License Management
Software User's Guide

LYNX
SOFTWARE
TECHNOLOGIES

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Preface

Typographical Conventions

The typefaces used in this manual, summarized below, emphasize important concepts. All references to filenames and commands are case-sensitive and should be typed accurately.

Kind of Text	Examples
Body text; *italicized* for emphasis, new terms, and book titles	Refer to the *License Management Software User's Guide*

Environment variables, filenames, functions, methods, options, parameter names, path names, commands, and computer data	`ls`
	`-l`
	`myprog.c`
	`/dev/null`

Commands that need to be highlighted within body text, or commands that must be typed as is by the user are **bolded**.	`login:` **`myname`** `#` **`cd /usr/home`**
Text that represents a variable, such as a filename or a value that must be entered by the user, is *italicized*.	`cat <filename>` `mv <file1> <file2>`

Blocks of text that appear on the display screen after entering instructions or commands	`Loading file /tftpboot/shell.kdi into`
	`0x4000`
	
	`. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .`
	
	`File loaded. Size is 1314816`
	
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Keyboard options, button names, and menu sequences	**`Enter, Ctrl-C`**

For More Information

For more information, refer to the Release Notes and Installation Guide documents of the Lynx Software Technologies products.

Technical Support

Lynx Software Technologies handles support requests from current support subscribers. For questions regarding Lynx Software Technologies products, evaluation CDs, or to become a support subscriber; our knowledgeable sales staff will be pleased to help you. Please visit us at:

http://www.lynx.com/corporate/contact/support.php3

How to Submit a Support Request

When you are ready to submit a support request, please include *all* the following information:

- First name
- Last name
- Your job title
- Phone number
- Fax number
- E-mail address
- Company name
- Address
- City, State, ZIP
- Country
- LynxOS-178 or LynxOS version number
- Target Platform (for example, PowerPC)
- Board Support Package (BSP)
- Current Patch Revision Level
- Development Host OS version
- Description of problem you are experiencing
    - Priority of problem - Critical, High, Medium, or Low?
    - Is there a requirement for a US Citizen to work this issue?

Where to Submit a Support Request

By E-mail:

Support, Europe	tech_europe@lynx.com
Support, worldwide except Europe	support@lynx.com
Training and Courses	USA: training-usa@lynx.com Europe: training-europe@lynx.com

By Phone:

Training and courses	USA: +1 408-979-4353 Europe: +33 1 30 85 06 00
Support, Europe (from our Paris, France office)	+33 1 30 85 93 96
Support, worldwide except Europe and Japan (from our San José, CA, USA headquarters)	+1 800-327-5969 or +1 408-979-3940
Support, Japan	+81 33 449 3131

By Fax:

Support, Europe (from our Paris, France office)	+33 1 30 85 06 06
Support, worldwide except Europe and Japan (from our San José, CA, USA headquarters)	+1 408-979-3945
Support, Japan	+81 22 449 3803

Special Notes

The following notations highlight any key points and cautionary notes that may appear in this manual.

NOTE: These callouts note important or useful points in the text.

CAUTION! Used for situations that present minor hazards that may interfere with or threaten equipment/performance.

License Management Software User's Guide

CHAPTER 1 *Introduction*

This document is relevant to Lynx Software Technologies, Inc. products that use the License Management software based on the FLEXnet Publisher version 11.7 and higher.

The goal of the Lynx Software Technologies License Management Software is to enforce the Product License Agreement by controlling and monitoring access to licensed products. Lynx Software Technologies has chosen to utilize the FLEXnet Publisher licensing software (formally known as FLEXlm) as the basis for the Lynx Software Technologies License Management software. The License Management process requires licensed products to communicate with the license server and check out a license before the product can be used.

Lynx Software Technologies products that use the FLEXnet Publisher licensing software are provided license keys on an annual basis. License keys generally expire every 12 months and require renewal. The license key renewal will most often be triggered by the product's annual support renewal date.

The FLEXnet Publisher license server keeps track of how many licenses have been purchased and checks them out to the users wanting to start a protected product. For example, each developer who wants to run Lynx Software Technologies CDK tools shall start a development session by running the Lynx Software Technologies Session Manager (lwsmgr). The Session Manager sends the request to the FLEXnet Publisher license server. If a license is available, the FLEXnet Publisher license server will check out a license for that developer. Once a developer has successfully started a development session via lwsmgr, she may run the Lynx Software Technologies CDK tools. At the conclusion of a development session, the user checks the license back in using the Session Manager tool. The license is now available to other users.

Please note that some Lynx Software Technologies products and applications will check out a license directly from the FLEXnet Publisher license server.

The remaining sections of this document covers the installation of the Lynx Software Technologies License Management Software based on the FLEXnet Publisher (FLEXnet) version 11.7. This must be completed before it is possible to utilize any Lynx Software Technologies tools or products protected by this version of FLEXnet Publisher. After installation of the FLEXnet Publisher (FLEXnet)

software, the user must obtain and install a license key from Lynx Software Technologies.

If you are installing the Lynx Software Technologies License Management Software on the same system where the former version of the Lynx Software Technologies License Management Software has been already installed, see Chapter 6, "Running A Single License Server For Several Lynx Products" on page 27 to resolve potential compatibility issues.

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CAUTION! Only one instance of the Lynx Software Technologies vendor daemon (`lynxrtsd` or `lynxrtsd2`) can be simultaneously used on the same system. As a consequence, you cannot run the old and new versions of the Lynx License Management software on the same system.

Note that throughout the remainder of this document we will use the terms *"FLEXnet Publisher"* and *"FLEXnet"* interchangeably.

Currently the Lynx License Management software can be installed on the following systems:

- Red Hat Enterprise Linux 5 x86 (32/64-bit)

- Red Hat Enterprise Linux 6 x86 (32/64 bit)

- Window XP Professional

- Windows 7 Professional

- Solaris (7 and higher)

Note that the FLEXnet server must be visible to ALL clients on the network which need to "checkout" licenses.

Overview

FLEXnet is a client-server based licensing system that counts how many licenses are available and in use for a given licensed tool. A daemon called `lmgrd` runs on the license server and listens for license requests from protected products such as the Lynx Session Manager (`lwsmgr`). When a protected product starts, it checks a license file to find out where the license server is running. It then makes a request to the `lmgrd` daemon running on the server system or on the system where the product runs to check out a license. If a license is available, `lmgrd` issues it to the product, which can then continue to run normally. Periodically, `lwsmgr` must communicate with the `lmgrd` daemon to continue to run. When the product exits, the license is returned to the `lmgrd` daemon for someone else to use.

When started, the `lmgrd` daemon launches vendor daemons which are specified in the license file. The Lynx Software Technologies License Management Software uses the `lynxrtsd` daemon. Each vendor daemon handles license requests for the corresponding vendor's products, so a single `lmgrd` daemon can handle license requests from different vendor's products.

The Lynx software products are licensed using one of two possible methods:

- Node-Locked License

  A single host/target version of the Lynx software, locked to run on a particular host computer. An example would be a single license to run the Red Hat Linux-hosted LynxSecure CDK on a particular Red Hat Linux system. Each system is uniquely identified by host ID (`lmhostid` for older products that use FLEXnet v11.4) or composite host ID (for newer products based on FLEXnet v11.7) that can be displayed using the (`lwhostid2` command). For example:

  COMPOSITE=5566AB357FA2

- Floating License

  A single host/target version of the Lynx software, able to run on any networked host of the same type. An example would be a single license to run the Red Hat-hosted LynxSecure CDK on any Red Hat machine on the network that could see the network license server. Floating licenses are bound to particular server machine by its host ID (`lmhostid` for older products) or composite host ID (`lwhostid2` for newer products) and allow the product to be shared by different development hosts.

The server machine that runs the license daemon must be a stable, networked machine running one of the systems specified in the Introduction section. The server does not need to run on the same machine as the development machine where you run a Lynx product such as Lynx Session Manager (lwsmgr). For example, you may install the FLEXnet license server on a central Linux host and run lwsmgr on any system which is supported by the Lynx product as a development host and which has a network connection with the FLEXnet server.

For node-locked licenses, the FLEXnet license server and Lynx products are normally installed on the same system and bound to its lwhostid2 or lmhostid. It is also possible to use different systems for the FLEXnet license server and Lynx Software Technologies products.

For floating licenses, the FLEXnet license server and the Lynx cross development hosts are normally separate systems.

NOTE: You do not need to install Lynx License Management software if you are going to run the license server (lmgrd) on the same host where you installed your Lynx product that includes the Lynx Cross-Development Kit (CDK). The CDK already contains all license tools for that. This is a usual case when you purchase a node-locked license. You do need to install Lynx License Management software if you are going to run the license server on a separate machine.

After a server machine is chosen, the FLEXnet Publisher and Lynx License Management software is extracted from the CD-ROM. In the case of floating licenses, tools called lwhostid2 and lmhostid are run on the server to obtain the server's unique host ID. In the case of node-locked licenses, the lwhostid2 and lmhostid tool must be run on each host machine on which the Lynx products will run as well as the host on which the FLEXnet license server will run if this host is different from the cross development host. These host IDs are then sent to Lynx by email or fax by filling the License Key Request Form, and a key is then issued to the customer. Please refer to Chapter 4, "Obtaining a License" for complete details on getting the license from Lynx. Once it is obtained, the key is added to the license file and is used by the Lynx software and the lmgrd server.

NOTE: The system used for running the FLEXnet software can be different from the development host.

NOTE: There are two utilities in the FLEXnet Publisher and Lynx License Management software, lmhostid and lwhostid2. The lwhostid2 utility provides a composite host ID which is used by the Lynx vendor daemon, as well as by new Lynx products. The lmhostid utility provides a host ID which is used by older Lynx products. If you are going to use a single license server for the old and new Lynx products, please refer to Chapter 6, "Running A Single License Server For Several Lynx Products" on page 27.

This version of the Lynx License Management software is not compatible with the following Lynx products that are also based on FLEXnet software v11.7 but use a different method to calculate the host ID:

- LynxSecure 4.x and 5.0
- Luminosity 4.7/LOCI 4.7

NOTE: The Cross-Development Kits (CDKs) for Lynx products that use this version of Lynx License Management software include the same license utilities as in this Lynx License Management software for given host platform, except that lwhostid2 utility has the lwhostid name. This means that you do not need to install Lynx License Management software if you are going to run the license server (lmgrd) on the same host where you installed your Lynx product. This is a usual case when a node-locked license is used. You do need to install Lynx License Management software if the license server shall be run on a different host that has a different platform; for example, you run a Lynx product on a Linux 64bit development host and use a Windows or Linux 32bit host to run the license server.

Installing Lynx License Management Software

Installing Lynx License Management Software on Linux or Solaris Hosts

To install FLEXnet and Lynx License Management software on the Red Hat Linux or Solaris host, perform the following steps:

1. Verify that the License Management Version 2 CD-ROM is in the drive, that it is mounted, and that the user is logged in as `root` on the server machine.

2. Create the installation directory, for example.

```
# mkdir -p /usr/local/flexlm
```

NOTE: The license management software can be installed in any directory. By default, it is installed in the directory `/usr/local/flexlm`.

CAUTION! If the `/usr/local/flexlm` or other directory already exists and contains a previous version of the FLEXnet and Lynx License Management software, remove the existing version of the FLEXnet and Lynx License Management software or create a new installation directory to install this version of Lynx License Management software. You cannot use both versions simultaneously on the same machine

3. Change directory to the installation directory, for example:

```
# cd /usr/local/flexlm
```

4. Extract the license management software from the media. For example, if the CD- ROM is mounted at `<cdrom_mount_point>` and the License Management CD-ROM is in the CD-ROM device, enter (on Linux):

```
$ tar -xvzpf <cdrom_mount_point>/lynx/ \
FLEXnet/<media_num>.license_<host>.tgz
```

where *<cdrom_mount_point>* is the mount point (usually, /mnt/cdrom), *<media_num>* is a unique number assigned by Lynx, and *<host>* is linux32, or linux64.

On SunOS:

```
$ unzip <cdrom_mount_point>/lynx/ \
FLEXnet/<media_num>.license_sunos.tgz
  $ tar xf <cdrom_mount_point>/lynx/ \
FLEXnet/<media_num>.license_sunos.tar
```

5. Change directory to the directory where FLEXnet and Lynx License Management version 2 binaries are installed:

```
$ cd /usr/local/flexlm/v11.7/<host>
```

6. Execute the lwhostid2 command:

```
$ ./lwhostid2
lwhostid = "COMPOSITE=99EECCDD5577 COMPOSITE=3300AAFFEE22"
```

7. If the license server is supposed to serve older Lynx products, execute the lmhostid command:

```
$ ./lmhostid
    lmhostid - Copyright (C) 1989-2009 Acresso Inc. All Rights
    Reserved.
    The FLEXnet host ID of this machine is "001234567890
```

NOTE: Depending on particular host system, the lwhostid2 and lmhostid may return one or several host IDs.

NOTE: The network must be set up and running on the host, otherwise lwhostid2 and lmhostid may return nothing or complain.

CAUTION! Some Red Hat Enterprise Linux 6 x86 (32/64 bit) systems do not have eth* network interfaces which are needed for FLEXnet to work. Please ask your system administrator to add such interface. Or you can do it yourself using one of the methods available on the Internet (see an example below).

An example of adding the eth* interface on Red Hat Linux system is provided below:

1. Add biosdevname=0 to the /etc/grub.conf file:

```
$ su -
# GRUBKERNEL=`/sbin/grubby --default-kernel`
```

```
# /sbin/grubby --update-kernel=${GRUBKERNEL} --args='biosdevname=0'
&>/dev/null
```

2. Add the following lines to the /etc/udev/rules.d/70-persistent-net.rules file:

```
SUBSYSTEM=="net", ACTION=="add", DRIVERS=="?*", ATTR{address}=="<MAC-address0>", ATTR{dev_id}=="0x0", ATTR{type}=="1", KERNEL=="eth*",
NAME="eth0"
SUBSYSTEM=="net", ACTION=="add", DRIVERS=="?*", ATTR{address}=="<MAC-address1>", ATTR{dev_id}=="0x0", ATTR{type}=="1", KERNEL=="eth*",
NAME="eth1"
```

where *<MAC-address?>* is the real MAC address of the Ethernet card in your system, for example, 01:02:03:04:05:06

3. Rename the ifcfg-*config files in /etc/sysconfig/network-scripts to match the eth0 and eth1 interface name.

4. Reboot the system and re-run lwhostid2 and lmhostid commands.

Installing Lynx License Management Software on Windows host

To install FLEXnet and Lynx License Management software on the Windows host, perform the following steps:

1. Insert the License Manager CD-ROM into the CD-ROM drive (for example, drive D:).

2. Open My Computer to use Windows Explorer and create a new folder for the License Manager package (for example, C:\flexlm).

NOTE: The license management software can be installed in any folder. Normally, it is installed in the C:\flexlm folder.

CAUTION! If the C:\flexlm or other folder already exists and contains a previous version of the FLEXnet and Lynx License Management software, remove the existing version of the FLEXnet and Lynx License Management software or create a new installation folder to install this version of Lynx License Management software. You cannot use both versions simultaneously on the same machine.

3. Using Windows Explorer, copy the <drive>:\Lynx\FLEXnet\<media_num>.license_win32.zip file

to the installation folder (for example, `C:\flexlm`). The `<drive>` is the drive where the License Manager Version 2 CD-ROM is inserted, and `<media_num>` is a Lynx-assigned unique number.

4. In Windows Explorer, select and right-click the `<drive>:\Lynx\FLEXnet\<media_num>.license_win32.zip` file, and then click **Extract All**. In the Compressed (zipped) Folders Extraction Wizard, specify where you want to store the extracted files (for example, `C:\flexlm`).

5. Click the Start button, then click the **Run...** item. In the Run window, select `cmd` from the combo box and click **OK**. In the command window, go to the `v11.7\win32` subfolder of the installation folder. For example:

```
Microsoft Windows XP (version 5.1.2600)
<C>Copyright 1985-2001> Microsoft Corp.
C:\Document and Settings\user1> cd ..\..\flexlm
C:\flexlm>cd v11.7\win32
```

6. Run the `lwhostid2` command:

```
C:\flexlm\v11.7\win32>lwhostid2
lwhostid2 = "COMPOSITE=210987654321 COMPOSITE=109876543210"
```

7. If the license server is supposed to serve older Lynx products, execute the `lmhostid` command.

```
C:\flexlm\v11.7\win32>lmhostid2
lmhostid = Copyright (c) 1989 - 2009 Acresso Software Inc.
All Rights Resereved.
The FLEXnet host ID of this machine is ""12345678901"
```

NOTE: Depending on particular host system, the `lwhostid2` and `lmhostid` may return one or several host IDs.

Obtaining a License

Obtaining a License

To obtain a license, please complete and submit the FLEXnet license key request form (Document Name: `1127-02-FLEXlm_lic_key_request.doc`), that is provided with your product shipment. Once complete, the form can be emailed to `license@lynx.com` or faxed to (408) 979-3955.

You will be requested to supply the following information:

- Your contact information including a valid email address

- Product serial number

- Sales order number or purchase order number

- Product version and target platform

- The FLEXnet host specific information

CAUTION! If you are going to run on this machine Lynx products that use old versions of FLEXne Publisher software (v11.4), old versions of LynxSecure (4.x, 5.0), or Luminosity/LOCI 4.7, you shall run their license server (supplied with these products) on a different machine.

Getting the FLEXnet Host Information

The required host information includes the FLEXnet host ID, Lynx composite hostID and host name.

Getting the FLEXnet Host Information from Linux and Solaris

On the Red Hat Linux or Solaris system, perform the following steps:

1. Change directory to the installation location, for example:

```
# cd /usr/local/flexlm/v11.7/<host>
```

where `<host>` is linux32, linux64, or sunos.

2. Execute the `lwhostid2` command:

```
# ./lwhostid2
lwhostid = "COMPOSITE=99EECCDD5577 COMPOSITE=3300AAFFEE22"
```

3. Execute the `lmhostid` command:

```
# ./lmhostid
lmhostid- Copyright © 1999-2009 Acresso Software Inc. \
All rights Reserved.
```

The FLEXnet host ID of this machine is "001234567890"

4. Execute the `uname` utility to get host name, for example:

```
# uname -a
Linux licserver 2.6.18-92.el5 #1 SMP Tue Apr 29 13:31:30 EDT 2008 x86_64
x86_64 x86_64 GNU/Linux
```

In the above sample output, the second field shows the hostname, `licserver` in this example.

Getting the FLEXnet Host Information from Windows

On the Windows host, perform the following steps:

1. Change to the directory where the Lynx License Manager Software package is installed. From the Start menu, run Command prompt and then execute the following command:

```
C:\>cd \flexlm\v11.7\win32
```

2. Execute the `lwhostid2` command:

```
# ./lwhostid2
lwhostid = "COMPOSITE=99EECCDD5577 COMPOSITE=3300AAFFEE22"
```

3. Get the host ID.

Execute the `lmhostid.exe` command:

```
C:\flexlm\v11.7\win32>lmhostid.exe
lmhostid - Copyright (c) 1989-2009 Acressor Software Inc.. All Rights
Reserved.
The FLEXnet host ID of this machine is "001320623b89"
```

4. Get the host name.

   Find Full computer name by clicking the **Start** menu, right-clicking **My Computer**, selecting **Properties**, and activating the Computer Name tab.

NOTE: On some hosts, the lmhostid and lwhostid2 utilities may provide seven strings of hexadecimal digits. Use the first one as the lmhostid or lwhostid of the host.

NOTE: The lwhostid utility in this version was renamed to lwhostid2 to distinguish it from the previous version of Lynx License Management software.

After authorization, your licensing information file will be sent to you. Edit the license configuration file license.dat located in the installation directory (for example) /usr/local/flexlm/v11.7/<host> on Linux or Solaris host or in C:\flexlm\v11.7\win32 on Windows host.

The license.dat template file for Linux and Solaris is shown below.

```
SERVER <hostname> COMPOSITE=<lwhostid2> [port]
VENDOR lynxrtsd /usr/local/flexlm/v11.7/<host>/lynxrtsd2
USE_SERVER
```

Replace <hostname> and <lwhostid2> with your host name and lwhostid2 value. This example assumesd that you have installed the license software in the /usr/local/flexlm directory. If this is not true then, edit the VENDOR line to match your actual installation location.

The license file for Windows host looks like this:

```
SERVER <hostname> <COMPOSITE=lwhostid2> [port]
VENDOR lynxrtsd C:\flexlm\v11.7\win32\lynxrtsd2
USE_SERVER
```

This kind of the licenses can be used if the license server will be running on a different host than the development host.

On the host where the license server is to be run, install the license received from Lynx. The following example assumes that you installed the license software in the /usr/local/flexlm directory on Linux or Solaris host. If this is not true, edit the VENDOR line to match your actual installation location.

```
SERVER <hostname> COMPOSITE=<lwhostid2> [port]
VENDOR lynxrtsd /usr/local/flexlm/v11.7/<host>/lynxrtsd2 \
    options=/usr/local/flexlm/v11.7/license.opt
FEATURE LS51_TOOLS_linux_x86_64 lynxrtsd 1.0 27-oct-2012 1 \
    VENDOR_STRING=LynuxWorks HOSTID=COMPOSITE=86d089b60c00 \
    NOTICE=common SIGN="0CBB EE99 95CC C7C7 0303 \
    3232 0000 7474 5757 5757 C888 4444 BCDE DBAC 0014 0444 BBBB \
    4444 3333 2222 1111 0000 9999 8888 7777 6666 5555 4444 3333 \
    D2FC"
```

In the SERVER line, make sure that <hostname> correctly matches your host name and <lwhostid2> correctly matches your composite host ID.

NOTE: If you already have this version of Lynx License Management software running for products you received earlier from Lynx, add the lines from the new license except the SERVER and VENDOR lines to your existing license and execute the lmreread command.

NOTE: If you already have an older version of the Lynx License Management server running for products you received earlier from Lynx, see Chapter 6 for additional information.

NOTE: Be sure that the VENDOR line in your license specifies a path to the new lynxrtsd vendor daemon you have installed as described in Chapter 3.

CAUTION! The [port] in the SERVER and VENDOR lines specifies the port number(s) used for communications between the license sever, the vendor daemon, and the application. In case they are absent, the default port numbers are used. In case your network communications are controlled by a firewall, the default port numbers can be blocked. Ask your system administrator to provide a port number for the license server and add it to the SERVER line as a [port] value. If the vendor daemon is running on the same machine as the server, the VENDOR line normally does not need a port number argument.

CHAPTER 5   *Using the Lynx License Management Software*

Starting the FLEXnet License Management Server

Start the license manager daemon, `lmgrd`. The daemon `lmgrd` is the main daemon program for the FLEXnet distributed license management system. When invoked, it looks for the license file containing all required information about licensed products. The daemon should continue to run in the background.

On the Linux Redhat and Solaris hosts execute the following command:

```
$ cd /usr/local/flexlm/v11.7/<host>
$ ./lmgrd -c <license_file_list> &
```

where `<host>` is linux32, linux64 or sunos, and `<license_file_list>` is the list of full pathnames to the license files that the server should utilize. If there is more than one license file the list items should be separated by a colon

Another way to make `lmgrd` use a license file different from the default one is to set the `LM_LICENSE_FILE` environment variable prior to starting the server.

For example:

```
$ export LM_LICENSE_FILE=/usr/local/flexlm/v11.7/<host>/license.dat
$ ./lmgrd &
```

The `LYNXRTSD_LICENSE_FILE` environment variable can also be used to specify the license file absolute pathname or the list of absolute pathnames separated by a colon (on Windows, a semicolon). If both `LM_LICENSE_FILE` and `LYNXRTSD_LICENSE_FILE` are used, the latter will override the former.

FLEXnet Publisher environment variables can also be set in two other ways:

- In the process environment

- In the `$HOME/.flexlmrc` file (for Unix systems)

Check that the $HOME/.flexlmrc file is absent or does not contain the LYNXRTSD_LICENSE_FILE environment variable. If such file exists and contains environment variables that are needed for other vendor products, check that LYNXRTSD_LICENSE_FILE variable properly specifies the full pathname of your license file; otherwise, edit the value of the variable by adding the full pathname of your license file separated by a colon (on the Linux host).

It is convenient to have the host operating system start the daemon automatically at boot time. Consult your operating system's user manuals for more information. For example, on Linux, you can do that from the following scripts:

- /etc/rc.local
- /etc/rc[35].d/S*

On Windows host, use the following commands to start lmgrd from the Command Prompt window:

```
$ c:
$ cd \flexlm\v11.7\win32
$ lmgrd -c <license_file_list>
```

where <license_file_list> is the list of full paths to the license files that the server should take into account.

For example: c:\flexlm\v11.7\win32\license.dat

NOTE: The list items should be separated by a semicolon.

Another way to make lmgrd use a license file different from the default one is to set the LM_LICENSE_FILE environment variable prior to starting the server. To do this, use the **System->Advanced->Environment Variables** dialog from the Control Panel.

Edit or add the LM_LICENSE_FILE environment variable and add the full pathname of the license file.

Checking the Status of FLEXnet Server

Check the installation using the `lmstat` command. Make sure that the `lmstat` command is in your PATH and that the `LM_LICENSE_FILE` environment variable is set before trying to run it. For example, on RedHat Linux x86 64bit:

```
bash# export LM_LICENSE_FILE=/usr/local/flexlm/v11.7/linux64/license.dat
bash# export PATH=/usr/local/flexlm/v11.7/linux64:$PATH
bash# lmstat -a
```

The above sequence of commands should produce output similar to the following:

```
lmstat - Copyright (c) 1989-2009 Acresso Software Inc. All Rights Reserved.
Flexible License Manager status on Wed 5/26/2010 19:15
License server status: 27001@licserver
License file(s) on licserver: /usr/local/flexlm/v11.7/linux64/license.dat:
licserver: license server UP (MASTER) v11.7
Vendor daemon status (on licserver):
lynxrtsd: UP v11.7
Feature usage info:
Users of LS51_TOOLS_linux_x86_64: (Total of 3 licenses issued; Total of 2
licenses in use)
"LS51_TOOLS_linux_x86_64" v1.0, vendor: lynxrtsd
floating license
user1 host1 /dev/pts/6 (v1.0) (licserver/27001 206), start Wed 5/12 16:36
user2 host2 /dev/pts/6 (v1.0) (licserver /27001 602), start Mon 5/10 16:52
```

For additional information about license server commands, refer to the FLEXnet Publisher documentation provided in the **Docs** directory with the FLEXnet publisher software. It contains the PDF format documentation.

Stopping the License Management Server

To stop the License Management Server, use the `lmdown` command. For example:

```
# lmdown
lmdown - Copyright (c) 1989-2009 Acresso Software Inc. All Rights
Reserved.
Port@Host Vendors
1) 27000@licserver lynxrtsd
Are you sure (y/n)? y
15:24:37 (lmgrd) SHUTDOWN request from user2 at node licuser
15:24:37 (lmgrd) lmgrd will now shut down all the vendor daemons
15:24:37 (lynxrtsd) TCP_NODELAY NOT enabled
15:24:37 (lynxrtsd) Shutdown requested from user2@licuser
IP=192.168.1.2
15:24:37 (lynxrtsd) daemon shutdown requested - shutting down
15:24:37 (lmgrd) Shut down FLEXnet lynxrtsd license server system on
machine vald6
15:24:37 (lmgrd) EXITING DUE TO SIGNAL 15
1 FLEXnet License Server shut down
```

Starting the Lynx Session Manager

If the development host is the same as the FLEXnet server host, change to the directory in which the Lynx CDK is installed and set the environment.

For example, for LynxSecure:

```
$ cd <lwsecure-installation-directory>
$ . SETUP.bash [<cpu>]
```

To start the Lynx Session Manager, enter the following commands:

```
$ lwsmgr &
Session Manager started
```

NOTE: On the Windows host, the lwsmgr command may open the license management session window depending on the product. The license management session will run while this window is open. Closing the license management window stops the license management session.

If the development host is different from the FLEXnet server host, use one of the methods described below prior to starting lwsmgr.

Use a local copy of the license file.

1. Create the FLEXnet directory:

   ```
   $ mkdir -p /usr/local/flexlm/v11.7
   ```

2. Copy the license file from the FLEXnet server to the development host's FLEXnet directory:

3. Define the license data file:

   On the Linux or Solaris host:

   ```
   $ export LM_LICENSE_FILE=/usr/local/flexlm/v11.7/license.dat
   ```

   On the Windows host:

   ```
   $ export LM_LICENSE_FILE=`cygpath -w \
   /usr/local/flexlm/v11.7/license.dat`
   ```

NOTE: The license file can be installed in any directory.

The license file can be edited on the development host to replace all lines except for the SERVER and VENDOR lines with the following line:

```
USE_SERVER
```

··· Use a shared copy of the license file from the FLEXnet server using NFS.

1. Create the FLEXnet directory:

   ```
   $ mkdir -p /usr/local/flexlm
   ```

2. Mount the exported FLEXnet directory from the FLEXnet server:

   ```
   $ mount <FLEXlm_server>:/usr/local/flexlm /usr/local/flexlm
   ```

3. Define the license data file.

   ```
   $ export LM_LICENSE_FILE=/usr/local/flexlm/v11.7/license.dat
   ```

To start the Lynx Session Manager, enter the following command.

```
$ lwsmgr
Session Manager started
```

Once the Lynx Session Manager is started, the user can use the protected cross development tools.

More Information on the Lynx Session Manager

To stop the Lynx Session Manager, enter the following:

```
$ lwsmgr -s
Session Manager stopped
```

To check session information, enter the following:

```
$ lwsmgr
Current session status:

License type: floating license
Checkout date/time: Mon May 19 14:49:02 2014
Last auth date/time: Wed May 19 1910:44:24 2014
Expiration status: expires in 361 days
```

CHAPTER 6 *Running A Single License Server For Several Lynx Products*

The user may choose to run a single FLEXnet license server for several Lynx products that use different versions of the FLEXnet software. Compatibility issues may result from running more than one Lynx License Management daemon on the same system.

Lynx products which use FLEXnet protection can be divided in three Groups:

A) Products that use FLEXnet version 11.7 and this version of Lynx License Management software:

- LynxSecure 5.1 and higher

- LynxOS-178 version 2.2.x where x is 3 and higher

- LynxOS-SE 6.0.1

- LynxOS version 7.x.x

- Luminosity version 5.x.x (including SpyKer 5.x.x)

B) All Lynx products protected with FLEXnet version 11.4. These are all other Lynx products that use FLEXnet except LynxSecure 4.x, LynxSecure 5.0, Luminosity 4.7 and LOCI 4.7.

NOTE: LynxSecure 4.x, LynxSecure 5.0, Luminosity 4.7 and LOCI 4.7 products are not compatible with this version of Lynx License Management software and should use the previous version of the Lynx License Management software shipped with these products. They cannot be run on the same machine where this License Soft

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How to Run a Single FLEXnet v11.7 License Server for Lynx products from Groups A and B

This scenario assumes that the user already has one or more products from Group B (for example, LynxOS 5.0) which are running on some development hosts. The user also runs the FLEXnet v11.4 license server which is part of the Lynx License Management software supplied with Group B products. The license server may run on a separate host or on the same development host. The user wants to use a single license server to run both the products from Group B and new products from Group A (for example, LynxSecure 5.2)..

NOTE: In the following scenarios you should complete the Lynx FLEXnet License Key Request Forms separately for each new product from Group A.

Case 1. A floating license was purchased for Group A product

Run the `lwhostid2` utility on the system where the current license server runs, and put the output in the Lynx FLEXnet License Key Request Form (table Floating Licenses, row Composite lmhostid2 of LM server).

Case 2. A node-locked license was purchased for Group A product.

1. Run the `lwhostid2` utility on each development host where Lynx products from Group A will run, and put the output in the Lynx FLEXnet License Key Request Form.(table NODE-LOCKED, column Composite `lwhostid2`).

2. Run the `lmhostid` utility on the system where the current license server runs (including the license server host if it is also a development host for Group B products), and put the output in the Lynx FLEXnet License Key Request Form.(table NODE-LOCKED, column lmhostid.

NOTE: Select proper NODE-LOCKED table depending on whether the license server serves multiple development hosts or each development host runs its own license server.

Send this information together with the old license for products from Group B to Lynx to get a new license. After receiving the license from Lynx, execute the lmdown command on the license server host to stop the current license server, and start the license server received with Group A product(s) using the new license.