3. License Management - Unix & Linux

Gridgen uses the FLEXlm and Native CAD Reader (NCR) license managers to manage Gridgen processes at your site. Our floating license model means that you install a license server on only one workstation on your network, and Gridgen can be run on any workstation on the same network. FLEXlm and the NCR license manager controls your Gridgen licenses by metering six parameters:

1. the version number of concurrent Gridgen processes

2. the total number of concurrent Gridgen processes

3. the calendar date on which your Gridgen licenses will expire

4. the number of optional modules

5. the type of optional modules

6. the optional module port number

There are several basic concepts that you must understand regarding FLEXlm.

1. The Gridgen license file provided to you (`pointwise_flexnet.lic`) combines information about your Gridgen license and information about your FLEXlm server (via the host ID). If you have licensed a Native CAD Reader, your Gridgen license file will also contain information, such as the port number, linking it to the Native CAD Reader license file (`pointwise_ncr.dat`) you will also receive. If information about your server changes, your license file(s) may become invalid.

2. In order for Gridgen to run it must be able to contact the FLEXlm server and the Native CAD Reader server (for licensed NCR processes only). The implication is that the workstation on which you run Gridgen must be on the same network as the license server(s).

3. If Gridgen loses contact with the FLEXlm server while it is running, its license will be lost, and Gridgen will terminate. However, Gridgen will automatically export the current grid and database to Gridgen and composite files, respectively, before terminating.

The remaining subsections in this section address specific tasks.

3.1 Installing New License Files

Periodically you will have to install a new license file or files (for NCR processes) for an existing server. Perhaps your license term has expired and you require a new license file to reflect the term of your renewed license. Or perhaps a hardware change has invalidated your license. Regardless of the reason you will need a new license file or files.

First you must determine whether your host ID or host name have changed. The host ID is the numeric string that identifies the workstation on which the license server is running. It was generated during your First Time Installation and your license file was generated for that host ID. The host name is simply the name of your workstation. If these aspects of your license server workstation have not changed, we can re-use the host ID and host name reported to us during your First Time Installation to generate your new license file.

If you have licensed an NCR process, you will also need to determine whether your NCR host ID has changed. If it has not changed, we can re-use it to generate your new NCR license file.

3.1.1 Obtaining Your Host ID and Host Name

There are two ways in which you can find out your machine's host name and host ID.

For the first method, login to your license server, `cd` to the *gridgen_home_path*/hw/flexlm directory (where `hw` is your hardware type) and then type:

        ./lmutil hostid

You will need to report the host ID and host name displayed by this command via email to *licenses@pointwise.com* or to your local Gridgen distributor. We will reply with a license file (pointwise_flexnet.lic) that you should put in the *gridgen_home_path*/licenses directory.

The second method involves using the Gridgen license control script that was extracted to your *gridgen_home_path* directory during installation. You will need to `cd` to the *gridgen_home_path* directory and then type:

        ./LICENSE_CONTROL.SH

This will bring up the following display where your host name and host ID are listed in the fields Hostname and Gridgen license host ID respectively:

```
====================================================================
==
==   Gridgen License Control
==
====================================================================

Current settings:
  Hostname                            |: urchin
  Gridgen license host ID              : 000476eadca1
  *Gridgen installed license file      : (missing)
  Native CAD Reader license host ID    : 000476EADCA1
  *Native CAD Reader license port      : 1542
  *Native CAD Reader installed license file: (missing)

Options:
   General:
     a) Change settings (only settings marked with * may be changed).
     b) Get license keys.
   Gridgen License Manager:
     c) Start      e) Check Status
     d) Stop       f) Import License
   Native CAD Reader License Manager:
     g) Start      i) Check Status
     h) Stop       j) Import License

   x) Exit.

Please enter a letter from 'a' to 'j' or 'x' to exit:
```

You will need to report the Hostname and Gridgen license host ID via email to *licenses@pointwise.com* or to your local Gridgen distributor. We will reply with a license file (pointwise_flexnet.lic) that you should put in the *gridgen_home_path*/licenses directory.

Please note that if you have licensed an NCR process, you will send additional information to *licenses@pointwise.com* or your local Gridgen Distributor. See Section 3.1.2 for further details.

3.1.2 Obtaining Your NCR Host ID

If you have licensed an NCR process, you will need to report your Hostname, Gridgen license host ID, and Native CAD Reader license host ID via email to *licenses@pointwise.com* or to your local Gridgen Distributor. Your NCR host ID can be obtained from the field labeled Native CAD Reader license host ID in the Gridgen license control menu displayed in Section 3.1.1. We will reply with your Gridgen and NCR license files, pointwise_flexnet.lic and pointwise_ncr.dat respectively, which should be placed in the *gridgen_home_path*/licenses directory.

3.2 Importing the Gridgen License File

Once you have received your new Gridgen license file, you will need to import it via option 'f' in the Gridgen license control menu. You will be prompted to enter the current directory and filename of your license file. The license file will then be copied to *gridgen_home_path*/licenses/ `pointwise_flexnet.lic`.

3.3 Importing the Native CAD Reader License File

If you have licensed an NCR process, you will also receive an NCR license file in addition to your Gridgen license file. You will need to import your NCR license file via option 'j' in the Gridgen license control menu. You will be prompted to enter the current directory and filename of your license file. The license file will then be copied to *gridgen_home_path*/licenses/pointwise_ncr.dat.

3.4 Gridgen License Server Update

If your license server is running when you import your new Gridgen license file (see Section 3.2), you will need to have the server reread the license file. This is the only way (besides stopping and restarting the server) to ensure that the server is properly reading the new license file. A license file reread can be executed by running the following command from the *gridgen_home_path*/hw/flexlm directory:

```
./lmutil lmreread -c my_license file
```

An example usage of the command is as follows:

```
./lmutil lmreread -c /usr/local/gridgen/licenses/pointwise_flexnet.lic
```

3.5 Native CAD Reader License Server Update

Currently, the only way to have the NCR license server use a new NCR license file is by stopping and restarting the NCR server. To stop the NCR license server you will need to select option 'h' from the Gridgen license control menu. To indicate that the server has been stopped, the following message should be displayed by the script:

```
    Please enter a letter from 'a' to 'j' or 'x' to exit:


    Stopping the Native CAD Reader license server using the command:

        "/var/tmp/gridgen/sgi65/flexlm/CADstopsrv" 1542


      Server stopped on port 1542

Hit enter to continue:
```

Please note that stopping the NCR server will only impact your ability to import Native CAD files into Gridgen. It will not affect your ability to actually run Gridgen. For instructions on starting the NCR license server manually, please see Section 3.7.

3.6 Starting the Gridgen License Server Manually

The Gridgen license server can only be started once you have obtained and imported the Gridgen license file but can be stopped or killed for any of several reasons, the most likely being a system reboot.

Before starting a new license daemon first check to be sure that one is not running by issuing the commands

```
ps -leaf | grep lmgrd
ps -leaf | grep pwid
```

It is possible to have multiple `lmgrd`'s running, however there should be only one `pwid` daemon. Once you

are sure that a license server is not already running you need to locate the license server executable (`lmgrd`) installed during your First Time Installation. Usually this file is located in *gridgen_home_path*/hw/flexlm.

There are two different ways to start the Gridgen license server.

For the first method, you will need to open a window on the machine on which the license server is to be run. Then `cd` to the *gridgen_home_path*/hw/flexlm directory and type:

> ./lmgrd -c *license_file* -l *log_file*

where the arguments are as follows.

license_file is the FLEXlm license file, *gridgen_home_path*/licenses/pointwise_flexnet.lic

log_file is the file into which the FLEXlm daemon will write messages, *gridgen_home_path*/licenses/ pointwise_flexnet.log

The `lmgrd` daemon spawns *pwid* which is the Pointwise vendor daemon that allows you to run Gridgen.

The second method involves using the Gridgen license control script that was extracted to your *gridgen_home_path* directory during installation. You will need to `cd` to the *gridgen_home_path* directory and then type:

> ./LICENSE_CONTROL.SH

Select option `'c'`. You will be prompted to enter the desired location and filename for your Gridgen log file. We recommend *gridgen_home_path*/licenses/pointwise_flexnet.log.

```
Enter the path and name of the log file (leave blank for no log file):
/usr/bin/local/GridgenV15/licenses/pointwise_flexnet.log
```

3.7   Starting the Native CAD Reader License Server Manually

The NCR license server can only be started once you have obtained and imported the NCR license file (see Section 3.3). To start the server, you will need to run the Gridgen license control script. To start the script, `cd` to the *gridgen_home_path* directory and type:

> ./LICENSE_CONTROL.SH

Select option `'g'`. You will be prompted to enter the desired location and filename for your NCR log file. We recommend *gridgen_home_path*/licenses/pointwise_ncr.log.

```
Enter the path and name of the log file (leave blank for no log file):
/usr/bin/local/GridgenV15/licenses/pointwise_ncr.log
```

The display will then indicate that the license server has been started successfully and list the command used to do so.

```
Starting the Native CAD Reader license server using the command:

    "/usr/bin/local/GridgenV15/linux/flexlm/CADstartsrv" "/usr/bin/local/
GridgenV15/licenses/pointwise_ncr.dat" 1542 -logfile "/usr/bin/local/GridgenV15/
licenses/pointwise_ncr.log"
```

3.8   Querying the Gridgen License Server

Occasionally, you will need to check the status of your Gridgen license server and daemon to see if they are currently running or stopped. To query the Gridgen license server, you will need to run the Gridgen license control script. To start the script, `cd` to the *gridgen_home_path* directory and type:

> ./LICENSE_CONTROL.SH

Select option `'e'`. You will see a display similar to the following which indicates the location of the Grid-

gen license file on the server machine, the status of the Gridgen license server (`lmgrd`), and the status of the Gridgen daemon (`pwid`).

```
lmutil - Copyright (c) 1989-2006 Macrovision Europe Ltd. and/or Macrovision
Corporation. All Rights Reserved.

Flexible License Manager status on Mon 12/10/2007 16:31

License server status: 27000@xenia
    License file(s) on xenia: /usr/bin/local/GridgenV15/licenses/pointwise_flexnet.lic:

     xenia: license server UP (MASTER) v11.4

Vendor daemon status (on xenia):

      PWID: UP v11.4


Gridgen license server is RUNNING.
```

3.9   Querying the Native CAD Reader License Server

To check the status of your NCR license server to see if it is running, stopped, or how many NCR processes you have available, you will need to run the Gridgen license control script. To start the script, `cd` to the *gridgen_home_path* directory and type:

> `./LICENSE_CONTROL.SH`

Select option '`i`'. You will see a display similar to the following which shows the number of available accesses (available NCR processes), how many are currently being used, the expiration date of your NCR license file, and the status of the NCR license server.

```
    1 accesses available :

    Bundle Id d8b962ac (TTFFundations) :
      1 access (0 requested)
      Acces valid(s) until Apr 5 2003 for POINTWISE


Native CAD Reader license server is RUNNING.

Hit enter to continue:
```

3.10   Stopping the Gridgen License Server

Periodically, you may need to stop your Gridgen license server for upgrades to the license management software. To do so, run the `LICENSE_CONTROL.SH` script (Section 3.1.1) and select option '`d`'.

3.11   Stopping the Native CAD Reader License Server

Periodically, you may need to stop your Native CAD Reader license serverfor upgrades to the license management software. To do so, run the `LICENSE_CONTROL.SH` script (Section 3.1.1) and select option '`h`'.

Dependent on the machine, the NCR server can take up to two minutes to stop.

3.12   Troubleshooting

3.12.1   Distant License Server

If Gridgen is unable to find a license when launched, try setting the environment variable `PWID_LICENSE_FILE` to the host name of the workstation running the license server preceeded by an

'@': for example,

```
setenv PWID_LICENSE_FILE @hostname
```

The environment variable PWID_LICENSE_FILE can also be set to the full path and filename of the Gridgen license file: for example,

```
setenv PWID_LICENSE_FILE /usr/local/gridgen/licenses/
pointwise_flexnet.lic.
```