



PSCAD™

PSCAD Version 5 Setup Manual

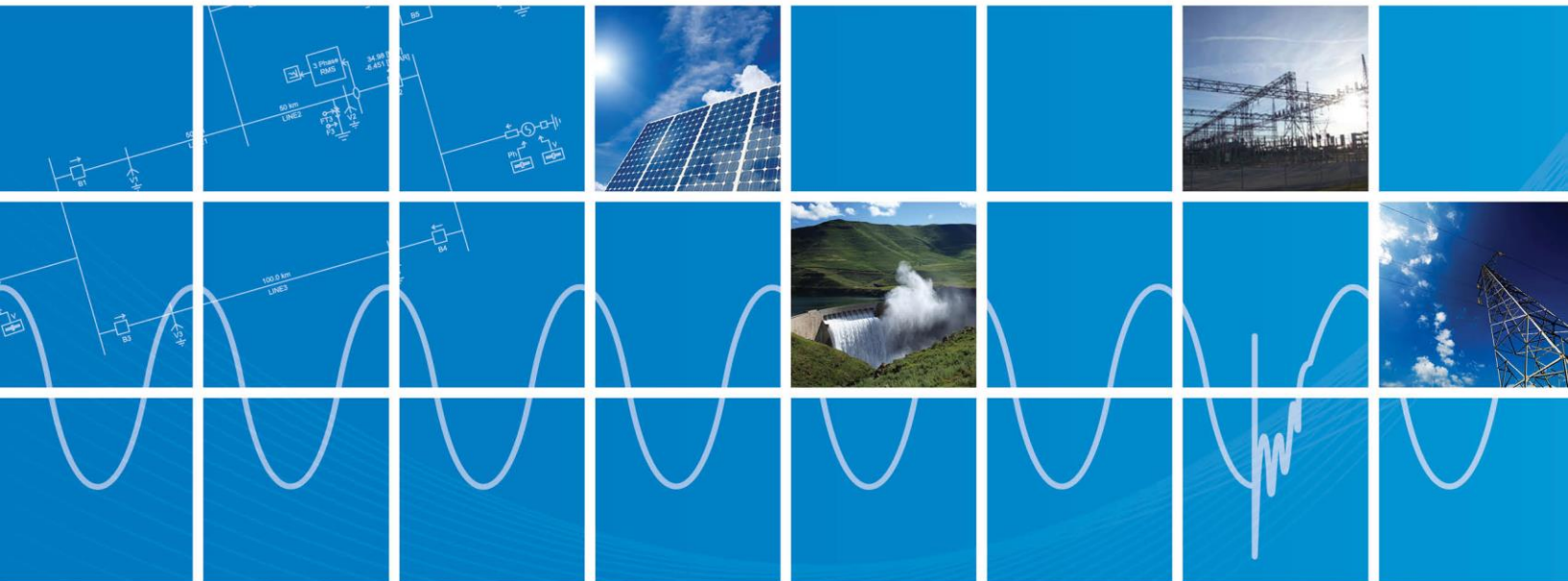
Written for the following products:

PSCAD, Enerplot, PRSIM, the PSCAD Initializer, GFortran, License Manager

Written for the following licensing types:

Certificate Licensing, Legacy Lock-Based Licensing

April 8, 2021
Revision 3



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1. Introduction

1.1. Scope

This manual provides setup instructions for the following software:

- MHI products:
 - PSCAD Version 5.0.0, Professional and Educational Editions
 - Enerplot v1.0.0
 - PRSIM v1.0.0
 - PSCAD Initializer v1.0.0
- Peripheral Software:
 - Python v3.7.8
 - GFortran compilers v4.6.2 and v8.1
 - Standalone License Manager v1.45
 - Sentinel Drivers 7.6.0
 - Prerequisite software (Microsoft Visual C++ Redistributables and .NET Framework)

For details on the above software, please refer to Section [1.2](#).

Both types of MHI licensing are covered in this manual, *Certificate* Licensing and *Legacy Lock-Based Licensing*. For details on licensing as well as applicable software, please refer to Section [1.3](#).

1.2. Software

This section provides a description of the software.

1.2.1. PSCAD

PSCAD (Power Systems Computer Aided Design) is a powerful and flexible graphical user interface to the world-renowned, EMTDC electromagnetic transient simulation engine. PSCAD enables the user to schematically construct a circuit, run a simulation, analyse the results, and manage the data in a completely integrated, graphical environment. Online plotting functions, controls and meters are also included, enabling the user to alter system parameters during a simulation run, and thereby view the effects while the simulation is in progress.

PSCAD comes complete with a library of preprogrammed and tested simulation models, ranging from simple passive elements and control functions, to more complex models, such as electric machines, full-

on FACTS devices, transmission lines and cables. If a required model does not exist, PSCAD provides avenues for building custom models. For example, custom models may be constructed by piecing together existing models to form a module, or by constructing rudimentary models from scratch in a flexible design environment.

An Automation Library (AL) was developed in Python to interface with PSCAD. This library interface allows users to call PSCAD functions from a custom script. Python is installed alongside PSCAD as per Section 2.2.2. Scripting information is available on this [webpage](#).

1.2.1.1. PSCAD Editions

Released editions of PSCAD include the Professional and Educational editions. The Professional edition is the fully-featured edition. The Educational edition contains the same features as the Professional edition, but with some limitations. For comparison information, please refer to this [article](#).

Unreleased editions include the Beta Edition which is used for testing upcoming releases, and the Free Edition which has fewer features and more limitations than the Educational edition.

1.2.2. Enerplot

Enerplot is an automatable software tool used for displaying and analysing simulated and measured data, in an offline environment. Please refer to this [article](#) for details.

1.2.3. PRSIM

The PRSIM tool converts power system data from PSS/E or PowerFactory to PSCAD. Please refer to this [article](#) for details.

1.2.4. The PSCAD Initializer

An Electro Magnetic Transient (EMT) program such as PSCAD simulates a behaviour of a power system network after a disturbance, such as fault or circuit breaker operation. During this short period, the system gradually changes from one steady state behaviour to another.

The purpose of the PSCAD Initializer is to set up the proper power flow conditions (e.g. correct voltage and angles at buses, active, reactive power flows between buses, etc.), prior to the disturbance. This involves solution to the power flow equations and setting up the correct parameters of generators, sources in PSCAD, etc.

1.2.5. Fortran 95 Compilers

A third-party compiler is required for building PSCAD projects. PSCAD supports the two free GFortran compilers that come bundled with the PSCAD installer. PSCAD also supports the commercially available Intel® Parallel Studio Composer Edition for Fortran for Windows, recommended over GFortran for

building large, complex systems. If using the Intel compiler, another third-party software is also required, Microsoft® Visual Studio. To help with determining the most suitable compiler, please refer to this [article](#).

GFortran 4.6.2 (32-bit) is supported with PSCAD 4.6.0 and newer, while GFortran 8.1 (32-bit and 64-bit editions) is supported with PSCAD v5.0.0 and newer. These compilers comply with the American National Standards Institute, ANSI 95. These software may be installed separately (Section [2.3.2](#) and [2.3.3](#)) or alongside PSCAD (Section [2.2](#)), and do not require any licensing.

For the Intel compiler, information on software selection and setup instructions are available in the following articles:

- [Selecting the Intel compiler version and license type](#)
- [Selecting the Visual Studio version and edition](#)
- [Setting up the Intel compiler](#)

Once PSCAD and the compiler are installed, your [setup should be tested](#) before building your own projects.

If you have any compiler selection or setup questions, please forward your questions to the MHI [support desk](#).

1.2.6. Standalone License Manager (Lock-Based Licensing)

The License Manager is a custom service developed by MHI for managing a lock-based license when any of the following conditions apply:

- The license will be shared with client computers over the network; and/or
- The license contains more than one PSCAD seat; and/or
- A V5 lock-based license will be used to run certain earlier versions of PSCAD as specified in Step 1 of this [article](#).

The license manager is installed on the machine that is hosting the license, either the license server or the client machine. Refer to Section [1.3.3](#) for further details.

1.2.7. Sentinel Drivers (Lock-Based Licensing)

Sentinel drivers are third-party software that are used in the authorization of lock-based licensing. The Sentinel drivers provide communication between the USB lock and either the standalone License Manager or PSCAD embedded license manager, as applicable.

Sentinel Driver installer v7.6.0 is provided with both PSCAD v5.0.0 and License Manager v1.45 (and should also work with previous versions of PSCAD and License Manager).



1.2.8. Microsoft® Prerequisite Software

The required versions for the following prerequisite software is specified in Section [2.1.3](#):

- Microsoft® Visual C++ Redistributables
- Microsoft® .NET Framework

If the installer detects that this software is not installed, you will be prompted to authorize the installation.

1.2.9. Python

This third-party software can be installed alongside PSCAD or Enerplot, to be used for scripting.

1.3. Licensing

1.3.1. Overview

Two types of licensing are available with the MHI products, Certificate Licensing and Lock-based licensing. The following chart specifies the applicable licensing for each product:

Software	Certificate Licensing	Legacy Lock-based Licensing
PSCAD (Edu and Pro)	✓	✓
Enerplot	✓	X
PRSIM	✓	X
PSCAD Initializer	✓	X
GFortran ^[1]	n/a	n/a
License Manager ^[1]	n/a	n/a

1. Not licensed

1.3.2. Certificate licensing

Certificate licensing, also known as Advanced Licensing or Internet Licensing, is available for PSCAD, Enerplot, PRSIM, and the PSCAD Initializer. Login credentials in an Internet-based user portal called MyCentre are used to authorize licensing, and a temporary certificate to run the software is checked out from the MHI server onto the client machine.

When a certificate is checked out to a member, it may either be retained on that computer when the application is exited, or returned to MyCentre so that another user may check it out. If the certificate is retained, it will initially be valid for a four-week period; this period will then be refreshed to a new four-week period whenever the application is re-launched with Internet access. The benefit to retaining a

certificate on a machine is that the application may be run for up to four weeks without requiring Internet access, making it portable.

If the certificate is returned to the MHI server, it will be available for another user to activate.

The license for the certificate is held within MyCentre in a special grouping called a “workgroup”. A workgroup contains products, such as certificate licensing and software downloads, and can be linked with the MyCentre user accounts of authorized members.

When licensing will be shared among many users within one workgroup, access to a workgroup may be controlled by a designated person (or people) within the organization. The designated person is referred to as the “WorkGroup Administrator” (or “Local Administrator” or “Administrator”). In addition to adding and removing member access to the workgroup, the workgroup administrator may also designate other members as additional administrators.

For instructions on using MyCentre, please refer to this [article](#).

1.3.3. Legacy Lock-Based Licensing (PSCAD)

Legacy lock-based licensing uses a combination of USB hardware lock (dongle) and license database file to authorize licensing. The USB lock is a device that plugs into a standard USB port. The license database file is generated and saved to the license host computer using a licensing utility and license text file. The standalone PSCAD License Manager software is also installed and used to manage a license if applicable, as specified below.

Each license is encoded as follows:

- **Version:** A “PSCAD V5” license is applicable for licensing PSCAD V5, as well as v4.2.1 (2007 with 2020 Update) and v4.6.3 (Update 4+).
- **Edition:** The Professional edition is the fully-featured edition. The Educational edition contains the same features as the Professional edition, with some limitations. A comparison of the two editions is provided at this [link](#).
- **Seats:** The number of seats represents the total number of instances of PSCAD that may be launched. If the license contains two or more seats, the standalone License Manager is required to be installed alongside the license.
- **Expiry:** Licensing may be permanent or temporary (e.g. leased).

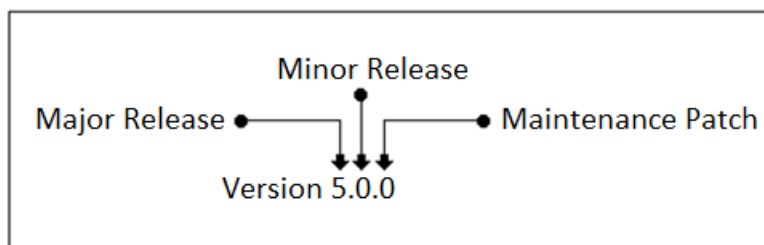
Lock-based licensing may be set up for either local self-licensing or network licensing.

For local self-licensing, the USB lock and license database file are hosted on the machine running PSCAD. Multiple machines may host the license in turn; the USB lock is simply plugged in on the machine running PSCAD at the time. If the license contains two or more seats, the License Manager software must be installed and running on the PSCAD client machine alongside the license.

For network licensing, the USB lock, license database file, and License Manager are hosted on the organization’s server, and licensing is shared with client machines over the network. Network licensing can also be shared over the Internet with remote client machines using VPN as long as Internet connection is constant and reliable.

1.4. Release Numbering System - PSCAD

PSCAD releases are identified by a numbering system, which is used to designate the release type. There are three types of releases as shown:



- A “Major Release”, for example Version 5.0.0, contains a significant number of new features and functionalities, such that it warrants a brand new product. These types of releases normal occur every several years.
- A “Minor Release”, for example, 5.1.0, typically provides a handful of new and enhanced features, but not enough to justify a new product. Minor releases may be released yearly.
- A “Maintenance Patch”, for example, 5.1.1 is purely a bug fix release. Maintenance patches may be released more than once per year.

1.5. Changes to the Software

All changes made since to the software since v4.2 are posted to this [webpage](#).

1.6. How to Use this Manual

Section 2 provides instructions for installing software. This includes instructions for normal (single) installations, as well as for silent (unattended) installations when installing on multiple machines.

Section 3 provides instructions for launching your software, which can vary depending on product and method of installation.

Section 4 is specific to certificate licensing only, and includes instructions for configuring, activating, sharing, and releasing your certificate.

Section [5](#) is specific to lock-based licensing only, and includes instructions for installing, activating, replacing, updating, sharing, and moving your license.

Section [6](#) provides instructions for removing your software.

Section [7](#) provides instructions for obtaining assistance if any issues are encountered during your setup.

Appendix [A](#) provides information related to setting up network licensing using your lock-based license. Instructions for configuring the License Manager Setup Tool to manage the license is included, and is used in conjunction with License Manager setup instructions in Section [2.3.1.2](#).

Appendix [B](#) provides references for new users.

1.7. Quick Start Instructions

This manual provides detailed instructions for software setup and licensing. For brief sets of instructions, refer instead to the “Quick Start” documents available in the following articles:

- [Lock-based Licensing](#)
- [Certificate Licensing](#)



2. Installation

2.1. Overview

2.1.1. Installers

There are two methods for installing MHI products and peripheral software:

- PSCAD Installation Package:** The PSCAD Installation Package includes a multi-product installer, which can be used to install all products and peripheral software (Section 2.2). The PSCAD Installation Package also includes individual installers, to install select products (Section 2.3). Two installers are used in this package, the InstallShield Wizard and the Installer utility.
- MyUpdater:** MyUpdater is a software deployment utility that is installed on the client machine, and is used to install, launch, update, and remove software. Many products are available for deployment using MyUpdater. See Section 2.4.

In addition to the above “single” installations, “silent” (unattended) installation is also available, for quickly installing software on numerous computers. See Sections 2.5 and 2.66.

2.1.2. Determining your Installation

The following table may help with determining which products should be installed. Refer to Section 1.2 for details on these products.

PSCAD	MHI Products				GFortran Compilers		Python	Sentinel Drivers	Microsoft Prerequisites ^[7]	
	Enerplot	PRSIM	PSCAD Initializer	License Manager	v4.6.2	v8.1	v3.7.8	v7.6.0	Visual C++ Redistrib.	.NET Framework
[1]	[2]	[2]	[2]	[3]	[4]	[4]	[5]	[6]	Yes	Yes
Notes ¹ Yes, if user is authorized for this product (user has lock-based or certificate licensing). ² Yes, if user is authorized for this product (user has certificate licensing). ³ Yes, only for a PSCAD lock-based license, and if any of the following conditions apply: <ul style="list-style-type: none"> This machine is a license server, and will host the PSCAD license and share it with client machines over the network, or This is a PSCAD-running machine that is also hosting the PSCAD license, and the license has more than one seat (the License Manager is not required if the license only has one seat), or A V5 lock-based license will be used to run certain earlier versions of PSCAD as specified in Step 1 of this article ⁴ Refer to Section 1.2.5 for compiler selection considerations. Applicable only for use alongside PSCAD. ⁵ Used for scripting PSCAD. ⁶ Applicable for lock-based licensing, required on the machine hosting the PSCAD license.										



⁷If this prerequisite software is not already installed, the user will be prompted to install it.

2.1.3. System Requirements

The requirements for installing, licensing, and using the software are posted to the following locations:

- [PSCAD](#)
- [Enerplot](#)
- [PRSIM](#)
- [The PSCAD Initializer](#)

To help prepare with the software installation and licensing, it is recommended to first use the MHI Fortran Medic utility to configure your machine permissions as follows:

- [Installation Permissions](#)
- [Certificate Licensing Permissions](#)

2.2. PSCAD Installation Package – Multi-Product Installer

2.2.1. Overview

The multi-product installer may be used to install the following software:

- MHI Products:
 - PSCAD, Professional and Educational Editions
 - PSCAD License Manager
 - Enerplot
 - The PSCAD Initializer
 - PRSIM
- Peripheral Software:
 - Pre-requisite software
 - Python 3.7.8
 - GFortran v4.6
 - GFortran v8.1
 - Sentinel Drivers



Before proceeding, review Section [2.1](#) for important setup information.

If you encounter any installation issues, please refer to Sections [7.1](#) or [7.2](#) as applicable.

2.2.2. Installation

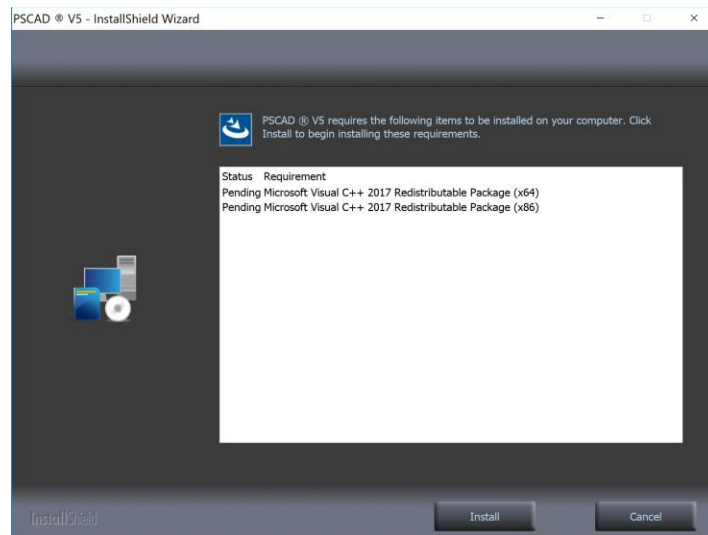
The multi-product installer may be launched as follows:

- a. If the PSCAD Installation Package is a zipped file, unzip the file (right-click on the file, and select “Extract All”).

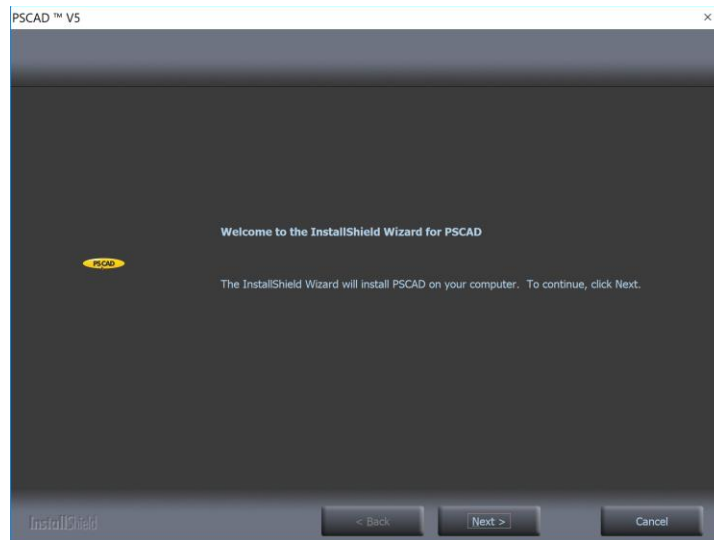
Note

Ensure the unzipped PSCAD Installation Package is saved to a local drive; the installation should not be run from a network drive.

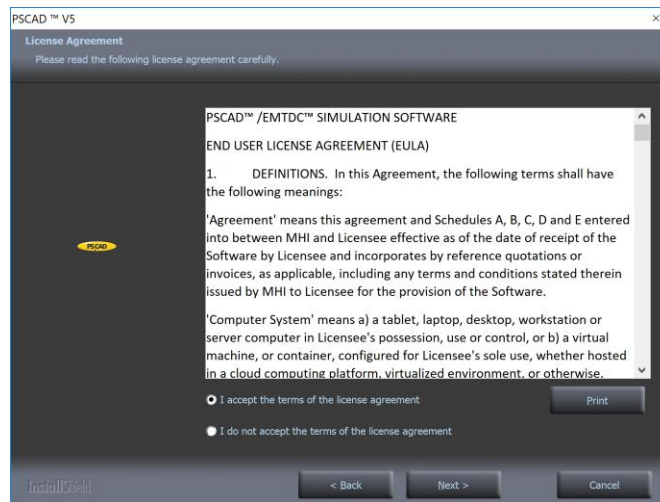
- b. From the unzipped installation package, right-click on “setup.exe”, and select “Run as administrator”.
- c. When the Windows “User Account Control” dialog box displays, select “Yes” to allow changes to your machine. The InstallShield Wizard installer will launch.
- d. Select “Install”, and the required prerequisite software will install if required. This may take a few minutes.



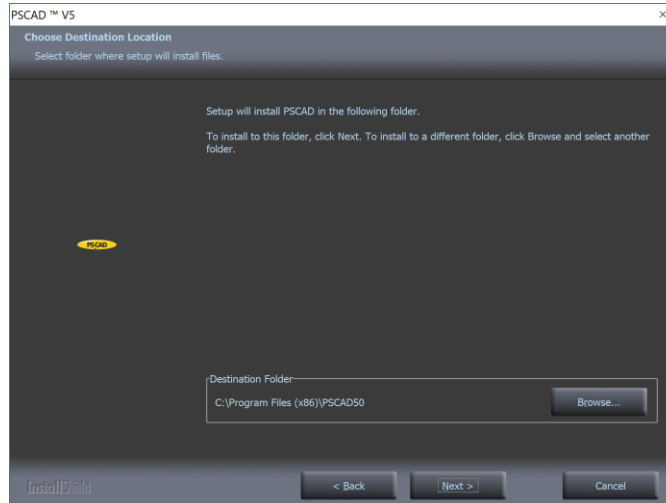
- e. Select “Next” to continue.



- f. Select “I accept the terms of the license agreement” if you agree with the terms, then select “Next”.

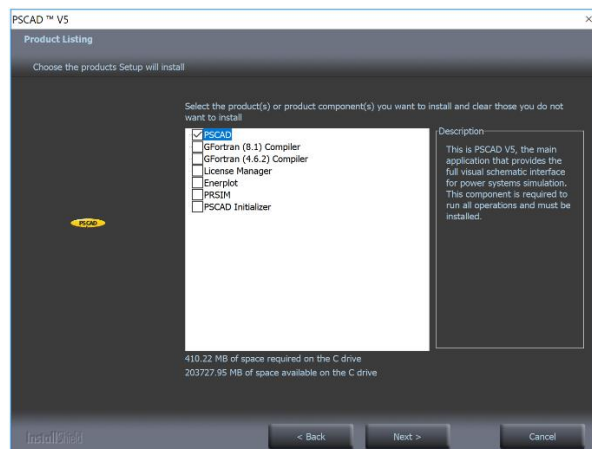


- g. If prompted, review the default destination folder for the PSCAD program files. To install to a different folder, set the file path with the “Browse” button. Select “Next”.



The default directory is *C:\Program Files (x86)\PSCAD50*

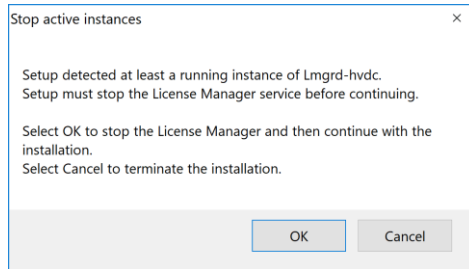
- h. Checkmark all programs to be installed, then select “Next”.



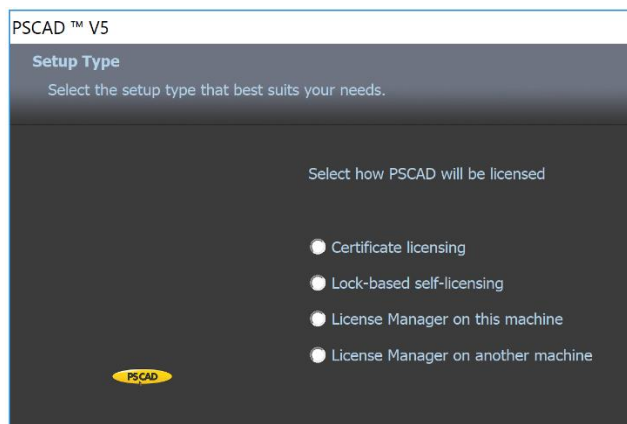
Note

Refer to Section [2.1.2](#) to select products for installation.

- i. If the following message displays, the PSCAD License Manager service used with lock-based licensing is installed and running on this machine. The License Manager service must be stopped before the installation can proceed. Select “OK” to allow the License Manager service to be turned off and the installation to proceed.

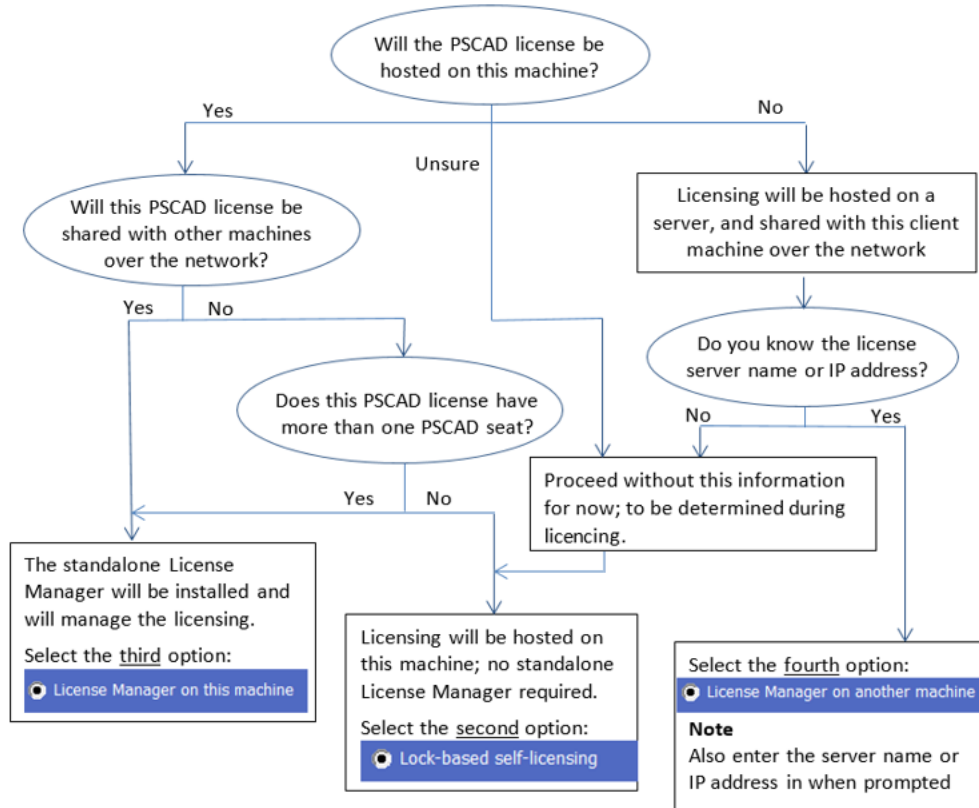


- j. Indicate how PSCAD will be licensed, then select “Next”. Review the following notes to determine the correct selection:



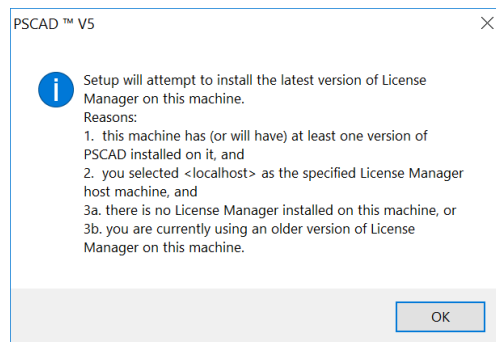
- (i) If unsure which option to select, select either “Certificate Licensing” or “Lock-based self-licensing”. The installation will proceed, and licensing can be configured during activation (Section 4 or 5).
- (ii) If you will be using Certificate Licensing, select “Certificate Licensing”.

(iii) If you will be using Lock-based Licensing, use the following chart to determine your selection:



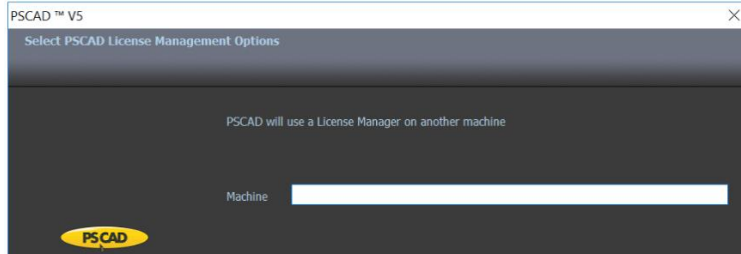
k. For Lock-Based Licensing only:

(i) If the following message displays, the License Manager software is expected to be installed on this machine, as per your selection in the previous step. Select “OK” to install the License Manager.

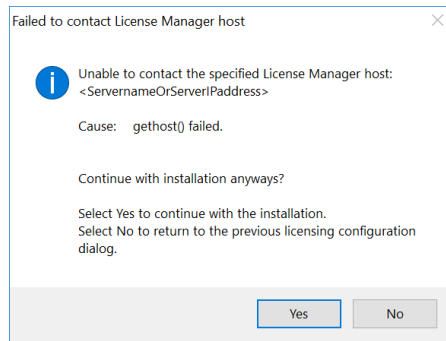


(ii) If “License Manager on another machine” was selected at Step (j), proceed as follows:

- Enter the server name or IP address in the field provided, then select “Next”.

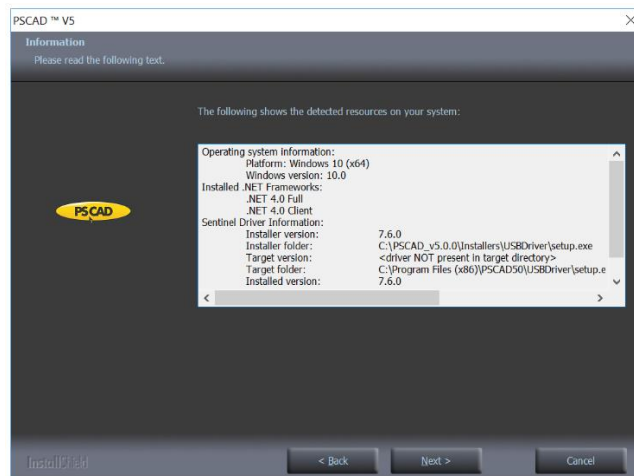


- An attempt to contact the PSCAD license Manager on the license server will be made. If this fails, an error message similar to the following will display:

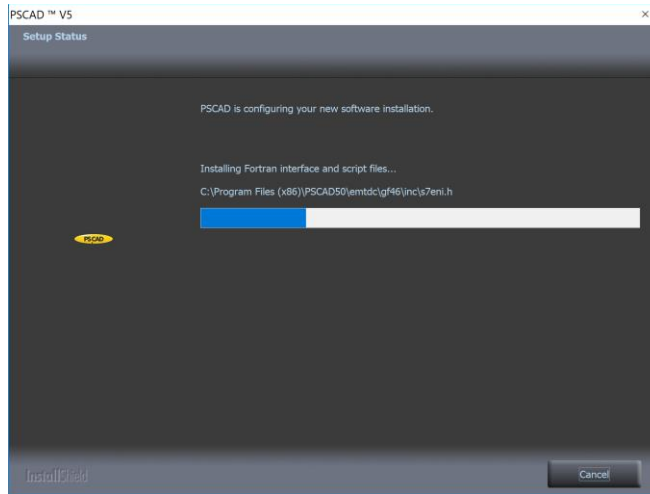


- To retry entering the License Manager host information, select “No”, then return to Step (j), or
- To continue the installation without the License Manager host information, select “Yes”, and proceed to Step (l) below. You will be prompted for the License Manager host information during license activation (Section 5.4).

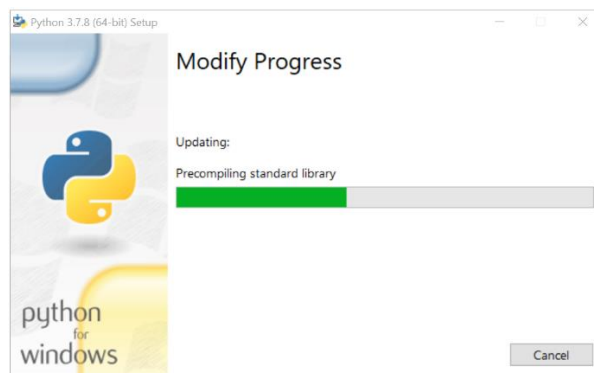
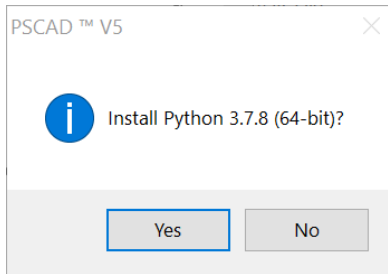
l. The “Information” screen will list your system resources. Select “Next”.



- m. If PSCAD will be installed if it was selected for installation.



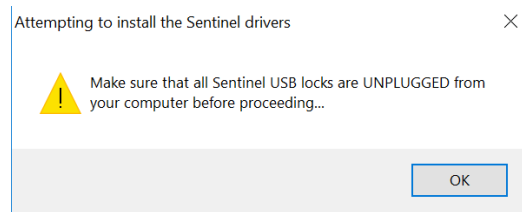
- n. If the License Manager was selected for installation, go to Section [2.3.1.1](#), starting at Step (d) to install and configure the License Manager, then return to Step (o) below.
- o. Select “Yes” to install Python if you intend to perform scripting with PSCAD.



Note

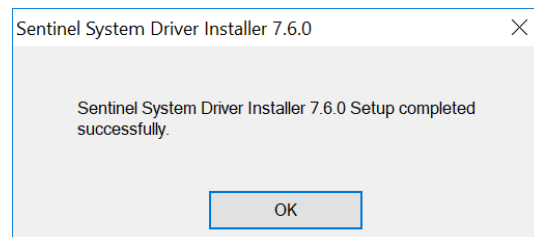
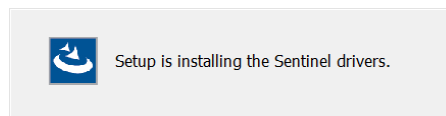
Refer to Section [2.1.2](#) to determine whether to proceed.

- p. If GFortran 4.6 was selected for installation, go to Section [2.3.2](#), starting at Step (d), then return to Step (q) below.
- q. If GFortran 8.1 was selected for installation, go to Section [2.3.3](#) starting at Step c then return to Step (r) below.
- r. If Enerplot was selected for installation, go to Section [2.3.4](#), starting at Step (c) for this installation, then return to Step (s) below.
- s. If the PSCAD Initializer was selected for installation, go to Section [2.3.5](#), starting at Step (c) for this installation, then return to Step (t) below.
- t. If PRSIM was selected for installation, go to Section [2.3.6](#), starting at Step (c) for this installation, then return to Step (u) below.
- u. If applicable, unplug your PSCAD Sentinel USB lock when prompted, then select “OK”. Your Sentinel drivers will be installed (or updated).

**Note**

It is not necessary to unplug any USB locks for non-MHI products; it is only necessary to unplug USB locks for PSCAD (and for older MHI products, LiveWire and ETRAN if applicable).

- v. The Sentinel Drivers will be installed, select “OK”.



- w. For lock-based licensing only, if the license will be hosted on this machine, the Sentinel USB lock may be plugged in now (or when activating a license).



Connect your Sentinel USB lock to your computer before running PSCAD...

- x. Select whether to restart your computer, then press “Finish”.



- y. Following the installations, proceed to Section [3](#) to launch your software, then as follows to activate your license:
- Refer to Section [4](#) to activate your certificate license for PSCAD, Enerplot, PRSIM, or the PSCAD Initializer as applicable, or
 - Refer to Section [5](#) to activate your lock-based license for PSCAD, if applicable.
- z. If PSCAD was installed, a suitable Fortran compiler is also required. Refer to Section [1.2.5](#) for more information.



2.3. PSCAD Installation Package – Individual Installers

Individual installers in the PSCAD Installation Package may be used to install many of the products, including:

- License Manager (Section [2.3.1](#))
- GFortran v4.6 (Section [2.3.2](#))
- GFortran v8.1 (Section [2.3.3](#))
- Enerplot (Section [2.3.4](#))
- The PSCAD Initializer (Section [2.3.5](#))
- PRSIM (Section [2.3.6](#))
- Sentinel Drivers (Section [2.3.7](#))

Please note that the PSCAD Installation package does not contain an individual installer for PSCAD. Instead, PSCAD may be installed the multi-product installer (Section [2.2](#)).

2.3.1. Installing and Configuring the Standalone PSCAD License Manager

This section contains instructions to install and configure the License Manager.

The License Manager should only be installed to manage a lock-based license for one of the following conditions:

- The license will be hosted on a server and shared with client computers over the network, or
- The license will be hosted on the PSCAD machine, and contains more than one PSCAD seat, or
- A V5 lock-based license will be used to run certain earlier versions of PSCAD as specified in Step 1 of this [article](#).

The License Manager should not be installed if using certificate licensing, or if the license is being hosted on the PSCAD machine and contains only one PSCAD seat.

2.3.1.1. [Installing the License Manager](#)

Install the License Manager from the PSCAD Installation Package as follows:

Notes

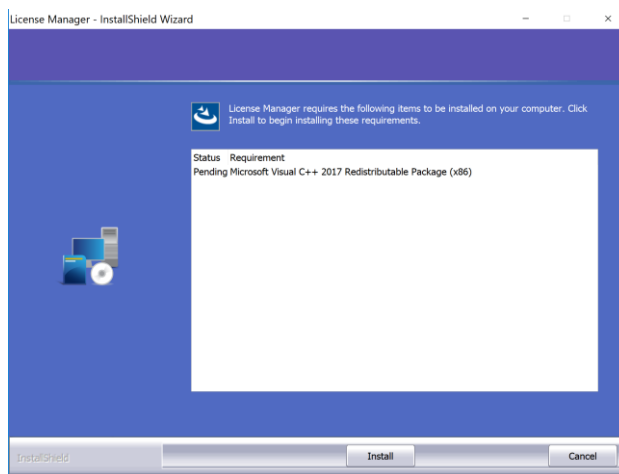
1. Refer to important setup information in Section [2.1](#) before proceeding.
2. A separate download for the License Manager software is available in this [article](#).

- a. If the PSCAD Installation Package is zipped, unzip the file (right-click on the file, and select “Extract All”).

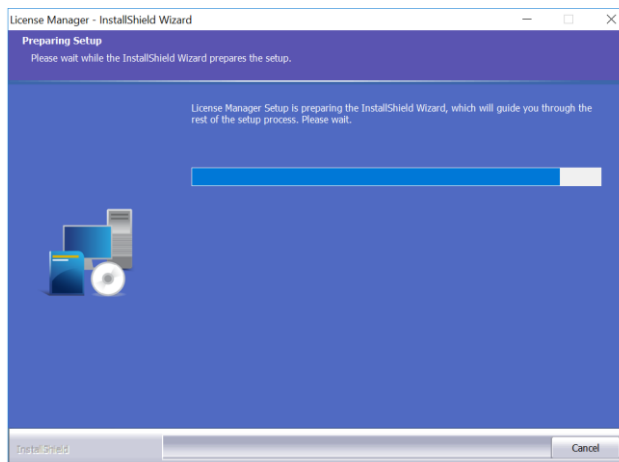
Note

Ensure the unzipped PSCAD Installation Package is saved to a local drive; the installation should not be run from a network drive.

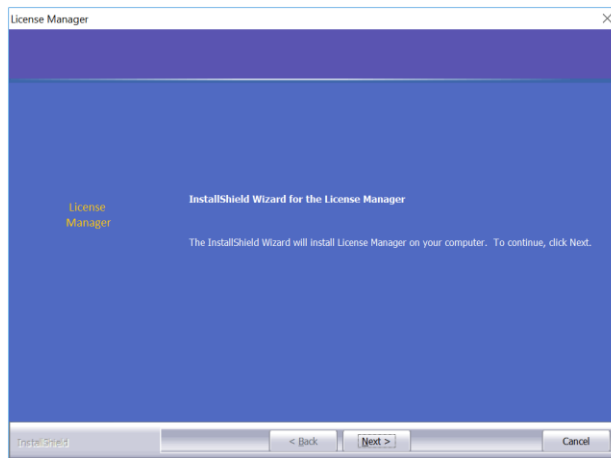
- b. From the unzipped PSCAD Installation Package, display the “License” folder, right-click on “setup.exe”, and select “Run as administrator”. The InstallShield Wizard will launch.
- c. Select “Install”.



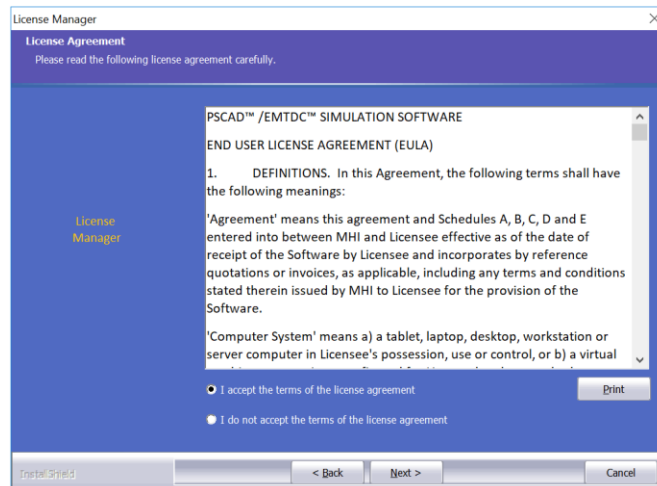
- d. The License Manager installation will be launched.



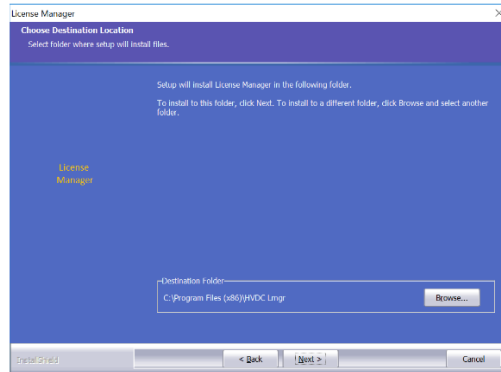
- e. Select “Next”.



- f. If you agree with the software license agreement, select “I accept the terms of the license agreement”, then select “Next”.

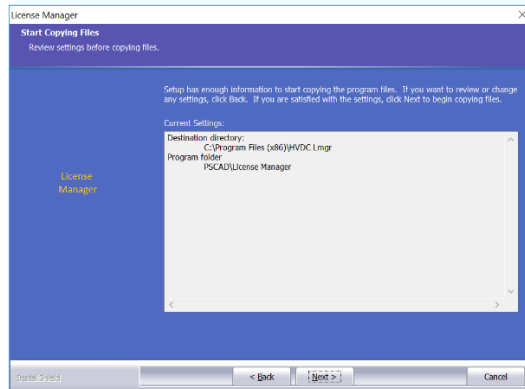


- g. Review the default destination folder for the License Manager program files. To install to a different folder, set the file path with the “Browse” button. Select “Next”.

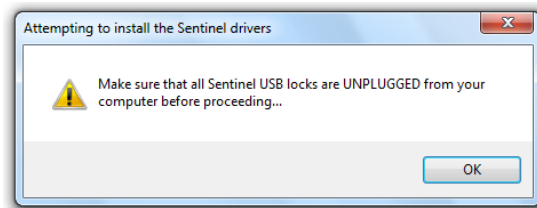


The default directory is C:\Program Files (x86)\HVDC Lmgr

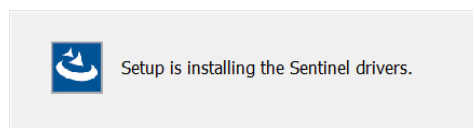
- h. Select “Next”. The License Manager will be installed, and will be started as a service when complete.

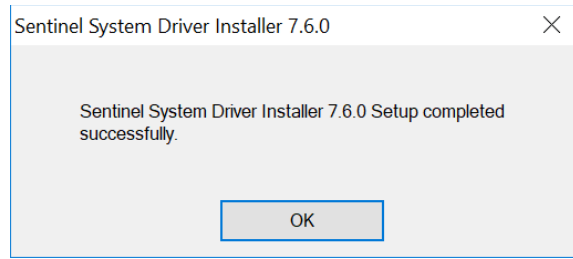


- i. If prompted, unplug any Sentinel USB locks from your computer, then select “OK”, and Sentinel drivers will be installed.

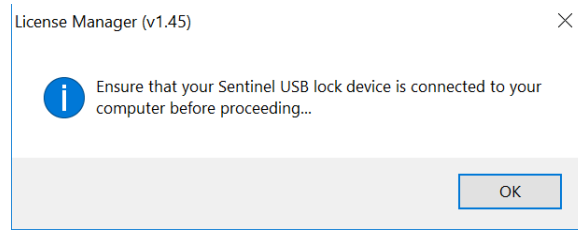


- j. The following view will display briefly, then the installation will be complete. Select “OK”.

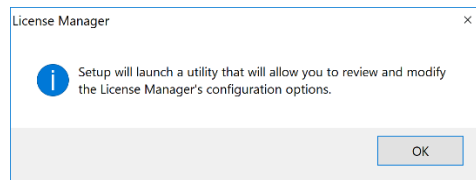




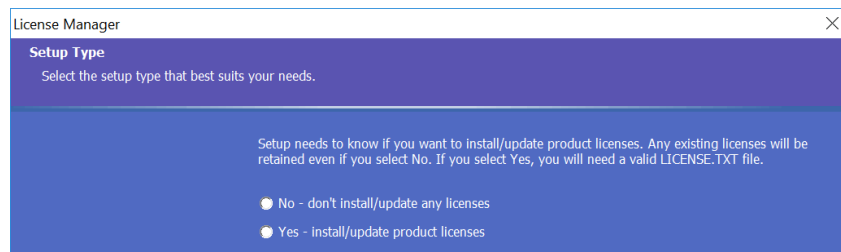
- k. If you have your USB lock device, plug it in (or you can plug it in later, when activating a license).



- l. Select “OK” to display the License Manager “Setup Tool” utility. Proceed to Section [2.3.1.2](#) starting at Step (b) to configure the License Manager, then return to step (m) below.

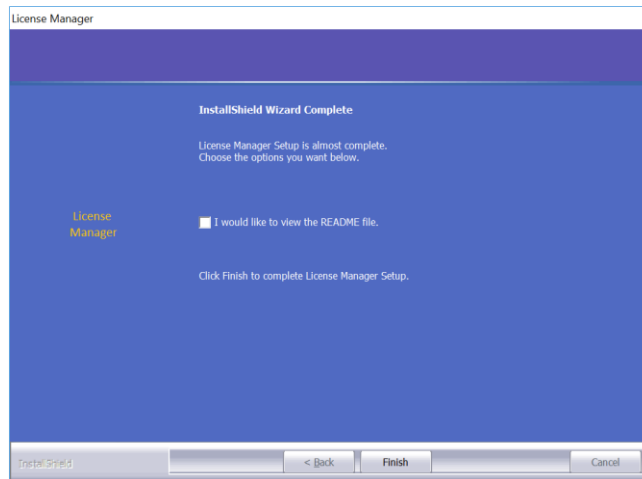


- m. Select whether to install the license as follows:

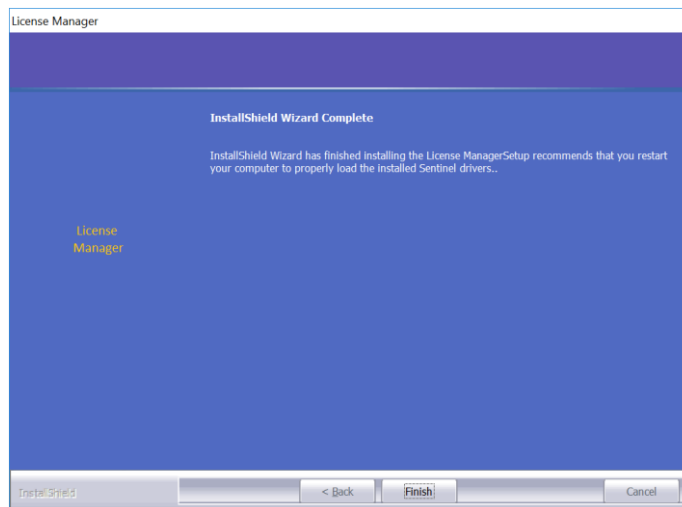


- If the license has not yet been installed on this computer, and if you have the associated “License.txt” file, select “Yes...”, perform the installation as per Section [5.1](#) (disregard Step 5.1(c), then return to Step (n) below; or
- If you are updating your license to run PSCAD V5 (i.e. from PSCAD V4 or from PSCAD X4), and if you have received the update package from MHI, select “Yes...”, perform the update as per Section [5.6](#), then return to Step (n) below; or
- If the license is already properly installed on this computer, or if you do not have the License.txt file, select “No...”, and proceed to Step (n) below.

n. Select "Finish".



o. Select "Finish".



p. The License Manager will be installed and ready to authorize licensing.

2.3.1.2. Configuring the License Manager

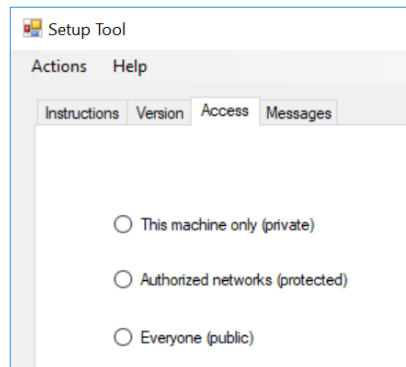
The License Manager "Setup Tool" is used to configure the networking between the license host and the client machine/s.

Notes

1. Further references may be viewed in the "Help" menu of the Setup Tool.
2. For more information on network licensing, refer to Appendix A.
3. If you encounter any issues, refer to Section 7.4.

The License Manager may be configured as follows:

- a. Display the “Setup Tool” using one of the following methods:
 - The Setup Tool will display as per Section 2.3.1.1, or
 - Launch “Setup Tool” from the Windows Start menu if the License Manager is already installed, or
 - Download the Setup Tool from this [link](#), unzip all files, and run the “SetupTool.exe” file.
- b. Select an option in the “Access” tab as follows:



Will the license be shared with Clients over the network?	Do you need to restrict access to the license?	Make the following selection in the Setup Tool
No	n/a	<input checked="" type="radio"/> This machine only (private) ^[1]
Yes	Yes	<input checked="" type="radio"/> Authorized networks (protected) ^[2]
	No	<input checked="" type="radio"/> Everyone (public) ^[3]

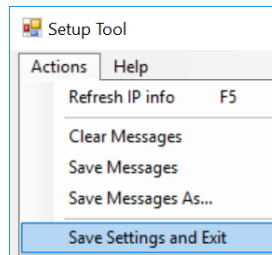
1. The setting “This machine only (private)” only permits licensing locally on the machine that is hosting the license, and does not allow the sharing of the license with other computers over the network.
Note: In this case, the License Manager should only be installed and used if the license contains multiple seats.
2. The setting “Authorized networks (protected)” allows sharing of the license only to machines residing on specified networks. This is selected when the license will be shared over the network and when it is necessary to restrict access to the license.
3. The setting “Everyone (public)” allows sharing of the license with any computer located on any network able to reach the server. This is selected when the license will be shared over the network, and when it is not necessary to restrict access to the license.

c.

d. Proceed as follows:

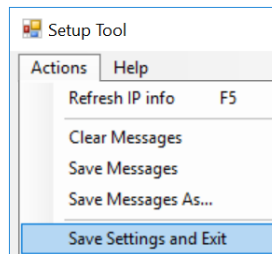
- **This machine only (private):**

If you selected “This machine only” in Step (c) above, no further configuration is required. Simply save your settings and close the utility. Licensing will not be shared with any other machines.



- **Everyone (public):**

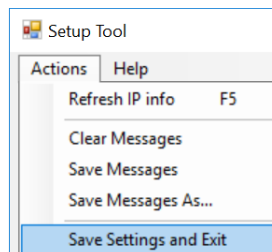
If you selected “Everyone (public)” in Step (c) above, no further configuration is required. Simply save your settings and close the utility. Licensing will be shared with machines residing on any networks that can reach the server.



- **Authorized networks (protected):**

If you selected “Authorized networks (protected)” in Step (c) above, then:

- Configure the “Networks” tab as per Appendix [A.2](#).
- Save your settings and close the utility.



2.3.2. Installing GFortran 4.6

Install GFortran 4.6 from the PSCAD Installation Package as follows:

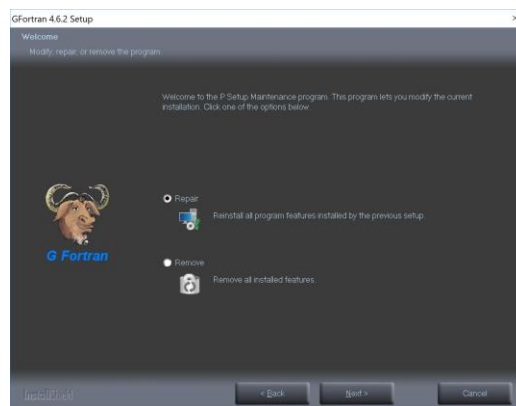
Notes

1. Refer to Section [1.2.5](#) for compiler selection considerations.
 2. A separate download for the GFortran software is available in this [article](#).
- a. If the PSCAD Installation Package is zipped, unzip the file (right-click on the file, and select “Extract All”).

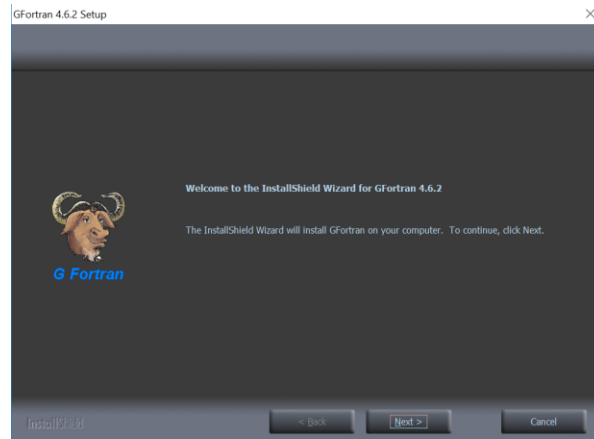
Note

Ensure the PSCAD Installation Package is saved to a local drive; the installation should not be run from a network drive.

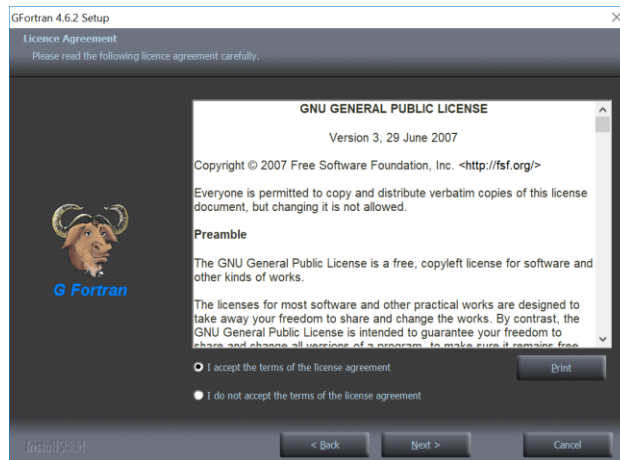
- b. From the unzipped PSCAD Installation Package, display the “GFortran46” folder, right-click on “setup.exe”, and select “Run as administrator”. The Installshield Wizard installer will launch.
- c. If GFortran is already installed, the option to repair or remove the software will display. Select “Repair” to fix your GFortran installation, or “Cancel” to skip.



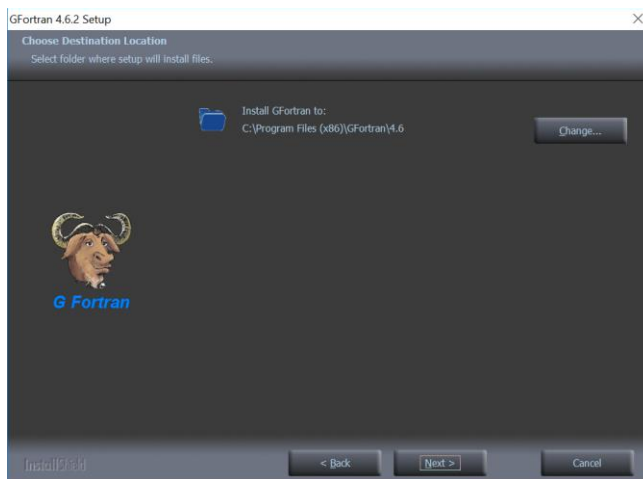
d. Select “Next”.



e. If you agree with the software license agreement, select “I accept the terms of the license agreement” and “Next”.



- f. Review the default destination folder for the software files, then select “Next”.

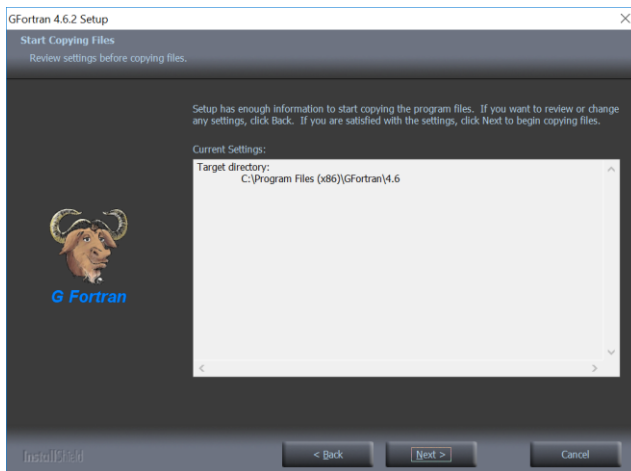


The default directory is *C:\Program Files (x86)\GFortran\4.6*

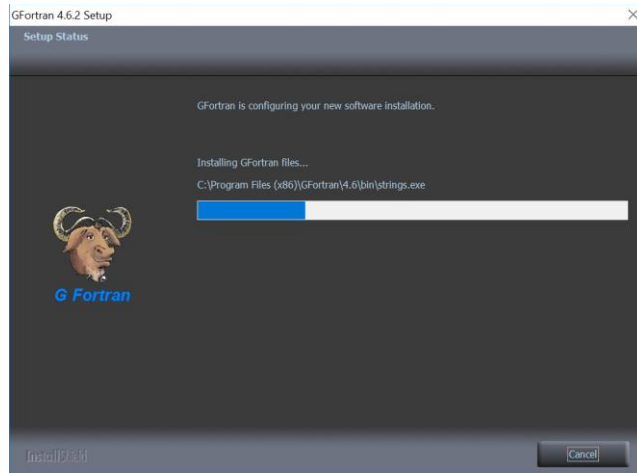
Note

To install to a different folder, use the “Change” button to set the file path.

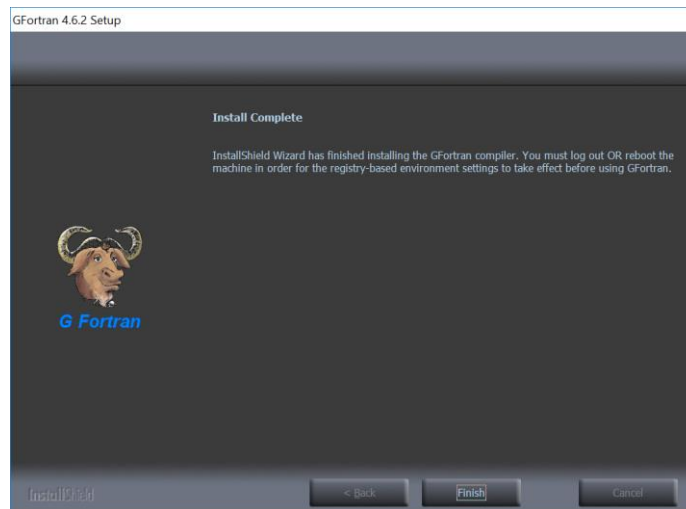
- g. Select “Next”.



- h. GFortran 4.6 will be installed.



- i. When the installation is complete, select "Finish".



- j. Before running your own cases, first test your PSCAD / GFortran setup as specified in this [article](#).

Warning

Ensure to log out and log in to Windows (or restart your computer) following the installation, prior to running a PSCAD case with GFortran. This is required to apply the changes to your computer.

2.3.3. Installing GFortran 8.1

Install GFortran 8.1 from the PSCAD Installation Package as follows:

Note

1. Refer to Section [1.2.5](#) for compiler selection considerations.
 2. A separate download for the GFortran software is available in this [article](#).
- a. If the PSCAD Installation Package is zipped, unzip the file (right-click on the file, and select “Extract All”).

Note

Ensure the unzipped PSCAD Installation Package is saved to a local drive; the installation should not be run from a network drive.

- b. From the unzipped PSCAD Installation Package, display the “GFortran81” folder, right-click on “Installer.exe”, and select “Run as administrator”.
- c. The Installer utility will launch. The software will be installed to the following location:
C:\Program Files (x86)\GFortran\8.1

Warning

Ensure to log out and log in to Windows (or restart your computer) following the installation, prior to running a PSCAD case with GFortran. This is required to apply the changes to your computer.

2.3.4. Installing Enerplot

Install Enerplot from the PSCAD Installation Package as follows:

Note

Refer to important setup information in Section [2.1](#) before proceeding.

- a. If the PSCAD Installation Package is zipped, unzip the file (right-click on the file, and select “Extract All”).

Note

Ensure the unzipped PSCAD Installation Package is saved to a local drive; the installation should not be run from a network drive.

- b. From the unzipped PSCAD Installation Package, display the “Enerplot” folder, right-click on “Installer.exe”, and select “Run as administrator”.

- c. The Installer utility will launch. The software will be installed to the following location:
C:\Program Files (x86)\Enerplot\100
- d. When prompted whether to install Python, select this option if you intend to perform external scripting and if Python 3.5 or better is not already installed.
- e. When prompted whether to install the Enerplot Automation Library, select this option if you intend to perform external scripting and if Python 3.5 or better is installed.
- f. Following the installation, proceed to Section 3 to launch your software, then to Section 4 to activate your license certificate.

2.3.5. Installing the PSCAD Initializer

Install the PSCAD Initializer from the PSCAD Installation Package as follows:

Note

Refer to important setup information in Section 2.1 before proceeding.

- a. If the PSCAD Installation Package is zipped, unzip the file (right-click on the file, and select “Extract All”).

Note

Ensure the unzipped PSCAD Installation Package is saved to a local drive; the installation should not be run from a network drive.

- b. From the unzipped PSCAD Installation Package, display the “Initializer” folder, right-click on “Installer.exe”, and select “Run as administrator”.
- c. The Installer utility will launch. The software will be installed to the following location:
C:\Program Files (x86)\PSCAD Initializer\100
- d. Following the installation, proceed to Section 3 to launch your software, then to Section 4 to activate your certificate.



2.3.6. Installing PRSIM

Install the PRSIM from the PSCAD Installation Package as follows:

Note

Refer to important setup information in Section [2.1](#) before proceeding.

- a. If the PSCAD Installation Package is zipped, unzip the file (right-click on the file, and select “Extract All”).

Note

Ensure the unzipped PSCAD Installation Package is saved to a local drive; the installation should not be run from a network drive.

- b. From the unzipped PSCAD Installation Package, display the “PRSIM” folder, right-click on “Installer.exe”, and select “Run as administrator”.
- c. The Installer utility will launch. The software will be installed to the following location:
C:\Program Files (x86)\PRSIM\100
- d. Following the installation, proceed to Section [3](#) to launch your software, then to Section [4](#) to activate your certificate.

2.3.7. Installing Sentinel Drivers

For PSCAD lock-based licensing, install Sentinel Drivers from the PSCAD Installation Package on the machine hosting the license as follows:

- a. If the PSCAD Installation Package is zipped, unzip the file (right-click on the file, and select “Extract All”).

Note

Ensure the unzipped PSCAD Installation Package is saved to a local drive; the installation should not be run from a network drive.

- b. From the unzipped PSCAD Installation Package, display the “USBDriver” folder. There will be two executables for running the installation:
 - Option 1 (preferred): Right-click on “Install.bat”, and select “Run as administrator”. The installation will proceed silently, and will only install the items required for PSCAD licensing.
 - Option 2: Right-click on “Setup.exe”, and select “Run as administrator”. The Installshield Wizard installer will launch, and you will be prompted through the installation.



Sentinel Drivers may also be installed in the following additional manners:

a. If PSCAD has been installed, the Sentinel Drivers may be installed from the PSCAD Program Files:

- Open a Windows file browser to the “USBDriver” folder in the PSCAD program files. The path should be similar to the following: C:\Program Files (x86)\PSCAD5x\USBDriver
- There will be two executables for running the installation:
 - Option 1 (preferred): Right-click on “Install.bat”, and select “Run as administrator”. The installation will proceed silently, and will only install the items required for PSCAD licensing.
 - Option 2: Right-click on “Setup.exe”, and select “Run as administrator”. The Installshield Wizard installer will launch, and you will be prompted through the installation.

b. From a Download:

- Download the “USBDrivers_7.6.0.zip” file from this [link](#) on the MHI server.
- Unzip the file (right-click on the file and select “Extract All”).

Note

Ensure the unzipped PSCAD Installation Package is saved to a local drive; the installation should not be run from a network drive.

- There will be two executables for running the installation:
 - Option 1 (preferred): Right-click on “Install.bat”, and select “Run as administrator”. The installation will proceed silently, and will only install the items required for PSCAD licensing.
 - Option 2: Right-click on “Setup.exe”, and select “Run as administrator”. The Installshield Wizard installer will launch, and you will be prompted through the installation.

2.4. The MyUpdater Deployment Utility

If certificate licensing for the following products is linked to a user's MyCentre account, MyUpdater may be used to perform the installation:

- PSCAD (and Python)
- Enerplot (and Python)
- PRSIM
- The PSCAD Initializer

For any MyCentre user account, the products listed below will automatically be made available using MyUpdater; no certificate licensing is required:

- GFortran v4.6.2
- GFortran v8.1

Warning

Some corporate networks block MyUpdater activities. If you encounter any login or installation issues with MyUpdater, try performing this installation on a different network (e.g. at home), or use the PSCAD Installation Package (Section [2.2](#)).

Notes

1. If any issues with installing or using MyUpdater are encountered, please refer to Section [7.3](#).
2. PSCAD requires a compiler to run projects. Refer to Section [1.2.5](#) to select a compiler.

Install software using MyUpdater as follows:

Note

Refer to important setup information in Section [2.1](#) before proceeding.

- a. If MyUpdater is not already installed, install it as follows:
 - Open a web browser to this [link](#), then:
 - If the specified pre-requisite software is not already installed, select the "Install" button.
 - If the specified pre-requisite software is already installed, select the "launch" link.
 - When prompted by the Windows User Account Control dialog box, select the option to run this installation with Windows administrator privileges by selecting "Yes".
 - MyUpdater will be installed, and will launch automatically.

- When prompted, enter your MyCentre login credentials, then select “OK”.

Note

Refer to this [article](#) for login tips and troubleshooting.

- b. If not already running, launch MyUpdater (select “MyUpdater” from the Windows Start menu). When prompted by the Windows User Account Control dialog box, select the option to run this installation with Windows administrator privileges by selecting “Yes”.
- c. If not already logged in to MyUpdater, log in using your MyCentre login credentials.

Note

Refer to this [article](#) for login tips and troubleshooting.

- d. Your authorized products will be listed in MyUpdater. In the “Setup” column, select the “Install” button corresponding to your software, and it will be installed.

Note

The installation can take time, depending on Internet availability. If the "Not Responding" message is displaying, please simply let the installation proceed in the background, and check back later.

- e. If GFortran was installed, ensure to log out and log in to your computer following this installation, prior to running a PSCAD case with GFortran.
- f. Following the installation, proceed to Section [3](#) to launch your software, then to Section [4](#) to activate your certificate.



2.5. Silent Installation – InstallShield Wizard Installations

2.5.1. Introduction

This section provides instructions for installing software “silently” on multiple machines when using the InstallShield Wizard. These instructions are supported with the following software:
PSCAD and GFortran 4.6

2.5.2. Background

In an unattended, or silent, installation, an installation is run in “record” mode, in which all responses are logged by the installer and saved in a response file. When the same installation is run on another computer in silent mode, with the response file present, the installation will run in total silence, with NO dialogs being displayed. This then allows an organization to use automation tools to deploy (install) a product on multiple computers without any manual user intervention.

This section provides instructions for performing silent installations for PSCAD or GFortran in three different manners:

- When the installation files are being run from a writeable media (Section [2.5.55](#))
- When the installation files are being run from a read-only media (Section [06](#))
- Customized (Section [2.5.77](#))

Review Sections [2.5.33](#) and [2.5.44](#) before proceeding, for information on supported products and requirements.

Following the installation, proceed to Section [3](#) to launch your software, then to Section [4](#) to activate your certificate.

2.5.3. Supported Products

Unattended (silent installations) are supported for the following products:

- PSCAD v5
- GFortran v4.6.2

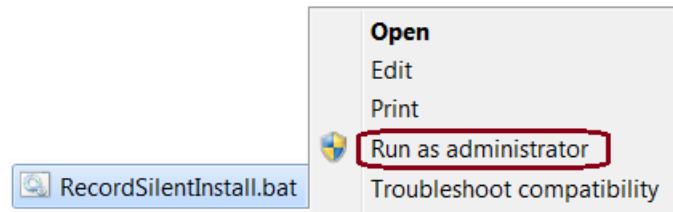
Note

If GFortran will be installed, ensure to log out and log in to your computer following this installation, prior to running a PSCAD case with GFortran. This is required to apply the changes to your computer.

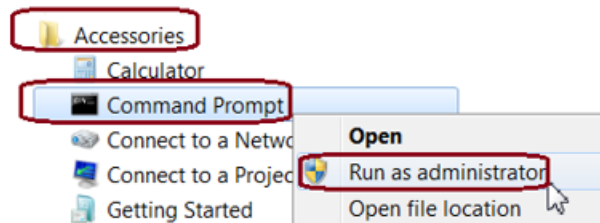
2.5.4. Windows Administrative Privileges Requirement

Windows administrative privileges are required for running the silent installation. There are three methods for performing this:

1. Obtain administrator credentials:
 - a. Log in on the computer with Windows administrative credentials.
2. Run the batch file with Windows administrative privileges:
 - a. Run the specified file with Windows administrative privileges. This may be done by right-clicking on the file, and selecting "Run as administrator". You will be prompted to enter Windows administrative privileges login credentials.



3. Log in to the Command Prompt with Windows Administrative Privileges:
 - a. Browse to the command prompt from the Windows Start menu, and run it with Windows administrative privileges:



- b. Change the directory (i.e. cd) to the folder containing your installation files, then run the required batch file. See the following screenshot for an example:

```
Administrator: Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Windows\system32>cd C:\Software\PSCAD 462
C:\Software\PSCAD 462>RecordSilentInstall.bat
```

2.5.5. Unattended Installation when Installing from Writeable Media

This method may be used when installing from shared folders or writeable USB devices.

Note

Windows administrative privileges are required; refer to Section [2.5.44](#) for instructions.

Note

This process does not permit PSCAD or GFortran 4.6 to be installed together. To silently install all of this software, separate silent installations must be performed.

Generate the response file on the first computer as follows:

- a. Ensure that the product is not already installed; otherwise the generated response file will be incorrect.
- b. Browse to the product's installation folder on the media.
- c. Run the "RecordSilentInstall.bat" command batch file.

Notes

1. For PSCAD, this file is in the main view of the installation folder.
2. For GFortran 4.6, this file is in the "GFortran46" folder.
- d. The installer will launch, and you may then configure the software installation appropriately.

Note

If installing PSCAD, ensure that all other software are de-selected when prompted (i.e. GFortran, License Manager).

- e. All of your responses will be recorded to a response file called setup.iss located in the same folder.
- f. Copy the entire installer folder, which now also contains the response file, to an accessible shared folder, or to a USB stick.

For all other computers:

- a. Open a Windows file browser and browse the installation folder on the shared folder or USB stick.
- b. Run the "RunSilentInstall.bat" file.
- c. The installation will proceed, and the batch file will exit when done.



2.5.6. Unattended Installations when using Read-only Media

This method may be used when installing from a CD-ROM or a write-protected USB device.

Notes

1. Windows administrative privileges are required; refer to Section [2.5.44](#) for instructions.
2. If possible, copy the installer files and folders to a shared folder or a writeable USB device, then follow the instructions in Section [2.5.55](#) (preferred method).
3. This process does not permit PSCAD and GFortran v4.6 to be installed together. To silently install all of this software, separate silent installations must be performed.

Generate the response file on the first computer as follows:

- a. Ensure that the product is not already installed; otherwise the generated response file will be incorrect.
- b. Insert the media, and browse to the product's installation folder on the media.
- c. Run the "RecordSilentInstallToTempFolder.bat" command batch file.

Notes

1. For PSCAD, this file is in the main view of the installation folder.
 2. For GFortran 4.6, this file is in the "GFortran46" folder.
- d. The installer will launch, and you may then configure the software installation.

Note

If installing PSCAD, ensure that all other software are de-selected when prompted.

- e. All of your responses will be recorded to a response file called "<product>_Install.iss".
- f. When the installation is complete, it will tell you where the response file is located.
- g. Copy the response file to an accessible shared folder, or to a USB stick.

For all other computers:

- a. Insert the media.
- b. Open a command prompt and browse to the product's folder on the media.
- c. Type in the following, and press "Enter":

RunSilentInstallUsingSpecifiedResponse.bat <absolute path to response file>.

- d. The installation will proceed, and the batch file will exit when done.



2.5.7. End-User Customized Unattended Installations

This method may be used when customizing a silent installation.

Notes

1. Windows administrative privileges are required; refer to Section [2.5.44](#) for instructions.
2. This process does not permit PSCAD and GFortran v4.6, to be installed together. To silently install all of this software, separate silent installations must be performed.

Generate the response file on the first computer as follows:

- a. Ensure that the product is not already installed; otherwise the generated response file will be incorrect.
- b. Open a command prompt and browse to the product's installation folder on the media.

Notes

1. For PSCAD, this file is in the main view of the installation folder.
 2. For GFortran v4.6, this file is in the "GFortran46" folder.
- c. Type in the following text, and press *Enter*:

```
Setup.exe /r /f1Absolute_Path_And_Name_Of_Response_File
```

- d. For example:

```
Setup.exe /r /f1"D:\Installer\setup.iss"
```

Note

If installing PSCAD, ensure that all other software are de-selected when prompted.

For all other computers:

- a. Ensure that the product is not already installed; otherwise the generated response file will be incorrect.
- b. Open a command prompt, and browse to the product's installation folder on the media.
- c. Type in the following, and press enter:

```
Setup.exe /s /f1Absolute_Path_And_Name_Of_Response_File
```

- d. For example:

```
Setup.exe /s /f1"D:\Installer\setup.iss"
```


2.6. Silent Installation – The Installer Utility

2.6.1. Introduction

This section provides instructions for installing software “silently” on multiple machines when using the Installer utility. These instructions are supported with the following software: Enerplot, FACE, PRSIM, and the PSCAD Initializer.

Following the installation, proceed to Section [3](#) to launch your software, then to Section [4](#) to activate your certificate.

2.6.2. Background

The Installer utility supports a silent install configuration in which an automated Software Management System (SMS) can deploy it to multiple machines without human intervention.

The IT staff managing the SMS-based deployment have several command line switches that they can use to specify the behaviour of the installation.

2.6.3. Basic Workflow

- a. Ensure that system requirements are met.
- b. Download the Installer zipped file to the target machine.
- c. Extract (unzip) the top-level zipped file, and save the unzipped folder to the local drive (e.g. desktop).

Warning

Do not unzip any of the zipped sub-files.

- d. Run the Installer.exe application with the appropriate command line switches (see Steps [2.6.5](#) and [2.6.8](#)).
- e. Check the exit code of the application (see Step [2.6.6](#)) and perform any further actions.

2.6.4. Background on Pre- and Post- actions

A product installation manifest may specify:

- A pre-installation action that must be performed before the product installation can begin. A typical example is stopping a specified service. Not all products require a pre-installation action.
- A post-installation action that must be performed after the product has been installed. A typical example is starting a specified service. Not all products require a post-installation action.

- A post-module installation action that must be performed after the module has been installed. A typical example is running a batch file, or running a third party installer. Not all modules specify a post-install action.

2.6.5. Command Line Switches

Switch	Interpretation
/Silent=false	Normal operation
/Silent=true	Silent operation. All dialogs are silenced.
/Folder=	If not specified (the default), the Installer utility will look for a ZIP file in the \Products folder relative to the Installer.exe file. If specified, this is the folder that contains the product ZIP file that is to be installed by the utility.
/ChildInstaller=true	Install the product without logging into MyCentre and without adding it to the MyUpdater products list.
/Elevated=true	Run the Installer utility with elevated privileges, required to install files to Program Files, create machine shortcuts, modify the system environment, and run third party installers.
/Exit=true	When done, the user can review the installation messages. The user must explicitly close the application.
/Exit=false	When done, the application closes immediately, and returns the exit code to the system.

2.6.6. Common Return Codes

Return code	Interpretation
0	Success.
32500	A pre-installation sanity check failed.
32501	A required login to a valid MyCentre account failed.
32502	The product's pre-install action failed to execute correct.
32503	The product's post-install action failed to execute.
32504	A module's post-install action failed to execute.
32505	Installation folder not specified or is invalid.
32506	General installation failure. Usually due to not launching the Installer.exe with elevated privileges.

Other return codes are also possible...

A product installation manifest may specify:

- A pre-installation action which must be performed before the product installation can begin. A typical example is stopping a specified service. Not all products require a pre-installation action.
- A post-installation action which must be performed after the product has been installed. A typical example is starting a specified service. Not all products require a post-installation action.
- A post-module installation action which must be performed after the module has been installed. A typical example is running a batch file, or running a third party installer. Not all modules specify a post-install action.

2.6.7. Addressing Errors

If you do encounter an error mode when using Silent installer mode, you can do the following to see what is generating that reported error:

- a. Copy the Installer ZIP to the target machine.
- b. Extract the Installer ZIP once.
- c. Run the Installer.exe application with the appropriate command line switches, but leave out /Exit=true.
- d. Scroll through the messages to see the offending error messages.
- e. Resolve any errors, then try again.

2.6.8. Typical Silent Install Commands

- To be able to manually close/exit the silent installation, or review the error messages:
Installer.exe /Silent=true /Elevated=true /Login=false /Exit=false
- To auto-exit when done:
Installer.exe /Silent=true /Elevated=true /Login=false /Exit=true

Note

The log file from the silent install is always saved to the location listed below. Successive installations do not over-write previous installations log files.

C:\Users\USERNAME\AppData\Local\Manitoba HVDC Research Centre\Installer



2.6.9. Notes About Elevation

If you use the `/Elevated=true` switch then you must also do one of the following:

- Run the batch file or the SMS invoker with elevated privileges, or
- Mark the extracted and saved `Installer.exe` as “Run this program as an Administrator” so that the executable is always launched with elevated privileges.

3. Launching Software

There are three methods for launching your software, depending on how it was installed:





- a. **For PCAD Only:** If PSCAD was installed using the InstallShield Wizard, launch “PSCAD v50” from the Windows Start menu.
- b. If your software was installed using MyUpdater:

- Launch the MyUpdater utility either from the Windows Start menu, or from one of the two desktop shortcuts.

Note

It is not necessary to launch MyUpdater with Windows Administrator privileges if it will be used to launch software. Windows Administrator privileges are only required for installing, renewing, or removing software using MyUpdater.

- Select “Run” from the MyUpdater utility to launch the corresponding software.
- c. If your software was installed using the Installer utility, launch the software from the new shortcut on your desktop:

PSCAD v5.0.0	PSCAD Initializer	Enerplot	PRSIM
 PSCAD 5.0.0 (x64)	 PSCAD Initializer 100	 Enerplot 1.0.0	 PRSIM 100 (64-bit)

4. Setting Up Certificate Licensing

This section provides instructions for setting up your Certificate Licensing, which is supported with PSCAD, Enerplot, PRSIM, and the PSCAD Initializer.

4.1. Obtain Access to the Software and Licensing

Perform as follows to obtain access to the software and licensing.

- a. Register a MyCentre user account if you do not already have one.

Note

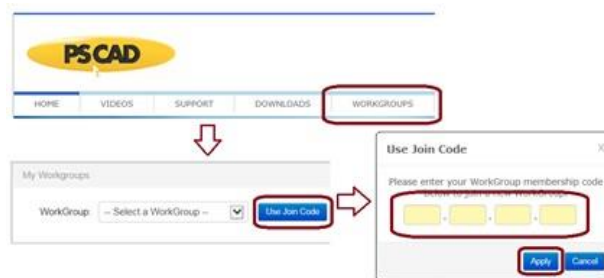
Refer to the MyCentre User Manuals for details on the MyCentre user portal.

- b. Contact your organization’s WorkGroup Administrator to obtain access to the licensing.

Note

For a listing of your organization’s WorkGroup Administrators, please contact the MHI Sales Desk.

- c. If you were provided a join code, log in to MyCentre, and apply the join code as shown:



- d. Send an email using your facility’s e-mail domain to the MHI Sales Desk requesting the software download.
- e. The software download and setup instructions may be provided to authorized users through their MyCentre user account. If so, log in to MyCentre, and download the software from the Downloads tab.

4.2. Required Permissions

Configure required permissions for using certificate licensing on your machine as per this [article](#).

4.3. Configure PSCAD to use Certificate Licensing

This section is applicable only to PSCAD. PSCAD supports two licensing configurations, certificate licensing and lock-based licensing. This application must be configured for certificate licensing before activating a certificate.

There are two ways to configure PSCAD for certificate licensing, the first is during the installation, and the second is post-installation, in the application.

4.3.1. During the PSCAD installation

Ensure to select “Certificate licensing” in Step j, Section [2.2.2](#).

4.3.2. Using the PSCAD Application

Requirements

1. PSCAD has been installed (Section [2.2.2](#))
2. The licensed workgroup is attached to the user’s MyCentre account (Section [4.1](#))

Configure PSCAD to use certificate licensing as follows:

- a. If not already running, launch PSCAD as per Section [3](#). Close out of all automatically displayed dialog boxes.
- b. In the Licensing menu, if the option *Licensing / Switch to **Certificate*** is available, select this option:



Warning

If the option *Licensing / Switch to **Lock-Based*** is available, **make no change**.

- c. The licensing will now be configured for certificate licensing.
- d. Proceed to Section [4.4](#) to activate a certificate to run PSCAD.



4.4. Running PSCAD V5 and Older Versions on a Single Machine

If you are running any older versions of PSCAD using certificate licensing on this machine, licensing must be properly configured in V5. Please see Step 2 of this [article](#) for important information on supported versions and configuration.

4.5. Activate a Certificate

This section provides instructions for activating a certificate to run your software.

Requirements

1. Your software has been installed (Section [2](#))
2. The licensed workgroup is attached to the user's MyCentre account (Section [4.1](#))
3. For PSCAD only, this application is configured for "Certificate" licensing (Section [4.3](#)).
4. For PSCAD only, ensure PSCAD V5 is properly configured if you will be running older versions of PSCAD on the same machine (Section [4.4](#)).
5. Required permissions and settings have been set (Section [4.2](#))

Activate a certificate as follows:

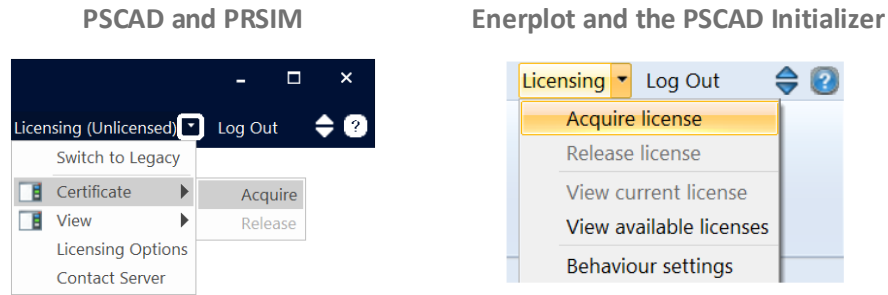
Notes

1. Refer to Section [2.1.3](#) for licensing requirements.
 2. If you encounter any issues when activating a certificate, please refer to Section [7.5](#).
- a. Launch your software as per Section [3](#).

Warning – Before Proceeding!

Ensure you have properly configured PSCAD V5 as per Step [4.4](#) if you will also be running earlier versions of PSCAD.

- b. Select the option to acquire a license as shown:



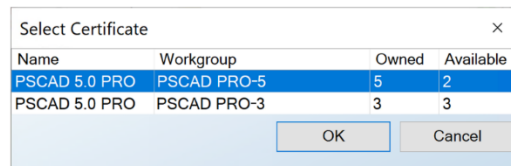
- c. If prompted, enter your MyCentre login credentials, then select "OK".



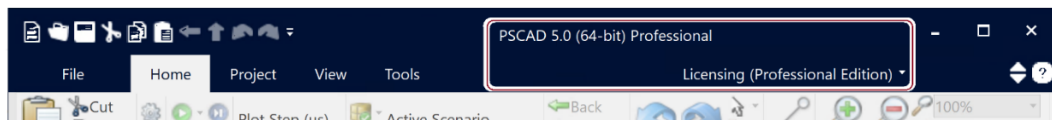
Note

Refer to this [article](#) for login tips and troubleshooting.

- d. If the user has access to multiple workgroups, select the preferred workgroup when prompted:



- e. If the license has successfully been activated, the edition ("Professional" or "Educational") will be displayed in the heading and Licensing menu, as shown below, and a temporary, renewable certificate will be checked out, to use the software.



Note

See Section [1.3.2](#) for details on a certificate checkout.

- f. It is recommended to configure licensing behaviour upon exit as per Section [4.7](#).

Note

For new PSCAD users, a listing of resources for learning to use PSCAD is available in Appendix [B](#).

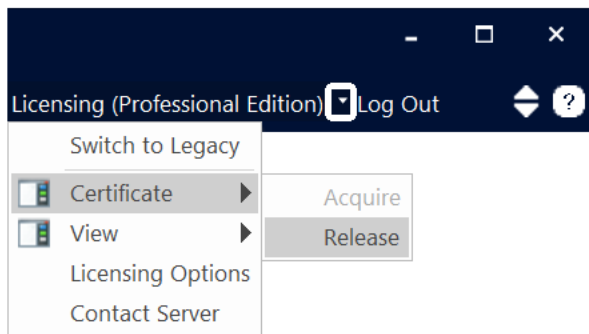
4.6. Return the Certificate

A certificate that has been checked out to a user may be returned either manually or automatically to the MHI server so that it is available to be activated on another machine.

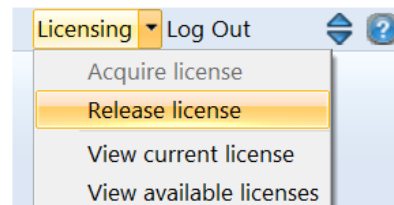
4.6.1. Manually Return the Certificate

- a. Launch your software as per Section 3.
- b. Select the option to release the license certificate as shown:

PSCAD and PRSIM



Enerplot and the PSCAD Initializer



- c. The certificate will be returned to MyCentre.

4.6.2. Automatically Return the Certificate

Set the certificate to be returned automatically whenever the application is closed as per Section 4.8.

4.7. Configuring Your Software to Retain or Return a Certificate

This section provides instructions for configuring your software to either retain or return a certificate automatically, whenever the application is exited. This will ensure that the certificate will be available when it is next launched.

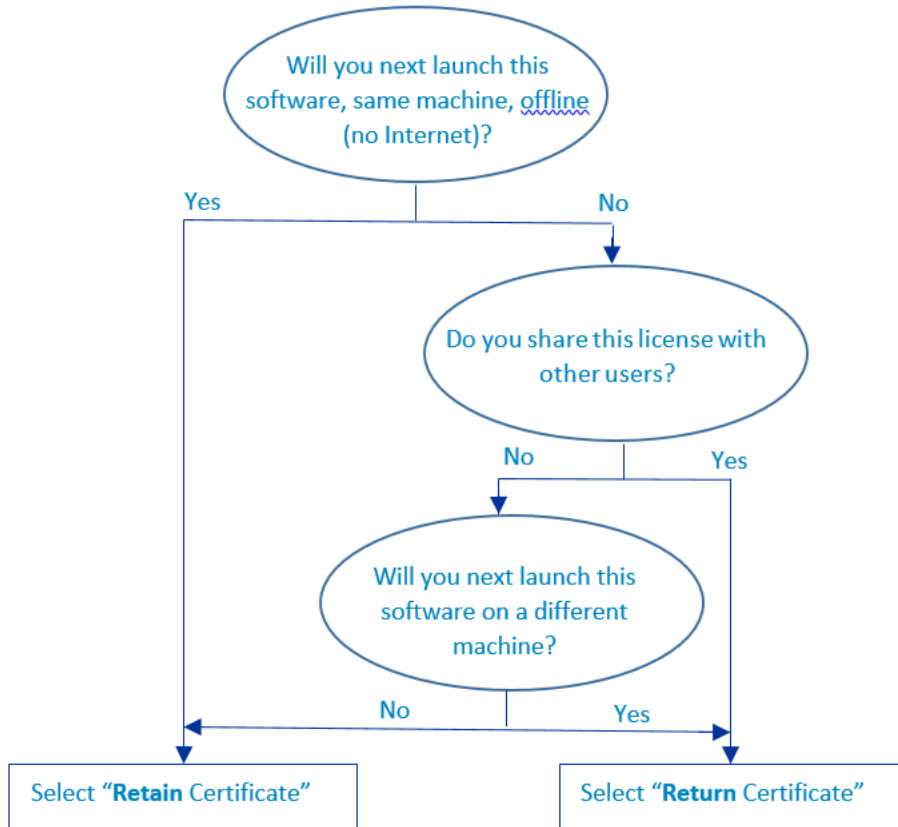
4.7.1. Selecting the Behaviour

PSCAD, Enerplot, PRSIM and the PSCAD Initializer may be configured to automatically retain or return the certificate whenever the application is closed:

- If retained, the certificate will remain checked out to the machine, and not available to be activated on any other machine. The checkout period will be extended whenever the software is launched with Internet connection. The checkout period will eventually expire if not renewed.

- If returned, the certificate will be returned to the MHI server, and will be available to be checked out on the same or other machine.

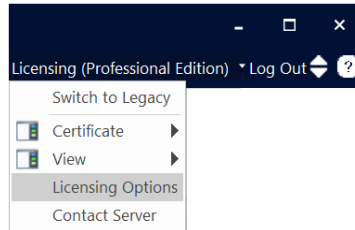
The following chart may be used to help determine how to proceed.



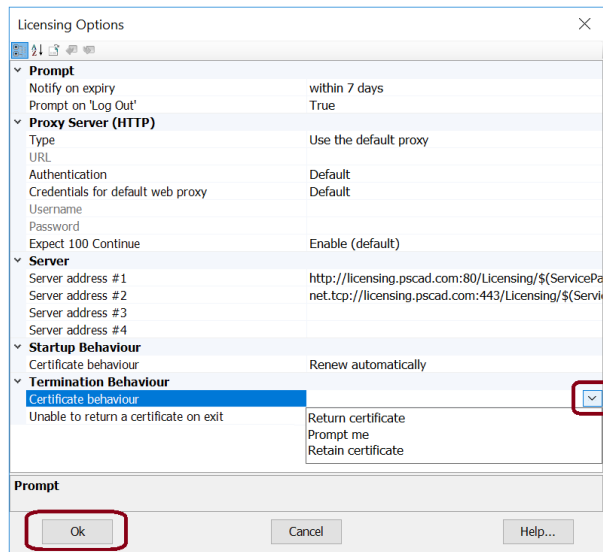
4.7.2. Procedure

Configure the certificate behaviour upon exit as follows:

- a. Select an exit behaviour as per Section 4.7.1.
- b. Display the Licensing Options dialog. This dialog may be displayed similarly to the following:



- c. In the Licensing Options dialog, from the "Certificate Behaviour" drop-down menu, select the appropriate exiting behaviour, then select "OK":



- d. Your software will now perform the selected behaviour whenever the application is closed:





4.8. Sharing a Certificate with Multiple Users

This section provides an important configuration when multiple users are sharing licensing within a WorkGroup.

4.8.1. Background

When licensing is shared between multiple users, all users should configure their software to always check the certificate back in to the license server whenever the application is closed. Otherwise, the certificate will remain checked out on a machine, and not available for other machines.

4.8.2. Instructions

Configure your software to always return the certificate to the license server upon exit as follows:

- a. Follow the instructions in Section [4.7.2](#) with the following note:
 - At Step (c), select “Return certificate”.

5. Setting Up Lock-Based Licensing

This section provides setup and maintenance information for lock-based licensing, and is applicable only to PSCAD.

Warning - Before Proceeding!

If you will be running any older versions of PSCAD using your PSCAD V5 lock-based license, please note the following:

- Some older versions of PSCAD are not compatible with a V5 lock-based license, and
- Some older versions of PSCAD require the use of the Standalone License Manager to be able to use a V5 lock-based license.

Please see Step 2 of this [article](#) for details on supported versions and configuration.

5.1. Installing a License Database File

This section provides instructions for installing your license database file for PSCAD lock-based licensing. The license database file is used in conjunction with a USB lock to authorize licensing (see Section [1.3.3](#) for more information).

The license database file is installed using the License Update Utility, and is installed on the machine hosting the license. This may either be on the client machine when local self-licensing is used, or on a server when using network licensing.

Requirements

1. Licensing requirements are available in Section [2.1.3](#).
2. Windows administrative privileges
3. The “License.txt” file corresponding to the license, which is saved to the PSCAD CD provided at the time of purchase. Or, the License.txt file can be requested from MHI at any time: Plug in the associated USB lock, generate a Get Info log file as per Section [7.6.2](#) Step a, and send in the log file to the [MHI sales desk](#) along with your request.
4. If applicable, all instances of PSCAD must be closed before proceeding.

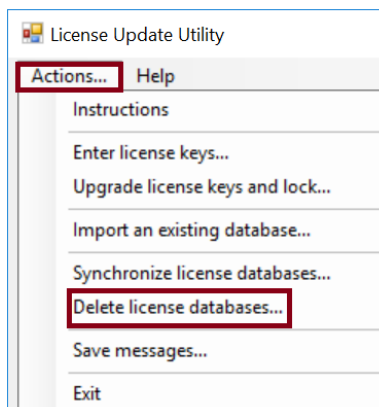
5. If applicable, the License Manager service must be stopped before proceeding (from the Windows Start menu, browse to and right-click on “Stop License Manager Service”, then select “Run as administrator”).

Note

If you encounter any issues with using the License Update Utility, please locate the log file as specified in Section [7.6.1](#) and send the log file in to our support desk as per Section [7.7.2](#).

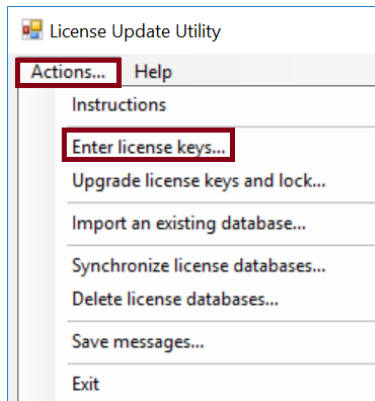
The license database file may be installed using the License Update Utility as follows:

- a. Save the License.txt file corresponding to your PSCAD license to the machine to be licensed.
- b. If you have the associated USB lock, securely plug it in.
(or the lock can be plugged in later, when activate licensing (Section [5.4](#)))
- c. Launch the License Update Utility using one of the following methods:
 - If PSCAD or the License Manager has been installed on this machine, the License Update Utility will also have been installed, and may be launched from Windows Start menu (“Enter Licence Key”).
 - Download the latest version of the License Update utility from this [link](#), extract the files to a local folder, and run the “LicenseUpdate.exe” file.
- d. If a PSCAD license may have been previously installed on this machine, first select the option to delete the associated license file:

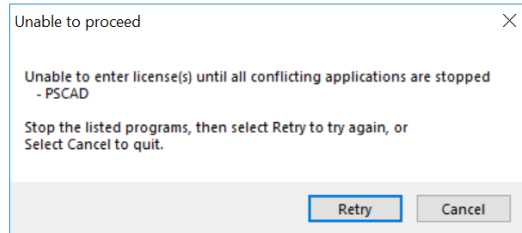




- e. Select "Enter license keys" from the "Actions" menu.



- f. If a message similar to the following one displays, the utility has detected that PSCAD is running. PSCAD must be closed before licensing may resume. Close all instances of PSCAD, then select “Retry”.



- g. When prompted, browse to and select the “License.txt” file that was saved to your computer in Step (a), then select “Open”.
- h. Once the license is installed, the utility will list the details of the installed license. Close the utility.
- i. If applicable, start the License Manager (from the Windows Start menu, browse to and right-click on “Start License Manager Service”, then select “Run as administrator”).
- j. To activate a license, configure PSCAD to use lock-based licensing as per Section [5.3](#), then activate the license as per Section [5.4](#).

5.2. Removing a License Database File

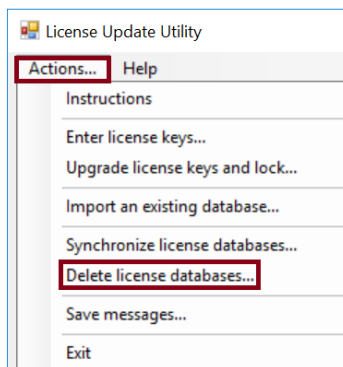
This section provides instructions for removing a license database file from the licensed machine. A license database file is normally removed first, before a different license will be installed (Section [5.1](#)).

Requirements

1. The license is currently installed on the machine (Section [5.1](#))
2. Windows Administrator privileges
3. If applicable, all instances of PSCAD must be closed before proceeding.
4. If applicable, the License Manager service must be stopped before proceeding (from the Windows Start menu, browse to and right-click on “Stop License Manager Service”, then select “Run as administrator”).

The license database file “Imgr-hvdc” may be removed automatically or manually, as follows:

- a. **Automatically:** This procedure is applicable when using License Update Utility v1.37 and newer, as follows:
 - Launch the License Update Utility using one of the following methods:
 - If PSCAD or the License Manager has been installed on this machine, the License Update Utility will also have been installed, and may be launched from Windows Start menu (“Enter Licence Key”).
 - Download the latest version of the utility from this [link](#), extract the files to a local folder, and run the “LicenseUpdate.exe” file.
 - Select “Delete license databases” from the “Actions” menu.



- b. **Manually:** Open a Windows file browser, and delete the PSCAD license database file “Imgr-hvdc” from the following two locations, as applicable:

C:\Windows

C:\Users\Public\Documents\Manitoba HVDC Research Centre\LicenseManager

5.3. Configuring PSCAD to Use Legacy Licensing

This section provides instructions for configuring PSCAD to use legacy lock-based licensing. PSCAD must be configured properly before lock-based license can be activated (Section [5.4](#)).

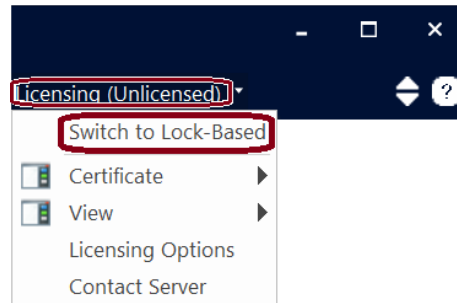
Requirement

PSCAD is installed (Section [2](#))

Configure PSCAD for lock-based licensing as shown:

- a. Launch PSCAD as per Section [3](#). Close out of all automatically displayed dialog boxes.

- b. In the Licensing menu, if the option *Licensing / Switch to **Lock-Based*** is available, select this option:



Warning

If the option *Licensing / Switch to **Certificate*** is available, **make no change**.

- c. Proceed to Section [5.4](#) to activate the license.

5.4. Activating a License

This section provides instructions for activating a license to run PSCAD.

Requirements

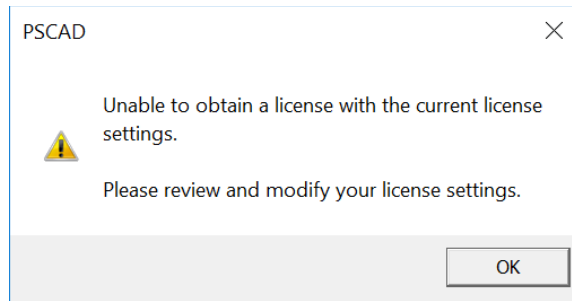
1. PSCAD is installed (Section [2.2.2](#)).
2. The licensing is installed (USB lock and license database file, Section [5.1](#)) as applicable:
 - On the server, if using network licensing, or
 - On the PSCAD machine, if using local licensing
3. The License Manager is installed and configured (Section [2.3.1](#)) as applicable:
 - On the server, if using network licensing, or
 - On the PSCAD machine, if using local licensing AND the license contains more than one PSCAD seat, or
 - A V5 lock-based license will be used to run certain earlier versions of PSCAD as specified in Step 1 of this [article](#).
4. PSCAD is configured for lock-based licensing (Section [5.3](#)).

Note

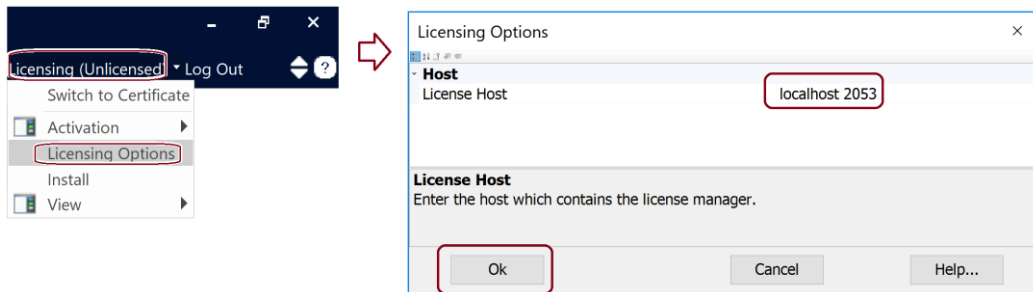
If you encounter any licensing issues, refer to Section [7.6.2](#).

- a. Launch PSCAD as per Section [3](#).

- b. If a license is not available, the following dialog box will display. Select “OK”.

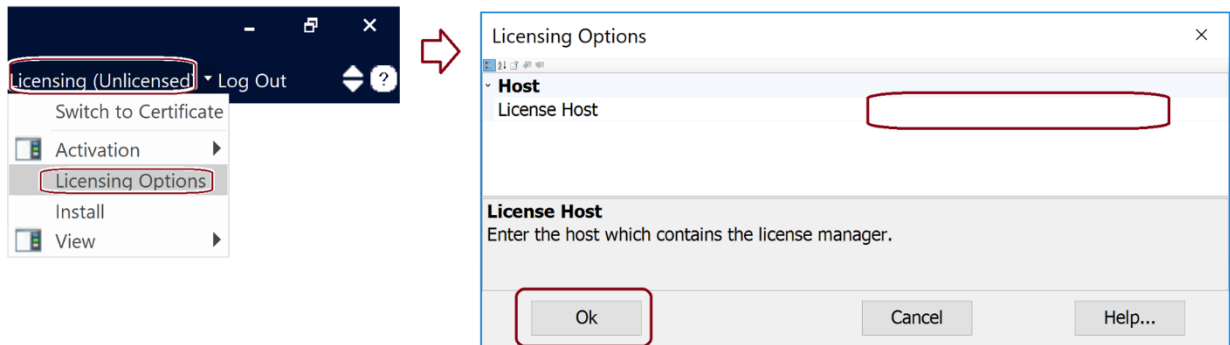


- c. If licensing is being hosted on this machine, enter “localhost 2053” in the *License Host* field, then select “Ok” to apply the changes and close the dialog.



(OR)

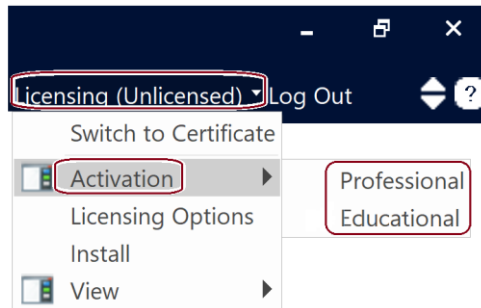
- d. If licensing is being hosted on a server, enter the server name or IP address in the *License Host* field, then select “Ok” to apply the changes and close the dialog.



For example, if the server name is PSCADServer1, enter: **PSCADServer1 2053**

For example, if the server is at IP address 10.10.10.10, enter: **10.10.10.10 2053**

- e. Select “Activation” from the *Licensing* menu, then select the edition:



- f. If the license has successfully been activated, the edition (“Professional” or “Educational”) will be displayed in the heading and Licensing menu.



- g. PSCAD will be licensed to use.

Note

For new PSCAD users, a listing of resources for learning to use PSCAD is available in Appendix [B](#).

5.5. Switching to a Different License (Same Machine, Different License)

This section provides instructions for setting up a PSCAD license (e.g. License “2”) on a computer on which a license is currently already installed (e.g. License “1”). In this procedure, the license database file and USB lock for License 1 will be replaced with those for License 2.

Replace License 1 with License 2 as follows:

- Remove the USB lock for License 1, and securely store it away.
- Plug in the USB lock for License 2.
- Install the license database file for License 2 as per Section [5.1](#). Ensure to perform Step (d), to delete the currently-installed file.

License 2 may now be activated to run PSCAD (Section [5.4](#)).

5.6. Renumbering a License (Same License, New License Number)

This section provides instructions for running the License Update Utility to modify and renumber an existing PSCAD license. A license is typically renumbered for the following reasons:

- A “V4” Professional edition license (for use with v4.2), is updated to “V5”
- An “X4” Professional edition license (for use with v4.2 to v4.6) is updated to “V5”
- A license is downgraded (products are downgraded or removed)

The instructions for this procedure are specified in the article, [Renumbering a License](#).

5.7. Moving the License to a Different Machine (Same License, Different Machine)

This section provides instructions for moving a PSCAD license that is hosted on one machine (Machine A) to be hosted on another one (Machine B).

Requirements

1. Windows administrative privileges
2. The associated PSCAD USB lock

Proceed as follows:

- a. Install the license database file on Machine B using one of the following methods:
 - **Method 1:** If Machine A is available and not reformatted, copy over the license database file “Imgr-hvdc to Machine B as per Section [5.11](#).
(or)
 - **Method 2:** If you have the associated License.txt file, install the license on Machine B using the “License Update Utility” per Section [5.1](#).
- b. If the standalone License Manager is required on Machine B, install and configure the latest License Manager as per Section [2.3.1](#). Note the following:
 - Any prerequisites will automatically be installed during this process (see Section [1.2](#)).
 - When the Setup Tool displays automatically, use this tool to configure how/whether the licensing will be shared as per Section [2.3.1.2](#).
 - When prompted whether to install a license file, select “No”, as this was performed already, in Step (a) above.
- c. Plug in the USB lock on Machine B.
- d. Refer to Section [5.4](#) for activating licensing.

5.8. Sharing a License between Multiple Machines when using Local Licensing (Same License, Multiple PSCAD Machines)

This procedure allows a PSCAD license that is being licensed using local licensing to be shared between multiple PSCAD machines. The license database file will be installed on all PSCAD machines, and the USB lock is simply moved to whichever machine is currently running PSCAD.

Requirements

1. Windows administrative privileges
2. The associated PSCAD USB lock and License.txt file
The “License.txt” file is saved to the PSCAD CD provided at the time of purchase. Or, the License.txt file can be requested from MHI at any time:
Plug in the associated USB lock, generate a Get Info log file as per Section [7.6.2](#) Step a, and send in the log file to the [MHI sales desk](#) along with your request.

Note

If encounter any licensing issues, refer to Section [7.6](#).

Proceed as follows:

- a. Set up the software and licensing on each PSCAD computer as follows:
 - Install PSCAD (and a Fortran compiler) as per Section [2](#).
 - Install the license database file on each PSCAD machine as per Section [5.1](#).
- b. On whichever machine will use the license, plug in the USB lock and activate the license as per Section [5.4](#).

5.9. Switching between Different Licenses on a PSCAD Machine when using Local Licensing (Same Machine, Different License)

This section provides the steps for switching back and forth between two or more PSCAD licenses on one machine when using local licensing. For example, a user can switch between “License 123” and “License 456”.

Requirements

1. Windows administrative privileges
2. PSCAD and Fortran compiler are installed as per Section [2](#).
3. The associated PSCAD USB lock for the two licenses (e.g. Licenses 123 and 456)
4. The associated License.txt file for the Licenses (e.g. Licenses 123 and 456)
The “License.txt” file is saved to the PSCAD CD provided at the time of purchase. Or, the License.txt file can be requested from MHI at any time:



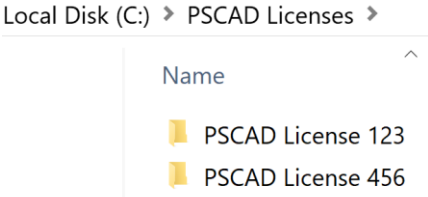
Plug in the associated USB lock, generate a Get Info log file as per Section 7.6.2 Step a, and send in the log file to the MHI sales desk along with your request.

Note

If encounter any licensing issues, refer to Section 7.6.

Proceed as follows:

- a. Set up new folders for storing the PSCAD license text files. In this example, a “PSCAD Licenses” folder is created, containing two sub-folders, “PSCAD License 123” and “PSCAD License 456”:



- b. Save the License.txt files to their respective sub-folders. For example:



- c. To switch to one of the licenses:
 - Securely plug in the associated USB lock.
 - Follow instructions in Section 5.1 to use the License Update Utility to first delete then install the appropriate license (browse to the corresponding license when prompted).
 - Ensure PSCAD is configured for lock-based licensing per Section 5.3.
 - Activate the license per Section 5.4.
 - Troubleshoot any licensing issues if required as per Section 7.6.

5.10. Improving a License (Same License, Improved Products)

This section is applicable if your license will be improved as specified below. The lock will be retained, but the existing license database file will be replaced.

- An Educational edition license is updated to a Professional edition license
- Products are added to a license (e.g. add another PSCAD seat).
- A temporary license is converted to permanent.

A license improvement may be initiated by contacting our sales desk (sales@pscad.com). Ensure to include your license number in your request (if you do not know your license number, refer to Section **Error! Reference source not found.** to determine this).

Once you are authorized for the improvement, you will receive a new License.txt file.

Requirements

1. Windows administrative privileges
2. The License.txt file from our sales desk

Note

If you encounter any issues, refer to Section [7.6](#).

On the machine hosting the license, proceed as follows:

- a. Save the new License.txt file to a new folder on a local drive (e.g. C:\PSCAD License).
- b. Install the new license as per Section [5.1](#).
Ensure to perform Step (d), to delete the currently-installed file.
- c. Licensing may be activated (Section [5.4](#)).

5.11. Moving a License Database File

If a license database file (Imgr-hvdc) has been installed on one machine, it may be moved to another.

There are two methods for performing this task, automatic and manual:

a. Automatic Procedure

Requirement

Windows Administrator privileges

- On the machine currently hosting the Imgr-hvdc file, copy the file to a memory device. The file will be located in one or both the following locations:

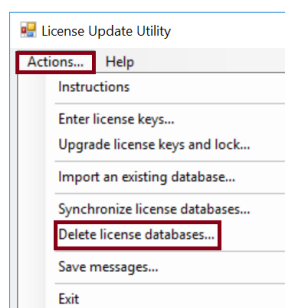
`C:\Users\Public\Documents\Manitoba HVDC Research Centre\LicenseManager\
C:\Windows\`

- On the target machine:
 - Plug in the memory device.
 - If applicable, close all instances of PSCAD and stop the License Manager service (from the Windows Start menu, right-click on “Stop License Manager Service”, and select “Run as administrator”).
 - Launch the License Update Utility as per Section [5.1](#) Step c.

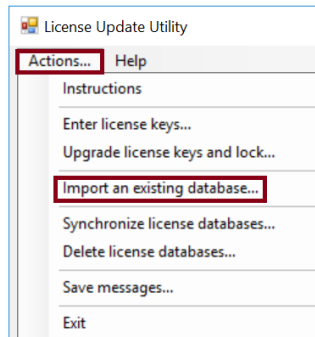
Note

License Update Utility v1.43 or later is supported.

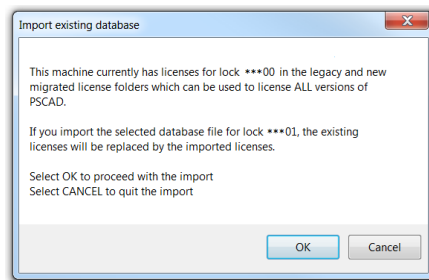
- To ensure there is no license file currently installed, select “Delete license databases” from the *Actions* menu.



- From the *Actions* menu, select “Import an existing database”.



- When prompted, browse to the *Imgr-hvdc* file on the memory device, and select “Open”.
- A message similar to the following will be displayed. Select “OK” to copy the file.



- When the message “Synchronization complete” is displayed in the tool, the license database file has been saved to the two required locations. The tool may be closed.
- To activate the license, refer to Section [5.4](#).

b. Manual Procedure

Requirement

Windows Administrator privileges

- On the machine currently hosting the *Imgr-hvdc* file, copy the file to a memory device. The file will be located in one or both the following locations:

*C:\Windows\
C:\Users\Public\Documents\Manitoba HVDC Research Centre\LicenseManager*

- On the target machine:
 - Open a Windows file browser, and delete the license database file, “*Imgr-hvdc*”, from the following two locations as applicable:

*C:\Windows\
C:\Users\Public\Documents\Manitoba HVDC Research Centre\LicenseManager*



- Plug in the memory device, and save the copied Imgr-hvdc file to the two above locations.

Note

If any of the folders in the above paths are missing, they must be created first.

- To activate the license, refer to Section [5.4](#).

6. Removing Software

This section provides instructions for removing software. Refer as follows:

- To use MyUpdater to remove software, refer to Section [6.1](#).
- To use the Windows Control Panel to remove software, refer to Section [6.2](#).

6.1. MyUpdater

If the following software was installed using MyUpdater, it may be removed using the installed MyUpdater Utility:

- PSCAD
- Enerplot
- PRSIM
- The PSCAD Initializer
- GFortran

Note

If you encounter any issues with using MyUpdater, refer to Section [7.3](#).

Requirement

Windows administrative privileges

Remove software using MyUpdater as follows:

- a. Launch MyUpdater (select “MyUpdater” from the Windows Start menu). When prompted, ensure to select the option to run with Windows administrative privileges (required when installing, updating or uninstalling software).
- b. If not already logged in to MyUpdater, log in using your MyCentre login credentials.

Note

Refer to this [article](#) for login tips and troubleshooting.

- c. Your authorized products will be listed in MyUpdater. In the “Setup” column, select the “Remove” button corresponding with the intended software, and it will be uninstalled.



6.2. Windows Control Panel

The following software may be removed using the Windows Control Panel:

- PSCAD
- Enerplot
- PRSIM
- PSCAD Initializer
- GFortran
- Python
- License Manager
- Sentinel Drivers
- Microsoft Visual C++
- Microsoft .NET Framework

Remove the software as follows:

Requirement

Windows administrative privileges

- a. Display the Windows Programs and Features dialog box (from the Windows Start menu, go “Add or remove programs”).
- b. From the displayed software listing, select the program to be removed, select “Uninstall” when prompted, then proceed through the removal screens.

7. Resolving Issues

Refer to the following sections if you encounter any issues:

- See Section [7.1](#) for installation issues when using the InstallShield Wizard
- See Section [7.2](#) for installation issues when using the Installer Utility
- See Section [7.3](#) for installation issues when using MyUpdater
- See Section [7.4](#) for issues when configuring the Standalone License Manager
- See Section [7.5](#) for certificate licensing issues
- See Section [7.6](#) for lock-based licensing issues
- See Section [7.77](#) to contact our support desk

7.1. Installation Issues – InstallShield Wizard

If you encounter any installation issues when installing software using the InstallShield Wizard, please refer to the solutions manual posted to this [article](#).

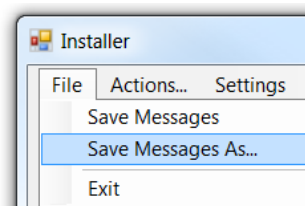
If the problem persists, please contact our support desk as per Section [7.77](#). Ensure to include as much information as possible, including your organization, license number, description of the problem, and screenshots of any error messages.

7.2. Installation Issues – Installer Utility

If you encounter any issues with using the Installer utility, please refer to the troubleshooting manual posted to this [article](#).

If the problem persists, please send in your Installer utility log file to the MHI support desk for assistance:

- Following a failed installation, do not close the Installer utility; save the Installer log file to your machine (from the “File” menu, select “Save Messages As”).



- Send a description of the issue along with the Installer log file to our support desk as specified in Section [7.77](#).

7.3. Installation Issues – MyUpdater

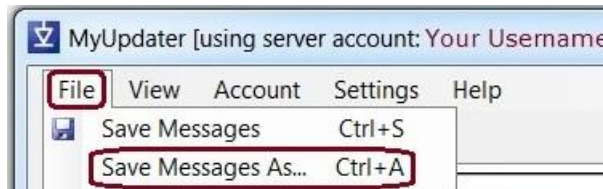
Some common issues with MyUpdater are as follows:

- If MyUpdater is blocked from being installed, refer to this [article](#) for an alternate installation.
- If MyUpdater is installed, but cannot be used to install any products, refer to this [article](#) for troubleshooting tips.

For any additional issues related to installing and using MyUpdater, refer to the manual “Update Client (MyUpdater) - Common Issues”, which may be downloaded from this [article](#).

If you require further assistance, please forward the following information to the MHI support desk as per Section [7.77](#):

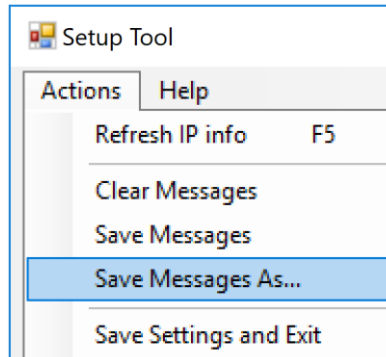
- Your registered MyCentre username and e-mail address
- A description of the problem
- Screenshots of any error messages
- If MyUpdater is installed, save the messages to your computer following the failed step, and send in the log file:



7.4. Issues with Configuring the Standalone License Manager

If you encounter any issues when using the License Manager Setup Tool, please contact the MHI support desk as follows:

- a. Save the Setup Tool log file to your machine (from the “Actions” menu, select “Save Messages As”).



- b. Send a description of the issue along with the log file to our support desk as specified in Section [7.77](#).

7.5. Issues with Certificate Licensing

If you encounter any issues with activating certificate licensing, please refer to the troubleshooting manual posted to this [article](#).

If the matter persists, please send in your licensing log file to the MHI support desk as follows:

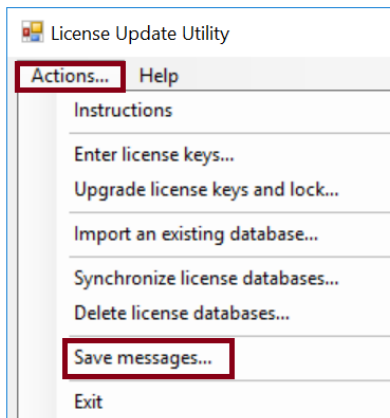
- a. Locate the licensing log file/s as specified in this [article](#).
- b. Send a description of the issue along with the licensing log file/s from Step (a) to our support desk as specified in Section [7.77](#).

7.6. Issues with Lock-Based Licensing (PSCAD)

7.6.1. Issues with Using the License Update Utility

If you encounter any issues when using the License Update Utility, please send in the log file to the MHI support desk as follows:

- a. Save the License Update log file to your machine (from the “Actions” menu, select *Save messages*).



- b. Forward the following to our support desk (Section [7.77](#)):
 - A description of the issue.
 - The License Update Utility log file.

7.6.2. Issues with Activating your License

If you encounter any issues with activating a PSCAD license, please forward the following log files as applicable to the MHI support desk as per Section [7.77](#).

- a. **GetInfo.txt file:** This file is available on computers running the Standalone License Manager or PSCAD, as follows:
 - If this machine is hosting the license, ensure Sentinel Drivers for detecting the USB lock are installed (see Section [2.3.7](#)).
 - If this machine is hosting the license, ensure the USB lock is securely plugged in.
 - Download the latest GetInfo utility from this [link](#), unzip the GetInfo32.exe file, and save this file to your computer.
 - Run the unzipped GetInfo32.exe file, and this utility will launch. When prompted whether to test shortcuts, select “No”.

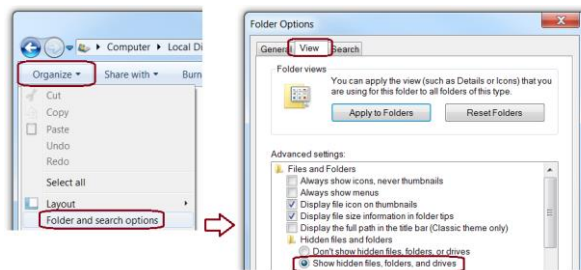
- The utility will display the results and save the generated log file. The location of the log file will be displayed – send in this file.

b. **PscadLmgr.txt file:** This file is available on computers running the PSCAD application. The location of this file is related to your Windows operating system, as follows:

```
C:\Users\All Users\Manitoba HVDC Research Centre\LicenseManager\  
C:\ProgramData\Manitoba HVDC Research Centre\LicenseManager\  
C:\Users\<Your User ID>\AppData\Local\Manitoba HVDC Research Centre\LicenseManager\
```

Note

If the AppData folder is hidden, set hidden folders to display as shown:



c. **Lmgrd-log.txt file:** This file is available on computers running the Standalone License Manager. The location of this file is located similarly as listed in Step (b) above.

7.7. Contacting the MHI Support Desk

If you are unable to resolve any installation or licensing issues, a support request may be submitted to the MHI support desk.

7.7.1. Relevant Information for a Support Request

Ensure to include all relevant information in your support request to expedite assistance, including:

- Your software version and license number
- A detailed description of the issue
- Any utility or licensing log files, as applicable
- Screenshots of any error messages

7.7.2. How to Submit a Support Request

Send an e-mail to support@mhi.ca, ensuring to include the relevant information outlined in Section 7.7.1.



Appendix A: Network Licensing

A.1. Overview

This appendix describes PSCAD lock-based network licensing, in which a PSCAD license is hosted on a server and shares licensing with client machines over the network.

Network licensing capabilities were enhanced at License Manager 1.42 (released with PSCAD v4.6.1), including a simplified setup, and the new ability to license across multiple networks.

Version 1.42 and newer supports the following three modes:

- “This machine only (private)”: Licensing is limited to the host computer (i.e. local licensing mode),
- “Everyone (public)”: Licensing is shared with clients residing on any network able to reach the server, and
- “Authorized networks (protected)”: Licensing is limited to machines residing on specified networks.

Notes

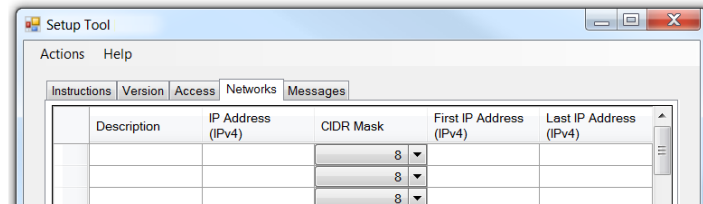
1. Any PSCAD client on the server is automatically permitted access to the licensing.
2. See Appendix [A.2](#) for special information regarding authorized networks mode setup.

The License Manager Setup Tool, which is installed alongside License Manager software, is used to select and configure the required mode. See Section [2.3.1](#) for installation and setup instructions.

A.2. Setting up the Authorized Networks Mode

This appendix provides some tips for setting up the authorized networks mode, in which licensing will be permitted only across authorized networks or sub-networks.

Authorized networks are specified using the “Networks” tab in the License Manager Setup Tool, as shown below. This tab is set up as per Section [2.3.1.2](#).



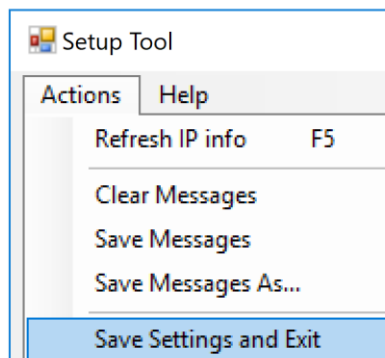
All ranges of internal networks or sub-networks that will be allowed access to the license are to be identified in this tab. These would include wired and wireless networks or sub-networks, as well as virtual private networks. The following is an example of authorized networks and sub-networks that have been configured in the Setup Tool:

1. Enter description (for your own information, disregarded by the utility) 2. Enter the net/sub-net (Enter "0" for any digits that will be disregarded) 3. Select the CIDR Mask to specify restriction on this net/sub-net

Description	IP Address (IPv4)	CIDR Mask	First IP Address (IPv4)	Last IP Address (IPv4)
Net 10 (wired)	10.0.0.0	8	10.0.0.0	10.255.255.255
Subnet 125.10 (wireless)	125.10.0.0	16	125.10.0.0	125.10.255.255
Subnet 125.11 (wireless)	125.11.0.0	16	125.11.0.0	125.11.255.255
Subnet 192.10 (wired)	192.10.11.0	24	192.10.11.0	192.10.11.255
VPN 196 (wired)	196.10.10.0	24	196.10.10.0	196.10.10.255

4. Automatically populated:
The range of supported IP addresses for each net/subnet (as determined by the 2nd and 3rd column entries)

Once the settings have been entered, select "Save Settings and Exit" from the *Actions* menu:



Note

These settings will be saved to the following location:

C:\Users\Public\Documents\Manitoba HVDC Research Centre\LicenseManager\AuthorizedIPs.xml

If you are unsure which networks require authorization, please refer to your IT staff. If there are any questions about using this tool, please feel free to contact our support desk (support@mhi.ca).





Appendix B: Resources for New Users

Resources to help new users to become familiar with the software are as follows:

- [PSCAD V5](#)
- [Enerplot](#)
- [PRSIM](#)
- [PSCAD Initializer](#)



DOCUMENT TRACKING

Rev.	Description	Date
0	Initial	01/Sep/2020
1	Sections 4.2-4.6 renumbered to Sections 4.3-4.7; New Section 4.2; Update to Sections 2.1.3 and 4.4	25/Jan/2021
2	Sections 4.4-4.7 renumbered to Sections 4.5-4.8; New Section 4.4 Update to Sections 1.2.6, 2.1.2, 2.3.1, 4.2, 4.5, 5, and 5.4	01/Feb/2021
3	Correction to the Table of Contents	08/Apr/2021

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