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FFT 5.0v1 User Guide

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## QUICK START

In a hurry? No time to read the whole user guide? We understand. Read this section. It'll tell you how to install your license. When you're ready to learn about the advanced features in licensing take a look at the next chapter, "Advanced Licensing" on page 27.

The instructions for each operating system vary, so before you do anything else choose one of the following:

To install a license key on Mac OS X go to page 6.

To install a license key on Linux go to page 10.

To install a license key on Windows XP go to page 14.

To install a license key on Windows Vista go to page 18.

To install a license key on Irix go to page 22.

## Mac OS X

This section tells you how to get your license working on Mac OS X.

### Have you got a license key?

If you have a license key, read on. If not, you need to get one from our web site [www.thefoundry.co.uk](http://www.thefoundry.co.uk) or phone or email us.

### How to install a license key

We will email you a zip file containing an application and license key<sup>1</sup>. Just drop the license key on the application to install it. This will check the license key and copy it to the

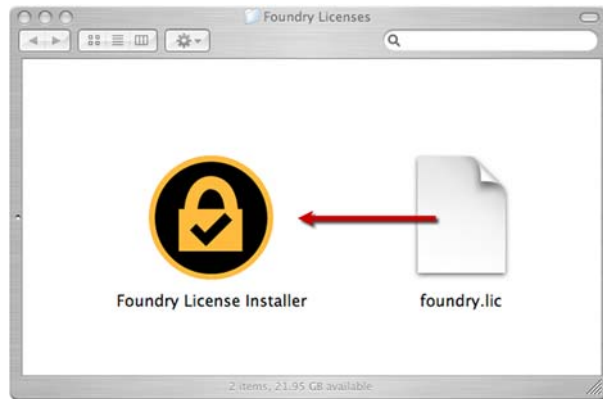


Figure 1. Drag the license file onto Foundry License Installer.

correct directory. If you installed a node locked license key you're done.

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1. If you have only been sent a foundry.lic license key, you should browse to [www.thefoundry.co.uk/licensing](http://www.thefoundry.co.uk/licensing) and download the Foundry License Installer appropriate to your operating system.

If you are installing a floating license key you will be asked whether you want to create a client license file. You should accept and save the file. You'll need it later.

## Floating Licenses

Having installed a floating license key you need to install some additional software (FFT) to manage the licenses on your network. Then you need to tell the client machines where to find the licenses.

### Install FFT on the License Server

Download FFT\_5.0v1\_mac-universal-release-32.dmg from our web site ([www.thefoundry.co.uk/licensing](http://www.thefoundry.co.uk/licensing)) and install it on the Mac that you want to use to serve these licenses across the network.

Having installed the Foundry FLEXlm Tools (FFT), go to the folder /Applications/TheFoundry/FLEXlmTools5.0/ then



Figure 2. FFT utilities.

double click on the Foundry Server Utility.

Press Start Server.

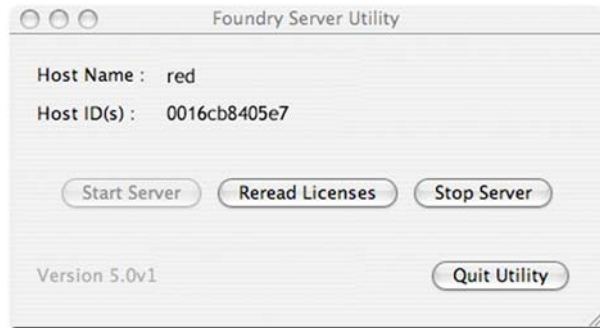


Figure 3. Foundry Server Utility.

Now you need to tell client machines where to find the licenses that are being floated from the server.

### **Tell the client machines where to find the licenses**

Take the client license file that was created when you installed the floating license and copy it to your client machine. Also copy over the Foundry License Installer<sup>1</sup>. Now install this license on the client using the Foundry License Installer.

Repeat this for each machine you wish to have access to

- 
1. You will need a Foundry License Installer (FLI) appropriate to the operating system of each client. For example, if you're installing the client on a linux machine, you'll need the FLI for Linux and not the Mac OS X one you used for the server.



licenses on the server.

### **More Information**

For a complete explanation of licenses, license syntax, alternative license directories, useful server commands, and much more please read the next chapter “Advanced Licensing” on page 27.

## Linux

This section tells you how to get your license working on Linux.

### Have you got a license key?

If you have a license key, read on. If not, you need to get one from our web site [www.thefoundry.co.uk](http://www.thefoundry.co.uk) or phone or email us.

### How to install a license key

We will email you a `tgz` file containing an application and license key<sup>1</sup>. Gunzip and untar the file then double click on the Foundry License Installer application to install the license key. This will check the license key and copy it to the

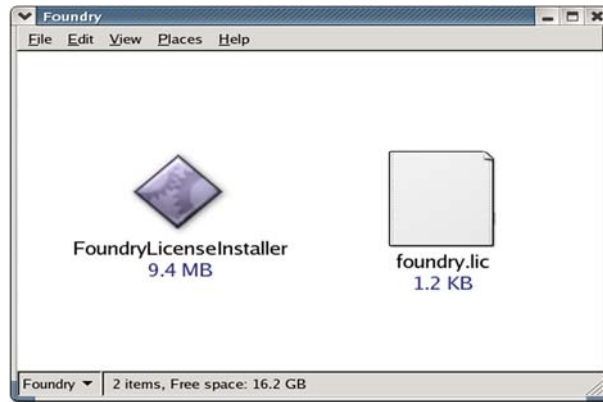


Figure 4. Double click on the Foundry License Installer.

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1. If you have only been sent a `foundry.lic` license key, you should browse to [www.thefoundry.co.uk/licensing](http://www.thefoundry.co.uk/licensing) and download the Foundry License Installer appropriate to your operating system.

correct directory. If you installed a node locked license key you're done.

If you are installing a floating license key you will be asked whether you want to create a client license file. You should accept and save the file. You'll need it later.

## Floating Licenses

Having installed a floating license key you need to install some additional software (FFT) to manage the licenses on your network. Then you need to tell the client machines where to find the licenses.

### Install FFT on the License Server

Download FFT\_5.0v1\_linux-x86-release-32.tgz from our web site ([www.thefoundry.co.uk/licensing](http://www.thefoundry.co.uk/licensing)) and move it to /tmp. Open a Terminal and type these commands to extract and install the Foundry FLEXlm Tools 5.0. As root:

```
cd /tmp
tar xvzf FFT_5.0v1_linux-x86-release-32.tgz
cd FFT_5.0v1_linux-x86-release-32
./install.sh
```

**Note** *We also have a 64 bit linux version. Use this if you are running Linux 64.*

Having installed the Foundry FLEXlm Tools (FFT), go to the

folder /usr/local/Foundry/FLEXlmTools5.0/ then double click



Figure 5. FFT utilities.

on the FoundryServerUtility.

Press Start Server.

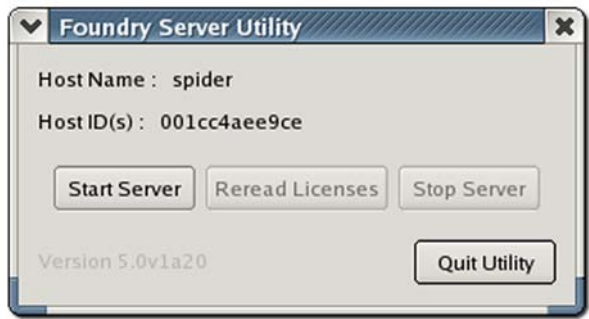


Figure 6. Foundry Server Utility.

Now you need to tell client machines where to find the licenses that are being floated from the server.

**Tell the client machines where to find the licenses**

Take the client license file that was created when you installed the floating license and copy it to your client machine. Also copy over the Foundry License Installer<sup>1</sup>. Now install this license on the client using the Foundry License Installer.

Repeat this for each machine you wish to have access to licenses on the server.

**More Information**

For a complete explanation of licenses, license syntax, alternative license directories, useful server commands, and much more please read the next chapter “Advanced Licensing” on page 27.

- 
1. You will need a Foundry License Installer (FLI) appropriate to the operating system of each client. For example, if you’re installing the client on a Windows machine, you’ll need the FLI for Windows and not the Linux one you used for the server.

## Windows XP

This section tells you how to get your license working on Windows XP. Use this section to install on XP 32/64bit.

### Have you got a license key?

If you have a license key, read on. If not, you need to get one from our web site [www.thefoundry.co.uk](http://www.thefoundry.co.uk) or phone or email us.

### How to install a license key

We will email you a zip file containing an application and license key<sup>1</sup>. Just drop the license key on the application to install it. This will check the license key and copy it to the

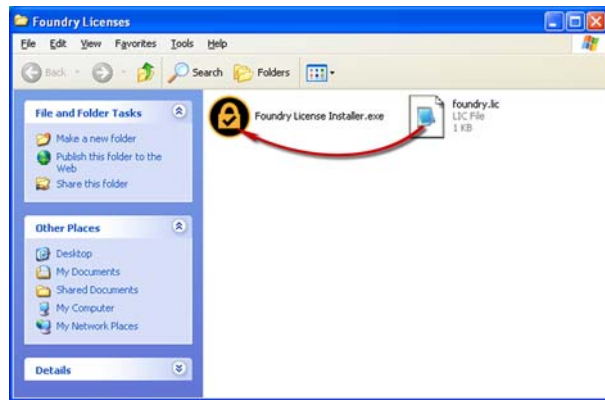


Figure 7. Drag the license file onto Foundry License Installer.

correct directory. If you installed a node locked license key you're done.

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1. If you have only been sent a foundry.lic license key, you should browse to [www.thefoundry.co.uk/licensing](http://www.thefoundry.co.uk/licensing) and download the Foundry License Installer appropriate to your operating system.

If you are installing a floating license key you will be asked whether you want to create a client license file. You should accept and save the file. You'll need it later.

## Floating Licenses

Having installed a floating license key you need to install some additional software (FFT) to manage the licenses on your network. Then you need to tell the client machines where to find the licenses.

### Install FFT on the License Server

Download FFT\_5.0v1\_win-x86-release-32.exe from our web site ([www.thefoundry.co.uk/licensing](http://www.thefoundry.co.uk/licensing)) and install it on the Windows computer that you want to serve these licenses across the network.

Having installed the Foundry FLEXlm Tools (FFT), click on the

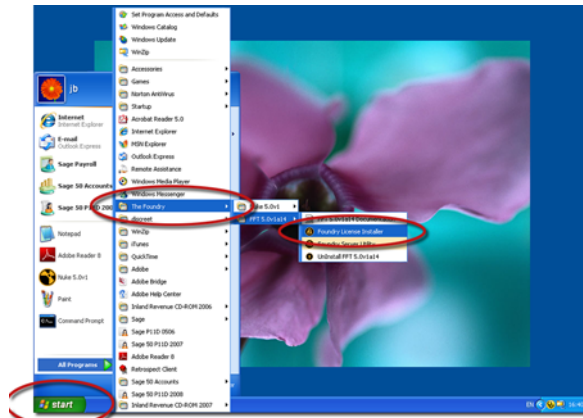


Figure 8. Foundry Server Utility.

Foundry Server Utility which is accessible from the Start

menu.

Press Start Server.



Figure 9. Foundry Server Utility.

Now you need to tell client machines where to find the licenses that are being floated from the server.

### **Tell the client machines where to find the licenses**

Take the client license file that was created when you installed the floating license and copy it to your client machine. Also copy over the Foundry License Installer<sup>1</sup>. Now install this license on the client using the Foundry License Installer.

Repeat this for each machine you wish to have access to licenses on the server.

- 
1. You will need a Foundry License Installer (FLI) appropriate to the operating system of each client. For example, if you're installing the client on a linux machine, you'll need the FLI for Linux and not the Windows one you used for the server.



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**Firewalls**

If you have a firewall on your license server, this will block all requests for licenses from your clients. So all that good work you've done in setting up your Foundry License Server will be for nothing unless you fix this. See "Firewalls" on page 69.

**More Information**

For a complete explanation of licenses, license syntax, alternative license directories, useful server commands, and much more please read the next chapter "Advanced Licensing" on page 27.

## Windows Vista

This section tells you how to get your license working on Windows Vista.

### Have you got a license key?

If you have a license key, read on. If not, you need to get one from our web site [www.thefoundry.co.uk](http://www.thefoundry.co.uk) or phone or email us.

### How to install a license key

We will email you a zip file containing an application and license key<sup>1</sup>. Double click on the Foundry License Installer application to install the license key. This will check the

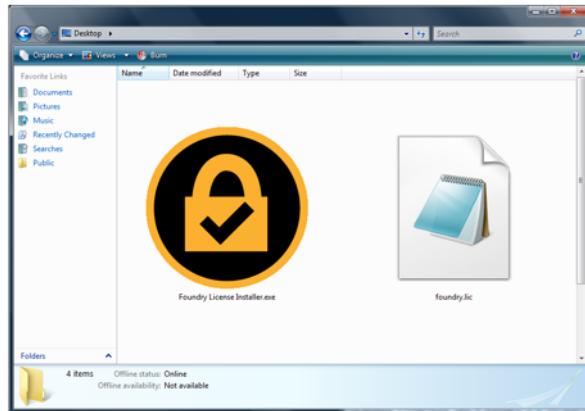


Figure 10. Double click on the Foundry License Installer.

license key and copy it to the correct directory. If you installed a node locked license key you're done.

---

1. If you have only been sent a foundry.lic license key, you should browse to [www.thefoundry.co.uk/licensing](http://www.thefoundry.co.uk/licensing) and download the Foundry License Installer appropriate to your operating system.

If you are installing a floating license key you will be asked whether you want to create a client license file. You should accept and save the file. You'll need it later.

## Floating Licenses

Having installed a floating license key you need to install some additional software (FFT) to manage the licenses on your network. Then you need to tell the client machines where to find the licenses.

### Install FFT on the License Server

Download FFT\_5.0v1\_win-x86-release-32.exe from our web site ([www.thefoundry.co.uk/licensing](http://www.thefoundry.co.uk/licensing)) and install it on the Windows computer that you want to use to serve these licenses across the network.

Having installed the Foundry FLEXlm Tools (FFT), go to the Vista Start menu and type foundry in the search box as shown in Figure 11, or browse to All Programs > The

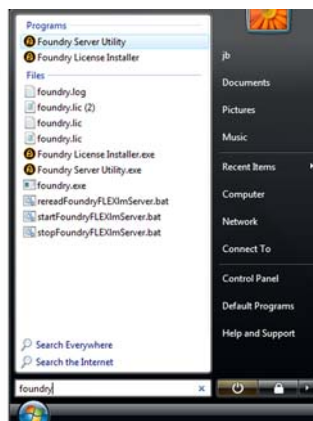


Figure 11. Foundry FLEXlm Tools.

Foundry > FFT 5.0v1 > Foundry Server Utility. Launch the Foundry Server Utility and press Start Server.

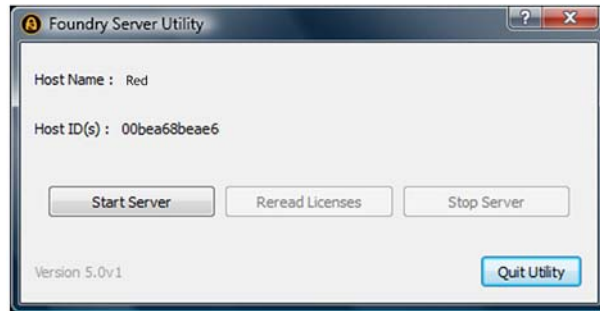


Figure 12. Foundry Server Utility.

Now you need to tell client machines where to find the licenses that are being floated from the server.

### **Tell the client machines where to find the licenses**

Take the client license file that was created when you installed the floating license and copy it to your client machine. Also copy over the Foundry License Installer<sup>1</sup>. Now install this license on the client using the Foundry License Installer.

Repeat this for each machine you wish to have access to licenses on the server.

- 
1. You will need a Foundry License Installer (FLI) appropriate to the operating system of each client. For example, if you're installing the client on a linux machine, you'll need the FLI for Linux and not the Windows one you used for the server.

## **Firewalls**

If you have a firewall on your license server, this will block all requests for licenses from your clients. So all that good work you've done in setting up your Foundry License Server will be for nothing unless you fix this. See "Firewalls" on page 69.

## **More Information**

For a complete explanation of licenses, license syntax, alternative license directories, useful server commands, and much more please read the next chapter "Advanced Licensing" on page 27.

## Irix

This section tells you how to get your license working on Irix.

### Have you got a license key?

If you have a license key, read on. If not, you need to get one from our web site [www.thefoundry.co.uk](http://www.thefoundry.co.uk) or phone or email us.

### How to install a license key

We will email you a `tgz` file containing an application and license key<sup>1</sup>. Gunzip and untar the file then double click on the Foundry License Installer application to install the license key. This will check the license key and copy it to the

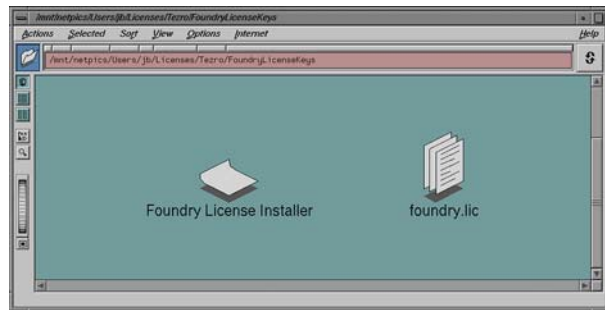


Figure 13. Double click on the Foundry License Installer.

correct directory. If you installed a node locked license key you're done.

If you are installing a floating license key you will need to install some additional software.

- 
1. If you have only been sent a `foundry.lic` license key, you should browse to [www.thefoundry.co.uk/licensing](http://www.thefoundry.co.uk/licensing) and download the Foundry License Installer appropriate to your operating system or just copy the file to `/usr/local/foundry/FLEXlm` making the directory if it doesn't exist..

## Floating Licenses

Having installed a floating license key you need to install some additional software (FFT) to manage the licenses on your network. Then you need to tell the client machines where to find the licenses.

### Install FFT on the License Server

Download FFT\_5.0v1\_iris-mips-release-32.tgz from our web site ([www.thefoundry.co.uk/licensing](http://www.thefoundry.co.uk/licensing)) and move it to /tmp. Open a Terminal and type these commands to extract and install the Foundry FLEXlm Tools 5.0. As root:

```
cd /tmp
gunzip FFT_5.0v1_iris-mips-release-32.tgz
tar xvf FFT_5.0v1_iris-mips-release-32.tar
cd FFT_5.0v1_iris-mips-release-32
./install.sh
```

Having installed the Foundry FLEXlm Tools (FFT), go to the folder /usr/local/Foundry/FLEXlmTools5.0/ then double click

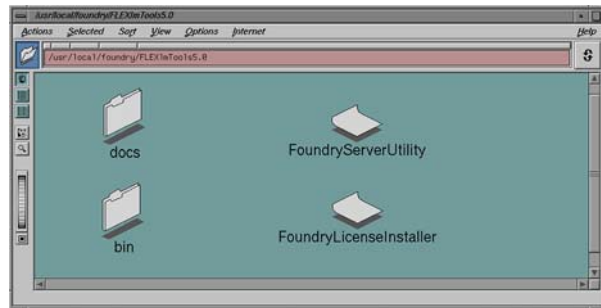


Figure 14. FFT utilities.

on the FoundryServerUtility.

Press Start Server.



Figure 15. Foundry Server Utility.

Now you need to tell client machines where to find the licenses that are being floated from the server.

### **Tell the client machines where to find the licenses**

Take the client license file that was created when you installed the floating license and copy it to your client machine. Also copy over the Foundry License Installer<sup>1</sup>. Now install this license on the client using the Foundry License Installer.

Repeat this for each machine you wish to have access to licenses on the server.

- 
1. You will need a Foundry License Installer (FLI) appropriate to the operating system of each client. For example, if you're installing the client on a Windows machine, you'll need the FLI for Windows and not the Irix one you used for the server.



**More Information**

For a complete explanation of licenses, license syntax, alternative license directories, useful server commands, and much more please read the next chapter “Advanced Licensing” on page 27.



# ADVANCED LICENSING

This chapter is for system administrators who wish to more fully understand Foundry FLEXIm licensing to help them manage licenses and diagnose problems.

## FLM/FFT

Foundry products built before October 2005 were licensed using our own encryption software called FLM (Foundry License Manager). The structure of the license keys and where they go differ from our newer products built with FLEXIm. Instructions on how to license products with FLM can be found in the FLM User Guide available to download from our web site.

Nearly all Foundry products now use FLEXIm as the encryption software. The tools needed to manage floating licenses are packaged together and called Foundry FLEXIm Tools (FFT) available to download from our web site.

The release notes for any Foundry product will tell you which license encryption software has been used, FLM or FFT.

## Further Information

Although this guide is more than 74 pages long, it is not meant to be an exhaustive exploration of FLEXnet/FLEXIm. For that you should read the FLEXnet Licensing End User Guide that is included in the Foundry FLEXIm Tools download.

For further information see [www.acresso.com](http://www.acresso.com)

## Notation

Throughout this guide we will refer to machines that serve FLEXIm licenses as servers and machines that ask for licenses as clients.

## Node Locked Licenses

A node locked license will enable one of our products to work on one particular machine. It is locked to a unique number on that machine. See “System ID” on page 45. This license key will not work on a different machine and if you need it to, you’ll have to transfer your license. Node locked licenses do not require additional licensing software to be installed. In particular you do not need a FLEXIm daemon running. You just need the product and a plain text file containing the license string. Node locked licenses are the easiest to set up.

Node locked licenses are sometimes called **uncounted** licenses.

An uncounted license looks like this:

```
INCREMENT furnace_shake_i foundry 4.0 05-jul-2008 \  
    uncounted HOSTID=000ea641d7a1 START=8-feb-2008 \  
    SIGN="03C7 5A34 BDE8 D421 6C2B 8111 8151 972A \  
    14E2 C143 4C00 741F 730D\ 784A D392 B1D9 9C3F \  
    03FC DB2A E432 5EA7"
```

For information on installing licenses see “Installing Node Locked Licenses” on page 30. For further information about the structure of the license key see “Uncounted License Syntax” on page 61.

## Floating Licenses

A floating license running on a server will enable one of our products to work on any networked client machine.

The floating license should be put on the server and is locked to a unique number on that server (See “System ID” on page 45.). Floating licenses on a server require additional software to be installed. This software manages those licenses on the server, giving licenses out to client stations that want them. The software you need to manage these licenses is called the Foundry FLEXlm Tools (FFT) which can be freely downloaded from our web site. Floating licenses often declare a port number on the server line and a port number on the vendor line.

This is required if you have an internet firewall on your license server so that you can permit license communication while blocking others. See “Firewalls” on page 69.

Floating licenses are sometimes called **counted** licenses.

A counted license looks like this.

```
SERVER <server_name> 000EA641D7A1 PORT=<server port>
VENDOR foundry OPTIONS=/usr/local/foundry/FLEXlm/
        foundry.opt PORT=<vendor port>
INCREMENT tinder_shake_i foundry 3.0 05-jul-2008 5 \
        START=8-feb-2006 SIGN="00FF 6A1B 735B A476 \
        2069 0A10 6894 4903 E2CF A238 7A01 1A15 1808 \
        7BCF 346C F59E 8899 F53C 2B13 E204 C7FD"
```

For information on installing licenses see “Installing Floating Licenses” on page 32. For further information about the structure of the license key see “Counted License Syntax” on page 62.

## Client Licenses

A client license tells a machine on a network where to look for the server that is managing the floating licenses. It typically has two lines in the file. (See “Client License Syntax”

on page 63.)

## **Floating License Behaviour**

Floating licenses are taken from the server when the plug-in on the client is first used. By default, the license is given back to the server only if the plug-in is deleted/unloaded from the compositing application or when the application is quit, however, this behaviour can be changed. See “Disabling the Heartbeat” on page 65.

## **Installing Node Locked Licenses**

If you are using a node locked license you just need the license key in a text file and the Foundry plug-ins or application. No other software is required. You do not need a FLEXlm daemon running. You do not need to install the Foundry FLEXlm Tools.

## **Automated Method**

We have an application called Foundry License Installer to help you add license keys. To check and install a license key:

1. Just drag the license file onto the application;
2. Or cut and paste the license key text directly into the window in the application;
3. Or if you double click on the Foundry License Installer it will install any file with a .lic file extension that it finds in the same directory as the application.

We might have emailed it to you or you can download it from our web site. It is also included in the FFT software if you have installed that.

## **Manual Method**

If you wish, you can install a node locked license key by

hand. The license key goes in any plain text file with a .lic file extension in the following directory. Don't save the key in a rich text (RTF) file as it won't work. This recommended location varies depending on the operating system you are using, and is as follows:

**On Mac OS X:**

/Library/Application Support/TheFoundry/FLEXlm/

**On Linux and Irix:**

/usr/local/foundry/FLEXlm/

**On Windows XP (32bit):**

C:\Program Files\The Foundry\FLEXlm\

**On Windows XP (64bit):**

C:\Program Files\The Foundry\FLEXlm\

C:\Program Files (x86)\The Foundry\FLEXlm\

**Note** *32bit applications running on a 64bit machine will be installed to, and look for licenses in, the (x86) directory. 64bit apps (like Nuke) running on a 64bit computer will look for their license keys in C:\Program Files\The Foundry\FLEXlm\. So depending on the software you are using, you may want to copy your Foundry license key to one or other of these directories or both to be sure.*

**On Windows Vista:**

C:\ProgramData\The Foundry\FLEXlm\

**Note** *The ProgramData folder is hidden on Vista. If you want to see it then you have to make it visible using the Folder Options in the Control Panel. See "Vista - hidden files" on page 72.*

**Note** *There are other directories that are searched for license files. See "Where else can my license key go?" on page 66.*

We recommend you use the text editor "vi" to create and add a license key. You can use TextEdit but you should make sure

the file created is plain text rather than rich text and that, on Windows, it doesn't add a hidden .txt file extension. You should avoid using Word or other word processing programs to create license files as these add invisible control characters that trip up the licensing and make it hard for us to diagnose the fault.

## **Installing Floating Licenses**

The Foundry FLEXlm Tools are supplied for Windows XP, Windows Vista, Linux, Mac OS X and Irix. To manage floating licenses across a network you have to install the Foundry FLEXlm Tools on a license server together with your floating license key(s).

Then you have to tell your client machines where to look for their license. See "Licensing Clients" on page 38.

## **Windows XP**

Follow these instructions to install floating license software for a Windows XP machine. For node locked licenses see "Node Locked Licenses" on page 28.

### **Download FLEXlm**

Download *FFT\_5.0v1\_win-x86-release-32.exe* from our web site onto the windows machine you wish to use as a license server.

### **Install FLEXlm**

Double click on the installer and follow the on-screen instructions.



**Install key**

If you have a license key from The Foundry you should add this now. From the Start menu go to All Programs - The Foundry - FFT 5.0v1 - Foundry License Installer to launch this application.

Drag the license file onto the application.

**Check FLEXlm**

Check for errors by looking in the foundry log file (page 56), or just try running the application or plug-ins and seeing whether they work.

**Firewalls**

If your Windows (or other) firewall is switched on, it will block requests for licenses from client machines. To fix this problem follow the instructions under "Firewalls" on page 69.

**Removing FFT**

To stop the Foundry License Server and remove FFT from your machine, from the Start menu go to All Programs - The Foundry - FFT 5.0v1 - Uninstall FFT 5.0v1

**Windows 32bit v 64bit**

On Windows XP 64bit machines you should install the 32bit version for windows - FFT\_5.0v1\_win-x86-release-32.exe. The application files will be installed to C:\Program Files (x86)\The Foundry\ and the license keys will be installed to both C:\Program Files\The Foundry\FLEXlm and C:\Program Files (x86)\The Foundry\FLEXlm so that both old and new plug-ins will find the licenses.

## Irix

Follow these instructions to install floating license software for an SGI Irix machine. For node locked licenses see “Node Locked Licenses” on page 28.

### Download FLEXlm

Download *FFT\_5.0v1\_irix-mips-release-32.tgz* from our web site onto the machine you wish to use as a license server.

### Install FLEXlm

As root extract the files and run the installer.

```
gunzip FFT_5.0v1_irix-mips-release-32.tgz
tar xvf FFT_5.0v1_irix-mips-release-32.tar
cd FFT_5.0v1_irix-mips-release-32
su
<enter password>
./install.sh
```

### Where do all the files go?

The vendor daemon and application files go here:

`/usr/local/foundry/FLEXlmTools5.0/`

The license and log files go here:

`/usr/local/foundry/FLEXlm/`

### Install key

If you have a license key you can add that now. Go to `/usr/local/foundry/FLEXlmTools5.0/` and double click on the Foundry License Installer. Drag your license key into the window.

### Start the lmgrd

Start the lmgrd by hand. You only have to do this once. Issue this command:

```
/usr/local/foundry/FLEXlmTools5.0/bin/lmgrd.foundry  
-c /usr/local/foundry/FLEXlm/foundry.lic -l /  
usr/local/foundry/FLEXlm/log/foundry.log
```

### Check FLEXlm

Check for errors starting the license server.

```
cat /usr/local/foundry/FLEXlm/log/foundry.log
```

or display the licenses you are floating with:

```
./lmutil lmstat -c /usr/local/foundry/FLEXlm/  
foundry.lic -a
```

### Removing FFT

You should uninstall FFT by running the script:

```
/usr/local/foundry/FLEXlmTools5.0/bin/uninstall.sh
```

## Mac OS X

Follow these instructions to install floating license software for a Mac OS X computer. For node locked licenses see “Node Locked Licenses” on page 28.

### Download FLEXlm

Download *FFT\_5.0v1\_mac-universal-release-32.dmg* from our web site onto the machine you wish to use as a license server.

### **Install FLEXlm**

Double click on the dmg file then double click on the pkg installer and follow the on-screen instructions.



Figure 16. Double click on the pkg file.

### **Install key**

If you have a license key you can add that now. Go to / Applications/TheFoundry/FLEXlmTools5.0/ and double click on the Foundry License Installer. Drag your license key into the window.

### **Check FLEXlm**

Check for errors by looking in the foundry log file (page 56), or just try running the application or plug-ins and seeing whether they work.

### **Where do all the files go?**

The vendor daemon and application files go here:  
`/Applications/TheFoundry/FLEXlmTools5.0/`

The license and log files go here:  
`/Library/Application Support/TheFoundry/FLEXlm`

## Removing FFT

You should uninstall FFT by running the FFT Uninstaller application in:

`/Applications/TheFoundry/FLEXlmTools5.0/`

## Linux

Follow these instructions to install floating license software for a Linux machine. For node locked licenses see “Node Locked Licenses” on page 28.

## Download FLEXlm

Download *FFT\_5.0v1\_linux-x86-release-32.tgz* from our web site onto the machine you wish to use as a license server. There is also a 64bit version for use on Linux 64 machines. Put the download file into a temporary directory, like `/usr/tmp/`.

## Install FLEXlm

Extract the contents of the tar file then, as root, install.

```
tar xvzf FFT_5.0v1_linux-x86-release-32.tgz
cd FFT_5.0v1_linux-x86-release-32
su
<enter password>
./install.sh
```

## Where do all the files go?

The vendor daemon and application files go here:

`/usr/local/foundry/FLEXlmTools5.0/`

The license and log files go here:

`/usr/local/foundry/FLEXlm/`

**Install key**

If you have a license key you can add that now. Go to `/usr/local/foundry/FLEXlmTools5.0/` and double click on the Foundry License Installer. Drag your license key into the window.

**Start the lmgrd**

Start the lmgrd by hand. You only have to do this once. Issue this command:

```
/usr/local/foundry/FLEXlmTools5.0/bin/lmgrd.foundry  
-c /usr/local/foundry/FLEXlm/foundry_float.lic -l /  
usr/local/foundry/FLEXlm/log/foundry.log
```

**Check FLEXlm**

Check for errors by starting the Foundry Server Utility from `/usr/local/foundry/FLEXlmTools5.0/`

**Removing FFT**

You should uninstall FFT by running the script:

```
/usr/local/foundry/FLEXlmTools5.0/bin/uninstall.sh
```

## Licensing Clients

There are two ways to license clients. One using a license file and the other using an environment variable.

### License File Method

When you installed the floating license key on your server using the Foundry License Installer, it should have prompted you to save a client license file. You should then save copies of this client file on each client that wants licenses from the license server.

The easiest way to do this is copy the Foundry License Installer (FLI) to each client and then drop the client license onto it.

**Note** *You need to make sure that you run an FLI appropriate to the operating system on the client. There are versions of the FLI for Linux, Windows, Irix and Mac OS X.*

Or if you prefer you can create this file yourself. Take the foundry.lic file from the server, then rename the file and call it foundry\_client.lic<sup>1</sup> and edit it so it looks like this two line file.

```
SERVER snowball 000a957bade9
USE_SERVER
```

or maybe this if you had server port number set:

```
SERVER snowball 000a957bade9 PORT=30001
USE_SERVER
```

Then copy it to this directory on the client:

**On Mac OS X:**

```
/Library/Application Support/TheFoundry/FLEXlm/
```

**On Linux and Irix:**

```
/usr/local/foundry/FLEXlm/
```

**On Windows XP (32bit):**

```
C:\Program Files\The Foundry\FLEXlm\
```

**On Windows XP (64bit):**

```
C:\Program Files (x86)\The Foundry\FLEXlm\
C:\Program Files\The Foundry\FLEXlm\
```

---

1. If you do create this file yourself, you should not call it foundry.lic as any node-locked licenses appended to the file will be ignored on account of the USE\_SERVER in that file. Instead call the client file foundry\_client.lic

**On Windows Vista:**

C:\ProgramData\The Foundry\FLEXlm\

**Environment Variable Method**

Set the environment variable on your client as follows. For linux:

```
setenv FOUNDRY_LICENSE_FILE @red
```

You only need to do this once. After a successful connection has been made this is stored in the users home directory in the hidden file (.flexlmrc) or in the registry on Windows XP. Subsequent connections without this environment file set will succeed.

If you have more than one server you could say.

```
setenv FOUNDRY_LICENSE_FILE @red:@green
```

If you have specified a particular server port number (34567) in the foundry.lic file on the server you should set the environment variable as follows.

```
setenv FOUNDRY_LICENSE_FILE 34567@red
```

**Where are the FLEXlm files?**

You can move the FLEXlm files anywhere, but by default they get installed to the following directories. We will refer to this directory throughout this guide and assume all the FLEXlm components we ship are here.



## Application Files

These include the Foundry License Installer and Foundry Server Utility. We'll refer to this location as the <app path>.



Figure 17. Application Files.

<app path> on Mac OS X:

/Applications/TheFoundry/FLEXlmTool5.0/bin/

<app path> on Linux and Irix:

/usr/local/foundry/FLEXlmTool5.0/bin/

<app path> on Windows XP:

C:\Program Files\The Foundry\FLEXlmTools5.0\bin\

## Data Files

These include the license keys and log files. We'll refer to



Figure 18. Data Files.

these locations as the `<data path>`.

`<data path>` on Mac OS X:

`/Library/Application Support/TheFoundry/FLEXlm/`

`<data path>` on Linux and Irix:

`/usr/local/foundry/FLEXlm/`

`<data path>` on Windows XP:

`C:\Program Files\The Foundry\FLEXlm\`

`C:\Program Files (x86)\The Foundry\FLEXlm\`

`<data path>` on Windows Vista:

`C:\ProgramData\The Foundry\FLEXlm\`

## Moving the FLEXlm files

If you move your node locked license key you have to set an environment variable to point to the new location. Here's an example.

Move your node locked license key to:

`/home/licenses/mylicense.lic`

Now set an environment variable for the client:

```
setenv FOUNDRY_LICENSE_FILE /home/licenses/  
mylicense.lic
```

If you want to move a floating license key to another directory then, if you have a FLEXlm license server already running you need to shut it down. You'll need to edit the startup scripts to look in the new location. Then restart the FLEXlm license server.

**For Mac OS X edit**

```
/Library/LaunchDaemons/uk.co.thefoundry.lmgrd
```

changing this line:

```
<string>/Library/Application Support/TheFoundry/  
FLEXlm/:usr/local/foundry/FLEXlm/</string>
```

to this, assuming your license is in /tmp/FLEXlm

```
<string>/Library/Application Support/TheFoundry/  
FLEXlm/:usr/local/foundry/FLEXlm/:tmp/  
FLEXlm</string>
```

**For Linux or Irix edit**

```
/etc/init.d/foundryflexlmserver
```

For **Windows XP** you'll need to edit the registry. Stop the FLEXlm license server if it's running and from the Start menu select Run... and enter regedit and press return on your keyboard.

Open the hierarchical structure:

- + HKEY\_LOCAL\_MACHINE
- + SOFTWARE
- + FLEXlm License Manager
- + Foundry FLEXlm Server

select License and append the new license location to the current one using a semicolon between them.

```
C:\Program Files\The Foundry\FLEXlm;C:\tmp
```

Quit regedit.

## Starting the FLEXlm License Server

The FLEXlm license server will start automatically when you reboot your machine but you can start it using the Foundry Server Utility (FSU) as shown for Mac OS X in Figure 19.

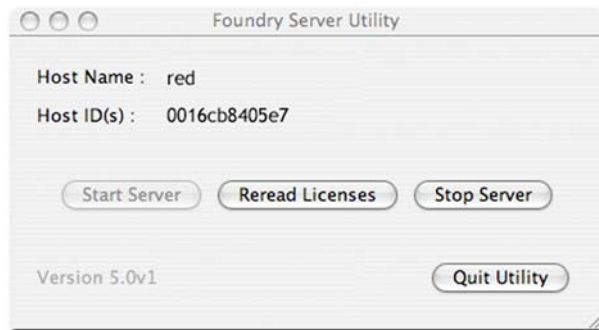


Figure 19. Foundry Server Utility.

If you insist, you can enter a command in a shell, but these vary according to the operating system.

### Linux and Irix

```
<app path>/lmgrd -c <data path>/foundry.lic -l <data  
path>/log/foundry.log
```

### Mac OS X

```
<app path>/startFoundryFLEXlmServer.sh
```

## Stopping the FLEXlm License Server

### Windows

```
<app path>/startFoundryFLEXlmServer.bat
```

For all operating systems we recommend that you run the Foundry Server Utility (FSU) and press Stop Server (Figure 19).

If you insist, you can enter a command in a shell, but these vary according to the operating system.

### Linux and Irix

```
<app path>/lmutil lmdown -c <data path>/
```

### Mac OS X

```
<app path>/stopFoundryFLEXlmServer.sh
```

### Windows

```
<app path>/stopFoundryFLEXlmServer.bat
```

## System ID

The System ID (also referred to as lmhostid) returns a unique number for your machine. We lock our license keys to the lmhostid. You will need to give us this number when we generate a license key for you.

To display this number run the Foundry System ID, Foundry

License Installer or Foundry Server Utility.

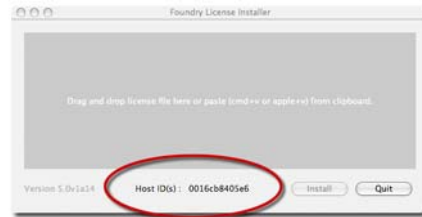


Figure 20. System ID in Foundry License Installer.

### By hand

If you have installed FFT, you can display the lmhostid using the command line tool lmutil as follows:

```
<app path>/lmutil lmhostid
```

## Adding a License Key

The easiest way to add a new license key is by dropping the license file onto the Foundry License Installer.

### By hand

This is **not** recommended. However, if you're a control freak I can suggest this method. You can add a new license key by editing the foundry.lic text file and then using lmutil to re-read this file. Here is an example floating license key for a machine called red with flexid 000EA641D7A1 that serves 2 floating Furnace for Shake licenses onto the network.

```
SERVER red 000EA641D7A1
VENDOR foundry
INCREMENT furnace_shake_i foundry 1.0 permanent 2 \
  START=8-feb-2006 SIGN="00FF 6A1B 735B 0A10 6894 \
  4903 E2CF A238 7A01 1A15 1808 7BCF 346C F59E 8899 \
  F53C 2B13 E204"
```

If you are then sent a Tinder for Shake license key for the same machine just add the INCREMENT lines to your existing file, ignoring any SERVER lines, so that it would look like this:

```
SERVER red 000EA641D7A1
VENDOR foundry
INCREMENT furnace_shake_i foundry 1.0 permanent 2 \
    START=8-feb-2006 SIGN="00FF 6A1B 735B A476 6894 \
    4903 E2CF A238 7A01 1A15 1808 7BCF 346C F59E 8899 \
    F53C 2B13 E204"
INCREMENT furnace_shake_r foundry 1.0 permanent 2 \
    START=8-feb-2006 SIGN="0269 8747 2EA4 1D42 A5F5 \
    56B9 7A26 6802 2A09 E931 F14B 09D5 B8E8 051E 606B \
    07D5 64F3 7152"
INCREMENT tinder_shake_i foundry 1.0 permanent 4
    START=8-feb-2006 SIGN="0048 8492 6890 DC3F 23E8 \
    4F29 83D7 9302 3F9E 79B1 54F8 D6EF 341D 5D09 C630 \
    C75C 384C 1B89"
INCREMENT tinder_shake_r foundry 1.0 permanent 4
    START=8-feb-2006 SIGN="0309 431F 8D69 9499 340C \
    0E25 366A 3900 5296 990B 079D 7F83 B5C8 C085 DD7A \
    8437 9552 DE14"
```

Now re-read the license file with this command:

```
<app path>/lmutil lmreread -c <data path>
```

## <server\_name>

If you requested a floating license key but didn't tell us the hostname of your license server then we will have given you a license key with <server\_name> in the first line. The key would look like this.

```
SERVER <server_name> 000ea641d7a2
VENDOR foundry
INCREMENT tinder_shake_i foundry 1.0 permanent 4
    SIGN="0048 8492 6890 EFAE 1A6D 4999 DC3F 23E8 4F29 \
    83D7 9302 3F9E 79B1 54F8 D6EF 341D 5D09 C630 C75C \
```

```
384C 1B89"  
INCREMENT tinder_shake_r foundry 1.0 permanent 4  
SIGN="0309 431F E8AD D16E 24E6 8D69 9499 340C 0E25 \  
366A 3900 5296 990B 079D 7F83 B5C8 C085 DD7A 8437 \  
9552 DE14"
```

**You need to replace the text <server\_name> with the name of your license server (If you use the Foundry License Installer, it will do this for you). If this name was "red" then your license key would look like this.**

```
SERVER red 000ea641d7a2  
VENDOR foundry  
INCREMENT tinder_shake_i foundry 1.0 permanent 4  
SIGN="0048 8492 6890 EFAE 1A6D 4999 DC3F 23E8 4F29 \  
83D7 9302 3F9E 79B1 54F8 D6EF 341D 5D09 C630 C75C \  
384C 1B89"  
INCREMENT tinder_shake_r foundry 1.0 permanent 4  
SIGN="0309 431F E8AD D16E 24E6 8D69 9499 340C 0E25 \  
366A 3900 5296 990B 079D 7F83 B5C8 C085 DD7A 8437 \  
9552 DE14"
```



## Useful Commands for System Admins

Type all these commands from the Foundry FLEXlm applications directory on the server.

**Is the Foundry FLEXlm License Server up and running?**

```
<app path>/lmutil lmstat -c <data path>/foundry.lic
```

**How do I know what licenses I've got?**

```
<app path>/lmutil lmstat -c <data path>/foundry.lic -  
a
```

**I'm compositing on machine "blue". Which licenses is the license server "red" offering?**

```
<app path>/lmutil lmstat -c 30003@red -a
```

**What version of lmgrd am I running?**

```
<app path>/lmutil lmver lmgrd
```

**What is my System ID number?**

```
<app path>/lmutil lmhostid
```

**What is my FLEXnet host ID number? (It's the same as your System ID number and is often the ethernet address of the machine). Use this command to display it.**

```
./lmutil lmhostid
```

**What's my <server\_name>?**

```
<app path>/lmutil lmhostid -hostname
```

**What licenses do I have and when do they expire?**

```
<app path>/lmutil lmstat -c <data path>/foundry.lic -  
i
```

**Who has checked out the Furnace for Shake background render license?**

```
<app path>/lmutil lmstat -c <data path>/foundry.lic -  
f furnace_shake_r
```

I've been given a new floating license key which I've edited into my license file, but it has not been picked up by the server. What do I do? Answer - use the Reread button on the Foundry Server Utility or this command:

```
<app path>/lmutil lmreread -c <data path>
```

Show me all my licenses and who has checked them out.

```
<app path>/lmutil lmstat -c <data path>/foundry.lic -  
a
```

My default debug log file (foundry.log) is too big. How do I start a new one called october.log without interrupting the lmgrd daemon?

```
<app path>/lmutil lmswitch -c <data path>/foundry.lic  
foundry october.log
```

## Setting an Environment Variable

There are many occasions when you might need to set an environment variable to tailor the functionality of FFT. Of course, how you do this differs for each operating system. Here's a brief guide if you can't find your systems administrator.

### Mac OS X

You can easily set an environment variable that is active in one terminal only. Simply, start a terminal (Applications - Utilities - Terminal) and type this command.

```
setenv FOUNDRY_LICENSE_FILE /tmp/foundry.lic
```

If you open another terminal this environment variable will not be set in that terminal unless you type it in there too.

For a more permanent solution, you can set an environment variable for all processes launched by a specific user by

creating an environment file in your home directory:

```
~/ .MacOSX/environment.plist
```

Be careful it's case sensitive. Where '~' is the home directory of the user for which we wish to set the environment variable. You will have to create the .MacOSX directory yourself using a terminal (by typing `mkdir .MacOSX` in your home directory). You will also have to create the environment file yourself. The environment file is actually in XML/plist format (make sure to add the .plist extension to the end of the filename or this won't work). An example environment file is shown below. The file can be created using /Developer/Applications/PropertyListEditor.app or you can use a text editor if you're careful with the formatting. We can also send you one if you wish.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple Computer//DTD PLIST
    1.0//EN" "http://www.apple.com/DTDs/
    PropertyList-1.0.dtd">
<plist version="1.0">
<dict>
    <key>FOUNDRY_LICENSE_FILE</key>
    <string>/tmp/foundry.lic</string>
</dict>
</plist>
```

In this case we set the environment variable `FOUNDRY_LICENSE_FILE` to `/tmp/foundry.lic`. Note also that the environment variable is only active once you've logged out and logged back in.

**Windows XP**

Launch the Control Panel from the Start menu and double click on the System icon. Figure 21.



Figure 21. System.

Click on the Advanced tab and then the Environment Variables button. You can specify system wide variables that



Figure 22. System Properties.

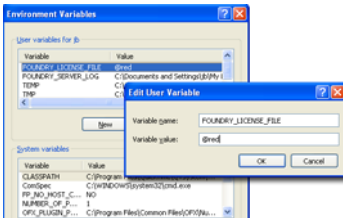


Figure 23. Environment Variables.

all users will pick up or user variables to restrict the environment variable to one particular user. Click on New and enter the variable name and value as shown in Figure 23.

## Windows Vista

Environment variables are set in the same way as Windows XP but, of course, Microsoft have moved things about and it's prettier. Here are some snapshots though.

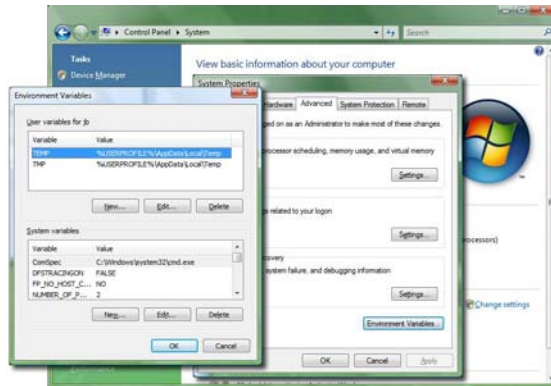


Figure 24. Environment Variables in Vista.

## Linux

In a bash shell you can type:

```
export FOUNDRY_LICENSE_FILE=/tmp/foundry.lic
```

To make this permanent for any bash shell launched you can edit your `~/.bash_profile` (which gets read at login).

If you want it to be system wide then `/etc/profile` can be used (or `/etc/environment` on some flavours of Linux).

## Irix

In a c shell you can type:

```
setenv FOUNDRY_LICENSE_FILE /tmp/foundry.lic
```

To make this permanent for any c shell launched you can edit your `~/.cshrc` (which gets read at login).

## The License File

The license file is a plain text file that stores the license keys in a human readable form. This file must have a `.lic` file extension. The name of the file can be anything you like, but we recommend the following.

### Nodelocked Licenses

```
foundry.lic
```

### Floating Licenses

```
foundry_float_<server_name>.lic
```

### Client Licenses

```
foundry_client.lic
```

## The Options File

The options file can tune the behaviour of your licenses. For example, you can exclude some users from getting a license.

The options file should be called **foundry.opt** and should be put in the data directory. An example options file is supplied.

The options file should be referenced from the license file (foundry.lic) after the vendor daemon as follows:

```
SERVER snowball 000a957bade9  
VENDOR foundry options="/Library/Application  
Support/TheFoundry/FLEXlm/foundry.opt"
```

or if you're on Windows XP. Don't forget the quotes around the pathname:

```
SERVER snowball 000a957bade9
VENDOR foundry options="C:\Program Files\The
Foundry\FLEXlm\foundry.opt"
```

Here is an example of an options file that keeps your Furnace for Shake license for 40 seconds after quitting the application and prevents the user called rob from rendering Furnace on Shake in the background.

```
# cat foundry.opt
LINGER furnace_shake_i 40
EXCLUDE furnace_shake_r USER rob
```

In Shake with Furnace plug-ins, if you load a new script also containing Furnace plug-ins, the license will be dropped then immediately requested again during this process. If you are very unlucky someone else may be able to steal the license in the short time it's back on the server. You can prevent this by setting a LINGER time on the server.

One further option is worth discussing – the TIMEOUT. Without a timeout on the server, if the ethernet cable of the client is disconnected then the client will keep the license for 2 hours. However, if you had set a TIMEOUT, then the license will become inactive (and be logged as such in the foundry.log) and revert back to the sever. In this example:

```
TIMEOUT furnace_shake_i 1000
```

the license will be given back to the server after 1000 seconds if the connection between the server and client is interrupted.

Once you have edited your options file you need to re-read the file. Use the Foundry Server Utility to do this.

For more information see the FLEXlm End Users Guide.

## The Log Files

There are several log files created to help diagnose problems. Two log files are created on the server and one on the client machine.

### Server

Errors, check-outs, check-ins and other information reported by the FLEXlm daemon is written to a log directory in the data directory:

#### On Mac OS X:

```
/Library/Application Support/TheFoundry/FLEXlm/log/  
foundry.log
```

#### On Linux and Irix:

```
/usr/local/foundry/FLEXlm/log/foundry.log
```

#### On Windows XP:

```
C:\Program Files\The Foundry\FLEXlm\log\foundry.log
```

#### On Windows Vista:

```
C:\ProgramData\The Foundry\FLEXlm\log\foundry.log
```

Errors when starting the FLEXlm daemon using the startup script provided are logged to:

```
<data path>/log/boot.log
```

### Client

By default problems with licenses are written to:

```
<data path>/license.log
```



although you can change this as follows:

```
setenv FOUNDRY_LICENSE_LOG /home/fred/problems.log
```

### Tip

A good command to use on very large log files is:

```
tail -n 30 foundry.log
```

This prints out the last 30 lines of the log file.

## Upgrade Licenses

If you have purchased a product upgrade you will be issued with an upgrade license. This is best explained with an example. Say you bought 2 floating licenses of Furnace 1.0 for Shake, you'd get a license a bit like this:

```
SERVER red 000EA641D7A1
VENDOR foundry
INCREMENT furnace_shake_i foundry 1.0 permanent 2 \
    SIGN="00FF 6A1B 735B A476 2069 0A10 6894 4903 \
    E2CF A238 7A01 1A15 1808 7BCF 346C F59E 8899 \
    F53C 2B13 E204"
```

If you then upgraded one of these two floating licenses to Furnace 2.0 for Shake then we'd give you a license a bit like this:

```
UPGRADE furnace_shake_i foundry 1.0 2.0 permanent 1 \
    SIGN="0183 B936 8CD8 7060 7885 A6C2 CBD0 DA1D \
    CF3B C96F CA00 452C 1BD7 BF9C 5FEC 8271 771C \
    01C6 E45E D322 2DFB"
```

This would allow you to run up to:

- 2 x Furnace 1.0 for Shake OR
- 1 x Furnace 1.0 for Shake AND 1 x Furnace 2.0 for Shake

## Supersede Licenses

You may see the word **SUPERSEDE** in your license file. This flag is used in conjunction with the **ISSUED** flag to roll together multiple licenses. For example, let's consider this floating license for 2 Nukes bought on 19 July 2007 with one year's maintenance allowing you to run all future versions of Nuke until 19 July 2008.

```
SERVER red 000EA641D7A1
VENDOR foundry
INCREMENT nuke_i foundry 2008.0719 permanent 2 \
    SUPERSEDE ISSUER=Foundry ISSUED=19-jul-2007 \
    SIGN="00FF 6A1B 735B A476 2069 0A10 6894 4903 \
    E2CF A238 7A01 1A15 1808 7BCF 346C F59E 8899 \
    F53C 2B13 E204 C7FD"
```

If you bought another 3 licenses 6 months later with 6 months support, so your annual maintenance renewal date remains at 19 July 2008, we would issue the following license for 5 floats. The supersede flag forces FLEXlm to ignore any `nuke_i` licenses with an **ISSUED** date older than 19 December 2007.

```
INCREMENT nuke_i foundry 2008.0719 permanent 5 \
    SUPERSEDE ISSUER=Foundry ISSUED=19-dec-2007 \
    SIGN="00FF 6A1B 735B A476 2069 0A10 6894 4903 \
    E2CF A238 7A01 1A15 1808 7BCF 346C F59E 8899 \
    F53C 2B13 E204 C7FD"
```

## Redundant License Servers

If you have a large site you may wish to run with redundant license servers. With three machines managing licenses, this gives you some protection against a single license server going down.

To set this up the three servers must:

- be on the same subnet
- have excellent communications between machines

- be stable (don't pick machines that are often rebooted)

With three machine redundancy, if any two machines are up (known as a quorum) then the system serves all the licenses. Let's run through an example to show you how to set this up.

Let's imagine you have 3 servers and 50 compositing stations (clients). The 3 (linux) servers are called *red*, *green* and *blue*. One of the clients is called *fred*. You have bought 100 floating licenses of Furnace 2.0 for Shake. We have given you a license key called foundry.lic which looks like this.

```
SERVER red 0002957bade4 <server port>
SERVER green 000363d7aee0 <port>
SERVER blue 000d9376b76e <port>
VENDOR foundry /usr/local/foundry/FLEXlm
INCREMENT furnace_shake_i foundry 2.0 permanent 100 \
  SIGN="0301 9ADC 6F48 CBE6 069E C924 B20C ECF3 \
    5DB5 234A B210 133C 11F5 FD05 BF4D E4A0 3D40 C4B0 \
    07CB 87F2 4D5D"
INCREMENT furnace_shake_r foundry 2.0 permanent 100 \
  SIGN="00A8 2740 37E4 2D89 8D61 0D28 F1BB 98A2 5AA6 \
    AB82 5A00 41AB 0AA5 C63B 4F7C D711 CC3C 94C6 5462 \
    D842 989A"
```

## Servers

On each of the servers red, green and blue in turn:

1. `mkdir -p /usr/local/foundry`
2. `cd /usr/local/foundry`
3. Download the linux Foundry FLEXlm tools to this directory.
4. `tar xzvf FFT_5.0v1_linux-x86-release-32.tgz`
5. `mv FFT_5.0v1_linux-x86-release-32 FLEXlm`
6. `cd /usr/local/foundry/FLEXlm`

7. Put the foundry.lic text file containing the license keys into this directory.
8. Edit foundry.lic and change <port> to, say, 30001.
9. `./lmgrd -c foundry.lic -l foundry.log`

The three servers talk to each other and one is nominated as the master. You can see which one it is by typing the following command on any of the servers.

```
/usr/local/foundry/FLEXlm/lmutil lmstat -c  
foundry.lic -a
```

which will print out something like this:

```
lmutil - Copyright (c) 1989-2004 by Macrovision  
Corporation. All rights reserved.  
Flexible License Manager status on Wed 9/28/2005  
17:31
```

```
License server status:  
30001@red,30001@green,30001@blue  
License file(s) on red: /usr/local/foundry/  
FLEXlm/foundry.lic:
```

```
red: license server UP v10.1  
green: license server UP (MASTER) v10.1  
blue: license server UP v10.1
```

Vendor daemon status (on green):

```
foundry: UP v10.1
```

Feature usage info:

```
Users of furnace_shake_i: (Total of 100 license  
issued; Total of 0 licenses in use)
```

```
Users of furnace_shake_r: (Total of 100 license  
issued; Total of 0 licenses in use)
```

In this example, green is the master server. If green is shutdown the other two servers talk to each other and nominate another master to replace green. You can always type out `/usr/local/foundry/FLEXlm/foundry.log` to see what's going on.

### Clients

On each of the clients, for example *fred*, you should set the environment variable to look at the MASTER server.

```
setenv FOUNDRY_LICENSE_FILE 30001@green
```

Or, in case the master switches to another machine, you can point at all three servers.

```
setenv FOUNDRY_LICENSE_FILE
30001@red:30001@green:30001@blue
```

## Uncounted License Syntax

An uncounted or node locked license looks like this:

```
INCREMENT furnace_shake_i foundry 3.0 5-jul-2005 \
  uncounted HOSTID=000ea641d7a1 START=5-jun-2005 \
  SIGN="03C7 5A34 BDE8 D421 6C2B 8111 8151 972A \
  14E2 C143 4C00 741F 730D 784A D392 B1D9 9C3F 03FC \
  DB2A E432 5EA7"
```

Uncounted licenses are broken down into 9 parts:

**INCREMENT** - indicates the start of a FLEXlm license feature.

**furnace\_shake\_i** - the product to be licensed. In this example it is Furnace for Shake interactive. A background render license would be `furnace_shake_r`.

**foundry** - the vendor name. All licenses from The Foundry must have a vendor name `foundry`.

**3.0** - the version number of the product to be licensed. This will license all features with a version number equal to or less than 3.0.

**5-jul-2005** - the date when the license will expire. If this says permanent, the license never expires.

**uncounted** - this is node locked license. Floating licenses have a number in place of the uncounted tag.

**HOSTID** - the ethernet (mac) address of the machine to be licensed.

**START=5-jun-2005** - the date when the license will start. This date may be in the future.

**SIGN** - the encrypted license key. It represents a unique hash of the information in the license and is used to validate the license.

## Counted License Syntax

A counted or floating license looks like this.

```
SERVER <server_name> <FLEXlm system id> PORT=<server
port>
VENDOR foundry OPTIONS=<file> PORT=<vendor port>
INCREMENT tinder_shake_i foundry 3.0 5-jul-2005 5 \
    START=5-jun-2005 SIGN="00FF 6A1B 735B A476 \
    2069 0A10 6894 4903 E2CF A238 7A01 1A15 1808 \
    7BCF 346C F59E 8899 F53C 2B13 E204 C7FD"
```

Counted licenses are broken down into a **SERVER** line, a **VENDOR** line and one or more **INCREMENT** lines:

**SERVER.** The server line indicates which server may serve the counted licenses in this license file. The server name is also

known as the hostname. The FLEXlm system ID is a unique number for that machine and is also known as the System ID. The PORT=<server port> is the user defined server port number over which requests from the client are made to the lmgrd daemon.

You can display the hostname with this command:

```
<app path>/lmutil lmhostid -hostname
```

You can display the FLEXlm system ID with this command:

```
<app path>/lmutil lmhostid
```

**VENDOR.** The vendor line indicates which vendor made the license. The vendor line helps decode the license line for The Foundry's specific licensing keys and identify the vendor licensing daemon. OPTIONS=<file> is the plain text file that controls the behaviour of the server. See "The Options File" on page 54. PORT=<portno> is the user defined port over which the vendor daemon communicates to the client. If left blank a port number will be picked for you.

**Note** *The server port number and the vendor port number MUST be different.*

**INCREMENT** - license feature line. The only difference from a uncounted license is that uncounted is replaced with the number of available floating licenses.

The above license will work on any 5 hosts simultaneously. It will license all Tinder 3.0 plug-ins running on Shake until 5 July 2005. It will start on 5 June 2005.

## Client License Syntax

Client licenses typically have just two lines.

```
SERVER <server_name> <FLEXlm system id> PORT=<number>
```

USE\_SERVER

## When is a license taken or dropped?

Floating licenses are checked out from the server when the plug-in on the client is first used. By default, the license is given back to the server only if the plug-in is deleted/unloaded from the compositing application or when the application is quit. If you take a license from the server and then go to lunch for an hour, your license will still be there when you get back. If you want your license to go back to the server if you don't use it for a while, you will need to change the default behaviour by disabling the heartbeat. See "Disabling the Heartbeat" on page 65.

For example, if you are running Furnace in Shake, the license will revert back to the server if:

1. You delete all furnace nodes in your tree.
2. You quit Shake.
3. You load a new script that has furnace nodes – in this case you will drop the license and a new license will be requested. It's possible that someone else could steal that license at the point you lose yours, but you'd be pretty unlucky. To keep the license in this circumstance your license administrator could set a LINGER time on the server. See "The Options File" on page 54.
4. If the ethernet cable falls out of your client computer the client license will become inactive (after approx 2 hours) and revert back to the server. You can get the license to revert quicker if you use the TIMEOUT feature of the options file. See "The Options File" on page 54.

If you are running Tinderbox in After Effects, the license will revert back to the server if:

1. You quit After Effects.



If you are running plug-ins in Nuke, the license will revert back to the server if:

1. You quit Nuke.
2. You delete all the plug-ins from the node tree.

If you are running plug-ins in Autodesk Flame, the license will revert back to the server if:

1. You quit Flame.
2. You unload the spark from the menu by loading something else in its place.

## Disabling the Heartbeat

So to be clear, the default behaviour of a floating license is:

- You keep it even if you're not actively using it.

but this can be changed to

- You lose it if you're not actively using it.

by setting an environment variable on the client as follows.

```
setenv FOUNDRY_HEARTBEAT_DISABLE true
```

The license will be given back to the server if it's not been used for 60 seconds. This 60 second limit can be increased (but not made smaller) by setting the TIMEOUT feature of the options file. See "The Options File" on page 54.

## Requirements

This heartbeat feature is only available in FFT4.0v8 or later *and* compatible plug-ins. You need both. To check the plug-ins support this feature you'll need to read the release notes for the plug-ins.

**Note**

It's worth pointing out that in pre-FFT4.0v8 releases, if a license was checked out by the client and then the application with plug-in crashed, then the license would be given back to the server after 15 minutes even if there was a timeout in the options file less than 15 minutes.

With FFT4.0v8, the license will revert to the server on a crash after 1 minute unless the timeout is greater than that in the options file, in which case that greater time is used.

**Where else can my license key go?**

As well as the recommended directory for license keys (See "Installing Node Locked Licenses" on page 30.) we also search other places.

For Tinderbox licenses, if you prefer, you can put your node locked license key in the same directory as your Tinderbox plug-ins.

For Nuke licenses, if you prefer, you can put then next to the Nuke application.

The following directories are also searched:

**On Mac OS X, Linux and Irix:**

`/usr/local/foundry/FLEXlm/foundry.lic`

**On Windows:**

`C:\Program Files\The Foundry\FLEXlm\foundry.lic`

The following two environment variables are also checked.

**FOUNDRY\_LICENSE\_FILE**

## LM\_LICENSE\_FILE

### Capping Licenses

Have you ever needed a license only to find they have all been checked out by your colleagues? Just needed a command to stop someone's license so you can grab it? Then this is the command for you!

The `lmremove` utility allows you to remove a single user's license for a specified feature. As ever, let's consider an example. First who's got the licenses? Use the `lmutil` command.

```
<app path>/lmutil lmstat -c <data path>/foundry.lic -a
```

Might give this output:

```
Users of tinderbox3_ofx_i: (Total of 1 licenses
                           issued; Total of 1 license in use)
```

```
"tinderbox3_ofx_i" v2.1, vendor: foundry
floating license
```

```
jack red /dev/ttys001 (v2.1) (blue/30003 14094),
start Tue 8/26 14:56
```

where the user is "jack", the user's computer is "red", the display is "/dev/ttys001", the server computer is "blue", the TCP/IP port is "30003" and the license handle is "14094".

To remove the license use either of these commands:

```
<app path>/lmutil lmremove tinderbox3_ofx_i jack red
dev/tts001
```

or

```
<app path>lmutil lmremove -h tinderbox3_ofx_i blue  
30003 14094
```

Since it's a bit rude to cap someone's license, systems administrators can disable this functionality by starting the `lmgrd` with a flag, `-x lmremove`.

## Troubleshooting Licenses

There are many reasons why your license key may fail to work. This section is here to guide you through some of the common problems and how to fix them.

### Firewalls

#### The Problem

You have set up a floating license on a Windows computer but client machines are not able to get a license from the server. Everything seems to be setup correctly. The server is on and is floating licenses. The client is correctly pointing to the server using a client.lic file or an environment variable. So what's wrong?

#### The Solution

This could be any number of things, but if everything is setup correctly, it could be the Windows firewall on the server blocking perfectly legitimate requests for licenses from the client. Here's what you do to fix it. Two methods are discussed, the first using programs and the second using port numbers.

#### Programs

From the Windows Start menu, click on the Control Panel and double click on Windows Firewall to display the dialog as

shown in Figure 25. Click on the Exceptions tab at the top



Figure 25. Windows Firewall.



Figure 26. Add Program...

and then press the Add Program button at the bottom. You can also bypass the firewall using port numbers. Browse to C:\Program Files\The Foundry\FLEXImTools5.0\bin and add foundry.exe. Repeat this step adding lmgrd.foundry.exe as shown in Figure 27. In Figure 28 shows the list of exceptions.

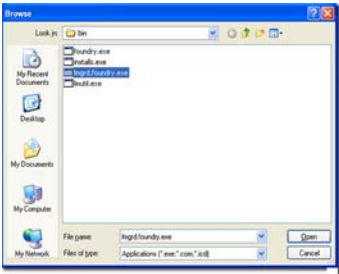


Figure 27.

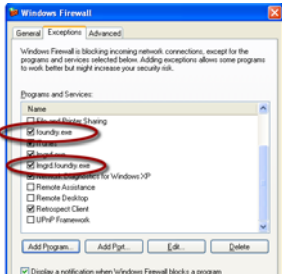


Figure 28.

Ports

The second method allows access through ports. First you will need to change your license file to include port numbers on the server and vendor lines. These numbers must be different. For example:

```
SERVER red 000EA641D7A1 PORT=30001
VENDOR foundry PORT=1001
```

Go to your firewall settings and add an exception for TCP ports with the port number in the vendor line and for the port number in the server line.

For example, with Windows firewall, go to Windows Security Centre and click on Manage Security Settings for Windows Firewall, click on the exceptions tab and click Add Port. In Name field type FoundryFLEXImServer (this can be any name you like) and enter the port number specified in the vendor line of the license file. Ensure that the TCP radio button is selected then click enter. Add another port, this time put in the name of the computer (red) and enter the port number specified in the server lines of the license file. Ensure that the TCP radio button is selected then click enter. Then OK the firewall settings. This may require a reread of



Figure 29. TCP Port Exceptions.

the license file if it has already been read or possibly a reboot of this machine. You may want to check with your system administrator that the port number you choose is not already in use by another program.

**Putting node locked in client licenses**

This is **not** recommended. If you have a node locked license in a client license file that is pointing to the server for its licenses, the node locked license won't work. Use separate files for the nodelocked license (foundry.lic) and client license (foundry\_client.lic). For example, this tinderbox license won't work in this file that is looking on "red" for its licenses.

```
SERVER red 000ba68be3eb
VENDOR foundry
USE_SERVER
INCREMENT tinderbox1_ofx_i foundry 2.4 permanent \
    uncounted HOSTID=0016cb8405e6 ISSUER=JB \
    ISSUED=24-jul-2008 SIGN="0380 6AF2 F74C 0EEB \
    7314 A159 3E3F 3F0B 89E6 13ED 5302 222D 4AEB \
    EC87 9221 A29F CCB3 8500 D59A 97E5 B246"
```

**Vista - hidden files**

By default, on Vista, the C:/ProgramData directory is hidden. How annoying is that? You can make it visible by double clicking on the Folder Options in the Control Panel and then selecting Show hidden files and folders.



Figure 30. Control Panel - Folder Options.

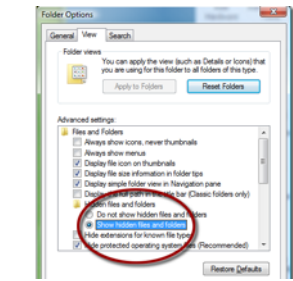


Figure 31. Switch on "Show hidden files and folders".



## **Contacting Support**

If you have flicked through this user guide and it's not given you the answer to your question then please contact our support team on [support@thefoundry.co.uk](mailto:support@thefoundry.co.uk)

Before you do this, run the Foundry License Diagnostics (FLD) tool. This gathers lots of information on your machine that will help us diagnose the problem. No personal information is gathered. This tool writes out a text file that should be emailed to support.



## APPENDIX A

### Release Notes

This section describes the requirements, new features, improvements, fixed bugs and known bugs & workarounds for each release of the Foundry FLEXIm Tools (FFT).

#### FFT 5.0v1

This is a major new release of Foundry FLEXIm Tools (FFT).

##### Release Date

October 2008

##### Requirements

Mac OS X (10.4 and 10.5) , Linux Centos 4.5 (32bit or 64bit), Irix 6.5+, Windows XP or Vista. Other operating systems are likely to work.

##### New Features

1. Installers are now included rather than distributing the files in a tar archive. These automatically install the FLEXIm tools into the correct directories so that the license server will automatically start when you reboot your machine.
2. A Foundry License Installer utility is included to more easily enable you to install license keys. You no longer need to know where to put the keys, you just drag your license file onto the application.
3. A Foundry Server Utility is included that enables you to start and stop the license server and reread the license file.

**Improvements**

1. The location of the directory that contains your license keys has changed on Mac OS X from /usr/local/foundry/FLEXlm to /Library/Application Support/TheFoundry/FLEXlm. This new directory can be navigated to from the Finder file browser unlike the old directory.

**Fixed Bugs**

There are no fixed bugs.

**Known Bugs & Workarounds**

There are no known bugs.

**FFT 4.0v8**

This is a maintenance release of Foundry FLEXlm Tools (FFT) to add support for the heartbeat environment variable.

**Release Date**

December 2006

**Requirements**

Mac OS X (10.3.9+) , Linux, Irix 6.5+ or Windows.

**New Features**

There are no new features.

**Improvements**

1. Heartbeat - a new environment variable has been added (FOUNDRY\_HEARTBEAT\_DISABLE) which when set to TRUE will allow floating licenses to revert back to the server if the plug-in hasn't been used for 60 seconds. The 60 seconds can be extended by setting a TIMEOUT in the options file. Previously

licenses would be kept until the plug-in was deleted or the host application quit. Compatible plug-ins are also required.

**Fixed Bugs**

There are no fixed bugs.

**Known Bugs & Workarounds**

There are no known bugs.

**FFT 4.0v6**

This is a maintenance release of Foundry FLEXIm Tools (FFT) affecting only this User Guide. The software has not been rebuilt.

**Release Date**

7 November 2006

**Requirements**

Mac OS X (10.3.9+) , Linux, Irix 6.5+ or Windows.

**New Features**

There are no new features.

**Improvements**

1. A note on Firewalls blocking licenses on Windows machines has been added.

**Fixed Bugs**

1. IRIX Installer. The tar command included the use of a "z" flag which is unsupported in Irix. This has been fixed by splitting the single tar command into a gunzip followed by a tar.

**Known Bugs & Workarounds**

There are no known bugs.

**FFT 4.0v5**

This is a maintenance release of Foundry FLEXIm Tools (FFT) affecting only this User Guide. The software has not been rebuilt.

**Release Date**

6 October 2006

**Requirements**

Mac OS X (10.3.9+) , Linux, Irix 6.5+ or Windows.

**New Features**

There are no new features.

**Improvements**

There are no improvements to existing features.

**Fixed Bugs**

1. The version number in the download filenames in this user guide referred to 4.0v4 rather than 4.0v1. This has been fixed.

**Known Bugs & Workarounds**

There are no known bugs.

**FFT 4.0v4**

This is a maintenance release of Foundry FLEXIm Tools (FFT).

**Release Date**

July 2006

**Requirements**

Mac OS X (10.3.9+) , Linux, Irix 6.5+ or Windows.

**New Features**

There are no new features.

**Improvements**

1. Minor documentation changes as a result of customer feedback.
2. Added description of start dates in the license string.

**Fixed Bugs**

There are no fixed bugs.

**Known Bugs & Workarounds**

There are no known bugs.

**FFT 4.0v3**

This is a maintenance release of Foundry FLEXIm Tools (FFT).

**Release Date**

January 2005

**Requirements**

Mac OS X (10.3.9+) , Linux, Irix 6.5+ or Windows.

**New Features**

There are no new features.

**Improvements**

1. Minor documentation changes to explain TIMEOUT function in options file and <server\_name> in license file.

**Fixed Bugs**

There are no fixed bugs.

**Known Bugs & Workarounds**

There are no known bugs.

**FFT 4.0v2**

This is an internal maintenance release of Foundry FLEXIm Tools (FFT).

**FFT 4.0v1**

This is a new release of our license tools called Foundry FLEXIm Tools (FFT) that license our products using FLEXIm. This is designed to replace the Foundry License Manager (FLM).

**Release Date**

November 2005

**Requirements**

Mac OS X (10.3.9+) , Linux, Irix 6.5+ or Windows.

**New Features**

There are no new features.

**Improvements**

1. Better license diagnostic tools.



### **Fixed Bugs**

1. At sites with large numbers of licenses, FlicServer would crash after running for a few days and licenses would occasionally fail to checkout. In adopting FLEXIm this problem has been fixed.

### **Known Bugs & Workarounds**

There are no known bugs.

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