INSTALLATION GUIDE

Grid*Pro* v9.0

Program Development Company LLC
1010 Brickell Avenue, Unit 2704
Miami, Florida, USA 33131.
Tel: +1 (914) 761-1732; Fax: +1 (914) 761-1735
Web: www.gridpro.com
E-Mail: gridpro@gridpro.com

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1. <u>DOWNLOADING Grid*Pro*</u>

Contact the Grid*Pro* team by sending a mail to gridpro@gridpro.com to get the download links for the required OS.

You can also download the software for the respective OS from www.gridpro.com.

2. <u>REQUIRED PACKAGES</u>

The necessary packages to be downloaded have been classified below based on the OS details. Users can download their respective packages and install them for Grid*Pro* to work.

OS INFORMATION	SOFTWARE PACKAGES
Windows 64bit	Grid*Pro* win 64bit
Linux 64bit	Grid*Pro* Linux 64bit
RHEL 64bit	Grid*Pro* RHEL 64bit
Mac Intel	Grid*Pro* Mac Intel 64bit
Mac M1	Grid*Pro* Mac M1 version

*We are supporting 32bit OS only on a request basis.

3. <u>SYSTEM REQUIREMENTS</u>

The minimum system requirements to run the Grid*Pro*_ws GUI are as follows based on the OS:

| Packages info	OS in which it has to be installed
Windows 32bit & 64bit	Windows 7 and higher versions
Ubuntu 32bit & 64bit	Ubuntu 16.04 and higher versions
RHEL 32bit & 64bit	RHEL
Mac	Mac OS x10.11 and higher versions

Minimum system requirements for all Platforms:

- 1280*800 screen resolution
- 4GB RAM
- 750 MB Disk Space
- Ethernet card
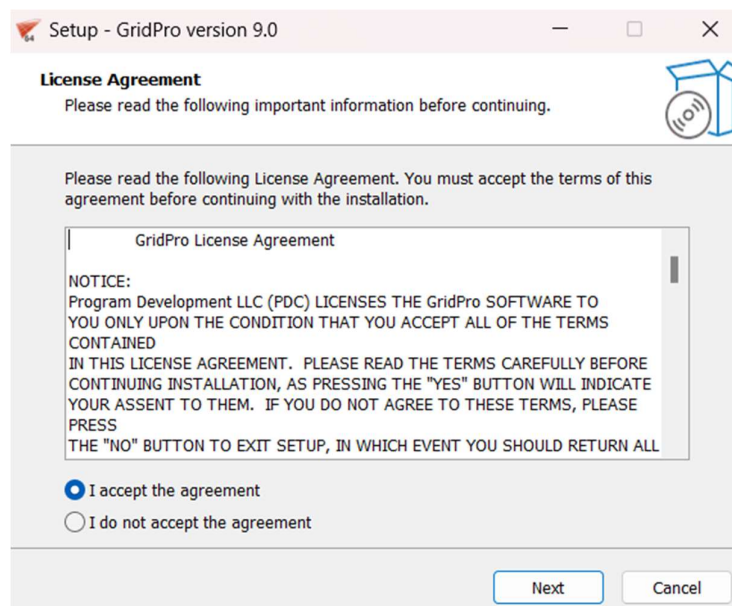- Graphics card (recommended)

4. <u>INSTALLATION PROCEDURE</u>

## *5.1 <u>INSTALLATION PROCEDURE FOR WINDOWS USERS</u>*

1. Right-click on the Grid*Pro* setup file and click the 'Run as administrator option.
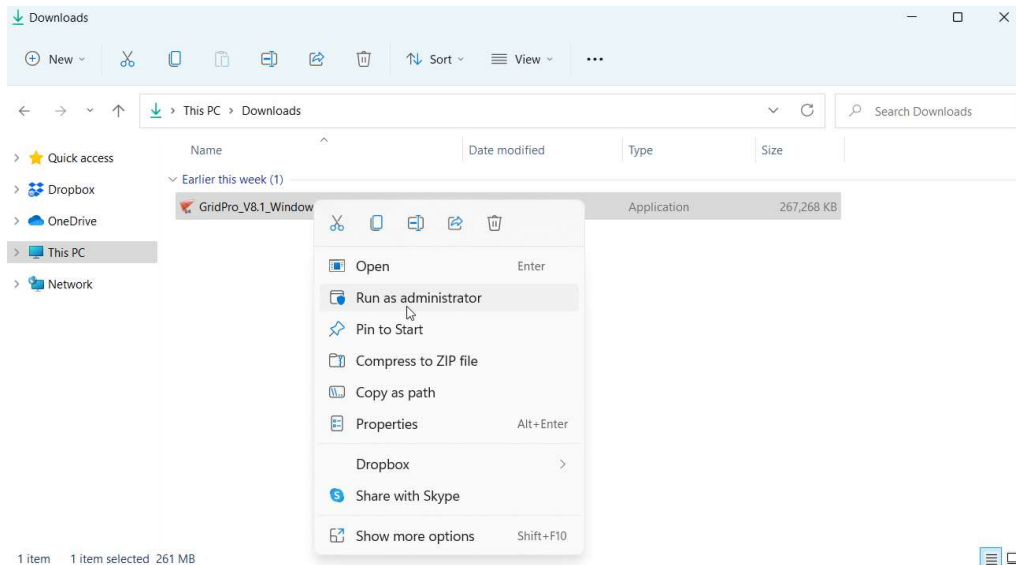
2. Give administrator permission by clicking on 'Yes' when it prompts.

3. Accept the Grid*Pro* license agreement and continue.

4. Click 'Next' to install Grid*Pro* v9.0 in the specified folder. **NOTE:** It is always recommended to install in the Program Files. If the default destination folder is either Program Files(x86) or some other folder, change the destination to "C:\Program Files" by clicking on the 'Change' button.
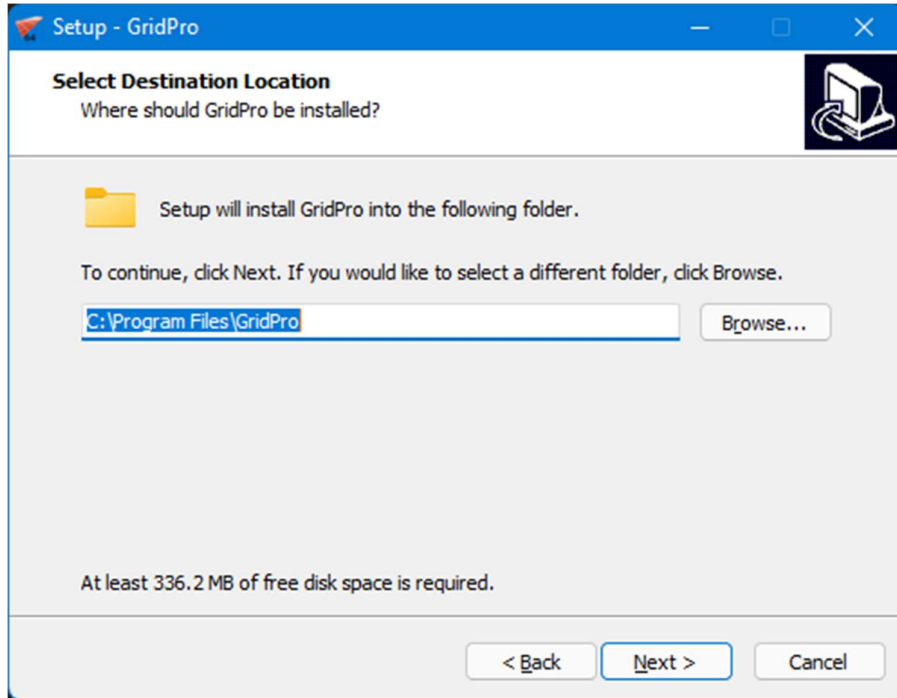
5. Select 'Full Installation' from the drop-down to install both the software and the license manager.

NOTE: Users who want to install Grid*Pro* in the server and access it from the client machine can select the license manager only option in the server machine (To save the disk space in the server) and select the 'Full installation' option in the client machine. Please refer License Manager document for more information.
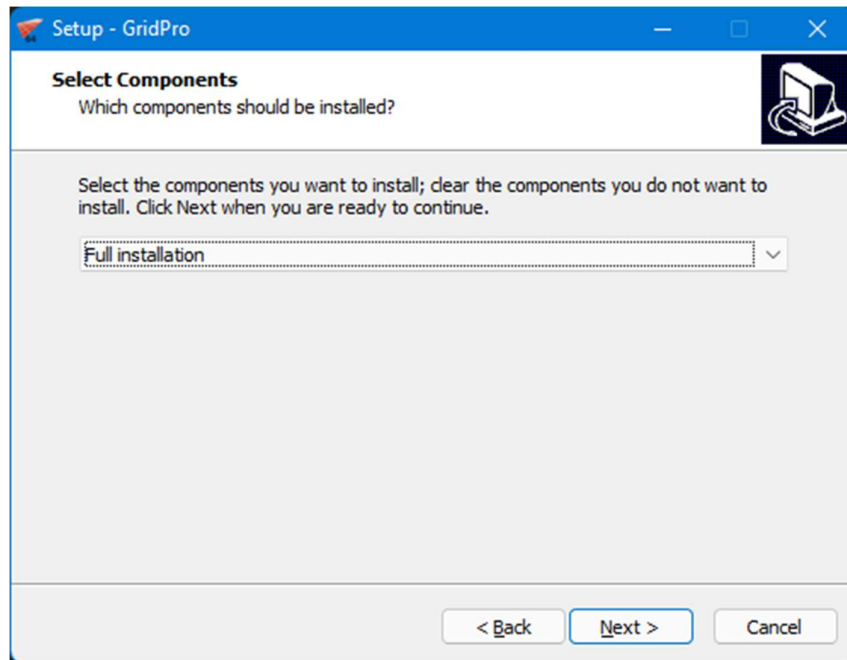
6. Click 'Next' to create a shortcut in the specified folder (Start menu). The destination folder can be changed by clicking on the 'Browse' option.
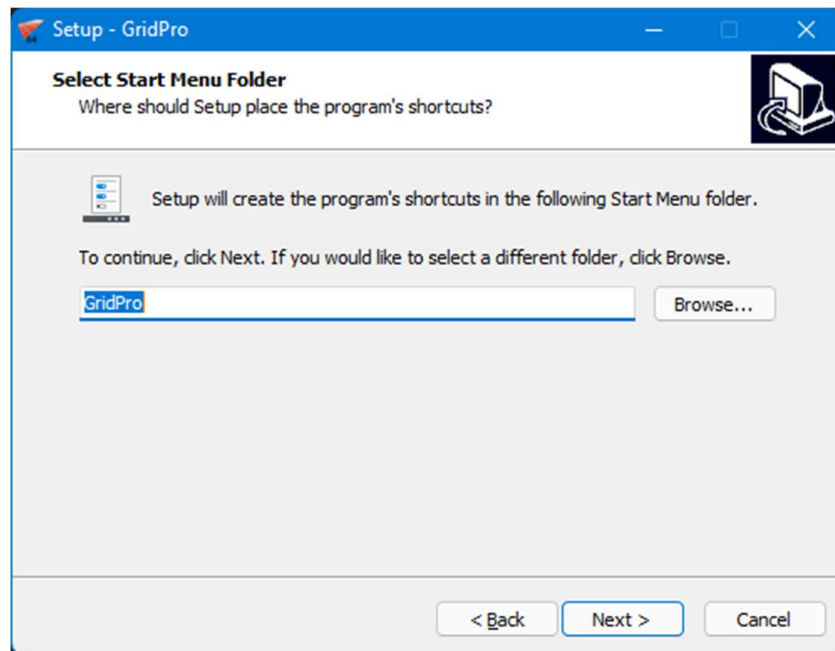
7. Check the 'create a desktop icon' checkbox and click 'Next' to proceed further with the installation. Do not uncheck the first check box because adding the directory to the environmental variable is a must.
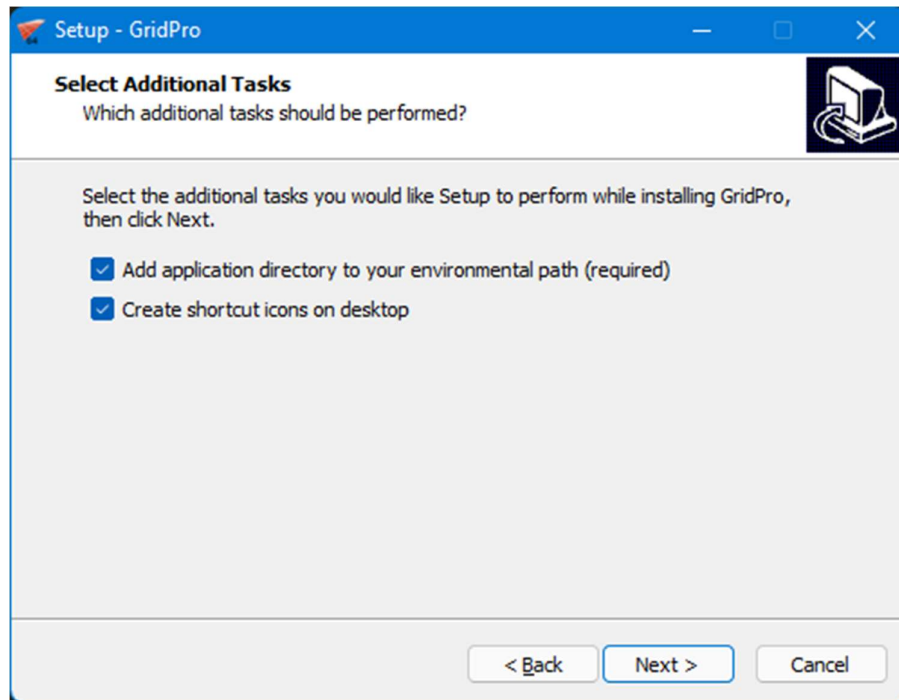
8. Click 'Install' to start the installation process.
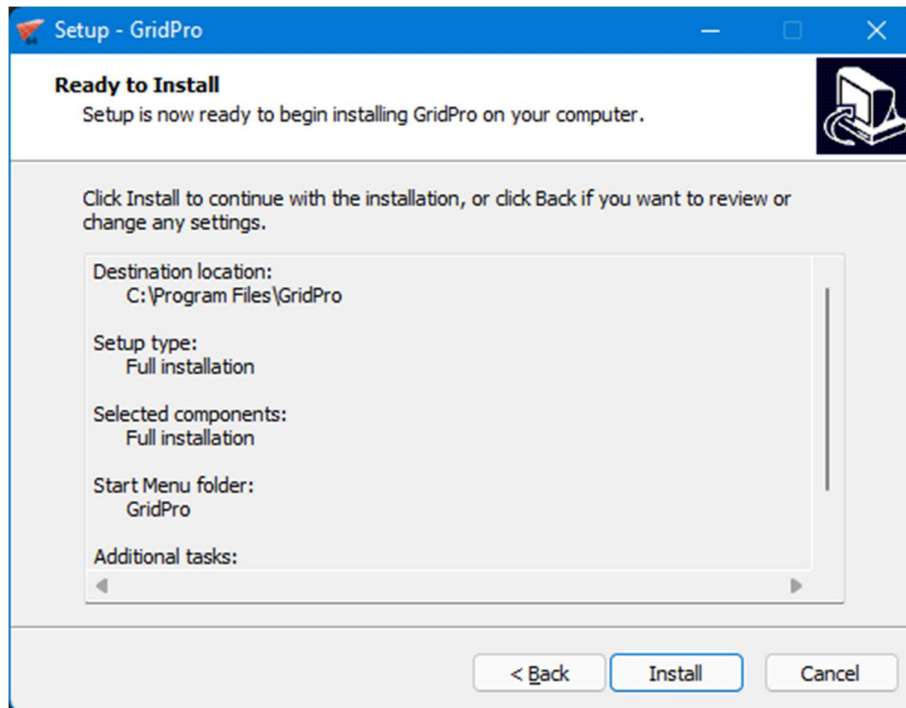
9. The setup file will prompt confirmation if the portmap service is running on your machine. Select 'Automatically close the applications' option and click 'Next' to proceed.
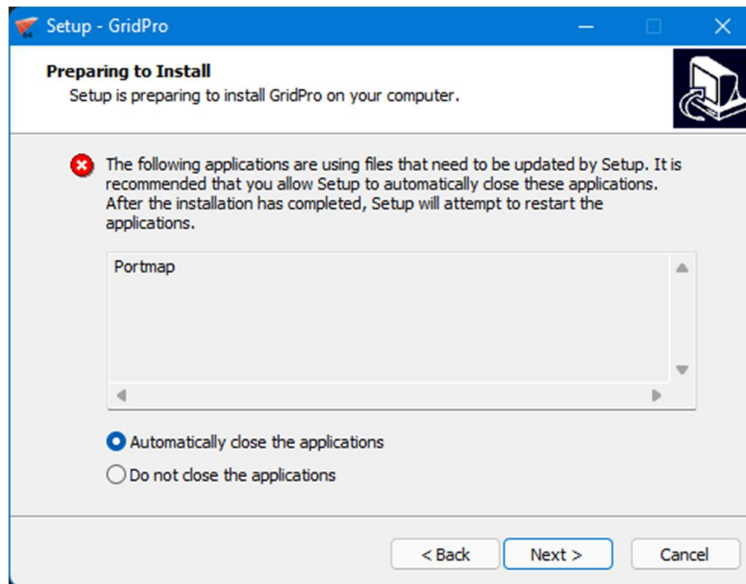
10. The application requires 'Microsoft Visual C++ 2008 Redistributable' to be installed. Click yes to install. If you have a previous installation of Microsoft Visual C++ redistributable, it will pop out asking you to uninstall or repair. Clicking on repair will continue the installation.
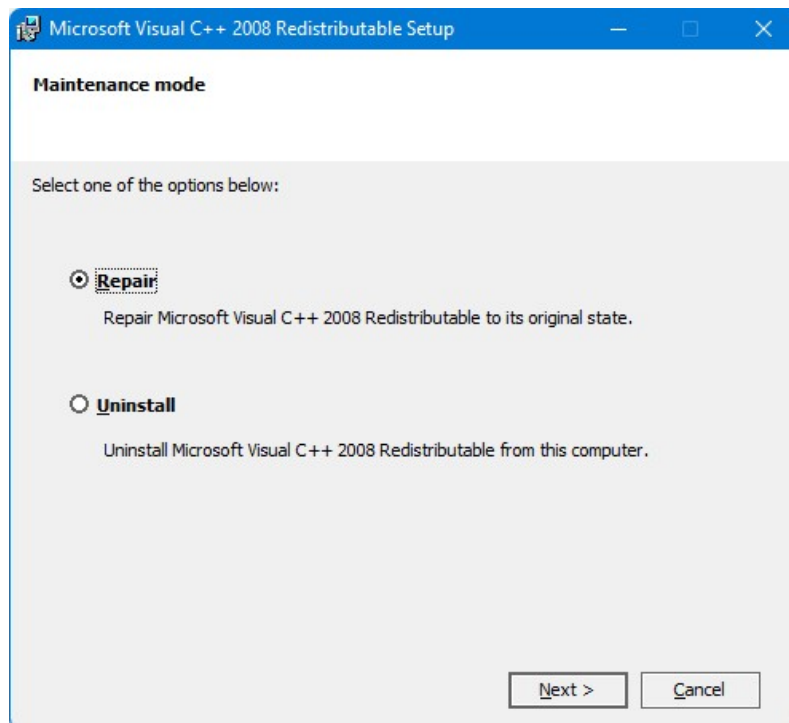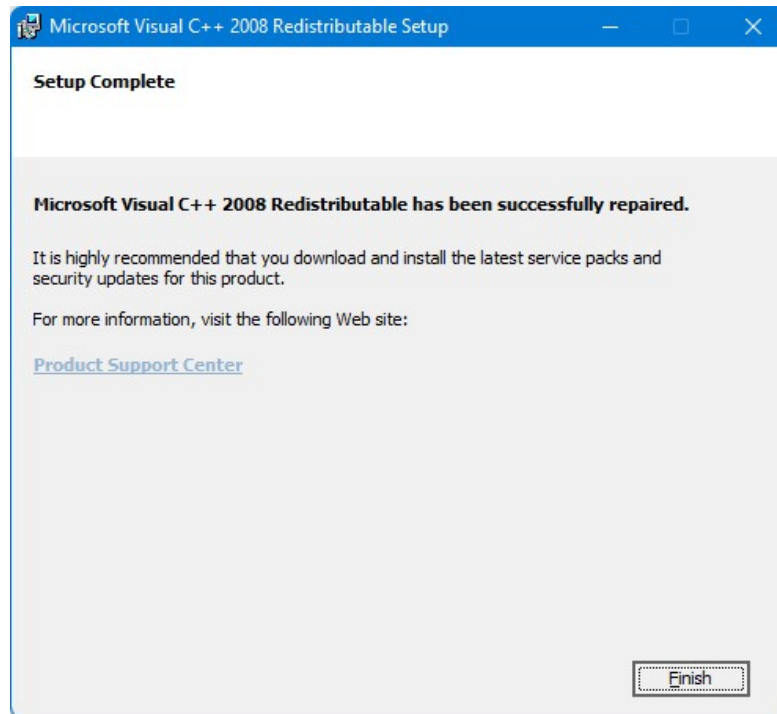
11. Click 'Finish' to complete the installation and go through the 'Readme' file to know where to obtain the license file.
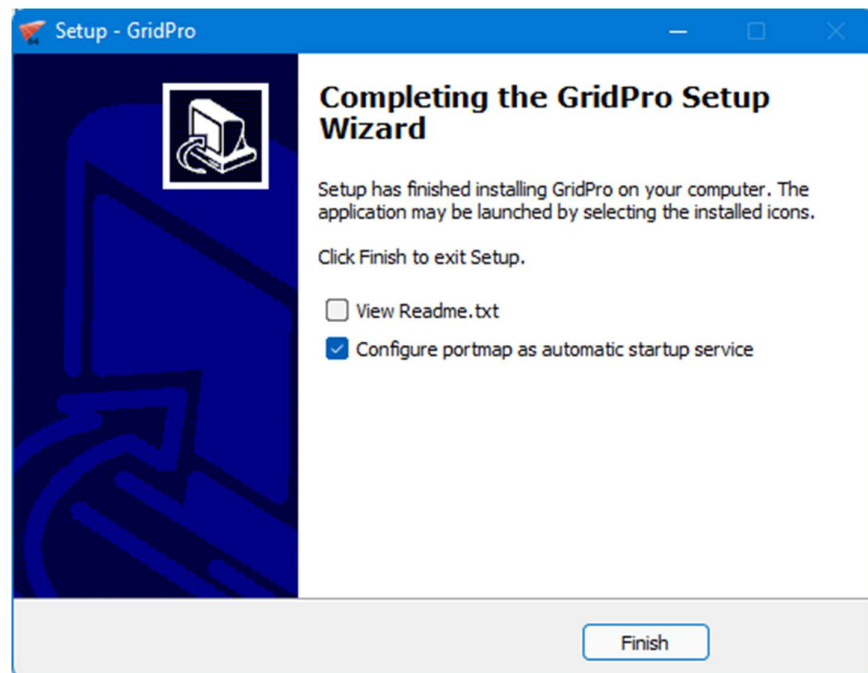
NOTE: Once the installation is done, the portmap will automatically restart if it stops while installing.

5.2   INSTALLATION PROCEDURE FOR LINUX USERS

1. Open a command terminal by typing CTRL+ALT+T.

2. Navigate the path to the folder where the Grid*Pro* software file is. For e.g., if the software is in '**Downloads**' folder,

    Syntax: **cd Downloads** (Note: The path of the terminal would be the HOME folder by default)

3. Provide executable permissions to 'Grid*Pro*_v9.0_Linux64bit.run' using the following command.

    <div align="center">Syntax: chmod a+x <file name></div>

4. Once it is done, install the application by typing the command,

    <div align="center">./<file name></div>

5. You will be prompted to choose the installation directory. Press 'Enter' to install it in the HOME directory. If you want to install it in a different directory, type the full path and press 'Enter'.

6. Next, enter '1' to install full installation, installing both the application and the license manager.

NOTE: Users who want to install Grid*Pro* in the server and access it from the client machine can enter '2' (license manager only option) in the server machine (To save the disk space in the server) and enter '1' (full installation) in the client machine.

NOTE: Please refer to section 9.17 of this document before generating the license information.

*After installing the software, you can skip to Chapter 6 to get the license file.

**Similarly follow the same steps for RHEL using RHEL installation packages.

5.3 *INSTALLATION PROCEDURE FOR MAC USERS*

1. Open the command terminal.

2. Navigate the path to the folder where the Grid*Pro* software file is. For e.g. if the software is in '**Downloads**' folder,

   > Syntax: **cd Downloads** (Note: The path of the terminal would be the HOME folder by default)

3. Provide executable permissions to 'Grid*Pro*_v9.0_Mac.run' using the following command.

   > Syntax: **chmod a+x <file name>**

4. Once it is done, install the application by typing the command,

   > **./<file name>**

5. You will be prompted to choose the installation directory. Press 'Enter' to install it in the HOME directory. If you want to install it in a different directory, type the full path and press 'Enter'.

6. Next, enter '1' to install full installation, installing both the application and the license manager.

NOTE: Users who want to install Grid*Pro* in the server and access it from the client machine can enter '2' (license manager only option) in the server machine (To save the disk space in the server) and enter '1' (full installation) in the client machine.

6. <u>HOW TO GET THE LICENSE FILE</u>

Extracting license information:

1. Open the command window in any desired location.

2. Type '**lcst**' and press 'Enter'.

```
C:\Users\GridPro2>lcst
pdclm: User Info: 8275896930(=0xe3236z5f0) 'GridPro=168.123.7.11'
pdclm: license file selected by GridPro default.
pdclm: licenser_id=0 release=Dec 15 16:17 2021
pdclm: create 'C:\Users\GridPro2/.clnt_lcst.log'
pdclm: load   'C:\Program Files\GridPro/lc_mngr/gridpro.lic' ...
pdclm: can't open 'C:\Program Files\GridPro/lc_mngr/gridpro.lic'
no requested licenses found:ñ=xs
```

Fig 6.1: Information from lcst

3. Fig.6.1 shows the message displayed. Note down the highlighted line '**pdclm: User Info: 8275896930(=0xe3236z5f0) 'GridPro=168.123.7.11'**'.

4. Close the GUI of Grid*Pro*, go back to the command window, and type 'Ggrid'.

```
C:\Users\GridPro2>Ggrid
+----------------------- Ggrid -----------------------+
| The GridPro grid engine, 'helpaz <ret>' for help.   |
|        !!! For Authorized Use Only !!!          |
| (c)Copyright 1992-2021,   Program Development Comp. |
|    ----   Licensed Materials, All Rights Reserved. |
| 300 Hamilton Ave.,Suite 409, White Plains, NY 10601 |
| Tel: (914) 761-9152          Fax: (914) 761-1735 |
+-----------------------------------------------------+
Version  : 8.1  (Dec 15 16:17 2021)
User Info: 8275896930(=0xe3236z5f0) 'GridPro=168.123.7.11'
USAGE    : Ggrid fn.fra options
PURPOSE  : generate 3d multiblock grid.
```

Fig 6.2: Information from Ggrid

5. Similarly note down the highlighted line. **User Info:** '**8275896930(=0xe3236z5f0) 'GridPro=168.123.7.11'**'.

6. Send both the user info to license@gridpro.com in order to obtain the license file. NOTE: Mostly, both would be the same; if it is different, we require both the details to issue the license.

7. LICENSE INSTALLATION

The license file received from **Program Development Company** support should be renamed as *gridpro.lic* and copied to the lc_mngr folder of the Grid*Pro* installation directory.

7.1   *MORE INFORMATION ON LICENSING*

Depending on the type of purchase, Program Development Company provides two different types of licenses for **Grid*Pro***.

LICENSE	FUNCTION
SNode	Allows Grid*Pro* to run on one machine through a server. A restricted number of copies can run at one time.
Floating	Allows Grid*Pro* to run on any machine on a network with a server. A restricted number of copies can run at one time.

Whether floating or SNode, any license will be named '**gridpro.lic'** in the **GridPro/lc_mngr** directory.

Each license consumes two lines of the file, and depending on the type of license, the '*gridpro.lic*' will contain the **Product Name, Version, Expiration Date, Server ID**, **Server Hostname** (or **IP Address), Client ID, Number of Concurrent Copies, License Type,** and **Client ID** (for node Locked licenses only).

For **Float licenses**, the contents of the '*gridpro.lic*' for all of the installations of **Grid*Pro*** should be identical on the LAN, and they should all be copied into all of the client machine's **GridPro/lc_mngr** directory (for each installation, there is only one directory). In other words, all of the participating computers should see the same set and order of licenses, so the system administrator must sync all of the **..../gridpro.lic** files that operate in the server system.

7.2   *STARTING A LICENSE SERVER*

From v8.1 onwards, you can run the license server from a GUI on Windows and Linux OS. Refer *GridPro License Manager* documentation for more information. Following are the details which will help you run the license server from a command terminal.

Note: Mac users still have to run the license server from the terminal.

USAGE: lcmgr [lic_file] [-p port_number] [-h]

OPTIONS:

lic_file -- the file contains pdclm licenses. By default, the file $PDC_LC_FN or 'GridPro/lc_mngr/gridpro.lic' is sought.
-h   -- show help information.
-p   -- specify the port number for the license server.

When using float or snode licenses, the default port is always random. To specify a fixed port number for the server, use the -p <port_number> option.
You can also run the batch script file, 'lcmgr_svc.bat' file provided in the Installation directory, '/GridPro/bin'. By default, it takes the random port number. Kindly Change it to the desired port number using a text editor.

NOTE: Setting an unavailable port number may result in assignment of another random available port or an error code depending on the system. Please check if the port is available before using it.

7.2.1 UNIX/LINUX SERVERS

1. Start the license on the server machine by typing "lcmgr" in the terminal and hitting ENTER. The license file directory is assumed to be 'GridPro/lc_mngr/gridpro.lic', if it is different, you need to supply the full path to the license file in the command. A specific port can be set with the -p option.

2. The GridPro GUI can then be launched from a terminal on the **client machine** (open a different terminal if server and client are the same machine) by typing the executable name ('ws' or 'gp_utilities').

7.2.2 WINDOWS SERVERS

The steps to be followed to install and run the license from a windows server are:

1. The RPC portmapper service (if not already installed) is now installed along with the GridPro installation. The startup type of the Portmap service is also set to automatic, so there is no need to start it manually.

2. Start the license on the **server machine** by typing in 'lcmgr' at a command prompt and hitting ENTER. The license file is assumed to be 'GridPro/lc_mngr/gridpro.lic', if it is different, you need to supply the full path to the license file in the command. A specific port can be set with the -p option.

3. The GridPro GUI can then be launched from a command prompt on the **client machine** (open a different command prompt if server and client are the same machine) by typing the executable name ('ws' or 'gp_utilities').

NOTE:
• You need to run the "lcmgr" command if you are accessing a server.
• lcmgr can be run without root access
• There can be only one lcmgr run per subnet.
• For new net licenses, kill the existing lcmgr process and rerun it.

❖ On windows, if you already have portmap or lcmgr installed and running from your GridPro/bin directory, during installation, you might see an error saying "Access is denied".

These processes should be stopped before starting the installation. For details refer to the troubleshooting guide.

➢ *Note:* To run the lcmgr automatically as windows services, run 'lcmgr_svc.bat' file in the installation directory, 'C:\Program Files\GridPro\bin'(Default installation directory).

8. <u>TESTING Grid*Pro*</u>

1. Copy the license file 'gridpro.lic' to the lc_mngr folder in the installation directory.

2. Copy the **doc** folder to the desktop from the installation directory location, "**Program Files\GridPro\doc**".

3. **Double click** the shortcut icon created on the desktop to open the GUI.

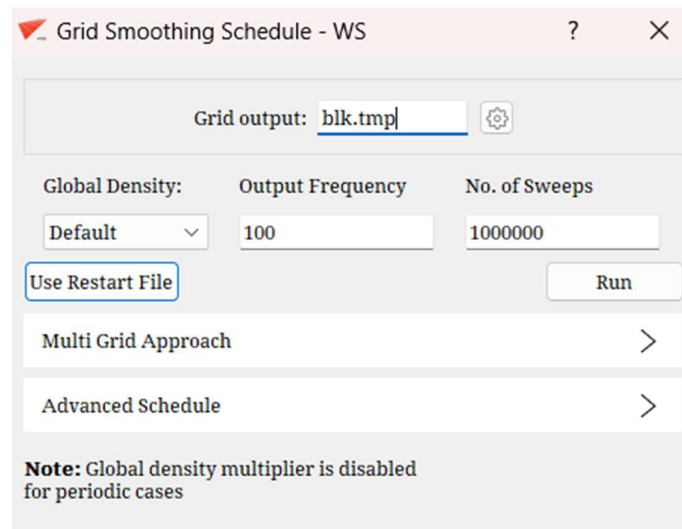4. Grid*Pro* **ws** GUI opens along with a terminal
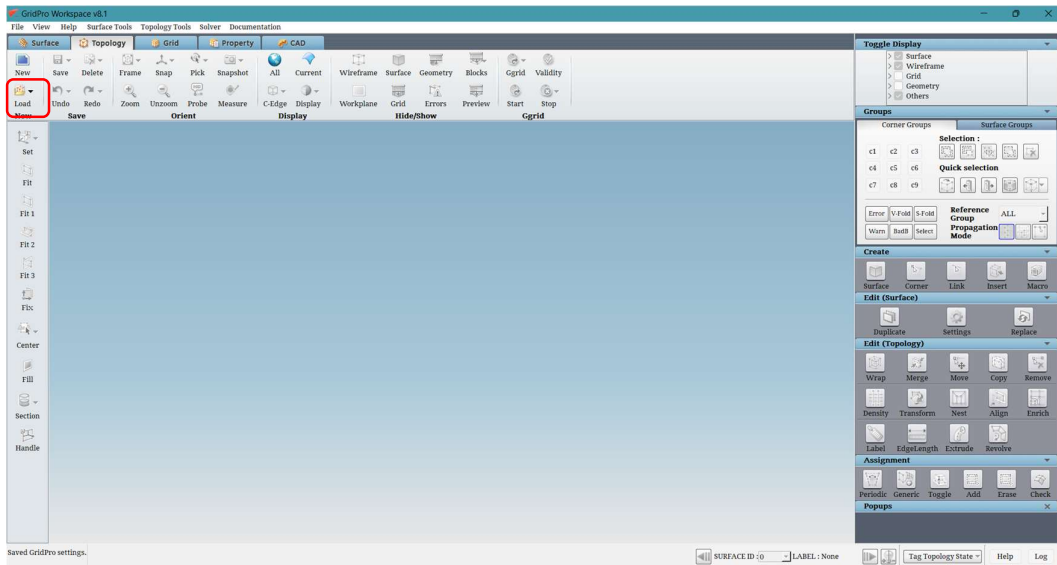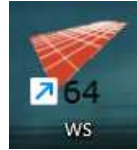
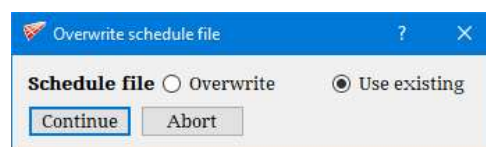5. Click on '**Load**' button and set the path to the **test** folder inside the doc directory kept on the desktop.

14
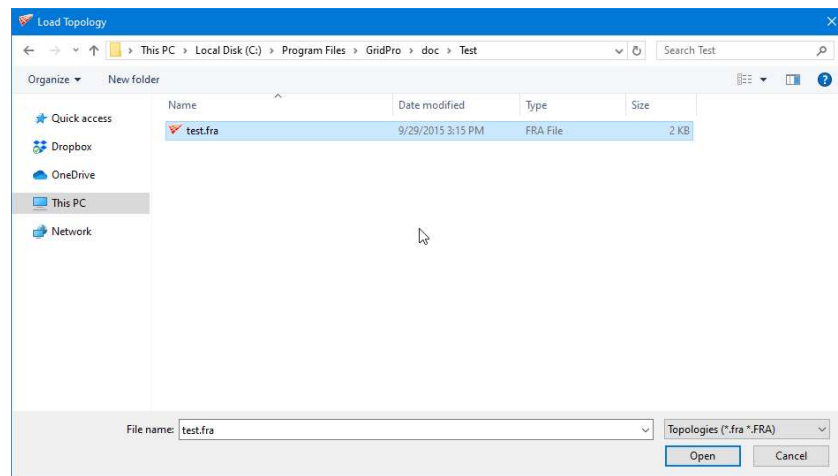
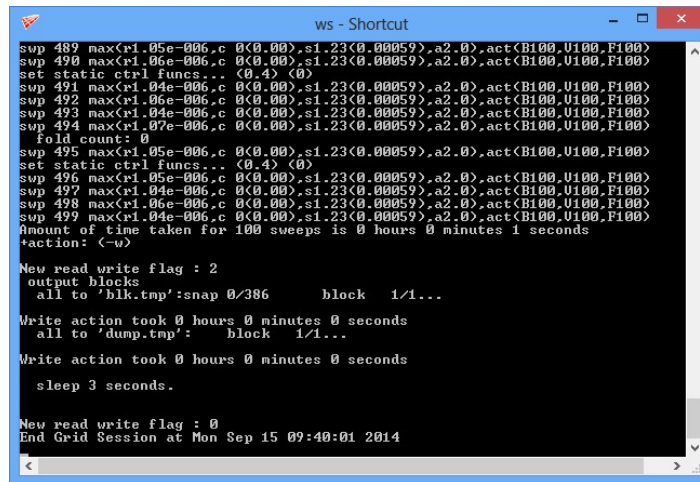6. Select the '**test.fra**' file and click 'Open' to load the file into the GUI.
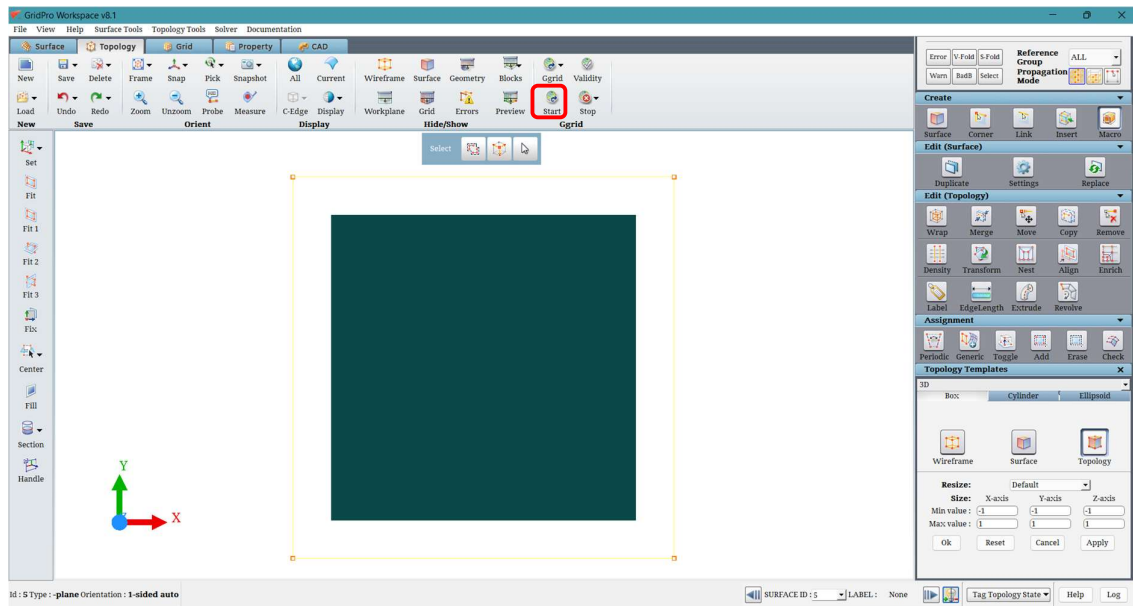
7. Click on '**Start**' button located in the global dock to start the gridding process. Click on 'Run' in the 'Grid Smoothing Schedule' dialog box.

8. Click on '**Use existing**' option in the confirm dialogue box.

9. In the terminal, note that the gridding process is stopped at 500 sweeps.

10. Click on the Grid button to switch to **Grid** tab.
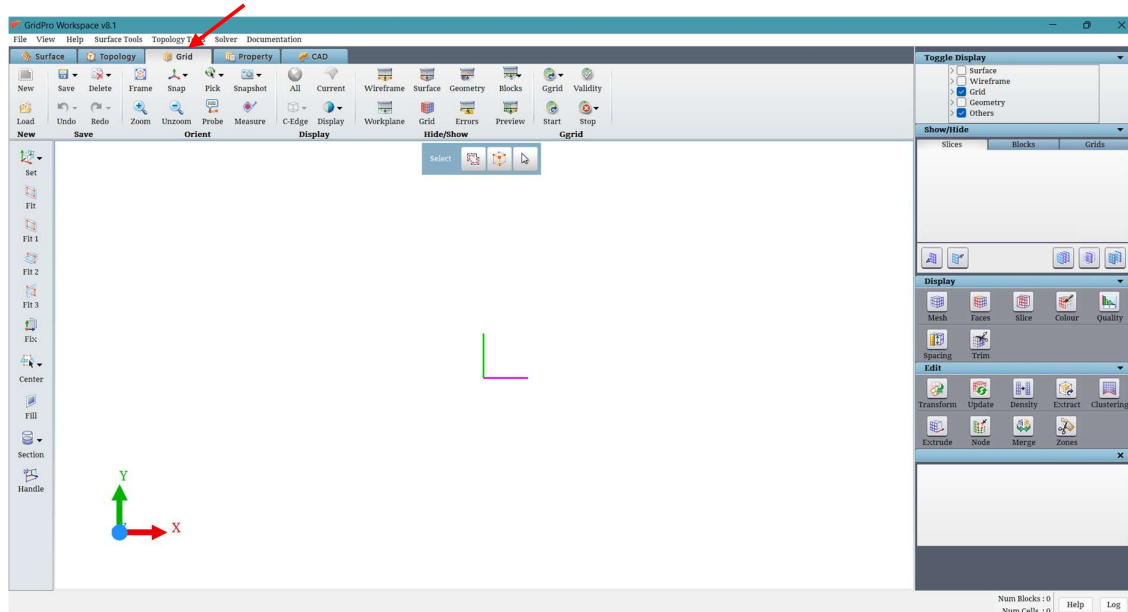
11. Click on the **load** button and select 'blk.tmp' file in the file dialogue box.

12. The grid blocks are loaded into the UI and cells are automatically generated (from v6.7). Using the middle mouse button, rotate the screen to view the grid blocks in isometric view.
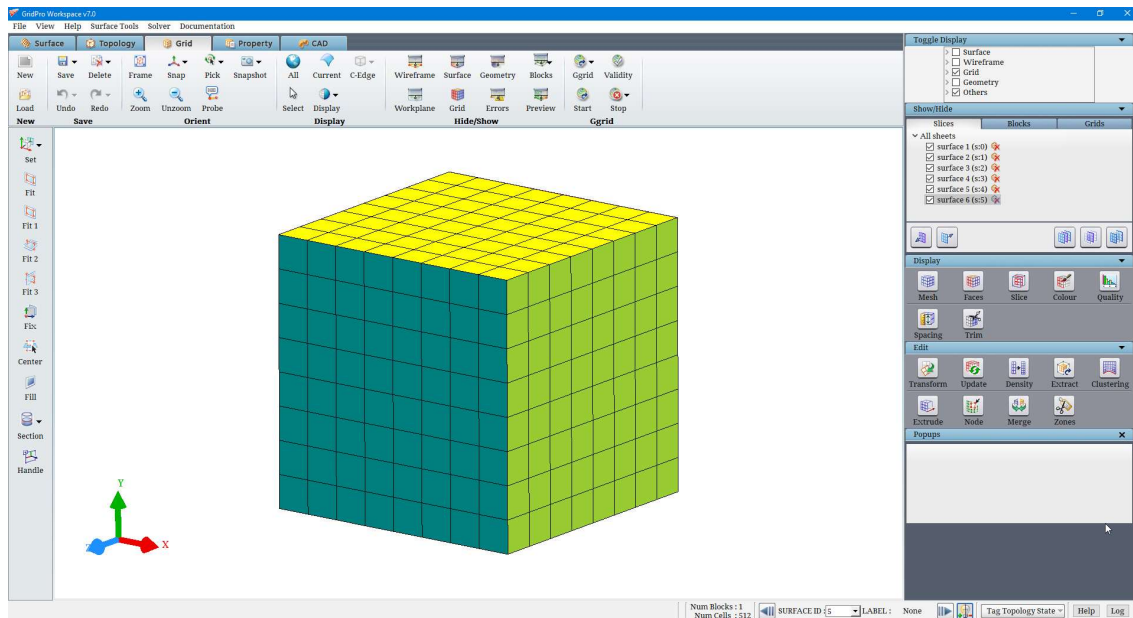
If you are able to do all these above mentioned steps properly in the GUI, it denotes that **Grid***Pro* **ws** is working well.

9. <u>TROUBLESHOOTING</u>

9.1   <u>HCLGLU.dll and HCLXAW.dll is missing:</u>

Solution: Set the environmental variables for exceed.

Have you installed both Exceed and Exceed 3D on your machine? If so, you will need to set up the Path to Exceed before you start using the Grid*Pro* graphics. The following steps illustrate how to do this.

1. After finishing the Grid*Pro* installation process, make sure the path to exceed exists in your computer. To do this, right-click on the ![icon] (My Computer) icon (do not right-click on the shortcut) and select properties and on the top tabs, select advanced (in most cases, you need to add this path manually).

    After selecting the properties for Vista and Win 7 users, click on the 'Advanced system settings' option at the left side of the property window.
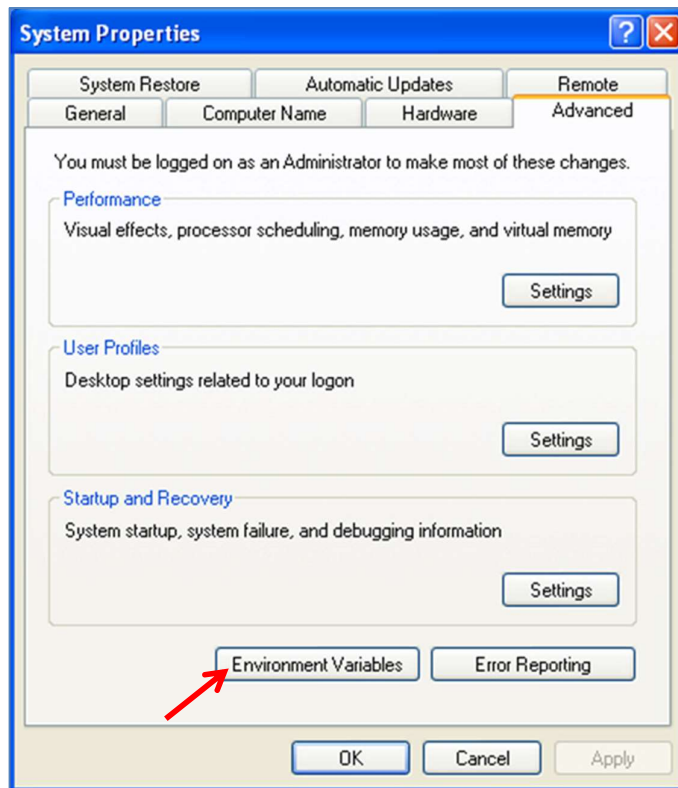
2. Click on the 'Environment variables' tab at the bottom of the window. The new window shows different environment variables, as shown in the picture below.
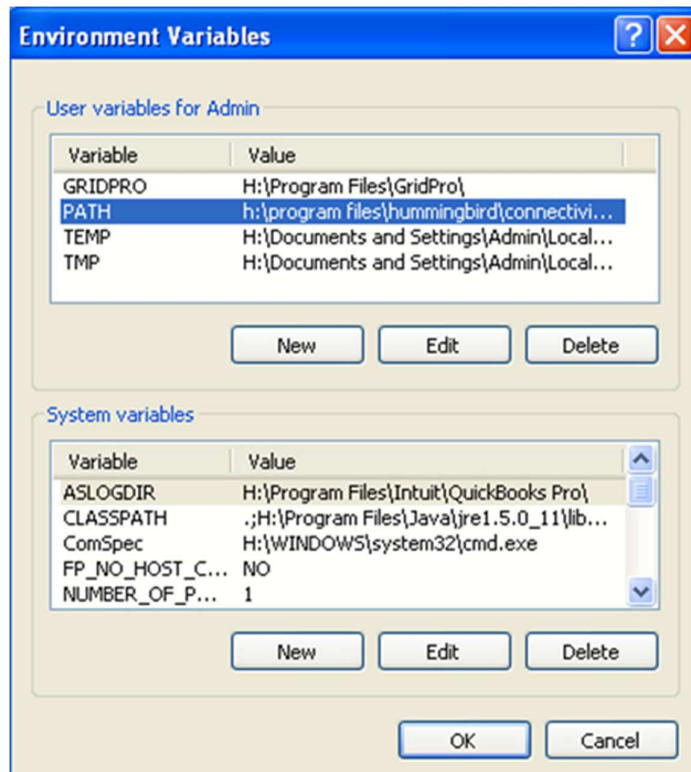
3. Double click on the PATH variable and a smaller window will pop up. NOTE: If no PATH variable exists, under 'User variables for Admin, click on the 'New' button and Edit the vairable name and variable value manually.
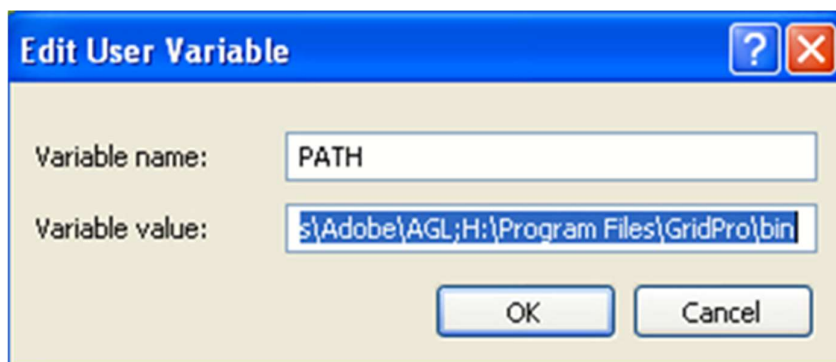
4. Check for the Exceed Path that might be in the form:

C:\program files\hummingbird\connectivity\12.00\exceed.

The number after " \connectivity\ " indicates the version of exceed. For Grid*Pro* van, Exceed 8 version or above is required.
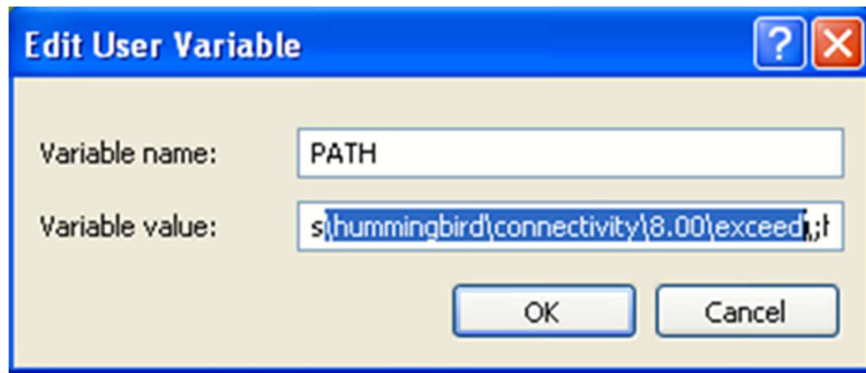
5. If the exceed path is not found or does not exist, you will have to enter this path manually before entering it. Make sure you have Exceed installed on your computer.

Check-in *C:\Program Files\Hummingbird\Connectivity\x.00\Exceed* or *C:\Program Files\Exceed.nt*

'x' in the above path is the version number of the Exceed installed on the machine.

9.2   *Access denied: When installing portmap*

If the portmap is already running on your server while installing GridPro, you might encounter an error, as shown in the figure below.
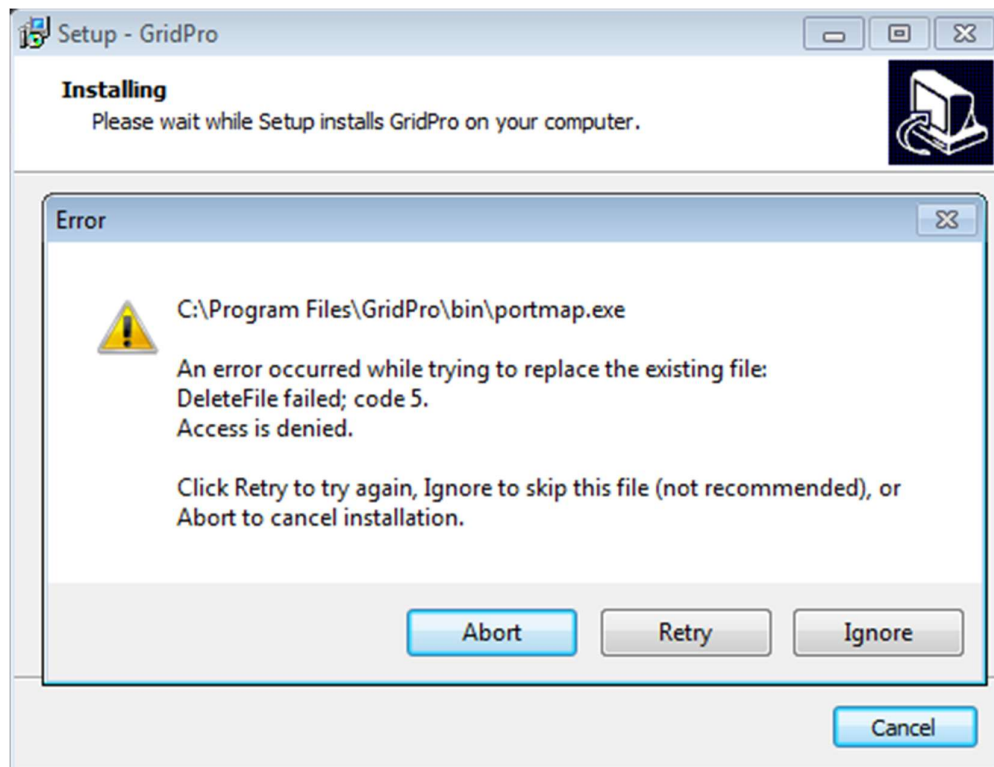
Solution: In such a case, click on '**Ignore**' to continue the installation process.

9.3   *Access denied: When installing lcmgr*

If the lcmgr (license manager) is already running on your server while installing Grid*Pro*, you might encounter an error, as shown in the figure below.
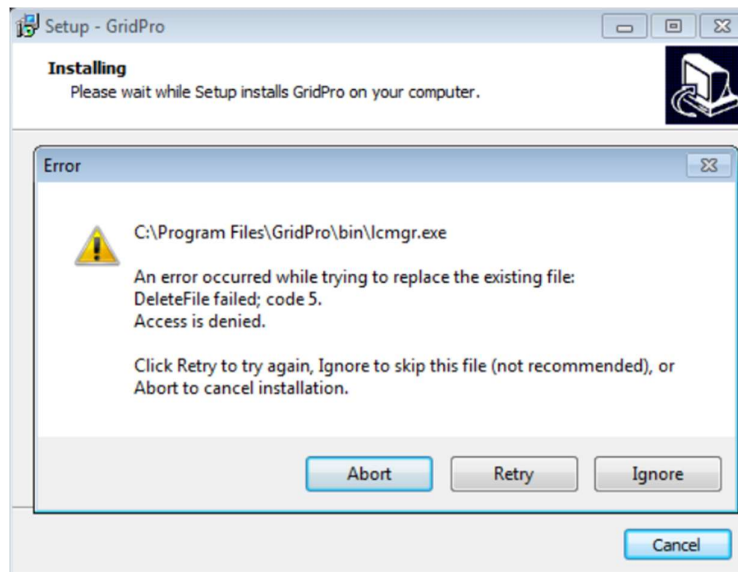
Solution: In such a case, click on '**Ignore**' to continue the installation process.

9.4   *Exceed installation – 1317 error in Windows*
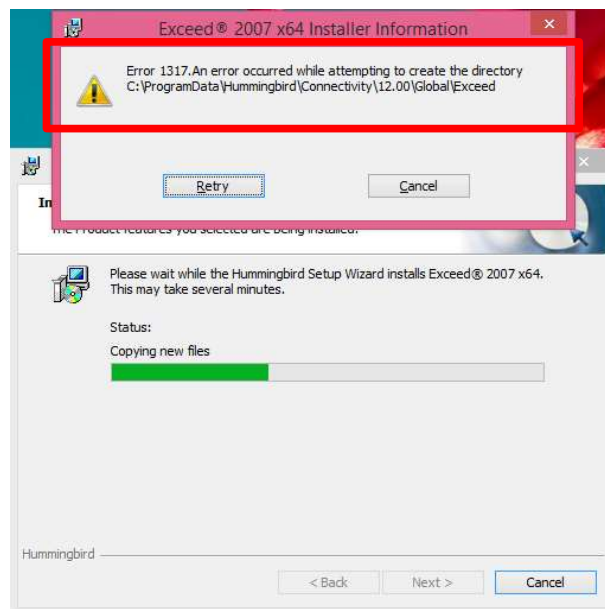
If you get "Error 1317" when you try to install exceed, it does not have permission to create the files in the respective folder. Sometimes authorization is not propagated to the last sub-folder.

Solution:

1. Go to path **C:\ProgramData\Hummingbird\Connectivity\12.00.**

   By default, the ProgramData directory is hidden; turn on the visibility of hidden folders to access its sub-folders.

2. Right, Click on "**Global**" directory in "**12.00**" directory and select the **Properties** option.

3. Switch to the **Security** tab, click on "**Edit**" to change the permissions, as seen in the below image.
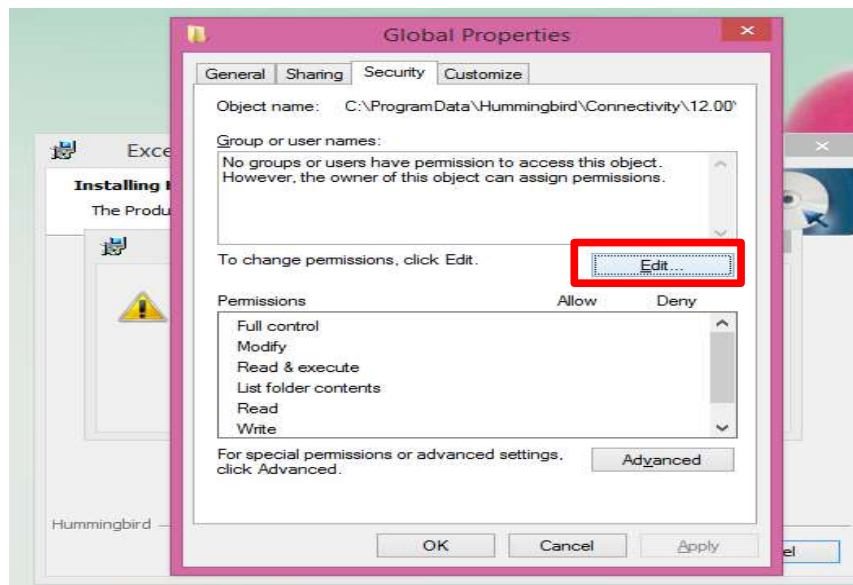
4. Click on **Add** to add the permission group in Permissions for Global window pop-up.
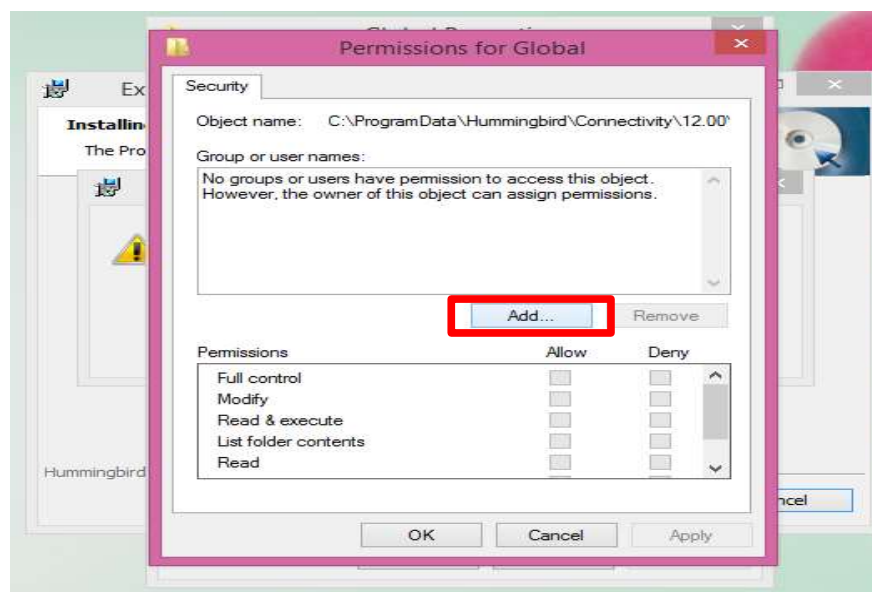
5. Enter **EVERYONE** in the space available to enter the object name to select and click on "OK" as seen in the image below. In the 'From this location' field, it should be your PC name.
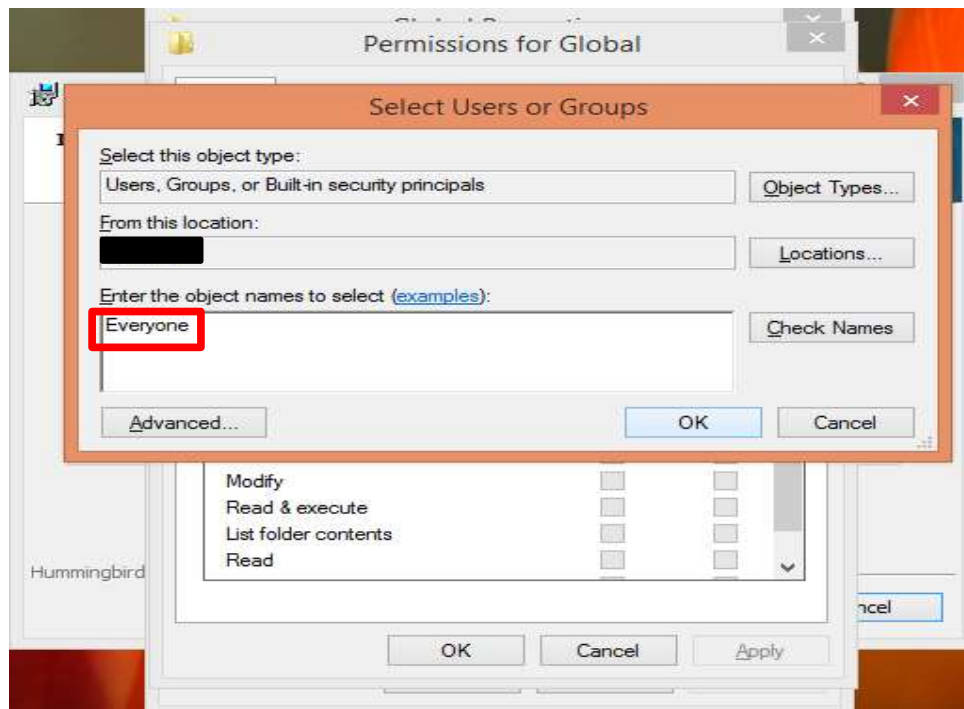
6. Check the box next to **Full Control** in **Allow** menu as shown in the image.
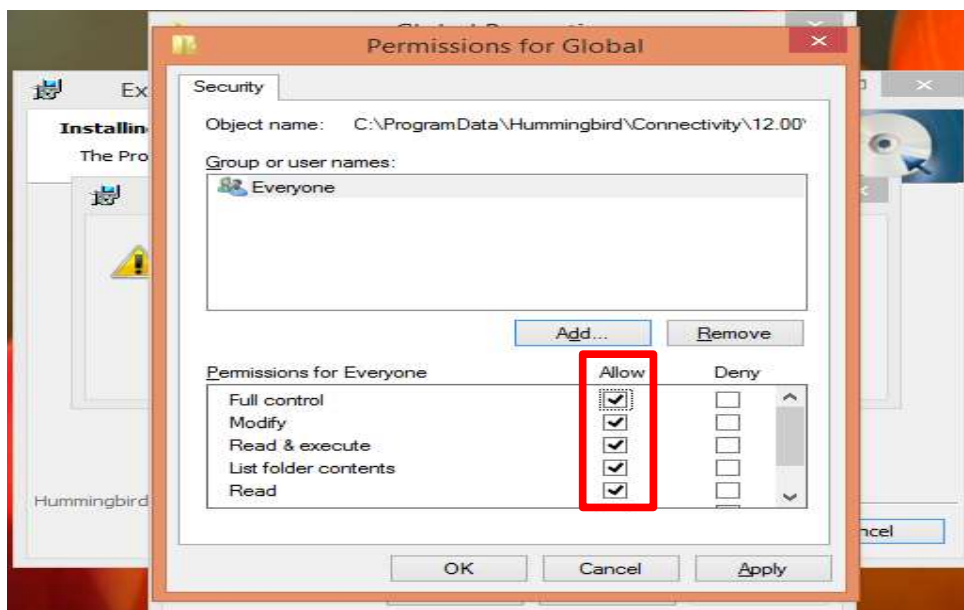
Click on **Apply** to apply the effective changes and OK to close the dialog –box.

7. Try installing Exceed; it should work fine. If in case you are prompted for permissions to install the directory in **Start Menu**, please give the permissions to **Programs** Directory having path **C:\ProgramData\Microsoft\Windows\Start Menu\Programs** in a similar manner as given above. Select Properties option when right-clicked on Programs directory. Switch to the Security tab. Follow the same above procedure to change the security permissions.

9.5   *Application Error – az.exe in Windows*
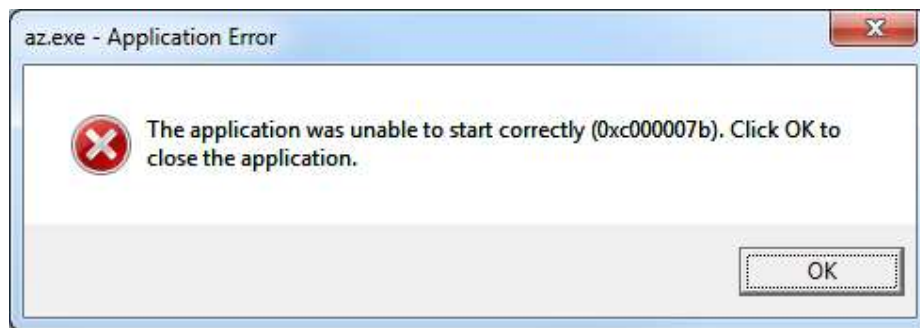
This error pops_out when you try to open the GUI of Grid*Pro*, 'az.exe'. The error is because of the difference in the architect of dll files that are called by the system and the ones that are required by the software.

Solution 1:

1. Install both the Exceed and Grid*Pro* software in the C:\Program Files only.
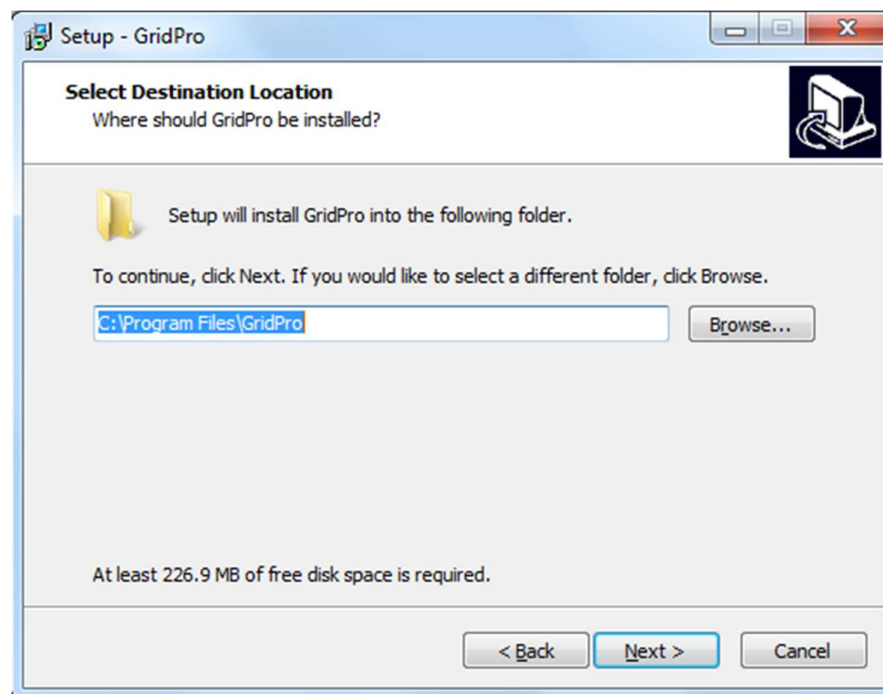
Make sure that the destination path is set to C:\Program Files in these two places.

NOTE: The destination path should **_not_** be in C:\Program Files(x86).

Solution 2:

1. Find out the system type from the 'My computer'➔properties.
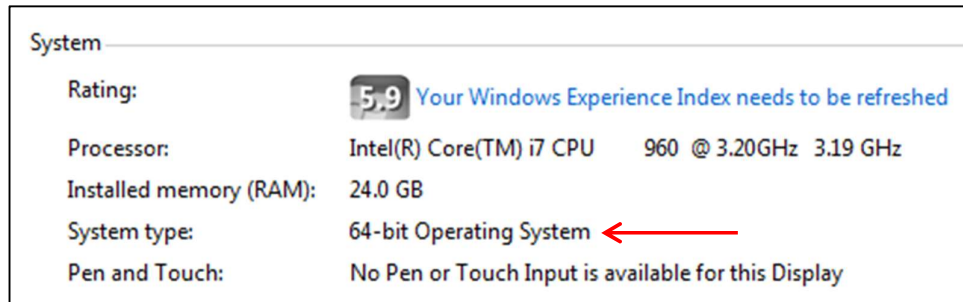
2. Request the same system type software and install it.

9.6   *glibc detected *** double free or corruption: 0x0937d008:*

Solution: Add "**export MALLOC_CHECK_=0**" in the bashrc file.

Step 1: Open the /.bashrc file. It can be opened in editors such as vi or gedit by typing *vi or gedit $HOME/.bashrc* in the command line.

Step 2: Add the following line (within quotes) in the opened file and save it.

"export MALLOC_CHECK_=0"

Step 3: Once it is edited, source the /.bashrc file. It can be done by typing **source $HOME/.bashrc** in the command line.

Step 4: Open Grid*Pro* GUI in a new command terminal to make the changes take effect.

The equivalent command for other shell types is:

    i.   **setenv MALLOC_CHECK_ 0** in $HOME/.tcshrc file for tcsh shell
   ii. **set MALLOC_CHECK_=0** in $HOME/.cshrc file for csh shell

9.7   *Segmentation fault 11 in MAC(az)*
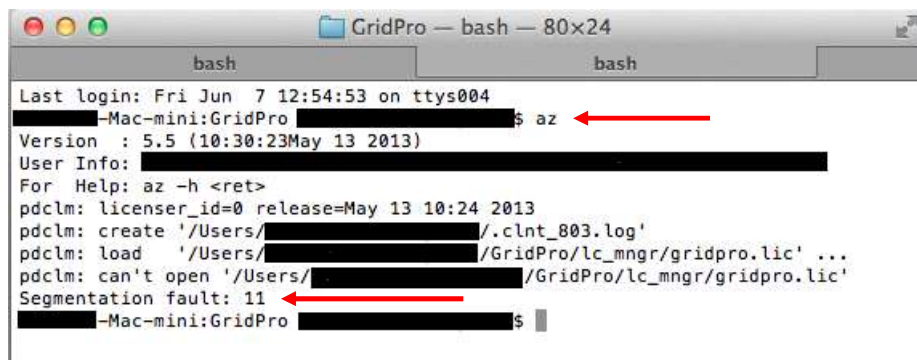
Solution: Install '**X11.app**' library.

It can be downloaded from the following link: http://xquartz.macosforge.org/trac

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9.8   *Fonts not in path – Linux Distribution and*

9.9   *X error of failed request: badname (named color or font doesn't exist)*

```
[fedora19@localhost ~]$ az
Version  : 5.5 (16:02:25Apr 25 2013)
User Info: 657732546(=0x273433c2) 'localhost.localdomain=127.0.0.1'
For  Help: az -h <ret>
pdclm: licenser_id=0 release=Apr 29 18:07 2013
pdclm: create '/home/fedora19/.clnt_1769.log'
pdclm: load   '/home/fedora19/GridPro/lc_mngr/gridpro.lic' ...
pdclm: can't open '/home/fedora19/GridPro/lc_mngr/gridpro.lic'
  display size: 1024x768
  load pty from 'ptymap.default'
  visuals: X=33 (TrueColor), GL=300 (TrueColor), hardware colormaps=1
  GLX configuration: (bit planes)
    R= 8(255) G= 8(255) B= 8(255)  I=24 D=32
  load colormap array.
  button  font='7x14'
  message font='7x14'
  help    font='7x14'
  fonts not in path. Run,          <---
   'xlsfonts<ret>'          for usable fonts.
   'xfontsel<ret>'          to see usable fonts.
   'xset  fp default <ret>' to reset font path.
   'xset +fp SOMEWHERE/GridPro/fonts <ret>' to add font path.
  get font path .. found 2
  add font path 1: '/home/fedora19/GridPro/fonts'
```

```
   'xset +fp SOMEWHERE/GridPro/fonts <ret>' to add font path.
  get font path .. found 2
  add font path 1: '/home/fedora19/GridPro/fonts'
WARNING: can't load button font:'7x14'.
WARNING: can't load message font:'7x14'.
WARNING: can't load help font:'7x14'.
  You may retry with 'az -ftb [font_name]..'
[fedora19@localhost ~]$ az
Version  : 5.5 (16:02:25Apr 25 2013)
User Info: 657732546(=0x273433c2) 'localhost.localdomain=127.0.0.1'
For  Help: az -h <ret>
pdclm: licenser_id=0 release=Apr 29 18:07 2013
pdclm: create '/home/fedora19/.clnt_1785.log'
pdclm: load   '/home/fedora19/GridPro/lc_mngr/gridpro.lic' ...
pdclm: can't open '/home/fedora19/GridPro/lc_mngr/gridpro.lic'
  display size: 1024x768
  load pty from 'ptymap.default'
X Error of failed request:  BadName (named color or font does not exist)  <---
  Major opcode of failed request:  45 (X_OpenFont)
  Serial number of failed request:  13
  Current serial number in output stream:  14
[fedora19@localhost ~]$ su
Password:
[root@localhost fedora19]# █
```

Solution for 8 & 9: Install "**xorg-x11-fonts-misc**"

Step 1: Type '**su**' in the command terminal and enter the admin password to enable the super user.

Step 2: Type "**yum install xorg-x11-fonts-misc**" to install the necessary software to resolve this error.

NOTE: For *cent OS*, type "**yum install xorg-x11-fonts-Type1 xorg-x11-fonts-misc**" to install the necessary software to resolve this error.

*The solution shown here is for fedora 19 and cent OS; for other Linux distributions, find the appropriate x11 package and install it.

9.10 X error of failed request: badvalue (integer parameter out of range for operation)

This occurs when the existing Xorg-X11-Xserver (version 1.16 & above) is not compatible with the libraries provided with the software.

Solution: Install virtual GL by running,

python $GRIDPRO/contrib/virtualgl.py

9.11 RPC unknown host

This can occur in two cases. One while using float license and the other while using snode. For both the cases, you need to run 'lcmgr' from the host machine.

Case 1: Float license

Figure: Client machine details

Solution: Add hostname to hosts file in the client machine.

Step 1: Open the host's file of the client machine in a text editor by typing,

sudo gedit /etc/hosts

For windows users, you can open a text editor like a notepad as administrator (Right-click on notepad and select Run as administrator) and then edit the hosts file located at 'C:\Windows\System32\drivers\etc'

Step 2: Add the hostname info of your machine in the host's file and save it. For, e.g., "**192.168.0.100   User1-PC**" for this case.

Case 2: Snode license

Solution: Add hostname to the host's file in the server machine.

Step 1: Open the host's file of the server machine (where the license needs to be run) in a text editor by typing,

sudo gedit /etc/hosts

For windows users, you can open a text editor like a notepad as administrator (Right-click on notepad and select Run as administrator) and then edit the hosts file located at 'C:\Windows\System32\drivers\etc'

Step 2: Add the hostname info of your machine in the host's file and save it. For, e.g.: "**127.0.0.1   redhat.localdomain**" for this case.

```
#
# hosts        This file describes a number of hostname-to-address
#              mappings for the TCP/IP subsystem.  It is mostly
#              used at boot time, when no name servers are running.
#              On small systems, this file can be used instead of a
#              "named" name server.
# Syntax:
#
# IP-Address  Full-Qualified-Hostname  Short-Hostname
#

127.0.0.1       redhat.localdomain                        Server machine info

# special IPv6 addresses
::1             localhost ipv6-localhost ipv6-loopback

fe00::0         ipv6-localnet

ff00::0         ipv6-mcastprefix
ff02::1         ipv6-allnodes
ff02::2         ipv6-allrouters
ff02::3         ipv6-allhosts
```

9.12   *Cannot register service: RPC: Unable to receive*

```
pdclm: delete '/home/user1/.clnt_3257.log'
pdclm: licenser_id=0 release=Apr 29 18:07 2013
pdclm: create '/home/user1/.clnt_2409.log'
pdclm: load   '/home/user1/GridPro/lc_mngr/gridpro.lic' ...
+---------------------- lcmgr ----------------------+
| pdclm license server. 'lcmgr -h <ret>' for help.  |
|                                                   |
|          !!! For Authorized Use Only !!!          |
|                                                   |
| (c)Copyright 1993-2013,   Program Development Comp. |
|     ----   Licensed Materials, All Rights Reserved. |
| 300 Hamilton Ave.,Suite 409, White Plains, NY 10601 |
| Tel: (914) 761-9152          Fax: (914) 761-1735    |
+---------------------------------------------------+
Version  : 1.1 (Apr 29 18:07 2013)
User Info: 660695020(=0x276167ec) 'redhat.localdomain=127.0.0.1'

licenser : id=0      file from: gridpro default
loading  : '/home/user1/GridPro/lc_mngr/gridpro.lic' ...
licensee : id=0
prepare server on redhat.localdomain(276167ec:2412) RPC=0x20012345(536945477):1
...
st:found old 1.
st:used  1/1/1
prepared:
Cannot register service: RPC: Unable to receive; errno = Connection refused
unable to register (PDCLMPROG, PDCLMVERS, udp).  'lcmgr' not ready, wait  1 seco
 'lcmgr' may not be ready, proceed anyway!!
pdclm: licensee_id=0
redhat.localdomain: RPC: Remote system error - Connection refused
[13Sep19-10:35:37]redhat.localdomain: RPC: Remote system error - Connection refu
sed
[13Sep19-10:35:37]redhat.localdomain: no response.
[user1@redhat ~]$
```

Error Message: RPC: Unable to receive; errno = Connection refused. unable to register (PDCLMPROG, PDCLMVERS, udp)

Solution: For Linux/mac users, Start rpcbind manually as follows.

Step 1: Type '**su**' in the command terminal and enter the password to enable the super user.
Step 2: Start the rpcbind service by typing,
                        sudo service rpcbind start

Step 3: Verify whether the rpcbind is active
                        sudo service rpcbind status

For Windows users, Start portmap services manually as follows.
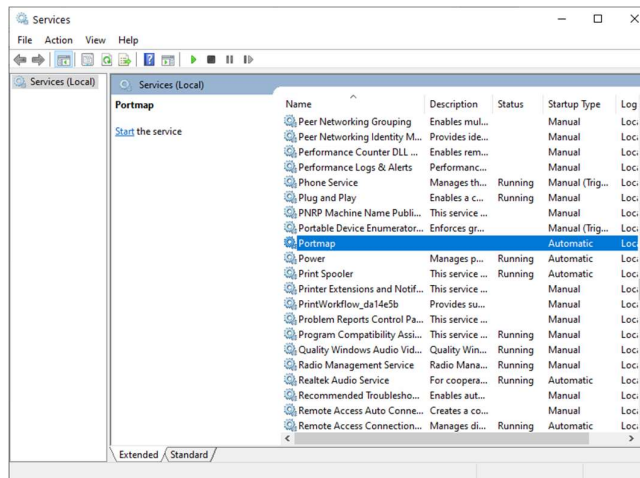
Step 1: Open 'services' window as an administrator.

Step 2: Search for 'Portmap' services and start it manually, as shown in the image below.

9.13 Cannot register service: RPC Authentication error:why - client credential too weak

Solution: Start rpcbind with -i option.

Step 1: Stop the rpcbind service by typing,

sudo -i service rpcbind stop

Step 2: Start the rpcbind with -i option

sudo -i rpcbind -i –w

9.14 Found another server

Error Message: Found another server on <Host name> <Mac id>

Solution: Kill the existing lcmgr running on the same network.

Step 1: Find the process id of lcmgr on the machine where it is running,

ps -e | grep lcmgr

Step 2: Kill the existing lcmgr using the command,

kill -9 <process id>

*The process id will be the number in the first column of the grep output.

Step 3: Start lcmgr again.

9.15   *UDP port bind failed*

Error Message: UDP port bind failed!

Reason: The input port number is already in use.

Solution: Use a different port number

Step 1: Enter a different port number while running lcmgr.

lcmgr –p <Port number>

9.16   *RPC: Remote system error – 10061*

Error Message: RPC: Remote system error – 10061, RPC: no response

Reason: Windows firewall has blocked the portmap.

Solution: Allow portmap in firewall

Step 1: Find the 'portmap.exe' location. It should be either in "C:\WINDOWS\SYSTEM" or "C:\WINDOWS\SYSTEM32").

Step 2: Go to Control panel → System, and security → Windows firewall → Allow an app or feature through windows firewall → Allow another app.
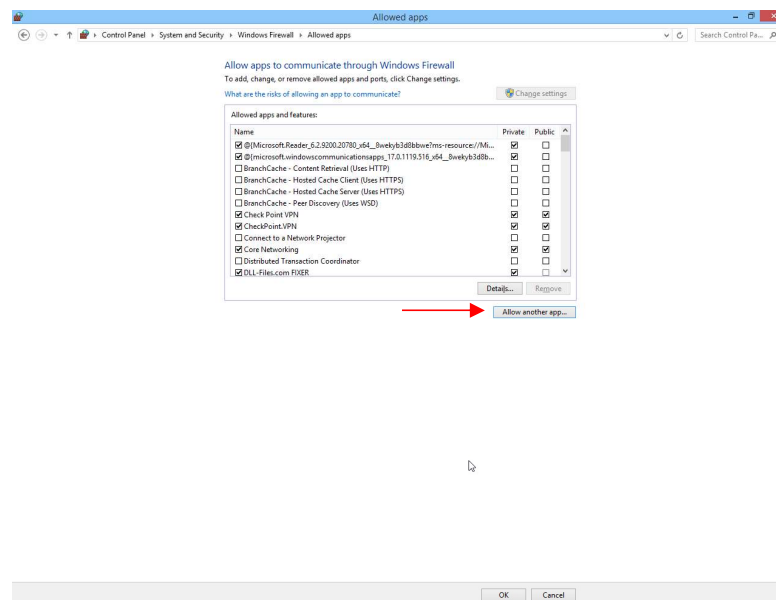
Step 3: Add portmap.exe by clicking on Browse and navigate it based on step 1.
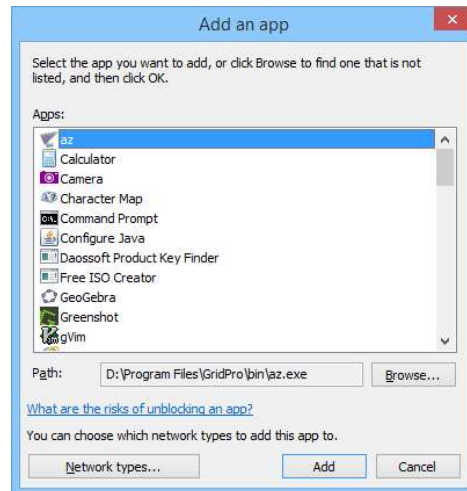
9.17   *Linux OS installation – General Note*

There would be few libraries missing in every Linux-based OS, which are required for GridPro to work. These missing libraries will be notified at the end of the installation(After executing 'install.sh' file) as shown in figure below.

```
Your license info is saved at '/home/osboxes/GridPro/lc_mngr/lcst_info.txt'.
To obtain a license, please login to your GridPro account at http://www.gridpro.
com/me and enter the lcst info at the license request page.
Or you can send it to license@gridpro.com
-------------------------------------------------------------------
No. of missing libs (az)  : 2
libXp.so.6
libXm.so.4
No. of missing libs (ws)  : 1
libpng12.so.0
IMPORTANT!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Please install the missing package(s).
libXp-1.0.2-2.1.el7.i686 , using the command "yum install libXp-1.0.2-2.1.el7.i6
86 "
motif-2.3.4-7.el7.i686 , using the command "yum install motif-2.3.4-7.el7.i686 "
libpng12-1.2.50-6.el7.i686
libpng12-1.2.50-7.el7_2.i686 , using the command "yum install libpng12-1.2.50-6.
el7.i686
libpng12-1.2.50-7.el7_2.i686 "
Error: No matching Packages to list
IMPORTANT!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Please install the fonts package xorg-x11-fonts-misc.noarch with the command "yu
m install xorg-x11-fonts-misc.noarch"
```

Please install these libraries to proceed further.

9.18   *RPC: Portmapper Failure – RPC Timed out*

```
pdclm: load   'D:\Program Files\GridPro/lc_mngr/gridpro.lic' ...
pdclm: licensee_id=0
[16Apr15-09:23:39]User1-PC: RPC: Port mapper failure - RPC: Timed out
[16Apr15-09:23:39]User1-PC: no response.
```

Reason 1: This error occurs in client machine which runs on serve node or float license. The license file may be correct, but the IP address mentioned in the host's file would be wrong.

For e.g., The IP address in the host's file is "*192.168.2.7   User2-PC*",   but the IP address in User2-PC might have changed due to network problems. In such cases, when you run ws or az, it will report the above-mentioned error message.

Solution: Enter the right IP address in the host's file.

      Step 1: Note the IP of the host machine

      Step 2: Open the host's file in the client machine

           Windows Users: /Windows/system32/drivers/etc/hosts → Copy it to the desktop to edit the file

   **Unix Users:** sudo gedit /etc/hosts

      Step 3: Enter the current IP address of the host machine and save it

      Step 4: Replace the old file with the modified file (For Windows users)

Reason 2: This error occurs in the client machine, which runs on a serve node or float license. This message may appear when you try to run WS in the client machine with the firewall ON on the Host machine. This is because the port number for the license and portmapper may not be opened to pass via firewall.

Solution: Open two ports, one for GridPro license and the other for portmap/rpcbind. You can manually permit a program to access the internet by opening a firewall port for both TCP and UDP. You will need to know what port it uses and the protocol to make this work. Following are the steps to follow in Windows OS:

1. Navigate to Control Panel, System and Security and Windows Defender Firewall.
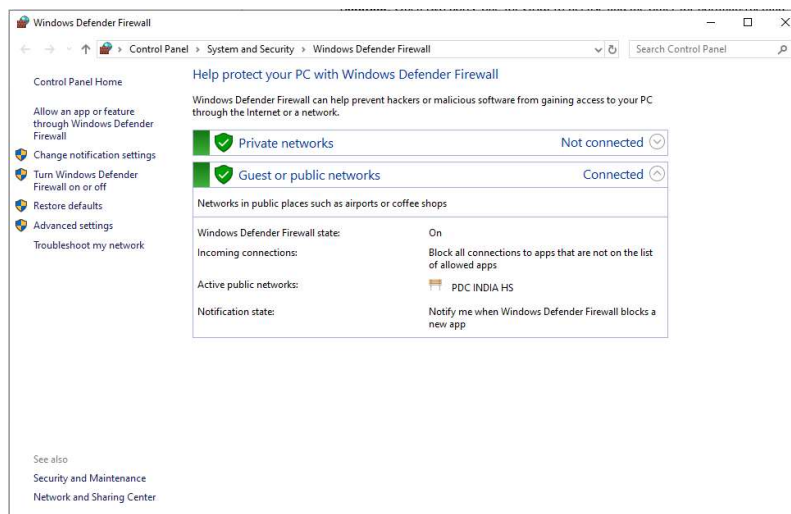
2. Select Advanced settings and highlight Outbound Rules in the left pane.

3. Right-click Outbound Rules and select New Rule.
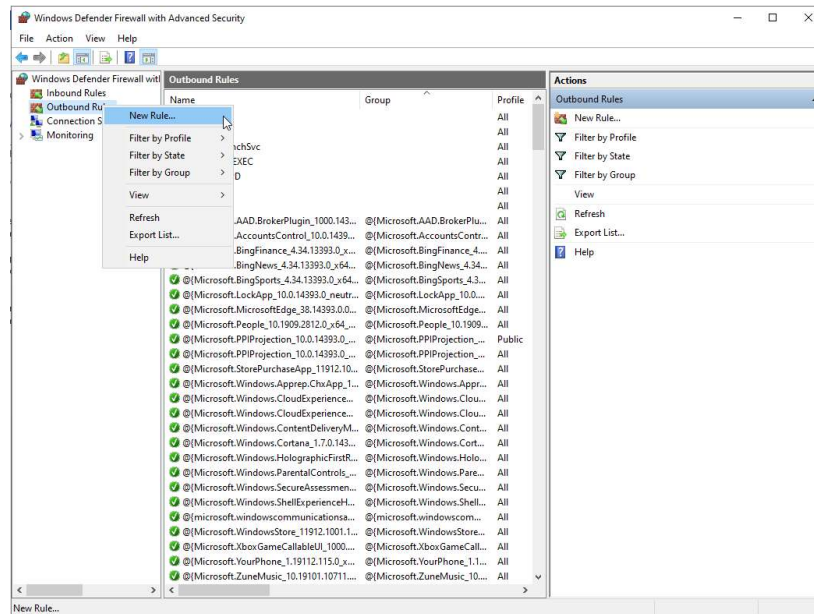
4. Select 'Program' and click Next.
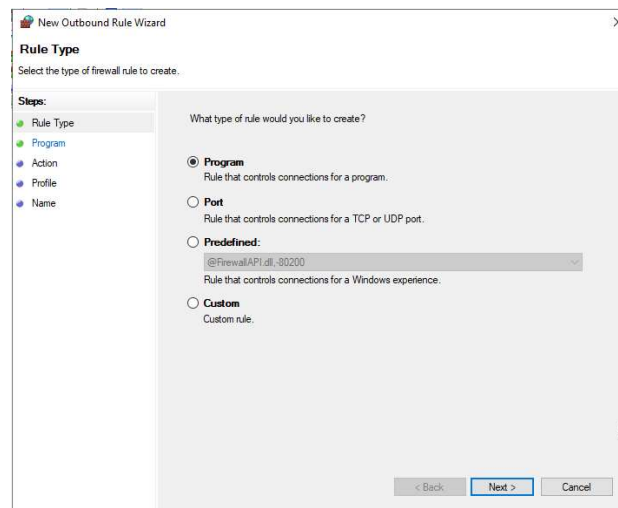
5. Select the portmap.exe from GridPro/bin installation directory and hit Next.
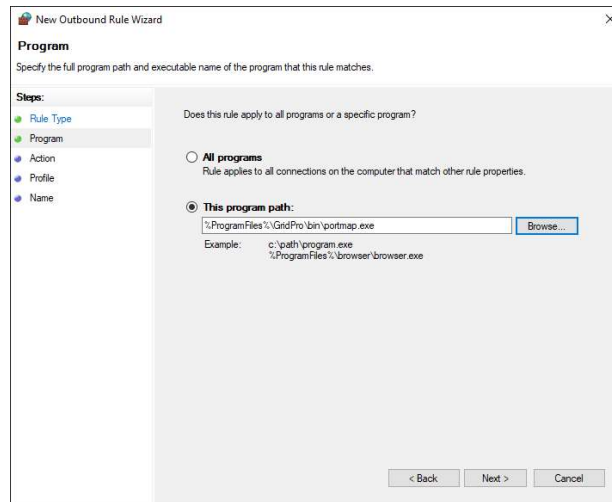
6. Select Allow the connection in the next window and hit Next.
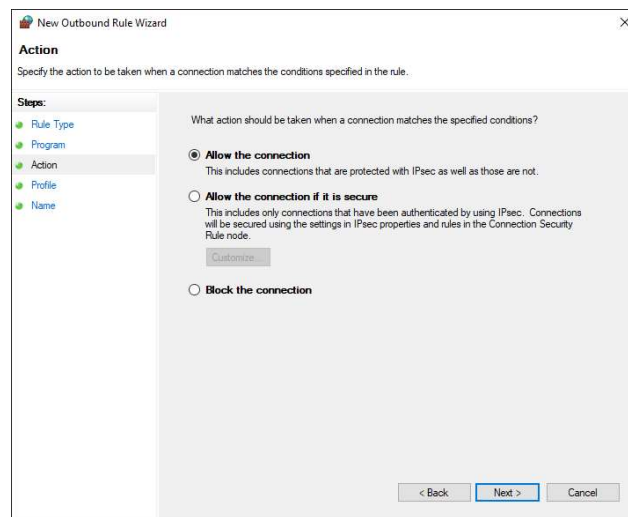
7. Select the network type as you see fit and click Next.
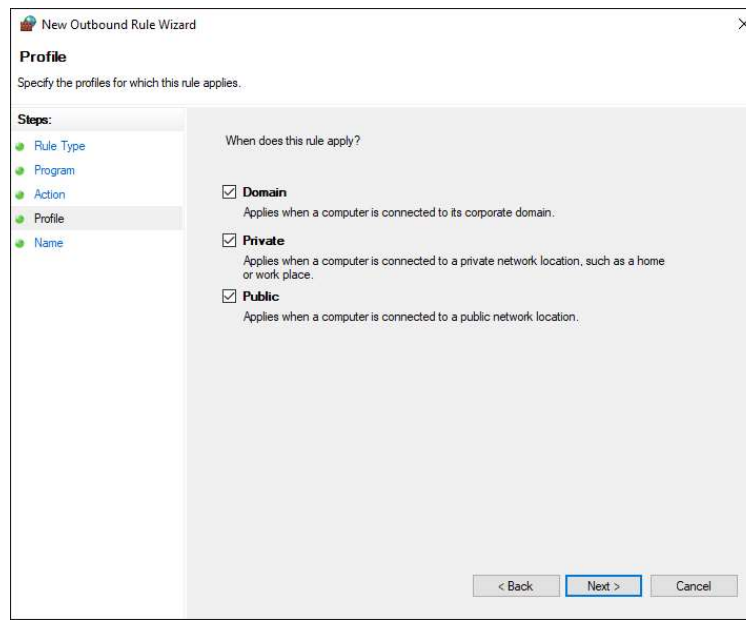
8. Name the rule something meaningful and click Finish.
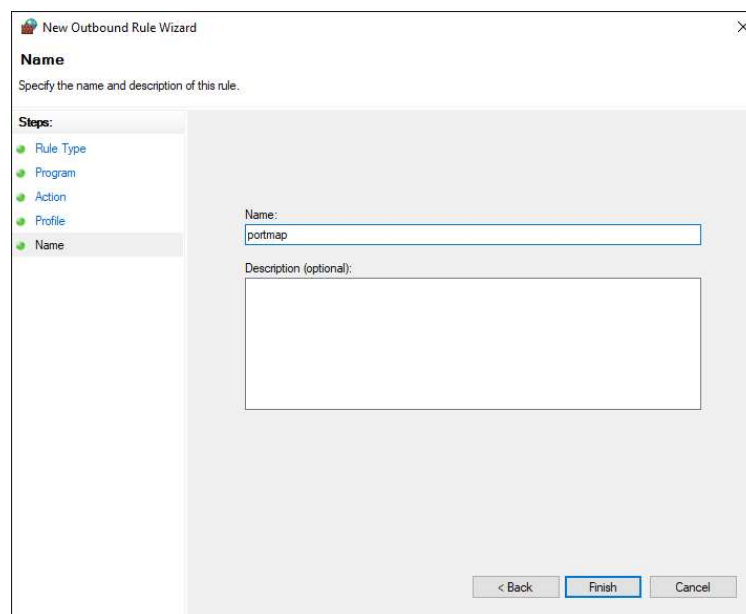
9. Note that this rule is common for all protocols, but we need to make it specific for TCP and UDP for a specific port. So go back to the firewall window and right-click on the portmap rule which we created in the previous step, and select properties.
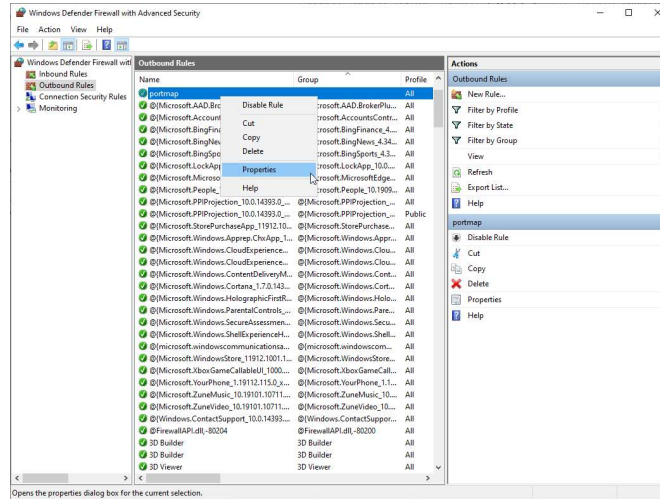
10. Change the protocol type to TCP and select specific port under Local port and enter 111 as the port number.
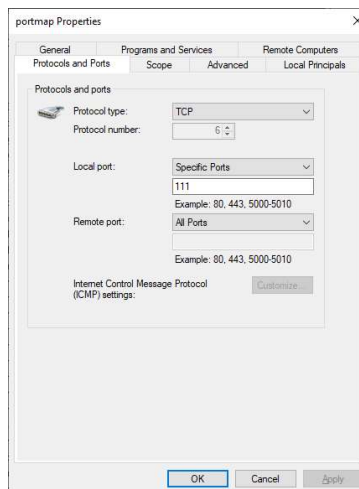
11. Next, we need to create one more rule for UDP, copy and paste the portmap rule.
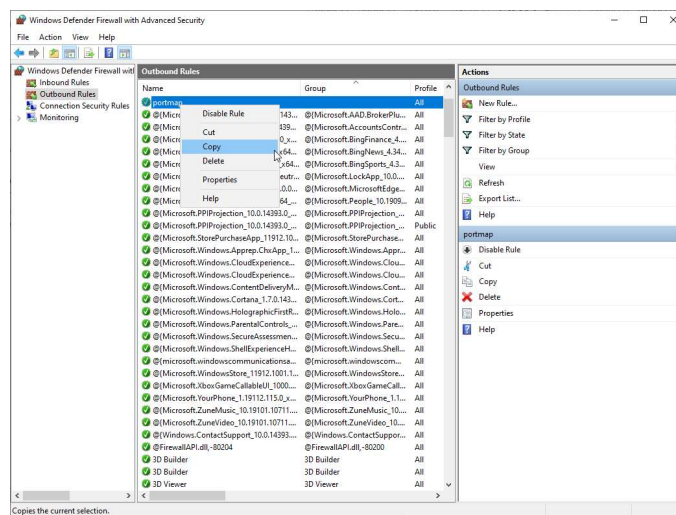
12. Change the protocol type to UDP and specify the port number a 111.
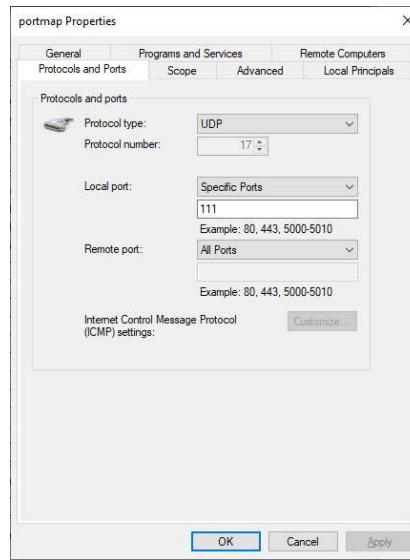
You have now opened a firewall port for portmap with port number 111 for protocols TCP & UDP in Windows 10! Similarly, open another port with a desired port number for license manager with both protocols (TCP & UDP). The lcmgr.exe can be found in GridPro/bin installation directory.

Now you have created four rules(TCP & UDP for lcmgr & portmap) under 'Outbound Rules'. Similarly, create the same four rules under 'Inbound Rules' also.

For Ubuntu:

For opening: sudo ufw allow <port no.>

To verify if it is open: sudo ufw status verbose

For RHEL:

For opening: firewall-cmd --zone=public --add-port=<port number>/tcp --permanent

To verify if it is open: run firewall-cmd –reload and then iptables-save | grep <port number>

Note that two ports have to be opened, one for license and the other for portmap(default-111) for both protocols, TCP and UDP.

9.19   *WS lagging in LINUX virtual machines*

Sometimes you may experience that WS is lagging a lot, and cursor selections are not working as expected. This is because Virtualbox uses a software rendering instead of direct hardware rendering.

Solution: Install VirtualGL as explained in section 9.10 and set the following environmental variables in the .bashrc file.

export LIBGL_ALWAYS_SOFTWARE=1
export GALLIUM_DRIVER=softpipe
alias ws="vglrun ws"

9.20   *Symbol lookup error; WS: undefined symbol*

This error generally occurs for the following scenarios,

    i.   If the installation directory does not have read/write permissions.
    ii.   If the software is installed as root.

Solution: Navigate the terminal path to the following,

$HOME/GridPro/lib

Run the following command and send the output to customerassistance@gridpro.com.

ls -lh

9.21   *Error: env PDC_EC_NAME not defined, exit*

This error generally occurs on unix machines for float and snode licenses when there is no active internet connection.

Solution: Add "**export PDC_EC_NAME=enp4s0f2**" in the bashrc file.

Step 1: Open the /.bashrc file. It can be opened in editors such as vi or gedit by typing *vi or gedit $HOME/.bashrc* in the command line.

Step 2: Add the following line in the opened file and save it.

export PDC_EC_NAME=enp4s0f2

9.22   *RPC: Program not registered*

This error generally occurs when License Manager is not running

Solution: Run the license manager from a terminal.

Step 1: Open a command terminal

Step 2: Type '**lcmgr**' and press enter to start the license manager. If you want to start with a specific port number, then type '**lcmgr -p <port number>**'.

```
Command Prompt - lcmgr                                          —  □  ✕

C:\Users\Vimal>lcmgr
+-------------- lcmgr (After Sprint 10) --------------+
| pdclm license server. 'lcmgr -h <ret>' for help.   |
|                                                    |
|          !!! For Authorized Use Only !!!           |
|                                                    |
| (c)Copyright 1993-2020,   Program Development Comp. |
|    ----   Licensed Materials, All Rights Reserved. |
| 300 Hamilton Ave.,Suite 409, White Plains, NY 10601 |
| Tel: (914) 761-9152          Fax: (914) 761-1735   |
+----------------------------------------------------+
Version  : 3.0 (Jul 14 17:43 2020)
User Info:                      'App-lenovo=          '

licenser : id=0      file from: gridpro default
loading  : 'C:\Program Files\GridPro/lc_mngr/gridpro.lic' ...
licensee : id=0
prepare server on App-lenovo(          :10844) RPC=0x20012345(536945477):1 ...
st:found old 4.
st:used  4/4/4
prepared:
port 10463 from portmap.
created UDP socket: descriptor = 500
UDP port bind complete. Port number = 0
created TCP socket: descriptor = 492
TCP port bind complete. Port number = 0
starting 'lcmgr' on 'App-lenovo'(          :10844).
starting check dup server loop.
[21Jan12-13:19:03]2:new request '0 ws.0 1.30 10 Vimal' from (          :16216).
```

9.23   *RPC: remote system error - No route to host*

This error occurs while using float license if the ip address on the host's file is wrong.

Solution: Check the server machine's ip address and update it correctly on the client machine's hosts file.

Step 1: Note down the ip address and hostname of the server machine.

Step 2: Open the host's file in the client machine

Windows Users: /Windows/system32/drivers/etc/hosts → Copy it to the desktop to edit the file

Unix Users: sudo gedit /etc/hosts

Step 3: Enter the current IP address and the hostname of the server machine and save it.

Step 4: Replace the old file with the modified file (For Windows users)

9.24   *RPC: Remote system error - Connection refused*

The possible reasons for this error to occur are,

1. The hostname of the machine is different from what is mentioned in the license file. **Solution:** Verify if the hostname of the machine matches the one in the license. If not, send an e-mail to support@gridpro.com to get the correct license.

2. The ip address in the host's file(client machine) is different from the current ip address of the server machine. **Solution:** Verify if the ip address and hostname

mentioned in the host's file of the client machine is the same as the ip address and hostname of the server machine.

3. Sometimes the firewall settings might have blocked the machine from connecting to the server machine. **Solution:** Refer to section 9.18.

9.25 *UI crashes if anything is clicked on the workspace*

This error occurs specifically on the machines which have NVIDIA graphics card. If the drivers are not updated with the latest version, then the WS GUI will crash once you click anything on the UI.

Solution: Ensure that the NVIDIA graphics card drivers are the latest ones or at least above the following versions: Geforce driver 388.71 and Geforce Experience 3.11.0.73.

9.26 *License Manager GUI Failed - RHEL Server*

This error occurs specifically on SELinux when the environmental file is not accessible by systemd.

```
Job for lcmgr.service failed because of unavailable resources or another system
error.
See "systemctl status lcmgr.service" and "journalctl -xe" for details.
```

Solution: The solution is to change the mode of SELinux. It can be done in two ways. The first solution will only resolve the issue temporarily for the current session. If you reboot the machine, the same issue will occur again.

Step: Run the following command and enter the sudo password when it prompts.

"sudo setenforce permissive"

The second solution will resolve the issue permanently. You can choose to do whichever solution suits you.

Step 1: open the config file using the following command.

sudo nano /etc/selinux/config

Step 2: Find the line "SELINUX=enforcing" and change it to "SELINUX=permissive"

Step 3: Then reboot the machine using *"sudo reboot"*

Start the License Manager GUI once the mode is changed to permissive. If it is still not working, send us the journal_log.txt file by running the following command for further troubleshooting.

journalctl -xe|tail -n 100 > journal_log.txt

9.27 *WS Freeze issue- Windows*

In Windows sometimes while working on cases which have large number of blocks or heavy surfaces. The user may face freezing of the UI at times. This could most likely be graphics related issue.

Solution: The solution is to change the 3D settings and PhysX configuration in the NVIDIA control panel. This will optimize the graphics memory and help you run larger graphic content files without much lag.

Step 1: Right click on your home page and select the NVIDIA control panel.
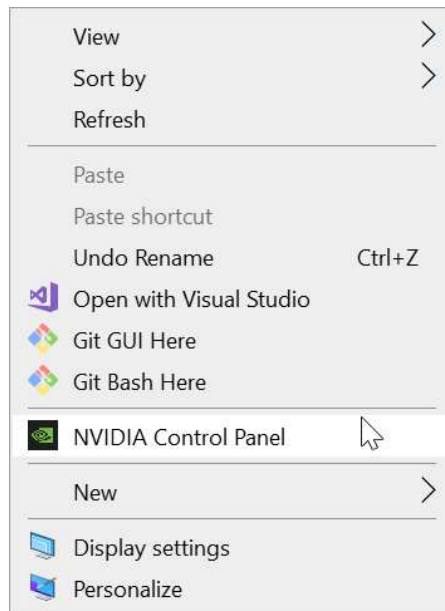
Step 2: Navigate in the control panel to the option Manage 3D settings. In this option the Preferred graphics Processor would be auto-select by default change them to High-Performance NVIDIAprocessor. And click on the apply button, to activate the changes.
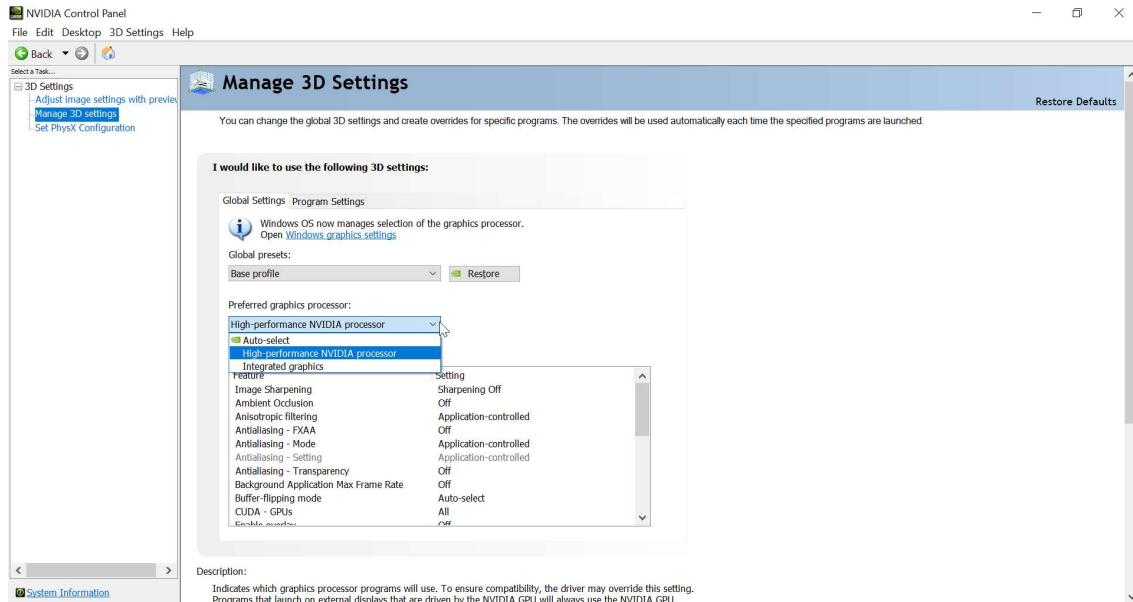
Step 3: Finally go to the Set PhysX configuration, the default option will still lie in auto select. Change that to the Nvidia graphics card present on your system.