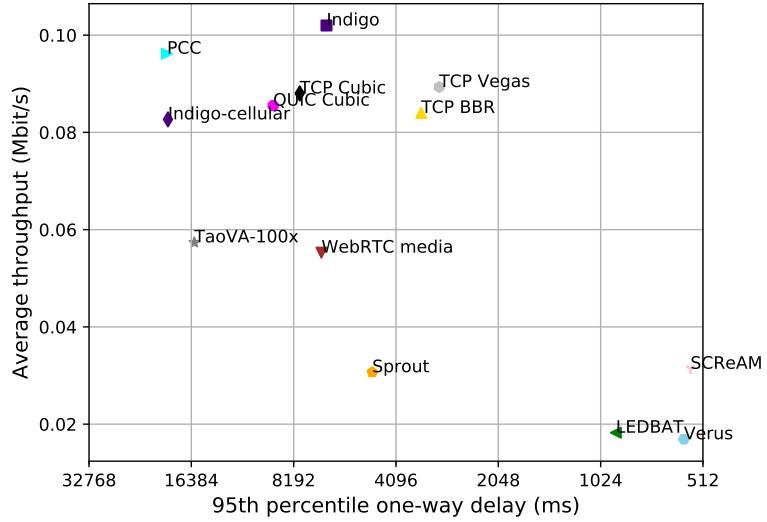


Pantheon Report

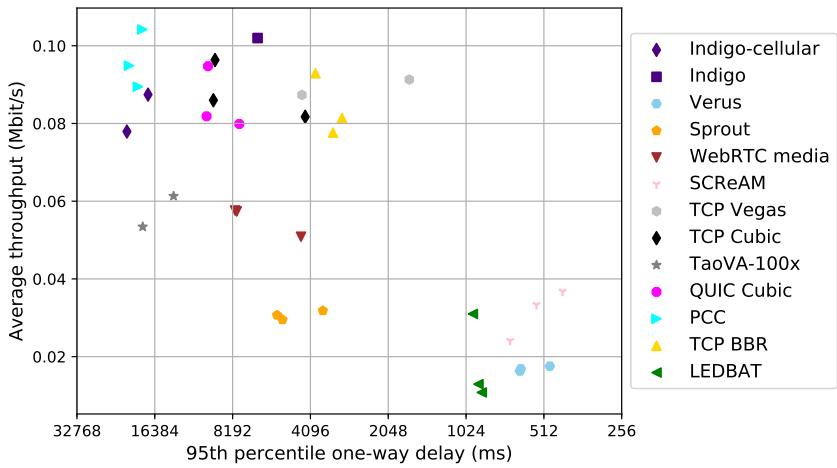
Generated at 2017-09-22 09:39:04 (UTC).
Data path: AWS California 2 Ethernet (*local*) → Mexico ppp0 (*remote*).
Repeated the test of 13 congestion control schemes 3 times.
Each test lasted for 30 seconds running 1 flow.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).
NTP offsets were measured against `time.stanford.edu` 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 California 2 Ethernet to Mexico ppp0, 3 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS California 2 Ethernet to Mexico ppp0, 3 runs of 30s each per scheme



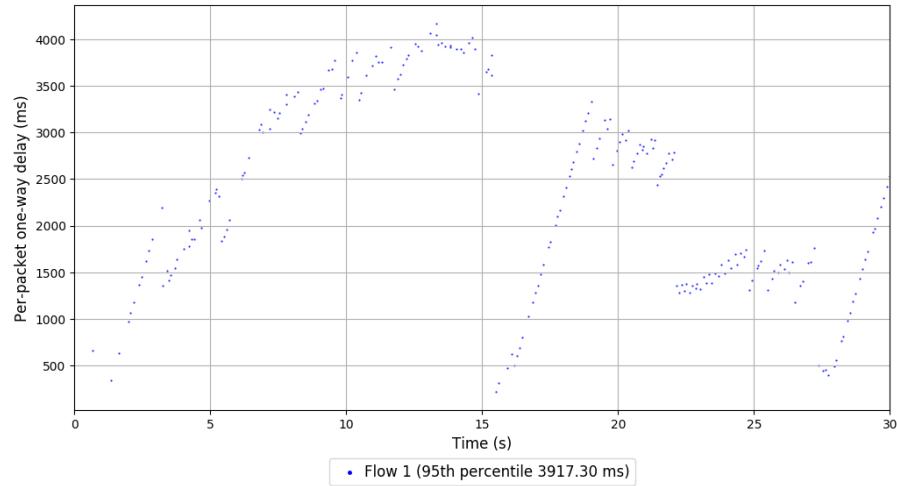
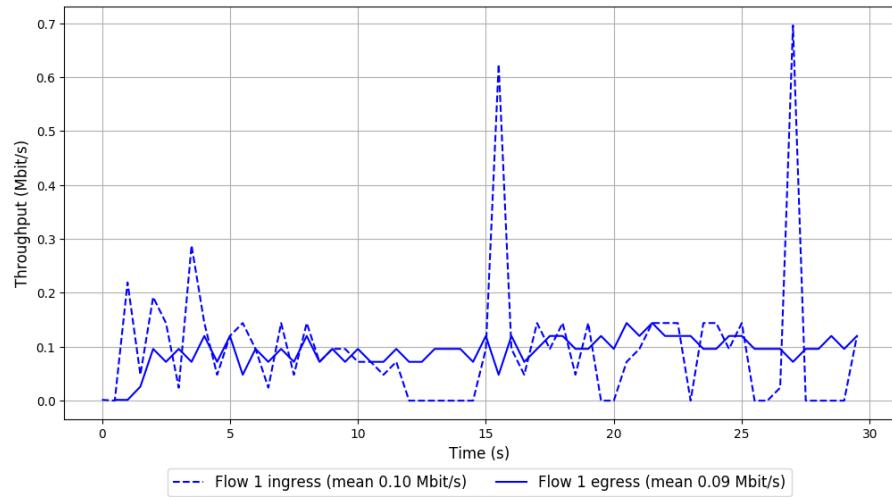
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	0.08	3453.26	6.62
TCP Cubic	3	0.09	7863.95	30.09
LEDBAT	3	0.02	923.87	1.67
PCC	3	0.09	19315.79	99.75
QUIC Cubic	3	0.08	9414.76	30.53
SCReAM	3	0.03	557.34	1.04
WebRTC media	3	0.06	6787.20	22.18
Sprout	3	0.03	4811.35	5.13
TaoVA-100x	2	0.06	16051.91	77.77
TCP Vegas	2	0.09	3057.61	2.02
Verus	3	0.02	582.70	2.36
Indigo	1	0.10	6558.77	18.94
Indigo-cellular	2	0.08	19195.52	61.30

Run 1: Statistics of TCP BBR

```
Start at: 2017-09-22 08:54:25
End at: 2017-09-22 08:54:55
Local clock offset: -0.266 ms
Remote clock offset: -0.487 ms

# Below is generated by plot.py at 2017-09-22 09:38:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 3917.295 ms
Loss rate: 5.41%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 3917.295 ms
Loss rate: 5.41%
```

Run 1: Report of TCP BBR — Data Link

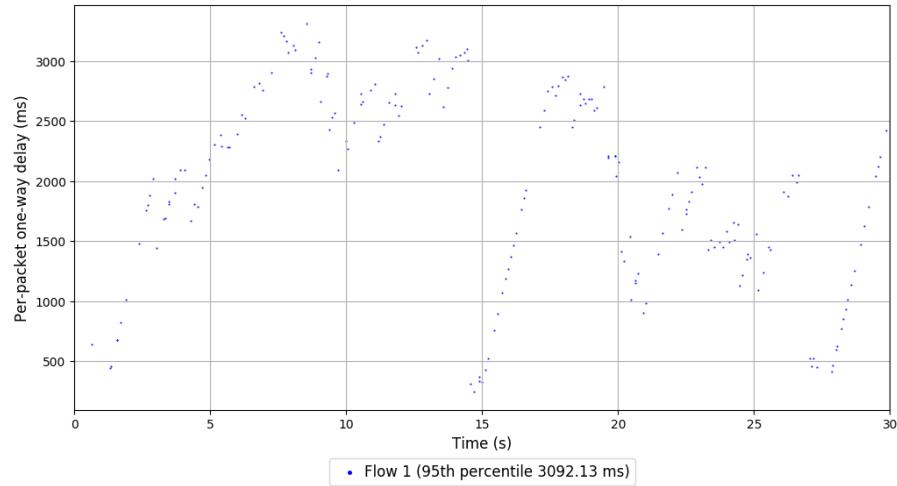
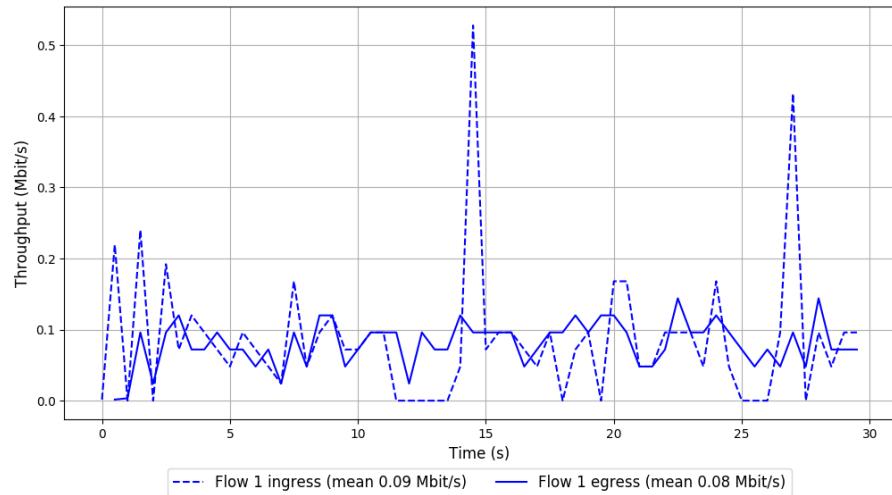


Run 2: Statistics of TCP BBR

```
Start at: 2017-09-22 09:11:23
End at: 2017-09-22 09:11:53
Local clock offset: -0.204 ms
Remote clock offset: -0.457 ms

# Below is generated by plot.py at 2017-09-22 09:38:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 3092.133 ms
Loss rate: 7.47%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 3092.133 ms
Loss rate: 7.47%
```

Run 2: Report of TCP BBR — Data Link

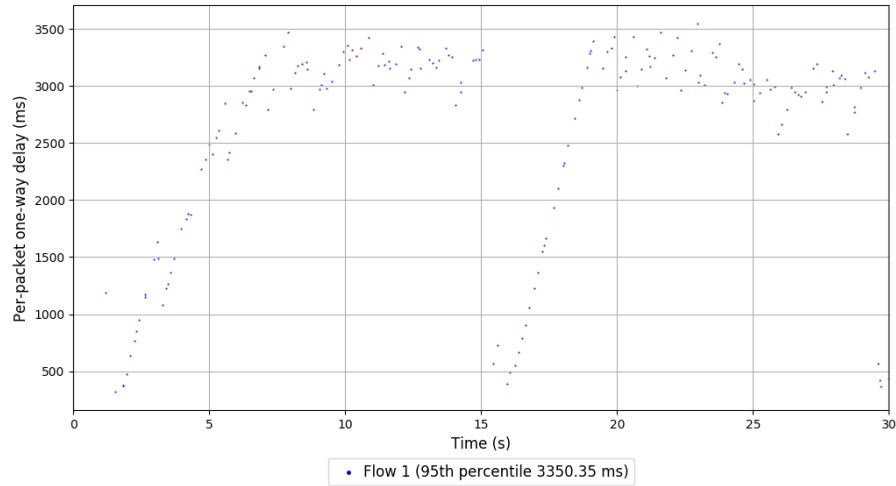
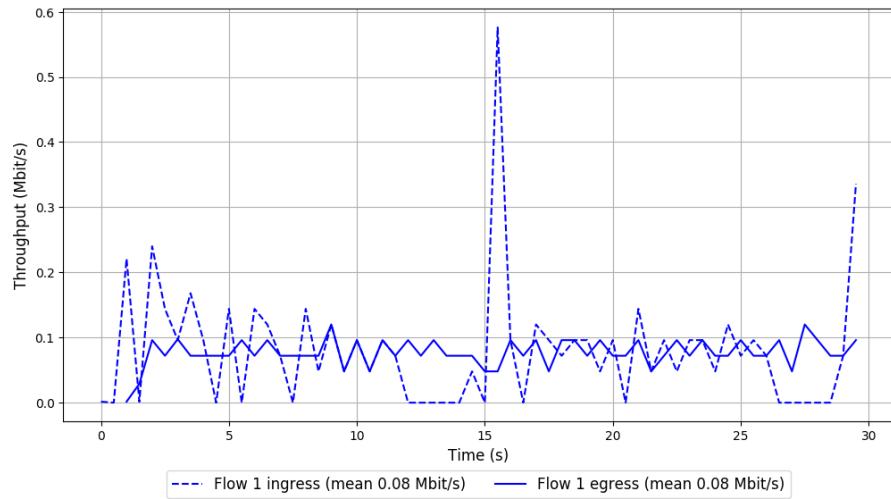


Run 3: Statistics of TCP BBR

```
Start at: 2017-09-22 09:28:26
End at: 2017-09-22 09:28:56
Local clock offset: -0.102 ms
Remote clock offset: -2.632 ms

# Below is generated by plot.py at 2017-09-22 09:38:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 3350.354 ms
Loss rate: 6.99%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 3350.354 ms
Loss rate: 6.99%
```

Run 3: Report of TCP BBR — Data Link

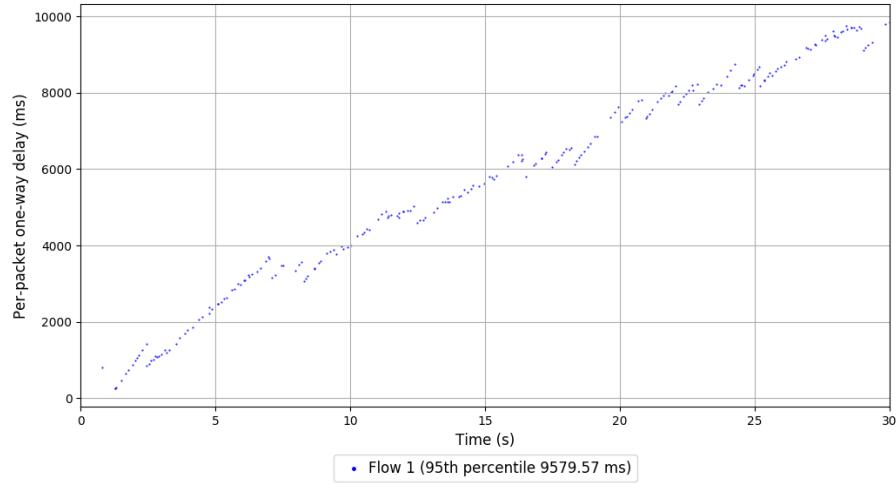
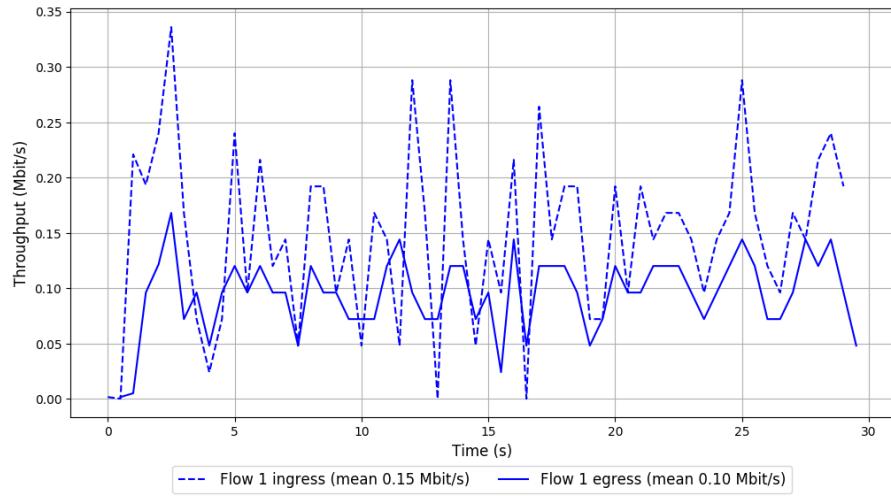


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2017-09-22 09:02:05
End at: 2017-09-22 09:02:36
Local clock offset: -0.152 ms
Remote clock offset: -0.484 ms

# Below is generated by plot.py at 2017-09-22 09:38:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 9579.571 ms
Loss rate: 35.33%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 9579.571 ms
Loss rate: 35.33%
```

Run 1: Report of TCP Cubic — Data Link

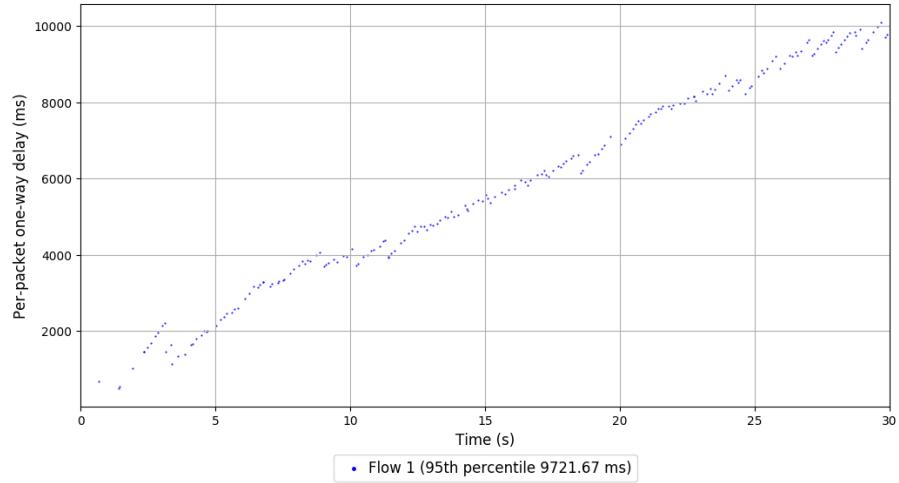
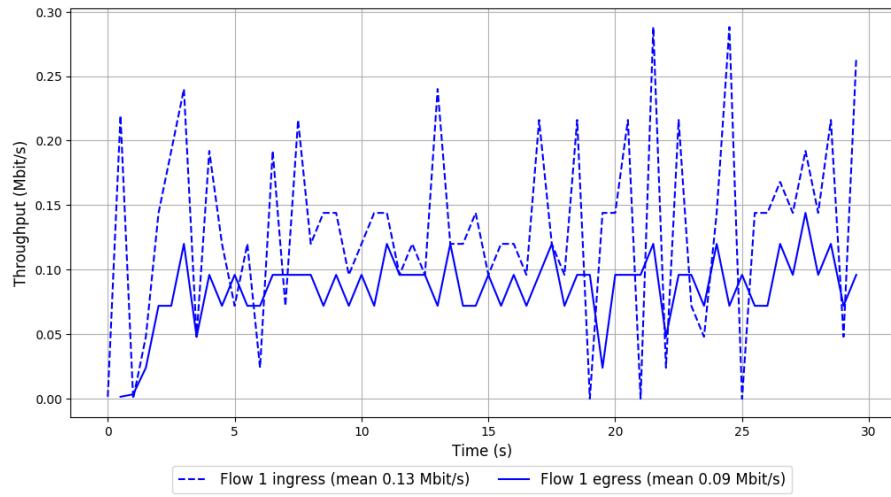


Run 2: Statistics of TCP Cubic

```
Start at: 2017-09-22 09:19:03
End at: 2017-09-22 09:19:33
Local clock offset: -0.108 ms
Remote clock offset: -0.425 ms

# Below is generated by plot.py at 2017-09-22 09:38:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 9721.665 ms
Loss rate: 36.26%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 9721.665 ms
Loss rate: 36.26%
```

Run 2: Report of TCP Cubic — Data Link

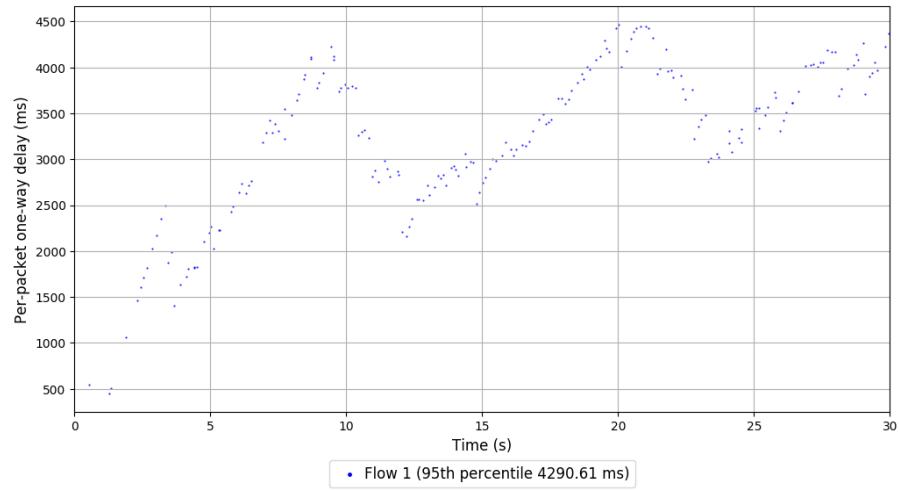
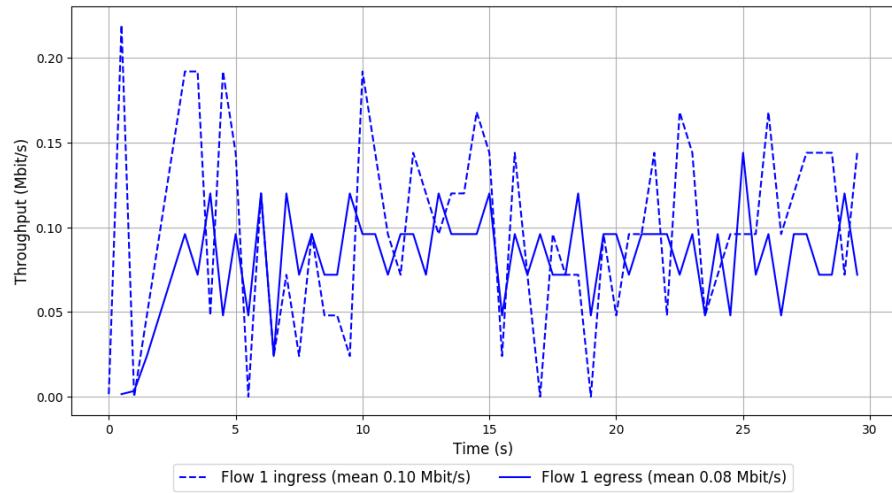


Run 3: Statistics of TCP Cubic

```
Start at: 2017-09-22 09:36:18
End at: 2017-09-22 09:36:48
Local clock offset: -0.076 ms
Remote clock offset: -0.565 ms

# Below is generated by plot.py at 2017-09-22 09:38:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 4290.612 ms
Loss rate: 18.68%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 4290.612 ms
Loss rate: 18.68%
```

Run 3: Report of TCP Cubic — Data Link

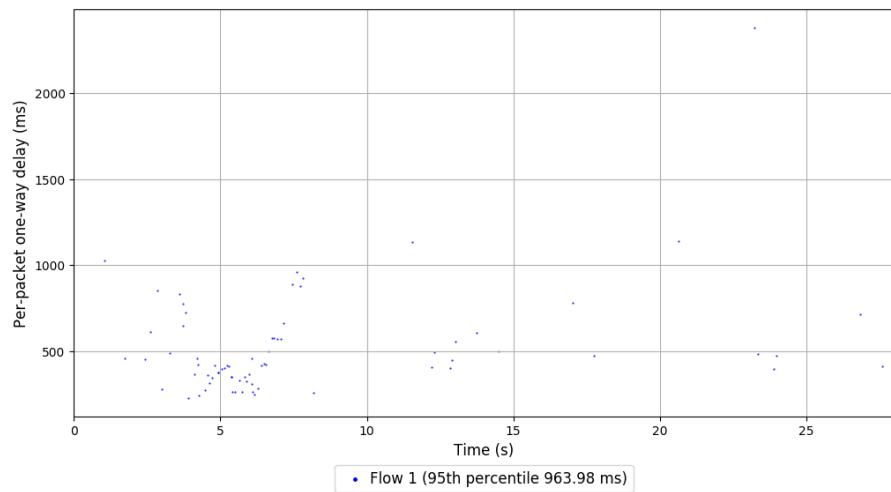
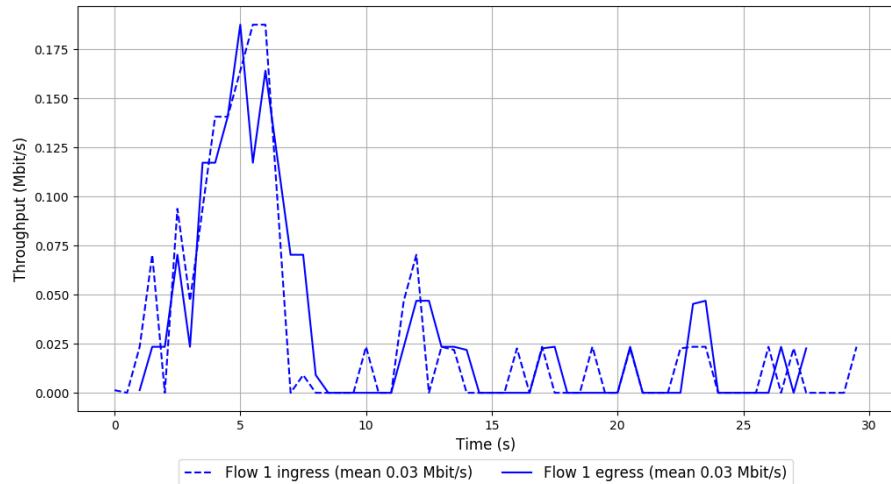


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2017-09-22 09:00:49
End at: 2017-09-22 09:01:19
Local clock offset: -0.162 ms
Remote clock offset: 0.047 ms

# Below is generated by plot.py at 2017-09-22 09:38:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 963.980 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 963.980 ms
Loss rate: 1.40%
```

Run 1: Report of LEDBAT — Data Link

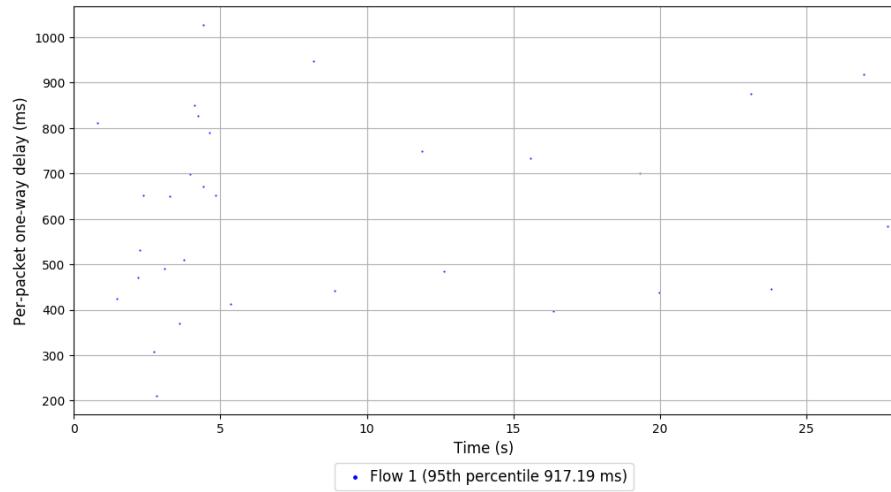
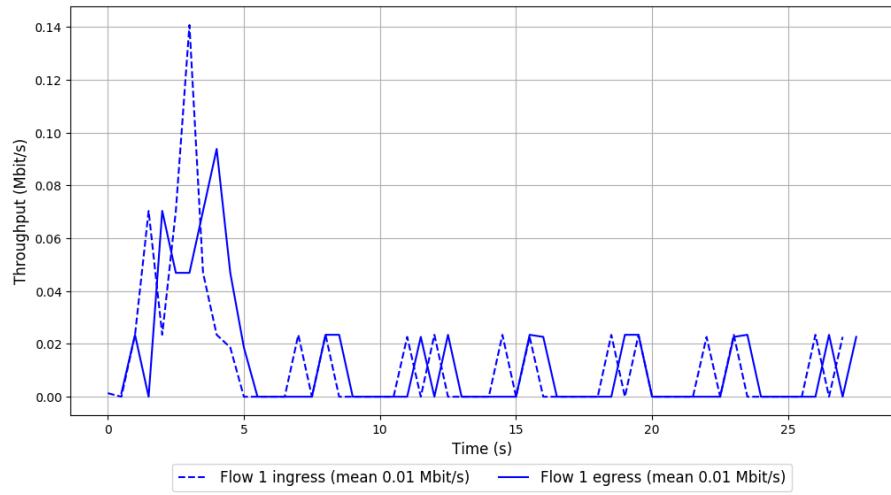


Run 2: Statistics of LEDBAT

```
Start at: 2017-09-22 09:17:47
End at: 2017-09-22 09:18:17
Local clock offset: -0.115 ms
Remote clock offset: -2.527 ms

# Below is generated by plot.py at 2017-09-22 09:38:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 917.194 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 917.194 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link

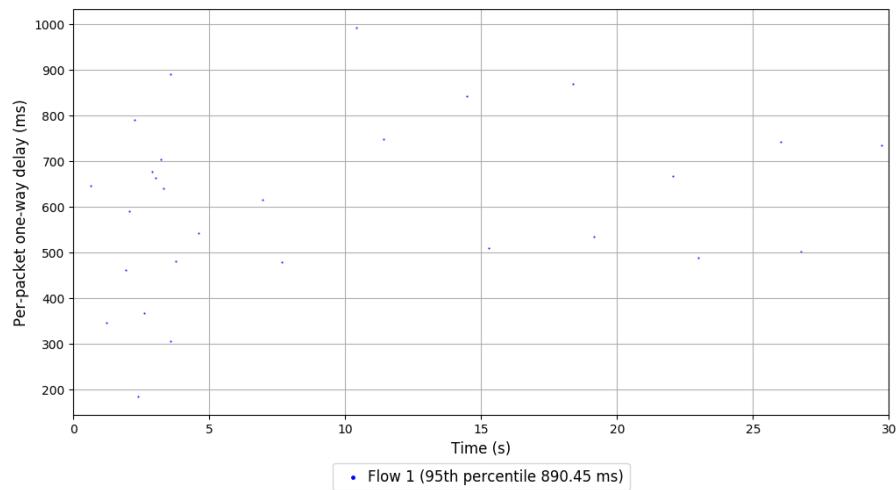
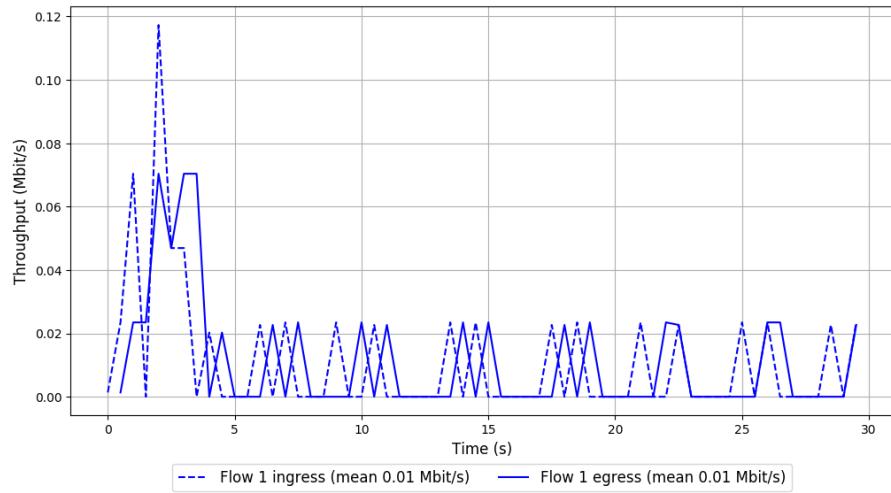


Run 3: Statistics of LEDBAT

```
Start at: 2017-09-22 09:35:01
End at: 2017-09-22 09:35:31
Local clock offset: -0.165 ms
Remote clock offset: -2.744 ms

# Below is generated by plot.py at 2017-09-22 09:38:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 890.447 ms
Loss rate: 3.60%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 890.447 ms
Loss rate: 3.60%
```

Run 3: Report of LEDBAT — Data Link

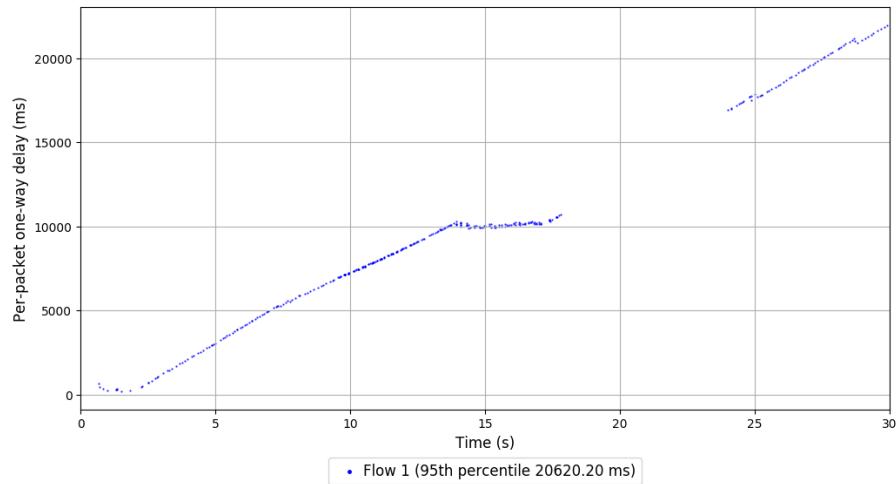
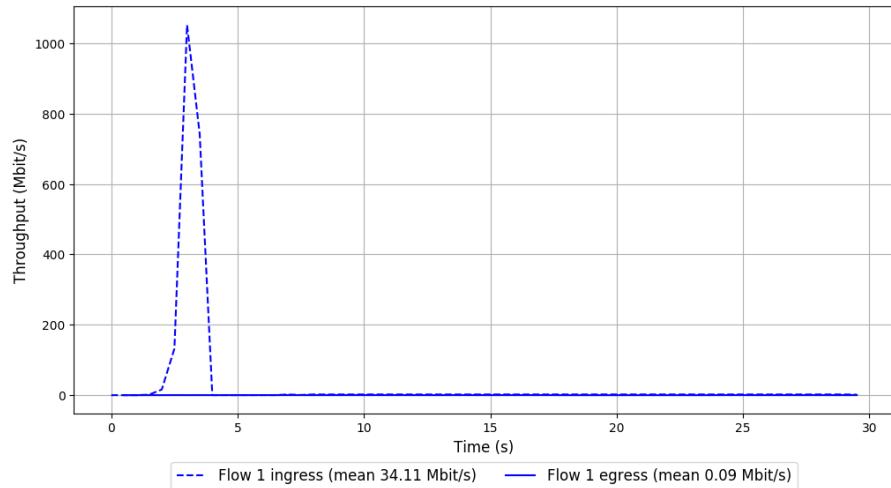


```
Run 1: Statistics of PCC
```

```
Start at: 2017-09-22 09:03:23
End at: 2017-09-22 09:03:53
Local clock offset: -0.148 ms
Remote clock offset: 0.085 ms

# Below is generated by plot.py at 2017-09-22 09:39:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 20620.196 ms
Loss rate: 99.73%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 20620.196 ms
Loss rate: 99.73%
```

Run 1: Report of PCC — Data Link

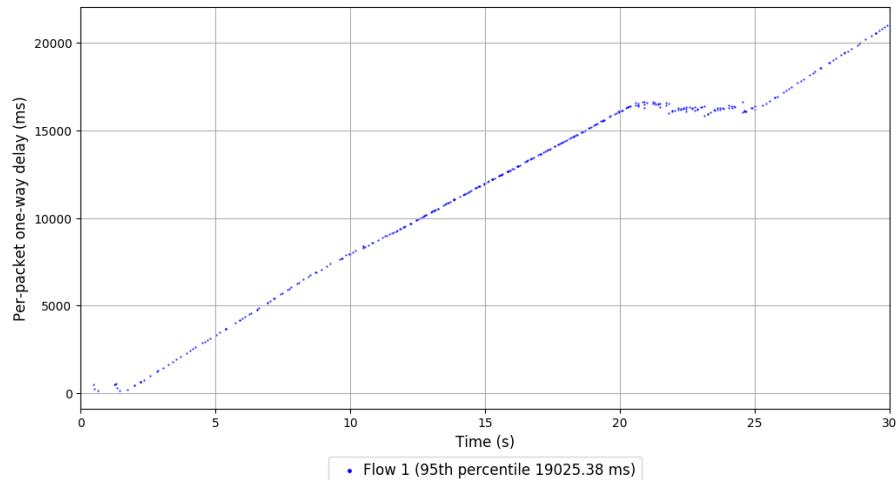
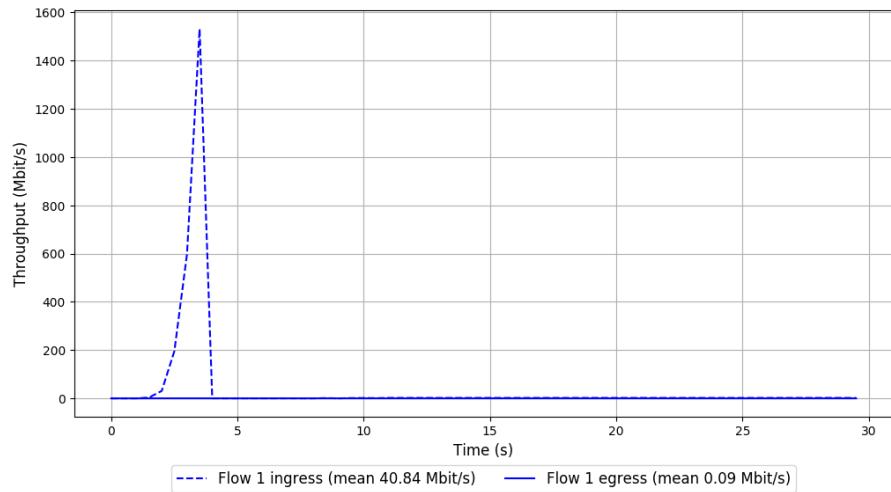


Run 2: Statistics of PCC

```
Start at: 2017-09-22 09:20:20
End at: 2017-09-22 09:20:50
Local clock offset: -0.19 ms
Remote clock offset: -2.653 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 19025.375 ms
Loss rate: 99.78%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 19025.375 ms
Loss rate: 99.78%
```

Run 2: Report of PCC — Data Link

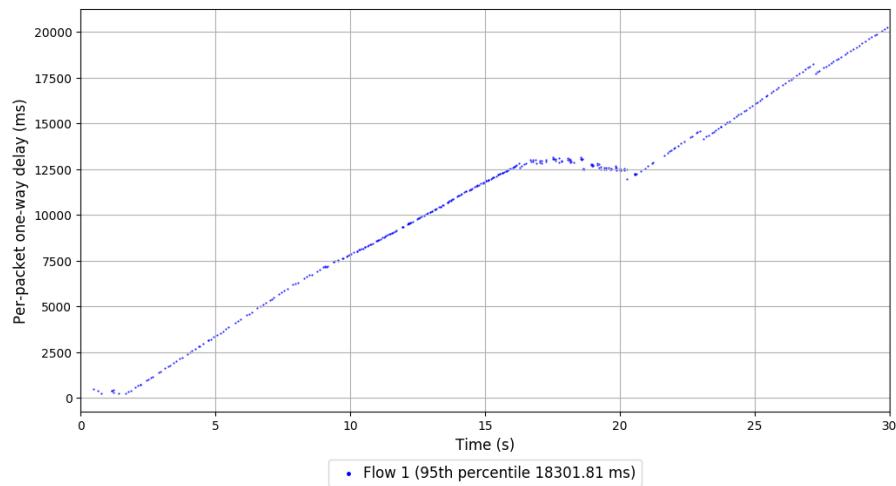
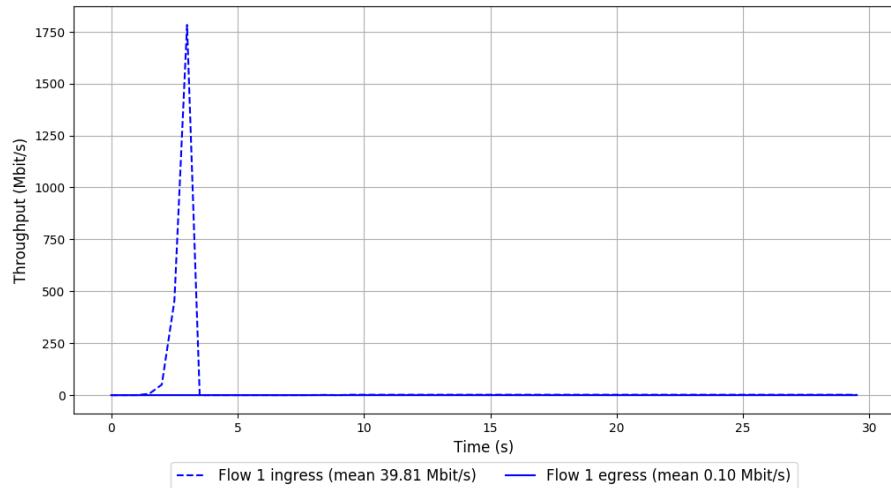


Run 3: Statistics of PCC

```
Start at: 2017-09-22 09:37:34
End at: 2017-09-22 09:38:04
Local clock offset: -0.069 ms
Remote clock offset: -2.759 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 18301.808 ms
Loss rate: 99.74%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 18301.808 ms
Loss rate: 99.74%
```

Run 3: Report of PCC — Data Link

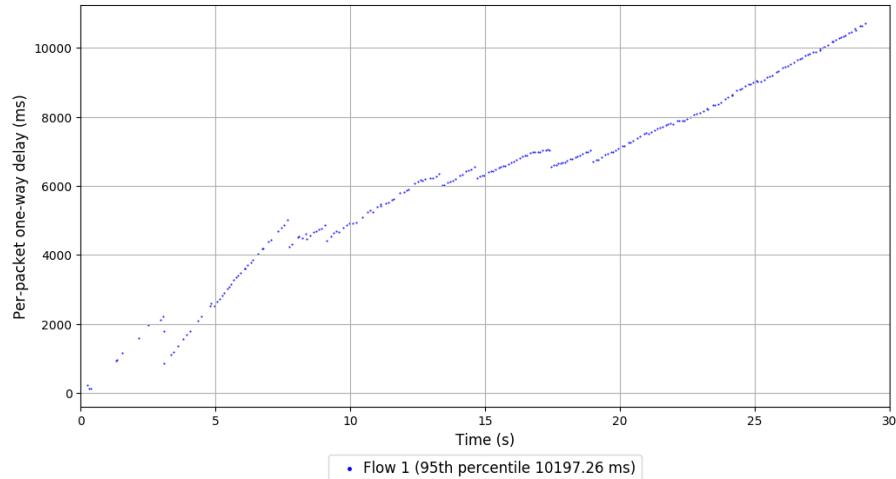
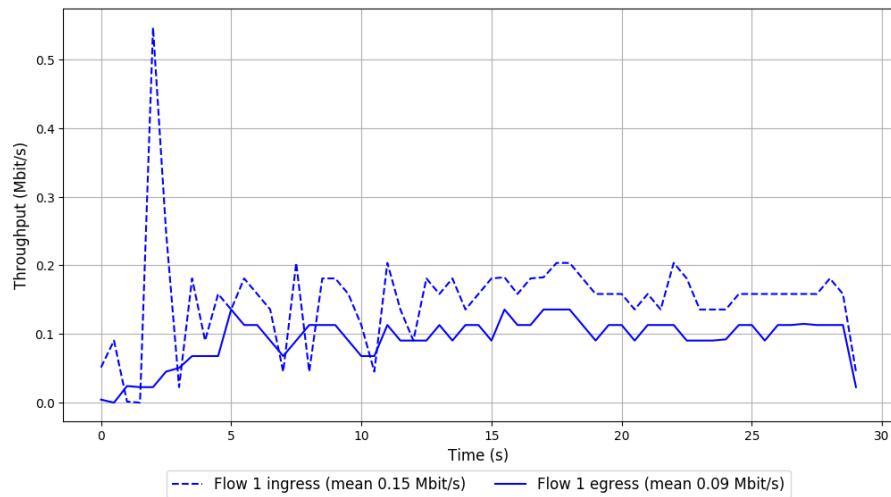


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2017-09-22 08:55:42
End at: 2017-09-22 08:56:12
Local clock offset: -0.181 ms
Remote clock offset: -0.416 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 10197.261 ms
Loss rate: 38.46%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 10197.261 ms
Loss rate: 38.46%
```

Run 1: Report of QUIC Cubic — Data Link

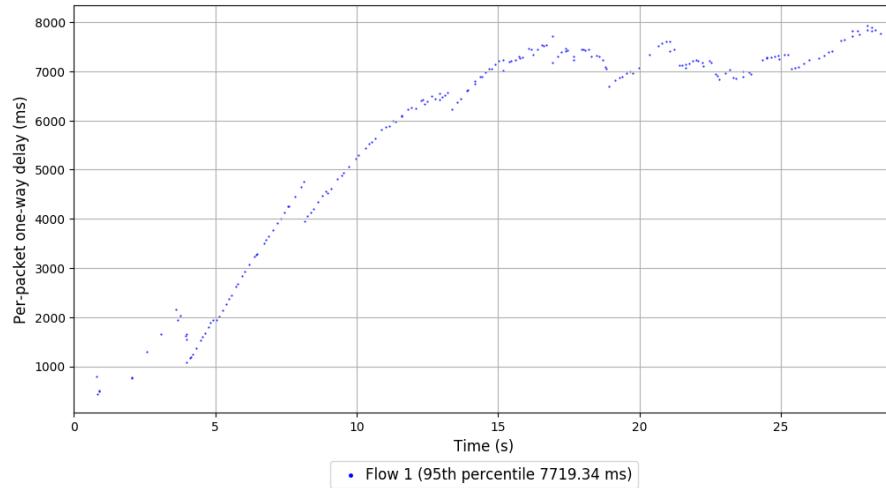
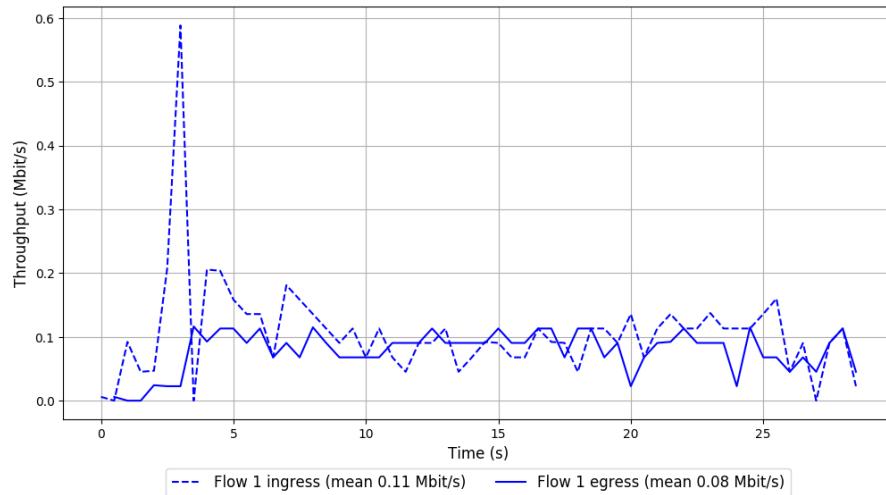


Run 2: Statistics of QUIC Cubic

```
Start at: 2017-09-22 09:12:40
End at: 2017-09-22 09:13:10
Local clock offset: -0.1 ms
Remote clock offset: -0.571 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 7719.340 ms
Loss rate: 27.53%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 7719.340 ms
Loss rate: 27.53%
```

Run 2: Report of QUIC Cubic — Data Link

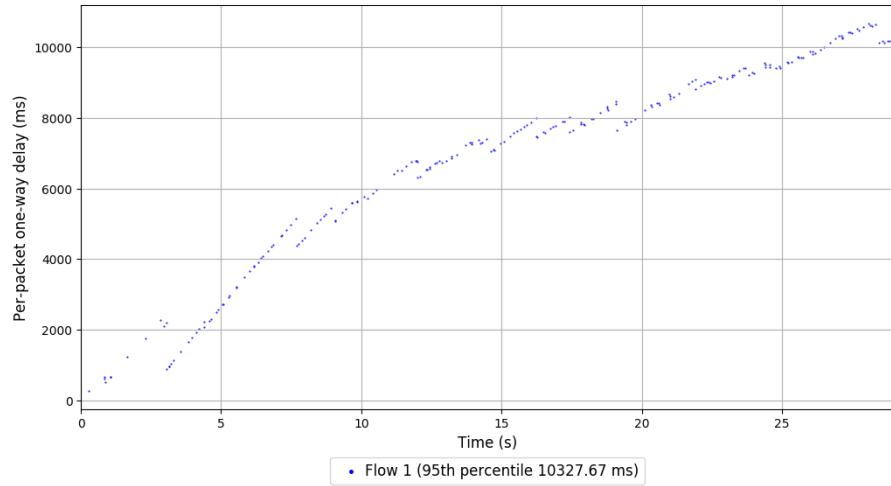
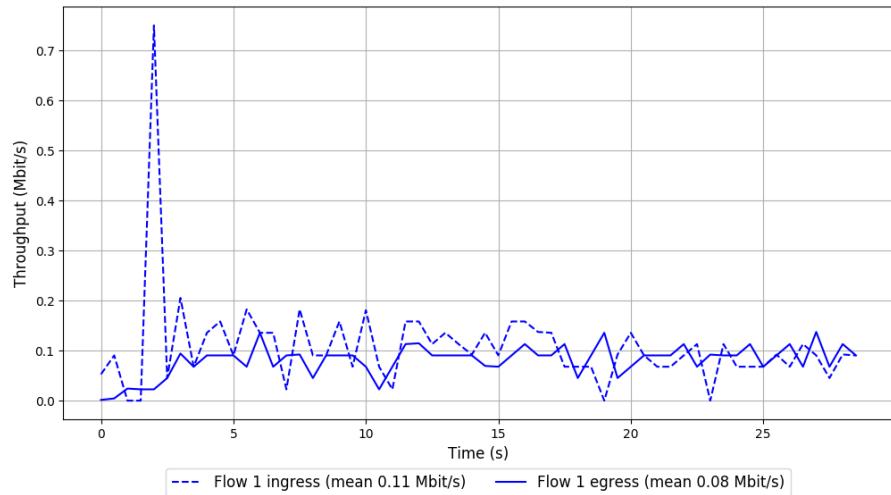


Run 3: Statistics of QUIC Cubic

```
Start at: 2017-09-22 09:29:43
End at: 2017-09-22 09:30:13
Local clock offset: -0.071 ms
Remote clock offset: -0.483 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 10327.674 ms
Loss rate: 25.61%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 10327.674 ms
Loss rate: 25.61%
```

Run 3: Report of QUIC Cubic — Data Link

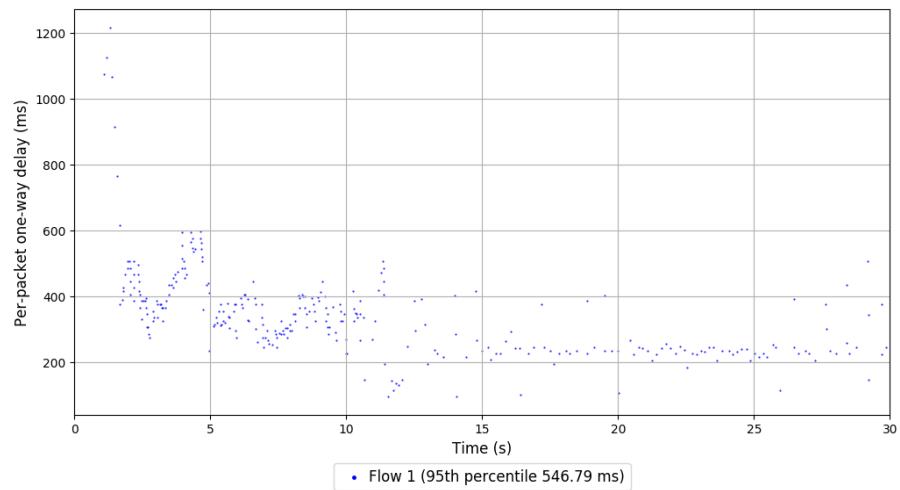
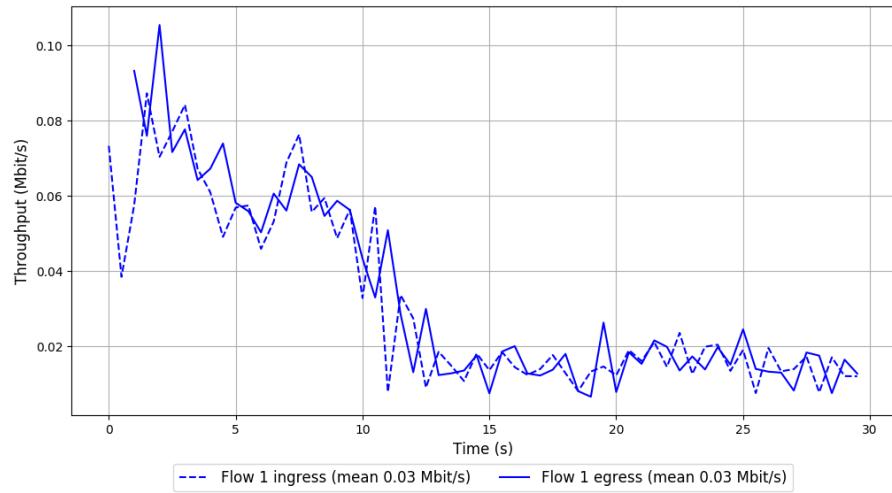


```
Run 1: Statistics of SCReAM
```

```
Start at: 2017-09-22 08:51:51
End at: 2017-09-22 08:52:21
Local clock offset: -0.259 ms
Remote clock offset: -0.366 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 546.794 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 546.794 ms
Loss rate: 0.31%
```

Run 1: Report of SCReAM — Data Link

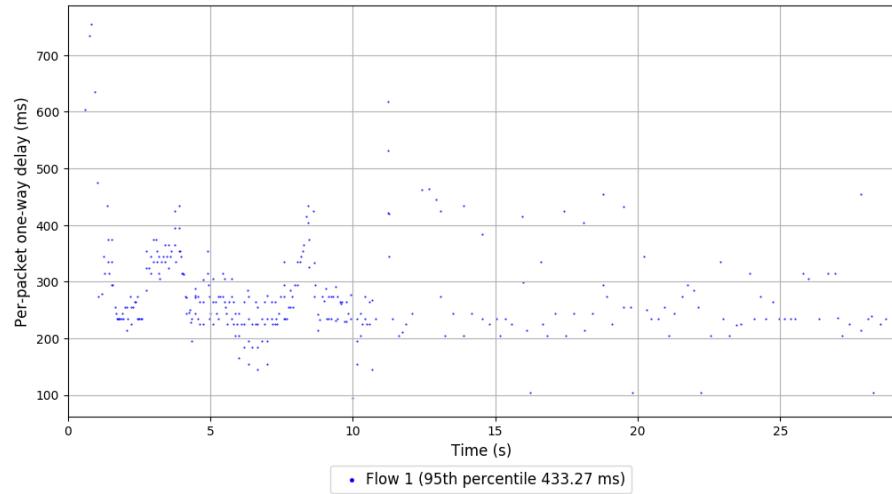
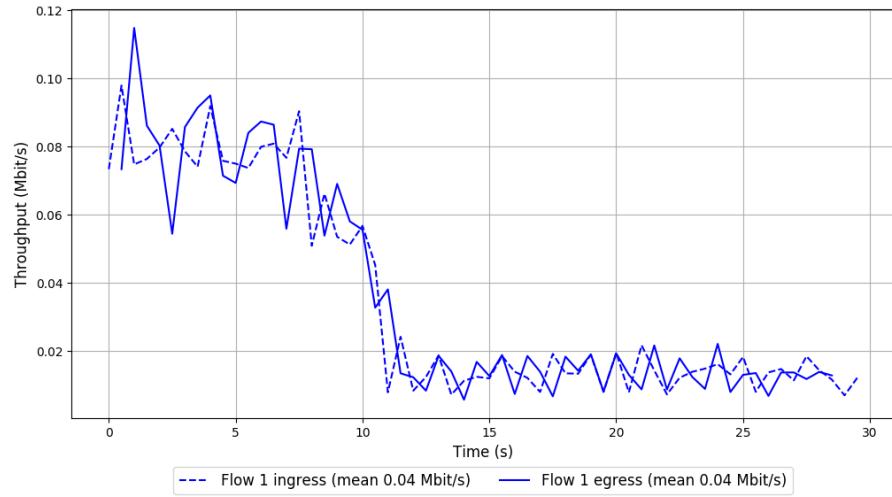


Run 2: Statistics of SCReAM

```
Start at: 2017-09-22 09:08:50
End at: 2017-09-22 09:09:20
Local clock offset: -0.208 ms
Remote clock offset: -2.629 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 433.267 ms
Loss rate: 2.36%
-- Flow 1:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 433.267 ms
Loss rate: 2.36%
```

Run 2: Report of SCReAM — Data Link

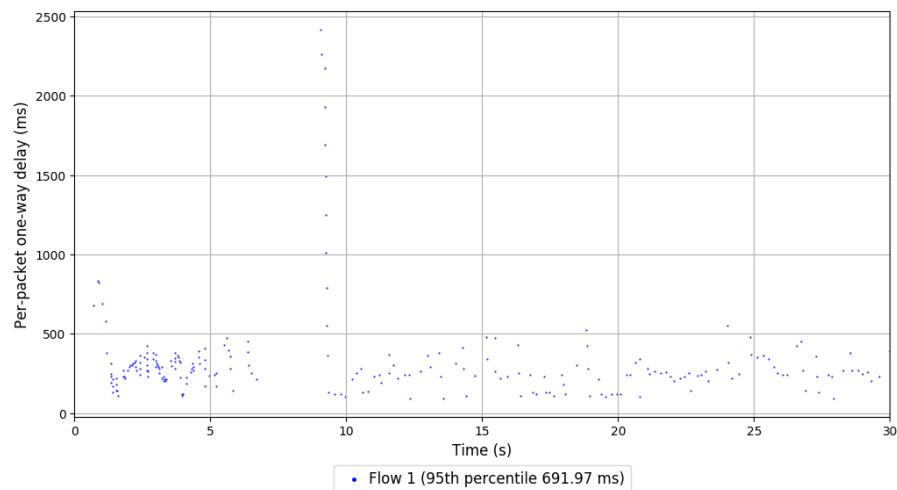
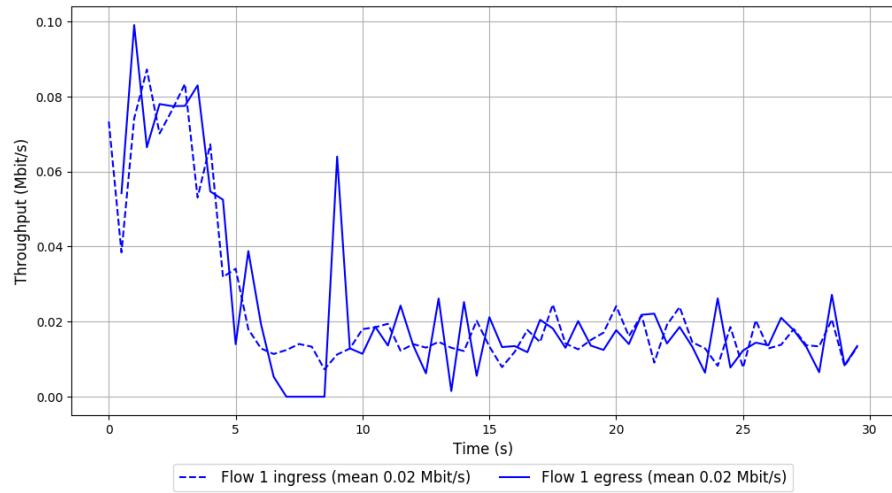


Run 3: Statistics of SCReAM

```
Start at: 2017-09-22 09:25:53
End at: 2017-09-22 09:26:23
Local clock offset: -0.095 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 691.970 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 691.970 ms
Loss rate: 0.45%
```

Run 3: Report of SCReAM — Data Link

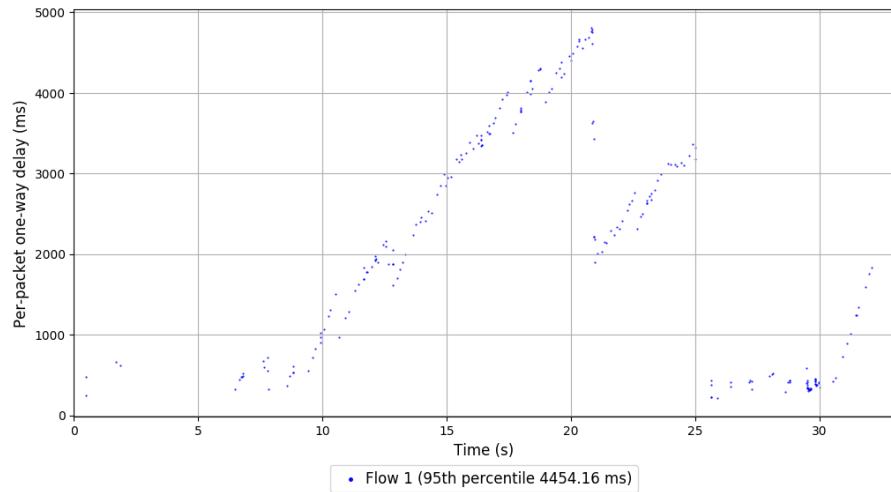
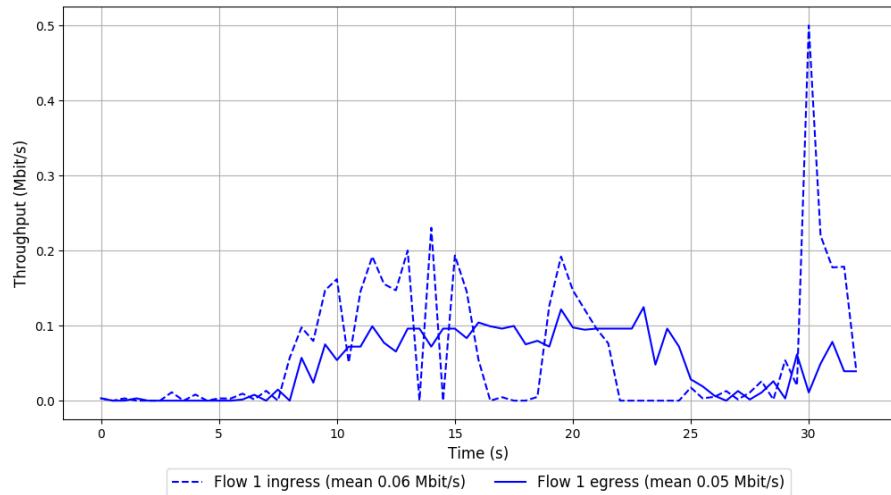


```
Run 1: Statistics of WebRTC media
```

```
Start at: 2017-09-22 08:53:08
End at: 2017-09-22 08:53:38
Local clock offset: -0.277 ms
Remote clock offset: -2.479 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4454.156 ms
Loss rate: 22.60%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4454.156 ms
Loss rate: 22.60%
```

Run 1: Report of WebRTC media — Data Link

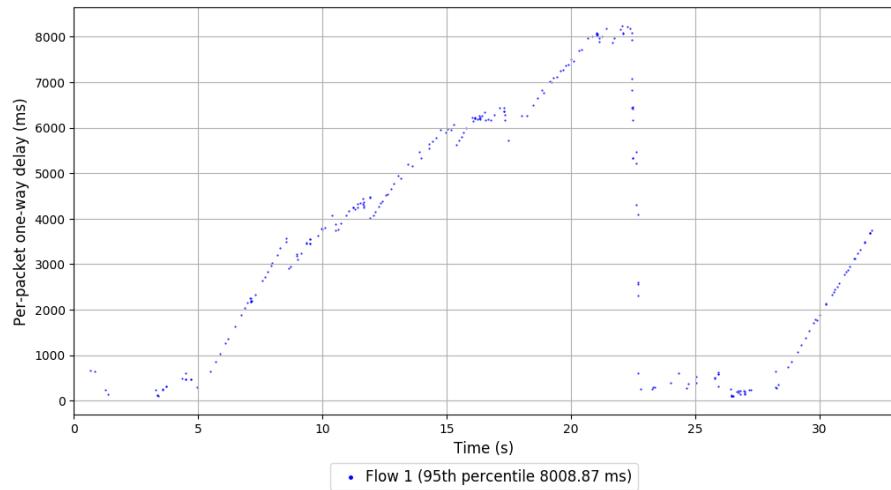
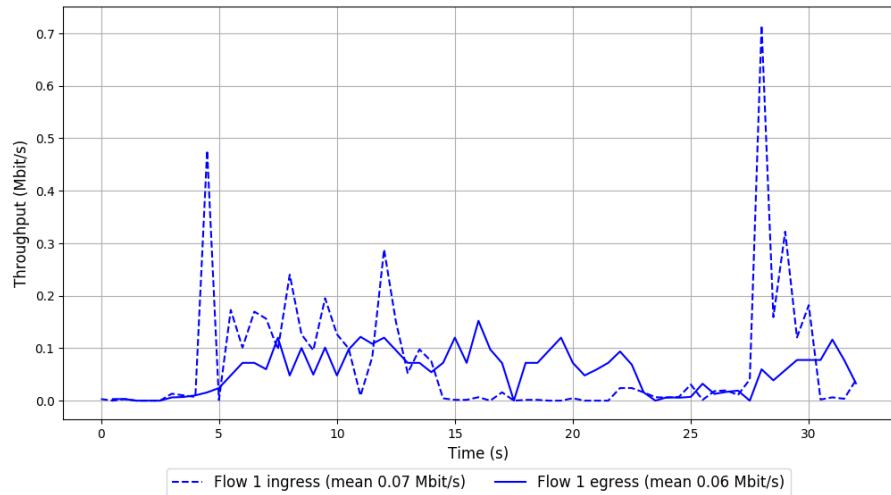


Run 2: Statistics of WebRTC media

```
Start at: 2017-09-22 09:10:06
End at: 2017-09-22 09:10:36
Local clock offset: -0.094 ms
Remote clock offset: 0.005 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 8008.869 ms
Loss rate: 22.01%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 8008.869 ms
Loss rate: 22.01%
```

Run 2: Report of WebRTC media — Data Link

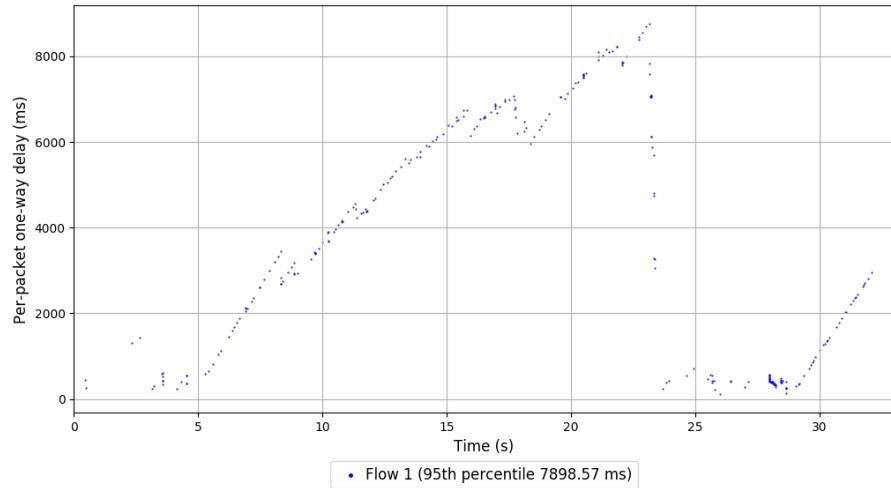
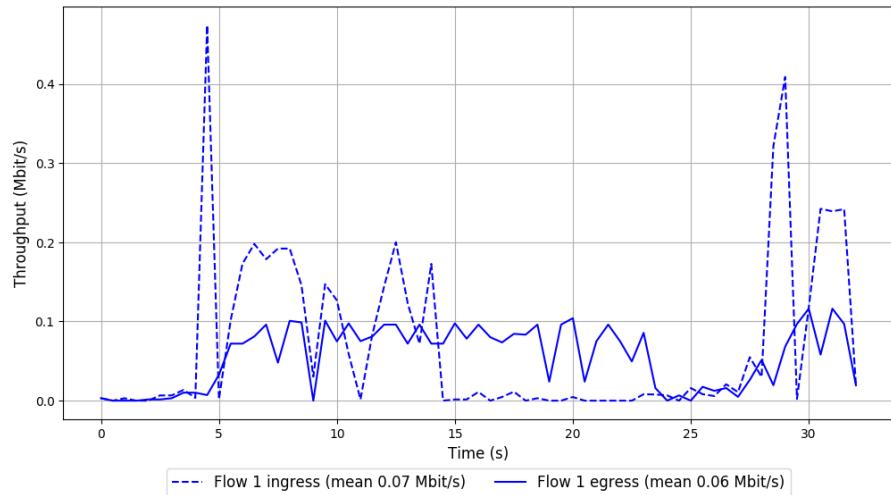


Run 3: Statistics of WebRTC media

```
Start at: 2017-09-22 09:27:10
End at: 2017-09-22 09:27:40
Local clock offset: -0.082 ms
Remote clock offset: -2.684 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 7898.573 ms
Loss rate: 21.92%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 7898.573 ms
Loss rate: 21.92%
```

Run 3: Report of WebRTC media — Data Link

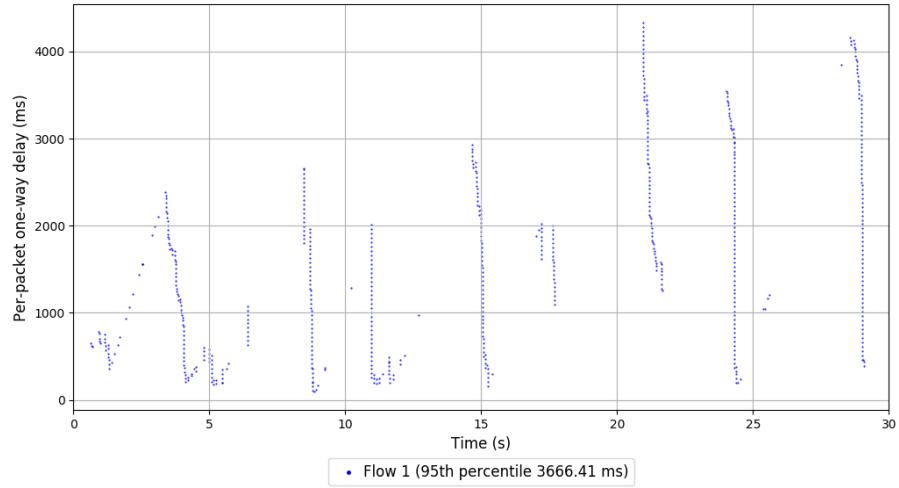
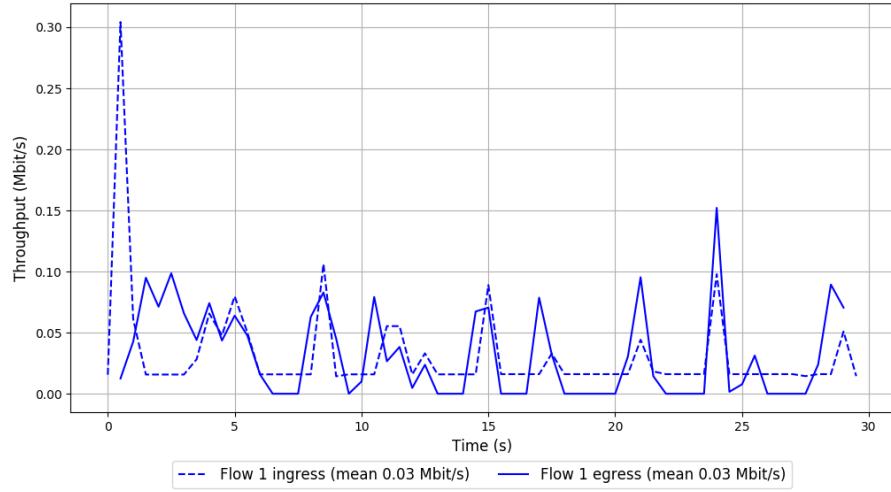


Run 1: Statistics of Sprout

```
Start at: 2017-09-22 08:56:59
End at: 2017-09-22 08:57:29
Local clock offset: -0.199 ms
Remote clock offset: -0.531 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 3666.408 ms
Loss rate: 4.56%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 3666.408 ms
Loss rate: 4.56%
```

Run 1: Report of Sprout — Data Link

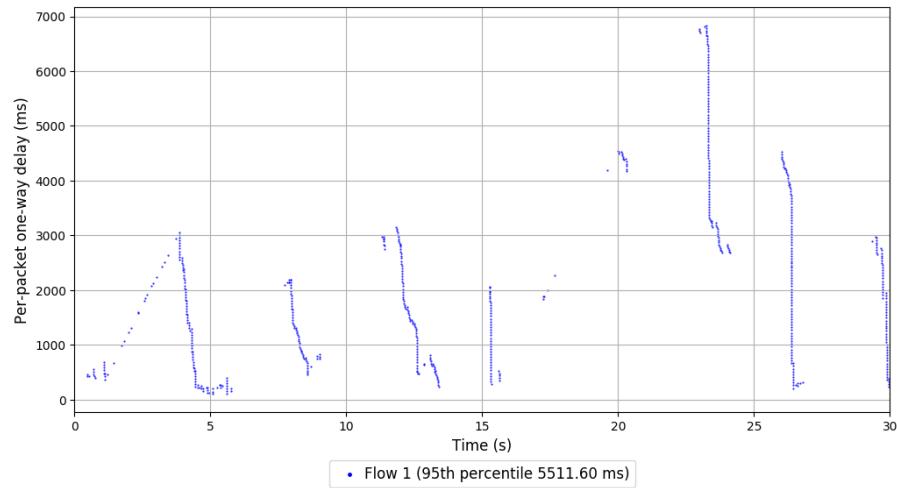
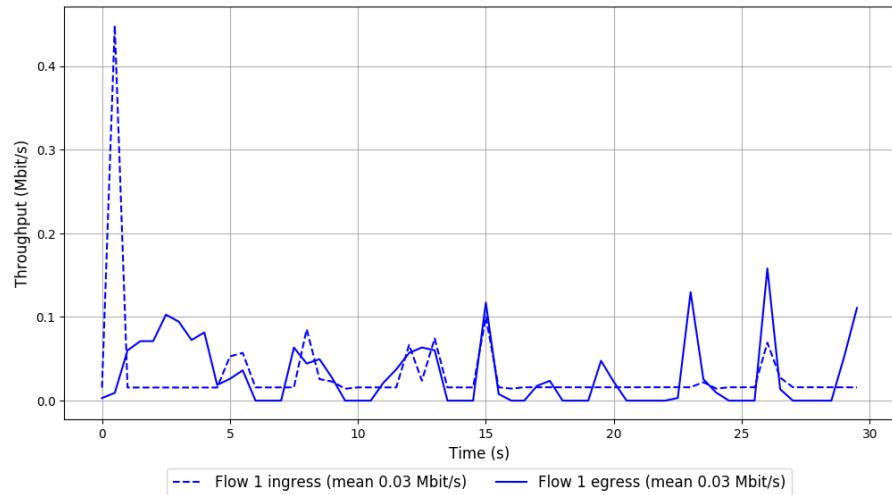


Run 2: Statistics of Sprout

```
Start at: 2017-09-22 09:13:57
End at: 2017-09-22 09:14:27
Local clock offset: -0.199 ms
Remote clock offset: 0.004 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 5511.598 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 5511.598 ms
Loss rate: 0.43%
```

Run 2: Report of Sprout — Data Link

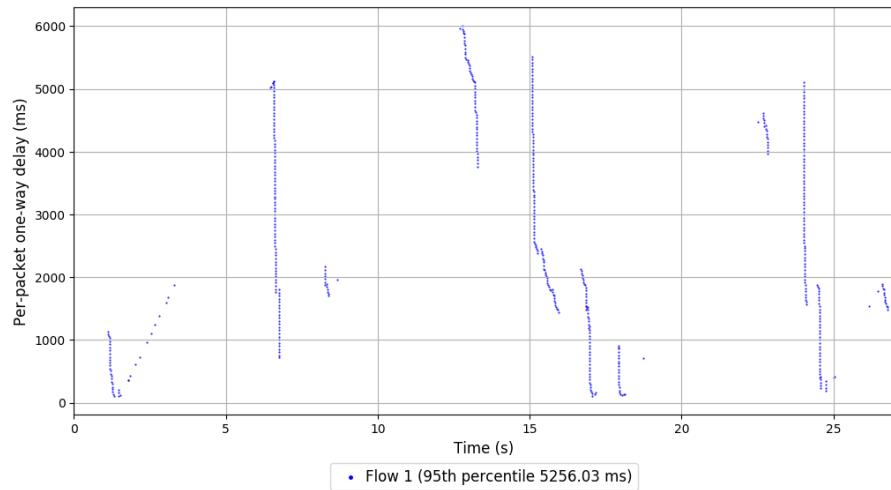
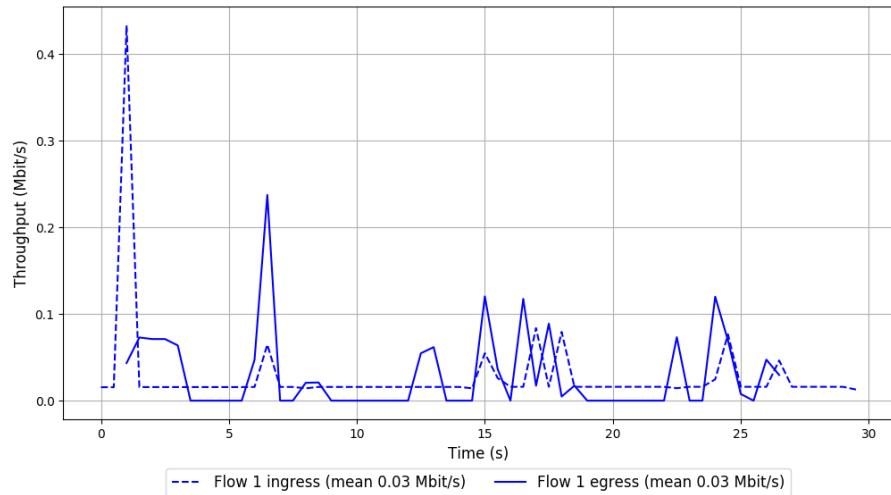


Run 3: Statistics of Sprout

```
Start at: 2017-09-22 09:31:05
End at: 2017-09-22 09:31:35
Local clock offset: -0.104 ms
Remote clock offset: -0.594 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 5256.032 ms
Loss rate: 10.41%
-- Flow 1:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 5256.032 ms
Loss rate: 10.41%
```

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

/home/ubuntu/pantheon_data/2017-09-22T08-45-AWS-California-2-to-Mexico-ppp0-3-runs/taova_st

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

Figure is missing

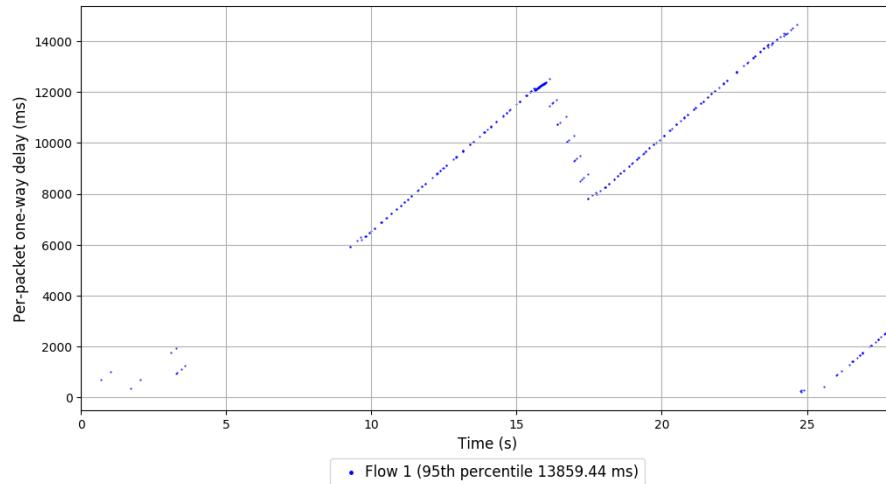
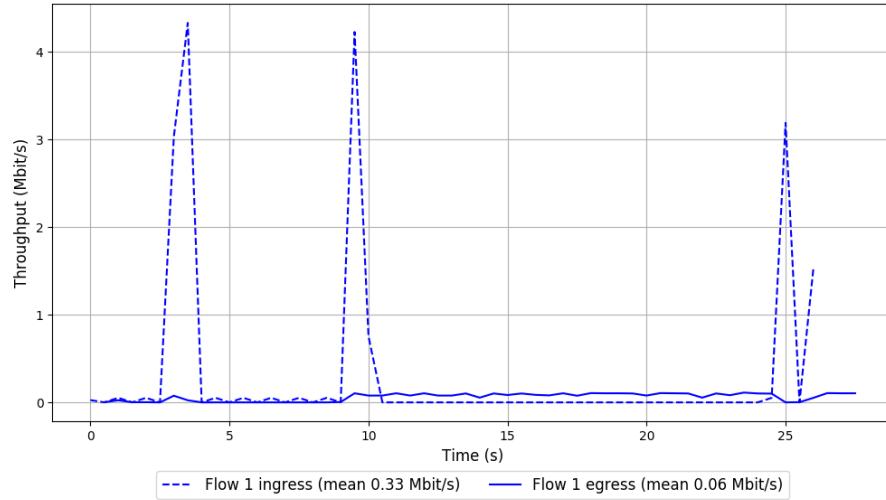
Figure is missing

Run 2: Statistics of TaoVA-100x

```
Start at: 2017-09-22 09:06:16
End at: 2017-09-22 09:06:46
Local clock offset: -0.121 ms
Remote clock offset: -0.525 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 13859.442 ms
Loss rate: 80.90%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 13859.442 ms
Loss rate: 80.90%
```

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

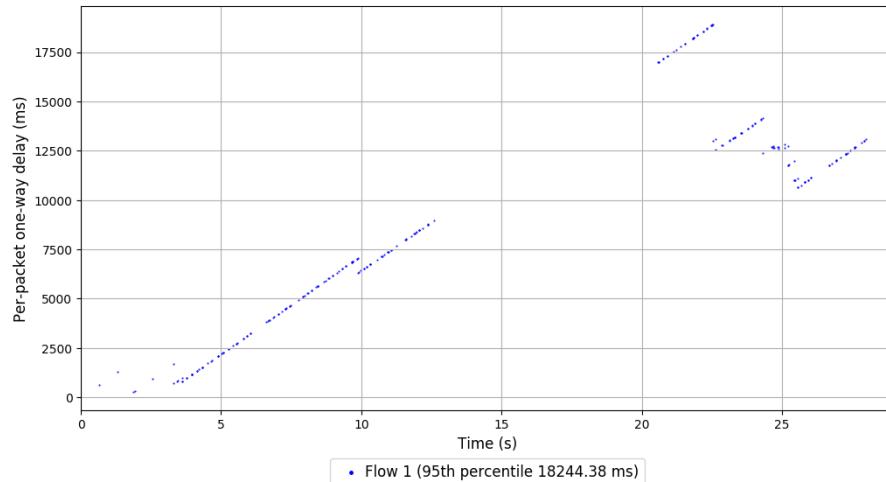
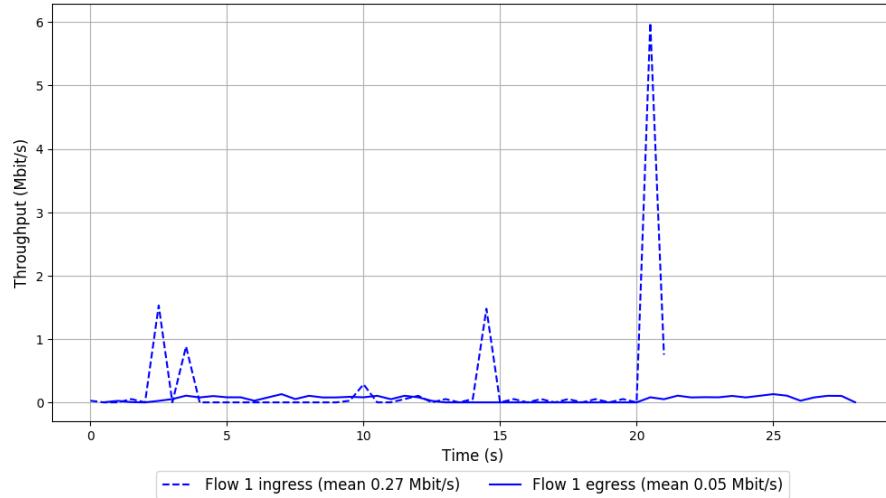


Run 3: Statistics of TaoVA-100x

```
Start at: 2017-09-22 09:23:19
End at: 2017-09-22 09:23:49
Local clock offset: -0.187 ms
Remote clock offset: -0.582 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 18244.380 ms
Loss rate: 74.64%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 18244.380 ms
Loss rate: 74.64%
```

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



Run 1: Statistics of TCP Vegas

/home/ubuntu/pantheon_data/2017-09-22T08-45-AWS-California-2-to-Mexico-ppp0-3-runs/vegas_st

Run 1: Report of TCP Vegas — Data Link

Figure is missing

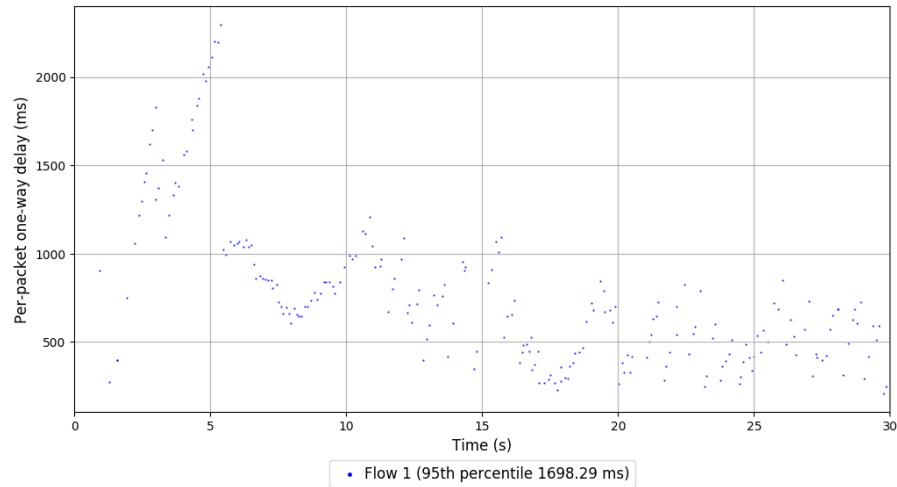
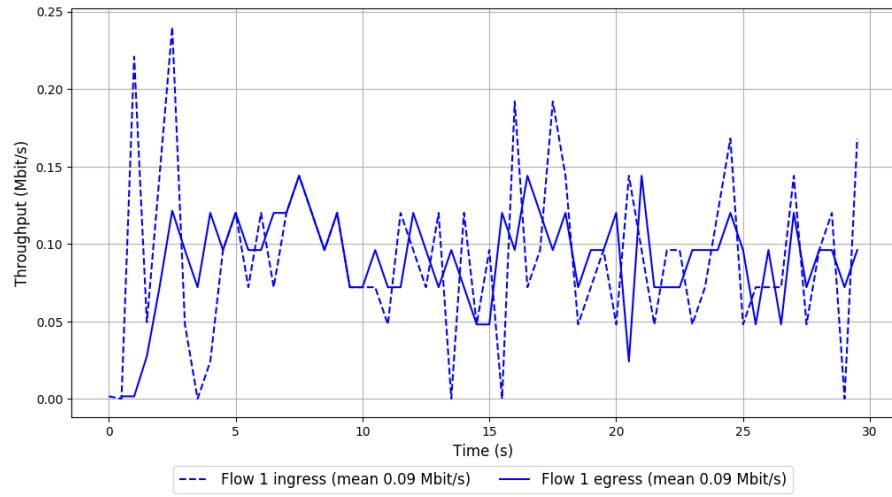
Figure is missing

Run 2: Statistics of TCP Vegas

```
Start at: 2017-09-22 09:07:33
End at: 2017-09-22 09:08:03
Local clock offset: -0.194 ms
Remote clock offset: -0.564 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 1698.287 ms
Loss rate: 2.65%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 1698.287 ms
Loss rate: 2.65%
```

Run 2: Report of TCP Vegas — Data Link

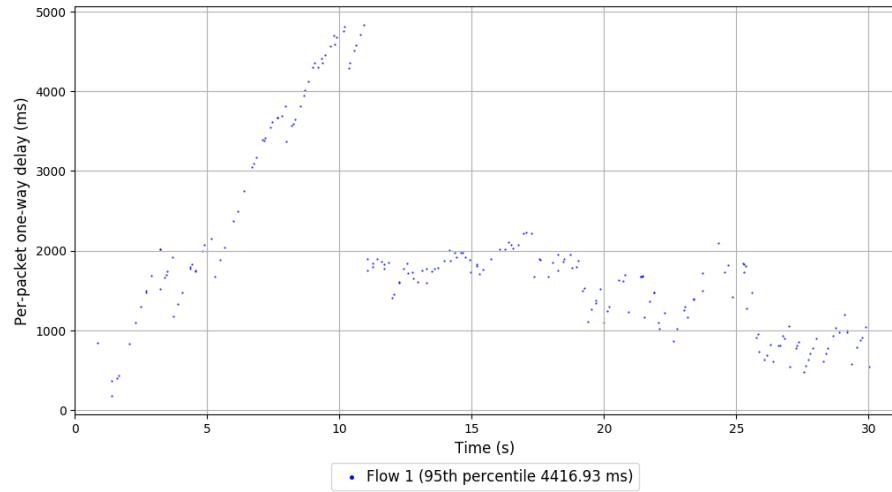
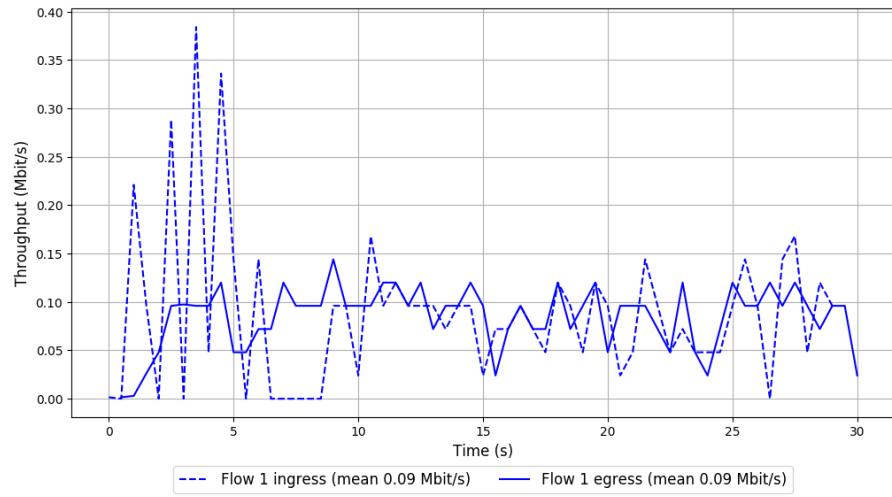


Run 3: Statistics of TCP Vegas

```
Start at: 2017-09-22 09:24:36
End at: 2017-09-22 09:25:06
Local clock offset: -0.168 ms
Remote clock offset: -0.517 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 4416.930 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 4416.930 ms
Loss rate: 1.39%
```

Run 3: Report of TCP Vegas — Data Link

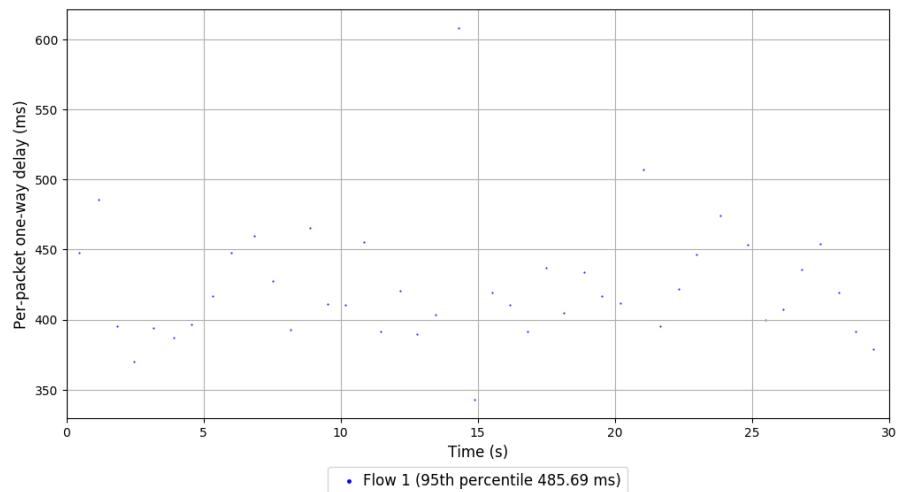
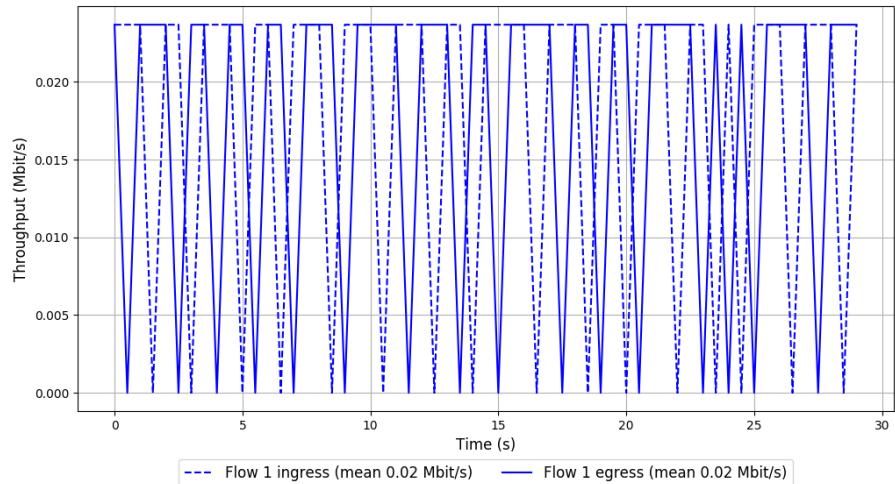


Run 1: Statistics of Verus

```
Start at: 2017-09-22 08:58:15
End at: 2017-09-22 08:58:45
Local clock offset: -0.257 ms
Remote clock offset: -0.51 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 485.685 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 485.685 ms
Loss rate: 0.00%
```

Run 1: Report of Verus — Data Link

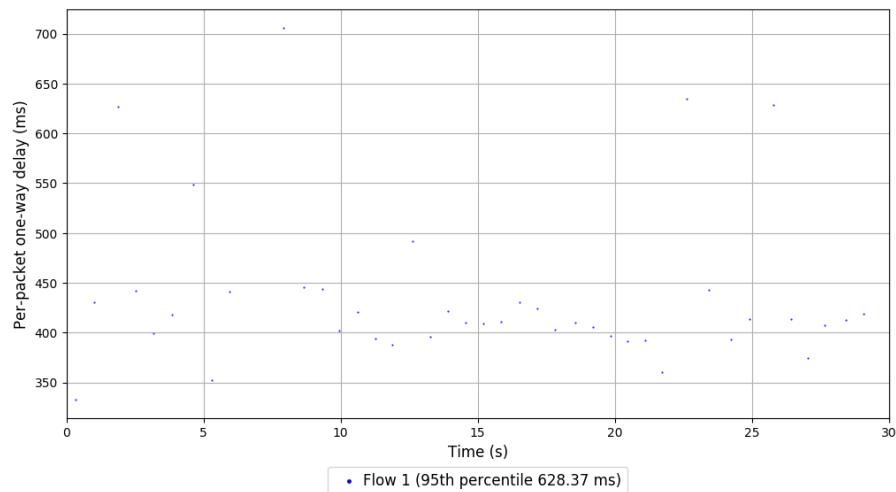
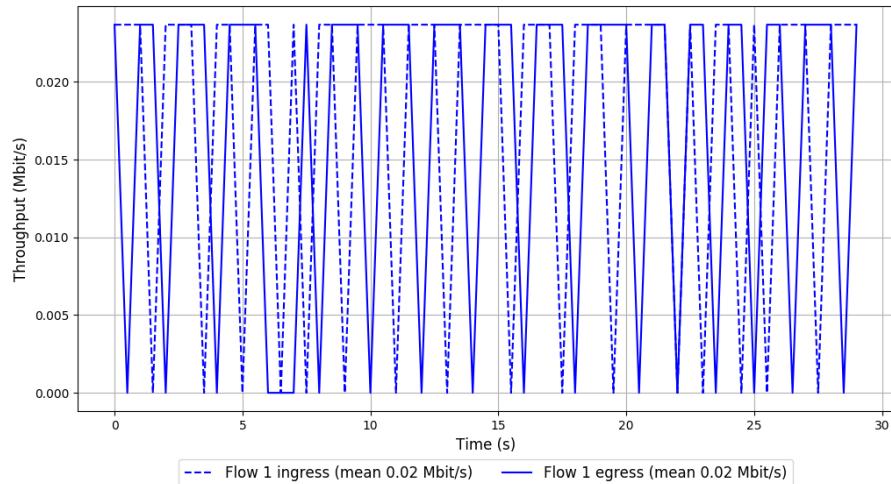


Run 2: Statistics of Verus

```
Start at: 2017-09-22 09:15:13
End at: 2017-09-22 09:15:43
Local clock offset: -0.204 ms
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 628.367 ms
Loss rate: 4.65%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 628.367 ms
Loss rate: 4.65%
```

Run 2: Report of Verus — Data Link

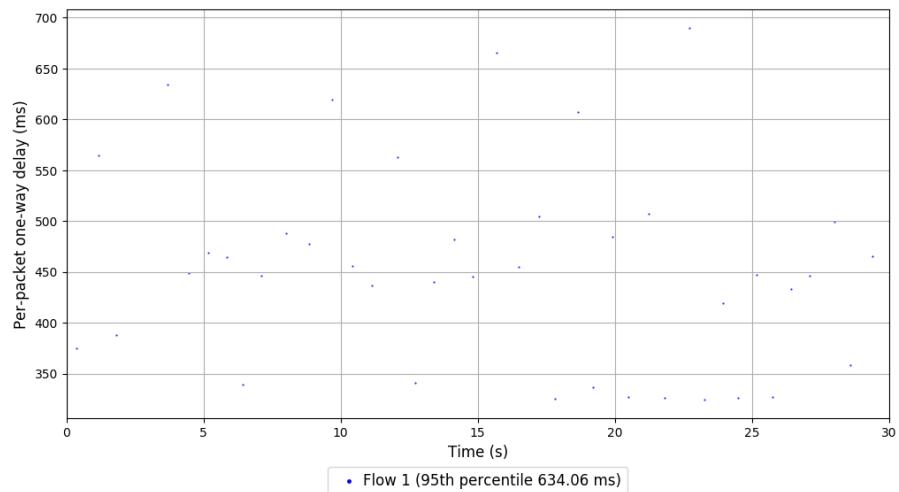
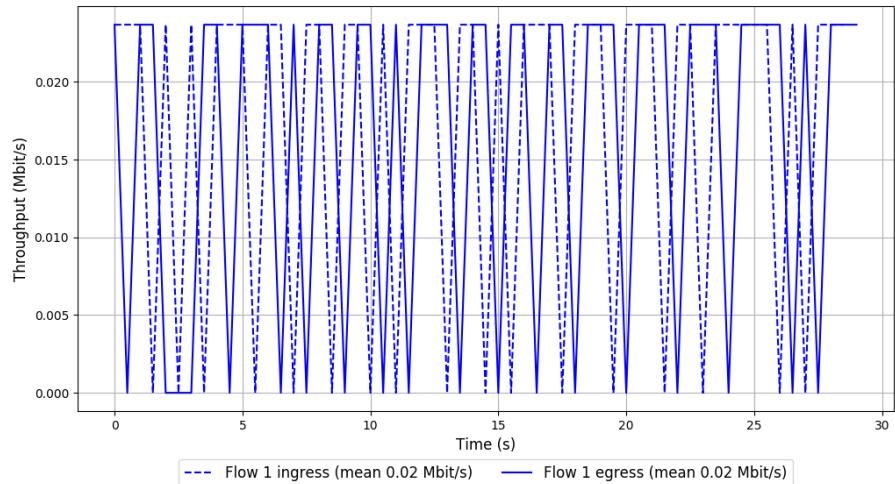


Run 3: Statistics of Verus

```
Start at: 2017-09-22 09:32:21
End at: 2017-09-22 09:32:51
Local clock offset: -0.093 ms
Remote clock offset: -0.201 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 634.063 ms
Loss rate: 2.44%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 634.063 ms
Loss rate: 2.44%
```

Run 3: Report of Verus — Data Link



Run 1: Statistics of Indigo

/home/ubuntu/pantheon_data/2017-09-22T08-45-AWS-California-2-to-Mexico-ppp0-3-runs/indigo_st

Run 1: Report of Indigo — Data Link

Figure is missing

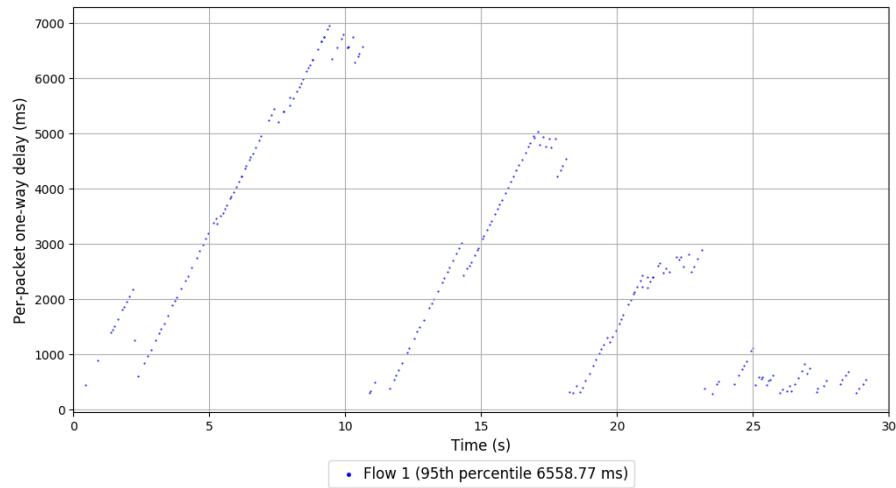
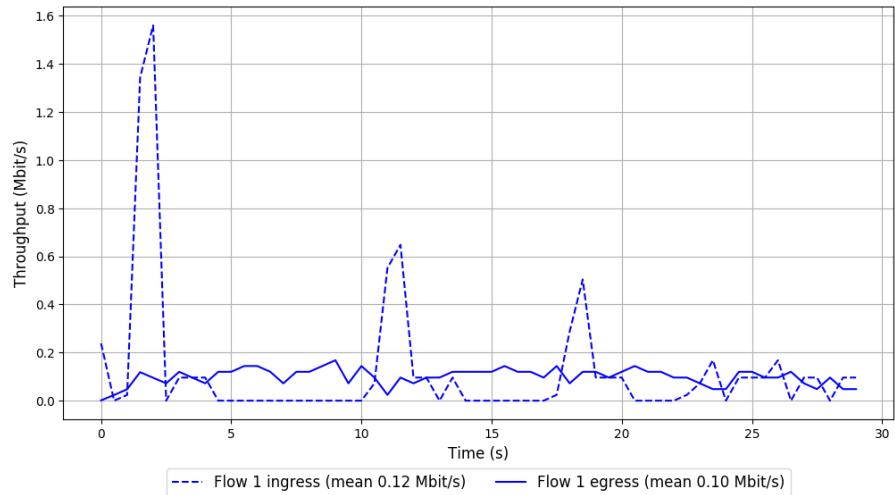
Figure is missing

Run 2: Statistics of Indigo

```
Start at: 2017-09-22 09:04:59
End at: 2017-09-22 09:05:29
Local clock offset: -0.143 ms
Remote clock offset: -2.567 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 6558.772 ms
Loss rate: 18.94%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 6558.772 ms
Loss rate: 18.94%
```

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

/home/ubuntu/pantheon_data/2017-09-22T08-45-AWS-California-2-to-Mexico-ppp0-3-runs/indigo_st

Run 3: Report of Indigo — Data Link

Figure is missing

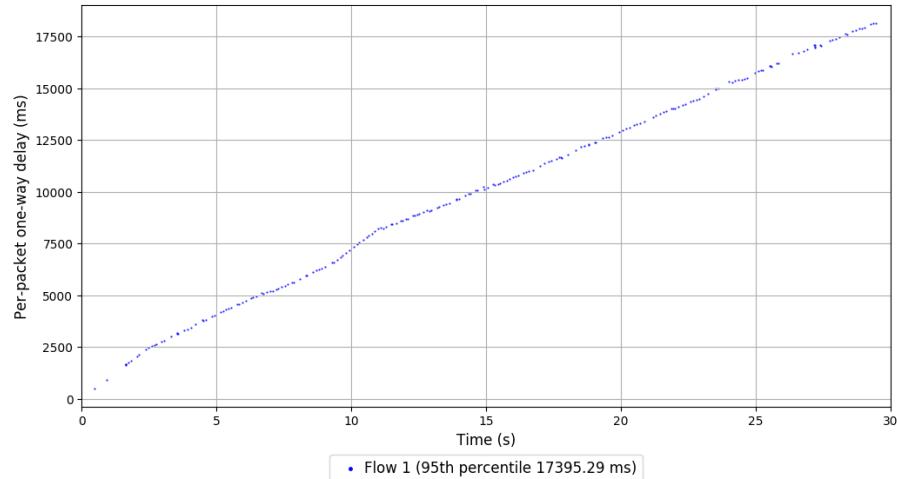
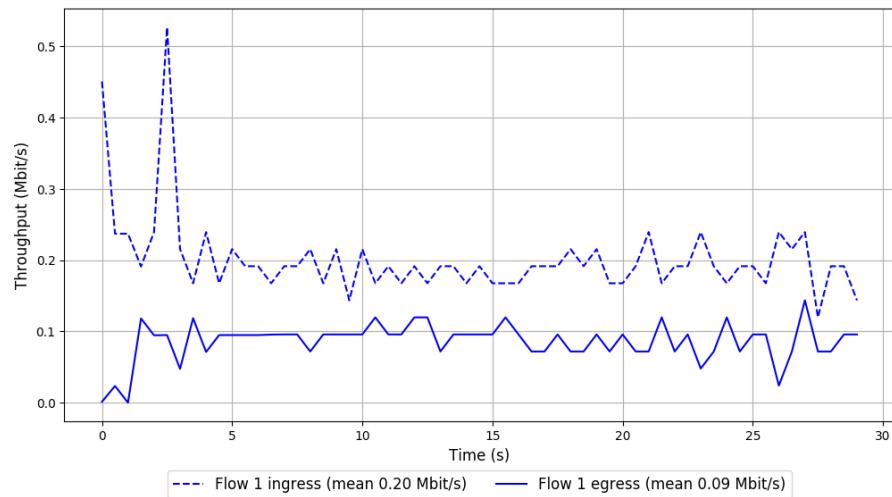
Figure is missing

Run 1: Statistics of Indigo-cellular

```
Start at: 2017-09-22 08:59:32
End at: 2017-09-22 09:00:02
Local clock offset: -0.258 ms
Remote clock offset: -0.508 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 17395.292 ms
Loss rate: 57.47%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 17395.292 ms
Loss rate: 57.47%
```

Run 1: Report of Indigo-cellular — Data Link



Run 2: Statistics of Indigo-cellular

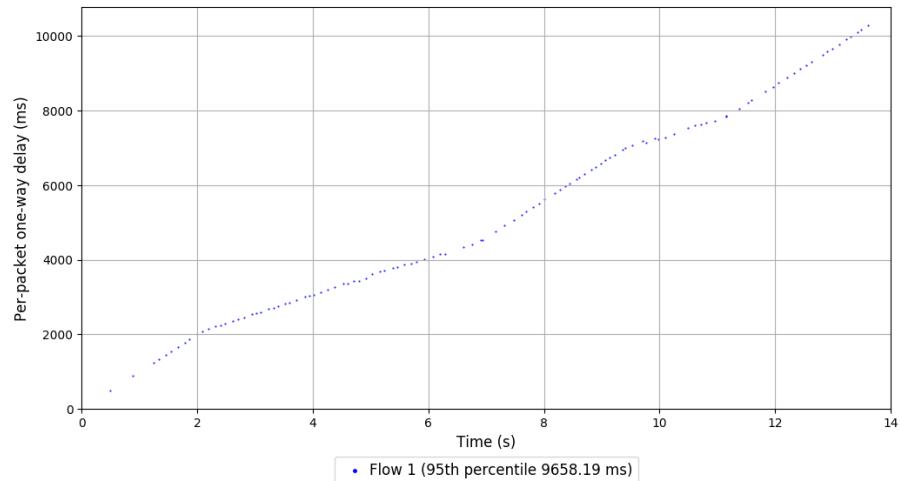
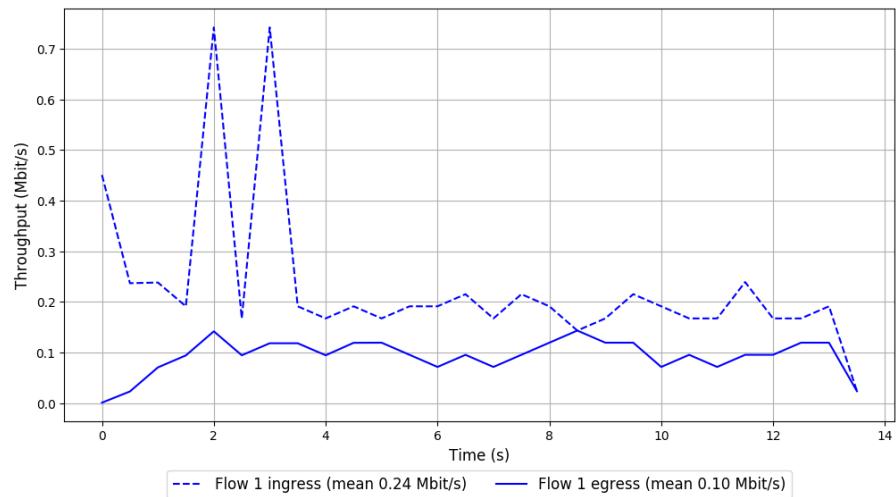
Start at: 2017-09-22 09:16:30

End at: 2017-09-22 09:17:00

Local clock offset: -0.203 ms

Remote clock offset: -0.506 ms

Run 2: Report of Indigo-cellular — Data Link



Run 3: Statistics of Indigo-cellular

```
Start at: 2017-09-22 09:33:38
End at: 2017-09-22 09:34:08
Local clock offset: -0.177 ms
Remote clock offset: -2.767 ms

# Below is generated by plot.py at 2017-09-22 09:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 20995.741 ms
Loss rate: 65.12%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 20995.741 ms
Loss rate: 65.12%
```

Run 3: Report of Indigo-cellular — Data Link

