Proficy Common Licensing

User Guide

We want to hear from you. If you have any comments, questions, or suggestions about our documentation, send them to the following email address:

doc@ge.com

Contents

Chapter 1. Important Product Information

Licensing Features

Proficy Common Licensing simplifies administration and support while providing more secure license activation and management.

You can use Common Licensing to:

- View current licenses for GE products on your computer.
- Choose your licensing method: Internet, local intranet, GE USB hardware key, file-based.
- Manage your licenses: Activate, return, refresh, and clean.

Migrating to Cloud-based Licensing

Before migrating to cloud-based licensing, you must remove your existing licenses *(on page 62)* on the client devices.

If you are currently using a legacy license and have received an upgrade file, update your legacy license *(on page 62)*.

License Client

Use the License Client to activate, review, and update licenses on a client device or a GE USB hardware key. Depending on your configuration, the License Client retrieves licenses from the GE Cloud License Server, a Local License Server on your intranet, or a GE USB hardware key. Unless you are using a GE USB hardware key, you must install the License Client on each computer requiring a GE Software license.

Local License Server

You have the option to use a Local License Server *(on page 109)* as a central location for client devices to access and return required GE software licenses. You can manage these licenses on the server using the Local License Server Administration Tool. You can also use the Local License Server Settings Tool to adjust the lease expiry period, set up email notifications for license expiry reports, device expiry reports, and license instance count reports, and check or reset the NIC MAC address settings.

Supported Operating Systems

Common Licensing was tested on the following operating systems:

- Microsoft® Windows® 7 SP1
- Microsoft® Windows® 8.1
- Microsoft® Windows® 10
- Microsoft® Windows® Server 2019 Standard
- Microsoft® Windows® Server 2016 Standard
- Microsoft® Windows® Server 2012 Standard
- Microsoft® Windows® Server 2012 Standard R2
- Microsoft® Windows® Server 2008 Standard R2 SP1

> **Note:**
>
> Microsoft® Windows® 7 SP1, Microsoft® Windows® Server 2008 R2 SP1, and Microsoft® Windows® Server 2012, with Common Licensing 18.8 and higher, require the latest Windows Updates to enable TLS 1.2 as default secure protocol.

> **Note:**
>
> Microsoft® Windows® XP, Microsoft® Windows® Server 2003, and Microsoft® Windows® Server 2008 are no longer supported in Common Licensing 18.4 and higher. If you are using one of these operating systems, use Common Licensing 18.3.

Supported Virtual Machines

Licensing Client

- VMware ESXi 5.X
- Microsoft Hyper-V on Windows Server 2008 R2, 2012, 2016, or 2019

Local License Server

- VMware ESXi 5.x
- Microsoft Hyper-V 6.1, 6.3

Common Licensing was tested on VMware and the Parallels virtual machine software running on a Macintosh computer.

Hardware Requirements - Local License Server

The computer running the Local License Server software must meet these mimimum hardware requirements.

- 2.0 GHz Intel® Core™2 Duo Processor or greater.
- 2 GB RAM memory or greater.
- 3 GHz computer with 4 GB memory or greater (recommended for better performance).
- 10 GB of free hard drive space.
- 100 MBit or faster Full duplex TCP/IP-compatible network interface adapter.
- SVGA or better color monitor with a 24-bit (16,777,216 colors) graphics card capable of at least 1024x768 resolution.

Known Issues

- You must run the License Client with Administrative privileges in order to activate, return, or refresh a license. When not run with Administrative privileges, the License Client displays "No license found."
- If the License Client detects a hardware key, it no longer reads software licenses.
- When you license the product more than once, the License Client detects and displays the first instance.
- Insert one hardware key at a time. If the License Client detects multiple hardware keys, it ignores them and looks for software keys instead.
- The License Client does not write to hardware keys in a remote session.
- Use a GE USB hardware key or local license server to store licenses for use in virtual environments. Licenses stored on your hard drive in virtual environments, including VMware® ESXi™ Server and Hyper-V, are not supported.
- If you are using Windows Server 2003, you must install the latest service pack for Windows 2003 Server, and you must also install the update described in http://support.microsoft.com/kb/938397.
- If you are using Windows Server 2012 R2, you must install the update described in http://support.microsoft.com/kb/2919355.
- If you are using Windows 7 SP1, Windows Server 2008 R2 SP1, Windows Server 2008 SP2, or Windows Server 2012, you are required to have the latest Windows Updates to enable TLS 1.2 as default secure protocol.
- Activating licenses from the GE Cloud Server onto Windows XP SP3 or Windows Server 2003 SP2 computers is no longer supported.

- The local license server cannot resolve the MAC address of computers that have a virtual network adapter installed. This is the case in all installations of Microsoft Hyper-V, and results in an inability to activate licenses.
- The following procedure enables the IPv4 protocol on your physical adapter:

General Steps:

1. Access the Network Connections area.
2. Access the properties of the physical adapter listed.
3. Enable IPv4.

Steps for Windows Server 2008 R2:

1. Open the Control Panel.
2. Navigate to the Network and Sharing Center.
3. Click **Change Adapter Settings**.
4. Right-click **Local Area Connection** and click **Properties**.
5. Select **Internet Protocol Version 4** check box.

The physical adaptor with IPv4 enabled is then assigned the same MAC address as the virtual adapter, which can then be located by the GE License Server when activating licenses.

- If you are logged into a Windows computer with the built-in administrative account Administrator and you start the License Client application two or more times in quick succession, you can generate the following error message (even if you are not running within a virtual machine):

```
"Error: Licensing detected a Virtual Machine. Please change your settings to use a
 local license server"
```

If this error appears, open the Windows Task Manager and check the list of running applications for multiple instances of the LicenseManager program. If there is more than one LicenseManager program running, close all programs and then restart the LicenseManager.

> **Note:**
> You should not run multiple License Client applications at the same time.

Chapter 2. Quick Start

Licensing Quick Start Overview

Have you just purchased a GE Product(s) and received an order email from GE? To use a GE product on your system, you must setup and activate licensing. The following steps explain how to get started quickly with your product licensing.

To configure Proficy Common Licensing on your computer (physical machine or virtual machine), you should go through the following:

Prerequisites *(on page 11)*| Step 1: Order Email and Downloads *(on page 11)*| Step 2: Common Licensing Software *(on page 11)*| | Step 3: Activating Licenses *(on page 12)*

Prerequisites

Use the following links to check the supported operating system requirements and virtual machines. Ensure you have enough disk space and memory.

- Supported Operating Systems *(on page 7)*
- Supported Virtual Machines *(on page 8)*

1. Review Order Email and Download Software

You will receive an order e-mail from GE Digital after your successful purchase of GE products. Login to the website as specified in the order email using the same e-mail address. For more details, refer Step 1: Review Order and Download Software *(on page 12)*.

2. Install Licensing Software

Install the required software: License Client, Local License Server, and/or License Server Tools. The GE software required to activate your licenses depends on whether you are using a physical machine or a virtual machine. See Step 2: Install Licensing Software *(on page 14)*.

After installing the licensing software, restart your computer.
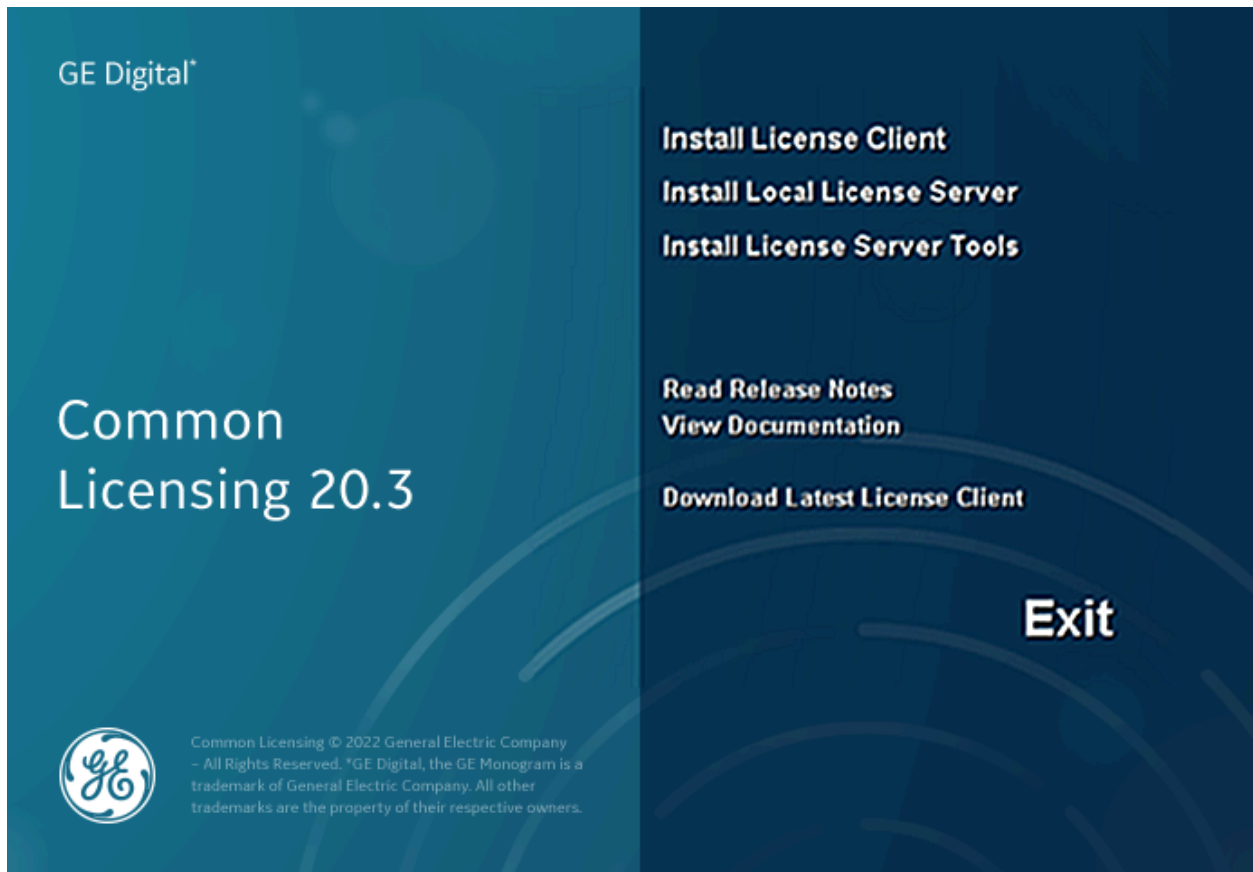
3. Activate Licenses

In License Client, the **Activate Licenses** tab provides several options for activating a license on your computer. You can select one of the options based on your system configuration. For detailed steps, refer Step 3: Activate Licenses *(on page 21)*.

Step 1: Review Order and Download Software

Order Email

After you receive an order email from GE Digital with your activation codes, similar to the one below. By clicking the link in the email, you can download the required products and install them on your computer (physical machine or virtual machine). After you download the required product, you will see `CommonLicensing_<version>.exe` (for example: CommonLicensing_vx.x.x.exe). Use the steps that follow to accomplish the license activation task.

Download Common Licensing

1. Select the link in the email from GE Digital to access the web site.
2. Login using the same e-mail address that the activation codes were sent to. After a successful login, you will be navigated to the **Software Order Download** page, that includes **Product List**, and a link to **Proficy License Installer**.
3. Select **Proficy License Installer** from **Other helpful links**. The **GE Licensing Installer** page that contains Common Licensing software appears.
4. Double-click `CommonLicensing<version>.exe` to start the licensing download.

> ✎ **Note:**
> This license install will have all the licensing functionalities that can be administrated from the same computer.

Refer, Step 2: Install Licensing Software *(on page 14)* to proceed to next steps.

→

Next Step

Step 2: Install Licensing Software

Overview

Use the following table for guidance on which components to install on your computer for Proficy Common Licensing:

Installation Component	Where to Install
License Client *(on page 16)*	Install on all machines with Proficy products that require a license. While most Proficy products already include the License Client install, it is recommended that you download and install the latest licensing version. Check for an updated download before you begin.
Local License Server *(on page 18)*	Optional. It is recommended that you install the Local License Server if you want more control over monitoring License Clients, if you are behind a firewall, or if you are running on a VM. **❗ Important:** The Local License Server computer must be reachable by all computers requiring GE software licenses. Intermittent connections are not supported. When installing the Local License Server, it is recommended that you have one Local License Server per plant or facility. **✎ Note:** Do not install the Local License Server if your keys are validated through the GE cloud or through your hardware USB license.
License Server Tools *(on page 19)*	You can install the License Server Tools on the same machine that you have the License Server in-

Installation Component	Where to Install
	stalled. The License Server Tools can also be installed on a remote machine to remotely manage the licenses on a Local License Server. 📝 **Note:** License Server Tools allow you to update the expiration period, set up notifications, and view the NIC MAC address settings.

Before You Begin

Before you begin any installations, read the following notes

> 📝 **Note:**
>
> - For a physical machine, the License Client is the only software that must be configured. The physical machine can collect the GE product licenses from the GE cloud server or from the Local License Server, and then the GE products are activated through the License Client.
> - For a virtual machine, all the three software: 1) License Client, 2) Local License Server, and the 3) License Server Tools must be installed. If you have a separate computer preinstalled with Local License Server, you do not have to install Local License Server in your virtual machine. It is recommended that you have one Local License Server per plant or facility.
>
> The virtual machine can collect the GE product licenses from the Local License Server and then the GE products are activated through the License Client.

When you launch the Licensing installer, a screen similar to the following appears, with the current version number:
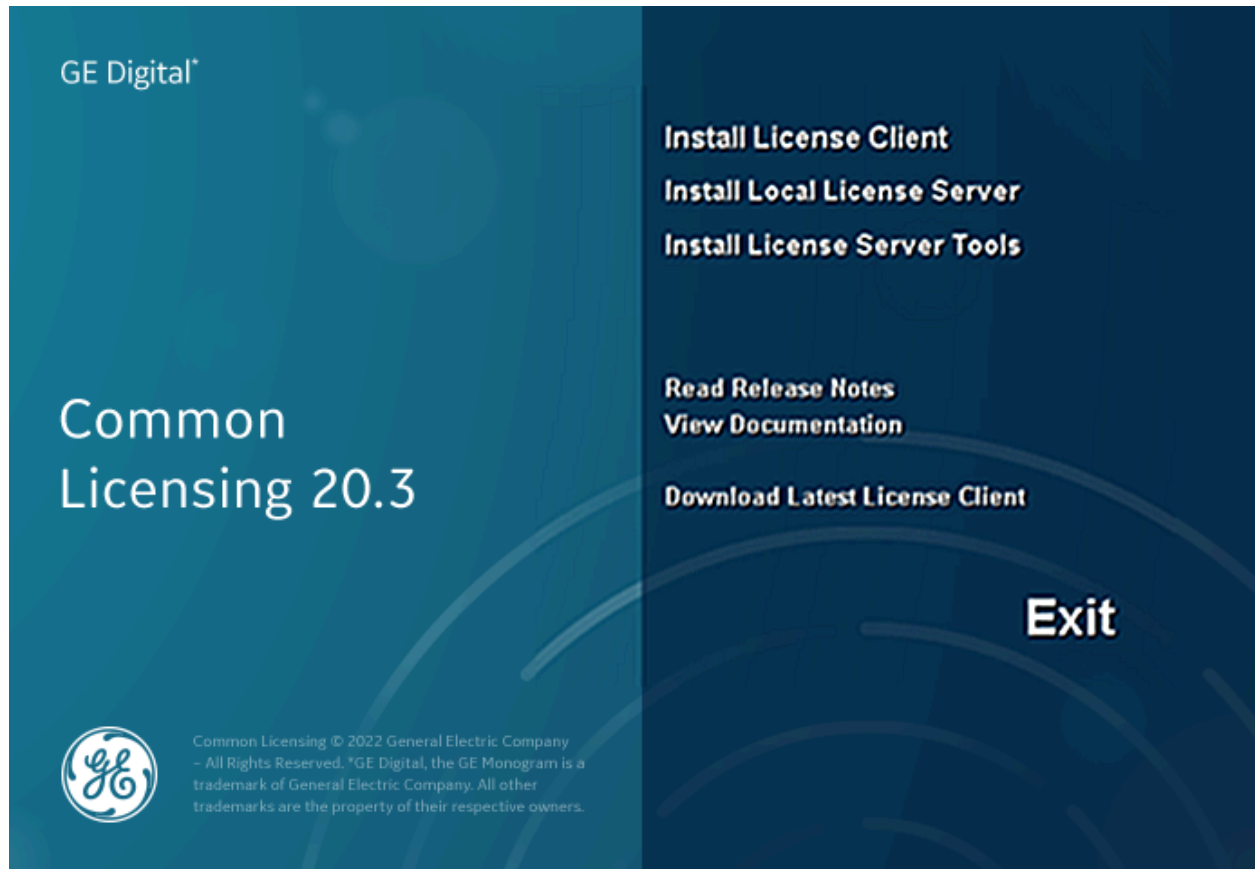
Installing the License Client

1. Right-click the `CommonLicensing<version>.exe` file, and select **Run as Administrator**. A message appears asking if you want to allow this application to make changes to your device.
2. Select **Yes**. The **Common Licensing** screen appears.
3. From the Common Licensing screen, select **Install License Client**.
4. The installation process may take a few moments, and may require some prerequisites to install. The following screen appears.
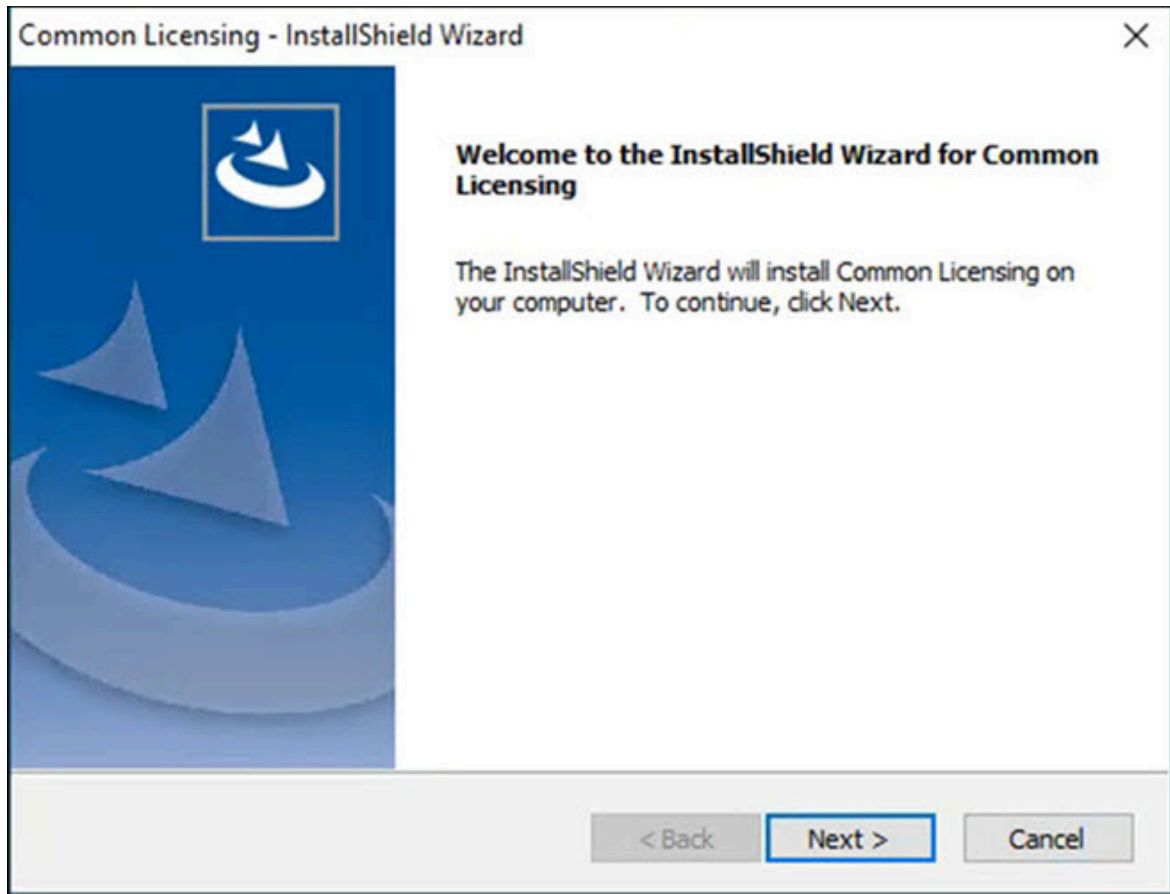
5. Select **Next**. The License Agreement appears.
6. Select **I accept the terms of this license agreement** and select **Next** to continue.
7. If a message to install USB HASP Drivers appears, leave the default (selected), and select **Next**.
   Otherwise, the **Ready to Install the Program** screen appears.
8. Select **Install**. When the installation completes, the **InstallShield Wizard Complete** screen appears.
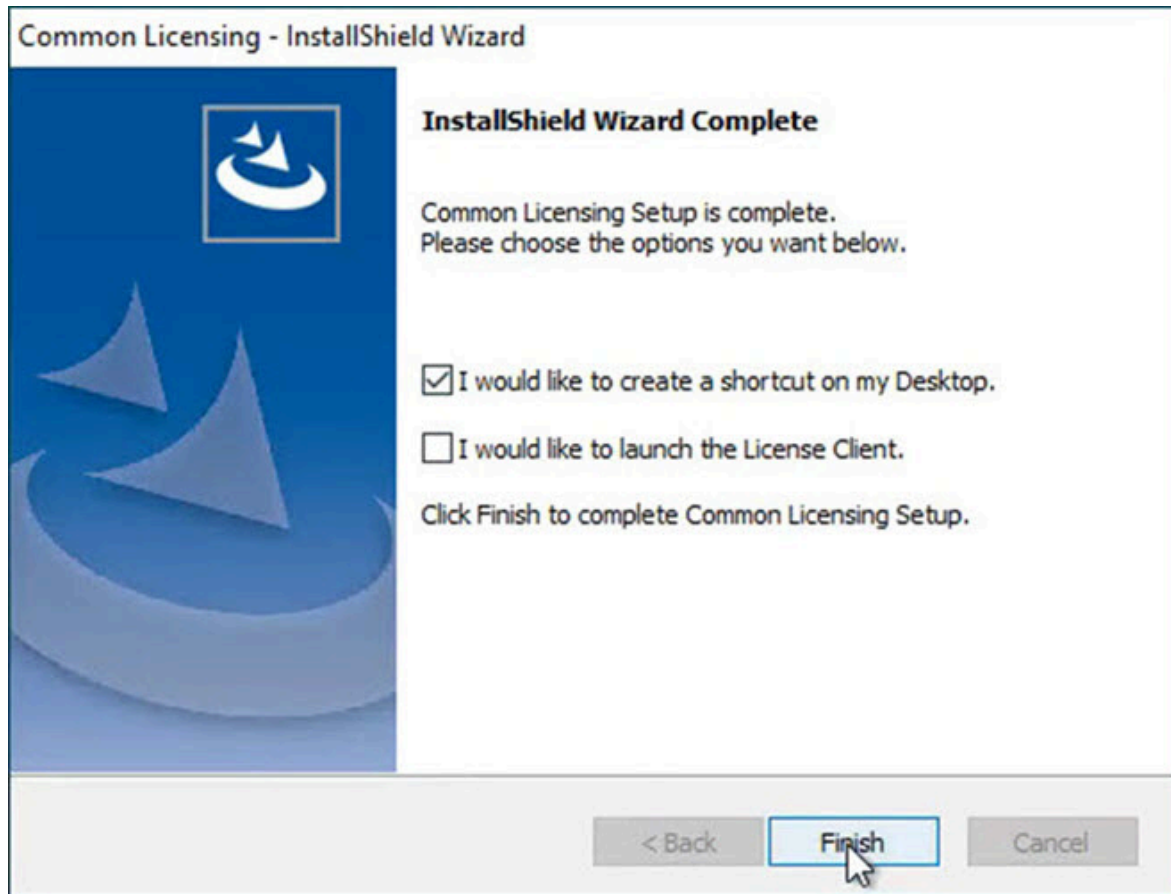
9. Select the **I would like to create a shortcut on my Desktop** check box.
10. Select **Finish** to complete the installation.

Installing the Local License Server

1. Right-click the `CommonLicensing<version>.exe` file, and select **Run as Administrator**. A message appears asking if you want to allow this application to make changes to your device.
2. Select **Yes**. The **Common Licensing** screen appears.
3. From the Common Licensing screen, select **Install Local License Server** .
4. The installation process may take a few moments, and may require some prerequisites to finish the installation. When the installation completes, the **InstallShield Wizard Completed** screen appears.
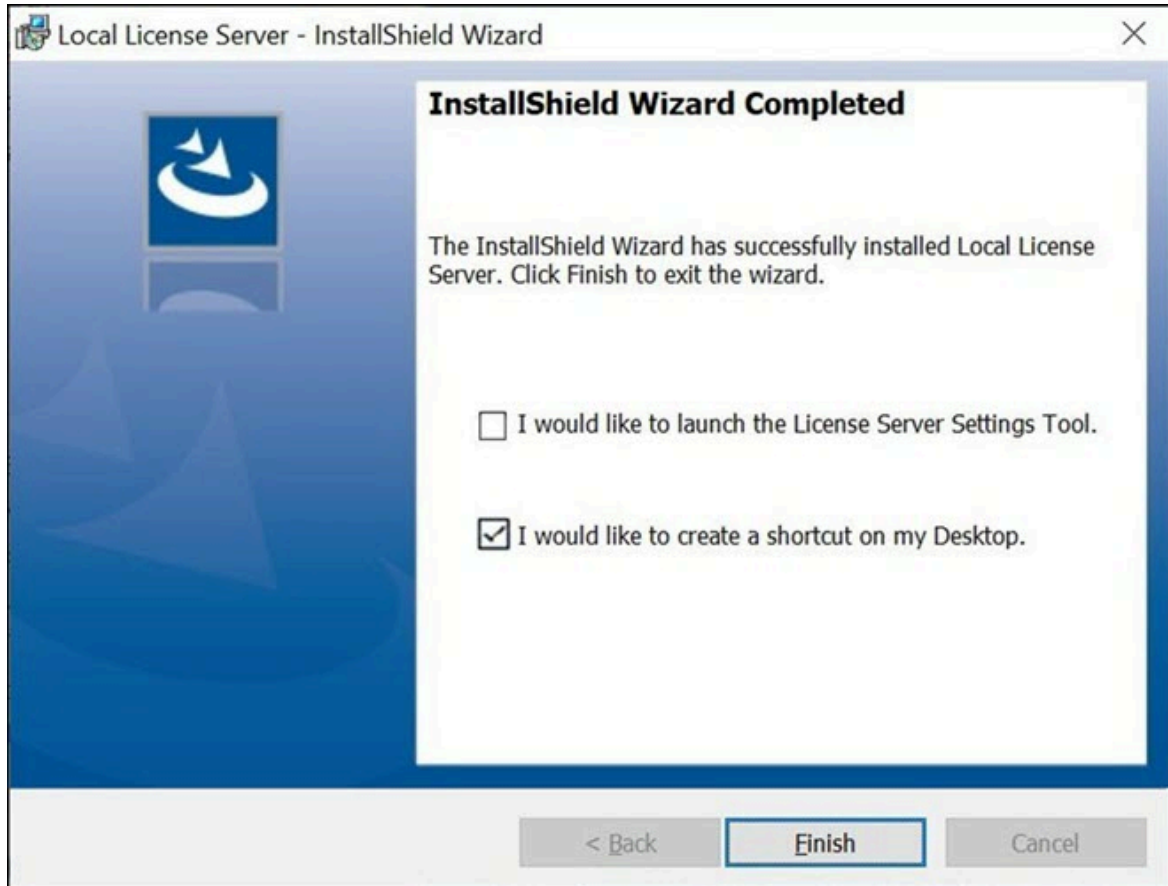
5. Select the **I would like to create a shortcut on my Desktop** check box.
6. Select **Finish** to complete the installation.

Installing the License Server Tools

1. Right-click the `CommonLicensing<version>.exe` file, and select **Run as Administrator**. A message appears asking if you want to allow this application to make changes to your device.
2. Select **Yes**. The **Common Licensing** screen appears.
3. From the Common Licensing screen, select **Install License Server Tools**.
4. The installation process may take a few moments, and may require some prerequisites to install. The welcome screen appears.
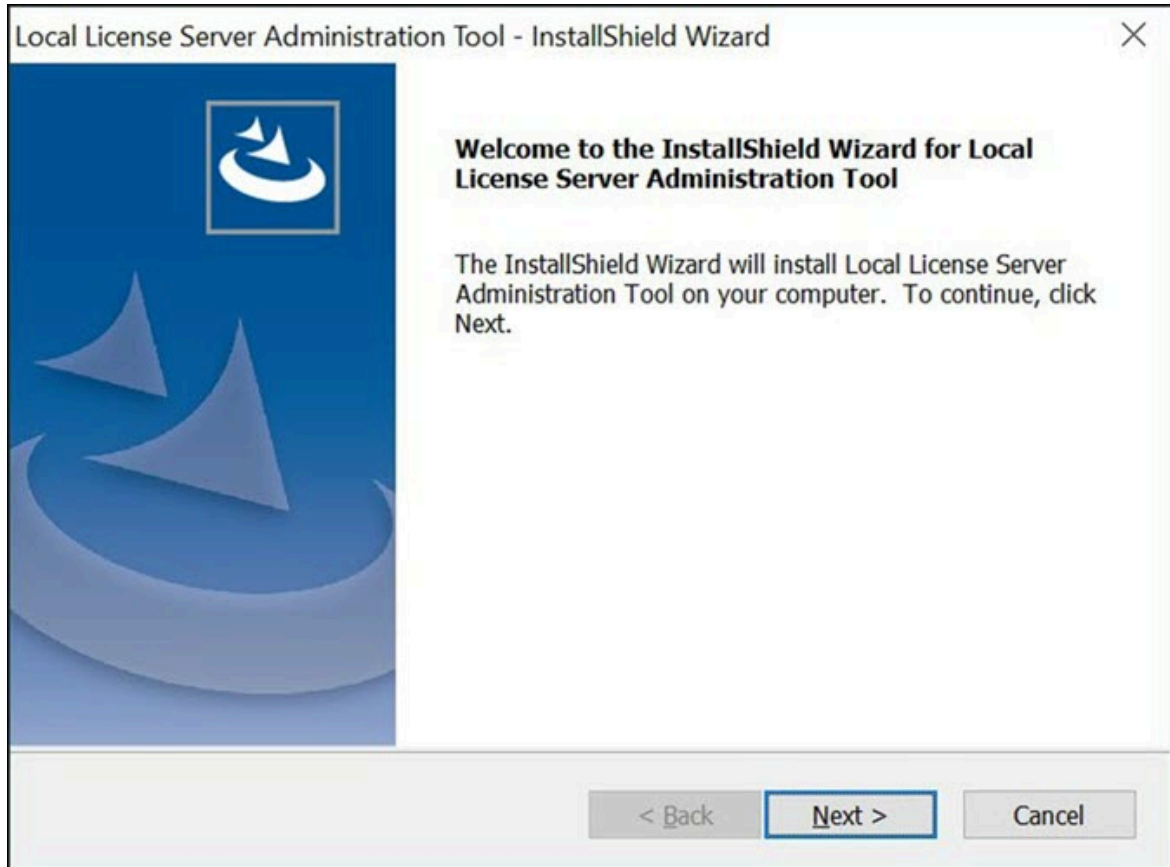
5. Select **Next**. The License Agreement page appears.

6. Select **I accept the terms of this license agreement** option, and then select **Next**. The **Ready to Install the Program** page appears.

7. Select **Install**. When the installation completes, the **InstallShield Wizard Complete** screen appears.
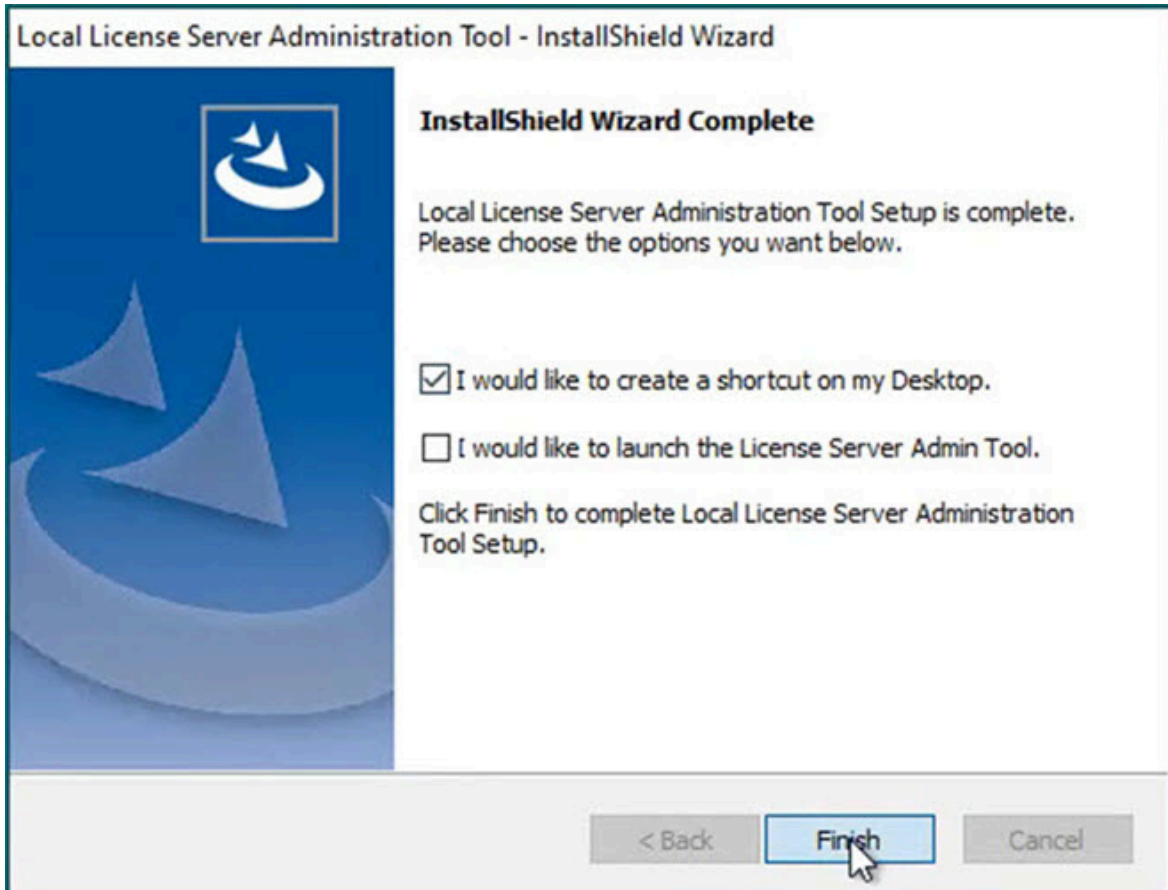
8. Select the **I would like to create a shortcut on my Desktop** option.

9. Select **Finish** to complete the installation.

After you have configured the software as per your system requirements from the Common Licensing screen, you can proceed to the next step, Step 3: Activate Licenses *(on page 21)*.

→

Next Step

Step 3: Activate Licenses

Overview of Activation Process

The activation process requires that you download the License Codes on the Server. Next, activate your entitlement on the License Client. Confirm the License Client displays licenses.

Activating Licenses Scenarios

Refer to the following sections to activate your Proficy product licenses:

Scenario 1: Computer (online) connected to the GE Cloud License Server

Overview
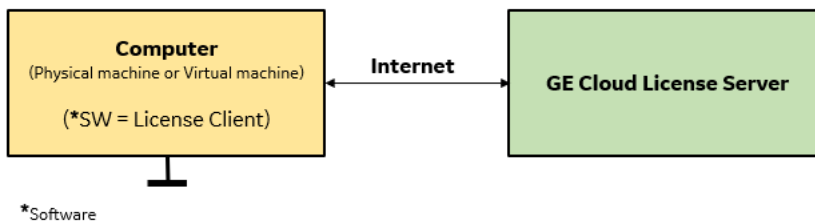
In this scenario, the computer (physical machine or virtual machine) with **GE Cloud License Server** is connected to internet, the GE product licenses are collected from GE Cloud License Server and then the licenses are activated in the computer installed with License Client.

Steps

1. In License Client, select **Activate Licenses**, select the option 1, **Yes, for this computer from the GE Cloud License Server**.
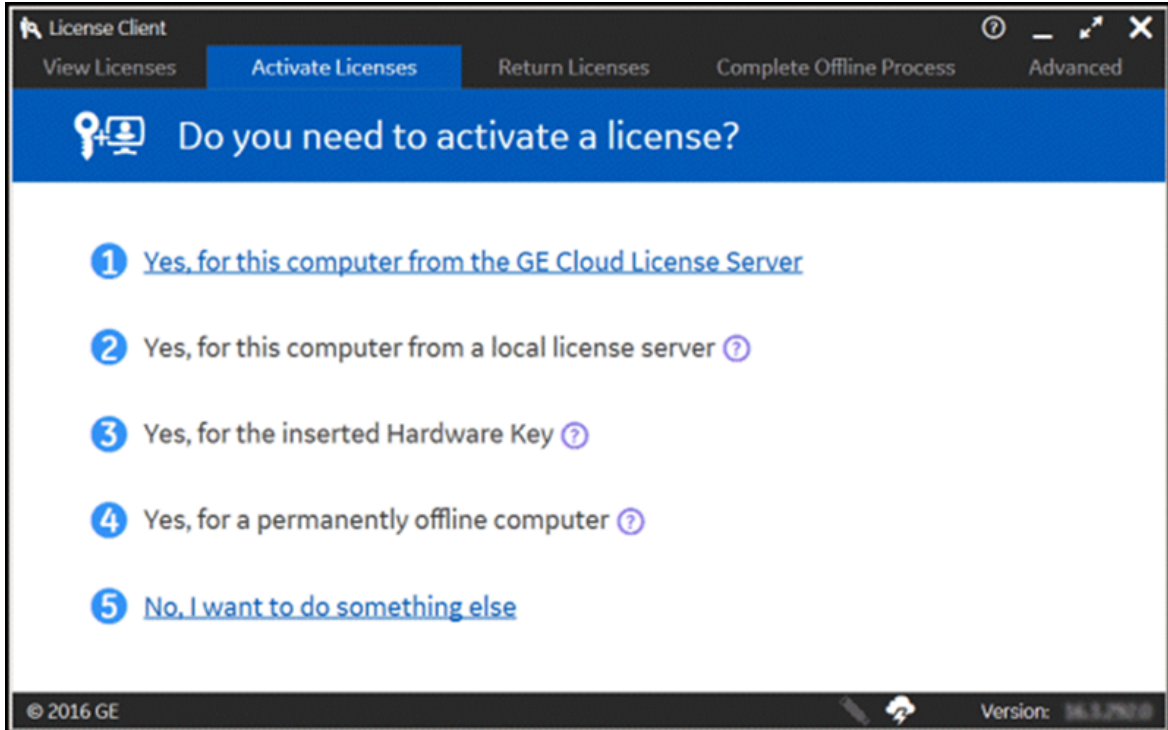
2. The **Activate Licenses from the GE Cloud Server** page appears.

> 📝 **Note:**
> Internet connectivity is verified before this page is displayed. An error message is displayed if the GE Cloud License Server is not accessible, and the No Licenses on this Computer page is automatically displayed.

3. Enter your first activation code, and then select **Add Code**.
4. Repeat the previous step for each license you have.
5. Select **Activate**. The Licenses screen should now display all the licenses activated on the server.

Scenario 2: Computer (online) or VM connected to a Local License Server
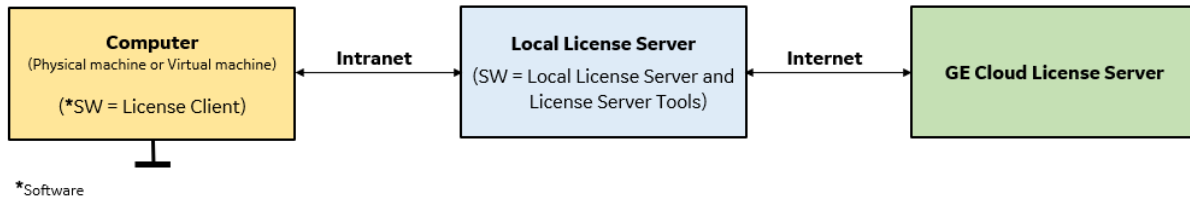
Overview

In this scenario, the computer (physical machine or virtual machine) with **Local License Server** is connected to internet, the GE product licenses are collected by communicating with GE Cloud License Server and then the licenses are activated in the intranet computer installed with License Client.
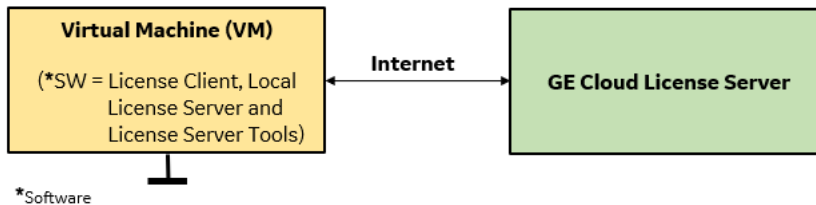
The virtual machine with all the three software: 1) License Client, 2) Local License Server and the 3) License Server Tools must be installed. If you have a separate computer pre-installed with Local License Server, you do not have to install Local License Server in your virtual machine.

Steps

Follow the below steps for a physical machine or a virtual machine installed with Local License Server software:

1. From the Windows Services console (Press **Windows+R** on your keyboard, then enter **services.msc** and press the **Enter** button), confirm that the License Server is running.
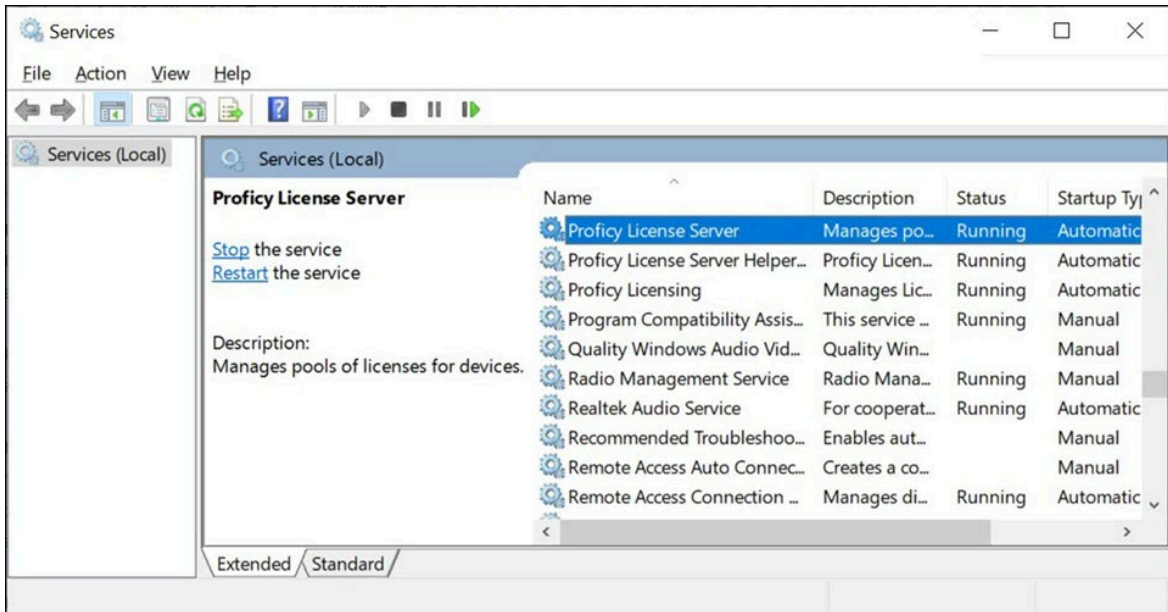
2. Navigate to `C:\ProgramData\Microsoft\Windows\Start Menu\Programs\General Electric`, and then select **Local License Server Administration Tool**. A message appears prompting you to confirm the changes.

3. Select **Yes** to continue. The **Local License Server Administration Tool** screen appears, as shown in the following figure.
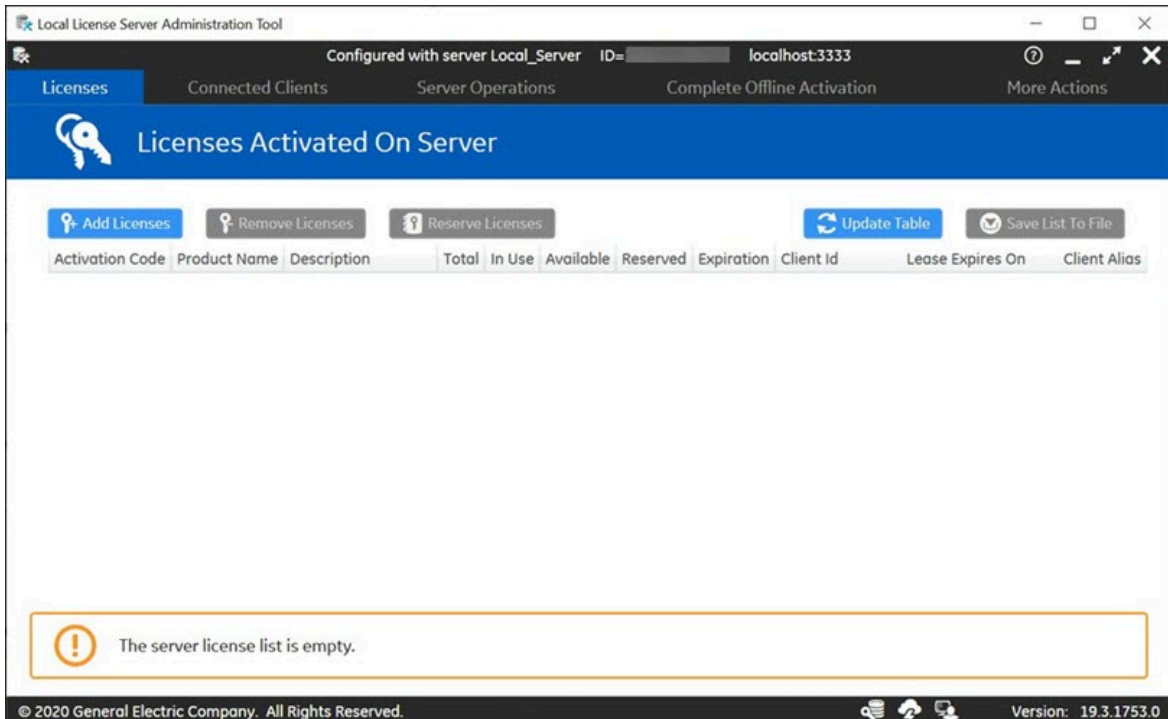
4. Select **Add Licenses**. The following screen appears.
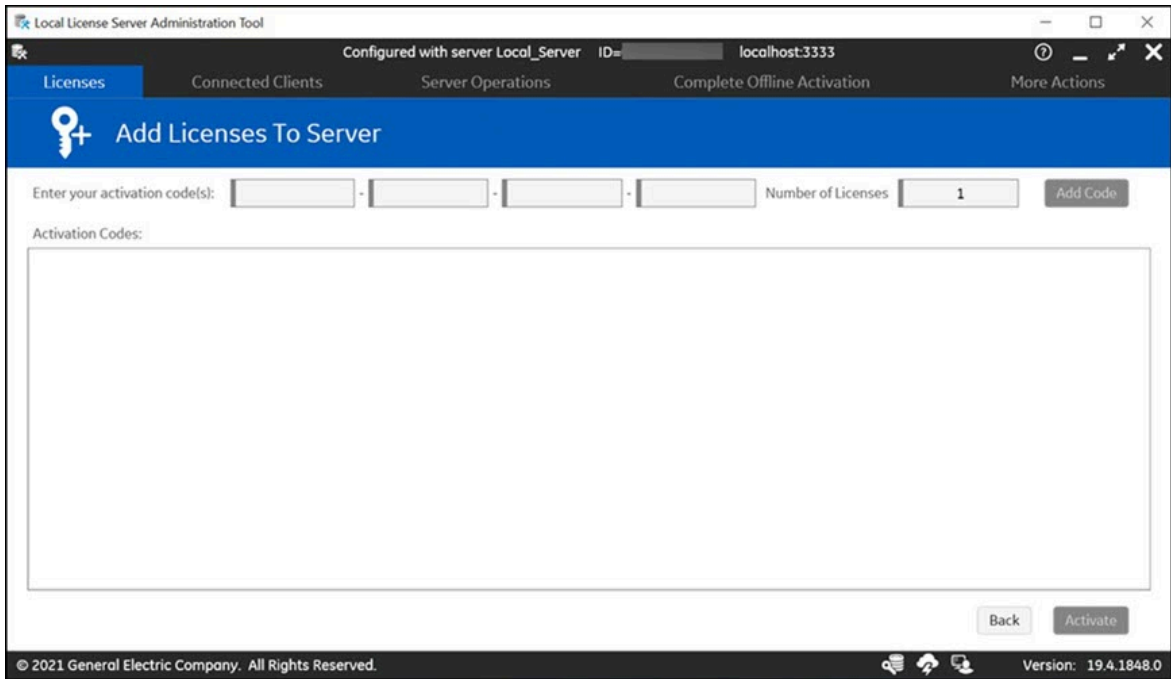
5. Enter your first activation code, and then select **Add Code**.

> **Note:**
> You can find the activation codes in your GE order e-mail.

6. Repeat the previous step for each license you have.

7. Select **Activate**. The Licenses screen should now display all the licenses activated on the server, as shown in the following figure.

Activate your Product Licenses on License Client

1. Navigate to `C:\ProgramData\Microsoft\Windows\Start Menu\Programs\General Electric` and then select **License Client**. A message appears prompting you to confirm the changes.

2. Select **Yes** to continue. The **License Client** screen appears, as shown in the following figure.

3. In License Client, select **Activate Licenses**.

4. You have the Local Licensing Server already installed on the same computer, hence select the option 2, **Yes, for this computer from a local license server** . The **Lease licenses from a local license server** screen appears, as shown in below figure.
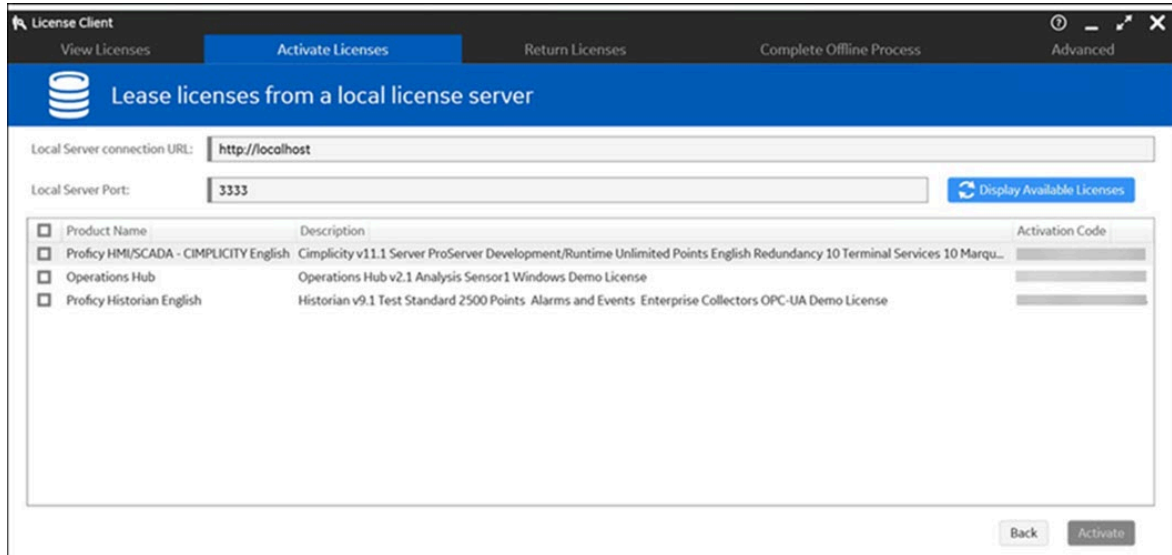
5. Select the check box for the products you want to activate, and then select **Activate**.

Confirm the License Client Displays Licenses

1. In License Client, select **View Licenses**. The activated licenses for the selected server appears, similar to the screen below. In the Licensed Products section, select the products listed to view the license information.
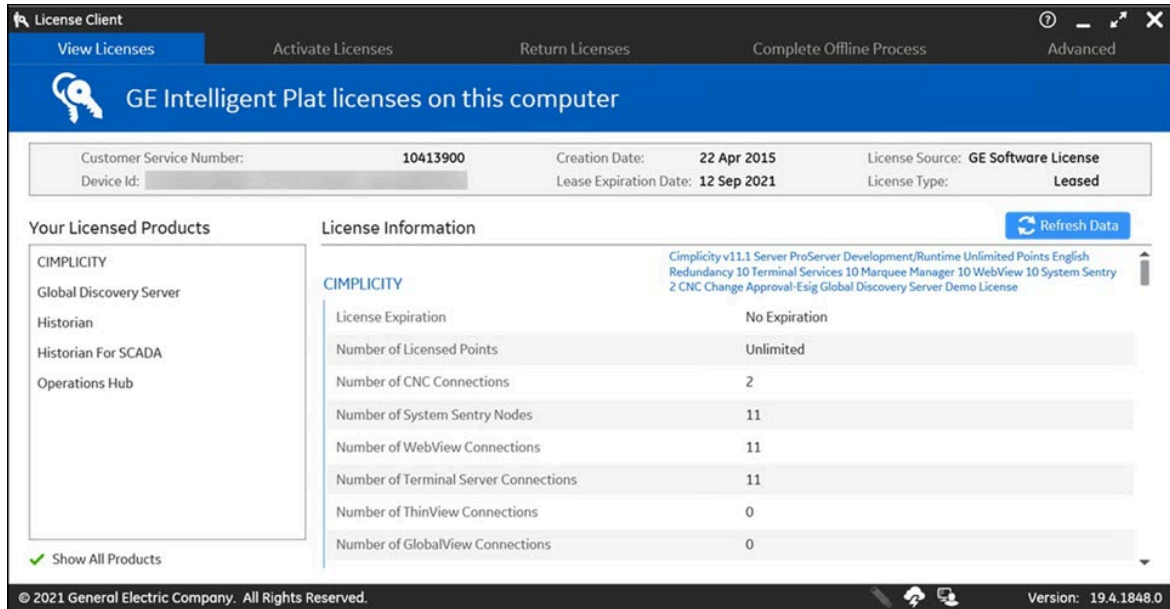
2. Confirm that your license information appears correctly for each product you activated.

Scenario 3: Computer (offline) Licenses Activation by using GE USB Hardware Key

Overview
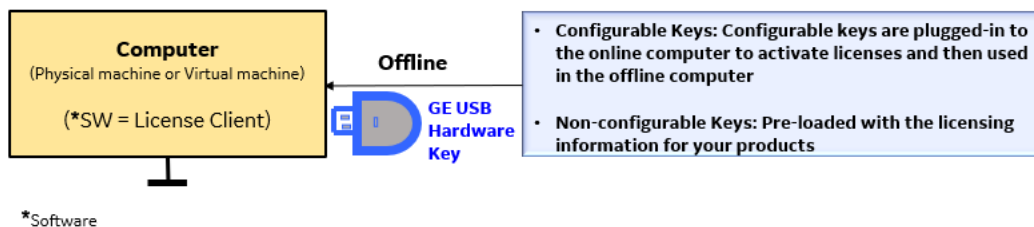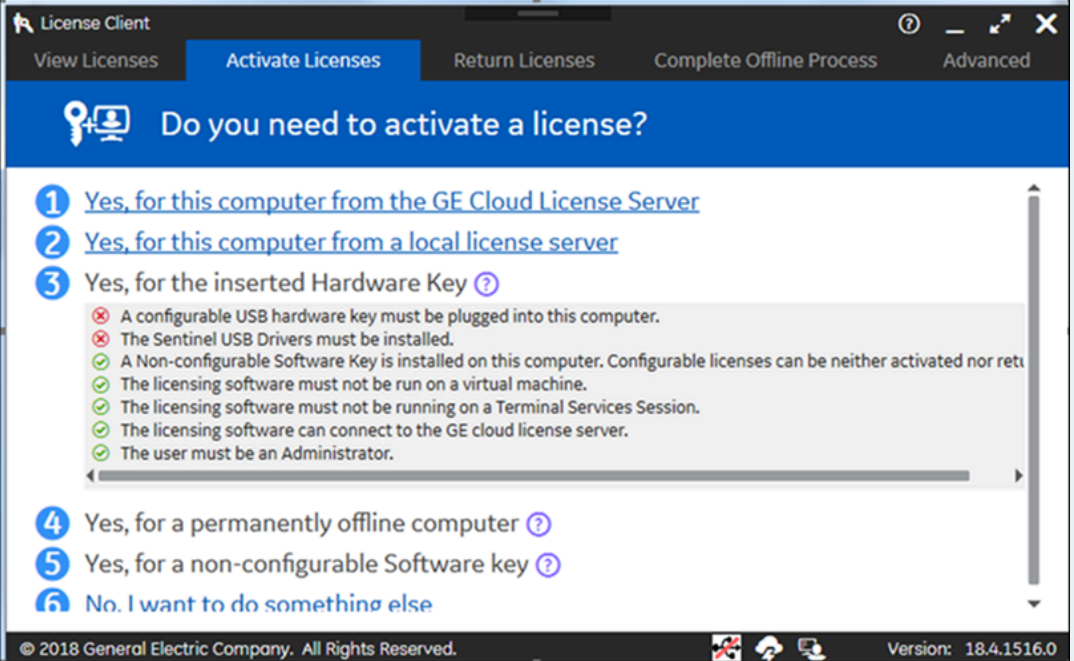
In this scenario, the configurable GE USB hardware keys are plugged-in to a computer with internet to activate licenses and then used in the computer that does not have internet.

The Non-configurable GE USB hardware keys are pre-loaded with the licensing information for your products.

Steps

1. Insert the GE USB key to your online computer (physical machine or a virtual machine).
2. In License Client, select **Activate Licenses**, select the option 3, **Yes, for the inserted hardware key**.

> ✏️ **Note:**
>
> If you did not install the Sentinel USB drivers, error messages appear and the disabled USB 🖥️ icon appears in the footer.
>
>

If you did install the Sentinel USB drivers, the License Client detects and reads the GE USB hardware key (up to two minutes), and then the **Activate Licenses on GE USB hardware key** page appears, as shown below.

3. Enter your first activation code, and then select **Add Code**.

4. Repeat the previous step for each license you have.

5. Select **Activate**. The Licenses screen should now display all the licenses activated on the server.

6. Remove the GE USB hardware key from your online computer and plug-in to the offline computer.

Scenario 4: Computer (offline) Licenses Activation by using Request and Response Files

Overview
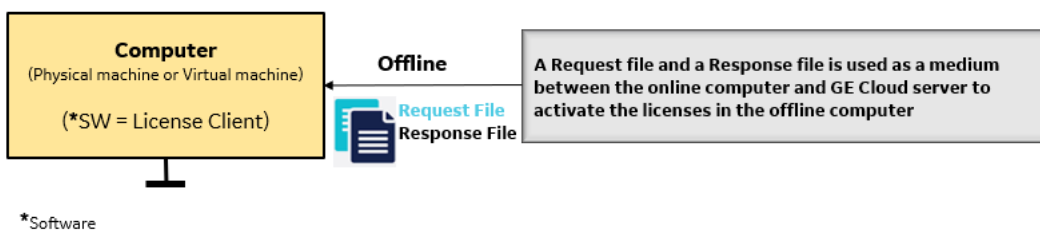
In this scenario, the a **Request file** and a **Response file** is used as a medium between a computer having internet and GE Cloud server to activate the licenses in the offline computer.

In License Client, select **Activate Licenses**, to activate licenses on client computers that are not connected to the internet.

Steps

Activating licenses on an offline computer includes the following steps:

1. Generate a request file from the offline computer. Send the request file to the online computer.
2. From an online computer, send the request file to the GE cloud license server and generate a response file.
3. Send the response file to the offline computer and activate the licenses.

Generating a Request File

1. From License Client, select the **Activate Licenses** tab. The License Client detects that the client computer is not connected to the internet. The "Do you need to activate a License?" page appears.
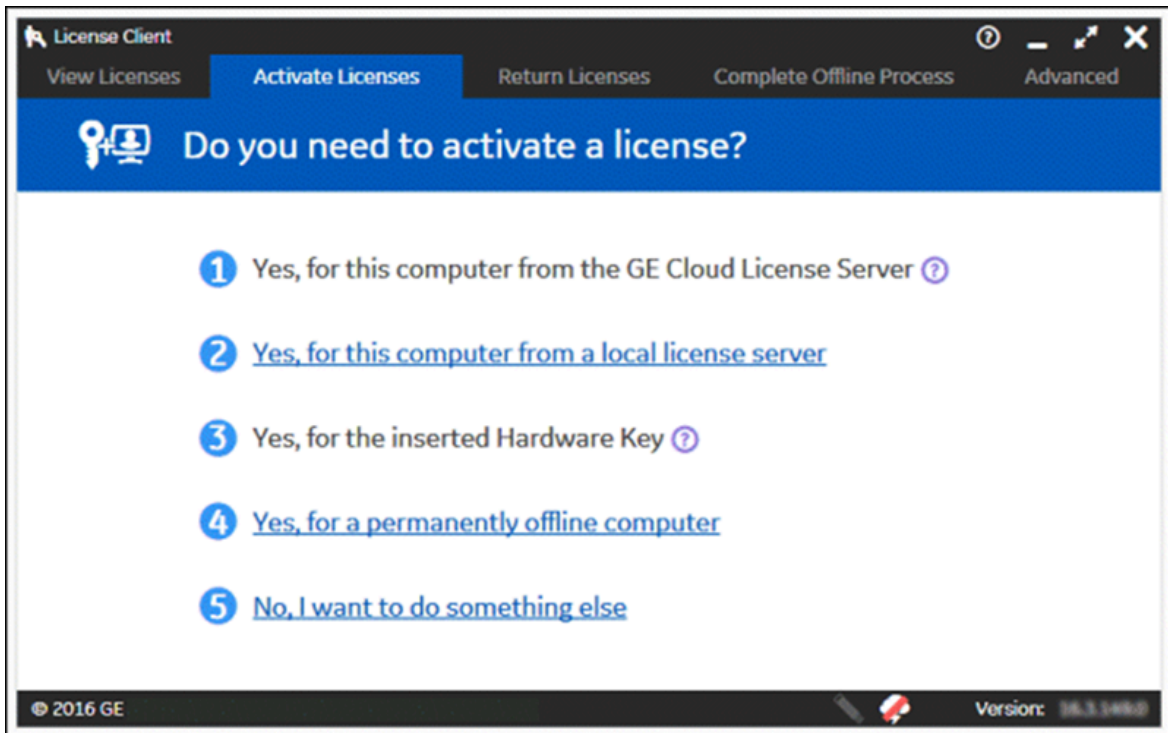
2. Select **Yes, for a permanently offline computer**. The **Generate a Request File to activate licenses** page appears.
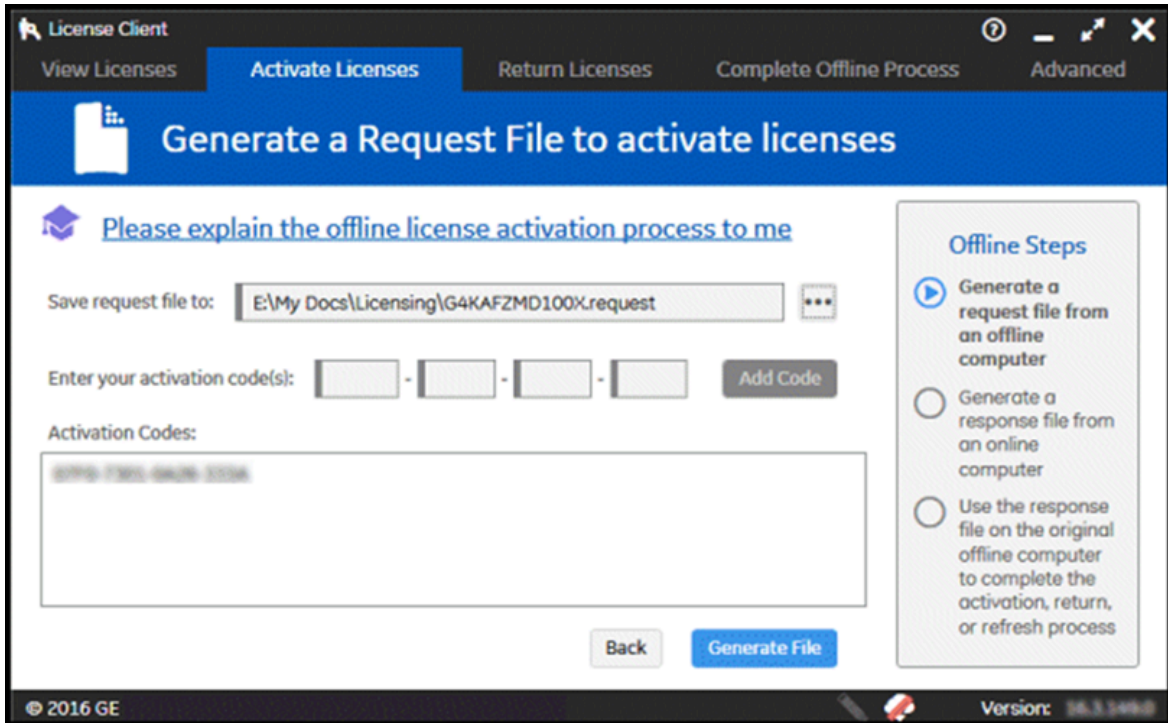
3. Browse to the media device or the network location where the request file is saved.

4. Enter each activation code and select **Add Code** to add it to the Activation Codes area.

> **Note:**
> You can find the activation code(s) in your GE order e-mail.

5. Select **Generate File** to create and save a request file to the specified location.

6. The **Complete Offline Process** page appears. A message appears indicating the request file location and when it was created.
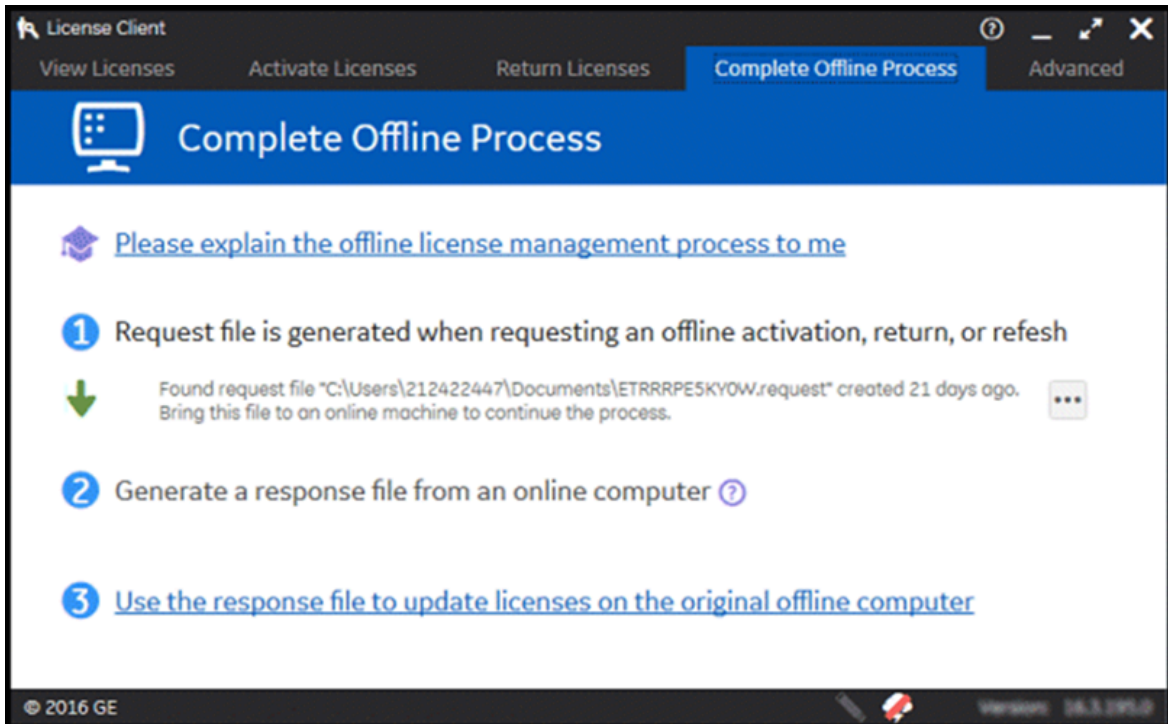
Generating a Response File

Collect the request file from the offline computer and then generate a response file from an online computer.

1. Select **Complete Offline Process**. The **Complete Offline Process** page appears. A message appears indicating the response file location and when it expires.
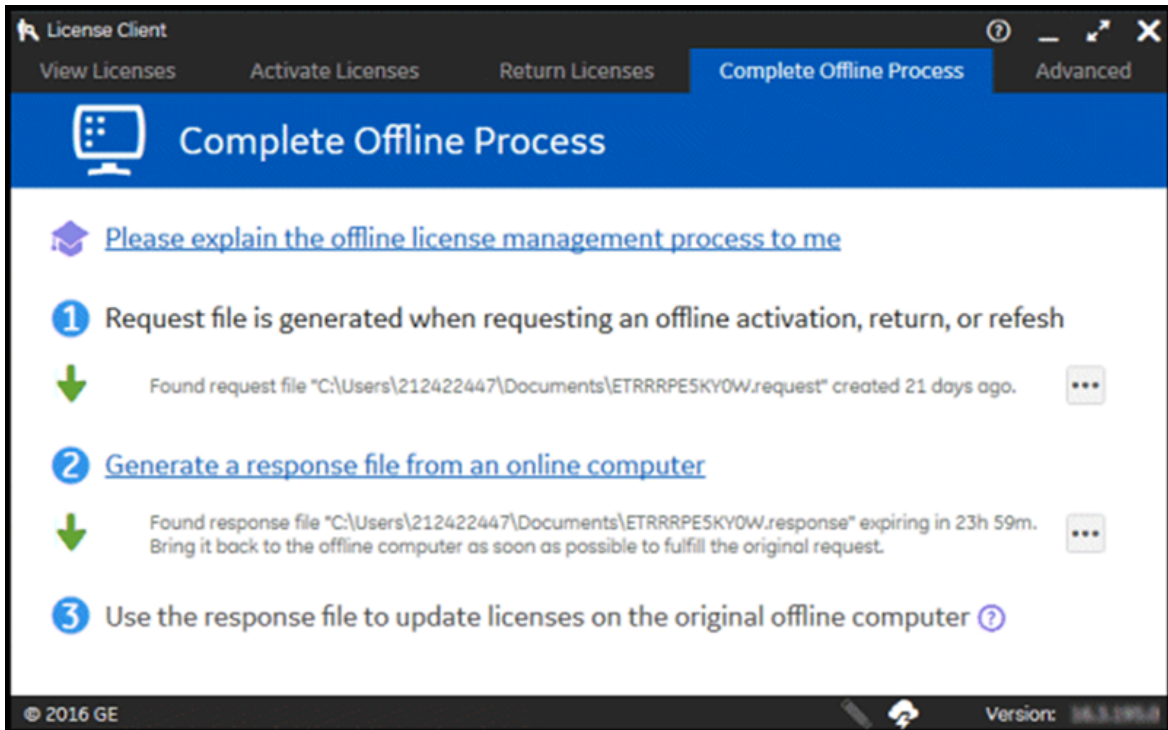
2. Select **Generate a response file from an online computer**. The **Generate a Response File** page appears.
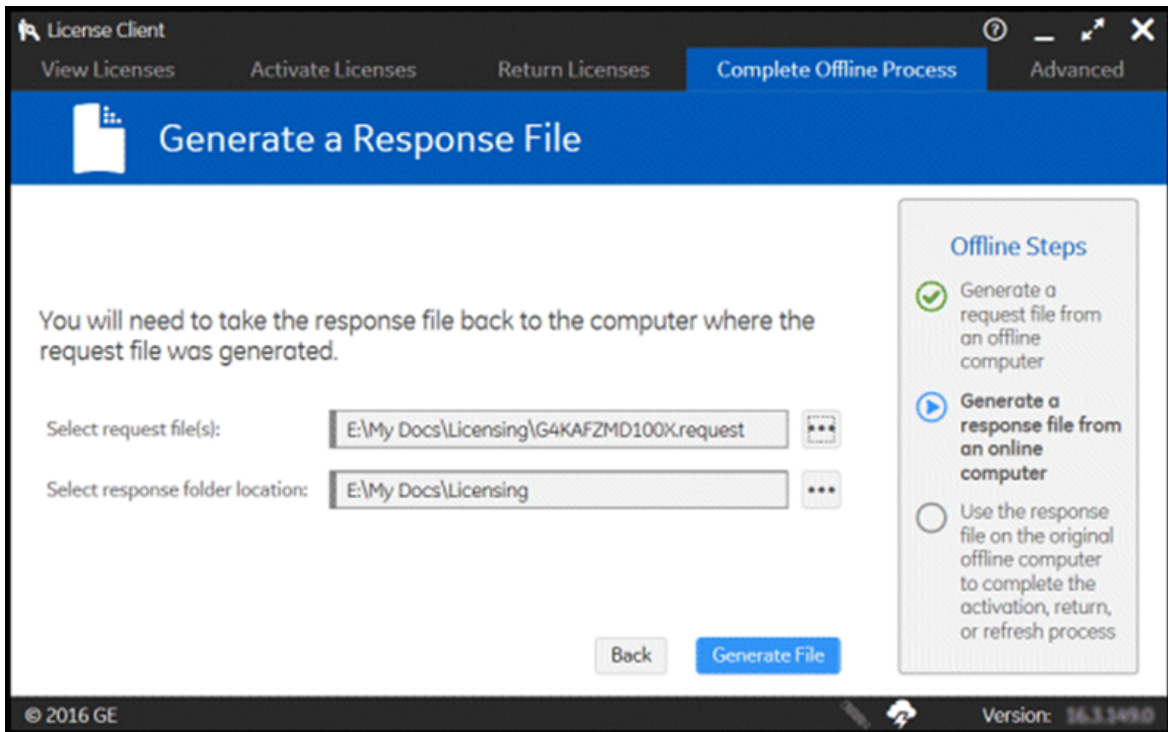
3. If necessary, insert the media device into the computer.

4. Select the request file and response folder location, then select **Generate File**. The response file is generated and saved to the specified location on a media device or network drive that can be accessed by the offline computer.

> ✎ **Note:**
> The response file expires 24 hours after being created. The application indicates the time remaining before the response file expires.

Activating Licenses

After generating a request file from your offline computer and a response file from an online computer, you can activate licenses on the offline computer.

1. On the **Complete Offline Process** page, select **Use the response file to update licenses on the original offline computer**.
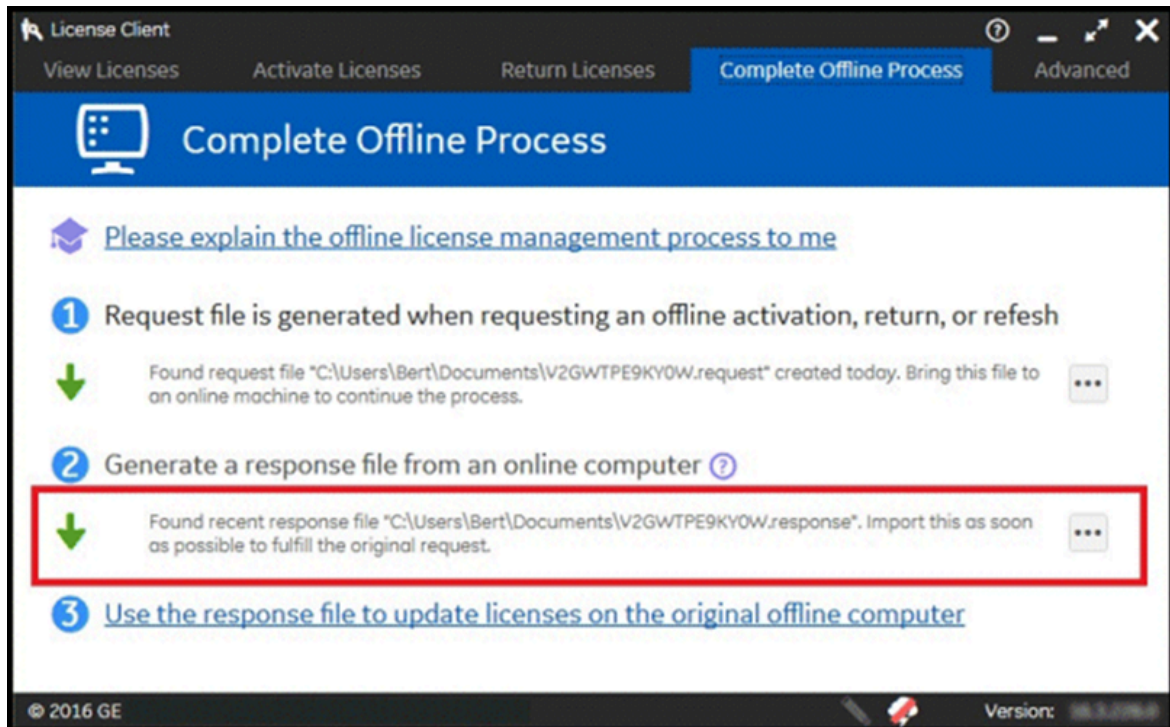
The **Use the Response File to Update Licenses** page appears.
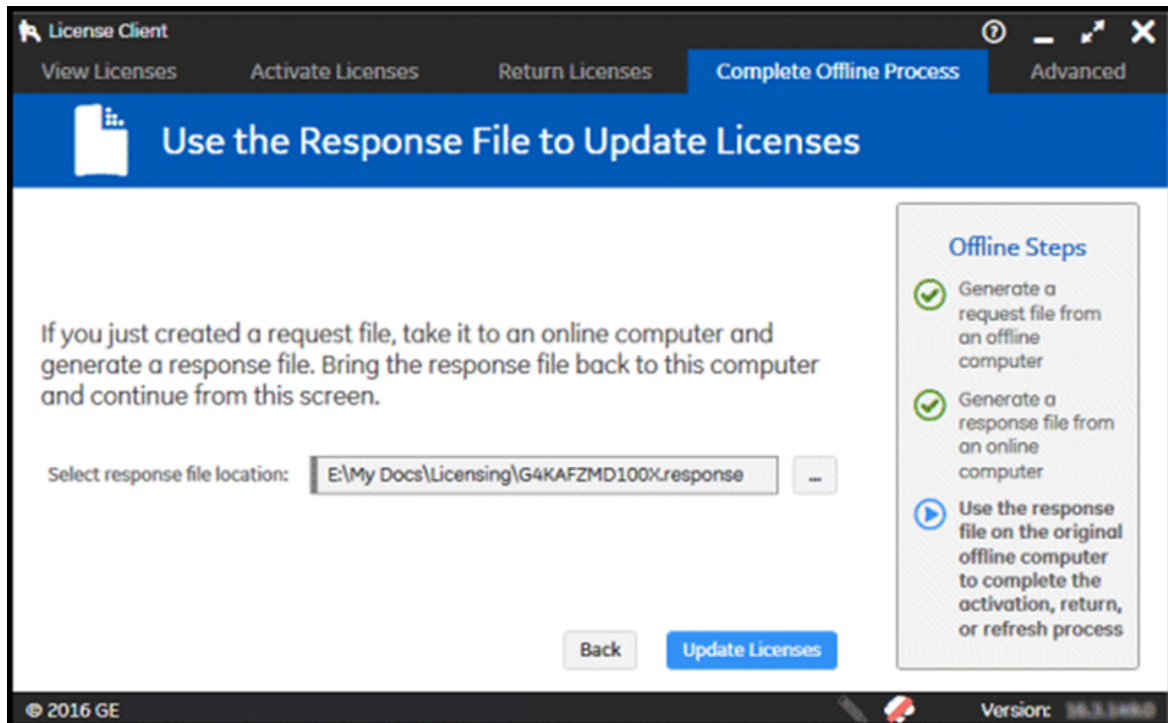
2. If necessary, insert the media device with the response file into the computer.

3. Browse to the location of the response file, and select the file.

4. Select **Update Licenses**.

> ✏️ **Note:**
> After the response file is imported, the response file extension is modified to "response_imported".

Return Licenses

You can return your licenses for time being and re-activate them later. You can also re-active your licenses on a different computer using License Client.

The **Return Licenses** tab in License Client is used to return licenses from your computer (physical machine or virtual machine).
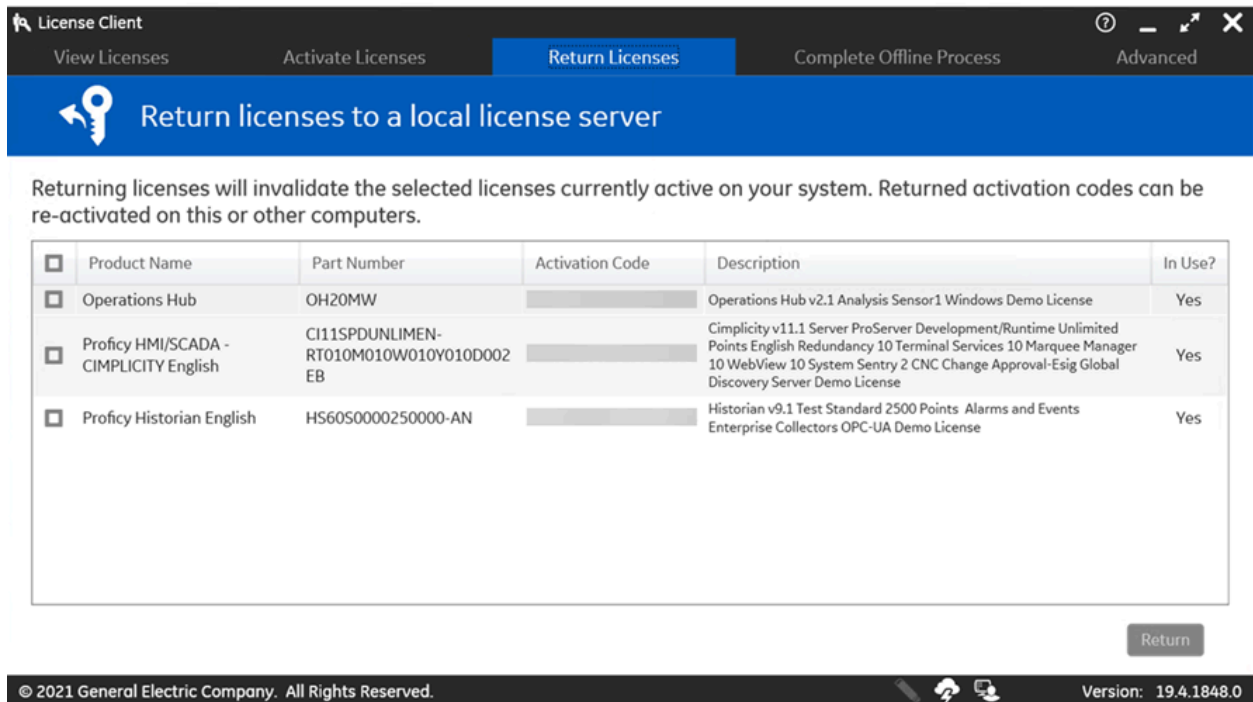
Following are the steps for returning your licenses if your computer is connected to a Local License Server, or to the GE Cloud License Server, or a computer with a GE USB hardware key:

1. In License Client, select **Return Licenses**.
2. The return licenses server page displays information for each license on your computer.
3. Select the check box for each license to return, and then select **Return**.

> ✏️ **Note:**
> The **Activate Licenses** tab appears, indicating that licenses have been successfully returned to your respective license server.

Following are the steps for returning your licenses if your computer is offline, that is your computer is not connected to the internet:

1. Generate a request file from the offline computer. Send the request file to the online computer.
2. From an online computer, send the request file to the GE cloud license server and generate a response file.
3. Send the response file to the offline computer and return the licenses.

Generating a Request File

> **Note:**
>
> Generate a request file from an online computer before returning licenses from an offline computer.

1. On the offline computer, in License Client, select the **Return Licenses** tab. The License Client detects that the client computer is not connected to the internet.
2. The **Generate a Request File to return licenses** page appears.
3. Select the licenses to be returned.
4. Browse the location where you want to save the request file.
5. Save the license request file to a device or network drive that can be accessed by the online computer.
6. If you are using a portable media device, remove it and return to the online computer.

Generating a Response File

> **Note:**
>
> Generate a response file from an online computer before returning licenses from an offline computer.

1. Select **Complete Offline Process**. The **Complete Offline Process** page appears. A message appears indicating the response file location and when it expires.
2. Select **Generate a response file from an online computer**. The **Generate a Response File** page appears.
3. If necessary, insert the media device into the computer.
4. Select the request file(s) and response folder location, then select **Generate File**. The response file is generated and saved to the specified location on a media device or network drive that can be accessed by the offline computer.

> **Note:**
>
> The response file expires 24 hours after being created. The application indicates the time remaining before the response file expires.

5. If you are using a portable media device to store the response file, remove it and return to the offline computer.

Returning a License

After generating a request file from your offline computer and a response file from an online computer, you can return licenses from the offline computer.

1. On the **Complete Offline Process** page, select **Use the response file to update licenses on the original offline computer**. The **Use the Response File to Update Licenses** page appears.
2. If necessary, insert the media device with the response file into the computer.
3. Browse the location of the response file, and select the file.
4. Select **Return License**.

> **Note:**
> After the response file is imported, the response file extension is modified to "response_imported".

Reconcile Device ID Changes

If your device ID changes, you may face some issues with your GE product licenses. You must perform the reconcile operation to make your device ID tolerant against any further changes to the device ID.

Follow the below important notes on Common Licensing software version requirements.

> **Note:**
>
> - If you are installing Common Licensing software for the first time in your computer, then your device ID will be tolerant when you install Common Licensing version 19.4 or higher and reconcile operation is not required.
> - If you are already using Common Licensing software in your computer, you must upgrade to Common Licensing version 19.4 or higher, and run the reconcile operation to make your device ID tolerant.

The reconcile operation is required to:

- Avoid any license issues when the device ID changes
- Run your activated licenses seamlessly and more efficiently.

> **Note:**
> Perform the reconcile operation, to ensure your device ID is tolerant even if your computer device ID is intact and not changed.

Before you begin with your reconcile operation:

- You must not use the GE products while reconciling the device ID.
- If you are not connected to GE Cloud Server, you must return the existing licenses offline before the reconcile operation. However, if you are connected to GE Cloud Server, the existing licenses are automatically returned when you reconcile the device ID.

Following are the steps for reconciliation of your device ID with new tolerant device ID:

1. In License Client, select **View Licenses** tab. The activated licenses are already mapped to 12 characters device ID.

2. Select **Advanced** tab, and then select **View or Reconcile Tolerant Device ID**.
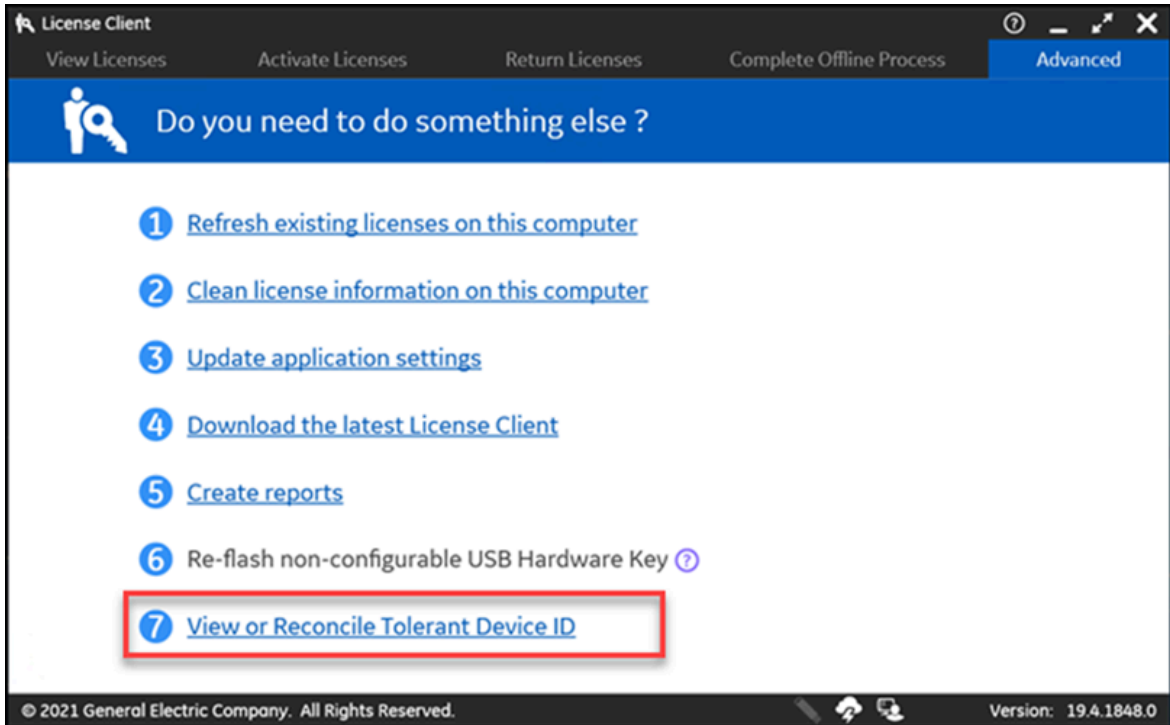
3. Select the **Confirm** button to start your reconciling operation.
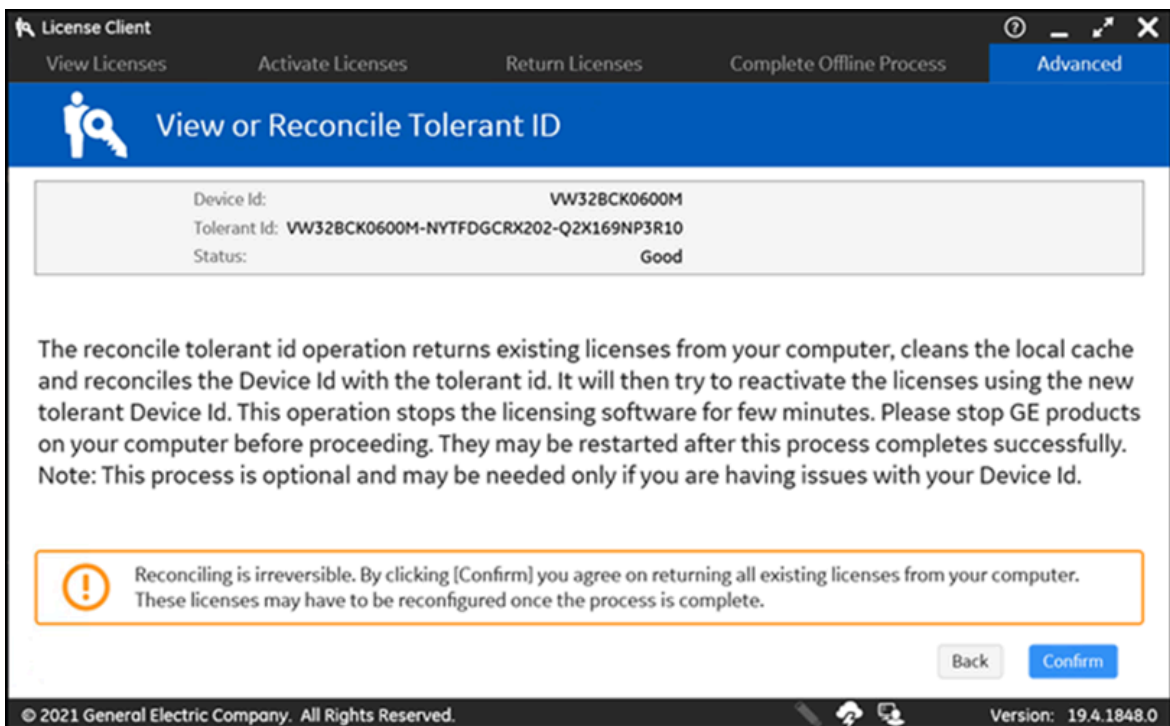
> **Note:**
>
> After the reconcile operation, the 12 characters of existing device ID will change to 36 characters. This ID is the new Tolerant ID.

In the **View Licenses** tab, you will see that your licenses are still valid and are now mapped to 36 characters device ID.

Chapter 3. Types of Licensing

Overview of Proficy Licensing Types

Common Licensing supports configurable and non-configurable licensing options. You can manage configurable liceneses without further assistance from GE. Non-configurable licenses, however, cannot be modified at your local site. To make changes to non-configurable licenses, contact your GE representative.

The following image illustrates the various options available through Common Licensing:
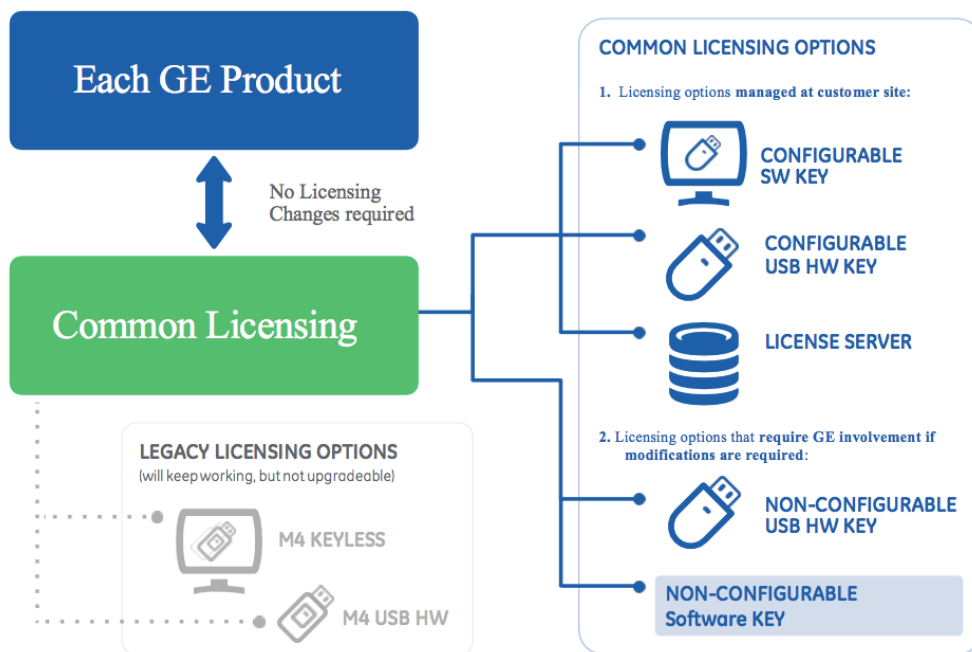
Configurable Licenses on Computers or Local License Servers

The following are possible configurations for licenses residing on local computers or local license servers:

Computers Connected to the Internet

If computers are connected to the Internet and a direct connection can be made to the GE Cloud License Server during the activation process, licenses are downloaded directly from the GE Cloud License Server to the computer.

Computers Not Connected to the Internet

If computers are not connected to the Internet and a direct connection cannot be made to the GE Cloud License Server during the activation process, you must use a network drive or portable media device. Files are transferred between the offline computer and an online computer that can connect to the GE Cloud License Server during the activation process.

Intranet Computers Not Connected to the Internet, and Local License Server Connected to the Internet

If computers in an intranet are not connected to the Internet (permanently offline) and a direct connection cannot be made to the GE Cloud License Server during the activation process, but the Local License Server computer within the intranet is connected to the Internet, then the licenses are added to the Local License Server computer from the GE Cloud License Server. Licenses are activated on the Local License Server computer from the intranet computers with GE software products.

Intranet Computers Not Connected to the Internet, and Local License Server Not Connected to the Internet

If neither the intranet computers nor the Local License Server are connected to the Internet and a direct connection cannot be made to the GE Cloud License Server during the activation process, you must use a network drive or portable media device. Files are transferred between the offline Local License Server and an online computer that can connect to the Cloud License Server during the activation process. Intranet computers then connect to the Local License Server to obtain activations.

Licenses on USB Keys

Licenses can be activated and maintained on GE USB hardware keys. This includes:

- Non-configurable GE USB hardware keys
- Configurable GE USB hardware keys

Non-configurable GE USB Hardware Key

Non-configurable GE USB hardware keys are pre-loaded with the licensing information for your products. You cannot modify the licensing information contained in these keys. However, if you need additional licenses, you can purchase them from GE and then re-flash keys with a GE-supplied image file that overwrites all existing information and replaces it with updated licensing information.

Configurable GE USB Hardware Key

Configurable GE USB hardware keys will continue to be supported by GE. These configurable keys are plugged into computers connected to the Internet in order to activate licenses on them.

Once activated, a USB key can be used to license a physical or virtual computer that does not need to online. However, changes, upgrades, or returns require the key to be plugged into a computer connected to the Internet so the GE Licensing Server can be accessed.

The final legacy licensing option, keyless software licenses, continues to be supported by GE but will eventually be phased out.

Determining the Type of Hardware Key

The USB icon in the footer of the License Client represents whether the key is inserted in the computer and recognized by the License Client . The color of the USB icon ![icon] identifies the type of key:

- Blue: Non−configurable hardware key (M5 hardware)
- Green: Configurable hardware key (Advantage hardware key – old type)
- Red: Configurable hardware key (Advantage hardware key – red type)
- Silver: Configurable hardware key (Advantage hardware key – new silver type)
- White: M4 hardware key

If a hardware key is detected but is unreadable, the icon is illuminated with a red slash, such as ![icon].

Non-Configurable Software Keys

Non-Configurable Software Keys are file-based licenses that do not require internet connectivity to be activated. You cannot modify the licensing information contained in these software keys. However, if you need additional licenses, you may purchase them from GE.

You may only use this type of license if you have previously signed an agreement with GE. Non-Configurable Software Keys cannot be loaded onto a Local License Server for ease of management and do not provide any of the advantages that configurable licenses do.

Legacy Licenses

Legacy licensing options, such as keyless software licenses and M4 USB Keys, continue to be supported by GE. They are no longer available to customers for licensing GE software products.

Chapter 4. Architecture Guide

Overview of Licensing Architecture

This document provides high level guidance on the factors you must consider when you design your licensing architecture for GE Digital Manufacturing software applications. GE Digital provides flexible options for licensing GE products considering the diverse needs of the users. Selecting and designing a licensing system that anticipates both your current and future needs will enable long-term growth with lower cost of ownership.

> ✏️ **Note:**
>
> Every license is tied to the Customer Support Number (CSN) under which it was ordered.

When a license is activated on a system or a hardware key for the first time, the device-ID of that system/ hardware key is permanently associated with that CSN. A license for another CSN cannot be activated on that device, even if the original license is returned.

> ✏️ **Note:**
>
> If your computer was originally configured using a key belonging to an Integrator or a Partner; or if a customer places orders under multiple CSNs, contact GE Digital Support for assistance.

To manage your GE Proficy Licenses, the **License Client** software is required in your computer (physical or virtual). This typically requires GE Common Licensing software to be installed on your computer, to activate GE product licenses with the available options as described in the topic Activate and Maintain your GED Manufacturing Licenses *(on page 48)*.

For more information, refer to Quick Start Guide.

Activate and Maintain your GED Manufacturing Licenses

The following are the different options to activate your GE product licenses:

- Activate and maintain licenses by connecting clients to GED's Cloud License Server *(on page 49)*
- Activate and maintain licenses on a Local License Server *(on page 49)*
- Activate and maintain licenses using a GE USB Hardware key *(on page 50)*

Activate and maintain licenses by connecting clients to GED's Cloud License Server

When to choose this option: This is the simplest way to activate GE product licenses in your online computer (physical machine) and is recommended unless central management or support for virtual machines are required.

Use this option when the computer (physical machine or virtual machine) with GE Cloud License Server is connected to internet.

How it works: You must connect to GED's Cloud License Server to activate your licenses on the client computer. This is a one-time connection. Options for both online and offline license clients are available. The License Client does not need to stay connected to the GE Cloud License Server; you only need to connect again if you choose to Return or Refresh your activation from the License Client.

Refer to: Activating Licenses on a Computer Connected to the GE Cloud License Server *(on page 67)* to activate licenses on a computer connected to the GE Cloud License Server.

Activate and maintain licenses on a Local License Server

When to choose this option: Local license servers enable you to manage and distribute licenses from a central machine on your network. They are also required if you are running your licensed GE applications on virtual machines. You can host the license server on the same computer.

You must use this option when the computer (physical machine or virtual machine) with **Local License Server** is connected to internet.

How it works: You will install the GE Common Licensing software on a local machine, then make a one-time connection to the GED Cloud License Server to load licenses onto your Local License Server. Client computers then connect to the Local License Server and lease their licenses. License Clients must remain connected to the Local License Server to renew their leased licenses every few hours. If a License Client is unable to connect, you will receive the warning message: *This License is about to expire.* After 21 days (this limit is configurable) of activating GE licenses, the License Client will lose its activation lease, you cannot run the licensed application(s) and the activation will automatically be returned to the Local License Server.

Refer to: Activating Licenses on a Computer Connected to a Local License Server *(on page 68)* to activate Licenses on a computer connected to a Local License Server.

Activate and maintain licenses using a GE USB Hardware key

When to choose this option: Use this option when your physical or virtual computers are not connected to internet or intranet. Also, if the license key is tied to a USB device (so it is easy to ship to remote locations or move between the devices).

How it works: There are two types of GE USB Hardware keys:

- **Non-configurable GE USB Hardware keys** are pre-loaded with the licensing information for your products. You cannot modify the licensing information contained in these keys. However, if you need additional licenses, you can purchase them from GE and then re-flash keys with an image file (supplied by GE) that overwrites all existing information and replaces it with updated licensing information.
- **Configurable GE USB Hardware keys** are plugged into a computer connected to the internet to activate licenses on the USB stick from the GE Cloud License Server.

> **Note:**
> The GE USB Hardware keys cannot be activated from a Local License Server. Any license changes, upgrades, or returns require the hardware key to be plugged into a computer connected to the internet, and to ensure that the GE Cloud License Server can be accessed.

Refer to: Activating Licenses on a Computer with a GE USB Hardware Key Inserted *(on page 69)* to activate Licenses on a computer connected to GE USB Hardware key.

Licensing Methods Comparison Table

The following table provides a quick comparison of the licensing methods as described above:

Table 1. Licensing Methods

	GE Cloud License Server	Local License Server	Non-Configurable USB Hardware key	Configurable USB Hardware key
Client type	Physical Machine	Physical Machine or VM	Physical Machine or VM	Physical Machine or VM
Network access	• One-time client access to internet for activation, changes,	• One-time server access to internet; Con-	None	One-time client access to internet for activation,

Table 1. Licensing Methods (continued)

	GE Cloud License Server	Local License Server	Non-Configurable USB Hardware key	Configurable USB Hardware key
	updates, or return • Clients with no direct internet access can use offline activation process*	tinuous, reliable client access to local network • License Servers with no direct internet access can use offline activation process*		changes, updates, or return.
Number of clients	Unlimited	<100 clients per server	Each USB Hardware key may only have up to one copy of each GE Manufacturing product.	
Additional considerations	This option does not provide centralized license management for multiple clients.	• Enables centralized license management for multiple clients • Distributed/remote client networks may impact the required client-server connectivity.	Changes, updates, or additional licenses require USB to be re-flashed using an image file provided by GE.	USB Hardware keys cannot be activated from a Local License Server.

> ✎ **Note:**
>
> *In the offline activation process, license activation information is copied to/from the GE Cloud License Server using another computer with internet access.

Licensing Architecture Examples

Example 1: Physical computers with internet access

In this example, the configuration consists of 7 physical computers in different locations but all with internet access. This is one of the simplest architectures.

- Each computer utilizes the License Client software to connect to the GE Cloud License Server to activate licenses.
- Connectivity is not required between any of these Local Clients.
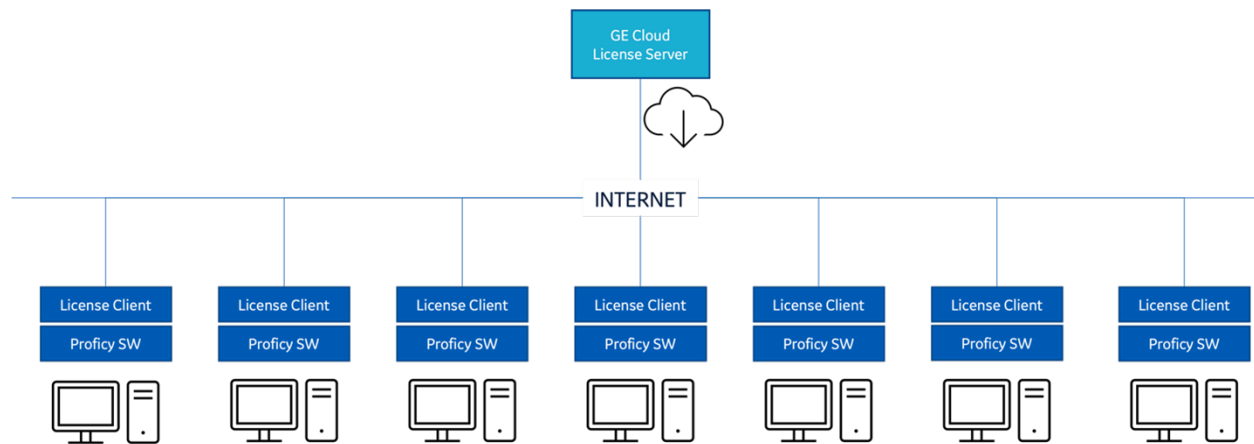
Example 2: Virtual machines with full network access

In this example, there are 5 systems that are all virtual machines. These all have internet and intranet connectivity. Since these are virtual machines, a Local License Server is required.

- The simplest configuration is to utilize a single Local License Server that will service the 5 License Clients.
- All the licenses will be activated on the Local License Server.
- Each License Client will then lease their licenses from the Local License Server.

- The License Clients must maintain network connectivity to the Local License Server.
- If a change is required to a license, you must return it to the Local License Server to update the license.
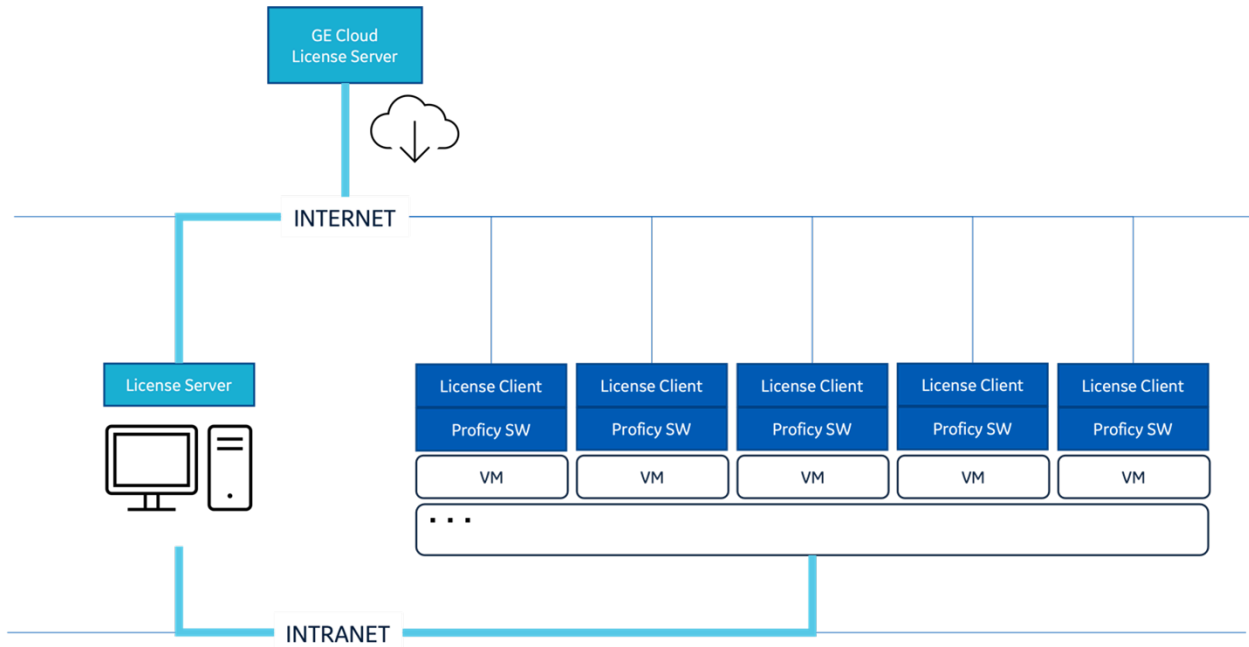
Example 3: Multiple Plants

In this example, there are 17 systems across 2 plants (10 and 7 in each plant) in different countries. These systems are a combination of physical and virtual machines. The client machines have no internet access, but they have intranet. There is limited internet access from the plants.

- Two Local License Servers (1 in each plant) that have access to the internet.
- Each Local License Server activates the licenses for the clients in their plants.
- The 10 License Clients in Plant A lease licenses from that plant's Local License Server and the 7 in Plant B connect to the other Local License Server.
- There is no need for connectivity between factories but connectivity within the plants is required to keep the leases active from the Local License Server.
- If a change is required to a license, you must return it to the Local License Server to update the license.
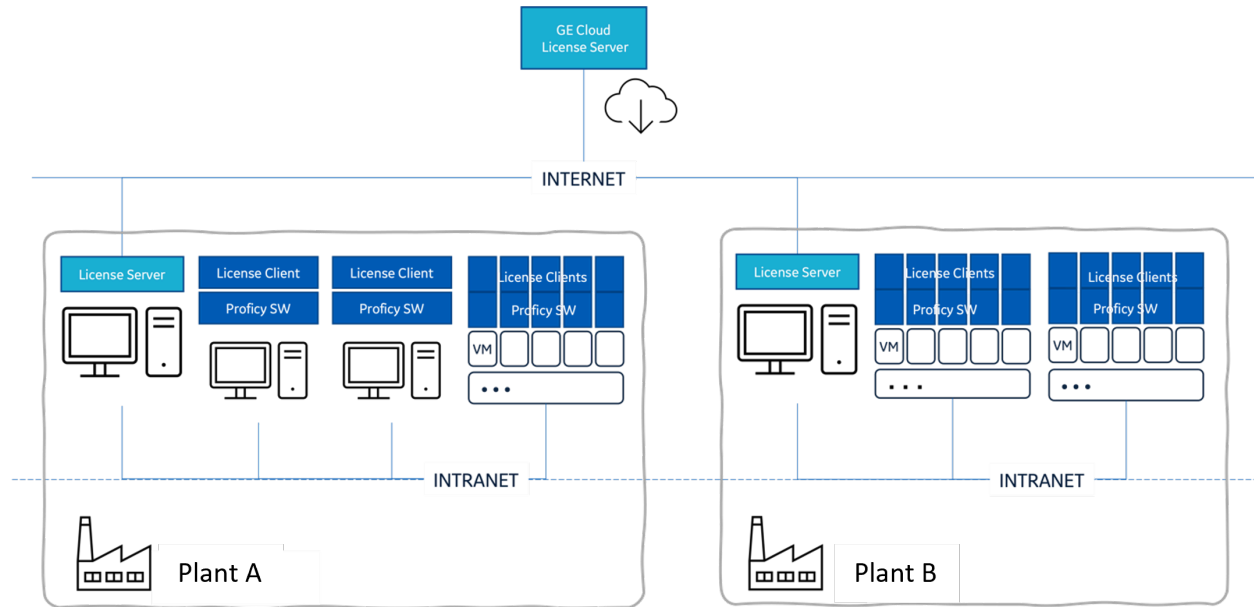
Example 4: Single Plant with 3 Systems

In this example one plant uses VMs that do not have either internet access or intranet access.

- Since these are virtual machines with no network access, each of the 3 License Client systems will also need to run the Local License Server software.
- Using the offline activation process (which utilizes a system with access to the GED Cloud License Server), licenses will be activated to the Local License Server on each system.
- Each system will then use the License Client software to lease the licenses from its own Local License Server.
- If a change is required to a license key, you must return it to the Local License Server and then utilize the offline process to update the license.
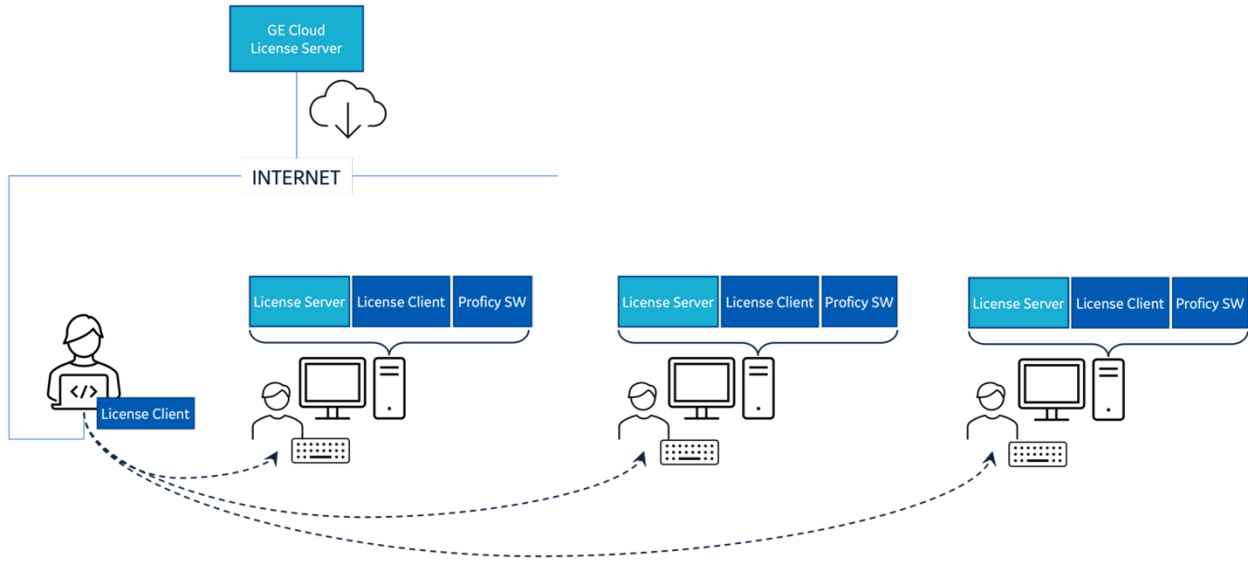
Example 5: USB Hardware keys

In this example, three Configurable USB Hardware keys are utilized in a plant. These keys will be utilized on systems with no network connectivity.

- Each key is attached to a system that has internet access and License Client software.

> **Note:**
> You must use only one key at a time for the system having internet access and License Client software.

- The appropriate license(s) are activated onto each key.
- These USB hardware keys are then connected to the systems on which the GE Digital licensed applications and the License Client software are running, so that the licenses will be available to those systems.
- If any changes are required to those licenses, the keys must be attached again to a system with access to the GED Cloud License Server to update the licenses.
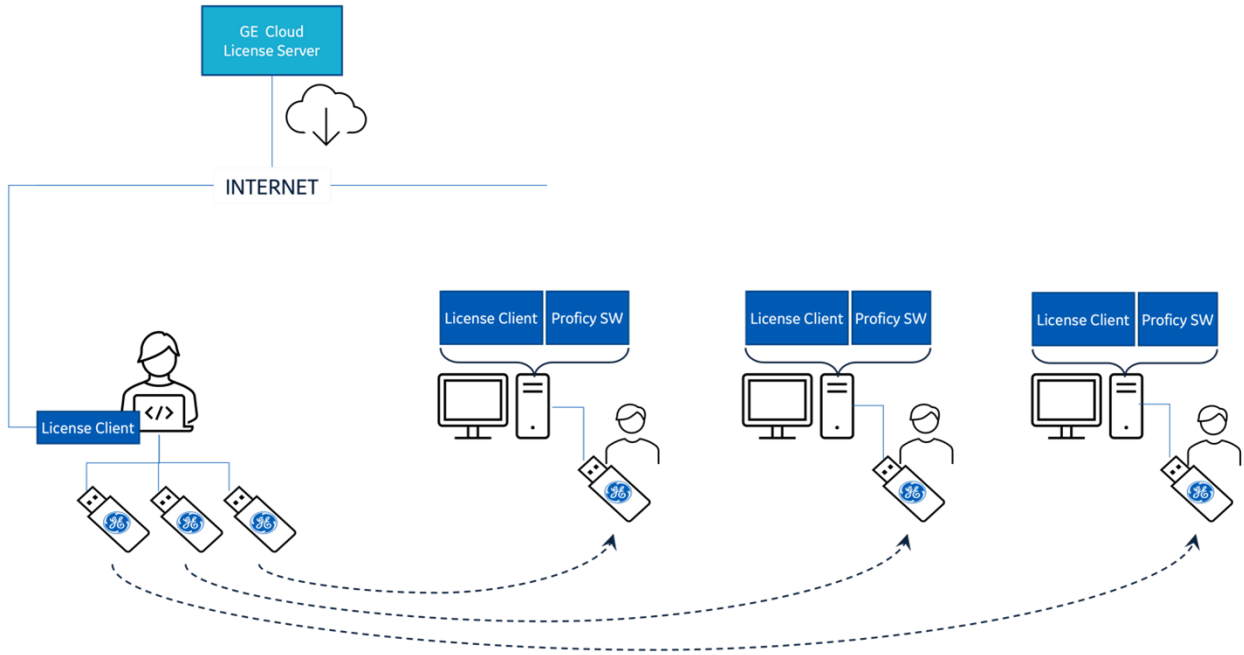
Chapter 5. License Client

License Client Overview

Use the License Client to activate, review, and update licenses on a client device or a GE USB hardware key. The License Client can retrieve licenses from the GE Cloud License Server, a Local License Server on your intranet, or a GE USB hardware key.

If your client computer is not connected to the Internet, you can activate licenses using a network drive or media device to transfer request files and response files.

Installing the License Client

You must install the License Client on all client devices that require GE software licenses.
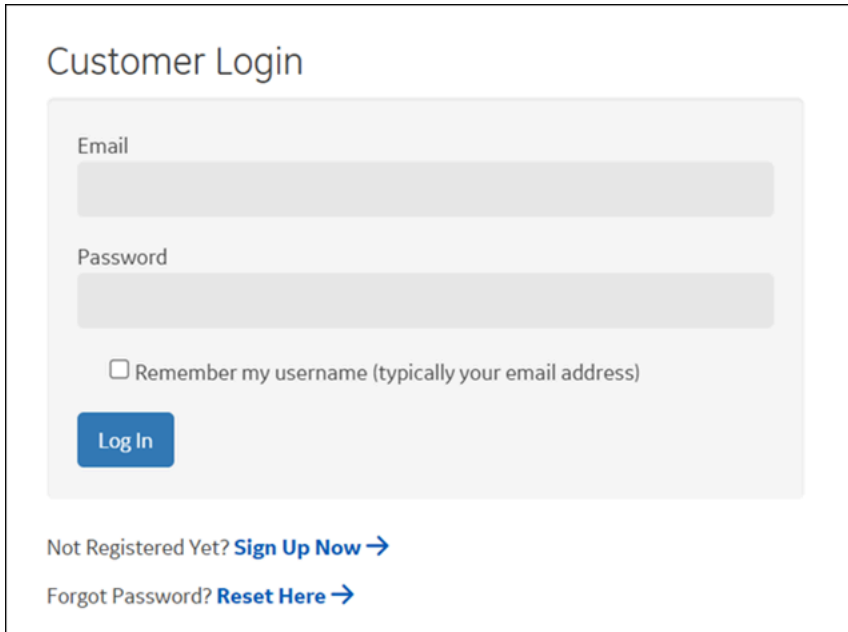
Installing the License Client deploys the PFKeyUpdate, iKeyUpdate, Gemalto/SafeNet HASP drivers, and Wibu drivers.

> ✏️ **Note:**
> If upgrading License Client with the new drivers, all Sentinel, or Wibu dependencies are removed.

- You do not need to uninstall earlier versions of any Common Licensing software.
- If you are using a legacy license and have received an upgrade file (*.plic), upgrade the license *(on page 62)* using this file.
- Before migrating to cloud-based licensing, make sure you remove your existing licenses *(on page 62)* from License Client.

1. Navigate to https://digitalsupport.ge.com/communities/en_US/Article/GE-Software-Product-Licensing.
2. Select **GE Common Licensing Installer**.
   The login page appears.

3. Enter your login details, and select **Log In**.

> ✎ **Note:**
>
> The login details are sent to you via email after you purchase a GE software product.

4. After successful login, download `Common Licensing <version>.exe`.

5. Double-click `CommonLicensing<version>.exe`.

The installer page appears.
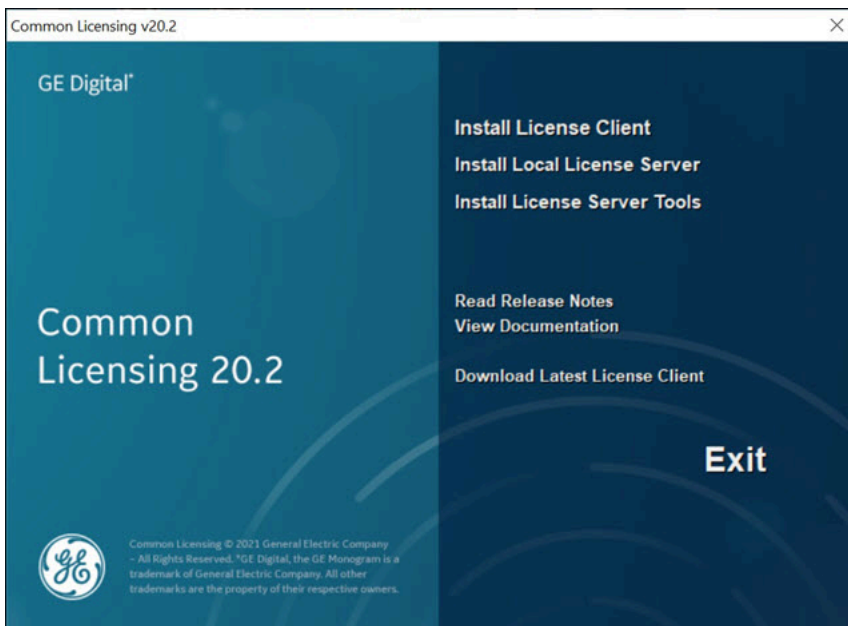
6. Select **Install License Client**.

The **InstallShield Wizard** page appears.
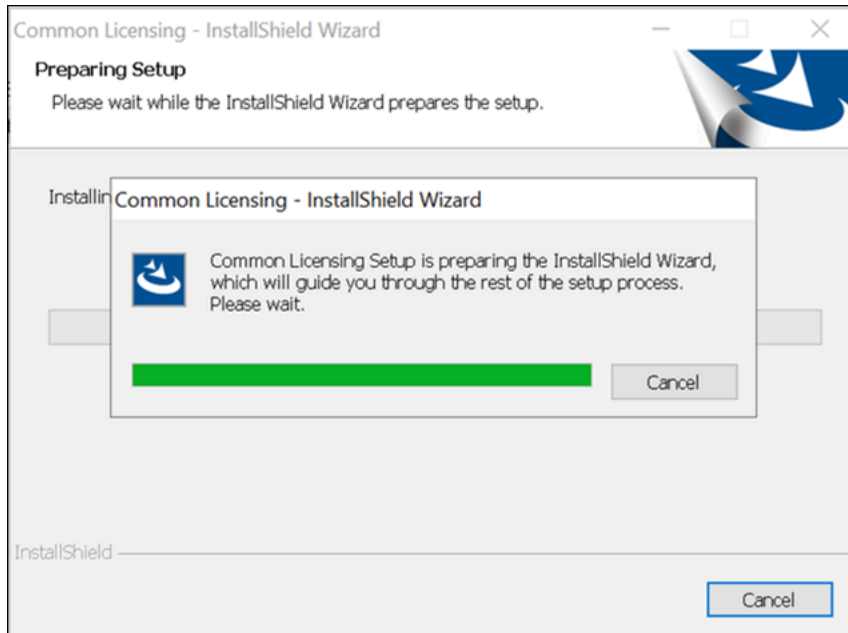
7. Select **Next**.

The **License Agreement** page appears.
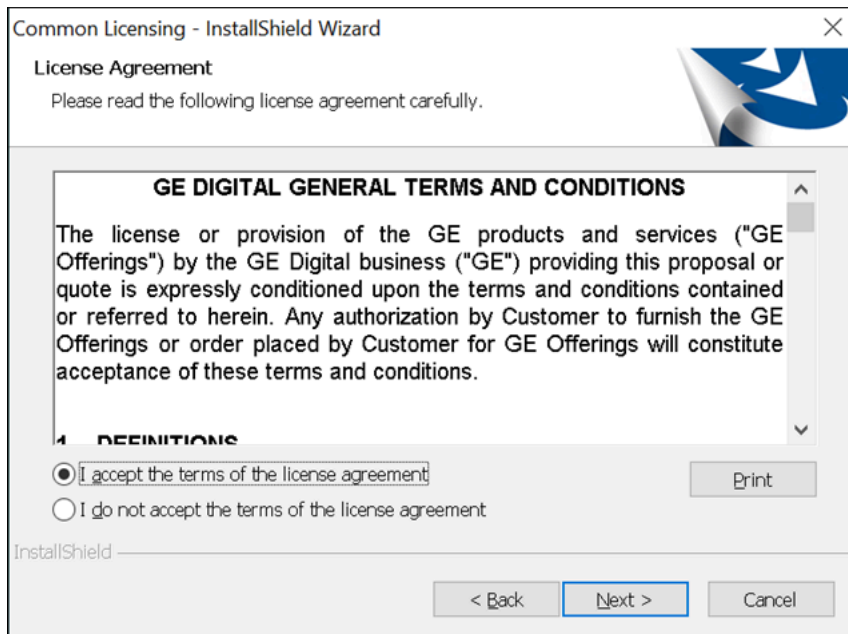
8. Select **I accept the terms of the license agreement** option, and then select **Next**.

The **Install USB HASP Drivers** page appears.
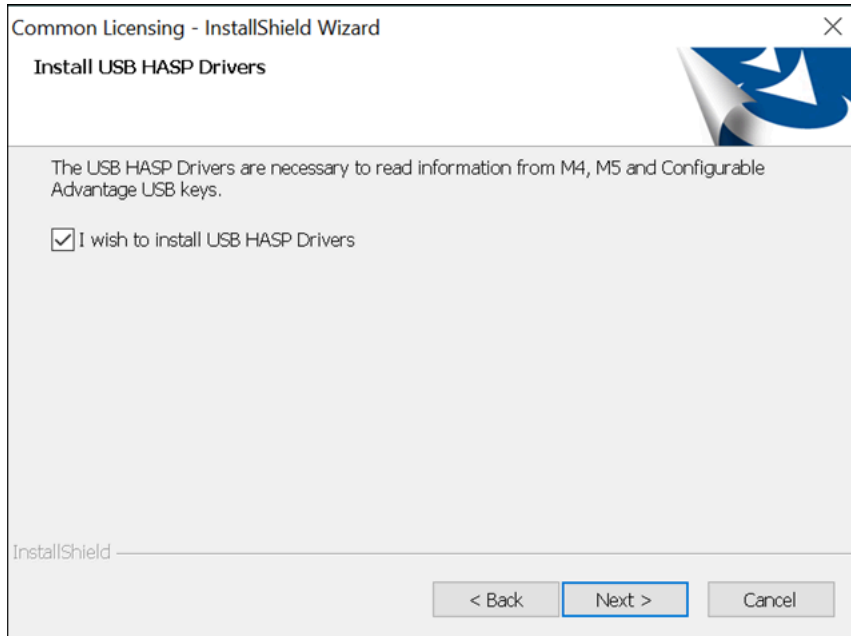
9. If you want to install USB HASP Drivers, select the **I wish to install USB HASP Drivers** check box, else skip to step 11.

> ❗ **Important:**
> You need USB HASP Drivers to read information from M4, M5 and Configurable Advantage USB keys.

10. Select **Next**.

    The **Ready to Install the Program** page appears.
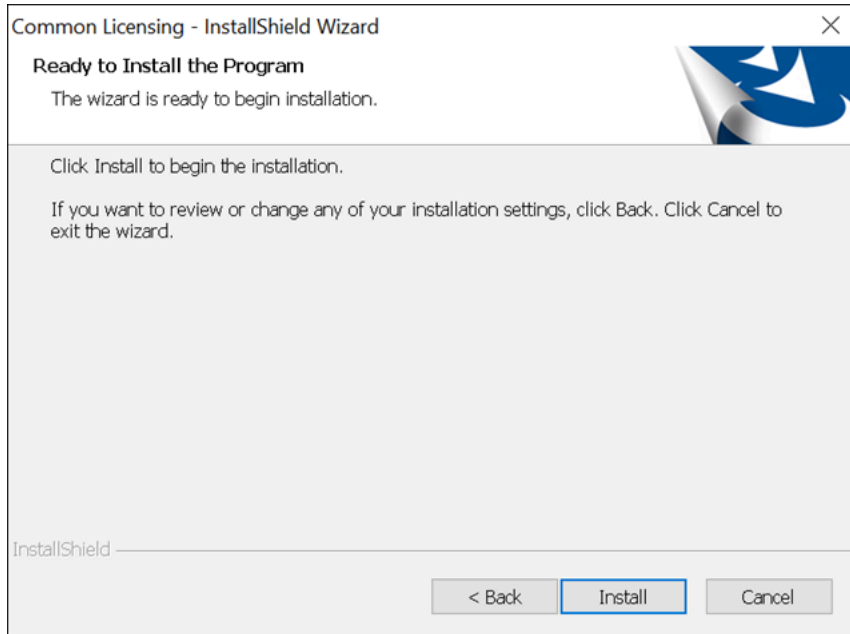
11. Select **Install**.

The **InstallShield Wizard Complete** page appears.

> **Note:**
> ◦ Select the check boxes if you want to create a shortcut on your desktop and/or launch the License Client.
> ◦ If you are upgrading the Common Licensing, follow the on-screen instructions to upgrade. After the upgrade, you may be prompted to reboot your system.
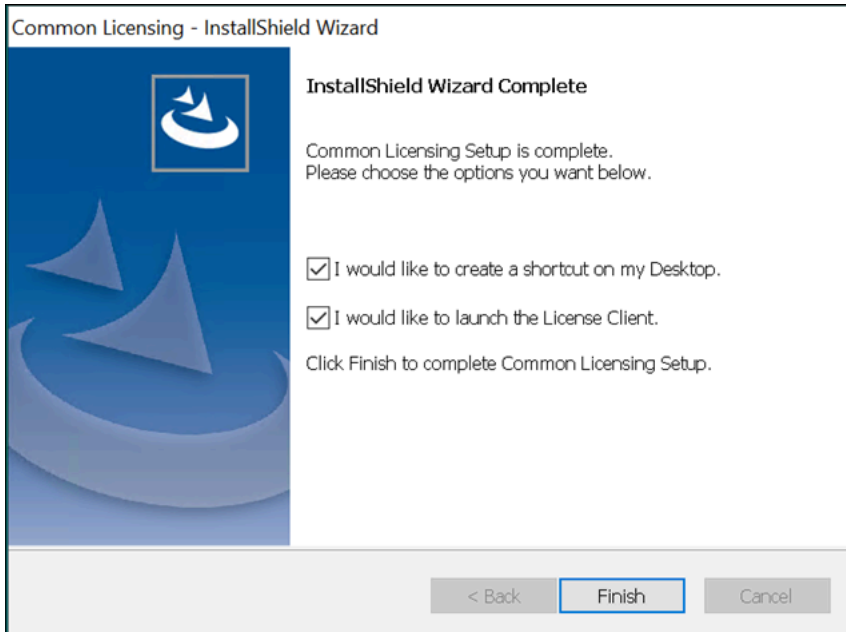
12. Select **Finish**.

    License Client is installed.

If you plan to use Local License Server, see Installing the Local License Server *(on page 110)*.

Removing Existing Legacy Licenses

Before migrating to cloud-based licensing, you must remove your existing licenses.

1. Stop all GE software products on your computer.
2. Remove any hardware keys that are plugged into your computer.
3. Uninstall keyless licenses using the Windows Control Panel.

Upgrading Legacy Licenses

If you received an upgrade file for a legacy license, you can use that file to update the legacy license instead of the License Client.

Double-click the <*.plic> file to upgrade the legacy license.

For more information about installing and updating legacy licenses, go to the GE Software Product Licensing website.

Viewing the Audit Log

The ProficyLicenseClient_Audit.log file provides details about operations performed on the License Client.

These details include the date and time of the operation, the user who performed the operation, the success or failure status, the local host, and the activation codes.

The License Client audits the following operations:

The License Client audits the following operations:

- Activate licenses
- Return licenses
- Refresh licenses
- Clean licenses
- Clean and reload licenses
- Generate responses
- Import responses
- Reflash M5 keys with updated license information

1. Navigate to the `Documents` folder.
2. Open the `ProficyLicenseClient_Audit.log` file.

   The file displays information about the operations that occurred on the License Client, as shown in the following example.

   ```
   2018-11-29 16:59:49,292 USER1@4196A823U44Y SUCCESS - Activate LocalServer

   url=http://localhost:3333 activationCodes=("1234-1234-1234-1234")

   2018-11-29 17:06:07,468 USER1@4196A823U44Y SUCCESS - Return LocalServer

   url=http://localhost:3333 activationCodes=("1234-1234-1234-1234")

   2018-11-30 15:14:55,381  USER1@4196A823U44Y SUCCESS -

   Activate Cloud activationCodes=("1234-1234-1234-1234")

   2018-12-04 10:09:13,168 USER1@4196A823U44Y FAILURE - Clean Cloud.

   See the logfile ("C:\Users\208043977\Documents\ProficyLicenseClient.log") for more details.
   ```

Viewing Licenses

The **View Licenses** tab displays information about licenses on this computer. You can display license information for all products or a particular product.

The following page shows licenses for all products.
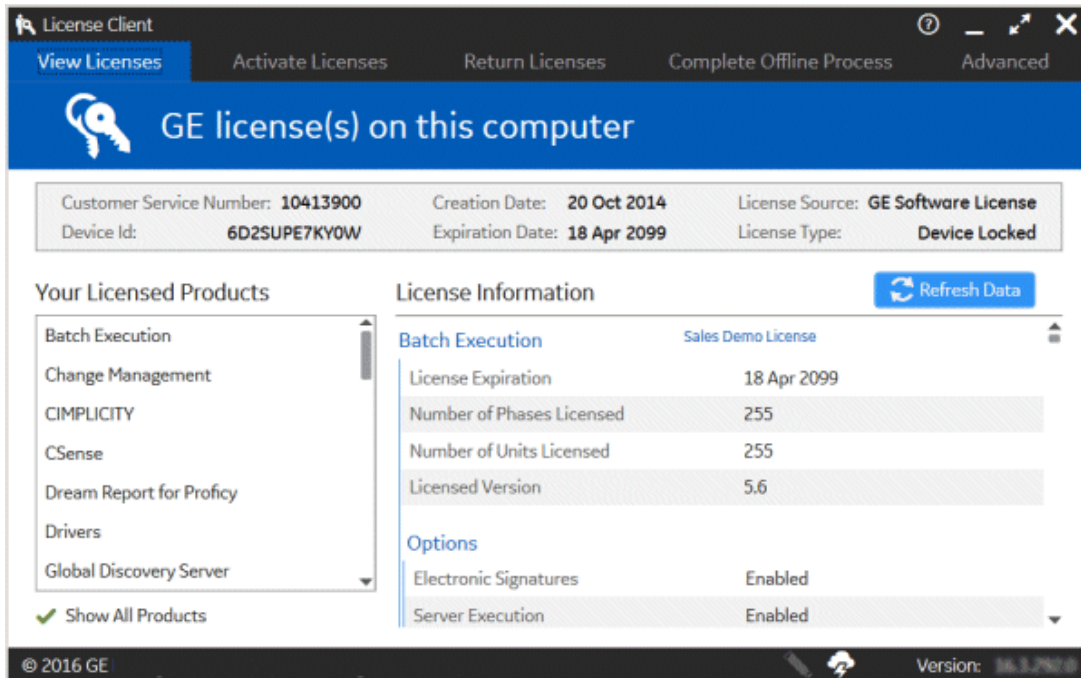
Header

The header is above the Licensed Products and License Information area on the **View Licenses** page.

The following data appears in the header:

- Customer Service Number – Up to 20 characters representing the customer identification.
- Device ID – For pre-configured hardware keys, an integer representing the license number (or one of the license numbers, if more than one product is licensed).
- Creation Date – The date the license was created on this computer.
- Expiration Date – The overall key expiration date. All products on the key expire on this date, regardless of the expiration date within the product itself (if any). Permanent, non-expiring licenses will say "No Expiration." Leased licenses show the date that the lease expires.

> **Note:**
> Leased licenses automatically extend the expiration date each time the Local License Server is contacted. A leased license expires after a set amount of time (21 days by default) without communication with the Local License Server.

- License Source – Information about the original source of the license. This information is useful to the support team if you have questions about your license.

> **Note:**
>
> License Source appears as "Multiple" when the Licensed Products displayed on the screen originate from the combination of a non-configurable software key and a non-configurable hardware key.

- License Type – Information about the original license type. This information is useful to the support team if you have questions about your license.

Refresh Data

The **Refresh Data** button causes the **View License** Page to re-read the license information (including the header information). This is useful in the event you want to verify several hardware keys without restarting the License Client. The refresh process may take several seconds.

Your Licensed Products

Products List Area

This area displays a scrolling list of all the licensed products on this computer.

Show All Products Check Box

At the bottom of the list is the Show All Products check box.

If this check box is selected, as in the illustration above, the Product Details for all products are displayed in the License Information area, and any highlighted product in the product list box is de-selected.

If you click on a product in the list, that product is shown in the License Information area, and the Show All Products check box is cleared.

License Information

Product Information

The product information displayed below the product name differs from product to product, and includes any license information related to the number and version of the product purchased; typically this includes expiration date, version licensed, number of points, CALs, Tags, and so on.

Product Options

The sections displayed below the product information show one or more options, which carry the "Enabled" designation if they are available.

Footer Icons

The icons in the footer represent the following.

Icon	Description
	Indicates the Sentinel USB drivers were not installed. 📝 **Note:** You must install the drivers if you are using a M4, M5, or configurable (Advantage) USB hardware key.
	Indicates whether a hardware key is inserted in the computer and recognized by the License Client. The hardware key is detected and readable when illuminated in one of the following colors: • Blue: Non−configurable hardware key (M5 hardware) • Green: Configurable hardware key (Advantage hardware key – old type) • Red: Configurable hardware key (Advantage hardware key – red type) • Silver: Configurable hardware key (Advantage hardware key – new silver type) • White: M4 hardware key If no hardware key is detected, the icon is not illuminated, such as . If a hardware key is detected but is unreadable, the icon is illuminated with a red slash, such as .
	Indicates whether this computer is connected to the GE Cloud License Server. There is no connection when a red line appears through this icon, such as .
	Indicates whether you have administrative privileges. Without administrative privileges, you can only view licenses on the computer. You do not have administrative privileges when a red line appears through this icon, such as .
	T - Indicates your device is running in tolerant state (Tolerant1 through Tolerant6).
	B - Indicates your device ID is broken and your licenses are not available.

Activating Licenses

The **Activate Licenses** tab provides several options for activating a license on your computer. Available options for your computer are links. For example, if your computer is connected to the GE Cloud License Server, this appears as a link that you can select to activate a license. Options that are do not apply to your computer configuration appear with a question mark that you can select for more information.

Activating Licenses on a Computer Connected to the GE Cloud License Server

1. On the **Activate Licenses** tab, from the "Do you need to activate a license?" menu, click **Yes, for this computer from the GE Cloud License Server**.
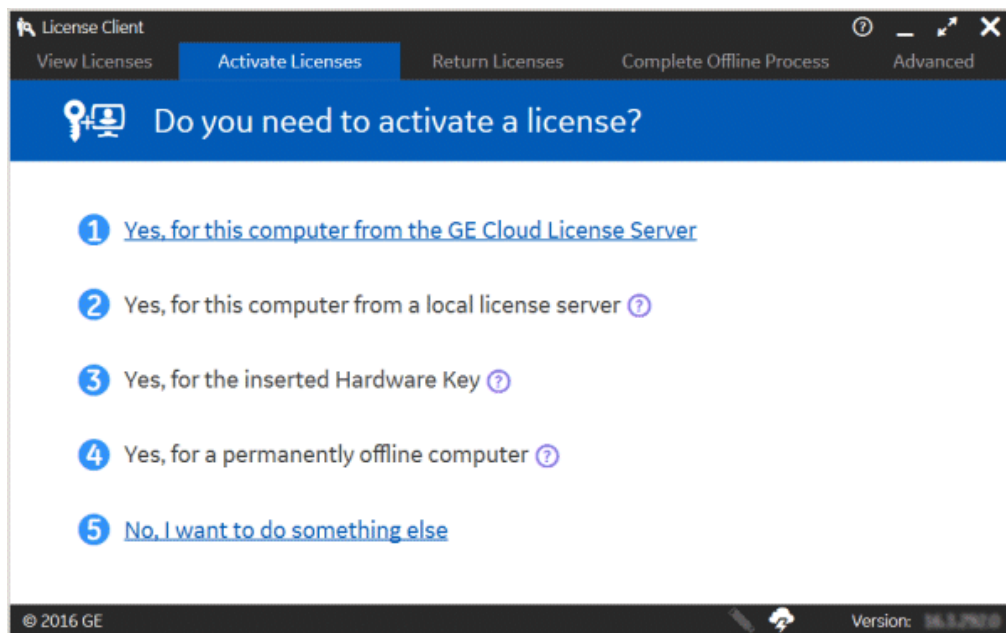
The "Activate licenses from the GE cloud server" page appears.

> **Note:**
> Internet connectivity is verified before this page is displayed. An error message is displayed if the GE Cloud License Server is not accessible, and the No Licenses on this Computer page is automatically displayed.

2. For each license, enter its activation code and click **Add Code** to add it to the Activation Codes list.
3. When your activation codes are added to the Activation Codes list, click **Activate**.
   The View Licenses page appears, displaying all active licenses on your computer.

Activating Licenses on a Computer Connected to a Local License Server

Verify that the Local Server URL and port are correctly configured.

1. On the Activate Licenses tab, from the "Do you need to activate a license?" menu, click **Yes, for this computer from a Local License Server**.
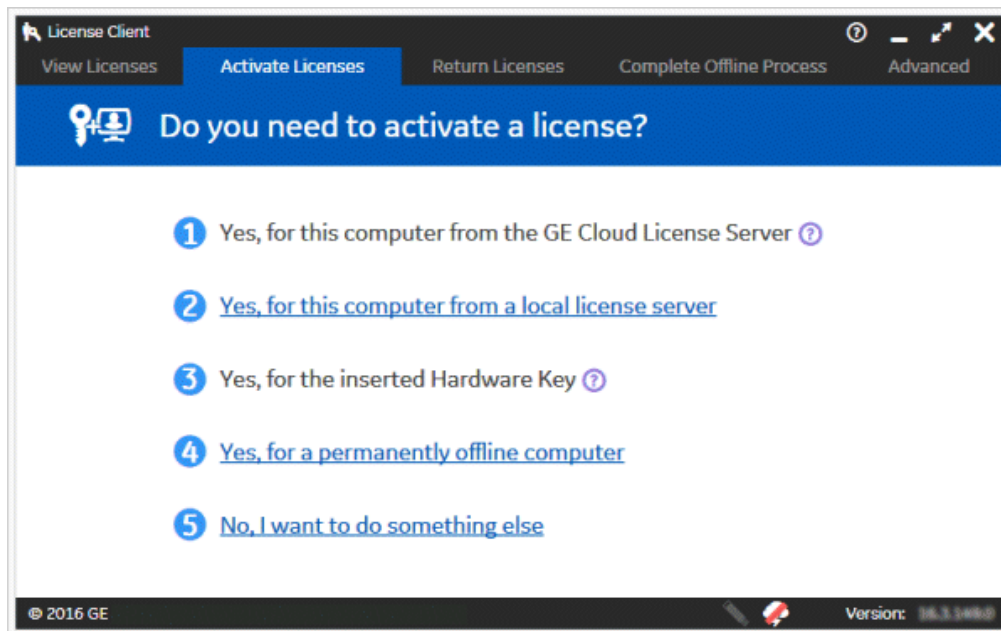
The "Lease licenses from a local license server" page appears:
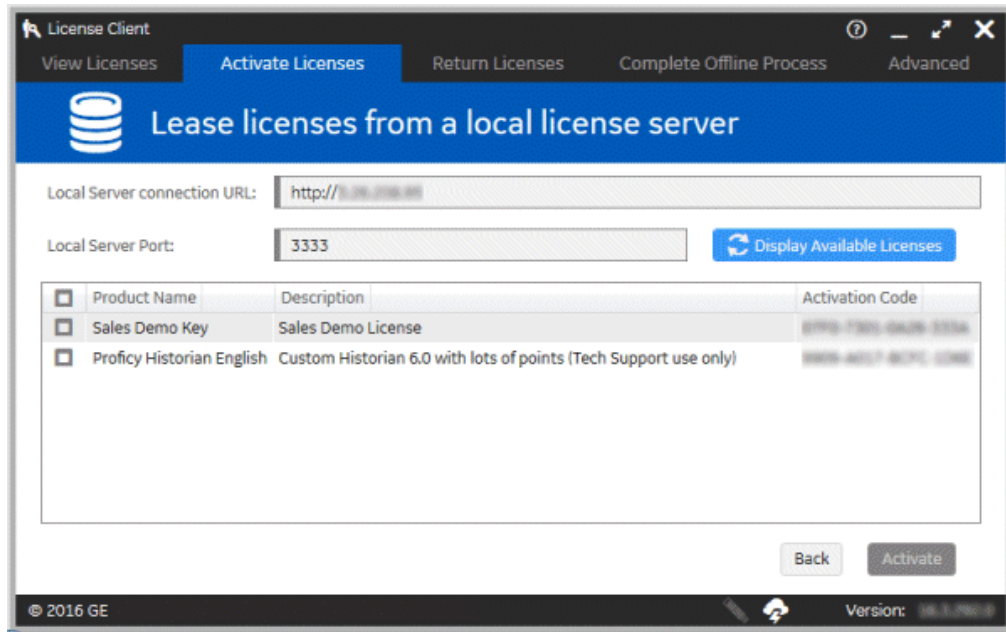
2. Click **Display Available Licenses** to refresh the licenses on this server in the display area.

3. Select the check box for each license to activate on this computer.

4. Click **Activate**.

The View Licenses page appears, displaying all active licenses on this computer.

Activating Licenses on a Computer with a GE USB Hardware Key Inserted

1. Insert the GE USB hardware key.

2. On the **Activate Licenses** tab, select **3 Yes, for the inserted hardware key**.

   If you did not install the Sentinel USB drivers, the following error messages appear and the ![icon] icon in the footer.
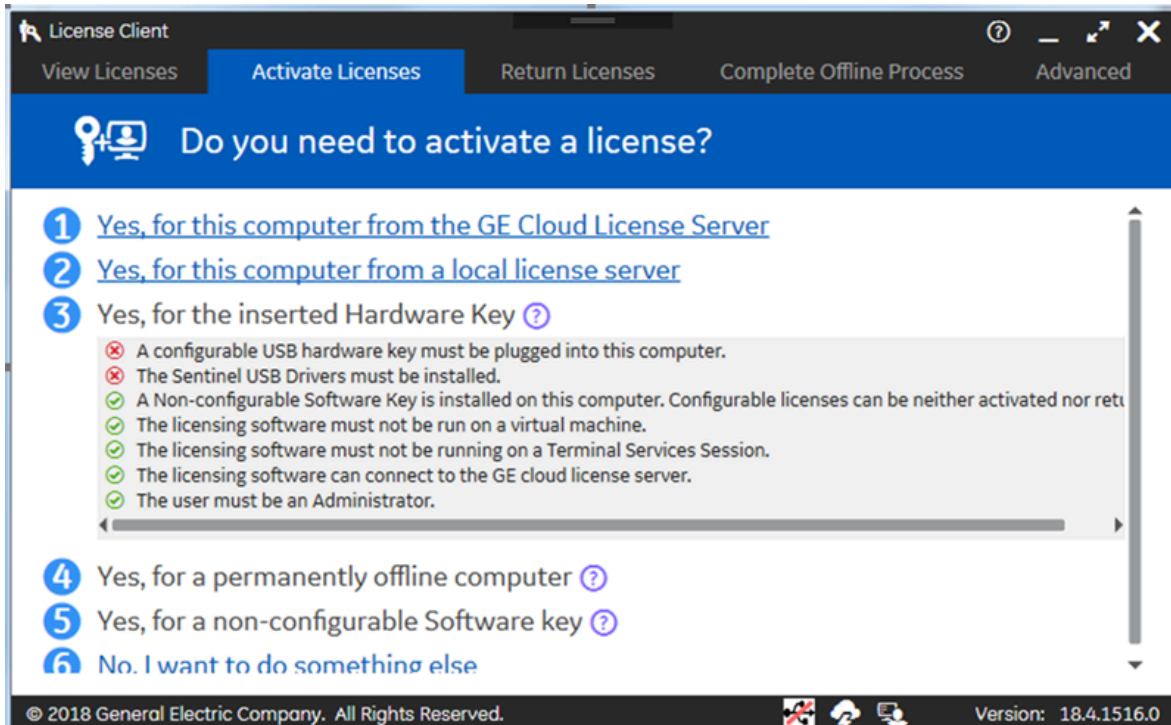
If you did install the Sentinel USB drivers, the License Client detects and reads the GE USB hardware key (up to two minutes), and then the **Activate Licenses on GE USB hardware key** page appears, as shown below.
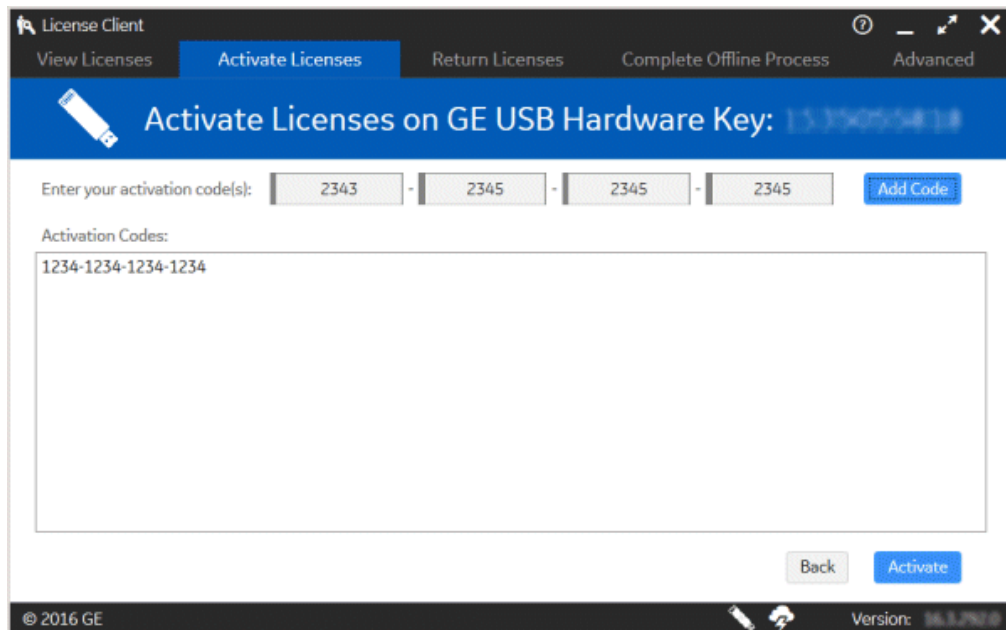
3. For each license you want to add, enter the activation code and select **Add Code**.

As you specify these activation codes, they appear on the page.

4. When all activation codes are entered, select **Activate**.

The **View Licenses** page appears, displaying all active licenses on your computer.

Activating Licenses on a Computer not Connected to the GE Cloud License Server

Use the Activate Licenses tab to activate licenses on client computers that are not connected to the Internet.

Activating licenses on an offline computer entails the following process:

1. Generate a request file from the offline computer.
2. Generate a response file from a computer that is connected to the Internet.
3. Import the response file and activate the licenses on the offline computer.

Generating a Request File

Generate a request file from an offline computer.

1. From the License Client, click the Activate Licenses tab.

The License Client detects that the client computer is not connected to the Internet. The "Do you need to activate a License?" page appears.

2. Click **Yes, for a permanently offline computer**.

The Generate a Request File to activate licenses page appears.

3. Browse to the media device or network location where the request file will be saved.

4. Enter each activation code and click **Add Code** to add it to the Activation Codes area.

> ✏️ **Note:**
>
> The activation codes can be found in the email you received from GE.

5. Click **Generate File** to create and save a request file to the specified location.

   The Complete Offline Process page appears. A message indicates the request file location and when it was created.
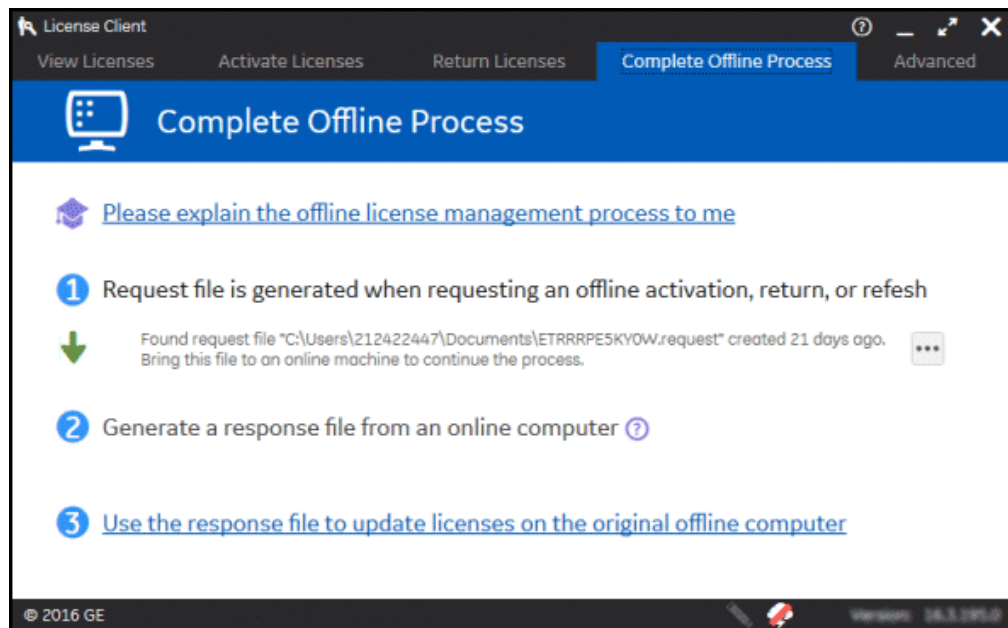
- If you are using a portable media device, remove it and go to the online computer. Leave the License Client application running.
- Generate a response file from the offline client computer.

Generating a Response File

Generate a response file from an online computer.

- Start the License Client.
- Verify that Use GE License Server has been selected as the license activation mechanism and that the Connection Status is Online in Advanced Operations.

1. Click **Complete Offline Process**.

   The Complete Offline Process page appears. A message indicates the response file location and when it expires.

2. Click **Generate a response file from an online computer**.

   The Generate a Response File page appears.
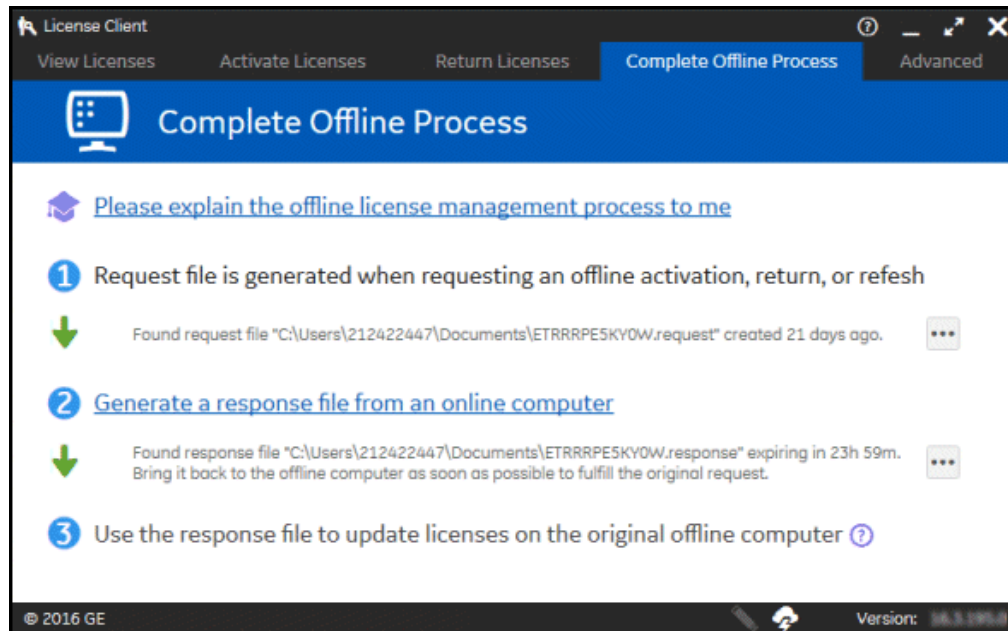
3. If necessary, insert the media device into the computer.
4. Select the request filesand the response folder location, then click **Generate File**.

   The response file is generated and saved to the specified location on a media device or network drive that can be accessed by the offline computer.
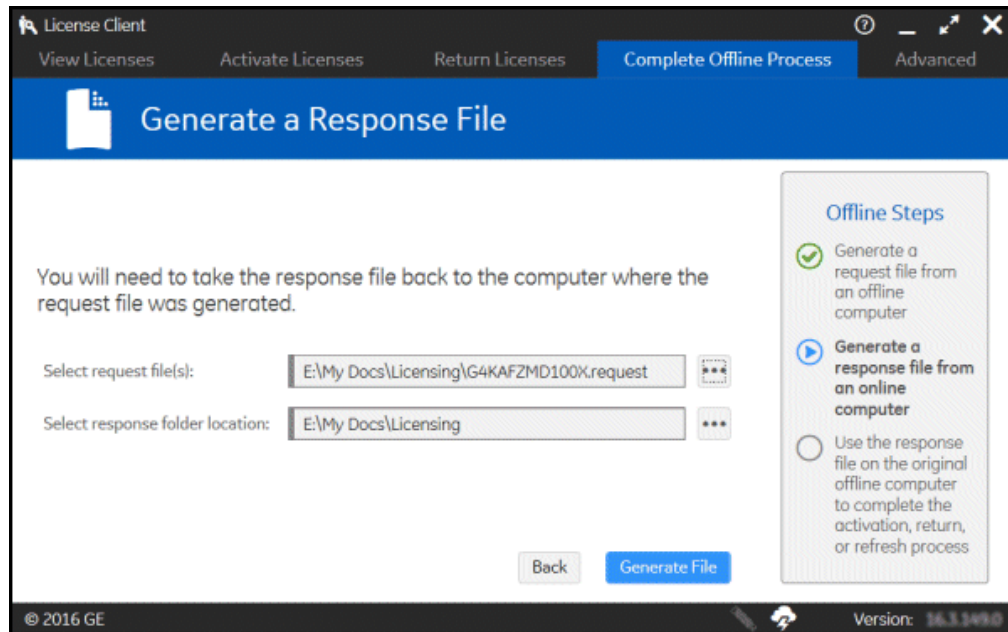
> ✏️ **Note:**
>
> The response file expires 24 hours after being created. The application indicates how much time is remaining before the response file expires.

If you are using a portable media device to store the response file, remove it and return to the offline computer.

Activating Licenses

After generating a request file from your offline computer and a response file from an online computer, you can activate licenses on the offline computer.

1. On the Complete Offline Process page, click **Use the response file to update licenses on the original offline computer**.
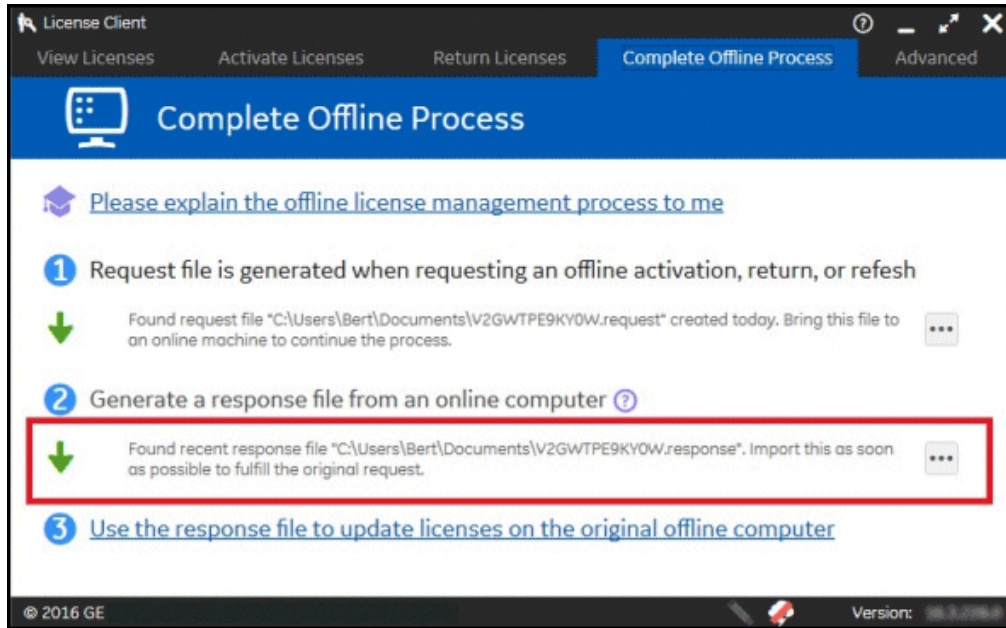
The Use the Response File to Update Licenses page displays.
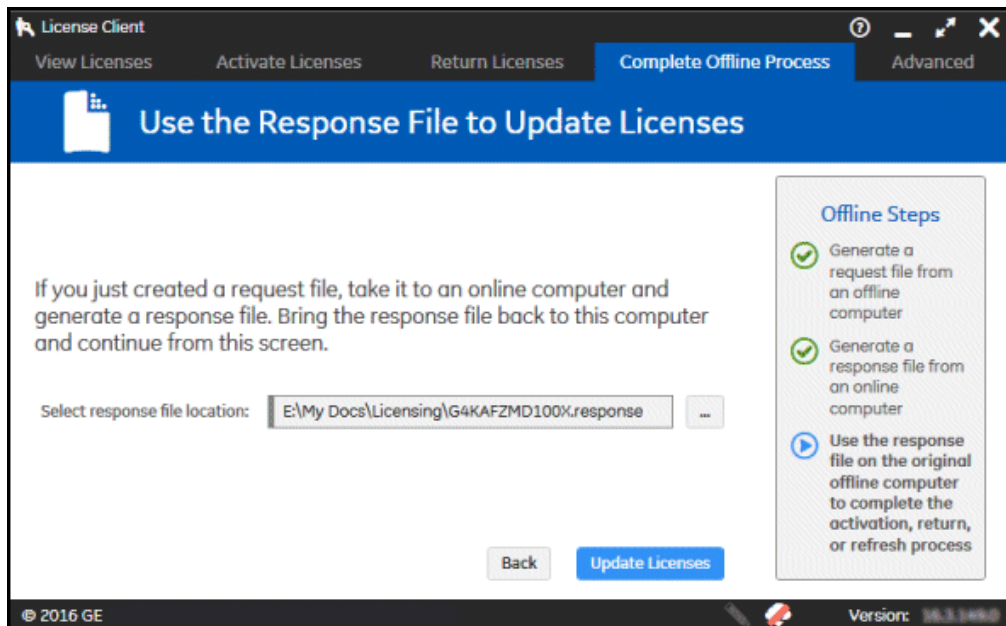
2. If necessary, insert the media device with the response file into the computer.

3. Browse to the location of the response file and select it.

4. Click **Update Licenses**.

> ✏️ **Note:**
> After the response file has been imported, the response file extension is modified to
> ".response_imported."

Activating Licenses for a Non-Configurable Software Key

Use the Activate Licenses tab in the License Client to activate licenses for a non-configurable software
key.

1. On the **Activate Licenses**tab, from the **Do you need to activate a license?** menu, click **Yes, for a
   non-configurable Software key.**
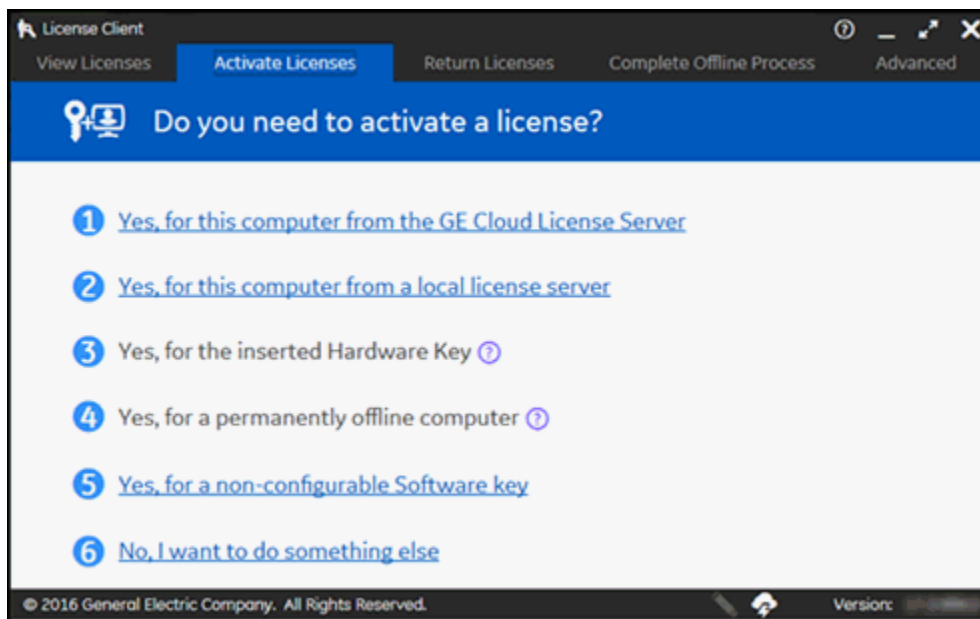
The **Activate a non-configurable software key** page appears.
2. Navigate to the non-configurable software key file and enter the password you received in the email
   from GE.
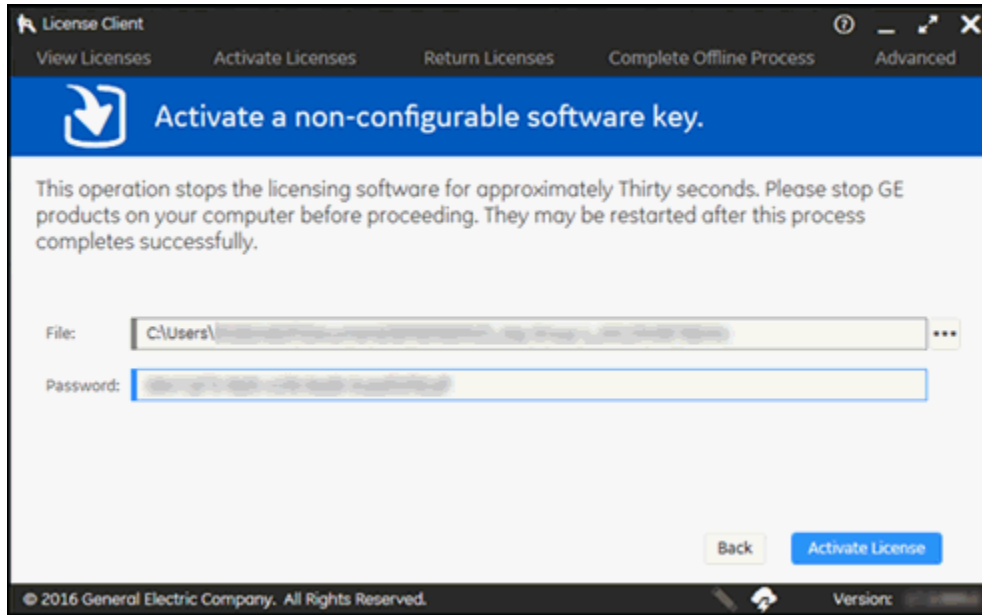
3. After the non-configurable software key is activated, the **View Licenses** tab appears, displaying all active licenses on your computer.
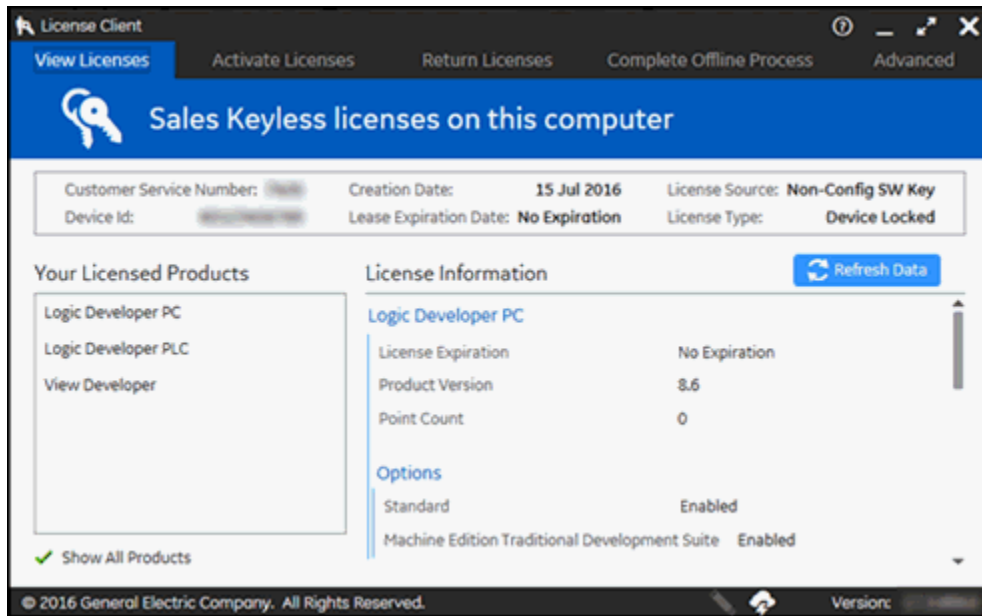
After activating a non-configurable software key, you cannot access certain options from the License Client.

> ✏️ **Note:**
>
> You can either activate a license for a non-configurable software key or indicate you want to do something else.

> ✏️ **Note:**
>
> You cannot refresh or return licenses when a non-configurable software key is activated.
>
>
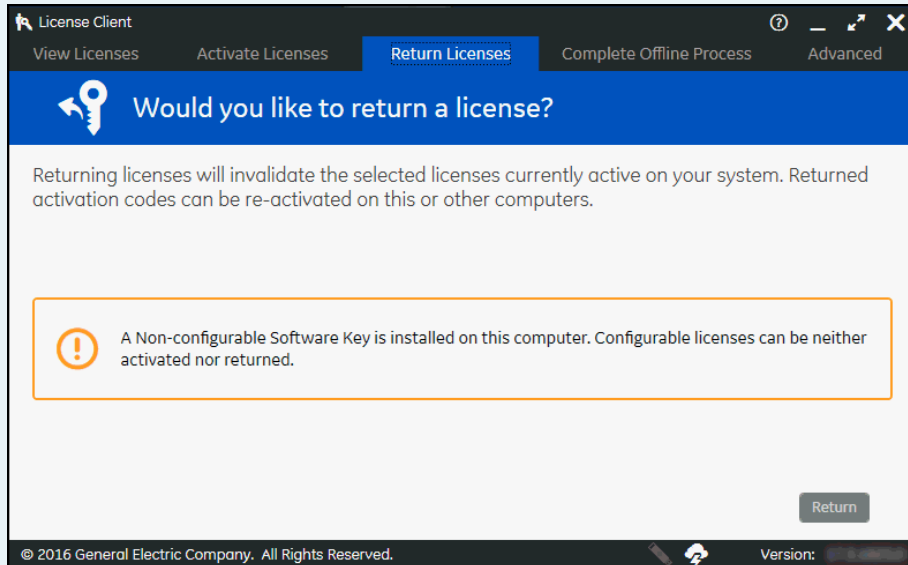
Returning Licenses

The Return Licenses tab is used to return licenses from your computer to the GE Cloud Server or a local license server.
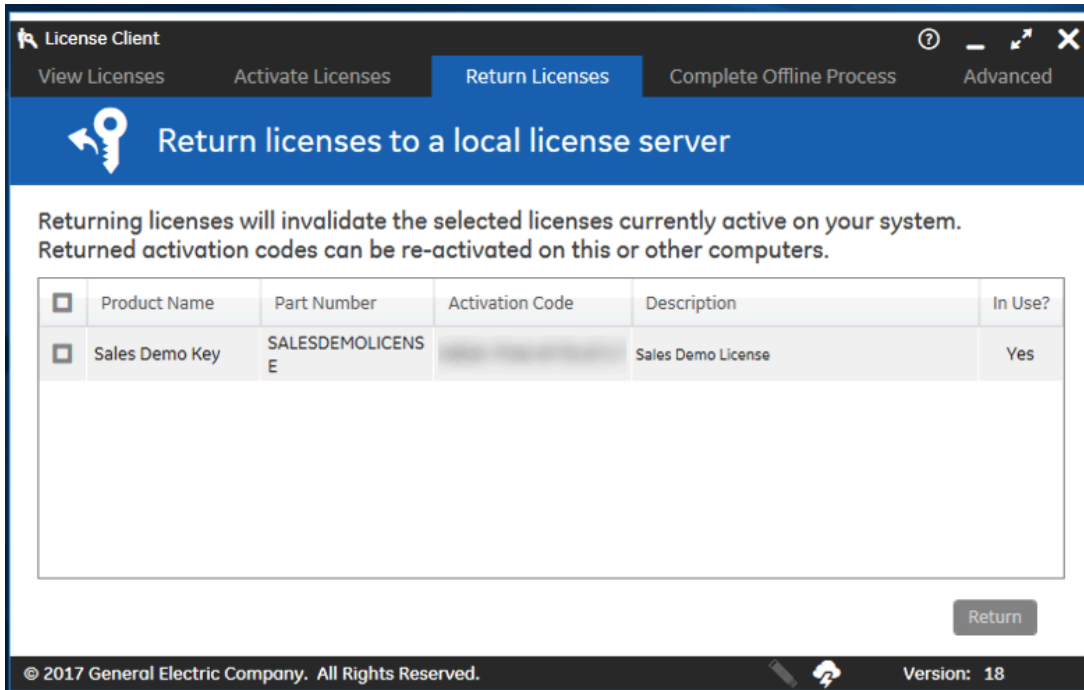
Return Licenses from a Computer Connected to the GE Cloud License Server

Use the License Client Return Licenses tab to return licenses from a client computer connected to the GE Cloud License Server.

Verify that you have installed and are running the latest Common Licensing from the GE Software Product Licensing website.

1. From the License Client, click the **Return Licenses** tab.
   The Return Licenses to the GE Cloud Server page displays information for each license found on your computer.
2. Select the check box for each license to return.
3. Click **Return**.

The Activate Licenses tab appears, indicating that licenses have been successfully returned to the GE Cloud Server.

Returning Licenses from a Computer Connected to a Local License Server

Use the License Client Return Licenses tab to return licenses from a client computer connected to a Local License Server.

Verify that you have installed and are running the latest Common Licensing from the GE Software Product Licensing website.

1. From the License Client, click the **Return Licenses** tab.
   The Return Licenses to a Local License Server page displays information for each license found on this computer.
2. Select the check box for each license to return.
3. Click **Return**.

The Activate Licenses tab appears, indicating that licenses have been successfully returned to the Local License Server.

Returning Licenses from a Computer with a GE USB Hardware Key Inserted

Use the License Client Return Licenses tab to return licenses from a client computer using a GE USB hardware key.

Verify that you have installed and are running the latest Common Licensing from the GE Software Product Licensing website.

1. From the License Client, click the **Return Licenses** tab.
   The Return Licenses from GE USB hardware key page displays information for each license found on this hardware key.
2. Select the check box for each license to return.
3. Click **Return**.

The Activate Licenses tab appears, indicating that licenses have been successfully returned from the GE USB hardware key.

Return Licenses from a Computer not Connected to the GE Cloud License Server

Use the Return Licenses tab to return licenses from client computers that are not connected to the Internet.

Returning licenses from an offline computer entails the following process:

1. Generate a request file from the offline computer.
2. Generate a response file from a computer that is connected to the Internet.
3. Import the response file and return the licenses from the offline computer.

Generating a Request File

Generate a request file from an online computer before returning licenses from an offline computer.

1. From the License Client application on the offline client computer, click the **Return Licenses tab**. The License Client detects that the client computer is not connected to the Internet. The Generate a Request File to Return Licenses page appears.
2. Select the licenses to be returned.
3. Enter or browse to the location where you want to save the request file.
4. Save the license request file to a device or network drive that can be accessed by the online computer.
5. If you are using a portable media device, remove it and return to the online computer.

Generate a Response File *(on page 81)* for the offline computer.

> ✎ **Note:**
>
> The request file expires if you do not complete the offline activation process within 24 hours.

Generating a Response File

Generate a response file from an online computer before returning licenses from an offline computer.

- Start the License Client.
- Verify that Use GE License Server is selected as the license return mechanism and that the Connection Status is Online in the Advanced Operations settings.

1. Click the **Complete Offline Process tab**.
   The Complete Offline Process page appears.
2. On the Complete Offline Process page, click **Generate a Response File from an Online Computer**.
   The Generate a Response File page appears.
3. Select the request files, the response folder location, and then click **Generate File**.

- If you are using a portable media device to store the response file, remove it and return to the offline computer.
- Returning a License *(on page 81)* from an offline computer.

Returning a License

After generating a request file from your offline computer and a response file from an online computer, you can return licenses from the offline computer.

1. On the Complete Offline Process page, click **Use the Response File to Update Licenses on the Original Offline Computer**.
2. If necessary, insert the media device with the response file into the computer.
3. Browse to the location of the response file and select it.
4. Click **Return License**.

Completing Offline Processes

When you activate, return, or refresh a license and the computer is not connected to the GE Cloud License Server, the Complete Offline Process tab opens automatically and guides you through the steps necessary to complete the task.

The complete procedures are documented in the "Computer Not Connected to the GE Cloud Server" topics in the Activate Licenses, Return Licenses, and Refresh Licenses sections.

1. From the offline computer, generate a request file.
2. From a computer able to access the GE Cloud License Server, generate a response file.
3. On the offline computer, use the response file to complete the task.

Refer to the following topics for more information on completing the offline process: Activating Licenses on a Computer not Connected to the GE Cloud License Server *(on page 71)*

Return Licenses from a Computer not Connected to the GE Cloud License Server *(on page 80)*

Advanced Tab Functions

Use the Advanced tab to refresh and clean licenses, update application settings, and download the latest License Client to a computer.

You can perform the following tasks from the **Advanced** tab.

- Refresh Licenses *(on page 83)*
- Clean Licenses *(on page 86)*
- Update Application Settings *(on page 89)*
- How to Download the Latest Licensing Software *(on page 153)*
- Create Reports *(on page 93)*
- Re-Flash a Nonconfigurable USB Hardware Key *(on page 93)*
- View or Reconcile Tolerant ID *(on page 94)*

Refresh Licenses

The Refresh Licenses link on the Advanced tab is used to apply new licensing options added on the cloud to the license installed on your computer. This feature is only applicable to configurable (cloud-bound) licenses. It cannot be applied to Non-configurable Software or Hardware (M5) licenses or legacy licenses.
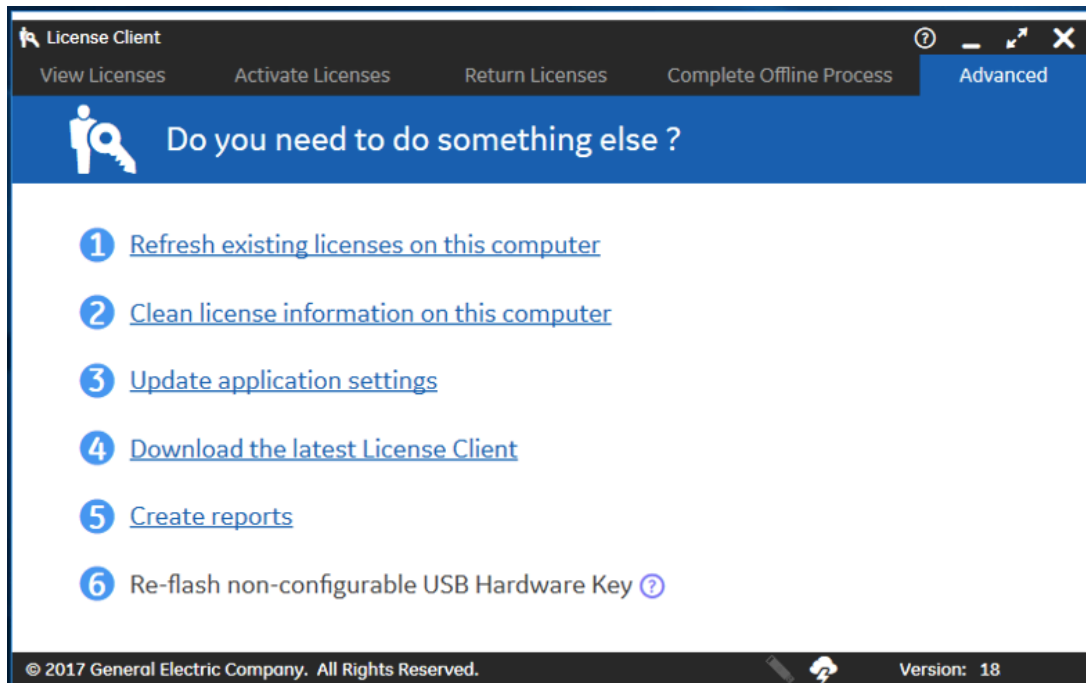
Refreshing Licenses on a Computer Connected to the GE Cloud License Server

Use the Advanced tab in the License Client to refresh licenses on a computer connected to the GE Cloud License Server.

1. From the License Client, click the **Advanced** tab.

   The "Do you need to do something else?" page appears.

2. Click **Refresh existing licenses on this computer**.

   The Refresh licenses from the GE Cloud Server page appears.

3. To change the Device Name or Device Location, enter the new values and click **Save Alias**.

4. Click **Refresh**.

The View Licenses page appears, displaying all active licenses on this computer.

Refreshing Licenses on a Computer Connected to a Local License Server

Use the License Client Advanced tab to refresh licenses on an computer connected to a local license server.

1. From the License Client, click the **Advanced** tab.

   The "Do you need to do something else?" page appears.
2. Click **Refresh existing licenses on this computer**.

   The Refresh licenses from a local license server page appears.
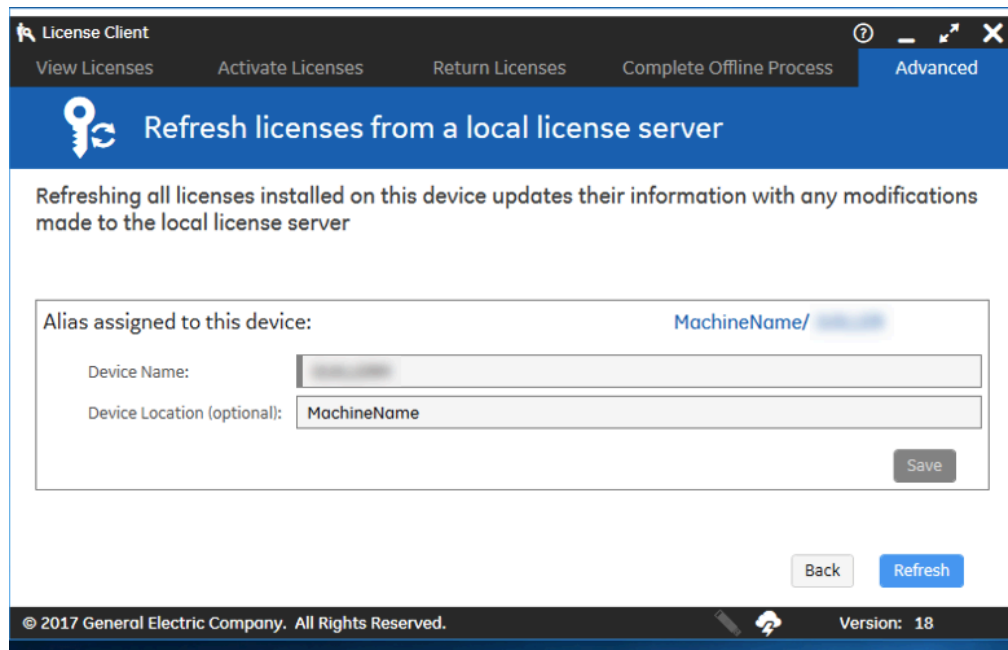
3. Enter the new values to your Device Name or Device Location and click **Save Alias**.
4. Click **Refresh.**

The View Licenses page appears, displaying an updated list of active licenses on this computer.

Refreshing Licenses on a Computer with a GE USB Hardware Key Inserted

Use the License client Return License tab to refresh licenses on a USB Hardware Key from the GE Cloud Server.

1. From the License Client, click the **Advanced** tab.

   The "Do you need to do something else?" page appears, displaying several options for advanced operations.
2. Click **Refresh existing licenses on this computer**.

The Refresh licenses on GE USB hardware key page appears, displaying the hardware key ID in the header.

3. Click **Refresh**.

The View Licenses page appears, displaying all active licenses on this USB hardware key.

Refresh Licenses on a Computer Not Connected to the GE Cloud

Use the License client Refresh Licenses tab to refresh licenses on offline client computers from the GE Cloud License Server.

Generating a Request File

Generate a request file on your offline computer before refreshing licenses.

1. From the License Client application on the offline client computer, click the **Advanced** tab.
   The "Do you need to do something else?" page appears.
2. Click **Refresh existing licenses on this computer**.

   The Generate a Request File to Refresh licenses page appears.

3. Enter a media device or network drive where the request file will be stored.
4. To edit the Device Name or Device Location, enter the new information and then click **Save**.
5. Click **Generate File**.
   The Complete Offline Process page appears.

If you are using a portable media device, remove it from the offline client and return to the online computer.

> ✎ **Note:**
> Leave the License Client running on the offline client.

Related information

Generating a Response File

Generate a response file before refreshing licenses on your offline computer.

Start theLicense Client.

Verify that the license refresh mechanism is set to "Use GE License Server" and that the Advanced Operations settings displays an online connection status.

1. Click the **Complete Offline Process** tab.

   The Complete Offline Process page appears.

2. Click **Generate a response file from an online computer**.

   The Generate a Response File page appears.

3. Insert any necessary media devices into the computer.

4. Select the request files to be used for generating the response file.

5. Select the response folder location on a media device or network drive that can be accessed by the offline client computer.

6. Click **Generate File**.

   The License Client generates the response file and saves it to the specified location on a media device or network drive.

If you are using a portable media device to store the response file, remove it from the online computer. Return to the original offline client computer and use the response file to update licenses.


Related information

Generating a Response File *(on page 85)*

Refreshing Licenses Offline

After generating a request file and a response file, refresh licenses on your offline computer.

1. On the Complete Offline Process page, click **Use the response file to update licenses on the original offline computer**.

   The Use the Response File to Update Licenses page displays.

2. If necessary, insert the media device containing the response file into the computer.

3. Locate and select the response file.

4. Click **Update Licenses** to refresh the licenses for products on this client computer.

The View Licenses page appears and displays the active licenses on this computer.

Clean Licenses

The Clean Licenses link on the Advanced tab is used to remove licensing information cached on your computer.

> **Note:**
>
> You cannot clean GE USB hardware keys.
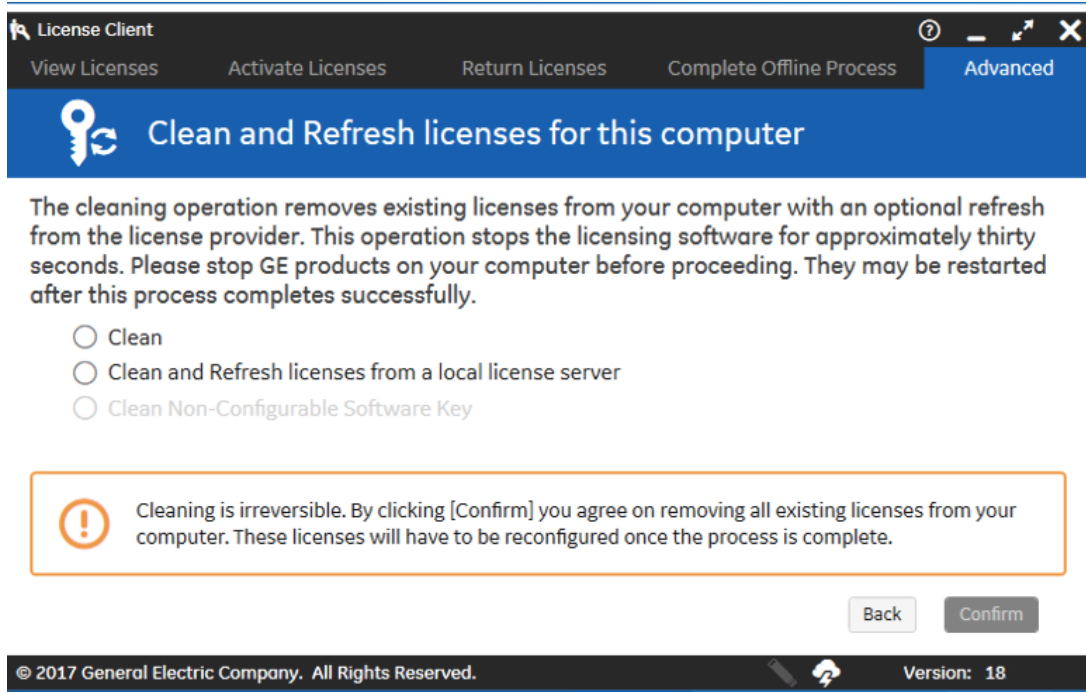
Cleaning Licenses on a Computer Connected to the GE Cloud License Server

Use the Clean command to remove licenses from an online computer connected to the cloud license server.

You must stop running all GE Software products on your local client. You can restart the products when the operation is finished.

This operation stops the Common Licensing software for about 30 seconds.

> **Note:**
>
> You cannot clean GE USB hardware keys.

1. From the License Client, click the **Advanced** tab.

   The "Do you need to do something else?" page appears.
2. Click **Clean license information on this computer**.
3. Click **Clean**.

4. Click **Confirm**.

> ✏ **Note:**
>
> You cannot select certain options from the Clean and Refresh Licenses menu while cleaning non-configurable software keys.

5. Click **Clean**.
6. Click **Confirm**.

Cleaning Licenses on a Computer Connected to a Local License Server

Use the Clean command to remove licenses from an online computer connected to a local license server.

1. From the License Client, click the **Advanced** tab.

   The "Do you need to do something else?" page appears with several options for advanced operations.
2. Click **Clean license information on this computer**.

   The "Clean and Refresh licenses for this computer" page appears.
3. Select one of the following actions.

Option	Description
Clean	Permanently remove all license information from this computer.
Clean and Refresh	Clean license information and then refresh the licenses from the Local License Server.

4. Click **Confirm** to perform the selected action.

Cleaning Licenses on a Computer not Connected to the GE Cloud License Server

Use the Clean command to remove licenses from an offline computer.

1. From the License Client click the **Advanced** tab.

   The "Do you need to do something else?" page appears.
2. Click **Clean license information on this computer**.
3. To remove all licenses from this computer, click **Clean**.
4. Click **Confirm**.

Reactivate your licenses.

Cleaning Licenses on a Computer with a Non-Configurable Software Key

Use the Clean command to remove licenses on a computer with a non-configurable software key.

1. From theLicense Client, click the **Advanced** tab.

   The "Do you need to do something else?" page appears.
2. Click **Clean license information on this computer**.
3. Select **Clean Non-Configurable Software Key**.
4. Click **Confirm**.
5. Select **Clean**.
6. Click **Confirm**.

Update Application Settings

Use the Update Application Settings link on the Advanced tab to check your GE Cloud License Server connection, change the name and location of your computer, set up application event logs, and add and remove sentinel, or wibu dependencies.

Checking the GE Cloud License Server Connection

Check your connection to the GE Cloud License Server from the Advanced tab of the License Client.

1. From the License Client, click the **Advanced** tab.
2. From the Advanced tab, click **Update application settings**.

   The Update Application Settings page appears with the Cloud Connectivity tab selected.
3. Click **Test cloud connectivity**.

   The result of the test is displayed.

Changing the Device Name and Location

Change the device name and location of your computer from the Advanced tab of the License Client.

Changing device name and location information does not affect the licenses on your computer. The alias helps you search for your assets in the IT (SFDC self -service) system. If you are using a local license server, it appears in the "Viewing the Client Computer List" in the Local License Server Settings Tool.

1. From the License Client, click the **Advanced** tab.
2. From the Advanced tab, click the **Update application settings** link.

   The Update Application Settings page appears.

3. Click **Device Alias** to view the alias assigned to this device.
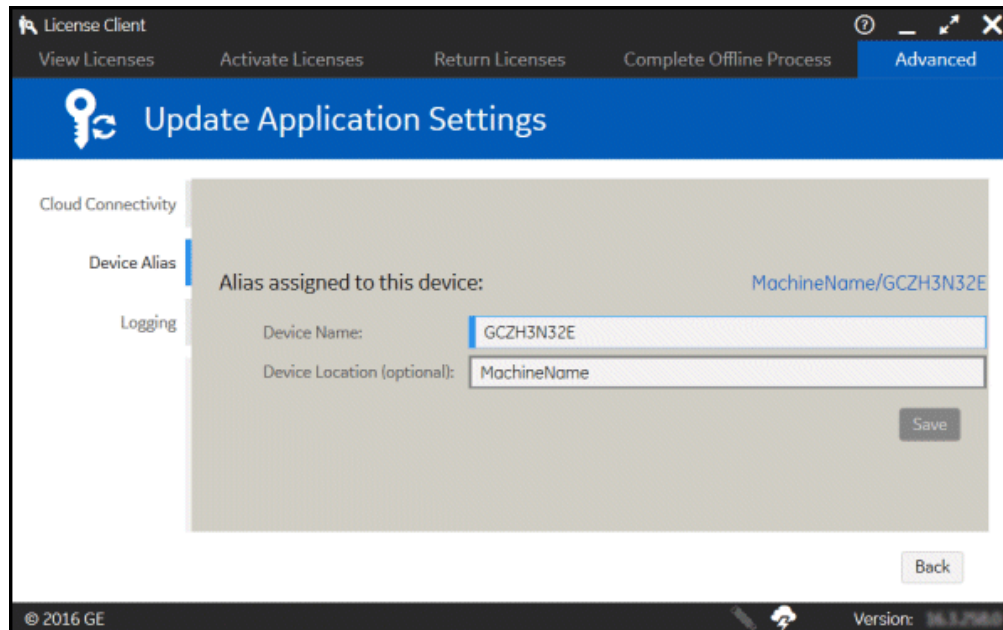
4. To change the alias assigned to this device, update the Device Name or Device Location and click
   Save.

Setting up Application Event Logs

1. From the License Client, click the **Advanced tab**.
2. From the Advanced tab, click **Update application settings**.
   The Update Application Settings page appears.
3. Click **Logging** to display the current logging configuration for this device:
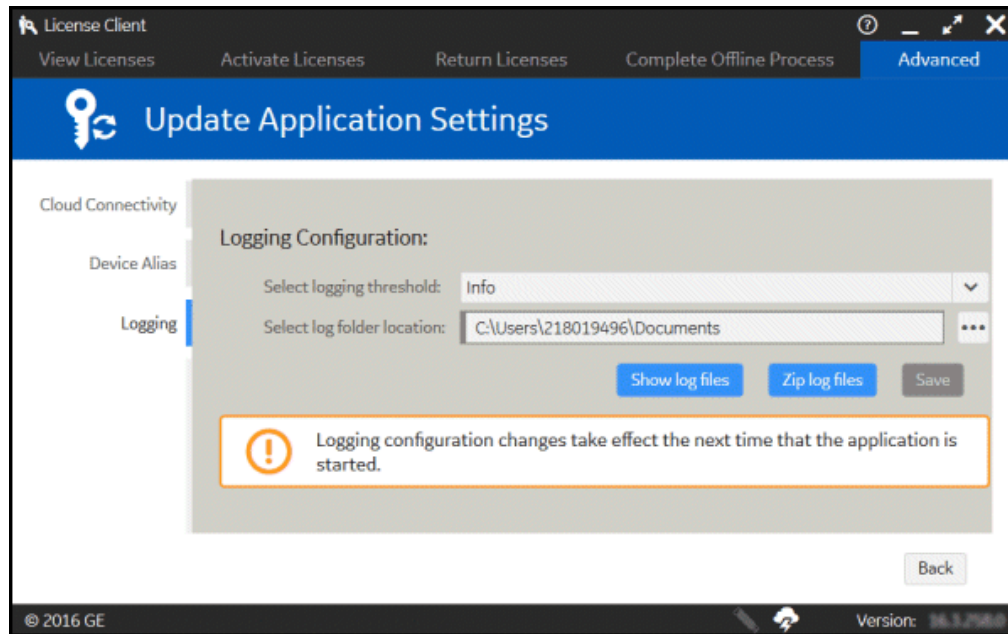
4. To define a different logging threshold, select it from the drop-down list.

> **Note:**
> The logging levels are Debug, Info, Warning, Error, and Severe. All levels above Debug are logged by default.

5. To define a different log folder location, browse to the location and select it.
6. Click **Save**.

   These changes take effect the next time you start the License Client.

To display log files, click **Show log files**.

Adding and Removing Sentinel Dependency

Adding Sentinel Dependency

A Sentinel dependency ensures that the Sentinel and Common Licensing services start up in the correct order.

The Sentinel USB drivers must be installed to use this feature.

> ✏ **Note:**
>
> When you perform a License Client upgrade that has new drivers, all Sentinel dependencies are removed.

1. In License Client, select the **Advanced** tab.
2. From the **Advanced** tab, select **Update Application Settings**.
3. Select the **Sentinel Service** tab.
4. Select **Add Sentinel Dependency** to add the dependency to the service.

The Sentinel Service dependency was added successfully message is displayed.

Removing Sentinel Dependency

Use the **Advanced** tab of the Licence Client to remove Sentinel Dependency.

1. In License Client, select the **Advanced** tab.
2. From the **Advanced** tab, select **Update Application Settings**.
3. Select the **Sentinel Service** tab.
4. Select **Remove Sentinel Dependency** to remove the dependency from the service.

The Sentinel Service dependency was removed successfully message is displayed.

Adding and Removing Wibu Dependency

Adding Wibu Dependency

A Wibu dependency ensures that the Wibu and Common Licensing services start up in the correct order.

The Wibu USB drivers must be installed to use this feature.

> ✏ **Note:**
>
> When you perform a License Client upgrade that has new drivers, all Wibu dependencies are removed.

1. In License Client, select the **Advanced** tab.
2. From the **Advanced** tab, select **Update Application Settings**.
3. Select the **Wibu Service** tab.
4. Select **Add Wibu Dependency** to add the dependency to the service.

The Wibu Service dependency was added successfully message is displayed.

Removing Wibu Dependency

Use the Advanced tab of the Licence Client to remove Wibu dependency.

1. In License Client, select the **Advanced** tab.
2. From the **Advanced** tab, select **Update Application Settings**.
3. Select the **Wibu Service** tab.
4. Select **Remove Wibu Dependency** to remove the dependency from the service.

The Wibu Service dependency was removed successfully message is displayed.

Create Reports

1. From the Advanced tab, click **Create reports**.
2. To save the current license information to a file, click either of the following options:
   a. Save license information to a text file
   b. Save license information to a HTML file.
3. Browse to the location where you want to save the file and choose a file type.
4. Click **Save**.

   The file is saved to the specified location.

Re-Flash a Nonconfigurable USB Hardware Key

From the Advanced tab of the License Client, you can re-flash the licensing information on a nonconfigurable GE USB hardware key.

> **Note:**
> Re-flashing the licensing information on a non-configurable GE USB hardware key overwrites all existing information and replaces it with the contents of the image file that was supplied by GE.

> **Note:**
> The image file can be re-flashed only to the non-configurable GE USB hardware key it was intended for. If you attempt to re-flash to a different hardware key, an error message is displayed.

1. From the License Client, click the **Advanced** tab.

   The Do you need to do something else? page appears.

2. If necessary, plug in a non-configurable GE USB Hardware Key.

   > **✎ Note:**
   >
   > It takes about 30-40 seconds for the software to read the key. Return to the Advanced tab
   > to re-display the Do you need to do something else? page.

3. Click the ellipsis (...) to open a file explorer window and locate the image file supplied by GE.

4. Select the file and click **Open** to display the file on the License Client page.

5. Click **Re-flash USB Key**.

   A message indicates that the re-flash of licensing information on the non-configurable GE USB
   hardware key was successful.

View or Reconcile Tolerant ID

Your licenses now bind to multiple characteristics of a system. You can reconcile the device ID with the
new tolerant device ID to avoid any license issues when the device ID changes.

If you have active licenses on the client machine and connected to GE Cloud Server, or to your Local
License Server (if using LLS), the reconcile operation will:

1. Return existing licenses from your computer.
2. Clean the local cache.
3. Reconcile the device ID with the new tolerant device ID.
4. Reactivate any existing licenses using the new tolerant device ID.

If you are not connected to GE Cloud Server, you must manually return the existing licenses offline.

Watch the following video for a demo on how to reconcile device ID with the new tolerant ID.

https://www.youtube.com/embed/FiYD909O9JY

After the reconcile operation, the **View or Reconcile Tolerant ID** page displays one of the following
statuses:

- Good: The device is working as expected.
- Tolerant1 through Tolerant6: The device is running in tolerant state. Your license will still work as expected. Some of the system characteristics cannot be read, or may have changed.
- Broken: The device ID is broken, and your licenses are not available. You must contact the technical support team to recover your licenses.
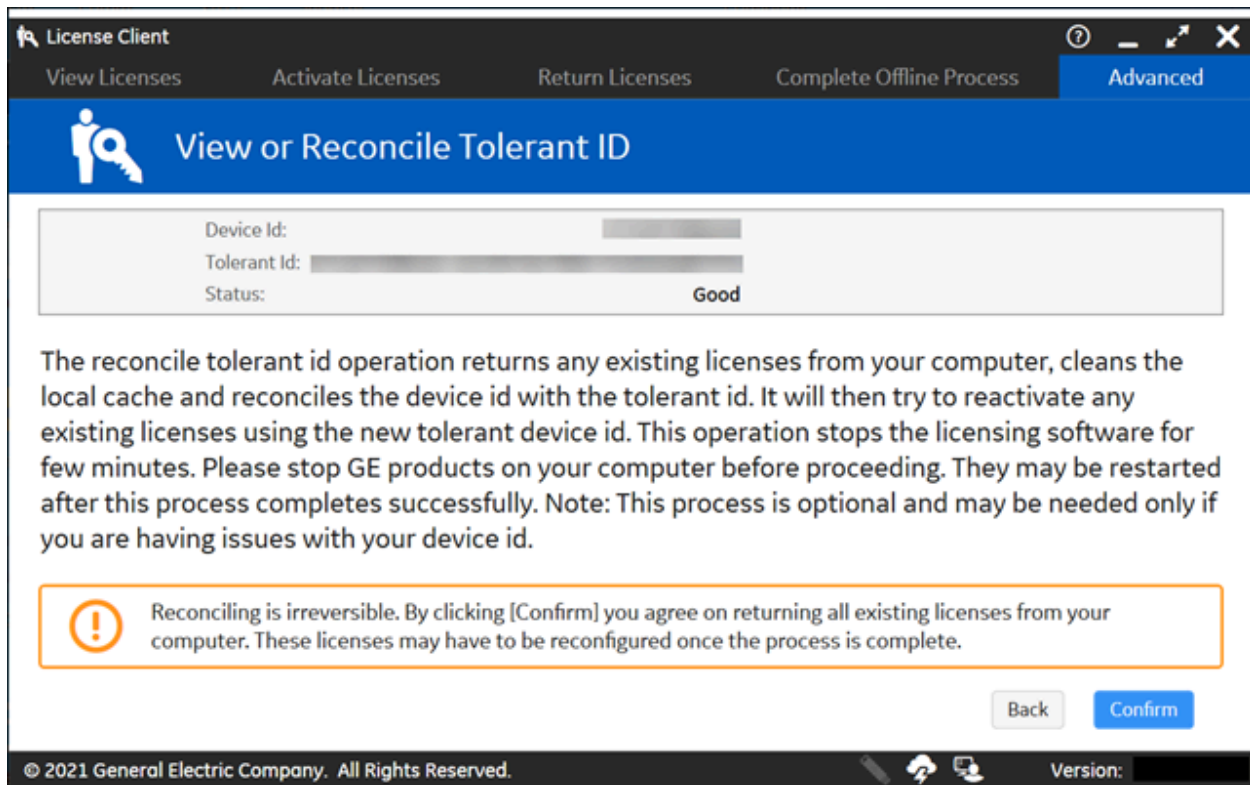
View Tolerant Device ID

In the **Advanced** section of License Client, you can view the Device ID, Tolerant ID, and the Status of the reconcile operation.

1. In License Client, select **Advanced**.
2. Select **View or Reconcile Tolerant ID**.

The **View or Reconcile Tolerant ID** page appears, displaying the Device ID, Tolerant ID, and the Status of your system.

Reconcile Tolerant Device ID

From the Advanced tab of License Client, you can select **Confirm** to start the reconcile operation.

- You must not use the GE products while reconciling the device ID.
- If you are connected to GE Cloud Server, the existing licenses are automatically returned when you reconcile the device ID. However, if you are not connected to GE Cloud Server, you must return the existing licenses offline before the reconcile operation.

1. In License Client, select **Advanced**.
2. Select **View or Reconcile Tolerant ID**.
3. Select **Confirm** to reactivate licenses with the new tolerant device ID.

> **Note:**
> The **Confirm** button is available only if you have returned the existing licenses, or if you are connected to GE Cloud Server.

The new tolerant device ID is generated and the status of the reconcile operation is displayed.

You must restart the products after the reconcile operation completes successfully.

Command-Line Operations

You can also manage licenses by running the command-line operations with Administrator privileges. Each command is defined by specific parameters that returns either a success or an error message at command completion.

You can view the command-line operation usage examples by entering the following command:

```
ProficyLicenseWizard.exe -Help
```

Installing the License Client

You can install the License Client using the command line.

1. Open a command-line interpreter window with Administrator privileges.
2. Enter the following:

   ```
   start /wait ProficyClientInstaller.exe /nomsg /quiet
   ```

   If you do not want Sentinel USB drivers installed, add /nousbdrivers to the above command line. These drivers are required if you are using a M4, M5, or configurable (Advantage) USB hardware key.

Unistalling the License Client

You can uninstall the License Client using the command line.

1. Open a command-line interpreter window with Administrator privileges.
2. Enter the following:

```
ProficyClientInstaller.exe /uninst /r /f1c:\licensing\temp\SilentClientUninstall.iss
```

This executes the uninstall command and records a script with the responses to use on subsequent uninstallations.

> **Note:**
> The script is stored in the indicated output folder. In this example, it is in `c:\licensing \temp\SilentClientUninstall.iss`.

3. Click **Yes** to remove the License Client.
4. Click **Yes** to restart your computer now or **No** to restart your computer later.

To run subsequent uninstalls of the License Client using the script created in step 2, enter the following into a command-line interpreter window:

```
start /wait ProficyClientInstaller.exe /uninst /s /f1c:\licensing\temp\SilentClientUninstall.iss
```

Activating Licenses from the GE Cloud Server

Verify the License Client is not running concurrently.

You may activate licenses from the GE Cloud Server from the DOS command line or by using a batch file.

> **Note:**
> You may activate one or more activation codes by separating them with a semicolon. Do not use spaces between the activation codes.

- To activate licenses from the command line:

  1. Open a command-line interpreter window with Administrator privileges.

  2. Navigate to `"c:\Program Files (x86)\Proficy\Proficy Common\Proficy Common Licensing\ProficyLicenseViewer"`

3. Activate a license from the Cloud:

"Start/wait ProficyLicenseWizard.exe

-ActivateFromCloud=1111-1111-1111-1111;2222-2222-2222-2222"

You should receive the following response:

"License(s) were deployed successfully."

> **Note:**
> If there is an error executing the command, a message appears. For more details, see the Proficy License Client log file.

- To activate licenses using a batch file, enter your commands in the following format in your batch file:

```
echo  off

Start/wait  ProficyLicenseWizard.exe  -ActivateFromCloud=1111-1111-1111-1111;2222-2222-2222-2222

if  errorlevel 1 (

  echo  The command failed. Error code=%errorlevel%

  exit  /b %errorlevel%

)

echo  Success
```

The command returns 0 when successful, or one of the error codes defined in the command return code table *(on page 106)*.

Activating Licenses from the Local License Server

You can activate licenses from the Local License Server using the command line or a batch file.

Verify the License Client is not running concurrently.

> **Note:**
> You can activate one or more activation codes by separating them with a semicolon. Do not use spaces between the activation codes.

- To activate licenses from the DOS command line:

    1. Open a command-line interpreter window with Administrator privileges.

    2. Navigate to `"c:\Program Files (x86)\Proficy\Proficy Common\Proficy Common Licensing\ProficyLicenseViewer"`

    3. Activate a license from a local license server at IP=1.1.1.1 by entering:
       "Start/wait ProficyLicenseWizard.exe -Lease=1111-1111-1111-1111;2222-2222-2222-2222 -Server=http://1.1.1.1 -Port=1111"

    > **Note:**
    >
    > For the parameters Server and Port, use the server and port number that correspond to your Local License Server.

    You should receive the following response:

    ```
    "License(s)  were deployed successfully."
    ```

    > **Note:**
    >
    > If there is an error executing the command, a message appears. For more details, see the Proficy License Client log file.

- To activate licenses using a batch file, enter the commands in the following format in your batch file:

    ```
    echo  off

    Start/wait  ProficyLicenseWizard.exe  -Lease=1111-1111-1111-1111;2222-2222-2222-2222 -Server=http://1.1.1.1

     -Port=1111

    if  errorlevel 1 (

      echo The command failed. Error code=%errorlevel%

     exit /b %errorlevel%

    )

    echo  Success
    ```

    The command returns 0 when successful, or one of the error codes defined in the command return code table *(on page 106)*.

Activating Licenses for a Non-Configurable Software Key

You can activate licenses for a non-configurable software key using the command line or a batch file.

Make sure the License Client is not running concurrently.

You may activate licenses for a non-configurable software key by using the DOS command line or a batch file.

- To activate licenses from the DOS command line:

    1. Open a command-line interpreter window with Administrator privileges.

    2. Navigate to `"c:\Program Files (x86)\Proficy\Proficy Common\Proficy Common Licensing\ProficyLicenseViewer"`

    3. Activate a license from a non-configurable software key by entering:
       Start/wait ProficyLicenseWizard.exe -ActivateNonConfigSWKey="filepath\Filename.klic" -Password=Password

    You should receive the following response:

    ```
    "License(s) were deployed successfully."
    ```

    If there is an error executing the command, a message appears. For more details, see the Proficy License Client log file.

- To activate licenses using a batch file, enter your commands in the following format in your batch file:

    ```
    echo  off

    Start/wait  ProficyLicenseWizard.exe -ActivateNonConfigSWKey="filepath\Filename.klic"  -Password=Password

    if  errorlevel 1 (

      echo  The command failed. Error code=%errorlevel%

     exit  /b %errorlevel%

    )

    echo  Success
    ```

    The command returns 0 when successful, or one of the error codes defined in the command return code table .

Returning Licenses to GE Cloud Server or Local License Server

You can return licenses to the GE Cloud Server or the Local License Server using the command line or a batch file.

Verify the License Client is not running concurrently.

> **✎ Note:**
>
> You may return one or more activation codes by separating them with a semicolon. Do not use spaces between the activation codes.

- To return licenses using the DOS command line:

  1. Open a command-line interpreter window with Administrator privileges.

  2. Navigate to `"c:\Program Files (x86)\Proficy\Proficy Common\Proficy Common Licensing\ProficyLicenseViewer"`

  3. Return a license by entering:
     "Start/wait ProficyLicenseWizard.exe -Return=1111-1111-1111-1111;2222-2222-2222-2222"
     You should receive the following response:

     ```
     License(s) were returned successfully.
     ```

     If there is an error executing the command, a message appears. For more details, see the Proficy License Client log file.

- To return licenses using a batch file, enter your commands in the following format in your batch file:

  ```
  echo  off

  Start/wait  ProficyLicenseWizard.exe  -Return=1111-1111-1111-1111;2222-2222-2222-2222

  if  errorlevel 1 (

    echo The command failed. Error code=%errorlevel%

   exit /b %errorlevel%

  )

  echo  Success
  ```

  The command returns 0 when successful, or one of the error codes defined in the command return code table .

Cleaning Licenses on the GE Cloud Server or Local License Server

You can remove licenses from the GE Cloud Server or the Local License Server using the command line or a batch file. This action is known as "cleaning" licenses.

Verify the License Client is not running concurrently.

- Cleaning is irreversible and removes all existing licenses from your computer. The command-line option does not display any additional warnings.
- Licenses may be reactivated after the cleaning process completes.

- To clean licenses from the DOS command line:
    1. Open a command-line interpreter window with Administrator privileges.
    2. Navigate to `"C:\Program Files (x86)\Proficy\Proficy Common\Proficy Common Licensing\ProficyLicenseViewer"`
    3. Clean licenses by entering "Start/wait ProficyLicenseWizard.exe -Clean".

The following response appears:

```
"License(s) were removed successfully."
```

> **Note:**
> If there is an error executing the command, a message appears. For more details, see the Proficy License Client log file.

- To clean licenses using a batch file, enter the commands using the following format in your batch file:

```
echo  off

Start/wait  ProficyLicenseWizard.exe -Clean

   echo The command failed. Error code=%errorlevel%

  exit /b %errorlevel%

)

echo  Success
```

The command returns 0 when successful, or one of the error codes defined in the command return code table *(on page 106)*.

Cleaning Licenses from a Non-Configurable Software Key

You can remove licenses from a non-configurable software key using the command line or a batch file. This action is known as "cleaning" licenses.

Verify the License Client is not running concurrently.

- Cleaning is irreversible and removes all existing licenses from your computer. The command-line option does note display any additional warnings.
- You can activate licenses after the cleaning process completes.

- To clean licenses from the DOS command line:
    1. Open a command-line interpreter window with Administrator privileges.
    2. Navigate to `"C:\Program Files (x86)\Proficy\Proficy Common\Proficy Common Licensing\ProficyLicenseViewer"`
    3. Clean licenses by entering "Start/wait ProficyLicenseWizard.exe -CleanNonConfigSWKey".

The following response appears:

```
"License(s)  were

        removed successfully."
```

> **Note:**
> If there is an error executing the command, a message appears. See the Proficy License Client log file for more details.

- To clean licenses using a batch file, enter your commands in the following format in your batch file:

```
echo  off

Start/wait  ProficyLicenseWizard.exe -CleanNonConfigSWKey

if  errorlevel 1 (

  echo The command failed. Error code=%errorlevel%

 exit /b %errorlevel%

)

echo  Success
```

The command returns 0 when successful, or one of the error codes defined in the command return code table .

Adding Sentinel Dependency

You can add Sentinel Service dependency using the command line to ensure that the Sentinel Service and Common Licensing start up in the correct order.

Verify the License Client is not running concurrently.

1. Open a command-line interpreter window with Administrator privileges.
2. Navigate to `"c:\Program Files (x86)\Proficy\Proficy Common\Proficy Common Licensing\ProficyLicenseViewer"`
3. Add sentinel service dependency by entering:

```
Start/wait ProficyLicenseWizard.exe -AddSentinelDependency
```

4. You should receive the following response:

```
"The Sentinel Service dependency was added successfully."
```

Removing Sentinel Dependency

You can remove Sentinel Service dependency using the command line.

Make sure the License Client is not running concurrently.

1. Open a command-line interpreter window with Administrator privileges.
2. Navigate to `"c:\Program Files (x86)\Proficy\Proficy Common\Proficy Common Licensing\ProficyLicenseViewer"`
3. Remove sentinel dependency by entering:

```
Start/wait ProficyLicenseWizard.exe –RemoveSentinelDependency
```

4. You should receive the following response:

```
"The Sentinel Service dependency was removed successfully."
```

Adding Wibu Dependency

You can add Wibu Service dependency using the command line to ensure that the Wibu Service and Common Licensing start up in the correct order.

Verify the License Client is not running concurrently.

1. Open a command-line interpreter window with Administrator privileges.
2. Navigate to `"c:\Program Files (x86)\Proficy\Proficy Common\Proficy Common Licensing\ProficyLicenseViewer"`.
3. Add wibu service dependency by entering:

```
Start/wait ProficyLicenseWizard.exe –AddWibuDependency
```

4. You should receive the following response:

```
"The Wibu Service dependency was added successfully."
```

Removing Wibu Dependency

You can remove Wibu Service dependency using the command line.

Make sure the License Client is not running concurrently.

1. Open a command-line interpreter window with Administrator privileges.
2. Navigate to `"c:\Program Files (x86)\Proficy\Proficy Common\Proficy Common Licensing\ProficyLicenseViewer"`
3. Remove wibu dependency by entering:

```
Start/wait ProficyLicenseWizard.exe –RemoveWibuDependency
```

4. You should receive the following response:

```
"The Wibu Service dependency was removed successfully."
```

Creating a License Report

You can create a License Report in text or HTML format to show all licenses on a device, including the customer name, license number, expiration date, license version, license source, and license type.

When there is an existing License Report, you must provide the -overwrite option in the command. If not, the command fails.

1. Open a command-line interpreter window with Administrator privileges.
2. Enter one of these commands, which are case insensitive:

Option	Description
Text format	Start/wait ProficyLicenseWizard .exe -Licensereport="c:\temp\LicenseReport.txt" -Format=TXT -Overwrite
HTML format	Start/wait ProficyLicenseWizard .exe -Licensereport="c:\temp\LicenseReport.html" -Format=HTML -Overwrite

The License Report is generated, as shown in the following sample report.

```
License Report Created on : 12/11/2018 1:52:18 PM

Created For Device : 1234A12348Y

License Key Information:

 CustomerName : GE

 Customer CSN : 12341234

 License Number : 123412349101

 Expiration Date : 01 Jan 2019

 Create Date : 20 Oct 2014

 License Version : Flexera (3)

 License Source : GE Software License

 License Type : Leased
```

```
Number of Licensed Products = 1

 - Sales Demo License (1234-1234-1234-1234)
```

Command Return Codes

Batch file commands return success or error codes at completion.

For more information, check the ProficyLicenseClient log file.

Table 2. Return Codes

Code	Description
0	The licenses were deployed successfully.
1	The license file name is required.
2	The license file does not exist.
3	The license file is invalid.
4	The password is required.
5	The ActivateFromCloud command is missing activation codes.
6	The Lease command is missing activation codes.
7	The Return command is missing activation codes.
8	The Lease command is missing the port number.
9	The port number is invalid.
10	The Lease command is missing the server URL.
11	The licenses could not be leased from a local license server.
12	The license(s) could not be activated from the GE Cloud Licensing Server.
13	Non-configurable software licenses could not be installed.
14	Non-configurable software licenses could not be removed.
15	The licenses could not be returned.
16	The licenses could not be removed.
17	There are one or more restrictions on this environment that prevent licenses from being activated from the GE Cloud Licensing Server.

Table 2. Return Codes (continued)

Code	Description
18	There are one or more restrictions on this environment that prevent licenses from being leased from the specified local license server.
19	There are one or more restrictions on this environment that prevent licenses from being returned.
20	Not used.
21	There are one or more restrictions on this environment that prevent software licenses from being removed.
22	The command line argument is invalid.
23	The local license server cannot be contacted.
24	The License Client is already running.
25	The specified local license server cannot be used because there are license(s) being activated from a different local license server.
26	Exiting due to one or more invalid activation codes.
27	The actions cannot be performed. Pass a single command on the command line.
28	An error occurred while creating the license text file report.
29	An error occurred while creating the license HTML file report.
30	The license report filename is required. Usage: -LicenseReport="filepath\Filename" -Format=TXT|HTML [-Overwrite]
31	- The license report file format is required. Usage: -LicenseReport="filepath\Filename" -Format=TXT|HTML [-Overwrite]
32	The license report file format is not valid. Usage: -LicenseReport="filepath\Filename" -Format=TXT|HTML [-Overwrite]
33	The license report file already exists. Please use a different filename.
34	The Lease command server url is invalid. Please prefix the server url with http:// Usage: -Lease=1111-2222-3333-4444;AAAA-BBBB-CCCC-DDDD -Server=http:// serverUrl -Port=3333

Table 2. Return Codes (continued)

Code	Description
35	Unable to add the Sentinel Service dependency.
36	Unable to remove the Sentinel Service dependency.
37	The Sentinel Service dependency was previously added.
38	The Sentinel Service dependency was previously removed or never added.
39	The user must have Administrator privileges.
40	Cannot perform actions. The UI is running in a different session. Close the running UI and try again.
41	Cannot perform action. The Sentinel Service is not installed.
42	The current security settings on this machine does not allow TLS 1.2 security protocol. Please run windows update to get the latest security updates. Please check the ProficyLicenseClient log file for more information.
43	Cannot perform actions. The UI is running in a different session. Close the running UI and try again.
44	Unable to add the Wibu Service dependency.
45	Unable to remove the Wibu Service dependency.
46	The Wibu Service dependency was previously added.
47	The Wibu Service dependency was previously removed or never added.
48	Cannot perform action. The Wibu Service is not installed.

Chapter 6. Local License Server

Local License Server Overview

The Local License Server provides a central location for client devices to access and return required GE software licenses.

The Local License Server software is small and lightweight, and can be run on any existing computer in the network. You can run the software on an existing production computer, a dedicated computer, or a virtual machine (VM).

You can use the Local License Server Administration Tool *(on page 114)* to manage the licenses on a server and perform server operations, such as changing the server connection.

You can also use the Server Console Tool *(on page 137)* commands to activate and remove multiple license codes on the Local License Server.

Communication Requirements

The Local License Server computer requires a port (default is 3333) to communicate with client computers. It does not require continuous internet connectivity to operate. Internet connectivity may be required to activate or return licensing information to the cloud. You can perform license activation and license recover using an offline activation process.

The Local License Server computer must be reachable by all computers requiring GE software licenses. Intermittent connections are not supported. The expectation is that a production computer communicate with a Local License Server computer at boot time and then approximately every four hours to verify licenses and extend leases. It is recommended that a Local License Server computer be local to its client computers (in other words, one Local License Server per location).

Although you can run one or more Local License Servers on a single network, each client computer can only communicate with one Local License Server at a time for its licenses.

If a single computer hosts both the Local License Server and its clients, the client software must communicate with the Local License Server through an open TCP port.

Lease Guidelines

The Local License Server holds a pool of licenses that are leased to client computers that have GE products requiring licenses. Licenses are allocated to a pool using the Local License Server

Administration Tool. The License Client then activates a license on each production client by choosing a license from the pool.

A license remains leased to a client until one of the following conditions is met:

- The client returns it using the License Client tool.
- The client does not extend the license for a period of 20 consecutive days.
- The license is revoked at the server and returned to the pool (for example, if a client computer becomes non-functional and the licenses need to be moved to a replacement computer).

Licenses are leased from the Local License Server to the clients for a 21 days. Every time a client successfully communicates with the server, the timer is reset and that lease is extended for 21 days from the date of the last successful communication.

If a client does not communicate with the Local License Server for more than ten days, you receive warnings as the lease expiration of 21 days approaches. Make sure the client computer can communicate with the Local License Server on a regular basis.

An administrator can use the Local License Server Settings Tool *(on page 133)* to adjust the lease expiry period, set up email notifications for license expiry reports, device expiry reports, and license instance count reports, and check or reset the NIC MAC address settings.

Installing the Local License Server

Use the GE Digital Common Licensing installation software to install the Local License Server, the Local License Server Settings Tool, and the Local License Server Administration Tool.

- You must install the Local License Server software and the Local License Server Settings Tool on the same computer, and this computer must communicate with the GE Cloud License Server.
- Locate and back up the `FnSvrPro.ini` file, which avoids reactivating licenses if you need to reinstall Common Licensing. After a reinstall, place `FnSvrPro.ini` in its original location in the install directory.
- You do not need to uninstall earlier versions of any Common Licensing software.

1. Download the latest Common Licensing software from the GE Sofware Product Licensing website.
2. Run the Common Licensing Installer.
3. Install both the Local License Server and the Local License Server Settings Tool on the same computer by selecting **Install Local License Server**.
4. Answer the installation prompts.

5. Install the Local License Server Administration Tool on any computer in the network by selecting **Install License Server Tools**.

6. Answer the installation prompts.

7. **Optional:** You can copy the Common Licensing installation software to a flash drive to install the License Client and the Local License Server Administration Tool on offline computers.

Restricting Access to the Local License Server

The Licensing Software installer automatically creates the FNEServerPortAccess firewall inbound rule that allows full access to the GE Local License Server (FNE_Server.exe) on port 3333. You can edit this rule to provide certain users, computers, and IP addresses access to the Local License Server.

Consult with your IT department about making edits to the FNEServerPortAccess firewall inbound rule.

1. In Microsoft Windows, navigate to **Control Panel > System and Security > Windows Firewall**.

2. Select **Advanced Settings**.

   The **Windows Firewall with Advanced Security on Local Computer** screen appears.

3. Select **Inbound Rules**.

   A list of the firewall inbound rules appears.

4. If there are more than one instance of the FNEServerPortAccess firewall inbound rule, delete all instances except one.

5. Right-click the FNEServerPortAccess firewall inbound rule, and then select **Properties**.

   The **FNEServerPortAccess Properties** screen appears.

6. Select the **General** tab, shown below, and then do the following:

a. Select the **Enabled** check box.

b. If providing users or computers access to the Local License Server, select **Allow the connection if it is secure** in the **Action** section.
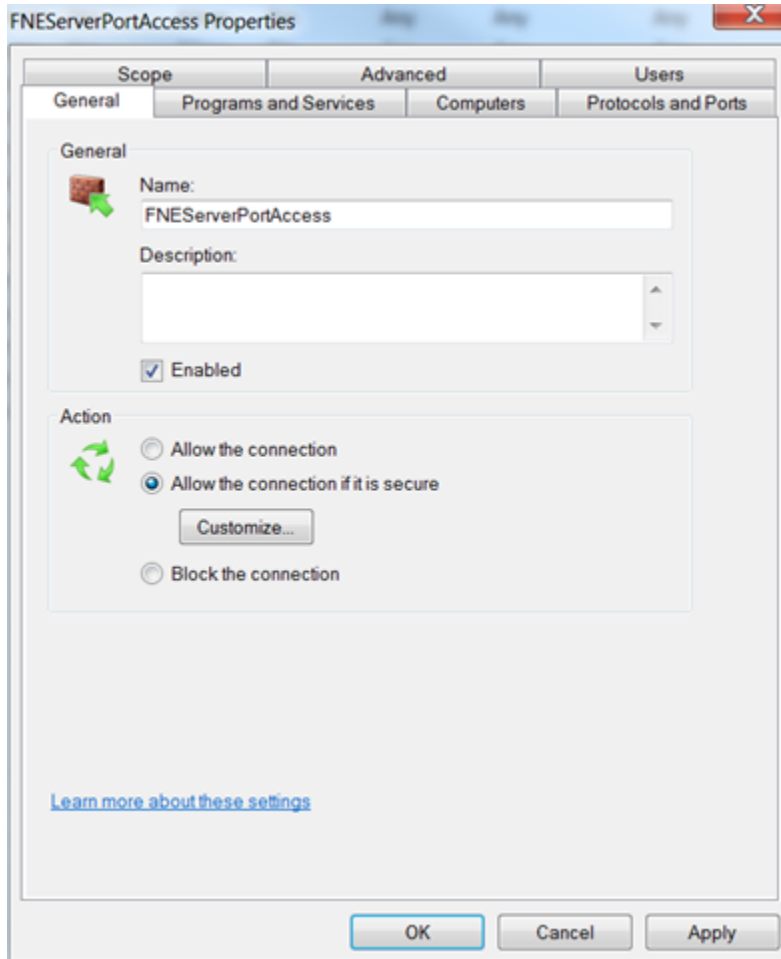
7. Restrict access to the Local License Server using one or more of these options:

Op-tion	Description
IP ad-dress-es	a. Select the **Scope** tab. b. In the **Remote IP Address** section, select **These IP addresses**. c. Select **Add**, as shown below.
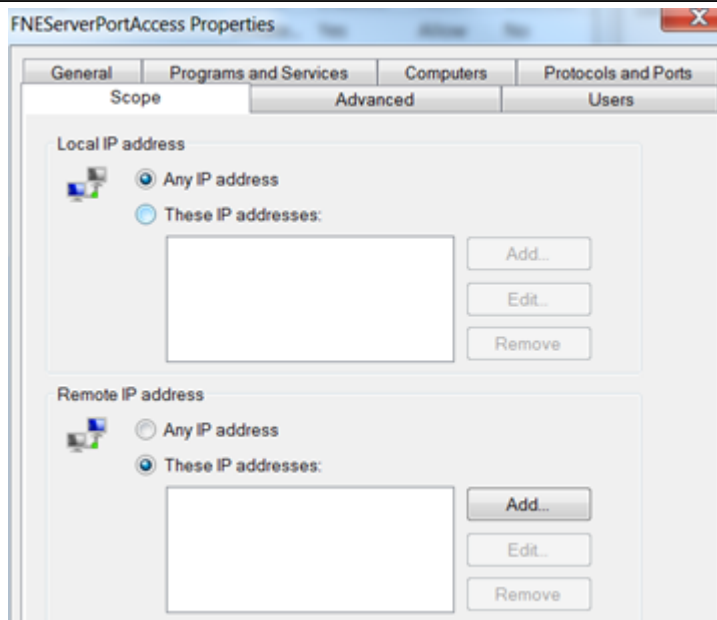
Op-tion	Description
	d. Enter the IP addresses that you want to connect to the Local License Server. e. Click **Apply**.
Users	a. Select the **Users** tab. b. In the **Authorized users** section, select the **Only allow connections from these users** check box. c. Select **Add**, as shown below.

Op-tion	Description
	d. Enter users that you want to access the Local License Server. e. Click **Apply**.
Com-put-ers	a. Select the **Computers** tab. b. In the **Authorized computers** section, select the **Only allow connections from these computers** check box. c. Select **Add**, as shown below. d. Enter the computers that you want to connect to the Local License Server. e. Click **Apply**.

Local License Server Administration Tool

Use the Local License Server Administration Tool to manage licenses for client devices connected to a Local License Server. You can quickly add and remove licenses on the server as well as recover GE licenses from clients.

Functionality

The Local License Server Administration Tool consists of the following tabs to help you manage licenses and perform server operations:

- **Licenses**: View, add, remove, and reserve licenses.
- **Connected Clients**: View client devices leasing GE licenses, and recover licenses from these clients for use by other clients.
- **Server Operations**: Edit server connection settings, refresh licenses, clean license information on the server, and view the server configuration.
- **Complete Offline Activation**: Activate, refresh, and return a license for an offline computer.
- **More Actions**: View the Local License Server error and access logs as well as configure logging for the Local License Server Administration Tool.

You must be an administrator to perform most of the Local License Server Administration Tool operations. Without administrative privileges, you can only view licenses and client devices leasing GE licenses on a local host sever. You cannot access the other Local License Server Administration Tool operations.

> **Note:**
> For Common Licensing 18.4 and higher, you must use the Local License Server Administration Tool to manage your server. The Proficy Server Manager is no longer available.

Footer Icons

The icons in the footer represent the following.

Icon	Description
	Indicates the Local License Server is connected to the GE Cloud License Server. There is no connection when a red line appears through this icon, such as .
	Indicates there is an internet connection to the Local License Server. There is no connection when a red line appears through this icon, such as .
	Indicates whether you have administrative privileges. Without administrative privileges, you can only view licenses and client devices leasing licenses on a local host sever. You do not have administrative privileges when a red line appears through this icon, such as .

Manage Licenses

Viewing Licenses on the Server

Use can view a list of available software licenses on the Local License Server and see which licenses are leased by client devices. This list includes the activation code, product name, description, number of available licenses, expiration date, client ID, client alias, and device type.

1. In the Local License Server Administration Tool, select the **Licenses** tab.

   The list appears showing the licenses on the Local License Server.
2. To display the most up-to-date license view, select **Update Table**.
3. **Optional:** You can use wildcard characters to search for clients based on client ID, client alias, and type in the Search box.
4. **Optional:** To save the list of these server licenses, do the following:
   a. Select **Save List to File**.
   b. Enter the file name, and then navigate to where you want to save this file.
   c. Select **Save**.

Adding Licenses to the Server

You can add licenses retrieved from the GE Cloud License Server to the Local License Server.

Verify the Local License Server is connected to the GE Cloud License Server (). If not, see Performing Offline License Activation *(on page 120)*.

1. In the Local License Server Administration Tool, select the **Licenses** tab.

   The **Licenses Activated On Server** page appears.
2. Select **Add Licenses**.

   The **Add Licenses To Server** page appears.
3. For each license you want to add, enter the activation code and select **Add Code**.

   As you specify these activation codes, they appear on the page.
4. When all codes are entered, select **Activate**.

   Messages about the progress of the license transfer appear.
5. When finished, select **Back** to return to the **Licenses Activated On Server** page to view the licenses you just added.
6. If you do not see these licenses, select **Update Table** to refresh the view on this page.

Removing Licenses from the Server

You can remove licenses from the Local License Server that are no longer in use.

- Verify the Local License Server is connected to the GE Cloud License Server (![icon]). If not, see Performing Offline License Removal *(on page 118)*.
- Before you remove any licenses, save their activation codes in case you want to reactivate them in the future.

1. In the Local License Server Administration Tool, select the **Licenses** tab.
2. Select **Remove Licenses**.

   The **Remove Licenses from Server** page appears listing all the activated licenses.
3. For each activation code, enter the number of licenses to delete from the server in the **Remove** column.
4. Select **Remove**.
5. When finished, select **Back** to return to the **Licenses Activated On Server** page to verify the licenses were removed from the server.
6. Select **Update Table** to refresh the view on this page.

Recovering Licenses from a Client

You can retrieve all licenses leased to a client device that are no longer in use. These licenses are returned to the Local License Server pool for lease by other clients.

1. In the Local License Server Administration Tool, select the **Connected Clients** tab.

   A page displays showing all clients leasing licenses from the server.
2. **Optional:** You can use wildcard characters to search for client devices based on client ID, client alias, and type in the Search box.
3. **Optional:** To save this list of current leased licences, do the following:
   a. Select **Save List to File**.
   b. Enter the file name, and then navigate to where you want to save this file.
   c. Select **Save**.
4. Select the check boxes of the clients whose licenses you want to recover.
5. Select **Recover Licenses**.

   All licences issued to the clients are returned to the server license pool.

Reserving Licenses on the Server

You can reserve available licenses on a Local License Server to use at a later time. After you reserve a license, it is no longer accessible to any client.

1. In the Local License Server Administration Tool, select the **Licenses** tab.

   The **Licenses Activated On Server** page appears.

2. Select **Reservation Licenses**.

   The **Reserve Licenses On Server** page appears showing the following columns:
   - **Total**: The total number of licenses on this server.
   - **Avail**: The number of available licenses for clients connected to this server.
   - **In Use**: The number of licenses on this server currently in use by clients.
   - **Reserved**: The number of licenses currently reserved on this server for later use. Expired licenses remain in this column until you remove them.
   - **Desired Reserve**: The number of licenses that you plan to reserve on this server.

3. In the **Desired Reserve** column, enter the number of licenses that you want to reserve for each desired product.

   You can increase and decrease this number as well as enter a zero to clear the license from the reservation list.

4. **Optional:** To reserve all available licenses for all products, select **Reserve All**.

5. **Optional:** To remove all reservations, select **Clear All Reservations**.

6. Select **Reserve**.

   The **Licenses Activated On Server** page appears.

Viewing Client Computers Leasing Licenses

You can display a list of client devices leasing GE licenses from the Local License Server. This list provides the client ID, client alias, type, product name, lease expiration information, and activation code.

1. In the Local License Server Administration Tool, select the **Connected Clients** tab.

   A list of client devices that lease licenses from the Local License Server appears.

2. To display the most up-to-date license view, select **Refresh Data**.

3. **Optional:** You can use wildcard characters to search for clients based on client ID, client alias, and type in the Search box.

4. **Optional:** To save the list of connnected clients, do the following:
   a. Select **Save List to File**.
   b. Enter the file name, and then navigate to where you want to save this file.
   c. Select **Save**.

Performing Offline License Removal

When the Local License Server is not connected to the GE Cloud License Server, you can use a connected computer to process the information required to remove licenses from the offline Local License Server.

- Before you remove any licenses, save their activation codes in case you want to reactivate them in the future.
- Review the offline license management process instructions in the **Complete Offline Process** page.
- Verify you have access to a computer connected to the GE Cloud License Server and that computer has the Local License Server Administration Tool installed.

This process requires that you complete the following steps:

1. From the offline Local License Server, create a request file with the license codes for the GE Cloud License Server to remove. This generated request file in the permanently offline computer is transferred to a computer connected to the internet.
2. From the online computer, request a response file, which sends the request file to the GE Cloud License Server for verification. The GE Cloud License Server returns a response file containing the needed informaton to remove the licenses on the Local License Server. The response file generated in the computer connected to the internet is transferred to the computer permanently offline where the request file was originally generated.
3. Within 24 hours of receiving a response file, transfer the file into the offline Local License Server to remove the licenses.

1. To create a request file in the offline Local License Server, do the following:

   a. In the Local License Server Administration Tool, select the **Licenses** tab.
      The **Licenses activated on server** page appears.

   b. Select **Remove Licenses**.

      When the Local License Server is not connected to the GE Cloud License Server (), the **Generate a Request File to remove licenses on Server** page appears.

   c. Select **Remove Licenses**.

   d. Specify the file path in **Save request file to**.

   e. For each license you want to delete from the server, enter the number of licenses in the **Remove** column, and then select **Remove**.

   f. When finished, select **Generate File**.
      A message appears indicating the request file was created.

   g. Transfer the request file to the online computer.

2. From the online computer, send the request file for a verification response by selecting 2, **Generate a response file from an online computer** on the **Complete Offline Activation** tab and do the following:

    a. Navigate to the request file and select **Open**.

    b. Select the network drive or media device on which to save the response file.

    c. Select **Generate File**.
       A message appears indicating the response file was generated.

    d. Transfer the response file to the offline Local License Server.

3. From the offline Local License Server, remove the licenses by selecting 3, **Use the response file to update licenses on the original offline server** on the **Complete Offline Process** tab and do the following:
    a. Navigate to the response file.
    b. Select **Update Licenses**.
    c. To verify the licenses were removed, select the **Licenses** tab and then **Update Table**.

Performing Offline License Activation

When the Local License Server is not connected to the GE Cloud License Server, you can use a connected computer to process the information required to activate and update licenses on the offline Local License Server.

- Review the offline license management process instructions in the **Complete Offline Process** page.
- Make sure you have the email containing the activation codes sent by GE.
- Verify you have access to a computer connected to the GE Cloud License Server and that computer has the Local License Server Administration Tool installed.

This process requires that you complete the following steps:

1. From the offline Local License Server, create a request file with the license codes for the GE Cloud License Server to verify. This generated request file in the permanently offline computer is transferred to a computer connected to the internet.
2. From the online computer, request a response file, which sends the request file to the GE Cloud License Server for verification. The GE Cloud License Server returns a response file containing the needed informaton to activate and update licenses on the Local License Server. The response file

generated in the computer connected to the internet is transferred to the computer permanently offline where the request file was originally generated.

3. Within 24 hours of receiving a response file, transfer the file into the offline Local License Server to activate and update licenses.

1. To create a request file in the offline Local License Server, do the following:

   a. In the Local License Server Administration Tool, select the **Licenses** tab.
   The **Licenses activated on server** page appears.

   b. Select **Add Licenses**.

   When the Local License Server is not connected to the GE Cloud License Server (), the **Generate a Request File to activate licenses on Server** page appears.

   c. Select **Add Licenses**.

   d. Specify the file path in **Save request file to**.

   e. For each license you want to add, enter the activation code and select **Add Code**.
   As you specify these activation codes, they appear on the page.

   f. When all codes are entered, select **Generate File**.
   A message appears indicating the request file was created.

   g. Transfer the request file to the online computer.

2. From the online computer, send the request file for a verification response by selecting 2, **Generate a response file from an online computer** on the **Complete Offline Activation** tab and do the following:

   a. Navigate to the request file and select **Open**.

   b. Select the network drive or media device on which to save the response file.

   c. Select **Generate File**.
   A message appears indicating the response file was generated.

   d. Transfer the response file to the offline Local License Server.

3. From the offline Local License Server, activate the licenses by selecting 3, **Use the response file to update licenses on the original offline server** on the **Complete Offline Process** tab and do the following:

a. Navigate to the response file.

b. Select **Update Licenses**.

c. To view the new and updated licenses, select the **Licenses** tab and then **Update Table**.

Perform Server Operations

Editing the Server Connection Settings

You can connect your client device to the Local License Server and verify this connection. You can also change the server name or server IP address, the server port number, and the communications timeout value of the Local License Server.

1. In the Local License Server Administration Tool, select the **Server Operations** tab.
2. Select 1, **Edit Connection Settings**.
3. You can edit these connection values:
   - Server Name or IP address.
   - Server port number (default is 3333).
   - Communications timeout (default is 30 seconds). This applies to both the Local License Server and the GE Cloud License Server.
4. **Optional:** Except for the local host, you can remove a saved server from the drop-down list in the **Server or IP address** field by selecting ✖ next to its name or IP address.
5. Test that your client device can communicate with the Local License Server by selecting **Verify Connection**.

   A message appears showing the connection status.
6. Make sure you save the specified connection settings by selecting **Save**.

   The connection settings are saved to the Local License Server configuration file.
7. Return to the **Server Operations** tab by selecting **Back**.

Refreshing Licenses on the Server

You can refresh the licenses on the Local License Server with newer versions from the GE Cloud License Server. A refresh also retrieves any new licenses from the GE Cloud License Server.

You must have connectivity to both the GE Cloud License Server and the Local License Server. Otherwise, the link to perform a refresh is disabled.

1. In the Local License Server Administration Tool, select the **Server Operations** tab.
2. Select 2, **Refresh Server**.

   The Refresh Licenses on Server page appears.
3. Select **Refresh**.

A message appears indicating if the task was successful.

4. When finished, select **Done** to return to the **Server Operations** tab.

5. **Optional:** You can view the updated licenses on the **Licenses** tab.

Cleaning Licenses on the Server

You can permanently remove all license information from the Local License Server. These licenses are not returned to the GE Cloud License Server.

If you remove a license that is currently in use by a client device, you can no longer extend the lease on that license. Always consult with GE Technical Support before you perform this task.

You must have connectivity to both the GE Cloud License Server and the Local License Server. Otherwise, the link to perform a clean is disabled.

1. In the Local License Server Administration Tool, select the **Server Operations** tab.

2. Select 3, **Clean Server**.

3. Select **Clean**.

A message appears informing you whether the task was successful.

4. When finished, select **Done** to return to the **Server Operations** tab.

5. **Optional:** To add new licenses to the Local License Server, go to the **Licenses** tab and select **Add Licenses**.
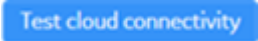
Viewing Server Configuration Information

You can view details about the server, such as its status, type, platform, and number of client connections.

1. In the Local License Server Administration Tool, select the **Server Operations** tab.

2. Select 4, **View Server Information**.

The Server Details page appears.

3. Return to the **Server Operations** tab by selecting **Back**.

Checking Connectivity to the Cloud

You can verify the connection between the Local License Server and the GE Cloud License Server.

1. In the Local License Server Administration Tool, select the **Server Operations** tab.

2. Select 5, **Cloud Connectivity**.

The Cloud Connectivity page appears.

3. Select .

When connected, a message appears indicating the GE Cloud License Server is accessible.

Checking for LLS NIC MAC Address Change

Use the Local License Server Administration Tool to check for a change made to the Local License Server NIC MAC address (Server ID).

The current Local License Server ID, such as ID=18DBF2012A5B, appears at the top of each Local License Server Administration Tool page.

1. In the Local License Server Administration Tool, select the **Server Operations** tab.
2. Select 1, **Edit Connection Settings**.
3. If the Local License Server NIC MAC address has changed, the following message appears:
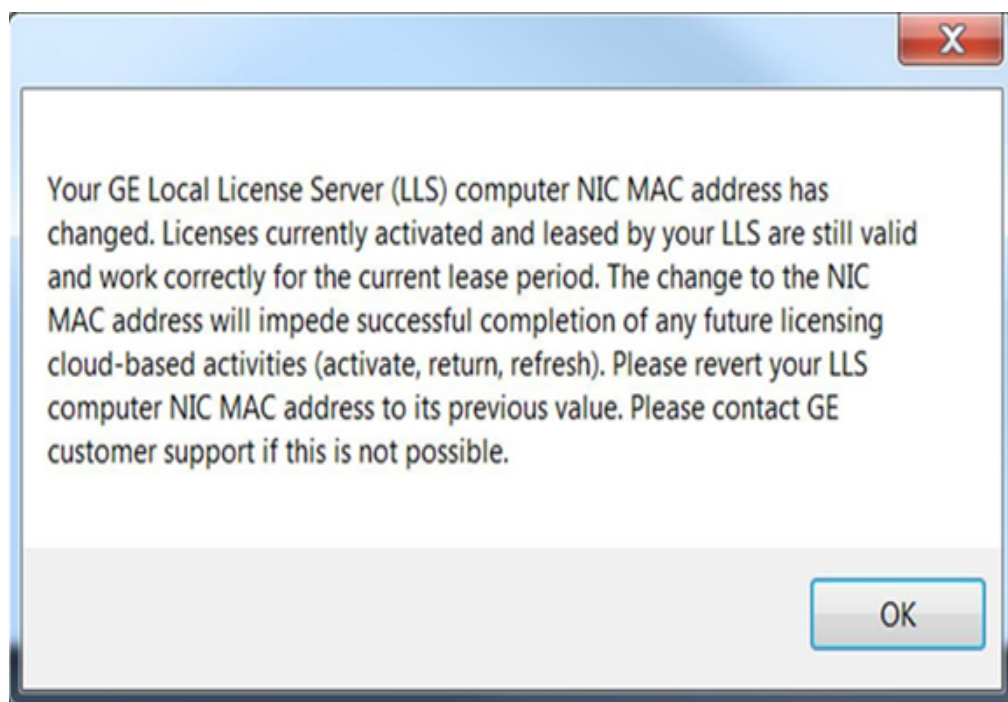
4. Select **OK**.
5. If the Local License Server NIC MAC address has changed, see What to Do When the LLS NIC MAC Address Changes (on page 151).

View Server Logs and Settings

Viewing the Error Log

The error log lists each Local License Server error, including log-level type, description, and date and time stamp.

1. In the Local License Server Administration Tool, select the **More Actions** tab.
2. Select 1, **View Error Log**.

    The View Error Log page appears.
3. To display the most up-to-date error view, select **Refresh Data**.
4. To save the error log to a file:

    a. Select **Save Log to File**.

    b. Enter the file name, and then navigate to where you want to save this file.

    c. Select **Save**.

Viewing the Access Log

The access log lists all received calls requesting license information from the Local License Server.

1. In the Local License Server Administration Tool, select the **More Actions** tab.
2. Select 2, **View Access Log**.

    The View Access Log page appears.
3. To display the most up-to-date error view, select **Refresh Data**.
4. To save the access log to a file:

    a. Select **Save Log to File**.

    b. Enter the file name, and then navigate to where you want to save this file.

    c. Select **Save**.

Viewing the Audit Log

The LocalServerAdministrationTool_Audit.log file provides details about operations performed on the Local License Server.

These details include the date and time of the operation, the user who performed the operation, the success or failure status, the server URL, and the activation codes.

The Local License Server Administration Tool audits the following operations:

- Add licenses
- Remove licenses
- Reserve licenses
- Recover licenses
- Refresh licenses
- Clean licenses
- Generate responses
- Import responses

1. Navigate to the `Documents` folder.
2. Open the `LocalServerAdministrationTool_Audit.log` file.

   The file displays information about the operations that occurred on the Local License Server, as shown in the following example.

   ```
   2018-12-05 13:37:32,563 USER1 SUCCESS - ReserveLicense Online

   url=localhost:3333 ID=123412341234

   activationCodes=("1234-1234-1234-1234::3", "1234-1234-1234-1234::2")

   2018-12-05 13:38:05,474 USER2 SUCCESS - AddLicense Online

   url=localhost:3333 ID=123412341234 activationCodes=("1234-1234-1234-1234::3")

   2018-12-05 13:39:10,495 USER1 SUCCESS - Refresh Online url=localhost:3333

   ID=123412341234
   ```

Configuring Logging

You can define how to log events for the Local License Server Administration Tool.

1. In the Local License Server Administration Tool, select the **More Actions** tab.
2. Select 3, **Logging Configuration**.

   The Logging Configuration page appears.
3. In the **Select logging threshold** field, select the log-level for generating logs. For example, if you select Info, the Info and Debug events are logged.

   > ✏️ **Note:**
   > Log-level changes only apply after you restart the Local License Server Administration Tool client.

4. In the **Select log folder location** field, navigate to the folder in which to save the log files.
5. Select **Save**.
6. To display the log files, select **Show log files**.

   This takes you directly to the log file where you can open it.
7. To zip all the log files, select **Zip log files**.

   This takes you directly to the zip file containing all the log files.

Create and Schedule Reports

Schedule Reports

You can schedule license and device reports to run periodically by creating a batch file, INI file, or script. You can also schedule expiration reports or run them on-demand from the Windows command prompt using command-line operations.

> **Note:**
>
> For Common Licensing 18.4 and higher, you must use the Local License Server Administration Tool to run your reports. The Proficy Server Manager is no longer available.

To view command-line operation usage examples, enter the following command:

```
LLSAdminTool.exe -Help
```

Command-Line Options for Creating Reports

You can create and schedule various license and device reports using command-line options.

Command	Description

`-REPORT=DEVICE [-FILE=[Path]Filename] [-APPEND]`
 	
`[-INPUTFILE=[Path]\Filename][-EXPIRE=X_NUMBER_OF_DAYS]`
	Shows the server name, server ID, client alias, client ID, client type, and lease expiration dates for the specified device.

`-REPORT=LICENSE [-FILE=[Path]Filename] [-APPEND]`
 	
`[-INPUTFILE=[Path]\Filename][-EXPIRE=X_NUMBER_OF_DAYS]`
	Shows details about the licenses to expire with-in the specified number of days, including the activation codes, the total and available number of licenses, the expiration dates, and the number of reserved licenses.

`-REPORT=LICENSECOUNT [-FILE=[Path]Filename] [-APPEND]`
 	
`[-INPUTFILE=[Path]\Filename]`
 	
`[-PERCENT_REMAINING=X_PERCENTAGE_OF_LICENSES_REMAINING]`
	Shows the percentage of licenses available for each activation code,

Command	Description
	including the total and available number of licenses, and the number of reserved licenses. This report defaults to a low instance count of 20% or less. Reserve licenses are not included in the available licenses.

`-REPORT=LICENSE [-RESERVED] [-FILE=[Path]Filename] [-APPEND]`
 	
`[-INPUTFILE=[Path]\Filename]`
	Shows details about reserved licenses, including the activation codes, the total and available number of licenses, the number of in-use licenses, the number of reserved licenses, and the expiration dates.

`-REPORT=[LICENSE|DEVICE]`	Creates either a license or device type report. The reports generated are the same as clicking the "Save to File" button on the View Server Licenses or View Client. Computers pages in the License Server Configuration Tool. **Note:** You cannot use LICENSE and DEVICE at the same time.

Command	Description
`[-RESERVED]`	Reports on reserved licenses.
`-FILE=[Path]Filename`	Specifies the output file name for the requested report. If Path is omitted, then the output file will be the same location as the directory that is used for the log file. This is typically the "My Documents" folder. **Note:** • If the FILE parameter contains embedded spaces, you must use quotes around the entire parameter (for example, -FILE="C:\My Directory Structure\Out-

Command	Description
	📝 put File.Txt"). • If -FILE is omitted entirely, the default name is Proficy-Server-Device-Report_-<server-name>.txt or ProficyServer-License-Report_-<server-name>.txt • Both text and comma separated value reports are available, so the -FILE parameter can be either {File-

Command	Description
	📝 Name}.txt or {File- Name}.csv.
`-APPEND`	Appends a new report to an existing report file. You can apply -APPEND to either a license report (-REPORT=LICENSE) or a device report (-RE-PORT=DEVICE). 📝 **Note:** This parameter may be placed before or after the -FILE para-meter.

`-INPUTFILE=[Path]\Filename`	An INI-formatted file containing one or more servers to include in the output report. If INPUT-FILE is omitted, then the report uses the last con-nected server.
	
	The file must have the format:
	
	`[FNESERVERS]`
	
	`Count=2`
	
	`; each server has`
	
	`  the format of`
	
	`  Servern=url:port`

Command	Description
	``` ; url does not include the http:// prefix. ; Server0=localhost:3333 ; this list starts at 0 Server0=localhost:3333 Server1=192.168.0.1:3333 ``` The section and key names for all switches are case sensitive. To change the number of servers, change the Count parameter and add or remove Server= lines as necessary. **Note:** If the INPUT-FILE parameter contains embedded spaces, you must use quotes around the entire parameter (for example, -INPUT-FILE="C:\My Directory Structure\Server-List.ini")
`[-EXPIRE=X_NUMBER_OF_DAYS]`	For a device-type report, provides a list of licenses that will expire within the specified number of days for a device client.

Command	Description
	For a license-type report, provides a list of licenses that will expire within the specified number of days for all device clients.
`[-PERCENT_REMAINING=X_PERCENTAGE_OF_LICENSES_REMAINING]`	Reports on the percentage of licenses available for each product. The default is 20%.
`[-SERVER=SERVER_NAME]`	Reports on the specified server instead of the one you are currently using.
`[-PORT=PORT_NUMBER]`	Uses the specified port instead of the Local License Server default port of 3333.

Local License Server Settings Tool

Use the Local License Server Settings Tool to adjust the lease expiry period, set up email notifications for license expiry reports, device expiry reports, and license instance count reports, and check or reset the NIC MAC address settings.

During installation, the Local License Server Settings Tool is deployed on the same computer as the Local License Server, and must communicate with the GE Cloud License Server.

> **Note:**
> Only an administrator can access and use the Local License Server Settings Tool.

Modifying Lease Expiry Period

Use the Local License Server Settings Tool to indicate when leased licenses will expire.

1. In the Local License Server Settings Tool, select the **Lease Expiry** tab.
2. Enter your lease expiry period: Indicate the number of days when the licenses leased from your Local License Server will expire.

> ✎ **Note:**
> You can set your Lease Expiry period for a minimum of 7 days and a maximum of 54 days. The default is 21 days.

3. Select **Save**.

Setting Up and Sending Email Notifications

Using the **Email Notifications** page, you can set up the SMTP connection, compose the email notification structure, define when to be informed of license expirations and low instance counts, and indicate whether to be notified of a NIC MAC address change.

1. In the **Local License Server Settings Tool**, select the **Email Notifications** tab.
2. Select **Turn ON/OFF Email Notifications**.
   Email notifications are turned off by default as indicated by the red color.
3. In the **SMTP Connection** tab, enter the following information:
   a. **Server**: SMTP server URL or IP address.
   b. **Port**: SMTP server port.
   c. To set SSL authentication, select **Enable SSL**.
   d. To enable anonymous authentication, select **Anonymous**.
   e. If user credentials are required by the SMTP server, select **User/Password**, and then enter the user name and password.
   f. Select **Save**.
4. Select the **Email Set up** tab to define the following email components, set the time for sending email notifications, and then send a test email:
   a. **From**: Indicate the email address from which you are sending the email notifications.
   b. **Subject**: The application comes with a preconfigured subject that you can modify accordingly.
   c. **To**: Enter the email addresses to receive the notifications. You can send email notifications to multiple recipients by separating each email address with a semi-colon.
   d. **Message**: Enter the contents of your message.
   e. Set the hour and minutes for sending daily email notifications.
   f. Send a test email by selecting **Send Test Email**.
   g. Select **Save**.

5. In the **Other Settings** tab, do the following:

    a. Enter the license expiration days for the License Expiration Report and the Device Expiration Report.
    By default, your email notifications include licenses expiring in the upcoming 30 days in the License Expiration Report, and list clients with license leases expiring in the upcoming 15 days in the Device Expiration Report. These reports are sent daily at the time you specified in the **Email Set up** tab.

    b. To receive email notifications when the available licence instance count on any activation code reaches a certain percentage, enter this percentage in **Notify me if I am running low of license instances on an activation code**. For example, the default value of 20 informs you when the available license instances on an activation code reaches 20 percent or less.
    A value of zero does not send notifications. A value of 100 sends an email listing all license instances regardless of their availability status.

> **Note:**
>
> - Available licenses do not include reserved licenses. If you require more licenses on an activation code, clear some license reservations or add more licenses.
> - When there is only one license in use on an activation code, a notification is not sent.

    c. To receive email notifications of any NIC MAC address change, select the **Notify me if the NIC MAC address has changed** check box.

    d. Select **Save**.

Checking NIC MAC Address Settings

Although licenses leased and activated by your Local License Server are still valid, a change in the NIC MAC address (Server ID) prevents subsequent cloud-based activities, such as activating, returning, and refreshing licenses. You can check to see if the NIC MAC address has changed, and, if required, reset this address.

1. Select **Check Now** to see if the NIC MAC Address has changed since your last check.
If the address has changed, a message appears outlined in red showing the previous and current NIC MAC addresses, and the steps you must complete. If the address has not changed, a message appears outlined in green.

2. Select **Reset Value** to clear the original cached NIC MAC address value, and then reset it to the current NIC MAC address of the Local License Server.

   A message appears indicating if the NIC MAC address reset was successful.

Command-Line Operations

You can use the Server Console commands to activate and remove multiple license codes on the Local License Server.

To execute the Server Console, use the following syntax:

```
ProficyServerConsole.exe [-INIFILE=[PATH]file.ini] [-TIMEOUT=timeout]
```

> **Note:**
>
> Providing specifications inside [] is optional.

To view the Server Console command-line examples, enter the following command:

```
ProficyServerConsole.exe -Help
```

If an error occurs when running a command, an error code and message displays on the Server Console. For more details on an error, see the Server Console log file.

Adding Multiple Activation Codes

You can activate multiple license codes from the Local License Server using the Server Console Tool.

1. Open a command-line window with Administrator privileges.
2. Enter the command in the following format:

   ```
   ProficyServerConsole.exe [-INIFILE=[PATH]file.ini] [-TIMEOUT=timeout]
   ```

   > **Note:**
   >
   > For more information, see Server Console Parameters *(on page 137)* and Server Console INI File Format *(on page 138)*.

Removing Multiple Activation Codes

You can remove multiple license codes from the Local License Server using the Server Console Tool.

1. Open a command-line window with Administrator privileges.
2. Enter the command in the following format:

```
ProficyServerConsole.exe [-INIFILE=[PATH]file.ini] [-TIMEOUT=timeoutValue]
```

> **Note:**
>
> For more information, see Server Console Parameters *(on page 137)* and Server Console INI File Format for Removing Activation Codes *(on page 139)*.

Server Console Parameters

Use the Server Console parameters to specify timeout values and the location of the INI file.

The optional -TIMEOUT parameter uses the specified communications timeout period when connecting to the local license server and the GEIP Web Server. If your server communication is timing out or if you have a big list of codes to add to the local license server, you can use this command line option to increase the timeout period.

You can modify the -TIMEOUT parameter using the following syntax:

```
-TIMEOUT=timeout
```

> **Note:**
>
> The default timeout period is 30 seconds. You must specify a timeout value between 30 and 250 seconds. You can start with 60 seconds and increase the value by 30-second intervals, if needed.

The optional -INIFILE parameter specifies the filename and path of the INI file you are using to manage licenses.

You can modify the -INIFILE parameter using the following syntax:

```
-INIFILE=[PATH]file.ini
```

> **Note:**
>
> If you do not use -INIFILE, the tool looks for the filename "ProficyServerConsole.ini" in the current folder, and then in the My Documents folder.
>
> If you do not specify the [PATH] of the INI file, the tool looks in the current folder, and then in the My Documents folder.

Server Console INI File Format

You can create an INI-formatted file to specify the server connection and activation codes for the Server Console. You can add or remove licenses in the same INI file.

The following example illustrates how to format an INI file to manage multiple licenses:

```
[SERVERCONNECTION]

Address=localhost

PortNumber=3333

[ACTIVATIONS]

Count=3

ActID0=AAAA-AAAA-AAAA-AAAA::1

ActID1=BBBB-BBBB-BBBB-BBBB::3

ActID2=CCCC-CCCC-CCCC-CCCC::0
```

In the above example:

- There are 3 activations on the list
- The list starts at ActID0.
    ◦ The ActID0 code followed by (::1) will result in a final total of 1.
    ◦ If the server did not have this code, then the code will be added with an absolute total of 1.
    ◦ If this code already existed in the server before the request is made, the total will adjust to the quantity that was just requested.
    ◦ If the server already had the ActID0 code with a total of 3 before the ActID0=AAAA-AAAA-AAAA-AAAA::1 request, then 2 quantities of the code will be removed to adjust to the absolute total of 1.
- The second activation on the list is ActID1
    ◦ The ActID1 code followed by (::3) will result in a final total of 3.
- The third activation on the list is ActID2.
    ◦ The ActID2 followed by (::0) will result in a final total of 0.
    ◦ All quantities of this code are removed and the code is deleted from the local license server.

Use the following tables to format information about the Local License Server:

Specification	Description
Address=local-host	Type "localhost."

Specification	Description
	Note: At this time, the Server Console only supports "localhost" for the server address
PortNumber=3333	The default port is 3333. Enter your server port number if your local license server is configured for something else.

This table explains how to format activation information.

Specification	Description
Count = n	The count indicates the total number of activations in the list. It includes the activations you are adding as well as those you want to remove
ActID0=AAAA-AAAA-AAAA-AAAA::1	Where AAAA... is your activation code and 1 is the total requested for this particular code.
ActID1=BBBB-BBBB-BBBB-BBBB::3	Where BBBB... is your activation code and 3 is the total requested.
ActID2=CCCC-CCCC-CCCC-CCCC::0	Where CCCC... is your activation code and 0 is the total requested.

Server Console INI File Format for Removing Activation Codes

You can use the Server Console INI file to remove activation codes from the Local License Server. You can also remove all quantities of a code and delete the code from the Local License Server.

To remove all quantities of a code and delete the code from the local license server, the total request must be 0.

The following example illustrates how you can format an INI file to create a removal request:

```
[SERVERCONNECTION]

Address=localhost

PortNumber=3333

[ACTIVATIONS]
```

```
Count=1

ActID0=AAAA-AAAA-AAAA-AAAA::0
```

For more information about formatting server and activation specifications, see Server Console INI File Format *(on page 138)*.

Checking NIC MAC Address Changes using the Command Line

You can use the command line to check for any changes made to the Local License Server ID/NIC MAC address.

This command runs immediately and displays a message in the command line window.

1. Open a command-line interpreter window with Administrator privileges.
2. Enter the following:

```
"c:\program files (x86)\Proficy\Proficy License Server\ProficyLicenseReport.exe" –VALIDATESERVERID
```

Adding License Server Tool using Command Line

You can use the command line to add License Server Tool.

This command runs immediately and displays a message in the command line window.

1. Open a command-line interpreter window with Administrator privileges.
2. Enter the following:

```
ProficyServerConfigurationInstaller.exe/quiet/nomsg
```

Installing the Local License Server

You can install the Local License Server using the command line.

1. Open a command-line interpreter window with Administrator privileges.
2. Enter the following command:

```
start /wait ProficyLicenseServerInstaller.exe /s /v"/qn"
```

Uninstalling the Local License Server

You can uninstall the Local License Server using the command line.

1. Open a command-line interpreter window with Administrator privileges.
2. Enter the following:

```
start  /wait ProficyLicenseServerInstaller.exe /x /s /v"/qn"
```

Chapter 7. USB keys

USB Key Overview

Licenses can be activated and maintained on GE USB hardware keys. There are two types of hardware keys:

- Non-configurable GE USB hardware key
- Configurable GE USB hardware key (legacy)

Non-configurable GE USB hardware key

Non-configurable GE USB hardware keys or M5 Keys are pre-loaded with the licensing information for your products. You cannot modify the licensing information contained in these keys. However, if you need additional licenses, you can purchase them from GE and then re-flash keys with a GE-supplied image file that overwrites all existing information and replaces it with updated licensing information.

Configurable GE USB hardware key

Configurable GE USB hardware keys will continue to be supported by GE. These configurable keys are plugged into computers connected to the Internet in order to activate licenses on them.
Once activated, a USB key can be used to license a physical or virtual computer that does not need to online. However, changes, upgrades, or returns require the key to be plugged into a computer connected to the Internet so the GE Licensing Server can be accessed.
The final legacy licensing option, Keyless software licenses, continues to be supported by GE but will eventually be phased out.

Configurable GE USB Keys

Using a Configurable GE USB hardware key is another option for licensing your GE software product.

> **Note:**
> If you are using a Configurable GE USB hardware key, be sure to install the Licensing Software before you plug in the hardware key for the first time on your machine. This will install the necessary device drivers and allow the system to recognize and configure the hardware key correctly when it is plugged in. It may take a few minutes for the system to configure the hardware key for the first time, before it is ready to be used.

The Configurable GE USB hardware key that is currently offered supports USB port configurations. The key you use to run your product:

- Controls and enables software options available to your installation.
- Uses a utility to electronically reprogram options you choose to upgrade or change.

If a license key is not installed or found, your product will run in demo mode for two hours.

> ✏️ **Note:**
>
> - In some cases, an electronic file update is not available for reprogramming your key.
> - You can exchange the older key by contacting your sales representative.

Be sure to file your Configurable GE USB hardware key packing slip in a safe location. The codes on this slip are necessary for GE to quickly duplicate the key in case it is damaged or misplaced. You can verify that your serial number matches the serial number on the hardware key packing slip by using the License Viewer utility to detect and display your hardware key settings.

Configurable GE USB Key Installation

If a Configurable GE USB hardware key is included with your GE software product, you must install your licenses from the hardware key in order to access all the components of the software you purchased.

Typically, you install your licenses from the hardware key as you install the software. If you are upgrading from a previous version, you usually run the electronic licensing update file for your key before installing the newer version of your product.

If you insert the key after you install your software, it should be detected automatically when the application is started for the first time. It is recommended that you shut down your computer before plugging in a new key.

> ✏️ **Note:**
> Do not remove the key while your product is running. If you do so, the product features shut down and you must restart the software. You may also damage the key if you remove it while the product is running.

GE only supports hardware keys plugged directly into a computer. At this time, GE does not support hardware keys connected through an external USB hub.

On new installations, you must install the Licensing Software before you plug in the hardware key for the first time on your machine.

Replacing Defective Configurable GE USB Keys

A defective Configurable GE USB hardware key causes your GE software product to run in demo mode. Make sure the key is firmly inserted into your USB port before assuming it is defective. Additionally, if the indicator light at the end of the key is off, then the key is not communicating correctly. You can also use the License Viewer to determine if the key is defective. If your key is defective, the License Viewer does not display the proper enabled options, or an error message stating that a hardware key is required to view the enabled options may appear.

GE replaces defective keys as quickly as possible. To obtain a replacement hardware key:

1. Call your local GE technical support representative.
   The support representative will instruct you to FAX a completed copy of a Merchandise Return Authorization form. After receiving the form, GE can program a new hardware key and send it to you overnight.
2. When you receive the hardware key, you must return the old one along with a copy of the form sent with the new key.

> **Note:**
> GE reserves the right to invoice you for defective keys that are not returned.

Chapter 8. FAQs and Troubleshooting

How can I troubleshoot technical issues with my license activation?

The following are suggestions you can try to resolve the issue or isolate the problem:

- Make sure you have the latest version of Common Licensing Review the License Documentation and visit https://www.ge.com/digital/licensing-and-product-authorization for more information
- Use the Support Knowledge Base at https://digitalsupport.ge.com/communities to research the issue
- Contact Technical Support at https://digitalsupport.ge.com/communities/CC_Login to create a technical support case

How do I log in to the GE Digital Support website?

In order to download Common Licensing, you are required to log into the GE Digital support site with an SSO (Single Sign On) ID. You need to register for an SSO account (click the 'Register' link on webpage), or contact Sales Support to help set up your SSO account.

> **Note:**
> This is a different login than the one used to log cases at the Customer Center (https://digitalsupport ge com/communities/CC_Login).

How do I get an emergency activation code or license?

If you have a plant-down situation, GE Digital can issue a temporary activation code or license that can be installed immediately on your computer. Contact Sales Support for assistance, or if the issue occurs outside of business hours, contact Technical Support. Visit https://digitalsupport.ge.com/communities and click Contact Us for support phone numbers.

What are the Rules for Using Licenses in a Virtual Environment?

The License Client supports virtualization for both local license server-based licenses and GE hardware keys.

If you are using GE hardware keys in a virtual environment:

- When mounting USB devices from the client side and not using the physical host USB ports, the USB storage device should be mounted before the GE hardware key.
- If you are mounting more than one SafeNet USB Key at a time, wait for the first SafeNet Key to successfully connect to the virtual machine before mounting additional keys.
- If you are activating a blank GE hardware key for the first time, activate the key outside of the virtual machine before using it in a virtual environment.

- Software-based licenses do not work in virtual environments.
- Hardware-key licenses can be used in virtual environments.
- Local license server-based licenses can be used in virtual environments.
- The local license server can run on either a physical machine or a virtual machine.

> **Note:**
>
> Hardware-key licenses are not supported for license-server configuration.

Licensing Virtual Machines

Use a host personal computer as the Local License Server to license virtual machines (VMs). This is particularly useful when your PC has multiple product software versions, each running on a unique VM.

The host PC must be connected to the internet for the initial licensing of the Local License Server from the GE Cloud License Server. After the license is activated, the host PC does not need to stay connected. The VM computer then connects to the host PC using its hostname to check out the license for its own use. Alternatively, you can activate licenses through the offline process. The Local License Server help has details on how to do this.

If multiple VMs are running concurrently, you will need multiple licenses from the Local License Server. If only one VM is in running, you can check out the license and return it to the Local License Server when done. You can then launch the second VM and check out the same license. If you do not release the license, there is an expiration date when the lease is automatically returned to the host PC. You configure this date in the License License Server Settings tool in the host PC. The default is 21 days.

1. In the host PC, run Common Licensing and do the following:

    a. Select **Install Local License Server**.

    b. Select **Install License Server Tools**.

    c. Launch the Local License Server Administration Tool.

      d. Add a license to the server by selecting **Add Licenses** on the **Licenses** tab.

      e. Enter the activation code of the license and select **Next**.
         The license is retrieved from the GE License Server and stored in the host PC (Local License Server).

      f. Verify the license was transferred to the host PC by selecting **View Licenses**.

      g. Specify `hostname` in the command prompt to determine and record the host PC name. In the following example, the host PC name is A-Computer.

```
C:\Users\aUser>hostname

A-Computer
```

2. In the VM computer, do the following:

      a. Ping the host PC in the VM command prompt to verify connectivity, as shown below.
         C:\Users\aUser>ping A-Computer
         When connected, replies from the host PC appear.

      b. Run Common Licensing and select **Install License Client**.

      c. Launch the Local License Client in the VM.

      d. When prompted to activate the license in the **Activate Licensing** tab, select option 2 (Yes, for this computer from a local license server).

      e. In the next screen, change the value in the **Local Server connection URL** field to http://<host PC name>, such as https://LicenseServer.GE.com, select **Display Available Licenses**, select the license, and then select **Activate**.

      f. Verify the license exists in the client in the **View Licenses** tab.
         After the lease expiration date, you may need to reconnect to the host PC to check out its license.

Can I Run the Licensing Client in a Virtual Environment on a Macintosh?

You can run the Licensing Client in a Virtual Machine environment on a Macintosh computer.

The following tests have been performed for this configuration:

- Connectivity to the GE Cloud License Server.
- Changing logging level to `debug`.
- Leasing licenses from a Local License Server.
- Cleaning and refreshing leased licenses.
- Viewing licenses from a pre-configured license key.
- Generating an error if too many hardware keys are inserted.
- Displaying licenses after removing hardware key.
- Returning leased licenses to a Local License Server

> **Note:**
>
> If you run the License Client on a Virtual Machine, you cannot activate licenses directly from the GE Cloud License Server or on a GE USB Hardware Key.

Local License Server Does Not Return Error Responses

When the local license server does not return error responses, no licenses are changed on the server.

The Local License Server may not return error responses if: .

- There is a Local License Server that already has licenses assigned.
- A request is generated to add or remove licenses.
- The request contains an error that the server cannot process.

More Licenses are Allocated to Clients than are on the Local Server

The following scenario demonstrates how to recover if more licenses are allocated to clients than are on the local server:

1. The Local License Server is charged with the following licenses:
   - License A - 1 total license
   - License B - 2 total licenses
2. Client A activates 1 copy each of License A and License B.
3. Client A gets its licenses returned (for example, because CCFLIC0 expires and is not renewed).
4. Client B activates 1 copy each of License A and License B.
5. Client A attempts to refresh its License A and License B.

Issue/Error Title/Error Category

Client A will get License B, but will fail with License A because they have all been activated. Client A is notified of this by a "Feature Count insufficient" pop-up. The problem is that Client A will now show no licenses in the License Client (while it appears that Client A should have a License A as well as License B).

CauseAll of the total licenses for License A have been activated.

SolutionThe solutions depend on which clients should have the licenses:

Table 3.

Scenario	Solution
Allow both Client A and Client B to have both licenses	1. Charge the local license server with another copy of License A. 2. Refresh Client A.
Allow only Client A to have the licenses	1. Return both licenses from Client B. 2. Refresh Client A.
Allow only Client B to have the licenses	1. Return License A from Client B. 2. Refresh Client A. 3. Reactivate License A from Client B.

Updating Common Licensing: USB Key Not Recognized

Rebooting the computer after removing hardware keys can help the License Client recognize the keys during the upgrade process.

The following actions may be required when updating the licensing application:

- Remove any hardware keys before installing or upgrading.
- If the License Client does not recognize the key:
    1. Unplug the hardware key.
    2. Reboot the computer.
    3. Plug in the key.

The licensing application should then recognize the hardware key.

When can I plug in the hardware key?

You must install the Licensing Software before you plug in the hardware key for the first time on your machine. This will install the necessary device drivers and allow the system to recognize and configure the hardware key correctly when it is plugged in.

It may take a few minutes for the system to configure the hardware key for the first time, before it is ready to be used

Troubleshooting USB Hardware Installation

The License Client requires between 20 and 60 seconds to recognize and read a GE USB hardware key. The USB icon in the footer indicates the status of the hardware key. If no hardware key is detected, the icon is not illuminated. If the hardware key is detected and successfully read, the icon is illuminated. If the key is detected but has not been successfully read and is unable to interact with the License Client, the icon is illuminated with a red slash.

> **Note:**
>
> - When you plug in the hardware key, an alert message may be displayed indicating that the computer is interacting with the hardware key, and the License Client does not automatically refresh.
> - On some older Windows operating systems, when you plug in the hardware key, there is no indication that the License Client is interacting with the hardware key, and the License Client does not automatically refresh.
>
>   In both of these cases, you may need to click the Refresh Data button on the View Licenses page to display the license information from the hardware key.

Adding a Dependency for hardware keys

If you have startup issues when using a hardware key, you can add a dependency on the **hasplms** service. If you are using Sentinel, refer to Adding Sentinel Dependency *(on page 91)*, or if you are using Wibu, refer to Adding Wibu Dependency *(on page 92)* topic for more information.

For any other GE software products starting as a system service (such as iFIX, CIMPLICITY, and Historian) and for the IGS driver, you should add dependency to **Proficy Licensing** service.

Changing the Default Local License Server Port

The default port for the Local License Server is 3333.

If you are having issues with the default port, you can change it by following this procedure.

1. In the Local License Server Administration Tool, select the **Server Operations** tab.
2. Select **Edit Connection Settings**.
3. Enter the new server port number.
4. Select **Save**.

Changing the Default Port that Checks for NIC MAC Address Changes

The default port number to check for a change in the Local Server License ID/NIC MAC address is 33331.

If you are having issues with the default port, you can change it by following this procedure.

1. Navigate to `C:\Program Files (x86)\Proficy\Proficy Common\Proficy Common Licensing\Proficy License Server Configuration\LLSAdminTool.exe.config`.
2. Edit the 33331 value in the `ServerHelperPort` setting of the `LLSAdminTool.exe.config` file:

   ```
   <setting name="ServerHelperPort" serializeAs="String">

      <value>33331</value>

   </setting>

   <setting name="CheckServerIdChanged" serializeAs="String">

      <value>True</value>

   </setting>
   ```

3. Save the file.

What to Do When the LLS NIC MAC Address Changes

Licenses leased and activated by your Local License Server are still valid in the event of a NIC MAC address (Server ID) change. However, a NIC MAC address change prevents subsequent cloud-based activities, such as activating, returning, and refreshing licenses.

You can do one of the following:

- Revert back to the original NIC MAC address.
- If you rebuilt the server and do not need to reclaim any license codes from the original server, you must remove all licenses from the Local License Server, as explained in Cleaning Licenses on the

Server *(on page 123)*, and then reset the cached NIC MAC address value, as explained in Setting Up and Sending Email Notifications *(on page 134)*.

- If you rebuilt the server and must reclaim license codes from the original server, contact GE Customer Support.

What do the lights at the end of the hardware key indicate?

For keys with a single light, the light indicates that the key and the software are communicating. If this light is off, it indicates a problem with the key or the hardware driver.

For keys with two lights, the red light indicates that the computer sees the key. If the light is off, it indicates a problem with the key or the hardware driver. The blue light, when flashing, indicates that data is being sent between the computer and the key.

If I move the hardware key to another port, is it automatically detected?

Yes. The hardware key is automatically detected when moved to another USB port. No additional screens requesting software installation will appear.

Managing Licenses when your Network Proxy Server Requires Credentials

If your proxy server requires credentials, a License Client cannot communicate with it. In this case, do one of the following to manage licenses:

- Ask your corporate IT department to adjust the network server/firewall settings to communicate with the GE Cloud License Server.
- If you have another computer to communicate with the GE Cloud License Server, perform offline activation.
- Stop the License Client application and run the License Manager application, as explained in the following procedure. You cannot run these applications at the same time.

1. Launch the License Manager from `Program Files(x86)\Proficy\Proficy Common\Proficy Common Licensing Proficy\ProficyLicenseViewer \ProficyLicenseManager.exe`.
   The Common License Manager appears.
2. Click **Manage Licenses**.

3. Select **Activate License** or **Return License**.

    A window appears requesting the credentials to your proxy server.

4. Enter your username, password, and domain (if applicable).

> ✎ **Note:**
>
> For information about domain credentials, contact your corporate IT department.

For more details, see the License Manager log file in your `My Documents` folder.

Setting the Security Protocol in Commands

You can set TLS (Transport Layer Security) 1.1 or TLS 1.2 as an option in any of the Local License Server commands.

To set TLS as the security protocol, specify `-TLS11` or `-TLS12` in the command.

How to Download the Latest Licensing Software

The steps that follow describe how to download the latest Proficy Licensing software. Typically, you can download licensing software from the link and instructions provided in the order email. Otherwise, if you have an active Support contract, you can also download the licensing software from the link on the GE Digital Knowledgebase: https://digitalsupport.ge.com/communities/en_US/Article/GE-Software-Product-Licensing.

Download from the Order Email

1. Select the link in the email from GE Digital to access the web site.
2. Login using the same e-mail address that the activation codes were sent to. After a successful login, you will be navigated to the **Software Order Download** page, that includes **Product List**, and a link to **Proficy License Installer**.
3. Select **Proficy License Installer** from **Other helpful links**. The **GE Licensing Installer** page that contains Common Licensing software appears.
4. Double-click `CommonLicensing<version>.exe` to start the licensing download.

Download from the KB Article

1. Navigate to the following KB article either from a web browser:https://digitalsupport.ge.com/communities/en_US/Article/GE-Software-Product-Licensing.

   The **GE Software Product Licensing** page appears.

2. Click the green button next to GE Common Licensing Installer title (the second major title on the page), as shown in the following figure.

Click the green button for the latest version of Common Licensing.

GE Common Licensing Installer

Useful External Links:

- *Licensing How-To Videos*
- *Licensing Activation Options*

3. Enter your customer login ID and password.
4. Click the **CommonLicensing_vX.X.exe** file to download the installer.

> **Note:**
>
> For steps on how to install, see Step 2: Install Licensing Software *(on page 14)*.

Error Messages

Visit https://digitalsupport ge.com/communities/CC_Login to create a Technical Support case.

What does "activation ID count exceeded" mean?

You will receive this error if you try to use an activation code that is already in use on another computer To resolve it, locate the computer that has the license in use and use License Client to Return the license Then it will become available for use elsewhere If you are unable to return the license because of a hard failure, contact Technical Support and they can assist you in recovering your licenses.

What does "storage binding break found" mean?

You will get this error message if you have changed the computer name, NIC.

To resolve this issue, contact Technical Support and they can assist you in recovering your licenses

As a best practice, if you know you are going to be making changes to your machine (e g , rebuilding, changing machine names, changing NICs), we recommend using the Return feature in License Client to return your activation prior to making changes, then re-activating after the changes .

What does "activation ID ownership mis-match" mean?

Each activation code is associated with your CSN (Customer Service Number). Each machine can only be associated with one CSN. When you activate licenses to the GE Digital Cloud License Server, your machine will be assigned a CSN. If you then try to use another activation code that is associated with a different CSN (even if you had returned the previous license), you will get this error message.

To resolve this issue, contact Technical Support and they can assist you in associating your machine with the correct CSN

Why am I getting an "option is not enabled" error?

This error can occur if:

- You are trying to use a feature or product and do not have that option enabled on your license.

  Use the License Client to verify the options available on your license If you need to add options, contact Sales Support or your local representative

- You do not have the latest version of Common Licensing.

  There may be discrepancies between the options on the license and how the older version of Common Licensing is interpreting them. Install the latest version of licensing from https://www ge com/digital/licensing-and-product-authorization.

- You have installed the latest Common Licensing software and verifed that you have the option in License Client.

  There could be an issue with the license configuration that needs to be corrected by GE Digital. Contact GE Digital Technical Support for assistance

How to troubleshoot a 0x70000034 error message?

When you try to activate a license on a client machine from a local license server, you may encounter a 0x70000034 error and the license activation fails.

The following are the conditions and the corresponding solutions to troubleshoot the error:

Condition 1

You have installed the license server on a virtual machine, and you have copied the virtual machine to a new host.

Solution 1

Contact the technical support to reset the device ID. The license can be re-activated on the virtual machine with the new server ID.

Steps to avoid this error:

1. Return the license from the local license server to the GE cloud server prior to moving the virtual machine to a new host.
2. Install the local license server on the new host.
3. Re-activate the license from the GE cloud server to the local license server using the standard procedure for adding a license to a local license server.

Condition 2

You have remapped the virtual machine Network Interface Card(s) (NIC) to new NIC cards on the host PC.

Solution 2

Change the virtual machine settings back to use the original NIC card. You can use the `ProficyServerConfiguration.log` file located in the `users\Documents` folder to determine the previous NIC card. The server ID is generated from the first NIC card listed in the binding order under **Control Panel > Network and Internet > Network Connections > Advanced > Advanced Settings** options.

Condition 3

You have the local license server installed on a machine with multiple NIC cards and the binding order of the network cards has changed.

Solution 3

Use the log file to determine the NIC card that was used to generate the server ID. In the `ProficyServerConfiguration.log` file, search the file for server ID. If more than one server ID is found in the log file, it is an indication that the server ID has changed. From the log file, determine the NIC card that is listed first in the binding order.

> **Note:**
> The server ID will match the **MAC Address** of the NIC card.

Examples for log file listings:

- NIC: E8B1FC4F2F08 Bluetooth Device (Personal Area Network) #3
- NIC: 00FFE6E35B6B VirtualBox TAP Adapter
- NIC: 54EE75148BA9 Intel(R) Ethernet Connection I217-LM

- NIC: 005056C00001 VMware Virtual Ethernet Adapter for VMnet1
- NIC: 005056C00008 VMware Virtual Ethernet Adapter for VMnet8

If the server ID was originally 54EE75148BA9, you can see that the server ID was generated when the Intel NIC card was first listed at the top of the binding order. Since the binding order has changed, the server ID will be listed as E8B1FC4F2F08. To change the server ID, change the binding order of the network cards, then reboot your system. If none of the above solutions work, please save a copy of the *.log files located in the `users\Documents` folder and contact GE technical support for further assistance.