CSI/SP License Tracker

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# **System Requirements**

* Windows 10 OS
* Intel I5 CPU +
* 4gb+ RAM
* CSI Sentinel Utilities Installed on a network server.

# What is it?

It is an infinitely batch script that writes what and how many CSI/SP licenses are available on a specific license server. It also shows who is using these licenses as well as how many windows they have open.

# How do I use it?

To get the initial files and code, go to <https://github.com/tkoppop/CSI-Sentinel-Network-License-Tracking> then click “code”, and “download ZIP.” Extract the files from the zip into a folder.

Assuming you are on the Glotman Simpson LAN, simply double click “CSILicense.bat” and let it run. To access the output, navigate to <file://gs-3/CSI/License.html> or <http://gs-3/CSI/License.html>.

If you are not on the Glotman Simpson LAN, you will have to change 3 things.

1. Change the access location to lsmon.exe in the second line of “CSILicense.bat”
2. Change gs-5 into the network license server you want to read from. This is also on the second line of the “CSILicense.bat” file.
3. Lastly in “writetohtm.py,” change the location of license.html to a local directory on your computer.

After the above three steps, simply run the “CSILicense.bat” file and it should write to the license.html file you directed it to.

# How does it work?

Starting off at the top, this script opens a separate command prompt called “lsmonList.” It runs a command with the call to lsmon.exe in the sentinel utilities folder. This command has 2 arguments. The first one is “gs-5” which points to the server you are trying to obtain information from. The second argument is “> test.txt 2>@1.” This takes the output from lsmon.exe and saves it into a text file called “test.txt”. The tag “2>@1” on this argument allows the command prompt to read the output in a special location that is almost unique to lsmon.exe.

After this command is started, we need to ensure all data about the license server is obtained before we continue. We timeout for 30 seconds which is the minimum completion time for a CPU with high clock rates, and we add 5 seconds until we find the line “Press enter to continue.” The reason we look for this line, is because lsmon.exe ends with the batch-file pause command to ensure users read the output before it closes.

Once it finds this file, we start to parse what information they received. We just open the file in python, look through each individual line until it gives us certain key words such as “user information”, “feature name”, and “host name.” All this is written to temp.txt which is just raw information.

After temp.txt is written we move on to parse data that is easier to read. We find the maximum number is licenses per program and the number of allowed windows open. Then we store them in separate lists. At this point we can only know what number of allowed windows are open per user. This is because for each window opened, another set of outputs is printed in the text file, so many duplicates are in temp.txt. We cannot remove duplicates just yet, so we do not know how many full licenses are still available. As for what we do know, the allowed windows are parsed and entered into the new intermediate text file called “output.txt.”

In output.txt, all sets of client information are entered into a non-duplicate HashMap. This then allows us to remove duplicates from output.txt in a constant runtime (O(1)) due to HashMap’s fast lookup function. Once all duplicates are removed, we count how many licenses are being used per program and store the information in a new list. As we are using a for loop, we cannot read and write to the same file. This is because the index of each line will shift or become inconsistent as we write/remove information. Since we cannot read and write, the information obtained from the previous step is parsed and entered into output1.txt where it is ready to be converted to HTML by “writetohtm.py”

Writetohtm.py is a python script that creates an html from information processed by parse.py from above. It accesses an html file called “license.html” in [\\gs-3\CSI,](file:///\\gs-3\CSI,) and adds the Glotman Simpson banner. It also takes the user’s date/time, and marks it down as when it was refreshed. After that, for each heading of a program, it surrounds that line with “<pre></pre>” and “<b></b>” which is simply auto formatted text, and bold. For each user, it surrounds the line with just the “<pre></pre>” tag for clarity.

After writetohtm.py is finished the license page is updated with live information. We close “lsmonList” command prompt with a “taskkill” command with the tags “/f – force”, “/fi – filter”, and “/t – ends the entire tree.” We must kill this cmd because it holds access rights to lsmon.exe, and test.txt. If we keep it open, we cannot access lsmon.exe and write to test.txt because of Windows OS restrictions. Additionally, the way batch-file is built, we cannot run more than one command on a new command prompt, the only option is to close it. After this we simply jump to the “: flag” at the top of the script the make sure it all runs again.