



FORMS 5-3 Service Pack 3 and later

Installing and Configuring FLEXIm for Use With FORMS

August 2014 – ReadSoft AB

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Questions or comments about this document may be emailed to documentation@readsoft.com.

19082014.0654

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Introduction

This document describes how to install, set up, and use FLEXlm, a flexible license manager server from [Flexera Software](#) (previously Macrovision Corporation) that is used with FORMS. FLEXlm manages your ReadSoft software licenses. The type of database or the number of databases used in the system does not affect FLEXlm.

i If you upgrade to FORMS 5-3 Service Pack 3 from any earlier version of FORMS, reinstall FLEXlm using the version included with FORMS 5-3 SP3. (The FLEXlm version number will change to 11.10.)

! **Important:** Anti-virus programs can interfere with normal operation of FLEXlm. You may need to configure the anti-virus program to recognize FLEXlm as a “friendly” program. The procedure depends on your anti-virus program and is outside the scope of this document. However, it is known that you cannot run FLEXlm with Panda.

The five main components of FLEXlm are:

- The FLEXlm interface in which you both configure your license service and start and stop the FLEXlm server (lmttools.exe)
- The license manager windows service (lmgrd.exe)
- The vendor windows service (ehlm.exe)
- The license file (license.dat)
- A unique hardware dongle (if needed).



You receive the three EXE files automatically when you install FLEXlm; the license file and hardware dongle come directly from ReadSoft.

This document applies to FORMS 5-3 Service Pack 3 and later. If you need information about installing or configuring FLEXlm for use with an earlier version of FORMS, you need an older version of this document. It is found on your original FORMS CD, or you can obtain it from ReadSoft.

Supported operating systems

- Windows 7
- Windows Vista
- Windows Server 2008
- Windows Server 2008 R2
- Windows Server 2003 SP1
- Windows Server 2003 R2
- Windows XP

Obtaining a license file and hardware dongle from ReadSoft

ReadSoft provides a license file (`license.dat`) that allows you to access the components of your ReadSoft system. FLEXIm uses the license file to manage your different ReadSoft licenses.

Most customers also receive a unique hardware dongle. In cases where you receive a soft license or a license file with a time limit and without a dongle number, you do not need a hardware dongle on the computer where FLEXIm is located.

Contact your local ReadSoft representative for details on how you can obtain the license file and hardware dongle.




Getting or updating a soft license

For systems where a hardware dongle cannot be used, it is possible to get volume-based licensing using a soft license.

Note: It can take time to get the license validated. Therefore, begin the process of obtaining a license before actually going to the site to install FORMS.

For an existing system, FLEXlm notifies you when you have used up 75%, 90%, and 95% of the license capacity so that you can start this process before your license runs out.

To get a soft license

1. On the computer where the FLEXlm server is installed, open the \C:\flexlm folder and double-click `FieldExUtil.exe` to open the **SuperPro Field Exchange Utility** dialog.
2. On the **Software Key** tab, click **Get locking code**.
3. Click  to save the text as a *.loc file.
4. Send the LOC file by email to orders@readsoft.com.
5. ReadSoft's order department generates the license files (*.lic and license.dat) and emails them back to you.
 - Put the *.lic file in a folder that is accessible from the computer where FLEXlm is installed.
 - Put one copy of the license.dat file in the location specified for GlobalPath in the Eilocal.ini file, and put another in C:\FLEXlm.
6. Again on the computer where FLEXlm is installed, reopen the utility from step 1 above.
7. Use  in the lower part of the dialog to browse to the folder where you put the *.lic license file. Select the file and click **Open**. The license code text is displayed in the box at the bottom of the dialog.
8. Click **Update license**.
9. A dialog is displayed, telling you that the process was successful. Click **OK**.
10. Close the utility dialog using this button: .

The license is now ready to be used.

To update an existing soft license

1. Notify orders@readsoft.com that your license needs to be updated.
2. The order department generates a new `license.dat` file with the same number as the previous one and email it to you.
3. Replace your current file with the new one.

Before installation

The words “Change_This” are listed in the `license.dat` file as a temporary server name. Open `license.dat` with Notepad, replace “Change_This” with the name of the server where your FLEXlm software will be located, and save the change before you install FLEXlm.

Important

- The SERVER and VENDOR lines are the only ones that can be changed without damaging the license file.
- Install FORMS before installing FLEXlm.
- If the license file you received has some numbers in the file name (for example `license12345.dat`), delete the numbers. The file name must be `license.dat`.

Installing a Sentinel driver

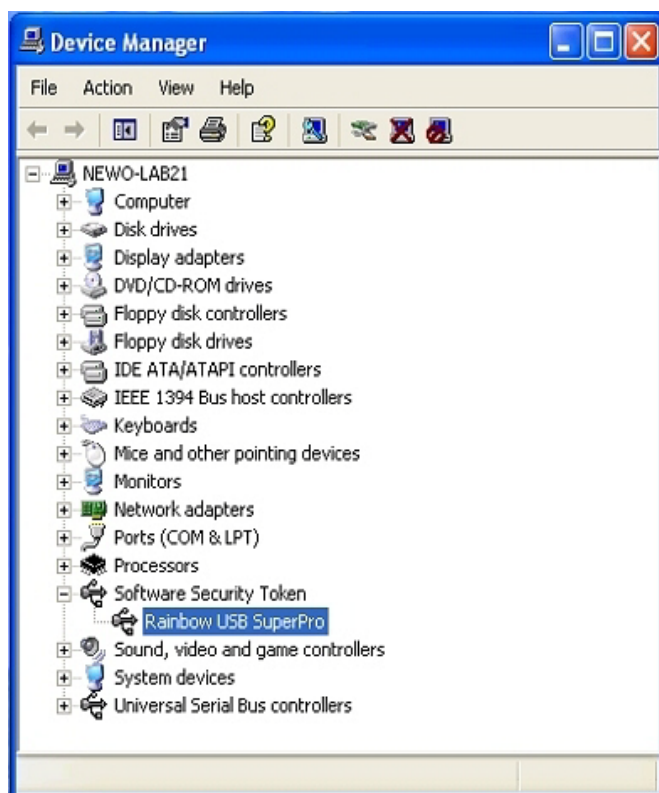
If you received a dongle from ReadSoft, then the dongle must use a Sentinel driver. Install the driver separately, after you install FORMS. Which driver to install, as well as the procedure to follow, depends on your operating system.

Windows XP

1. Connect the USB dongle.
2. When prompted for the driver, navigate to this file on the FORMS installation CD:
`Tools & third party software\SentinelUSB\NT2000\I386\sntnlusb.inf.`

When you are prompted to select a setup type, select **Complete**.

3. After the Sentinel driver is installed, ensure that the dongle is displayed in **Device Manager** as a Software Security Token, Rainbow USB SuperPro, as shown here.



If it is displayed as anything else, right-click the device and select **Update driver**. Then browse again to the `sntnlusb.inf` file on your FORMS installation CD.

All newer operating systems, and all 64-bit Windows operating systems

⚠ Do not attach the dongle to the server until step 4.

1. Log on to Windows as an Administrator.
2. On the FORMS installation CD, navigate to Sentinel75.
3. Run the executable file (Sentinel Protection Installer 7.5.0.exe) and follow the onscreen instructions.

When you are prompted to select a setup type, select **Complete**.

4. Attach the dongle to the server.

Problems?

If you have another operating system and experience difficulties with the version of the Sentinel driver that is installed with FORMS, you can also try upgrading. Further information about troubleshooting the Sentinel driver can be found in “Installing (or reinstalling) the Sentinel driver” on page 30.

Installing and setting up FLEXlm

Choosing a server

FLEXlm can be installed on any computer on the network that:

- Can be reached from the FORMS clients.
- Runs one of the required operating systems (see page 5).
- Has a spare LPT port or USB port for the dongle (normally).
- Can run constantly and does not need to be restarted during working hours.

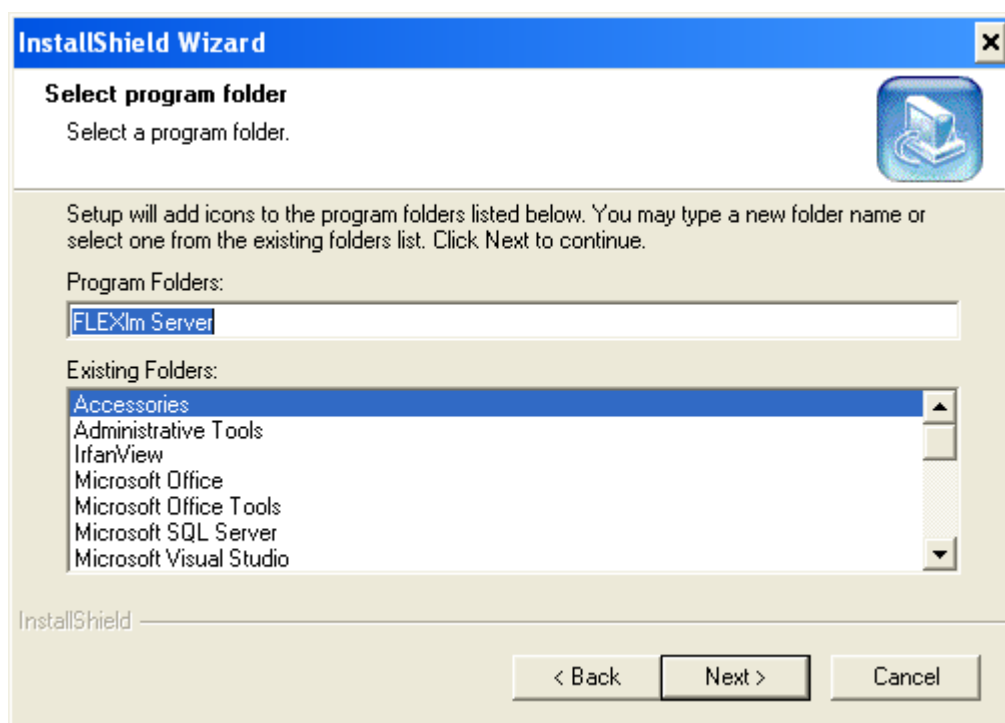
For stand-alone installations, the server is most likely the computer where FORMS is installed.

Installing FLEXlm

❗ Note that as of May 3, 2013, there is a new release of FLEXlm that should be used with FORMS. Do not install the original version that was included on the CD mentioned below. Be sure to get *FLEXlm server 11.10 revision 4* (or later) before installing.

1. Exit all Windows programs.
2. Insert the ReadSoft FORMS installation CD.
3. When the main menu appears, click **Install Software**. If the menu does not appear, run `autorun.exe` directly from the installation CD.
4. Click **FLEXlm server**.
5. When the first dialog appears, click **Next**.

6. The **Select program folder** dialog appears. Click **Next** to accept the default folder.



7. Click **Next** to install FLEXlm. The following components are installed in C:\FLEXlm on your system:
- lmgrd.exe – the license manager daemon.
 - lmtools.exe – a console program is used to configure, start and stop the license server.
 - ehlm.exe – the Vendor daemon.
 - lmutil.exe – a utility program that assists you in checking in the license of a client computer that has crashed.
 - Installing FLEXlm for FORMS.pdf – this document.
 - Installing FLEXlm for INVOICES.pdf – the corresponding document for INVOICES.
8. The **Setup complete** dialog appears. Click **Finish** to complete the installation process.
9. If you are prompted to do so, restart the computer.

Placing the license file in FORMS and FLEXlm

The FLEXlm server is now installed. The next step is to copy the license file (`license.dat`) obtained from ReadSoft to the global path folder specified for every client in the ReadSoft system. This folder is specified as `GlobalPath` in each client's `Ehlocal.ini` file.

In most network installations, all FORMS clients share a common global path. In this case, place `license.dat` in this one location. In other network installations, where the clients do not share a common global path, make copies of `license.dat` and put them in all of the different locations specified in the clients' global path.

After the clients are set up, copy `license.dat` to `C:\FLEXlm`.

Attaching the hardware dongle

Attach your USB hardware dongle (if you received one from ReadSoft) to the appropriate USB port of the computer where FLEXlm is located.



After you install the hardware dongle, the computer should detect it automatically and match it with the Sentinel driver you installed (above). If it does not, reboot the computer so the hardware dongle can be properly detected.

If you are prompted to locate the driver files manually, provide the appropriate path as described on page 31.

Configuring and starting FLEXlm

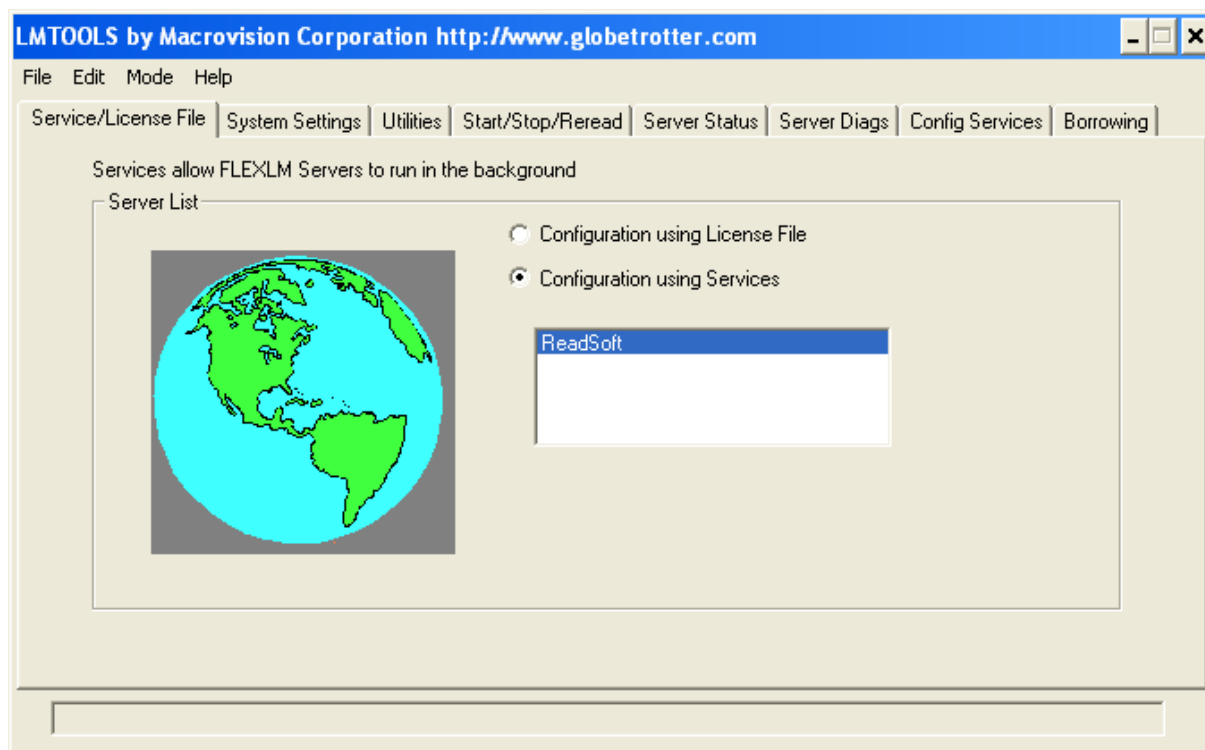
Now it is time to set up the FLEXlm server to automatically manage your FORMS modules.

Note: If you started FLEXlm before connecting the dongle, then you must restart FLEXlm.

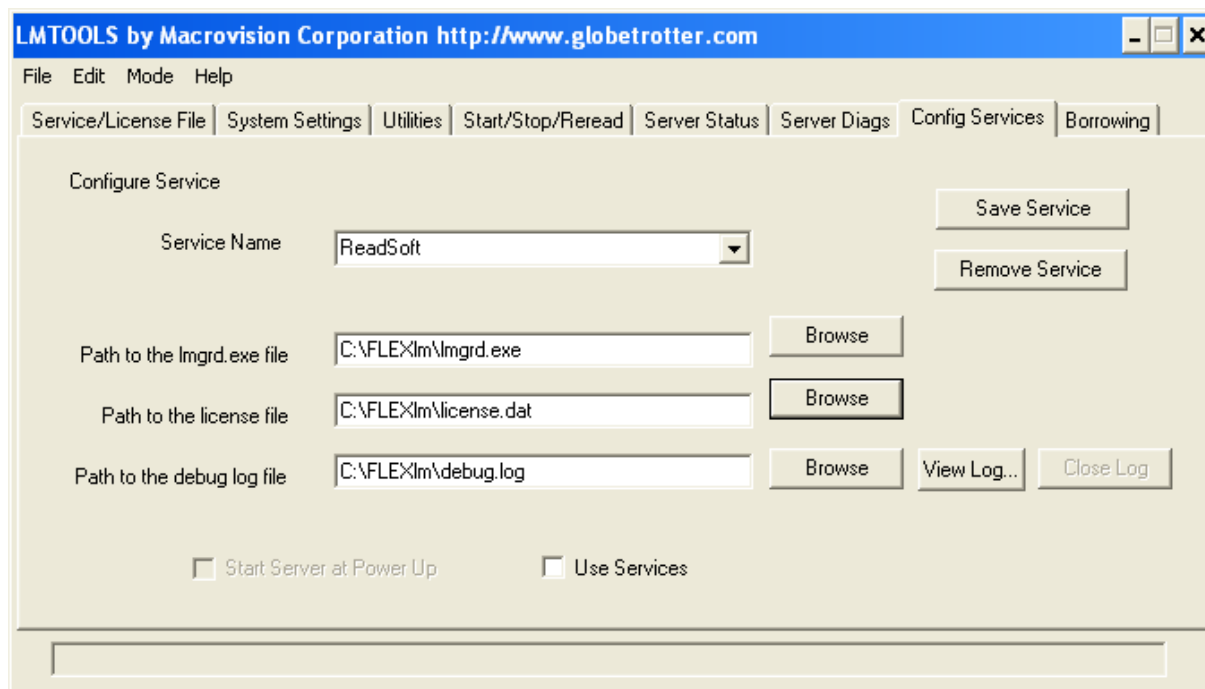
1. Double-click `lmtools.exe`, located in `C:\FLEXlm`.

Note: On the newer operating systems, you must run `lmtools.exe` as an administrator. Even if you are an administrator on the server, you must right-click the file and select **Run as Administrator**.

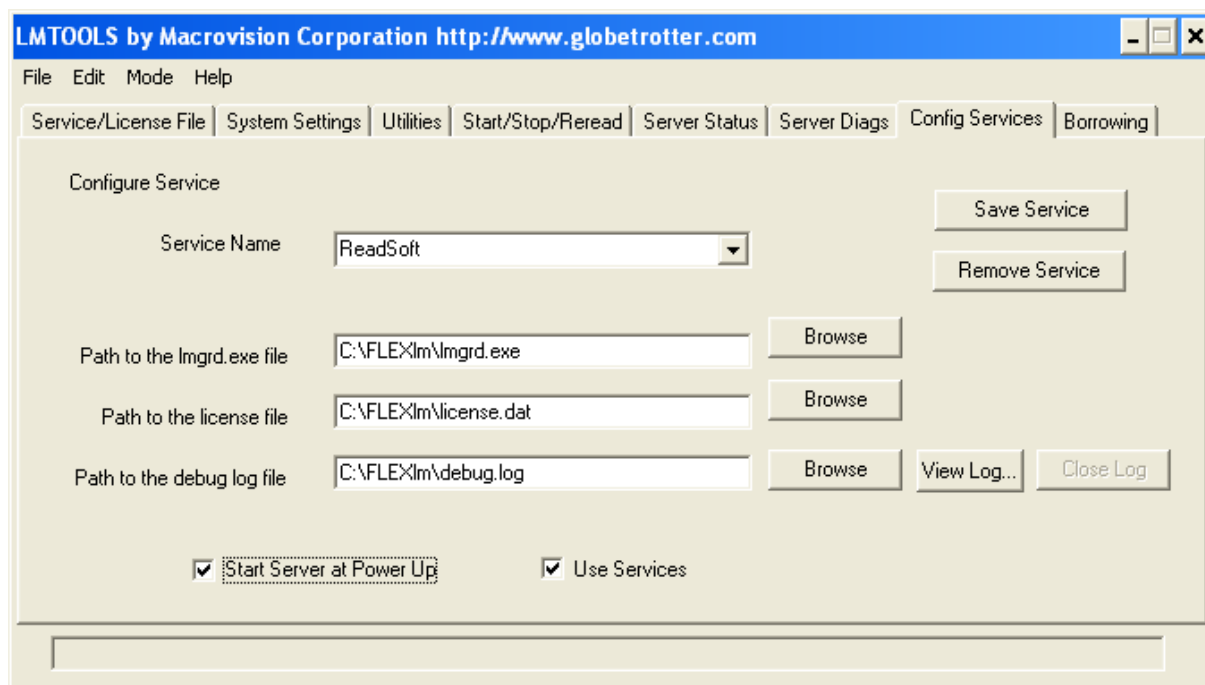
2. On the **Service/License File** tab, select **Configuration using Services**.



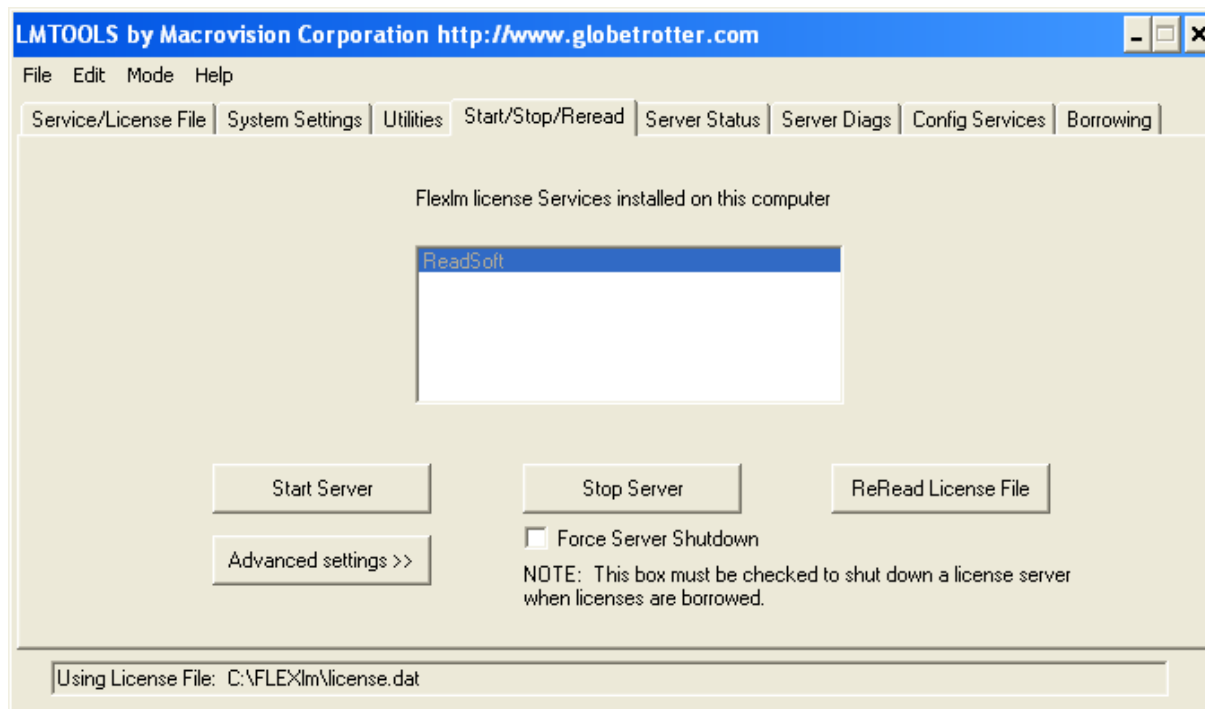
3. Next, click the **Config Services** tab and ensure that the settings are as shown below. If they are not, type the path information manually or click the **Browse** buttons and navigate to the correct locations.



4. Select **Use Services** and click **Save Service**.



5. Select **Start Server at Power Up** to avoid having to restart the FLEXlm server manually each time you reboot.
6. Click **Save Service** and then **Yes** in order to save this configuration.
7. The next step is to start FLEXlm. Click the **Start/Stop/Reread** tab.
8. Click **Start Server**. The settings you specified on the **Config Services** tab are now available to FLEXlm.



9. After the “Server Start Successful” message is displayed in the status bar (lower left corner), select **File > Exit** to close the **LMTTOOLS** dialog.

The **FLEXlm** server is now started. To ensure that it is running, use Windows Explorer to look in the **C:\FLEXlm** folder, where you should see the **ehlm** file (with no extension). This file is created after you click **Start Server**. Alternatively, use the **Task Manager > Processes** tab to check that **ehlm.exe** and **lmgrd.exe** are listed as running processes. You can also check the log file, **Debug.log**.

How the license request process works internally

This is what happens when you start FORMS with the FLEXlm server running.

1. FORMS uses `Ehlocal.ini` to determine the global path defined for the system.
2. FORMS uses the global path to locate the license file (`license.dat`), which contains the name of the server that hosts FLEXlm.
3. FORMS, the client, establishes a connection with the license manager daemon (`lmgrd.exe`) on the FLEXlm server, using an appropriate port (27000 by default) and determines which vendor daemon it needs to talk to – `ehlm.exe` in this case.
4. The license manager daemon determines which computer and port correspond to the vendor daemon and sends that information back to the client.
5. The client establishes a connection with the specified vendor daemon and sends its request for a license (that is, the client is requesting to open a FORMS module that it is licensed to use).
6. The vendor daemon checks in its memory to see if any licenses are available and sends a grant or denial back to the client.
7. If a license for the FORMS module is available, the client can now run the module. If the license request is denied, the module is not made available to the client.

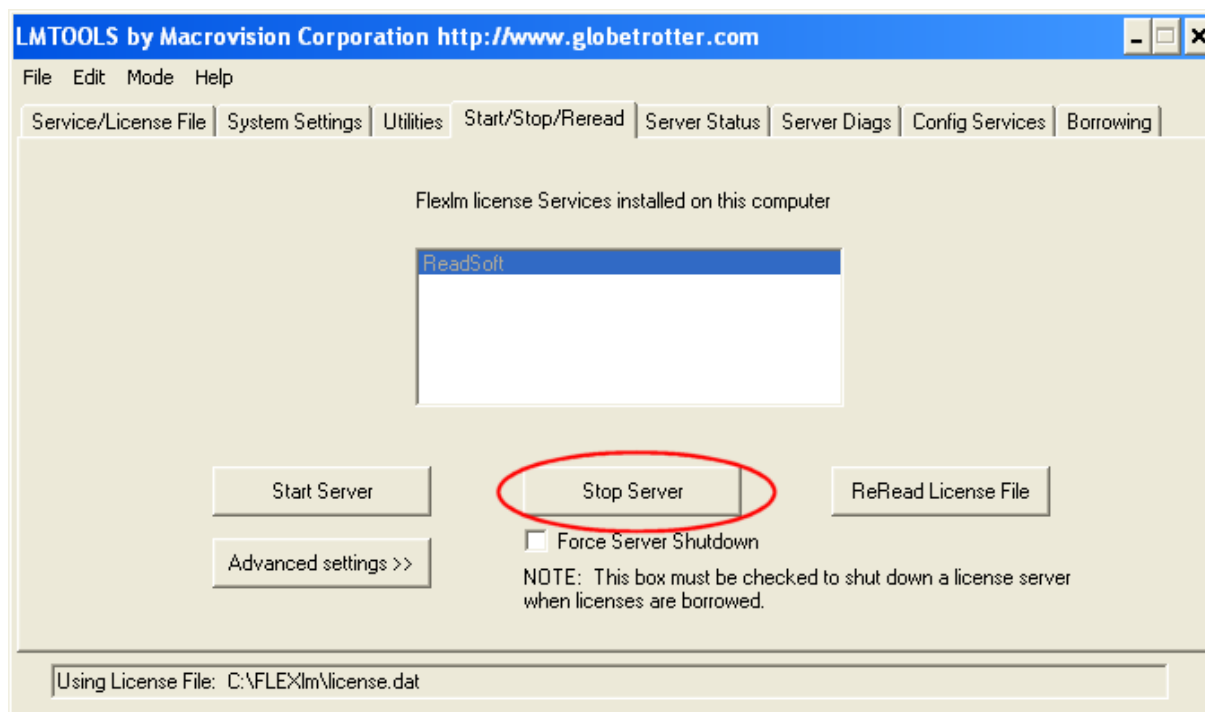
See “Important notes about check-out order” on page 22 for examples of how this process works.

Shutting down the FLEXlm server

Voluntary termination

The license server is intended for constant use. However, if you need to shut it down for any reason (such as if you want to move the FLEXlm software to a different server), do the following:

1. Open the FLEXlm dialog again by double-clicking `lmtools.exe` in `C:\FLEXlm`.
2. Select **Configure using services** on the **Service/License File** tab again, and then click the **Start/Stop/Reread** tab.
3. Click **Stop Server**.



4. When you are ready to start the server again, simply click **Start Server** on this same tab.

Abnormal termination

If the server has crashed or has been terminated abnormally, follow these instructions:

1. Click the Task Manager's **Processes** tab to see if the `ehl.exe` and `lmgrd.exe` processes are running. If they are running, end these tasks.
2. In the `C:\FLEXlm` folder, check for a file named `Ehl` (without an extension). If you find this file, delete it.
3. Restart FLEXlm by clicking **Start Server** on the **Start/Stop/Reread** tab. Use the Task Manager (or Windows Explorer) as described on page 15 to make sure the server is running again.

Client crashes

If a client crashes, its license might not be checked in properly. The usual way to resolve this is to restart the FLEXlm service. However, you can also use the "lmutils" program to check in the license of a client that has crashed. Use this procedure:

1. Start a command prompt session on the FLEXlm server and move to the `C:\FLEXlm` folder.
2. Run `lmutil lmstat -a` to list all the licenses and the users that are connected to them. (Type `C:\FLEXlm>lmutil lmstat -a` on the command line.)
3. Note the license feature, the user name, and the computer name of the client that crashed.
4. Run `lmutil lmremove <feature> <"user"> <host> <display>` to remove the unused feature (<display> is the same as <host>). Here is an example:

```
C:\FLEXlm>lmutil lmremove EFVERI "Joe Smith" joes joes
```

This removes the FORMS Verify module license that the user "Joe Smith" has checked out on the computer named "joes".

The license file

ReadSoft sets up any `license.dat` file in one of these ways:

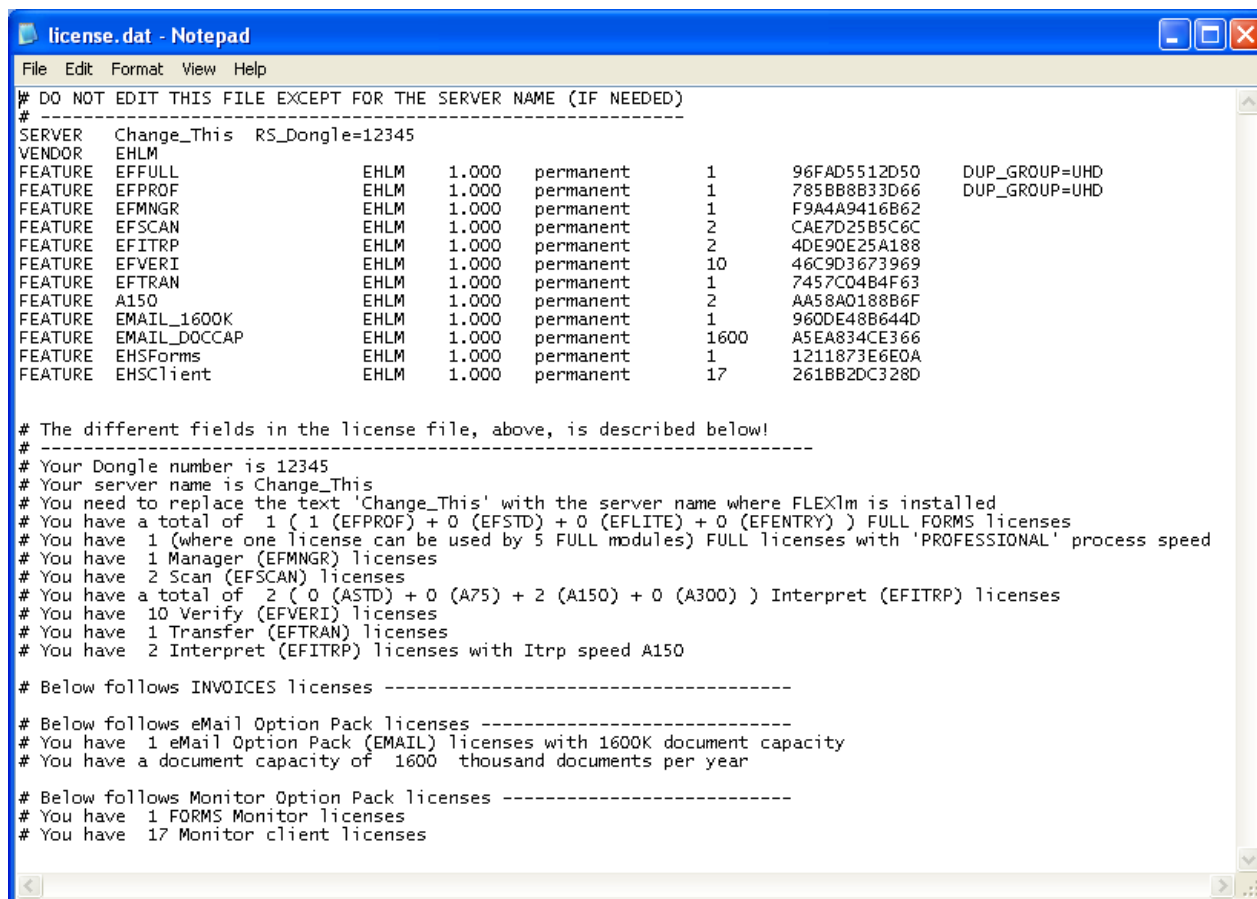
- With a dongle number
- With a time limit
- With a time limit and a dongle number
- With a volume limit and a dongle number
- With a time limit, a volume limit, and a dongle number

Examples of all four are found below, as well as an explanation of the order in which licenses (for FORMS modules) are checked out.

For your convenience, warning messages are displayed in FORMS when your license is about to expire or be used up. You can also check the **About FORMS** or **System info** dialog to check the status (see “Checking when your license expires or is used up” on page 24).

License file with a dongle number

The image below shows a `license.dat` file with a dongle number. The **FEATURE** lines represent separate licenses (that is, FORMS modules) that were purchased. An explanation of the fields in the license file is listed below the fields.



```
# DO NOT EDIT THIS FILE EXCEPT FOR THE SERVER NAME (IF NEEDED)
#
SERVER      Change_This  RS_Dongle=12345
VENDOR      EHLM
FEATURE     EFFULL      EHLM      1.000    permanent    1      96FAD5512D50    DUP_GROUP=UHD
FEATURE     EFPROF      EHLM      1.000    permanent    1      785BB8B33D66    DUP_GROUP=UHD
FEATURE     EFMNGR      EHLM      1.000    permanent    1      F9A4A9416B62
FEATURE     EFSCAN      EHLM      1.000    permanent    2      CAE7D25B5C6C
FEATURE     EFITRP      EHLM      1.000    permanent    2      4DE90E25A188
FEATURE     EFVERI      EHLM      1.000    permanent    10     46C9D3673969
FEATURE     EFTRAN      EHLM      1.000    permanent    1      7457C04B4F63
FEATURE     A150        EHLM      1.000    permanent    2      AA58A0188B6F
FEATURE     EMAIL_1600K EHLM      1.000    permanent    1      960DE48B644D
FEATURE     EMAIL_DOCCAP EHLM      1.000    permanent    1600   A5EA834CE366
FEATURE     EHSForms    EHLM      1.000    permanent    1      1211873E6E0A
FEATURE     EHSClient    EHLM      1.000    permanent    17     261BB2DC328D

# The different fields in the license file, above, is described below!
# -----
# Your Dongle number is 12345
# Your server name is Change_This
# You need to replace the text 'Change_This' with the server name where FLEXlm is installed
# You have a total of 1 ( 1 (EFPROF) + 0 (EFSTD) + 0 (EFLITE) + 0 (EFENTRY) ) FULL FORMS licenses
# You have 1 (where one license can be used by 5 FULL modules) FULL licenses with 'PROFESSIONAL' process speed
# You have 1 Manager (EFMNGR) licenses
# You have 2 Scan (EFSCAN) licenses
# You have a total of 2 ( 0 (ASTD) + 0 (A75) + 2 (A150) + 0 (A300) ) Interpret (EFITRP) licenses
# You have 10 Verify (EFVERI) licenses
# You have 1 Transfer (EFTRAN) licenses
# You have 2 Interpret (EFITRP) licenses with Itrp speed A150

# Below follows INVOICES licenses -----
# Below follows eMail Option Pack licenses -----
# You have 1 eMail Option Pack (EMAIL) licenses with 1600K document capacity
# You have a document capacity of 1600 thousand documents per year

# Below follows Monitor Option Pack licenses -----
# You have 1 FORMS Monitor licenses
# You have 17 Monitor client licenses
```

Warning: The **SERVER** and **VENDOR** lines are the only ones that can be changed without damaging the license file.

The words “Change_This” are listed in the `license.dat` file as a temporary server name. Replace “Change_This” with the name of the server where the *FLEXlm* software is (or will be) located. For a stand-alone computer with no name comparable to a server name, use `this_host`. Save this change before placing `license.dat` in the locations specified in “Configuring and starting *FLEXlm*” on page 12.

License file with a time limit

Instead of using a hardware dongle number, you might use a license file that has a time limit. In the following example from a FORMS license file, the limit is November 26, 2012. The field that usually contains the hardware dongle number contains the text, “ANY”.

```
SERVER    testserver    ANY

VENDOR    EHLN

FEATURE  EFFULL  EHLN      1.000  26-Nov-2012  7  AAAAAAAAAA  DUP_GROUP=UHD
```

License file with a time limit and a dongle number

You might use a license file that has a time limit and a hardware dongle number. In the following example from a FORMS license file, the limit is November 26, 2012 and the hardware dongle number is 23123.

```
SERVER    testserver  RS_Dongle=23123

VENDOR    EHLN

FEATURE  EFFULL  EHLN  1.000  26-Nov-2012  7  AAAAAAAAAA  DUP_GROUP=UHD
```

License file with a volume limit and a dongle number

With FORMS 5-3 Service Pack 2 and later, you can use a license file that has a volume limit and a hardware dongle number. In the following example from a FORMS license file, the volume limit is 10,000 pages (which you can see by the “10” in the third line). The hardware dongle number is 23123.

```
SERVER    testserver  RS_Dongle=23123

VENDOR    EHLN

FEATURE  FORMS_DOCCAP  EHLN  1.000  permanent  10  AAAAAAAAAA
```

License file with a time limit, a volume limit, and a dongle number

With FORMS 5-3 Service Pack 2 and later, you can use a license file that has a time limit, a volume limit, and a hardware dongle number. In the following example from a FORMS license file, the volume limit is 10,000 pages (which you can see by the “10” in the third line). The dongle number is 23123, and the license expires on November 26, 2012.

```
SERVER    testserver RS_Dongle=23123

VENDOR    EHLM

FEATURE EFFULL    EHLM 1.000 26-Nov-2012 1  AAAAAAAAAA DUP_GROUP=UHD

FEATURE FORMS_DOCCAP    EHLM 1.000 26-Nov-2012 10  AAAAAAAAAA
```

Important notes about check-out order

The client with a full FORMS installation

When any module is opened on a client with a full installation¹, the program first tries to open a FULL license (that is, EFFULL). If it succeeds, then it makes sure that the client receives the EFFULL license, plus the license with the highest-performing interpreter, if this is available (in other words, a FORMS *Professional* version, EFPROF). In such a case, both EFFULL and EFPROF are checked out. If no EFPROF license is available, then the client receives an EFSTD license, if this is available.

If no EFFULL license is available, the program tries to open a separate license that might exist for that particular module (for example, FEATURE EFITRP if Interpret is being opened). If it succeeds in opening an individual EFITRP license, it again looks for the license with the highest performing interpreter, if this license is available.

¹ That is, when License=FULL is found in the [Settings] section of the Ehlocal.ini file.

As an example, consider the following lines from the `Debug.log` file:

```
11:10:06 (EHLN) OUT: "EFFULL" Lars Gustafsson@larsg
11:10:06 (EHLN) OUT: "EFPROF" Lars Gustafsson@larsg
11:37:03 (EHLN) DENIED: "EFFULL" Anders Svensson@test2000p (Licensed number of users
already reached (-4,342))
11:37:04 (EHLN) OUT: "EFMNGR" Anders Svensson@test2000p
12:18:02 (EHLN) IN: "EFMNGR" Anders Svensson@test2000p
```

The users, Lars and Anders, each have `License=FULL` in their `Ehlocal.ini` files. When Lars opens a FORMS Manager module from his workstation, *FLEXlm* checks out the only available EFFULL license (which, in this case, is a *Professional* full license). When Anders tries to open a Manager module from his workstation, there is no EFFULL available on the network.

In this case, the program checks if there is a separate Manager module available (EFMNGR). In this particular instance, an EFMNGR license is available, so this is the one that opens on Anders' computer.

As you can see in the final line of the log file, Anders closes the Manager module after about 40 minutes. *FLEXlm* interprets this as "checking in" the EFMNGR license, which is now available to other authorized users in the network.

The client with individual modules installed

When any module is opened on a client with only individual modules installed², the program first tries to open a license for that module. If it succeeds, then the module runs. Again, if the module being opened is Interpret, then the client receives the highest performing Interpret module that is available.

If no individual license is available, the program tries to open an EFFULL license. If it succeeds, all of the FORMS modules associated with that one EFFULL license are locked (and an EFPROF license is given first, if available).

Consequences

If you purchased an individual license for a higher performing interpreter (such as A150) and are using *FLEXlm*, you must run Interpret on a client that only has individual modules on it, and *not* a full installation. Otherwise, the program first tries to open an EFFULL license, and you do not get to use the A150 license if an EFFULL license is available.

² That is, when `License=MODULE` is found in the [Settings] section of the `Ehlocal.ini` file.

When you check out an EFFULL license, the interpreter is always the one from the highest performing EFFULL license available (for example, EFPROF).

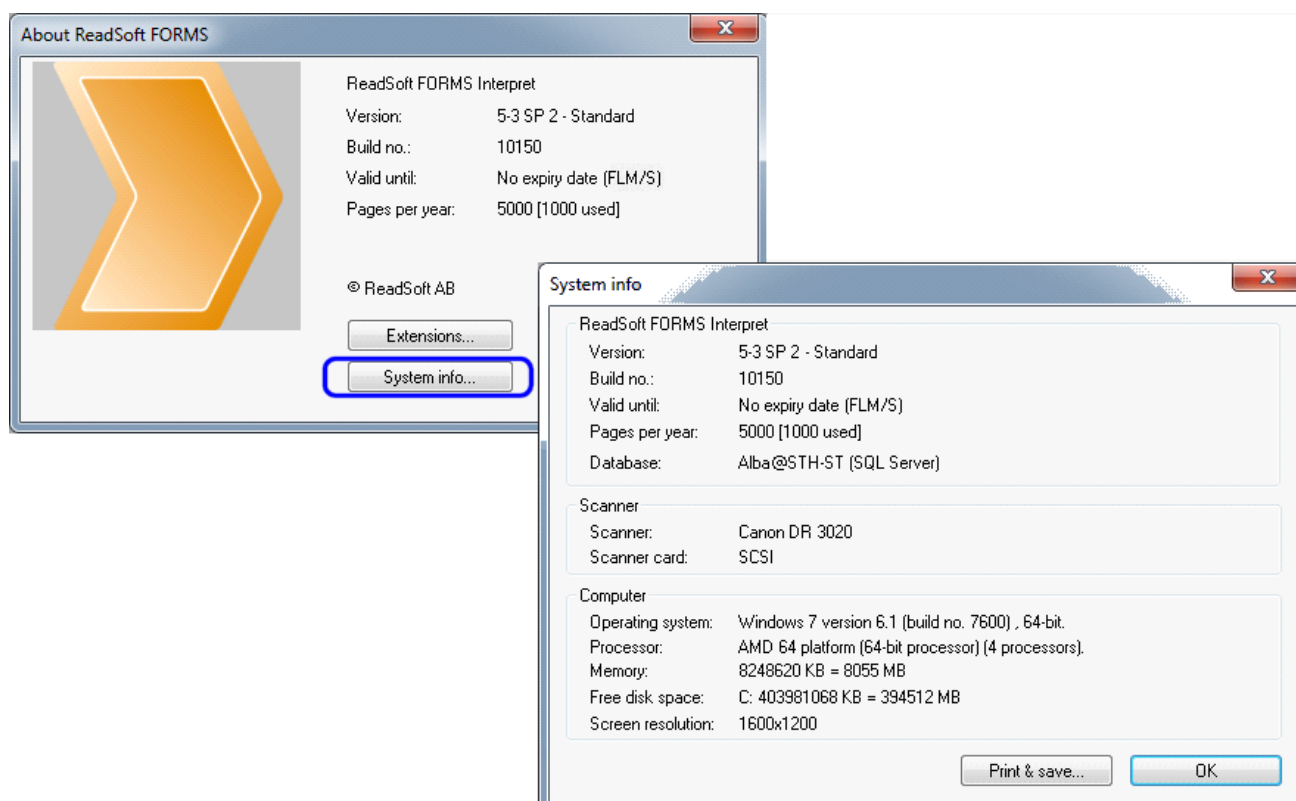
Checking when your license expires or is used up

FORMS licensing is normally based on either the number of pages processed or time. After the volume limit or the expiry date is reached, the license must be renewed to continue using FORMS.

For your convenience, warning messages are displayed in FORMS when 70%, 80%, 90%, and 95% of a licensed volume is used up. For a time-limited license, warning messages are displayed each time you log in, starting 30 days before the license expires.

You can also check the **About FORMS** or **System info** dialog to check the status:

5. Open a FORMS module.
6. Select **Help > About FORMS > System info**.



Volume-based license

If you have a volume-based license, both the **About** dialog and the **System info** dialog in FORMS tell you the capacity of your current license—in pages per year—and how much of that capacity has been used.

How are forms counted?

Forms are counted in the Scan module or (when forms are imported) in the Interpret module. Each page of a multi-page form is counted. A two-sided form counts as two pages.

License with a time limit

If you have a time-limited license, both the **About** dialog and the **System info** dialog in FORMS tell you (on the **Valid until** line) when the license will expire. This date matches the expiration date in the license file that you received from ReadSoft (described on page 19).

The type of license is also displayed

The type of license is displayed on the **Valid until** line:

D = Dongle

ND = No-dongle file

FLM/S = FLEXlm Server license

FLM/L = FLEXlm Local file

Troubleshooting

Troubleshooting checklist

The information above describes how FLEXlm is supposed to work. If you have any problems with FLEXlm, then go through the following checklist to find the problem and correct it.

- If you see this error message when you start a FORMS module:

The current FLEXlm server does not support this version of FORMS. Please upgrade the license server.

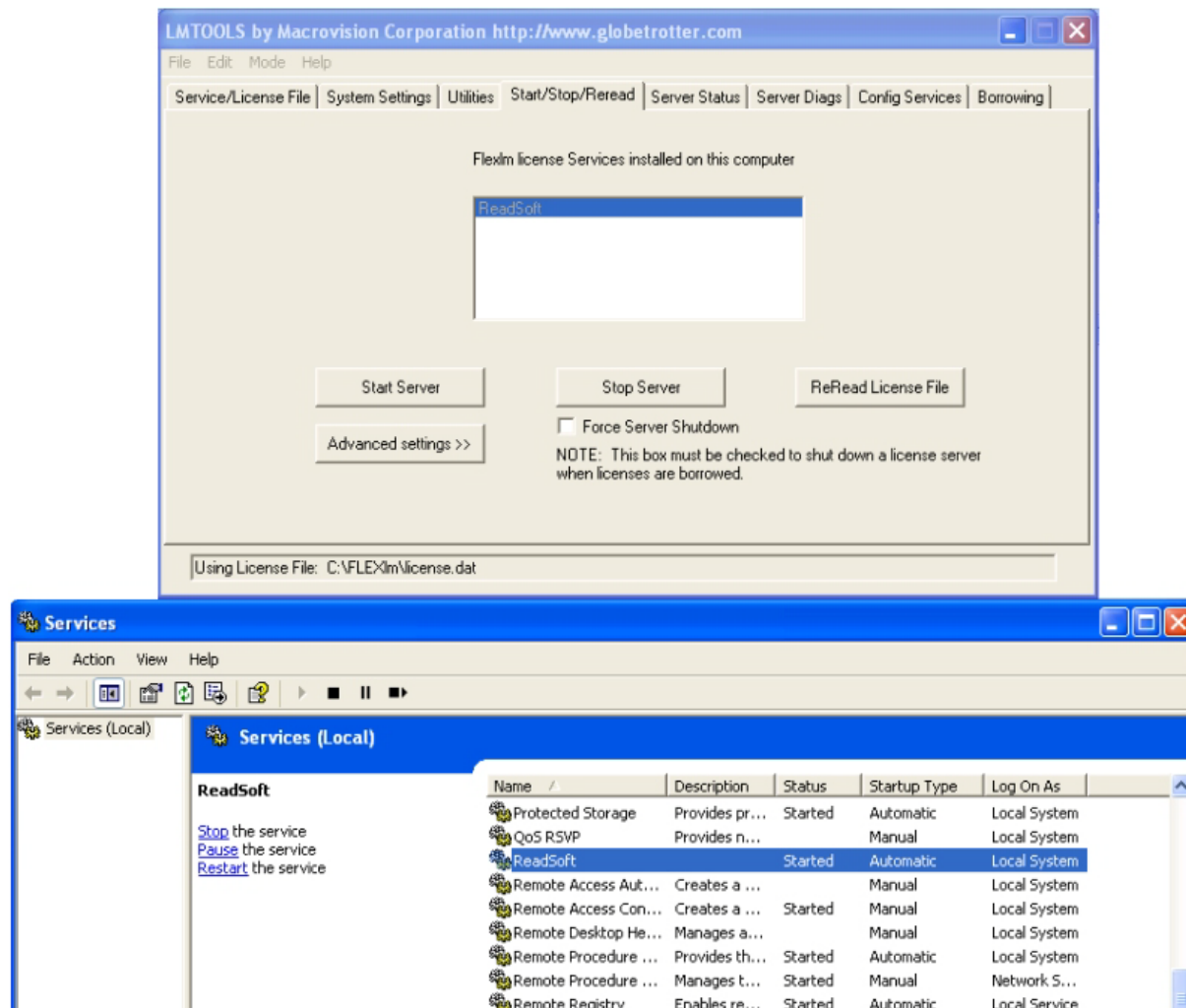
This message is displayed if you upgrade to FORMS 5-3 Service Pack 3 from any earlier version of FORMS without also upgrading FLEXlm. Reinstall FLEXlm using the version included with FORMS 5-3 SP3. (The FLEXlm version number will change to 11.10.)

- Alternatively, if you are using a USB dongle, ensure that it is properly connected to the USB port of the computer where FLEXlm is running.

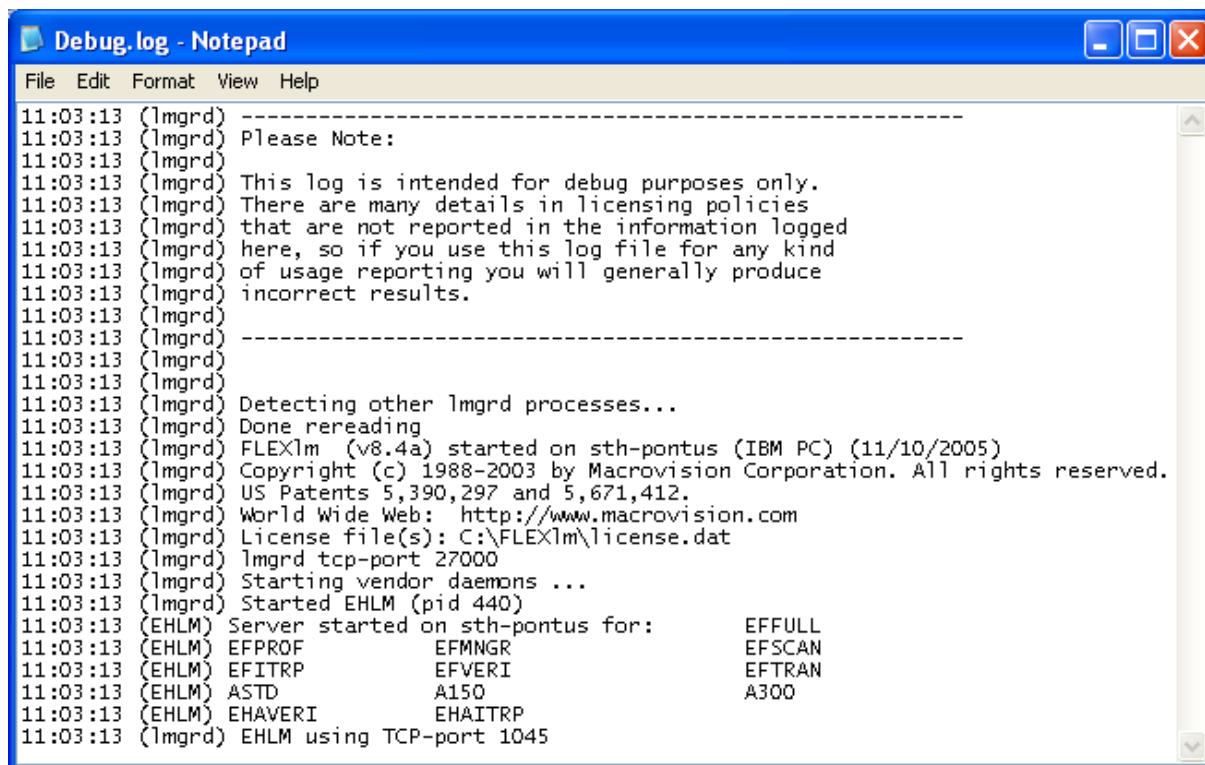
If you followed the instructions in this document, the driver was installed *before* the USB dongle was connected. If you mistakenly connect the dongle first, the operating system uses the first driver it finds – not necessarily the one that is supposed to be used. If this happens and it causes problems, you must remove the dongle, uninstall the Sentinel driver, and reinstall it (as described on page 30).

- Ensure that the correct server name is listed in the license file (the name after SERVER on the first line). When you received the file, the words “Change_This” were listed as a temporary server name. Ensure that it has been changed as described on page 7 and that the file name is `license.dat`.
- When the FLEXlm server is running, ensure that `ehlm` (a file with no extension) is located in the `C:\FLEXlm` folder.
- Ensure that no ReadSoft *clients* have a `C:\FLEXlm` folder that is not being used as a license server.
- Ensure that all ReadSoft clients can connect to the global path (defined in their `Ehlocal.ini` files) and have access to the `license.dat` file.
- Whenever the FLEXlm server is about to be started (that is, just before you click **Start Server**), `ehlm` (a file with no extension) should *not* be located in the `C:\FLEXlm` folder.

- Ensure that the license manager service (lmgrd.exe, called “ReadSoft” in the dialog) has the status **Started** and is set to **Automatic** on the computer where FLEXlm is running.



- When the FLEXlm server is started and running, ensure that these lines can be seen at the beginning of the `Debug.log` file. (You specified the path to this file in step 3 on page 13.)



```

11:03:13 (lmgrd) -----
11:03:13 (lmgrd) Please Note:
11:03:13 (lmgrd) -----
11:03:13 (lmgrd) This log is intended for debug purposes only.
11:03:13 (lmgrd) There are many details in licensing policies
11:03:13 (lmgrd) that are not reported in the information logged
11:03:13 (lmgrd) here, so if you use this log file for any kind
11:03:13 (lmgrd) of usage reporting you will generally produce
11:03:13 (lmgrd) incorrect results.
11:03:13 (lmgrd) -----
11:03:13 (lmgrd)
11:03:13 (lmgrd) Detecting other lmgrd processes...
11:03:13 (lmgrd) Done rereading
11:03:13 (lmgrd) FLEXlm (v8.4a) started on sth-pontus (IBM PC) (11/10/2005)
11:03:13 (lmgrd) Copyright (c) 1988-2003 by Macrovision Corporation. All rights reserved.
11:03:13 (lmgrd) US Patents 5,390,297 and 5,671,412.
11:03:13 (lmgrd) World Wide Web: http://www.macrovision.com
11:03:13 (lmgrd) License file(s): C:\FLEXlm\license.dat
11:03:13 (lmgrd) lmgrd tcp-port 27000
11:03:13 (lmgrd) Starting vendor daemons ...
11:03:13 (lmgrd) Started EHLN (pid 440)
11:03:13 (EHLN) Server started on sth-pontus for:      EFFULL
11:03:13 (EHLN) EFPROF          EFMNGR          EFSCAN
11:03:13 (EHLN) EFITRP          EFVERI          EFTRAN
11:03:13 (EHLN) ASTD           A150           A300
11:03:13 (EHLN) EHAVERI       EHAITRP
11:03:13 (lmgrd) EHLN using TCP-port 1045

```

If there is a message like “Invalid hostID on SERVER line”, and you have already checked the points listed above, reinstall the Sentinel driver as described on page 30.

- Ensure that there is nothing wrong with the port that the dongle is connected to. Try connecting a peripheral device to the port to see if it works.

If the port that the dongle is connected to is not damaged, then you may need a new hardware dongle from your local ReadSoft representative.

- Ensure that no anti-virus program is interfering with normal operation of FLEXlm. For example, an error message similar to this one can indicate a problem with anti-virus software:

```
...
12:11:10 (lmgrd) Started EHLM (pid 5632)
12:11:10 (EHLM) Server started on pavranb for: EFFULL
12:11:10 (EHLM) Vendor daemon can't talk to lmgrd ()
12:11:25 (lmgrd) Vendor daemon died with status 28
12:11:25 (lmgrd) Since this is an unknown status, lmgrd will
12:11:25 (lmgrd) attempt to re-start the vendor daemon.
12:11:25 (lmgrd) Restarted EHLM (pid 5188)
...
12:11:25 (EHLM) Vendor daemon can't talk to lmgrd ()
...
```

You may need to configure the anti-virus program to recognize FLEXlm as a “friendly” program, or disable functions intended to prevent a TCP/IP attack. The procedure depends on your anti-virus program and is outside the scope of this document. However, it is known that you cannot run FLEXlm with Panda.

Windows firewall is causing problems

Depending on what a computer is used for, different ports need to be opened. The list below shows the default ports to open for FLEXlm. If default ports are not used, then you must open the ones that *are* used.

| Port | Role | Description |
|-------|----------------|--|
| 23 | FLEXlm server. | This port is used to communicate with FLEXlm using Telnet, as the LMTOOLS and LMSTAT tools do. |
| 744 | FLEXlm server. | Used to communicate with FLEXlm . |
| 1090 | EHLM.EXE | ReadSoft FLEXlm agent. |
| 27000 | LMGRD.EXE | FLEXlm server daemon. |

In the case of FLEXlm, you must also edit your `license.dat` file, specifying the TCP/IP port number that the daemon uses. Below is an example of how to change the SERVER and VENDOR lines in `license.dat` to specify ports 27000 and 1090. The example is from a FORMS license file with a dongle number.

Before:

```
SERVER  Change_This RS_Dongle=23123
VENDOR  EHLM
```

After:

```
SERVER  Change_This RS_Dongle=23123 27000
VENDOR  EHLM port=1090
```

If problems persist

You may encounter other types of errors that are not presented in this document. If problems persist after following the guidelines above, please also check:

- *FLEXlm™ End Users Guide*, provided by [Flexera Software](#) (previously Macrovision Corporation) and included in your installation. The file name is `enduser.pdf`.
- *Frequently Asked Questions concerning FLEXlm* a ReadSoft document that is included in your installation. The file name is `FLEXlm_FAQ.pdf`.

You may also contact your ReadSoft Support representative. Information on how to reach the local support channels is available at <http://www.readsoft.com/services/support.htm>.

Installing (or reinstalling) the Sentinel driver

If you received a USB dongle from ReadSoft, then the dongle must use a Sentinel driver. This driver is installed during FORMS installation.

Here are some lines from `Debug.log` that point to a problem that could be caused by using the wrong USB driver:

```
19:31:20 (EHLM) Wrong hostid on SERVER line for license file:
```

```
19:31:20 (EHLM)          C:\FLEXlm\license.dat
```

```
19:31:20 (EHLM) SERVER line says RS_Dongle=1234, hostid is (Can't get hostid of type 1001 [])
```

```
19:31:20 (EHLM) Invalid hostid on SERVER line
```

Another sign of using the wrong driver is if you see this error message when you try to start FORMS: “The connected hardware lock is not valid for this module...”

If you have one of these problems, try rebooting. If that does not work, follow this procedure to reinstall the Sentinel driver:

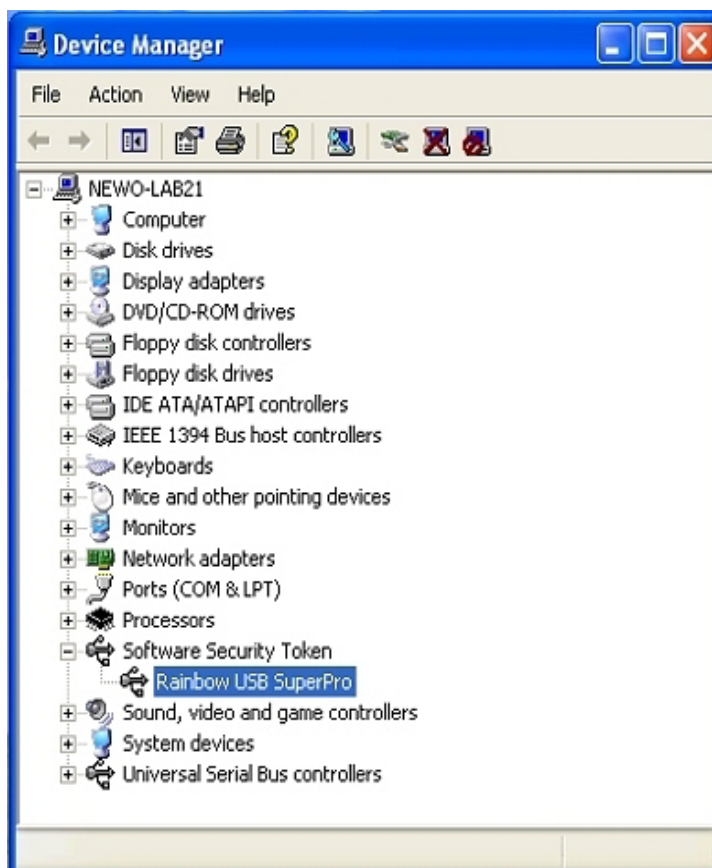
1. Open the Control Panel and choose **Add or Remove Programs**.
2. Select **Sentinel System Driver** and uninstall it.
3. Use the Device Manager to uninstall the USB controller.
4. Physically remove the USB dongle.
5. Stop the FLEXIm service.
6. Reboot the PC.
7. This step depends on your operating system:

Windows 2000, Windows NT 4.0, and Windows XP

- a) After login, connect the USB dongle.
- b) When prompted for the driver, navigate to \SentinelUSB\NT2000\I386\sntnlusb.inf.

The Sentinel driver is now correctly installed.

- c) Ensure that the USB dongle is displayed in **Device Manager** as a Software Security Token, Rainbow USB SuperPro, as shown here.
- d) If it is displayed as anything else, right-click the device and select **Update driver**. Then navigate again to \SentinelUSB\NT2000\I386\sntnlusb.inf.

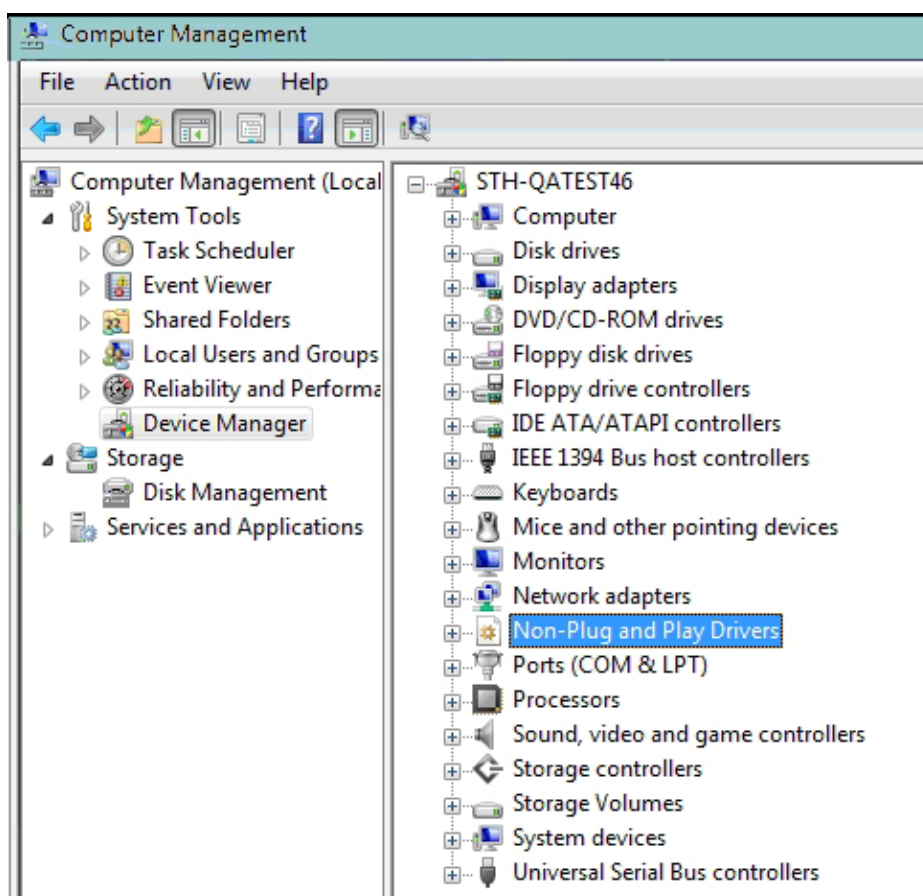


All newer operating systems, and all 64-bit Windows operating systems

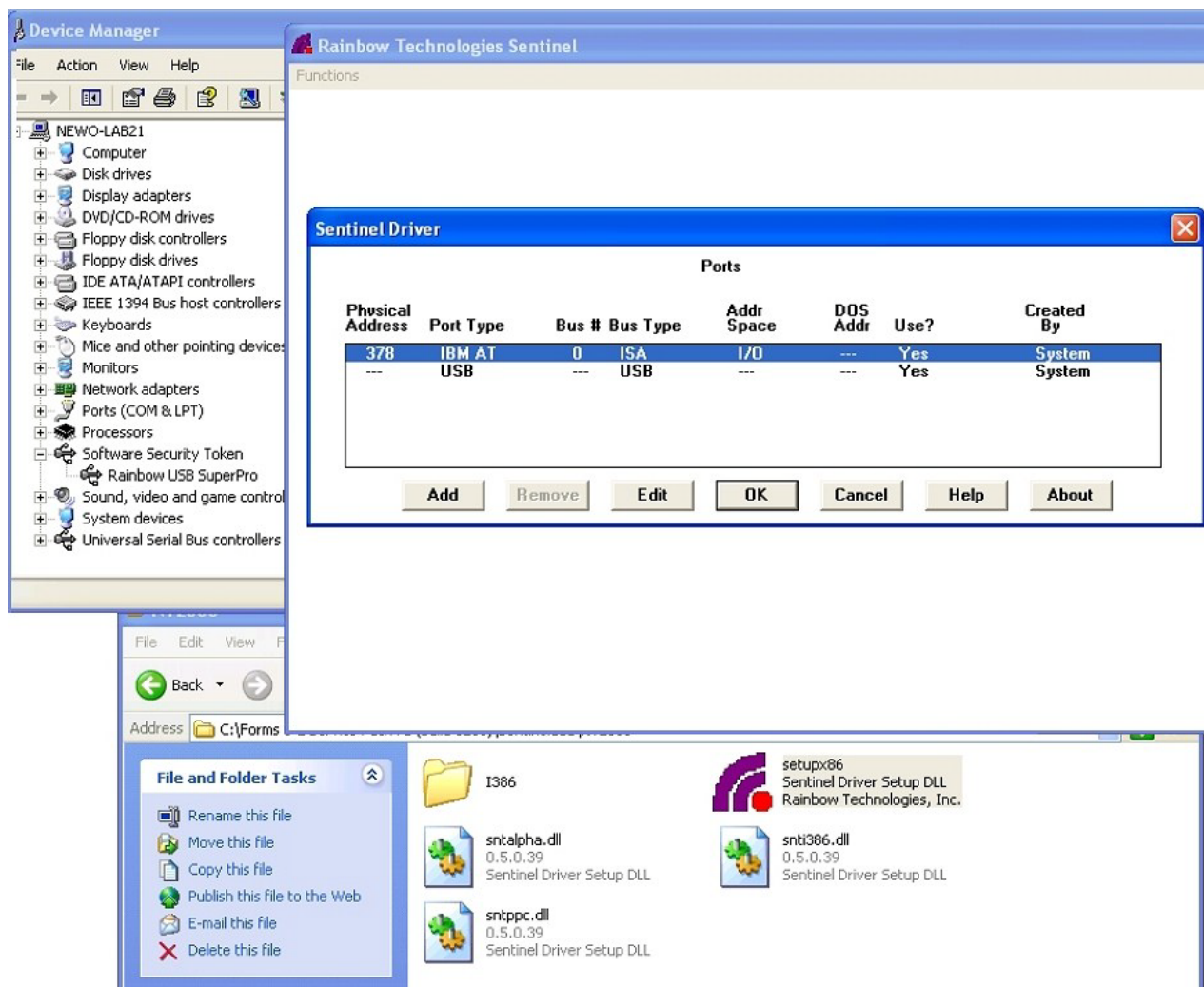
- a) Log on to Windows as an Administrator.
- b) Click **Install Software > Third-party software**. Windows Explorer opens and displays the third-party software available on the CD. In the Sentinel75 folder, double-click the executable file, Sentinel Protection Installer 7.5.0.exe.

Alternatively, download the latest Sentinel driver from <http://www.safenet-inc.com> and install it.

- c) Open the **Device Manager** and confirm that the **Sentinel75** driver appears in the **Non-Plug and Play Drivers**. (If you cannot see **Non-Plug and Play Drivers**, select **View > Show hidden devices**. If it is still not visible, restart the PC.)
- d) Connect the USB dongle, verify that it is found by the operating system, and verify that the USB driver is correctly installed.



8. If you are using Windows 2000, Windows NT 4.0 or Windows XP, run
\SentinelUSB\NT2000\SetupX86.exe to ensure that the driver is set up correctly:



(There is no way to perform this procedure on the newer operating systems, or on any 64-bit operating system.)

9. Check the Control Panel (**Add or Remove Programs**) and ensure that the driver is installed as a program.

If USB driver problems persist, download the latest driver from <http://www.safenet-inc.com/> and install it. (Diagnostic software is also available on that website.)

10. Start the FLEXlm service. (See page 14 for instructions.)
11. Check the Debug.log file and ensure that “Invalid hostID on SERVER line” does not appear. If it does, reboot the computer and check Debug.log again.

Verifying the presence of the Sentinel Security Runtime

1. Select **Start > Settings > Control Panel > Administrative Tools**.
2. Double-click **Services**. The **Services** dialog is displayed.
3. Locate the **Sentinel Security Runtime** service. If the service is running, the status of Sentinel Security Runtime service is **Started**.

Verifying the presence of the Sentinel Protection Server

1. Select **Start > Settings > Control Panel > Administrative Tools**.
2. Double-click **Services**. The **Services** dialog is displayed.
3. Locate the **Sentinel Protection Server**. If the server is running, the status is **Started**.

Verifying the presence of the Sentinel Keys

1. Select **Start > Settings > Control Panel > Administrative Tools**.
2. Double-click **Services**. The **Services** dialog is displayed.
3. Locate the **Sentinel Keys Server**. If the server is running, the status is **Started**.