

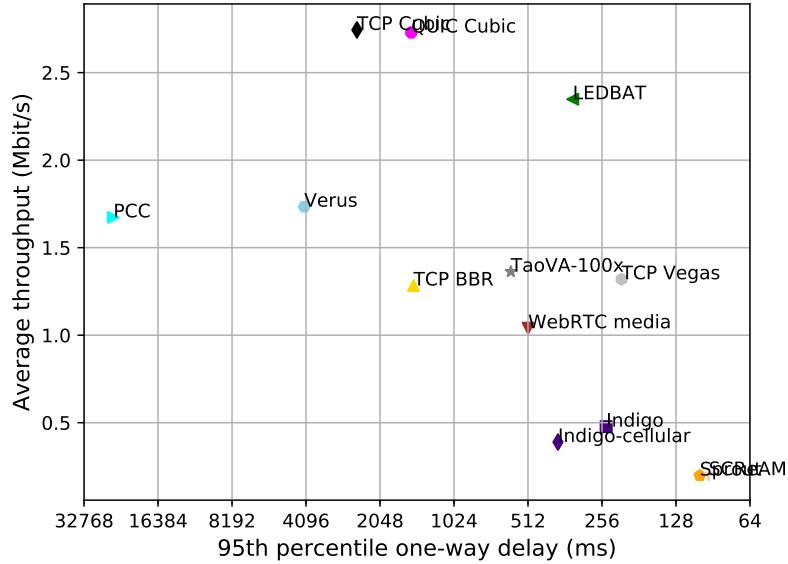
Pantheon Report

Generated at 2017-09-22 09:32:34 (UTC).
Data path: AWS Korea Ethernet (*local*) → China ppp0 (*remote*).
Repeated the test of 13 congestion control schemes 3 times.
Each test lasted for 30 seconds running 1 flow.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).
NTP offsets were measured against `ntp.nict.jp` and have been applied to correct the timestamps in logs.

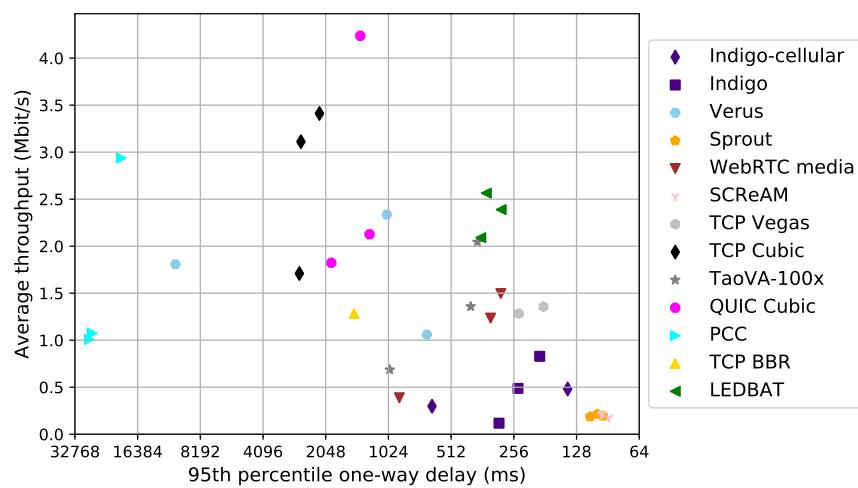
Git summary:

```
branch: indigos @ 46c7c812d4acb71eea4f5fb0b03b3657cea3062f
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/genericCC @ f7ca42f251bf49b432bb71de6d13fa903515c366
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/indigo-cellular @ aee99e8eb842cb053f8c9a80e28cd256a930bbc2
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/indigo-no-cwnd @ 3e58442c04028a11d7b02456e137604633ba2d6c
third_party/indigo-no-delivery-rate @ 57caa40858b964906edff4876d5a7e5bfff666c5
third_party/indigo-no-queuing-delay @ 03455460fd1a8ffbdad86fabb936fdca204b80db
third_party/indigo-no-send-rate @ b39dfa6b2c5f19cb7cd89626cb4f5bb81f9fecda
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
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/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
  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/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

test from AWS Korea Ethernet to China ppp0, 3 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS Korea Ethernet to China ppp0, 3 runs of 30s each per scheme



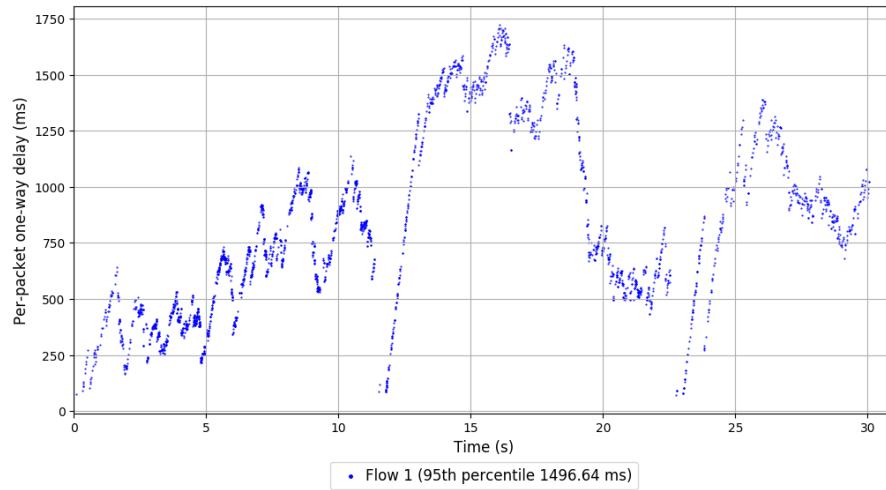
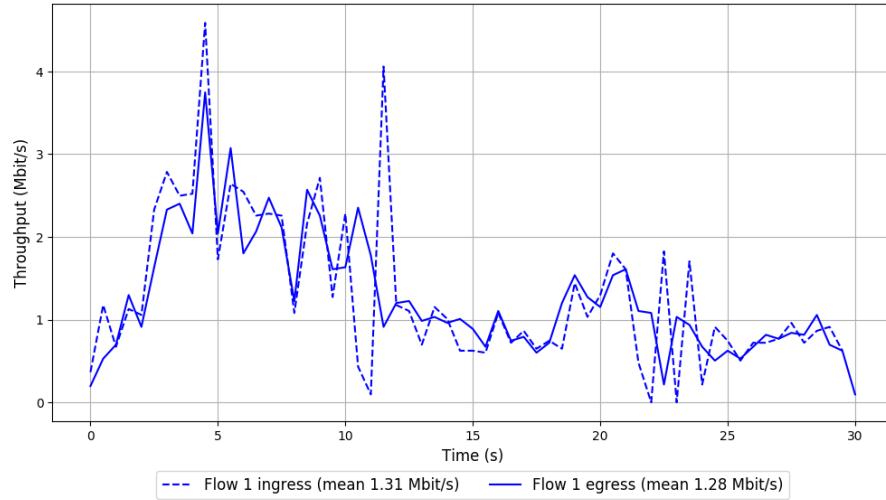
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	1	1.28	1496.64	1.87
TCP Cubic	3	2.74	2542.94	11.83
LEDBAT	3	2.35	336.78	0.57
PCC	3	1.67	24890.32	82.50
QUIC Cubic	3	2.73	1528.31	4.24
SCReAM	3	0.20	94.22	0.03
WebRTC media	3	1.04	511.36	0.33
Sprout	3	0.20	102.42	0.35
TaoVA-100x	3	1.36	601.32	0.80
TCP Vegas	2	1.32	213.26	0.07
Verus	3	1.73	4167.57	5.73
Indigo	3	0.48	246.16	24.21
Indigo-cellular	2	0.39	386.70	0.46

Run 1: Statistics of TCP BBR

```
Start at: 2017-09-22 08:47:39
End at: 2017-09-22 08:48:09
Local clock offset: -1.161 ms
Remote clock offset: -0.286 ms

# Below is generated by plot.py at 2017-09-22 09:32:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 1496.638 ms
Loss rate: 1.87%
-- Flow 1:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 1496.638 ms
Loss rate: 1.87%
```

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

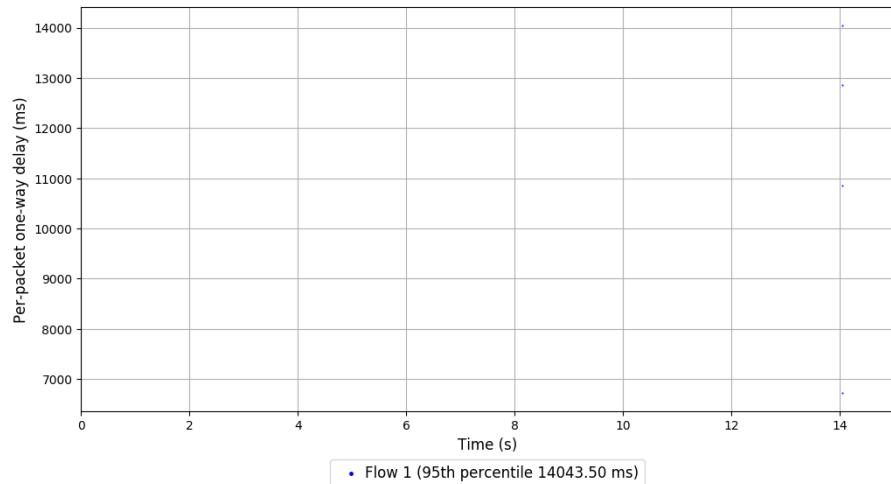
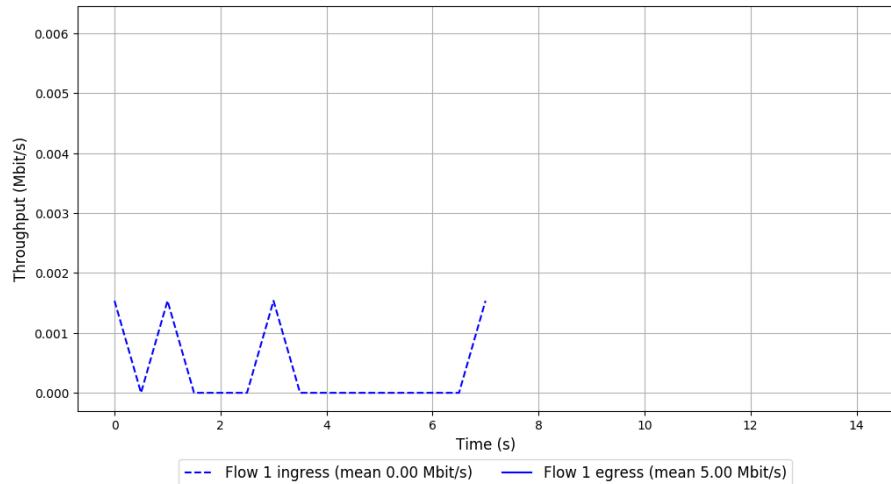
Start at: 2017-09-22 09:02:53

End at: 2017-09-22 09:03:23

Local clock offset: -1.377 ms

Remote clock offset: -0.434 ms

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

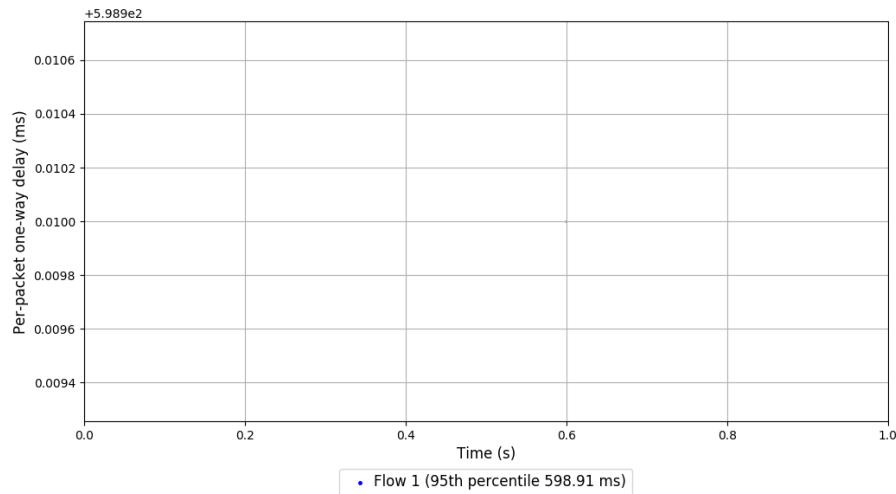
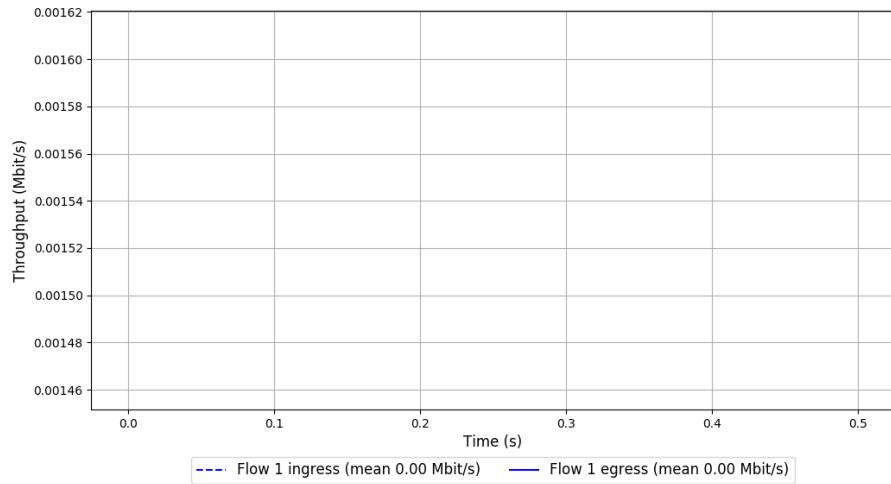
Start at: 2017-09-22 09:17:55

End at: 2017-09-22 09:18:25

Local clock offset: -1.297 ms

Remote clock offset: -0.313 ms

Run 3: Report of TCP BBR — Data Link

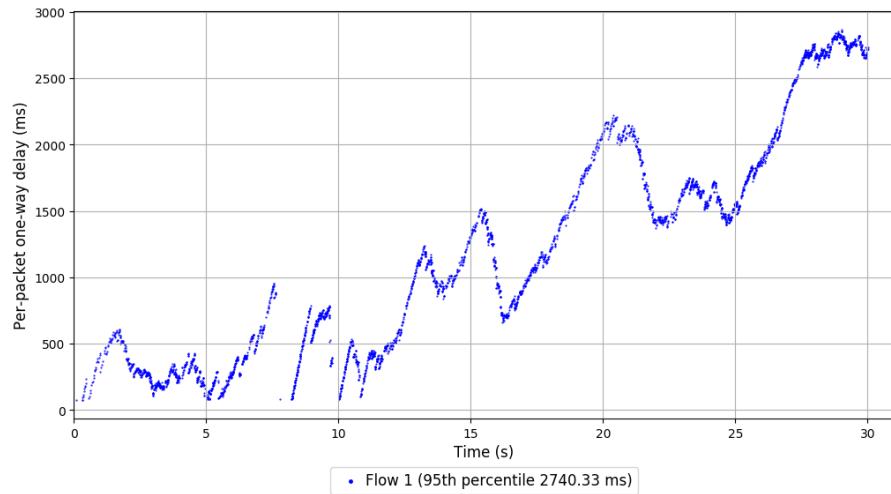
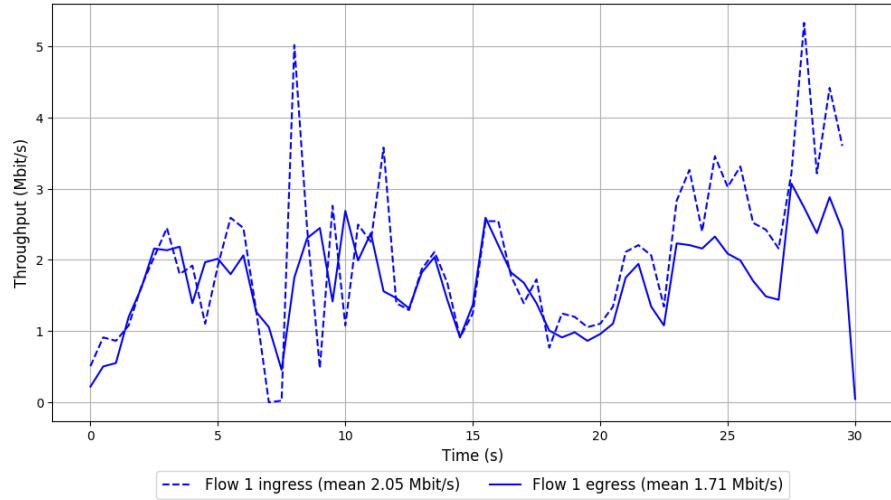


Run 1: Statistics of TCP Cubic

```
Start at: 2017-09-22 08:59:25
End at: 2017-09-22 08:59:55
Local clock offset: -2.633 ms
Remote clock offset: -0.305 ms

# Below is generated by plot.py at 2017-09-22 09:32:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 2740.331 ms
Loss rate: 16.69%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 2740.331 ms
Loss rate: 16.69%
```

Run 1: Report of TCP Cubic — Data Link

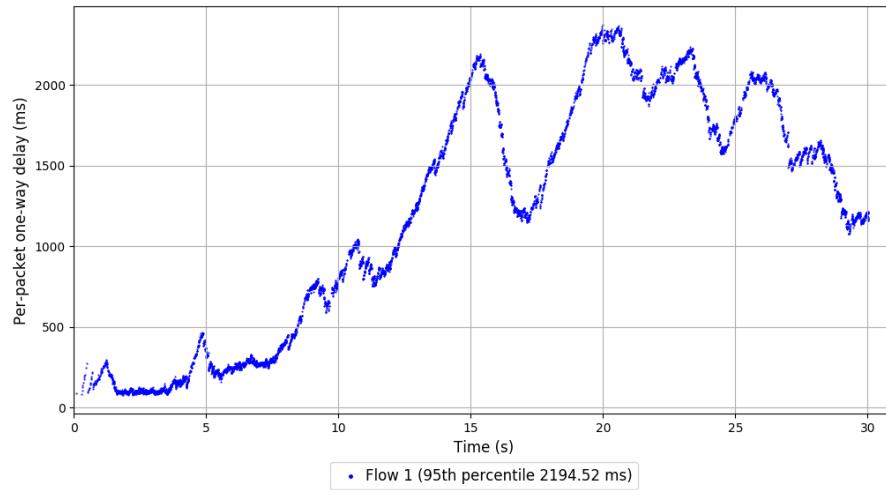
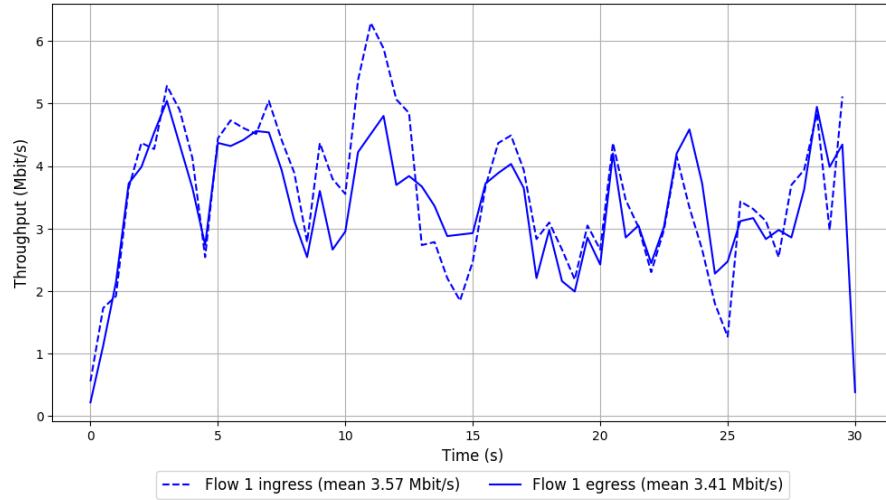


Run 2: Statistics of TCP Cubic

```
Start at: 2017-09-22 09:14:25
End at: 2017-09-22 09:14:55
Local clock offset: -1.182 ms
Remote clock offset: -0.359 ms

# Below is generated by plot.py at 2017-09-22 09:32:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.41 Mbit/s
95th percentile per-packet one-way delay: 2194.517 ms
Loss rate: 4.65%
-- Flow 1:
Average throughput: 3.41 Mbit/s
95th percentile per-packet one-way delay: 2194.517 ms
Loss rate: 4.65%
```

Run 2: Report of TCP Cubic — Data Link

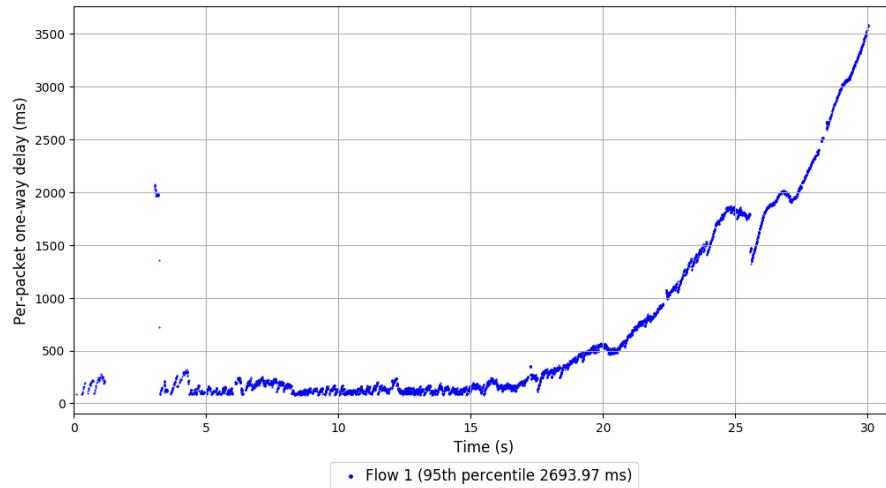
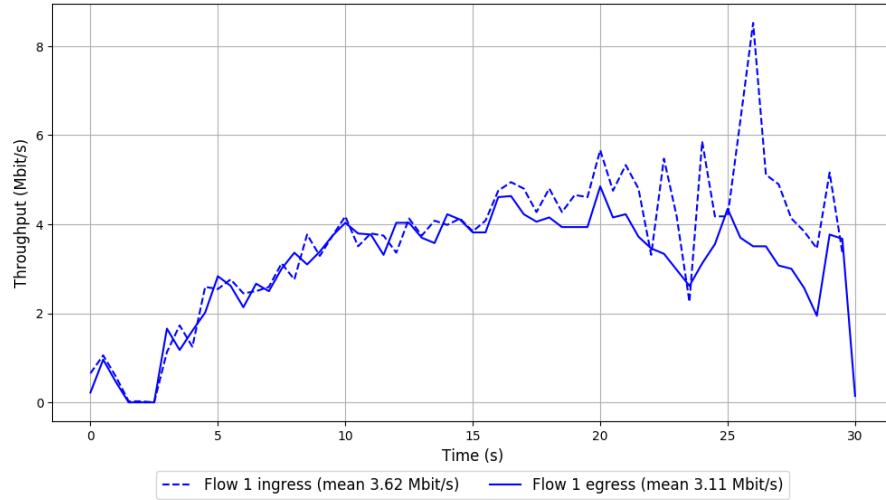


Run 3: Statistics of TCP Cubic

```
Start at: 2017-09-22 09:29:34
End at: 2017-09-22 09:30:04
Local clock offset: -2.202 ms
Remote clock offset: -0.64 ms

# Below is generated by plot.py at 2017-09-22 09:32:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 2693.970 ms
Loss rate: 14.14%
-- Flow 1:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 2693.970 ms
Loss rate: 14.14%
```

Run 3: Report of TCP Cubic — Data Link

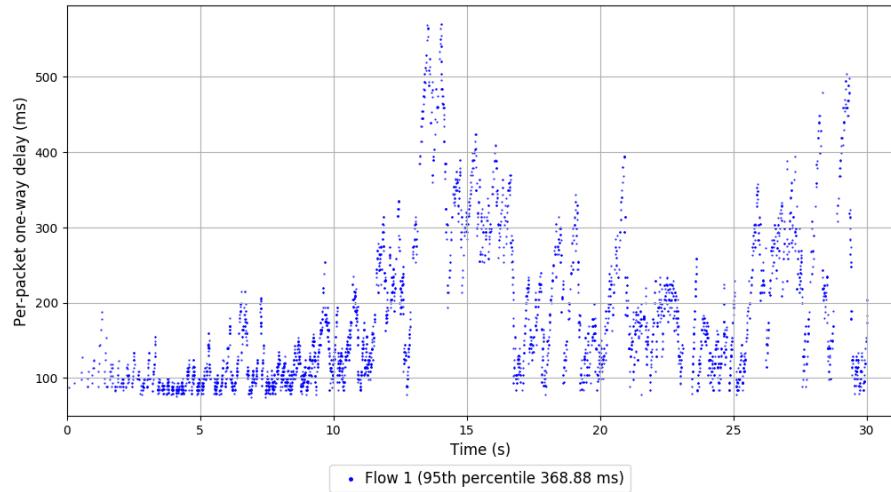
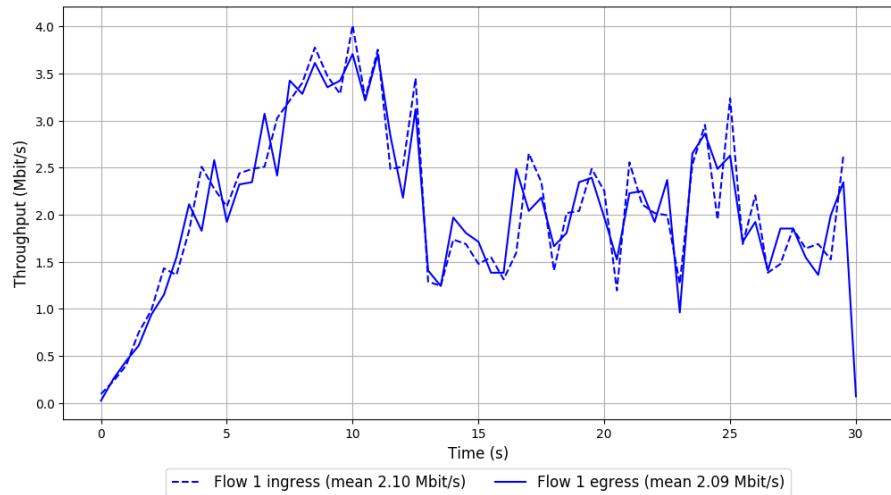


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2017-09-22 08:58:15
End at: 2017-09-22 08:58:45
Local clock offset: -2.624 ms
Remote clock offset: -0.35 ms

# Below is generated by plot.py at 2017-09-22 09:32:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 368.875 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 368.875 ms
Loss rate: 0.65%
```

Run 1: Report of LEDBAT — Data Link

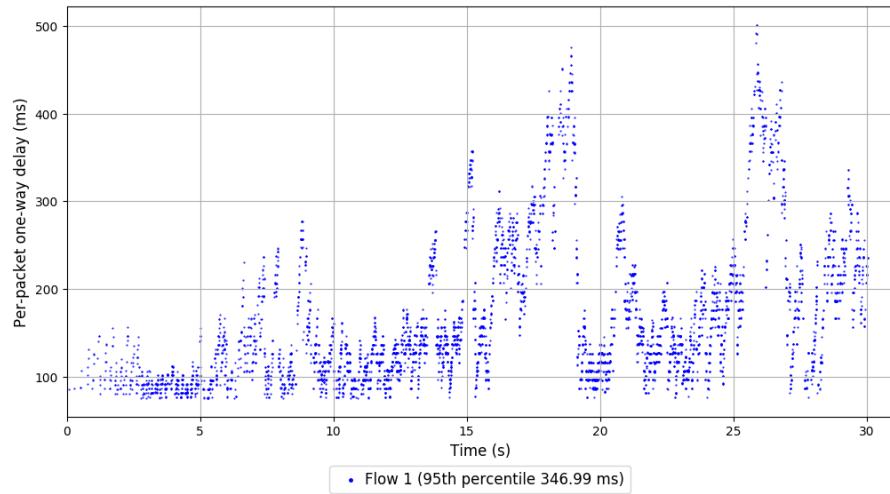
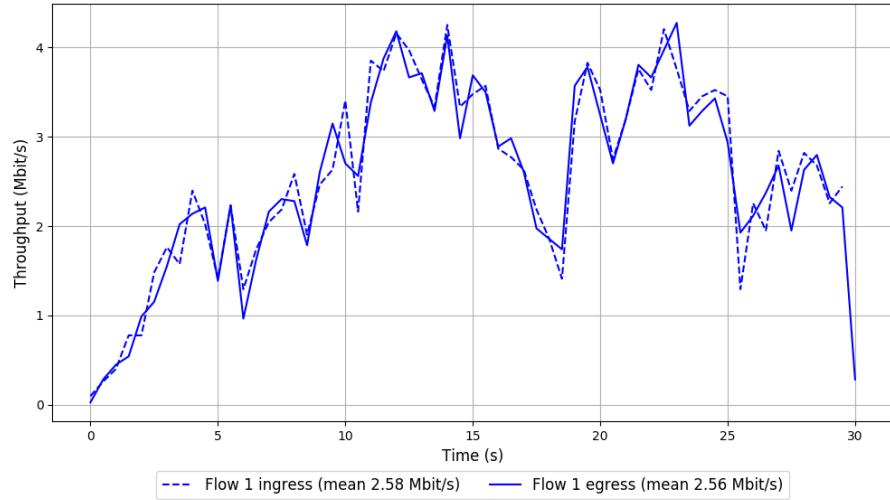


Run 2: Statistics of LEDBAT

```
Start at: 2017-09-22 09:13:15
End at: 2017-09-22 09:13:45
Local clock offset: -1.194 ms
Remote clock offset: -0.406 ms

# Below is generated by plot.py at 2017-09-22 09:32:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 346.994 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 346.994 ms
Loss rate: 0.76%
```

Run 2: Report of LEDBAT — Data Link

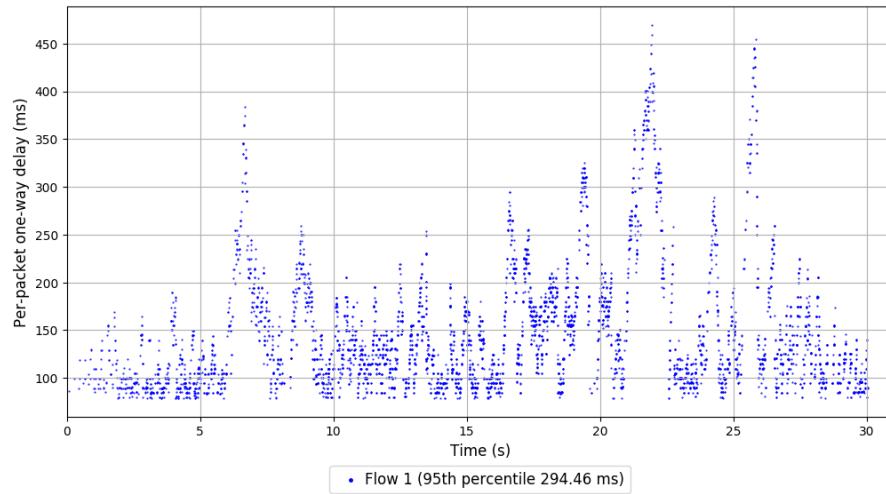
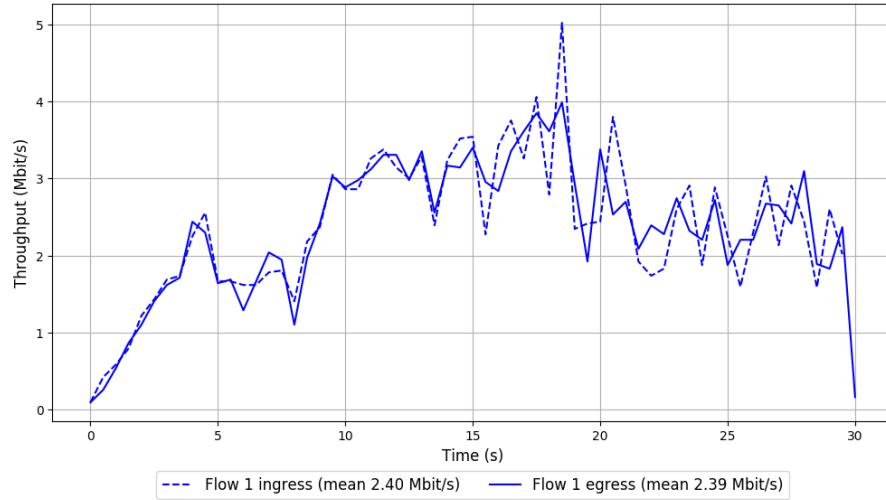


Run 3: Statistics of LEDBAT

```
Start at: 2017-09-22 09:28:24
End at: 2017-09-22 09:28:54
Local clock offset: -2.324 ms
Remote clock offset: -0.42 ms

# Below is generated by plot.py at 2017-09-22 09:32:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 294.457 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 294.457 ms
Loss rate: 0.29%
```

Run 3: Report of LEDBAT — Data Link

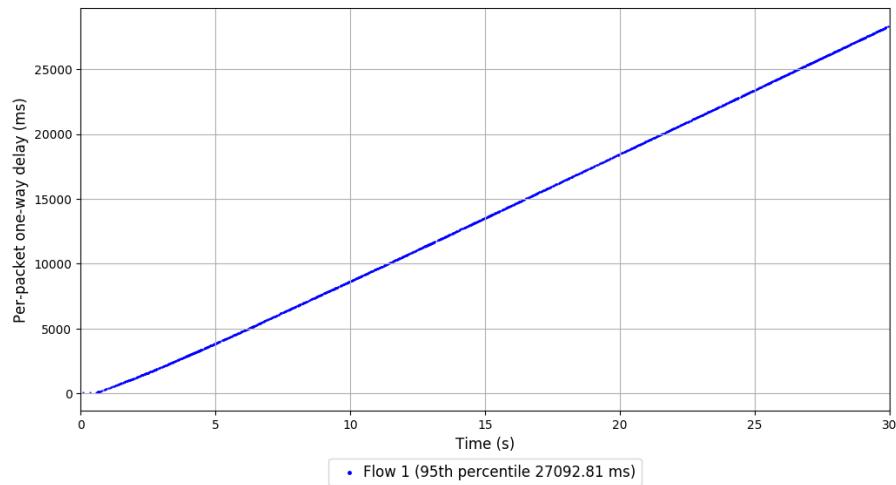
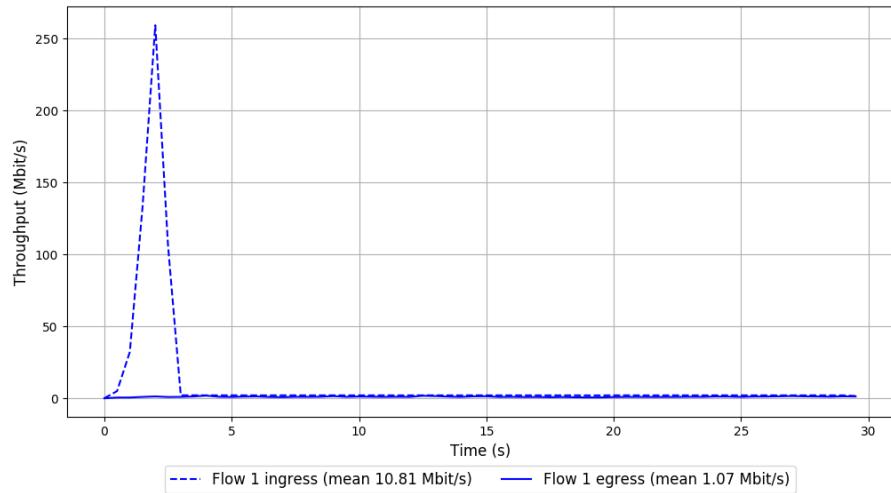


Run 1: Statistics of PCC

```
Start at: 2017-09-22 08:53:32
End at: 2017-09-22 08:54:02
Local clock offset: -1.348 ms
Remote clock offset: -0.31 ms

# Below is generated by plot.py at 2017-09-22 09:32:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 27092.811 ms
Loss rate: 90.07%
-- Flow 1:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 27092.811 ms
Loss rate: 90.07%
```

Run 1: Report of PCC — Data Link

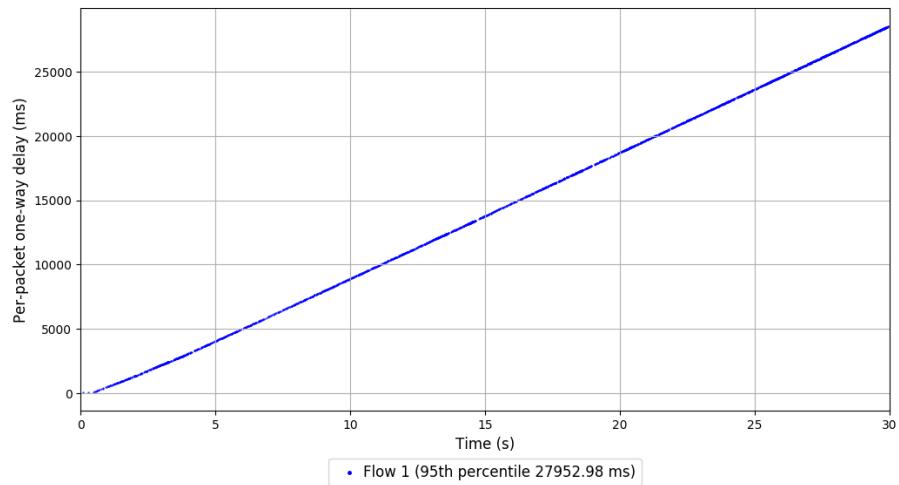
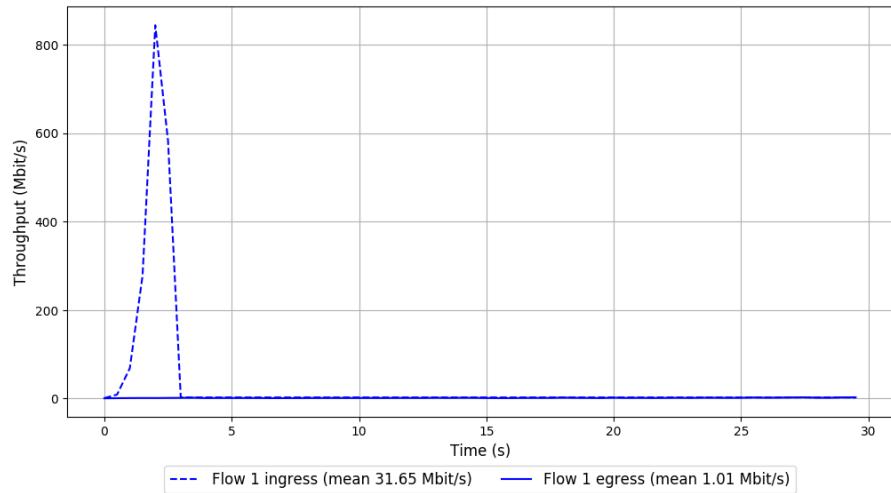


Run 2: Statistics of PCC

```
Start at: 2017-09-22 09:08:38
End at: 2017-09-22 09:09:08
Local clock offset: -1.256 ms
Remote clock offset: -0.384 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 27952.981 ms
Loss rate: 96.82%
-- Flow 1:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 27952.981 ms
Loss rate: 96.82%
```

Run 2: Report of PCC — Data Link

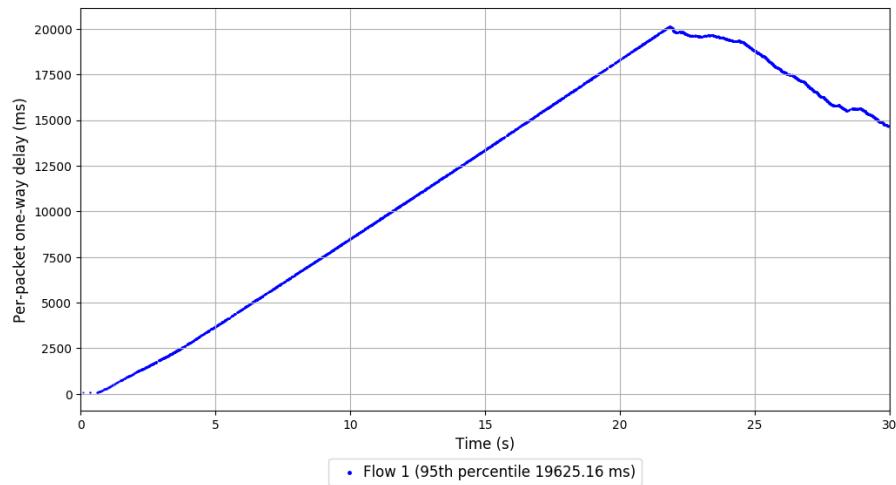
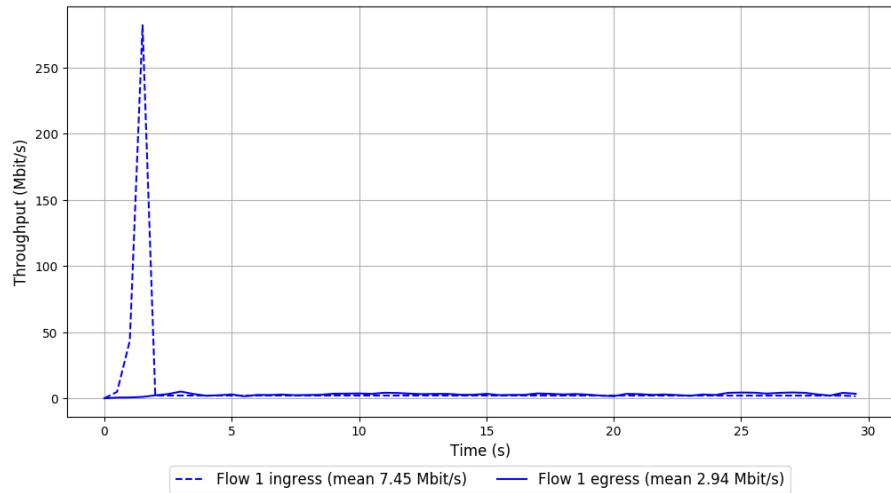


Run 3: Statistics of PCC

```
Start at: 2017-09-22 09:23:45
End at: 2017-09-22 09:24:15
Local clock offset: -2.413 ms
Remote clock offset: -0.364 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 19625.160 ms
Loss rate: 60.60%
-- Flow 1:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 19625.160 ms
Loss rate: 60.60%
```

Run 3: Report of PCC — Data Link

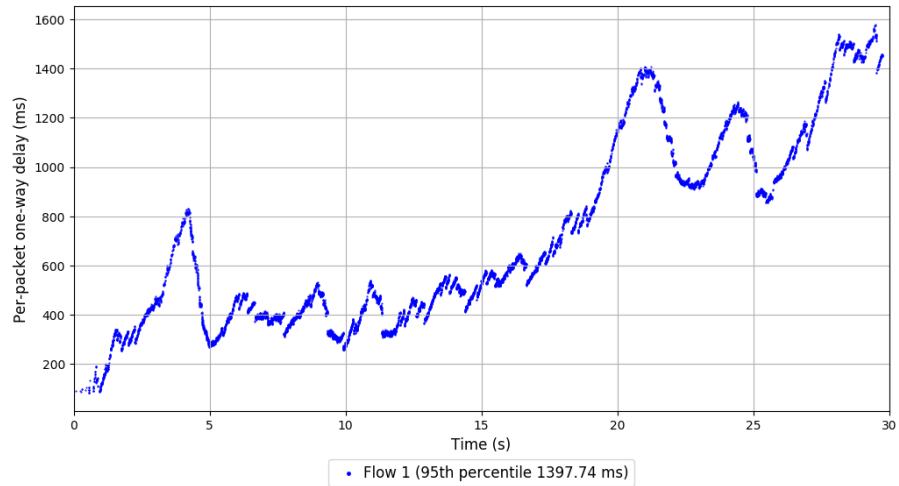
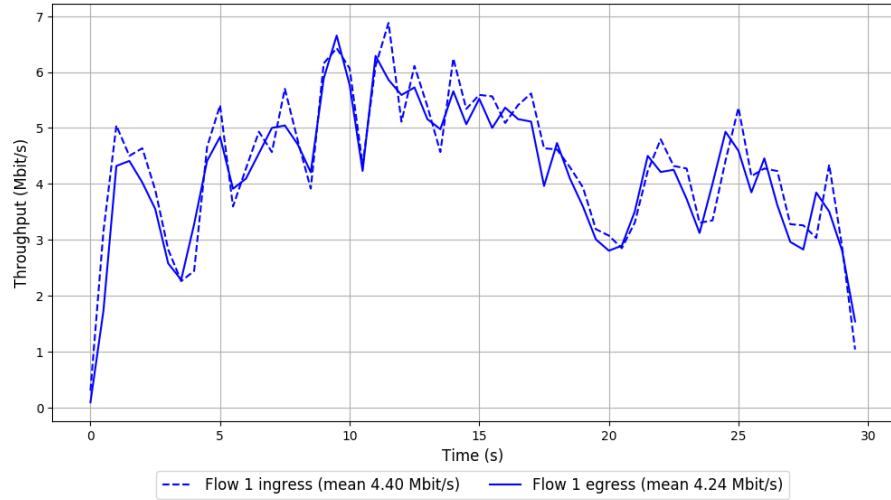


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2017-09-22 08:52:21
End at: 2017-09-22 08:52:51
Local clock offset: -2.551 ms
Remote clock offset: -0.237 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.24 Mbit/s
95th percentile per-packet one-way delay: 1397.745 ms
Loss rate: 3.79%
-- Flow 1:
Average throughput: 4.24 Mbit/s
95th percentile per-packet one-way delay: 1397.745 ms
Loss rate: 3.79%
```

Run 1: Report of QUIC Cubic — Data Link

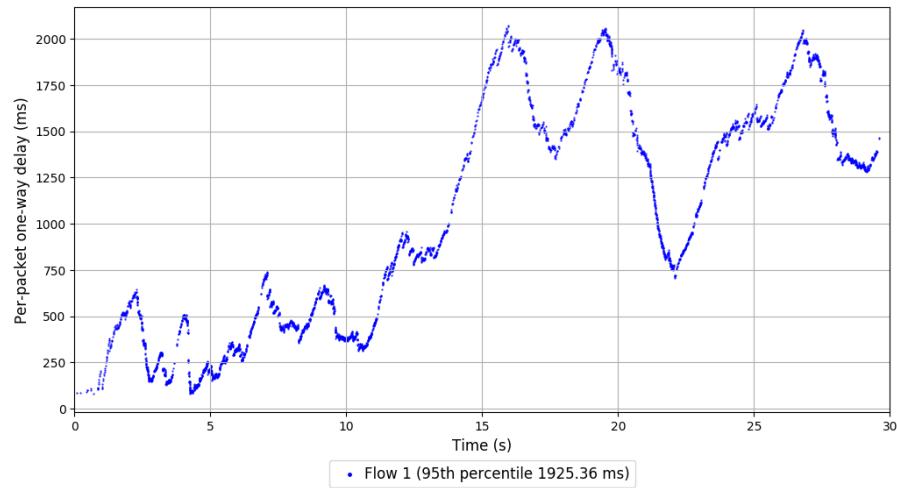
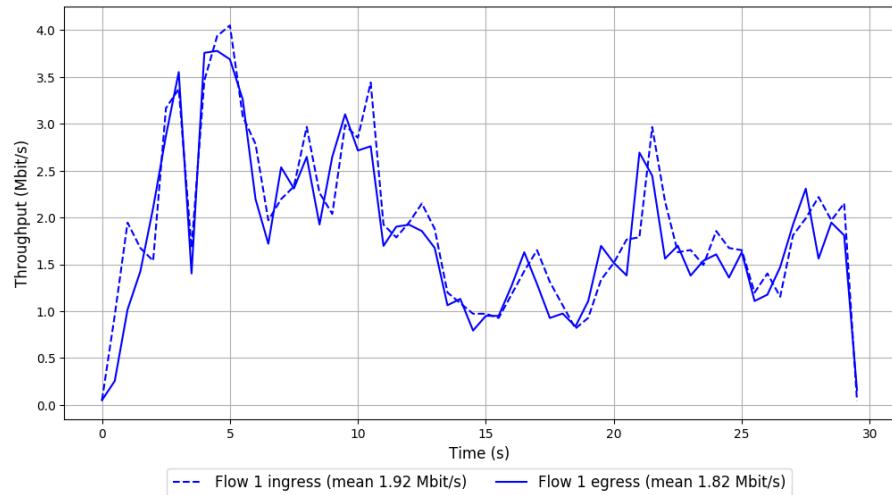


Run 2: Statistics of QUIC Cubic

```
Start at: 2017-09-22 09:07:29
End at: 2017-09-22 09:07:59
Local clock offset: -2.531 ms
Remote clock offset: -0.308 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 1925.362 ms
Loss rate: 5.05%
-- Flow 1:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 1925.362 ms
Loss rate: 5.05%
```

Run 2: Report of QUIC Cubic — Data Link

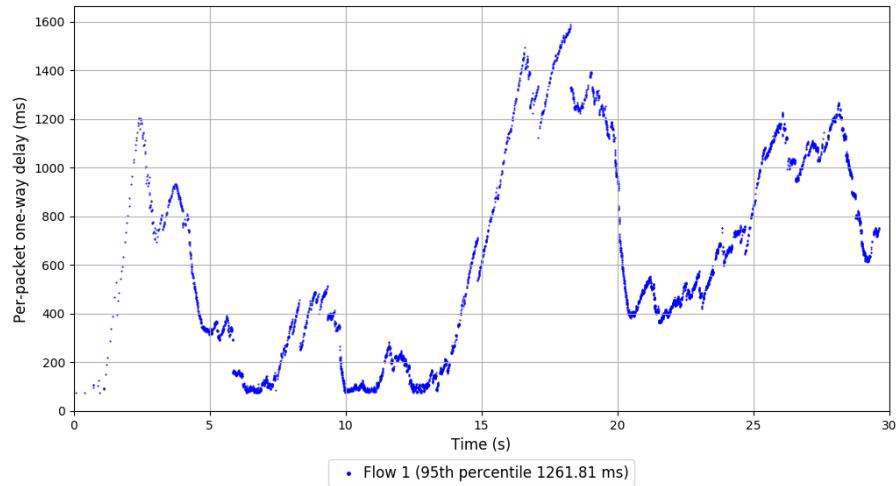
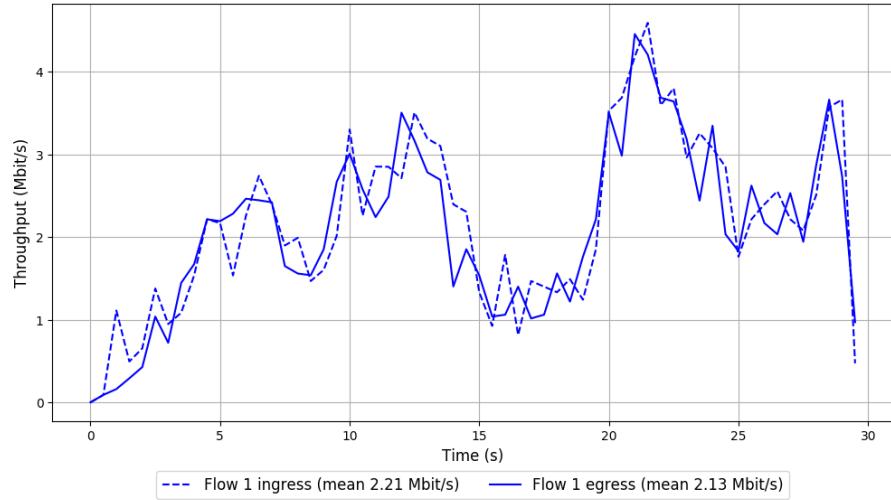


Run 3: Statistics of QUIC Cubic

```
Start at: 2017-09-22 09:22:35
End at: 2017-09-22 09:23:05
Local clock offset: -2.412 ms
Remote clock offset: -0.397 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 1261.808 ms
Loss rate: 3.89%
-- Flow 1:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 1261.808 ms
Loss rate: 3.89%
```

Run 3: Report of QUIC Cubic — Data Link

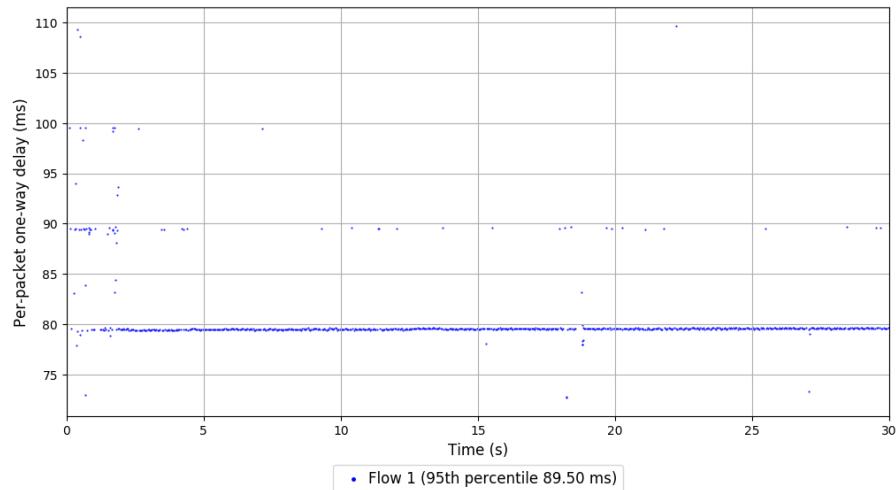
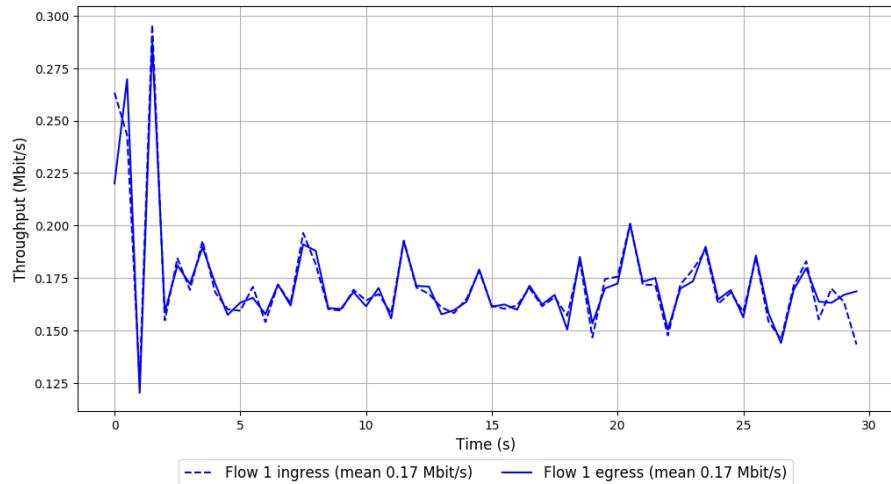


```
Run 1: Statistics of SCReAM
```

```
Start at: 2017-09-22 08:55:55
End at: 2017-09-22 08:56:25
Local clock offset: -1.52 ms
Remote clock offset: -0.393 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 89.503 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 89.503 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

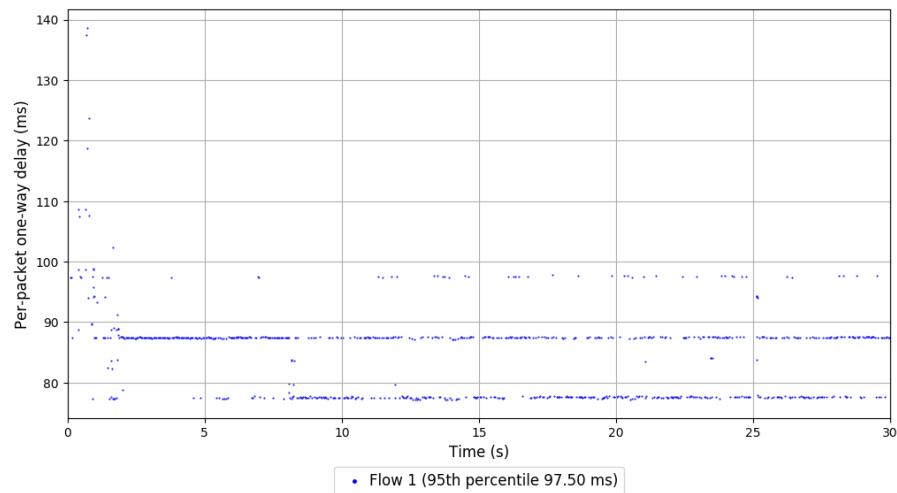
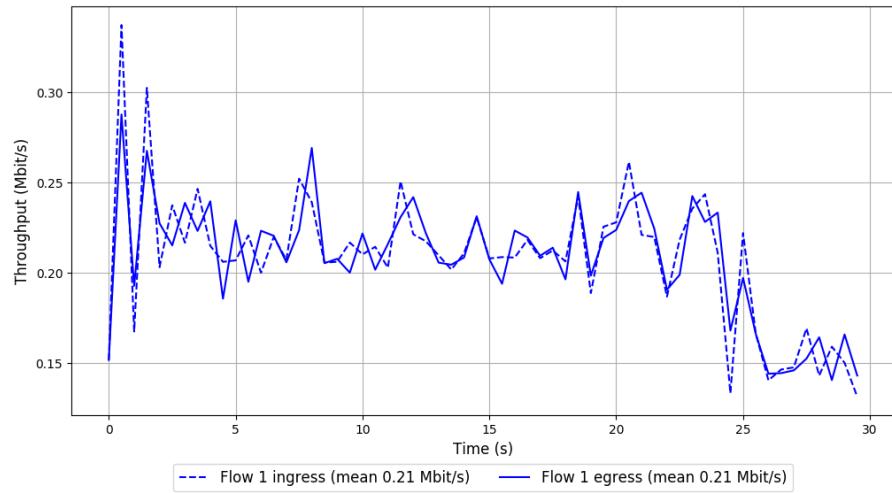


Run 2: Statistics of SCReAM

```
Start at: 2017-09-22 09:10:57
End at: 2017-09-22 09:11:27
Local clock offset: -2.445 ms
Remote clock offset: -0.342 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 97.504 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 97.504 ms
Loss rate: 0.09%
```

Run 2: Report of SCReAM — Data Link

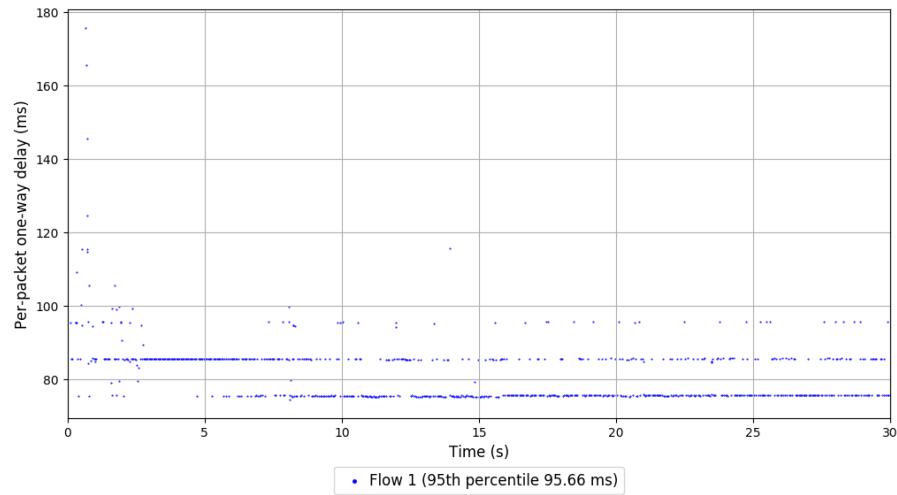
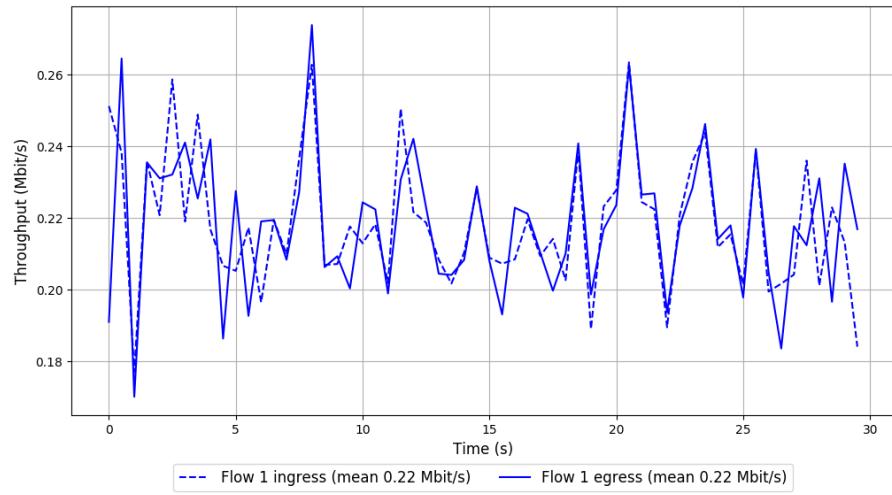


Run 3: Statistics of SCReAM

```
Start at: 2017-09-22 09:26:05
End at: 2017-09-22 09:26:35
Local clock offset: -2.318 ms
Remote clock offset: -0.44 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 95.664 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 95.664 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

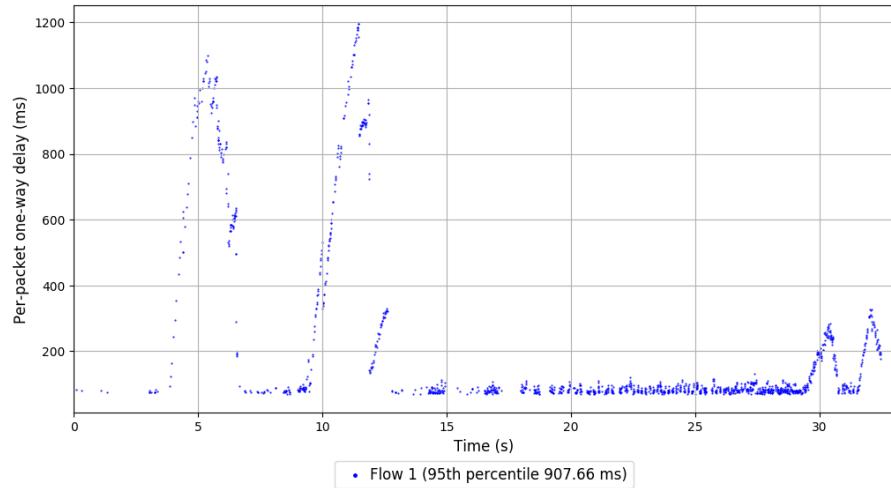
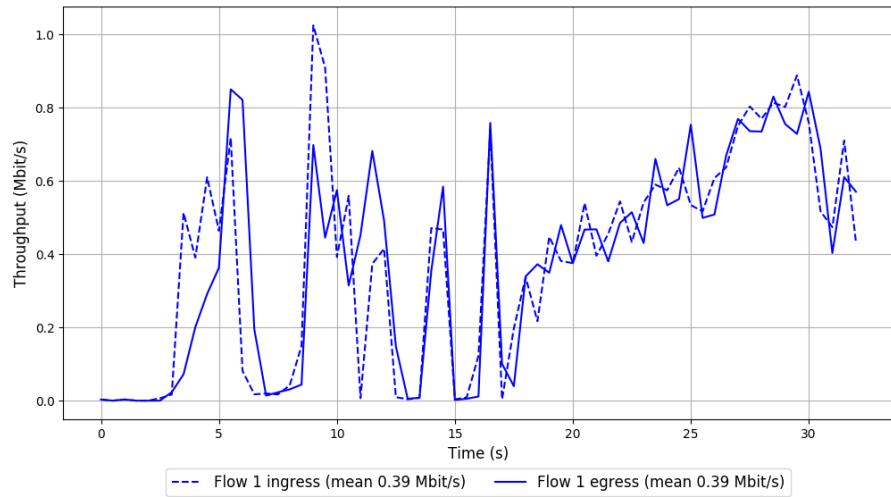


```
Run 1: Statistics of WebRTC media

Start at: 2017-09-22 08:57:06
End at: 2017-09-22 08:57:36
Local clock offset: -1.44 ms
Remote clock offset: -0.115 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 907.656 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 907.656 ms
Loss rate: 0.54%
```

Run 1: Report of WebRTC media — Data Link

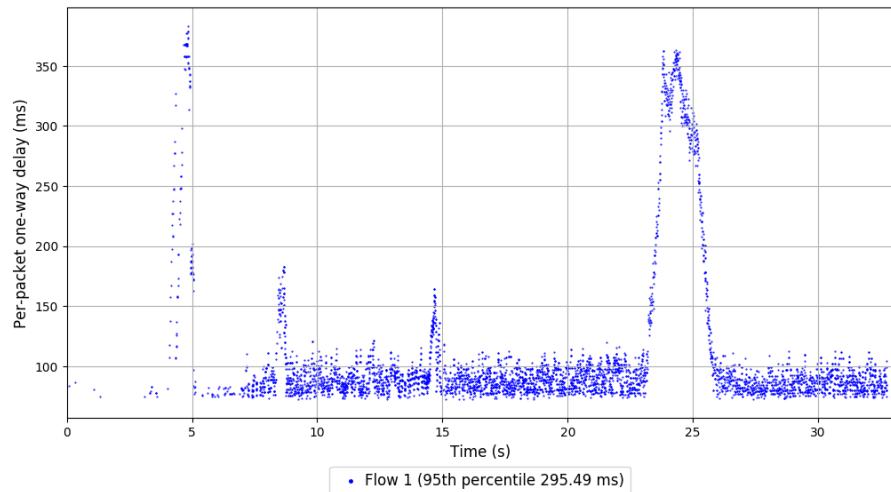
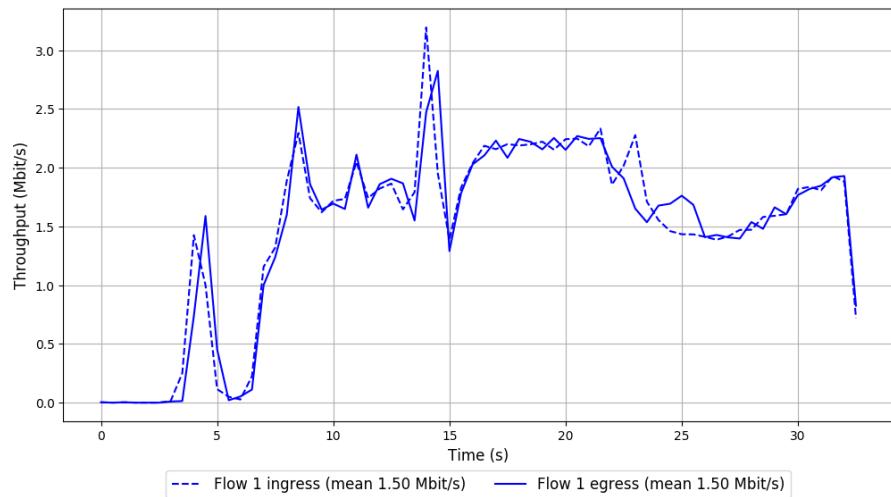


Run 2: Statistics of WebRTC media

```
Start at: 2017-09-22 09:12:06
End at: 2017-09-22 09:12:36
Local clock offset: -2.561 ms
Remote clock offset: -0.352 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 295.493 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 295.493 ms
Loss rate: 0.18%
```

Run 2: Report of WebRTC media — Data Link

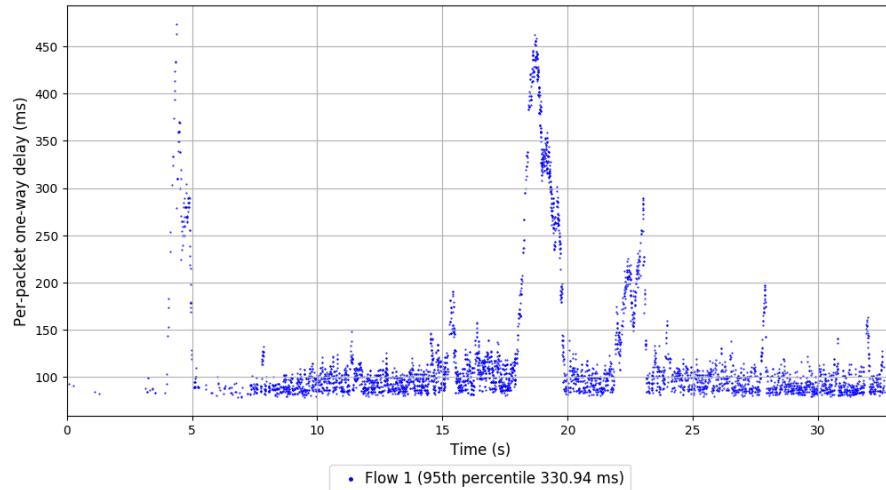
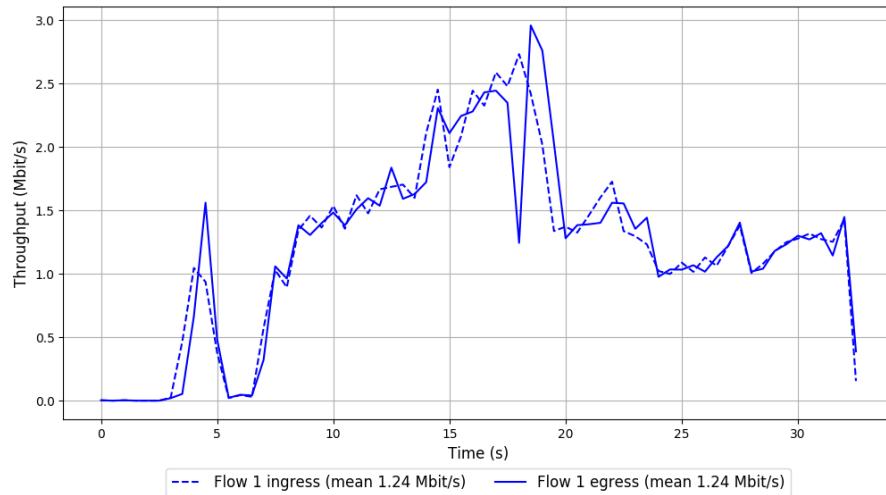


```
Run 3: Statistics of WebRTC media

Start at: 2017-09-22 09:27:14
End at: 2017-09-22 09:27:44
Local clock offset: -1.286 ms
Remote clock offset: -0.395 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 330.942 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 330.942 ms
Loss rate: 0.26%
```

Run 3: Report of WebRTC media — Data Link

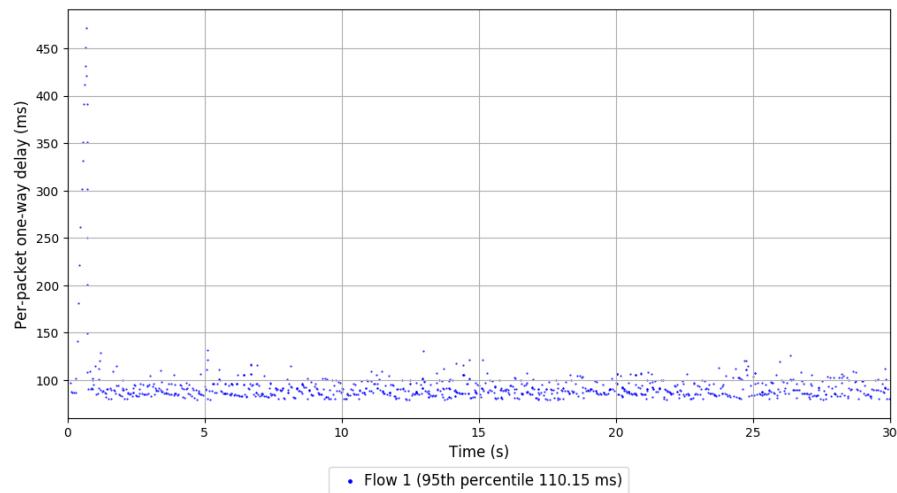
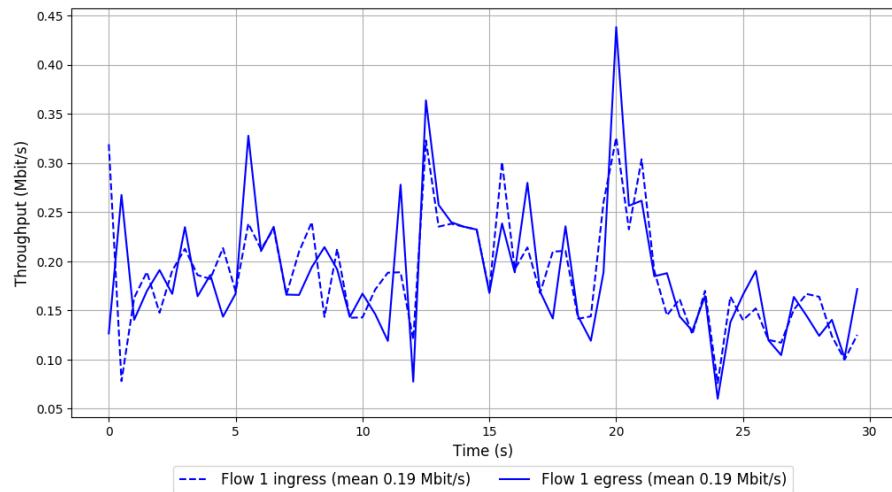


Run 1: Statistics of Sprout

```
Start at: 2017-09-22 08:50:02
End at: 2017-09-22 08:50:32
Local clock offset: -2.693 ms
Remote clock offset: -0.322 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 110.152 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 110.152 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link

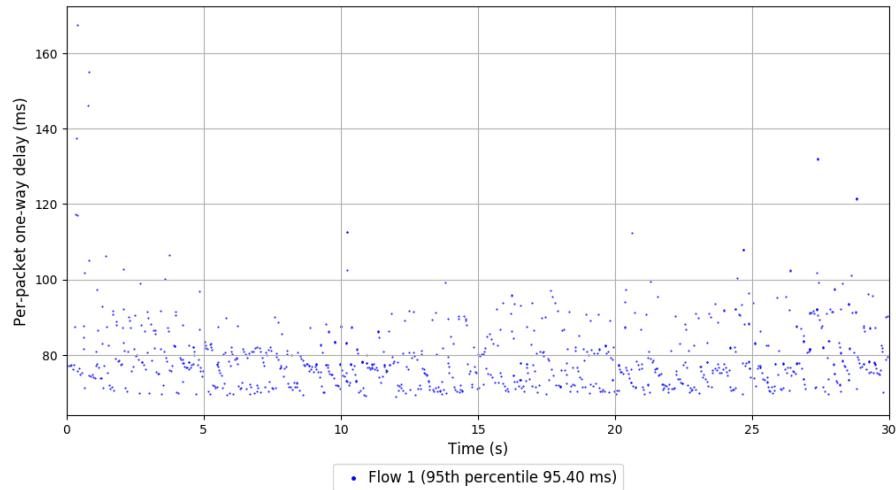
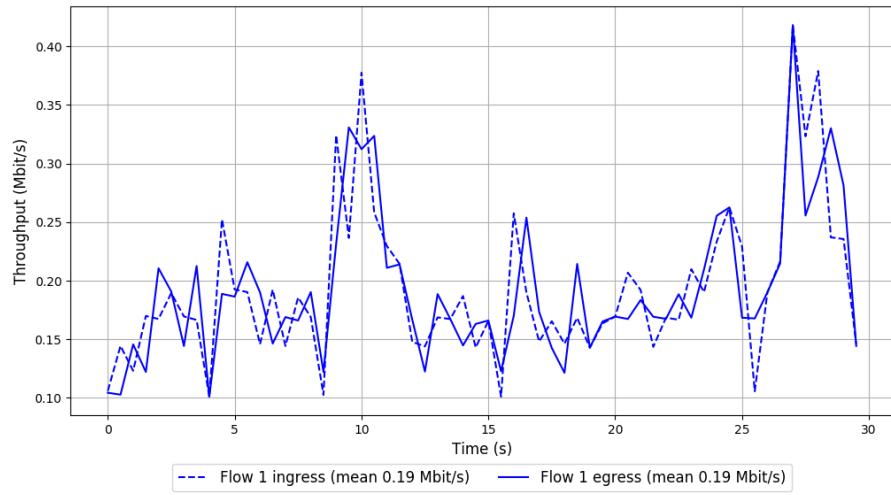


Run 2: Statistics of Sprout

```
Start at: 2017-09-22 09:05:11
End at: 2017-09-22 09:05:41
Local clock offset: -1.479 ms
Remote clock offset: -0.483 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 95.399 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 95.399 ms
Loss rate: 0.21%
```

Run 2: Report of Sprout — Data Link

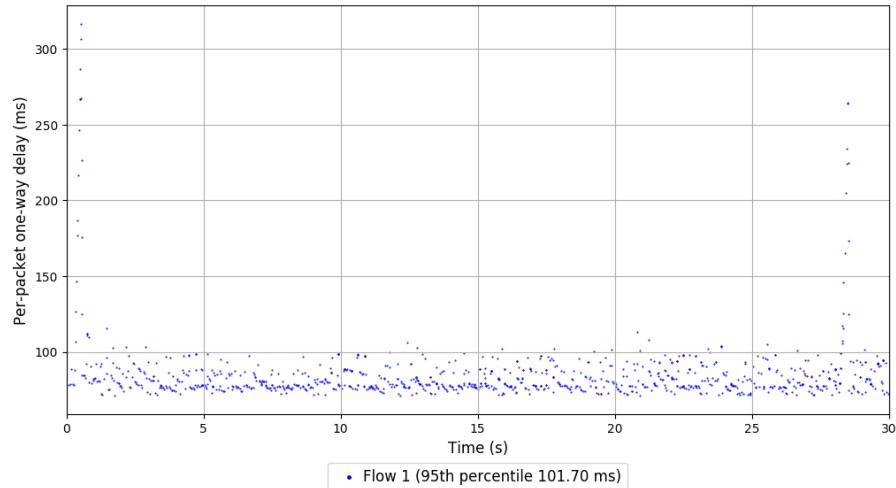
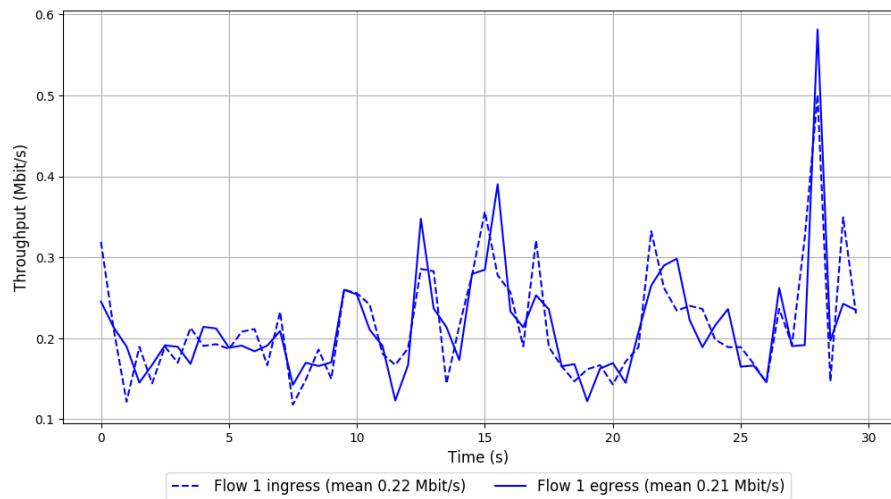


Run 3: Statistics of Sprout

```
Start at: 2017-09-22 09:20:16
End at: 2017-09-22 09:20:46
Local clock offset: -2.334 ms
Remote clock offset: -0.336 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 101.704 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 101.704 ms
Loss rate: 0.84%
```

Run 3: Report of Sprout — Data Link

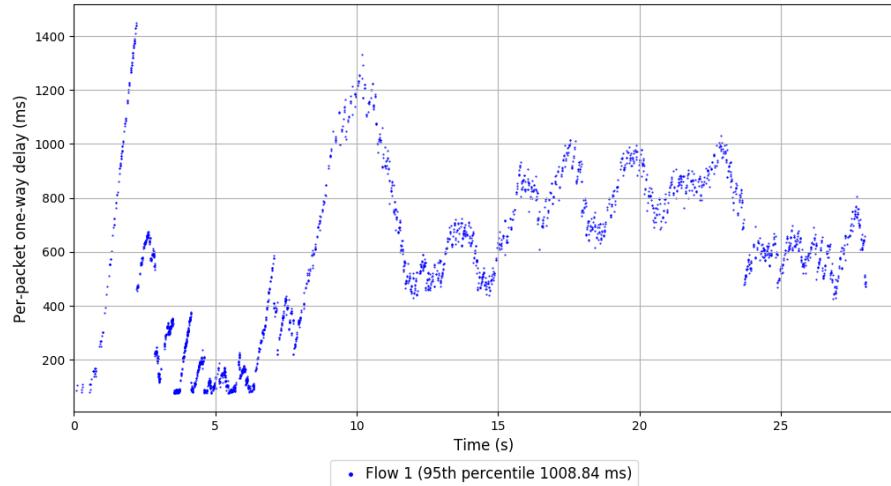
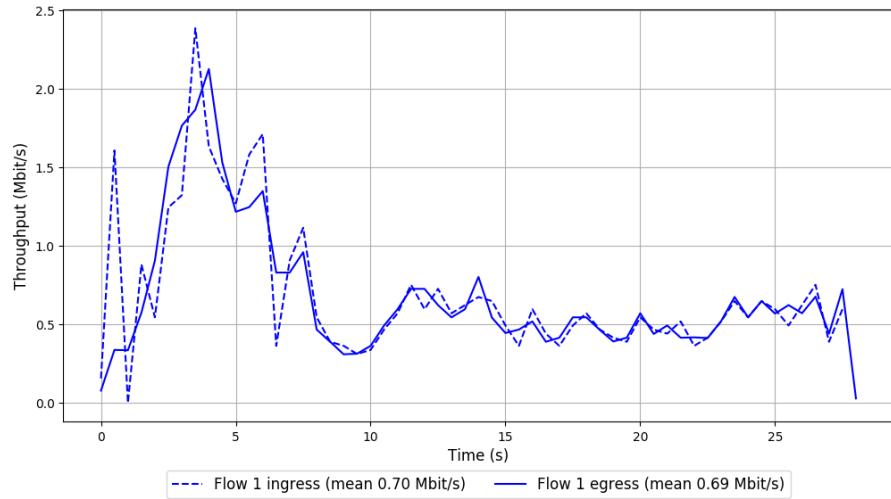


Run 1: Statistics of TaoVA-100x

```
Start at: 2017-09-22 08:48:52
End at: 2017-09-22 08:49:22
Local clock offset: -2.509 ms
Remote clock offset: -0.3 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 1008.844 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 1008.844 ms
Loss rate: 1.46%
```

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

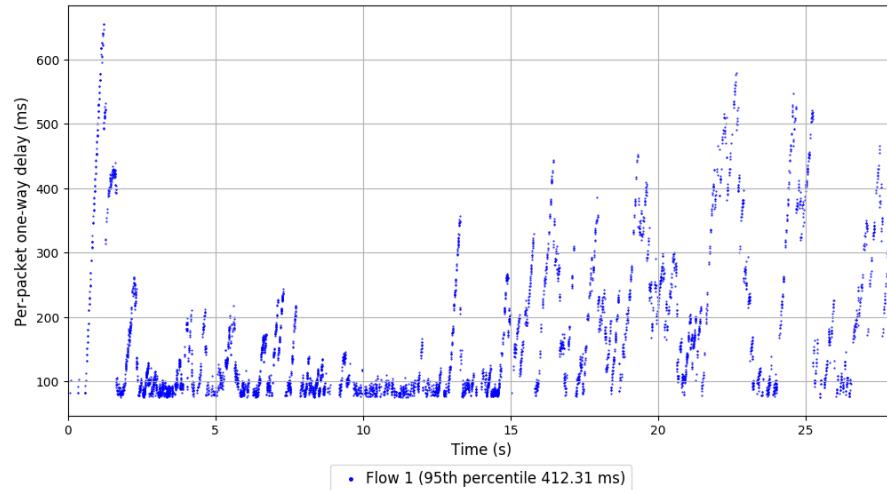
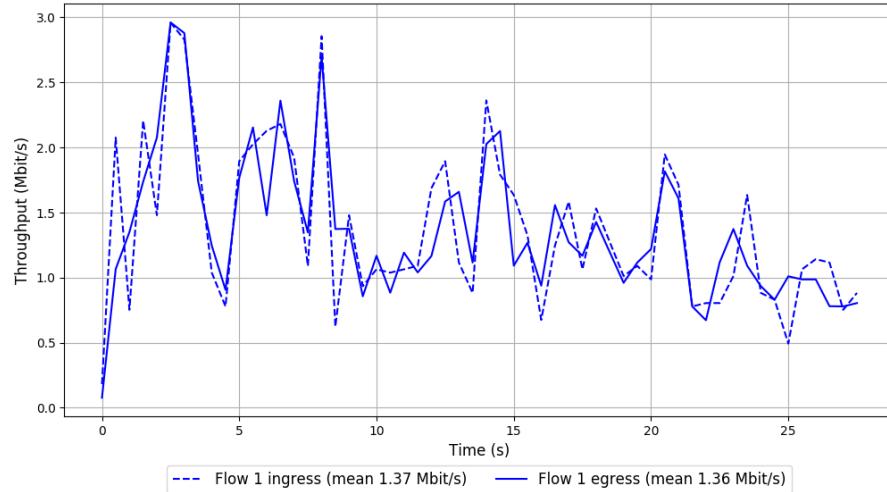


Run 2: Statistics of TaoVA-100x

```
Start at: 2017-09-22 09:04:02
End at: 2017-09-22 09:04:32
Local clock offset: -2.595 ms
Remote clock offset: -0.397 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 412.309 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 412.309 ms
Loss rate: 0.91%
```

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

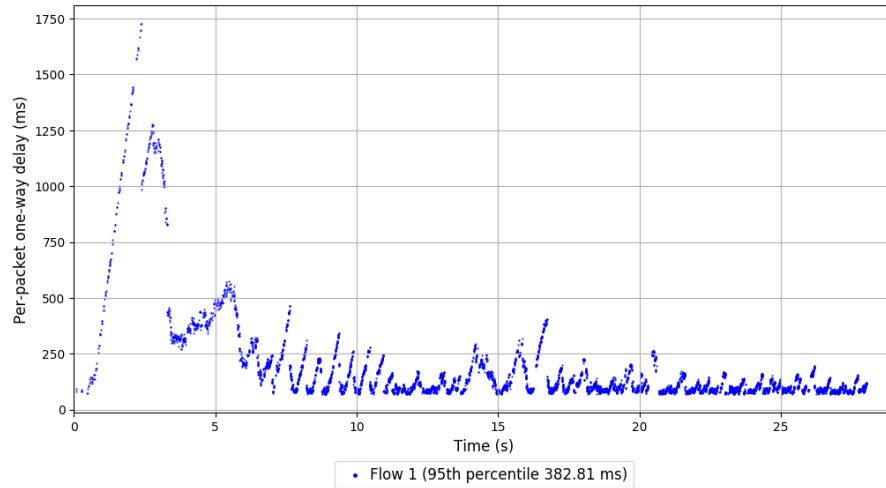
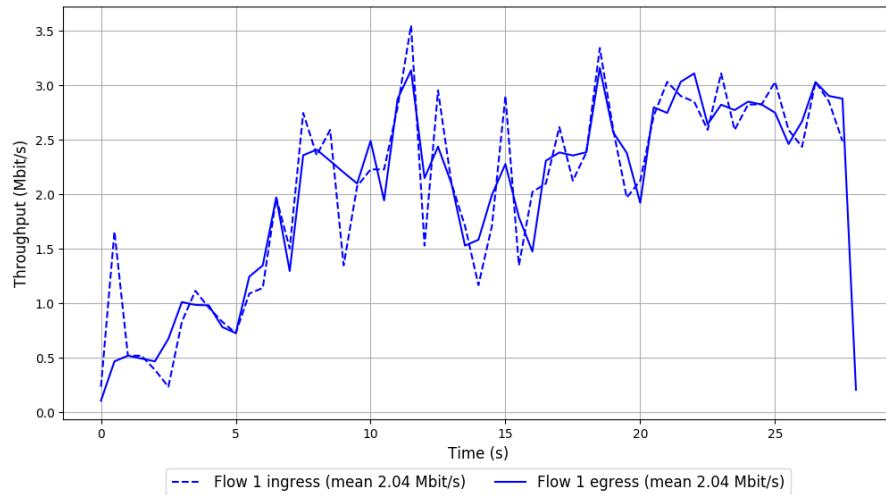


Run 3: Statistics of TaoVA-100x

```
Start at: 2017-09-22 09:19:04
End at: 2017-09-22 09:19:34
Local clock offset: -2.504 ms
Remote clock offset: -0.384 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 382.814 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 382.814 ms
Loss rate: 0.02%
```

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



Run 1: Statistics of TCP Vegas

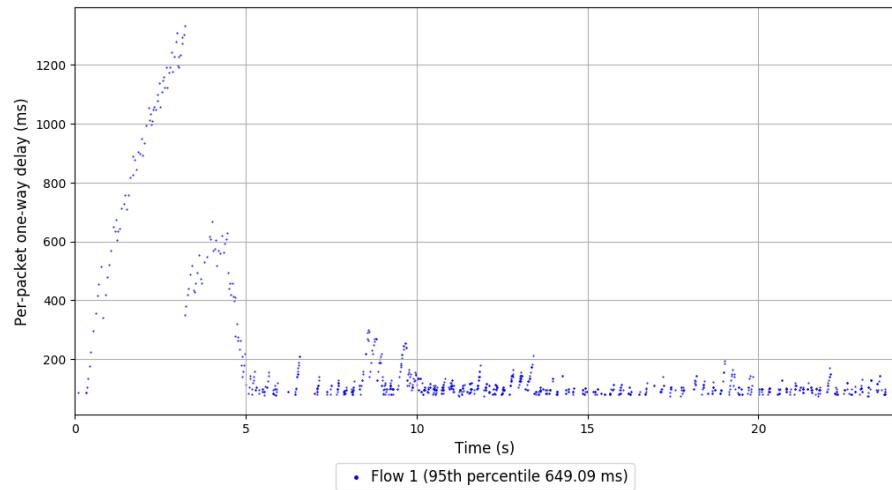
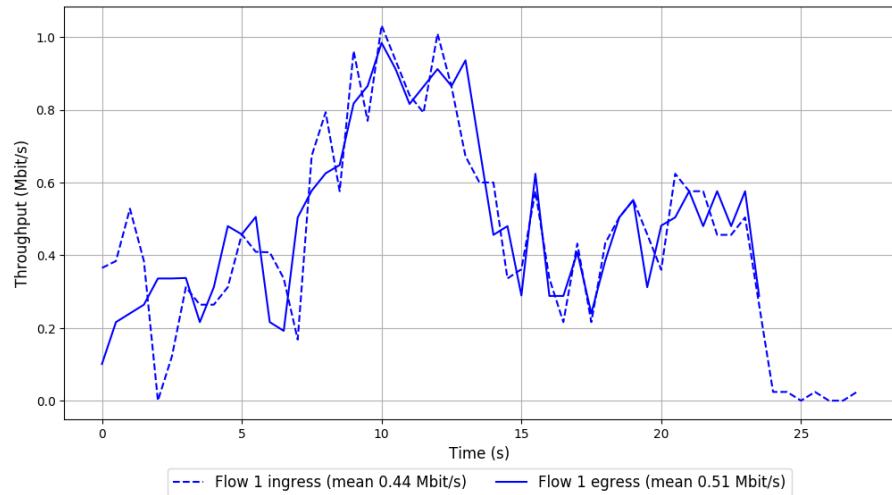
Start at: 2017-09-22 08:51:11

End at: 2017-09-22 08:51:41

Local clock offset: -2.59 ms

Remote clock offset: -0.472 ms

Run 1: Report of TCP Vegas — Data Link

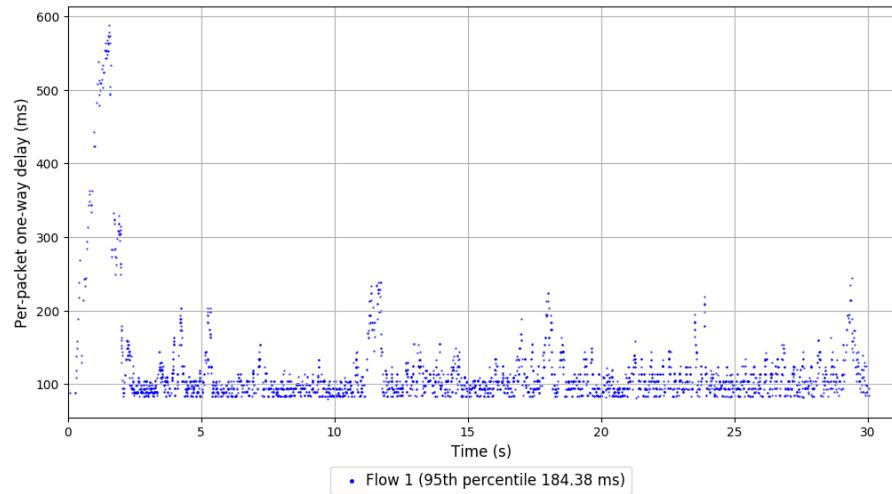
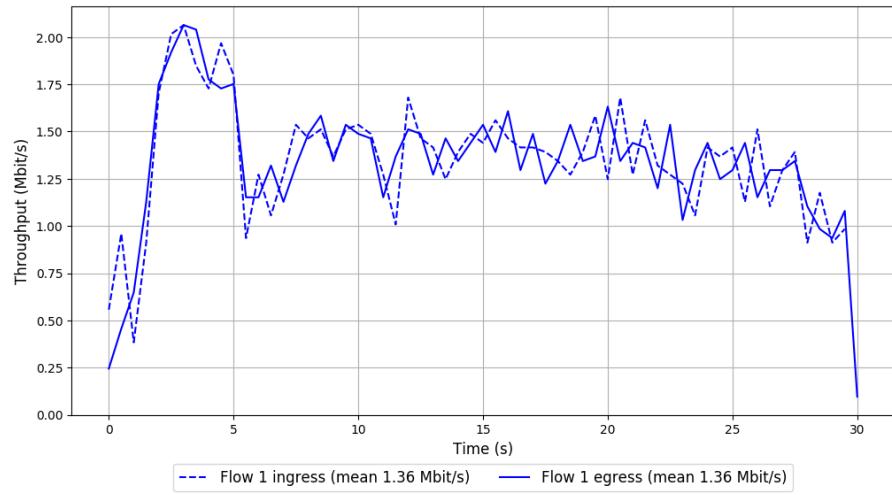


Run 2: Statistics of TCP Vegas

```
Start at: 2017-09-22 09:06:20
End at: 2017-09-22 09:06:50
Local clock offset: -2.432 ms
Remote clock offset: -0.296 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 184.378 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 184.378 ms
Loss rate: 0.15%
```

Run 2: Report of TCP Vegas — Data Link

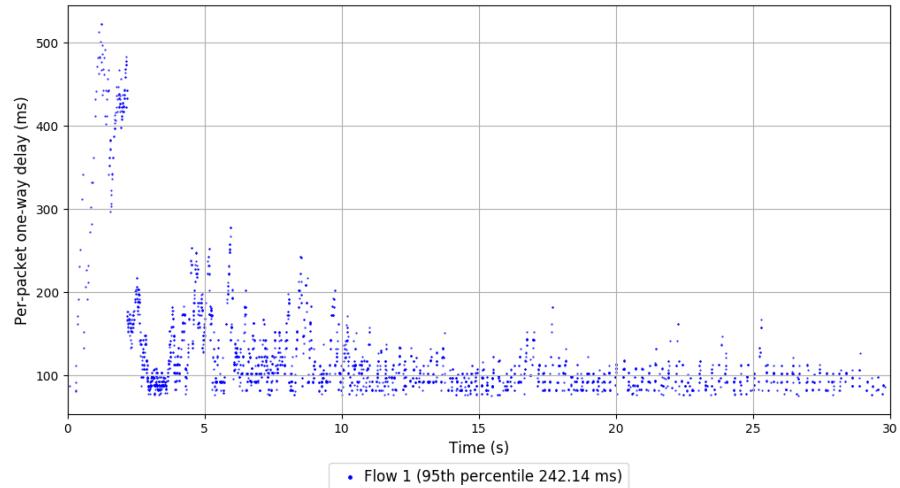
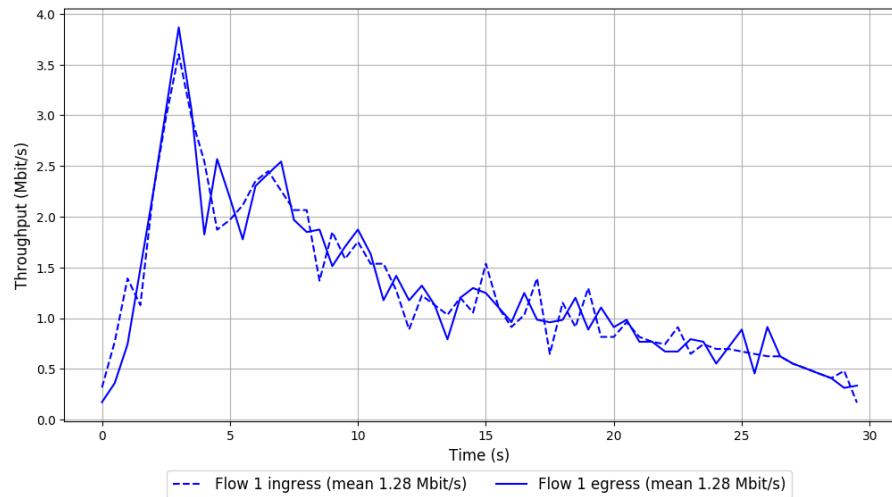


Run 3: Statistics of TCP Vegas

```
Start at: 2017-09-22 09:21:25
End at: 2017-09-22 09:21:55
Local clock offset: -2.461 ms
Remote clock offset: -0.378 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 242.136 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 242.136 ms
Loss rate: 0.00%
```

Run 3: Report of TCP Vegas — Data Link

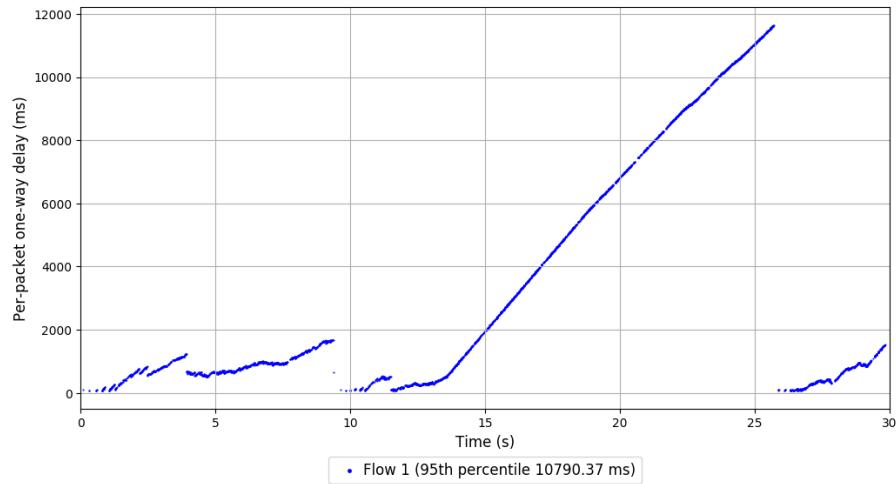
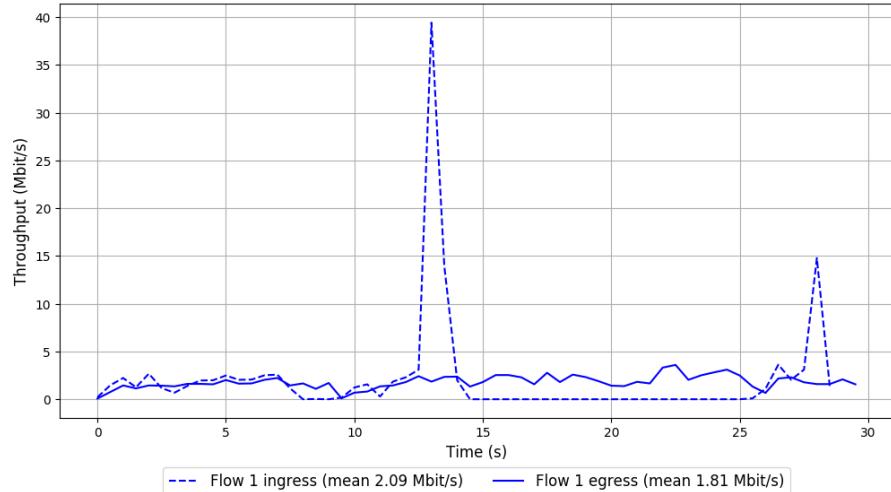


Run 1: Statistics of Verus

```
Start at: 2017-09-22 08:54:46
End at: 2017-09-22 08:55:16
Local clock offset: -2.621 ms
Remote clock offset: -0.309 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 10790.374 ms
Loss rate: 10.26%
-- Flow 1:
Average throughput: 1.81 Mbit/s
95th percentile per-packet one-way delay: 10790.374 ms
Loss rate: 10.26%
```

Run 1: Report of Verus — Data Link

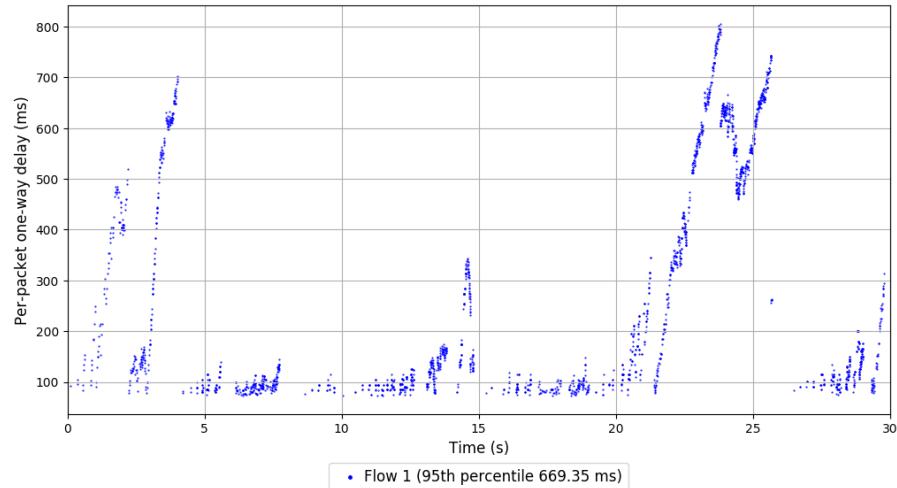
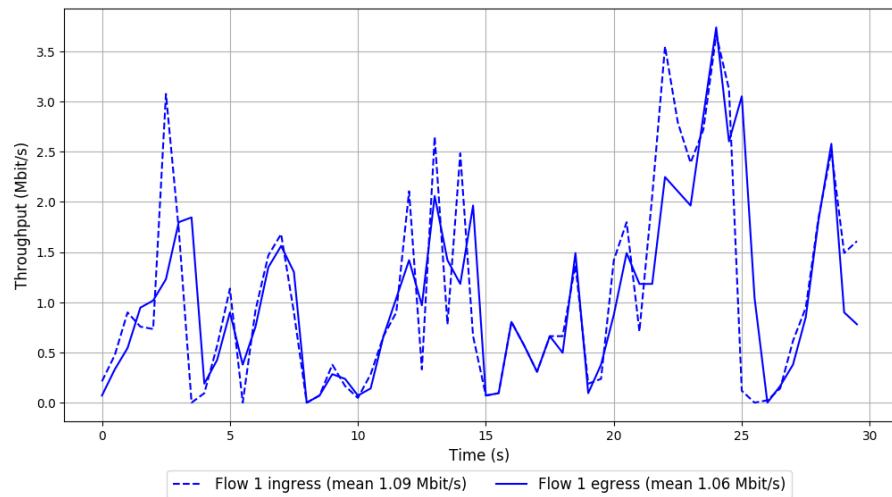


Run 2: Statistics of Verus

```
Start at: 2017-09-22 09:09:48
End at: 2017-09-22 09:10:18
Local clock offset: -2.438 ms
Remote clock offset: -0.358 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 669.349 ms
Loss rate: 2.63%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 669.349 ms
Loss rate: 2.63%
```

Run 2: Report of Verus — Data Link

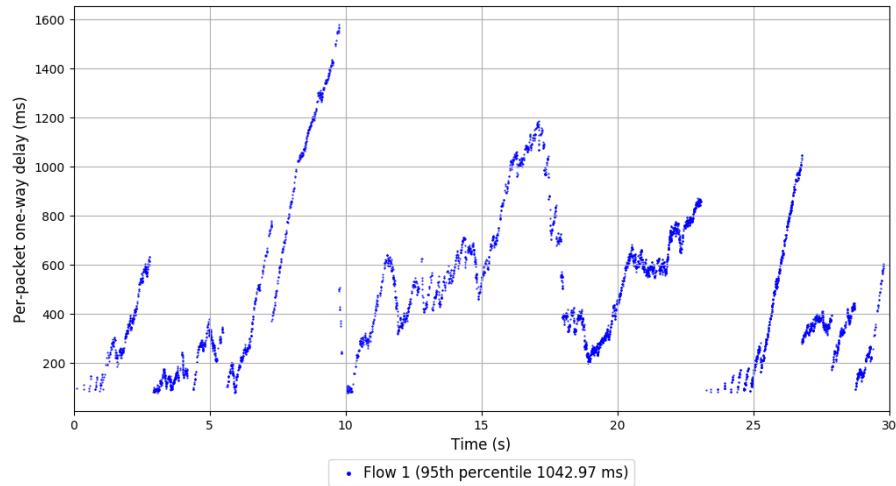
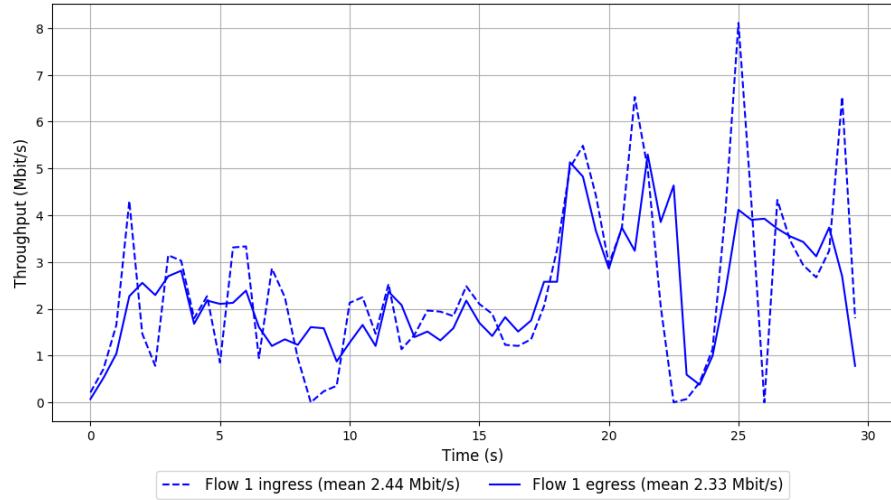


Run 3: Statistics of Verus

```
Start at: 2017-09-22 09:24:55
End at: 2017-09-22 09:25:25
Local clock offset: -2.359 ms
Remote clock offset: -0.388 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 1042.973 ms
Loss rate: 4.31%
-- Flow 1:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 1042.973 ms
Loss rate: 4.31%
```

Run 3: Report of Verus — Data Link

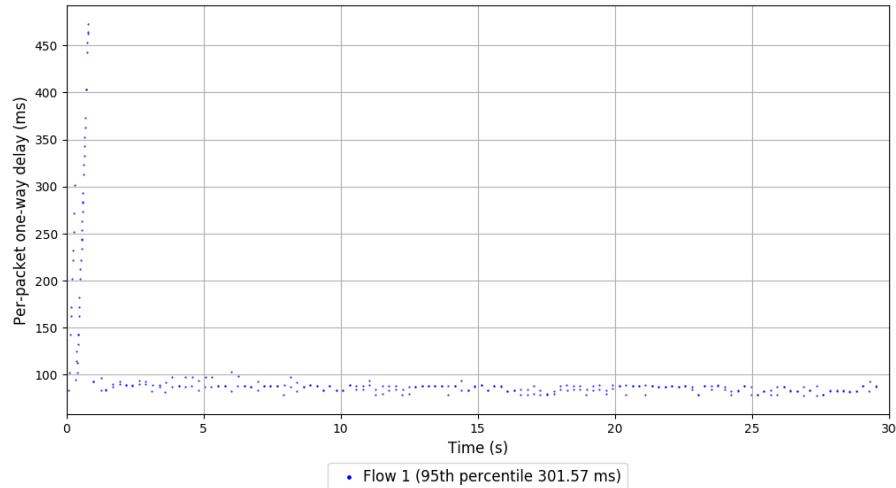
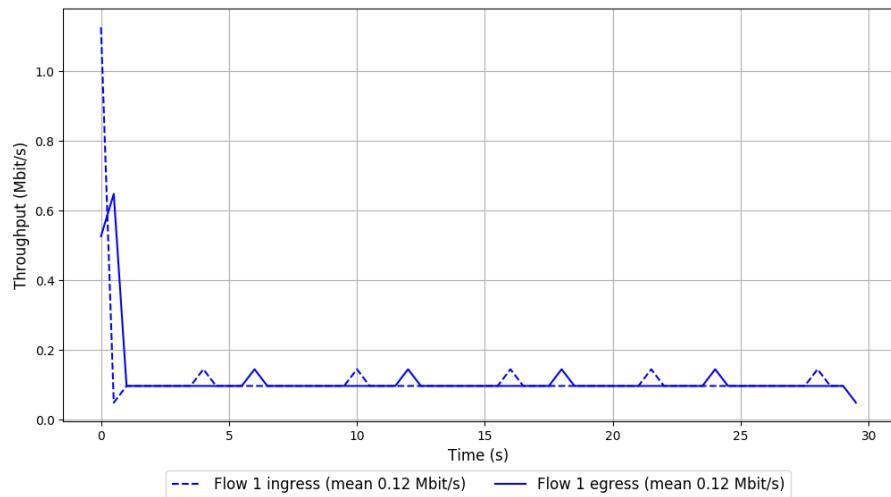


Run 1: Statistics of Indigo

```
Start at: 2017-09-22 09:00:35
End at: 2017-09-22 09:01:05
Local clock offset: -2.527 ms
Remote clock offset: -0.513 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 301.570 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 301.570 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link

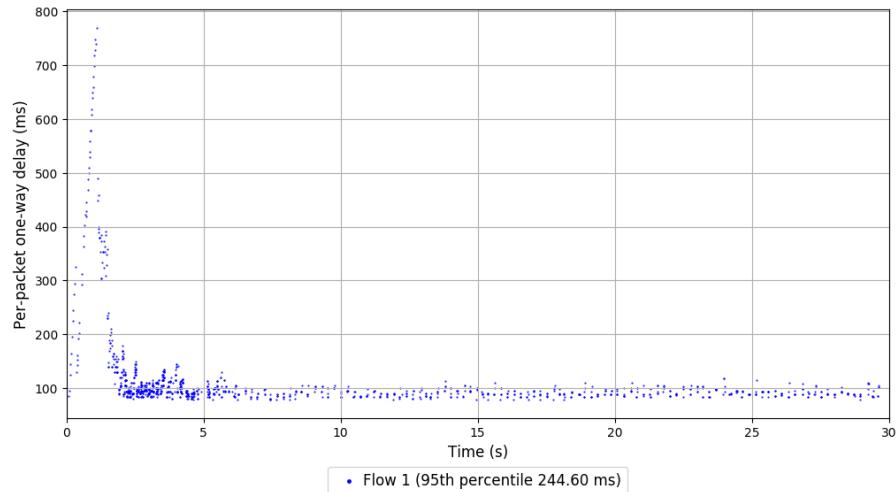
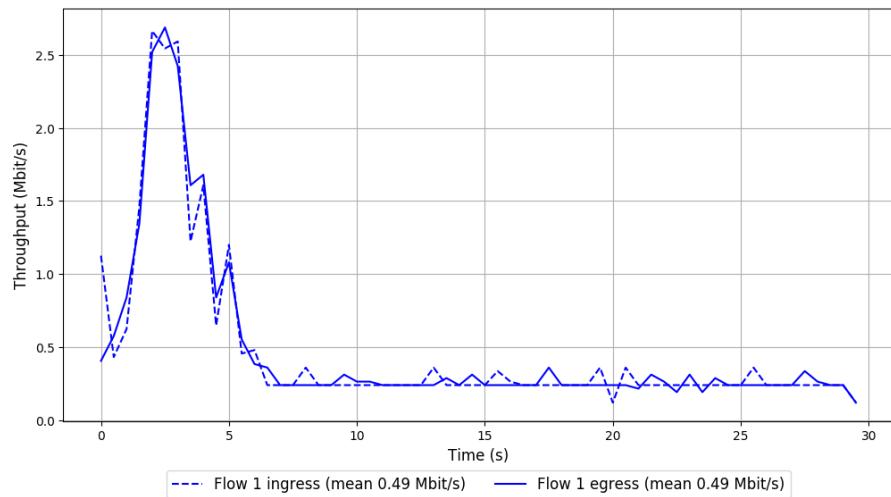


Run 2: Statistics of Indigo

```
Start at: 2017-09-22 09:15:36
End at: 2017-09-22 09:16:06
Local clock offset: -2.393 ms
Remote clock offset: -0.321 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 244.602 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 244.602 ms
Loss rate: 0.08%
```

Run 2: Report of Indigo — Data Link

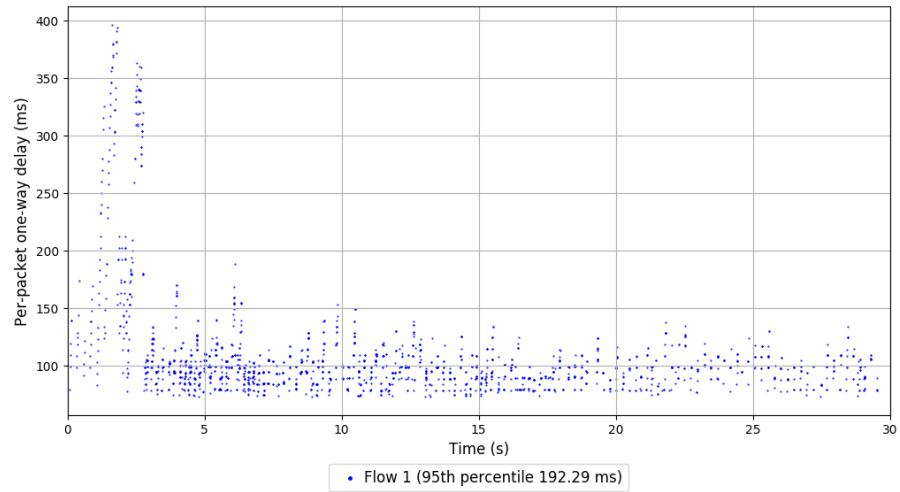
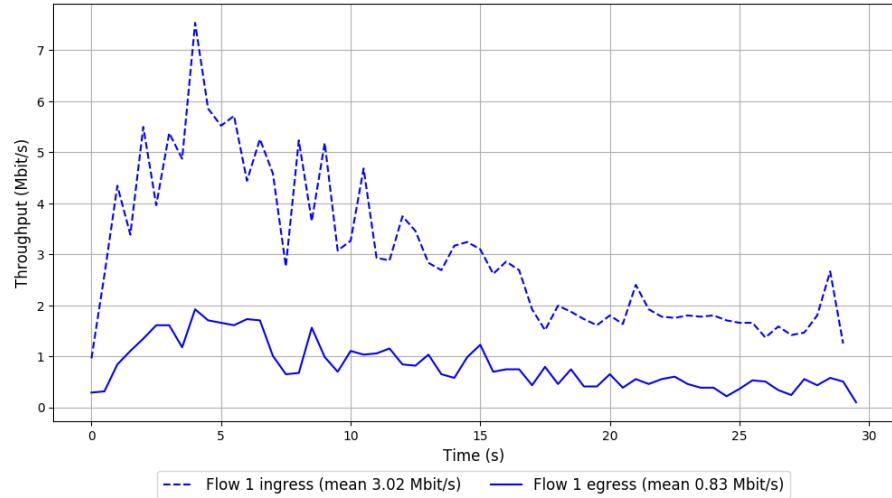


Run 3: Statistics of Indigo

```
Start at: 2017-09-22 09:30:46
End at: 2017-09-22 09:31:16
Local clock offset: -2.283 ms
Remote clock offset: -0.53 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 192.294 ms
Loss rate: 72.54%
-- Flow 1:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 192.294 ms
Loss rate: 72.54%
```

Run 3: Report of Indigo — Data Link

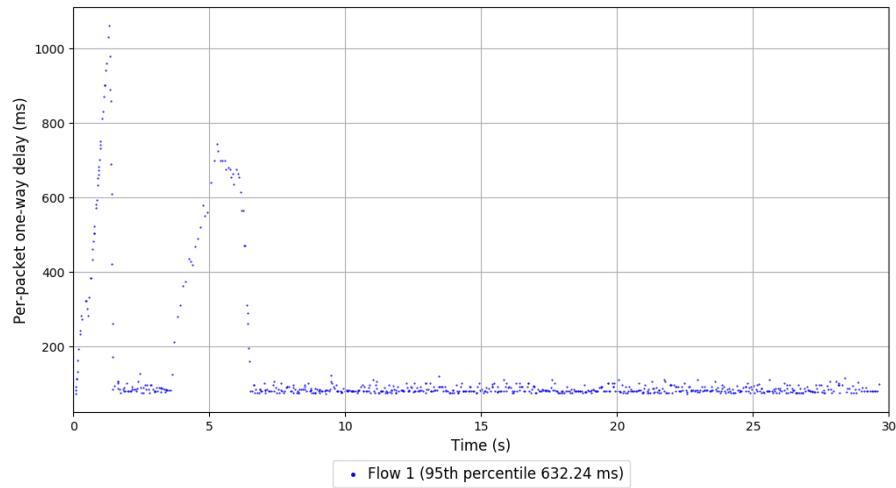
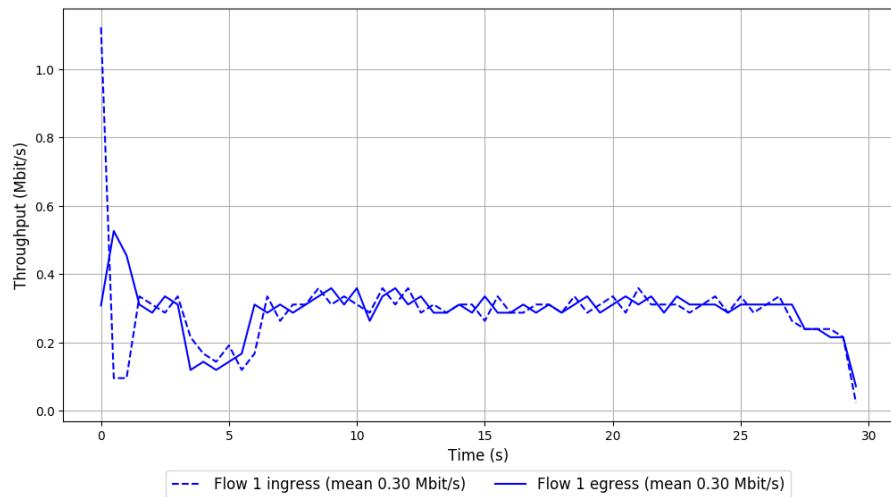


```
Run 1: Statistics of Indigo-cellular
```

```
Start at: 2017-09-22 08:46:29
End at: 2017-09-22 08:46:59
Local clock offset: -1.165 ms
Remote clock offset: -0.284 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 632.242 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 632.242 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-cellular — Data Link

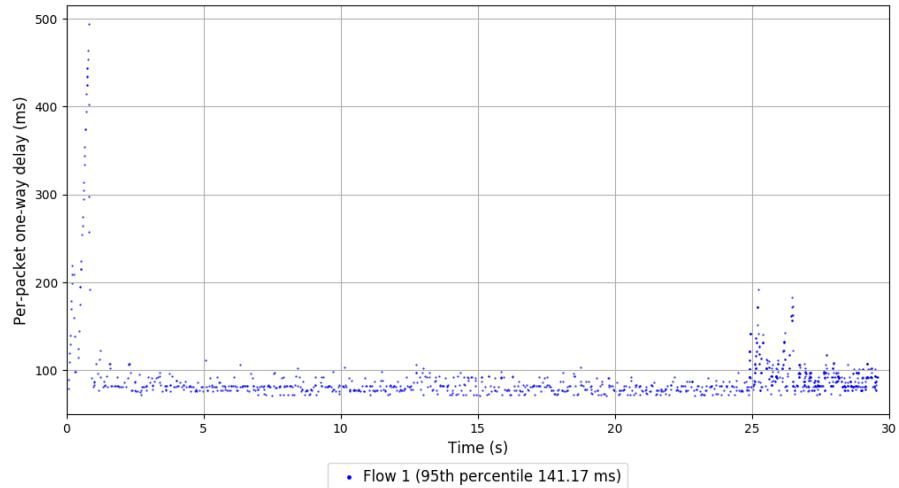
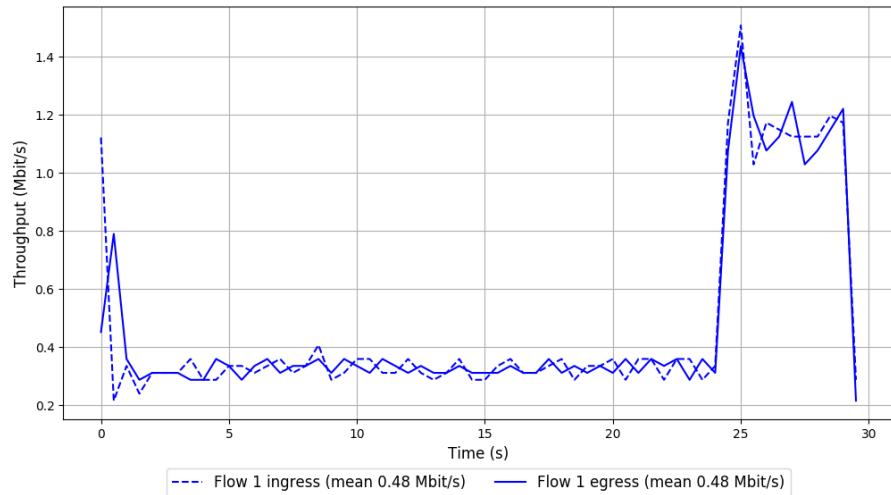


Run 2: Statistics of Indigo-cellular

```
Start at: 2017-09-22 09:01:44
End at: 2017-09-22 09:02:14
Local clock offset: -2.72 ms
Remote clock offset: -0.437 ms

# Below is generated by plot.py at 2017-09-22 09:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 141.168 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 141.168 ms
Loss rate: 0.92%
```

Run 2: Report of Indigo-cellular — Data Link



Run 3: Statistics of Indigo-cellular

Start at: 2017-09-22 09:16:45

End at: 2017-09-22 09:17:15

Local clock offset: -1.328 ms

Remote clock offset: -0.338 ms

Run 3: Report of Indigo-cellular — Data Link

