ms

Loss rate: 1.06%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-11-15 08:53:00

End at: 2018-11-15 08:53:30

Local clock offset: 9.519 ms

Remote clock offset: -3.098 ms

Below is generated by plot.py at 2018-11-15 09:57:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 18.24 Mbit/s

95th percentile per-packet one-way delay: 189.716 ms

Loss rate: 5.74%

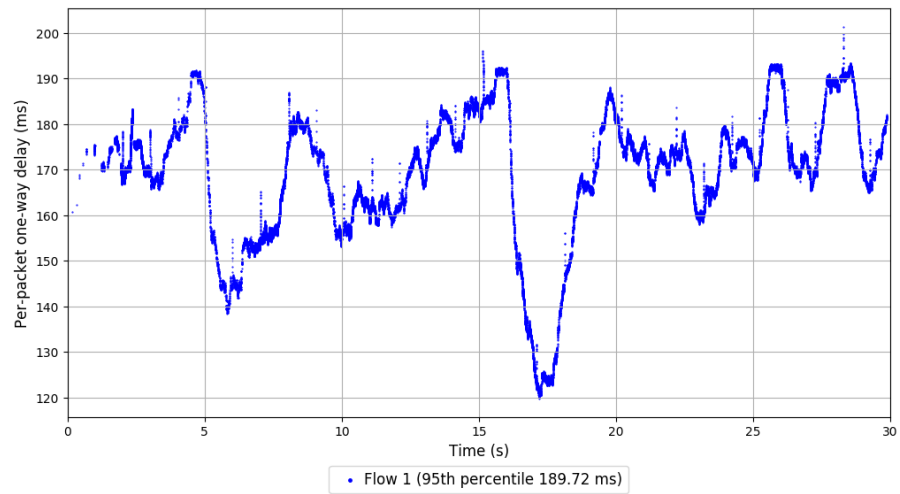
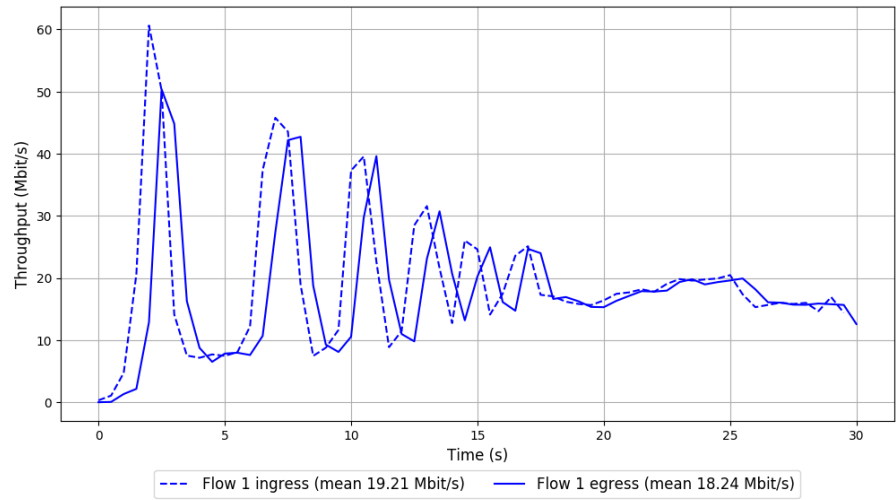
-- Flow 1:

Average throughput: 18.24 Mbit/s

95th percentile per-packet one-way delay: 189.716 ms

Loss rate: 5.74%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-11-15 09:15:34

End at: 2018-11-15 09:16:04

Local clock offset: -1.977 ms

Remote clock offset: 43.316 ms

Below is generated by plot.py at 2018-11-15 09:57:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 19.06 Mbit/s

95th percentile per-packet one-way delay: 128.927 ms

Loss rate: 1.27%

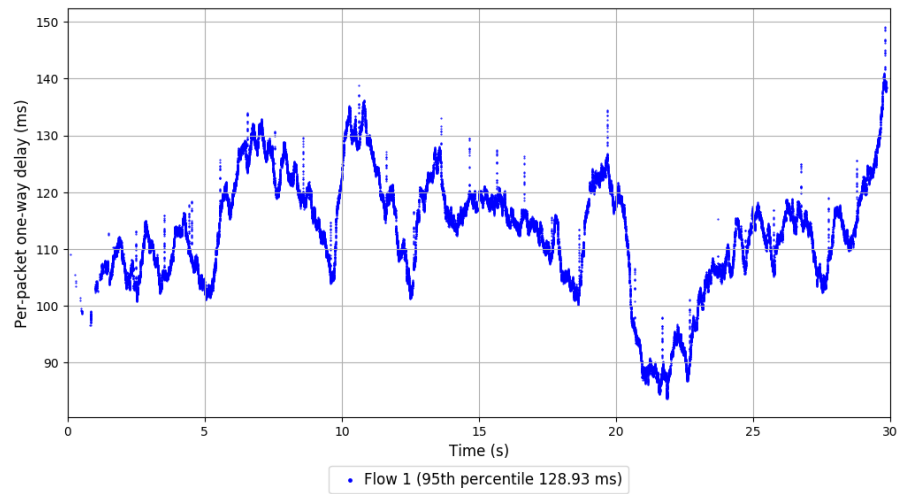
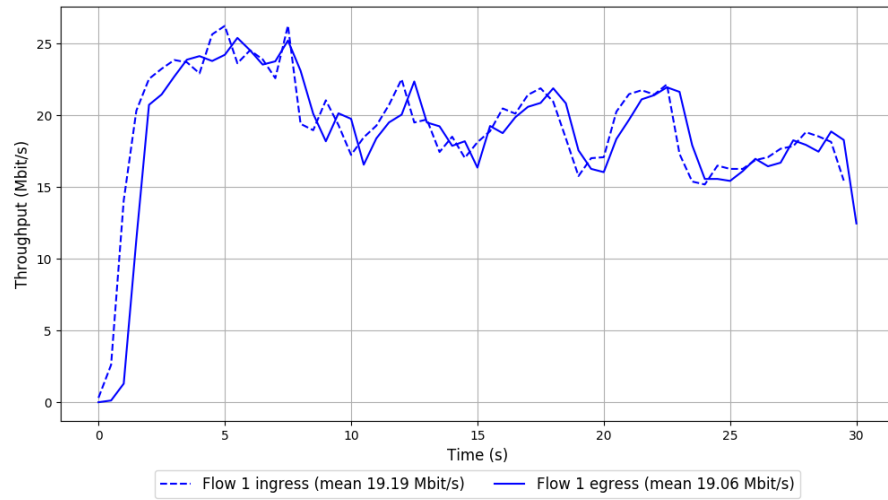
-- Flow 1:

Average throughput: 19.06 Mbit/s

95th percentile per-packet one-way delay: 128.927 ms

Loss rate: 1.27%

Run 4: Report of QUIC Cubic — Data Link

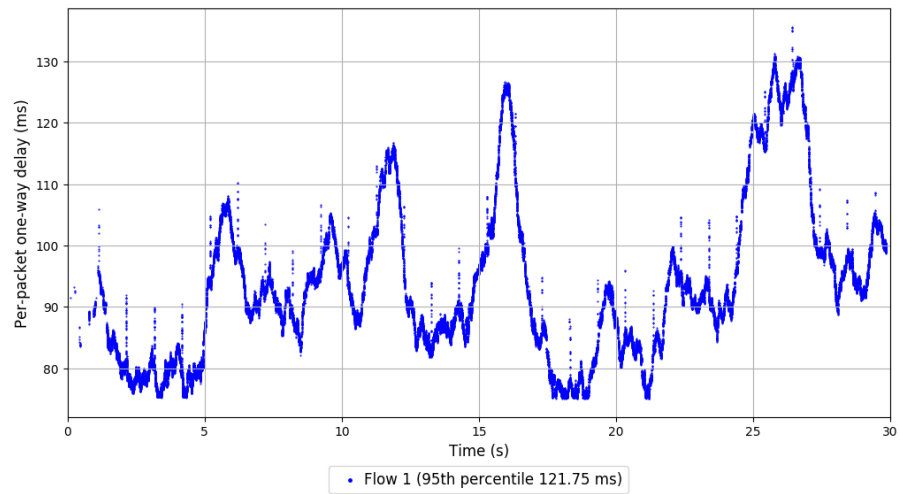
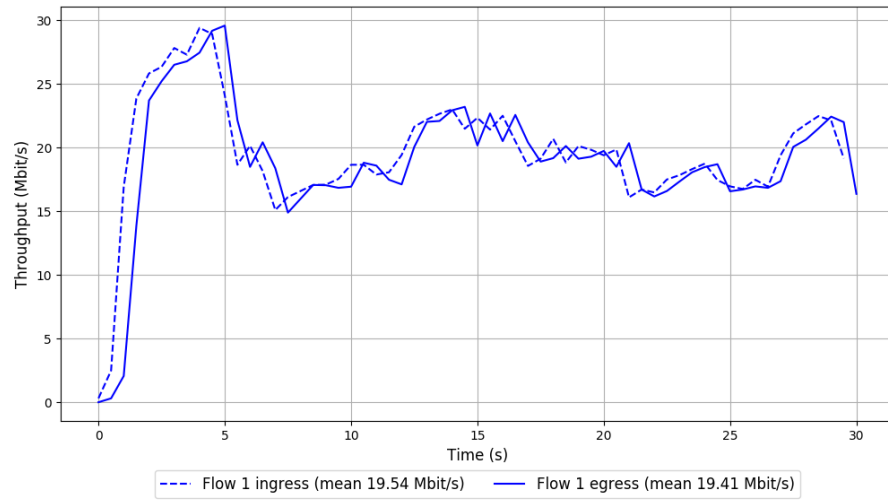


Run 5: Statistics of QUIC Cubic

Start at: 2018-11-15 09:37:35
End at: 2018-11-15 09:38:05
Local clock offset: -2.645 ms
Remote clock offset: 28.567 ms

Below is generated by plot.py at 2018-11-15 09:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 19.41 Mbit/s
95th percentile per-packet one-way delay: 121.745 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 19.41 Mbit/s
95th percentile per-packet one-way delay: 121.745 ms
Loss rate: 1.18%

Run 5: Report of QUIC Cubic — Data Link

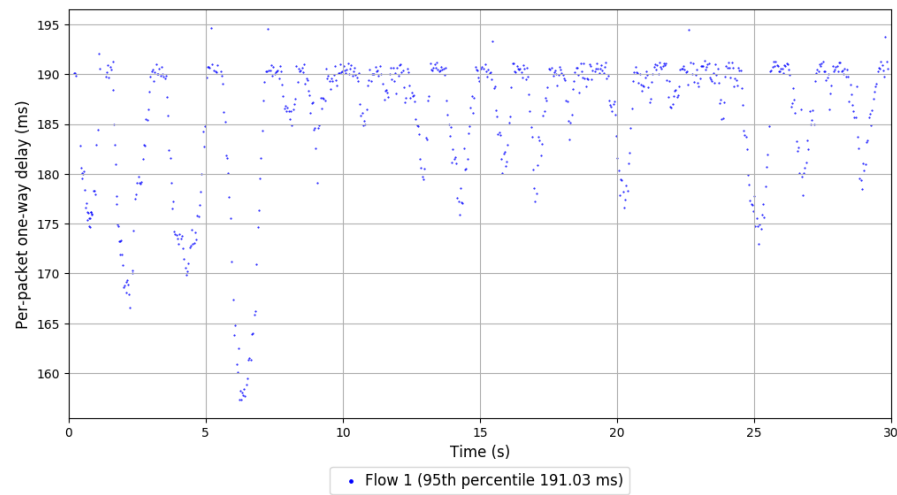
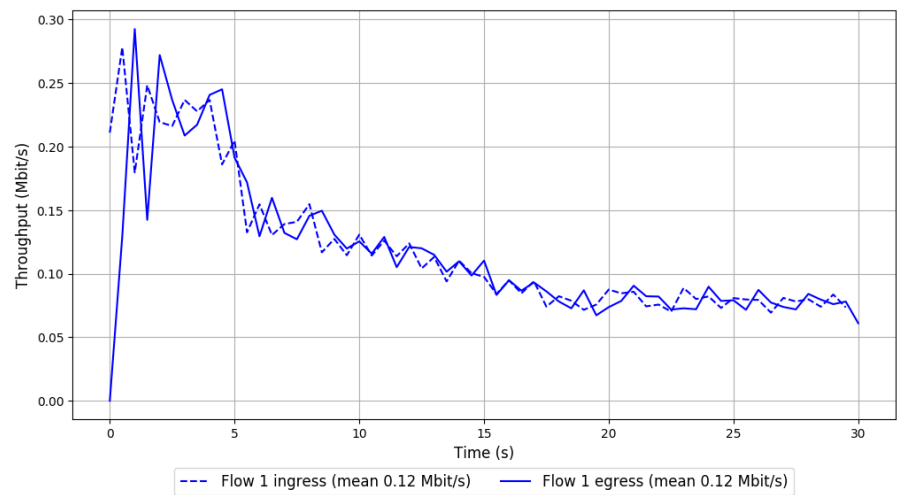


Run 1: Statistics of SCReAM

Start at: 2018-11-15 08:08:16
End at: 2018-11-15 08:08:46
Local clock offset: 7.457 ms
Remote clock offset: 42.382 ms

Below is generated by plot.py at 2018-11-15 09:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 191.028 ms
Loss rate: 1.81%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 191.028 ms
Loss rate: 1.81%

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-11-15 08:37:59

End at: 2018-11-15 08:38:29

Local clock offset: 8.415 ms

Remote clock offset: -5.95 ms

Below is generated by plot.py at 2018-11-15 09:57:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 189.865 ms

Loss rate: 0.54%

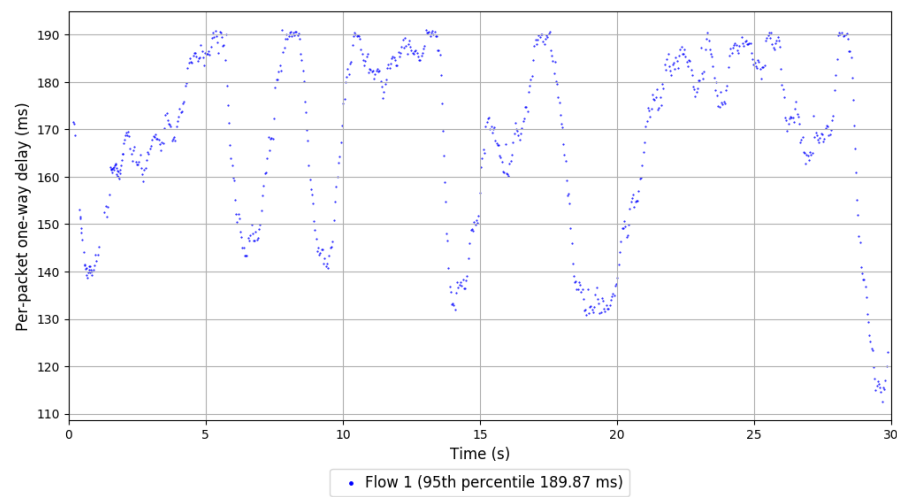
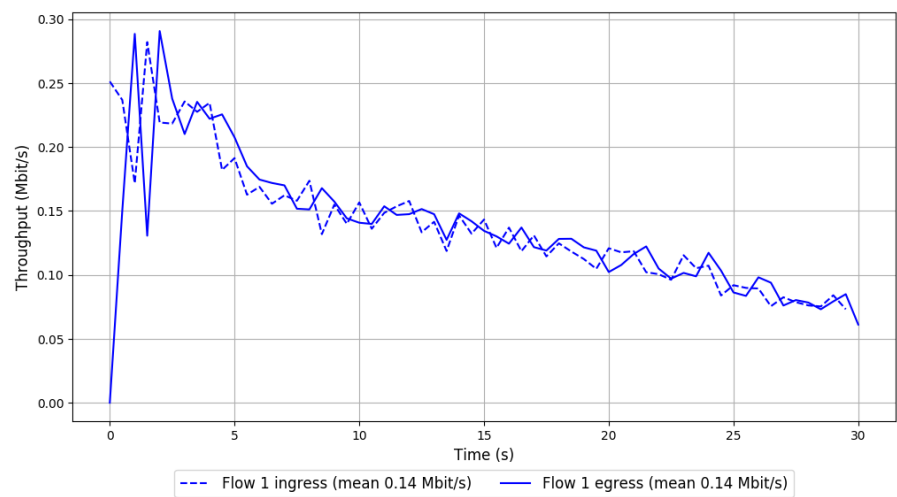
-- Flow 1:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 189.865 ms

Loss rate: 0.54%

Run 2: Report of SReAM — Data Link

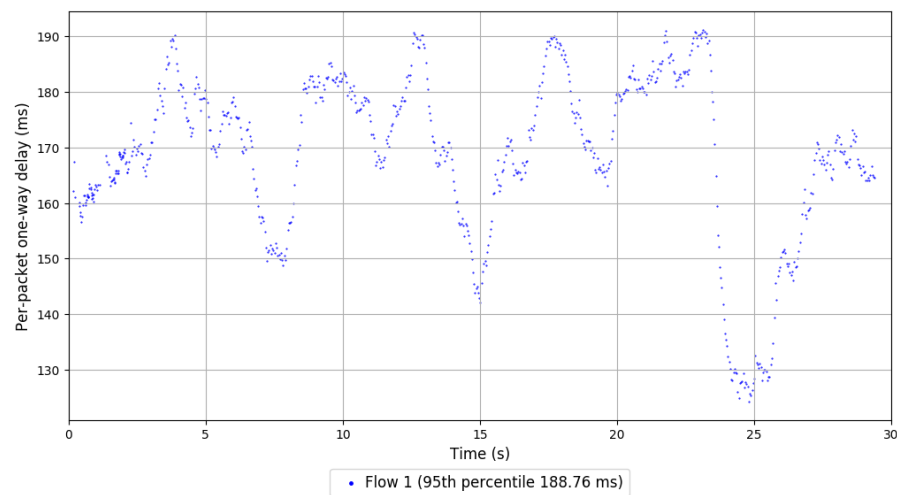
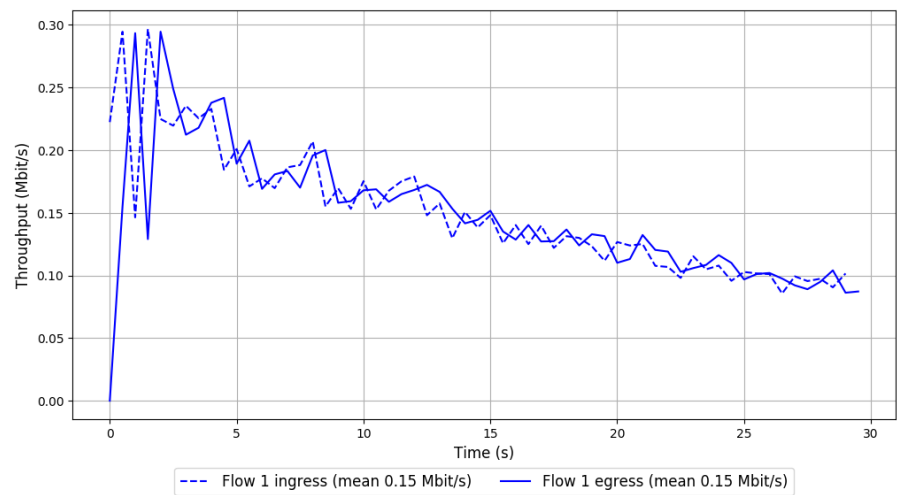


Run 3: Statistics of SCReAM

Start at: 2018-11-15 09:00:36
End at: 2018-11-15 09:01:06
Local clock offset: 5.491 ms
Remote clock offset: 21.774 ms

Below is generated by plot.py at 2018-11-15 09:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 188.757 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 188.757 ms
Loss rate: 0.50%

Run 3: Report of SReAM — Data Link

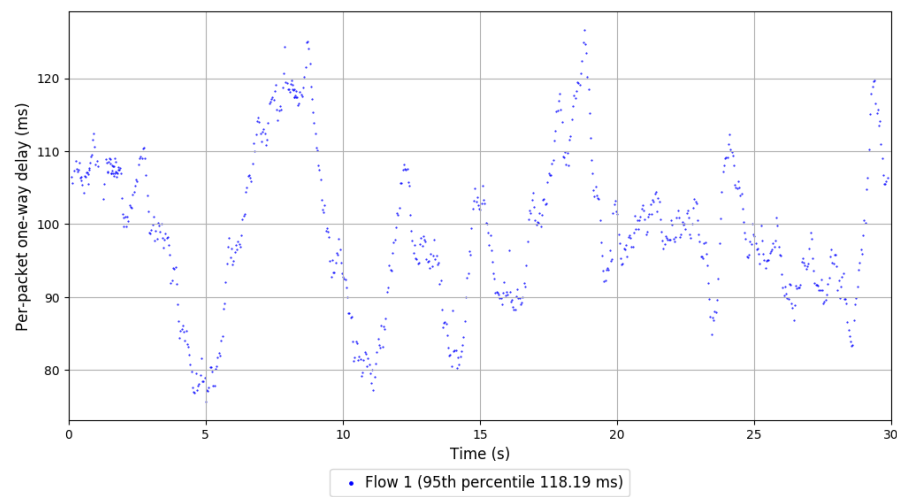
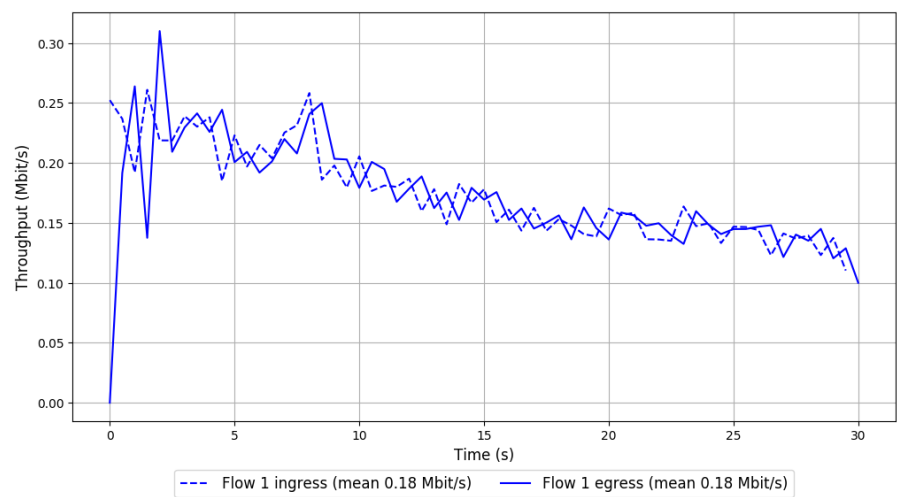


Run 4: Statistics of SCReAM

Start at: 2018-11-15 09:22:51
End at: 2018-11-15 09:23:21
Local clock offset: -3.37 ms
Remote clock offset: 45.466 ms

Below is generated by plot.py at 2018-11-15 09:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 118.188 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 118.188 ms
Loss rate: 0.38%

Run 4: Report of SReAM — Data Link

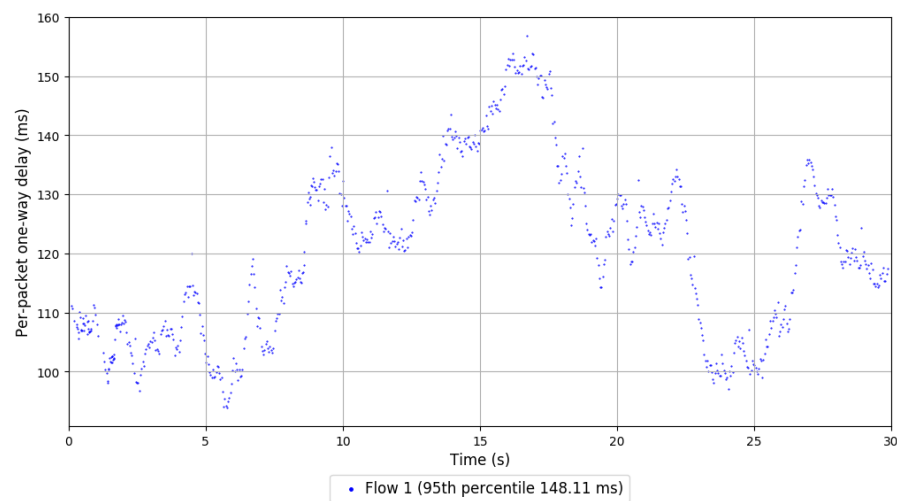
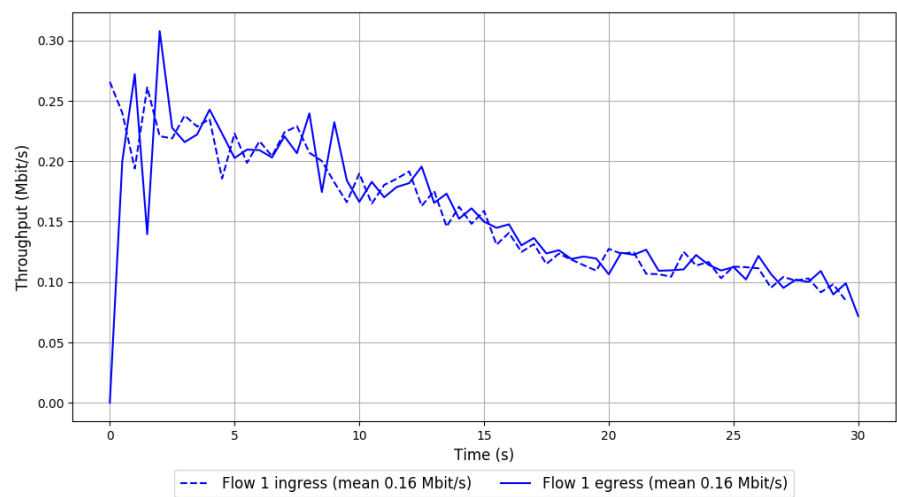


Run 5: Statistics of SCReAM

Start at: 2018-11-15 09:44:53
End at: 2018-11-15 09:45:23
Local clock offset: -2.362 ms
Remote clock offset: 24.004 ms

Below is generated by plot.py at 2018-11-15 09:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 148.107 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 148.107 ms
Loss rate: 0.36%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

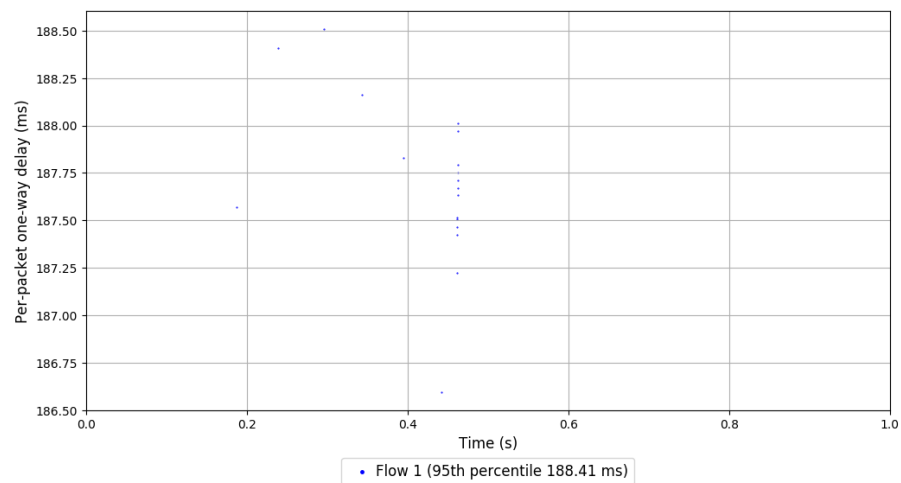
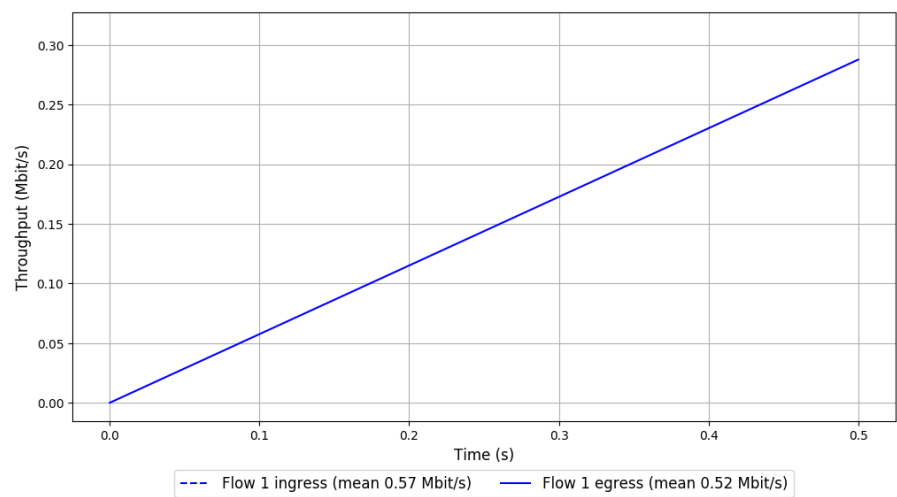
Start at: 2018-11-15 08:11:02

End at: 2018-11-15 08:11:33

Local clock offset: 7.295 ms

Remote clock offset: 45.369 ms

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-11-15 08:40:24

End at: 2018-11-15 08:40:54

Local clock offset: 8.666 ms

Remote clock offset: -6.06 ms

Below is generated by plot.py at 2018-11-15 09:57:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.05 Mbit/s

95th percentile per-packet one-way delay: 187.542 ms

Loss rate: 1.02%

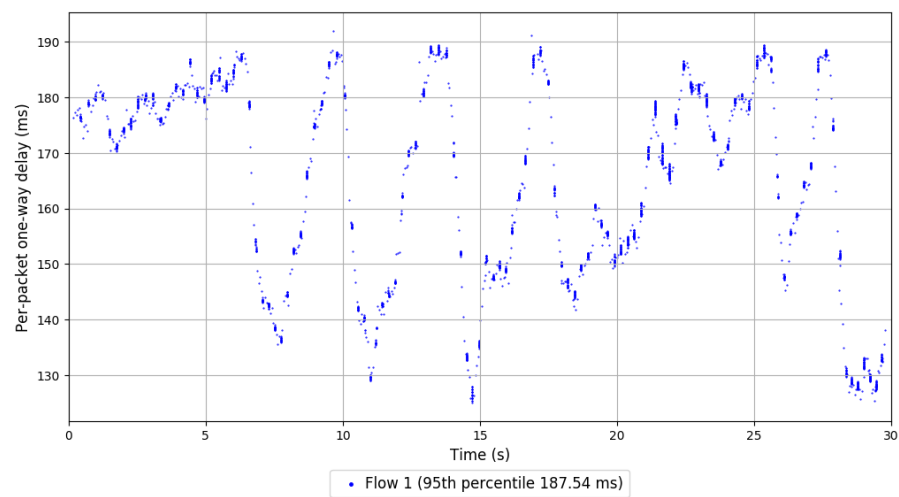
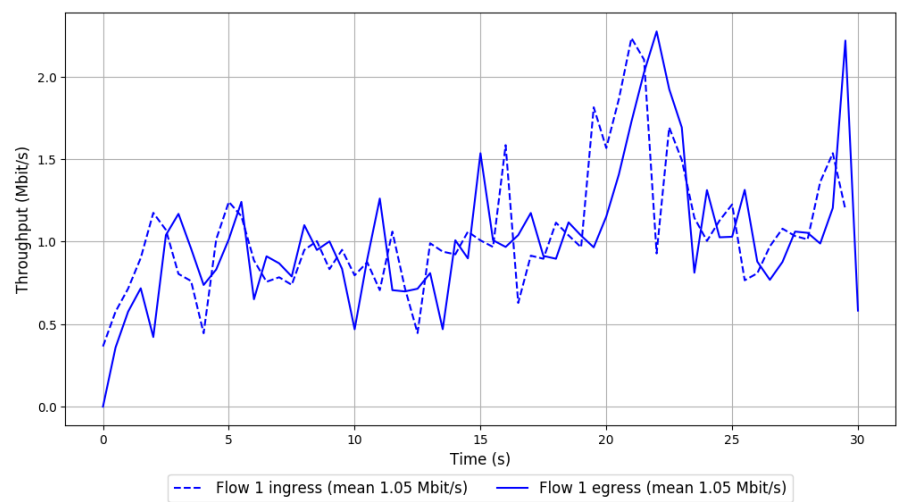
-- Flow 1:

Average throughput: 1.05 Mbit/s

95th percentile per-packet one-way delay: 187.542 ms

Loss rate: 1.02%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

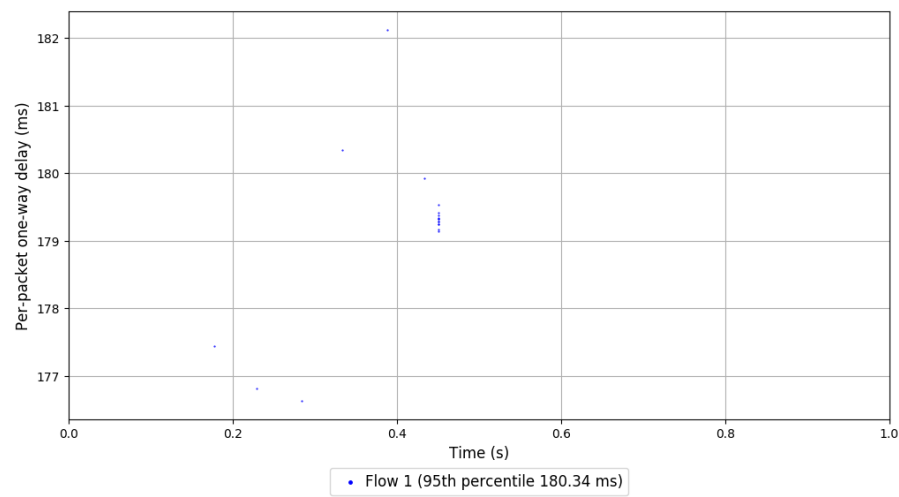
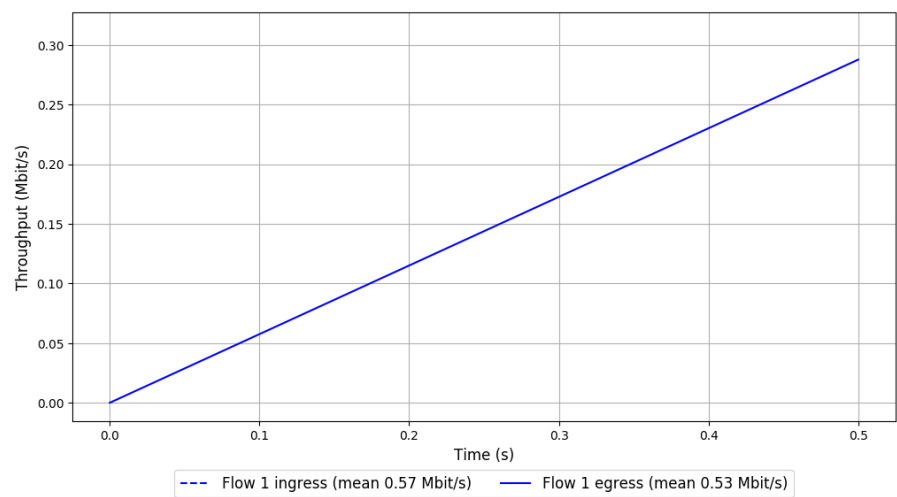
Start at: 2018-11-15 09:02:59

End at: 2018-11-15 09:03:29

Local clock offset: 3.535 ms

Remote clock offset: 27.598 ms

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

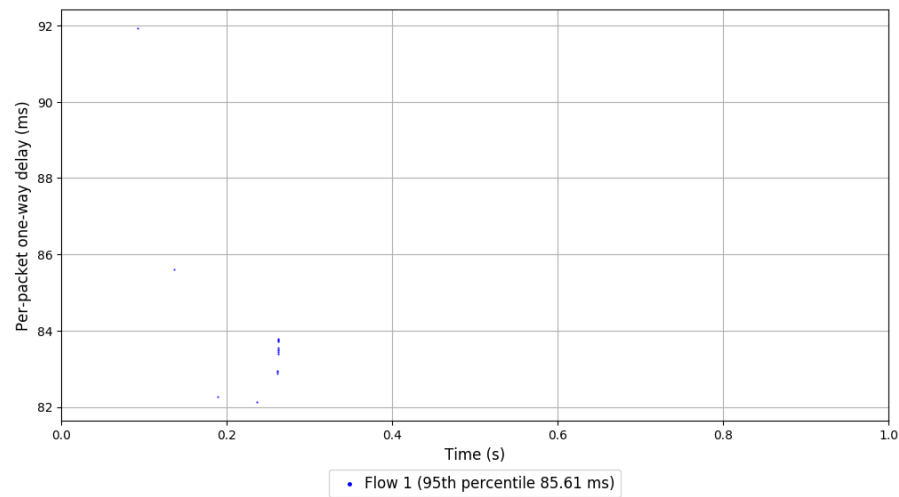
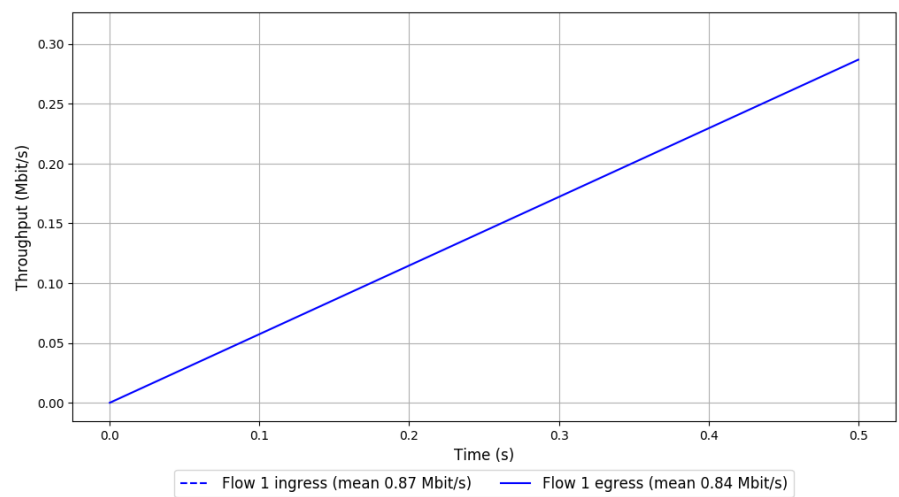
Start at: 2018-11-15 09:25:12

End at: 2018-11-15 09:25:42

Local clock offset: -3.65 ms

Remote clock offset: 44.86 ms

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

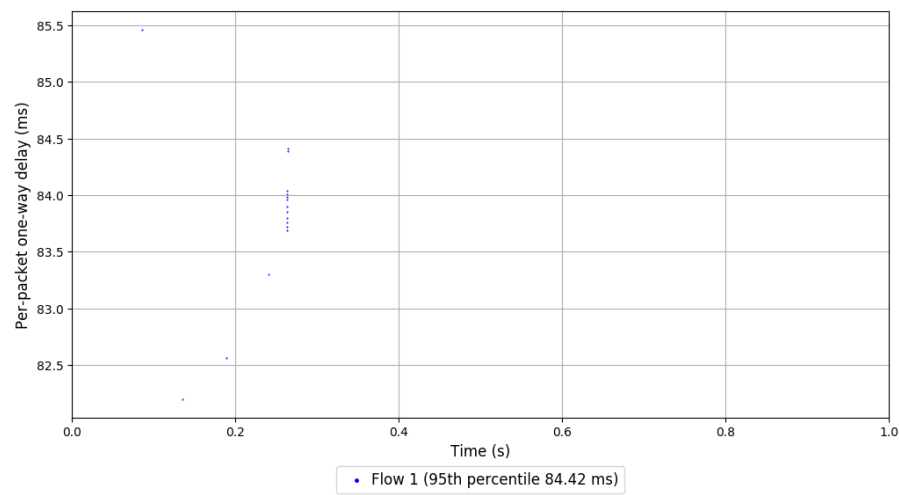
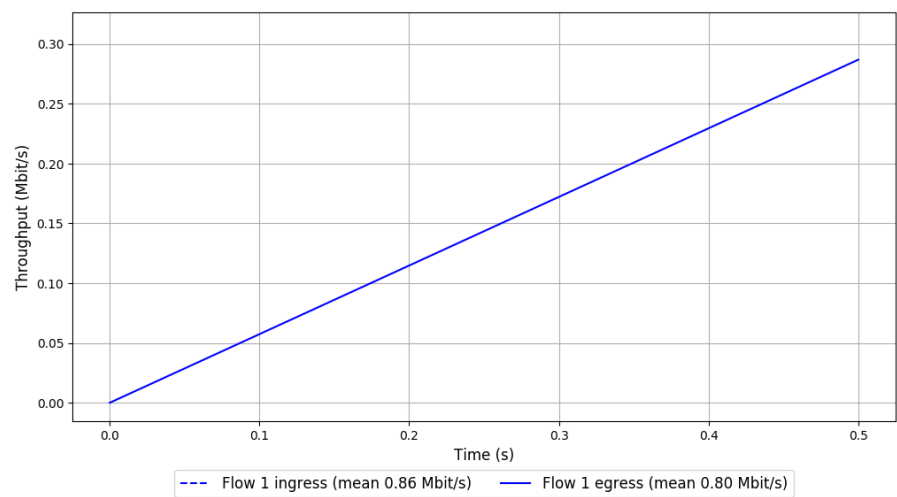
Start at: 2018-11-15 09:47:14

End at: 2018-11-15 09:47:44

Local clock offset: -2.473 ms

Remote clock offset: 22.513 ms

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-11-15 08:04:36

End at: 2018-11-15 08:05:06

Local clock offset: 7.625 ms

Remote clock offset: 42.205 ms

Below is generated by plot.py at 2018-11-15 09:57:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.79 Mbit/s

95th percentile per-packet one-way delay: 189.213 ms

Loss rate: 1.34%

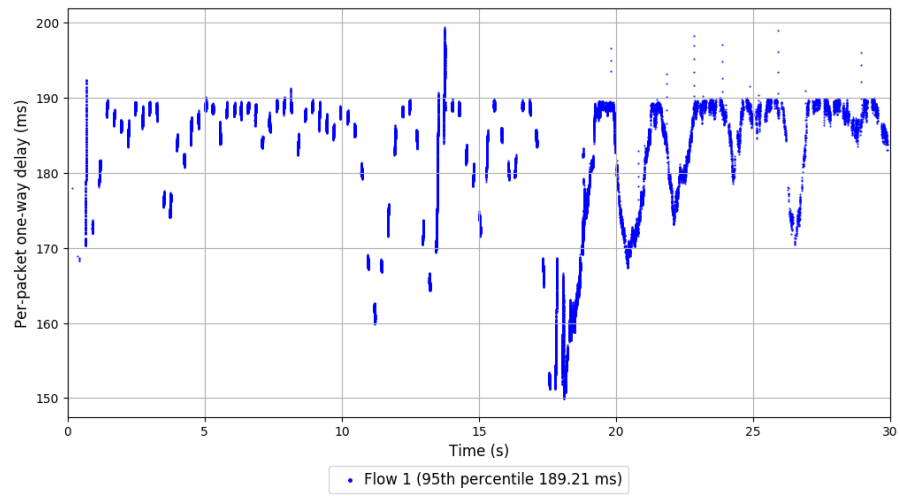
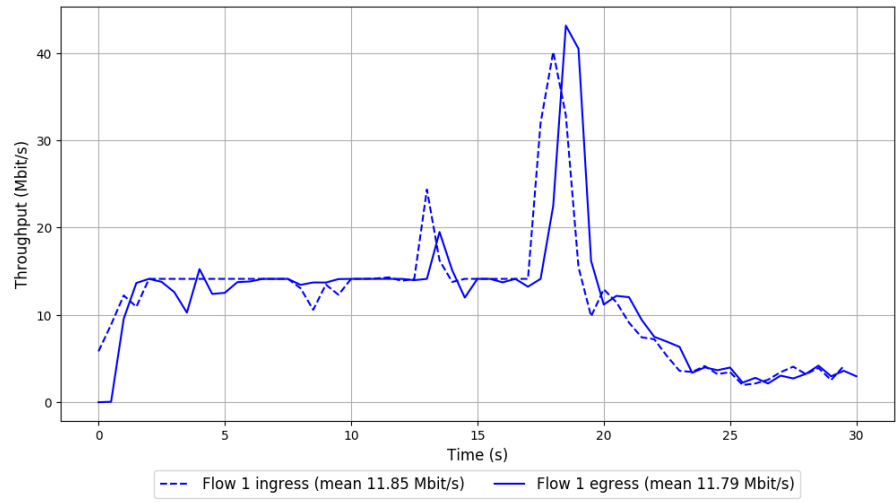
-- Flow 1:

Average throughput: 11.79 Mbit/s

95th percentile per-packet one-way delay: 189.213 ms

Loss rate: 1.34%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-11-15 08:35:09

End at: 2018-11-15 08:35:39

Local clock offset: 8.218 ms

Remote clock offset: -1.584 ms

Below is generated by plot.py at 2018-11-15 09:57:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.50 Mbit/s

95th percentile per-packet one-way delay: 187.884 ms

Loss rate: 0.60%

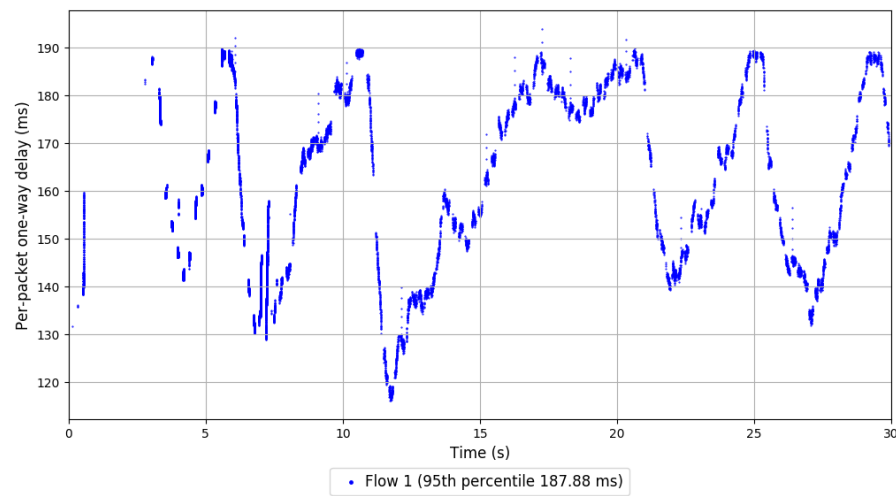
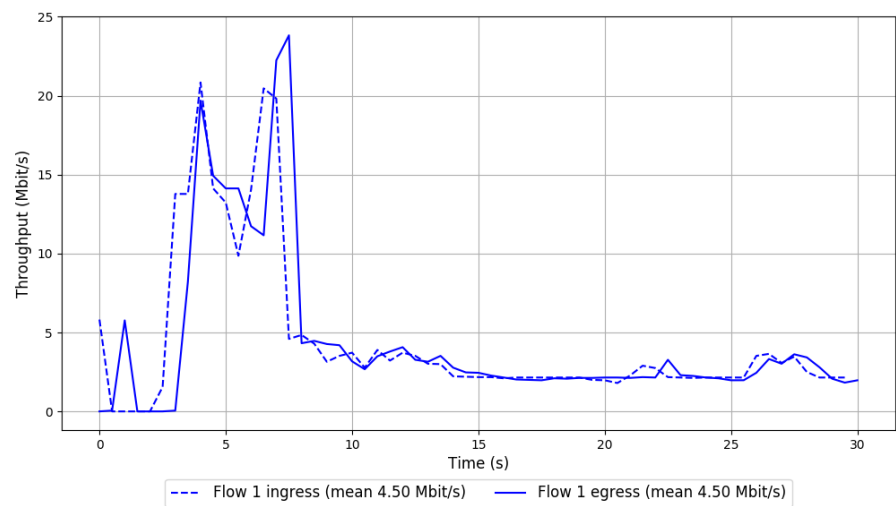
-- Flow 1:

Average throughput: 4.50 Mbit/s

95th percentile per-packet one-way delay: 187.884 ms

Loss rate: 0.60%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-11-15 08:57:57

End at: 2018-11-15 08:58:27

Local clock offset: 8.114 ms

Remote clock offset: 15.571 ms

Below is generated by plot.py at 2018-11-15 09:57:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 10.73 Mbit/s

95th percentile per-packet one-way delay: 182.337 ms

Loss rate: 0.26%

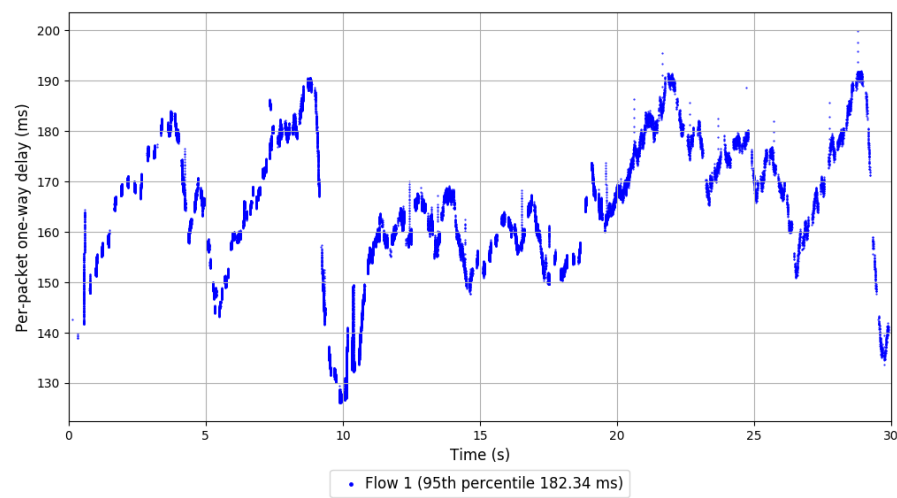
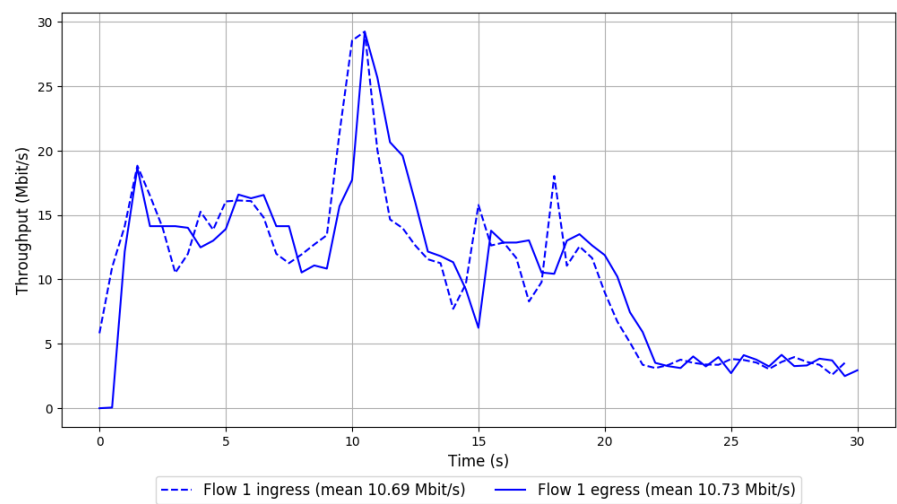
-- Flow 1:

Average throughput: 10.73 Mbit/s

95th percentile per-packet one-way delay: 182.337 ms

Loss rate: 0.26%

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

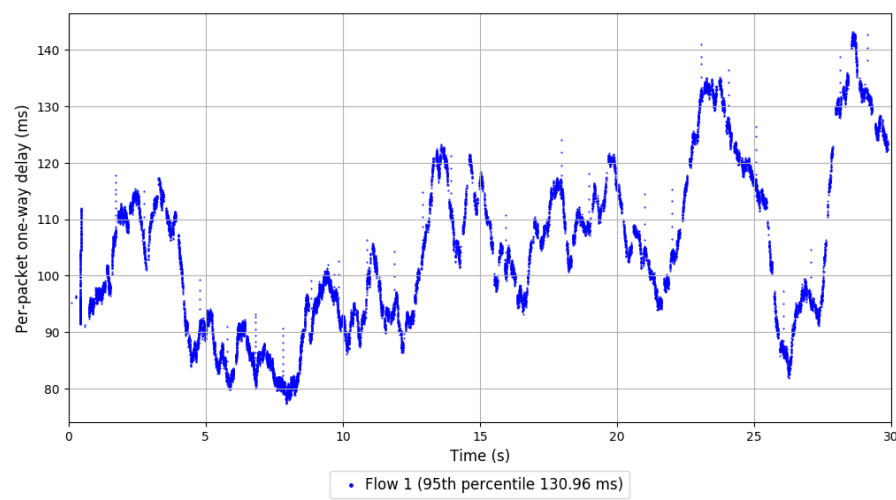
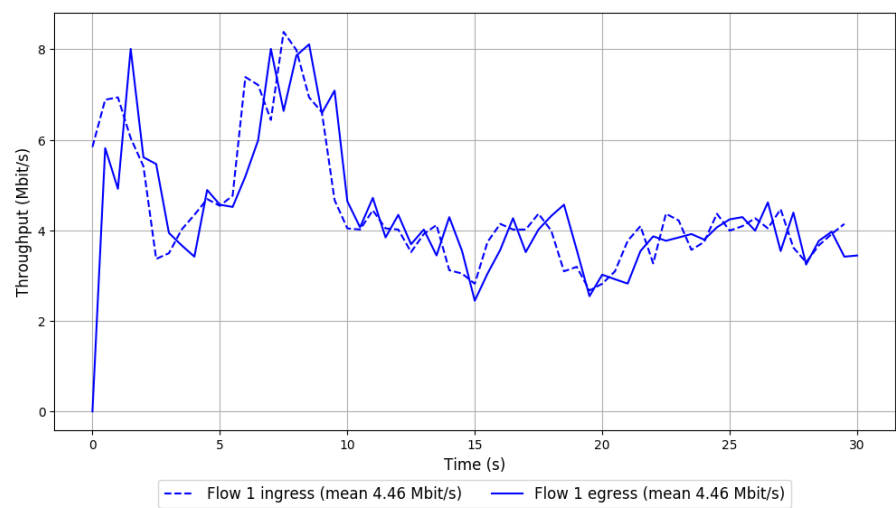


Run 4: Statistics of TaoVA-100x

Start at: 2018-11-15 09:20:23
End at: 2018-11-15 09:20:53
Local clock offset: -2.891 ms
Remote clock offset: 43.736 ms

Below is generated by plot.py at 2018-11-15 09:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 130.958 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 130.958 ms
Loss rate: 0.70%

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

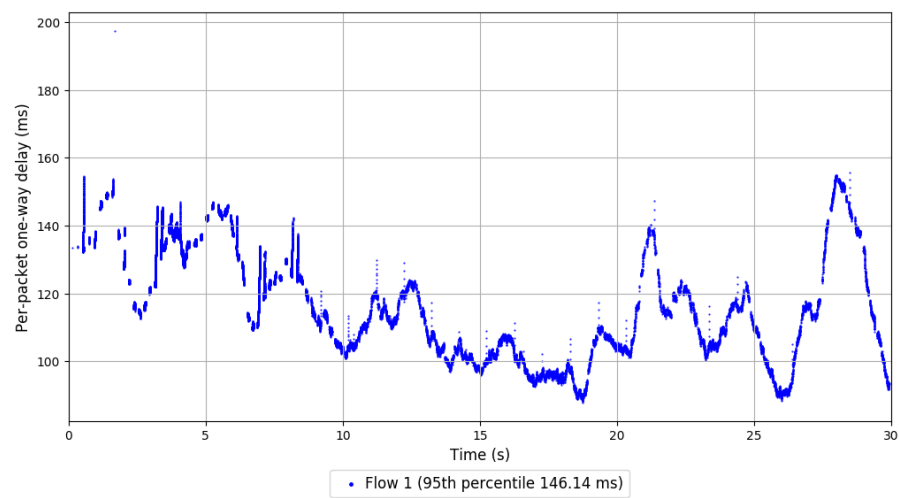
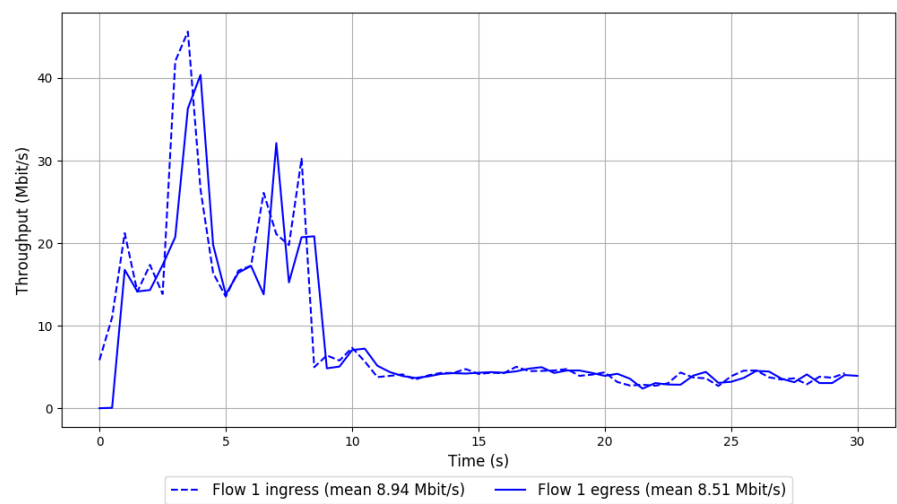


Run 5: Statistics of TaoVA-100x

Start at: 2018-11-15 09:42:23
End at: 2018-11-15 09:42:53
Local clock offset: -2.331 ms
Remote clock offset: 26.154 ms

Below is generated by plot.py at 2018-11-15 09:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.51 Mbit/s
95th percentile per-packet one-way delay: 146.140 ms
Loss rate: 5.49%
-- Flow 1:
Average throughput: 8.51 Mbit/s
95th percentile per-packet one-way delay: 146.140 ms
Loss rate: 5.49%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-11-15 08:03:24

End at: 2018-11-15 08:03:54

Local clock offset: 7.885 ms

Remote clock offset: 41.98 ms

Below is generated by plot.py at 2018-11-15 09:57:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.67 Mbit/s

95th percentile per-packet one-way delay: 189.212 ms

Loss rate: 1.37%

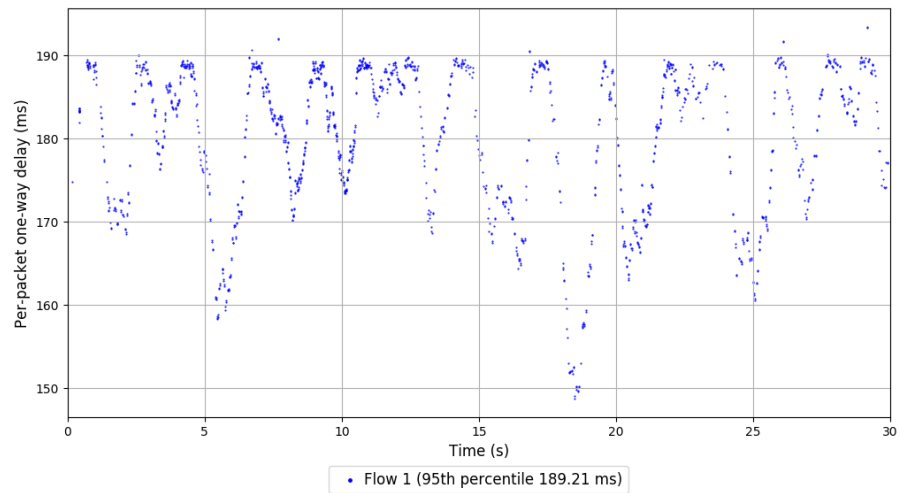
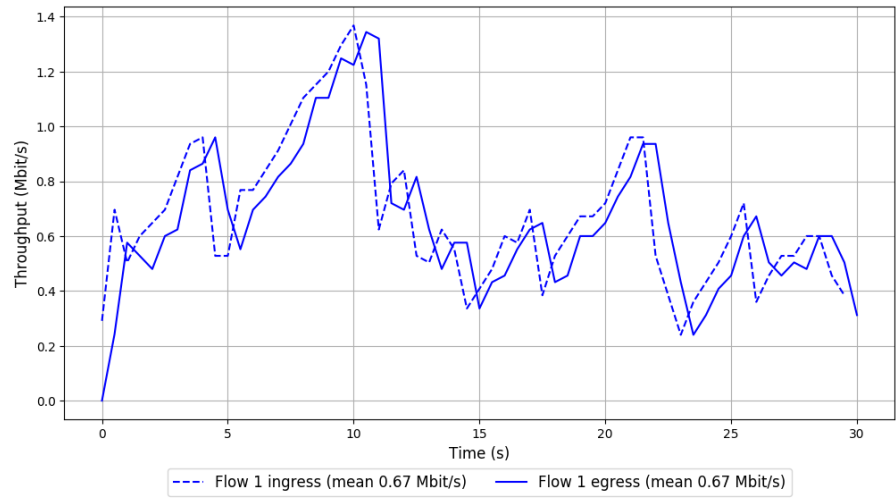
-- Flow 1:

Average throughput: 0.67 Mbit/s

95th percentile per-packet one-way delay: 189.212 ms

Loss rate: 1.37%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-11-15 08:33:57

End at: 2018-11-15 08:34:27

Local clock offset: 8.121 ms

Remote clock offset: 0.132 ms

Below is generated by plot.py at 2018-11-15 09:57:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.10 Mbit/s

95th percentile per-packet one-way delay: 188.849 ms

Loss rate: 0.80%

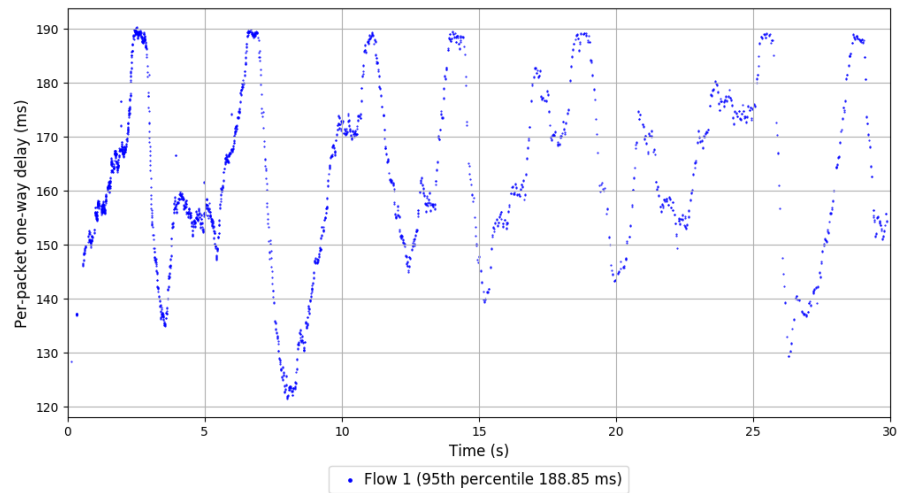
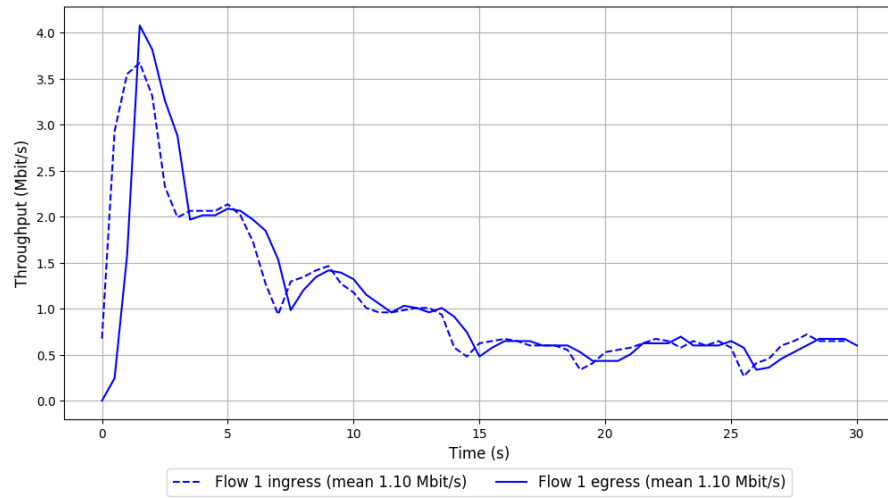
-- Flow 1:

Average throughput: 1.10 Mbit/s

95th percentile per-packet one-way delay: 188.849 ms

Loss rate: 0.80%

Run 2: Report of TCP Vegas — Data Link

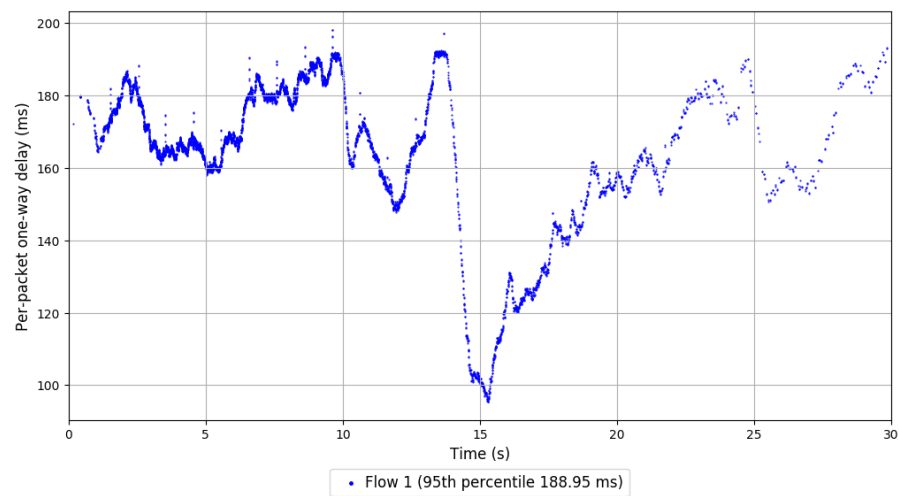
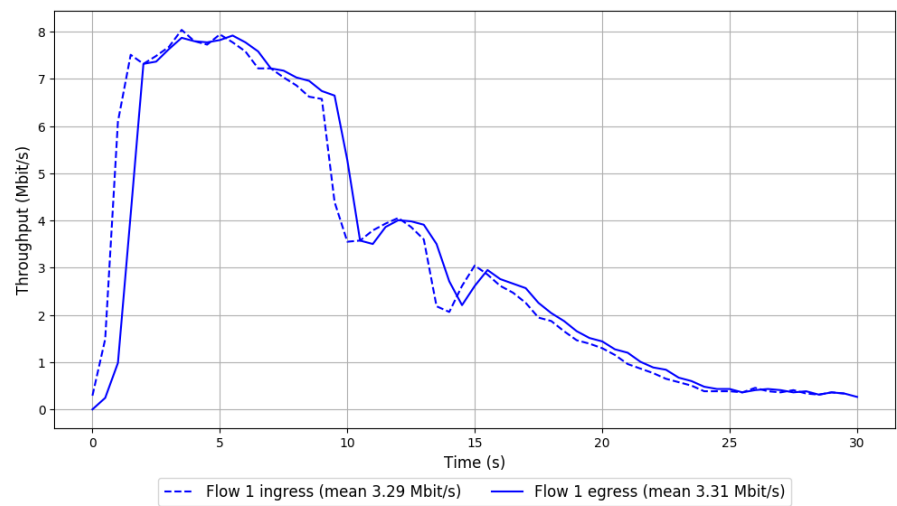


Run 3: Statistics of TCP Vegas

Start at: 2018-11-15 08:56:44
End at: 2018-11-15 08:57:14
Local clock offset: 9.762 ms
Remote clock offset: 11.434 ms

Below is generated by plot.py at 2018-11-15 09:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.31 Mbit/s
95th percentile per-packet one-way delay: 188.951 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 3.31 Mbit/s
95th percentile per-packet one-way delay: 188.951 ms
Loss rate: 0.20%

Run 3: Report of TCP Vegas — Data Link

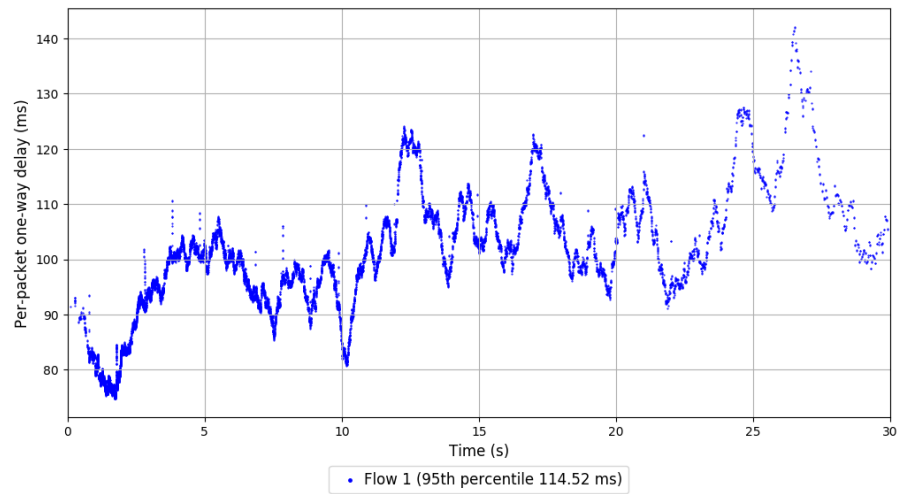
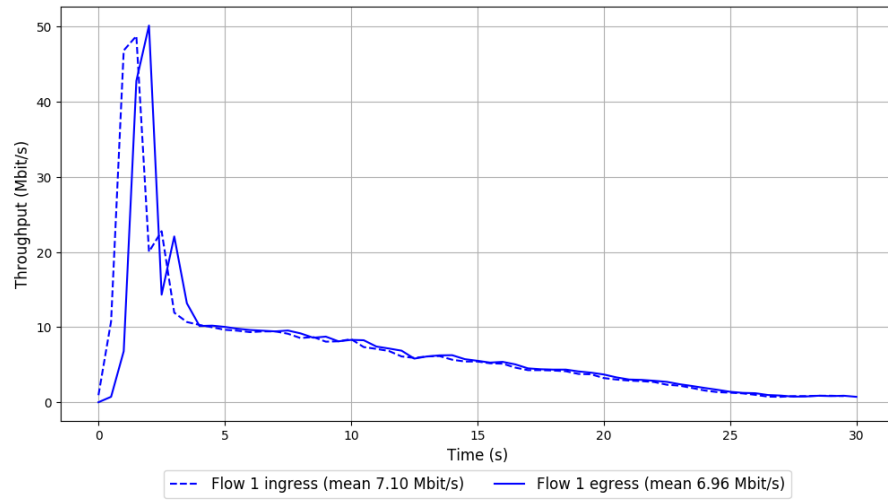


Run 4: Statistics of TCP Vegas

Start at: 2018-11-15 09:19:11
End at: 2018-11-15 09:19:42
Local clock offset: -2.711 ms
Remote clock offset: 44.595 ms

Below is generated by plot.py at 2018-11-15 09:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.96 Mbit/s
95th percentile per-packet one-way delay: 114.522 ms
Loss rate: 2.49%
-- Flow 1:
Average throughput: 6.96 Mbit/s
95th percentile per-packet one-way delay: 114.522 ms
Loss rate: 2.49%

Run 4: Report of TCP Vegas — Data Link

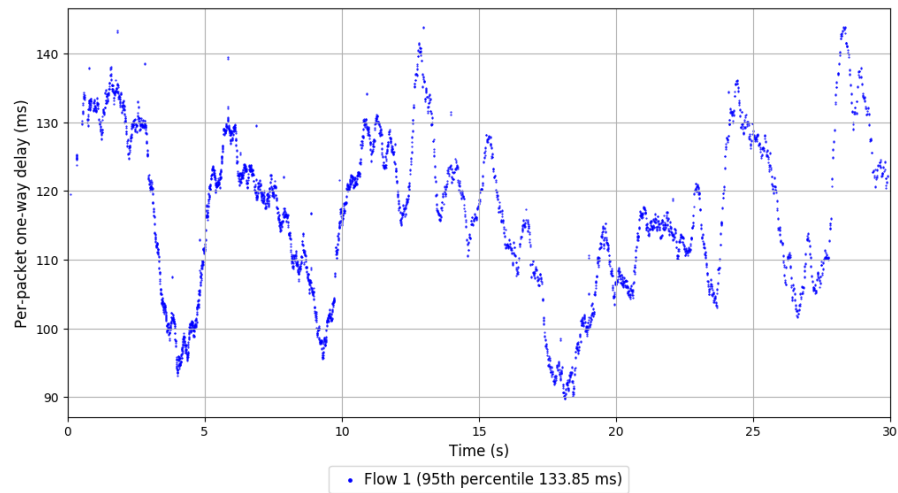
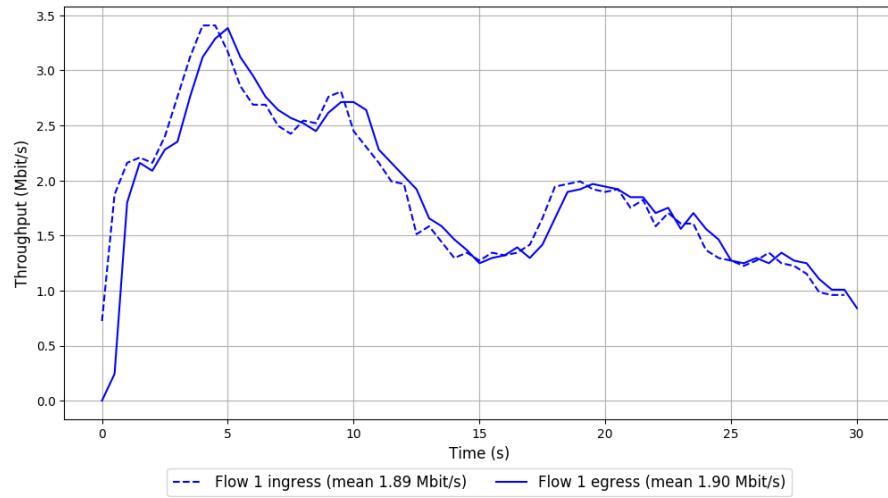


Run 5: Statistics of TCP Vegas

Start at: 2018-11-15 09:41:12
End at: 2018-11-15 09:41:42
Local clock offset: -2.433 ms
Remote clock offset: 25.966 ms

Below is generated by plot.py at 2018-11-15 09:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 133.847 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 133.847 ms
Loss rate: 0.32%

Run 5: Report of TCP Vegas — Data Link

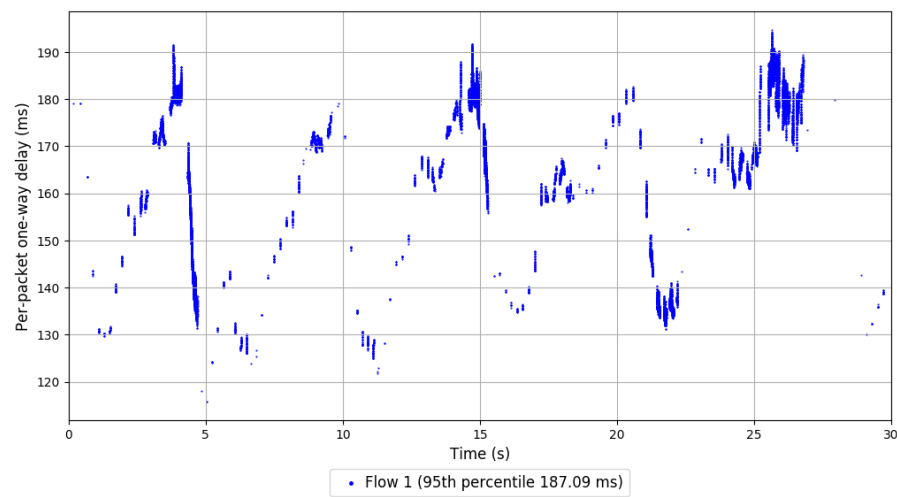
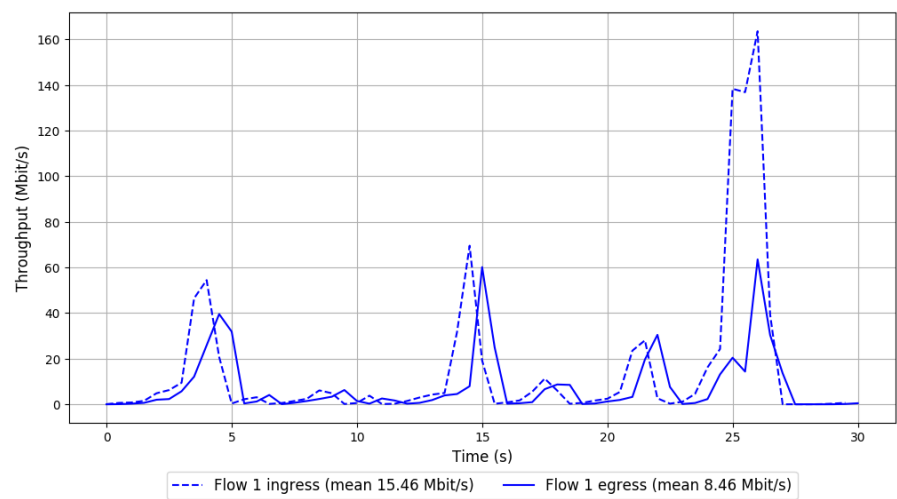


Run 1: Statistics of Verus

Start at: 2018-11-15 07:55:52
End at: 2018-11-15 07:56:22
Local clock offset: 8.909 ms
Remote clock offset: 44.944 ms

Below is generated by plot.py at 2018-11-15 09:57:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 8.46 Mbit/s
95th percentile per-packet one-way delay: 187.086 ms
Loss rate: 45.76%
-- Flow 1:
Average throughput: 8.46 Mbit/s
95th percentile per-packet one-way delay: 187.086 ms
Loss rate: 45.76%

Run 1: Report of Verus — Data Link

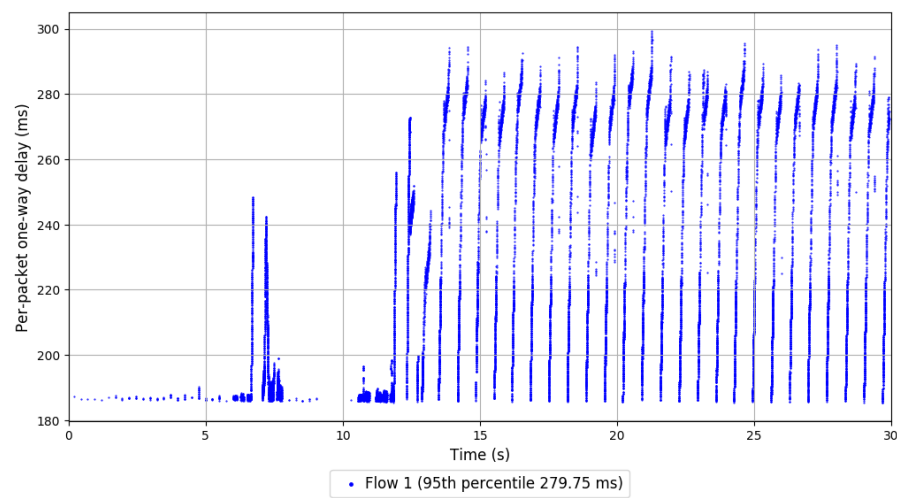
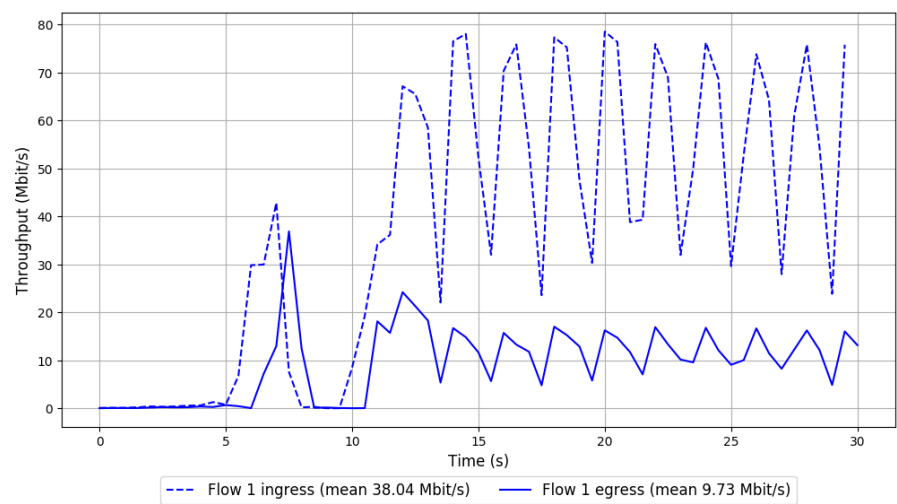


Run 2: Statistics of Verus

Start at: 2018-11-15 08:22:28
End at: 2018-11-15 08:22:58
Local clock offset: 7.203 ms
Remote clock offset: 24.452 ms

Below is generated by plot.py at 2018-11-15 09:57:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 9.73 Mbit/s
95th percentile per-packet one-way delay: 279.751 ms
Loss rate: 74.50%
-- Flow 1:
Average throughput: 9.73 Mbit/s
95th percentile per-packet one-way delay: 279.751 ms
Loss rate: 74.50%

Run 2: Report of Verus — Data Link

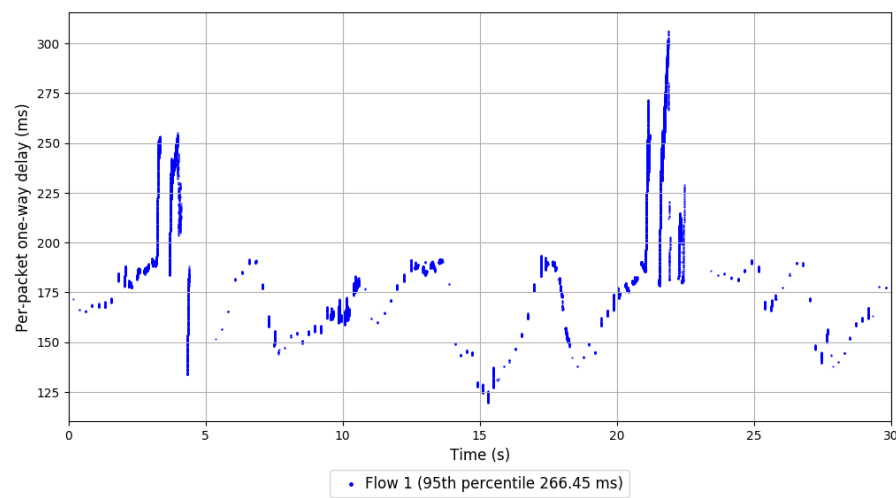
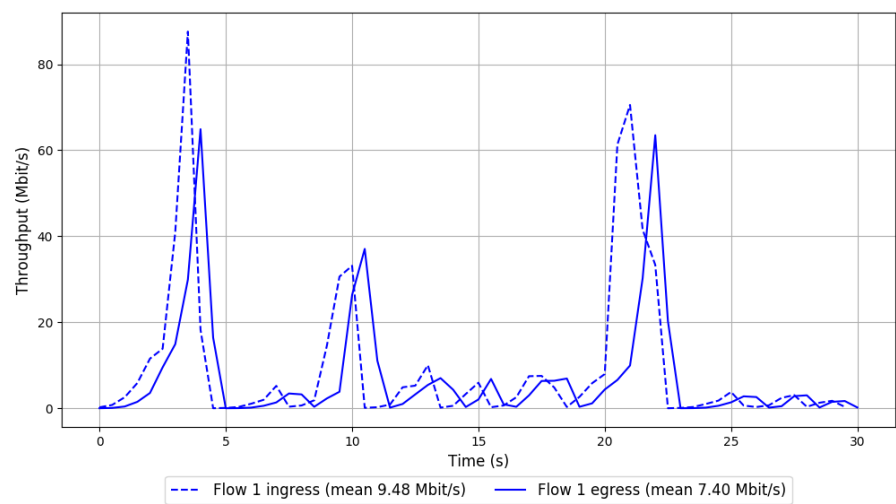


Run 3: Statistics of Verus

Start at: 2018-11-15 08:49:15
End at: 2018-11-15 08:49:45
Local clock offset: 9.445 ms
Remote clock offset: -14.806 ms

Below is generated by plot.py at 2018-11-15 09:57:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 7.40 Mbit/s
95th percentile per-packet one-way delay: 266.452 ms
Loss rate: 22.62%
-- Flow 1:
Average throughput: 7.40 Mbit/s
95th percentile per-packet one-way delay: 266.452 ms
Loss rate: 22.62%

Run 3: Report of Verus — Data Link

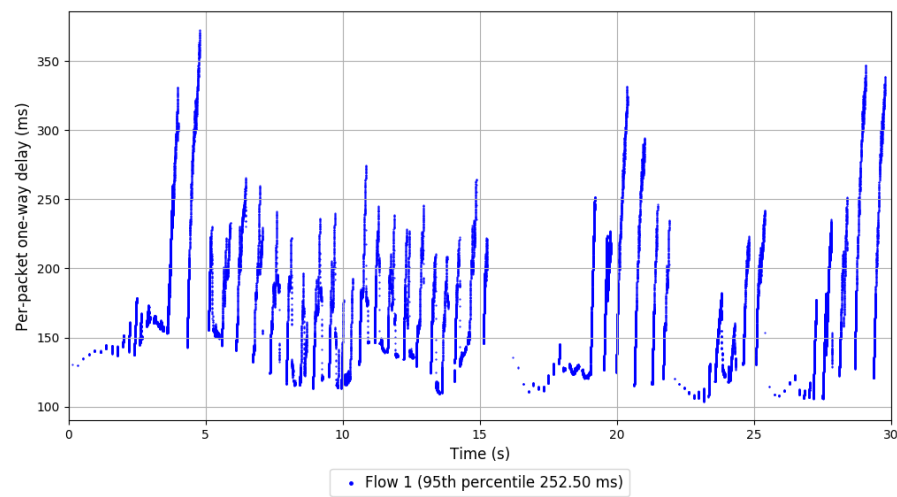
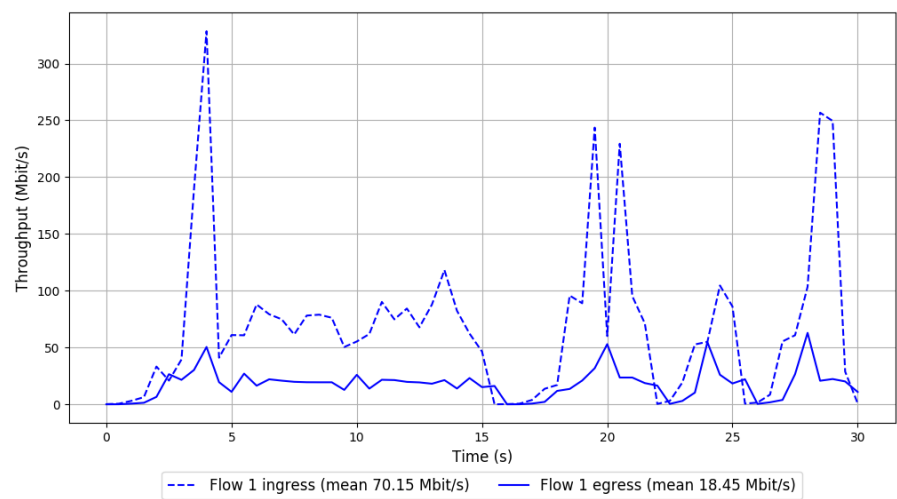


Run 4: Statistics of Verus

Start at: 2018-11-15 09:11:46
End at: 2018-11-15 09:12:16
Local clock offset: -0.852 ms
Remote clock offset: 37.199 ms

Below is generated by plot.py at 2018-11-15 09:57:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 18.45 Mbit/s
95th percentile per-packet one-way delay: 252.501 ms
Loss rate: 74.00%
-- Flow 1:
Average throughput: 18.45 Mbit/s
95th percentile per-packet one-way delay: 252.501 ms
Loss rate: 74.00%

Run 4: Report of Verus — Data Link

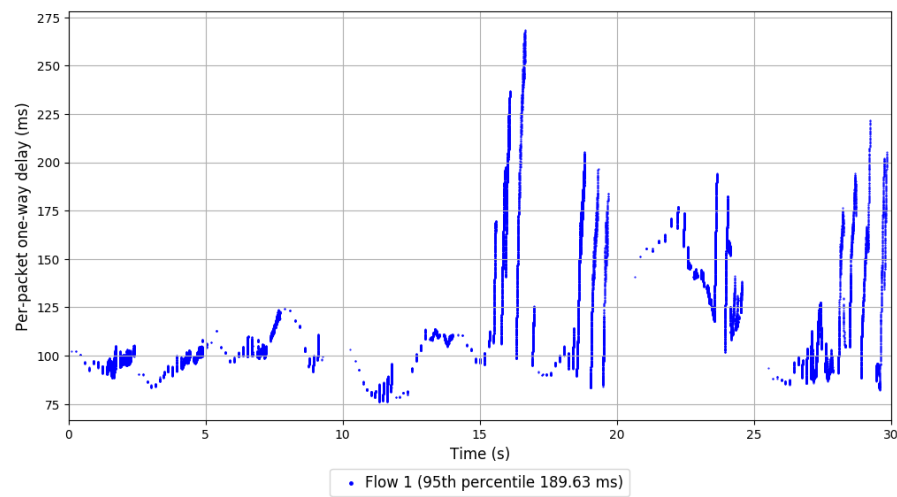
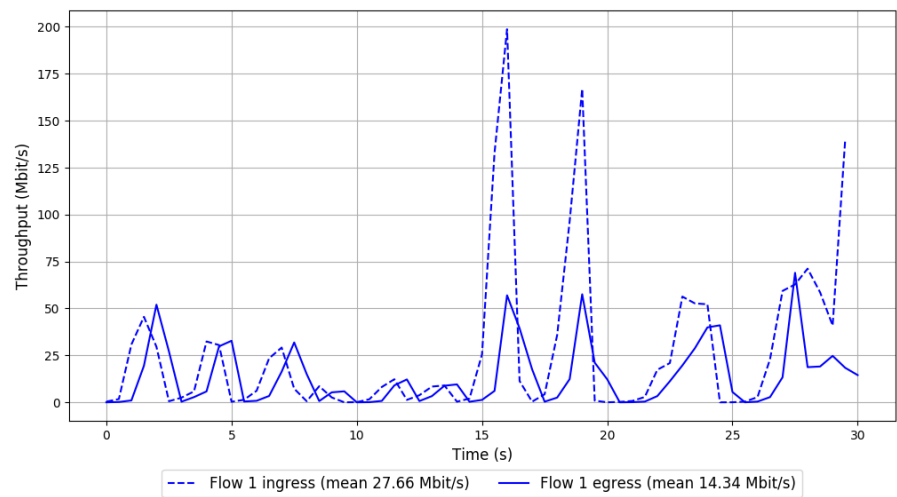


Run 5: Statistics of Verus

Start at: 2018-11-15 09:33:50
End at: 2018-11-15 09:34:20
Local clock offset: -2.772 ms
Remote clock offset: 31.453 ms

Below is generated by plot.py at 2018-11-15 09:57:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 14.34 Mbit/s
95th percentile per-packet one-way delay: 189.627 ms
Loss rate: 47.98%
-- Flow 1:
Average throughput: 14.34 Mbit/s
95th percentile per-packet one-way delay: 189.627 ms
Loss rate: 47.98%

Run 5: Report of Verus — Data Link

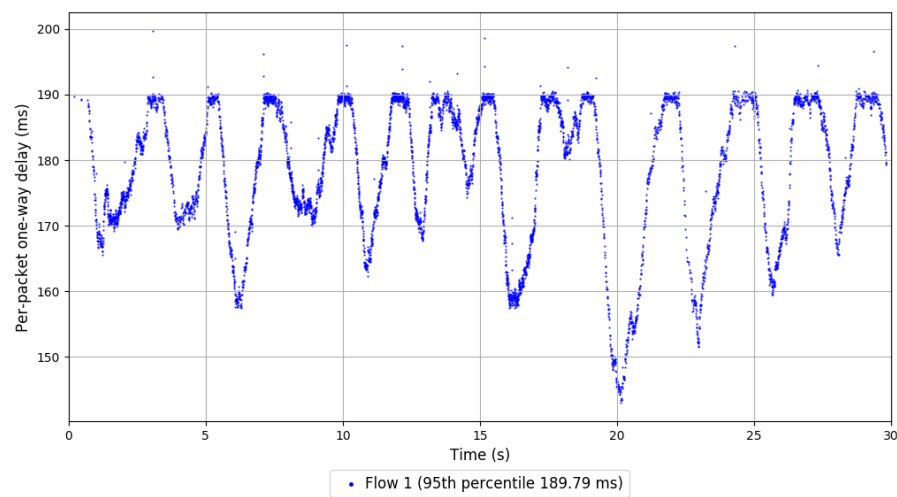
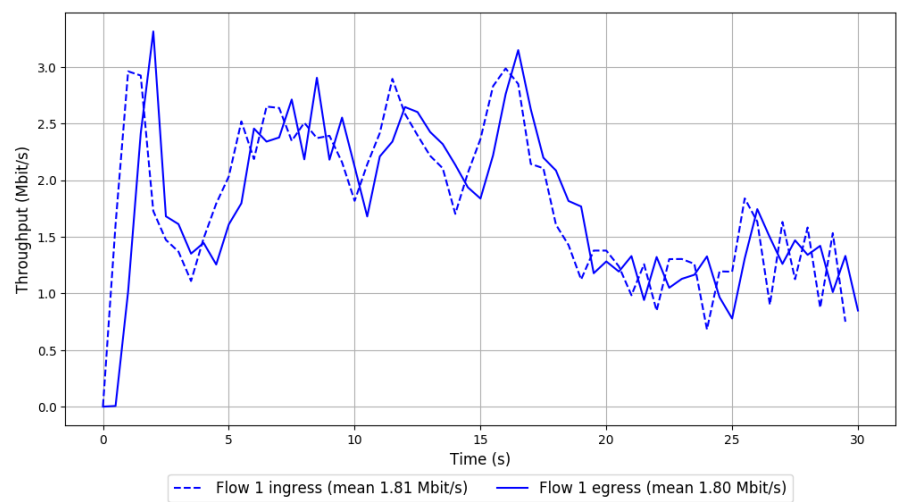


Run 1: Statistics of PCC-Vivace

Start at: 2018-11-15 08:13:45
End at: 2018-11-15 08:14:15
Local clock offset: 6.982 ms
Remote clock offset: 44.773 ms

Below is generated by plot.py at 2018-11-15 09:57:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 189.791 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 1.80 Mbit/s
95th percentile per-packet one-way delay: 189.791 ms
Loss rate: 0.88%

Run 1: Report of PCC-Vivace — Data Link

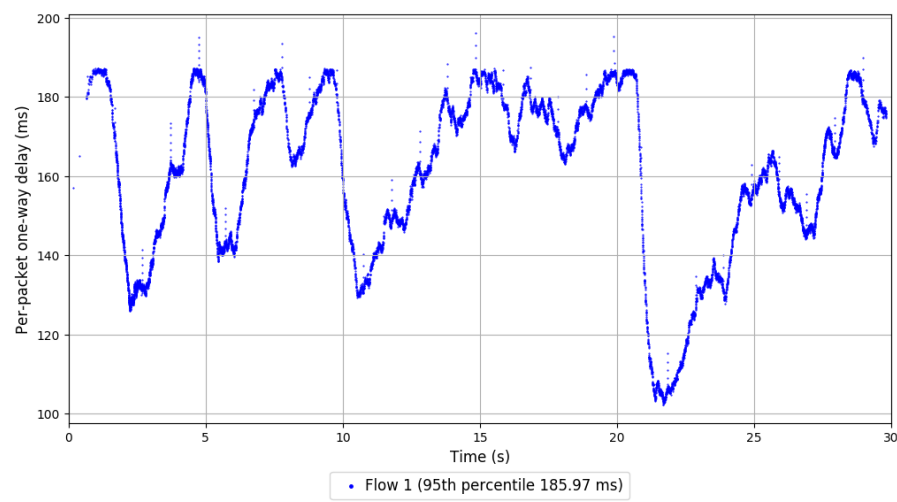
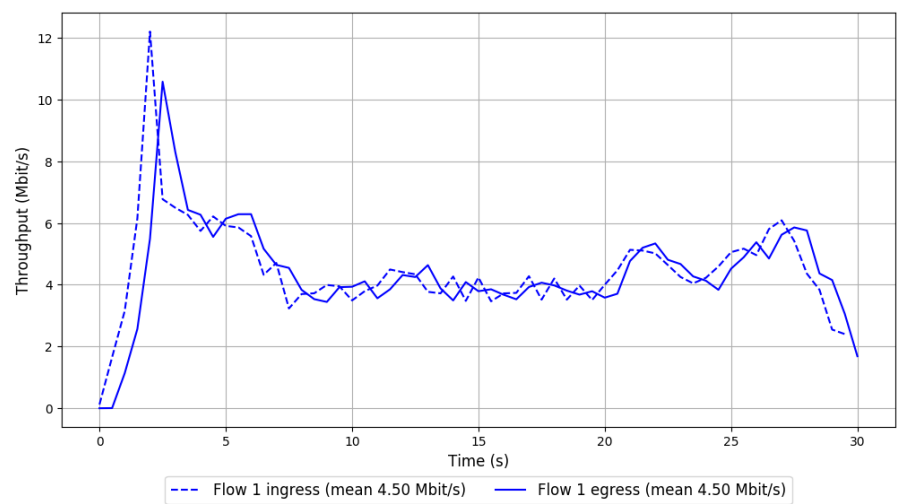


Run 2: Statistics of PCC-Vivace

Start at: 2018-11-15 08:42:46
End at: 2018-11-15 08:43:16
Local clock offset: 8.73 ms
Remote clock offset: -6.913 ms

Below is generated by plot.py at 2018-11-15 09:57:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.50 Mbit/s
95th percentile per-packet one-way delay: 185.971 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 4.50 Mbit/s
95th percentile per-packet one-way delay: 185.971 ms
Loss rate: 0.72%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-11-15 09:05:26

End at: 2018-11-15 09:05:56

Local clock offset: 1.806 ms

Remote clock offset: 30.764 ms

Below is generated by plot.py at 2018-11-15 09:57:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.62 Mbit/s

95th percentile per-packet one-way delay: 167.210 ms

Loss rate: 0.83%

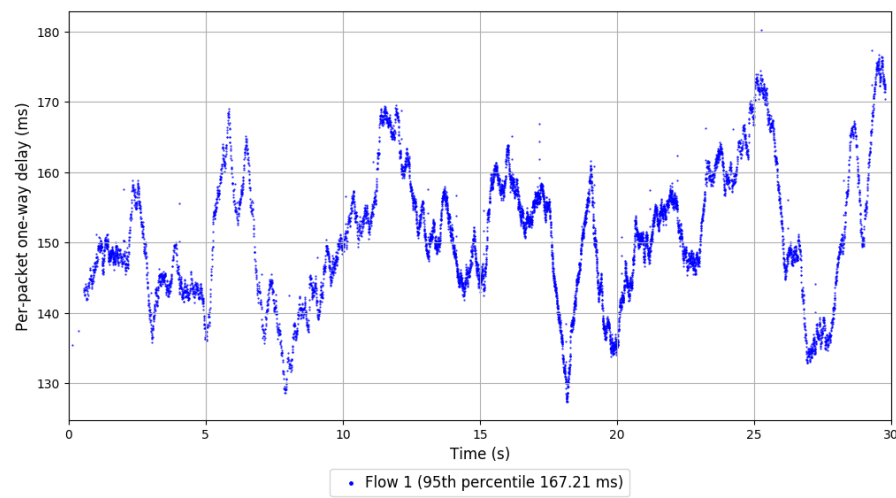
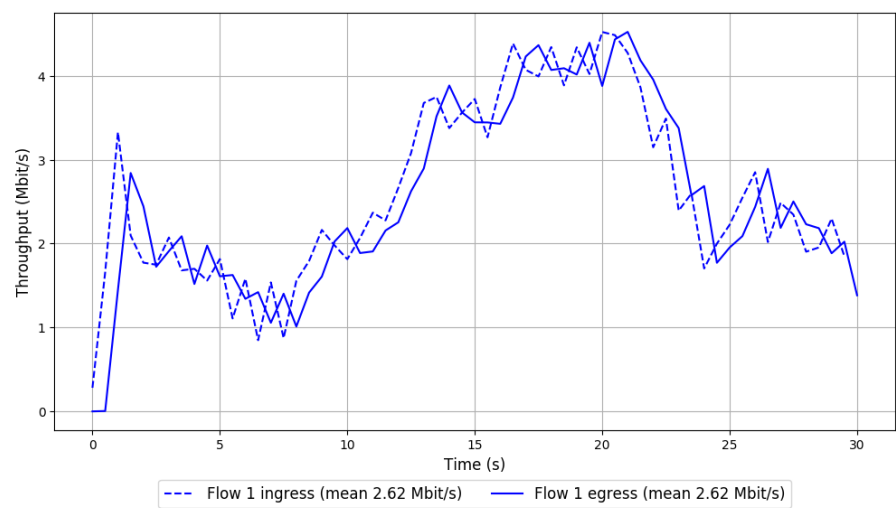
-- Flow 1:

Average throughput: 2.62 Mbit/s

95th percentile per-packet one-way delay: 167.210 ms

Loss rate: 0.83%

Run 3: Report of PCC-Vivace — Data Link

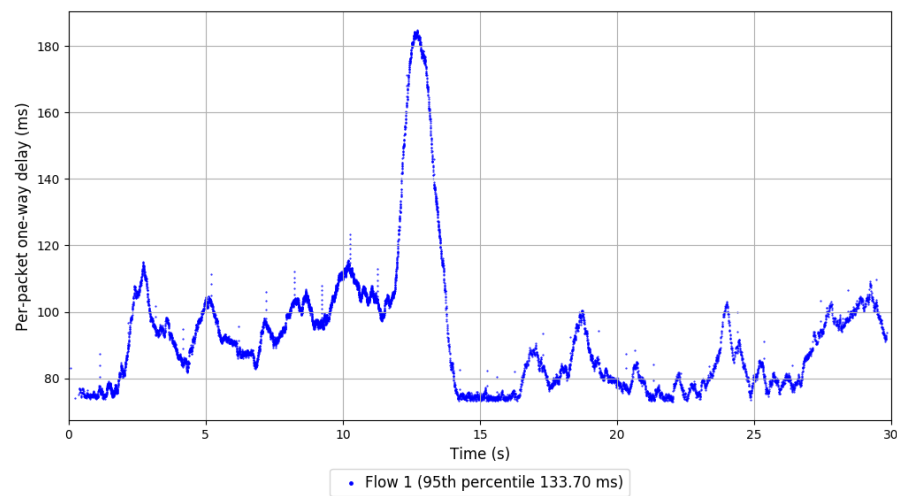
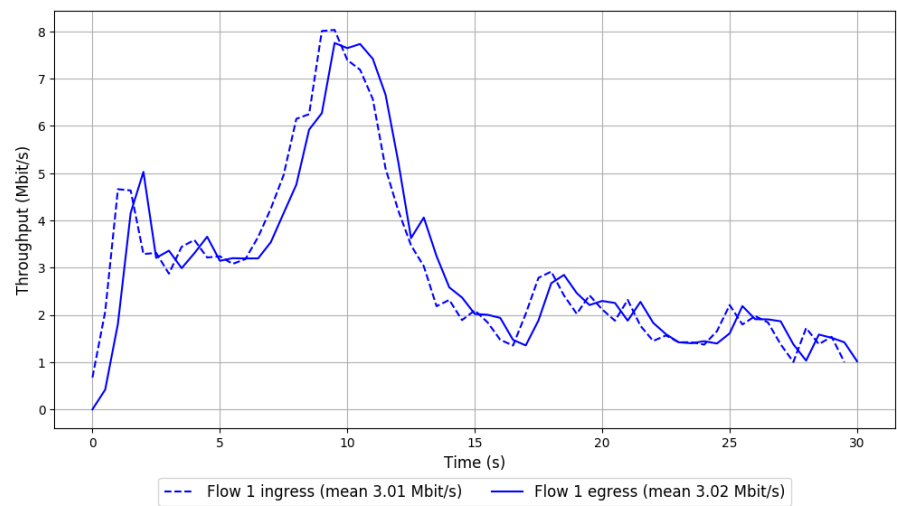


Run 4: Statistics of PCC-Vivace

Start at: 2018-11-15 09:27:37
End at: 2018-11-15 09:28:07
Local clock offset: -3.806 ms
Remote clock offset: 41.443 ms

Below is generated by plot.py at 2018-11-15 09:57:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 133.701 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 133.701 ms
Loss rate: 0.19%

Run 4: Report of PCC-Vivace — Data Link

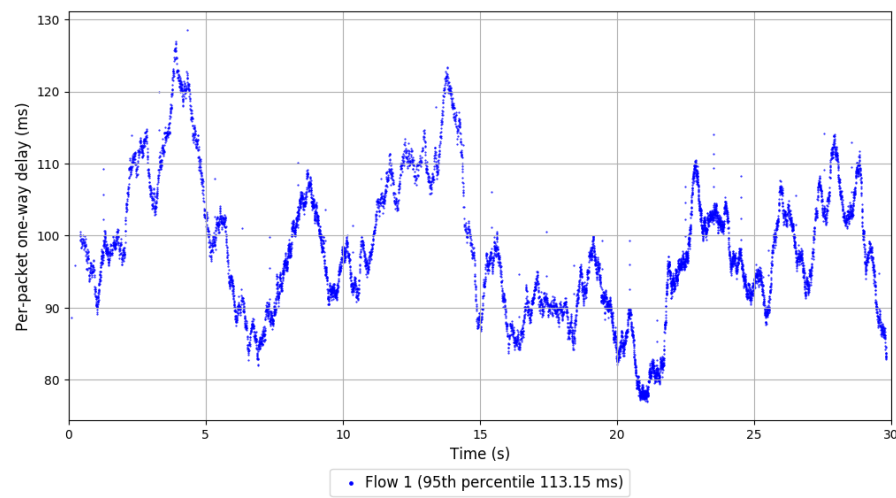
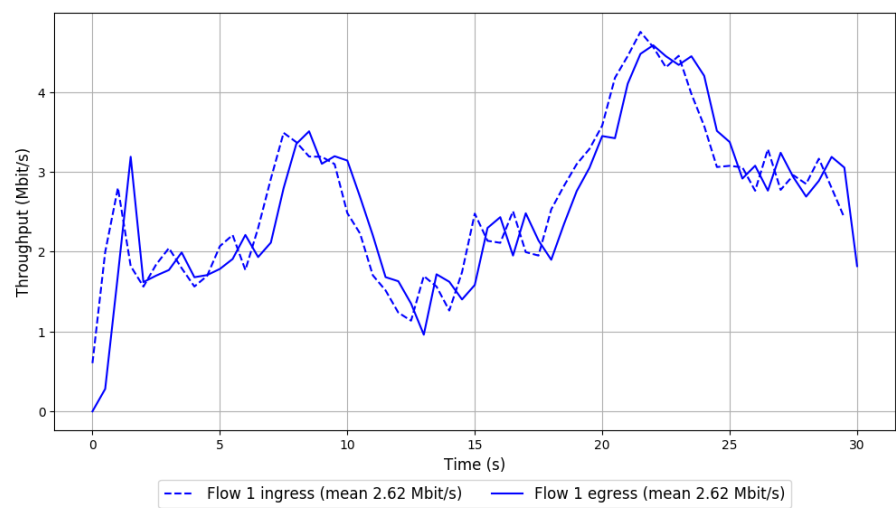


Run 5: Statistics of PCC-Vivace

Start at: 2018-11-15 09:49:37
End at: 2018-11-15 09:50:08
Local clock offset: -2.59 ms
Remote clock offset: 22.254 ms

Below is generated by plot.py at 2018-11-15 09:57:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.62 Mbit/s
95th percentile per-packet one-way delay: 113.152 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 2.62 Mbit/s
95th percentile per-packet one-way delay: 113.152 ms
Loss rate: 0.66%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-11-15 08:02:12

End at: 2018-11-15 08:02:42

Local clock offset: 7.801 ms

Remote clock offset: 39.57 ms

Below is generated by plot.py at 2018-11-15 09:57:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.93 Mbit/s

95th percentile per-packet one-way delay: 190.055 ms

Loss rate: 1.23%

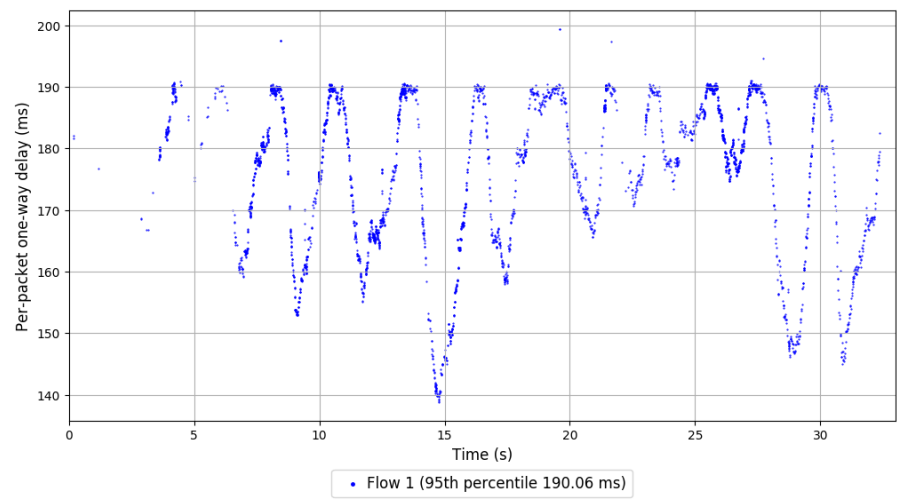
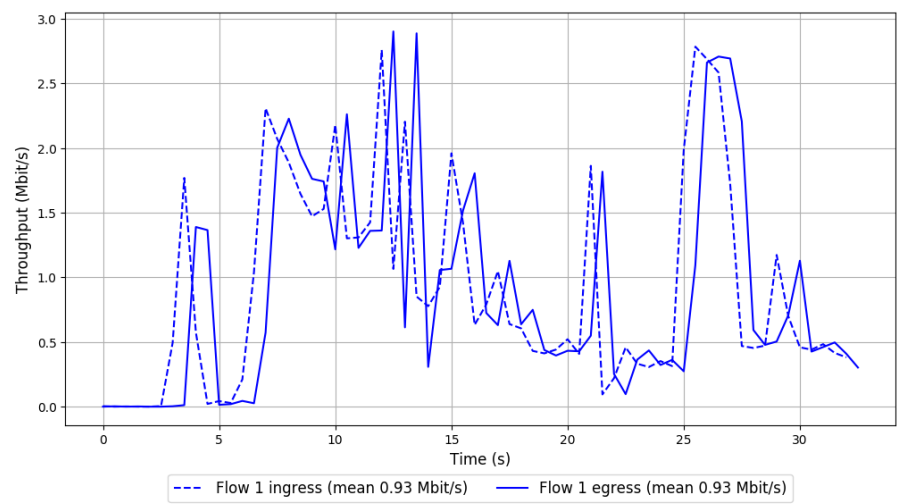
-- Flow 1:

Average throughput: 0.93 Mbit/s

95th percentile per-packet one-way delay: 190.055 ms

Loss rate: 1.23%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-11-15 08:32:46

End at: 2018-11-15 08:33:16

Local clock offset: 8.009 ms

Remote clock offset: 4.254 ms

Below is generated by plot.py at 2018-11-15 09:57:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.72 Mbit/s

95th percentile per-packet one-way delay: 185.612 ms

Loss rate: 2.80%

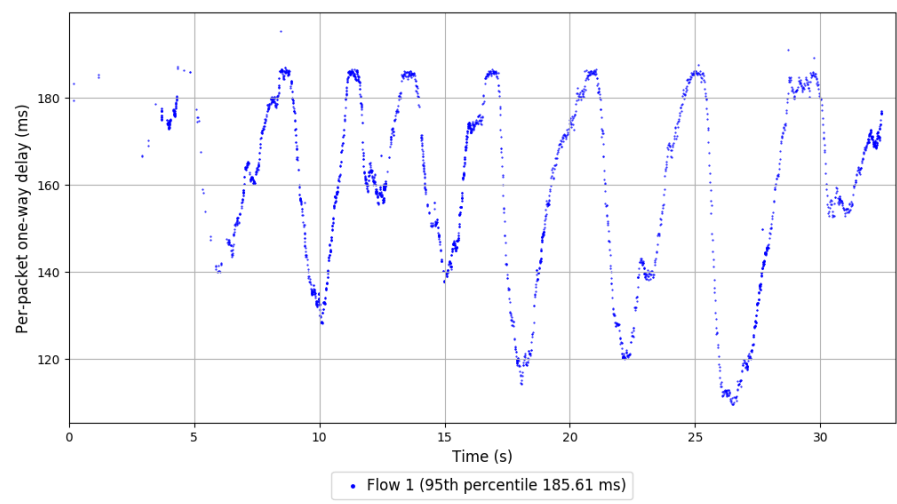
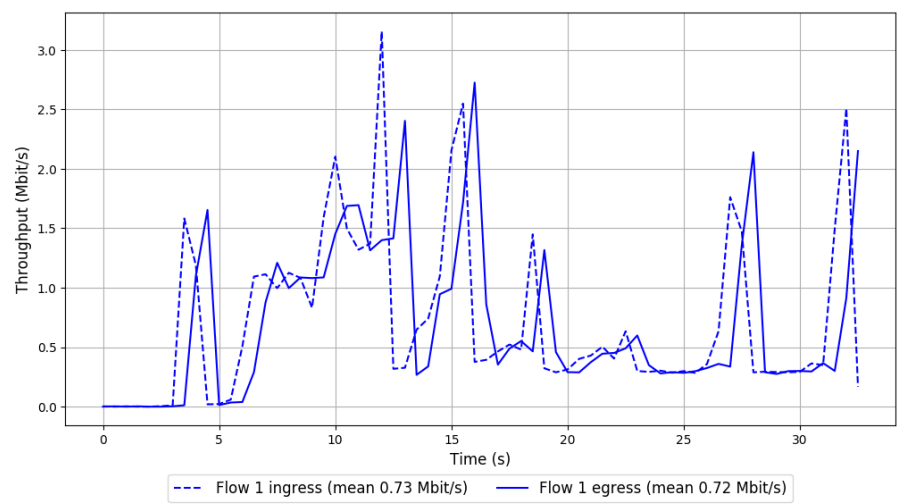
-- Flow 1:

Average throughput: 0.72 Mbit/s

95th percentile per-packet one-way delay: 185.612 ms

Loss rate: 2.80%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-11-15 08:55:32

End at: 2018-11-15 08:56:02

Local clock offset: 9.664 ms

Remote clock offset: 7.192 ms

Below is generated by plot.py at 2018-11-15 09:57:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.02 Mbit/s

95th percentile per-packet one-way delay: 189.697 ms

Loss rate: 1.27%

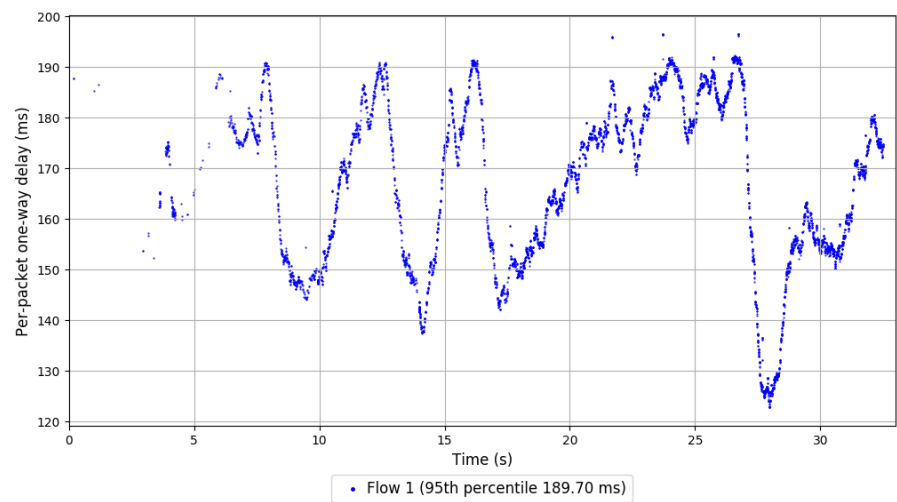
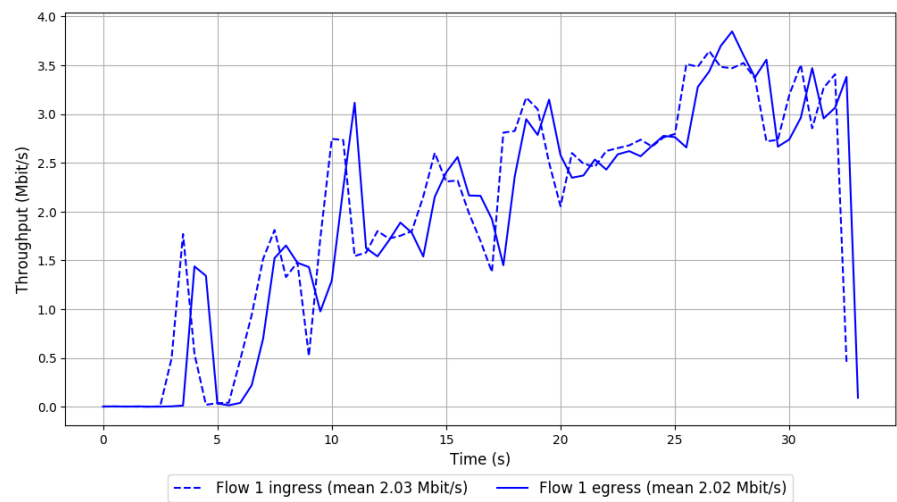
-- Flow 1:

Average throughput: 2.02 Mbit/s

95th percentile per-packet one-way delay: 189.697 ms

Loss rate: 1.27%

Run 3: Report of WebRTC media — Data Link

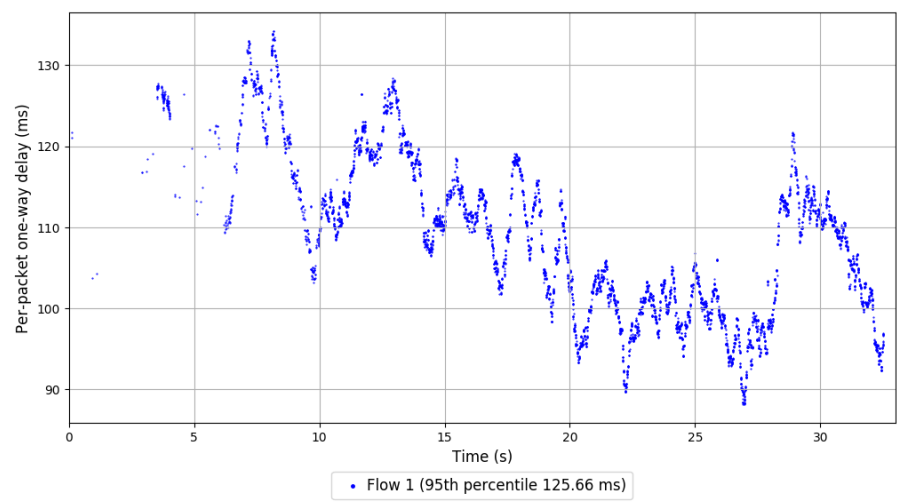
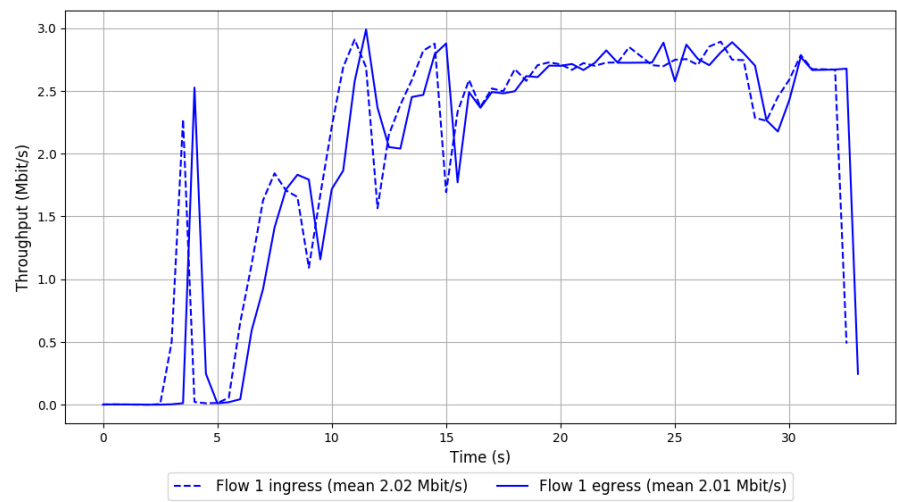


Run 4: Statistics of WebRTC media

Start at: 2018-11-15 09:18:01
End at: 2018-11-15 09:18:31
Local clock offset: -2.315 ms
Remote clock offset: 40.432 ms

Below is generated by plot.py at 2018-11-15 09:57:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 125.662 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 125.662 ms
Loss rate: 0.64%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-11-15 09:40:01
End at: 2018-11-15 09:40:31
Local clock offset: -2.597 ms
Remote clock offset: 24.543 ms

Below is generated by plot.py at 2018-11-15 09:57:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 119.607 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 119.607 ms
Loss rate: 0.43%

Run 5: Report of WebRTC media — Data Link

