



Foundry FLEXIm Tools User Guide  
Version 5.0v3

---

©2011 The Foundry Visionmongers Ltd. All rights reserved.  
FFT 5.0v3 User Guide

This manual, as well as the software described in it, is furnished under license and may only be used or copied in accordance with the terms of such license. This manual is provided for informational use only and is subject to change without notice. The Foundry assumes no responsibility or liability for any errors of inaccuracies that may appear in this book.

No part of this manual may be reproduced, stored in a retrieval system, or transmitted in any form without the prior written permission of The Foundry.

The Foundry logo is a trademark of The Foundry Visionmongers Ltd. Nuke is a registered trademark of The Foundry Visionmongers Ltd. All other products or brands are trademarks or registered trademarks of their respective companies or organisations.

Software engineering Ralph McEntagart.

Product testing Jack Binks, Martin Rose, Sean Brice, Michael Zannetou, Jonathan Barson.

Writing and layout design Jonathan Barson and Eija Narvanen.

Proof reading Eija Narvanen.

Rev: September 26, 2011

---

## Contents

<b>Quick Start</b>	Mac OS X . . . . .	5
	Linux . . . . .	8
	Windows XP . . . . .	11
	Windows Vista . . . . .	14
	Windows 7 . . . . .	17
<b>Advanced Licensing</b>	FFT and FLT. . . . .	20
	Further Information . . . . .	20
	Notation . . . . .	20
	Node Locked Licences. . . . .	20
	Floating Licences. . . . .	21
	Client Licences . . . . .	22
	Installing Node Locked Licences . . . . .	22
	Installing Floating Licences. . . . .	23
	Licensing Clients . . . . .	27
	Where are the FLEXlm files? . . . . .	28
	Moving the FLEXlm files . . . . .	29
	Starting the FLEXlm Licence Server . . . . .	31
	Stopping the FLEXlm Licence Server. . . . .	31
	System ID . . . . .	32
	Adding a Licence Key . . . . .	32
	Useful Commands for System Admins . . . . .	34
	Setting an Environment Variable . . . . .	35
	The Licence File. . . . .	37
	The Options File . . . . .	38
	The Log Files. . . . .	39
	Upgrade Licences . . . . .	39
	Supersede Licences. . . . .	40
	Redundant Licence Servers. . . . .	40
	Uncounted Licence Syntax . . . . .	42
	Counted Licence Syntax . . . . .	43
	Client Licence Syntax . . . . .	44
	When is a licence taken or dropped? . . . . .	44
	Capping Licences. . . . .	46
	Troubleshooting Licences . . . . .	48
<b>Appendix A</b>	Release Notes. . . . .	52
<b>Index</b>	A-Z . . . . .	58

## 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 licence. When you're ready to learn about the advanced features in licensing take a look at the next chapter, "Advanced Licensing" on page 20.

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

To install a licence key on Mac OS X go to page 5.

To install a licence key on Linux go to page 8.

To install a licence key on Windows XP go to page 11.

To install a licence key on Windows Vista go to page 14.

To install a licence key on Windows 7 go to page 17.

## Mac OS X

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

### Have you got a license key?

If you have a licence 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 licence key<sup>1</sup>. Just drop the licence key on the application to install it.

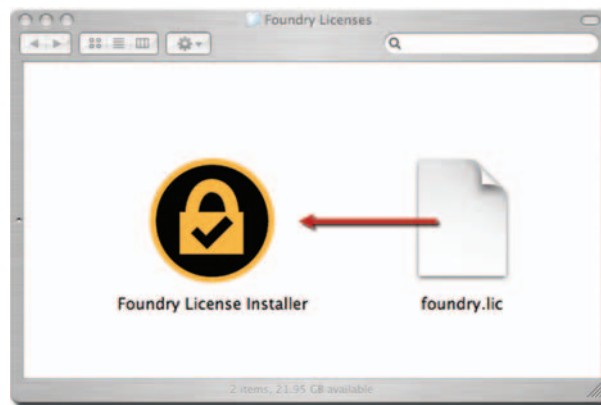


Figure 1. Drag the license file onto Foundry License Installer.

This will check the licence key and copy it to the correct directory. If you installed a node locked licence key, you're done.

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

## Floating Licences

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

1. If you have only been sent a foundry.lic licence 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.

### Install FFT on the License Server

Download FFT\_5.0v3\_mac-x86-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 licences across the network.

Having installed the Foundry FLEXIm Tools (FFT), go to the folder /Applications/TheFoundry/FLEXImTools5.0/ and double-click on the Foundry Server Utility.



Figure 2. FFT utilities.

Press **Start Server**.

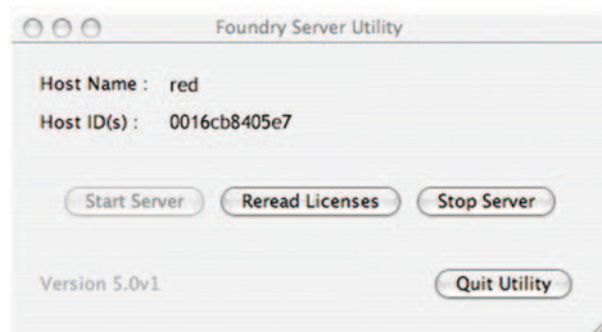


Figure 3. Foundry Server Utility.

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

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

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

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

**More Information**

For a complete explanation of licences, licence syntax, alternative licence directories, useful server commands, and much more, please read the next chapter “Advanced Licensing” on page 20.

---

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.

## Linux

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

### Have you got a license key?

If you have a licence 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 licence key

We will email you a tgz file containing an application and licence key<sup>1</sup>. Gunzip and untar the file, then double-click on the Foundry License Installer application to install the licence key. This checks the licence key and copies it to the correct directory. If you installed a node locked licence key, you're done.

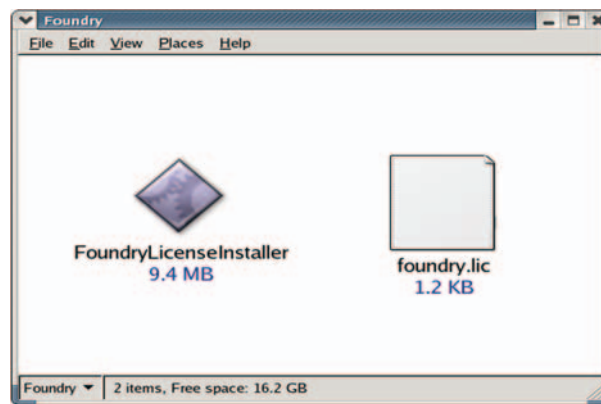


Figure 4. Double click on the Foundry License Installer.

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

## Floating Licences

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

### 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

---

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.

type these commands to extract and install the Foundry FLEXIm 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 FLEXIm Tools (FFT), go to the folder /usr/local/Foundry/FLEXImTools5.0/ then double click on the FoundryServerUtility.

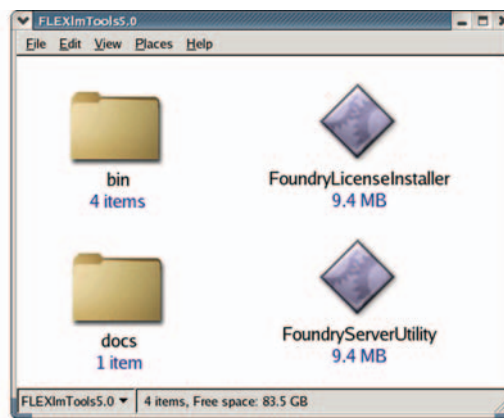


Figure 5. FFT utilities.

Press **Start Server**.

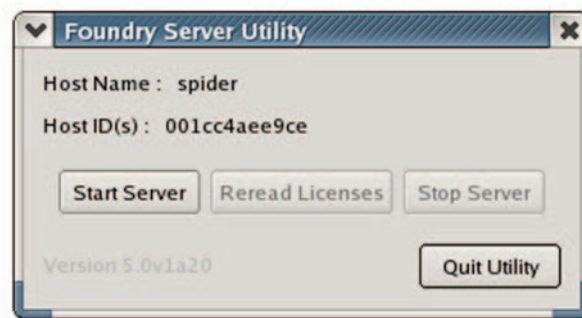


Figure 6. Foundry Server Utility.

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

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

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

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

**More Information**

For a complete explanation of licences, licence syntax, alternative licence directories, useful server commands, and much more, please read the next chapter “Advanced Licensing” on page 20.

---

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 licence working on Windows XP. Use this section to install on XP 32/64-bit.

### Have you got a licence key?

If you have a licence 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 licence key

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

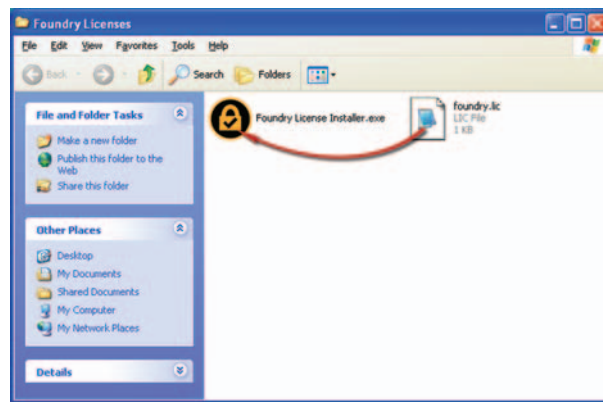


Figure 7. Drag the license file onto Foundry License Installer.

This checks the licence key and copies it to the correct directory. If you installed a node locked licence key, you're done.

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

## Floating Licences

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

1. If you have only been sent a foundry.lic licence 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.

**Install FFT on the Licence Server**

Download FFT\_5.0v3\_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 licences across the network.

Having installed the Foundry FLEXIm Tools (FFT), click on the Foundry Server Utility which is accessible from the **Start** menu.

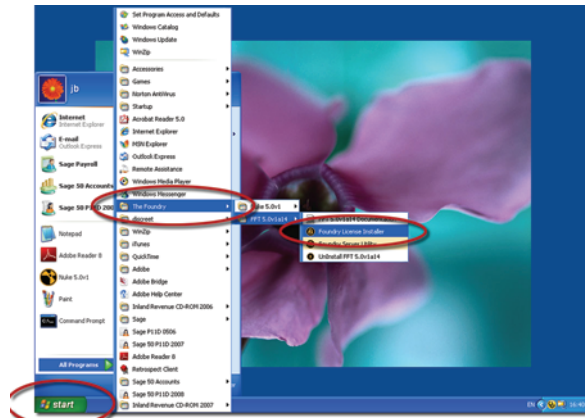


Figure 8. Foundry Server Utility.

Press **Start Server**.

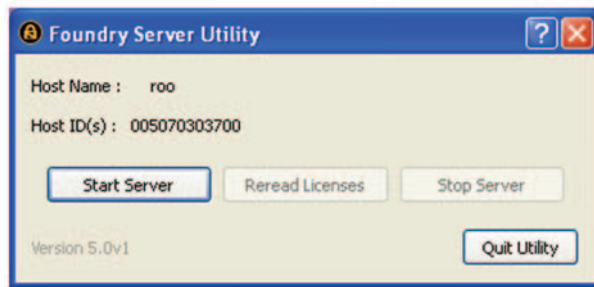


Figure 9. Foundry Server Utility.

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

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

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

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

**Firewalls**

If you have a firewall on your licence server, this blocks all requests for licences 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 48.

**More Information**

For a complete explanation of licences, licence syntax, alternative licence directories, useful server commands, and much more, please read the next chapter "Advanced Licensing" on page 20.

- 
1. You 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 need the FLI for Linux and not the Windows one you used for the server.

## Windows Vista

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

### Have you got a licence key?

If you have a licence 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 licence key

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

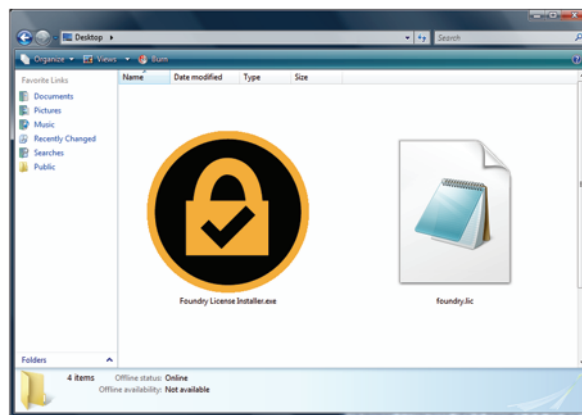


Figure 10. Double-click on the Foundry License Installer.

This checks the licence key and copies it to the correct directory. If you installed a node locked licence key, you're done.

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

## Floating Licences

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

---

1. If you have only been sent a foundry.lic licence 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.

**Install FFT on the Licence Server**

Download FFT\_5.0v3\_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 licences across the network.

Having installed the Foundry FLEXIm 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 Foundry > FFT 5.0 > Foundry Server Utility**.

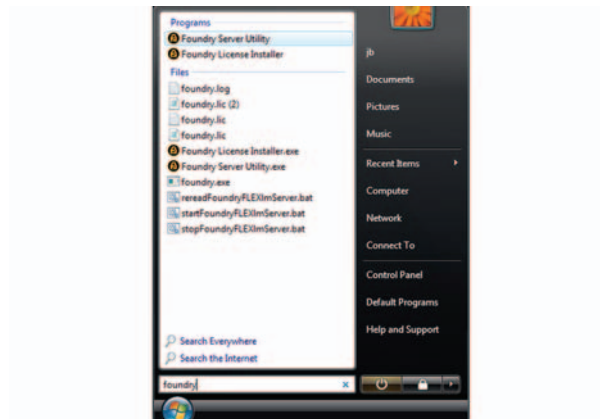


Figure 11. Foundry FLEXIm Tools.

Launch the Foundry Server Utility and press **Start Server**.

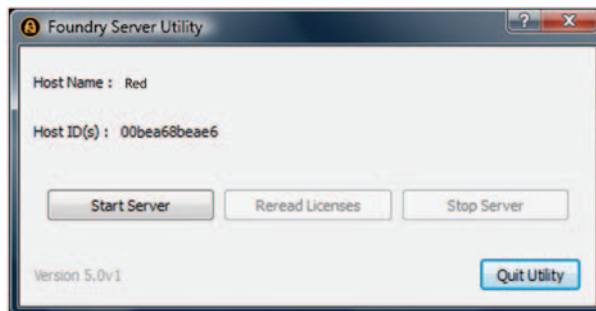


Figure 12. Foundry Server Utility.

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

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

Take the client licence file that was created when you installed the floating licence and copy it to your client machine. Also copy over the Foundry

License Installer<sup>1</sup>. Now install this licence on the client using the Foundry License Installer.

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

## **Firewalls**

If you have a firewall on your licence server, this blocks all requests for licences 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 48.

## **More Information**

For a complete explanation of licences, licence syntax, alternative licence directories, useful server commands, and much more, please read the next chapter "Advanced Licensing" on page 20.

---

1. You 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 need the FLI for Linux and not the Windows one you used for the server.

## Windows 7

This section tells you how to get your licence working on Windows 7.

### Have you got a licence key?

If you have a licence 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 licence key

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

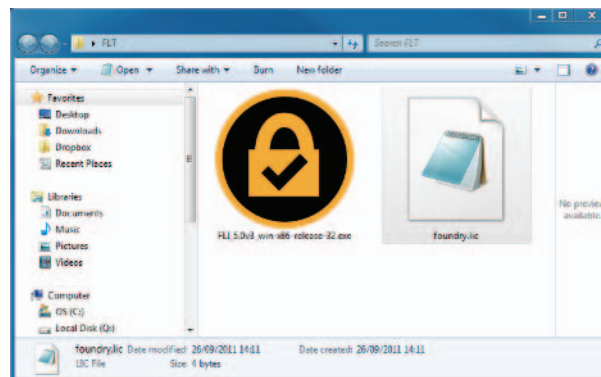


Figure 13. Double-click on the Foundry License Installer.

This checks the licence key and copies it to the correct directory. If you installed a node locked licence key, you're done.

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

## Floating Licences

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

### Install FFT on the Licence Server

Download FFT\_5.0v3\_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 licences across the network.

---

1. If you have only been sent a foundry.lic licence 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.

Having installed the Foundry FLEXIm Tools (FFT), go to the Start menu and type foundry in the search box as shown in Figure 14, or browse to **All Programs > The Foundry > FFT 5.0 > Foundry Server Utility**.

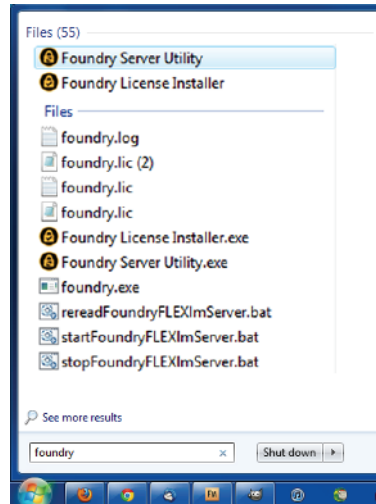


Figure 14. Foundry FLEXIm Tools.

Launch the Foundry Server Utility and press **Start Server**.

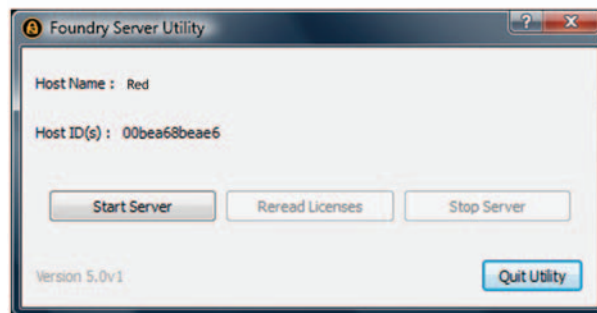


Figure 15. Foundry Server Utility.

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

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

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

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

**Firewalls**

If you have a firewall on your licence server, this blocks all requests for licences 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 48.

**More Information**

For a complete explanation of licences, licence syntax, alternative licence directories, useful server commands, and much more, please read the next chapter "Advanced Licensing" on page 20.

---

1. You 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 need the FLI for Linux and not the Windows one you used for the server.

---

## ADVANCED LICENSING

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

### FFT and FLT

All Foundry products built between October 2005 and October 2010 were licensed using FLEXlm. The Foundry is currently migrating its products to activation key based licensing and has chosen to use RLM for the back end licensing.

For now, Nuke and Nuke plug-ins remain FLEXlm based. New products such as Mari, Storm, and Katana will switch to using RLM.

To summarise:

- Foundry FLEXlm Tools (FFT) should be used with all existing and future FLEXlm-based products.
- Foundry Licensing Tools (FLT) should be used with all new RLM based products.

### Further Information

Although this guide is more than 51 pages long, it is not meant to be an exhaustive exploration of FLEXnet/FLEXlm. For that you should read the FLEXnet Licensing End User Guide that is included in the Foundry FLEXlm Tools download.

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

### Notation

Throughout this guide, we refer to machines that serve FLEXlm licences as servers and machines that ask for licences as clients.

**Note** *For the most up to date information, please see the latest FFT user guide on our web site at [www.thefoundry.co.uk](http://www.thefoundry.co.uk).*

### Node Locked Licences

A node locked licence enables 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 32. This licence key will not work on a different machine and if you

need it to, you have to transfer your licence. Node locked licences do not require additional licensing software to be installed. In particular you do not need a FLEXlm daemon running. You just need the product and a plain text file containing the licence string. Node locked licences are the easiest to set up.

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

An uncounted license looks like this:

```
INCREMENT furnace_ofx_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 licences, see "Installing Node Locked Licences" on page 22. For further information about the structure of the licence key, see "Uncounted Licence Syntax" on page 42.

## Floating Licences

A floating licence running on a server enables one of our products to work on any networked client machine.

The floating licence should be put on the server and is locked to a unique number on that server (See "System ID" on page 32.). Floating licences on a server require additional software to be installed. This software manages those licences on the server, giving licences out to client stations that want them. The software you need to manage these licences is called the Foundry FLEXlm Tools (FFT), which can be freely downloaded from our web site. Floating licences 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 licence server so that you can permit licence communication while blocking others. See "Firewalls" on page 48.

Floating licences are sometimes called **counted** licences.

A counted licence looks like this.

```
SERVER <server_name> 000EA641D7A1 <server port>
VENDOR foundry OPTIONS=/usr/local/foundry/FLEXlm/foundry.opt
    PORT=<vendor port>
INCREMENT ocula_nuke_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 licences, see “Installing Floating Licences” on page 23. For further information about the structure of the licence key, see “Counted Licence Syntax” on page 43.

## Client Licences

A client licence tells a machine on a network where to look for the server that is managing the floating licences. It typically has two lines in the file. (See “Client Licence Syntax” on page 44.)

## Floating Licence Behaviour

Floating licences are taken from the server when the plug-in on the client is first used. By default, the licence 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 45.

## Installing Node Locked Licences

If you are using a node locked licence, you just need the licence 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 licence keys. To check and install a licence key:

- Just drag the licence file onto the application and click **Install**;
- Or cut and paste the licence key text directly into the window in the application and click **Install**;
- Or if you double click on the Foundry License Installer, it attempts to validate any licence files in the same directory with a .lic file extension. Click **Install** to complete the process.

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 licence key by hand. The licence 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:**

/usr/local/foundry/FLEXlm/

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

C:\Program Files\The Foundry\FLEXlm\

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

C:\Program Files\The Foundry\FLEXlm\

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

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

**On Windows Vista and Windows 7:**

C:\ProgramData\The Foundry\FLEXlm\

**Note** *The ProgramData folder is hidden on Vista and Windows 7. If you want to see it then you have to make it visible using the **Folder Options** in the **Control Panel**. See "Vista and Windows 7 - hidden files" on page 51.*

**Note** *There are other directories that are searched for licence files. See "Where else can my licence key go?" on page 46.*

We recommend you use the text editor "vi" to create and add a licence 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 licence files, as these add invisible control characters that trip up the licensing and make it hard for us to diagnose the fault.

## Installing Floating Licences

The Foundry FLEXlm Tools are supplied for Windows (XP, Vista, Windows 7), Linux, and Mac OS X. To manage floating licences across a network you have to install the Foundry FLEXlm Tools on a licence server together with your floating licence key(s).

Then you have to tell your client machines where to look for their licence. See "Licensing Clients" on page 27.

## Windows

Follow these instructions to install floating licence software for a Windows machine. For node locked licences, see “Node Locked Licences” on page 20.

### Download FLEXIm

Download *FFT\_5.0v3\_win-x86-release-32.exe* from our web site onto the Windows machine you wish to use as a licence server.

### Install FLEXIm

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

### Install key

If you have a licence key from The Foundry, you should add this now. From the **Start** menu go to **All Programs > The Foundry > FFT 5.0 > Foundry License Installer** to launch this application.

Drag the licence file onto the application.

### Check FLEXIm

Check for errors by looking in the Foundry log file (page 39), 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 licences from client machines. To fix this problem, follow the instructions under “Firewalls” on page 48.

### 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 5.0 > Uninstall FFT 5.0**.

### Windows 32-bit v 64-bit

On Windows 64-bit machines, you should install the 32-bit version for Windows - *FFT\_5.0v3\_win-x86-release-32.exe*. The application files will be installed to *C:\Program Files (x86)\The Foundry\* and the licence keys will be installed to both *C:\Program Files\The Foundry\FLEXIm* and *C:\Program Files (x86)\The Foundry\FLEXIm*, so that both old and new plug-ins will find the licences.

## Mac OS X

Follow these instructions to install floating licence software for a Mac OS X computer. For node locked licences, see “Node Locked Licences” on page 20.

### Download FLEXlm

Download *FFT\_5.0v3\_mac-x86-release-32.dmg* from our web site onto the machine you wish to use as a licence 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 licence key, you can add that now. Go to `/Applications/TheFoundry/FLEXlmTools5.0/` and double click on the Foundry License Installer. Drag your licence key into the window.

### Check FLEXlm

Check for errors by looking in the Foundry log file (page 39), 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 licence 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 licence software for a Linux machine. For node locked licences, see “Node Locked Licences” on page 20.

### Download FLEXlm

Download *FFT\_5.0v1\_linux-x86-release-32.tgz* from our web site onto the machine you wish to use as a licence server. There is also a 64-bit 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 licence and log files go here:

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

### Install key

If you have a licence key, you can add that now. Go to */usr/local/foundry/FLEXlmTools5.0/* and double-click on the Foundry License Installer. Drag your licence 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 licence file and the other using an environment variable.

### Licence File Method

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

The easiest way to do this is to copy the Foundry License Installer (FLI) to each client and then drop the client licence 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, 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
VENDOR foundry
USE_SERVER
```

or maybe this if you had server port number set:

```
SERVER snowball 000a957bade9 30001
VENDOR foundry
USE_SERVER
```

Then copy it to this directory on the client:

**On Mac OS X:**

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

**On Linux:**

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

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

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

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

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

**On Windows Vista and Windows 7:**

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

---

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

### Environment Variable Method

Set the **FOUNDRY\_LICENSE\_FILE** environment variable on your client to point to the licence server (for example, **@red**).

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 use **@red:@green**.  
`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 to **34567@red**.  
`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 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.



Figure 17. Application Files.

We'll refer to this location as the **<app path>**.

**<app path>** on Mac OS X:  
`/Applications/TheFoundry/FLEXlmTool5.0/bin/`

**<app path>** on Linux:  
`/usr/local/foundry/FLEXlmTool5.0/bin/`

**<app path> on Windows XP:**

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

**<app path> on Windows Vista and Windows 7:**

`C:\ProgramData\The Foundry\FLEXlmTools5.0\bin\`

### Data Files

These include the licence keys and log files.

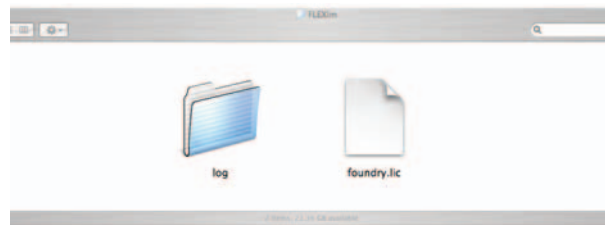


Figure 18. Data Files.

We'll refer to these locations as the **<data path>**.

**<data path> on Mac OS X:**

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

**<data path> on Linux:**

`/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 and Windows 7:**

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

## Moving the FLEXlm files

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

Move your node locked licence 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 licence key to another directory then, if you

have a FLEXlm licence server already running, you need to shut it down. You need to edit the start-up scripts to look in the new location. Then restart the FLEXlm licence 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 licence is in /tmp/FLEXlm

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

#### For Linux edit

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

For **Windows** platforms, 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 Licence Server

The FLEXlm licence server starts 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.

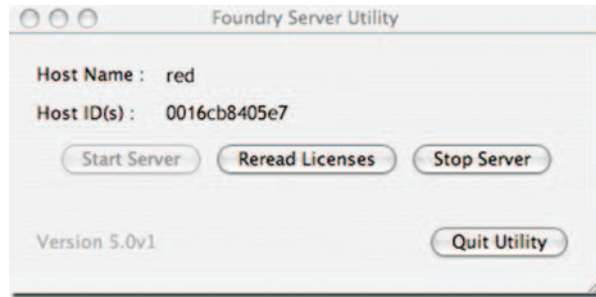


Figure 19. Foundry Server Utility.

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

### Linux

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

### Mac OS X

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

### Windows

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

## Stopping the FLEXlm Licence Server

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

```
<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 licence keys to the `lmhostid`. You need to give us this number when we generate a licence key for you.

To display this number, run the Foundry System ID, Foundry License Installer or Foundry Server Utility.

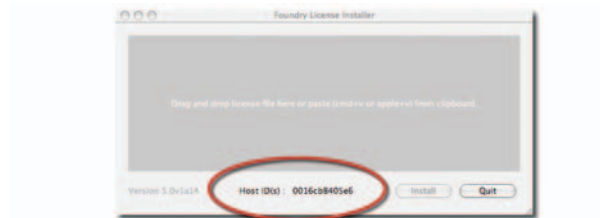


Figure 20. System ID in Foundry License Installer.

### 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 Licence Key

The easiest way to add a new licence key is by dropping the licence 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 licence key by editing the `foundry.lic` text file and then using `lmutil` to re-read this file. Here is an example floating licence key for a machine called `red` with `flexid 000EA641D7A1` that serves 2 floating Furnace for Nuke licences onto the network.

```
SERVER red 000EA641D7A1
VENDOR foundry
INCREMENT furnace_ofx_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 an Ocula for Nuke licence 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_ofx_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_ofx_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 ocula_nuke_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 ocula_nuke_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 licence file with this command:  
 <app path>/lmutil lmreread -c <data path>

**<server\_name>**

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

```

SERVER <server_name> 000ea641d7a2
VENDOR foundry
INCREMENT ocula_nuke_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 ocula_nuke_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 licence server (If you use the Foundry License Installer, it will do this for you). If this name was "red", then your licence key would look like this.

```

SERVER red 000ea641d7a2
VENDOR foundry
INCREMENT ocula_nuke_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 ocula_nuke_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 licences I've got?**

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

**I'm compositing on machine "blue". Which licences is the licence 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 licences 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 Nuke background render license?**

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

**I've been given a new floating licence key, which I've edited into my licence 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 licences 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.

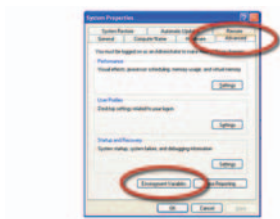


Figure 22. System Properties.

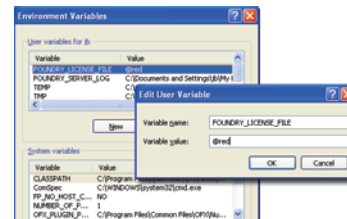


Figure 23. Environment Variables.

You can specify system wide variables that 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 and Windows 7

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.

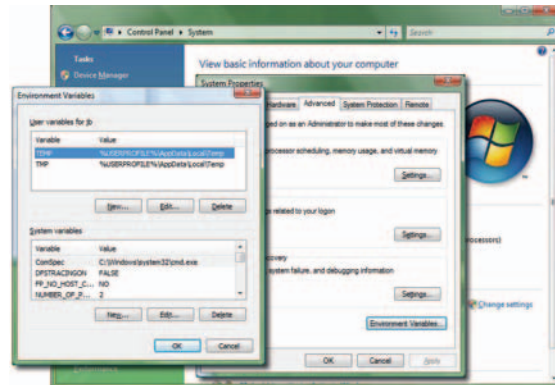


Figure 24. Environment Variables in Vista.

## 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).

## The Licence File

The licence file is a plain text file that stores the licence 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 Licences

```
foundry.lic
```

### Floating Licences

```
foundry_float.lic
```

### Client Licences

```
foundry_client.lic
```

## The Options File

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

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 licence 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 Nuke licence for 40 seconds after quitting the application and prevents the user called rob from rendering Furnace on Nuke in the background.

```
# cat foundry.opt
LINGER furnace_ofx_i 40
EXCLUDE furnace_ofx_r USER rob
```

In Nuke with Furnace plug-ins, if you load a new script also containing Furnace plug-ins, the licence will be dropped then immediately requested again during this process. If you are very unlucky, someone else may be able to steal the licence 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 licence for 2 hours. However, if you had set a TIMEOUT, then the licence will become inactive (and be logged as such in the foundry.log) and revert back to the sever. In this example:

```
TIMEOUT furnace_ofx_i 1000
```

the licence 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:

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

#### On Windows XP:

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

#### On Windows Vista and Windows 7:

```
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 licences 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 Licences

If you have purchased a product upgrade, you will be issued with an upgrade licence. This is best explained with an example. Say you bought 2 floating licences of Furnace 3.0 for Nuke, you'd get a licence a bit like this:

```
SERVER red 000EA641D7A1
VENDOR foundry
INCREMENT furnace_ofx_i foundry 3.0 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 licences to Furnace 4.0 for Nuke, then we'd give you a licence a bit like this:

```
UPGRADE furnace_ofx_i foundry 3.0 4.0 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 3.0 for Nuke OR
- 1 x Furnace 3.0 for Nuke AND 1 x Furnace 4.0 for Nuke

## Supersede Licences

You may see the word SUPERSEDE in your licence file. This flag is used in conjunction with the ISSUED flag to roll together multiple licences. For example, let's consider this floating licence 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 licences 6 months later with 6 months support, so your annual maintenance renewal date remains at 19 July 2008, we would issue the following licence for 5 floats. The supersede flag forces FLEXIm to ignore any nuke\_i licences 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 Licence Servers

If you have a large site, you may wish to run with redundant licence servers. With three machines managing licences, this gives you some protection against a single licence 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 licences. 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 licences of Furnace 4.0 for Nuke. We have given you a licence key called *foundry.lic*, which looks like this.

```
SERVER red 0002957bade4 <server port>
SERVER green 000363d7aee0 <server port>
SERVER blue 000d9376b76e <server port>
VENDOR foundry
INCREMENT furnace_ofx_i foundry 4.0 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_ofx_r foundry 4.0 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_ofx_i: (Total of 100 license issued; Total of 0
  licenses in use)
```

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

In this example, green is the master server. If green is shut down, 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 Licence Syntax

An uncounted or node locked licence looks like this:

```
INCREMENT furnace_ofx_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 licences are broken down into 9 parts:

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

**furnace\_ofx\_i** - the product to be licenced. In this example, it is Furnace for Nuke interactive. A background render licence would be `furnace_ofx_r`.

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

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

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

**uncounted** - this is a node locked licence. Floating licences 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 licence will start. This date may be in the future.

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

## Counted Licence Syntax

A counted or floating licence looks like this.

```
SERVER <server_name> <FLEXlm system id> <server port>
VENDOR foundry OPTIONS=<file> PORT=<vendor port>
INCREMENT ocula_nuke_i foundry 2.0 5-jul-2011 5 \
    START=5-jun-2011 SIGN="00FF 6A1B 735B A476 \
    2069 0A10 6894 4903 E2CF A238 7A01 1A15 1808 \
    7BCF 346C F59E 8899 F53C 2B13 E204 C7FD"
```

Counted licences 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 licences 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 licence. The vendor line helps decode the licence 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 38. `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** - licence feature line. The only difference from a uncounted licence is that uncounted is replaced with the number of available floating licences.

The above licence will work on any 5 hosts simultaneously. It will license all Ocula 2.0 plug-ins running on Nuke until 5 July 2011. It will start on 5 June 2011.

## Client Licence Syntax

Client licences typically have just three lines.

```
SERVER <server_name> <FLEXlm system id> <port number>
VENDOR foundry
USE_SERVER
```

## When is a licence taken or dropped?

Floating licences are checked out from the server when the plug-in on the client is first used. By default, the licence 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 licence from the server and then go to lunch for an hour, your licence will still be there when you get back. If you want your licence 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 45.

For example, if you are running Furnace in Shake, the licence 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 licence and a new licence will be requested. It's possible that someone else could steal that licence at the point you lose yours, but you'd be pretty unlucky. To keep the licence in this circumstance, your

licence administrator could set a LINGER time on the server. See “The Options File” on page 38.

4. If the ethernet cable falls out of your client computer, the client licence will become inactive (after approx 2 hours) and revert back to the server. You can get the licence to revert quicker if you use the TIMEOUT feature of the options file. See “The Options File” on page 38.

If you are running plug-ins in After Effects, the licence will revert back to the server if:

1. You quit After Effects.

If you are running plug-ins in Nuke, the licence 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 licence 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 licence 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 licence 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 38.

## 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 licence was checked out by the client and then the application with plug-in crashed, then the licence 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 licence 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 licence key go?**

As well as the recommended directory for licence keys (See "Installing Node Locked Licences" on page 22.) we also search other places.

For Nuke licenses, if you prefer, you can put your node locked license key next to the Nuke application.

The following directories are also searched:

On Mac OS X and Linux:

```
/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 Licences**

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

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

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

Might give this output:

---

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

```
"keylight_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 licence handle is "14094".

To remove the licence, use either of these commands:

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

or

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

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

## Troubleshooting Licences

There are many reasons why your licence 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 licence on a Windows computer but client machines are not able to get a licence from the server. Everything seems to be set up correctly. The server is on and is floating licences. 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 set up correctly, it could be the Windows firewall on the server blocking perfectly legitimate requests for licences 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.



Figure 25. Windows Firewall.

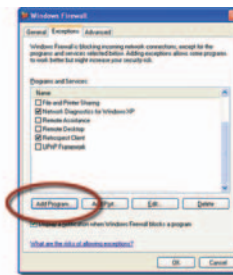


Figure 26. Add Program...

Click on the **Exceptions** tab at the top 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 Imgrd.foundry.exe as shown in

Figure 27. In Figure 28 shows the list of exceptions.



Figure 27.

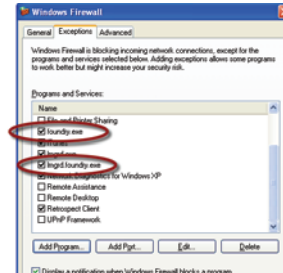


Figure 28.

### Ports

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

```
SERVER red 000EA641D7A1 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 licence 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 licence file. Ensure that the **TCP** radio button is selected then click enter.

Then **OK** the firewall settings.

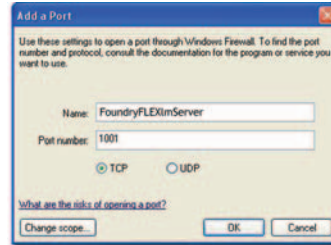


Figure 29. TCP Port Exceptions.

This may require a reread of the licence 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 Licences

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

```
SERVER red 000ba68be3eb
VENDOR foundry
USE_SERVER
INCREMENT keylight_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 and Windows 7 – hidden files**

By default, on Vista and Windows 7, 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**.

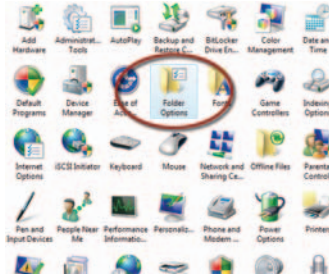


Figure 30. Control Panel – Folder Options.

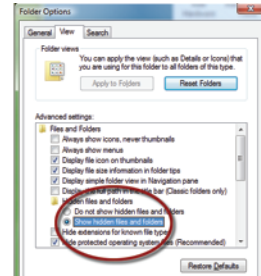


Figure 31. Switch on "Show hidden files and folders".

**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

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 5.0v3

This is a maintenance release that removes support for PowerPC (PPC) Macs and fixes two bugs. This release is available for Mac OS X and Windows only.

##### Release Date

August 2011

##### Requirements

Mac OS X (10.5, 10.6, or 10.7) , Windows XP, Vista, or Windows 7. Other operating systems are likely to work.

##### New Features

There are no new features in this release.

##### Improvements

There are no improvements to existing features in this release.

##### Fixed Bugs

- FFT would not uninstall correctly on OS X Snow Leopard or Lion (10.6 or 10.7). This has been fixed.
- BUG ID 20989 - Any events that required authentication, such as starting or stopping the server, would cause the application to hang on Mac OS X Lion (10.7). This has been fixed.

##### Known Bugs & Workarounds

There are no known bugs.

#### FFT 5.0v2

Internal release only.

**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 (32-bit or 64-bit), 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/FLEXIm to /Library/Application Support/TheFoundry/FLEXIm. 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 FLEXIm 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.

# Index

## A-Z

## Numerics

64-bit 24

## A

Adding a License Key 32  
Adding a license key 24, 25, 26  
Adding a new license key 34  
app path 28  
Application Files 28

## B

blocking 21  
boot.log 39

## C

Capping Licenses 51  
Client License Syntax 44  
Client Licenses 37  
clients 20  
Counted License Syntax 43  
counted licenses 21

## D

Data Files 29  
data path 29

## F

Firewall 21, 24, 48  
Firewalls  
  Ports 49  
FLD 51  
FLEXIm  
  Moving the files. 29  
  Starting the daemon 31  
  Stopping the daemon 31  
  Useful commands 34  
  Where are the files? 28  
FLEXIm Components 24  
FLEXIm host ID 43  
FLEXnet 20  
FLEXnet Licensing End User Guide 20  
FLI 27  
Floating Licenses 21, 22, 37

Foundry FLEXIm directory 22  
Foundry License Diagnostics 51  
Foundry License Installer  
  Linux 8  
  Mac OS X 5  
  Vista 14  
  Win XP 11  
  Windows 7 17  
Foundry Server Utility  
  Linux 9  
  Mac OS X 6  
  Vista 15, 18  
  Win XP 12  
  Windows 7 15, 18  
FOUNDRY\_LICENSE\_FILE 28, 29  
foundry.opt 38  
FSU 31

## H

Heartbeat 45  
hidden files 51  
hostname 33

## I

Installing  
  Floating Licenses 5, 8, 11, 14, 17, 23  
  Node Locked Licenses 5, 8, 11, 14,  
  17, 22

## L

license.log 39  
lmhostid 32, 34  
lmremove 46  
lmreread 34  
lmstat 34  
lmswitch 35  
lmutil 34  
lmver 34  
Log Files 39

## M

Macrovision 20

## N

Node Locked Licenses 5, 20  
Nodelocked Licenses 37

## O

Options File 38

## P

permit 21  
Program Files (x86) 24

## R

Redundant License Servers 40  
Release Notes 52

## S

server\_name 33  
servers 20  
Starting the FLEXIm License Server 31  
Stopping the FLEXIm License Server 31  
Supersede Licenses 40  
Support 51  
sysinfo 34  
System ID 32, 43  
system id 34

## T

The License File 37  
Tinderbox Licenses 46

## U

Uncounted License Syntax 42  
uncounted licenses 21  
Uninstall  
  Linux 26  
  Mac OS X 25  
  Windows 24  
Upgrade Licenses 39

## W

Windows 32-bit v 64-bit 24