

Using the Intel® FLEXlm* License Manager

User's Guide

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1 About this Guide

This guide helps you get started using the Intel® FLEXlm* License Manager with your Intel® Software Development Product. This guide contains the following chapters and appendices:

- *1: About This Guide* – Describes the contents of this guide, related publications, and conventions used in this guide.
- *2: About the Intel® FLEXlm* License Manager* – Describes the supported platforms, license types, and how to obtain technical support.
- *3: Installing the Intel® FLEXlm* License Manager* – Describes the necessary steps in identifying host name and host id, registering your product serial number, downloading and installing the product, using the product for the first time and troubleshooting.
- *4: Using the Client Application for the First Time* – Describes how to set up the client application and use it for the first time.
- *5: Troubleshooting* – Explains how to create a debug log, how to open a support request, and addresses common issues and how to fix them.
- *6: Checklist* – Order of steps for Intel® FLEXlm* License Manager server/client Installation
- *Appendices* – Contains flowcharts showing troubleshooting steps.

1.1 Related Publications

For information on FLEXlm* software created by Macrovision Corporation, see <http://www.macrovision.com> for information on Intel Software Development Products, see <http://developer.intel.com/software/products>.

1.2 Conventions and Symbols

The following conventions are used in this document.

Table 1 Conventions and Symbols used in this Document

This type style	Indicates an element of syntax, reserved word, keyword, filename, computer output, or part of a program example. The text appears in lowercase unless uppercase is significant.
-----------------	---



This type style	Indicates the exact characters you type as input. Also used to highlight the elements of a graphical user interface such as buttons and menu names.
<This type style>	Indicates a placeholder for an identifier, an expression, a string, a symbol, or a value. Substitute one of these items for the placeholder.
Hyperlink	Indicates hyperlink.



2 About the © License Manager for FLEXlm*

Before you can use Intel® Software Development Products, you must have the correct license installed for the Intel products. The Intel® FLEXlm* License Manager is a collection of software components that helps you manage your license file in a multiple-user environment. The Intel FLEXlm* License Manager is included with your product purchase or can be downloaded separately. This document describes the installation and use of the Intel FLEXlm* License Manager for [supported platforms](#).

Counting the number of concurrent users is the main function of the Intel License Manager for FLEXlm*. You only need the Intel FLEXlm* License Manager when you have a counted license (see [License Types](#)). For uncounted license types, you need to install the license file, but not the Intel License Manager for FLEXlm*. See your product documentation for more information on installing the license file for an uncounted license.

2.1 Supported Platforms

While Intel Software Development Products are engineered for the Microsoft Windows*, Linux* and Mac OS* X, the Intel FLEXlm* License Manager is supported on all of the following platforms:

Microsoft* Windows* for IA-32, Intel® 64 and IA-64 architectures

Linux* IA-32, Intel® 64 and IA-64 architectures

Mac OS* X IA-32 and Intel® 64 architectures

All supported platforms are listed on the website at the link below where the Intel® FLEXlm* license server that best matches your license host server OS can be downloaded:

<http://software.intel.com/en-us/articles/performance-tools-for-software-developers-intel-flexlm-license-servers/>

You can run the Intel FLEXlm* License Manager on one of the supported platforms listed on the website, with Windows*, Linux*, or Mac OS* X



applications running on separate network nodes. For example, you can install the Intel FLEXlm* License Manager and license file on a supported Linux* Operating System to manage floating licenses for the Windows*, Linux* or Mac OS* X applications.

2.2 License Types

Before installing the Intel® License Manager for FLEXlm*, you should be familiar with the different license types and how they are used with Intel® Software Development Products. Some of the most commonly-used licenses include:

- Evaluation License (uncounted)
- Noncommercial-Use License (uncounted)
- Academic (counted or uncounted)
- Single-User License (uncounted)
- Node-Locked License (counted or uncounted)
- Floating License (counted)

Only the “counted” license types require the Intel License Manager for FLEXlm*. Node-locked and floating license types are used in multiple-user environments, and the Intel FLEXlm* License Manager monitors the number of concurrent users permitted in the [license file](#). For example, if your license permits 20 users, then the Intel FLEXlm* License Manager “checks out” a license to the first 20 users. Whenever the license count is less than 20, other licensed users may check out a license from the Intel FLEXlm* License Manager to run their application.

The differences between node-locked and floating license types are:

- With [node-locked license types](#), users access the Intel Software Development Product using an account on a central (node-locked) system on which both the Intel Software Development Product and the Intel FLEXlm* License Manager are installed. The Intel Software Development Products are not installed on remote systems. For example, a user might use Telnet to log into an account on the central system and use the command-line window and run the Intel Software Development Product on the node-locked system. Also, Windows* Terminal Server* and related X-window capabilities allow more than command-line window use.



- With [floating license types](#), users access the Intel Software Development Product on their local system, while the license use is controlled by one central system running the Intel License Manager for FLEXlm*.

2.2.1 Node-Locked License Configuration

There are two versions of the node-locked license:

- **Counted** – the license limits the number of concurrent users.
- **Uncounted** – the license does not limit the number of concurrent users. Please refer to End User License Agreement during the installation of Intel® product for usage policy.

In both cases, only the node where the application and Intel FLEXlm* License Manager are both running needs a license file. Consider the example illustrated in the following table:

Node	Operating System	Applications	Intel® License Manager for FLEXlm*	License File
A	Linux*	Intel® C++ Compiler Intel® Fortran Compiler	X	X
B	Windows*			
C	Mac OS* X			

In this example, the Intel® C++ Compiler for Linux*, the Intel® Fortran Compiler for Linux*, the Intel License Manager for FLEXlm*, and license file all run on Node A. Anyone on the network who can connect to Node A may run either application, as long as a license is available.

2.2.2 Floating License Configuration

With a floating license you can manage, from a single node, applications running on different nodes. Consider the example illustrated in the table below:

Node	Operating System	Application	Intel® License Manager for FLEXlm*	License File
A	Linux*		X	X
B	Windows*	Intel® C++ Compiler		X
C	Linux*	Intel® C++ Compiler Intel® Fortran Compiler		X



Node	Operating System	Application	Intel® License Manager for FLEXlm*	License File
D	Linux*	Intel® Fortran Compiler		X
E	Mac OS* X	Intel® C++ Compiler		X

In example above, the Intel License Manager for FLEXlm*, running on Node A, counts the number licenses in use. The license file on each node must be identical, but may use a different file name, provided all file names include a .lic extension.

2.2.3 Sample License File

The sample counted license file below is for an Intel FLEXlm* License Manager installed on Linux*. The same license file is used with Windows*, Linux* or Mac OS* X products that rely on the Intel FLEXlm* License Manager to serve and count licenses.

```
Sample FLEXlm* Counted License

SERVER mslid073 000629856A25 28518
VENDOR INTEL
PACKAGE I00000000002L INTEL 2003.1025 12222F8900CF \
  COMPONENTS="CCompW CCompL CCompM" OPTIONS=SUITE ck=86
SIGN=8BF3D0867076
FEATURE I00000000002L INTEL 2003.1025 permanent 20 FD312CFD3BA9 \
  VENDOR_STRING=SUPPORT=INT HOSTID=ANY PLATFORMS="i86_n ia64_n
i86_r \
  i86_re it64_lr it64_re i86_mac" DUP_GROUP=UH ck=127
SN=INT2002917543 \
SIGN=A3A79E168CD2
```

The essential components of the sample license file are listed below along with their corresponding values:

- **Host name:** mslid073
- **Host id (lmhostid):** 000629856A25
- **Port Number:** 28518
- **Supported Software Products:** CCompW (Intel® C++ Compiler for Windows*), CCompL (Intel® C++ Compiler for Linux*), CCompM (Intel® C++ Compiler for Mac OS* X)



- **Supported Product Platforms:** i86_n (Windows* on IA-32 architecture), i86_r, i86_re (Linux* on IA-32 architecture), ia64_n (Windows* on IA-64 architecture), it64_lr, it64_re (Linux* on IA-64 architecture), i86_mac (Intel®-based systems running Mac OS* X)
- **Intel Support Expiration Date:** 2003.1025 (October 25, 2003).
- **Product Expiration Date:** permanent (Never expires).
- **License Count:** 20.

Note: Editing any portion of the license file except host name or port number renders the entire license file invalid.

2.3 Latest Revision of User's Guide

The latest information about Intel FLEXlm* License Manager and use of FLEXlm in Intel software products can be found at:

<http://software.intel.com/en-us/articles/license-manager-for-flexlm-users-guide/>

2.4 Technical Support

Every new license purchase or renewal of an Intel® HPC (High Performance Computing) Software Development Product includes one year of support services and free product upgrades, which provides access to Intel® Premier Support.

- Intel® Compilers
- Intel® VTune™ Performance Analyzers
- Intel® Performance Libraries
- Intel® Threading Analysis Tools
- Intel® Cluster Tools

Intel® Parallel Studio customers also receive free product upgrades, and have the option of purchasing Intel® Premier Support. Details are available here: [Intel\(R\) Parallel Studio Purchase](#) . Intel Parallel Studio customers receive support primarily through the [Intel® Software Development Products Forum](#).

If you purchased a CD-ROM version of your product, then you must register your product with the Intel® Software Development Products Registration Center (<https://registrationcenter.intel.com/>) to activate your access to Intel® Premier Support (<https://premier.intel.com/>). All [license types](#) for the eligible products listed above, except the noncommercial-use license, qualify for Intel® Premier Support accounts.



3 Installing the Intel® License Manager for FLEXlm*

You only need to install the Intel FLEXlm* License Manager if you are using a counted license (see [License Types](#)). Once you have purchased an Intel® Software Development Product, follow these steps to install the Intel FLEXlm* License Manager and invoke your product:

1. [Identify host name and host id](#)
2. [Register your product serial number](#)
3. [Download and install the product](#)

If you have a counted license or a node locked license, if you change the media access control (MAC) address or physical address of the system on which the FLEXlm server is installed, you must request a new license file from Intel® Premier Support. When requesting a new license, please provide the hostname and the lmhostid. See the following section for how to obtain the hostname and lmhostid for your system.

3.1 Identifying the Host Name and Host ID

The host name and host ID are system-level identifiers on [supported platforms](#) that are used in the [license file](#) to identify the node on which you plan to install the Intel FLEXlm* License Manager and license file. To enable you to obtain a counted license, these unique values must be available when you register your product. For node-locked licenses, you will also need the host name and host id of the node from which your applications will run, if different from the node for the Intel License Manager for FLEXlm*. Follow these directions to obtain the host name and host id for each supported platform:

3.1.1 Microsoft Windows*

1. From the **Start** menu, click **Run...**
 2. Type cmd in the **Open:** field, then click **OK**.
 3. Type ipconfig /all at the command prompt, and press **Enter**.
- In the resulting output, host name is the value that corresponds to Host Name, and host id is the value that corresponds to Physical Address.

For example, if the output of ipconfig /all included the following:



```
Host Name . . . . . : mycomputer
. . .
Physical Address . . . . : 00-06-29-CF-74-AA
```

then host name is mycomputer and the host ID is 00-06-29-CF-74-AA.

3.1.2 Linux*

1. Run the hostname command to display the host name.
2. Run the command /sbin/ifconfig eth0 to display the hardware address.

For example, if the /sbin/ifconfig eth0 command returns HWaddr 00:D0:B7:A8:80:AA, then the host ID is 00:D0:B7:A8:80:AA.

It is strongly recommended that users run the lmhostid utility to obtain the hostid value required to generate the counted licenses. The lmhostid utility can be found in the install location to which Intel FLEXlm* License Manager is installed.

3.1.3 Mac OS* X on Intel® Architecture

1. Run the hostname command to display the host name.
2. Run the command /sbin/ifconfig en0 ether to display the hardware address.

The following is an example of an address that could be returned by this command:

```
en0:
flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST>
mtu 1500 ether 00:13:20:60:23:4f
```

It is strongly recommended that users run the lmhostid utility to obtain the hostid value required to generate the counted licenses. The lmhostid utility is installed to the same location as the Intel License Manager for FLEXlm*.

3.1.4 SGI* Altix*

If you are using SGI* Altix*, you must run the lmhostid utility to obtain the hostid value required to generate the counted licenses. The lmhostid utility can be found in the install location to which Intel FLEXlm* License Manager is installed.



3.2 Registering Your Product Serial Number

Next, register each product serial number at the Intel® Software Development Products Registration Center (<https://registrationcenter.intel.com/>). The registration process is required for the following reasons:

- For electronically-transferred products, registration is the only means to obtain the required license file and download location for the software.
- For boxed (CD-ROM) products, registration is the only means to activate Intel® Premier Support and receive product updates. Note: CD-ROM products are encoded with a Single-User license. Therefore, they cannot be used with the Intel License Manager for FLEXlm*.
- For counted licenses, registration is the process by which the [host name and host id](#) are sent to Intel® Premier Support (<https://premier.intel.com/>) for license creation.
- If you intend to install and configure two or three redundant license host servers, you must specify the host name and host id for each of your license host server systems when you register your floating or nodelocked license(s). If you have two redundant license host servers specified, both must be running and accessible from your client systems at all times. If you have three license host servers specified, at least two of them must be running and accessible from your client systems at all times.
- To change your license host server information in your floating or nodelocked license, i.e. when you need to move your license host server to a new system, please follow the instructions in section 3.3.

Go to the Intel® Software Development Products Registration Center and complete each step. If you do not have an existing Intel® Premier Support account for your product, click on **Register for Intel® Premier Support** on the screen thanking you for registration.

3.3 Changing Server/Host Data for Your Product License

NOTE: If your floating or nodelocked licenses are active, you may make changes to the host id information for your licenses. If your floating or nodelocked licenses have expired Support, you submit an issue to [Intel Premier Support](#) or to



the [Downloads, Licensing and Registration User Forum](#) to request that an Intel Support Engineer modify your license host id information.

1. Login to the Intel® Software Development Products Registration Center (<https://registrationcenter.intel.com/>) by entering your Login ID and Password in the Registered Users Login section of the web page. You will see a list of all products you have subscribed.
2. In Product Subscription Information page, for each product you have subscribed, you will see the product name, component names, link to latest version available for download and posted date of the version available for download. [NOTE: Expired registrations are shown only if you check the "Show Expired Registrations" check box at the top of the page.]
3. Click on any of the products subscribed to see your product subscription history. This includes serial number and support status with license expiration date. You will also be provided with links to manage the license information and links to renew your subscriptions. [NOTE: Expired serial numbers can be viewed by checking the "Show Expired serial number" check box on the top right corner of this page.]
4. Click on the "Manage" link for the serial number you wish to change.
5. You will be provided with the license file information page. Click on the "Modify Host Information" link at the bottom of this page.
6. Enter the new server/host information and click "Submit". If you do not get any errors, then click on "Resend license file to my email". You will receive your new license file via email shortly.
7. After you receive your updated .lic license file, you must replace the old license file with the new one on your license host server system(s). If you use a combined license file (see section 4.3 in the Intel FLEXlm* User Guide), you must update your combined license file with the new license information.
8. After your new license file or updated combined license file is on your license host server system(s), you must restart your license host server process on the license host server system(s) so your new license file or updated combined license file will be re-read.

3.4 Redundant License Host Servers

Intel software product licenses can support up to three redundant license host server systems. Please follow the steps below to ensure your floating licenses and your license host server systems have been properly set up for the multiple license server configuration.



1. Please ensure that your host ids and host names are unique for the three servers. Using a duplicate host name and host ID will not allow the license file to generate successfully during registration. If you only have two license host server systems, enter a valid system name and host id for another system you do not intend to use as a license host server system, but remember that both of your valid license host server systems must be up and running at all times.
2. If you intend to install and configure two or three redundant license host servers, you must specify the host name and host id for each of your license host server systems when you register your floating or nodelocked license(s). If you only have two license host server systems, enter a valid system name and host id for another system you do not intend to use as a license host server system, but remember that both of your valid license host server systems must be up and running at all times.
3. Please double-check that all your floating or nodelocked licenses are registered for the same three unique, correct host names/host ids. If you need to update any of your floating or nodelocked licenses to correct the host names/host ids, please follow the instructions in section 3.3. You must also follow these instructions when you move one or more of your license host servers to a new system.
4. Please make sure at least two license host servers are up and running when the license is checked out from the client system. That is to say, the Intel® FLEXlm* License Manager should be started by selecting the right license filei(s) on at least two license host servers where it is installed.

NOTE: If your floating or nodelocked licenses are active, you may make changes to the host id information for your licenses. If your floating or nodelocked licenses have expired Support, you submit an issue to [Intel Premier Support](#) or to the [Downloads, Licensing and Registration User Forum](#) to request that an Intel Support Engineer modify your license host id information.

5. If you are using a three-server redundant configuration then at least two must be up and running to make a “quorum” and permit the license to be checked out. You need to start all three license servers to establish a quorum of two. If you do not intend to have all three (or at least two) of the servers running at



all times, we recommend using a single license server instead of a three-way redundant license server.

6. If you have only one server running of the three servers keyed into the license, you will likely see the -97 error (see below) for "vendor daemon is down", so you also check that the daemon is running on each server system.

FCompW: The desired vendor daemon is down

- a) Check the lmgrd log file, or
- b) Try the lmread command:

Feature: FCompW

Vendor:Host: sl-ecs-snag-01

License path: 28518@sl-ecs-snag-01;C:\PROGRA~2\Intel\Compiler\Fortran

-

\100~1.026\Ia32\Bin*.lic

FLEXlm error: -97,121

For further information, refer to the FLEXlm End User Manual, available at "www.macrovision.com".

3.5 Downloading and Installing the Product Files and Intel FLEXlm* License server

Product File Downloads

After you register your product serial number, you will receive e-mail instructions to download your Intel® Software Development Product. Obtain your product download by going to the URL included in the instructions.

If you have a current product license, you can download any version of the software, and if your current product license is entitled to Premier Support, you have access to submit questions through the Intel Premier Support system.

Once the license has expired, downloads are only available to you for product versions with a Build Date on or before your license Support Expiration date. If



your product license entitles you to Intel® Premier Support, Intel's policy is to restrict your account from submitting new questions, but you will still be able to view and communicate on your previous Premier Support issues. As soon as the expired product license has been renewed, access will be restored for downloads of all product versions, and for submitting new issues to Premier Support for entitled products.

After downloading your product, begin by unpacking the installation program, if necessary. See the product Release Notes for installation details. When you begin the product installation, you will need to identify the location of the license file you received with your product. The installation will proceed only if you have a valid license file.

Intel® FLEXlm* License server downloads

If you are using counted licenses, you will also be required to install Intel License Manager for FLEXlm*. For uncounted (Single User) licenses, do not use the Intel License Manager for FLEXlm*, only for floating and nodelocked Intel software product licenses.

Remember that the OS of the server system where the Intel® FLEXlm* License Manager is installed is irrelevant to the OS for the license(s) it supports. So the Intel® FLEXlm* License Manager can be installed on either Windows*, Linux*, or Mac OS* X machines regardless of the OS for each of your floating and nodelocked Intel software product licenses.

You can download the Intel® FLEXlm* License Manager using either of the following options for the Intel® FLEXlm* License Manager server that corresponds to your combination of operating system and Intel® processor for your license host server system:

Option 1:

Login to the [Intel® FLEXlm* License Servers catalog](http://support.intel.com/support/performance/sb/CS-023219.htm) (<http://support.intel.com/support/performance/sb/CS-023219.htm>). The most recent version of the User Guide for the Intel® FLEXlm* License Manager is also available at

<http://software.intel.com/en-us/articles/license-manager-for-flexlm-users-guide/>

Option 2:

1. Login to the Intel® Software Development Products Registration Center at <https://registrationcenter.intel.com/>.



2. Select **Product Downloads**.
3. Select **Intel FLEXlm* License Manager** from the product list.
4. Select the appropriate operating system from the dropdown list.
5. Click on the hyperlink for each license server file you want to download.

You must download the FLEXlm* server that matches the operating system where you are planning to install the license server, not for the operating system that matches the product license type for the client applications (Intel® Software Products). For example, you can install the license server for a Mac OS* X system to manage Intel product license seats for Windows*, Linux* and/or Mac OS* X software products.

3.5.1 Starting the Intel® FLEXlm* License Manager on Windows*

1. Download the .zip file for Windows* License Manager.
2. Unzip the file downloaded from previous steps.
3. Run the setup for license manager installation. Provide the path to license file during the installation of License Manager. Finish the installation process. The license manger should start automatically as a service.

If you do not have a license file during the installation process, you can still install the license manager by checking the option to install without the license file. After installing the Intel FLEXlm* License Manager without the license file, you must start the License Manager before running your product. Follow these steps to start the Intel FLEXlm* License Manager on Windows*:

1. From the Windows* **Start** menu, select **Programs > Intel® Software Development Tools > Intel® FLEXlm License Manager > Configure Intel® FLEXlm License Manager**.
2. Select the license file.
3. Click **Apply** and close the window.

You will also be required to follow the above steps if you wish to restart the License Manager with a new or updated license file to allow the license server to re-read the new license information.



3.5.2 Installing and starting the Intel® FLEXlm* License Manager on Linux* and Mac OS* X

Follow the steps below to install the software for the Intel® FLEXlm* License Manager on Linux* or UNIX systems. Also follow these steps to install FLEXlm* server on Mac OS* X:

1. Place the downloaded package flexlm.<platform>.tar.gz in the directory to which you wish to extract its files. This need not be the same location in which you plan to install the Intel FLEXlm* License Manager files.
2. Extract the files from the package with the following command:
tar -zxvf flexlm.<platform>.tar.gz

This command extracts the files and prepares you for installation.

3. Use the cd command to move to the flexlm/ directory created by the above step.
4. Run the Install_INTEL script and follow the directions to install and configure the Intel License Manager for FLEXlm*.
5. On Linux* and Mac OS* X, the INTEL executable is named INTEL (not intel.exe as it is on Windows*).
6. The INTEL executable is located in the extraction folder, (e.g “`pwd`/ flexlm”) for flexlm.Linux*.EL3.tar.gz, for example.
7. “`pwd`/ flexlm/INTEL” is a binary executable file.
8. To run the file, the user must have executable access to it. Since the executable access might be lost during extraction and copying of files from Windows* to Linux*, use a command like one of the two listed below to set the executable access for the file.

```
chmod 777 /flexlm/INTEL
```

or

```
chmod +x “`pwd`/flexlm/INTEL”
```



3.5.3 Starting the Intel® FLEXlm* License Manager automatically on Linux* after reboot

To configure the Intel FLEXlm* License Manager to start automatically, follow these steps.

For Linux*, add the following steps to the system startup files (for example, /etc/init.d/rcX.d directories, where X is 1, 2, 3, or 5) to ensure that the FLEXlm* server starts after reboot. It is important that network has been initialized before the FLEXlm server is started. Ensure that there is a white space (“ ”) between each argument. It is not necessary for server start up to be done as root.

1. `cd <server-directory>`
2. ``pwd`/lmgrd.intel -c `pwd`/<licensefile> -l `pwd`/<log file>`

Ensure that the change directory (cd command) is set to the one created in Step 1 above.

The -c <license file> should point to the license file copied to the server directory from the registration e-mail. Use the full path to the license file, including the full license file name.

The -l <log file> will capture information that will be useful for debugging unanticipated server or license check-out problems. Use the full path where the logfile should be created, including the logfile filename.

3.5.4 Shutting Down or Removing the Intel® FLEXlm* License Manager on Linux* and Mac OS* X

To shut down or remove the Intel FLEXlm* License Manager from Linux*, UNIX or Mac OS* X systems, follow these steps:

1. Move to the <server-directory>.
2. Execute the command:
`lmdown -c <license file>` (use the full path)
3. Killing the lmgrd.intel and INTEL processes is not recommended. However, if lmdown cannot successfully shut down the Intel License Manager for FLEXlm*, you may need to kill those processes.
4. To permanently remove the Intel License Manager for FLEXlm*, delete the lines that were added to the system startup files (for example, /etc/init.d/rcX.d directories, where X is 1, 2, 3, or 5). This step only applies to some Linux* systems.



3.5.5 Verifying the Intel® FLEXlm* License Manager on Linux* and Mac OS* X

Follow these steps to verify that the Intel FLEXlm* License Manager is running on Linux*, UNIX or Mac OS* X systems:

1. Move to the <server-directory>.
2. Execute the command `lmstat -c <license file>`. Use the full path to the license file, including the full license file name.

3.5.6 Compatible Versions of Intel® FLEXlm* License Manager and Vendor Daemons

In a complex installation of multiple FLEXlm* licensed products, which includes daemons from different vendors, a single `lmgrd` is used to manage the use of all licensed products. You can use any `lmgrd` whose product version (`lmgrd -v`) is greater than or equal to all of the vendor daemons' product versions. If your `lmgrd` version is less than any of the vendor daemons versions, server start-up failures may result.



4 Using the Client Application for the First Time

You must complete the following steps to use the Intel FLEXlm* License Manager for the first time:

1. Install the client application
2. Set the `INTEL_LICENSE_FILE` environment variable
3. Combine multiple license files

4.1 Installing Client application

If you are using counted licenses, you can install the client application without starting the FLEXlm server by providing the complete path to the complete license file during the installation process. The complete license file includes:

- SERVER line(s)
- VENDOR line
- PACKAGE line(s)
- FEATURE/INCREMENT line(s)

Note: You cannot use the `port@server` mechanism or the `USE_SERVER` mechanism during the installation of client application. You would need a complete license file residing on the client system during the process of installing a client application.

4.2 Setting INTEL_LICENSE_FILE Environment Variable

Once you have installed the Intel FLEXlm* license server on your host license server system and installed the client application, the `INTEL_LICENSE_FILE` environment variable must be set. Most Intel software products have an environment variables file, e.g. `iccvars.sh` for the Intel C++ compiler, that can be run to set up the `INTEL_LICENSE_FILE` variable correctly. This environment variable must be set for proper authentication of the product license file.



Other ways to set up the INTEL_LICENSE_FILE environment variable:

On Windows* follow these steps, or the equivalent:

1. Click **Start >> Control Panel > System > Advanced > Environment Variables**
2. Under system variables click **New**.
3. Enter `INTEL_LICENSE_FILE` in the text box for **Variable Name**.
4. In the **Variable value** text box, input the full path to the folder where one or more licenses reside.
5. Click **OK > OK > OK**.

On Linux*, UNIX* and Mac OS* X systems, the commands used to set the environment variables depend on the shell.

- C shell, use the `setenv` command:

```
% setenv INTEL_LICENSE_FILE </path/to/license/file>
```

- Bourne shell (sh), Korn shell (ksh), and bash shell, use the `export` and assignment commands:

```
$ export INTEL_LICENSE_FILE=</path/to/license/file>
```

where, `</path/to/license/file>` should be the folder in which one or more license files reside. You can provide multiple path values to the `INTEL_LICENSE_FILE` variable by using “:” as a separator. For example,

```
$ export INTEL_LICENSE_FILE=/opt/intel/licenses:$HOME/intel/licenses
```

4.2.1 Counted Licenses and Alternatives

If the Intel® software product you are using is enabled for counted licenses, which require a FLEXlm server, you do not need to use the exact copy of the counted license on the local system from which you run the Intel software product; there are two alternatives:

- **Alternative 1**
USE_SERVER mechanism for counted licenses: on the systems from which you will execute Intel Software Development tools, you can use a license file with USE_SERVER directive. The license file would be in the following format:



```
SERVER <server name> <hostid> <port>
USE_SERVER
```

where <server name>, <hostid> and <port> all come from the SERVER line in the license file which was used to install the FLEXlm server. The INTEL_LICENSE_FILE environment variable should point to the license file.

- **Alternative 2**

port@host mechanism for counted licenses: on the systems from which you will execute Intel Software Development tools, you can set the INTEL_LICENSE_FILE variable to port@host. The host and port information are in the SERVER line in the license file used to install the FLEXlm* server.

The port@host mechanism does not work if you use it in a license file instead of setting the INTEL_LICENSE_FILE environment variable to port@host.

4.2.2 How to Specify port1 and port2 for License Servers

Intel's FLEXlm specifies two ports:

1. SERVER host_name host_id port1 -- This one is specified in the product license for 28518)
2. VENDOR INTEL port=port2 -- Usually we specify port1 to 28518 and port2 is omitted (then system will choose one randomly).

However, you may specify port2 to a fixed value and open that port too on the firewall. Make sure the correct port id specified in your license file(s), as in the following example from a license file:

```
SERVER mslid073 000629856A25 28518 ["28518" is the port number]
```

3. You can add a port exception to allow the FLEXlm* license server daemon, Intel FLEXlm* License Manager license server vendor daemon and application using these daemons to communicate as usual. You must execute both step 4 and step 5. Failure to do so causes the FLEXlm license server not to work.
 - a. Click Start > Run. Type Wscui.cpl, and click OK.
 - b. In the Windows* Security Center window, click Windows* Firewall.
 - c. Click on the Exceptions tab and click Add Port.
 - In the Dialog Box, enter Intel FLEXlm license server vendor daemon in the Name field.
 - Enter the TCP-IP port number of the Intel FLEXlm license server daemon in the Port number field. (You can obtain the port number by looking at IFLEXLmLog.txt, which is created under C:\Program Files\Common Files\Intel\FLEXlm. IFLEXLmLog.txt



- is in a line with the following type: INTEL using TCP-port X, where X is the port number.)
- Click OK.
- d. Click on Add Port.
- In the Dialog Box, enter FLEXlm License Server Daemon (lmgrd.intel.exe) in the Name field.
 - Enter the TCP-IP port number of FLEXlm License Server Daemon in the Port number field. (You can obtain the port number by looking at the IFLEXLmLog.txt, which is created under C:\Program Files\Common Files\Intel\FLEXlm. IFLEXLmLog.txt is in a line of the following type: lmgrd tcp-port using tcp-port Y, where Y is the port number.)
 - Click OK.
4. Make sure that when you update your license file(s), the license file(s) on the license host server{s} and the client systems are the same, and that you restart the license host server(s) after you complete your updates to the port settings and any updates to the license file(s).
5. Make sure the INTEL_LICENSE_FILE environment variable is pointing to the right license file.

4.3 Combining Multiple License Files

Criteria for Combining License Files

Your product's license file(s) define the license server(s) by host name and hostid in the SERVER line(s) in the license file. License files are candidates for combining under the following conditions:

1. The number of SERVER lines in each file is the same.
2. The hostid field of each SERVER line in one file exactly matches the hostid field of each SERVER line in the other file.

Note that you are not required to combine compatible license files. There is no performance or system-load penalty for not combining the files.

Some possible reasons license files may not be compatible are:

1. License files are set up to run on different server machines, so hostids are different.
2. One file is set up for single server (has only one SERVER line), the other is set up for a three-server redundant license server (has multiple SERVER lines). For



further information on using redundant servers, see the Intel FLEXlm user guide and the information at <http://software.intel.com/en-us/articles/redundancy-server-notes/>

Instructions for Combining License Files

Combine multiple license server files into a single license file by performing these steps:

1. Concatenate the files.
2. Remove the duplicate `SERVER` and `VENDOR` lines.

Note: The expiration dates can be different and the number of seats can be different in license files but the `lmhostid` and `hostname` values in the license files should be the same. If you are combining multiple counted license files for a single product, you need to make sure that following additional requirements are being met:

3. Only one license file has `FEATURE` line and all other license files have `INCREMENT` lines (see example below on how `File0001.lic` and `File0002.lic` were combined into a single license file `File0003.lic`).

If this requirement is being met, you can simply concatenate the license files and remove the duplicate server and vendor lines by making sure that the license with `FEATURE` line is the first key in the combined license file and licenses with `INCREMENT` lines follow it (`File0003.lic`).

4. Or, all the license files of the same product have `INCREMENT` lines instead of `FEATURE` lines (see below how `File0004.lic` and `File0005.lic` were combined into a single license file `File0006.lic`).

If this requirement is met, you can simply concatenate the license files and remove the duplicate server and vendor lines (`File0006.lic`). If you are combining multiple counted license files where each counted license file is for a unique product, you can simply concatenate them and remove the duplicate server and vendor lines.

5. When you update your combined license file, make sure the license file on the license host server and on the client systems are the same, and that you restart the license host server after you complete your updates to the license file(s).
6. Make sure the `INTEL_LICENSE_FILE` environment variable is pointing to the right license file.

Examples:

Examples are provided below for demonstration purposes only.



In the example below, both the File0001.lic and File0002.lic are for Intel® C++ Compiler for Windows*. File0001.lic has FEATURE line and is for 20 seats while File0002.lic has INCREMENT line and has 20 seats. You can merge these two license files into a single license file File0003.lic which can serve 40 seats.

File0001.lic

```
SERVER svr025.testserver.com 832d87d8 28518
SERVER svr026.testserver.com 832d7b86 28518
SERVER svr027.testserver.com 832d895e 28518
VENDOR INTEL <path to the vendor daemon options file (optional)>
PACKAGE I0000000000001 INTEL 2004.1003 2279DFB555D4
COMPONENTS=CCompW \
    OPTIONS=SUITE ck=88 SIGN=F452A16CA51C
FEATURE I0000000000001 INTEL 2004.1003 permanent 20 2C55559573D2 \
    VENDOR_STRING=SUPPORT=COM HOSTID=ANY PLATFORMS="i86_n ia64_n"
\
    DUP_GROUP=UH ck=92 SN=SMSA35123769 SIGN=E7EDE36EB6AE
```

File0002.lic

```
SERVER svr025.testserver.com 832d87d8 28518
SERVER svr026.testserver.com 832d7b86 28518
SERVER svr027.testserver.com 832d895e 28518
VENDOR INTEL <path to the vendor daemon options file (optional)>
PACKAGE I0000000000001 INTEL 2004.1003 2279DFB555D4
COMPONENTS=CCompW \
    OPTIONS=SUITE ck=88 SIGN=F452A16CA51C
INCREMENT I0000000000001 INTEL 2004.1003 permanent 20 2C55559573D2
\
    VENDOR_STRING=SUPPORT=COM HOSTID=ANY PLATFORMS="i86_n ia64_n"
\
    DUP_GROUP=UH ck=92 SN=SMSA376935123769 SIGN= EB6AE E7EDE36
```

File0003.lic - Combined single file for Intel® C++ Compiler for Windows*

```
SERVER svr025.testserver.com 832d87d8 28518
SERVER svr026.testserver.com 832d7b86 28518
SERVER svr027.testserver.com 832d895e 28518
VENDOR INTEL <path to the vendor daemon options file (optional)>
PACKAGE I0000000000001 INTEL 2004.1003 2279DFB555D4
COMPONENTS=CCompW \
    OPTIONS=SUITE ck=88 SIGN=F452A16CA51C
FEATURE I0000000000001 INTEL 2004.1003 permanent 20 2C55559573D2 \
    VENDOR_STRING=SUPPORT=COM HOSTID=ANY PLATFORMS="i86_n ia64_n"
\
    DUP_GROUP=UH ck=92 SN=SMSA35123769 SIGN=E7EDE36EB6AE
PACKAGE I0000000000001 INTEL 2004.1003 2279DFB555D4
COMPONENTS=CCompW \
    OPTIONS=SUITE ck=88 SIGN=F452A16CA51C
INCREMENT I0000000000001 INTEL 2004.1003 permanent 20 2C55559573D2
\
```



```

VENDOR_STRING=SUPPORT=COM HOSTID=ANY PLATFORMS="i86_n ia64_n"
\
DUP_GROUP=UH ck=92 SN=SMSA376935123769 SIGN= EB6AE E7EDE36

```

In the next example, both the File0004.lic and File0005.lic are for Intel® Visual Fortran Compiler for Windows*. Notice both File0004.lic and File0005.lic have the INCREMENT line, no FEATURE lines, and are for 20 seats. You can merge these two license files into a single license file File0006.lic to serve all 40 seats.

```

File0004.lic
SERVER svr025.testserver.com 832d87d8 28518
SERVER svr026.testserver.com 832d7b86 28518
SERVER svr027.testserver.com 832d895e 28518
VENDOR INTEL <path to the vendor daemon options file (optional)>
PACKAGE I0000000000001 INTEL 2004.1003 2279DFB555D4
COMPONENTS=FCompW \
    OPTIONS=SUITE ck=88 SIGN=F452A16CA51C
INCREMENT I0000000000001 INTEL 2004.1003 permanent 20 2C55559573D2 \
    VENDOR_STRING=SUPPORT=COM HOSTID=ANY PLATFORMS="i86_n ia64_n"
\
DUP_GROUP=UH ck=92 SN=SMSA12373569 SIGN=DE36EE7EB6AE

```

```

File0005.lic
SERVER svr025.testserver.com 832d87d8 28518
SERVER svr026.testserver.com 832d7b86 28518
SERVER svr027.testserver.com 832d895e 28518
VENDOR INTEL <path to the vendor daemon options file (optional)>
PACKAGE I0000000000001 INTEL 2004.1003 2279DFB555D4
COMPONENTS=FCompW \
    OPTIONS=SUITE ck=88 SIGN=F452A16CA51C
INCREMENT I0000000000001 INTEL 2004.1003 permanent 20 2C55559573D2 \
    VENDOR_STRING=SUPPORT=COM HOSTID=ANY PLATFORMS="i86_n ia64_n"
\
DUP_GROUP=UH ck=92 SN=SMSA35912376 SIGN=E7EEDE36EB6A

```

```

File0006.lic - Combined single file for Intel® Visual Fortran Compiler for Windows*
SERVER svr025.testserver.com 832d87d8 28518
SERVER svr026.testserver.com 832d7b86 28518
SERVER svr027.testserver.com 832d895e 28518
VENDOR INTEL <path to the vendor daemon options file (optional)>
PACKAGE I0000000000001 INTEL 2004.1003 2279DFB555D4
COMPONENTS=FCompW \
    OPTIONS=SUITE ck=88 SIGN=F452A16CA51C
INCREMENT I0000000000001 INTEL 2004.1003 permanent 20 2C55559573D2 \
    VENDOR_STRING=SUPPORT=COM HOSTID=ANY PLATFORMS="i86_n ia64_n"
\
DUP_GROUP=UH ck=92 SN=SMSA12373569 SIGN=DE36EE7EB6AE
PACKAGE I0000000000001 INTEL 2004.1003 2279DFB555D4

```



```
COMPONENTS=FCompW \  
    OPTIONS=SUITE ck=88 SIGN=F452A16CA51C  
INCREMENT I0000000000001 INTEL 2004.1003 permanent 20 2C55559573D2 \  
    VENDOR_STRING=SUPPORT=COM HOSTID=ANY PLATFORMS="i86_n ia64_n"  
\  
    DUP_GROUP=UH ck=92 SN=SMSA35912376 SIGN=E7EEDE36EB6A
```

Below is an example where you can combine license files of different products into a single license file. File0003.lic is a combined license file for Intel® C++ Compiler for Windows* and File0006.lic is a combined license file for Intel® Visual Fortran Compiler for Windows*. You can combine these license files of two different products into a single license file (File0007.lic) by concatenating them and simply removing the duplicate vendor and server lines.

```
File0007.lic - Combined single file for Intel® C++ and Fortran Compiler for Windows*  
SERVER svr025.testserver.com 832d87d8 28518  
SERVER svr026.testserver.com 832d7b86 28518  
SERVER svr027.testserver.com 832d895e 28518  
VENDOR INTEL <path to the vendor daemon options file (optional)>  
PACKAGE I0000000000001 INTEL 2004.1003 2279DFB555D4  
COMPONENTS=CCompW \  
    OPTIONS=SUITE ck=88 SIGN=F452A16CA51C  
FEATURE I0000000000001 INTEL 2004.1003 permanent 20 2C55559573D2 \  
    VENDOR_STRING=SUPPORT=COM HOSTID=ANY PLATFORMS="i86_n ia64_n"  
\  
    DUP_GROUP=UH ck=92 SN=SMSA35123769 SIGN=E7EEDE36EB6AE  
PACKAGE I0000000000001 INTEL 2004.1003 2279DFB555D4  
COMPONENTS=CCompW \  
    OPTIONS=SUITE ck=88 SIGN=F452A16CA51C  
INCREMENT I0000000000001 INTEL 2004.1003 permanent 20 2C55559573D2 \  
    VENDOR_STRING=SUPPORT=COM HOSTID=ANY PLATFORMS="i86_n ia64_n"  
\  
    DUP_GROUP=UH ck=92 SN=SMSA376935123769 SIGN= EB6AE E7EEDE36  
PACKAGE I0000000000001 INTEL 2004.1003 2279DFB555D4  
COMPONENTS=FCompW \  
    OPTIONS=SUITE ck=88 SIGN=F452A16CA51C  
INCREMENT I0000000000001 INTEL 2004.1003 permanent 20 2C55559573D2 \  
    VENDOR_STRING=SUPPORT=COM HOSTID=ANY PLATFORMS="i86_n ia64_n"  
\  
    DUP_GROUP=UH ck=92 SN=SMSA12373569 SIGN=DE36EE7EB6AE  
PACKAGE I0000000000001 INTEL 2004.1003 2279DFB555D4  
COMPONENTS=FCompW \  
    OPTIONS=SUITE ck=88 SIGN=F452A16CA51C  
INCREMENT I0000000000001 INTEL 2004.1003 permanent 20 2C55559573D2 \  
    VENDOR_STRING=SUPPORT=COM HOSTID=ANY PLATFORMS="i86_n ia64_n"  
\  
    DUP_GROUP=UH ck=92 SN=SMSA35912376 SIGN=E7EEDE36EB6A
```



4.4 License Seat Check-out and Check-in

For an Intel compiler product, the license is checked out (allocated) as soon as the compiler or debugger is started; and returned when the compiler or debugger work is **done**.

NOTE: For performance libraries (Intel(R) Integrated Performance Primitives, Intel(R) Threading Building Blocks, and Intel(R) Math Kernel Library), and other Intel software tools products, license check-out is only done during product installation.

All compiler floating license seats are available on a first-come first-served basis for check-out by any number of compiler products installed on client systems that have been configured to check-out floating license seats from the license host server system.

However if all license seats are allocated for the requested compiler product, additional users need to wait for one of the client systems to release a floating license seat. This is automatically done in our compiler and debugger products, and means that some users may experience some compiling delay. The wait time for a compiler license seat is "forever", until a license seat is available. The wait time is not configurable by end user.

When all compiler license seats are allocated, a new license check-out request will retry every 30 seconds until a license seat is allocated to the request. For a compiler user, a delay that results from the wait for a compiler licenses seat may appear to the end user that the compiler is hung or that compile time performance has suddenly degraded.

Users may configure their license server to make some features "linger" a period of time so that the license will be "reserved" during this period after the license is returned by the compiler. No linger time is setting by default, so the compiler license seat is usually returned immediately.

To determine how many floating license seats are checked-out, use the command `lmstat`. This can be executed on the license host server system using `-c` argument.

1. On the license host server system:

For Linux* execute `<< lmstat -a -c <license file> >>` where `<license file>` is the name and path to the floating license file.

For Windows* execute `<< lmutil lmstat -a -c <license file> >>` where `<license`



file> is the name and path to the floating license file.

2. On a client system, where the appropriate INTEL_LICENSE_FILE has been correctly set to point to the license host server system:

For Linux* execute << lmstat -a >>

For Windows* execute << lmutil lmstat -a >>

3. The Macrovision FLEXnet (new name for FLEXlm) End User Guide provides details and examples on using the lmstat command. The guide from Macrovision can be found at (version 11.4):

http://www.minitab.com/uploadedFiles/Shared_Resources/Documents/License_Management/flexnet_licensing_end_user_guide.pdf

or at (version 10.8):

<http://infocenter.arm.com/help/topic/com.arm.doc.faqs/stockdata/9/enduser.pdf>

4. Here's some example output below for Linux* using Intel's FLEXlm

license host manager. The output includes information about total number of licenses issued and total number in use.

```
$ ./lmstat -a
```

```
lmstat - Copyright (c) 1989-2003 by Macrovision Corporation. All rights reserved.
```

```
Flexible License Manager status on Wed 6/16/2010 02:11
```

```
License server status: 28518@spd16
```

```
License file(s) on spd16:
```

```
/tmp/jsmith/bin/flexlm_ia32_RH8/spd16.lic:
```

```
spd16: license server UP (MASTER) v9.2
```

```
Vendor daemon status (on spd16):
```

```
INTEL: UP v9.2
```



Feature usage info:

Users of I000000000000000000008000000000: (Total of 2 licenses issued;

Total of 0 licenses in use)

Users of FCompL: (Total of 2 licenses issued; Total of 0 licenses in use)





5 Troubleshooting

This chapter explains how to generate debug logs, lists the information you should provide to the when opening a support request, and provides solutions for some common problems.

5.1 Creating Debug Logs for License Checkout Issues

If your licensing does not work properly, review the steps above to verify the installation. If the problem persists after you verify correct installation, you should open a support case with Intel® Premier Support.

In preparation for opening the support case, set the environment variable `INTEL_LMD_DEBUG` to 1 and execute the product (see [Setting Environment Variables](#)). Doing so generates detailed information on the licensing failure. Please provide this information when filing a support issue. A product support engineer will then work closely with you to resolve the outstanding issue.

If you are running a command line application on Windows* set the debugging environment variable to appropriate value on the command line. For example:

- `SET INTEL_LMD_DEBUG = 1`
- View the current value of an environment variable. For example:
`SET INTEL_LMD_DEBUG` returns `INTEL_LMD_DEBUG = 1`
- Set the environment variable to a file name. For example: `SET INTEL_LMD_DEBUG="C:\temp\LicenseCheckout.log"`
- If the license debugging information is no longer needed, you can turn it off with the following command: `SET INTEL_LMD_DEBUG=""` or `unset INTEL_LMD_DEBUG`

Note: It is very important that you unset this debugging environment variable once your issue has been resolved or once you have submitted the support request. Not doing so will result in slower performance when the client application is running. Every time you submit a license checkout log, you must make sure that the old log is deleted and the new log has been created before it is attached to your support request.

If you are running a GUI application on Windows* set the debugging environment variable to appropriate value by following the steps below.



1. Click **Start > Settings > Control Panel > System > Advanced > Environment Variables**.
2. Under system variables click **New**.
3. Enter `INTEL_LMD_DEBUG` in the text box for **Variable Name**.
4. In the **Variable value** text box, input the full path to the log file in which you would like to capture the results. For example `C:\temp\LicenseCheckout.log`.
5. Click **OK > OK > OK**.

Note: It is very important that you unset this debugging environment variable once your issue has been resolved or once you have submitted the support request. Not doing so will result in slower performance when the client application is running. Every time you submit a license checkout log, you must make sure that the old log is deleted and the new log has been created before it is attached to your support request.

On Linux*, UNIX* or Mac OS* X systems, the commands used depend on the shell in use.

- With the C Shell, use the `setenv` command to set an environment variable:

```
% setenv INTEL_LMD_DEBUG 1
```

- To remove the association of an environment variable and an external file with the C shell, use the `unsetenv` command:

```
% unsetenv INTEL_LMD_DEBUG
```

- With the Bourne shell (sh) and Korn shell (ksh) and bash shell, use the `export` command and assignment command to set the environment variable:

```
$ export INTEL_LMD_DEBUG $ INTEL_LMD_DEBUG = 1
```

Alternatively, you can set the `INTEL_LMD_DEBUG` environment variable to a file name. For example,

```
export INTEL_LMD_DEBUG="/tmp/licensecheckout.log"
```

- To remove the association of an environment variable and an external file with the Bourne, Korn, or bash shell, use the `unset` command:

```
$ unset INTEL_LMD_DEBUG
```

Note: It is very important that you unset this debugging environment variable once your issue has been resolved or once you have submitted the support request. Not doing so will result in slower performance when the client application is running. Every time you submit a license checkout log, you must



make sure that the old log is deleted and the new log has been created before it is attached to your support request.

5.2 Information Needed for Support Requests

When opening a support request, you should provide the following information to the support team:

- Client information
- Flexlm* server information

5.2.1 Client Information

- Package ID of the product.
- Name of client application with all parameters.
- Operating system, architecture, kernel, glibc, and any service packs installed on the client system.
- Values to which the `LM_LICENSE_FILE` and `INTEL_LICENSE_FILE` environment variables are set.
- Copy of all the license files used on the client side.
- If you are using Linux*, set `INTEL_LMD_DEBUG` to `/tmp/licensecheckout.log` and on Windows* set `INTEL_LMD_DEBUG` to `C:\temp\licensecheckout.log` and run the client. Once the client finishes execution, attach the `licensecheckout.log` to the support issue.

If you are opening a support request about a segmentation fault issue, please attach a file for the stack dump to your issue.

5.2.2 FLEXlm* Server Information

This section is applicable only if you are using counted licenses.

- Operating system, architecture, kernel, glibc, and any service packs installed on the system on which the FLEXlm server is installed.
- The FLEXlm server file name that you downloaded and installed
- A copy of the server log file at one of the following locations, depending on your operating system:



- **Windows*:** <install drive>:\program files\common files\intel\flexlm\iflexlmlog.txt
- **Linux*, Unix* or Mac OS* X:** <install location of servers>/lmgrd.intel.log
- A copy of the license file you used to start the server
- Values for your settings for the `LM_LICENSE_FILE` and `INTEL_LICENSE_FILE` environment variables

5.3 Common Issues

This section contains descriptions of two common issues and provides solutions to those issues.

5.3.1 Client and Server Not Able to Connect Due to Windows* Firewall

Problem: The firewall for Windows* XP with Service Pack 2 prevents the client application from connecting to the FLEXlm server on Windows* XP.

Solutions: Windows* XP with Service Pack 2 comes with a firewall which is turned on by default. If the firewall is turned on your FLEXlm* license server daemon and Intel FLEXlm* License Manager license server vendor daemon will stop functioning. You can find more information about the firewall in Service Pack 2 at this [link](#).

There are two methods to make the FLEXlm* license server daemon and the Intel FLEXlm* License Manager license server vendor daemon function properly.

Method A:

Add a program exception to allow the FLEXlm* license server daemon and the Intel FLEXlm* License Manager license server vendor daemon to use required ports. You must execute both step 4 and step 5. Failure to do so causes the FLEXlm license server not to work.

1. Click **Start >Run**. Type `wscui.cpl`, and click **OK**.
2. In the **Windows* Security Center** window, click **Windows* Firewall**.
3. On the **Exceptions** tab, click **Add Program**.
4. In the list of programs, look for `lmgrd.intel.exe`.



- a. If `lmgrd.intel.exe` is in the list of programs, select it and click **OK**.
 - b. If `lmgrd.intel.exe` is not in the list of programs, click **Browse** to locate it in `C:\Program Files\Common Files\Intel\FLEXlm`.
 - c. Select `lmgrd.intel.exe`. Click **Open** and **OK**.
5. In the list of programs, look for `INTEL.exe`.
 - a. If `INTEL.exe` is in the list of programs, select it and click **OK**.
 - b. If `INTEL.exe` is not in the list of programs, click **Browse** to locate it in `C:\Program Files\Common Files\Intel\FLEXlm`.
 - c. Select `INTEL.exe`. Click **Open** and **OK**.

Method B:

Add a port exception to allow the FLEXlm* license server daemon, Intel FLEXlm* License Manager license server vendor daemon and application using these daemons to communicate as usual. You must execute both step 4 and step 5. Failure to do so causes the FLEXlm license server not to work.

1. Click **Start > Run**. Type `wscui.cpl`, and click **OK**.
2. In the **Windows* Security Center** window, click **Windows* Firewall**.
3. Click on the **Exceptions** tab and click **Add Port**.
 - a. In the Dialog Box, enter `Intel FLEXlm license server vendor daemon` in the **Name** field.
 - b. Enter the TCP-IP port number of the Intel FLEXlm license server daemon in the Port number field. (You can obtain the port number by looking at `IFLEXlmLog.txt`, which is created under `C:\Program Files\Common Files\Intel\FLEXlm`. `IFLEXlmLog.txt` is in a line with the following type: `INTEL using TCP-port X`, where X is the port number.)
 - c. Click **OK**.
4. Click on **Add Port**.
 - a. In the Dialog Box, enter `FLEXlm License Server Daemon` in the **Name** field.
 - b. Enter the TCP-IP port number of FLEXlm License Server Daemon in the Port number field. (You can obtain the port number by looking at the `IFLEXlmLog.txt`, which is created under `C:\Program Files\Common Files\Intel\FLEXlm`. `IFLEXlmLog.txt` is in a line of the following type: `lmgrd tcp-port using tcp-port Y`, where Y is the port number.)



- c. Click **OK**.

5.3.2 License Checkout Failing Due to Terminal Server Client or Remote Desktop Connection on Windows*

Problem: You cannot use client applications on Windows* from a remote desktop connection or terminal sever client to checkout a license.

Solution: Using new client applications on Windows* with an old license may prevent the license checkout mechanism from working. You may therefore see the following error message: `Terminal Server remote client not allowed`.

If you see this message, please contact the support team to obtain a new license file that allows you to use Windows*-based products from a remote desktop connection or terminal server. Please note that this message applies to new Windows*-based products only and applies to uncounted licenses, also known as single user licenses.



6 Checklist for Intel License Manager server/client Installation

NOTE: Many of the following steps should be repeated when a floating product license is renewed or added to an existing set of floating licenses, and when a combined license file is updated.

Your Status	Step #	Task Description	For more information
	1	Download the latest Intel FLEXlm* License Manager user guide	http://software.intel.com/en-us/articles/license-manager-for-flexlm-users-guide/
		FOR THE LICENSE HOST SERVER SYSTEM(S)	
	2	Download the Intel® FLEXlm* license server that best matches your license host server OS	http://software.intel.com/en-us/articles/performance-tools-for-software-developers-intel-flexlm-license-servers/
	3	Verify your license host server machine's host name and host id. If you are using three redundant license host server systems, verify the host name and host id for all three machines.	http://software.intel.com/en-us/articles/how-to-find-host-id-for-floating-licenses/
	4	Verify your floating licenses are registered with the correct host name and host id specified. If you are using three redundant license host server systems, verify all three host names and host ids are specified for each floating license.	Login to the Intel® Software Development Products Registration Center at https://registrationcenter.intel.com/
	5	If any of your floating licenses have incorrect or out-of-date host name or host id information, follow the instructions in this user guide to correct the information in the floating license(s), and obtain updated license file(s).	http://software.intel.com/en-us/articles/change--serverhost-data-node-locked-or-floating-license/



Your Status	Step #	Task Description	For more information
	6	If you wish to combine your floating license files into one file, follow the instructions in section 4.3 of this user guide.	http://software.intel.com/en-us/articles/how-do-i-combine-multiple-license-files/
	7	Verify that all the individual floating license files or the combined license file resides on your license host server system. Ensure there are no Single User, evaluation, or Beta licenses residing in the flexlm license directory on your license host server system.	On Linux*: /opt/intel/flexlm/ On Mac OS* X: /opt/intel/flexlm/ On Windows*: C:\Program Files\Common Files\Intel\FLEXlm
	8	If you have specified three redundant license host server systems in your floating licenses, at least two of the three redundant license host servers must be up and running at all times.	http://software.intel.com/en-us/articles/redundancy-server-notes/
	9	Install your Intel® FLEXlm* license server binary on your license host server system. If you have specified three redundant license host server systems in your floating licenses, complete all three license host server installations.	Follow the instructions in Chapter 3 of the Intel FLEXlm* License Manager user guide.
	10	Start your license host server process by following the instructions in the user guide.	Follow the instructions in Chapter 3 of the Intel FLEXlm* License Manager user guide. If you are using a Vista or Windows* Server 2008 system, please see the information at the link http://software.intel.com/en-us/articles/installing-license-server-on-vista/
	11	Ensure your license server is running by following the instructions in the user guide for the << lmstat >> command.	http://software.intel.com/en-us/articles/when-is-a-floating-license-seat-checked-out-and-checked-in/



ON THE CLIENT SYSTEMS			
Your Status	Step #	Task Description	For more information
	12	On each client system, install the Intel software product(s) your user(s) will be running from that client system. You will likely need a copy of the floating .lic license file on the client system for each product you will be installing; please put the copy of the Intel license file(s) in the default Intel license file directory, so make sure you are using the same license file on the client system(s) as you are using on the license host server system(s).	<p>There is a different default Intel license file directory on Windows*, Linux* and Mac OS* X.</p> <p>Windows*: C:\Program Files\Common Files\Intel\Licenses</p> <p>Linux*: /opt/intel/licenses/</p> <p>Mac OS* X: /Users/Shared/Library/Application Support/Intel/Licenses/</p>
	13	Set the INTEL_LICENSE_FILE environment variable on each client system.	http://software.intel.com/en-us/articles/how-to-set-intel-license-file-environment-variable/
	14	Try launching the Intel product, such as the Intel® C++ Compiler product.	If problems occur with floating license seat check-out, please follow the steps in Chapter 5 of the user guide to capture a debug log for your license host server. Then submit a new issue to Intel® Premier Support at https://premier.intel.com/ and attach the debug log you generated.



Your Status	Step #	Task Description	For more information
	15	Additional information to include in your Premier Support issue for a problem with Intel® FLEXlm* installation and configuration	<ul style="list-style-type: none">a. OS and architecture for your license host server system(s)b. the name of the specific Intel FLEXlm license manager server file you downloaded and installedc. the serial number for the floating license you are usingd. the environment variable setting for INTEL_LICENSE_FILEe. a copy of each floating license file you are usingf. the combined license file (only if customer is using a combined license file)g. host server name and host server id for the license host server(s)h. verification from customer that Intel License manager is running (capture of the results of running the appropriate lmstat command).i. license server debug log and client-side debug log



7 Appendices

7.1 Appendix A: Troubleshooting Guide

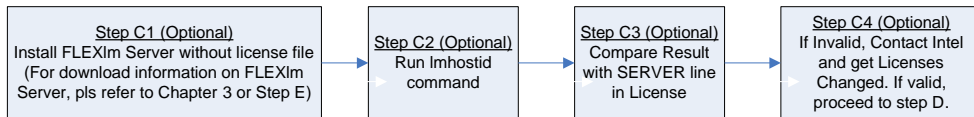
Step A – Identify the OS and architecture for installing FLEXIm* Server (Intel(R) License Manager for FLEXIm*)

Step A1:
Choose a system and OS where you would like to install FLEXIm License Server. You must choose the Operating system and architecture combination which is listed in the "Supported Platforms" section of chapter 2 of this guide. Make sure that you download the latest version of this guide from <ftp://download.intel.com/support/performanceTools/licenseMgr4FLEXIm.pdf>

Step A2:
1. Determine License Server OS
2. Determine the Host ID and Server Host Name for your license server (Refer to Chapter 3 of this guide – "Installing the Intel® License Manager for FLEXIm"). It is very important that the hostid (Imhostid) is accurate. If Imhostid is wrong, license file will not work.

Step B – Register your serial number at Intel(R) Software Development Products Registration Center
1. Go to <https://registrationcenter.intel.com>
2. Register your serial number using Host ID and Server Host Name from step A2 above.
3. Receive the License File via email attachment from the Intel(R) Software Development Products Registration Center

Step C - Verify License File Validity for the system where you intend to install FLEXIm Server
This step needs to be executed on the system where you intend to install FLEXIm Server .
Server Host ID and Hostname should match the license file if you already have a license file . You can get more information about how to obtain the Imhostid of the system on which you are planning to install FLEXIm Server by referring to Chapter 3 of this guide (Section titled – "Identifying the hostname and hostid"). Optionally you can follow steps C1, C2, C3 below
NOTE: If you have purchased counted licenses but do not have license file , you should generate the license file from <https://registrationcenter.intel.com>. You will be asked to provide the hostname and output of Imhostid from step A 2 above. Refer to Chapter 3 of this guide for more details.



Step D – Combining multiple Intel license files into one license file (Go directly to Step C if you do not have multiple license files)
If you have multiple counted license files for Intel products, follow the steps to merge multiple license files into one license file in the section "Combining Multiple License Files" section of this guide

Step E- Download and Install the FLEXIm Server

Step E1:
Log into the Intel(R) Software Development Products Registration Center at <https://registrationcenter.intel.com>, click the Product Downloads link and download the License Server for your server operating system and architecture as determined in step A.

Step E2:
Execute the license server install program to install the license server. This is a script on Linux* and an "exe" file on Windows*. Refer to Chapter 3 (Section "Installing the Intel® License Manager for FLEXIm") for detailed instructions

Step E3:
1. Provide the combined license file from D or single counted license to the license server install as applicable.
2. Verify the license server is running using the "Imstat" command on Linux*, and "Imutil Imstat" command on Windows*, located in the directory where you installed FLEXIm on your license server.

Step E4:
Open and read the license server log file:
For Linux* and Mac OS* X:
The license server log file (Imgrd.intel.log) can be found in the same location where license server was installed.
For Windows*:
The license server log file can be found in: C:\Program Files\Common Files\Intel\FLEXIm\FLEXImLog.txt

Step E5:
If you see any issues in the log file which you are not able to resolve , submit a support request. Attach (a) the log file (b) the license file which was used to start the FLEXIm server in the support request.



STEP F – Start the license server with the license file if you have license server pre -installed.
 Start the license server if the license server is already installed by following the instructions below . You need to follow Step F only if you have already installed license server without a license file . If you successfully started license server in Step E , you should skip this step.

Step F1:
For Linux*, Mac OS* X:
 If you have installed the license server on Linux* or Mac OS* X , copy the license file from step D for combined license file or the license file you received from Intel(R) Software Development Products Registration Center from Step B, as applicable, into the same location where FLEXlm server is installed.

For Windows*:
 If you have installed the license server on Windows , copy the license file from step B into the C:\Program Files\Common Files\Intel\Licenses folder.

Step F2:
For Linux* and Mac OS* X:
 1. Change directory to the location where license server is installed. `cd <installation-directory>`
 2. Run the following command:
``pwd`/lmgrd.intel -c `pwd`/server.lic -l `pwd`/lmgrd.intel.log`

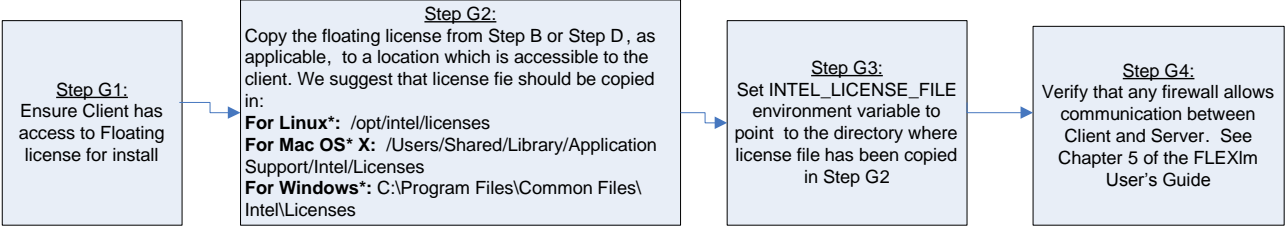
For Windows*:
 1. Click on [Start]->[Programs]->[Intel(R) Software Development Tools]->[Intel(R) License Manager for FLEXlm]->[Configure Intel(R) License Manager for FLEXlm]
 2. Browse to the server license which was copied in C:\Program Files\Common Files\Intel\Licenses from step F1.

Step F3:
 Open and read the license server log file:
For Linux* and Mac OS* X:
 The license server log file (lmgrd.intel.log) can be found in: in the same location where license server was installed.

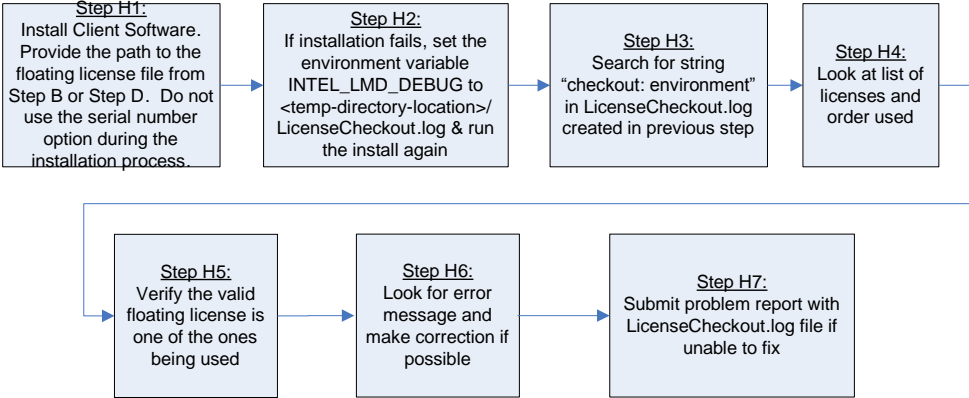
For Windows*:
 The license server log file can be found in: C:\Program Files\Common Files\Intel\FLEXlm\IFLEXlmLog.txt

Step F4:
 If you see any issues in the log file which you are not able to resolve , submit a support request. Attach (a) the log file (b) the license file which was used to start the FLEXlm server in the support request.

Step G – Configure the client side systems before installing the client application
 The steps below provide a high level overview of what needs to be done to configure the client application .



Step H – Install the client application and make sure license checkout is successful .
 The steps below provide a high level overview of what needs to be done to ensure that license checkout succeeds . The steps below are applicable for the system where you are planning to install the client application .



Step H – Make sure that the product works.
 The steps below provide a high level overview of what needs to be done to ensure that license checkout succeeds .