

# TotalView Installation and Licensing Guide

Version 2024.1  
April, 2024



---

© 2024 Perforce Software, Inc. All rights reserved.  
© 2007-2024 by Rogue Wave Software, Inc., a Perforce company ("Rogue Wave"). All rights reserved.  
© 1998–2007 by Etnus LLC. All rights reserved.  
© 1996–1998 by Dolphin Interconnect Solutions, Inc.  
© 1993–1996 by BBN Systems and Technologies, a division of BBN Corporation.

Perforce and other identified trademarks are the property of Perforce Software, Inc., or one of its affiliates. Such trademarks are claimed and/or registered in the U.S. and other countries and regions. All third-party trademarks are the property of their respective holders. References to third-party trademarks do not imply endorsement or sponsorship of any products or services by the trademark holder. Contact Perforce Software, Inc., for further details.

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.

Perforce 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 Perforce. Perforce assumes no responsibility for any errors that appear in this document.

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

Perforce 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 <https://rwkbp.makekb.com/>.

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 Perforce 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 MAKES NO REPRESENTATION ABOUT THE SUITABILITY OF THE DOCUMENTATION. THE DOCUMENTATION IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND. ROGUE WAVE 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 PERFORCE 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.

TotalView by Perforce  
<http://totalview.io>

# Contents

## Introduction

Installation Overview .....	2
TotalView Distribution .....	2
TotalView Installation and Directory Hierarchy .....	2
TotalView Licensing .....	3
Evaluation Licenses .....	3
Permanent or Subscription Licenses .....	4
License Server Software .....	4

## Evaluation Installations

Installing TotalView .....	7
Demo License Installation .....	9
Transitioning to a Licensed Install .....	11

## Installing TotalView

Using a Graphical Installer .....	12
Using a Tar Ball .....	13
Next Steps .....	14

## TotalView for HPC Licensing

Overview .....	15
Install a TotalView for HPC License Server .....	17
License Server Technology .....	17
When Should an FNP or FNE License Server Still Be Used? .....	17
Choosing a License Server .....	17
Failover Protection .....	18
Transitioning to RLM License Technology .....	18
Set Up a New Reprise (RLM) License Server .....	18
Test the New RLM License Server .....	19
Communicate with the Development Team .....	19
Shut Down the Old FNP or FNE License Server .....	20
Notify the Development Team .....	20
Installing a Reprise (RLM) License Server .....	20
RLM License Server Prerequisites .....	20
Installing the RLM License Server .....	20
Starting and Stopping the RLM License Server .....	24
RLM License Failover Protection .....	24

## TotalView Developer for HPC and TotalView Student Licensing

Licensing TotalView Developer for HPC and TotalView Student . . . . .	28
Find the Host ID . . . . .	28
Install a New TotalView Developer for HPC or TotalView Student License . . . . .	29
Updating a TotalView Developer for HPC or TotalView Student License . . . . .	31

## Updating or Renewing a License

RLM License Renewal . . . . .	33
TotalView Developer for HPC and TotalView Student RLM License Renewal . . . . .	33
TotalView for HPC RLM License Renewal . . . . .	33

## Updating License Software

Updating an RLM License Server . . . . .	35
--	----

## Appendix

OS-Specific Installation Info . . . . .	37
HPE Cray Installations . . . . .	37
Installing on HPE Cray . . . . .	37
About the Install . . . . .	37
macOS Installations . . . . .	38
Prerequisites . . . . .	38
Installing on macOS . . . . .	38
FlexNet Licensing . . . . .	39
FlexNet Evaluation Licensing . . . . .	39
FlexNet Publisher (FNP) Demo License Installation . . . . .	39
FlexNet Embedded (FNE) Demo License Installation . . . . .	40
TotalView for HPC FlexNet Licensing . . . . .	41
Installing a FlexNet License Server . . . . .	41
FlexNet License Updates or Renewal . . . . .	51
Updating FlexNet License Software . . . . .	53
Updating FlexNet for FNP . . . . .	54
Updating FlexNet for FNE . . . . .	54

<b>Index</b> . . . . .	<b>55</b>
------------------------	-----------

# Introduction

The TotalView debugger can be installed and run on a variety of hardware platforms. (See the [TotalView Platform Guide](#) on the TotalView website for specifics.)

This guide is organized to lead a new customer from an evaluation of TotalView through the installation of the final, fully licensed product. It also includes the procedure to renew or update a license, install a license server, and other license-related tasks.

Beginning with TotalView 2024.1, TotalView is migrating from Flexera license technology, both FlexNet Publisher (FNP) and FlexNet Embedded (FNE), to Reprise (RLM) license technology, a technology that operates similarly.

FlexNet license technology instructions have been moved to the Appendix under [FlexNet Licensing](#).

# Installation Overview

## TotalView Distribution

TotalView is available as a download, usually via a provided link. The download includes these files:

1. The TotalView distribution (a tar file or a graphical installer, depending on the platform)
2. The TotalView documentation distribution
3. The Release Notes for that release
4. An md5sum file, containing the md5sums of the distribution files for verification that they have been transferred without error.

Once the distribution has been unpacked, run the installer, which will confirm which files are to be installed as it executes.

**NOTE:** The macOS platform and the TotalView Student product use only the graphical installer. Linux x86-64 users may install via either the tarball or the graphical installer. All other platforms install via a tar ball.

## TotalView Installation and Directory Hierarchy

TotalView can be installed either locally to an individual user's system, or on a shared file system for access by multiple users.

The first step is to unpack the files from the distribution. For example, on linux-x86-64, the distribution is typically a tar file, which should be untarred into any location, such as a scratch area. From there, install the distribution by running the `./Install` script, which will guide you through the process. For graphical installs, just launch the installer and follow the prompts.

Determine the installation directory (typically `/opt` or `/usr`, but a local install might be in a user's home directory). At that point, the install script creates the installation directory, with a top level of **toolworks**.

**NOTE:** Typically, macOS TotalView installs result in a top-level directory `/Applications/Perforce` instead of `<installdir>/toolworks`

**Table 1: Initial installation directory hierarchy**

**<installdir>**

<b>toolworks/</b>
<b>license/</b> <sup>1</sup>
<b>totalview.&lt;version&gt;/</b>
<b>bin/ toolworks_hostid</b>
<b>memoryscale.&lt;version&gt;/</b> (optional)

1.The directory "license" refers to either a single directory named "tv\_license" or directories named "FNE\_license" and "FNP\_license." This is version specific: Versions 2023.4 and later install a single directory named tv\_license; prior releases installed directories FNP\_license and FNE\_license.

- More than one version of TotalView can be installed in the **toolworks** directory. For multiple installations, you may not want to create the links when prompted by the install script, but instead, develop a simple script that allows your own links to each version.
- The directory `memoryscale.<version>` is installed only if you choose to install it when prompted.

## TotalView Licensing

A license is necessary to run TotalView. As of TotalView 2024.1, the Reprise License Manager (RLM) is the default license technology.

**NOTE:** For current Flexera license users: TotalView will temporarily continue to support the previous FlexNet Publisher (FNP) and FlexNet Embedded (FNE) license technologies, but at some point, only the RLM license technology will be supported. See [Transitioning to RLM License Technology](#).

## Evaluation Licenses

When evaluating TotalView, you are provided an evaluation demo license; just copy the file into the **tv\_license** directory:

- **Linux/Unix:**

```
cp <licensefile> <installdir>/toolworks/tv_license
```

- **On macOS:**

```
cp <licensefile> Applications/Perforce/tv_license
```

**Note:**

**For TotalView 2023.4 and later:** Copy to the directory named `tv_license`

**For releases prior to 2023.4:** copy to either `FNP_license` or `FNE_license` directory, depending on the license technology (most often FNP, i.e., FlexNet Publisher).

## Permanent or Subscription Licenses

To receive any license other than an evaluation license, a host ID is required:

- For **TotalView Developer for HPC** and **TotalView Student**, the host ID will always be the machine running TotalView itself.
- **For TotalView for HPC**, the host ID is from the machine hosting the license server; this may be either an external machine configured to be a license server, or a machine hosting both the license server and running TotalView, depending on your system.

To find the host ID, run the provided script `toolworks_hostid` on the system which will host the generated license. Provide the output of the script to the licensing department so that you can receive a permanent or subscription license. This license will contain the host ID information in an encrypted form and will work only on the system for which it was created.

## License Server Software

A license server is required only for TotalView for HPC. To set up a license server, download the appropriate license server bundle, and install the license server software specific to your license type on the machine (or machines, in the case of a failover setup) that will host the license server.

**NOTE:** A license server is **not** required for an evaluation distribution or for TotalView Developer / Developer for HPC.

You will have received the new Reprise license from Perforce Licensing. (If you are transitioning to the new Reprise license technology, you may request the older, Flexera FlexNet Publisher (FNP) or FlexNet Embedded (FNE) style license.)



The installed files include license server software for multiple platforms:

**Table 2: License server directory hierarchy**

**<installdir>**

<b>toolworks/</b>
<b>license_tech-&lt;version&gt;/<sup>1</sup></b>
<b>bin/</b>
<b>darwin-arm64/</b>
<b>darwin-x86/</b>
<b>doc/</b>
license.opt.src
<b>linux-arm64/</b>
<b>linux-powerle/</b>
<b>linux-x86-64/</b>
README.TXT
<b>sun5/</b>
VERSION

1. license\_tech is either reprise, flexlm, or flexnets, for RLM, FNP, or FNE respectively. Note that the platform directories installed depend on the license technology.

The **bin** directory contains multiple scripts to facilitate license configuration and installation.

# Evaluation Installations

A TotalView evaluation includes all the features of a fully licensed version of TotalView, but with a time-limited “demo” license.

Installing an evaluation version entails:

- Unpacking the tar file or running the graphical installer and installing TotalView
- Verifying your license by running the **toolworks\_licensetype** utility. You will have received a demo license which you will copy into the license directory.
- Installing the evaluation license
- Testing TotalView

---

# Installing TotalView

**NOTE:** The macOS uses a graphical installer. See [macOS Installations](#).

## Unpack the Tar Ball

Download the tar file version for your platform and use the **tar** command to extract TotalView. For example:

```
tar xvf totalview_<version_platform>.tar
tar xvf totalview_<version>-doc.tar
```

Before you can debug a program with TotalView, you must obtain a license. You can obtain one by filling in the form located at <https://totalview.io/free-trial>.

## Install TotalView

1. **(Optional) Become the root user**

Go to the system on which you are installing TotalView 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 TotalView as the **root** user prevents users from modifying the software. However, you should not run TotalView as **root**.

2. **Start the Install program**

Go to the directory containing the files extracted from the downloaded tar file, then start the **Install** program by entering:

```
./Install
```

This runs the installer script in interactive mode in which you are prompted with options or to provide information. For detail on using this command, type `./Install -help`. If you use any of the options described by the help, the installation procedure is no longer interactive.

3. **Accept the license terms**

To view the license terms, select **?**. You must accept the license terms to continue the installation.

4. **Choose an installation directory**

The **Install** program asks that you name an installation directory. The directory must already exist; if not, the program requests a new location.

If you do not enter a name, the installation directory will either be `/usr/` or `/opt/`, depending on the system.

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

#### 5. Choose the components to install

If you are installing TotalView for multiple platforms in a common NFS directory, install the common components only once.

#### 6. Create a symbolic link (optional)

You can create a symbolic link (named **totalview**) to this installation directory. If you are not the root user, **Install** may be unable to create the link, so you should respond “**n**” (no) to the prompt. If **Install** cannot create the link, you can ignore its complaints and continue installing TotalView by pressing **Enter**.

At this point, the **Install** program has created a **toolworks** directory with these subdirectories:

- **tv\_license**
- **memoryscape.<version>** (*optional*)
- **totalview.<version>**. This is where **Install** places TotalView.

#### 7. Exit from root (optional)

If you became root using **su**, exit from root after **Install** concludes by typing:

```
exit
```

#### 8. Test the installation

Test if TotalView was successfully installed by entering:

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

TotalView prints information that includes a version number to the console, and the user interface launches.

TotalView requires a valid license to debug a program. Continue to the next section, [Demo License Installation](#), to install your demo license.

---

# Demo License Installation

Demo licenses use the new Reprise (RLM) style licensing and are delivered as text files that are typically named **license\_demo.lic** or **license.lic**.

Before starting the license file installation, first verify that your license is a Reprise (RLM) demo file by running the **toolworks\_licensetype** utility:

## Linux/Unix:

```
<installdir>/toolworks/totalview.<version>/bin/toolworks_licensetype <licensefile>
```

## macOS:

```
/Applications/Perforce/totalview.<version>/TotalView.app/Contents/bin/toolworks_licensetype <licensefile>
```

The utility should report "Reprise (RLM) TotalView Evaluation license detected."

### *Install Option 1: Install license file in the default location in your TotalView installation.*

Before you can use TotalView, place the demo license file into the **tv\_license** directory of your TotalView installation. This license file was attached to the email message confirming your download request. If your email system did not retain the name **license\_demo.lic**, rename it after you save it to disk.

1. **Become root user (optional).**

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

2. **Copy the license file.**

Copy the license file to the **tv\_license** directory.

## Linux/Unix:

```
cp <licensefile> <installdir>/toolworks/tv_license
```

where **<installdir>** is the top-level directory where you performed the TotalView installation.

## macOS:

```
cp <licensefile> /Applications/Perforce/tv_license
```

### *Install Option 2: Install license file in a custom location*

If you do not want to install the license file in the **<installdir>/toolworks/tv\_license** directory, set your **RLM\_LICENSE** environment variable to the file's full pathname. The following example shows the bash shell style syntax for setting **RLM\_LICENSE**.

```
export RLM_LICENSE=<nonstandard-dir>/<licensefile>
```

If an **RLM\_LICENSE** environment variable already exists, add the pathname for the license file to this variable's declaration. Notice that the **RLM\_LICENSE** variable contains a colon-separated list of license file pathnames. For example:

```
export RLM_LICENSE=<nonstandard-dir>/<licensefile>:${RLM_LICENSE}
```

*Test that TotalView can use the license file*

**Linux/Unix:**

```
<installdir>/toolworks/totalview.<version>/bin/totalview \  
<installdir>/toolworks/totalview.<version>/<platform>/examples/wave
```

**On macOS:**

```
/Applications/Perforce/totalview.<version>/TotalView.app/Contents/bin/totalview \  
&#92;/Applications/Perforce/totalview.<version>/TotalView.app/Contents \  
&#92;/darwin-<x86|arm64>/examples/wave
```

**NOTE:** Easily start TotalView on macOS by double clicking the TotalView application icon under / Applications/Perforce/totalview.<version>.

TotalView should come up with no license error dialogs.

# Transitioning to a Licensed Install

The procedure for transitioning from a demo license to a licensed TotalView product differs depending on the TotalView product to which you are transitioning.

**NOTE:** To get a permanent/subscription license, TotalView needs to be installed. If you have completed an evaluation, you may already have it installed; if not, see [Installing TotalView](#).

## *Summary of the licensing process*

- Determine the host ID for your machine and provide it to the licensing team to receive a permanent or subscription license.  
**Note:** For TotalView Developer for HPC and TotalView Student, the individual machine's host ID is used; for TotalView for HPC, this host ID will be for the license server.
- Confirm your license by running the utility **toolworks\_licensetype**, which should report an FNP, FNE, or RLM license and the TotalView product that you have.
- Install the license, either on an individual machine or set up a license server, if your product requires one. (Only TotalView for HPC requires a license server.)

For detail, see:

- [TotalView Developer for HPC and TotalView Student Licensing](#)  
The equivalent of the previous product TotalView Individual
- [TotalView for HPC Licensing](#)  
The equivalent of the previous products TotalView Team or Team Plus

**NOTE:** Installations for HPE Cray and macOS may require different or additional procedures. See [OS-Specific Installation Info](#) in the [Appendix](#) for more detail.

# Installing TotalView

**NOTE:** If you are installing TotalView to use with a demo license, see [Evaluation Installations](#). To get a demo license, see <https://totalview.io/free-trial>.

If you have already installed TotalView, skip this chapter, and move on to licensing:

- For TotalView Developer for HPC or TotalView Student, see [TotalView Developer for HPC and TotalView Student Licensing](#).
- For TotalView for HPC, see [TotalView for HPC Licensing](#).

Most TotalView installers are provided as tar bundles, although installing on the macOS requires a graphical installer, and a graphical installer is also available for Linux x86 64-bit.

- [Using a Graphical Installer](#)
- [Using a Tar Ball](#)

**NOTE:** Before starting, read the *Release Notes* on the [TotalView documentation](#) web page for late breaking information that may not be in the documentation. For more information, see the [TotalView Platforms Guide](#) in the product distribution or on the web at [TotalView Platforms Guide](#).

## Using a Graphical Installer

All installations on a macOS platform are via a graphical installer, and a graphical installer is also available on Linux x86 64-bit.

1. Download the installer from <https://totalview.io/success/downloads>.



Use the dropdown controls near the top of the page to select the TotalView Developer for HPC or TotalView Student installer for your platform, along with a documentation tar bundle and an MD5 checksum file. Online links to the change log and release notes for the current version are also available.

- For **Linux**, the installer is a `.run` file to be invoked from the command line in a terminal window.
  - For **macOS**, the installer is a `.dmg` file.
2. Run the installer and follow the installation steps.

## Using a Tar Ball

This discussion describes how to install a new version of TotalView from a tar ball.

### *Unpack the Tar Ball*

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

```
tar xvf totalview_<version_platform>.tar
tar xvf totalview_<version>-doc.tar
```

### *Install TotalView*

1. **(Optional) Become the root user**

Go to the system on which you are installing TotalView 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 TotalView as the **root** user prevents users from modifying the software. However, you should not run TotalView as **root**.

2. **Start the Install program**

Go to the directory containing the files extracted from the downloaded tar file, then start the **Install** program by entering:

```
./Install
```

This runs the installer script in interactive mode in which you are prompted with options or to provide information. For detail on using this command, type `./Install -help`. If you use any of the options described by the help, the installation procedure is no longer interactive.

3. **Accept the license terms**

To view the license terms, select **?**. You must accept the license terms to continue the installation.

#### 4. Choose an installation directory

The **Install** program asks that you name an installation directory. The directory must already exist; if not, the program requests a new location.

If you do not enter a name, the installation directory defaults to either `/usr/` or `/opt/`, depending on the system.

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

#### 5. Choose the components to install

If you are installing TotalView for multiple platforms in a common NFS directory, install the common components only once.

#### 6. Create a symbolic link (optional)

You can create a symbolic link (named **totalview**) to this installation directory. If you are not the root user, **Install** may be unable to create the link, so you should respond "n" (no) to the prompt. If **Install** cannot create the link, you can ignore its complaints and continue installing TotalView by pressing **Enter**.

At this point, the **Install** program has created a **toolworks** directory with these subdirectories:

- **tv\_license**
- **memoryscape.<version>** (optional)
- **totalview.<version>**. This is where **Install** places TotalView.

#### 7. Exit from root (optional)

If you became root using **su**, exit from root after **Install** concludes by typing:

```
exit
```

#### 8. Test the installation

Test if TotalView was successfully installed by entering:

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

TotalView prints information that includes a version number to the console, and the user interface launches.

If you try to debug a target program and TotalView cannot find a valid license file or cannot contact the license server, it displays an "RLM license error: No license for product (-1)" message. If this occurs, confirm that you installed the license.

**For Linux x86-64 and Linux PowerLE:** TotalView's user interface requires `libxkbcommon` and `libXcomposite` to be installed; these are typically included as part of a desktop graphical environment.

## Next Steps

After installation, license your product:

- For TotalView Developer for HPC or TotalView Student, see [TotalView Developer for HPC and TotalView Student Licensing](#).
- For TotalView for HPC, see [TotalView for HPC Licensing](#).

# TotalView for HPC Licensing

## Overview

**NOTE:** If you have not yet installed TotalView or wish to reinstall, see [Installing TotalView](#). To renew or update an existing license, see [Updating or Renewing a License](#).

TotalView for HPC installations require a license server. You may have installed TotalView on the machine that will host the license server, or on a client machine that will point to the license server:

- **For the machine hosting the license server:**
  - The license server will be installed and configured in an additional directory created by the license server software installation, not by the TotalView installation.
  - The license issued will be a Reprise (RLM) style license. See [Transitioning to RLM License Technology](#) for more information about migrating from FNP or FNE license technology to RLM.  
See [Install a TotalView for HPC License Server](#).
- **For a client machine pointing to the license server** for its licensing information, either install a license server pointer file in the **tv\_license** directory created by the TotalView installer, or set an environment variable.

**NOTE:** Versions prior to 2023.4 will have a `.../toolworks/FNP_license` or `.../toolworks/FNE_license`, rather than `.../toolworks/tv_license`.

Set the environment variable to point to the license as follows:

- **RLM\_LICENSE** for a RLM style license
- **LM\_LICENSE\_FILE** for an FNP style license (deprecated)

- **TV\_LICENSE\_FILE** for an FNE style license (deprecated)

You do not need to install a license server; instead, whomever administers the license server will need to provide you with a license.

- **For an RLM style license**, see [5. Point TotalView Client Installations to the RLM License Server](#).
- **For an FNP style license** (deprecated), see [5. Point TotalView Client Installations to the FNP License Server](#) in the [Appendix](#).
- **For an FNE style license** (deprecated), see [5. Point TotalView Client Installations to the FNE License Server](#) in the [Appendix](#)

---

# Install a TotalView for HPC License Server

A license server is required for TotalView for HPC. TotalView Developer for HPC and TotalView Student do not need a license server.

To understand the considerations when choosing a license server, see [Choosing a License Server](#).

## License Server Technology

Depending on your platform and license type, you will either download and install the RLM, FNP, or FNE licensing server bundle:

- **RLM: New license technology available with the 2023.4 release**, replacing the use of FNP and FNE license servers and used by all new customers or those renewing. See [Installing a Reprise \(RLM\) License Server](#).
- **FNP: Most platforms**. All platforms except macOS ARM64, Linux ARM64, and Linux PowerLE. See [Installing a FlexNet Publisher \(FNP\) License Server](#).
- **FNE: macOS ARM64, Linux ARM64 and Linux PowerLE**. These platforms *require* FNE licenses. See [Installing a FlexNet Embedded \(FNE\) License Server](#).

**NOTE:** TotalView is deprecating the use of the FNP and FNE license technologies and will use only the Reprise License Manager (RLM) license technology in a future release. Beginning in 2024, all new TotalView customers will receive RLM style licenses. Existing customers will receive RLM style licenses when they renew.

## When Should an FNP or FNE License Server Still Be Used?

Customers using existing FNP or FNE license servers will continue to use them until they are issued an RLM license. They will then follow the [Transitioning to RLM License Technology](#) procedure to migrate to the new license server technology.

## Choosing a License Server

You will need to install the license server the first time you install a TotalView permanent/subscription license. In some cases, the license server and TotalView reside on the same system. However, you can install them on different systems, as long as the license server system is a platform that TotalView supports.

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

**NOTE:** The license server must be installed on a supported platform. In particular, because TotalView doesn't run on Windows, a license server cannot be on a Windows system. See the [TotalView Platform Guide](#) for specifics.

If you already have a license server in your network, you should not include your TotalView license with the other licenses managed by that license server. If you must combine license servers, consult the RLM, FNP, or FNE documentation.

## Failover Protection

All licensing types optionally provide failover protection to ensure that users are not interrupted in the event of a license server failure. This is provided through the designation of a failover server. See [RLM License Failover Protection](#).

## Transitioning to RLM License Technology

TotalView is transitioning its license technology to the Reprise License Manager (RLM). As of the 2024.1 release, all new licenses and renewed licenses will be issued with the Reprise license technology. The Reprise license technology operates much like the FlexNet Publisher (FNP) license technology, so setting up and using an RLM license server is similar.

These are the recommended transition steps to move from either an FNP or FNE license server to an RLM server.

- [Set Up a New Reprise \(RLM\) License Server](#)
- [Test the New RLM License Server](#)
- [Communicate with the Development Team](#)
- [Notify the Development Team](#)

### Set Up a New Reprise (RLM) License Server

Begin the license server transition by setting up a new Reprise License Server and loading your license into it. Follow steps 1 - 4 in [Installing the RLM License Server](#) for instructions on setting up a new Reprise license server and preparing your license.

Final TotalView license setup discussed in [Step 5](#) will be done later.

## Test the New RLM License Server

Validate that the RLM license server is properly serving licenses by running TotalView on a separate system and pointing at the license server using the **RLM\_LICENSE** environment variable.

For example, the following command sets the **RLM\_LICENSE** environment variable, runs the command line interface of TotalView, and instructs it to display license information, and then run the **ls** program.

```
env RLM_LICENSE=7147@license-tvt.totalviewtech.com totalviewcli -verbosity error -e
".license ; dgo ; dwait ; quit -force" /bin/ls
    Manager: reprise
      Feature: TotalView_Teams
    Processors: big
    Processes: linux-x86_64:1
      Threads: big
    Remote Debug: Yes
    Remote Display: Yes
    Memory Debugging: Yes
    TVDEngine: No
    Replay Processes: big (reserved)
    CUDA Processes: big (reserved)
    Single Instance: No
    Platforms: solaris-sparc linux-x86_64 linux-arm64 linux-powerle darwin-x86
darwin-arm64
    Cross Processors: big:
      Maximum Version: 2030.0101
    Entitlement Code: 28a694cdd8840636dabaeab42f36178d
    Expiration Date: permanent
      Demo: No
      Notice: For Perforce Internal Use Only
    Customer: TotalView
    Contract: PO:123456789

myfile.txt
```

Validate that you are able to run TotalView in a similar manner and that:

- The Manager line should report "reprise".
- The Processes line should show the architecture and number of process tokens consumed (e.g., linux-x86\_64:1).
- The contents of the directory you ran the command in are displayed.

## Communicate with the Development Team

Notify the development team of the coming license server change, provide a time frame regarding when the change will take place, and please note that further instructions for any environment changes will be provided.



---

## Shut Down the Old FNP or FNE License Server

For an **FNP license server**, follow the instructions in [Starting and Stopping an FNP License Server](#) to stop the FNP license server.

For an **FNE license server**, follow the instructions in [Starting and Stopping an FNE License Server](#) to stop the FNE license server.

## Notify the Development Team

Perform the final Step 5. [Point TotalView Client Installations to the RLM License Server](#) to configure how TotalView will access the license server for use by your development team.

Notify the development team that the server change has been completed and of any environment changes they may need to make. If the team was explicitly setting either the **LM\_LICENSE\_FILE** or **TV\_LICENSE\_FILE** environment variables, provide instructions to replace use of them with the **RLM\_LICENSE** environment variable.

## Installing a Reprise (RLM) License Server

A TotalView RLM license server must be hosted on a platform that TotalView supports. (For platform support specifics, see the *RLM License Administration* PDF included in the distribution under `<installdir>/toolworks/repriselm-<version>/doc.`).

### *Installation Procedure*

1. [Install the RLM Software](#)
2. [Generate a Host ID for the RLM License Server](#)
3. [Verify Your RLM License and Product](#)
4. [Configure the RLM License Server](#)
5. [Point TotalView Client Installations to the RLM License Server](#)

## RLM License Server Prerequisites

To install an RLM license server:

1. The license server must be installed on a platform supported by TotalView.
2. A dedicated unprivileged user account is recommended on the system that hosts the license server.

## Installing the RLM License Server

## 1. Install the RLM Software

**NOTE:** For served license renewal, skip this section and see [Updating or Renewing a License](#).

### 1. Download the RLM license server tar bundle

The tar bundle **repriselm-*<version>*.tar** is available for download from the TotalView website at <https://totalview.io/success/downloads>.

### 2. Unpack your TotalView RLM distribution on the license server system

To install the RLM license server software, unpack the RLM tar bundle onto the machine that will host the license server, then run the Install script from the resulting directory:

```
tar xvf repriselm-<version>.tar -C ~
cd ~/repriselm-<version>
```

### 3. Run the Install script using sudo (optional but recommended)

```
sudo ./Install
```

This runs Install in interactive mode in which you are prompted with options or to provide information.

- Choose an installation directory, e.g., `/opt`.
- At the prompt, select the components to install.  
Choose to install the license common files and the relevant license platform files for your license server. (The tar ball includes license server software for multiple platforms.)

After the Install script completes, you should have a **repriselm-*<version>*** directory under *<installdir>/toolworks*.

## 2. Generate a Host ID for the RLM License Server

To obtain host information, run the **toolworks\_hostid** script, as follows:

```
<installdir>/toolworks/repriselm-<version>/bin/toolworks_hostid
```

**NOTE:** Do *not* use the UNIX **hostid** command, as it may not return the proper host ID for RLM.

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

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

Be aware that a host ID is returned for just RLM when invoking **toolworks\_hostid** from the `repriselm-<version>` directory. Running **toolworks\_hostid** under the `<installdir>/toolworks/totalview.<version>` directory might also return a FlexNet Publisher and/or FlexNet Embedded host ID. If so, ignore those.

If **toolworks\_hostid** returns multiple RLM host IDs, select a *persistent* host ID, i.e., one for a device that is always part of the system when the license server software is running. The license server host ID is derived from the physical MAC address of a network interface card, and the host ID chosen must be a persistent address.

Send the host ID to the TotalView license team, [license@perforce.com](mailto:license@perforce.com), who will then send you a permanent/subscription license.

### 3. Verify Your RLM License and Product

After receiving your license, you can verify your license and product by running the utility **toolworks\_licensetype**, providing as input the license file:

```
<installdir>/toolworks/totalview.<version>/bin/toolworks_licensetype <licensefile>
```

The script returns the license type, the product, and whether a license server is required. For example:

```
Reprise (RLM) TotalView for HPC license(s) detected
These licenses are counted.  A license server is required.
For license setup help refer to TotalView for HPC > Reprise (RLM)
in the TotalView Installation and Licensing Guide.
```

### 4. Configure the RLM License Server

#### 1. Create a file named **license.src** in your `<installdir>/toolworks/repriselm-<version>` directory

- Change to the `repriselm-<version>` directory on the license server  
`cd <installdir>/toolworks/repriselm-<version>`
- Copy and paste the new license keys — this is the information that you received through email — into a file named **license.src** in the `<installdir>/toolworks/repriselm-<version>` directory.

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

#### 2. 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 [RLM License Server Prerequisites](#).

While not required, it's recommended to have a dedicated, *unprivileged* user account to run the license server. Note that the login shell should be `/bin/sh`.

3. Run the `<installdir>/toolworks/repriselm-<version>/bin/Configure_License` script on the license server, to create the following files:
  - `<installdir>/toolworks/repriselm-<version>/license.lic`
  - `<installdir>/toolworks/repriselm-<version>/license.opt`

**NOTE:** If you already have a `license.opt` file, the script prompts whether you want to overwrite it. Answer “n” to preserve your existing file. If you answer “y”, a new file is created, but your existing file is saved as `license.opt.old`.

- `<installdir>/toolworks/repriselm-<version>/license.client`
- `<installdir>/toolworks/repriselm-<version>/bin/toolworks_init`

## 5. Point TotalView Client Installations to the RLM License Server

**NOTE:** Perform this final step after completing the steps in [Set Up a New Reprise \(RLM\) License Server](#).

Each client machine that will run TotalView needs access to a license. If you are running TotalView and the license server in the installation directory on the same machine, you can skip this step.

If TotalView and the license server are not running on the same machine, you need to ensure that TotalView can find the license, using one of two ways:

- Place a `license.lic` file in a directory of each additional TotalView installation. Copy the `<installdir>/toolworks/repriselm-<version>/license.client` file from the license server into the `<installdir>/toolworks/tv_license` directory on each client machine and rename that file `license.lic`.

**or**

- Set the environment variable `RLM_LICENSE` with the license server's `port@host` specification.

For example (bash):

```
RLM_LICENSE=7147@licserver.mycompany.com
export RLM_LICENSE
```

## Starting and Stopping the RLM License Server

### Starting the License Server

Run the following command to start the license server.

```
<installdir>/toolworks/repriselm-<version>/bin/toolworks_init start
```

**NOTE:** Note that `toolworks_init` was generated by the `Configure_License` script in 4. Configure the RLM License Server.

You can check that the license server started by viewing its log, created after running `toolworks_init start` at:

```
<installdir>/toolworks/repriselm-<version>/license.log
```

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**.

### Stopping the License Server

To stop the license server:

```
<installdir>/toolworks/repriselm-<version>/bin/toolworks_init stop
```

### Autostarting the License Server

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

```
<installdir>/toolworks/repriselm-<version>/bin/Configure_Autostart
```

`Configure_Autostart` prompts you with some configuration questions and then makes changes to the specified startup files.

## RLM License Failover Protection

If you require RLM license failover support, you can set it up in one of two ways: one method implements a primary/backup server setup; the other requires two or more license servers or uncounted licenses to be available in a search list. For detail, see *RLM License Administration* located in the directory `<installdir>/toolworks/repriselm-<version>/doc`.

**NOTE:** In most (if not all) cases, the primary/backup server setup is recommended over the search list because using the search list requires that your purchased license tokens be split between the servers in the list, limiting the number of processes you can run on a given server.

### Primary/Backup Server Configuration

A primary/backup failover server setup includes two servers: the primary license server that serves the licenses and a backup server that takes over if the primary server fails.

#### How to set up a primary and backup server configuration:

This discussion is based on the procedure for installing a single license server, detailed in the section [Installing the RLM License Server](#), with a few changes to accommodate two servers.

1. **Install the license server software** on both the primary license server and the failover license server host machines, following the procedure detailed in [1. Install the RLM Software](#).
2. **Run toolworks\_hostid on both machines**, following [2. Generate a Host ID for the RLM License Server](#). Return both outputs to the license team at [license@perforce.com](mailto:license@perforce.com). The license team will then send you license text for both the primary and failover server hosts, for example:

```
$ cat license.src
Primary server license
-----
## BEGIN PERFORCE TOTALVIEW KEY
## HOSTID=005056b265db,005056b2c3ae
LICENSE prqa totalview_teams 2025.0213 permanent 10 start=12-feb-2024
  issuer="Issued by Perforce Software for use by licensed developers only"
  platforms="arm64_l arm64 m p64_l sun64_s x64_l x64 m" customer="My
  Company" contract=LIC-000000000000 issued=13-feb-2024
  _ck=93067ed608 sig="60P04 [REDACTED] 'UAKMBMXN3HKMJVP822HJGXU5
  VDFS5MDRQQXPK1SUXWS2GF6H74"
## END PERFORCE TOTALVIEW KEY

Failover server license
-----
## BEGIN PERFORCE TOTALVIEW KEY
## HOSTID=005056b265db,005056b2c3ae
LICENSE prqa rlm_failover_server 1.0 permanent 1 hostid=005056b265db
  _primary_server=7147@localhost _ck=05cbfc6e8e sig="60I [REDACTED] |
  VPTD6RTN0Y3H7QHR8F8HAG22GH4DW1TNKUBCY9ACWBRAGSSH6RUW1J64"
## END PERFORCE TOTALVIEW KEY
$ █
```

**NOTE:** You may receive both licenses in a single file; however, each host machine requires its own `license.src` file.

Copy the license text from the line `## BEGIN ...` to the line `## END ...`, inclusive, into separate text files, and name each file `license.src`.

3. **On the primary license server host:**

- Perform [3. Verify Your RLM License and Product](#).
- Perform [4. Configure the RLM License Server](#).

Note the port selection here, as it will be needed in setting up the failover server.

**NOTE:** Skip [5. Point TotalView Client Installations to the RLM License Server](#) until after you have configured both servers.

4. **Start the primary license server**, using the procedure in [Starting and Stopping the RLM License Server](#).

5. **On the failover license server host:**

- Perform [3. Verify Your RLM License and Product](#).
- Perform [Step 1](#) and [Step 2](#) from [4. Configure the RLM License Server](#), to create a file named `license.src` and a dedicated unprivileged user account.

**NOTE:** Before [Step 3](#), which requires running the `Configure_License` script, first edit the `_primary_server=` field in the `license.src` file. Avoid editing any other fields.

- Edit the `_primary_server=` field in the failover server's `license.src` to identify the port and host name of the primary server. For example:  
`_primary_server=7147@licserver1.mycompany.com`  
 Do not edit other fields in the failover license to avoid invalidating the encryption.
- Perform [Step 3](#) from [4. Configure the RLM License Server](#) to run the `Configure_License` script.

Unlike running this script to configure a primary license server, configuring a failover license results in a generated file named **failover.lic**, rather than **license.lic**, in the directory `<installdir>/toolworks/repriselm-<version>` on the failover host.

6. **Copy the primary server's file license.lic** to the failover server host.

This results in two **.lic** files in the directory `<installdir>/toolworks/repriselm-<version>` on the failover server host: **license.lic** and **failover.lic**.

7. **Start the failover server**, as described in [Starting and Stopping the RLM License Server](#).

At this point, both the primary and the failover server have been fully configured and are now running.

8. **Direct a remote instance of TotalView to both license servers**

Ensure that TotalView can find the license, using the basic procedure discussed in [5. Point TotalView Client Installations to the RLM License Server](#), with these changes:

- **Using the license.client files**

*From the primary server:*

Copy the **license.client** file from the primary server to the directory `<installdir>/toolworks/tv_license` on the machine running TotalView. Rename the file **server1.lic**.

*From the failover server:*

Copy the **license.client** file from the failover server to the directory `<installdir>/toolworks/tv_license` on the machine running TotalView. Rename the file **server2.lic**.

**NOTE:** The extension **.lic** is required.

- **Using an environment variable**

Instead of using files, you can add the *port@host* specifications to environment variable **RLM\_LICENSE** to direct TotalView to the license servers. Use the colon-separated format `<primary_port>@<primary_host_name>:<failover_port>@<failover_host_name>`. For example (bash):

```
7147@licserver1.mycompany.com:7147@licserver2.mycompany.com
export RLM_LICENSE
```

See *Failover License Servers* in the RLM License Administration manual for further details.



# TotalView Developer for HPC and TotalView Student Licensing

**NOTE:** If you have not yet installed TotalView or wish to reinstall, see [Installing TotalView](#).

The TotalView Developer for HPC and TotalView Student installation and licensing process includes:

1. Downloading and installing TotalView. See [Installing TotalView](#).
2. Identifying the license host ID and providing it to the licensing team to receive your license.
3. Installing the license in the default location, or a custom location.

To renew or update an existing license, see [Updating or Renewing a License](#).

## Licensing TotalView Developer for HPC and TotalView Student

After TotalView has been installed, a Host ID for your system must be generated and sent to the TotalView licensing team to generate your permanent license.

The licensing process includes:

1. Identifying the license host ID and providing it to the licensing team to receive your license.
2. Copying the license to the default location or using a custom location.

To renew or update an existing license, see [Updating or Renewing a License](#).

### Find the Host ID

When you install TotalView, in most cases, the installer places the **toolworks\_hostid** script in `<installdir>/toolworks/totalview.<version>/bin`. For macOS installations, the **toolworks\_hostid** script is found in `/Applications/Perforce/totalview.<version>/TotalView.app/Contents/bin`.

To obtain host information, run the **toolworks\_hostid** script, as follows:

**Linux/Unix:**

```
<installdir>/toolworks/totalview.<version>/bin/toolworks_hostid
```

**macOS:**

```
/Applications/Perforce/totalview.<version>/TotalView.app/Contents/bin/toolworks_hostid
```

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

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

```
The host name for this machine is: fast-server
The FlexNet Embedded host ID for this machine is: 0050569b1835
The FlexNet Publisher host ID for this machine is: 0050569b1835
The Reprise host ID for this machine is: 0050569b1835
```

To receive a license, copy and paste this information in its entirety, and email it to [license@perforce.com](mailto:license@perforce.com) along with the account number provided in your initial TotalView Welcome Letter.

## Install a New TotalView Developer for HPC or TotalView Student License

Before starting the license file installation, first verify that your license is a Reprise (RLM) license file by running the **toolworks\_licensetype** utility:

**Linux/Unix:**

```
<installdir>/toolworks/totalview.<version>/bin/toolworks_licensetype <licensefile>
```

**macOS:**

```
/Applications/Perforce/totalview.<version>/TotalView.app/Contents/bin/      tool-
works_licensetype <licensefile>
```

The utility should report "Reprise (RLM) TotalView Developer / Developer for HPC license detected" or "Reprise (RLM) TotalView Student license detected."

If an RLM license is not reported, contact [license@perforce.com](mailto:license@perforce.com) for the proper license.

If you installed TotalView as the **root** user, become the **root** user again to install the license file. If you used **sudo** to install TotalView, use **sudo** here.

Installing the license file consists of simply copying the provided license to the directory where TotalView expects to find it. To use a custom directory, additional configuration is required.

The license you have received is typically named **license.lic**.

## Install Option 1: Install the license file in the default location

Place the license file into the `license` directory of your TotalView installation.

### Linux/Unix:

```
cp <licensefile> <installdir>/toolworks/tv_license
```

### macOS:

```
cp <licensefile> /Applications/Perforce/tv_license
```

where `<installdir>` is the top-level directory where you performed the TotalView installation.

**NOTE:** When using a graphical installer, a toolworks directory may not be created; in this case, the license directory will be directly under the installation directory. For example, on macOS, the license directory will be `/Applications/Perforce/tv_license`.

## Install Option 2: Install the license file in a custom location

To use a custom licensing directory:

1. Set the **RLM\_LICENSE** environment variable to the file's full pathname. The following example shows the bash shell style syntax for setting **RLM\_LICENSE**.

```
export RLM_LICENSE=<nonstandard-dir>/<licensefile>
```

If an **RLM\_LICENSE** environment variable already exists, add the pathname for the license file to this variable's declaration. Notice that the **RLM\_LICENSE** variable contains a colon-separated list of license file pathnames. For example:

```
export RLM_LICENSE=<nonstandard-dir>/<licensefile>:${RLM_LICENSE}
```

2. Copy the license file into the custom directory.

```
cp <licensefile> <path-to-custom-dir>
```

## Test the License File

After installing the license, you can test that the license file is working:

1. Launch TotalView:

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

2. Test a program, for example:

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

TotalView should come up with no licensing dialogs.

## Updating a TotalView Developer for HPC or TotalView Student License

To update an existing TotalView Developer for HPC or TotalView Student License with a new one, follow the [RLM License Renewal](#) instructions.

# Updating or Renewing a License

Updating or renewing a license generally entails just overwriting an existing license with a new license file, although updating a served license requires running a script.

**NOTE:** To update or renew a TotalView for HPC FNP or FNE license, see the [Appendix](#), either [Updating or Renewing a TotalView for HPC FNP License](#) or [Updating or Renewing a TotalView for HPC FNE License](#).

# RLM License Renewal

You will have received a new license file via email. Before starting the license file update process, first verify that your license is a Reprise (RLM) license file by running the **toolworks\_licensetype** utility:

**Linux/Unix:**

```
<installdir>/toolworks/totalview.<version>/bin/toolworks_licensetype <licensefile>
```

**macOS:**

```
/Applications/Perforce/totalview.<version>/TotalView.app/Contents/bin/ tool-  
works_licensetype <licensefile>
```

The utility should report "Reprise (RLM) TotalView <product> license detected". If an RLM license is not reported, contact [license@perforce.com](mailto:license@perforce.com) for the proper license.

## TotalView Developer for HPC and TotalView Student RLM License Renewal

You will have received a new **license.lic** file via email. After the license file has been verified as a RLM license, place this file in the same location as your existing **license.lic** file, allowing it to overwrite the older file.

## TotalView for HPC RLM License Renewal

To renew a TotalView for HPC license:

1. Overwrite the existing logical **LICENSE** lines in your **license.lic** file with the updated license.

**NOTE:** You may wish to first back up your existing license file.

Using a text editor, edit the **license.lic** file to replace the previous **LICENSE** lines *for the specific feature provided in the license* with the new TotalView license keys you have received.

If you have multiple licenses in **license.lic**, take care to replace only the new one. Each individual license starts with the word **LICENSE**.

2. Run the script **toolworks\_rlmreread** to reload the **license.lic** file.

```
<installdir>/toolworks/repriselm-<version>/bin/toolworks_rlmreread
```

**NOTE:** If you have older, invalid license keys, remove them from your system to ensure compliance with the Perforce Permanent License Agreement.

# Updating License Software

**NOTE:** Updating the FlexNet or RLM license software is relevant only to TotalView for HPC which uses a served license.

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

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

If your TotalView release does include a newer RLM version than that which is currently installed on your system, you'll need to first update RLM on your system before either updating your license or installing a new version of TotalView.

**NOTE:** This section concerns updating the RLM license server software. See the [Appendix](#) for instructions on [Updating FlexNet License Software](#).

## Updating an RLM License Server

To update RLM:

1. Stop the currently running license server:

```
<installdir>/toolworks/repriselm-<oldversion>/bin/toolworks_init stop
```

2. Open `<installdir>/toolworks/repriselm-<oldversion>/license.lic`, and note the license server manager daemon's TCP/IP port number. This is the last field on the HOST line (for example: "7147").
3. Next, follow the steps to install a new license. When the **Configure\_License** script asks for the RLM daemon's TCP/IP port number, enter the port number as noted above.



# Appendix

- **OS-Specific Installation Info**
  - HPE Cray Installations
  - macOS Installations
- FlexNet Licensing

---

# OS-Specific Installation Info

## HPE Cray Installations

Install TotalView where it is visible from your Linux login nodes. Do not install TotalView on your compute nodes. TotalView communicates with these nodes using a library created by Cray.

### Installing on HPE Cray

The HPE Cray distribution is an rpm file, and so you need to run **rpm** to install it.

Before installing, if you know you want to install the package as the default version, first set the environment variable `CRAY_INSTALL_DEFAULT` as follows:

```
export CRAY_INSTALL_DEFAULT=1
```

Note that you do not need to make this decision upfront. You can install TotalView first, and if you decide later to make this package the default you can execute the following:

```
/opt/cray/admin-pe/set_default_files/set_default_totalview_<version>  
/opt/cray/admin-pe/set_default_files/set_default_totalview-support_<version>
```

To install TotalView on HPE Cray systems, run the **rpm** command as follows:

#### Linux x86\_64

```
rpm -ivh totalview-<version>.x86_64.rpm
```

#### Linux ARM64

```
rpm -ivh totalview-<version>.aarch64.rpm
```

Then Install the license.

### About the Install

In contrast to the standard TotalView installation, the Cray installation doesn't prompt for a location in which to install TotalView, as it knows where to install files.

The **rpm** application places the Cray bulk launching system and other support modules within the installation directory.

TotalView on Cray systems uses **totalview-support** product components to provide essential interface components that allow TotalView to execute in Cray environments. Included within **totalview-support** are the **totalview-mem-debug** module, a configuration file, and a set of bulk launcher executables.

---

## macOS Installations

The macOS installer is a DMG graphical installer.

### Prerequisites

Installing TotalView on the macOS comes with some prerequisites.

1. Make sure every user who might need to debug is in the `_developer` group.
2. *Optional:* Enable developer mode:  
Enter: `DevToolsSecurity -enable`.
3. *Optional:* Remove the authorization prompt:  
Enter: `sudo security authorizationdb write system.privilege.taskport allow`.
4. **Classic UI only**

The TotalView classic UI requires that [XQuartz](#) be installed on the machine where TotalView is running. Note that the classic UI is supported only on Apple x86-based systems.

The installer should not result in any errors. If errors occur, see [Troubleshooting macOS Installations](#) in the *Reference Guide* for information.

### *Running Multiple Displays*

If you are running TotalView on multiple displays, you may wish to uncheck **Displays have separate Spaces** under the **Mission Control** preference. This avoids potential display problems in which the TotalView UI could appear partially out of the display.

## Installing on macOS

Download the macOS DMG graphical installer from [TotalView's download page](#), choosing "Apple macOS - Intel" or "Apple macOS - ARM64" from the **Platform** dropdown, and then either **TotalView** or **TotalView Student**.

Select the **Download** button to download the installer.

Double click the `.dmg` file and follow the installer prompts. Choose a location for the install or accept the default, which is `Applications/Perforce/totalview.<version>`.

For detail on installing a non-student TotalView license, see either [TotalView for HPC Licensing](#) or [TotalView Developer for HPC and TotalView Student Licensing](#).

---

# FlexNet Licensing

TotalView has deprecated the use of the FNP and FNE license technologies and will use only the Reprise License Manager (RLM) license technology in a future release. If you have not yet transitioned to RLM, this section provides instructions for using FlexNet licenses.

## FlexNet Evaluation Licensing

### FlexNet Publisher (FNP) Demo License Installation

FlexNet Publisher (FNP) style licensing uses text license files that are typically named **license.demo** or **license.dat**.

Before starting the license file installation, first verify that your license file is a FlexNet Publisher style license by running the **toolworks\_licensetype** utility:

```
<installdir>/toolworks/totalview.<version>/bin/toolworks_licensetype <licensefile>
```

The utility should report "FlexNet Publisher (FNP)". If it reports "FlexNet Embedded (FNE)" see [FlexNet Embedded \(FNE\) Demo License Installation](#).

*Install Option 1: Install license file in the default location in your TotalView installation.*

**NOTE:** Versions prior to 2023.4 will have a `.../toolworks/FNP_license` directory, rather than `.../toolworks/tv_license`.

Before you can use TotalView, place the demo license file into the `tv_license` directory of your TotalView installation. This license file was attached to the email message confirming your download request. If your email system did not retain the name **license.demo**, rename it after you save it to disk.

1. **Become root user (optional).**

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

2. **Copy the license file.**

Copy the license file to the `tv_license` directory.

```
cp <licensefile> <installdir>/toolworks/tv_license
```

where `<installdir>` is the top-level directory where you performed the TotalView installation.

### *Install Option 2: Install license file in a custom location*

If you do not want to install the license file in the `<installdir>/toolworks/tv_license` directory, set your **LM\_LICENSE\_FILE** environment variable to the file's full pathname. The following example shows the bash shell style syntax for setting **LM\_LICENSE\_FILE**.

```
export LM_LICENSE_FILE=<nonstandard-dir>/<licensefile>
```

If a **LM\_LICENSE\_FILE** environment variable already exists, add the pathname for the license file to this variable's declaration. Notice that the **LM\_LICENSE\_FILE** variable contains a colon-separated list of license file pathnames. For example:

```
export LM_LICENSE_FILE=<nonstandard-dir>/<licensefile>:${LM_LICENSE_FILE}
```

### *Test that TotalView can use the license file*

Enter:

```
<installdir>/toolworks/totalview.<version>/bin/totalview \  
  <installdir>/toolworks/totalview.<version>/<platform>/examples/wave
```

TotalView should come up without any license error dialogs.

## FlexNet Embedded (FNE) Demo License Installation

FlexNet Embedded (FNE) style licensing uses binary license files typically named **license\_demo.bin** or **license.bin**.

Before starting the license file installation, first verify that your license file is a FlexNet Embedded style license by running the **toolworks\_licensetype** utility:

```
<installdir>/toolworks/totalview.<version>/bin/toolworks_licensetype <licensefile>
```

The utility should report "FlexNet Embedded (FNE)". If it reports "FlexNet Publisher (FNP)," see [FlexNet Publisher \(FNP\) Demo License Installation](#).

### *Install Option 1: Install license file in the default location within your TotalView installation.*

**NOTE:** Versions prior to 2023.4 will have a `.../toolworks/FNE_license` directory, rather than `.../toolworks/tv_license`.

Before you can use TotalView, place the demo license file, **license\_demo.bin** into the `<installdir>/toolworks/tv_license` directory of your TotalView installation. This license file was attached to the email message confirming your download request. If your email system did not retain this name, rename it after you save it to disk.

1. **Become root user (optional).**

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

## 2. Copy the license file.

Copy the license file to the `tv_license` directory.

```
cp license_demo.bin <installdir>/toolworks/tv_license
```

where `<installdir>` is the top-level directory where you performed the TotalView installation

### *Install Option 2: Install license file in a custom location*

If you do not want to install the `license_demo.bin` file in the `<installdir>/toolworks/tv_license` directory, set your `TV_LICENSE_FILE` environment variable to the file's full pathname. The following example shows the bash shell style syntax for setting `TV_LICENSE_FILE`.

```
export TV_LICENSE_FILE=<nonstandard-dir>/license_demo.bin
```

### *Test that TotalView can use the license file*

Enter:

```
<installdir>/toolworks/totalview.<version>/bin/totalview \  
  <installdir>/toolworks/totalview.<version>/<platform>/examples/wave
```

TotalView should come up without any license error dialogs.

## TotalView for HPC FlexNet Licensing

**NOTE:** If you are using the FlexLM Publisher license server and upgrading from a version of TotalView prior to 2020.1, you'll need to update your license server manager daemon, `lmgrd`, and the TotalView vendor daemon, `toolworks`, to the newest version of the TotalView FlexNet Publisher License Server. The easiest way to do this is to download the FlexNet Publisher License Server installer from <https://totalview.io/downloads> and follow the "Updating FlexNet License Software" instructions.

## Installing a FlexNet License Server

## Installing a FlexNet Publisher (FNP) License Server

A TotalView FNP license server must be hosted on a platform that TotalView supports. (For platform support specifics, see the *FlexNet Publisher License Administration Guide* PDF included in the distribution under `<installdir>/toolworks/flexlm-<version>/doc.`)

### Installation Procedure:

1. Install the FNP Software
2. Generate a Host ID for the FNP License Server
3. Verify Your FNP License Type and Product
4. Configure the FNP License Server
5. Point TotalView Client Installations to the FNP License Server

### FNP License Server Prerequisites

To install an FNP license server:

1. The license server must be installed on a platform supported by TotalView.
2. A dedicated unprivileged user account is recommended on the system that hosts the license server.

## Installing the FNP License Server

### 1. Install the FNP Software

The FlexNet Publisher license server tar bundle `flexlm-<version>.tar` is available for download on the TotalView website at <https://totalview.io/success/downloads>.

**NOTE:** For served license renewal, skip this section and see [FlexNet License Updates or Renewal](#).

#### 1. **Unpack your TotalView FlexNet Publisher distribution on the license server system**

To install the FNP license server software, unpack the FlexNet Publisher tar bundle onto the machine that will host the license server, then run the Install script from the resulting directory:

```
tar xvf flexlm-<version>.tar -C ~
cd ~/flexlm-<version>
```

#### 2. **Run the Install script using sudo** (optional but recommended)

```
sudo ./Install
```

This runs Install in interactive mode in which you are prompted with options or to provide information.

- Choose an installation directory, e.g., `/opt`.
- At the prompt, select the components to install.  
Choose to install the license common files and the relevant license platform files for your license server. (The tar ball includes license server software for multiple platforms.)

Once the Install script completes, you should have a `flexlm-<version>` directory under `<installdir>/toolworks`.

## 2. Generate a Host ID for the FNP License Server

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

```
<installdir>/toolworks/flexlm-<version>/bin/toolworks_hostid
```

**NOTE:** Do *not* use the UNIX `hostid` command, as it will not return the proper host ID for FNP.

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

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

Be aware that a host ID is returned for just FNP when invoking `toolworks_hostid` from the `flexlm-<version>` directory. Running `toolworks_hostid` under the `<installdir>/toolworks/totalview.<version>` directory generates a host ID for both FNP and FNE on platforms running FNP.

**Note:** Depending on the TotalView version, an RLM host ID might also be generated.

If `toolworks_hostid` returns multiple FlexNet host IDs, select a *persistent* host ID, i.e., one for a device that is always part of the system when the license server software is running. The license server host ID is derived from the physical MAC address of a network interface card, and the host ID chosen must be a persistent address.

Send the host ID to the TotalView license team, [license@perforce.com](mailto:license@perforce.com), who will then send you a permanent/subscription license.

## 3. Verify Your FNP License Type and Product

After receiving your license, you can verify your license type and product by running the utility `toolworks_licensetype` and provide as input the license file:

```
<installdir>/toolworks/totalview.<version>/bin/toolworks_licensetype <licensefile>
```

The script returns the license type (either RLM, FNP, or FNE), the product, and whether a license server is required. For example:



```
FlexNet Publisher (FNP) TotalView for HPC license(s) detected
These licenses are counted. A license server is required.
For license setup help refer to TotalView for HPC > FlexNet Publisher (FNP)
in the TotalView Installation and Licensing Guide.
```

#### 4. Configure the FNP License Server

1. Create a file named `license.src` in your `<installdir>/toolworks/flexlm-<version>` directory

- Change to the `flexlm-<version>` directory on the license server  
`cd <installdir>/toolworks/flexlm-<version>`
- Copy and paste the new license keys — this is the information that you received through email — into a file named `license.src` in the `<installdir>/toolworks/flexlm-<version>` directory.

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

2. 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 [FNP License Server Prerequisites](#).

While not required, it's recommended to have a dedicated, *unprivileged* user account to run the license server. Note that the login shell should be `/bin/sh`.

3. Run the `<installdir>/toolworks/flexlm-<version>/bin/Configure_License` script on the license server, to create the following files:

- `<installdir>/toolworks/flexlm-<version>/license.dat`
- `<installdir>/toolworks/flexlm-<version>/license.opt`

**NOTE:** If you already have a `license.opt` file, the script prompts whether you want to overwrite it. Answer "n" to preserve your existing file. If you answer "y", a new file is created, but your existing file is saved as `license.opt.old`.

- `<installdir>/toolworks/flexlm-<version>/license.client`
- `<installdir>/toolworks/flexlm-<version>/bin/toolworks_init`

## 5. Point TotalView Client Installations to the FNP License Server

Each client machine that will run TotalView needs access to a license. If you are running TotalView and the license server in the installation directory on the same machine, you can skip this step.

If TotalView and the license server are not running on the same machine, you need to ensure that TotalView can find the license, using one of two ways:

- **Using the license file:** Copy the `<installdir>/toolworks/flexlm-<version>/license.client` file from the license server into the `<installdir>/toolworks/tv_license` directory on each client machine and rename that file `license.dat`.

**or**

- **Using the environment variable LM\_LICENSE\_FILE**

Add the license server's `port@host` specification to environment variable `LM_LICENSE_FILE` to direct TotalView to the license server.

For example (bash):

```
LM_LICENSE_FILE=7127@licserver.mycompany.com
export LM_LICENSE_FILE
```

## Starting and Stopping an FNP License Server

### Starting the FNP License Server

Run the following command to start the license server.

```
<installdir>/toolworks/flexlm-<version>/bin/toolworks_init start
```

**NOTE:** Note that `toolworks_init` was generated by the `Configure_License` script in 4. [Configure the FNP License Server](#).

You can check that the license server started by viewing its log, created after running `toolworks_init start` at:

```
<installdir>/toolworks/flexlm-<version>/license.log
```

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**.

### Stopping the FNP License Server

To stop the license server:

```
<installdir>/toolworks/flexlm-<version>/bin/toolworks_init stop
```

## Autostarting the License Server

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

```
<installdir>/toolworks/flexlm-<version>/bin/Configure_Autostart
```

**Configure\_Autostart** prompts you for some configuration questions and then makes changes to the specified startup files.

## FNP License Three-Server Redundant Triad

If you require FNP license failover support, you can set it up in one of two ways: one method implements a three-server redundant setup; the other requires two or more license servers or uncounted licenses to be available in a search list. For detail, see the “Ensuring License Availability” chapter in the *FlexNet Publisher License Administration Guide* located in the directory `<installdir>/toolworks/flexlm-<version>/doc`.

**NOTE:** In most (if not all) cases, the three-server redundant setup is recommended over the search list because using the search list requires that your purchased license tokens be split between the servers in the list, limiting the number of processes you can run on a given server.

### Three-Server redundant configuration

A three-server redundant setup includes three servers: one acts as the master, which serves the licenses. If it fails, one of the two secondary servers takes over as master. At any given time, two of the three machines (a quorum) must be up and available.

When creating this configuration, send the output of **toolworks\_hostid** for each of the three servers to the licensing department. Licensing will create and send you a key that encrypts the host IDs of all three servers in the triad. Add these three server lines to your **license.dat** file, then install the **license.dat** file on each of the three license servers.

## Installing a FlexNet Embedded (FNE) License Server

### FNE License Server Types

The TotalView FNE license server is hosted on a single Linux x86 64-bit host machine. (For platform support specifics, see “Requirements for the Local License Server” in the *FNE License Server Administration Guide* PDF included in the distribution).

However, there is a provision for failover protection using a backup host, which ensures that users are not interrupted in the event of server failure. (See [Installing an FNE Failover Server](#).) The procedure for installing either type is basically the same.

## ***Installation Procedure***

1. Install the FNE License Server
2. Generate a Host ID for Each FNE License Server
3. Verify Your FNE License Type and Product
4. Configure the FNE License Server
5. Point TotalView Client Installations to the FNE License Server

## ***FNE License Server Prerequisites***

To install an FNE license server:

1. The user/administrator must have **sudo** or root privileges.
2. The license server must be installed on a Linux-x86-64 system. (For platform support specifics, see “Requirements for the Local License Server” in the *FNE License Server Administration Guide* PDF included in the distribution).

The host running TotalView will use 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. Java requirements:
  - Oracle JRE 1.8 or OpenJDK 1.8
  - The **JAVA\_HOME** (or **JRE\_HOME**) environment variable on your system set to the path for your default JDK (or JRE) installation. Ensure that this path does not include a trailing character, such as a slash or space.  
  
Be sure to set this variable *two levels up* from the **java** executable, i.e., just above the **bin** directory. For example, for a **java** executable in `/path/to/bin/java`, set **JAVA\_HOME** or **JRE\_HOME** to the directory `/path/to`.
4. A dedicated unprivileged user account is recommended for the Linux-x86-64 system that hosts the license server. See **Create a dedicated unprivileged user account**.

## ***Installing an FNE License Server***

### ***1. Install the FNE License Server***

The FlexNet Embedded server is available as a separate installation tar bundle, available for download on the TotalView website at <https://totalview.io/success/downloads>.

**NOTE:** For served license renewal, skip this section and see [FlexNet License Updates or Renewal](#).

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

To install the FNE license server software, unpack the FlexNet Embedded tar bundle onto the Linux x86 64-bit machine that will host the license server, then run the Install script from the resulting directory:

```
tar xvf flexnetls-<version>.tar -C ~
cd ~/flexnetls-<version>
```

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

```
sudo ./Install
```

- Choose an installation directory, e.g., `/opt`.
- At the prompt, select the components to install: just the FNE server files (**flexnetls-server.tar.Z**).

Once the Install script completes, you should have a `flexnetls-<version>` directory under `<installdir>/toolworks`.

## 2. Generate a Host ID for Each FNE License Server

Generate a host ID for the license server and failover server, if relevant.

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

```
<installdir>/toolworks/flexnetls-<version>/bin/toolworks_hostid
```

**NOTE:** Do *not* use the UNIX `hostid` command, as it will not return the proper host ID for FNE.

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

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

Generate host IDs for each server. If `toolworks_hostid` returns multiple FlexNet host IDs, select a *persistent* host ID, i.e., one for a device that is always part of the system when the license server software is running. The license server host ID is derived from the physical MAC address of a network interface card, and the host ID chosen must be a persistent address.

Send the host ID to the TotalView license team, [license@perforce.com](mailto:license@perforce.com), who will then send you a permanent/subscription license to use when configuring each host

### 3. Verify Your FNE License Type and Product

After receiving your license, you can verify your license type and product by running the utility **toolworks\_licensetype** and provide as input the license file:

```
<installdir>/toolworks/totalview.<version>/bin/toolworks_licensetype <licensefile>
```

The script returns the license type (either RLM, FNP, or FNE), the product, and whether a license server is required. For example:

```
FlexNet Embedded (FNE) TotalView for HPC license(s) detected
These licenses are counted. A license server is required.
For license setup help refer to TotalView for HPC > FlexNet Embedded (FNE)
in the TotalView Installation Guide.
```

### 4. Configure the FNE License Server

#### 1. Install the license file on the license server system

Place your Perforce-provided FNE license file, `license.bin`, into the `flexnetls-<version>` directory.

#### 2. 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 [FNE License Server Prerequisites](#).

While not required, it's recommended to have a dedicated, *unprivileged* user account to run the license server.

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

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

This script is interactive and prompts you while it runs. These are the possible options:

- Create/provide a username, created as a prerequisite in [FNE License Server Prerequisites](#) or during [Step 2](#). Note that this script will create a user account if you don't already have one.
- *(Optional)* Define a program files directory where the license server service will be installed.
- *(Optional)* Define a data files directory for trusted storage and log files.
- Identify an available listening port (e.g., 7137).
- *(Optional)* Customize FNE server policy settings.
- *(Optional)* View the automatic license server startup script.

## 5. Point TotalView Client Installations to the FNE License Server

Each client machine that will run TotalView needs access to a license.

- On each client machine, 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
```

- Alternatively, to avoid having to set up the `TV_LICENSE_FILE` environment variable for each user, place the `<port>@<host>` string in a file in the `tv_license` directory.

To do this, create a file `tv_license_file` that contains just the `<port>@<host>` string, such as `7137@lic-server`. Place this file in `<installdir>/toolworks/tv_license/`.

### Starting and Stopping an FNE License Server

An FNE server is configured by default to autostart when the server reboots. In most scenarios, you won't need to explicitly stop or start the server. You can, however, manually start or stop the server if you need to, or disable its autostart.

#### Disabling Autostart for an FNE License Server

To disable an FNE server's autostart configuration, run the following script as **root**:

```
<installdir>/toolworks/flexnetls-<version>/bin/Deconfigure_Autostart
```

To re-enable autostart, run:

```
<installdir>/toolworks/flexnetls-<version>/bin/Configure_Autostart
```

#### Manually Starting or Stopping an FNE License Server

Run the following command to manually start the license server.

```
<installdir>/toolworks/flexnetls-<version>/bin/toolworks_init start
```

**NOTE:** Note that `toolworks_init` was generated by the `Configure_License` script in 4. [Configure the FNE License Server](#).

To stop the license server:

```
<installdir>/toolworks/flexnetls-<version>/bin/toolworks_init stop
```

### Installing an FNE Failover Server

TotalView's FNE license technology supports a failover license server configuration to provide a robust license server availability solution. This creates a primary/failover FNE license server pair for a complete FNE failover setup/configuration.

The procedure to install a failover license server is the same as installing a regular license server, with a few small differences:

### 1. Install the FNE License Server

For [Step 3](#), the provided configure script is **Configure\_Backup\_Server** rather than **Configure\_License**:

```
cd /opt/toolworks/flexnetls-<version>
sudo bin/Configure_Backup_Server
```

**NOTE:** The primary and failover servers *must* have the same assigned port.

### 2. Generate a Host ID for Each FNE License Server

For a proper failover setup, you must generate a host ID for both the primary *and* failover license servers.

### 3. Configure Hosts to use the FNE failover setup.

In the case of a failover setup, the **TV\_LICENSE\_FILE** environment variable points to the failover host *pair* using the format `<port>@<primarylicserver>:<backuplicserver>`, for example:

```
TV_LICENSE_FILE=7137@licserver:failoverserver
export TV_LICENSE_FILE
```

### Uninstalling an FNE License Server

TotalView provides a script to remove an FNE license server, **fneuninstall**, located in `<installdir>/toolworks/flexnetls-<version>/bin`. The script first stops and disables the license server, if it is running.

As the root user (or using **sudo**), run the script as below, assuming the FNE server is installed in its default location under `/usr`:

```
cd /usr/toolworks/flexnetls-<version>
./fneuninstall /usr
```

The script **fneuninstall** assumes that you have installed FNE using the default location, including the FNE program and data files. If you chose an alternate location when running **Configure\_License**, you'll need to remove these files manually after running this script.

If you have installed FNE on a backup, or failover, server, run this script on that server as well.

## FlexNet License Updates or Renewal

### Updating or Renewing a TotalView for HPC FNP License

#### TotalView for HPC FNP License Renewal



For served licenses used by TotalView for HPC, license renewal includes running the script `toolworks_lmread` to reload the `license.dat` file.

If you are currently using TotalView, you need to update your existing `<installdir>/toolworks/flexlm-<version>/license.dat` file after you receive a new one. You do not need to create a new `<installdir>/toolworks/flexlm-<version>/license.src` file, nor do you need to rerun the `Configure_License` script (used by TotalView for HPC only) unless you have deleted or changed the location of the `flexlm-<version>` directory.

To update your `license.dat` file:

1. Back up your existing `<installdir>/toolworks/flexlm-<version>/license.dat` file. For example,

```
cp <installdir>/toolworks/flexlm-<version>/license.dat <installdir>/toolworks/flexlm-
<version>/license.dat.bak
```

2. Using a text editor, edit the `license.dat` file and append the new TotalView license keys you have received to the end of the `license.dat` file.
3. Direct the license server to reread your `license.dat` file:

```
<installdir>/toolworks/flexlm-<version>/bin/toolworks_lmread
```

### Deleting Older FNP License Keys

If you received new license 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 Perforce Permanent License Agreement.

The host and license information 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 host ID of the license server.
- The FlexNet `INCREMENT` lines that contain the now invalid license.

Here is how to remove an invalid license:

1. Locate the machine that corresponds with the `host ID` for the invalid license. Since hostnames are dynamic, you can use the `<installdir>/toolworks/flexlm-<version>/bin/toolworks_hostid` script to validate the host ID of the license server.

The FlexNet host ID 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 `license.dat` file. For example:

```
cp <installdir>/toolworks/flexlm-<version>/license.dat <installdir>/toolworks/flexlm-<version>/license.dat.bak
```

- Using a text editor, edit the `<installdir>/toolworks/flexlm-<version>/license.dat` file to delete the `- INCREMENT` line. Save this file.
- If other license keys still exist in the `license.dat` file, run `toolworks_lmread` so the license server can evaluate the `license.dat` and verify that these licenses still work. If they do, you can delete the `license.dat.bak` temporary backup file.

To reread your `license.dat` file:

```
<installdir>/toolworks/flexlm-<version>/bin/toolworks_lmread
```

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

```
<installdir>/toolworks/flexlm-<version>/bin/toolworks_init stop
```

## Updating or Renewing a TotalView for HPC FNE License

### TotalView for HPC FNE License Renewal

For served license renewals, replace your `license.bin` file and also run the script `toolworks_reload`.

- Replace the existing `license.bin` in the `flexnetls-<version>` directory under `<installdir>/toolworks` on the Linux-x86-64 system with the new TotalView-provided updated `license.bin` file.
- Load the new `license.bin` file, like so:

```
<installdir>/toolworks/flexnetls-<version>/bin/toolworks_reload
```

## Updating FlexNet License Software

**NOTE:** Updating the FlexNet (or RLM) license software is relevant only to TotalView for HPC which uses a served license. Your TotalView license is implemented by either FlexNet or RLM which is built into TotalView. If your license is an RLM type, see [Updating an RLM License Server](#).

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

If your TotalView release does include a newer FlexNet version than that which is currently installed on your system, you'll need to first update FlexNet on your system before either updating your license or installing a new version of TotalView.

- [Updating FlexNet for FNP](#)
- [Updating FlexNet for FNE](#)

## Updating FlexNet for FNP

To update FlexNet:

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 to install 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.

## Updating FlexNet for FNE

To update FlexNet for an FNE style license, stop and then completely uninstall the existing FNE server. Then install the upgraded FNE license server version.

**NOTE:** For FNE, the existing FNE server must be uninstalled and deleted before upgrading FlexNet and installing the new version.

1. Uninstall the existing FNE Server: [Uninstalling an FNE License Server](#)
2. Install the new FNE license server: [Uninstalling an FNE License Server](#).

# Index

## A

autostarting license server 24, 46, 50

## C

choosing a license server 17  
common components, installing 8, 14  
Configure\_Autostart script  
  license server  
    automatically starting at  
      bootup 24, 46  
Configure\_License script 49  
  FNP license server 44  
Cray  
  bulk launching system 37  
  totalview-support product  
    components 37

## D

default installation directory 7, 14  
Deonfigure\_Autostart script  
  license server  
    automatically starting at  
      bootup 50

## E

evaluation  
  install 7

## F

Flexera  
  undedicated, user account 44, 49  
flexlm- directory  
  created by FNP license  
    software 43  
FlexNet  
  host ID 43, 48  
FNE  
  custom license installation 41  
FNE\_license directory 20

  configuring clients to use the li-  
    cense server 50

## FNP

  custom license installation 40  
  eval license.demo 39  
FNP license renewal 52  
  delete older keys 52  
FNP license server  
  configure client hosts 45  
  flexlm- directory 43  
  license.src file 44  
  prerequisites 42  
FNP\_license directory 30  
  demo license file location 39  
ftp.roguewave.com  
  and Student installs 12

## I

Install program  
  -help command 7, 13  
  running 7, 13  
  symbolic link creation 8, 14  
installation directory 7, 14  
  default 7, 14  
  symbolic link to 8, 14  
installdir variable definition 8  
installing common components 8, 14

## J

Java requirements for FNE license  
  server 47

## L

license keys  
  deleting old keys when  
    renewing 52  
  removing invalid 52  
license server  
  considerations when  
    choosing 17  
  FNP prerequisites 42  
  starting/stopping 24, 45, 50

  viewing log 24, 45

license type  
  toolworks\_licensetype script 9, 39  
license\_demo.bin  
  FNE demo installation 40  
license.bin  
  renewing FNE license 53  
license.client  
  created by Configure\_License  
    script 23, 44  
license.dat  
  created by  
    Configure\_License 44  
license.dat file  
  updating 52  
license.demo  
  FNP eval license 39  
license.log  
  viewing for server status 24, 45  
license.opt  
  created by Configure\_License  
    script 23, 44  
license.src file 44  
LM\_LICENSE\_FILE  
  custom FNP license  
    installation 40

## P

programs  
  Install 7, 13  
  toolworks\_hostid 21, 43, 48

## R

remove invalid license keys 52

## S

starting the license server 24, 45, 50  
sudo, using on Mac 7, 13  
symbolic link to installation  
  directory 8, 14

## T

- testing
  - new TotalView install 10, 40
- toolworks directory 14
  - subdirectories 8
- toolworks\_hostid script 21, 28, 43, 48, 52
- toolworks\_init
  - created by Configure\_License script 23, 44
- toolworks\_init script 24, 45, 50
- toolworks\_licensetype script 22, 43, 49
  - 9, 39
- TotalView
  - testing new install 10, 40
- totalview-support product components, Cray 37
- TV\_LICENSE\_FILE
  - custom FNE installation 41

## U

- user account for Flexera 44, 49

















































