FOUNDRY LICENSING TOOLS USER GUIDE

VERSION 7.1V1

THE FOUNDRY.

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The EULA can be read in the Appendices.

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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 use your activation key or install your license.

The Foundry Licensing Tools' default settings do not support RLM licensing on virtual machines (VMs). If you have any questions regarding licensing on VMs, please visit supportportal.thefoundry.co.uk for assistance.

Alternatively, if you want to know more about licensing, see Licensing on a Single Machine or Licensing over a Network.

About Licenses

All The 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.

To find out whether your product uses FLEXlm or RLM licensing, please refer to the product's documentation.

To license one of our products, you need one of the following:

- **Free trial license.** This enables one of our products to work on one particular machine for 15 days. See Free Trial Licenses.
- **An activation key**. An activation key can be used as an automated path to a node locked license, allowing you to use The Foundry products on a single machine. They look something like this:

  `mari-0101-77d3-99bd-a977-93e9-8035`

  See Activation Keys.
- **A node locked license.** This enables one of our products to work on one particular machine. It is locked to a unique number on that machine.
- **A floating license**. This enables 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.

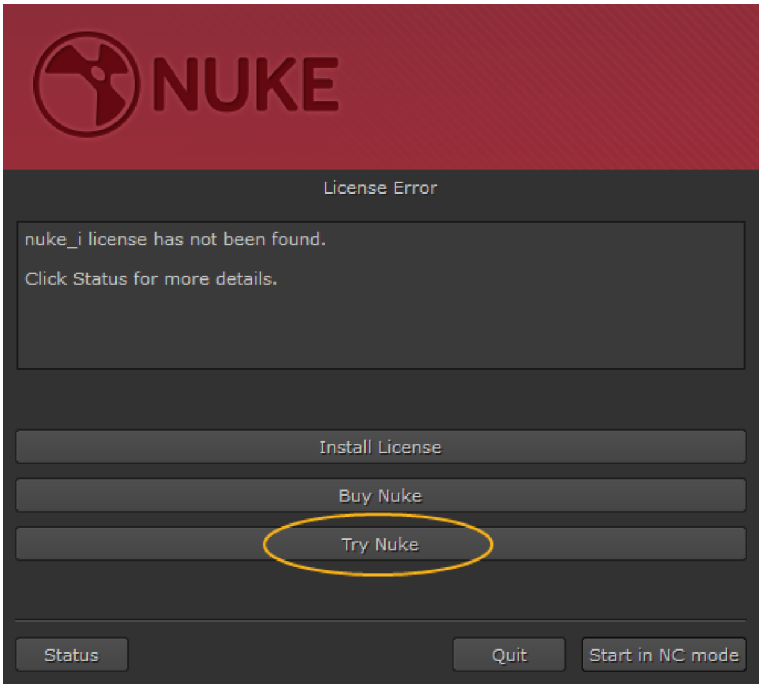
  See Node Locked and Floating Licenses.

If you want to know what a license looks like, have a look at Appendix B: License Syntax for a description of the file syntax.

Free Trial Licenses

If you simply want to obtain a free trial license for 15 days, you can:

- launch your product and, if a **Licensing** dialog appears, click the **Try...** button, or



- if your product doesn't have a **Licensing** dialog, you may be able to obtain a trial license from our website at www.thefoundry.co.uk. On the product page, click **Free 15 day trial** and follow the instructions.

You can only install a trial license once for each product on a single machine.

Activation Keys

This section tells you how to use an activation key with your product.

Purchasing an Activation Key

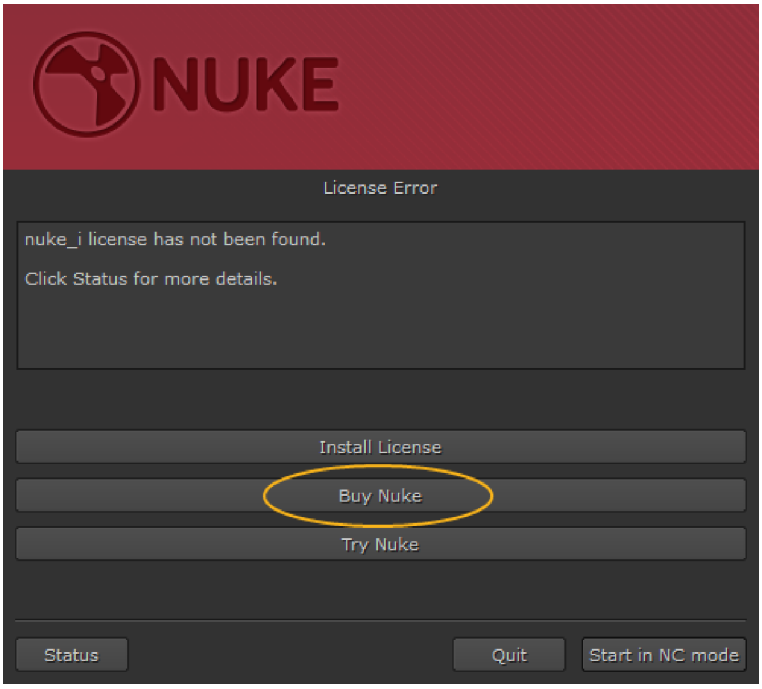
If you've been supplied with something that looks similar to this:

```
mari-0101-3733-eeda-8376-df83-7235
```

you have an activation key and you can activate your product.

If your product uses activation key-based licensing but you don't yet have an activation key, you can purchase one by:

- using the **Buy...** button on the **Licensing** dialog when you first launch your product,



- going to our web site at www.thefoundry.co.uk,
- e-mailing us at sales@thefoundry.co.uk,
- phoning our London office at +44 20 7479 4350 or our Los Angeles office at +1 (310) 399 4555.

Once you have an activation key, proceed to How to Use Your Activation Key.

How to Use Your Activation Key

If you are using a product that has a **Licensing** dialog (such as Mari or Hiero) and currently have no license, or are running a temporary license, your product prompts you at start-up to enter your activation key into the **Licensing** dialog. This step is skipped if:

- you've already activated a permanent license, or
- you're trying to activate a product that doesn't have a **Licensing** dialog (for example, a set of plug-ins). If this is the case, go to http://www.thefoundry.co.uk/support/licensing/activate-product/, enter your activation key into the field provided, and follow the instructions on screen.

If you're trying to activate a product using the **Licensing** dialog, do the following:

1. Launch your product.

   The **Licensing** dialog displays.

2. Click **Install License**.
3. Click **Activation Key / License Text**.
4. Enter your activation key and click **Install**.

   Your product connects to our activation server, retrieves the correct license key for your system, and installs it.

   Your product launches when the download and installation are complete.

Node Locked and Floating Licenses

This section tells you how to obtain and install node locked and floating licenses for your product.

The instructions for installing node locked and floating licenses depend on your operating system, so before you do anything else choose one of the following:

- To install a license on Windows, see Windows.
- To install a license on Mac OS X, see Mac OS X.
- To install a license on Linux, see Linux.

Windows

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

Purchasing a License

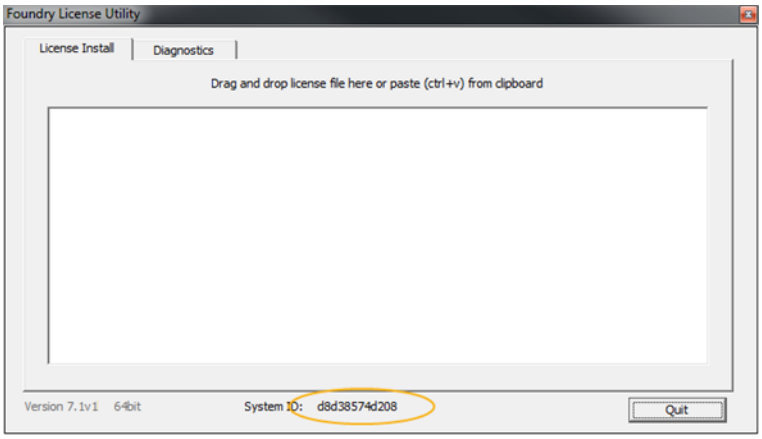
You can purchase license keys by:

- going to our web site at www.thefoundry.co.uk,
- e-mailing us at sales@thefoundry.co.uk,
- phoning our London office at +44 20 7479 4350 or our Los Angeles office at +1 (310) 399 4555.

To generate a license key, we need to know your System ID. The System ID returns a unique number for your computer. We lock our license keys to the System ID.

For floating licenses, we need to know the System ID of the machine that serves the licenses across the network.

To display your System ID, download the Foundry License Utility (FLU) from www.thefoundry.co.uk/support/licensing/ and run it. The System ID is displayed at the bottom of the window, as highlighted.



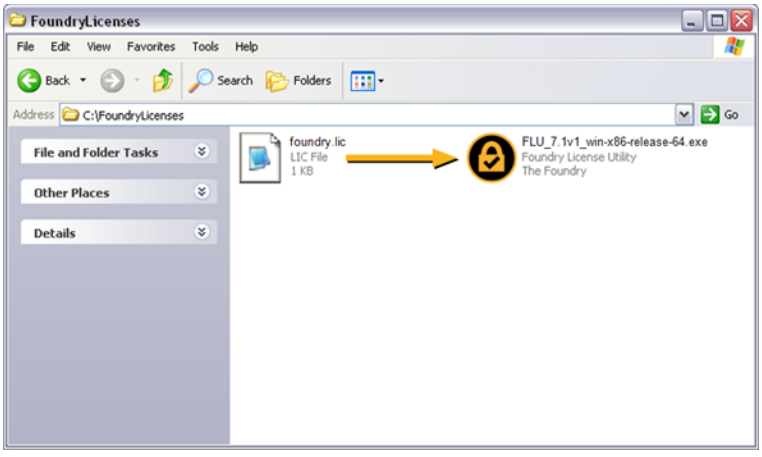
NOTE: In most cases, our licensing tools find the RLM System ID, check that FLEXlm accepts the same ID, and then display that ID. However, on rare occasions, you can have two System IDs reported. If this is the case, both System IDs are displayed, like this:

```
R00ffb79aefc9:X00ffb79aefa9
```

When purchasing a license, you should send us the entire string with both IDs.

Installing a License Key

Once a license has been generated for you, we e-mail you a zip file containing the license key and instructions on how to obtain the correct version of the Foundry License Utility (FLU). To check and install the license key, install the Windows FLU and drag the license file onto the FLU application.



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

When you install a floating license key, the license server address is displayed on screen:

```
<number>@<license server name>
```

You should make a note of the address, as you'll need it to activate the client machines. Then, proceed to Installing the Foundry Licensing Tools (FLT) on the License Server.

Installing the Foundry Licensing Tools (FLT) on the License Server

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

1. Download FLT_7.1v1_win-x86-release-64.exe from our web site (www.thefoundry.co.uk/support/licensing/) and install it on the Windows computer that you want to serve the licenses across the network.

   The license server starts automatically after installation (and whenever you restart the machine).
2. To check the server status, click **Start** > **All Programs** > **The Foundry** > **FLT 7.1v1** > **Foundry License Utility**, view the **FLEXlm Server** or **RLM Server** tab, and click **Refresh Log**.
3. If the license server fails to start, navigate to **Control Panel** > **Systems and Security** > **Administrative Tools** > **Services**. Then, select the appropriate service:
   - For FLEXlm: **Foundry FLEXlm Server**
   - For RLM: **Foundry License Server**

   Click **Start** and check the server status again.

NOTE: If you have a firewall on your license server, this blocks 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.

4. Proceed to Telling the Client Machines Where to Find the Licenses.

Telling the Client Machines Where to Find the Licenses

To point your product at the license server, do one of the following:

- If your product displays a **Licensing** dialog when you launch it, click **Install License** and then **Use Server**. Type **<number>@<server name>** (for example, **4101@red**) and click **Install**. Your client retrieves a license from the License Server and launches.
- Download the Foundry License Utility (FLU) from our website (www.thefoundry.co.uk/support/licensing/) and launch it. Make sure you are viewing the **License Install** tab and copy and paste in an RLM server line:

  `HOST <server name> any <port>`

  For example: **HOST red any 4101**

  This creates and installs both a FLEXlm and RLM client license.

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

Mac OS X

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

Purchasing a License

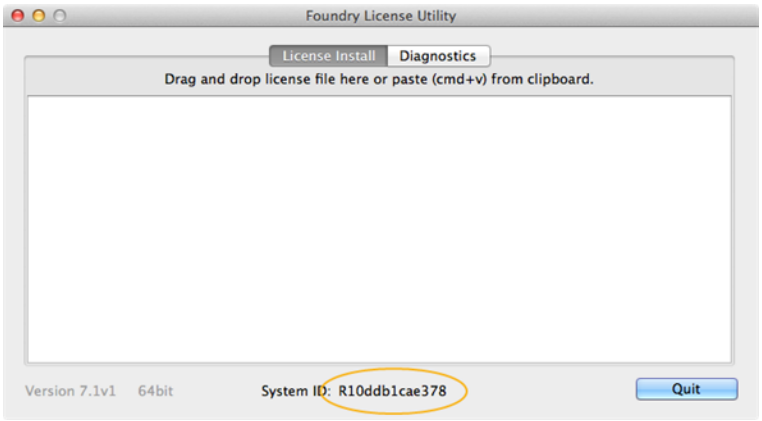
You can purchase license keys by:

- going to our web site at www.thefoundry.co.uk,
- e-mailing us at sales@thefoundry.co.uk,
- phoning our London office at +44 20 7479 4350 or our Los Angeles office at +1 (310) 399 4555.

To generate a license key, we need to know your System ID. The System ID returns a unique number for your computer. We lock our license keys to the System ID.

For floating licenses, we need to know the System ID of the machine that serves the licenses across the network.

To display your System ID, download the Foundry License Utility (FLU) from www.thefoundry.co.uk/support/licensing/ and run it. The System ID is displayed at the bottom of the window, as highlighted.



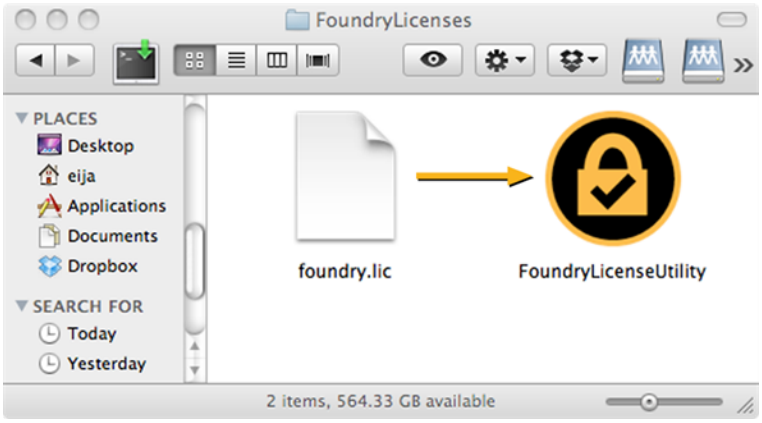
NOTE: In most cases, our licensing tools find the RLM System ID, check that FLEXlm accepts the same ID, and then display that ID. However, on rare occasions, you can have two System IDs reported. If this is the case, both System IDs are displayed, like this:

```
R00ffb79aefc9:X00ffb79aefa9
```

When purchasing a license, you should send us the entire string with both IDs.

Installing a License Key

Once a license has been generated for you, we e-mail you a zip file containing the license key and instructions on how to obtain the correct version of the Foundry License Utility (FLU). To check and install the license key, install the Mac OS X FLU and drag the license file onto the FLU application.



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

When you install a floating license key, the license server address is displayed on screen:
`<number>@<license server name>`

You should make a note of the address, as you'll need it to activate the client machines. Then, proceed to Installing the Foundry Licensing Tools (FLT) on the License Server.

Installing the Foundry Licensing Tools (FLT) on the License Server

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

1. Download FLT_7.1v1_mac-x86-release-64.dmg from our web site (www.thefoundry.co.uk/support/licensing/) and install it on the Mac that you want to serve the licenses across the network.

   The license server starts automatically after installation (and whenever you restart the machine).
2. To check the server status, navigate to **/Applications/TheFoundry/LicensingTools7.1**, double-click on **Foundry License Utility**, view the **FLEXlm Server** or **RLM Server** tab, and click **Refresh Log**.
3. Proceed to Telling the Client Machines Where to Find the Licenses.

Telling the Client Machines Where to Find the Licenses

To point your product at the license server, do one of the following:

- If your product displays a **Licensing** dialog when you launch it, click **Install License** and then **Use Server**. Type **<number>@<server name>** (for example, **4101@red**) and click **Install**. Your client retrieves a license from the License Server and launches.
- Download the Foundry License Utility (FLU) from our website (www.thefoundry.co.uk/support/licensing/) and launch it. Make sure you are viewing the **License Install** tab and copy and paste in an RLM server line:

  `HOST <server name> any <port>`

  For example: **HOST red any 4101**

  This creates and installs both a FLEXlm and RLM client license.

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

Linux

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

Purchasing a License

You can purchase license keys by:

- going to our web site at www.thefoundry.co.uk,
- e-mailing us at sales@thefoundry.co.uk,
- phoning our London office at +44 20 7479 4350 or our Los Angeles office at +1 (310) 399 4555.

To generate a license key, we need to know your System ID. The System ID returns a unique number for your computer. We lock our license keys to the System ID.

For floating licenses, we need to know the System ID of the machine that serves the licenses across the network.

To display your System ID, download the Foundry License Utility (FLU) from www.thefoundry.co.uk/support/licensing/ and run it from the command line:

`<download location>/FoundryLicenseUtility -i`

NOTE: The <download location> refers to the location where you saved the Foundry Licensing Utility.

NOTE: In most cases, our licensing tools find the RLM System ID, check that FLEXlm accepts the same ID, and then display that ID. However, on rare occasions, you can have two System IDs reported. If this is the case, both System IDs are displayed, like this:

```
R00ffb79aefc9:X00ffb79aefa9
```

When purchasing a license, you should send us the entire string with both IDs.

Installing a License Key

1. Once a license has been generated for you, we e-mail you a **.tgz** file containing the license key and instructions on how to obtain the correct version of the Foundry License Utility (FLU). Gunzip or untar the file and save the FLU and your license key to a folder of your choice.
2. Navigate to the location of the FLU_7.1v1_linux-x86-release-64.tgz file.
3. Type the following commands to extract and install the FLU. Note that you need to replace **[my license]** with the location of your license key.

   ```
   tar xvzf FLU_7.1v1_linux-x86-release-64.tgz
   cd FLU_7.1v1_linux-x86-release-64
   ./FoundryLicenseUtility -l [my license]
   ```

   For example, if you saved your license key to **/tmp/foundry.lic**, the last line should be:

   ```
   ./FoundryLicenseUtility -l /tmp/foundry.lic
   ```

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

   If you installed a floating license key, the license server address is displayed on screen:

   ```
   <number>@<license server name>
   ```

   You should make a note of the address, as you'll need it to activate the client machines. Then, proceed to Installing the Foundry Licensing Tools (FLT) on the License Server.

Installing the Foundry Licensing Tools (FLT) on the License Server

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

1. Download FLT_7.1v1_linux-x86-release-64.tgz from our web site (www.thefoundry.co.uk/support/licensing/) on the Linux machine that you want to serve these licenses across the network and save it to **/tmp**.
2. Open a shell and, using root or admin permissions, type these commands to extract and install the Foundry Licensing Tools 7.1v1.

   ```
   cd /tmp
   tar xvzf FLT_7.1v1_linux-x86-release-64.tgz
   cd FLT_7.1v1_linux-x86-release-64
   ./install.sh
   ```

   The license server starts automatically after installation (and whenever you restart the machine).
3. To check the server status, navigate to **/usr/local/foundry/LicensingTools7.1** and enter:

   ```
   ./FoundryLicenseUtility -s status
   ```

   This reports the status of both FLEXlm and RLM servers. If you only want to view one or the other, use one of the following commands instead:

   ```
   ./FoundryLicenseUtility -s status -t FLEXlm
   ./FoundryLicenseUtility -s status -t RLM
   ```

4. Proceed to Telling the Client Machines Where to Find the Licenses.

Telling the Client Machines Where to Find the Licenses

To point your product at the license server, do one of the following:

- If your product displays a **Licensing** dialog when you launch it, click **Install License** and then **Use Server**. Type **<number>@<server name>** (for example, **4101@red**) and click **Install**. Your client retrieves a license from the License Server and launches.
- Download the Foundry License Utility (FLU) from our website (www.thefoundry.co.uk/support/licensing/). Gunzip or untar the file and save the FLU to a folder of your choice. Then, launch a shell and navigate to the location of the FLU_7.1v1_linux-x86-release-64.tgz file. Type the following commands:

  ```
  tar xvzf FLU_7.1v1_linux-x86-release-64.tgz
  cd FLU_7.1v1_linux-x86-release-64
  ./FoundryLicenseUtility -c <port>@<server name>
  ```

  For example, the last line might be:

  ```
  ./FoundryLicenseUtility -c 4101@red
  ```

  This creates and installs both a FLEXlm and RLM client license.

Repeat this process 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 Licensing on a Single Machine or Licensing over a Network.

To troubleshoot licenses, refer to Troubleshooting Licenses.

Licensing on a Single Machine

This chapter tells you how to license your product on a single machine. If you want to license one of our products over a network instead, please read Licensing over a Network.

NOTE: The Foundry Licensing Tools' default settings do not support RLM licensing on virtual machines (VMs). If you have any questions regarding licensing on VMs, please visit supportportal.thefoundry.co.uk for assistance.

About Licenses

All The 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.

To find out whether your product uses FLEXlm or RLM licensing, please refer to the product's documentation.

To license one of our products on a single machine, you need either:

- **An activation key**. An activation key can be used as an automated path to a node locked license. It is a string of characters that represents your entitlement to a product license. You can use activation keys over the internet to create automatically installed full license keys, on a machine of your choice, using our activation server.

  Activation keys are a flexible approach to selling licenses, requiring no System ID at the point of purchase, though activation can only occur once per activation key.

  They look something like this:

  ```
  mari-0101-77d3-99bd-a977-93e9-8035
  ```

  For information on how to license one of our products using an activation key, see Activation Keys.

- **A node locked license.** This is sometimes called an uncounted license. It enables one of our products to work on one particular machine. It is locked to a unique number on that machine. This license key does not work on a different machine and if you need it to, you'll have to transfer your license. Like activation keys, node locked licenses do not require additional licensing software to be installed.

  Node locked FLEXlm licenses look like this:

  ```
  INCREMENT furnace_ofx_i foundry 4.0 05-jul-2011 \
    uncounted HOSTID=000ea641d7a1 ISSUED=8-feb-2011 \
    SIGN="03C7 5A34 BDE8 D421 6C2B 8111 8151 972A \
    14E2 C143 4C00 741F 730D\ 784A D392 B1D9 9C3F \
  ```

```
  03FC DB2A E432 5EA7"
```

Node locked RLM licenses look like this:

```
LICENSE foundry mari_i 2011.1231 permanent uncounted share=h start=3-oct-2011
issued=3-oct-2011 _ck=fa062a5e5a
sig="60P0451P8JTKNGTUC2TR605Y300BQ63CKYJNYTG22GXS0AVA0DSFGSUJ8P8HJ1C5MX86UNS54M"
```

For further information about the structure of the license key, see Node Locked License Syntax.

For information on how to license one of our products using a node locked license, see Node Locked Licenses.

TIP: We also provide free 15-day trial licenses. See Free Trial Licenses.

Activation Keys

This section tells you how to use an activation key with your product.

Purchasing an Activation Key

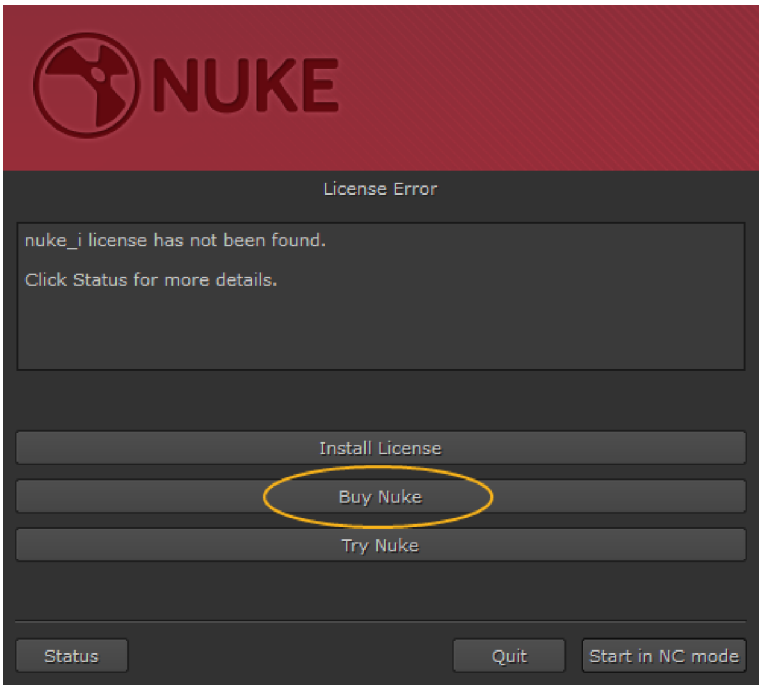
If you've been supplied with something that looks similar to this:

```
mari-0101-3733-eeda-8376-df83-7235
```

you have an activation key and you can activate your product.

If your product uses activation key-based licensing but you don't yet have an activation key, you can purchase one by:

- using the **Buy...** button on the **Licensing** dialog when you first launch your product,



- going to our web site at www.thefoundry.co.uk,
- e-mailing us at sales@thefoundry.co.uk,
- phoning our London office at +44 20 7479 4350 or our Los Angeles office at +1 (310) 399 4555.

Once you have an activation key, proceed to How to Use Your Activation Key.

How to Use Your Activation Key

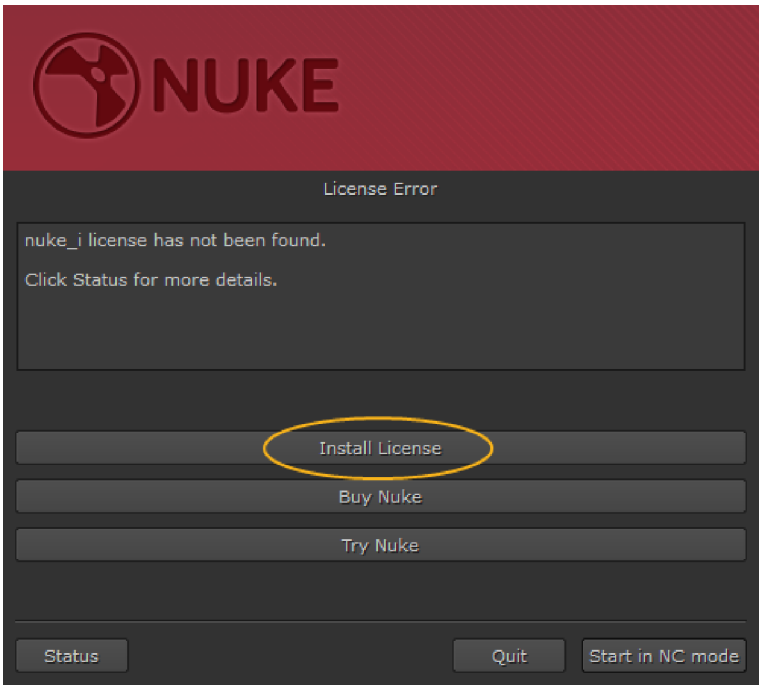
If you currently have no license, or are running a temporary license, your product prompts you at launch to enter your activation key into a **Licensing** dialog. This step is skipped if:

- you've already activated a permanent license, or
- you're trying to activate a product that doesn't have a **Licensing** dialog (for example, a set of plug-ins). If this is the case, go to http://www.thefoundry.co.uk/support/licensing/activate-product/, enter your activation key into the field provided, and follow the instructions on screen.

If you're trying to activate a product that does have a Licensing dialog, such as Nuke, do the following:

1. Launch your product.

   The **Licensing** dialog displays.



2. Click **Install License** to display the available license installation options.
3. Click **Activation Key / License Text** and then either:
   - Enter the Activation Key string in place of **Insert Activation Key Here**. A license key typically looks something like this:

     `nuke-0101-77d3-99bd-a977-93e9-8035`

     OR
   - Copy the license text and paste it over the **Copy/Paste license text here** string. License text typically looks something like this:

```
INCREMENT nuke_i foundry 2013.0929 29-sep-2014 uncounted \
HOSTID=000a957bfde5 ISSUED=29-sep-2012 \
SIGN="00DA 99A9 E744 217E 8AD3 E7AF E289 C0C6 \
6B23 2891 AC01 0F50 E64D 8847 8B22 3A40 2BE9 \
A268 B7C2 4BC0 36AF"
```

4. Click **Install**.

   Your product connects to our activation server, retrieves the correct license key for your system, and installs it.

   Your product launches when the download and installation are complete.

NOTE: If you access the internet through a proxy server, you may be prompted to enter the server name, port number, username, and password before the product can obtain a license.

Node Locked Licenses

This section tells you how to obtain and install node locked licenses for your product.

Purchasing a Node Locked License

You can purchase node locked license keys by:

- going to our web site at www.thefoundry.co.uk,
- e-mailing us at sales@thefoundry.co.uk,
- phoning our London office at +44 20 7479 4350 or our Los Angeles office at +1 (310) 399 4555.

To generate a license key, we need to know your System ID. The System ID (sometimes called Host ID, lmhostid, or rlmhostid) returns a unique number for your computer. We lock our license keys to the System ID. Just so you know what a System ID number looks like, here's an example:

```
000ea641d7a1
```

There are a number of ways to display your System ID, depending on your operating system.

NOTE: In most cases, our licensing tools find the RLM System ID, check that FLEXlm accepts the same ID, and then display that ID. However, on rare occasions, you can have two System IDs reported. If this is the case, both System IDs are displayed, like this:

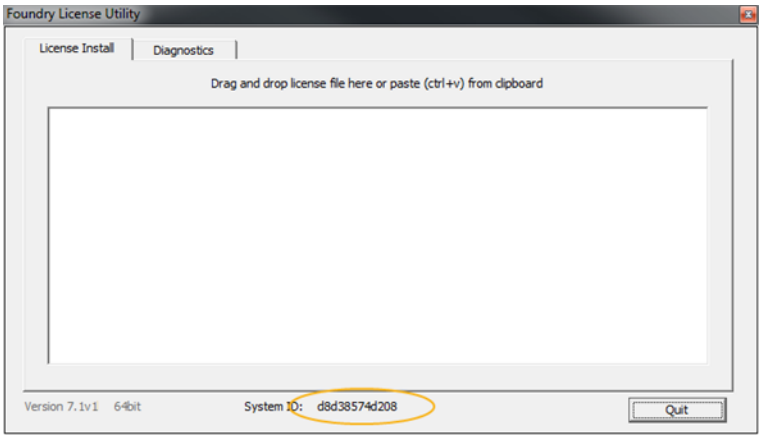
```
R00ffb79aefc9:X00ffb79aefa9
```

When purchasing a license, you should send us the entire string with both IDs.

On Windows

- Download the Foundry License Utility (FLU) from our website (www.thefoundry.co.uk/support/licensing/) and run it.

  The System ID is displayed at the bottom of the window, as highlighted.



- Alternatively, you can run the following from a command prompt:

```
<download location>/FLU_7.1v1_win-x86-release-64.exe -i
```

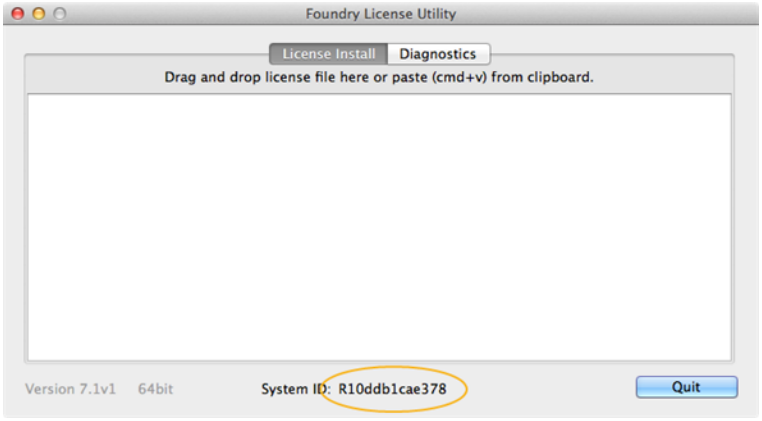
NOTE: The <download location> refers to the location where you saved the Foundry Licensing Utility.

NOTE: If you use the FLU from a command prompt and don't pass it any arguments (such as **-i** in the above example), it launches in GUI mode.

On Mac

- Download the Foundry License Utility (FLU) from our website (www.thefoundry.co.uk/support/licensing/) and run it.

  The System ID is displayed at the bottom of the window, as highlighted.



- Alternatively, you can run the following from the Terminal:

```
<download location>/FoundryLicenseUtility.app/Contents/MacOS/FoundryLicenseUtility -i
```

NOTE: The <download location> refers to the location where you saved the Foundry Licensing Utility.

On Linux

Download the Foundry License Utility (FLU) from our website (www.thefoundry.co.uk/support/licensing/) and run it from the command line:

```
<download location>/FoundryLicenseUtility -i
```

NOTE: The <download location> refers to the location where you saved the Foundry Licensing Utility.

Installing a Node Locked License

Once you have a node locked license, you can install it using two methods:

- **The automated method (recommended).** The easiest way to install a node locked license is to use The Foundry License Utility (FLU).

  On Windows and Mac OS X, the FLU can be used both in graphical user interface (GUI) mode and from the command line.

  On Linux, the FLU is a command line tool only.

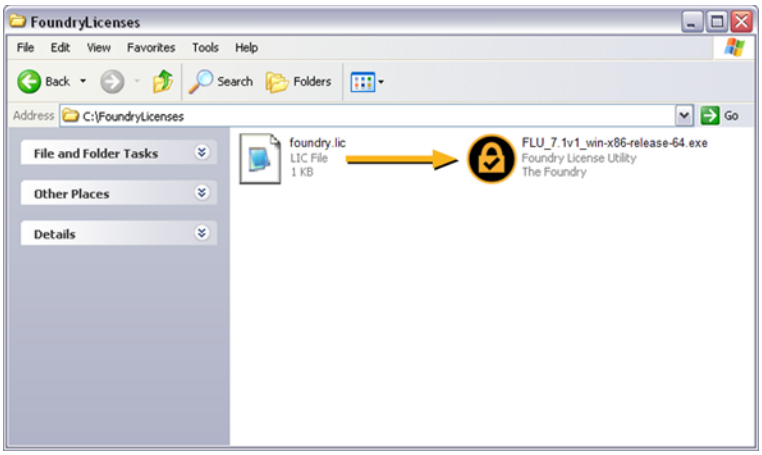
  For more information, see one of the following:

  - The Automated Method on Windows
  - The Automated Method on Mac OS X
  - The Automated Method on Linux
- **The manual method.** We do not recommend this, but you can install a node locked license key by hand. You just need the license key in a text file and your product. No other software is required. For more information, see The Manual Method: Windows, Mac OS X, and Linux.

The Automated Method on Windows

Once a license has been generated for you, we e-mail you a zip file containing the license key and instructions on how to obtain the correct version of the Foundry License Utility (FLU). To check and install the license key, install the Windows version of the FLU and do one of the following:

- Drag the license file onto the FLU application;



- Or cut and paste the license key text directly into the **License Install** tab in the FLU application;
- Or if you double-click on the FLU application, it installs any file with a **.lic** file extension that it finds in the same directory as the application.

NOTE: If there is an error with any part of the license installation, this is reported in the FLU. You should also see a **Generate Report** button, which you can click to write the errors out to a file and then visit supportportal.thefoundry.co.uk for assistance.
If you are installing several licenses at the same time and only some of them fail validation, you can also click **Continue** to complete the installation of the valid licenses.

The above methods are the easiest way to install a license. However, if you prefer, you can also install a license from a command prompt. To do so:

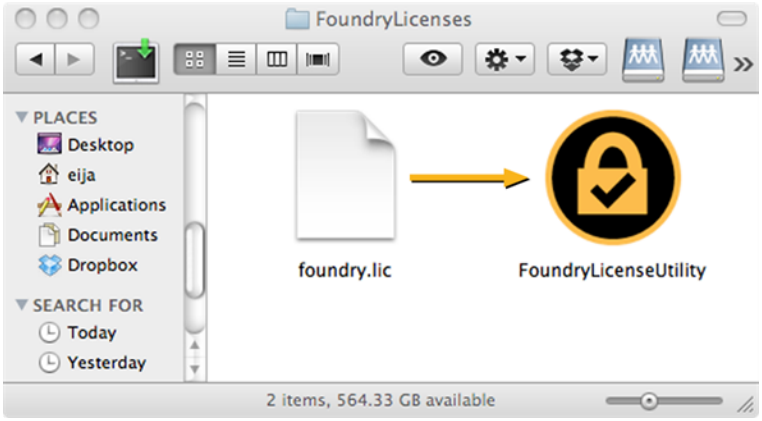
1. Save the FLU and your license key to a folder of your choice. Note that the license file can be the original **.lic** file or the license in a plain text file (as long as the file has a **.lic** extension).
2. Click **Start**, type **cmd** and press **Return**.
   This launches a command prompt.
3. Navigate to the location of the FLU_7.1v1_win-x86-release-64.exe file.
4. Type the following command to install the FLU and the license. Note that you need to replace **[my license]** with the location of your license key.
   `FLU_7.1v1_win-x86-release-64.exe -l[my license]`
   For example, if you saved your license key to **D:\Temp\foundry.lic**, the command should be:
   `FLU_7.1v1_win-x86-release-64.exe -l D:\Temp\foundry.lic`
   This checks the license key and copies it to the correct directory. You're done.

NOTE: If you use the FLU from a command prompt and don't pass it any arguments (such as **-l** in the above example), it launches in GUI mode.

The Automated Method on Mac OS X

Once a license has been generated for you, we e-mail you a zip file containing the license key and instructions on how to obtain the correct version of the Foundry License Utility (FLU). To check and install the license key, install the Mac OS X version of the FLU and do one of the following:

- Drag the license file onto the FLU application;



- Or cut and paste the license key text directly into the **License Install** tab in the FLU application;
- Or if you double click on the FLU application, it installs any file with a **.lic** file extension that it finds in the same directory as the application.

NOTE: If there is an error with any part of the license installation, this is reported in the FLU. You should also see a **Generate Report** button, which you can click to write the errors out to a file and then visit supportportal.thefoundry.co.uk for assistance.
If you are installing several licenses at the same time and only some of them fail validation, you can also click **Continue** to complete the installation of the valid licenses.

The above methods are the easiest way to install a license. However, if you prefer, you can also install a license from the command line. To do so:

1. Save the FLU and your license key to a folder of your choice. Note that the license file can be the original **.lic** file or the license in a plain text file.
2. Launch Terminal and navigate to the location of the FLU_7.1v1_mac-x86-release-64.zip file.
3. Type the following commands to extract and install the FLU and the license. Note that you need to replace **[my license]** with the location of your license key.

   ```
   unzip FLU_7.1v1_mac-x86-release-64.zip
   cd FoundryLicenseUtility.app/Contents/MacOS
   ./FoundryLicenseUtility -l [my license]
   ```

   For example, if you saved your license key to **/tmp/foundry.lic**, the last line should be:

   ```
   ./FoundryLicenseUtility -l /tmp/foundry.lic
   ```

   This checks the license key and copies it to the correct directory. You're done.

The Automated Method on Linux

Once a license has been generated for you, we e-mail you a **.tgz** file containing the license key and instructions on how to obtain the correct version of the Foundry License Utility (FLU).

1. Gunzip or untar the file and save the FLU and your license key to a folder of your choice. Note that the license file can be the original **.lic** file or the license in a plain text file.
2. Launch a command line and navigate to the location of the FLU_7.1v1_linux-x86-release-64.tgz file.
3. Type the following commands to extract the FLU and install the license. Note that you need to replace **[my license]** with the location of your license key.

   ```
   tar xvzf FLU_7.1v1_linux-x86-release-64.tgz
   cd FLU_7.1v1_linux-x86-release-64
   ./FoundryLicenseUtility -l [my license]
   ```

   For example, if you saved your license key to **/tmp/foundry.lic**, the last line should be:

   ```
   ./FoundryLicenseUtility -l /tmp/foundry.lic
   ```

   This checks the license key and copies it to the correct directory. You're done.

NOTE: If there is an error with any part of the license installation, this is reported on the command line. You should also see a **Generate Report** button, which you can click to write the errors out to a file and then visit supportportal.thefoundry.co.uk for assistance.
If you are installing several licenses at the same time and only some of them fail validation, you can continue to complete the installation of the valid licenses.

The Manual Method: Windows, Mac OS X, and Linux

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 a specific directory. The name of the file can be anything, but we recommend the following:

```
foundry.lic
```

Make sure you don't save the key in a rich text (**.rtf**) file as it won't work. You should also 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.

The recommended location for the license file varies depending on the operating system you are using, and is as follows:

NOTE: There are other directories that can be searched for license files. See Moving the License Keys and Log Files.

On Windows 7

• If your product uses FLEXlm licensing:

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

- If your product uses RLM licensing:

```
C:\ProgramData\The Foundry\RLM\
```

NOTE: The ProgramData folder may be hidden. You can make it visible using the **Folder Options** in the **Control Panel**. See Windows Hidden Files.

On Mac OS X:

- If your product uses FLEXlm licensing:

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

- If your product uses RLM licensing:

```
/Library/Application Support/TheFoundry/RLM/
```

On Linux:

- If your product uses FLEXlm licensing:

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

- If your product uses RLM licensing:

```
/usr/local/foundry/RLM/
```

License Administration

The following section contains details on license management and administration, including license behavior, file location, and updating licenses.

Where are the License Keys and Log Files?

You can move the FLEXlm and RLM license keys and log files anywhere, but by default they are installed to the following directories. We'll refer to these locations as the **<data path>**.

<data path> on Windows:

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

NOTE: The ProgramData folder may be hidden. You can make it visible using the **Folder Options** in the **Control Panel**. See Windows Hidden Files.

<data path> on Mac OS X:

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

<data path> on Linux:

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

Moving the License Keys and Log Files

Moving the License File

If you move your node locked license key, you have to set an environment variable to point to the new location.

1. Move your node locked license key to a new location, for example:
   `/home/licenses/mylicense.lic`
2. Now set the appropriate environment variable to point to the new location:
   - For FLEXlm licenses, the environment variable is **FOUNDRY_LICENSE_FILE**.
   - For RLM licenses, it is **foundry_LICENSE**.

   For more information on setting environment variables, see Setting Environment Variables.

Moving the Log File

By default, problems with licenses are written to:
`<data path>/license.log`

You can change the location by setting the appropriate environment variable to the directory of your choice, for example:
`/home/fred/problems.log`

For FLEXlm licenses, the environment variable is FOUNDRY_LICENSE_LOG and for RLM licenses, the variable is foundry_LICENSE_LOG.

For more information on setting environment variables, see Setting Environment Variables.

TIP: A good command to use on very large log files to display the last 30 entries is:

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

Note, however, that if you want to send the log file to the Support team, it should be the complete log file created using the diagnostics tool in the Foundry License Utility (FLU). See Contacting Support.

Appending to an Existing License

You can add a new license to an existing key using two methods:

- Drop the license file onto the Foundry License Utility (FLU). This is the recommended method.

- Use the command line. This is **not** recommended for most users. However, you can add a new license key by editing the **foundry.lic** text file. Simply copy and paste the license to the end of your existing license file.

More Information

This user guide should cover all the information you need to use FLEXlm or RLM licenses for The Foundry products. However, it is not meant to be an exhaustive exploration of all the features available with FLEXlm or RLM licensing. For that, you should:

- see the FLEXnet Licensing End User Guide included in the Foundry Licensing Tools download or go to www.flexerasoftware.com.
- see the RLM Licensing End User Guide included in the Foundry Licensing Tools download or go to www.reprisesoftware.com.

Please be aware that advanced RLM features not discussed in this user guide are not supported with RLM licenses from The Foundry.

Licensing over a Network

This chapter tells you how to license your product over a network. If you want to license one of our products on a single machine instead, please read Licensing on a Single Machine.

NOTE: The Foundry Licensing Tools' default settings do not support RLM licensing on virtual machines (VMs). If you have any questions regarding licensing on VMs, please visit supportportal.thefoundry.co.uk for more information.

Notation

Throughout this chapter, we refer to machines that serve licenses as servers and machines that ask for licenses as clients.

About Floating Licenses

A floating license running on a server enables one of our products to work on any networked client machine. Floating licenses are sometimes called **counted** licenses.

The floating license should be put on the server and is locked to a unique number on that server (see Displaying Your System ID). 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 Licensing Tools (FLT), which can be freely downloaded from our web site.

Floating licenses often declare a port number. 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.

A floating FLEXlm license looks like this:

```
SERVER <server_name> 000EA641D7A1
VENDOR foundry
INCREMENT nuke_i foundry 3.0 05-jul-2012 5 \
ISSUED=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"
```

A floating RLM license looks like this:

```
HOST <server_name> d49a20b9be26 4101
ISV foundry
```

```
LICENSE foundry mari_i 2012.1231 permanent 20 share=h start=4 oct-2010 issued=4-oct-
2010 _ck=fa072c6a5a
sig="60P0453JHKQBGTB1HH7E3HNW843UJ627TSF4CXR22H7KNMYHG1B99WBSNHS1UE7FCN2W3AY8KV"
```

For further information about the structure of the license key, see Floating License Syntax.

For information on how to license one of our products using a floating license, see Purchasing a Floating License and Installing a Floating License.

Purchasing a Floating License

You can purchase a floating license by:

- going to our web site at www.thefoundry.co.uk,
- e-mailing us at sales@thefoundry.co.uk,
- phoning our London office at +44 20 7479 4350 or our Los Angeles office at +1 (310) 399 4555.

To generate a license key, we need to know the System ID of the machine that acts as the server (not one of the clients). The System ID (sometimes called Host ID, lmhostid, or rlmhostid) returns a unique number for that computer. Just so you know what a System ID number looks like, here's an example: `000ea641d7a1`.

To display your server machine's System ID, see Displaying Your System ID.

Once you have provided us with your server machine's System ID number and a license key has been generated for you, you receive the license key in an e-mail or internet download. The license key is contained in a text file called **foundry.lic**. For information on what to do with the **foundry.lic** file, see Installing a Floating License.

Displaying Your System ID

There are a number of ways to display your server machine's System ID, depending on your operating system.

NOTE: In most cases, our licensing tools find the RLM System ID, check that FLEXlm accepts the same ID, and then display that ID. However, on rare occasions, you can have two System IDs reported. If this is the case, both System IDs are displayed, like this:

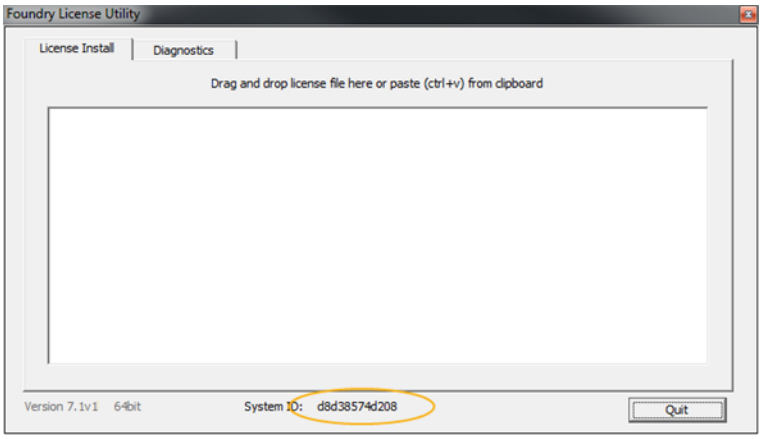
```
R00ffb79aefc9:X00ffb79aefa9
```

When purchasing a license, you should send us the entire string with both IDs.

On Windows

- Download the Foundry License Utility (FLU) from our website (www.thefoundry.co.uk/support/licensing/) and run it on the machine that acts as the server.

  The System ID is displayed at the bottom of the window, as highlighted.



- Alternatively, you can run the following from a command prompt:

```
<download location>/FLU_7.1v1_win-x86-release-64.exe -i
```

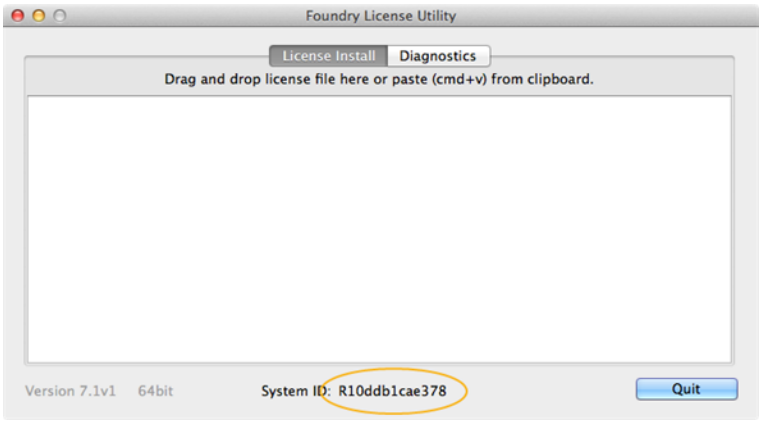
NOTE: The <download location> refers to the location where you saved the Foundry Licensing Utility.

NOTE: If you use the FLU from a command line and don't pass it any arguments (such as **-i** in the above example), it launches in GUI mode.

On Mac

- Download the Foundry License Utility (FLU) from our website (www.thefoundry.co.uk/support/licensing/) and run it on the machine that acts as the server.

  The System ID is displayed at the bottom of the window, as highlighted.



- Alternatively, you can run the following from the command line:

```
<download location>/FoundryLicenseUtility.app/Contents/MacOS/FoundryLicenseUtility -i
```

NOTE: The <download location> refers to the location where you saved the Foundry Licensing Utility.

On Linux

On the machine that acts as the server, download the Foundry License Utility (FLU) from our website (www.thefoundry.co.uk/support/licensing/) and run it from the command line:

```
<download location>/FoundryLicenseUtility -i
```

NOTE: The <download location> refers to the location where you saved the Foundry Licensing Utility.

Installing a Floating License

The Foundry Licensing Tools are supplied for Windows, Mac OS X, and Linux. To manage floating licenses across a network, you have to install the Foundry Licensing 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. How to do all this depends on your operating system:

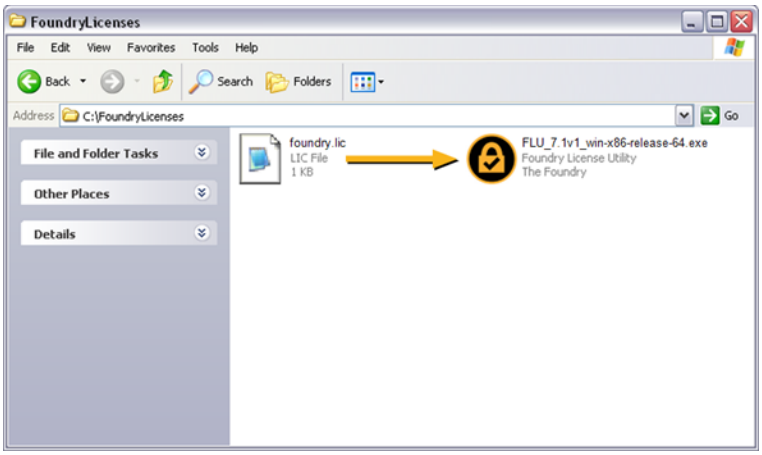
- If you're on Windows, see Windows.
- If you're on Mac OS X, see Mac OS X.
- If you're on Linux, see Linux.

Windows

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

Installing a Floating License on the License Server

1. Once a license has been generated for you, we e-mail you a zip file containing the license key and instructions on how to obtain the correct version of the Foundry License Utility (FLU). To check and install the license key, install the Windows version of the FLU and do one of the following:
   - Drag the license file onto the FLU application, or



- Cut and paste the license key text directly into the **License Install** tab in the FLU application, or
- If you double-click on the FLU application, it installs any file with a **.lic** file extension that it finds in the same directory as the application.

2. The license server address is displayed on screen:

   `<number>@<license server name>`

   You should make a note of the address as you'll need it to activate the client machines.
3. Proceed to Installing Foundry Licensing Tools (FLT) on the License Server.

NOTE: If there is an error with any part of the license installation, this is reported in the FLU. You should also see a **Generate Report** button, which you can click to write the errors out to a file and then visit supportportal.thefoundry.co.uk for assistance.

If you are installing several licenses at the same time and only some of them fail validation, you can also click **Continue** to complete the installation of the valid licenses.

You may also get a message saying that the license is not yet valid but may be valid in the future. This means the license has been installed successfully and will automatically become live on the license start date. You do not need to do anything further, but if you like, you can check that the server is up and the server log reports the same message (see Viewing the License Server Log).

Alternative Methods of Installing the License

The above methods are the easiest way to install a license. However, if you prefer, you can also install a license from a command prompt. To do so:

1. Save the FLU and your license key to a folder of your choice. Note that the license file can be the original **.lic** file or the license in a plain text file (as long as the file has a **.lic** extension).
2. Click **Start**, type **cmd** and press **Return**.

   This launches a command prompt.
3. Navigate to the location of the FLU_7.1v1_win-x86-release-64.exe file.

4. Type the following command to install the FLU and the license. Note that you need to replace **[my license]** with the location of your license key.

   ```
   FLU_7.1v1_win-x86-release-64.exe -l[my license]
   ```

   For example, if you saved your license key to **D:\Temp\foundry.lic**, the command should be:

   ```
   FLU_7.1v1_win-x86-release-64.exe -l D:\Temp\foundry.lic
   ```

   This checks the license key and copies it to the correct directory.
5. The license server address is displayed on screen:

   ```
   <number>@<license server name>
   ```

   You should make a note of the address as you'll need it to activate the client machines.
6. Proceed to Installing Foundry Licensing Tools (FLT) on the License Server.

NOTE: If you use the FLU from a command prompt and don't pass it any arguments (such as **-l** in the example), it launches in GUI mode.

Alternatively, if you wish, you can install the license key by hand, though this is not recommended for most users. To do so:

1. Launch a text editor and create a plain text file. Avoid using Word or other word processing programs to create the file, as these add invisible control characters that trip up the licensing and make it hard for us to diagnose the fault.
2. Copy the license key and paste it into the plain text file.
3. Save the file with a **.lic** extension (not **.txt** or **.rtf**) in the following directory. The name of the file can be anything, but we recommend calling it **foundry.lic**.
   - FLEXlm licenses:

     C:\ProgramData\The Foundry\FLEXlm\
   - RLM licenses:

     C:\ProgramData\The Foundry\RLM\

NOTE: The ProgramData folder may be hidden. You can make it visible using the **Folder Options** in the **Control Panel**. See Windows Hidden Files.

NOTE: There are other directories that can be searched for license files. See Moving the FLEXlm and RLM Files.

4. If you installed an RLM license, create an options file and set a TIMEOUT or TIMEOUTALL period. This ensures that licenses are returned to the server if the server and client machines lose contact with each other (due to a network error, a crash, or some other failure). For more information, see Setting a TIMEOUT or TIMEOUTALL Period.

   If you installed a FLEXlm license, you can skip this step. FLEXlm licenses have a default timeout period of 7200 seconds (two hours).
5. Proceed to Installing Foundry Licensing Tools (FLT) on the License Server.

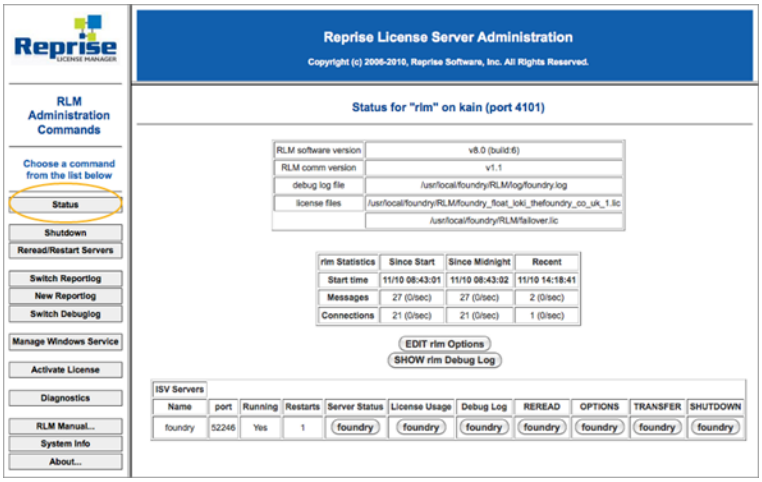
Installing Foundry Licensing Tools (FLT) on the License Server

1. Download FLT_7.1v1_win-x86-release-64.exe from our web site (www.thefoundry.co.uk/support/licensing/) and install it on the Windows computer that you want to serve the licenses across the network.

   The license server starts automatically after installation (and whenever you restart the machine).

2. To check the server status, click **Start** > **All Programs** > **The Foundry** > **FLT 7.1v1** > **Foundry License Utility**, view the **FLEXlm Server** or **RLM Server** tab, and click **Refresh Log**.

   To check RLM server status, you can also direct a web browser to the **http://<server_name>:4102** server page and click **Status** on the right.



3. If the license server fails to start, navigate to **Control Panel** > **Administrative Tools** > **Services**. Then, select the appropriate service:

   - For FLEXlm: **Foundry FLEXlm Server**
   - For RLM: **Foundry License Server**

   Click **Start** and check the server status again.

NOTE: If you have a firewall on your license server, this blocks 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.

4. Proceed to Telling the Client Machines Where to Find the Licenses.

Telling the Client Machines Where to Find the Licenses

When you installed the floating license key on your server, you were provided with a **<port>@<server name>**. You need this to license clients.

There are several ways to license clients. Choose one of the following and repeat it for each machine you wish to have access to licenses on the server:

- If your product displays a **Licensing** dialog when you launch it, click **Install License** and then **Use Server**. Type **<number>@<server name>** (for example, **4101@red**) and click **Install**. Your client retrieves a license from the License Server and launches.
- Click **Start** > **All Programs** > **The Foundry** > **FLT 7.1v1** > **Foundry License Utility** to launch the FLU. Make sure you are viewing the **License Install** tab and copy and paste in an RLM server line:

  `HOST <server name> any <port>`

  For example: **HOST red any 4101**

  This creates and installs both a FLEXlm and RLM client license.
- Launch a command prompt. Navigate to the location of the **FoundryLicenseUtility.exe** file, by default:

  C:\Program Files\The Foundry\LicensingTools7.1

  Then, type the following command:

  `FoundryLicenseUtility.exe -c <port>@<server name>`

  For example:

  `FoundryLicenseUtility.exe -c 4101@red`

  This creates and installs both a FLEXlm and RLM client license.
- Set an environment variable on your client as follows:
  - If your product uses FLEXlm licensing, set the **FOUNDRY_LICENSE_FILE** environment variable on your client to point to the license server (for example, **@red**). If you have more than one server, you could use:

    `@red:@green.`

    If you have specified a particular server port number (30001) in the **foundry.lic** file on the server, you should set the environment variable to **30001@red**.
  - If your product uses RLM licensing, set the **foundry_LICENSE** environment variable on your client to point to the license server (for example, **4101@red**). If you have more than one server, you could use:

    `4101@red:4101@green`

    If you are using a port other than 4101, replace 4101 with the port selected.

  For more information on setting environment variables, see Setting Environment Variables.
- Although not recommended, you can manually create a client license.
  - If your product uses FLEXlm licensing, copy the **foundry.lic** file from the server to:

    `C:\ProgramData\The Foundry\FLEXlm`

    Rename the file and call it **foundry_client.lic**. Edit the file so it looks like this:

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

    or if you had your own server port number set:

    ```
    SERVER snowball 000a957bade9 30001
    VENDOR foundry
    USE_SERVER
    ```
  - If your product uses RLM licensing, copy the **foundry.lic** file from the server to:

    `C:\ProgramData\The Foundry\RLM`

Rename the file and call it **foundry_client.lic**. Edit the file so it looks like this:

```
HOST red 000a957bade9 4101
```

or if you had your own server port number set:

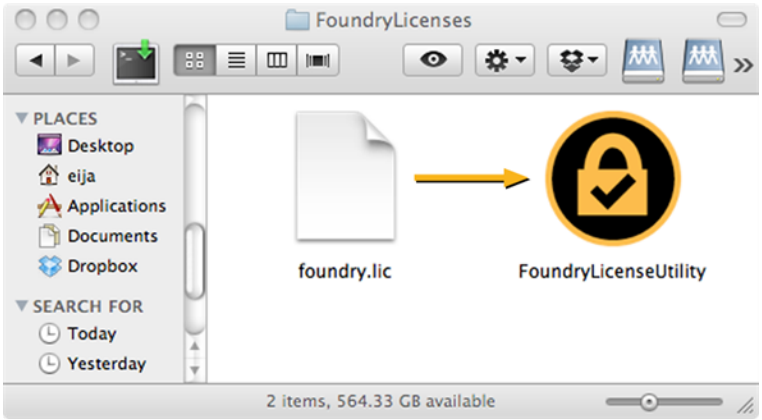
```
HOST red 000a957bade9 30001
```

Mac OS X

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

Installing a Floating License on the License Server

1. Once a license has been generated for you, we e-mail you a zip file containing the license key and instructions on how to obtain the correct version of the Foundry License Utility (FLU). To check and install the license key, install the Mac OS X version of the FLU and do one of the following:
   - Drag the license file onto the FLU application, or



   - Drag the license file onto the Foundry License Utility, or
   - Cut and paste the license key text directly into the **License Install** tab in the FLU application, or
   - If you double-click on the FLU application, it installs any file with a **.lic** file extension that it finds in the same directory as the application.
2. The license server address is displayed on screen:

   ```
   <number>@<license server name>
   ```

   You should make a note of the address as you'll need it to activate the client machines.
3. Proceed to Installing Foundry Licensing Tools (FLT) on the License Server.

NOTE: If there is an error with any part of the license installation, this is reported in the FLU. You should also see a **Generate Report** button, which you can click to write the errors out to a file and then visit supportportal.thefoundry.co.uk for assistance.

If you are installing several licenses at the same time and only some of them fail validation, you can also click **Continue** to complete the installation of the valid licenses.

You may also get a message saying that the license is not yet valid but may be valid in the future. This means the license has been installed successfully and will automatically become live on the license start date. You do not need to do anything further, but if you like, you can check that the server is up and the server log reports the same message (see Viewing the License Server Log).

Alternative Methods of Installing the License

The above methods are the easiest ways to install a license. However, if you prefer, you can also install a license from the command line. To do so:

1. Save the FLU and your license key to a folder of your choice. Note that the license file can be the original **.lic** file or the license in a plain text file (as long as the file has a **.lic** extension).
2. Launch a Terminal and navigate to the location of the FLU_7.1v1_mac-x86-release-64.zip file.
3. Type the following commands to extract and install the FLU and the license. Note that you need to replace **[my license]** with the location of your license key.

   ```
   unzip FLU_7.1v1_mac-x86-release-64.zip
   cd FoundryLicenseUtility.app/Contents/MacOS/
   ./FoundryLicenseUtility -l [my license]
   ```

   For example, if you saved your license key to **/tmp/foundry.lic**, the last line should be:

   ```
   ./FoundryLicenseUtility -l /tmp/foundry.lic
   ```

   This checks the license key and copies it to the correct directory.
4. The license server address is displayed on screen:

   ```
   <number>@<license server name>
   ```

   You should make a note of the address as you'll need it to activate the client machines.
5. Proceed to Installing Foundry Licensing Tools (FLT) on the License Server.

Alternatively, if you wish, you can install the license key by hand, though this is not recommended for most users. To do so:

1. Launch a text editor and create a plain text file. Avoid using Word or other word processing programs to create the file, as these add invisible control characters that trip up the licensing and make it hard for us to diagnose the fault.
2. Copy the license key and paste it into the plain text file.
3. Save the file with a **.lic** extension (not **.txt** or **.rtf**) in the following directory. The name of the file can be anything, but we recommend calling it **foundry.lic**.

FLEXlm licenses: **/Library/Application Support/TheFoundry/FLEXlm/**

RLM licenses: **/Library/Application Support/TheFoundry/RLM/**

NOTE: There are other directories that can be searched for license files. See Moving the FLEXlm and RLM Files.

4. If you installed an RLM license, create an options file and set a TIMEOUT or TIMEOUTALL period. This ensures that licenses are returned to the server if the server and client machines lose contact with each other (due to a network error, a crash, or some other failure). For more information, see Setting a TIMEOUT or TIMEOUTALL Period.

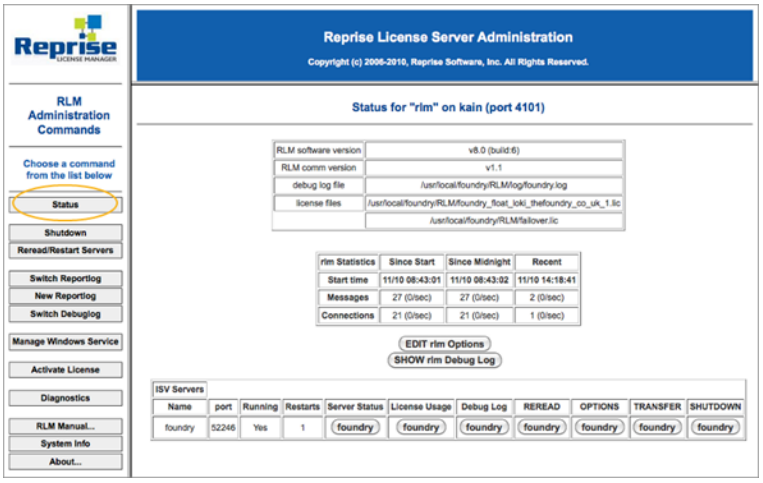
   If you installed a FLEXlm license, you can skip this step. FLEXlm licenses have a default timeout period of 7200 seconds (two hours).
5. Proceed to Installing Foundry Licensing Tools (FLT) on the License Server.

Installing Foundry Licensing Tools (FLT) on the License Server

1. Download FLT_7.1v1_mac-x86-release-64.dmg from our web site (www.thefoundry.co.uk/support/licensing/) and install it on the Mac that you want to serve the licenses across the network.

   The license server starts automatically after installation (and whenever you restart the machine).
2. To check the server status, navigate to **/Applications/TheFoundry/LicensingTools7.1**, double-click on **Foundry License Utility**, view the **FLEXlm Server** or **RLM Server** tab, and click **Refresh Log**.

   To check RLM server status, you can also direct a web browser to the **http://<server_name>.local:4102** server page and click **Status** on the right.



3. Proceed to Telling the Client Machines Where to Find the Licenses.

Telling the Client Machines Where to Find the Licenses

When you installed the floating license key on your server, you were provided with a **<port>@<server name>**. You need this to license clients.

There are several ways to license clients. Choose one of the following and repeat it for each machine you wish to have access to licenses on the server:

- If your product displays a **Licensing** dialog when you launch it, click **Install License** and then **Use Server**. Type **<number>@<server name>** (for example, **4101@red**) and click **Install**. Your client retrieves a license from the License Server and launches.
- Navigate to **/Applications/TheFoundry/LicensingTools7.1/** and double-click on **FoundryLicenseUtility** to launch the FLU. Make sure you are viewing the **License Install** tab and copy and paste in an RLM server line:

  `HOST <server name> any <port>`

  For example: **HOST red any 4101**

  This creates and installs both a FLEXlm and RLM client license.
- Launch a Terminal and navigate to:

  `/Applications/TheFoundry/LicensingTools7.1/`

  Then, type the following commands:

  ```
  cd FoundryLicenseUtility.app/Contents/MacOS/
  ./FoundryLicenseUtility -c <port>@<server name>
  ```

  For example:

  ```
  cd FoundryLicenseUtility.app/Contents/MacOS/
  ./FoundryLicenseUtility -c 4101@red
  ```

  This creates and installs both a FLEXlm and RLM client license.
- Set an environment variable on your client as follows:
  - If your product uses FLEXlm licensing, set the **FOUNDRY_LICENSE_FILE** environment variable on your client to point to the license server (for example, **@red**). If you have more than one server, you could use **@red:@green**.

    If you have specified a particular server port number (30001) in the **foundry.lic** file on the server, you should set the environment variable to **30001@red**.
  - If your product uses RLM licensing, set the **foundry_LICENSE** environment variable on your client to point to the license server (for example, **4101@red**). If you have more than one server, you could use **4101@red:4101@green**.

    If you are using a port other than 4101, replace 4101 with the port selected.

  For more information on setting environment variables, see Appendix C: FLT Variables.
- Although not recommended, you can manually create a client license.
  - If your product uses FLEXlm licensing, copy the **foundry.lic** file from the server to:

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

    Rename the file and call it **foundry_client.lic**. Edit the file so it looks like this:

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

    or if you had your own server port number set:

    ```
    SERVER snowball 000a957bade9 30001
    ```

```
VENDOR foundry
USE_SERVER
```

- If your product uses RLM licensing, copy the **foundry.lic** file from the server to:

  `/Library/Application Support/TheFoundry/RLM/`

  Rename the file and call it **foundry_client.lic**. Edit the file so it looks like this:

  `HOST red 000a957bade9 4101`

  or if you had your own server port number set:

  `HOST red 000a957bade9 30001`

Linux

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

Installing a Floating License on the License Server

1. Once a license has been generated for you, we e-mail you a **.tgz** file containing the license key and instructions on how to obtain the correct version of the Foundry License Utility (FLU). On the machine that acts as the license server, gunzip or untar the file and save the FLU and your license key to a folder of your choice, for example **/tmp**. Note that the license file can be the original **.lic** file or the license in a plain **.txt** file (as long as the file has a **.lic** extension).
2. Navigate to the location of the **FLU_7.1v1_linux-x86-release-64.tgz** file.
3. Type the following commands to extract and install the FLU and the license. Note that you need to replace **[my license]** with the location of your license key.

   ```
   tar xvzf FLU_7.1v1_linux-x86-release-64.tgz
   cd FLU_7.1v1_linux-x86-release-64
   ./FoundryLicenseUtility -l [my license]
   ```

   For example, if you saved your license key to **/tmp/Foundry.lic**, the last line should be:

   `./FoundryLicenseUtility -l /tmp/Foundry.lic`

   This checks the license key and copies it to the correct directory.
4. The license server address is displayed on screen:

   `<number>@<license server name>`

   You should make a note of the address as you'll need it to activate the client machines.
5. Proceed to Installing Foundry Licensing Tools (FLT) on the License Server.

NOTE: If there is an error with any part of the license installation, this is reported on the command line. You should also see a **Generate Report** button, which you can click to write the errors out to a file and then visit supportportal.thefoundry.co.uk for assistance.

If you are installing several licenses at the same time and only some of them fail validation, you can continue to complete the installation of the valid licenses.

You may also get a message saying that the license is not yet valid but may be valid in the future. This means the license has been installed successfully and will automatically become live on the license start date. You do not need to do anything further, but if you like, you can check that the server is up and the server log reports the same message (see Viewing the License Server Log).

Alternatively, if you wish, you can install the license key by hand, though this is not recommended for most users. To do so:

1. Launch a text editor and create a plain text file. Avoid using Word or other word processing programs to create the file, as these add invisible control characters that trip up the licensing and make it hard for us to diagnose the fault.
2. Copy the license key and paste it into the plain text file.
3. Save the file with a **.lic** extension (not **.txt** or **.rtf**) in the following directory. The name of the file can be anything, but we recommend calling it **foundry.lic**.

   FLEXlm licenses: **/usr/local/foundry/FLEXlm/**

   RLM licenses: **/usr/local/foundry/RLM/**

NOTE: There are other directories that can be searched for license files. See Moving the FLEXlm and RLM Files.

4. If you installed an RLM license, create an options file and set a TIMEOUT or TIMEOUTALL period. This ensures that licenses are returned to the server if the server and client machines lose contact with each other (due to a network error, a crash, or some other failure). For more information, see Setting a TIMEOUT or TIMEOUTALL Period.

   If you installed a FLEXlm license, you can skip this step. FLEXlm licenses have a default timeout period of 7200 seconds (two hours).
5. Proceed to Installing Foundry Licensing Tools (FLT) on the License Server.

Installing Foundry Licensing Tools (FLT) on the License Server

1. Download **FLT_7.1v1_linux-x86-release-64.tgz** from our web site (www.thefoundry.co.uk/support/licensing/) on the Linux machine that you want to serve these licenses across the network and save it to **/tmp**.
2. Open a shell and, using root or admin permissions, type these commands to extract and install the Foundry Licensing Tools 7.1.

```
cd /tmp
tar xvzf FLT_7.1v1_linux-x86-release-64.tgz
```

```
cd FLT_7.1v1_linux-x86-release-64
./install.sh
```

The license server starts automatically after installation (and whenever you restart the machine).

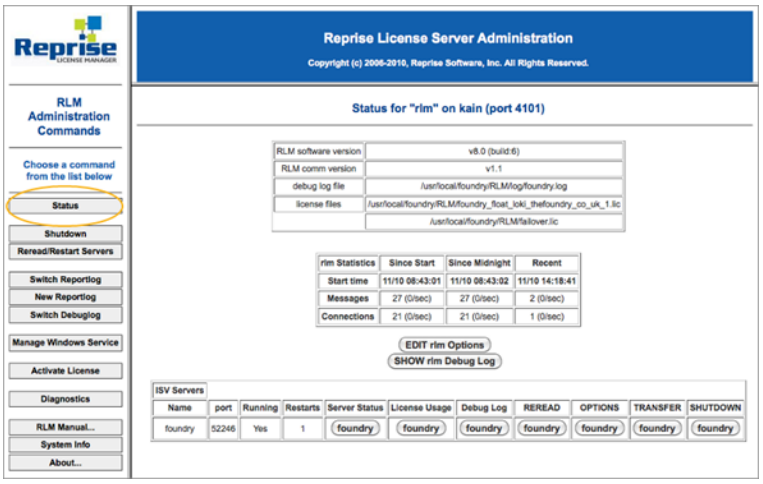
3. To check the server status, navigate to **/usr/local/foundry/LicensingTools7.1** and enter:

   ```
   ./FoundryLicenseUtility -s status
   ```

   This reports the status of both FLEXlm and RLM servers. If you only want to view one or the other, use one of the following commands instead:

   ```
   ./FoundryLicenseUtility -s status -t FLEXlm
   ./FoundryLicenseUtility -s status -t RLM
   ```

   To check RLM server status, you can also direct a web browser to the **http://<server_name>:4102** server page and click **Status** on the right.



4. Proceed to Telling the Client Machines Where to find the Licenses below.

Telling the Client Machines Where to find the Licenses

When you installed the floating license key on your server, you were provided with a **<port>@<server name>**. You need this to license clients.

There are several ways to license clients. Choose one of the following and repeat it for each machine you wish to have access to licenses on the server:

- If your product displays a **Licensing** dialog when you launch it, click **Install License** and then **Use Server**. Type **<number>@<server name>** (for example, **4101@red**) into your The Foundry product and click **Install**. Your client retrieves a license from the License Server and launches.
- Launch a shell and navigate to:

  ```
  /usr/local/foundry/LicensingTools7.1/
  ```

  Then, type the following command:

  ```
  ./FoundryLicenseUtility -c <port>@<server name>
  ```

  For example:

  ```
  ./FoundryLicenseUtility -c 4101@red
  ```

This creates and installs both a FLEXlm and RLM client license.

- Set an environment variable on your client as follows:
  - If your product uses FLEXlm licensing, set the **FOUNDRY_LICENSE_FILE** environment variable on your client to point to the license server (for example, **@red**).

    If you have more than one server, you could use **@red:@green**.

    If you have specified a particular server port number (30001) in the **foundry.lic** file on the server, you should set the environment variable to **30001@red**.
  - If your product uses RLM licensing, set the **foundry_LICENSE** environment variable on your client to point to the license server (for example, **4101@red**).

    If you have more than one server, you could use **4101@red:4101@green**.

    If you are using a port other than 4101, replace 4101 with the port selected.

  For more information on setting environment variables, see Appendix C: FLT Variables.
- Although not recommended, you can manually create a client license.
  - If your product uses FLEXlm licensing, copy the **foundry.lic** file from the server to:

    `/usr/local/foundry/FLEXlm/`

    Rename the file and call it **foundry_client.lic**. Edit the file so it looks like this:

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

    or if you had your own server port number set:

    ```
    SERVER snowball 000a957bade9 30001
    VENDOR foundry
    USE_SERVER
    ```
  - If your product uses RLM licensing, copy the **foundry.lic** file from the server to:

    `/usr/local/foundry/RLM/`

    Rename the file and call it **foundry_client.lic**. Edit the file so it looks like this:

    ```
    HOST red 000a957bade9 4101
    ```

    or if you had your own server port number set:

    ```
    HOST red 000a957bade9 30001
    ```

License Administration

The following section contains details on license management and administration, including file location and updating licenses.

Where are the FLEXlm and RLM Files?

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

Application Files

These are files included in the Foundry License Installer. We'll refer to this location as the <app path>.

<app path> on Windows:

```
C:\Program Files\The Foundry\LicensingTools7.1\bin\
```

<app path> on Mac OS X:

```
/Applications/TheFoundry/LicensingTools7.1/bin/
```

<app path> on Linux:

```
/usr/local/foundry/LicensingTools7.1/bin/
```

Data Files

These include the license keys and log files. We'll refer to these locations as the <data path>.

<data path> on Windows:

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

NOTE: The ProgramData folder may be hidden. You can make it visible using the **Folder Options** in the **Control Panel**. See Windows Hidden Files.

<data path> on Mac OS X:

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

<data path> on Linux:

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

Moving the FLEXlm and RLM Files

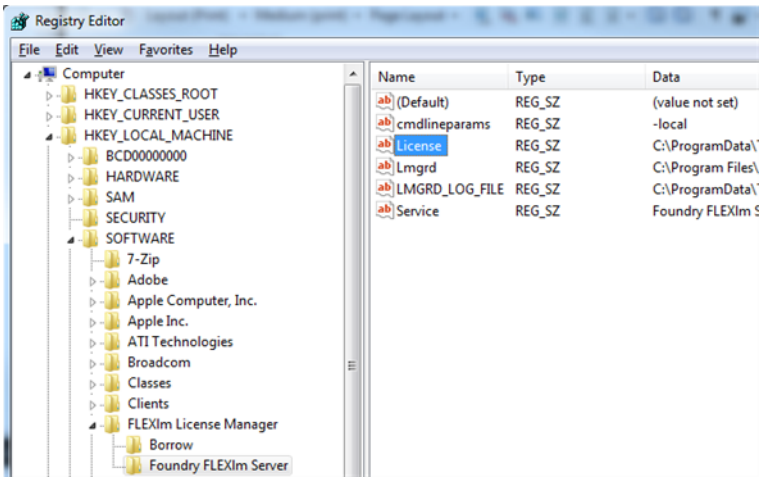
If you want to move a floating license key to another directory then, if you have a license server already running, you need to shut it down. You'll need to edit the startup scripts to look in the new location. Then restart the license

server.

On Windows

If your product uses FLEXlm licensing:

1. First, stop the license server if it's running. Navigate to **Start** > **Control Panel** > **Systems and Security** > **Administrative Tools** > **Services**. Select **Foundry FLEXlm Server** and click **Stop**.
2. Click **Start**, type **regedit**, and then press **Return** on your keyboard.
3. Open the hierarchical structure HKEY_LOCAL_MACHINE > SOFTWARE > FLEXlm License Manager > Foundry FLEXlm Server:

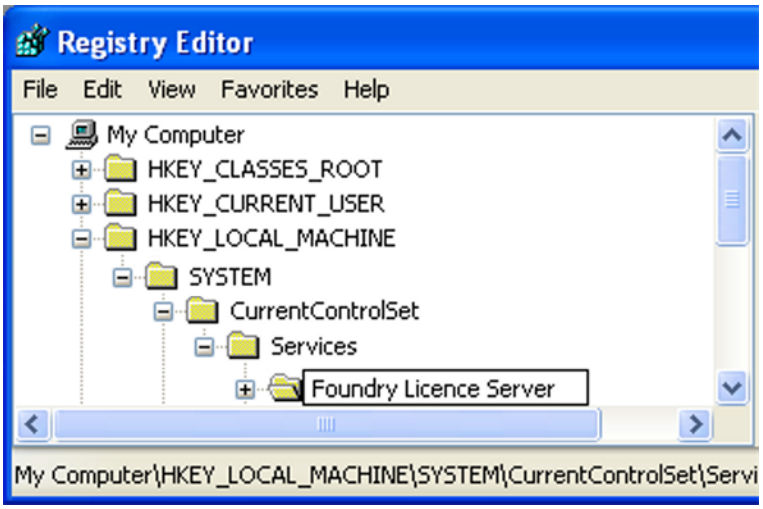


4. Select **License** and append the new license location to the current one using a **;** (semicolon) between them:
   `C:\Program Files\The Foundry\FLEXlm;C:\tmp`
5. Quit regedit.
6. Restart the license server. Navigate to **Start** > **Control Panel** > **Systems and Security** > **Administrative Tools** > **Services**. Select **Foundry FLEXlm Server** and click **Start**.

TIP: You can also stop and start the license server using the Foundry License Utility (FLU). See Managing the License Server.

If your product uses RLM licensing:

1. First, stop the license server if it's running. Do one of the following:
   - Navigate to **Start** > **Control Panel** > **Systems and Security** > **Administrative Tools** > **Services**. Select **Foundry License Server** and click **Stop**.
   - Use a web browser to go to the **http://<server_name>:4102** server page. Click **Status** > **Stop**.
2. Click **Start**, type **regedit**, and then press **Return** on your keyboard.
3. Open the hierarchical structure HKEY_LOCAL_MACHINE > SYSTEM > CurrentControlSet > Services > Foundry License Server:



4. Move down the Registry as shown and select **ImagePath**.
5. Assuming your licenses are in **C:\tmp**, insert this into the path as shown:

```
"C:\Program Files\The Foundry\\LicensingTools7.1\bin\rlm.foundry.exe" "-c"
"C:\ProgramData\The Foundry\RLM;C\tmp" "-ws" "4102" "-dlog"
"C:\ProgramData\The Foundry\RLM\\log\foundry.log" -service
```

NOTE: Semi colons are used to separate license directories on Windows.

6. Quit regedit.
7. Restart the license server by doing one of the following:
   - Navigate to **Start** > **Control Panel > Systems and Security > Administrative Tools > Services**. Select **Foundry License Server** and click **Start**.

TIP: You can also stop and start the license server using the Foundry License Utility (FLU). See Managing the License Server.

On Mac OS X

- If your product uses FLEXlm licensing, 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 /home/licenses

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

- If your product uses RLM licensing, edit:

  /Library/LaunchDaemons/uk.co.thefoundry.rlm.plist

changing these lines:

```
<string>-c</string>
<string>/Library/Application Support/TheFoundry/RLM/</string>
```

to this, assuming your license is in /home/licenses:

```
string>-c</string>
<string>/Library/Application Support/TheFoundry/RLM/:/home/licenses</string>
```

On Linux

- If your product uses FLEXlm licensing, edit:

  /etc/init.d/foundryflexlmserver

  changing this line:

  ```
  FnLicDir=/usr/local/foundry/FLEXlm
  ```

  to this, assuming your license is in /home/licenses

  ```
  FnLicDir=/usr/local/foundry/FLEXlm:/home/licenses
  ```

- If your product uses RLM licensing, edit:

  /etc/init.d/foundryrlmserver

  changing this line:

  ```
  FnLicDir=/usr/local/foundry/RLM
  ```

  to this, assuming your license is in /home/licenses

  ```
  FnLicDir=/usr/local/foundry/RLM:/home/licenses
  ```

When is a License Taken or Dropped?

Product licenses are checked out from the server when the product is first used on the client. Plug-in products generally take a license when the first plug-in of the set is used.

When a license is returned to the server depends on a number of things. Let's consider the following scenarios:

- The Product Exits or is Deleted/Unloaded from the Client
- The Product Doesn't Exit but is not Used for a While
- The Server and Client Machine Lose Contact with Each Other

The Product Exits or is Deleted/Unloaded from the Client

If the product exits or is deleted/unloaded from the client, the license is given back to the server.

Plug-in products generally return the license when the last plug-in of the set is removed from the effects tree or layer stack. The exact point at which a license is returned by a plug-in product is host-specific, and can be unpredictable.

The Product Doesn't Exit but is not Used for a While

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 need to change the default behavior by disabling the heartbeat.

NOTE: The heartbeat ensures the communication between the server and client persists in a stable fashion and therefore should be disabled with caution, otherwise users may find their licenses being withdrawn unexpectedly.

To disable the heartbeat:

1. Do one of the following:
   - If your product uses FLEXlm licensing, set the **FOUNDRY_HEARTBEAT_DISABLE** environment variable to **true** on the client.
   - If your product uses RLM licensing, set the **foundry_HEARTBEAT_DISABLE** environment variable to **true** on the client.

   For more information on setting environment variables, see Appendix C: FLT Variables.
2. Next, you **must** make sure a TIMEOUT or TIMEOUTALL value is set in the options file (foundry.opt). This value dictates how long the server should wait for communication to resume with the client before deciding that the client has exited. After the TIMEOUT period, the server deems the license released and makes it available on the network again. If no TIMEOUT period is set, however, the server may never release the license in some circumstances.

   See Setting a TIMEOUT or TIMEOUTALL Period.

NOTE: When installing RLM licenses using the Foundry License Utility (FLU), the FLU automatically creates the options file and sets the TIMEOUTALL value to 3600 seconds (one hour).

The Server and Client Machine Lose Contact with Each Other

Should the server and client machines lose contact with each other (due to a network error, a crash, or some other failure), licenses are returned to the server according to the TIMEOUT or TIMEOUTALL flag set in the options file (foundry.opt):

- FLEXlm licenses
  - By default, the TIMEOUT value is set to 7200, which means the server waits for 7200 seconds (two hours) before deciding that the client has crashed or failed in some other way, then deems the license released, and makes it available on the network again. If you want to change the default timeout period, you need to edit the options file. For instructions on how to do this, see Setting a TIMEOUT or TIMEOUTALL Period.
- RLM licenses

- If you installed an RLM license using The Foundry License Utility (FLU), the options file was created automatically, with the TIMEOUTALL flag set to 3600 seconds (in other words, one hour). This means the server waits for one hour before deciding that the client has crashed or failed in some other way, then deems the license released, and makes it available on the network again. If you want to change the default timeout period, you need to edit the options file. For instructions on how to do this, see Setting a TIMEOUT or TIMEOUTALL Period.
- If you installed an RLM license manually, you **must** create the options file and set a TIMEOUTALL or TIMEOUT period yourself. If you don't, the server does not have a default timeout period and may never release the license in some circumstances. For more instructions, see Setting a TIMEOUT or TIMEOUTALL Period.

Setting a TIMEOUT or TIMEOUTALL Period

1. Create the options file if one doesn't already exist. It should be a plain text file called **foundry.opt** placed in the same directory as the license (unless a different options file location is specified in the license file itself, either on the VENDOR or ISV line).
2. In the options file, you can set the TIMEOUT on a per-product basis, for example:

   ```
   TIMEOUT mari_i 3600
   TIMEOUT katana_r 600
   ```

   The lines above tell the server that if it has not had communication with a mari_i client for an hour, it should consider the license released. However, for the katana_r client, it should wait only 10 minutes before deciding the license is free to be served again.

   You can also use:

   ```
   TIMEOUTALL 3600
   ```

   This tells the server that all features, except those with their own TIMEOUT flags, should time out after one hour.

NOTE: For RLM licenses, the options file TIMEOUT can only be set to a minimum of 3600 seconds (1 hour), unless your license contains a **min_timeout=<secs>** flag.

3. Once you have edited your options file, you need to stop and start the license server:
   - On Windows and Mac, launch the Foundry License Utility (FLU), go to one of the **Server** tabs and click **Stop Server**, followed by **Start Server**.
   - On Linux, launch a shell, navigate to where you saved the Foundry License Utility (FLU), and enter one of the following commands:

     ```
     ./FoundryLicenseUtility -s stop -t FLEXlm
     ./FoundryLicenseUtility -s stop -t RLM
     ```

     Then, enter either:

     ```
     ./FoundryLicenseUtility -s start -t FLEXlm
     ./FoundryLicenseUtility -s start -t RLM
     ```

TIP: You can also use the FLU from a Terminal on Mac OS X or a command prompt on Windows.

TIP: To find out what the timeout period is set to, you can run the Foundry License Utility's Diagnostics tool (see Using the Diagnostics Tool in GUI Mode). This prints the contents of the options file if one is found.

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 these are the commands for you!

The **lmremove** (for FLEXlm) and **rlmremove** (for RLM) utilities allow you to remove a single user's license for a specified feature. As ever, let's consider some examples.

First, who's got the licenses?

- Using the **lmutil** command (FLEXlm licenses):

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

- Using the **rlmutil** command (RLM licenses):

```
<app path>/rlmutil rlmstat -c <data path> -a
```

NOTE: See Application Files and Data Files for the correct <app path> and <data path>.

The above FLEXlm command might produce 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 license handle is **14094**.

Similarly, the RLM command might produce this output:

```
foundry license usage status on licserv (port 38565)
mari_i v2015.1231: jack@red 1/0 at 10/07 14:40 (handle: 8a)
mari_i v2015.1231: mike@green 1/0 at 10/07 14:41 (handle: 67)
```

where the user is **jack**, the user's computer is **red**, and the license handle is **8a**.

To remove Jack's license, use this command:

- FLEXlm:

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

or

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

- RLM:

```
<app path>/rlmutil rlmremove licserv 38565 foundry 8a
```

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**.
- starting the **rlm.foundry** with a flag, **-x rlmremove**.

Appending to an Existing License

You can add a new license to an existing key using two methods:

- On Windows and Mac OS X, drop the license file onto the Foundry License Utility. On Linux, run the FLU from the command line using
  ./FoundryLicenseUtility -l [license path]. This is the recommended method.
- Edit the license file manually from the command line. This is **not** recommended for most users.

  If your product uses FLEXlm licensing, see Manual Method (FLEXlm).

  If your product uses RLM licensing, see Manual Method (RLM).

Manual Method (FLEXlm)

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 System ID **000EA641D7A1** that serves 2 floating Nuke licenses onto the network.

```
SERVER red 000EA641D7A1
VENDOR foundry
INCREMENT nuke_i foundry 2012.0930 permanent 2 \
ISSUED=8-feb-2012 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 Furnace for Nuke 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 nuke_i foundry 2012.0930 permanent 2 \
ISSUED=8-feb-2012 SIGN="00FF 6A1B 735B A476 6894 \
4903 E2CF A238 7A01 1A15 1808 7BCF 346C F59E 8899 \
F53C 2B13 E204"
INCREMENT nuke_r foundry 2012.0930 permanent 2 \
ISSUED=8-feb-2012 SIGN="0269 8747 2EA4 1D42 A5F5 \
56B9 7A26 6802 2A09 E931 F14B 09D5 B8E8 051E 606B \
07D5 64F3 7152"
INCREMENT furnace_ofx_i foundry 3.0 permanent 4
```

```
ISSUED=20-feb-2012 SIGN="0048 8492 6890 DC3F 23E8 \
4F29 83D7 9302 3F9E 79B1 54F8 D6EF 341D 5D09 C630 \
C75C 384C 1B89"
INCREMENT furnace_ofx_r foundry 3.0 permanent 4
ISSUED=20-feb-2012 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>
```

Manual Method (RLM)

You can add a new license key by editing the **foundry.lic** text file and then using rlmutil to re-read this file.

Here is an example floating license key for a machine called red with System ID **000EA641D7A1** that serves 2 floating Mari licenses onto the network:

```
HOST red 000EA641D7A1 4101
ISV foundry
LICENSE foundry mari_i 2010.1231 permanent 2 share=h start=6-oct-2010 issued=6-oct-2010
_ck=fad7306732
sig="60Q04580SBD4AEEY4C93A1K0H718JRY9DWGP1HWR08AG1CY16HPHCKKQ44FDKGYQKE0BXKGRJ3WBT"
```

If you are then sent an Ocula license key for the same machine, just add the LICENSE lines to your existing file, ignoring any HOST or ISV lines, so that it would look like this:

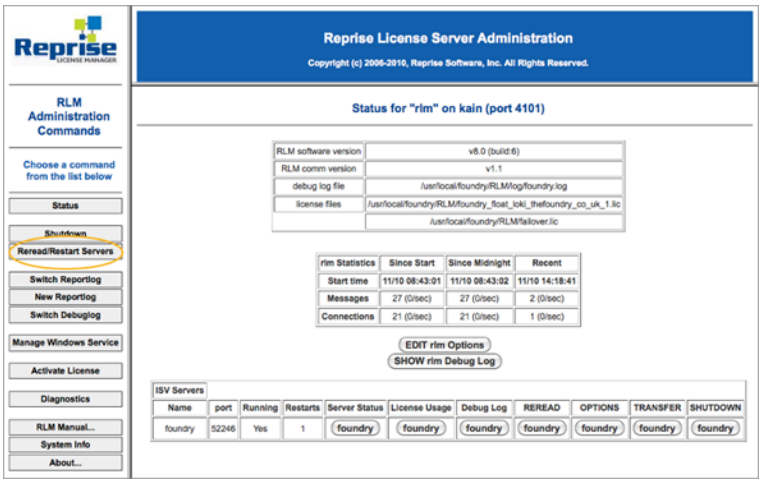
```
HOST red 000EA641D7A1 4101
ISV foundry
LICENSE foundry mari_i 2010.1231 permanent 2 share=h start=6-oct-2010 issued=6-oct-2010
_ck=fad7306732
sig="60Q04580SBD4AEEY4C93A1K0H718JRY9DWGP1HWR08AG1CY16HPHCKKQ44FDKGYQKE0BXKGRJ3WBT"
LICENSE foundry ocula_nuke_i 3.0 permanent 2 share=h start=6-oct-2010 issued=6-oct-2010
_ck=72d73079d7
sig="60PG4512DMXC338XEG3F0XBNPFREB6SHHD0QXA822M09MNJUB3E9VQUXKJP69DJ5CYR27AUYFRS0"
```

Now re-read the license file with this command:

```
<app path>/rlmutil rlmreread -c <data path>
```

OR

Using a web browser, go to **http://red:4102** and click **Status** > **Reread**.



The <server_name> Variable

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. You need to replace the text **<server_name>** with the name of your license server (if you use the Foundry License Utility, it does this for you).

Replace Licenses

You may see the word **SUPERSEDE** in your FLEXlm license file or **replace** in your RLM license file. These flags are used in conjunction with the **ISSUED** (FLEXlm) and **issued** (RLM) flags to roll together multiple licenses.

For example, let's consider this FLEXlm license for Nuke:

```
SERVER red 2c4138a7d9ba
VENDOR foundry
INCREMENT nuke_i foundry 2013.1231 31-jan-2014 2 SUPERSEDE \
ISSUED=29-feb-2012 START=29-feb-2012 TS_OK SIGN="001E AA6A \
8780 5A12 7811 15B9 F441 8F7F 186D 2B74 3303 B6AD 2072 079C \
440D 7F36 F09C 1A2B FF4A 274F 6C67"
```

Here, the **SUPERSEDE** flag forces FLEXlm to ignore any nuke_i licenses with an **ISSUED** date older than 29th February 2012.

Similarly, in the following RLM license for Mari, the **replace** flag forces RLM to ignore any mari_i licenses with an **issued** date older than 1st December 2013.

```
HOST red 2c4138a7d9ba 4101
ISV foundry
LICENSE foundry mari_i 2013.1231 permanent 2 share=h min_timeout=30
start=1-dec-2013 issued=1-dec-2013 replace
_ck=07d7a84d33
```

```
sig="60PG4580SR8RRKV7XM5E8J1XPV0BEV00PSASH0UV08A4MHS
EMWMKW520H34RNCGKM0XUVT229BT0"
```

Which RLM Port?

Although the default port used by RLM is 5053, The Foundry has opted to use port 4101 for all its licenses to ensure there are no conflicts with any other RLM license servers that may be running on the server.

If, however, no port is specified on the HOST line of a license, or in the foundry_LICENSE environment variable, the port defaults to 5053. For example, the following entry:

```
HOST red 000EA641D7A1
```

behaves in the same way as:

```
HOST red 000EA641D7A1 5053
```

Licenses sent to you by The Foundry appear as follows:

```
HOST red 000EA641D7A1 4101
```

If you wish to change this port number, ensure that you modify all your client licenses in the same way.

Managing the License Server

Starting the License Server

The License Server starts automatically when you reboot your machine, but you can start it manually:

- On Windows and Mac OS X, launch the Foundry License Utility (FLU), go to the **FLEXlm Server** or **RLM Server** tab, and click **Start Server**.

> TIP: You can also use the FLU from a command prompt on Windows or a Terminal on Mac OS X.

- On Linux, launch a shell, navigate to where you saved the Foundry License Utility (FLU), and enter one of the following commands:

```
./FoundryLicenseUtility -s start -t FLEXlm
./FoundryLicenseUtility -s start -t RLM
```

- On all platforms, if your product uses RLM licensing, you can also use a web browser to navigate to the **http://<server_name>:4102** server page. For example, **http://red:4102**. Click the **Status** button, and click **Start** on the Foundry License Server.

NOTE: On Mac OS X, if you're browsing from the License Server itself, you must add **.local** in the browser address: **http://<server_name>.local:4102**.

Stopping the License Server

To stop the license server:

- On Windows and Mac OS X, launch the Foundry License Utility (FLU), go to the **FLEXlm Server** or **RLM Server** tab, and click **Stop Server**.

TIP: You can also use the FLU from a command prompt on Windows or a Terminal on Mac OS X.

- On Linux, launch a shell, navigate to where you saved the Foundry License Utility (FLU), and enter one of the following commands:

```
./FoundryLicenseUtility -s stop -t FLEXlm
./FoundryLicenseUtility -s stop -t RLM
```

- On all platforms, if your product uses RLM licensing, you can also use a web browser to navigate to the **http://<server_name>:4102** server page and click **Stop**.

NOTE: On Mac OS X, if you're browsing from the License Server itself, you must add **.local** in the browser address: **http://<server_name>.local:4102**.

Viewing the License Server Log

You can view the license server log even if you don't have administrator privileges. To do so:

- On Windows and Mac OS X, launch the Foundry License Utility (FLU), go to the **FLEXlm Server** or **RLM Server** tab, and click **Refresh Log**.

TIP: You can also use the FLU from a command prompt on Windows or a Terminal on Mac OS X.

- On Linux, launch a shell, navigate to where you saved the Foundry License Utility (FLU), and enter:

```
./FoundryLicenseUtility -s status
```

This reports the status of both FLEXlm and RLM servers. If you only want to view one or the other, use one of the following commands instead:

```
./FoundryLicenseUtility -s status -t FLEXlm
./FoundryLicenseUtility -s status -t RLM
```

- On all platforms, if your product uses RLM licensing, you can also use a web browser to navigate to the **http://<server_name>:4102** server page and click the **Status** button.

NOTE: On Mac OS X, if you're browsing from the License Server itself, you must add **.local** in the browser address: **http://<server_name>.local:4102**.

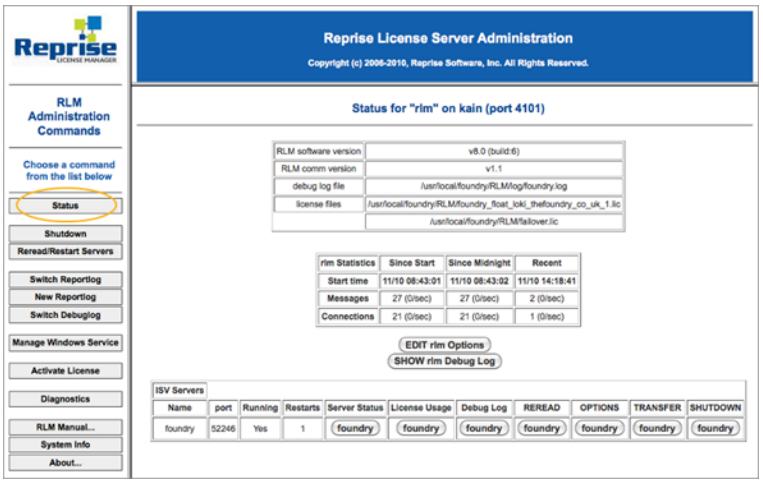
RLM Web Server

The RLM web server also allows you to:

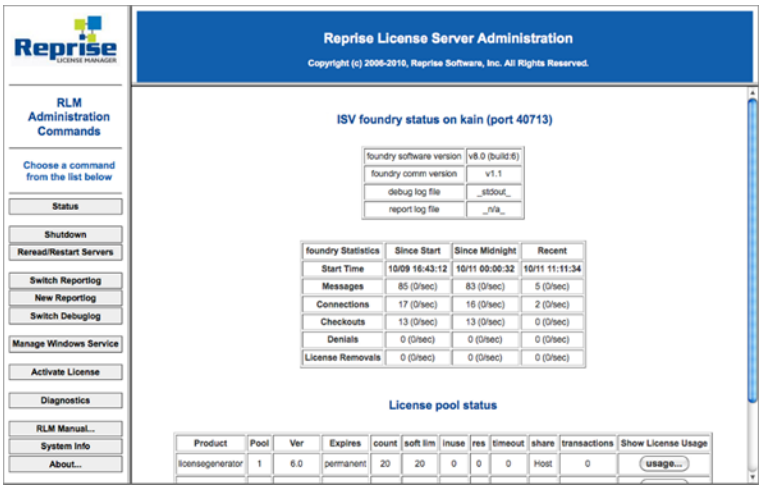
- retrieve server and license status (similar to **rlmstat**)
- cause the servers to re-read the license files (**rlmreread**)
- switch debug (**rlmswitch**) or report log (**rlmswitchr**) files
- move the current report log file to a new name (**rlmnewlog**)
- shutdown and startup the license servers (**rlmdown**/**rlmreread**).

Using this web-based interface, you can administer the license server from any platform, and you do not need to install the RLM utilities - you only need a web browser.

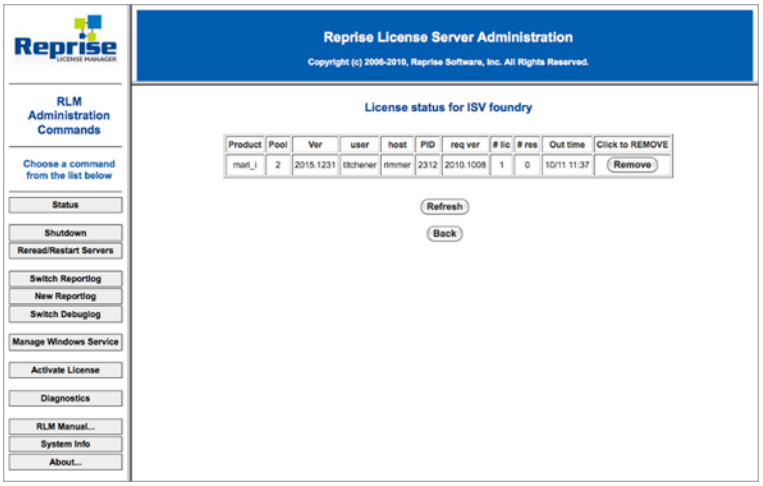
- **Main Status** - if you select **Status** from the menu on the left, the main status screen is displayed in the view area as shown below.



- **Server Status** - click on an ISV button in the **Server Status** column to display a detailed status display for an individual ISV server in the view area. This displays some server statistics in a table at the top, followed by a table of all the licenses served by this ISV server.

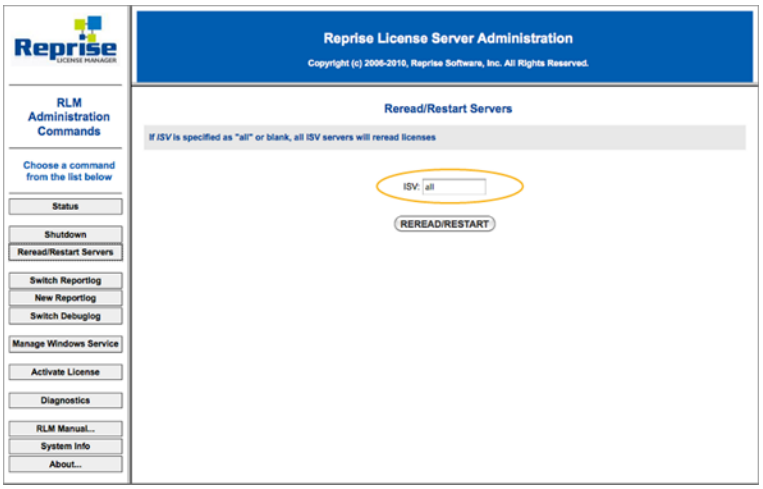


- **License Status** - if you click on the **usage...** button in the **Show License Usage** column above, you see the license status screen, as shown.



- **Reread/Restart/Shutdown** - click **Reread/Restart Servers** from the menu on the left (or from the **REREAD** column in the ISV server status display) to display the **Reread/Restart Servers** screen in the view area. Enter an ISV name and click **REREAD/RESTART**. This restarts the server if it is not running, or sends it a reread command if it is running.

  You can also type **all** to refresh or restart all discovered servers.



Useful Commands for System Administrators

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

See Application Files for a description of the <app path> variable, and Data Files for a description of <data path>.

Is the License Server Up and Running?

```
<app path>/lmutil lmstat -c <data path>
<app path>/rlmutil rlmstat -c <data path>
```

I'm Using The Foundry Software on Machine "blue". Which Licenses is the License Server "red" Offering?

```
<app path>/lmutil lmstat -c <port>@red -a
<app path>/rlmutil rlmstat -c <port>@red -a
```

What is My System ID Number?

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

What's My <server_name>?

```
<app path>/lmutil lmhostid -hostname
<app path>/rlmutil rlmhostid host
```

Show Me All My Licenses and Who has Checked Them Out.

```
<app path>/lmutil lmstat -c <data path> -a
<app path>/rlmutil rlmstat -c <data path> -a
```

OR

If your product uses RLM licensing, you can also use a web browser to go to http://<server name>:4102 and click **Status** > **Server Status** to view license usage.

NOTE: On Mac OS X, if you're browsing from the License Server itself, you must add **.local** in the browser address: http://<server_name>.local:4102.

Who Has Checked Out a Particular License?

```
<app path>/lmutil lmstat -c <data path> -f furnace_ofx_r
<app path>/rlmutil rlmstat -c <data path> -p mari_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?

- On Windows and Mac OS X, launch the Foundry License Utility, go to one of the **Server** tabs, and use the **Reread Server** button.
- Alternatively, use one of the following commands:

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

- If your product uses RLM licensing, you can also use a web browser to go to http://<server name>:4102 and click **Reread/Restart Servers**. Enter the server name you want to reread and click **Reread/Restart.**

NOTE: On Mac OS X, If you're browsing from the License Server itself, you must add **.local** in the browser address: http://<server_name>.local:4102.

My Default Debug Log File (foundry.log) is Too Big. How do I Start a New One Called october.log Without Interrupting the lmgrd or rlm.foundry Daemon?

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

Removing FLT

On Windows

To stop the Foundry License Server and remove FLT from your machine, from the **Start** menu go to **All Programs** > **The Foundry** > **FLT 7.1v1** > **Uninstall FLT 7.1v1**.

On Mac OS X

To stop the Foundry License Server and remove FLT from your machine, run the **FLT Uninstaller** script from a terminal with root or sudo permissions:

```
/Applications/TheFoundry/LicensingTools7.1/uninstall.sh
```

On Linux

To stop the Foundry License Server and remove FLT from your machine, run the script:

```
/usr/local/foundry/LicensingTools7.1/uninstall.sh
```

More Information

This user guide should cover all the information you need to use FLEXlm or RLM licenses for The Foundry products. However, it is not meant to be an exhaustive exploration of all the features available with FLEXlm or RLM licensing. For that, you should:

- see the FLEXnet Licensing End User Guide included in the Foundry Licensing Tools download or go to www.flexerasoftware.com.
- see the RLM Licensing End User Guide included in the Foundry Licensing Tools download or go to www.reprisesoftware.com.

Please be aware that advanced RLM features not discussed in this user guide are not supported with RLM licenses from The Foundry.

Troubleshooting Licenses

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

NOTE: The Foundry Licensing Tools' default settings do not support RLM licensing on virtual machines (VMs). If you have any questions regarding licensing on VMs, please visit supportportal.thefoundry.co.uk for assistance.

Firewalls

The Problem

You have set up a floating license, but client machines are not able to get a license from the server. Everything seems to be set up correctly. The server is running 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 set up correctly, it could be the firewall on the server blocking perfectly legitimate requests from the client. In order to fix this, you need to specify ports for your servers and allow these to be open.

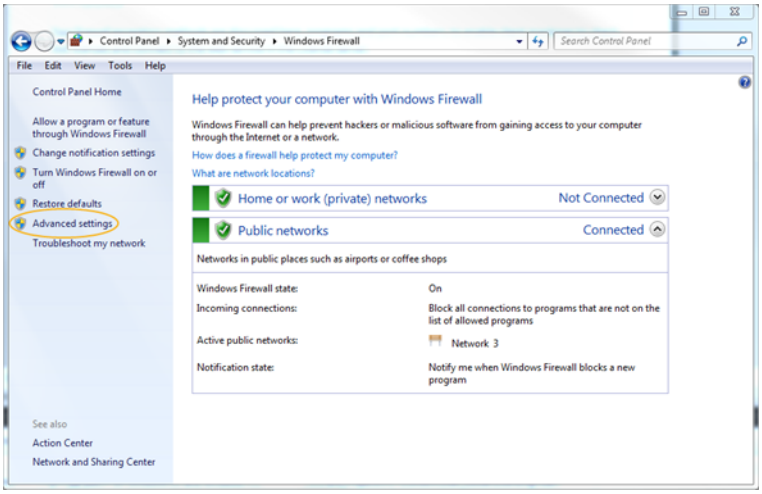
- If you're on Windows, see Windows.
- If you're on Mac OS X, see Mac OS X.
- If you're on Linux, consult your system administrator.

Windows

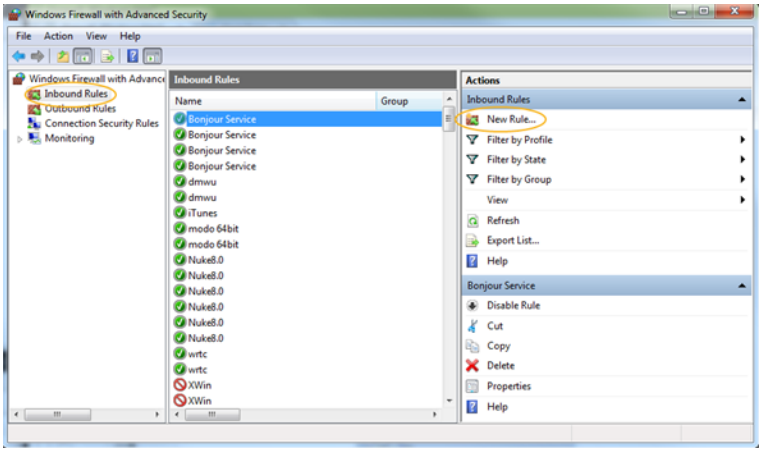
Two firewall exception methods are available to enable client machines to checkout licenses and connect to the web service in the License Server: programs and port numbers.

Windows Program Exceptions

1. From the Windows **Start** menu, click **Control Panel** > **System and Security** > **Windows Firewall** and then click on the **Advanced settings** link.



2. Select **Inbound Rules** in the left-hand panel and click **New Rule** as shown below.



3. Select **Program** and then click **Next**.
4. Select **This program path** and then browse to the location of the following programs, dependent on the license server you're using:
   - If your product uses FLEXlm licensing, browse to:

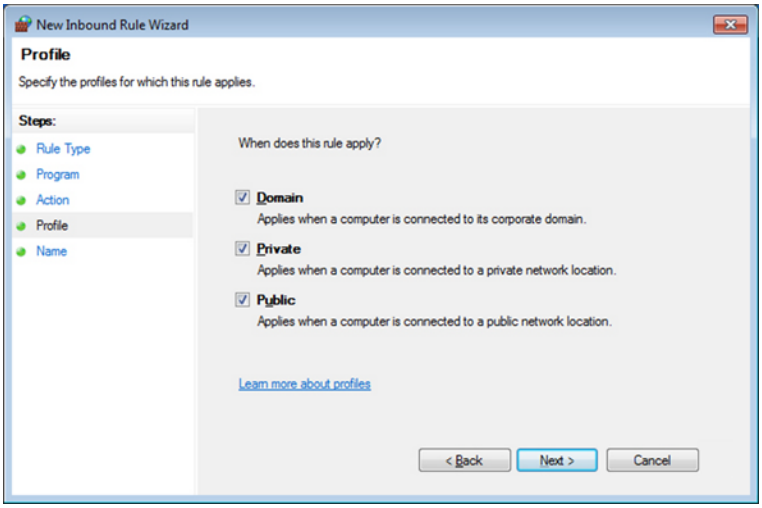
     C:\Program Files\The Foundry\LicensingTools7.1\bin\FLEXlm

     Add **lmgrd.foundry.exe** and then repeat the process to add an input exception for **foundry.exe**.
   - If your product uses RLM licensing, browse to:

     C:\Program Files\The Foundry\LicensingTools7.1\bin\RLM

     Add **rlm.foundry.exe**.
5. Click **Allow the connection** and then click **Next**.

6. Select all the checkboxes that apply to the rule. **Domain**, **Private**, and **Public** in the example below.



7. Click **Next** and enter a meaningful name for the rule, such as FLEX_SERVER or RLM_HOST.
8. Click **Finish** to complete the process.
9. Stop and Start the license server as described in Managing the License Server.

Windows Port Exceptions

Port exceptions are set up slightly differently depending on whether you're using a FLEXlm or RLM license server.

FLEXlm Port Exceptions

First, you need to change the license files on the server and any clients to include port numbers. See Where are the FLEXlm and RLM Files? for the license file locations. These port numbers must be different. For example, you might edit a FLEXlm license to look like this:

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

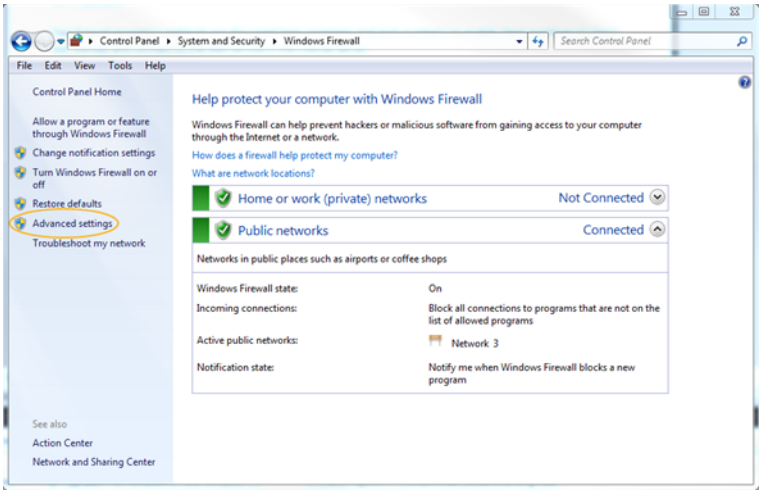
And a client license like this:

```
SERVER red ANY 30001
VENDOR foundry PORT=1001
USE_SERVER
```

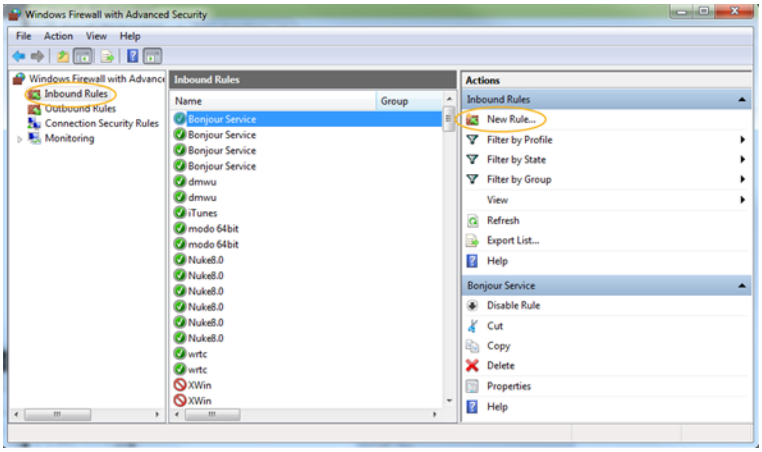
NOTE: You may want to check with your system administrator that the port number you choose is not already in use by another program.

Next, on the license server, go to your firewall settings and add Inbound Rules for TCP ports with the port numbers in the SERVER and VENDOR lines.

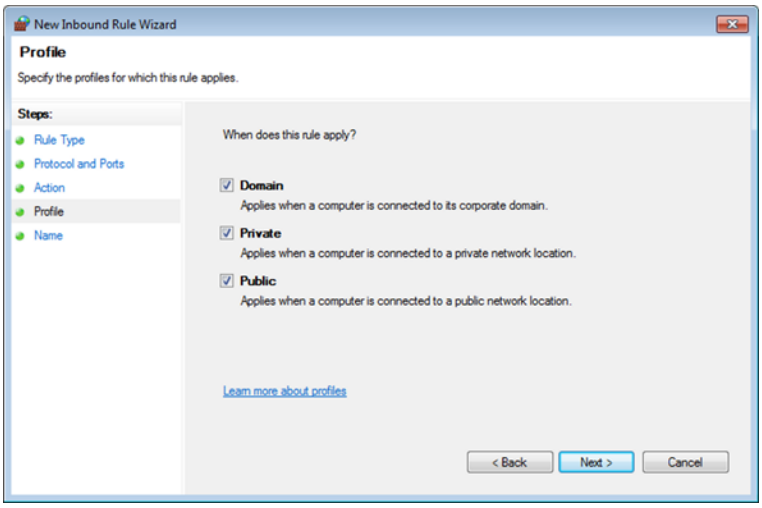
1. From the Windows **Start** menu, click **Control Panel** > **System and Security** > **Windows Firewall** and then click on the **Advanced settings** link.



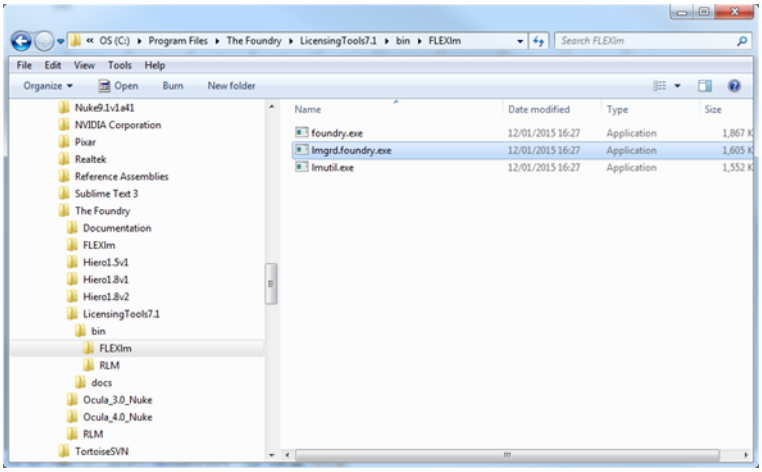
2. Select **Inbound Rules** in the left-hand panel and click **New Rule** as shown below.



3. Select the **Port** radio button and then click **Next**.
4. Select **TCP** and **Specific local ports** and enter the port number in the field provided, 30001 in the example.
5. Click **Next**.
6. Select **Allow the connection** and click **Next**.
7. Select when the new rule should be applied using the checkboxes. In the example, the rule is applied at all times, but you can modify this as required.



8. Click **Next** and enter a meaningful name for the new rule, for example FLEXlm_SERVER, and write a description, if required.
9. Click **Finish**.
10. Select the new rule from the **Inbound Rules** list and click **Properties**.
11. Click the **Programs and Services** tab, select **This program**, and browse to <app path>/**lmgrd.foundry.exe** as shown.



12. Click **Open** to return to the **Properties** dialog.
13. Click **Apply**, and close the dialog.
14. Repeat steps 2 through 14 for the VENDOR port, replacing the port number, and the program with <app path>/**foundry.exe**.
15. Stop and start the license server as described in Managing the License Server.

RLM Port Exceptions

As with FLEXlm, you need to change your license file to include two different port numbers. Unlike FLEXlm, RLM also requires an options file entry.

If you installed an RLM license using the FLU, the options file was created automatically in the same directory as your license. If, however, you installed your license manually, create a plain text file called **foundry.opt** in the same directory as the license. See Where are the FLEXlm and RLM Files? for the license file location.

A typical RLM licence including port numbers and an options file might look like this:

```
HOST red 000ea641d7a1 4101
ISV foundry OPTIONS=foundry.opt PORT=12345
```

NOTE: You may want to check with your system administrator that the port number you choose is not already in use by another program.

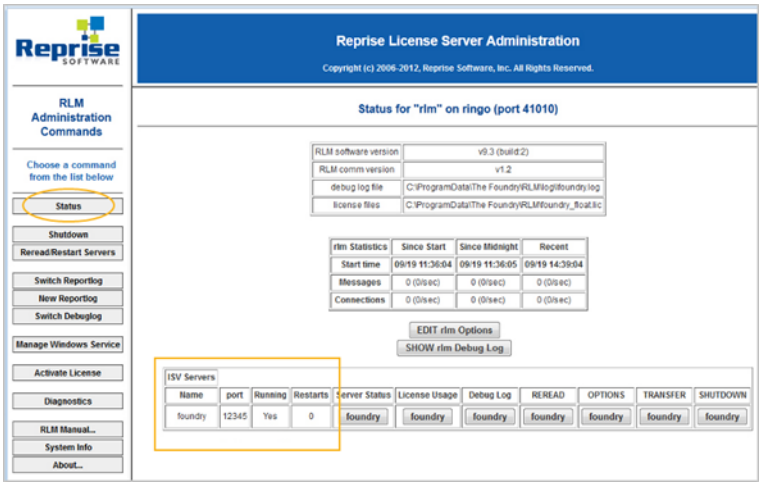
A **foundry.opt** file for Mari should contain the following line:

```
TIMEOUT mari_i 3600
```

Or, for all RLM licensed products:

```
TIMEOUTALL 3600
```

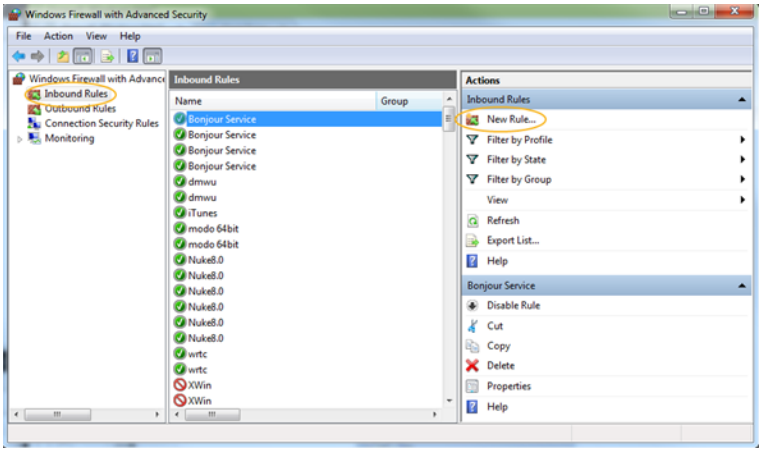
After editing the license and options file, stop and start the license server as described in Managing the License Server. In the license server interface, click **Status** and check that the ports specified are listed and that the server is running.



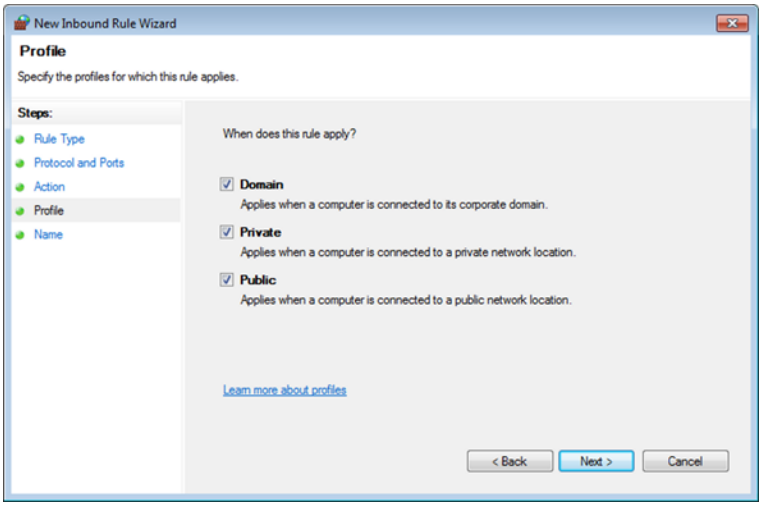
Next, go to your firewall settings and add **Inbound Rules** for TCP ports with the port numbers in the HOST and ISV lines.

1. From the Windows **Start** menu, click **Control Panel** > **System and Security** > **Windows Firewall** and then click on the **Advanced settings** link.

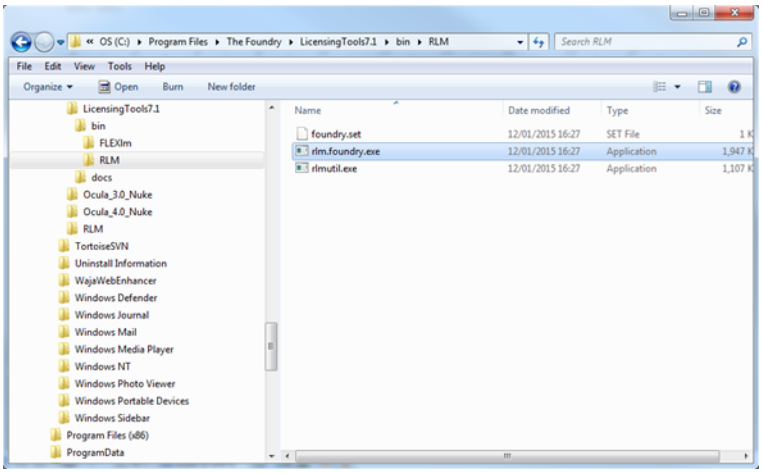
2. Select **Inbound Rules** in the left-hand panel and click **New Rule** as shown below.



3. Select the **Port** radio button and then click **Next**.
4. Select **TCP** and **Specific local ports** and enter the port number in the field provided (4101 in the example).
5. Click **Next**.
6. Select **Allow the connection** and click **Next**.
7. Select when the new rule should be applied using the checkboxes. In the example, the rule is applied at all times, but you can modify this as required.



8. Click **Next**.
9. Enter a meaningful name for the new rule, for example RLM_HOST, and write a description, if required.
10. Click **Finish**.
11. Select the new rule from the **Inbound Rules** list and click **Properties**.
12. Click the **Programs and Services** tab, select **This program**, and browse to <app path>/**rlm.foundry.exe** as shown.



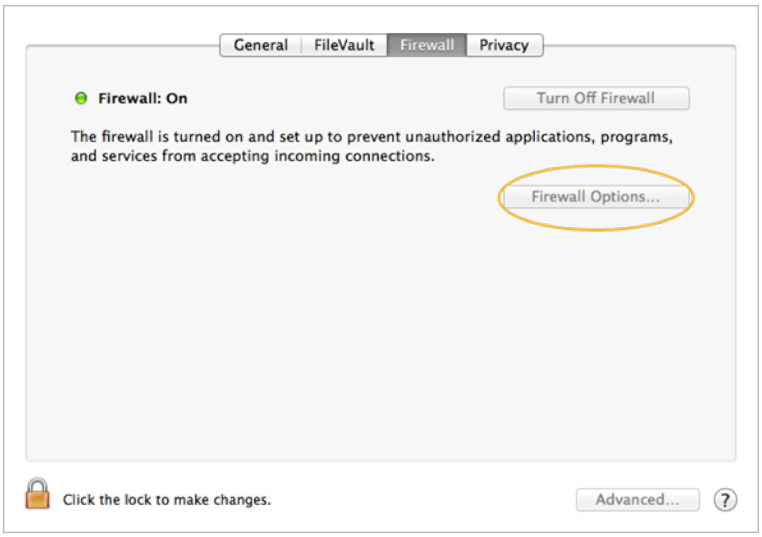
13. Click **Open** to return to the **Properties** dialog.
14. Click **Apply**, and close the dialog.
15. Repeat the process for the ISV port, replacing the port number and rule name.
16. Click the **Programs and Services** tab, select **All programs that meet the specified conditions**.
17. Click **OK** to close the dialog.

Mac OS X

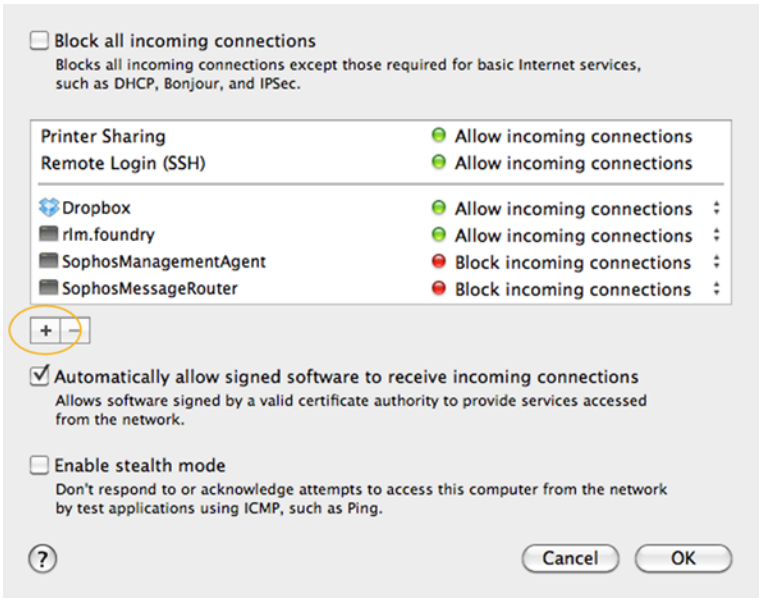
You need to adjust your firewall settings. How to do this depends on your firewall and the version of Mac OS X you are running, but here's how to do it on Mac OS X 10.6 (Snow Leopard):

1. Launch **System Preferences**.
2. Click on **Security & Privacy** and go to the **Firewall** tab.
3. Click the **Firewall Options** button.

NOTE: You may need to click the lock icon at the bottom-left to enable changes.



4. Under the list of incoming connections, click on the **+** button.



5. If your product uses FLEXlm licensing:
   - Navigate to **/Applications/TheFoundry/LicensingTools7.1/bin/FLEXlm**
   - Select both **foundry** and **lmgrd.foundry** and click **Add**.

   If your product uses RLM licensing:
   - Navigate to **/Applications/TheFoundry/LicensingTools7.1/bin/RLM**
   - Select **rlm.foundry** and click **Add**.

Mac OS X

You can easily set an environment variable that is active in one terminal only:

1. The procedure for setting an environment variable depends on what your default shell is. To get the name of the shell you are using, launch a terminal (**Applications** > **Utilities** > **Terminal**) and enter:
   `echo $SHELL.`
2. Depending on the output of the previous step, do one of the following:
   - If your shell is a csh or tcsh shell, enter:
     `setenv foundry_LICENSE /tmp/foundry.lic`
   - If your shell is a bash or ksh shell, enter:
     `export foundry_LICENSE=/tmp/foundry.lic`

You then need to run the product from the same terminal that you used to set the environment variable. If you open another terminal, this environment variable is not 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 the user's home directory:
`~/.MacOSX/environment.plist`

NOTE: The tilde (~) represents the home directory of the target user, and the command is case sensitive, so take care to copy the string exactly.

You have to create the **.MacOSX** directory yourself using a terminal (by typing **mkdir .MacOSX** in your home directory). You 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/Utilities/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</key>
<string>/tmp/foundry.lic</string>
</dict>
</plist>
```

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

Linux

1. The procedure for setting an environment variable depends on what your default shell is. To get the name of the shell you are using, launch a shell and enter:
   `echo $SHELL.`
2. Depending on the output of the previous step, do one of the following:
   - If your shell is a csh or tcsh shell, enter:
     `setenv foundry_LICENSE /tmp/foundry.lic`
   - If your shell is a bash or ksh shell, enter:
     `export foundry_LICENSE=/tmp/foundry.lic`
3. You then need to run the product from the same terminal that you used to set the environment variable. If you open another terminal, this environment variable is not set in that terminal unless you type it in there too.
4. To make this permanent for any shell launched, you can edit your **.cshrc**, **.tcshrc**, **.bashrc**, or **.kshrc** file in your home directory.
5. If you want it to be system wide, then **/etc/profile** can be used (or **/etc/environment** on some flavors of Linux).

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