vGeo Licensing

1.1 Introduction

vGeo uses FLEXlm licensing for either node-locked or floating licenses. Floating licenses give greater flexibility by allowing vGeo to run on any of the supported systems that can access the license server. Node-locked licenses give greater security if a site wishes applications to be executable only on specific systems.

The license server is responsible for receiving a request for a license from an application. The server knows how many licenses are available and grants or denies a license request based on that knowledge. For a node-locked license, no license server need be running. For floating licenses, the license server must be configured and started, as described below. Given the frequent use of FLEXlm, many of the necessary components will likely be already installed on your system. If not, they are freely available from Macrovision's website.

1.2 Installation

The vGeo distribution contains the necessary license manager and vendor daemons for licensing the application. The latest version of the FLEXlm license manager daemon is also freely available from Macrovision's website at http://www.macrovision.com/services/support/flexlm/lmgrd.shtml.

The licensing mechanism relies on the FLEXlm license manager daemon, lmgrd, which in turn runs the vendor specific daemon(s). In the case of vGeo, the name of the vendor daemon is 'VRCO'. For floating licenses, this daemon will likely be running at all times; it is required that it be running in order for vGeo to run.

Your system administrator likely has previous experience with FLEXlm. If more information regarding FLEXlm end-user information is required, it is readily available at, http://www.macrovision.com/services/support/flexlm/enduser.pdf.

The following steps explain how to do a basic installation of the VRCO vendor daemon and VRCO license file (VRCO and VRCO.lic, respectively) and also how to run the license manager daemon (lmgrd) executable. If you wish to combine the VRCO license file with other existing FLEXlm license files on your system, please refer to the FLEXlm End User Manual.

Given that there are numerous ways to configure FLEXlm licensing, we can not cover all of the installation possibilities. We have outlined below an example installation with a few options that should walk any FLEXlm beginner through a basic installation. Any complex or site-specific customizations are best left to your system administrator.

Step 1 - Install vGeo

Follow the directions on the vGeo distribution page for downloading and installing the software. For floating licenses, vGeo should be installed on each system on which vGeo may be run.

Step 2 - Install the license file (VRCO.lic)

Place the license file, VRCO.lic, in the vGeo/licenses/ directory. This is the preferred location for the vGeo license. For floating licenses, this must be done on each system on which vGeo may be run (i.e., there will be a copy of the license on each system as well as on the license server).

UNIX
If this is a node-locked license, your installation of the license is complete. Remember to source the vGeo setup file (e.g., source /usr/local/vGeo30/setupVGEO) before running vGeo. Refer to the *Quick Start and Demo Guide* for more instructions and an introduction to vGeo.

If this is a floating license, go on to Step 3.

WINDOWS
If this is a node-locked license keep reading; else skip to Step 3.

For node-locked licenses, set the license file by starting vGeo from the Windows Start Menu (Start | Program Files | vGeo). The first time you run vGeo on your system, a dialog may prompt you for the location of the license file or service. Select the 'license file' option and browse to and select the recently installed VRCO.lic file. The location of the license file will be saved in the registry and referred to for all future instances. If necessary, you may later change this setting to a new license file by running the lmtools.exe program in vGeo/licenses. Your node-locked installation is now complete. Refer to the *Quick Start and Demo Guide* for more instructions and an introduction to vGeo.

NOTE: If you requested a node-locked license you may stop here. The remaining steps are required only for floating licenses. If you are unsure if your license is floating or node-locked, inspect the file for any of these key words: VENDOR, DAEMON, or SERVER. If any of these are in the file, then it is a floating license and you should continue. Otherwise, your installation is complete.

Step 3 - Install the VRCO vendor daemon (Floating license only)

UNIX
The vendor daemon is an executable called 'VRCO' in the vGeo/licenses/ directory. This executable will either be an IRIX, Linux, or HP executable, depending upon what you specified as your FLEXlm license server platform. (Note: If your FLEXlm license server is

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running on a platform that is different then your vGeo platform, do not put the VRCO daemon in the vGeo/licenses/ directory. Instead, place it in one of the alternative directories as described below.) FLEXlm licensing does work in heterogeneous environments as long as the systems are available on a common network. For example, a Linux vGeo and an IRIX vGeo need only a single FLEXlm license manager running, and that manager can be running on any platform VRCO supports. It does not need to be on all of them.

The vendor daemon, VRCO, must either be available via a networked file system or reside locally on the machine that will run the license manager daemon, lmgrd. The license manager daemon, lmgrd, must be run on the machine that was specified as having the HOSTID that was provided to VRCO for creating your licenses. It is not required that the daemon be placed in the vGeo/licenses/ directory. It may reside in other directories, for example /var/flexlm/, /usr/sbin/, or /usr/local/flexlm/.

Make sure the daemon is executable. If it is not, enter:

chmod +x VRCO

Do not attempt to execute the daemon yourself. The daemon will be run by the FLEXlm lmgrd executable.

If the daemon (VRCO) is not or can not be placed in the vGeo/licenses/ directory then the VRCO.lic file must be edited to reflect its new location. In the VRCO.lic file there will be a line similar to:

VENDOR VRCO /usr/local/vGeo/licenses

Edit the path after 'VENDOR VRCO' to reflect the location of the daemon.

WINDOWS

On Windows, Globetrotter has provided a tool, lmtools.exe, for managing licenses. This utility is included in the vGeo/licenses directory.

The vendor daemon, vrco.exe, should be in the vGeo/licenses directory. This vendor daemon can only be used for setting up a FLEXlm license server on a Windows system. However, FLEXlm licensing does work in heterogeneous environments as long as the systems are available on a common network. For example, a Windows vGeo and a Linux vGeo need only a single FLEXlm license manager running, and that manager can be running on any platform VRCO supports. It does not need to be on all of them.

The vendor daemon, vrco.exe, must either be available via a networked file system or reside locally on the machine that will run the license manager daemon, lmgrd. The license manager daemon, lmgrd, must be run on the machine that was specified as having the HOSTID that was provided to VRCO for creating your licenses. Do not attempt to execute the daemon yourself. The daemon will be run by the FLEXlm lmgrd executable.

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Step 4 - Start The License Manager Daemon

UNIX

To start the FLEXlm license manager daemon and the VRCO daemon that will actually manage the licenses, go to the vGeo/licenses/ directory and enter the command:

lmgrd -c VRCO.lic

This should not be run as root. It is preferred to have the daemon start automatically at boot time so that it is available to all users at all times. To learn how to have the license manager start at boot up, please refer to the FLEXlm End Users Guide.

You installation should now be complete. Remember to source the vGeo setup file (e.g., source /usr/local/vGeo30/setupVGEO) before running vGeo. Refer to the *Quick Start and Demo Guide* for more instructions and an introduction to vGeo.

WINDOWS

To run the FLEXlm license manager and the VRCO daemon that will manage the licenses, start lmtools.exe from the vGeo/licenses directory.

First, select the 'Service/License File' tab and indicate that licensing will be provided through a service. Select the 'Configuring using Services' radio button.

Next, select the 'Configure Services' tab and create a new service:

In the 'Service Name' text box, delete any existing text and create a new service name, e.g. 'vGeo'.

Next click the 'Browse' button for the 'Path to the lmgrd.exe file' and browse to the lmgrd.exe file in the vGeo/licenses directory.

Next select the 'Browse' button for the 'Path to the license file' and browse to the VRCO.lic file in the vGeo/licenses directory.

You may choose to have the license daemon started at boot-up by selecting the 'Use Services' check box, and then selecting the 'Start Server at Power Up' check box.

Finally, select 'Save Service'.

Next, start the license server from the 'Start/Stop/Reread' tab. On this tab, select 'Start Server'.

Your installation should now be complete. Refer to the *Quick Start and Demo Guide* for more instructions and an introduction to vGeo.

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The lmtools.exe is described in greater detail in the FLEXlm End Users Guide.

1.3 Terminology

license file (VRCO.lic) - A vendor supplied file. It supplies all of the information about the licenses for the software to the *vendor daemon*. The end-user can only modify certain variables in this file (please refer to the FLEXlm End User Manual), modifying the wrong variables will invalidate the licenses.

license manager daemon (lmgrd) - A FLEXlm executable, freely available from Globetrotter. It is responsible for starting the *vendor daemon*, which does the actual checking in and out of licenses specific to that vendor.

vendor daemon (VRCO, vrco.exe) - the vendor daemon is an executable supplied by VRCO that handles the requests for licenses from the application programs. The *vendor daemon* is never ran explicitly, it is always started by the *lmgrd* application, and killed by the *lmdown* application.

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