

Quick Start
Guide

Keysight Licensing

Notices

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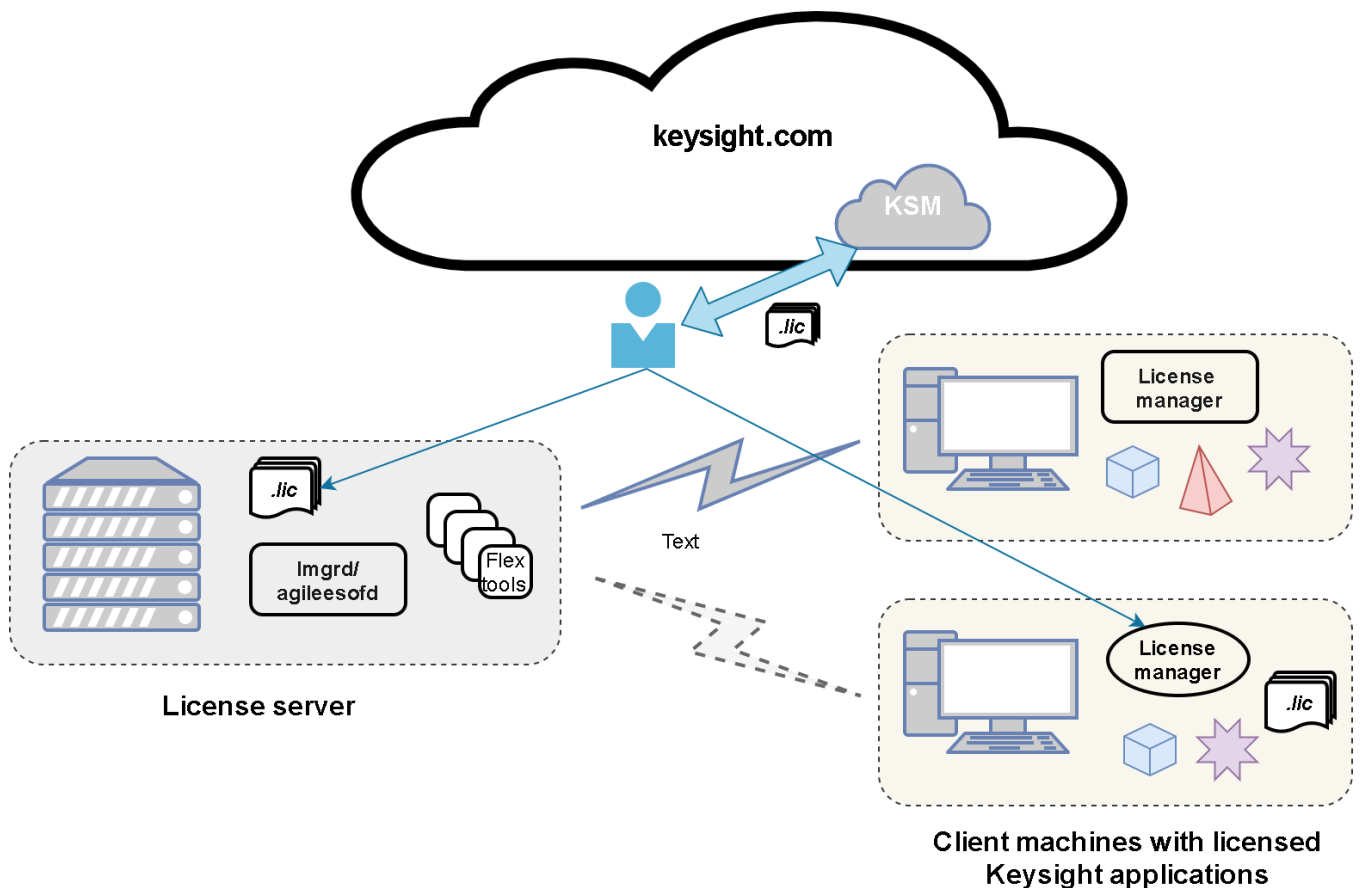
WARNING

A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

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Licensing Quick Start Guide



This illustration shows a typical Keysight licensing installation with a floating license server and two client machines. The license server, on the left, provides licenses for the two clients at the right; the second client also has node-locked licenses for use on that machine only. When the applications (shapes) are run, they request licenses, which are provided from any available location by the licensing software. When you install new Keysight software, you'll get a license manager utility to help you install and manage your licenses.

The connection to the license server is optional for the second client, which has its own node-locked licenses. If connected, the client will use either node-locked or floating licenses, whichever are available; if disconnected from the server and/or from the internet, the client will still be able to use its node-locked licenses.

The license server process comprises the two executables *Imgrd* and *agileesofd*. The *Imgrd* executable is the FlexNet license server manager, and *agileesofd* is Keysight's vendor daemon. (Other Keysight products use the *agilent* vendor daemon.)

The user is responsible for obtaining license files from the Keysight Software Manager (KSM) website (part of <https://www.keysight.com>), and installing the floating licenses on the license server and the node-locked licenses on the client.

To get started, follow the instructions below to obtain and install licenses. Keep the following points in mind:

- If you have several Keysight software products installed, you may have several different license managers. To license one of your products, use the license manager installed with that product. See the [License Managers](#) section of this document for more information.
- If you use floating licenses, **whether or not you are installing new licenses**, you may need to [update the license server software](#) to work with your new products.
- If you need help, contact Keysight: <https://www.keysight.com/find/contactus>.

Resources

To learn more about Keysight licensing, see the following resources.

Information about Keysight Licensing:

- Keysight Licensing Overview on [keysight.com](https://www.keysight.com)
<https://www.keysight.com/find/licensing> and pages listed as Related Links of that page

Licensing software downloads:

- PathWave License Manager download <https://www.keysight.com/find/plm>
- Keysight License Server download <https://www.keysight.com/find/licenseserver>
- Additional tools listed as Related Links of <https://www.keysight.com/find/licensingtools>

To obtain license files and manage your Keysight software:

- Keysight Software Manager <https://www.keysight.com/find/ksm>

Additional documentation:

- Keysight Licensing Administrator's Guide
<https://www.keysight.com/find/licensingdoc>
- Each licensing tool has help available from a **Help** menu

Quick Start Steps

Follow the steps below to license your Keysight products and perform necessary upgrades.

Step 0: Choose the machine where you will install your license.

If you have purchased floating licenses, you'll install the licenses **on the remote license server**, not on the machines where you will run the licensed software. You may also need to update the software on your license server.

In all other cases (node-locked, transportable, and USB portable licenses, whether counted or uncounted), you'll install your license on the machine where you will run the licensed software.

Proceed:

- To install node-locked, transportable, and USB portable licenses on your client machine
- To update your license server and install floating licenses You may need to update your license server(s) whether or not you are installing new licenses.

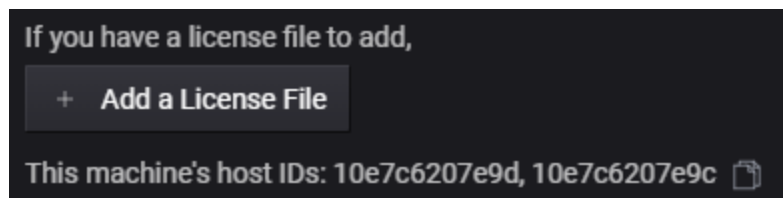
To install node-locked, transportable, and USB portable licenses on your client machine

Step 1: Install your software and get your host ID

Typically, your Keysight software installation will include PathWave License Manager, if it is appropriate for your product. If you need to install or upgrade PathWave License Manager, download it from <https://www.keysight.com/find/plm>.

On the machine you want to license,

- a. If the software to be licensed is not installed, install it.
- b. If you're using USB portable (dongle) licenses, install a driver from <https://www.keysight.com/find/licensingusbdriver>.
- c. Start PathWave License Manager.
- d. Copy this machine's host ID:



You'll need this host ID to get your license.

When choosing among host IDs (as in the image above, where there are two), ensure that you choose a permanent or stable host ID to identify your machine. Although the machine does not need to be connected to a network to use node-locked licenses, the network adapter associated with the host ID must be enabled. See the PathWave License Manager help for additional assistance in choosing a host ID.




Step 2: Get your license

On any machine with internet access,


- a. Find your **entitlement certificate** for the purchased product. Typically your entitlement certificate is emailed to you, but in some cases a paper copy is shipped with the purchased product.
- b. Find the host ID of the machine to license see Step 1 above.
- c. Visit www.keysight.com/find/softwaremanager and follow the steps to request a license. If you don't have a myKeysight account, you will be guided to create one. You will also be guided to add Keysight Software Manager capability to your profile the first time you use it.
- d. You'll receive your license file via email. Save it to a location that can be accessed by all accounts, such as `C:\Users\public`.

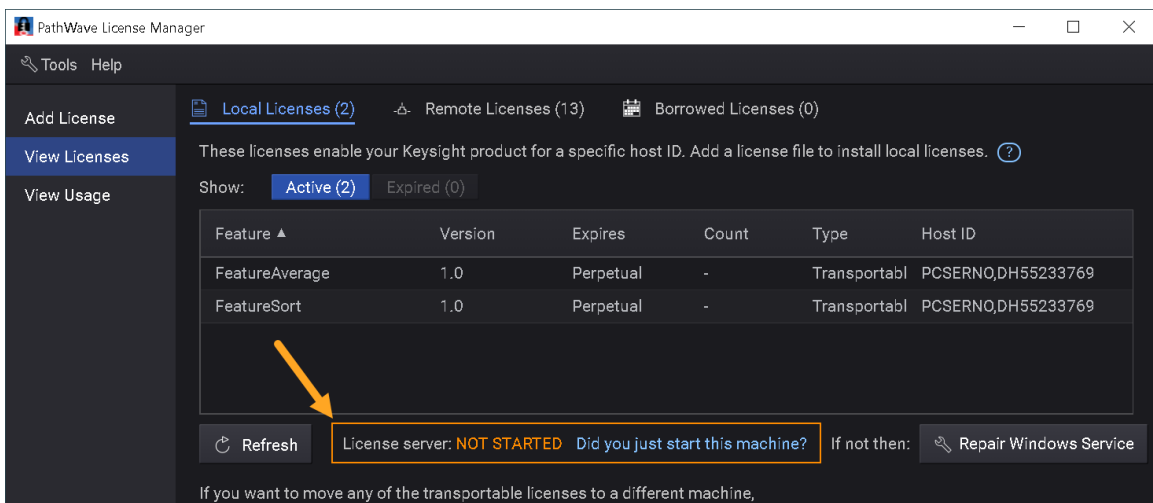
Step 3: Install your license

On the machine you want to license,

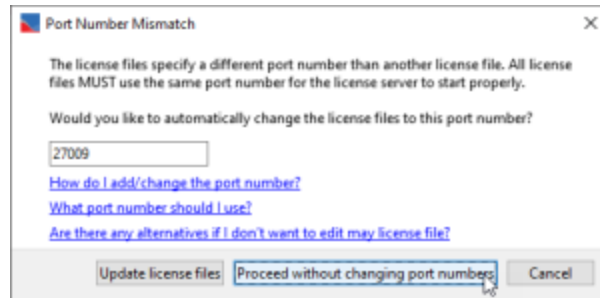
- Start PathWave License Manager .
- Click the  button.
Follow the steps to install your license, consulting the PathWave License Manager Help for details if necessary.
- Select View Licenses to see your new license. .

Step 4: Resolve problems

- If licenses are not usable or are not visible in PathWave License Manager immediately after rebooting your machine, **wait two minutes** to allow supporting processes to start up, then refresh PathWave License Manager .
- If the licenses are still not visible, look for a license server message. If you see this message, click the **Repair Windows Service** button to resolve the problem.



- If some of your licenses are still not visible, they may be located in **user-specific locations** (such as `C:\Users\fred\Desktop`) where license processes cannot access them. This can happen if you installed licenses in those locations using a different license manager (not PathWave License Manager). Using the license manager provided with the appropriate product, remove and reinstall such licenses in a generally accessible location, such as `C:\Users\public`.
- If you install a license using a Keysight Floating License Manager, after having installed PathWave License Manager, you may see a Port Mismatch dialog box:



This can be safely ignored by clicking **Proceed without changing port numbers**.

- If you're experiencing other problems, see the **Help** for your license management tool and the Keysight Licensing Administrator's Guide (<https://www.keysight.com/find/licensingdoc>).

Proceed:

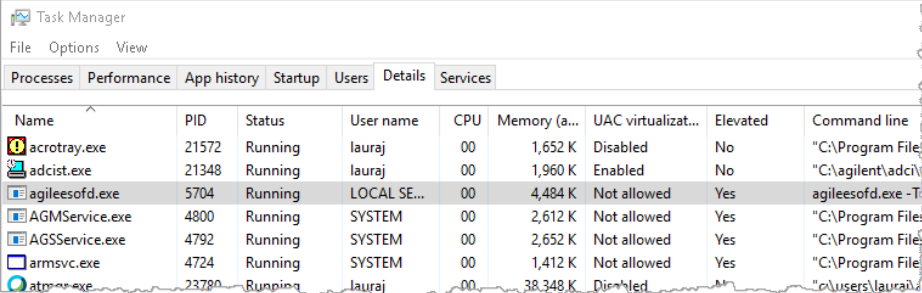
- **To update your license server** You may need to update your license server(s) whether or not you are installing new licenses.

To update your license server

This document assumes that you will be adding your new licenses to an existing FlexNet floating license server (a dedicated machine), using the FlexNet tools. If you need to set up a new floating license server, see the Keysight Licensing Administrator's Guide, available at <https://www.keysight.com/find/licensingdoc>.

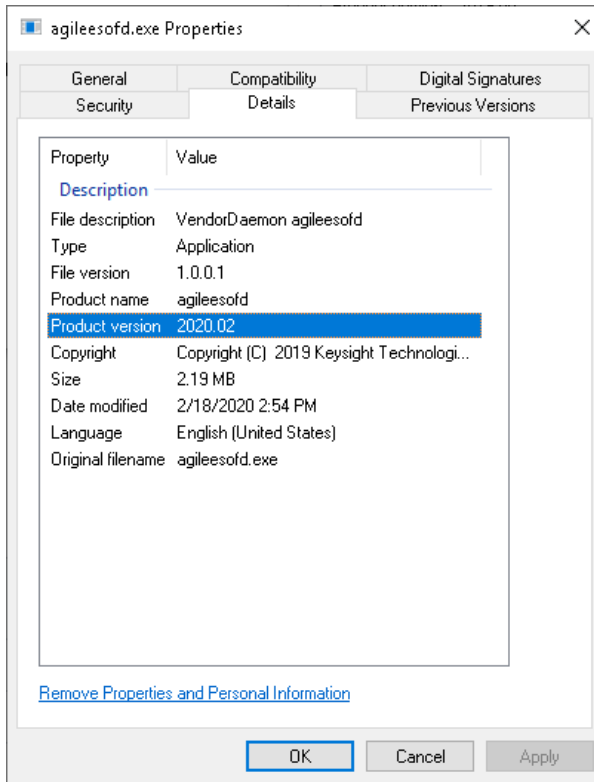
Step 1: Determine your existing vendor daemon location and version, and the version that you will need

- a. First, check to see whether there is already an *agileesofd* process running on your license server.
 - Windows: Run Task Manager to look for any *agileesofd* process. It may be listed as **VendorDaemon agileesofd**.



| Name | PID | Status | User name | CPU | Memory (a... | UAC virtualizat... | Elevated | Command line |
|----------------|-------|---------|-------------|-----|--------------|--------------------|----------|----------------------|
| acrotray.exe | 21572 | Running | lauraj | 00 | 1,652 K | Disabled | No | "C:\Program File... |
| adclist.exe | 21348 | Running | lauraj | 00 | 1,960 K | Enabled | No | "C:\agilent\adcli... |
| agileesofd.exe | 5704 | Running | LOCAL SE... | 00 | 4,484 K | Not allowed | Yes | agileesofd.exe -T... |
| AGMSvc.exe | 4800 | Running | SYSTEM | 00 | 2,612 K | Not allowed | Yes | "C:\Program Files... |
| AGSSvc.exe | 4792 | Running | SYSTEM | 00 | 2,652 K | Not allowed | Yes | "C:\Program Files... |
| armsvc.exe | 4724 | Running | SYSTEM | 00 | 1,412 K | Not allowed | Yes | "C:\Program Files... |
| atp.exe | 23780 | Running | lauraj | 00 | 38,348 K | Disabled | No | "C:\users\lauraj... |

- Linux: `ps -ef | grep agileesofd`
- b. If there is no such process, skip to Step 3 below.
- c. If you find a running *agileesofd* process, determine the path to its executable as follows:
 - Windows: Right-click the process in Task Manager. Select **Properties**. The path is shown in the **Location** field.
 - Linux: `readlink -f /proc/<pid>/exe`.
- d. Take note of this path to use in the steps below.
- e. Determine the current version of the *agileesofd* vendor daemon:
 - Windows: In Task Manager, right-click *agileesofd.exe* and choose **Properties**. Select the **Details** tab and locate the **Product version**. (Note that the Properties dialog box does not refresh while it is open. Close the dialog box before you update the server, and then re-open it to check the results of the update.)

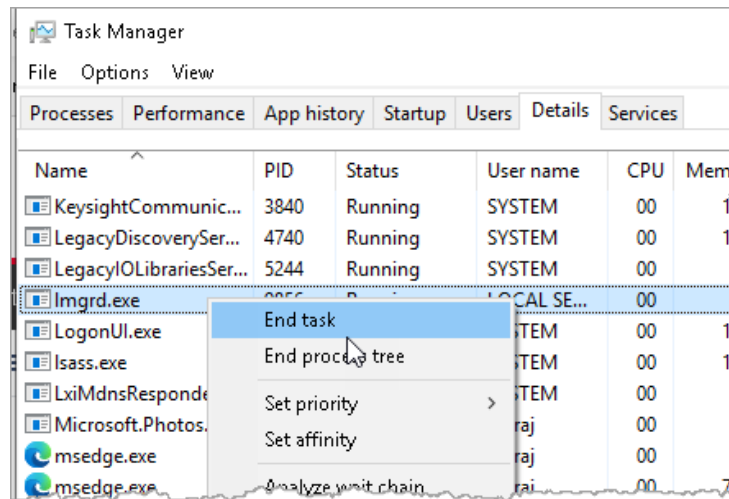


- Linux: `strings ./agileesofd | grep "^20[0-9][0-9].[0-9][0-9]$"`
 - Note that `agileesofd --version` does *not* give you the daemon version, only the FlexNet version. The version should look like the product versions in the table below (e.g., 2020.02).
- f. Consult the table to determine the version you need. Note that if you need to support *both* early return of borrowed licenses *and* Keysight EDA products, you will need two license servers.

| <i>agileesofd</i> product version | When to use this version |
|-----------------------------------|--|
| 2020.02 | Use if you need this server to support Keysight EDA licenses and some other Keysight products. Does not support early return of borrowed licenses. |
| 2019.05 | Use if you need this server to support early return of borrowed licenses AND you do not need this server to support EDA licenses. |
| 2018.08 or earlier | Do not use; upgrade to 2019.05 or 2020.02. |

Step 2: Stop any existing server process

- a. Kill any running *lmgrd* process. (This will automatically kill *agileesofd* also.)

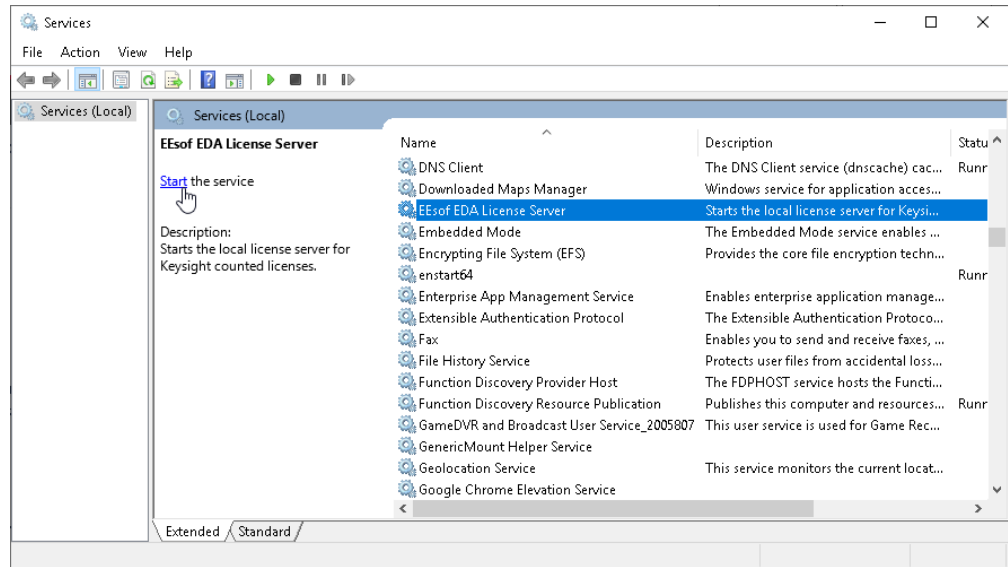


Step 3: If there is no existing agileesofd OR the version is not as needed, install Keysight License Server on the license server machine

- a. On your license server machine, open your web browser and navigate to the location of the version you need (see table above):
- b. On your license server machine, open your web browser and navigate to the location of the version you need (see table above):
 - Version 2020.02 is available from <https://edadocs.software.keysight.com/display/downloads/Licensing+Software+Downloads>
 - Version 2019.05 is available from <http://www.keysight.com/find/licenseserver>
- c. Download the appropriate server package for your version and platform.
- d. **Return all borrowed licenses** before updating Keysight License Server.
- e. Unpack the files (version 2019.05) or run the installer (version 2020.02):
 - If you have a license server already, unpack/install to the executable location from Step 1 above.
 - If you do not have an existing location, use:
 - Windows: `C:\Program Files\Common Files\Keysight\Licensing\License Server`
 - Linux: `/opt/keysight/license-server`

Step 4: Restart the license server manager

Windows: To start the FlexNet license server manager (*Imgrd*) and vendor daemon (*agileesofd*), restart the Windows service (typically named **EEsof EDA License Server**).



Linux: Start the license server manager (*lmgrd*) and vendor daemon (*agileesofd*) on the machine to which the license is tied as follows:

- a. Change directory to the location of your server files (for example, */opt/keysight/licensing/agileesofd*).
- b. Run the following command to start *lmgrd*:

```
./lmgrd -c <license file path> -l <license log file path>
```

where:

<license file path> specifies one or more full path names to license file(s) and/or folder(s) containing license files.

<license log file path> is the full path name to the debug log file.


To install floating licenses

This document assumes that you will be adding your new licenses to an existing FlexNet floating license server (a dedicated machine), using the FlexNet tools. If you need to set up a new floating license server, see the Keysight Licensing Administrator's Guide, available at <https://www.keysight.com/find/licensingdoc>.

Step 1: Update your license server if necessary

- a. See the instructions [To update your license server](#) in this document.

Step 2: Obtain a license file

- a. Find your **entitlement certificate** for the purchased product.  Typically your entitlement certificate is emailed to you, but in some cases a paper copy is shipped with the purchased product.
- b. Determine the license server's host ID in one of the following ways.

- On the server machine, execute `lmutil lmhostid` to get the FlexNet host ID directly.

NOTE

If you see a No such file or directory error when you try to run `lmutil`, then you need to install the **Linux Standard Base library**. Use `yum` to install `redhat-lsb`.

- Windows: On the server machine, execute `getmac /v /fo list`. Your host ID is listed as the Physical Address of the Network Adapter.
- Linux: On the server machine, execute `/sbin/ifconfig -a`. Examine the `ifconfig` results to find your Ethernet interface (often called `eth0`) and use its hardware address (`HWaddr`). For example, in the `ifconfig` output shown below, the host ID is `00:0c:29:c0:06:65`.

```
eth0 Link encap:Ethernet HWaddr 00:0c:29:c0:06:65
      inet addr:156.140.113.178 Bcast:156.140.113.255
Mask:255.255.254.0
      inet6 addr: fe80::20c:29ff:fec0:665/64 Scope:Link
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:36522 errors:0 dropped:0 overruns:0 frame:0
TX packets:10160 errors:0 dropped:0 overruns:0
carrier:0
collisions:0 txqueuelen:1000
RX bytes:38094114 (38.0 MB)
TX bytes:695114 (695.1 KB)
```

- c. Visit www.keysight.com/find/softwaremanager and follow the steps to request a license.
If you don't have a myKeysight account, you will be guided to create one.

Step 3: Save the license file

To save the license file for use by Keysight Licensing:

- a. Make a copy of the license file on your hard disk, in:
 - Windows: `C:\ProgramData\Keysight\Licensing\Licenses\Server`
 - Linux: `/var/opt/keysight/licensing/licenses/server`
- b. Open or view the license files in the directory to ensure they all specify the same port value (between 27000 and 27009, inclusive) in their SERVER statements. If not, edit them to have the same port value. You will experience licensing failures if the licenses have conflicting port numbers.
- c. On Linux, you must set the file permissions so that it can be read by *lmgrd*.
For example:
`chmod a+r <fileName.lic>`
This example gives all users read access to the license.

Step 4: Restart the license server manager

Windows: To start the FlexNet license server manager (*lmgrd*) and vendor daemon (*agileesofd*), restart the Windows service (typically Named **EEsof EDA License Server**).

Linux: Start the license server manager (*lmgrd*) and vendor daemon (*agileesofd*) on the machine to which the license is tied as follows:

- a. Change directory to the location of your server files (for example, `/opt/keysight/licensing/agileesofd`).
- b. Run the following command to start *lmgrd*:
`./lmgrd -c <license file path> -l <license log file path>`
where:
`<license file path>` specifies one or more full path Names to license file(s) and/or folder(s) containing license files.
`<license log file path>` is the full path Name to the debug log file.

Step 5: Configure the client machine(s)

- a. Install the licensed software on the machine(s) where you will use it (the clients).
- b. In PathWave License Manager, follow the on-screen instructions to **Specify a Remote License Server**, so that the product can get its license from the server machine.
- c. Select View Licenses to see your new license. ✓

License Managers

NOTE

- If you have licenses located in **user-specific locations** (such as *C:\Users\fred\Desktop*), these licenses may not be accessible to the license service created by PathWave License Manager). Using the license manager provided with the appropriate product, **remove and reinstall such licenses** in a generally accessible location, such as *C:\Users\public*.
- When you install a new license manager, **do not remove old license manager(s) from your system**.

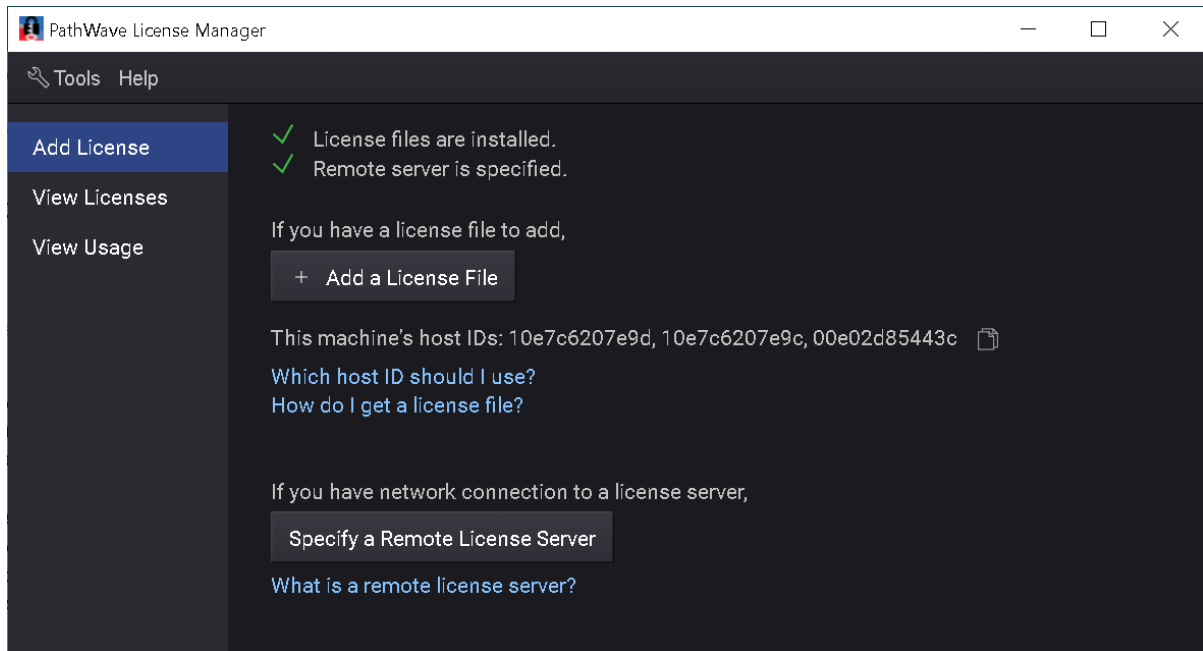
Over the years, Keysight has produced many license management tools. The four shown here are still in general circulation and may be necessary to manage your licenses.

Please refer to your Keysight product documentation to determine which of the following license management application(s) are appropriate for your product(s).

In many cases, the appropriate license management application is included in the installation of your Keysight product, or is preinstalled on your Keysight instrument.

When you install a new product or product version, and that product installs a new license manager, it is not necessary nor advisable to remove old license manager(s) from your system. You may need them to manage your older licenses, and removing them may cause conflicts. However, if you do remove a license manager, its licenses are not removed with it. Simply reinstall the license manager, using the download links listed below.

PathWave License Manager

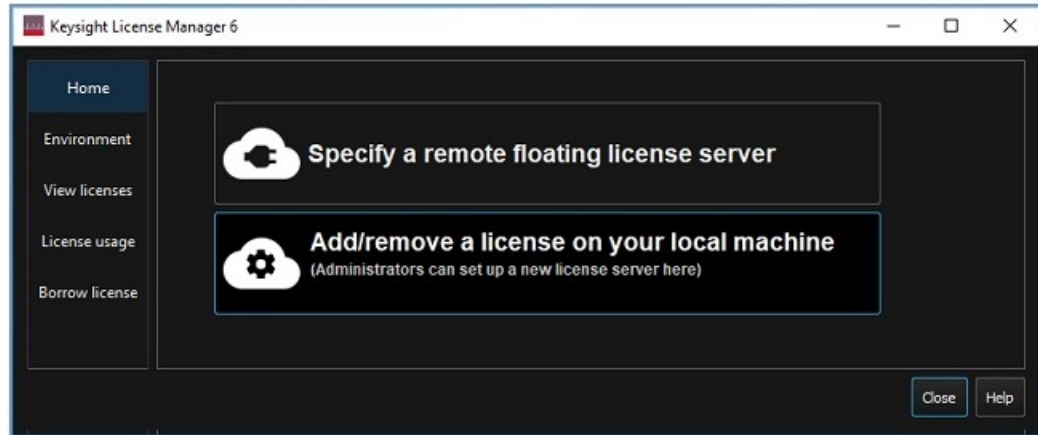


This license management application:

- Allows you to manage many types of Keysight licenses for a variety of software products and instruments.
- Also displays licenses installed with all of the other license managers shown on this page.
- Launches Keysight License Manager 5 when necessary to manage certain older licenses.
- Is used for newer Keysight products of many types, such as PathWave FPGA, PathWave Test Sync Executive (beginning with version 2020 Update 1), and IoT Wireless Test Software.

Download the PathWave License Manager from <https://www.keysight.com/find/plm>.

Keysight License Manager 6

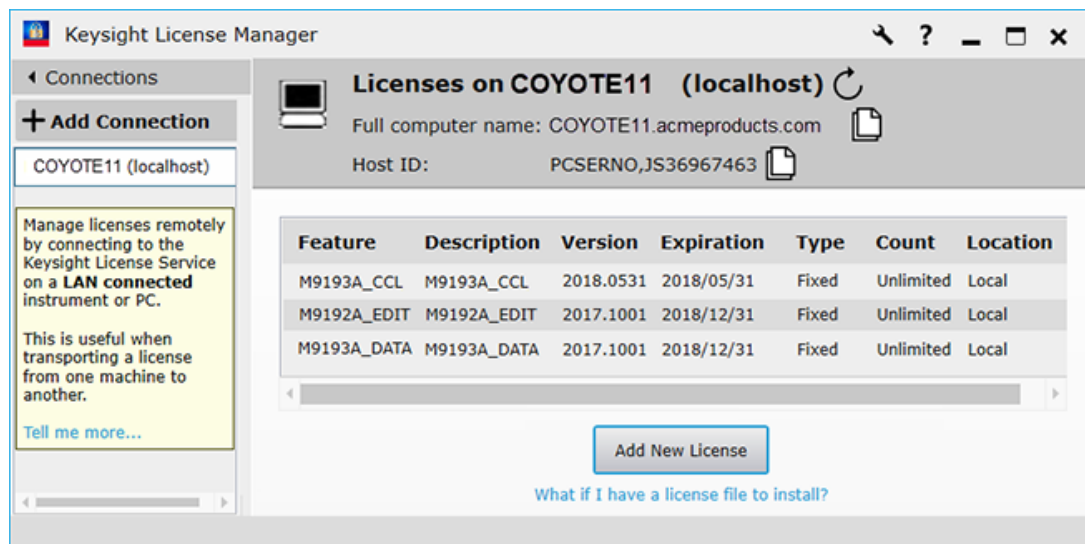


This license management application allows you to manage various types of counted licenses for a variety of software products and instruments.

Keysight License Manager 6 is functionally replaced by PathWave License Manager. Be aware that it installs an older version of the Keysight License Server files (*lmgrd* and *agileesofd*); it is not advisable to install Keysight License Manager 6 *after* you have installed a new license manager.

Download the Keysight License Manager 6 from <https://www.keysight.com/find/klm6>.

Keysight License Manager 5



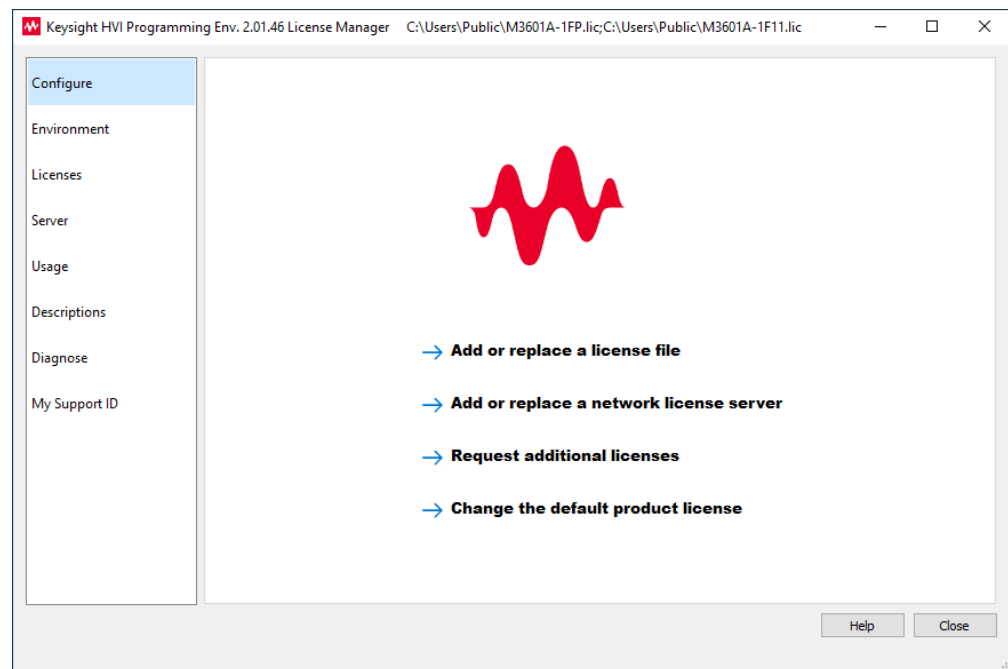
This license management application:

- Allows you to manage primarily node-locked and transportable licenses for a variety of software products and instruments.

- Is necessary to install and transport those licenses.
- Does not display licenses installed with other license managers.
- Is used for many test and measurement products, such as original BenchVue software, and for some instruments and firmware products.

Download Keysight License Manager 5 from [Keysight License Manager 5](#).

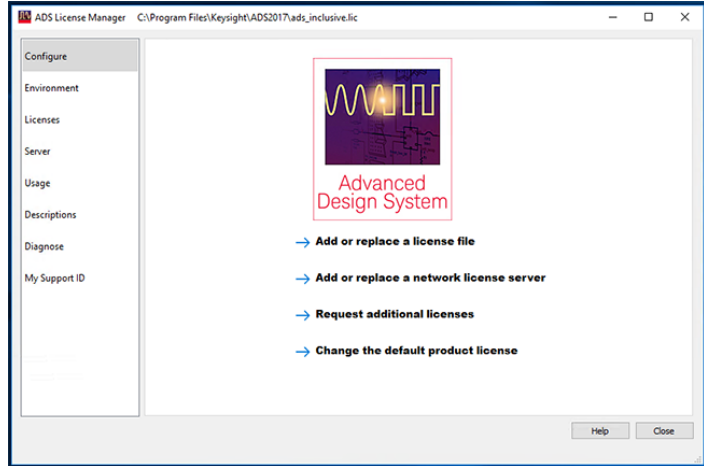
Keysight Floating License Manager for Design Software Products



This license management application:

- Allows you to manage licenses primarily for EDA Design Software products.
- Displays some licenses installed with other license managers.
- Used for most Keysight EDA products and some other products, such as the M3601A Hard Virtual Instrument (HVI) Design Environment.
- May be installed as a product-customized license manager, for example **Keysight HVI Programming Env. 2.01.46 License Manager** in the image

above, and **ADS License Manager** in the image below (shown for comparison).



Download the Keysight Floating License Manager for EDA from <https://www.keysight.com/find/eesof-flexnet-downloads>.

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