

## Pantheon Report

Generated at 2018-06-19 01:21:50 (UTC).

Data path: China ppp0 ppp0 (*remote*) → AWS Korea Ethernet (*local*).

Repeated the test of 16 congestion control schemes 3 times.

Each test lasted for 30 seconds running 1 flow.

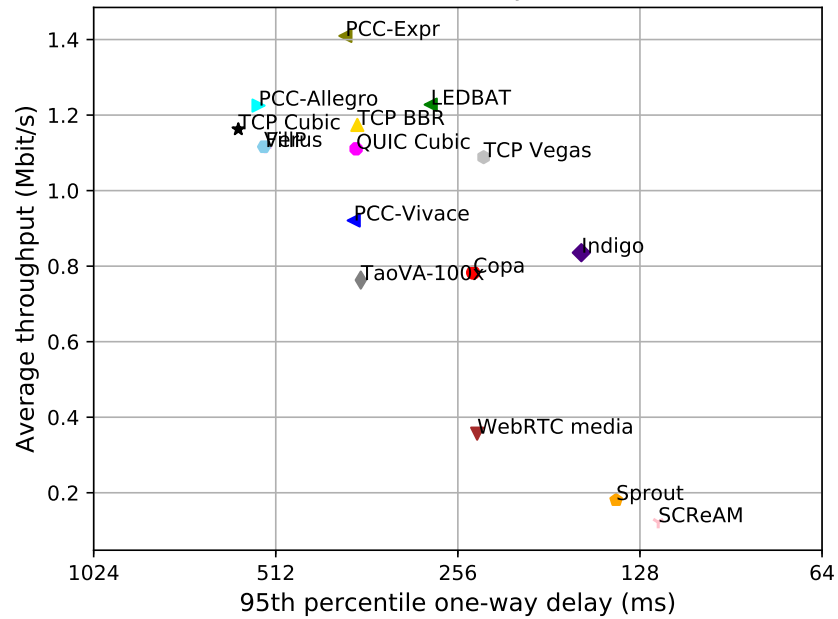
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

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

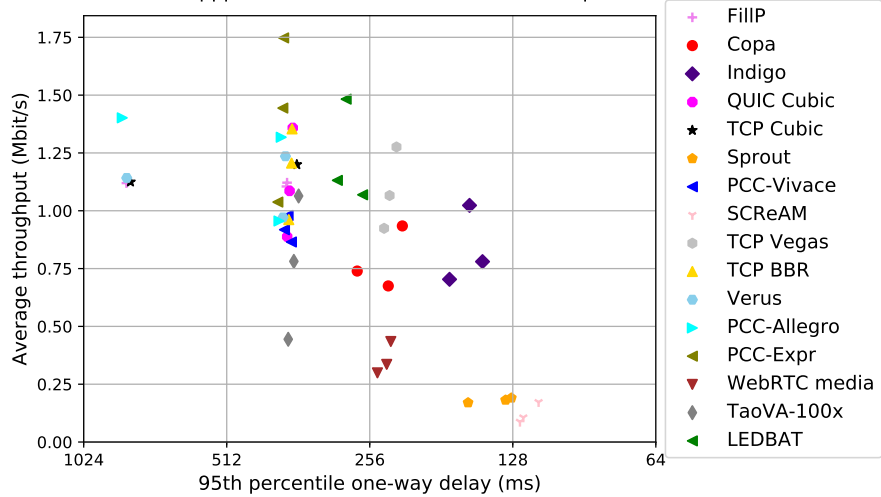
Git summary:

```
branch: master @ 9141c5f9450c85ea5ea2ea755a8e946998d3abf3
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/genericCC @ c7966e494a929986eaa5a9c169a7f381fe1bbbe5
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
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-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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



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



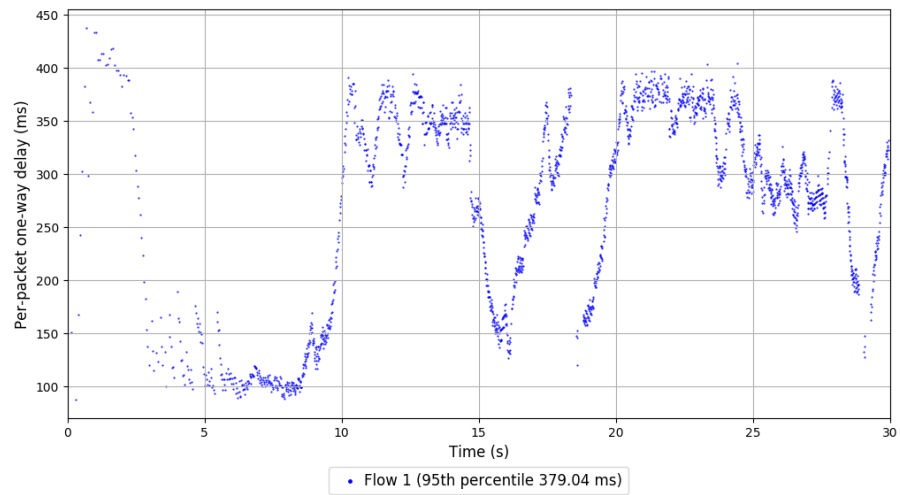
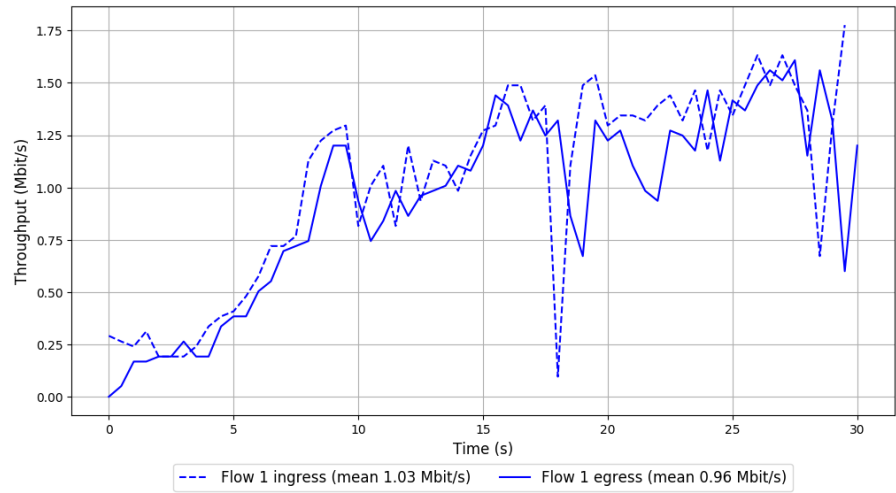
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	1.17	375.34	6.14
Copa	3	0.78	241.56	1.60
TCP Cubic	2	1.16	590.42	3.46
FillP	3	1.12	532.70	36.77
Indigo	3	0.83	160.01	1.18
LEDBAT	3	1.23	283.89	1.35
PCC-Allegro	3	1.23	546.67	65.32
PCC-Expr	3	1.41	392.83	78.22
QUIC Cubic	3	1.11	377.10	7.13
SCReAM	3	0.12	119.41	1.23
Sprout	3	0.18	140.14	4.06
TaoVA-100x	3	0.76	370.43	26.25
TCP Vegas	3	1.09	232.09	0.81
Verus	3	1.12	535.41	26.87
PCC-Vivace	3	0.92	380.59	16.60
WebRTC media	3	0.36	237.88	2.87

Run 1: Statistics of TCP BBR

Start at: 2018-06-19 00:34:14  
End at: 2018-06-19 00:34:45  
Local clock offset: -0.744 ms  
Remote clock offset: -1.194 ms

# Below is generated by plot.py at 2018-06-19 01:21:21  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.96 Mbit/s  
95th percentile per-packet one-way delay: 379.042 ms  
Loss rate: 7.16%  
-- Flow 1:  
Average throughput: 0.96 Mbit/s  
95th percentile per-packet one-way delay: 379.042 ms  
Loss rate: 7.16%

# Run 1: Report of TCP BBR — Data Link

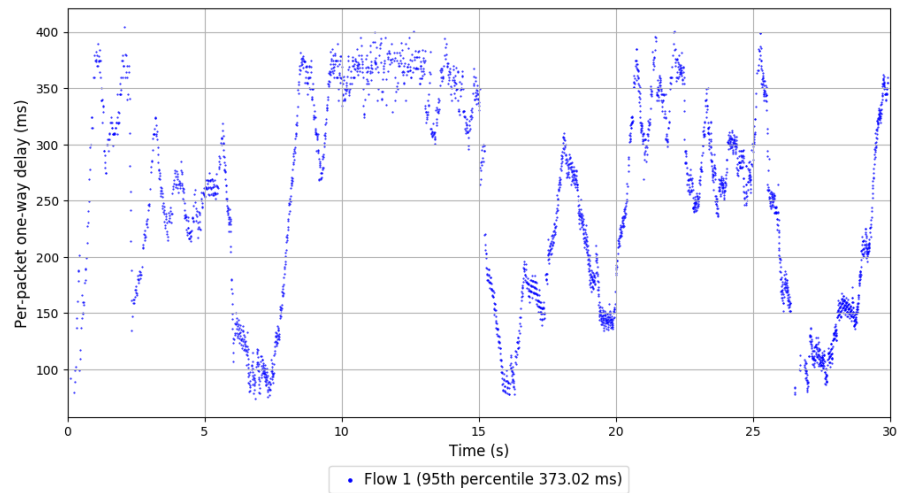
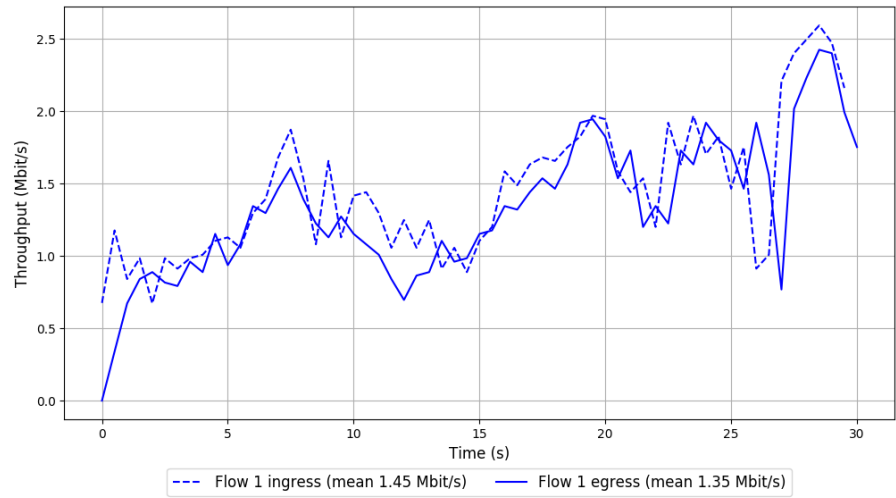


Run 2: Statistics of TCP BBR

Start at: 2018-06-19 00:55:46  
End at: 2018-06-19 00:56:16  
Local clock offset: -5.343 ms  
Remote clock offset: -0.405 ms

# Below is generated by plot.py at 2018-06-19 01:21:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.35 Mbit/s  
95th percentile per-packet one-way delay: 373.024 ms  
Loss rate: 7.02%  
-- Flow 1:  
Average throughput: 1.35 Mbit/s  
95th percentile per-packet one-way delay: 373.024 ms  
Loss rate: 7.02%

## Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-06-19 01:16:48

End at: 2018-06-19 01:17:18

Local clock offset: -1.112 ms

Remote clock offset: -1.28 ms

# Below is generated by plot.py at 2018-06-19 01:21:23

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.21 Mbit/s

95th percentile per-packet one-way delay: 373.942 ms

Loss rate: 4.25%

-- Flow 1:

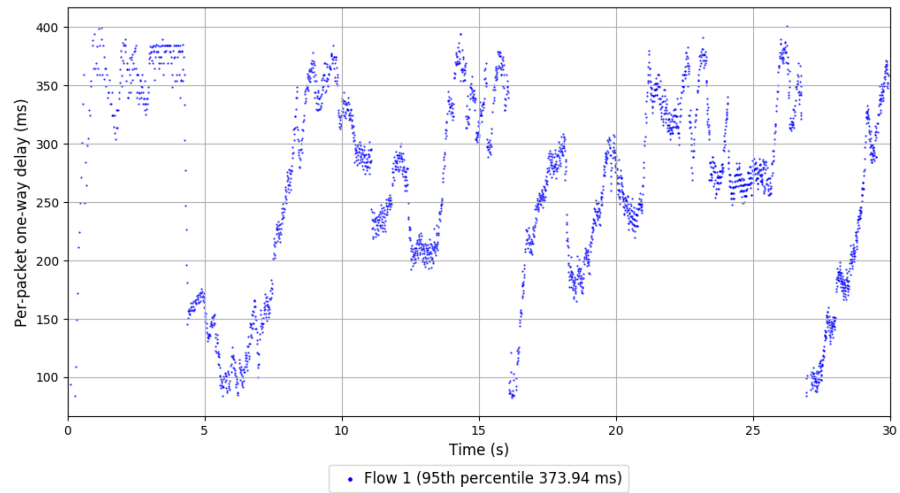
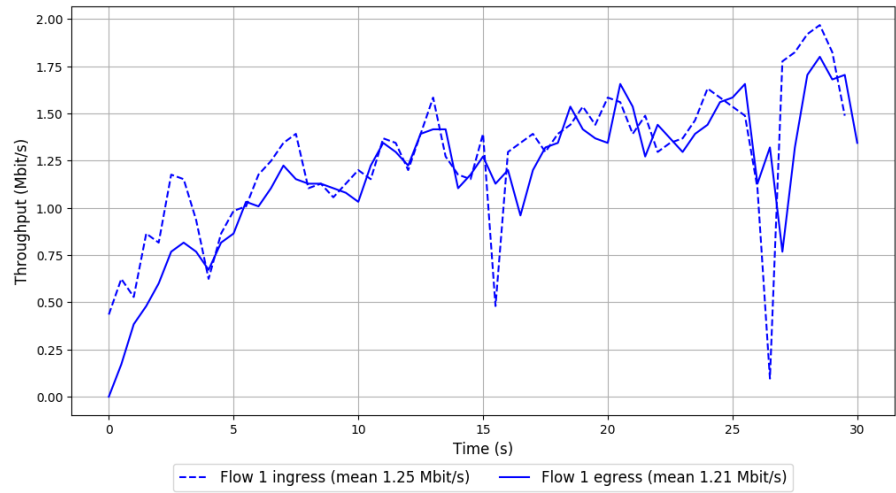
Average throughput: 1.21 Mbit/s

95th percentile per-packet one-way delay: 373.942 ms

Loss rate: 4.25%



### Run 3: Report of TCP BBR — Data Link

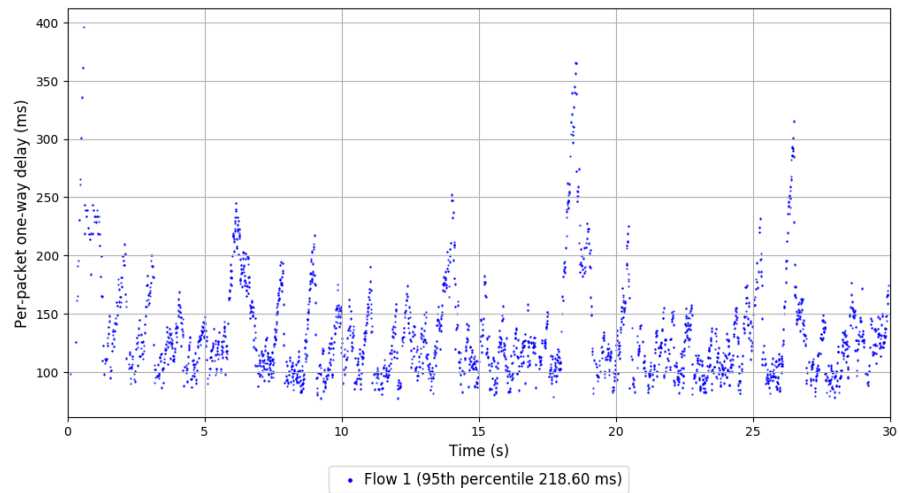
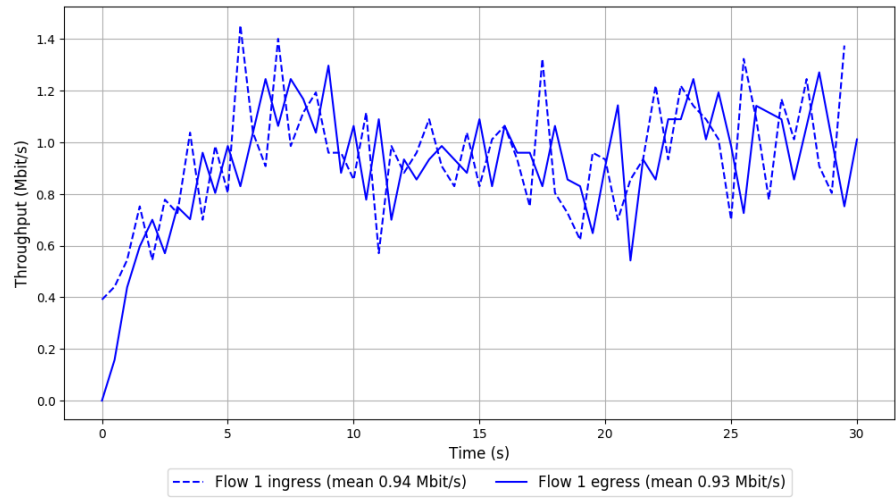


Run 1: Statistics of Copa

Start at: 2018-06-19 00:27:47  
End at: 2018-06-19 00:28:17  
Local clock offset: 0.734 ms  
Remote clock offset: -1.515 ms

# Below is generated by plot.py at 2018-06-19 01:21:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.93 Mbit/s  
95th percentile per-packet one-way delay: 218.603 ms  
Loss rate: 1.11%  
-- Flow 1:  
Average throughput: 0.93 Mbit/s  
95th percentile per-packet one-way delay: 218.603 ms  
Loss rate: 1.11%

### Run 1: Report of Copa — Data Link

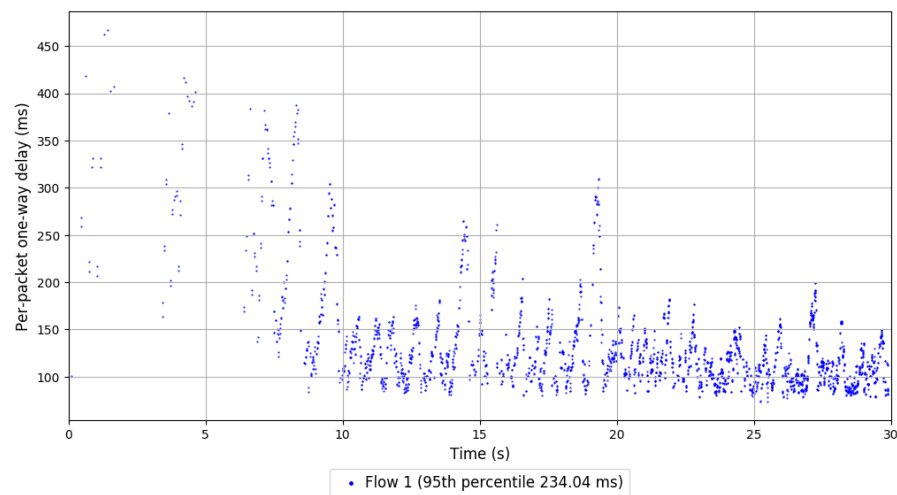
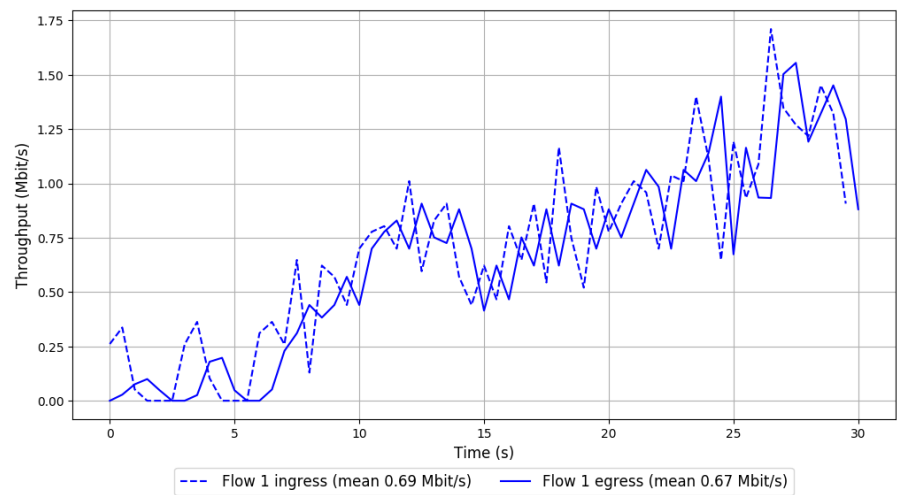


Run 2: Statistics of Copa

Start at: 2018-06-19 00:49:23  
End at: 2018-06-19 00:49:53  
Local clock offset: -4.431 ms  
Remote clock offset: -0.556 ms

# Below is generated by plot.py at 2018-06-19 01:21:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.67 Mbit/s  
95th percentile per-packet one-way delay: 234.036 ms  
Loss rate: 3.02%  
-- Flow 1:  
Average throughput: 0.67 Mbit/s  
95th percentile per-packet one-way delay: 234.036 ms  
Loss rate: 3.02%

Run 2: Report of Copa — Data Link

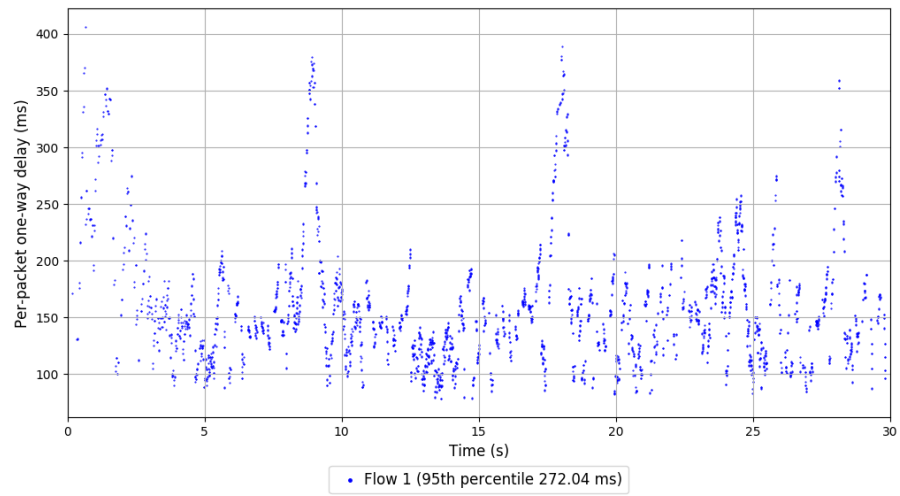
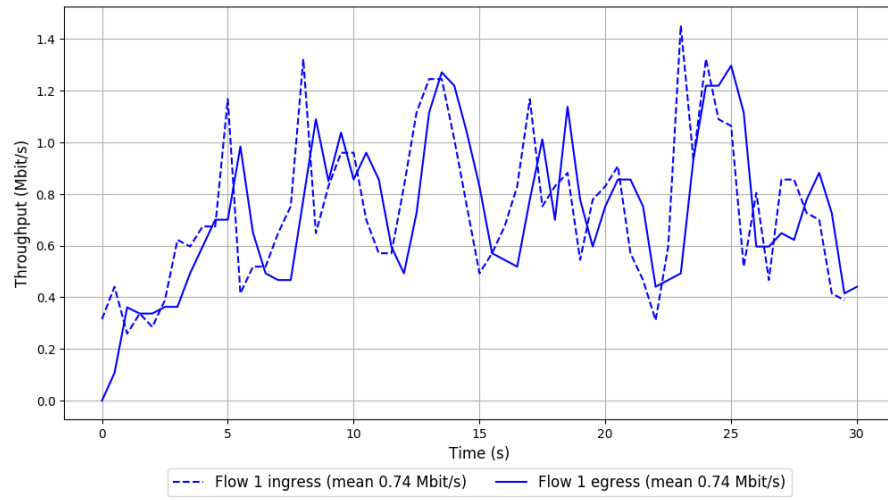


Run 3: Statistics of Copa

Start at: 2018-06-19 01:10:21  
End at: 2018-06-19 01:10:51  
Local clock offset: -2.209 ms  
Remote clock offset: -0.903 ms

# Below is generated by plot.py at 2018-06-19 01:21:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.74 Mbit/s  
95th percentile per-packet one-way delay: 272.044 ms  
Loss rate: 0.67%  
-- Flow 1:  
Average throughput: 0.74 Mbit/s  
95th percentile per-packet one-way delay: 272.044 ms  
Loss rate: 0.67%

### Run 3: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

/home/ubuntu/pantheon/data/2018-06-19T00-17-China-ppp0-to-AWS-Korea-3-runs/cubic\_stats\_run1



Run 1: Report of TCP Cubic — Data Link

Figure is missing

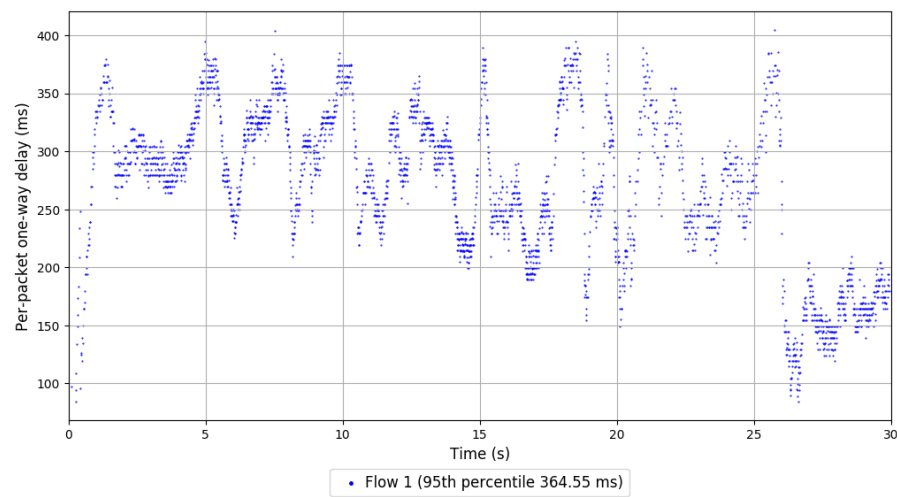
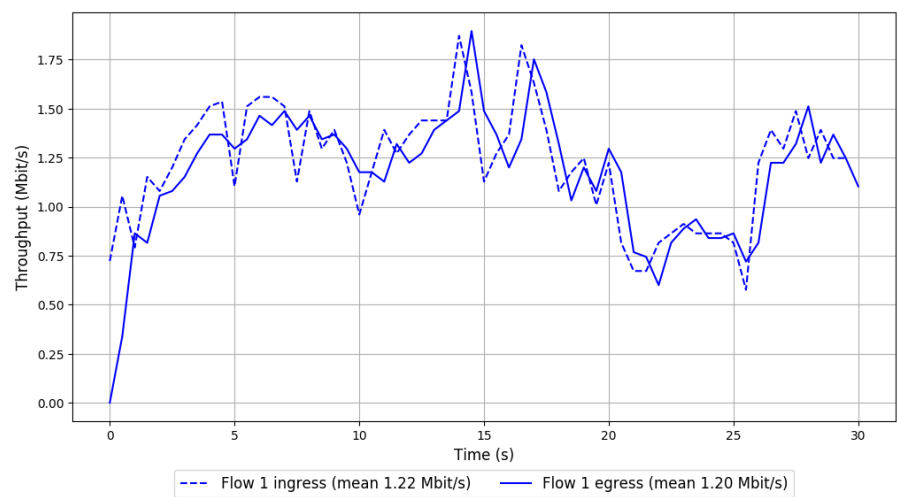
Figure is missing

Run 2: Statistics of TCP Cubic

Start at: 2018-06-19 00:59:37  
End at: 2018-06-19 01:00:07  
Local clock offset: -5.648 ms  
Remote clock offset: -0.371 ms

# Below is generated by plot.py at 2018-06-19 01:21:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.20 Mbit/s  
95th percentile per-packet one-way delay: 364.546 ms  
Loss rate: 2.13%  
-- Flow 1:  
Average throughput: 1.20 Mbit/s  
95th percentile per-packet one-way delay: 364.546 ms  
Loss rate: 2.13%

Run 2: Report of TCP Cubic — Data Link

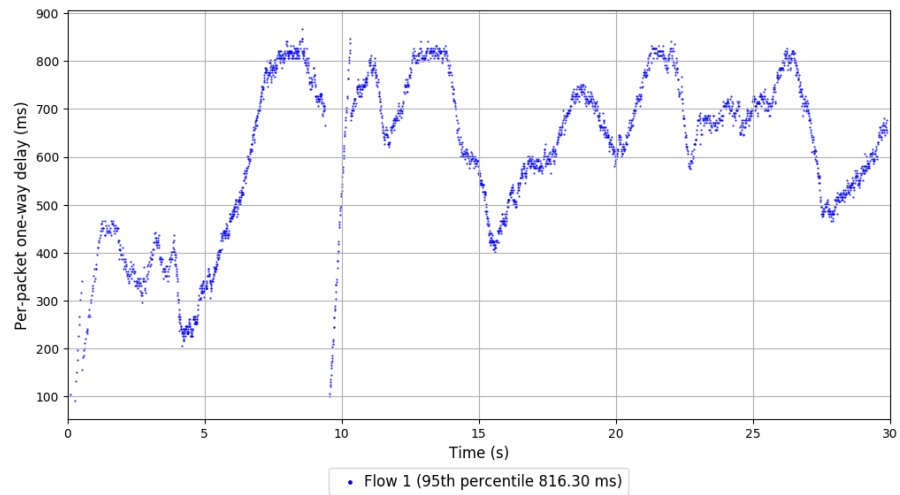
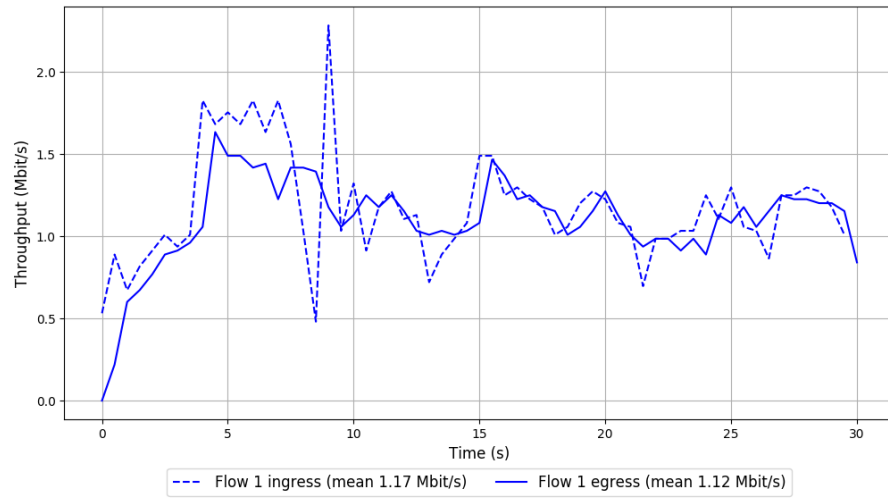


Run 3: Statistics of TCP Cubic

Start at: 2018-06-19 01:20:42  
End at: 2018-06-19 01:21:12  
Local clock offset: -0.572 ms  
Remote clock offset: -1.496 ms

# Below is generated by plot.py at 2018-06-19 01:21:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.12 Mbit/s  
95th percentile per-packet one-way delay: 816.303 ms  
Loss rate: 4.78%  
-- Flow 1:  
Average throughput: 1.12 Mbit/s  
95th percentile per-packet one-way delay: 816.303 ms  
Loss rate: 4.78%

### Run 3: Report of TCP Cubic — Data Link

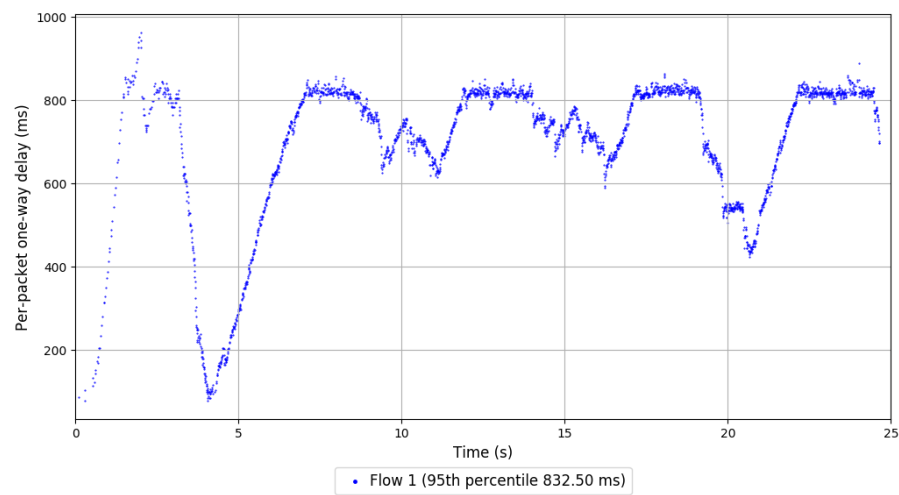
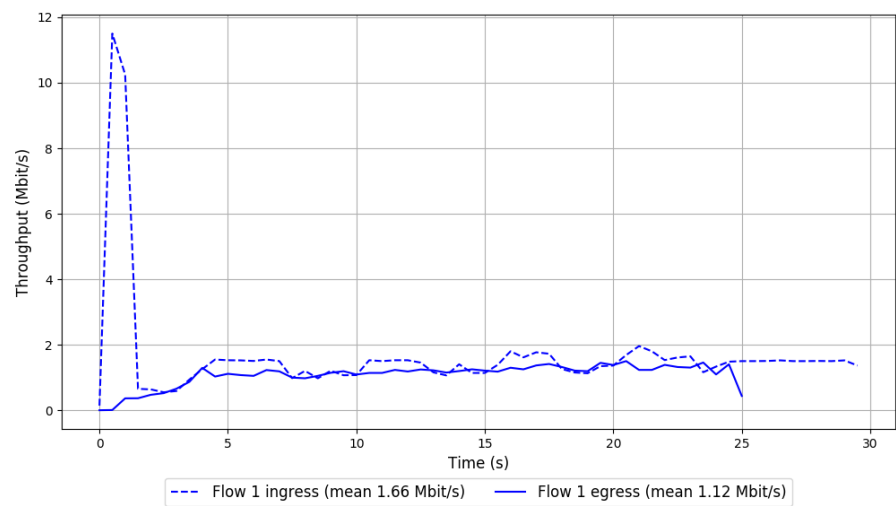


Run 1: Statistics of FillP

Start at: 2018-06-19 00:22:18  
End at: 2018-06-19 00:22:48  
Local clock offset: 0.993 ms  
Remote clock offset: -1.476 ms

# Below is generated by plot.py at 2018-06-19 01:21:26  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.12 Mbit/s  
95th percentile per-packet one-way delay: 832.504 ms  
Loss rate: 44.55%  
-- Flow 1:  
Average throughput: 1.12 Mbit/s  
95th percentile per-packet one-way delay: 832.504 ms  
Loss rate: 44.55%

Run 1: Report of FillP — Data Link



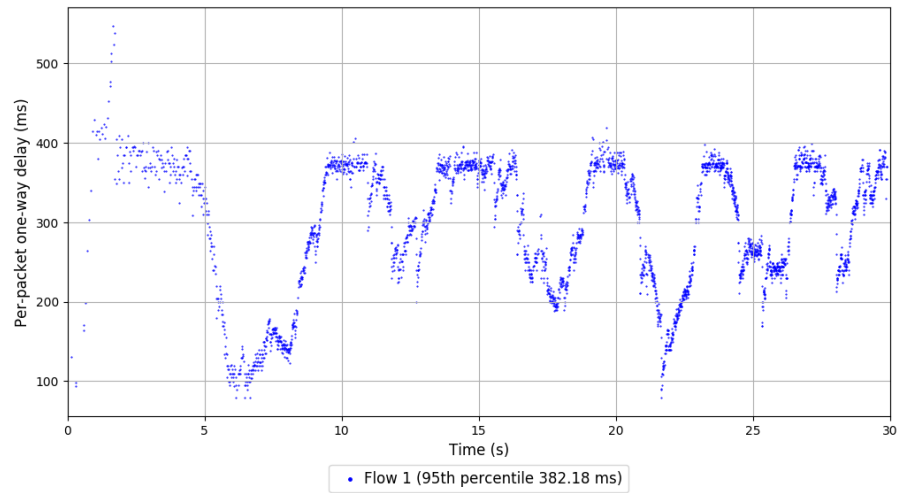
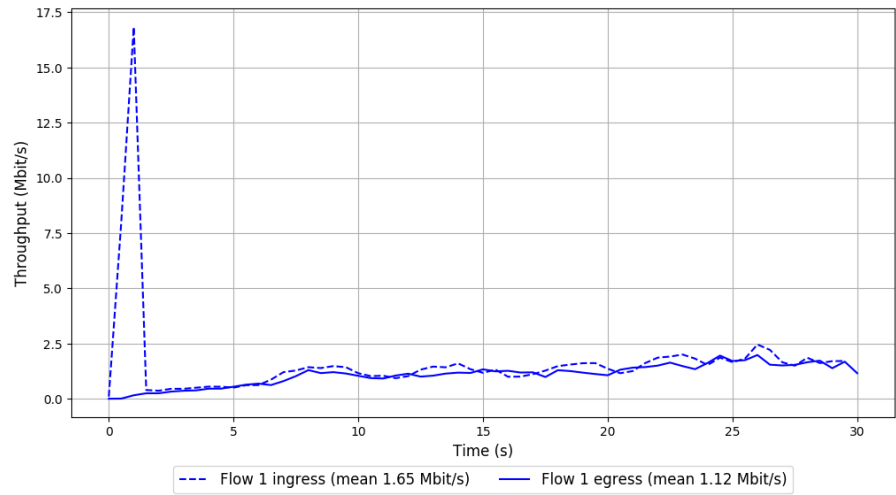
Run 2: Statistics of FillP

Start at: 2018-06-19 00:43:58  
End at: 2018-06-19 00:44:28  
Local clock offset: -3.477 ms  
Remote clock offset: -0.768 ms

# Below is generated by plot.py at 2018-06-19 01:21:27  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.12 Mbit/s  
95th percentile per-packet one-way delay: 382.176 ms  
Loss rate: 32.55%  
-- Flow 1:  
Average throughput: 1.12 Mbit/s  
95th percentile per-packet one-way delay: 382.176 ms  
Loss rate: 32.55%



## Run 2: Report of FillP — Data Link

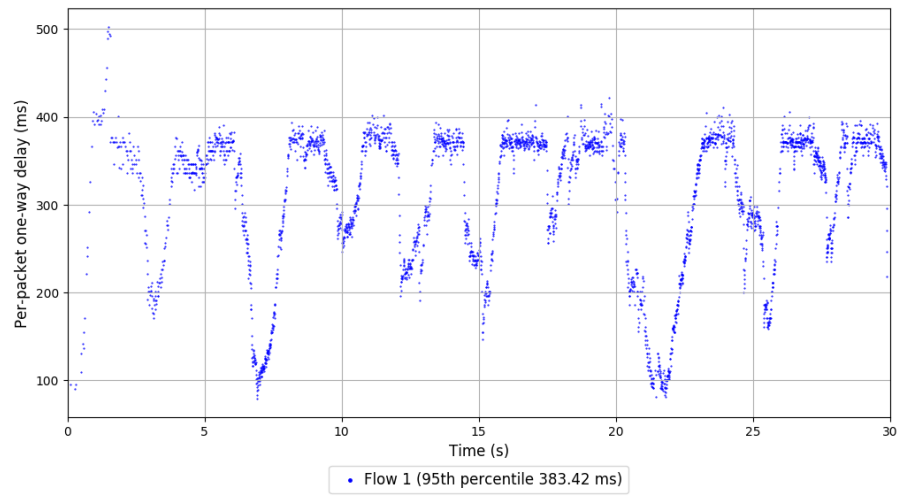
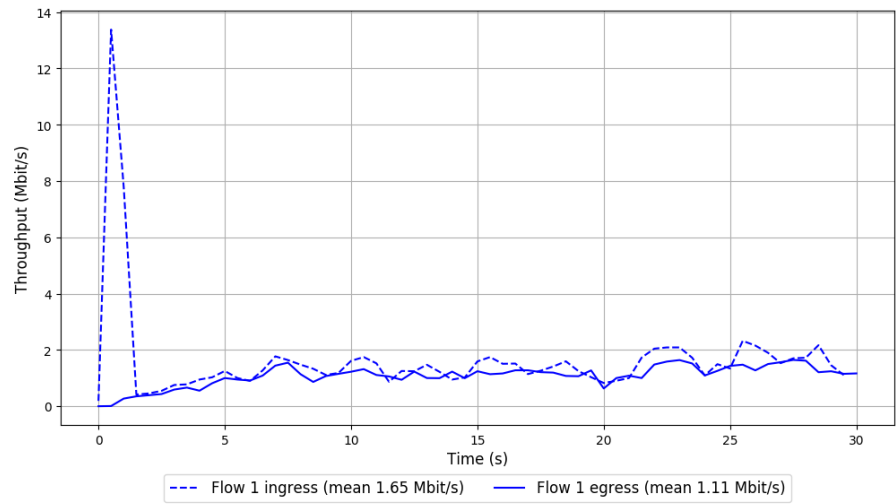


Run 3: Statistics of FillP

Start at: 2018-06-19 01:04:55  
End at: 2018-06-19 01:05:25  
Local clock offset: -4.272 ms  
Remote clock offset: -0.316 ms

# Below is generated by plot.py at 2018-06-19 01:21:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.11 Mbit/s  
95th percentile per-packet one-way delay: 383.416 ms  
Loss rate: 33.21%  
-- Flow 1:  
Average throughput: 1.11 Mbit/s  
95th percentile per-packet one-way delay: 383.416 ms  
Loss rate: 33.21%

### Run 3: Report of FillP — Data Link

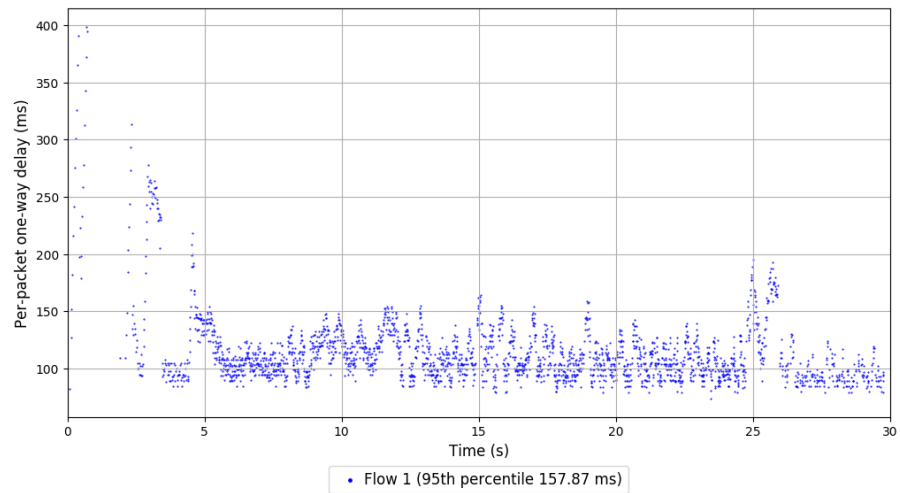
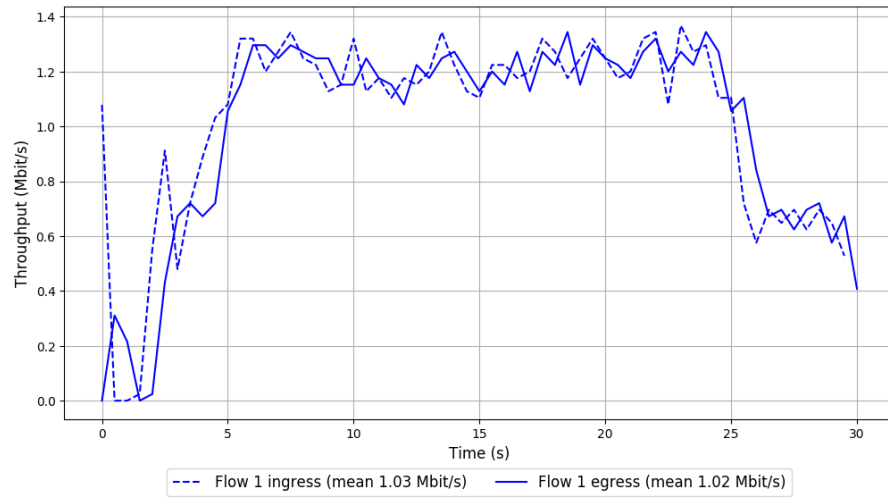


Run 1: Statistics of Indigo

Start at: 2018-06-19 00:30:21  
End at: 2018-06-19 00:30:51  
Local clock offset: 0.342 ms  
Remote clock offset: -1.483 ms

# Below is generated by plot.py at 2018-06-19 01:21:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.02 Mbit/s  
95th percentile per-packet one-way delay: 157.866 ms  
Loss rate: 1.29%  
-- Flow 1:  
Average throughput: 1.02 Mbit/s  
95th percentile per-packet one-way delay: 157.866 ms  
Loss rate: 1.29%

## Run 1: Report of Indigo — Data Link

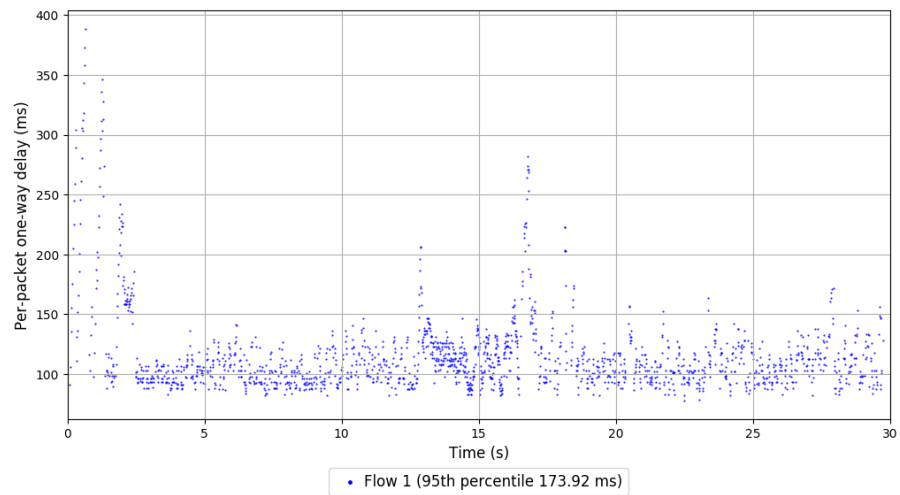
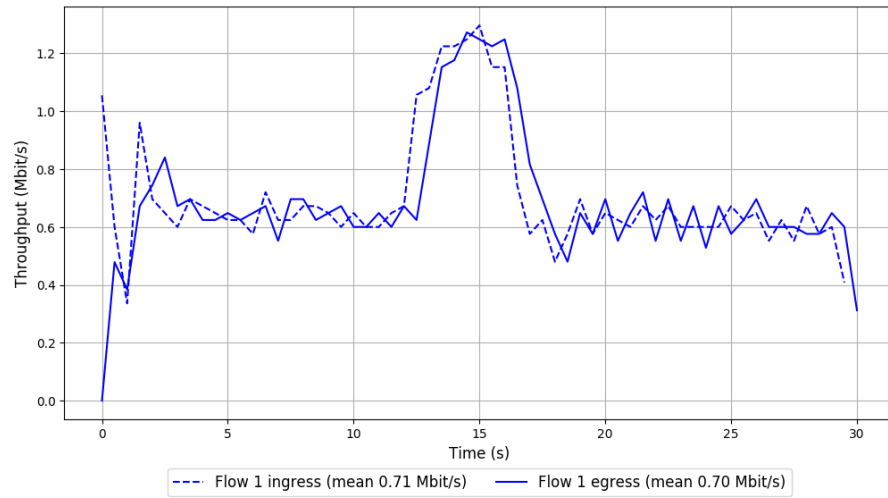


Run 2: Statistics of Indigo

Start at: 2018-06-19 00:51:56  
End at: 2018-06-19 00:52:26  
Local clock offset: -4.681 ms  
Remote clock offset: -0.511 ms

# Below is generated by plot.py at 2018-06-19 01:21:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.70 Mbit/s  
95th percentile per-packet one-way delay: 173.924 ms  
Loss rate: 1.42%  
-- Flow 1:  
Average throughput: 0.70 Mbit/s  
95th percentile per-packet one-way delay: 173.924 ms  
Loss rate: 1.42%

## Run 2: Report of Indigo — Data Link



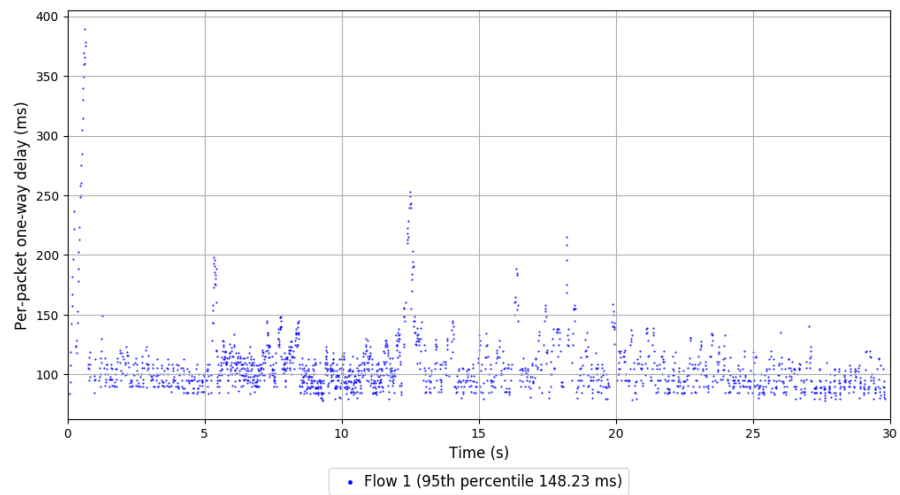
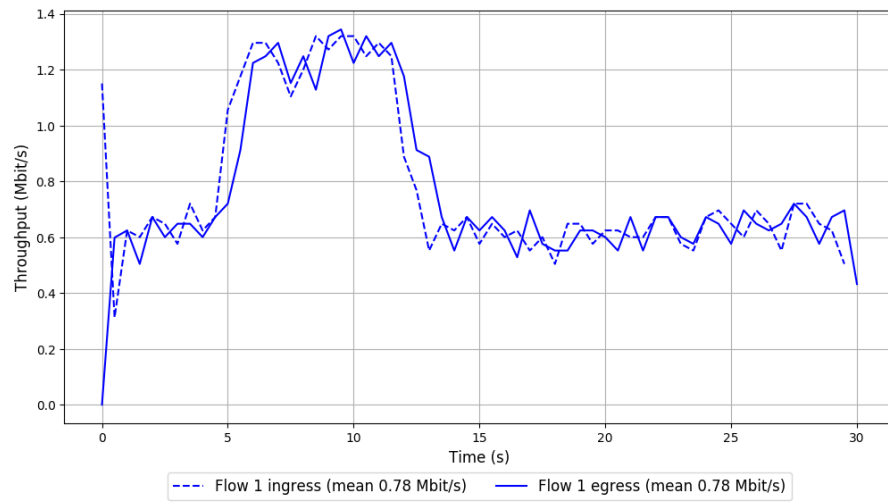
Run 3: Statistics of Indigo

Start at: 2018-06-19 01:12:55  
End at: 2018-06-19 01:13:25  
Local clock offset: -1.612 ms  
Remote clock offset: -1.091 ms

# Below is generated by plot.py at 2018-06-19 01:21:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.78 Mbit/s  
95th percentile per-packet one-way delay: 148.229 ms  
Loss rate: 0.82%  
-- Flow 1:  
Average throughput: 0.78 Mbit/s  
95th percentile per-packet one-way delay: 148.229 ms  
Loss rate: 0.82%



### Run 3: Report of Indigo — Data Link

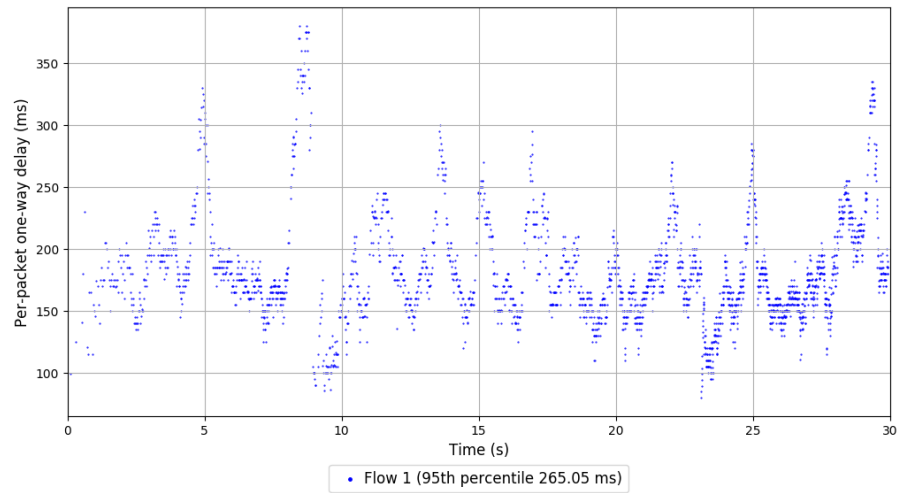
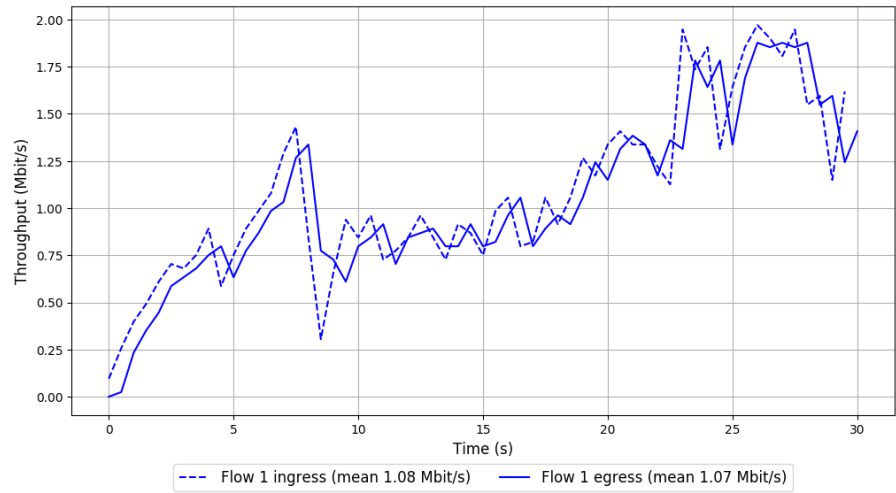


```
Run 1: Statistics of LEDBAT

Start at: 2018-06-19 00:36:47
End at: 2018-06-19 00:37:17
Local clock offset: -1.64 ms
Remote clock offset: -1.04 ms

# Below is generated by plot.py at 2018-06-19 01:21:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 265.053 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 1.07 Mbit/s
95th percentile per-packet one-way delay: 265.053 ms
Loss rate: 1.31%
```

## Run 1: Report of LEDBAT — Data Link

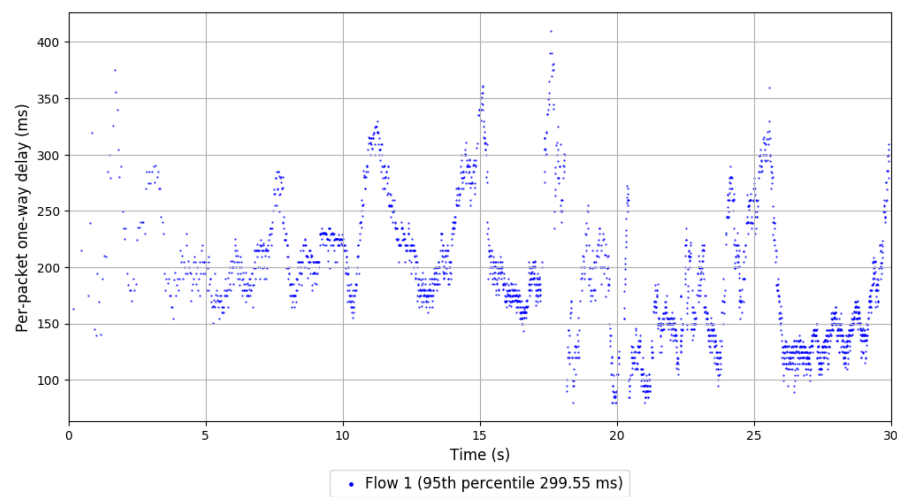
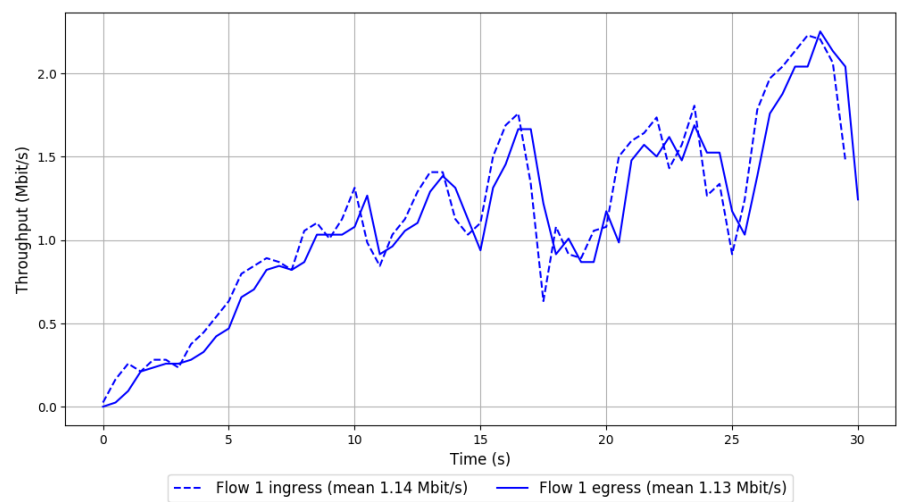


Run 2: Statistics of LEDBAT

Start at: 2018-06-19 00:58:19  
End at: 2018-06-19 00:58:49  
Local clock offset: -5.747 ms  
Remote clock offset: -0.372 ms

# Below is generated by plot.py at 2018-06-19 01:21:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.13 Mbit/s  
95th percentile per-packet one-way delay: 299.551 ms  
Loss rate: 1.75%  
-- Flow 1:  
Average throughput: 1.13 Mbit/s  
95th percentile per-packet one-way delay: 299.551 ms  
Loss rate: 1.75%

Run 2: Report of LEDBAT — Data Link

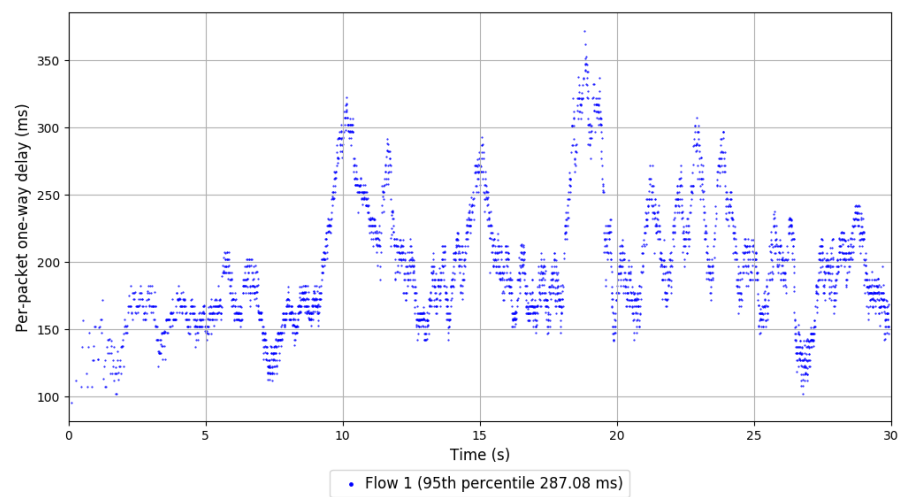
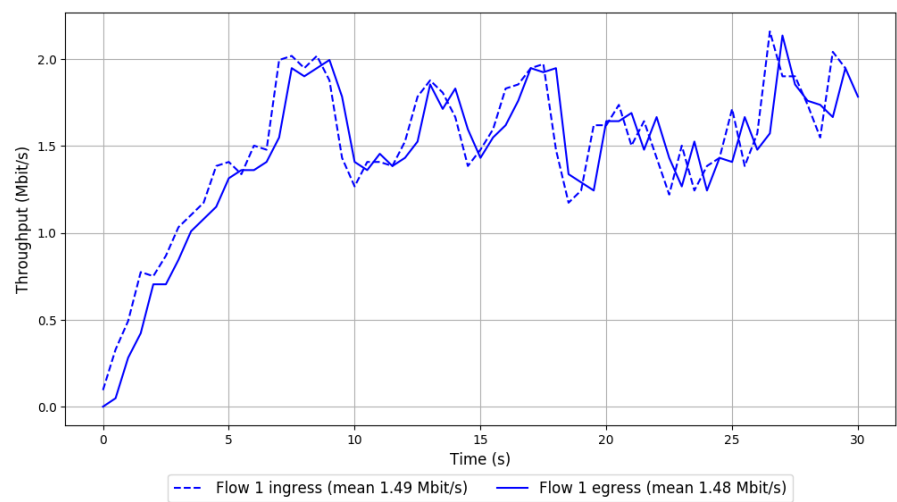


Run 3: Statistics of LEDBAT

Start at: 2018-06-19 01:19:23  
End at: 2018-06-19 01:19:53  
Local clock offset: -0.801 ms  
Remote clock offset: -1.387 ms

# Below is generated by plot.py at 2018-06-19 01:21:29  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.48 Mbit/s  
95th percentile per-packet one-way delay: 287.076 ms  
Loss rate: 1.00%  
-- Flow 1:  
Average throughput: 1.48 Mbit/s  
95th percentile per-packet one-way delay: 287.076 ms  
Loss rate: 1.00%

Run 3: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-06-19 00:19:39

End at: 2018-06-19 00:20:09

Local clock offset: 1.22 ms

Remote clock offset: -1.45 ms

# Below is generated by plot.py at 2018-06-19 01:21:32

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.40 Mbit/s

95th percentile per-packet one-way delay: 849.395 ms

Loss rate: 62.90%

-- Flow 1:

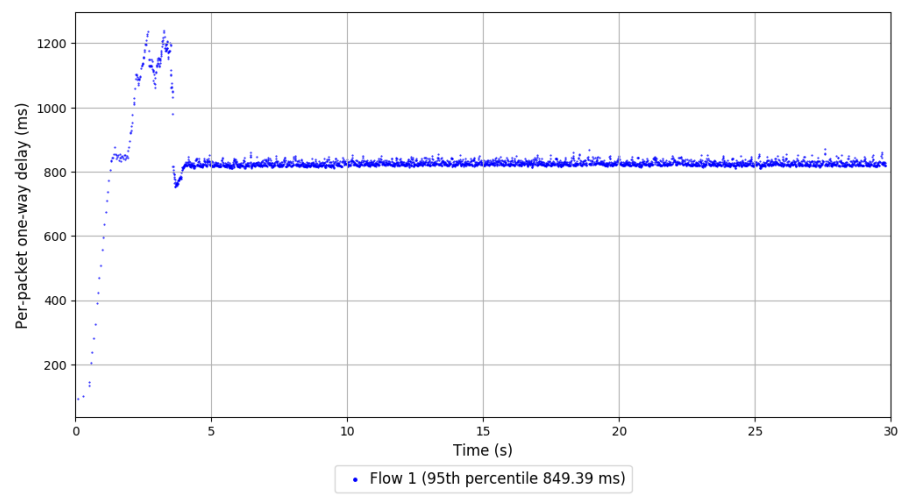
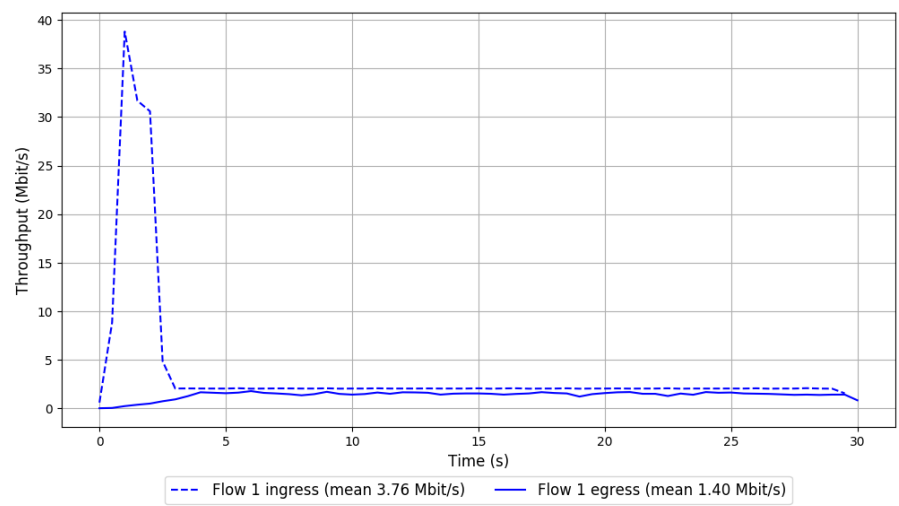
Average throughput: 1.40 Mbit/s

95th percentile per-packet one-way delay: 849.395 ms

Loss rate: 62.90%



Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-06-19 00:41:19

End at: 2018-06-19 00:41:49

Local clock offset: -2.851 ms

Remote clock offset: -0.84 ms

# Below is generated by plot.py at 2018-06-19 01:21:32

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.96 Mbit/s

95th percentile per-packet one-way delay: 397.456 ms

Loss rate: 69.79%

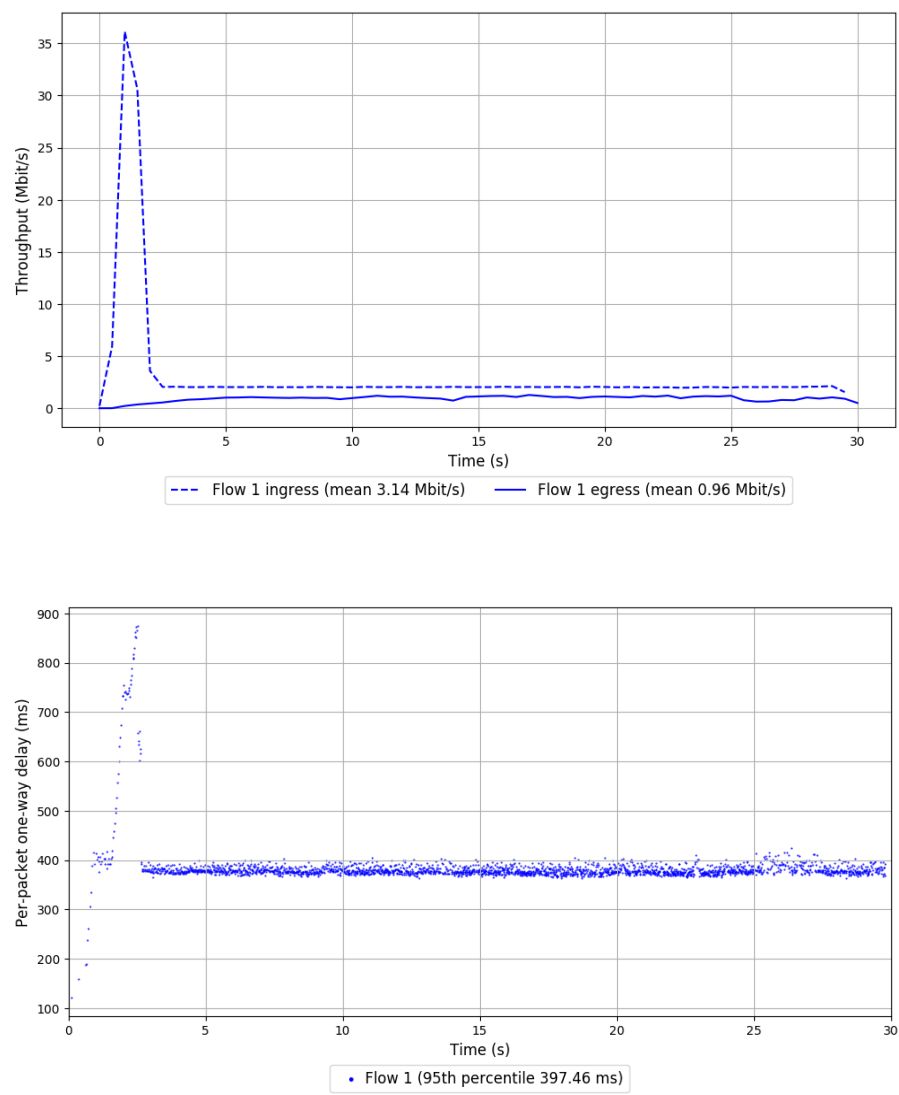
-- Flow 1:

Average throughput: 0.96 Mbit/s

95th percentile per-packet one-way delay: 397.456 ms

Loss rate: 69.79%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-06-19 01:02:13

End at: 2018-06-19 01:02:43

Local clock offset: -5.9 ms

Remote clock offset: -0.325 ms

# Below is generated by plot.py at 2018-06-19 01:21:32

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.32 Mbit/s

95th percentile per-packet one-way delay: 393.167 ms

Loss rate: 63.28%

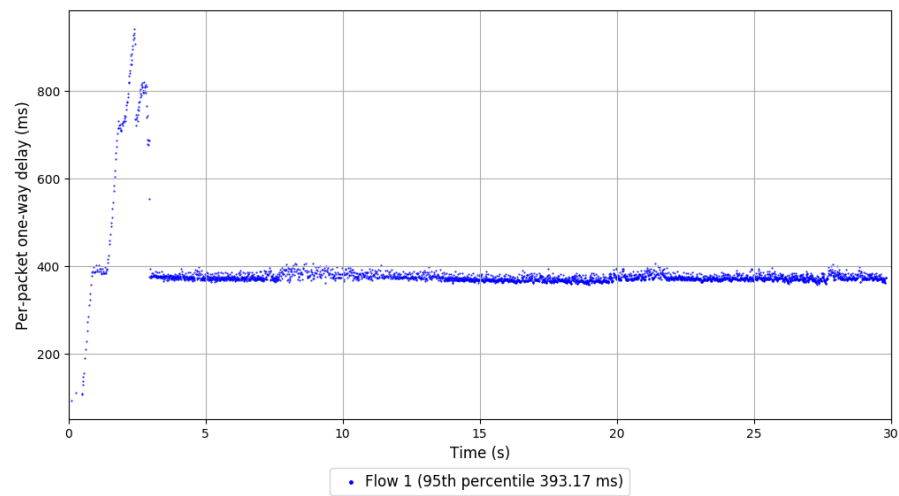
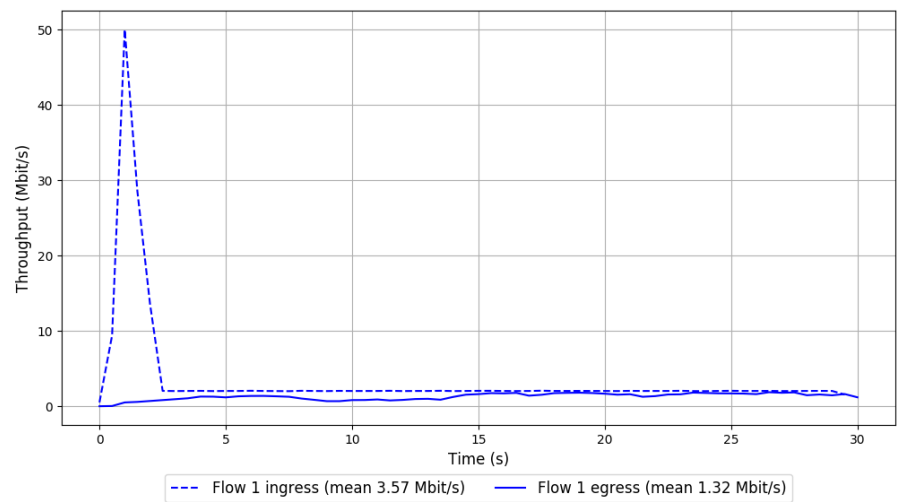
-- Flow 1:

Average throughput: 1.32 Mbit/s

95th percentile per-packet one-way delay: 393.167 ms

Loss rate: 63.28%

Run 3: Report of PCC-Allegro — Data Link

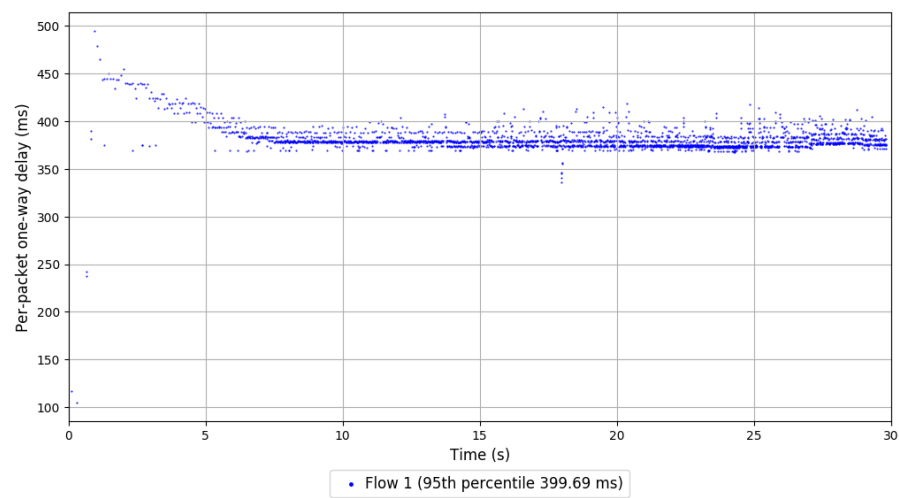
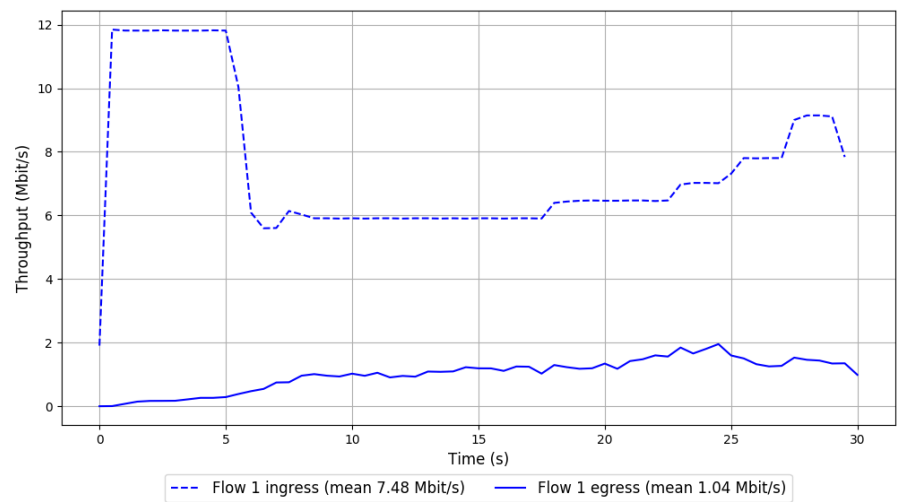


```
Run 1: Statistics of PCC-Expr

Start at: 2018-06-19 00:23:36
End at: 2018-06-19 00:24:06
Local clock offset: 0.892 ms
Remote clock offset: -1.498 ms

# Below is generated by plot.py at 2018-06-19 01:21:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 399.689 ms
Loss rate: 86.21%
-- Flow 1:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 399.689 ms
Loss rate: 86.21%
```

Run 1: Report of PCC-Expr — Data Link



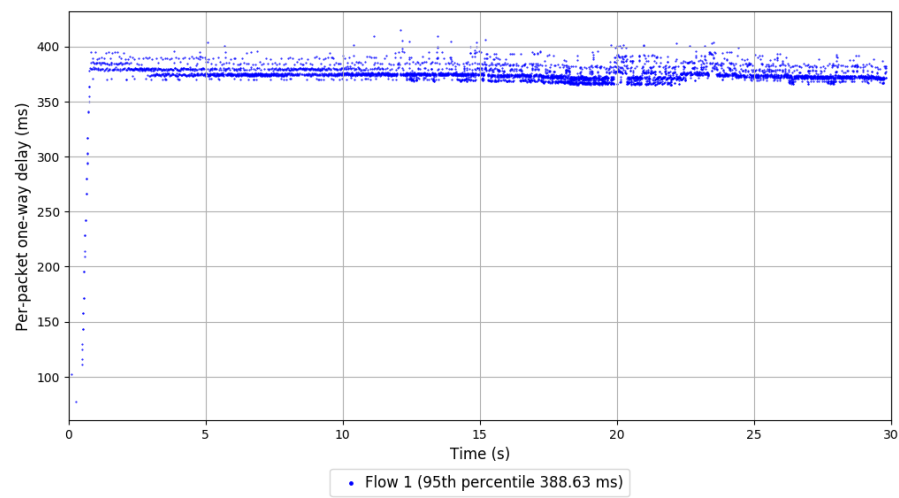
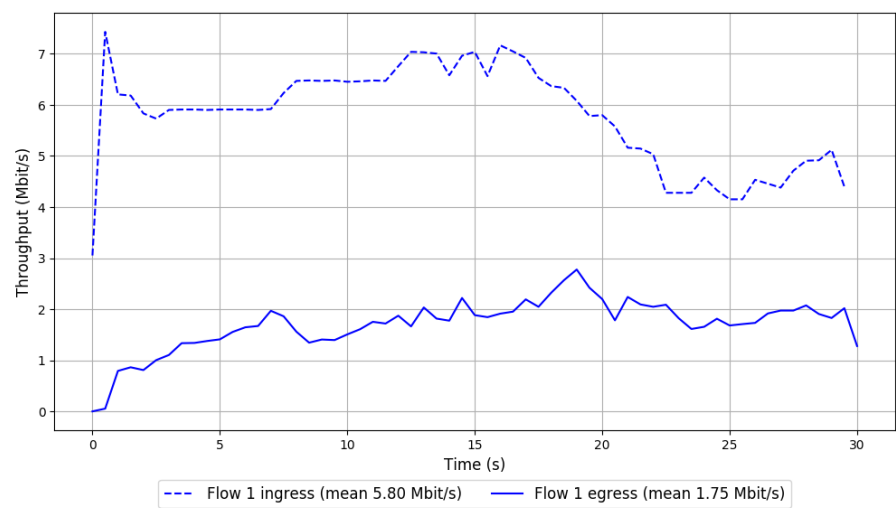
Run 2: Statistics of PCC-Expr

Start at: 2018-06-19 00:45:17  
End at: 2018-06-19 00:45:47  
Local clock offset: -3.962 ms  
Remote clock offset: -0.664 ms

# Below is generated by plot.py at 2018-06-19 01:21:40  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.75 Mbit/s  
95th percentile per-packet one-way delay: 388.635 ms  
Loss rate: 70.07%  
-- Flow 1:  
Average throughput: 1.75 Mbit/s  
95th percentile per-packet one-way delay: 388.635 ms  
Loss rate: 70.07%



Run 2: Report of PCC-Expr — Data Link

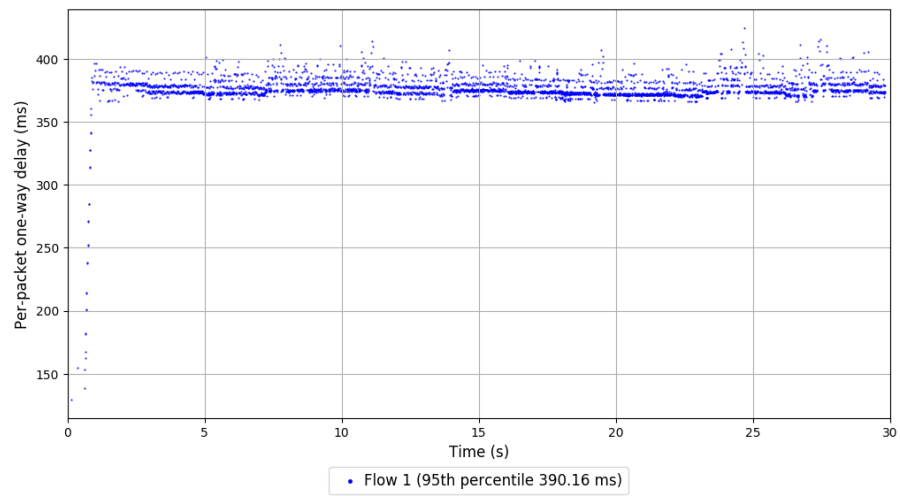
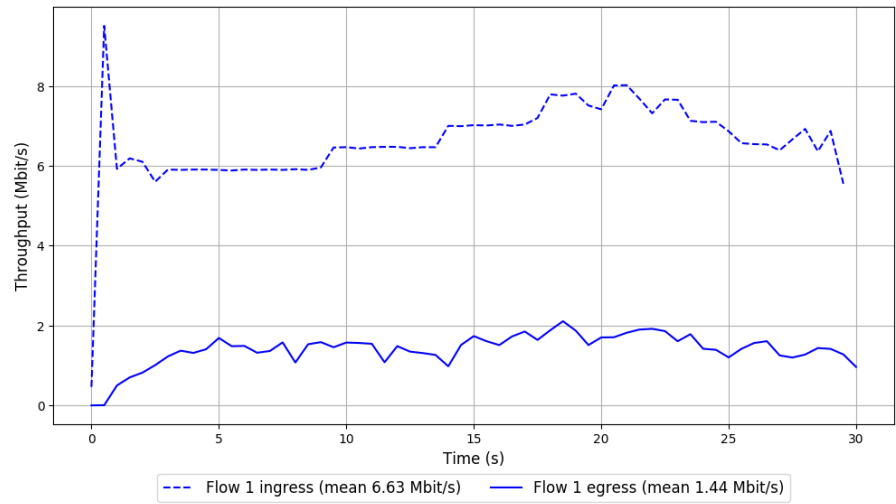


Run 3: Statistics of PCC-Expr

Start at: 2018-06-19 01:06:14  
End at: 2018-06-19 01:06:45  
Local clock offset: -3.651 ms  
Remote clock offset: -0.442 ms

# Below is generated by plot.py at 2018-06-19 01:21:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.44 Mbit/s  
95th percentile per-packet one-way delay: 390.156 ms  
Loss rate: 78.37%  
-- Flow 1:  
Average throughput: 1.44 Mbit/s  
95th percentile per-packet one-way delay: 390.156 ms  
Loss rate: 78.37%

### Run 3: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-06-19 00:31:39

End at: 2018-06-19 00:32:09

Local clock offset: 0.357 ms

Remote clock offset: -1.363 ms

# Below is generated by plot.py at 2018-06-19 01:21:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.36 Mbit/s

95th percentile per-packet one-way delay: 371.797 ms

Loss rate: 4.90%

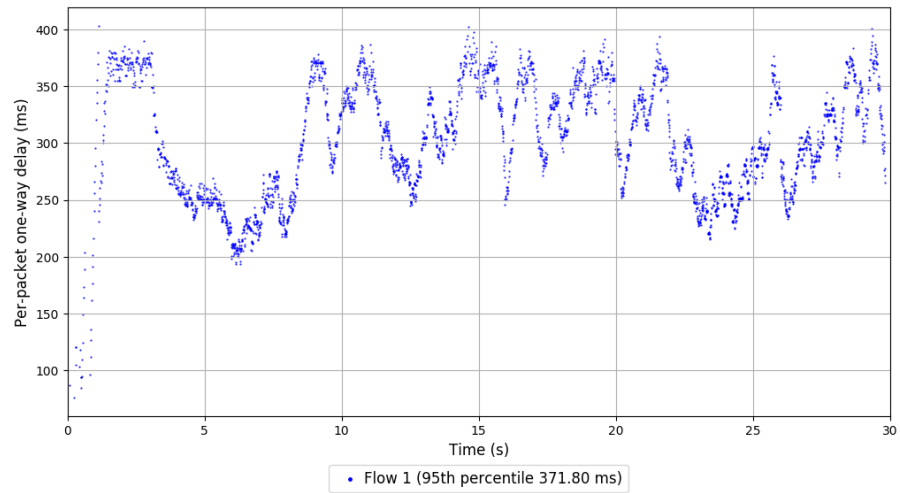
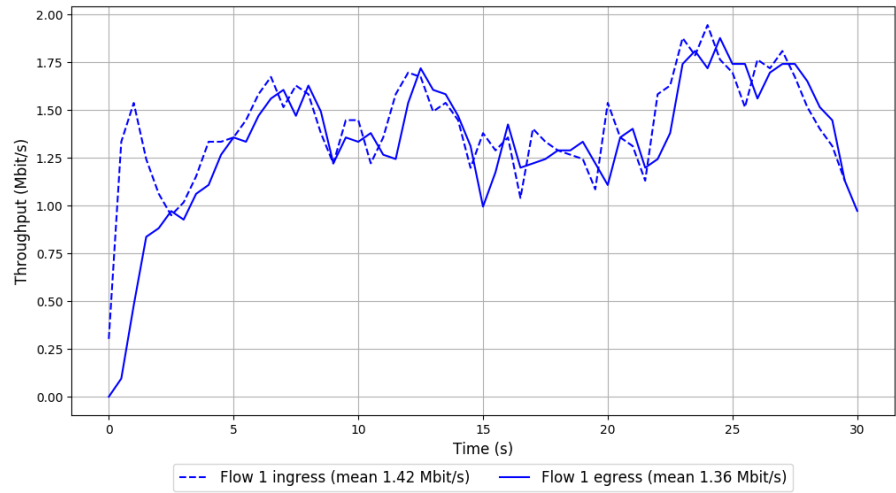
-- Flow 1:

Average throughput: 1.36 Mbit/s

95th percentile per-packet one-way delay: 371.797 ms

Loss rate: 4.90%

### Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-06-19 00:53:13

End at: 2018-06-19 00:53:43

Local clock offset: -4.858 ms

Remote clock offset: -0.429 ms

# Below is generated by plot.py at 2018-06-19 01:21:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.89 Mbit/s

95th percentile per-packet one-way delay: 381.972 ms

Loss rate: 8.91%

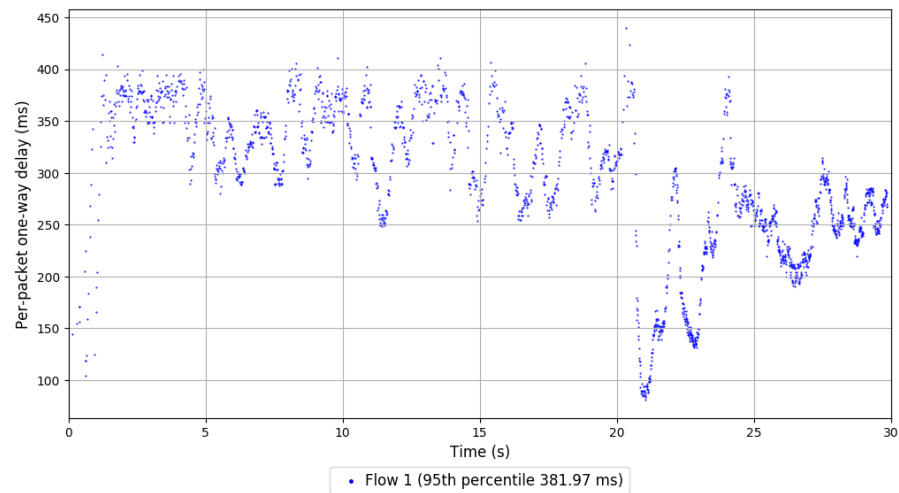
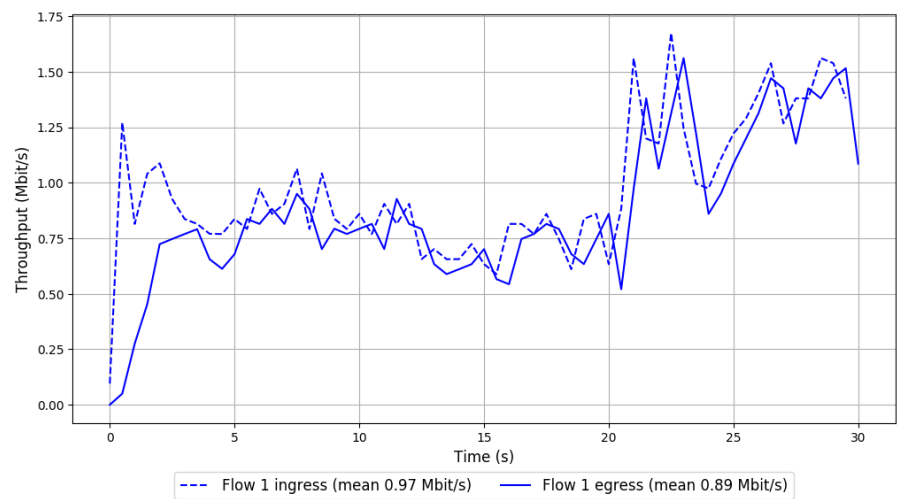
-- Flow 1:

Average throughput: 0.89 Mbit/s

95th percentile per-packet one-way delay: 381.972 ms

Loss rate: 8.91%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-06-19 01:14:13

End at: 2018-06-19 01:14:43

Local clock offset: -1.538 ms

Remote clock offset: -1.162 ms

# Below is generated by plot.py at 2018-06-19 01:21:41

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.09 Mbit/s

95th percentile per-packet one-way delay: 377.525 ms

Loss rate: 7.57%

-- Flow 1:

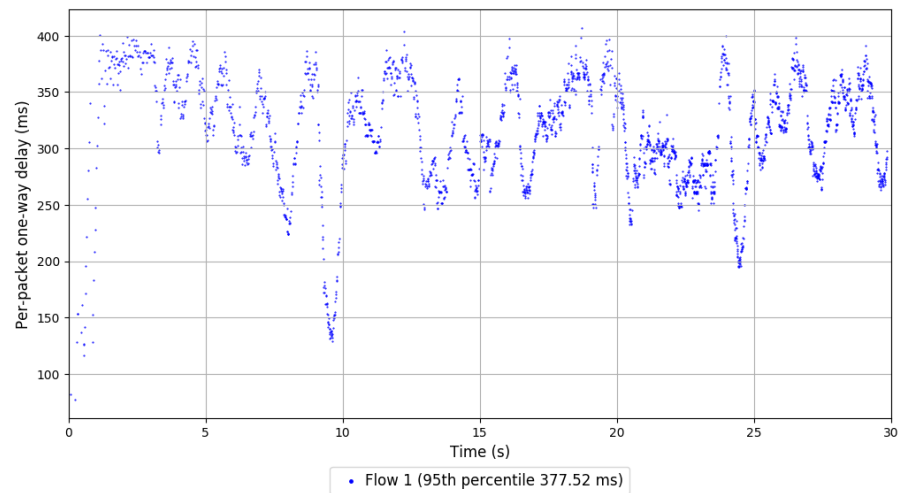
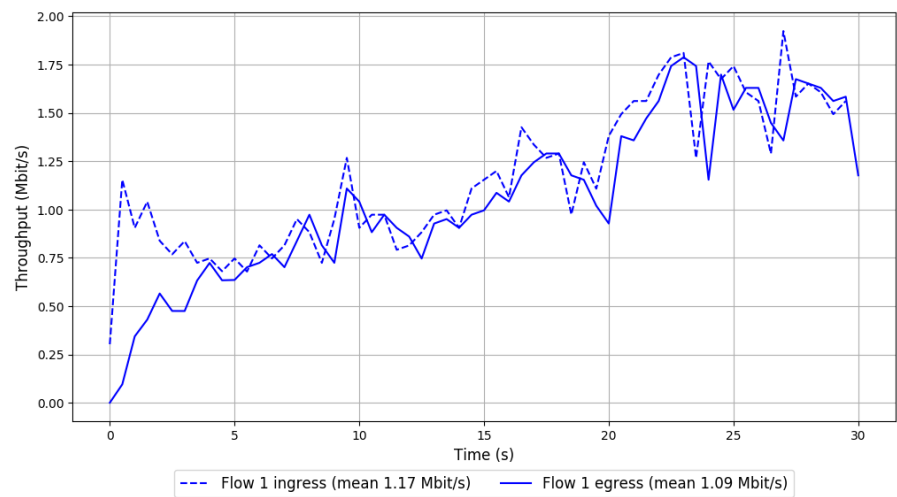
Average throughput: 1.09 Mbit/s

95th percentile per-packet one-way delay: 377.525 ms

Loss rate: 7.57%



Run 3: Report of QUIC Cubic — Data Link

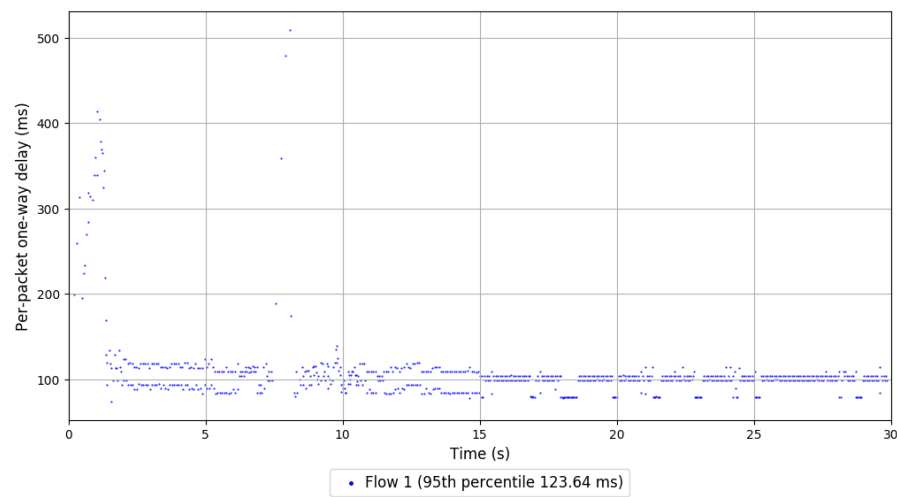
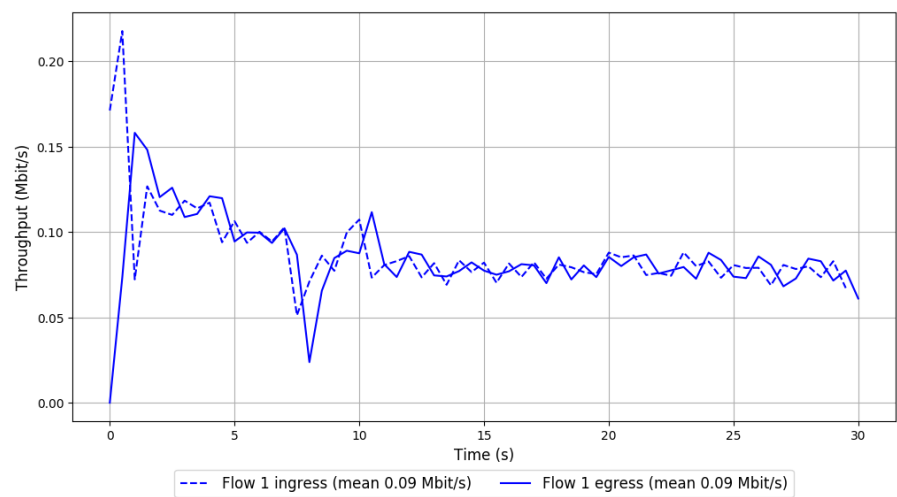


Run 1: Statistics of SCReAM

Start at: 2018-06-19 00:35:32  
End at: 2018-06-19 00:36:02  
Local clock offset: -1.214 ms  
Remote clock offset: -1.046 ms

# Below is generated by plot.py at 2018-06-19 01:21:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.09 Mbit/s  
95th percentile per-packet one-way delay: 123.636 ms  
Loss rate: 2.32%  
-- Flow 1:  
Average throughput: 0.09 Mbit/s  
95th percentile per-packet one-way delay: 123.636 ms  
Loss rate: 2.32%

Run 1: Report of SReAM — Data Link

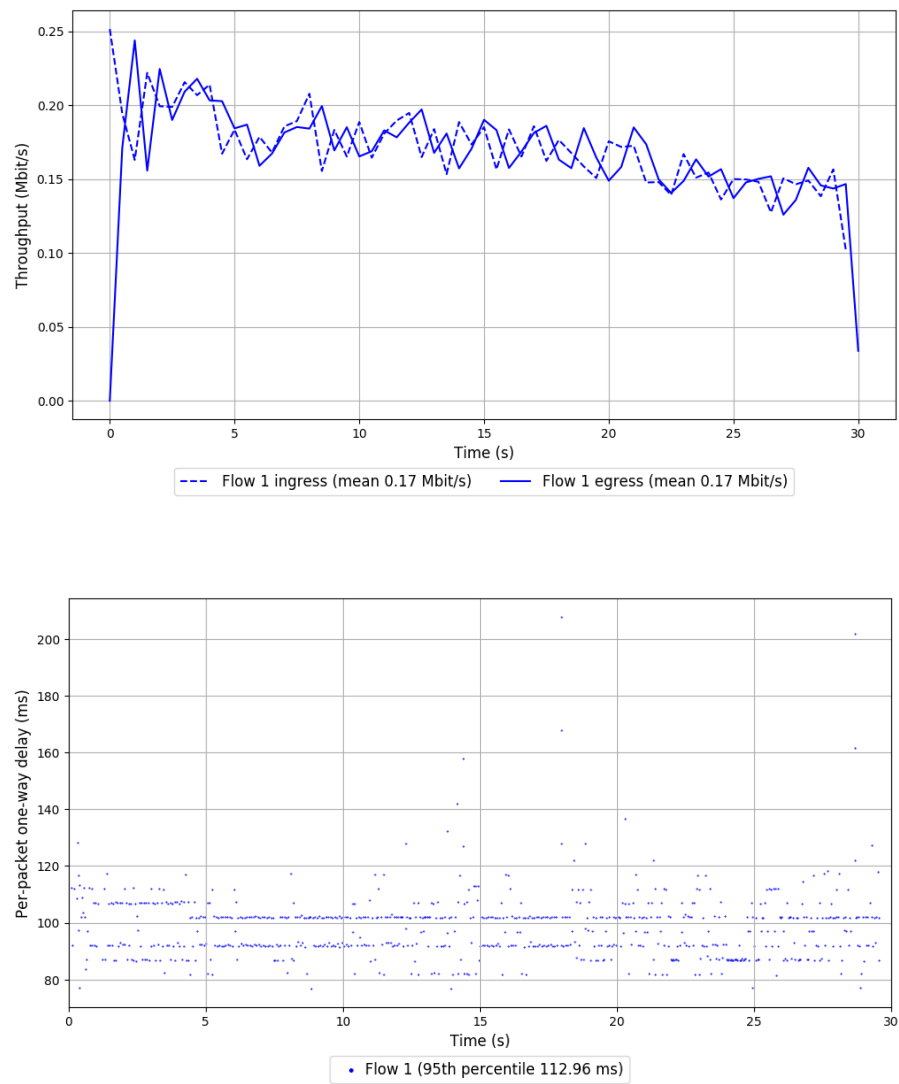


Run 2: Statistics of SCReAM

Start at: 2018-06-19 00:57:03  
End at: 2018-06-19 00:57:33  
Local clock offset: -5.598 ms  
Remote clock offset: -0.403 ms

# Below is generated by plot.py at 2018-06-19 01:21:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 112.960 ms  
Loss rate: 1.00%  
-- Flow 1:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 112.960 ms  
Loss rate: 1.00%

Run 2: Report of SReAM — Data Link

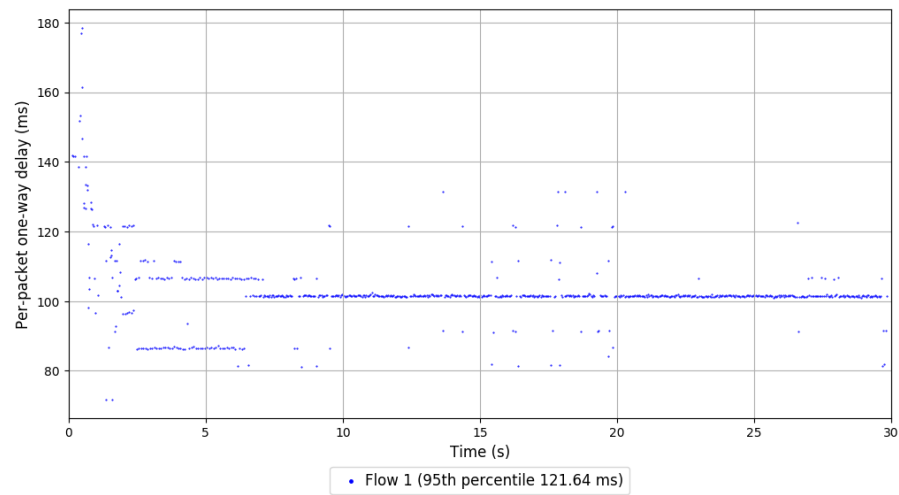
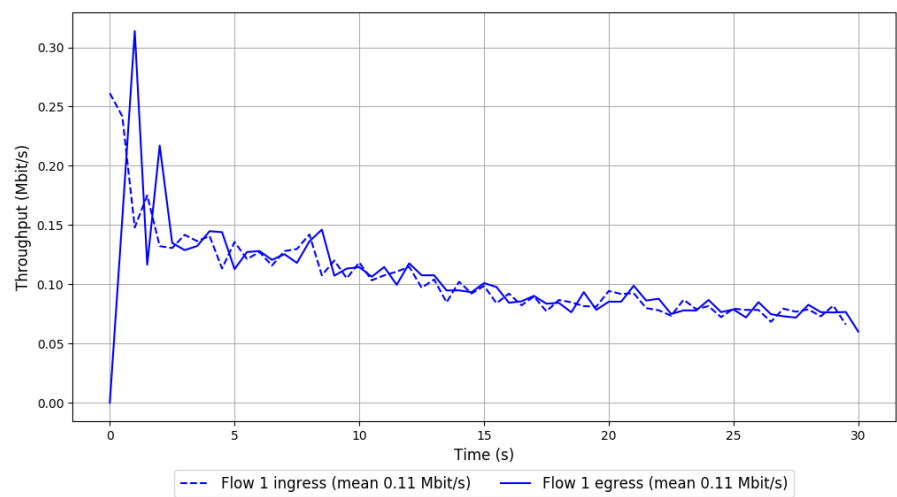


Run 3: Statistics of SCReAM

Start at: 2018-06-19 01:18:08  
End at: 2018-06-19 01:18:38  
Local clock offset: -0.78 ms  
Remote clock offset: -1.313 ms

# Below is generated by plot.py at 2018-06-19 01:21:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.11 Mbit/s  
95th percentile per-packet one-way delay: 121.638 ms  
Loss rate: 0.38%  
-- Flow 1:  
Average throughput: 0.11 Mbit/s  
95th percentile per-packet one-way delay: 121.638 ms  
Loss rate: 0.38%

Run 3: Report of SReAM — Data Link



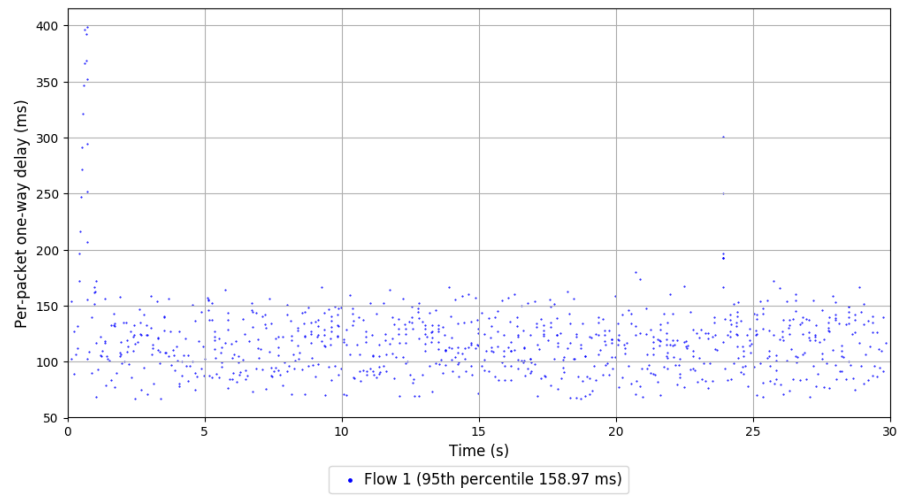
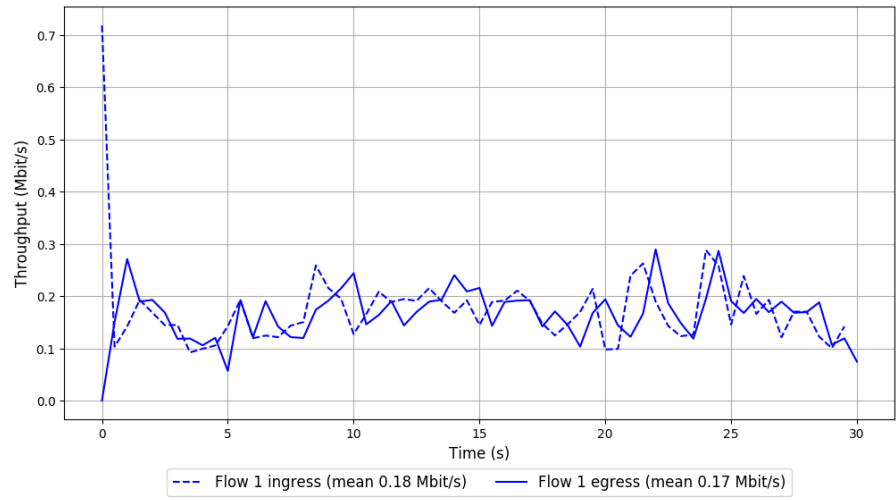
Run 1: Statistics of Sprout

Start at: 2018-06-19 00:29:05  
End at: 2018-06-19 00:29:35  
Local clock offset: 0.412 ms  
Remote clock offset: -1.476 ms

# Below is generated by plot.py at 2018-06-19 01:21:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 158.970 ms  
Loss rate: 4.19%  
-- Flow 1:  
Average throughput: 0.17 Mbit/s  
95th percentile per-packet one-way delay: 158.970 ms  
Loss rate: 4.19%



## Run 1: Report of Sprout — Data Link

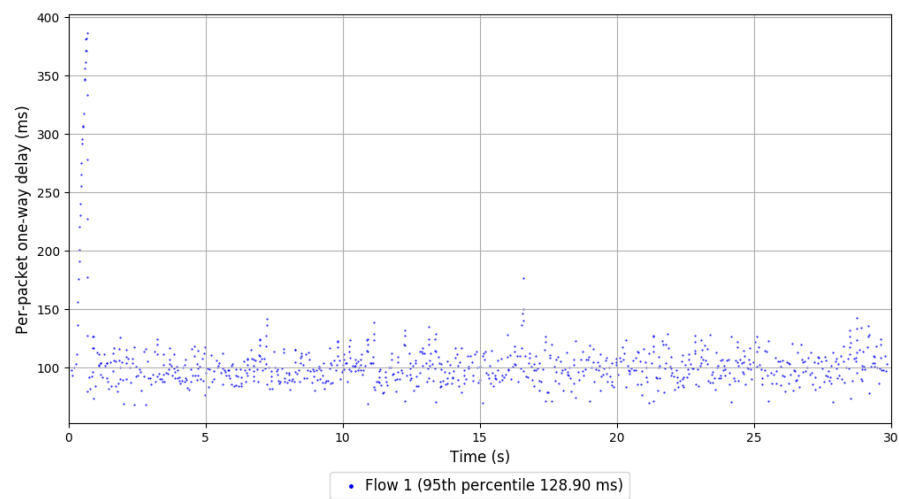
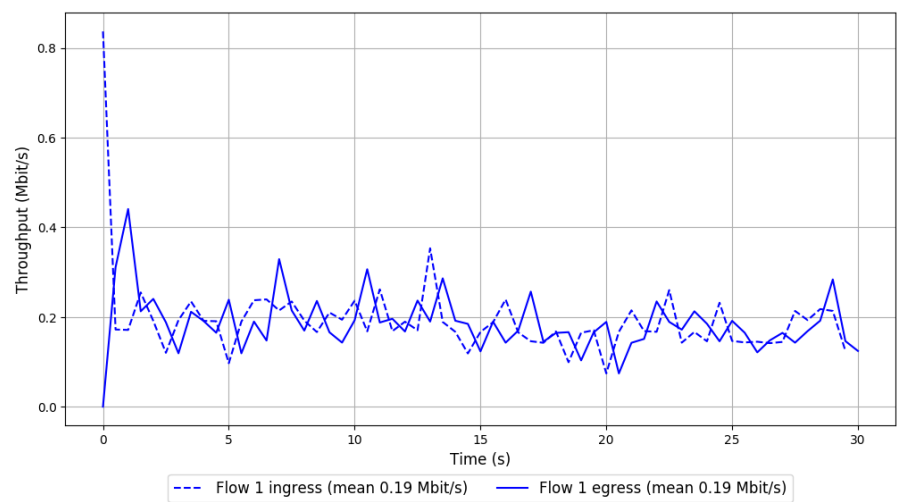


Run 2: Statistics of Sprout

Start at: 2018-06-19 00:50:40  
End at: 2018-06-19 00:51:10  
Local clock offset: -4.638 ms  
Remote clock offset: -0.528 ms

# Below is generated by plot.py at 2018-06-19 01:21:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.19 Mbit/s  
95th percentile per-packet one-way delay: 128.898 ms  
Loss rate: 2.44%  
-- Flow 1:  
Average throughput: 0.19 Mbit/s  
95th percentile per-packet one-way delay: 128.898 ms  
Loss rate: 2.44%

Run 2: Report of Sprout — Data Link

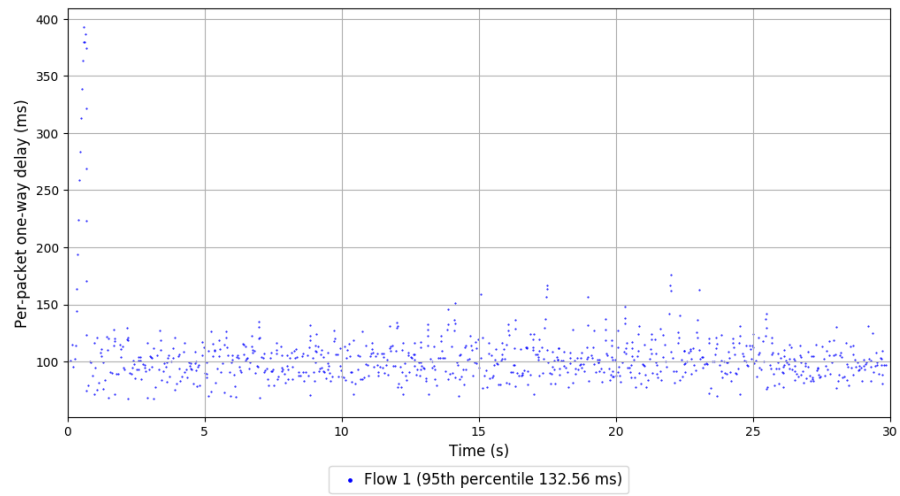
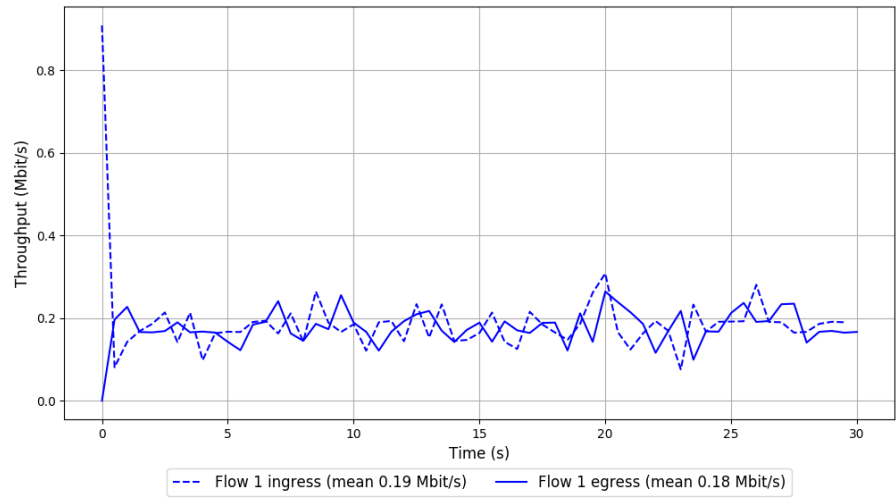


Run 3: Statistics of Sprout

Start at: 2018-06-19 01:11:38  
End at: 2018-06-19 01:12:08  
Local clock offset: -1.752 ms  
Remote clock offset: -1.002 ms

# Below is generated by plot.py at 2018-06-19 01:21:41  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.18 Mbit/s  
95th percentile per-packet one-way delay: 132.556 ms  
Loss rate: 5.54%  
-- Flow 1:  
Average throughput: 0.18 Mbit/s  
95th percentile per-packet one-way delay: 132.556 ms  
Loss rate: 5.54%

### Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-06-19 00:25:11

End at: 2018-06-19 00:25:41

Local clock offset: 0.899 ms

Remote clock offset: -1.483 ms

# Below is generated by plot.py at 2018-06-19 01:21:42

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.06 Mbit/s

95th percentile per-packet one-way delay: 361.415 ms

Loss rate: 9.57%

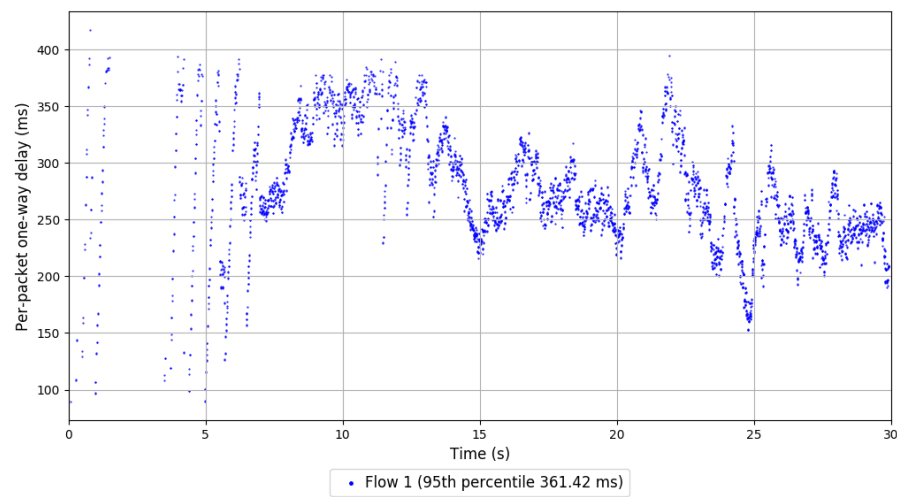
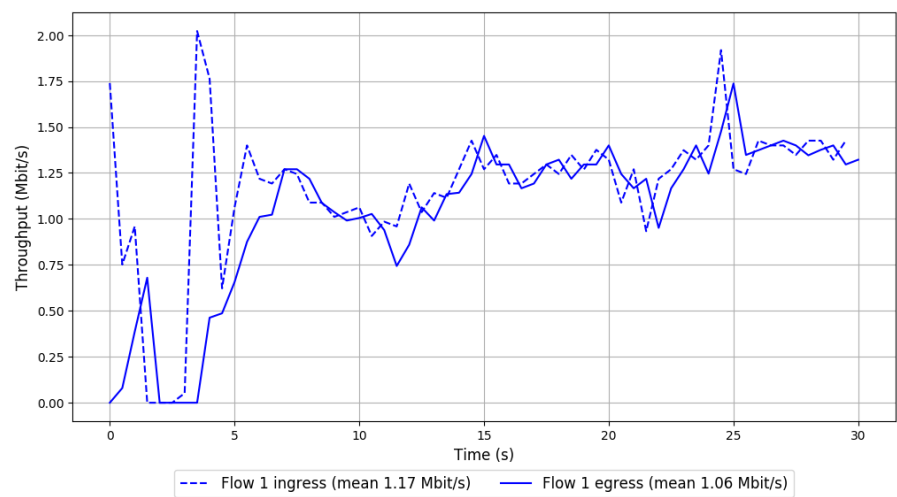
-- Flow 1:

Average throughput: 1.06 Mbit/s

95th percentile per-packet one-way delay: 361.415 ms

Loss rate: 9.57%

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



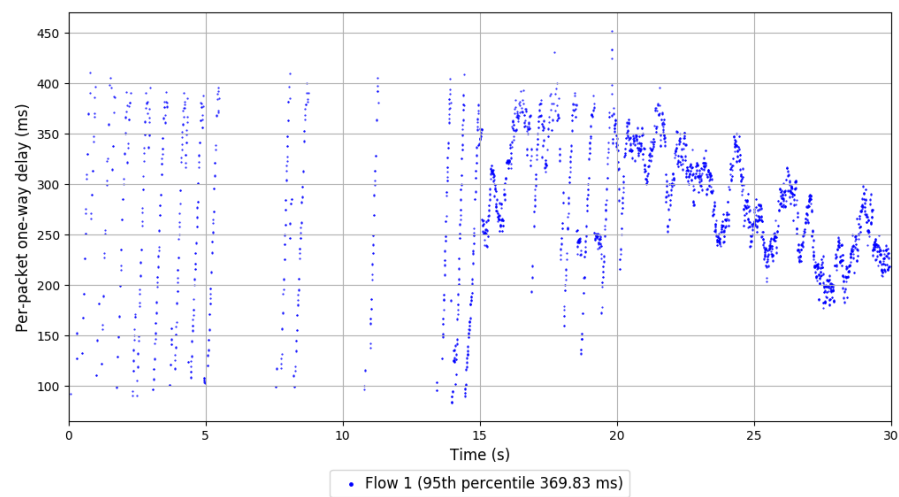
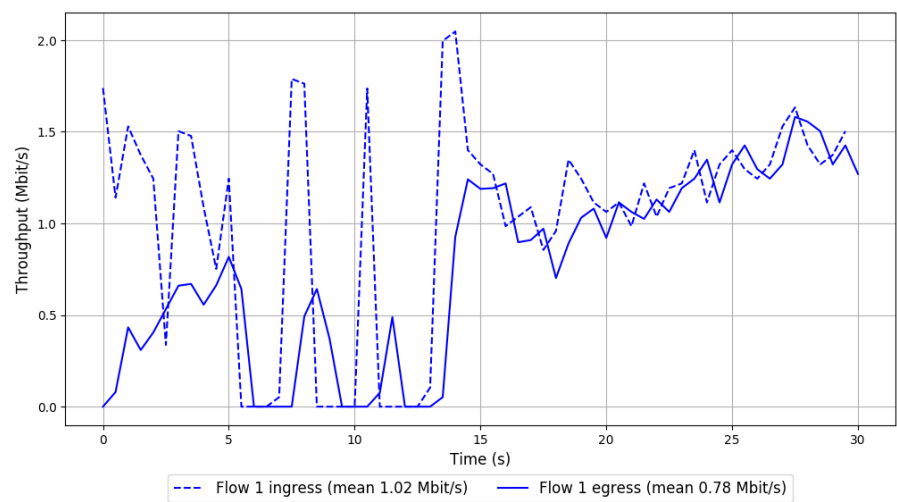
Run 2: Statistics of TaoVA-100x

Start at: 2018-06-19 00:46:47  
End at: 2018-06-19 00:47:17  
Local clock offset: -4.146 ms  
Remote clock offset: -0.612 ms

# Below is generated by plot.py at 2018-06-19 01:21:43  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.78 Mbit/s  
95th percentile per-packet one-way delay: 369.827 ms  
Loss rate: 23.88%  
-- Flow 1:  
Average throughput: 0.78 Mbit/s  
95th percentile per-packet one-way delay: 369.827 ms  
Loss rate: 23.88%



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



Run 3: Statistics of TaoVA-100x

Start at: 2018-06-19 01:07:47

End at: 2018-06-19 01:08:17

Local clock offset: -2.946 ms

Remote clock offset: -0.668 ms

# Below is generated by plot.py at 2018-06-19 01:21:43

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 380.049 ms

Loss rate: 45.30%

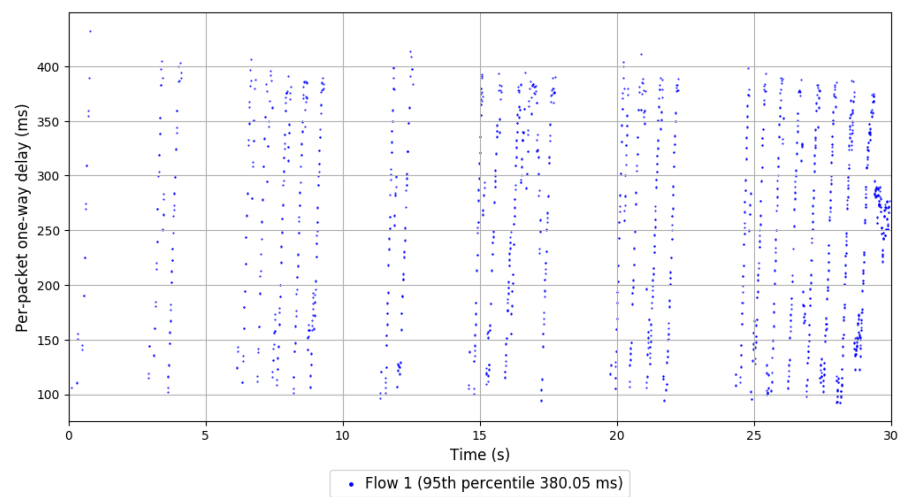
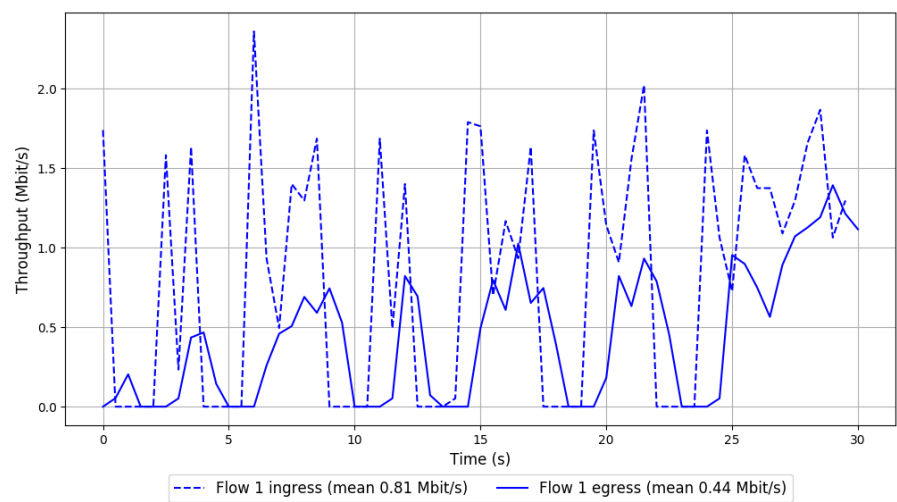
-- Flow 1:

Average throughput: 0.44 Mbit/s

95th percentile per-packet one-way delay: 380.049 ms

Loss rate: 45.30%

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

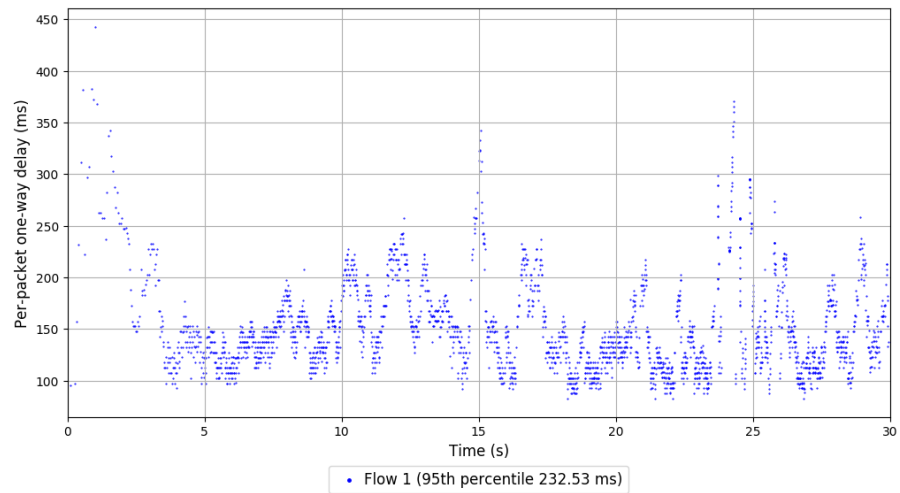
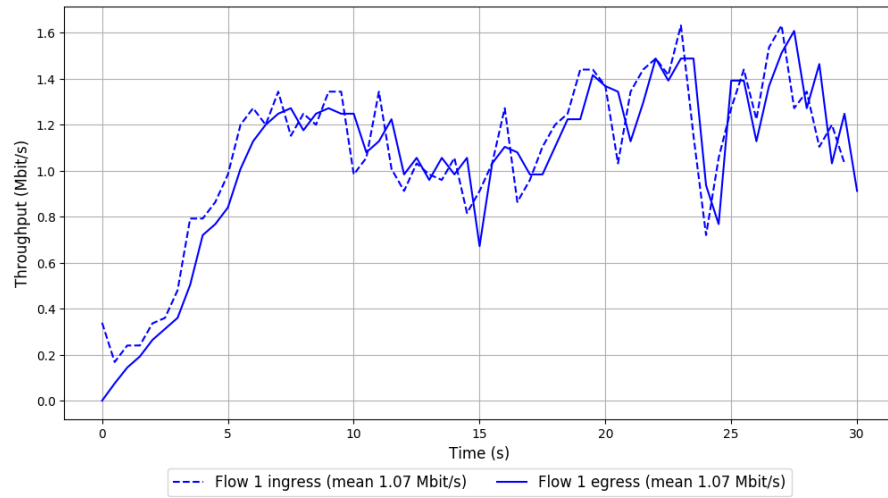


Run 1: Statistics of TCP Vegas

Start at: 2018-06-19 00:32:57  
End at: 2018-06-19 00:33:27  
Local clock offset: -0.384 ms  
Remote clock offset: -1.253 ms

# Below is generated by plot.py at 2018-06-19 01:21:43  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.07 Mbit/s  
95th percentile per-packet one-way delay: 232.528 ms  
Loss rate: 0.97%  
-- Flow 1:  
Average throughput: 1.07 Mbit/s  
95th percentile per-packet one-way delay: 232.528 ms  
Loss rate: 0.97%

### Run 1: Report of TCP Vegas — Data Link

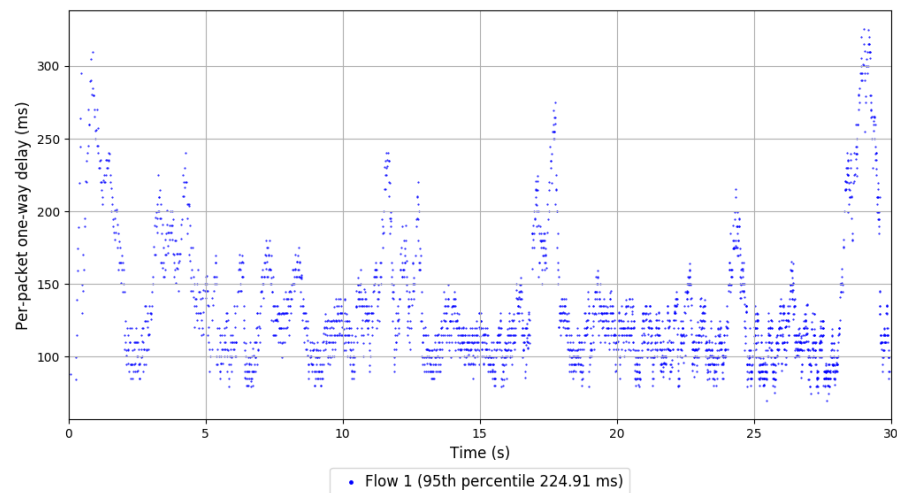
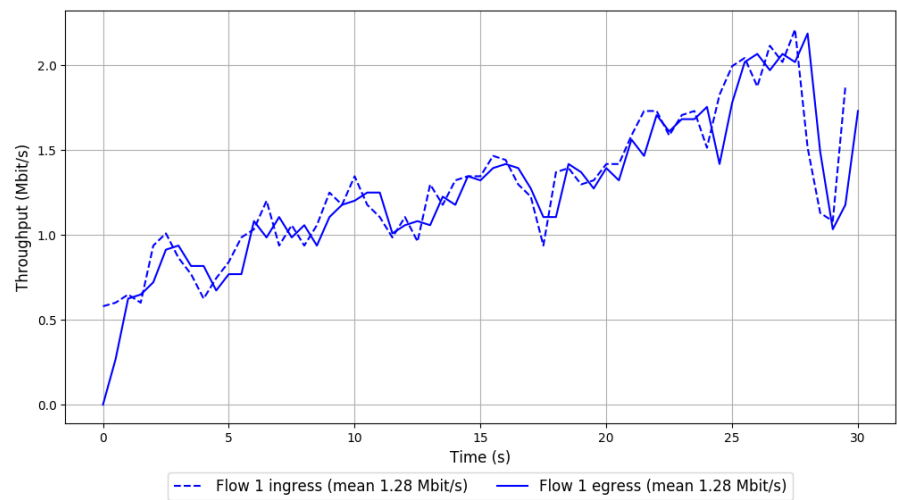


Run 2: Statistics of TCP Vegas

Start at: 2018-06-19 00:54:29  
End at: 2018-06-19 00:54:59  
Local clock offset: -5.278 ms  
Remote clock offset: -0.431 ms

# Below is generated by plot.py at 2018-06-19 01:21:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.28 Mbit/s  
95th percentile per-packet one-way delay: 224.908 ms  
Loss rate: 0.81%  
-- Flow 1:  
Average throughput: 1.28 Mbit/s  
95th percentile per-packet one-way delay: 224.908 ms  
Loss rate: 0.81%

Run 2: Report of TCP Vegas — Data Link



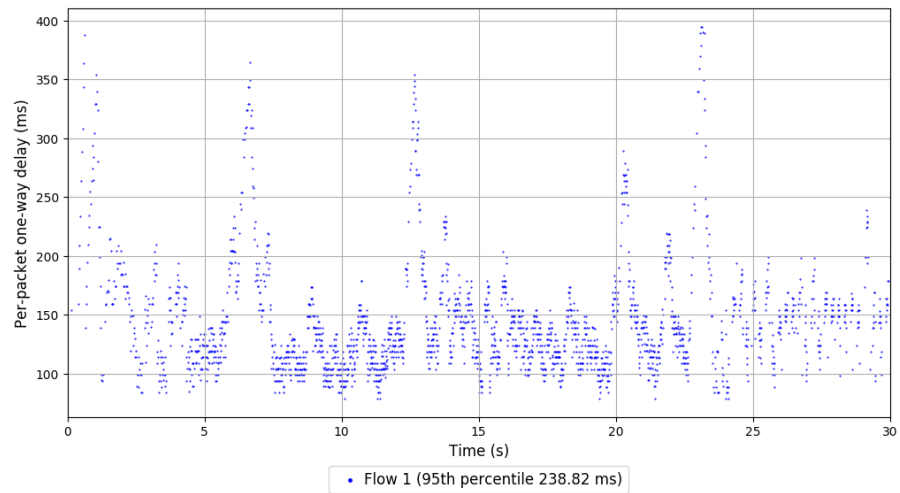
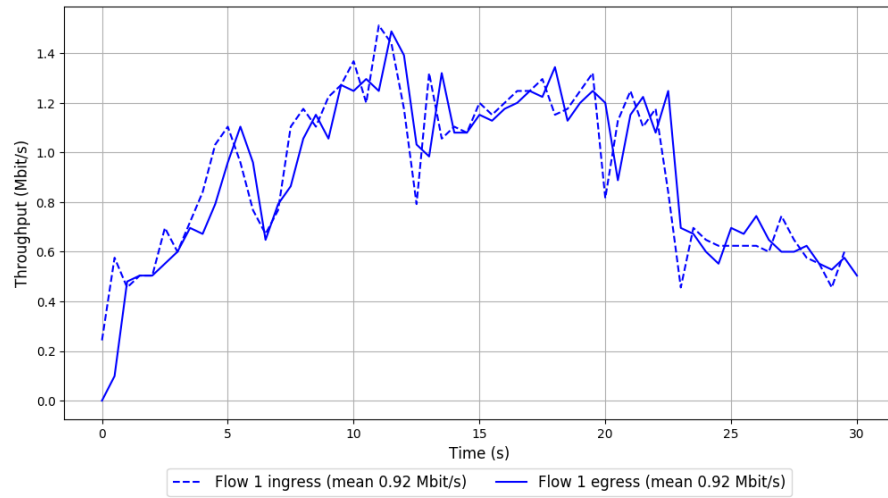
Run 3: Statistics of TCP Vegas

Start at: 2018-06-19 01:15:30  
End at: 2018-06-19 01:16:00  
Local clock offset: -1.333 ms  
Remote clock offset: -1.206 ms

# Below is generated by plot.py at 2018-06-19 01:21:44  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.92 Mbit/s  
95th percentile per-packet one-way delay: 238.825 ms  
Loss rate: 0.65%  
-- Flow 1:  
Average throughput: 0.92 Mbit/s  
95th percentile per-packet one-way delay: 238.825 ms  
Loss rate: 0.65%



### Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-06-19 00:20:58

End at: 2018-06-19 00:21:28

Local clock offset: 1.209 ms

Remote clock offset: -1.52 ms

# Below is generated by plot.py at 2018-06-19 01:21:45

# Datalink statistics

-- Total of 1 flow:

Average throughput: 1.14 Mbit/s

95th percentile per-packet one-way delay: 831.204 ms

Loss rate: 15.54%

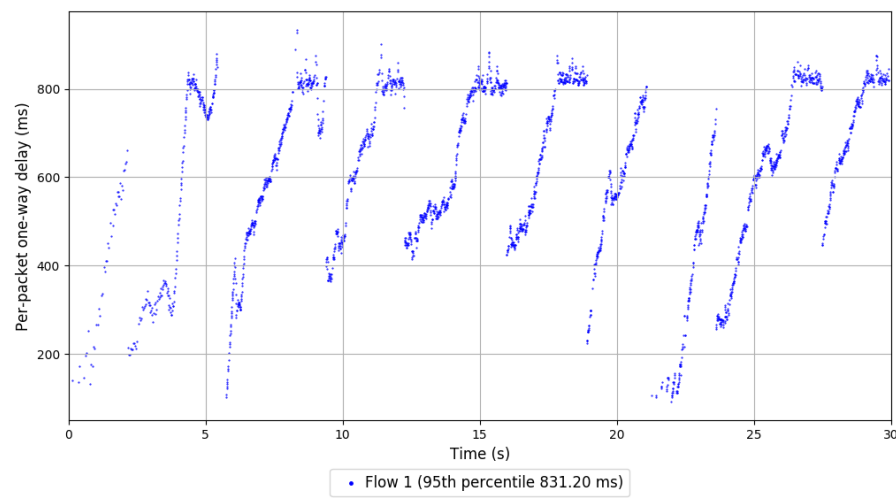
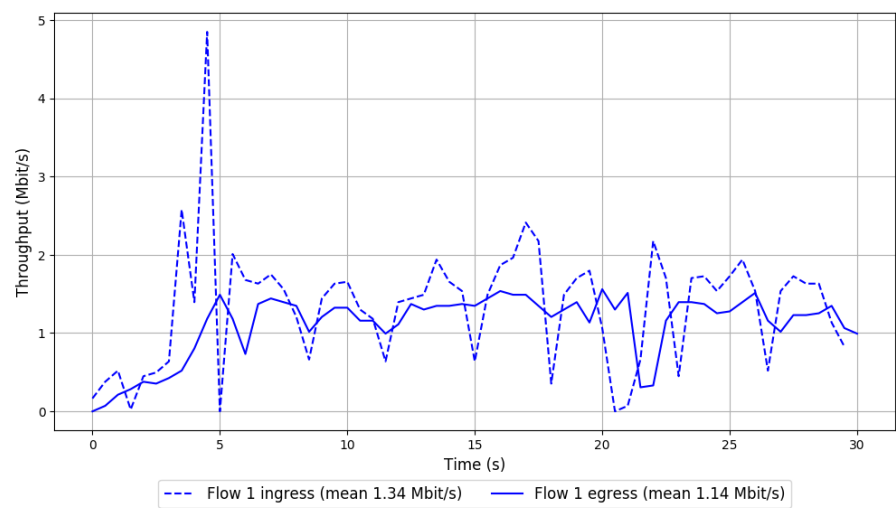
-- Flow 1:

Average throughput: 1.14 Mbit/s

95th percentile per-packet one-way delay: 831.204 ms

Loss rate: 15.54%

Run 1: Report of Verus — Data Link

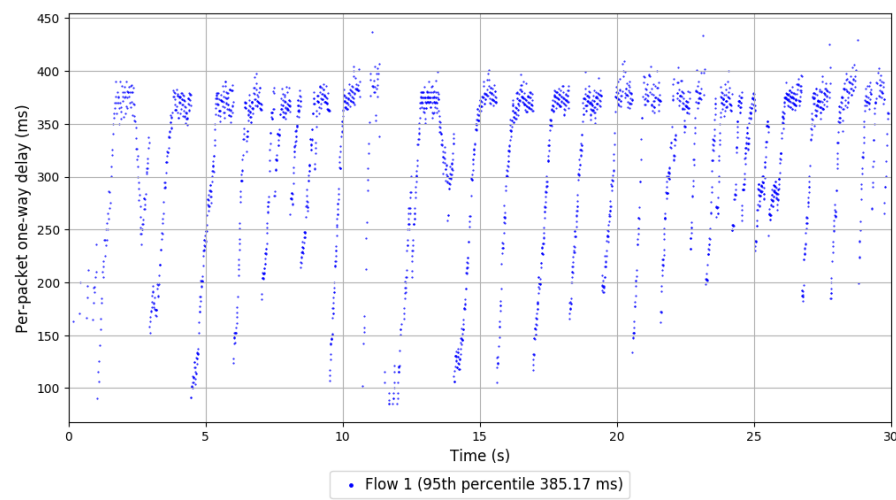
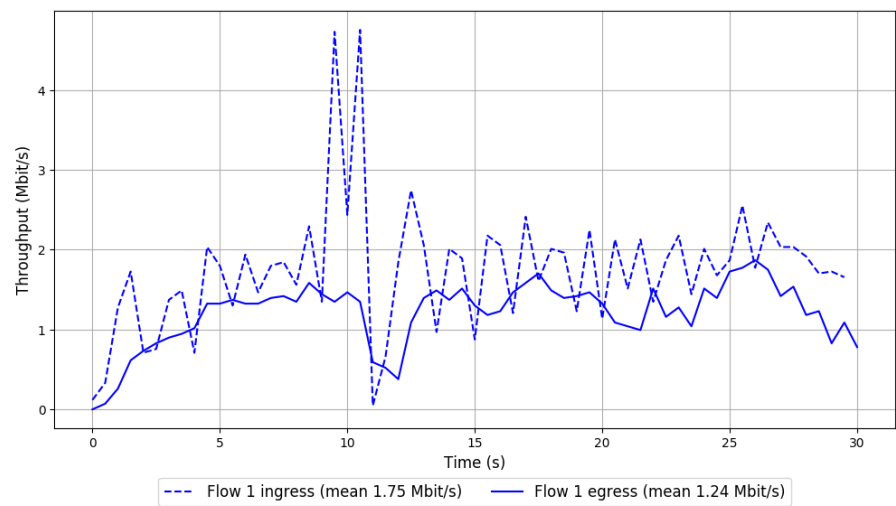


Run 2: Statistics of Verus

Start at: 2018-06-19 00:42:38  
End at: 2018-06-19 00:43:08  
Local clock offset: -3.229 ms  
Remote clock offset: -0.777 ms

# Below is generated by plot.py at 2018-06-19 01:21:46  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 1.24 Mbit/s  
95th percentile per-packet one-way delay: 385.172 ms  
Loss rate: 29.89%  
-- Flow 1:  
Average throughput: 1.24 Mbit/s  
95th percentile per-packet one-way delay: 385.172 ms  
Loss rate: 29.89%

Run 2: Report of Verus — Data Link

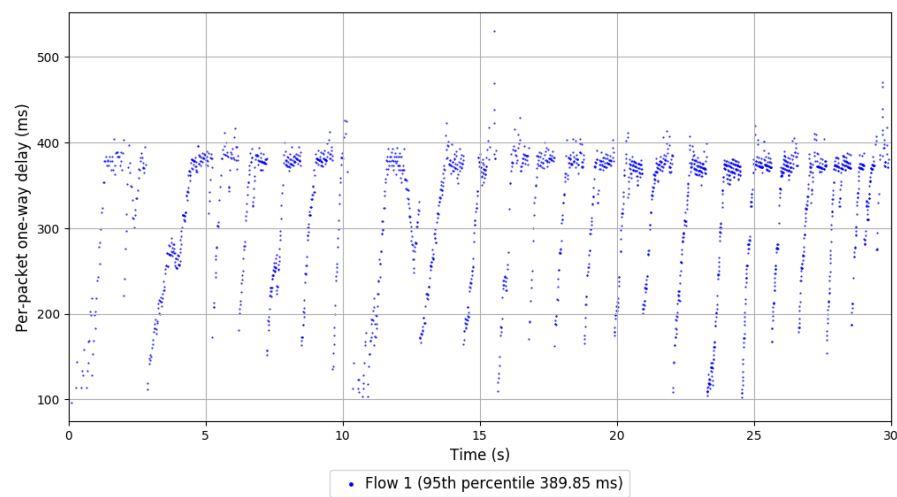
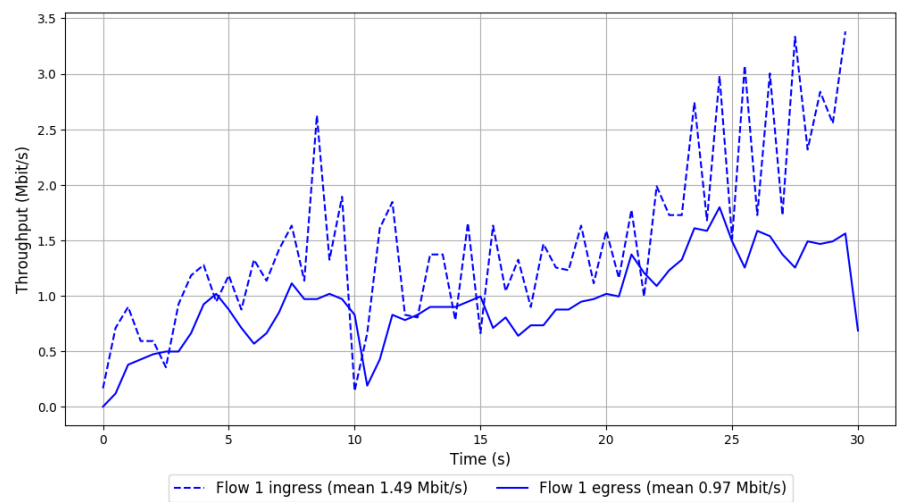


Run 3: Statistics of Verus

Start at: 2018-06-19 01:03:37  
End at: 2018-06-19 01:04:07  
Local clock offset: -4.787 ms  
Remote clock offset: -0.33 ms

# Below is generated by plot.py at 2018-06-19 01:21:46  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.97 Mbit/s  
95th percentile per-packet one-way delay: 389.854 ms  
Loss rate: 35.19%  
-- Flow 1:  
Average throughput: 0.97 Mbit/s  
95th percentile per-packet one-way delay: 389.854 ms  
Loss rate: 35.19%

Run 3: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-06-19 00:18:18

End at: 2018-06-19 00:18:48

Local clock offset: 1.323 ms

Remote clock offset: -1.493 ms

# Below is generated by plot.py at 2018-06-19 01:21:47

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.98 Mbit/s

95th percentile per-packet one-way delay: 380.393 ms

Loss rate: 15.38%

-- Flow 1:

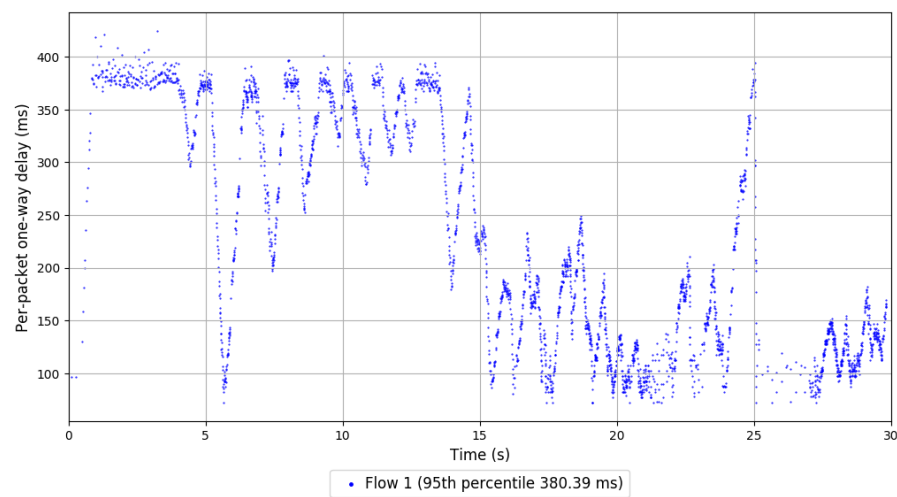
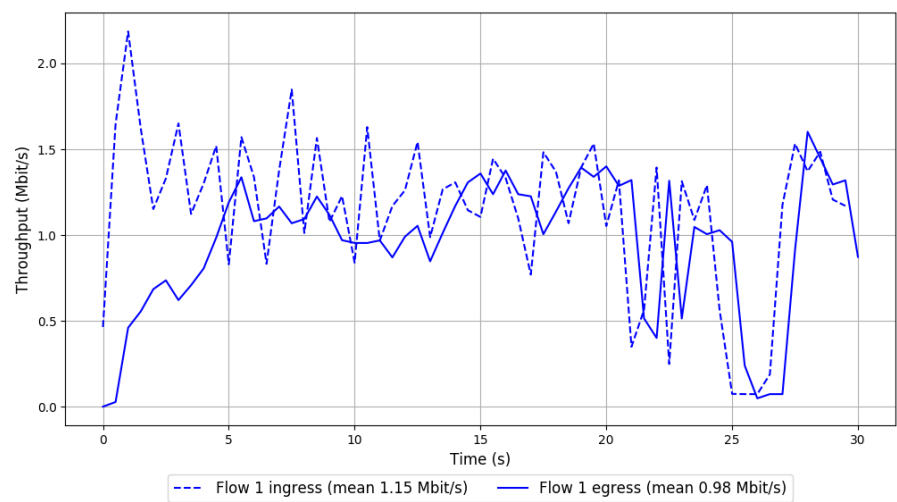
Average throughput: 0.98 Mbit/s

95th percentile per-packet one-way delay: 380.393 ms

Loss rate: 15.38%



Run 1: Report of PCC-Vivace — Data Link

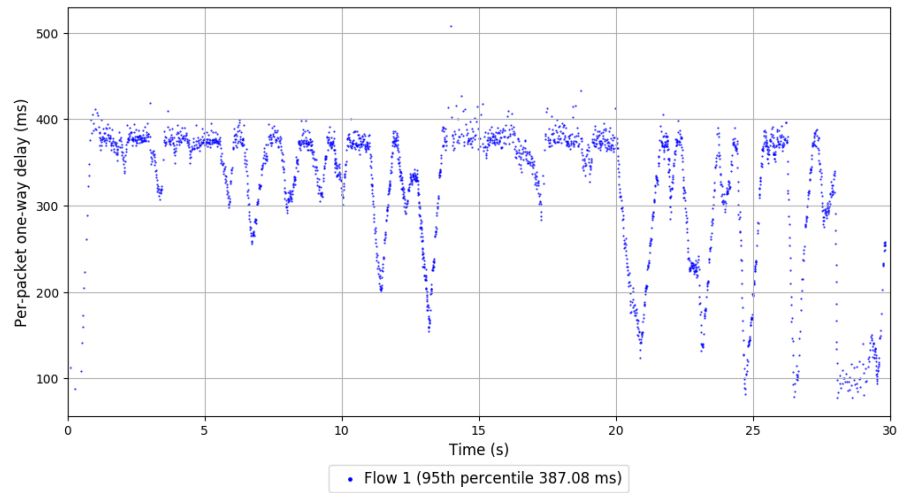
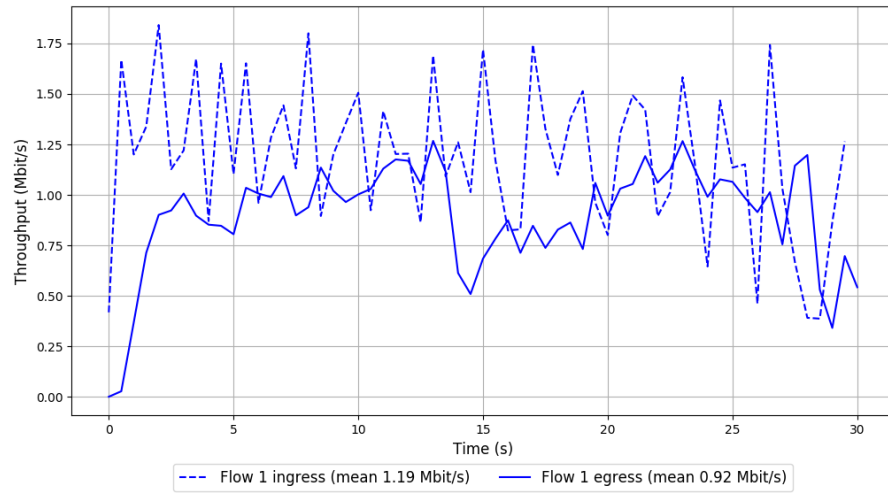


Run 2: Statistics of PCC-Vivace

Start at: 2018-06-19 00:40:00  
End at: 2018-06-19 00:40:30  
Local clock offset: -2.57 ms  
Remote clock offset: -0.873 ms

# Below is generated by plot.py at 2018-06-19 01:21:48  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.92 Mbit/s  
95th percentile per-packet one-way delay: 387.083 ms  
Loss rate: 23.56%  
-- Flow 1:  
Average throughput: 0.92 Mbit/s  
95th percentile per-packet one-way delay: 387.083 ms  
Loss rate: 23.56%

## Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-06-19 01:00:54

End at: 2018-06-19 01:01:24

Local clock offset: -5.936 ms

Remote clock offset: -0.39 ms

# Below is generated by plot.py at 2018-06-19 01:21:48

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.86 Mbit/s

95th percentile per-packet one-way delay: 374.279 ms

Loss rate: 10.87%

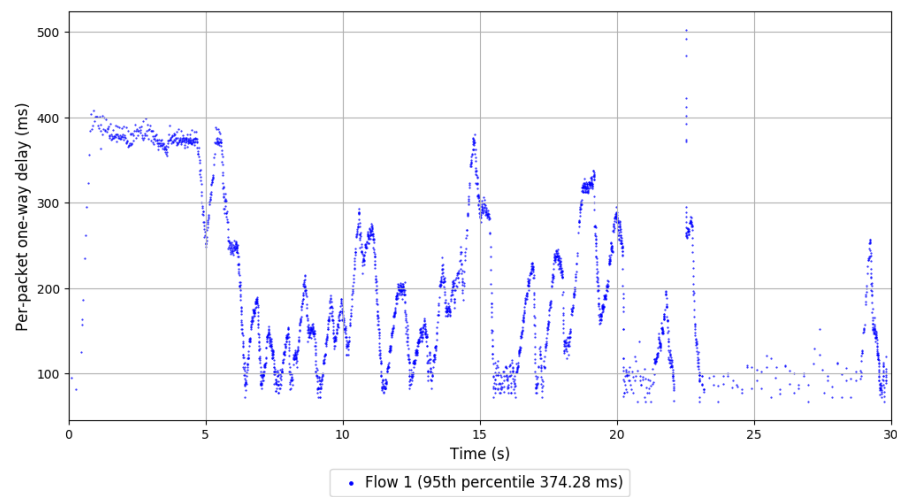
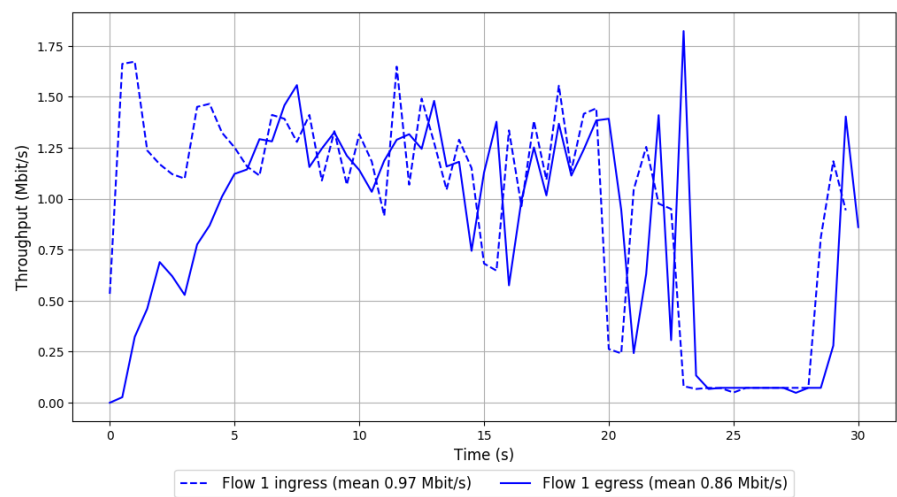
-- Flow 1:

Average throughput: 0.86 Mbit/s

95th percentile per-packet one-way delay: 374.279 ms

Loss rate: 10.87%

Run 3: Report of PCC-Vivace — Data Link

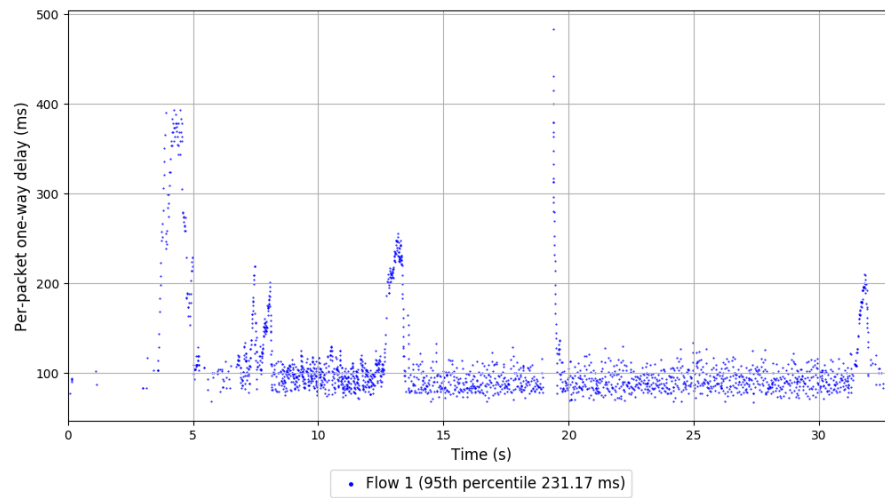
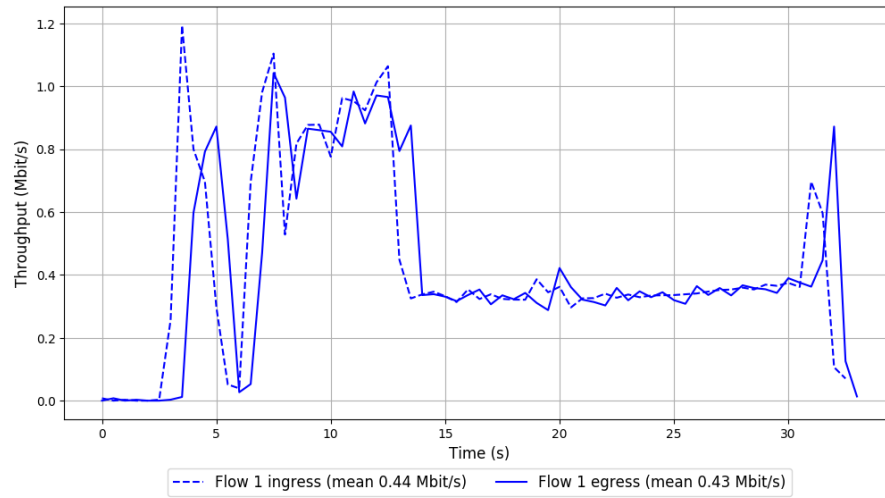


```
Run 1: Statistics of WebRTC media

Start at: 2018-06-19 00:26:31
End at: 2018-06-19 00:27:01
Local clock offset: 0.809 ms
Remote clock offset: -1.434 ms

# Below is generated by plot.py at 2018-06-19 01:21:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 231.166 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 231.166 ms
Loss rate: 1.90%
```

### Run 1: Report of WebRTC media — Data Link



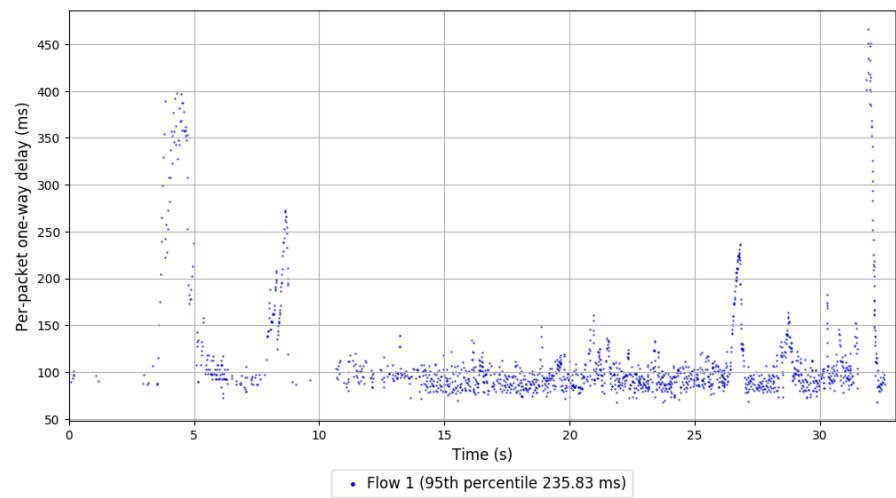
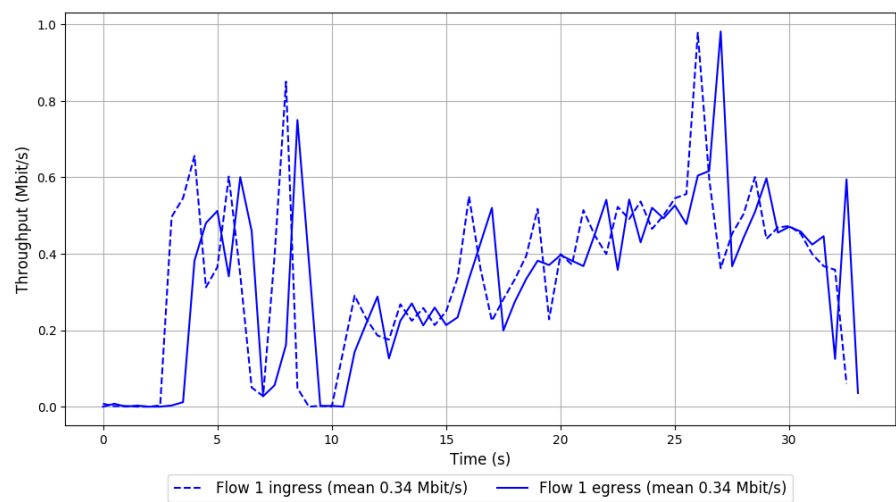
Run 2: Statistics of WebRTC media

Start at: 2018-06-19 00:48:07  
End at: 2018-06-19 00:48:37  
Local clock offset: -4.326 ms  
Remote clock offset: -0.698 ms

# Below is generated by plot.py at 2018-06-19 01:21:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.34 Mbit/s  
95th percentile per-packet one-way delay: 235.826 ms  
Loss rate: 2.73%  
-- Flow 1:  
Average throughput: 0.34 Mbit/s  
95th percentile per-packet one-way delay: 235.826 ms  
Loss rate: 2.73%



Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-06-19 01:09:04  
End at: 2018-06-19 01:09:34  
Local clock offset: -2.552 ms  
Remote clock offset: -0.781 ms

# Below is generated by plot.py at 2018-06-19 01:21:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.30 Mbit/s  
95th percentile per-packet one-way delay: 246.640 ms  
Loss rate: 3.98%  
-- Flow 1:  
Average throughput: 0.30 Mbit/s  
95th percentile per-packet one-way delay: 246.640 ms  
Loss rate: 3.98%

### Run 3: Report of WebRTC media — Data Link

