# limitstate

# Software Installation & Licensing Guide

November 2023

# Contents

# 1 Installation

## 1.1 System Requirements

Before attempting to install the software, please make sure that your computer meets the minimum system requirements as shown in the table below:

| Component | Minimum Requirement |
|---|---|
| Processor | Intel i3 or AMD equivalent |
| Operating System | Windows: 10, 11 or equivalent |
| Hard Drive Space | 350 MB |
| System RAM | 4 GB |
| Graphics | Onboard or graphics card capable of running OpenGL 3.2 (Feature Level 11+) |
| Other Software | Software for viewing PDF documentation (*e.g.* Adobe Acrobat) |

The use of virtualization platforms such as VMware are not officially supported.

As with most engineering software applications, the software will benefit from running on a PC with the fastest possible processor and as much RAM as possible. You will also benefit from using a large display with a high resolution. It is recommended to have the monitor display at a resolution of at least 1024x768 pixels.

While you can run the software with the requirements listed in the table above, we recommend that you run the software on a PC with a better specification.

## 1.2 Windows Installation from a Downloaded File

Locate the downloaded the software installation file on your PC, double-click the icon and follow the on-screen instructions. By default, the software* will install itself to C:\Program Files\LimitState\<PROG_NAME> although you may specify a different path if necessary.

* 64 bit version assumed. A 32 bit installation will be located in the "Program Files (x86) folder".

> Throughout this document the software name will be referred to as <PROG_NAME> and the path to the installation folder as [PROG_DIR]
>
> *i.e.* by default, [PROG_DIR] = C:\Program Files\LimitState\< PROG_NAME >
>
> If you specify a different path during installation, [PROG_DIR] will change accordingly.

## 1.3 Licensing the Software

After you have installed the software you will need a license to run the software (whether you are using the software in 'trial', 'full' or 'beta' modes). Further details are given in Sections 2, 3 and 4 of this guide.

## 1.4   Starting the Software

You can start the software by navigating to Start > All Programs > <PROG_NAME> and clicking on the program icon. Alternatively, you can double click on a data file (e.g. .geo, slab, or .ring).

## 1.5   Uninstalling the Software

To remove the software from a computer running Windows, use the method described below.

1.   From the desktop, click on the Start button.
2.   Choose Control Panel and click on the Add / Remove Programs icon.
3.   In the Change or Remove Programs tab, scroll through the list of applications and select <PROG_NAME>.
4.   Click on the Remove button.  This will start the uninstall program.
5.   Follow the on-screen prompts to remove the software from your computer.

## 1.6   Support

Should you encounter any difficulties when attempting to install or license the software, please contact our support team on support@limitstate.com or call +44 (0) 114 224 2240 during UK business hours.

# 2    Licensing

## 2.1    License Options

Three license types are available:

- Node Locked – allows the software to run on one specified PC
- USB Locked – allows the software to run on any PC with a USB dongle and appropriate license file
- Network – allows the software to run on a number of machines connected to a named network

Except in the case of USB dongle licenses, users will generally be issued with a 19 digit number (or 'activation key') that is used by a LimitState internet activation server to generate a bespoke license file for your PC, which then allows the software to run. Typically an activation key can be used to generate only one license file (i.e. so that an activation key cannot be used to activate the software on a second PC). Both Node Locked and Network licenses are distributed in this way.

An activation key looks like this: 1234-5678-9012-3456/000 (Note: this is not a valid key)

If the PC you wish to run the software on does not have access to the internet, or if your network administrator prevents 'non-approved' programs from accessing the internet, you can alternatively activate your software via a webpage; refer to Appendix 1.

Users can also obtain a USB dongle. This allows any PC to run the software as long as the dongle device is attached and the corresponding license file is present. For instructions on installing a USB dongle on your PC, please see Section 3.

## 2.2    Getting Started

When the software is run for the first time it will automatically display a startup dialog. This dialog will also display if your license has expired, or if there is some other problem with your license.

The startup dialog differs between software:

### 2.2.1    The LimitState:GEO / LimitState:SLAB Startup Dialog

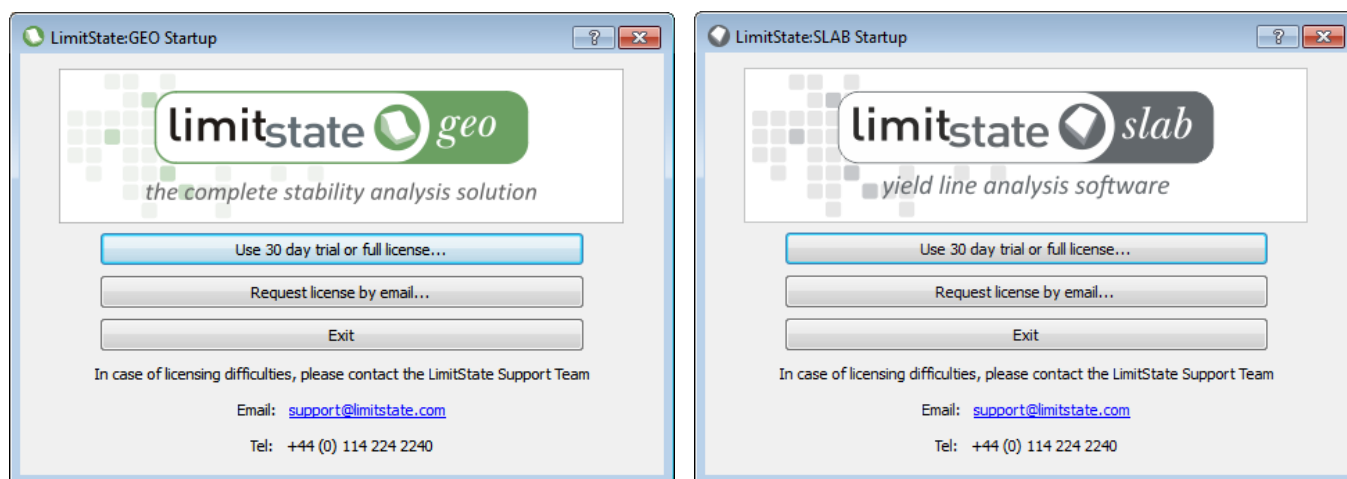There are three options to choose from, as shown in Figure 1:



Figure 1 - The LimitState:GEO & LimitState:SLAB 'Startup' Dialogs

- Use 30 day trial or full license… – select this option if you wish to use in 30 day trial mode, or if you already have an activation key or access to a license file or server for the software and wish to use it.

- Request license by email… – selecting this option displays the types of license available, gives a link to an up-to-date pricing schedule and provides a link to send an enquiry e-mail to our sales team (Error! Reference source not found.). This dialog also displays the hosted of the machine, which may be required in order to generate a license.
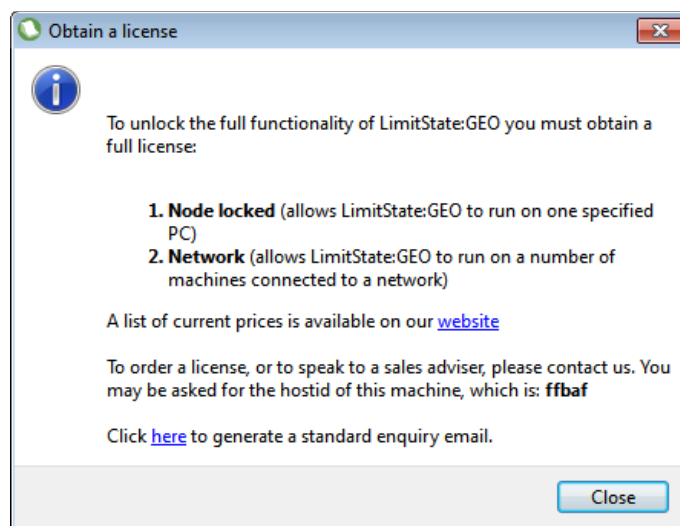


Figure 2 - The LimitState:GEO/SLAB 'Obtain a license' dialog

Clicking on the e-mail link will automatically generate an e-mail to request a license. Instructions on what to do once you have received a license activation key are provided in the following sections.

- Exit – select this option to exit the program.

If you wish to change license at any time, you can return to the Startup dialog by starting the software and clicking on Help > License Information > Use Different License… (For more information, see Section 2.4).

## 2.2.2 The LimitState:RING Startup Dialog

When LimitState:RING is run for the first time it will automatically display the 'LimitState:RING Startup' dialog. This dialog will also display if your license has expired, or if there is some other problem with your license. There are five options to choose from, as shown in Figure 3:
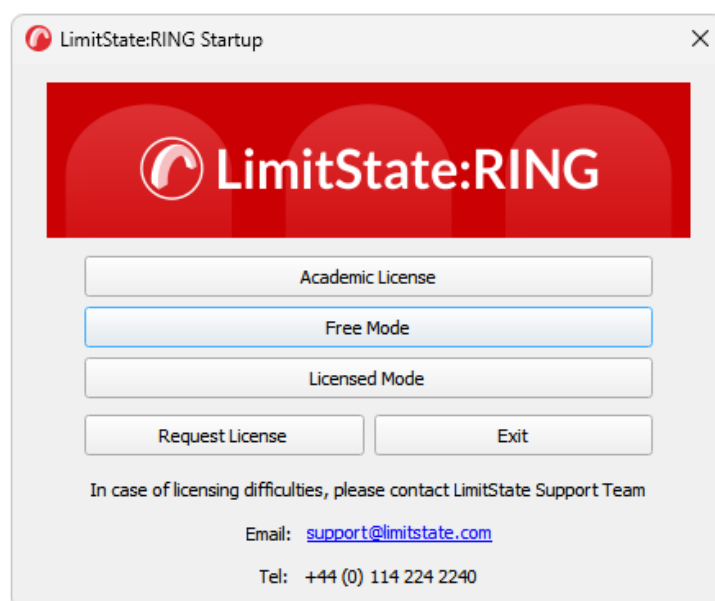
Figure 3 - The LimitState:RING 'Mode Selector' dialog

- Academic License – select this option if you or your institution hold an academic license
- Free Mode – select this option if you wish to use LimitState:RING in free mode (some functionality is disabled)
- Licensed Mode – select this option if you already have an activation key or access to a license file or server for LimitState:RING and wish to use it.
- Request License – selecting this option displays the types of license available, gives a link to an up-to-date pricing schedule and provides a link to send an enquiry e-mail to our sales team (Figure 2).
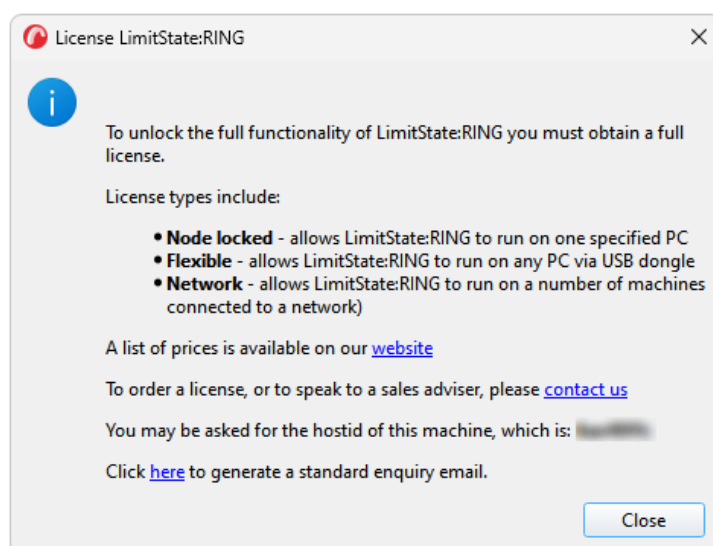


Figure 4 - LimitState:RING 'Request License' dialog

Clicking on the e-mail link will automatically generate an e-mail to request a license. Instructions on what to do once you have received a license activation key are provided in the following sections.

- Exit – select this option to exit the program.

If you wish to change license at any time, you can return to the Startup dialog by starting the software and clicking on Help > License Information > Use Different License...

On selecting to use the software in a licensed mode, a License Details dialog will appear (e.g. Figure 5) with three options:

1. Use an Activation Key
2. Specify a License File Location
3. Specify a Network License Server Name



Figure 5 - The LimitState:GEO/SLAB 'License Details' dialog

## 2.3 Using an Activation Key

> If you are activating a Node Locked license you must activate your license using the PC that you intend to use to run the software.
>
> If you are using a USB Dongle, a license file will have been emailed to you and you do not need to activate it to use it (see Section 3).
>
> If you are activating a Network license you must activate your license using the PC that you intend to use as the license server (N.B. you can also run the software on the license server PC).

Start the software in the normal way and wait for the Startup dialog to appear. To activate your software you *must* be connected to the internet.

1. Click on the Use in licensed mode button
2. Enter the 19 digit key into the 'Activation key' field (e.g. see Figure 5).
3. Click OK – if everything has worked correctly, a message will appear giving details of the type and expiry date of the license (the type can be 'trial', 'full' or 'beta', and governs which program features you will be able to access).
4. Finally, if you have activated a Network license you will be asked whether you wish to install and run the RLM license server software. As this software is necessary in order for the software to run, most users should simply select 'Yes' (for detailed information on network licensing issues please refer to Section 4).

## 2.4 Specifying a License File Location

If you have a pre-existing license file that you wish to use, or if you wish to use the software with a USB dongle*, you can enter the location of the license file by selecting the License file location option, clicking Browse... then navigating to the appropriate file (by default activated license files are saved in:
C:\Documents and Settings\<NAME_OF_USER>\Application Data\LimitState\<PROG_NAME>\license).

Note that, if you are using a USB dongle:
- You will have been sent a license by email. If you do not have the file, please contact support@limitstate.com.

- You should ensure that the dongle drivers have been installed and that it is seated in your PC before specifying the license file location (refer to the document "LimitState USB Dongle: Installation and Use" for more information).
- If you attempt to specify the license location when the dongle is not present, you will obtain an error message that reads: "*Error checking out ring license. Wrong host for license (-4)*". In this situation, click OK, replace the dongle and follow the steps above once more.

A sample LimitState:RING license file is provided below (not active):

```
# License created by internet activation on Mon November 13 2023 at 10:59:15
LICENSE limitstate ring 4.99 12-nov-2024 uncounted hostid=a1b2c3d4
issued=13-nov-2023 type="full" sig="60PG4580MJXTV9EH3V9R8V2URHXV
WA519MYDN1UP08A0UUKJT7V6QPX85RHBX6Y2YNNUS8WEC52G"
```

Specifying a license file location is useful if for example you are not connected to the internet and you wish to switch the type license being used.

In this case:

1. Start the software as normal.
2. Go to Help > License Information and click Use Different License...
3. A dialog will appear that asks you to restart the application. Click OK to begin the shutdown process (saving your work if necessary).
4. Restart the software (ensuring that the USB dongle, if you are using one, is seated).
5. When the Startup dialog reappears, click on the button to use the software in licensed mode.
6. In the License Details dialog, click the License file location radio button and either enter the path to the file or click Browse to bring up an explorer dialog and locate the file this way.
7. Click OK to set the path to the license file.

## 2.5 Specifying a Network License Server Name

If your organization has a network license, you can access this by typing in the port number and license server name in the Network license server name field e.g:

```
5053@my_server
```

The license server computer is unlikely to be found if it has been protected by a firewall.

If you are the administrator of the license server computer you will need to ensure two ports are not blocked by the firewall; details of both ports used can be viewed by selecting the Status license server web page – see Section 4.4.

For more information on network licensing issues, please refer to Section 4.

# 3 Using a USB Dongle

A Flexible license requires a USB dongle (Figure 6) and an associated license file. A user in possession of both of these can use the software on any PC of their choice, provided the drivers for the USB dongle are present on the system. The USB dongle is a hardware key manufactured by Aladdin Knowledge Systems. Installation on a target system can be accomplished as follows:



Figure 6 – A USB Dongle.

- Administrator rights are required on the target PC in order to install the USB dongle drivers.
- These instructions should be followed on all PCs where you wish to use the USB dongle.

## 3.1 Step 1 - Request a License File

On receipt of your USB dongle, send an email to support@limitstate.com requesting a license.

## 3.2 Step 2 - Install the USB Dongle Drivers

1. Download and install the dongle drivers from the LimitState website (you will need to log in with your user account details to do this) - http://limitstate.com/system/files/Sentinel_HASP_Run-time_setup.zip
2. Extract the zip file to a suitable location on the target PC.
3. Navigate into the `Sentinel_HASP_Run-time_setup` directory, and run the `HASPUserSetup.exe` installer application.

(If drivers for the dongle already exist on the system, but are out of date, a prompt to uninstall the previous ones will be displayed. Select Yes to uninstall the old drivers and continue with installation).

4. To install the drivers, follow the instructions given and click Finish (allow hasplms.exe to act as a server if prompted).
5. Insert the USB dongle into a spare USB port on your PC. After a few seconds the device should be recognized by the system.

You are now ready to use the USB dongle.

## 3.3 Step 3 - Locate the License File

6. With the USB dongle inserted, start the LimitState software. The Startup dialog (e.g. Figure 1) should appear. If it does not, and you are able to use the software normally, it is likely that the software is already using a different license. If this is the case, go to Help > License Information > Use Different License... (the software should now restart with the Startup dialog showing).
7. On the Startup dialog, select Use in licensed mode you will then be presented with the License Details dialog.
8. Select License file location and click on the Browse button. Navigate to the location on your PC where the license file is saved, select the file and click OK. Clicking OK in the License Details dialog will cause the software to start in licensed mode

# 4 Network Licensing

## 4.1 Installing the Network License Server

> The network license server software does not, by default, run on Virtual Machines. If you require a license to run in a virtual environment, please contact licensing@limitstate.com to discuss the available options.
>
> When the Network License Server is installed, a troubleshooting document is also installed. To access it, go to Start > All Programs > LimitState License Server > Network License Guide.

The recommended, and most convenient, way to install the network license server software on the server machine is to download and run the installation files from the LimitState website. This automatically installs and starts the software without the need to also install the corresponding LimitState end-user software on the server, thus keeping the footprint to a minimum.

The installation files can be obtained from:

limitstate.com/client/<PROG_NAME>/software-archive

You will need 'Client Area' login details to obtain these files – please contact support@limitstate.com if you require access.

Alternatively, when you specify an activation key for a network license, the software will provide you with the option of automatically installing and running the RLM network license server. In this case the license server is installed as a Windows Service, which means that the license server will automatically start whenever the PC is rebooted.

License server tasks can also be performed manually, and the license server can be started by running the rlm.exe file distributed with the software. Refer to Appendix 2 for details.

## 4.2 Administering the Network License Server

Once installed, the RLM license server can be controlled via an embedded web server that starts when the license server is started. To access the web server point your browser to:

http://<SERVER_NAME>:5054

where <SERVER_NAME> is the name of your license server. The intro screen of the RLM web server (shown in Figure 7) will then appear (if the screen does not appear, please check that the license server is running).
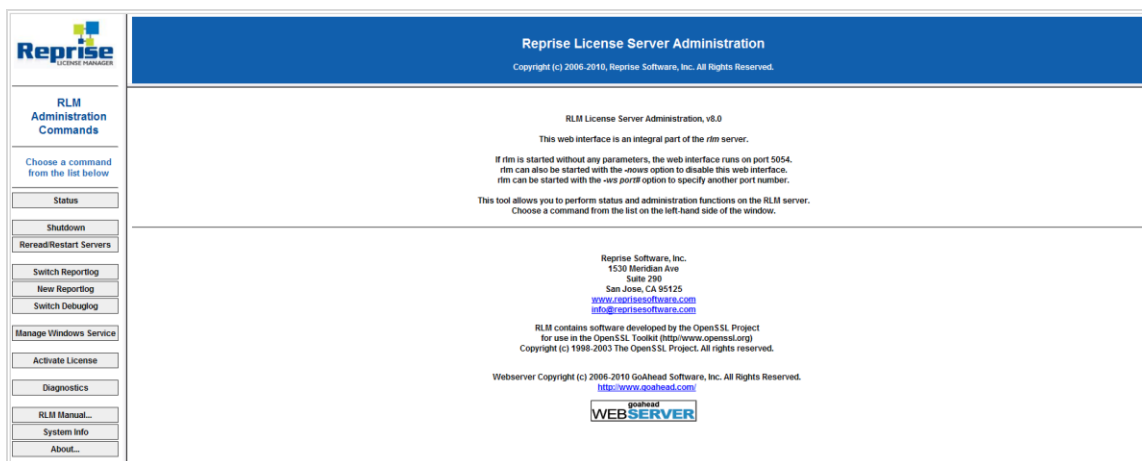
Figure 7 - The RLM Web Server Screen

The links on the left-hand side of the web interface can be used to administer the license(s) and investigate the potential causes of issues affecting their use. The most common features (license usage, debug log etc.) can be accessed from the Status link.

Detailed information regarding the use of the web server can be found in the RLM end user manual at:

http://www.reprisesoftware.com/RLM_Enduser.html

## 4.3   Updating to a New License

From time to time you may need to update the license file being used by the network server, for example when your previous license file has expired or you have purchased additional licenses.

Presuming that you have been sent a license by email, you should:

1.	Open the RLM web server in an internet browser (generally http://localhost:5054)
2.	Click the Shutdown link in the left panel then click the SHUT DOWN SERVER button that appears
3.	Find the LimitState license folder, generally this is:

C:\Documents and Settings\<NAME_OF_USER>\Application Data\LimitState\<PROG_NAME>\license\

4.	Make a copy of the old license (optional)
5.	Open the original license file using Notepad (not WordPad) and paste in the new license text as instructed in the email you received
6.	Save the license file in the same location and with the original license name
7.	Re-open the RLM web server
8.	Click the Reread/Restart Servers link in the left panel then click the REREAD LICENSES button that appears
9.	Click the Status link in the left panel and ensure that limitstate ISV server is running
10.	Finally, you should run the software on a client PC and ensure that the new license is recognised correctly.

## 4.4   Checking the Status of a Server

To check that a server is functioning correctly, in the RLM web server select the Status link in the left hand panel - the status of all the installed license server services will be displayed along with the port numbers used. To view more information about the limitstate server, click the limitstate button in the Server Status field for the limitstate ISV. The summary window will display information about the status of each license and whether it is in use. Further information can be found by clicking the 'usage...' button in the

Show License Usage field. This allows the systems administrator to monitor license usage.

## 4.5  Client Configuration

The first step is to install the software on the client PC. For further instructions, please refer to Sections 1 and 2

## 4.6  Advanced Network License Server Functionality

This document describes the main features of the RLM license server that are necessary to license the software to run over a network. There are, however, many additional features; for further information, please refer to the RLM End User Manual (www.reprisesoftware.com/RLM_Enduser.html or [PROG_DIR]\license\manuals\RLM_EndUser.html).

# Appendix 1. Manually Activating a License via the Internet

Licenses can be activated manually by navigating to the following webpage:

https://www.limitstate.com/activate



Follow the instructions given on the webpage to activate your license. Then copy the license generated to a text file, saving this with a .lic extension to the appropriate directory, e.g.

C:\Documents and Settings\<NAME_OF_USER>\Application Data\LimitState\<PROG_NAME>\license

# Appendix 2.    Manually Running the Network License Server

LimitState software uses components of the Reprise License Manager (RLM) to handle networked licenses. When you install the software, the license management files are installed along with the application, which then allows any PC to be set up as a local network license server.

In [PROG_DIR]\license\tools, you will find the following files:

- rlm.exe – the RLM license server (administers all RLM-based license servers on the local machine).
- limitstate.exe – the LimitState RLM-based license server (handles licenses for LimitState products).
- VERSION.txt – a text file containing version information for the RLM license server.

This simplest way of running the license server is as follows:

1.  Copy the network licence file (.lic) generated by internet activation to the following directory: [PROG_DIR]\license\tools. (N.B. by default activated license files are saved in the following directory: C:\Documents and Settings\<NAME_OF_USER>\Application Data\LimitState\<PROG_NAME>\license)
2.  Start the RLM license server by running rlm.exe

Alternatively, on Microsoft Windows servers, you may want to install and run the RLM server as a Windows Service. A Service can start automatically at boot time and remain running as long as the system is up, regardless of user logins and logouts.

Installing RLM as a service is carried out in a command window. Once installed as a service, RLM remains installed until it is explicitly deleted as a service. Installing RLM as a service does not start RLM; services are started via the Windows Services control panel, and at boot time. RLM is installed using the rlm program itself, with special arguments:

```
rlm -install_service -dlog [+]logfile [-service_name sname] <rlm runtime args>
```

Where:
- **logfile** is the pathname for the server debug log. This parameter is required. If preceded by the '+' character, the logfile will be added to, rather than created.
- **sname** is an optional name for the installed service. If not specified, **sname** defaults to "rlm". If **sname** contains embedded whitespace, it must be enclosed in double quotes.
- **<rlm runtime args>** are any other command line arguments to be passed to rlm when it is started.

Example:

```
rlm -install_service -service_name rlm -dlog c:\ licenses\xyz.lic.log -c c:\licenses\xyz.lic
```

This installs RLM as a Windows Service under the name `rlm`. When started via the Services control panel or at boot time, RLM will be passed the `"-c c:\licenses\xyz.lic"` args, and it will write the debuglog information to the file `c:\licenses\xyz.lic.log`

Installed RLM services are also deleted with the RLM program. Windows Services must be stopped via the service control panel before they can be deleted. Note that deleting a service deletes it from the Windows service database; it does not delete the RLM executable or associated license file(s):

```
rlm -delete_service [-service_name sname]
```

Where:
- sname is an optional name for the installed service. If not specified, `service_name` defaults to "rlm". If `service_name` contains embedded whitespace, it must be enclosed in double quotes.

Notes:

- It is desirable to use the "`-c <license file>`" command line argument with RLM when installed as a service. Use of environment variables with Windows services is undesirable, as the environment passed to started services is the one in effect at boot time.
- Because the Service Controller on Windows invokes services under a special user account in a special default directory, it is advisable to specify full file paths:
  - for the `-c <license file>` argument on the rlm command line
  - in the path to the limitstate daemon in the license file
  - in options file paths in the license file
  - in debug log paths in the limitstate options file (if present)
  - in report log paths in the limitstate options file (if present)
  - for the `-dlog debug_log` argument on the command line

> Should you experience any difficulties when setting up the server please refer initially to the RLM End User Manual:
> www.reprisesoftware.com/RLM_Enduser.html or [PROG_DIR]\license\manuals\RLM_EndUser.html
>
> If you still have problems, or if you have special requirements (e.g. if you wish to host the RLM server on a Linux machine), please contact our support team by email at support@limitstate.com.