



# NEXTGEN TOTALVIEW FOR HPC INSTALLATION GUIDE

Version 2018.1



Copyright © 2010-2018 by Rogue Wave Software, Inc. All rights reserved.

Copyright © 2007-2009 by TotalView Technologies, LLC

Copyright © 1998-2007 by Etnus LLC. All rights reserved.

Copyright © 1996-1998 by Dolphin Interconnect Solutions, Inc.

Copyright © 1993-1996 by BBN Systems and Technologies, a division of BBN Corporation.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of Rogue Wave Software, Inc. ("Rogue Wave").

Use, duplication, or disclosure by the Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013.

Rogue Wave has prepared this manual for the exclusive use of its customers, personnel, and licensees. The information in this manual is subject to change without notice, and should not be construed as a commitment by Rogue Wave. Rogue Wave assumes no responsibility for any errors that appear in this document.

TotalView and TotalView Technologies are registered trademarks of Rogue Wave Software, Inc. TVD is a trademark of Rogue Wave.

Rogue Wave uses a modified version of the Microline widget library. Under the terms of its license, you are entitled to use these modifications. The source code is available at <http://kb.roguewave.com/kb/>.

All other brand names are the trademarks of their respective holders.

## ACKNOWLEDGMENTS

Use of the Documentation and implementation of any of its processes or techniques are the sole responsibility of the client, and Rogue Wave Software, Inc., assumes no responsibility and will not be liable for any errors, omissions, damage, or loss that might result from any use or misuse of the Documentation

ROGUE WAVE SOFTWARE, INC., MAKES NO REPRESENTATION ABOUT THE SUITABILITY OF THE DOCUMENTATION. THE DOCUMENTATION IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND. ROGUE WAVE SOFTWARE, INC., HEREBY DISCLAIMS ALL WARRANTIES AND CONDITIONS WITH REGARD TO THE DOCUMENTATION, WHETHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT. IN NO EVENT SHALL ROGUE WAVE SOFTWARE, INC., BE LIABLE, WHETHER IN CONTRACT, TORT, OR OTHERWISE, FOR ANY SPECIAL, CONSEQUENTIAL, INDIRECT, PUNITIVE, OR EXEMPLARY DAMAGES IN CONNECTION WITH THE USE OF THE DOCUMENTATION.

The Documentation is subject to change at any time without notice.

Rogue Wave Software, Inc.

Product Information: (303) 473-9118 (800) 487-3217

Fax: (303) 473-9137

Web: <http://www.roguewave.com>



# Contents

Chapter 1	<b>Installing NextGen TotalView for HPC</b>	<b>1</b>
	Overview .....	1
	Installing NextGen TotalView for HPC .....	3
	Configuring Your Environment .....	4
	Installing a Demo License .....	5
	Setting the License File Variable .....	5
Chapter 2	<b>License Installation Quick Setup</b>	<b>6</b>
	Overview .....	6
	Updating an Existing License .....	7
	FlexNet Update .....	7
	No FlexNet Update .....	7
	Installing a New License .....	8
Chapter 3	<b>License Setup: Linux PowerLE &amp; ARM64</b>	<b>9</b>
	Overview .....	9
	Prerequisites .....	10
	Installing a Demo or Node-Locked License .....	11
	Renewing a Node-Locked License .....	12
	Installing a License Server .....	13
	Renewing a Served License .....	14
Chapter 4	<b>Installing or Changing a Regular License</b>	<b>15</b>
	Overview .....	15
	Is My License Valid for this Release? .....	16
	Planning for a Regular License .....	17
	Choosing a License Server .....	17
	Finding a License Server Host ID .....	17

	Creating a FlexNet User Account .....	19
	Installing your Permanent License .....	19
	Accessing a License Server .....	19
	Starting the License Manager Manually .....	20
	Stopping the License Manager .....	20
	Testing the License Manager .....	20
	Starting the License Manager When the System Boots .....	22
	Installing FlexNet Standalone .....	23
	Starting the Install Program .....	23
	More FlexNet Information .....	24
<b>Chapter 5</b>	<b>Installing License Keys</b>	<b>25</b>
	Overview .....	25
	Step 1: Locating the FlexNet License Server Directory.....	26
	Step 2: Deleting Older License Keys .....	27
	Step 3: Adding New License Keys .....	28
	Adding a New license.dat File .....	28
	Revising Your license.dat File .....	29
	Step 4: Starting and Stopping the License Server.....	29
	Step 5: Configuring NextGen TotalView for HPC to Use the License Server	30
	Reporting Problems with License Installation .....	31
<b>Chapter 6</b>	<b>Uninstalling NextGen TotalView for HPC</b>	<b>32</b>
	The Three-Step Removal Process .....	32
	<b>Index</b>	<b>33</b>



## Chapter 1

# Installing NextGen TotalView for HPC

## Overview

This document provides information about installing NextGen TotalView for HPC.

---

**NOTE >>** Rogue Wave NextGen TotalView for HPC introduces a newly developed, modern interface for the TotalView for HPC debugger. This UI includes the full power of the TotalView debugging engine, but does not yet support all its features. To use these features, simply run the `totalview` executable without the `-newui` argument to launch the original UI.

---

The installation has two main steps:

- Installing the distribution files.
- Installing and activating the license.

How you proceed with the installation depends on your situation:

- **You have a demo license:** If you are installing NextGen TotalView for HPC to use with a demo license, you need only follow the procedures in this chapter. If you decide to purchase a permanent NextGen TotalView for HPC license, you will proceed on to the other chapters at that time.
- **You are installing NextGen TotalView for HPC for the first time with a permanent license:** Follow the installation steps in this chapter, but when you get to the point of installing the demo license, skip to [Chapter 4](#), which describes how to install the LM license server, and then to [Chapter 5](#), which describes how to install your permanent license.

- **You already have NextGen TotalView for HPC and are installing this new version:** Follow the installation steps in this chapter, but when you get to the point of installing the demo license skip to Chapter 3, which explains how to install your new license. (You should be able to skip over Chapter 2 since you should already have an LM license server installed.)

Please contact us if you have problems installing NextGen TotalView for HPC, have questions that are not answered in the product documentation or on our Web site, or suggestions for new features or improvements.

- **By email:** [support@roguewave.com](mailto:support@roguewave.com)
- **By phone:** See Rogue Wave's [Technical Support page](https://support.roguewave.com/) (<https://support.roguewave.com/>) for support numbers.

To determine whether your NextGen TotalView for HPC license is valid for this release of NextGen TotalView for HPC, see "[Is My License Valid for this Release?](#)" on page 16.

# Installing NextGen TotalView for HPC

Download the tar file version of the installation and use the **tar** command to extract NextGen TotalView for HPC. For example:

```
tar xvf totalview version_platform.tar
tar xvf totalview.version-doc.tar
```

Before you can run NextGen TotalView for HPC, you must obtain a license. You can obtain one by filling in the form located at <http://www.roguewave.com/products-services/request-demo>.

This section describes how you install a new version of NextGen TotalView for HPC. Before starting, you should read the *Release Notes* on our web site. In addition, some operating systems may need to be patched. For more information, see the *TotalView for HPC Platforms and System Requirements* guide.

Here is the procedure for installing NextGen TotalView for HPC:

1. (*Optional*) Go to the system upon which you will be installing NextGen TotalView for HPC and become the root user:

```
su root
```

In some circumstances, you'll want to use the **sudo** command instead of **su**. If you use the **sudo** command, you'll be typing `sudo ./Install` instead of `./Install` in step 2.

Installing NextGen TotalView for HPC as the **root** user prevents users from modifying the software. However, you should not run NextGen TotalView for HPC as **root**.

2. Go to the directory containing the files extracted from the downloaded tar file and then start the **Install** program by typing:

```
./Install
```

For information on using this command, type `./Install -help`. If you use any of the options described in the displayed information, the installation procedure is no longer interactive.

3. The **Install** program asks you to accept the license terms for NextGen TotalView for HPC. You can respond **Yes** to accept, **No** to decline, or **?** to view the license terms. You must accept the license terms to continue the installation.
4. The **Install** program asks that you name an installation directory. If the directory you specify does not exist, the program requests a new location, effectively meaning the directory you specify must already exist.

If you do not enter a name, the installation directory will either be `/usr/toolworks` or `/opt/toolworks`, depending on the system. Type a period "." to place NextGen TotalView for HPC in your current directory.

This manual refers to the installation directory's pathname as *installdir*.

The **Install** program then creates a **toolworks** directory and places two subdirectories within it:

- `totalview.version`. This is where **Install** places NextGen TotalView for HPC.

- `flexlm-version`: This is where **Install** places the license manager.
- 5. You are now asked to select which components you wish to install.  
If you are installing NextGen TotalView for HPC for multiple platforms in a common NFS directory, you only need to install the common components once.
- 6. The **Install** program asks if it should create a symbolic link (named **totalview**) to this installation directory.  
If you are not the root user, **Install** cannot create the link, so you should answer “n” (no). If **Install** cannot create the link, you can ignore its complaints and continue installing NextGen TotalView for HPC by pressing Enter.
- 7. If you became root using **su**, exit from root after **Install** concludes by typing:  
`exit`
- 8. Test if NextGen TotalView for HPC was successfully installed by typing:  
`installdir/toolworks/totalview.version/bin/totalview`  
NextGen TotalView for HPC prints information that includes a version number and a message indicating that a license file is not installed.  
If NextGen TotalView for HPC cannot initialize the license manager, it prints the following message:  
`Unable to initialize NextGen TotalView for HPC license`  
If you see this message, you need to confirm that you did install the license. You may need to set the -  
`LM_LICENSE_FILE` environment variable to the installation directory. (This variable is described in the next step.)

## Configuring Your Environment

Before you can begin using NextGen TotalView for HPC, you must add NextGen TotalView for HPC to your `PATH` variable. On some systems, you may need to mount the `/proc` directory.



# Installing a Demo License

Before you can use NextGen TotalView for HPC, you must place the demo license into the `flexlm-version` directory. This license file, which is called `license.demo`, was attached to the email message confirming your download request. If your email system didn't retain this name, you must rename it after you save it to disk.

1. If you installed NextGen TotalView for HPC as the **root** user, become the **root** user again. If you used **sudo** to install NextGen TotalView for HPC, use **sudo** in the following step.

2. Copy the license file to the `flexlm-version` directory.

```
cp license.demo installdir/toolworks/flexlm-version
```

3. To test that NextGen TotalView for HPC can use the license file, type:

```
installdir/toolworks/totalview.version/bin/totalview
```

NextGen TotalView for HPC responds by displaying the initial view of the interface.

After you purchase NextGen TotalView for HPC, you will receive a permanent license.

## Setting the License File Variable

If you do not want to install the `license.demo` file in the `installdir/toolworks/flexlm-version` directory, you must set your `LM_LICENSE_FILE` environment variable to the file's full pathname. For example:

```
setenv LM_LICENSE_FILE nonstandard-dir/license.demo
```

If a `LM_LICENSE_FILE` environment variable already exists, add the pathname for `license.demo` to this variable's declaration. Notice that the `LM_LICENSE_FILE` variable contains a colon-separated list of license file pathnames. For example:

```
setenv LM_LICENSE_FILE nonstandard-dir/license.demo:${LM_LICENSE_FILE}
```



# License Installation Quick Setup

## Overview

---

**NOTE >>** These license setup instructions are for all platforms except Linux PowerLE and ARM64. For those platforms, see [Chapter 3, “License Setup: Linux PowerLE & ARM64,”](#) on page 9.

---

The procedure to install a license differs, depending on whether the installation is for a new TotalView install or updating an existing TotalView install.

- For a new TotalView install, see [Installing a New License](#).
- For an existing TotalView install, see [Updating an Existing License](#).

---

**NOTE >>** If you encounter problems using the setup steps in this quickstart, see [Installing or Changing a Regular License](#) for more detailed instructions.

---

# Updating an Existing License

Your TotalView license is implemented by FlexNet which is built into TotalView.

New releases of TotalView may infrequently incorporate updated FlexNet versions. Consult the TotalView release notes to determine if a FlexNet update has been applied.

If your TotalView release does include a newer FlexNet version than that which is currently installed on your system, choose the [FlexNet Update](#) installation option.

Otherwise, complete the steps in the [No FlexNet Update](#) section.

## FlexNet Update

1. Stop the currently running license server:  
`<installdir>/toolworks/flexlm-<oldversion>/bin/toolworks_init stop`
2. Open `<installdir>/toolworks/flexlm-<oldversion>/license.dat`, and note the license server manager daemon's TCP/IP port number. This is the last field on the SERVER line (for example: "7127").
3. Next, follow the steps in [Installing a New License](#). When the `Configure_License` script asks for the license server manager daemon's TCP/IP port number, enter the port number as noted above.

## No FlexNet Update

1. Modify your `license.dat` file by adding the new license key(s) provided, and removing the TotalView license key(s) that are duplicate (licenses with the same entitlement code) or being replaced and are therefore no longer valid.
2. Run the `toolworks_lmread` script so the running license server will reread your modified `license.dat` file:  
`<installdir>/toolworks/flexlm-<version>/bin/toolworks_lmread`  
This completes the license install. No further setup is necessary.

# Installing a New License

If you have a new TotalView install, this section describes the basics of installing your license.

1. Create a `license.src` file containing the TotalView license key(s) provided.
2. Run the `Configure_License` script to generate the `license.dat`, configuration files, and initialization scripts:  
`<installdir>/toolworks/flexlm-<version>/bin/Configure_License`
3. Start the license server by running the command `toolworks_init start`:  
`<installdir>/toolworks/flexlm-<version>/bin/toolworks_init start`



## Chapter 3

# License Setup: Linux PowerLE & ARM64

## Overview

---

**NOTE >>** These license setup instructions are for the platforms Linux PowerLE and ARM64 only. For all other platforms, see [Chapter 2, “License Installation Quick Setup,”](#) on page 6.

---

Unlike TotalView’s other platforms (which use FlexNet Publisher (FNP) licensing) Linux PowerLE & ARM64 systems use FlexNet Embedded (FNE) licensing. FNE licenses can be served either by an FNE license server or installed locally on the system on which TotalView will run, i.e. called buffer-style.

---

**NOTE >>** Demo licenses are essentially buffer-style but are not node-locked to a single machine.

---

See “Prerequisites” on page 10, then choose either:

- “Installing a Demo or Node-Locked License” on page 11
- “Installing a License Server” on page 13

# Prerequisites

1. To install a license for TotalView on Linux PowerLE and ARM64 systems, the user/administrator must have **sudo** or root privileges
2. To install a served license, the License Server must be installed on a Linux-x86-64 system. The Linux PowerLE / ARM64 TotalView host uses TCP/IP to contact and check out licenses from the FNE license server running as a Linux service on the chosen x86 64-bit machine.
3. A dedicated unprivileged user account is needed on the Linux-x86-64 system that hosts the License Server. See **Create a dedicated unprivileged user account** on page 13.

# Installing a Demo or Node-Locked License

Demo and single-system, node-locked licenses do not need a License Server.

---

**NOTE >>** Demo and single-system node licenses are distributed with the .bin extension, since they are binary files. If your license has the .dat extension, it is a *served* license. Please follow the instructions in the next section, “Installing a License Server” on page 13.

---

The license should, by default, reside in the `installdir/toolworks/flexnetls-version` directory of your TotalView installation.

---

**NOTE >>** To install the license file in a non-default directory, set your `TV_LICENSE_FILE` environment variable to the file's full pathname. For example:

```
export TV_LICENSE_FILE=nonstandard-dir/license.bin
```

---

The license file is attached to the email message confirming your download request or is sent to you from Support. It should be named either `license.bin` or `license_demo.bin`. If your email system didn't retain this name, rename it after you save it to disk.

## 1. Install the license file

Use the same privileges as your TotalView installation. If you used either `sudo` or the root user, use `sudo` or the root user, respectively.

- Copy the license file to the flexnetls-version directory:

```
cp license.bin installdir/toolworks/flexnetls-version  
or
```

- `cp license_demo.bin installdir/toolworks/flexnetls-version`

## 2. Test that the license file is working

Launch TotalView:

```
installdir/toolworks/totalview.version/bin/totalview
```

Test a program, for example:

```
installdir/toolworks/totalview.version/platform/examples/wave
```

TotalView should come up with no licensing dialogs.

To view license details, see **Help > About TotalView**.

If you are using a demo license, you will receive a permanent license after you purchase TotalView.

## Renewing a Node-Locked License

Replace the old license with the new license as described in [Install the license file](#). Then, [Test that the license file is working](#).



# Installing a License Server

For served licenses, you must install a License Server on a Linux-x86-64 system. In addition, the license file must reside on the *same system*.

---

**NOTE >>** Served licenses are distributed with the .dat extension. If your license is a binary file (with a .bin extension), see “[Installing a Demo or Node-Locked License](#)” on page 11, as those licenses are not served by a license server

---

The script **Configure\_License**, included in the TotalView distribution, configures, installs, and starts the FNE license server.

---

**NOTE >>** For served license renewal, skip this section and see “[Renewing a Served License](#)” on page 14.

---

## 1. Unpack your TotalView distribution on the Linux license server system

To install the FNE license server software, unpack the Linux PowerLE / ARM64 tar bundle onto the Linux x86 64-bit machine that will host the license server in order to run the Install script from the resulting directory:

```
tar xvf totalview_version_platform.tar -C ~
cd ~/totalview.version
```

## 2. Run the Install script using sudo (required)

```
sudo ./Install
```

- Accept the license terms, then choose an installation directory, e.g. `/opt`.
- At the prompt, select the components to install: just the FNE common files (**flexnetls-common.tar.Z**).

Once the Install script completes, you should have a `flexnetls-version` directory under `/installdir/tool-works`.

## 3. Install the License File on the License Server system

Place your Rogue Wave provided FNE license file, `license.dat` into the `flexnetls-version` directory.

## 4. Create a dedicated unprivileged user account

---

**NOTE >>** Skip this step if you already created the user as a prerequisite to installing and running the License Server as discussed in “[Prerequisites](#)” on page 10.

---

The Linux-x86-64 system must have a dedicated, *unprivileged* user account to run the License Server. Note that:

- The default user account name is *"flexnetls"* but you can rename it if you wish.
- The account must be a dedicated account in order to run the FNE License Server.
- The account must be unprivileged.
- The login shell should be `/bin/sh`.

#### 5. Run the `Configure_License` script using `sudo`

```
cd /opt/toolworks/flexnetls-version
sudo bin/Configure_License
```

**Configure\_License** is an interactive script that prompts you while it runs. For example, you need to specify a listening port to use (e.g., 7137) and the username for running the FNE license server (created as a prerequisite or in [Step 4](#)).

#### 6. Set up `TV_LICENSE_FILE`

On the Linux PowerLE or ARM64 TotalView host where TotalView will run, set the environment variable `TV_LICENSE_FILE` to point to the FNE license server using the format `port@host`.

For example:

```
TV_LICENSE_FILE=7137@licserver
export TV_LICENSE_FILE
```

#### 7. Test that TotalView can use the license file

Start TotalView on the host Linux PowerLE or ARM64 system and load a debug target.

For example:

```
installdir/toolworks/totalview.version/bin/totalview
installdir/toolworks/totalview.version/platform/examples/wave
```

TotalView should come up without any licensing dialogs.

To view license details, see **Help > About TotalView**.

## Renewing a Served License

1. Replace the existing `license.dat` in the `flexnetls-version` directory under `installdir/toolworks` on the Linux-x86-64 system with the new Rogue Wave-provided updated `license.dat`.
2. Load the new `license.dat`, like so:  

```
installdir/toolworks/flexnetls-version/bin/toolworks_reload
```
3. Confirm that the new license is correctly set up, as per [Step 7](#).



## Chapter 4

# Installing or Changing a Regular License

## Overview

This chapter describes the procedure for installing or changing a regular license.

- To install NextGen TotalView for HPC software for the first time with a permanent license, see [“Planning for a Regular License”](#) on page 17.
- To create a *FlexNet* user account, see [“Creating a FlexNet User Account”](#) on page 19.
- To install NextGen TotalView for HPC software and use an existing license, see [“Accessing a License Server”](#) on page 19.
- To shutdown and restart the license manager, see [“Starting the License Manager Manually”](#) on page 20.

To determine if your license is valid for the release you are installing, see [“Is My License Valid for this Release?”](#) on page 16.

# Is My License Valid for this Release?

To be valid, the maintenance date for your license must be later than the official release date. You can find the maintenance date for your NextGen TotalView for HPC installation in:

```
installdir/toolworks/flexlm-version/license.dat
```

Open the file in a text editor and look for a line like this:

```
INCREMENT TotalView_Codedynamics toolworks 2014.1231 permanent 20 \
```

The example above indicates a permanent 20 token team license where the maintenance expires December 31, 2014. It will always be valid to run NextGen TotalView for HPC versions released before the maintenance expiration date of December 31, 2014, but will result in a "license too old" message if you attempt to use it with a version of NextGen TotalView for HPC released after December 31, 2014.

# Planning for a Regular License

NextGen TotalView for HPC uses the FlexNet® license management software to grant or reject requests to use NextGen TotalView for HPC.

FlexNet was formerly known as FLEXLM, so the string '`flexlm`' still appears in the NextGen TotalView for HPC product, mainly in code and directory paths.

You do *not* need to install FlexNet if you are using an evaluation license. That is, you only need the information in this chapter after you purchase NextGen TotalView for HPC and have received your regular license.

Your regular license is associated with a FlexNet license manager host (the license server) and is for a specific number of concurrent licenses or tokens, depending upon the version you purchased.

---

**NOTE >>** Configuring `license.opt` is required for your NextGen TotalView for HPC installation to work.

---

Rogue Wave provides tools and PDF documentation for using FlexNet.

## Choosing a License Server

You will need to install the FlexNet license server the first time you install a regular license. In most cases, the license manager and NextGen TotalView for HPC reside on the same system. However, you can install them on different systems. The NextGen TotalView for HPC tar file includes license server software for the platform NextGen TotalView for HPC runs on. See "[Installing FlexNet Standalone](#)" if your license server's platform differs from that of NextGen TotalView for HPC.

The license manager should reside on a machine that is reliable, always running, and a permanent part of your local network. And, most importantly, it is accessible. For example, do not place it on the other side of your firewall.

If you already have a FlexNet license manager in your network, you should not include your NextGen TotalView for HPC license with the other licenses managed by that license manager. If you must combine license managers, consult the FlexNet documentation.

The TCP/IP port number used for the Rogue Wave license manager daemon must be unique and not used elsewhere. You can find port numbers that other FlexNet license managers use in their license files.

## Finding a License Server Host ID

When you install NextGen TotalView for HPC, the installer placed the files for the FlexNet license manager in `installdir/toolworks/flexlm-version`.

To obtain host information, run the `toolworks_hostid` script, as follows:

```
installdir/flexlm-version/bin/toolworks_hostid
```

Do *not* use the UNIX **hostid** command.

This script writes the host name and one or more FlexNet host ID values to standard output; for example:

```
The host name for this machine is: fast-server  
The host ID for this machine is: 08122b2cf32d
```

After sending us this information and completing your order we'll send you a permanent license key.

# Creating a FlexNet User Account

While you can run the FlexNet license manager as **root**, you should run it as a unique non-privileged (that is, non-**root**) user. Do this by creating a user account reserved for FlexNet's use. You may need to refer to your operating system's documentation or your site's operating procedures for information on creating this account. The user name does not have to be `flexnet`. Any unique name will do.

The account from which the license manager is run must have the following properties:

- The password is set to `*` because interactive access is not required.
- There is a unique user ID.
- There is a unique group ID.
- The login shell is `/bin/sh`.

## Installing your Permanent License

This procedure is described in [Chapter 5, "Installing License Keys"](#).

## Accessing a License Server

When you start NextGen TotalView for HPC, it must be able to find the `license.dat` file in the `flexlm-version` directory. If NextGen TotalView for HPC and the active license manager are installed on the same host and you place the `license.dat` file in its default location, you can skip to the next section, "[Starting the License Manager Manually](#)" on page 20.

If you are installing NextGen TotalView for HPC and the license server on different machines, you will must place a `license.dat` file within each installation. Do this by copying the `license.client` file from the license server to `flexlm-version/license.dat` in each installation. If you are using an existing license server, this is all that you have to do.

The format for the `license.client` file is:

```
SERVER host-name host-id port-numberUSE_SERVER
```

For example:

```
SERVER fast-server 08122b2cf32d 7127 USE_SERVER
```

FlexNet ignores all lines after `USE_SERVER`.

# Starting the License Manager Manually

You can start or stop the license manager by using the **toolworks\_init** script. (This script is created by the **Configure\_License** script when you install the license.) If, for example, the license manager software is installed in `/usr/toolworks`, the following commands start the license manager. Before entering these commands, use the **su** shell command to become the **root** user.

In some environments, you'll need to use the **sudo** command. If you use this command, you'll type something like **sudo./toolworks\_init start**. Also, before you run this program, make sure that you have write permission to this directory.

```
cd /usr/toolworks/flexlm-version/bin
./toolworks_init start
```

Although the start-up script should be run as super-user (**root**), the license manager is started using the FlexNet user ID.

Check that the license manager started. Do this by examining the following file:

```
/usr/toolworks/flexlm-version/license.log
```

## Stopping the License Manager

The way you stop the license manager is very similar to the way you started it. If the license manager software resides in `/usr/toolworks`, the following commands stop the license manager. (Before entering these commands, use the **su** shell command to become the **root** user or use the **sudo** command to directly invoke the following program.)

```
cd /usr/toolworks/flexlm-version/bin
./toolworks_init stop
```

## Testing the License Manager

To verify that you installed the license manager correctly, manually start it and then run NextGen TotalView for HPC —don't do this as **root**. After the license manager starts, set the license file variable and test the license installation by typing:

```
installdir/toolworks/totalview/bin/totalview
```

NextGen TotalView for HPC should respond by displaying its main window. If it can't connect to the underlying TotalView debugging engine, you should:

- Look at the `flexlm-version/license.log` log file. This file contains status and error messages from the **lmgrd** license server.
- Use the `flexlm-version/platform/bin/lmstat` command, which lists license manager activity. For example, to list the number of licenses that are currently checked out on a **sun5** platform, type:



```
cd /usr/toolworks/flexlm-version/sun5/bin  
./lmstat -a -c ../../license.dat
```

# Starting the License Manager When the System Boots

Most of our customer want the license manager to automatically start when the license server boots. Do this by adding the **toolworks\_init** command (see “[Starting the License Manager Manually](#)” on page 20) to the appropriate system start-up file. (Ask your system manager where this should go.) On most systems, you should also automatically stop the license manager when the system shuts down to single-user mode.

You can edit your startup files by running the **Configure\_Autostart** shell script, which must be run as **root**. For example, if the license manager software is in the `/usr/toolworks` directory, run **Configure\_Autostart** using the following commands. (Before entering these commands, use the **su** shell command to become the root user or use the **sudo** command to directly invoke the following program.)

```
cd /usr/toolworks/flexlm-version/bin
./Configure_Autostart
```

**Configure\_Autostart** prompts you with some configuration questions and then makes its changes.

# Installing FlexNet Standalone

The NextGen TotalView for HPC tar file includes license server software for the platform NextGen TotalView for HPC runs on. If your license server's platform differs from that of NextGen TotalView for HPC, contact [support@roguewave.com](mailto:support@roguewave.com) to obtain a tar file containing the files for your license server's platform.

Use the **tar** command to extract the files from the FlexNet standalone tar file. For example:

```
tar xvf flexlm-version.tar
```

## Starting the Install Program

Here is the procedure for installing FlexNet:

1. (Optional) Become the root user on the system where you will install the license server software:

```
su root
```

We recommend that you become the root user when installing FlexNet as this prevents users from modifying the software after you install it.

On some systems, you will use the **sudo** command. In this case, you would invoke the **Install** program in step 2 by typing `sudo ./Install`.

1. From the directory containing the unbundled files, start the **Install** program:

```
./Install
```

For information on using this command, type `./Install -help`. If you use any of the options displayed by this command, the software is non-interactively installed.

2. The **Install** program asks you to accept the license terms. You can respond **Yes** to accept, **No** to decline, or **?** to view the license terms. You must accept the license terms to continue the installation.
3. The **Install** program asks that you name an installation directory. If the directory you specify does not exist, the program requests a new location, effectively meaning the directory you specify must already exist. The **Install** program then creates a `toolworks` directory and places the `flexlm-version` directory within it. Type a period "." if you want **Install** to place FlexNet in your current directory.

If you do not enter a name, the installation directory is either `/usr/toolworks` or `/opt/toolworks`—this is system dependent.

1. You are then asked which components you wish to install. You should install the license common files and the license platform files for your license server.
2. If you became root to install FlexNet, use the **exit** command.

## More FlexNet Information

These instructions provide only basic information on installing the FlexNet license manager. For more information, see:

### User Guide

A PDF version of the FLEXlm License Administration Guide is installed at `flexlm-version/doc/fnp_LicAdmin.pdf`.

### Flexera Software Web Site

FlexNet is a product of Flexera Software. The web site at <https://www.flexerasoftware.com/producer/products/software-monetization/flexnet-licensing/> contains additional information about FlexNet.



## Chapter 5

# Installing License Keys

## Overview

This chapter describes the procedure for installing or changing a regular license. The topics in this chapter are:

- [“Step 1: Locating the FlexNet License Server Directory”](#) on page 26
- [“Step 2: Deleting Older License Keys”](#) on page 27
- [“Step 3: Adding New License Keys”](#) on page 28
- [“Step 4: Starting and Stopping the License Server”](#) on page 29
- [“Step 5: Configuring NextGen TotalView for HPC to Use the License Server”](#) on page 30
- [“Reporting Problems with License Installation”](#) on page 31

You must install the FlexNet version license management software on the machine you have selected as your license server. FlexNet is included in the distribution and was installed by the installation script.

# Step 1: Locating the FlexNet License Server Directory

Locate the `flexlm-version` directory that was installed in Step 1. This directory should be located in the directory `installdir/toolworks`.

The default values for `installdir` are `/usr` and `/opt` depending on your platform.

Set the **FLEXLM** environment variable to:

```
installdir/toolworks/flexlm-version
```

For example:

```
setenv FLEXLM /usr/toolworks/flexlm-version
```

The **FLEXLM** environment variable is only used during this installation process. The license management daemons do not use or need it.

## Step 2: Deleting Older License Keys

If you received new licenses keys because you moved your server or traded in existing license keys, the older license keys are no longer valid and must be removed in order for you to be in compliance with the Rogue Wave Permanent License Agreement.

If you do not need to remove previous license keys, skip to “[Step 3: Adding New License Keys](#)” on page 28.

The host information and license key information for the license keys that you need to remove are included in the email we sent you. For each of these license keys, that email listed:

- The `hostname` of the license server.
- The `hostid` of the license server.
- The FlexNet `INCREMENT` lines that contain the now invalid license key.

Here is how to remove an invalid license key:

1. Locate the machine that corresponds with the `hostid` for the invalid key. Since hostnames are dynamic, you can use the `${FLEXLM}/bin/toolworks_hostid` script to validate the `hostid` of the license server. The FlexNet `hostid` is unique for each license server regardless of `hostname` and IP address changes.
2. Locate the `installdir/toolworks/flexlm-version` directory on the license server.
3. If necessary, become the root user.
4. Make a temporary backup of the existing `${FLEXLM}/license.dat` file. For example:  

```
cp ${FLEXLM}/license.dat ${FLEXLM}/license.dat.bak
```
5. Using a text editor, edit the `${FLEXLM}/license.dat` file to delete the `-INCREMENT` and comment lines—comment lines begin with `##`—matching the key being removed. Save this file.
6. If other license keys still exist in the `license.dat` file, tell the license server to reread the `license.dat` and verify that these licenses still work. If they do, you can delete the `license.dat.bak` temporary backup file.

Use the following command to tell the license server to reread your `license.dat` file:

```
${FLEXLM}/bin/toolworks_lmread
```

If no license keys remain in the `license.dat` file, use the following command to stop the license server:

```
${FLEXLM}/bin/toolworks_init stop
```

# Step 3: Adding New License Keys

This step describes how to create or update the `license.dat` file that the license manager uses to allow access to NextGen TotalView for HPC.

If your license server is already serving one or more NextGen TotalView for HPC licenses (that is, the file `${FLEXLM}/license.dat` already exists), go to “Revising Your `license.dat` File” on page 29.

## Adding a New `license.dat` File

The `Configure_License` script, which is located in the `${FLEXLM}/bin` directory, creates the `license.dat` file and the `toolworks_init` script. `Configure_License` needs to read the `license.src` file. This file, which you will create, contains NextGen TotalView for HPC license keys.

Here is the procedure for creating this `license.src` file:

1. Change to the `flexlm-version` directory on the license server  
`cd ${FLEXLM}`
2. Copy and paste the new Rogue Wave license keys — this is the information that you received through email — into a file named `license.src` in the `<installdir>flexlm-version` directory.

The text in your `license.src` is derived from your host information, number of license keys, and license configurations.

3. Run the `${FLEXLM}/bin/Configure_License` script on the license server. You must run this script while your current directory is `flexlm-version`. The script creates the following files:

- `${FLEXLM}/license.dat`
- `${FLEXLM}/license.opt`

---

**NOTE >>** If you already have a `license.opt` file the script asks whether you want to overwrite it. Answer “n” to preserve your existing file with its named users. If you answer “y”, a new file without named users is created, but your existing file is saved as `license.opt.old`.

---

- `${FLEXLM}/license.client`
- `${FLEXLM}/license.log`
- `${FLEXLM}/bin/toolworks_init`



## Revising Your license.dat File

If you are currently using NextGen TotalView for HPC, you need to revise your `${FLEXLM}/license.dat` file. You do not need to create a new `${FLEXLM}/license.src` file nor do you need to rerun the **Configure\_License** script unless you have deleted or changed the location of the `flexlm-version` directory.

If the `${FLEXLM}/license.dat` file does not exist, you will need to follow the procedure described in “Adding a New license.dat File” on page 28 at the beginning of this topic. Since Rogue Wave does not resupply all of your license keys when there is a license change, you will need to combine the license keys that you already have with the newly delivered keys.

Here is the procedure for revising your existing `license.dat` file:

1. Back up your existing `${FLEXLM}/license.dat` file. For example,  

```
cp ${FLEXLM}/license.dat ${FLEXLM}/license.dat.bak
```
2. Using a text editor, edit the `${FLEXLM}/license.dat` file and append the new NextGen TotalView for HPC license keys delivered in this email message to the end of the `${FLEXLM}/license.dat` file.
3. Tell the license server to reread your `license.dat` file:  

```
${FLEXLM}/bin/toolworks_lmreread
```

## Step 4: Starting and Stopping the License Server

Run the following command as **root** to start the license server.

```
${FLEXLM}/bin/toolworks_init start
```

As an alternative, you can run the commands within this section as an argument to the **sudo** command.

If you configured your license server to run as a non-privileged user, the initialization script ensures that the license management daemons are started and run under the non-privileged user even if you run the script as **root**.

To stop the license manager, become **root**, and then use the following command:

```
${FLEXLM}/bin/toolworks_init stop
```

If you would like the license manager to automatically start when the system is booted, run the following script as **root**:

```
${FLEXLM}/bin/Configure_Autostart
```

# Step 5: Configuring NextGen TotalView for HPC to Use the License Server

NextGen TotalView for HPC must be able to find the `${FLEXLM}/license.dat` file. If you are running NextGen TotalView for HPC and the license server in the installation directory on the same machine, you can skip this step.

If NextGen TotalView for HPC and the license manager are not running on the same machine, you will need to place a `${FLEXLM}/license.dat` file on each additional installation. Copy the `${FLEXLM}/license.client` file from the license server into the `flexlm-version` directory on each remote machine and rename that file to `license.dat`.

As an alternative, you can specify the full path to the `license.dat` file in your `LM_LICENSE_FILE` environment variable. A client-style `license.dat` has the following form:

```
SERVER hostname hostid port-number USE_SERVER
```

# Reporting Problems with License Installation

If you have difficulties installing your license keys, please send email to [support@roguewave.com](mailto:support@roguewave.com) and include the following:

- Your `license.dat` file.
- Your `license.src` file (if applicable).
- The license delivery email.
- The `license.log` file created when you attempted to start the license manager and NextGen TotalView for HPC.
- The text displayed in your window when you tried to start the license manager.
- The text displayed in your window when you tried to start NextGen TotalView for HPC.



# Uninstalling NextGen TotalView for HPC

## The Three-Step Removal Process

To remove or uninstall NextGen TotalView for HPC:

1. If the license server is running, stop it. If the license manager software is installed in **/usr/local/toolworks**, the following commands stop the license manager. Before entering these commands, you may need to use the **su** shell command to become the **root** user or use the **sudo** command to directly invoke the following program.

```
cd /usr/toolworks/flexlm-version/bin  
./toolworks_init stop
```

2. Remove the installation directory. The default location is

```
/usr/toolworks
```

If you have more than one version of NextGen TotalView for HPC, just remove what you don't want. If you are just removing a version, you do not need to stop the license manager.

3. The home directories of all NextGen TotalView for HPC users have a **.totalview** subdirectory. Remove it.

If you're not interested in using NextGen TotalView for HPC after trying it, we'd really appreciate you sending email to [support@roguewave.com](mailto:support@roguewave.com) and letting us know why.

# Index

## A

- accessing a remote license server 19
- adding new license keys 28
- automatically starting license server 22

## C

- changing license keys 25
- changing licenses 15
- checking if license manager is started 20
- choosing a license server 17
- common components, installing 4
- Configure\_Autostart script 22, 29
- Configure\_License script 20, 28
- configuring the license server 31
- configuring your environment 4
- creating FlexNet user account 19

## D

- default installation directory 3
- deleting older license keys 27
- demo license
  - installing 5

## E

- environment variables
  - FLEXLM 26
  - LM\_LICENSE\_FILE 5
- evaluation license 5

## F

- finding a license server host ID 17
- FLEXLM environment variable 26
- flexlm-version directory 5
- flexlm-version/license.log log file 20
- FlexNet
  - host ID 18
  - license management

- software 17
- license manager, see also license manager
  - license server directory 26
  - user account 19
  - user ID 20
  - when required 17

## H

- host ID, finding a license server 17

## I

- Install program 3, 3–4
  - help command 3
  - installation directory 3
  - running 3
  - symbolic link creation 4
  - testing 4
- Install program, starting 23
- installation directory 3, 23
  - default 3
  - default directory 23
  - symbolic link to 4
- installcmd 3
- installing a demo license 5
- installing common components 4
- installing license keys 25
- installing licenses 15
- installing new versions 3
- installing the license server 17

## L

- license
  - changing 15
  - installing 15
  - planning for 17
- license file variable 5
- license keys
  - adding 28
  - changing 25
  - deleting older 27

- email 27
- installing 25
- removing invalid 27
- license manager 4
  - activity, listing 20
  - limitations 17
  - starting manually 20
  - stopping 20
  - testing 20
  - user account 19

- license manager not found error message 4

- license manager, checking if started 20

- license server
  - accessing 19
  - automatically starting 22
  - choosing 17
  - configuring 31
  - directory 26
  - host ID 17
  - installing 17
  - starting 29
  - stopping 29

- license.client file 19, 30

- license.dat file 19, 27, 30
  - revising 29

- license.demo evaluation license 5

- license.demo pathname 5

- license.log log file. 20

- license.src file 28
  - creating 28

- list license manager activity 20

- LM\_LICENSE\_FILE environment variable 4, 5, 30

- lmgrd license server 20

- lmstat command 20

- locating the license server 30

## M

- manually starting license manager 20

mounting proc directory 4

## N

new versions, installing 3

NextGen UI

    listing the version 4

    starting 4

## P

pathname for license.demo 5

proc directory

    mounting 4

programs

    Configure\_Autostart 22

    Install 3

    toolworks\_hostid 17

    toolworks\_init 20

## R

reinstallations 4

remove invalid license keys 27

running install program 3

## S

software version 4

starting Install program 23

starting license manager

    manually 20

starting NextGen UI 4

starting the license server 29

stopping the license

    manager 20

stopping the license server 29

sudo, using on Mac 3

symbolic link to installation

    directory 4

## T

TCP/IP port number 17

testing license manager 20

toolworks directory 3

toolworks\_hostid script 17, 27

toolworks\_init script 20, 29

toolworks\_init start

    command 20

toolworks\_init stop

    command 20, 32

## U

uninstalling 32

user account for FlexNet 19