Using the Intel® License Manager for FLEXlm*

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Contents

Chapter 1: About This Guide

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

- *Chapter 1, About This Guide* – describes the contents of this guide, related publications, and conventions used in this guide.
- *Chapter 2, About the Intel® License Manager for FLEXlm** – describes the supported platforms, license types, and how to obtain technical support.
- *Chapter 3, Installing the Intel® License Manager for FLEXlm** – 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.
- *Chapter 4, Using the Client Application for the First Time* – Describes how to set up the client application and use it for the first time.
- *Chapter 5, Troubleshooting* – Explains how to create a debug log, how to open a support request, and describes common issues and how to fix them,

Related Publications

For information on Macrovision's FLEXlm software, see http://www.macrovision.com For information on Intel Software Development Products, see http://developer.intel.com/software/products.

Document Conventions

This document assumes the following terms and conventions:

- File names and command-line entries use this notation.
- Place-holder names are indicated as `<place_holder_name>`.
- Hyperlinks use this notation.

Chapter 2: About the Intel® 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® License Manager for FLEXlm* is a collection of software components that helps you manage your license file in a multiple-user environment. The Intel License Manager for FLEXlm is either included with your product purchase or downloaded separately. This document describes the installation and use of the Intel License Manager for FLEXlm 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 License Manager for FLEXlm 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.

Supported Platforms

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

- Microsoft Windows (IA-32 and Itanium®-based systems)
- Linux (IA-32 and Itanium-based systems)
    - RH7.2 (2.4.9 kernel with 2.2.4 glibc or equivalent kernel and glibc) for Itanium-based systems.
    - RH7.3/RH8 (2.4.7 kernel with 2.2.4 glibc or equivalent kernel and glibc) for IA32 systems.
    - RH9.0 (2.4.20 kernel with 2.3.2 glibc or equivalent kernel and glibc) for IA32 systems.
    - RHEL3 (2.4.21 kernel with 2.3.2 glibc or equivalent kernel and glibc) for IA32 and Itanium-based systems.
- SGI* Altix* (Itanium-based systems)
    - RHEL3 (2.4.21 kernel with 2.3.2 glibc or equivalent kernel and glibc) for Itanium-based systems on SGI Altix*. This license manager is different than RHEL3 license manager described above. SGI Altix users should use this license manager.
- Mac* OS, version 10.4.4, on Intel® architecture
- IBM AIX 4.3 and 5.0 IBM* AIX*
    - IBM AIX 4.3 and 5.0
- Sun* Solaris*
    - Solaris 7 and 8 and equivalent systems

You can run the Intel License Manager for FLEXlm on one of the supported platforms listed above, with Windows or Linux applications running on separate network nodes. For example,

you can install the Intel License Manager for FLEXlm and license file on a Solaris system to manage 10 floating licenses for the Intel® C++ Compiler on Linux, and 15 floating licenses for the Intel® Fortran Compiler on Windows.

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 (uncounted)
- Single-User License (uncounted)
- Node-Locked License (counted or uncounted)
- Floating License (counted)

Only the "counted" license types require the Intel License Manger for FLEXlm. Node-locked and floating license types are used in multiple-user environments, and the Intel License Manager for FLEXlm monitors the number of concurrent users permitted in the license file. For example, if your license permits 20 users, then the Intel License Manager for FLEXlm "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 License Manager for FLEXlm 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 License Manager for FLEXlm 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 for FLEXlm.

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.

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

Node	Operating System	Applications	Intel® License	License File

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

In this example, the Intel C++ Compiler, the Intel Fortran Compiler, 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.

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	UNIX*		X	X
B	Windows	Intel® C++ Compiler		X
C	Linux	Intel C++ Compiler Intel® Fortran Compiler		X
D	Linux	Intel Fortran Compiler		X

In example above, the Intel License Manager for FLEXlm running on Node A counts how many licenses are 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.

Sample License File

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

Sample FLEXlm* Counted License

```
SERVER mslid073 000629856A25 28518

VENDOR INTEL
PACKAGE I00000000002L INTEL 2003.1025 12222F8900CF COMPONENTS="CCompW
\FCompW" OPTIONS=SUITE ck=86 \
      SIGN=8BF3D0867076
FEATURE I00000000002L INTEL 2003.1025 permanent 20 FD312CFD3BA9 \
      VENDOR_STRING=SUPPORT=INT HOSTID=ANY PLATFORMS="i86_n i86_r \
```

```
        ia64_n it64_lr" 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 from the sample above:

- Host name: mslid073
- **Host id:** 000629856A25
- **Supported Software Products:** CCompW (Intel® C++ Compiler), FCompW (Intel® Fortran Compiler).
- **Supported Product Platforms:** i86_n (Windows on IA-32 systems), i86_r (Linux on IA-32 systems), ia64_n (Windows on Itanium®-based systems), it64_lr (Linux on Itanium-based systems).
- **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 renders the entire field invalid.

Technical Support

When you purchase an Intel® Software Development Product, you receive Intel® Premier Support and free product upgrades for one year. If you purchased a CD-ROM version of your product, then you must register your product with the Registration Center to activate Premier Support. All license types, except the noncommercial-use license, qualify for Intel Premier Support.

Chapter 3: Installing the Intel® License Manager for FLEXlm*

You only need to install the Intel License Manager for FLEXlm 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 License Manager for FLEXlm 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 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.

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 License Manager for FLEXlm 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:

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`.

Linux*

1. Run the `hostname` command to display the host name.

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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 you 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 License Manager for FLEXlm is installed.

Mac* OS 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

You should 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.

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 License Manager for FLEXlm is installed.

IBM* AIX*

Run the `hostname` command to display the host name.

Run the command `uname -m`. This will display a 12-character string.

Remove the first two and last two digits, and use the remaining eight digits as the host id.

For example, if the `uname -m` command returns `000123456700`, then the host id is `01234567`.

Sun* Solaris*

Run the `hostname` command to display the host name.

Run the command `hostid`. This will display the system's host id.

For example, if the `hostid` command returns `123a1234`, then the host id is `123a1234`.

Registering Your Product Serial Number

Next, register each product serial number at the Intel® Software Development Products Registration Center. 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.

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- 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 Premier Support for license creation.

Go to the 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.

Downloading and Installing the Product

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.

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.

If you are using counted licenses, you will also be required to install Intel License Manager for FLEXlm*. This software is available for download from http://premier.intel.com. Once the login authentication is successful on http://premier.intel.com, follow these steps:

Click on the **File Downloads** link on the left-hand side

Choose **Intel SW Dev Tools License Servers** from the drop down list box labeled as **Products**

Starting the Intel® License Manager for Flexlm*

After installing the Intel License Manager for FLEXlm, you need to start the it before running your product. Follow these steps to start the Intel License Manager for FLEXlm 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**, then close the window.

To start the Intel License Manager for FLEXlm on Linux, run `./lmgrd.intel -c <path to license file>` from the directory to which the Intel License Manager for FLEXlm files are installed.

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

In a complex installation of multiple FLEXlm* licensed products, which include 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.

Software for the Intel® License Manager for FLEXlm*

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

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 License Manager for FLEXlm 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. 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.

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Setting Up the Intel® License Manager for FLEXlm*

To set up the Intel License Manager for FLEXlm to start automatically, follow the steps below. If you used the Server Installation program and followed the instructions, the Intel License Manager for FLEXlm makes these changes automatically. Only follow these steps if you used the Product Distribution or skipped the setup during Server Installation.

For Linux, add the following steps to the `/etc/rc.d` file to ensure that the server starts at system startup. Ensure that there is a space ' ' between each argument. It is recommended that server start up be done as `root`.

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

Ensure that the change directory 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. The `-l <log file>` will capture information that will be useful for debugging unanticipated server or license check-out problems. Use the full path.

Shutting Down or Removing the Intel® License Manager for FLEXlm*

To shut down or remove the Intel License Manager for FLEXlm from Linux, UNIX or Mac OS 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 `/etc/rc.d` file. This step only applies to some Linux systems.

Verifying the Intel® License Manager for FLEXlm*

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

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

Chapter 4: Using the Client Application for the First Time

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

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

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 lines
- vendor line
- package
- increment lines

You cannot use the `port@server` mechanism or the `USE_SERVER` mechanism during the installation of client application.

Setting INTEL_LICENSE_FILE Environment Variable

Once you have installed FLEXlm* license server and installed the client application, you must set the `INTEL_LICENSE_FILE` environment variable. For Intel® compilers and some other Linux*-based products, you set this variable in the configuration file. You must set this variable for FLEXlm license authentication. If this variable is not set, you will be required to set this variable, whether you are using a Windows*-based product or a Linux-based product.

On Windows you can use the mechanisms shown below or any other equivalent mechanism:

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

On Linux*, UNIX* and Mac* OS 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_LICENSE_FILE </path/to/license/file>
  ```

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- 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_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 vaules to the `INTEL_LICENSE_FILE` variable by using ":" as a separator. For example,
  `$ export INTEL_LICENSE_FILE=/opt/intel/licenses:$HOME/intel/licenses.`

Counted Licenses and Alternatives

If the Intel® software product that you are using is enabled for counted licenses which require a FLEXlm server, you do not necessarily 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 Develoment 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`.

Combining Multiple License Files

To combine license server files of different products into a single license file, follow these steps:
1. Concatenate the files
2. Remove the duplicate `SERVER` and `VENDOR` lines

To combine license server files for the same product:
1. Concatenate the files
2. Remove the duplicate `SERVER` and `VENDOR` lines
3. Remove the `PACKAGE` line.

Note that expiration dates can be different, and the number of seats can be different. For non-server licenses, the `INCREMENT` line is replaced by a `FEATURE` line. If a license server file has a `FEATURE` line instead of an `INCREMENT` line, you must generate a new license.

An example is provided below for demonstration purposes only. For example, you can combine four individual license files named `File0001.lic`, `File0002.lic`, `File0003.lic` and

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`File0004.lic` to generate a single license file named `File0005.lic` based on the rules specified above.

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 file>
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=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 file>
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
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 file>
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

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 file>
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
```

Combined single file -- 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 file>
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=SMSA35123769 SIGN=E7EDE36EB6AE
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"
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
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
``` |

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Chapter 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.

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.

On the Windows* command line, the `SET` command enables you to:

Set an environment variable to a 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`

On Linux*, UNIX* or Mac* OS 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
```

Information Needed for Support Requests

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

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 execute 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, attach the stack dump.

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:

- If using Windows: <install drive>:\program files\common files\intel\flexlm\iflexlmlog.txt
- If using `Linux*, Unix* or Mac* OS`: <install location of servers>/lmgrd.intel.log

A copy of the license file you used to start the server

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Values to which the LM_LICENSE_FILE and INTEL_LICENSE_FILE environment variables are set.

Common Issues

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

Issue #1

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 License Manager for FLEXlm license server vendor daemon stop functioning.

You can find more information about the firewall in Service Pack 2 at msdn.microsoft.com.

Workarounds:

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

Method A:

Add a program exception to allow the FLEXlm* license server daemon and the Intel License Manager for FLEXlm 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 then 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`. If `lmgrd.intel.exe` is in the list of programs, select it and click **Ok**. If `lmgrd.intel.exe` is not in the list of programs, click **Browse** to locate it in `C:\Program Files\Common Files\Intel\FLEXlm`, Select `lmgrd.intel.exe`, Click **Open**, and then click **OK**.
5. In the list of programs, look for `INTEL.exe`. If `INTEL.exe` is in the list of programs, select it and click **OK**. If `INTEL.exe` is not in the list of programs, click **Browse** to locate it in `C:\Program Files\Common Files\Intel\FLEXlm`, Select `INTEL.exe`, click **Open**, and then click **OK**.

Method B:

Add a port exception to allow the FLEXlm* license server daemon, Intel License Manager for FLEXlm 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 then click **OK**.
2. In the Windows Security Center window, click **Windows Firewall**.
3. Click on the Exceptions tab and click **Add Port**.

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4. 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`, 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**.
5. Click on **Add Port**. In the Dialog Box, enter FLEXlm License Server Daemon 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` 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**.

Issue #2

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.