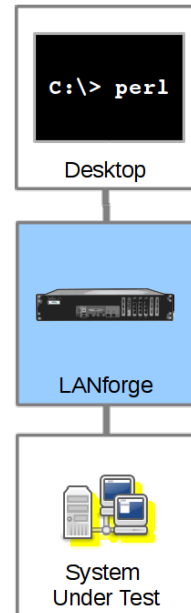


Finding LANforge Report Data

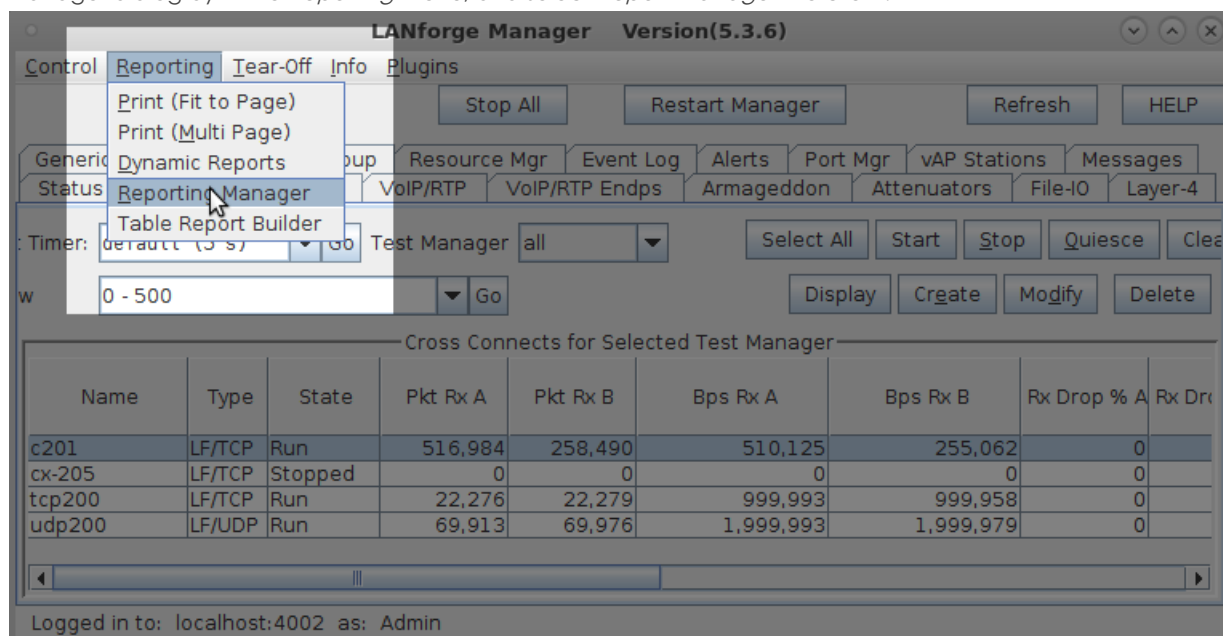
Goal: Properly configured, the LANforge server or the LANforge GUI can collect connection performance information in CSV format.

By default, your LANforge server and your LANforge client do not save the data on connection and port performance. When you configure the save destination for this data, you can use it with any other tool that can read a CSV file.



Finding LANforge Report Data Select your Save Location

You can tell the LANforge server to save data to a directory locally on the management machine, and you can configure your workstation running the the LANforge GUI to save data to a local desktop folder. First, find the Reporting Manager dialog by in the *Reporting* menu, and select *Report Manager* the client.



The screenshot shows the LANforge Manager Version(5.3.6) GUI. The 'Reporting' menu is open, showing options like 'Print (Fit to Page)', 'Print (Multi Page)', 'Dynamic Reports', 'Reporting Manager', and 'Table Report Builder'. The 'Reporting Manager' option is selected. Below the menu, there are various control buttons and a table of test results.

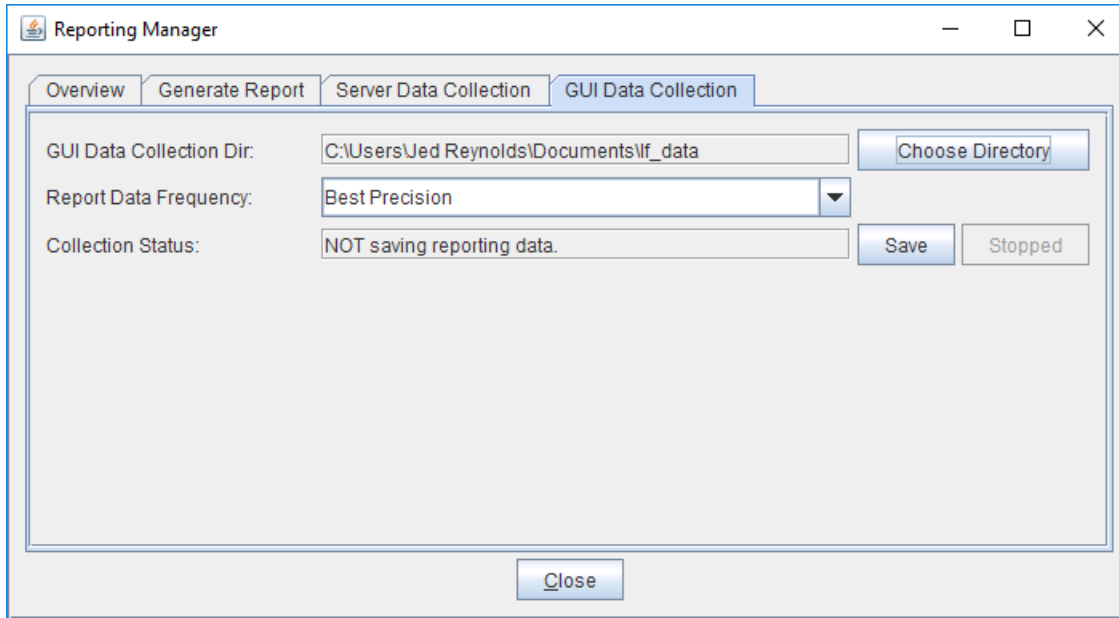
Name	Type	State	Pkt Rx A	Pkt Rx B	Bps Rx A	Bps Rx B	Rx Drop % A	Rx Drop % B
c201	LF/TCP	Run	516,984	258,490	510,125	255,062	0	0
cx-205	LF/TCP	Stopped	0	0	0	0	0	0
tcp200	LF/TCP	Run	22,276	22,279	999,993	999,958	0	0
udp200	LF/UDP	Run	69,913	69,976	1,999,993	1,999,979	0	0

Logged in to: localhost:4002 as: Admin

GUI Data Collection (Desktop Folder)

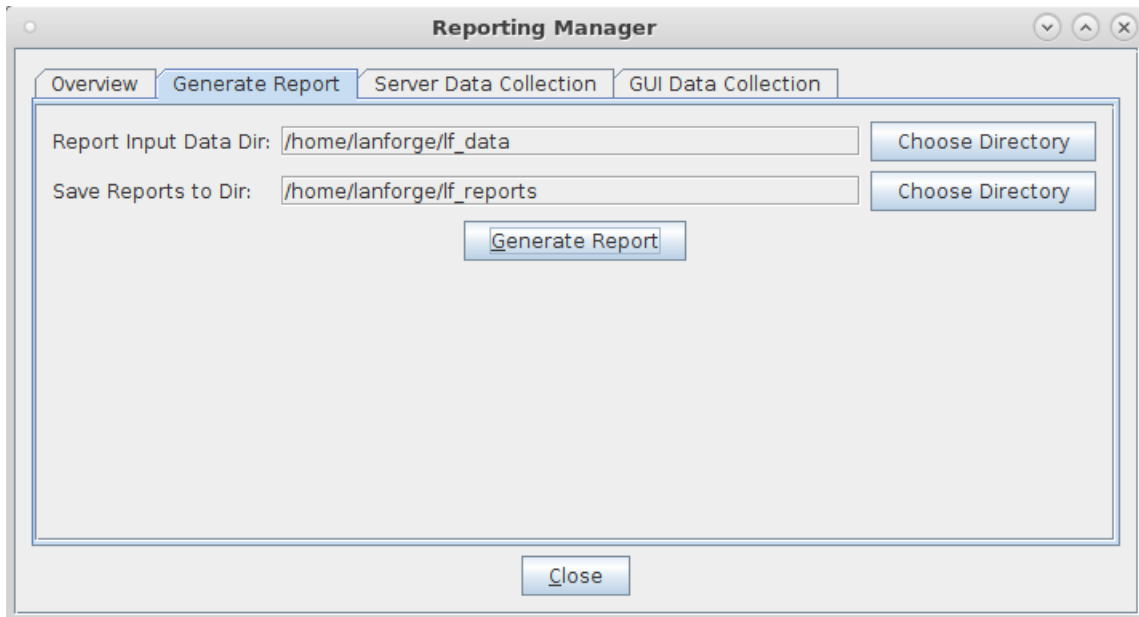
Collecting data on your local workstation is very convenient if you can leave the GUI running for the duration of your test

scenario. The format of the data here should be similar to the format of the data saved to the server directory. The folders for collecting data are relative to the folder you start your GUI from. If you type in `lf_data` that probably means `C:\Users\mumble\AppData\Local\LANforge-GUI\lf_data`. You probably want to put in a fully qualified path thats more intuitive, like `C:\Users\mumble\Documents\lf_data`.



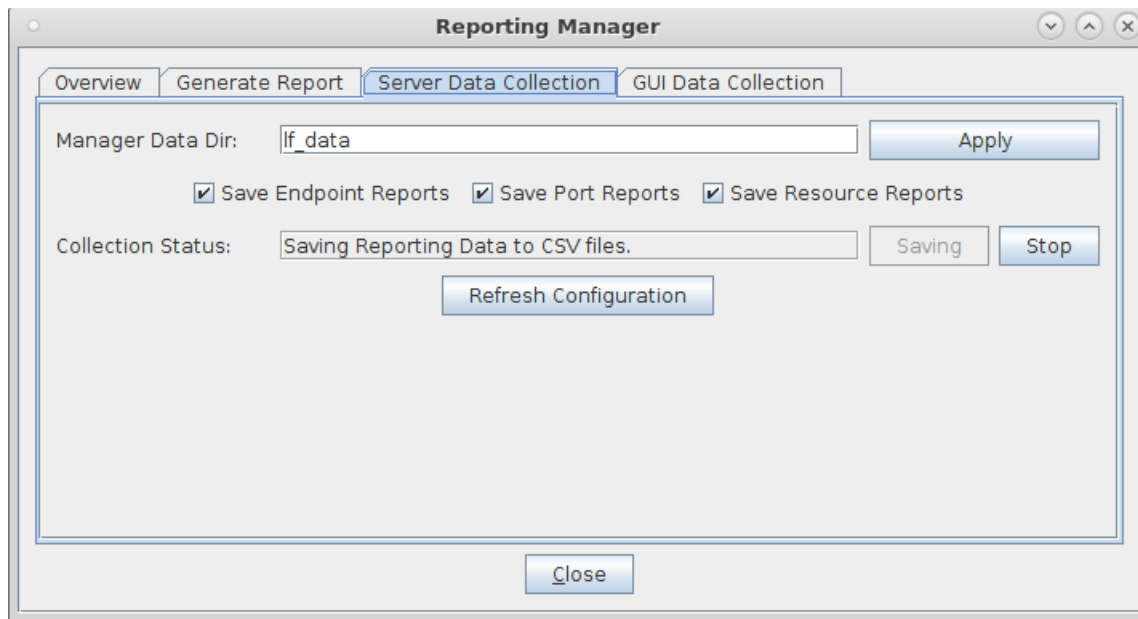
Generate Report

The Report Generator uses the local data files. In that dialog shows the *Report Input Directory* field is a local folder where the CSV files collect. The *Save Reports to Directory* field is where HTML and PDF files should collect.



Server Data Collection (Server Directory)

If your test scenario runs longer than your GUI can be up, you can configure the LANforge server to collect the data. The directory is relative to the `/home/lanforge` directory, so if you enter `lf_data`, you would find the CSV files in `/home/lanforge/lf_data`.



You can take a look at the data files easily. Here is a server data collection directory:

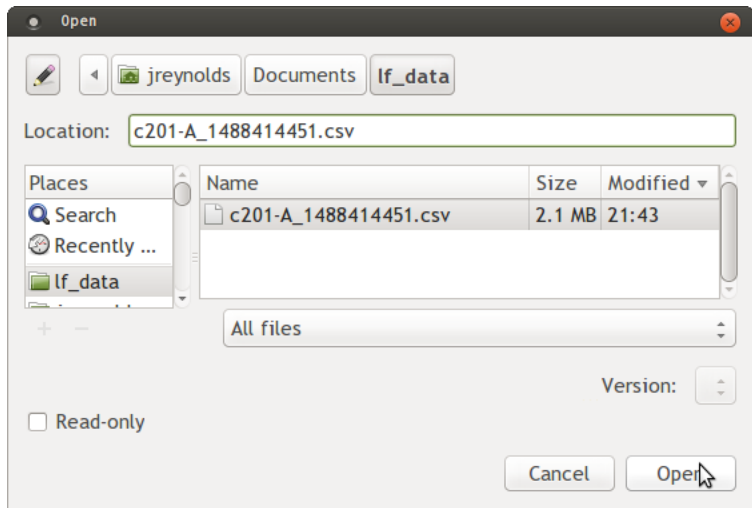
```
lanforge@jedtest ~/lf_data
> r
total 2628
-rw-r--r-- 1 root root 31465 Mar 1 16:52 wlan2_1.1.7_1488414451.csv
-rw-r--r-- 1 root root 31465 Mar 1 16:52 wlan1_1.1.6_1488414451.csv
-rw-r--r-- 1 root root 31465 Mar 1 16:52 wlan0_1.1.5_1488414451.csv
-rw-r--r-- 1 root root 90889 Mar 1 16:52 wiphy2_1.1.4_1488414451.csv
-rw-r--r-- 1 root root 125299 Mar 1 16:52 wiphy1_1.1.3_1488414451.csv
-rw-r--r-- 1 root root 101801 Mar 1 16:52 wiphy0_1.1.2_1488414451.csv
-rw-r--r-- 1 root root 138049 Mar 1 16:52 udp200-B_1488414451.csv
-rw-r--r-- 1 root root 137626 Mar 1 16:52 udp200-A_1488414451.csv
-rw-r--r-- 1 root root 160328 Mar 1 16:52 tcp200-B_1488414451.csv
-rw-r--r-- 1 root root 158351 Mar 1 16:52 tcp200-A_1488414451.csv
-rw-r--r-- 1 root root 26376 Mar 1 16:52 resource_jedtestcandelatechcom_1.1_1488414451.csv
-rw-r--r-- 1 root root 114505 Mar 1 16:52 eth1_1.1.1_1488414451.csv
-rw-r--r-- 1 root root 43937 Mar 1 16:52 eth0_1.1.0_1488414451.csv
-rw-r--r-- 1 root root 168161 Mar 1 16:52 c201-B_1488414451.csv
-rw-r--r-- 1 root root 169329 Mar 1 16:52 c201-A_1488414451.csv
-rw-r--r-- 1 root root 27937 Mar 1 16:52 wlan2_1.2.7_1488414451.csv
-rw-r--r-- 1 root root 27937 Mar 1 16:52 wlan1_1.2.6_1488414451.csv
-rw-r--r-- 1 root root 27937 Mar 1 16:52 wlan0_1.2.5_1488414451.csv
-rw-r--r-- 1 root root 83629 Mar 1 16:52 wiphy2_1.2.4_1488414451.csv
-rw-r--r-- 1 root root 114613 Mar 1 16:52 wiphy1_1.2.3_1488414451.csv
-rw-r--r-- 1 root root 100485 Mar 1 16:52 wiphy0_1.2.2_1488414451.csv
-rw-r--r-- 1 root root 327241 Mar 1 16:52 vap0_1.1.8_1488414451.csv
-rw-r--r-- 1 root root 40057 Mar 1 16:52 sta205_1.2.10_1488414451.csv
-rw-r--r-- 1 root root 48097 Mar 1 16:52 sta200_1.2.8_1488414451.csv
-rw-r--r-- 1 root root 39289 Mar 1 16:52 sta100_1.2.9_1488414451.csv
-rw-r--r-- 1 root root 21691 Mar 1 16:52 resource_kedtest_1.2_1488414451.csv
-rw-r--r-- 1 root root 105065 Mar 1 16:52 eth1_1.2.1_1488414451.csv
-rw-r--r-- 1 root root 40789 Mar 1 16:52 eth0_1.2.0_1488414451.csv
```

And using a utility like `notepad`, `vi`, `more` or `less` you can look at the file contents:

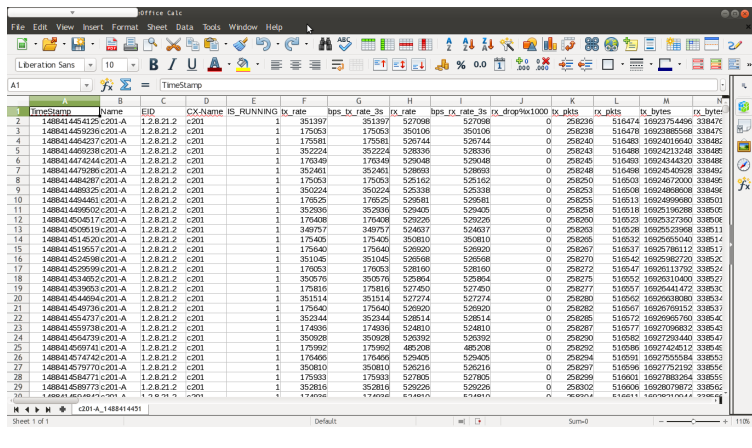
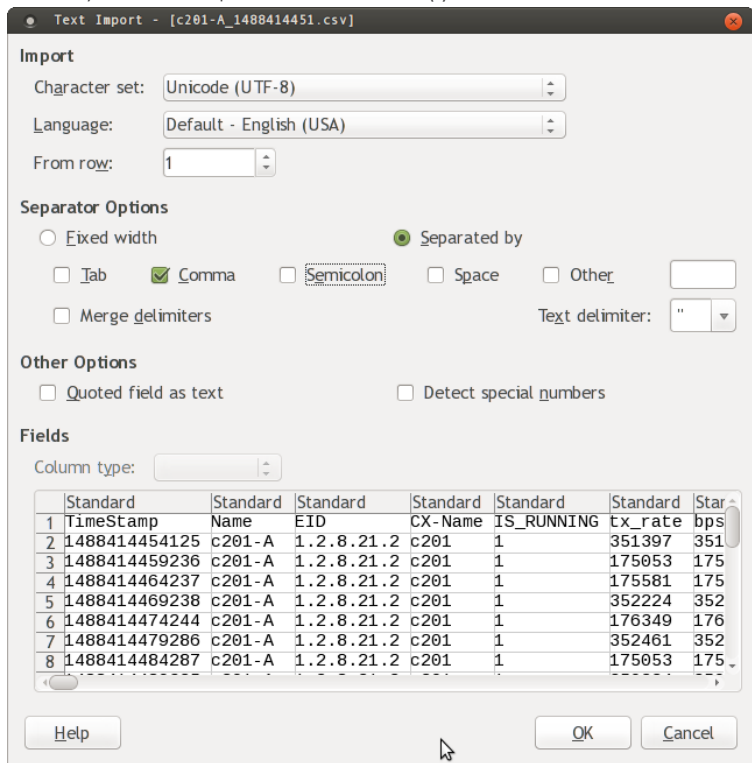
```
lanforge@jedtest:~/lf_data
TimeStamp,Name,EID,CX-Name,IS_RUNNING,tx_rate,bps_tx_rate_3s,rx_rate,bps_rx_rate_3s,rx_drop%x1000,tx_pkts,rx_bytes,rx_bytes,rx_dropped_pkts,rx_dup_pkts,rx_ooo_pkts,rx_wrong_dev,rx_crc_failed,rx_bit_errors,TCP-RTX,conn_timeouts,conn_establ
ished,tcp_CWND,min_conn_duration_ms,max_conn_duration_ms,min_reconn_pause_ms,max_reconn_pause_ms,pattern,min_pkt_size,max_p
kt_size,min_tx_rate,max_tx_rate,running_for,last_report,destination_addr,source_addr,min_latency,avg_latency,max_latency,bo
x_width,lat_0,lat_1,lat_2,lat_3,lat_4,lat_5,lat_6,lat_7,lat_8,lat_9,lat_10,lat_11,lat_12,lat_13,lat_14,lat_15,min_rt_latenc
y,avg_rt_latency,max_rt_latency,rt_box_width,rt_lat_0,rt_lat_1,rt_lat_2,rt_lat_3,rt_lat_4,rt_lat_5,rt_lat_6,rt_lat_7,rt_lat
_8,rt_lat_9,rt_lat_10,rt_lat_11,rt_lat_12,rt_lat_13,rt_lat_14,rt_lat_15,min_drop_amt,avg_drop_amt,max_drop_amt,drop_box_wid
th,drop_amt_0,drop_amt_1,drop_amt_2,drop_amt_3,drop_amt_4,drop_amt_5,drop_amt_6,drop_amt_7,drop_amt_8,drop_amt_9,drop_amt_1
0,drop_amt_11,drop_amt_12,drop_amt_13,drop_amt_14,drop_amt_15,RptTimer,files_played,Avg-Jitter,rx_pkts_11,tx_pkts_11,rx_
bytes_11,tx_bytes_11,cx_dropped_pkts,Rx-First-Pkt-msmin_gap,avg_gap,max_gap,gap_box_width,gap_0,gap_1,gap_2,gap_3,gap_4,
gap_5,gap_6,gap_7,gap_8,gap_9,gap_10,gap_11,gap_12,gap_13,gap_14,gap_15,
1488414454125,c201-A,1.2.8.21.2,c201,1,351397,351397,527098,527098,0,258236,516474,16923754496,33847640064,0,0,0,0,0,0,13,0
,7,47,4294967295,0,0,0,INCREASING,65536,65536,256000,256000,530813,0,10.26.0.2:33028,10.26.2.23:33027,6,7,746,14,1,163669,1
80254,152069,18998,1216,244,21,3,0,0,0,0,0,0,0,0,0,14,17.53,26,1,31697,60316,172566,193329,56847,863,647,68,1,0,15,53,71,0,0,
0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,5000,0,0,2364262,11878870,35109310212,17565213476,0,887418670,125.108,1021,1,295
1845,675627,328822,2693,397,6,11,2,0,0,433449,83017,0,2,2,0,
```

Using Libre Office

Importing the file into a spreadsheet like LibreOffice Calc is simple:



You only need to separate on comma (,)



The timestamp column

Libre Office does not have a builtin formula to do this, but it has been [discussed here](#). And the solution is a formula that looks like this:

```
=(A2/86400)+25569
```

and then you format the column as *Date*.

Scripting with Bash

There are a number of ways to collect and sort the data with shell utilities. The first utility to consider is `cut`, then `awk`. The first column of the endpoint file we are going to read is the timestamp, the 14th is the rx bytes.

Reading the Data and RX Bytes

Converting Unix Date

```
$ head -n2 c201-A_1488414451.csv | cut -d, -f1
TimeStamp
1488414454125
$ date -d @1488414454125
Mon Dec 23 19:28:45 PST 49135
```

Using bash

```
$ head -n2 c201-A_1488414451.csv | (while IFS=, read -a L; do echo ${L[13]}; done)
rx_bytes
33847640064
```

Using cut

```
$ head -n2 c201-A_1488414451.csv | cut -d, -f14
rx_bytes
33847640064
```

Using awk

```
$ head -n2 c201-A_1488414451.csv | awk -F, '{print $14}'
rx_bytes
33847640064

head -n2 c201-A_1488414451.csv | awk -F, '{print $1 "\t" $14}'
TimeStamp      rx_bytes
1488414454125  33847640064
```

Scripting with Perl

It is a lot easier to do math with a perl script than a bash or an awk script. You can pipe things into perl or perl will read the last argument of the `-ne` switches as an input file.

```
$ head -n2 c201-A_1488414451.csv \
  | perl -ne '@v=split(/,/, $_); print "$v[0]\t$v[13]\n";'
TimeStamp      rx_bytes
1488414454125  33847640064

perl -ne 'BEGIN{$tt=0;@tstamps=();@rxb=();} \
  {@v=split(/,/, $_); push(@tstamps, $v[0]); push(@rxb, $v[13]);} \
  END{$dt=$tstamps[$#tstamps] - $tstamps[1]; $db=$rxb[$#rxb] - $rxb[1];} \
  print "Time: $dt, Total:$db\n";}' \
  c201-A_1488414451.csv
Time: 18959363, Total:1213399040
```

Not everything you do in perl is going to be a one-liner. Here's an example of the same script as a more properly formatted perl file:

```
#!/usr/bin/perl
my $tt=0;
my @tstamps=();
my @rxb=();
while(<>) {
  @v = split(/,/, $_);
  push(@tstamps, $v[0]);
```

```
    push(@rxb, $v[13]);  
}  
$dt = $tstamps[$#tstamps] - $tstamps[1];  
$db = $rxb[$#rxb] - $rxb[1];  
print "Time: $dt, Total:$db\n";
```

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