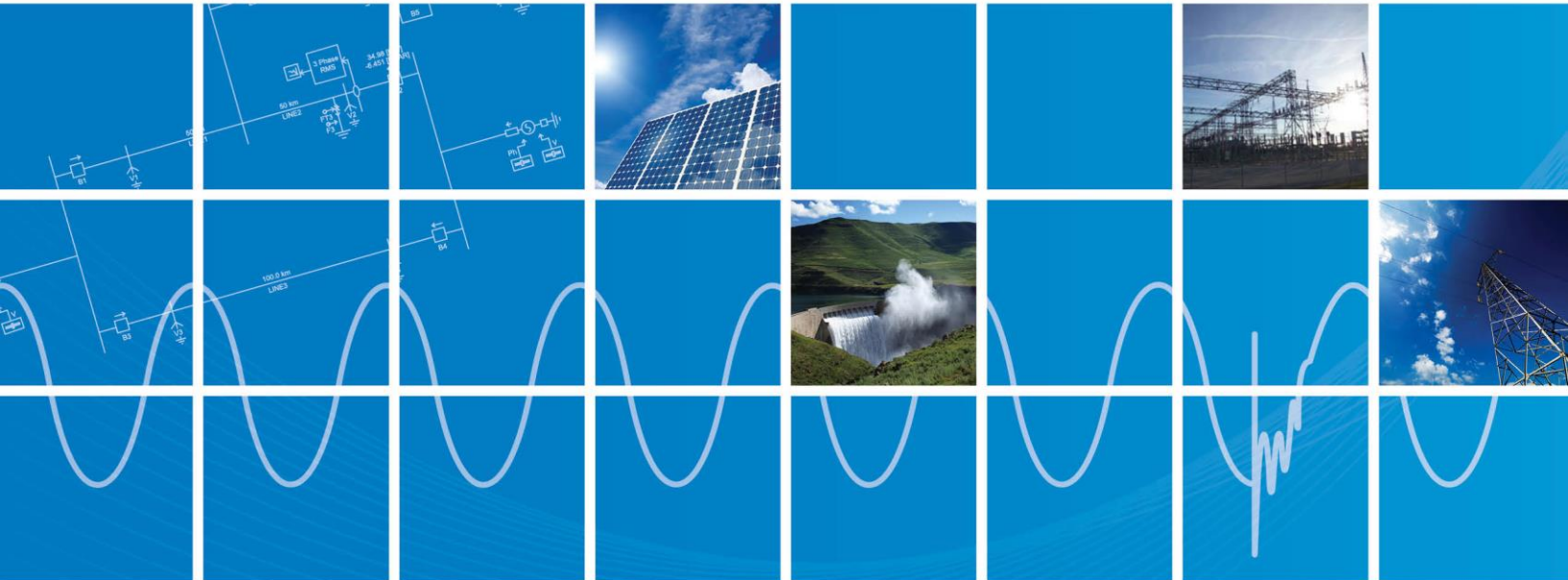# Manitoba
HYDRO INTERNATIONAL

Silent Installation - Best Practices

Written for the following software:

- PSCAD^{TM} Version 5.0
- Enerplot 1.0, 1.1
- FACE 2.0 – Field and Corona Effect
- PRSIM 1.0, 1.1
- Initializer 1.0
- Python
- GFortran v4.6
- GFortran v8.1

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Manitoba
HYDRO INTERNATIONAL

CONTENTS

1. Overview

1.1. Types of Installers Used

All products are installed via 1 of 2 types of installers: an InstallShield package or a manifest-based Installer Utility package.

InstallShield Packages

Products which are installed via the InstallShield package require you to first generate an answers file on clean or typical machine prior silently installing it on the target machines. Problems can occur if a target machine

1. Does not have all the prerequisites installed, or

2. Already has the same version of the product installed, or

3. Has a newer version of the product installed,

As then the answers file won't have the answers recorded for those unexpected situations.

Installer Utility Packages

Products which are installed using the Installer Utility require command line arguments instead of an answers file, and generally should install the product without issues for situations 2 and 3 above.

The latest installer log files will be located in this folder:

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

Situation 1 above will be addressed in the following sections.

1.2. Overview of Products

The PSCAD InstallShield package is bundled with, and manages, the installation of the following products and items,

- PSCAD,
- Sentinel USB driver, used for lock-based licensing,
- GFortran 4.6.2, GFortran 8.1,
- Python (PSCAD v5.0.2++)
- The lock-based License Manager

The PSCAD Installer Utility package is bundled with, and manages, the installation of the following products and items,

PSCAD (PSCAD 5.0.1++),

Python

The following products are available separately, generally, but may be bundled with older versions of PSCAD,

- Enerplot
- PRSIM
- PSCAD Initializer

The following product is only available separately,

- FACE

1.3.   Overview of Silent Installation

Silent, or unattended, installation allows you to use automation to install software on one or more machines without human intervention. Clients in some educational institutions and in some large commercial institutions are known to use automation to install PSCAD and other products. Automated installation is also used in some virtual machine configuration scenarios.

Products which support silent installation,

- PSCAD,

- Sentinel USB driver, used to support lock-based licensing for PSCAD-only,

- GFortran 4.6.2, GFortran 8.1,

- Enerplot,

- PRSIM,

- PSCAD Initializer,

- FACE

Products which do not support silent installation,

- The lock-based License Manager, because it is generally only required on one machine in an institution.

1.4.   Summary

The information above can be summarized in the table below.

Product	Bundled With PSCAD	Available separately	Uses InstallShield	Uses Installer Utility	Supports Silent installation
PSCAD	Yes		Yes	Yes	Yes
Sentinel USB driver	Yes		Yes		Yes
License Manager	Yes		Yes		No
GFortran 4.6.2	Yes	Yes	Yes[3]	Yes[4]	Yes
GFortran 4.6.2 (PSCAD 5.0.2++)		Yes		Yes	Yes
GFortran 8.1	Yes	Yes		Yes	Yes
PSCAD 5.0.1++		Yes		Yes	Yes
Enerplot	[1]	Yes		Yes	Yes
PRSIM	[1]	Yes		Yes	Yes
PSCAD Initializer	[1,2]	Yes		Yes	Yes
FACE		Yes		Yes	Yes

[1] Included in the PSCAD Enhanced package for PSCAD 5.0.0 to 5.0.1

[2] Included in the PSCAD Base package for PSCAD 5.0.0 to 5.0.1

[3] Up to and including PSCAD v5.0.1

[4] As of PSCAD v5.0.2++

2. Guiding Philosophy of Silent Installs

To minimize potential issues when silently installing software on the target machines, ensure that your silent installation of any of our products will

1. Only be run after all required prerequisites are installed, and

2. Only install one prerequisite, driver, or product at a time

3. Workflows

3.1. General Workflow

1. Ensure that any and all Visual C++ prerequisites, if specified in the product requirements document or in the installer manifest, are installed and up-to-date,

2. Ensure that the required .NET Framework, if specified in the product requirements document or in the installer manifest, is installed and up-to-date,

3. If the Sentinel USB driver is required for your licensing configuration, then install/repair it

4. If Python is required, then install it individually

5. If PSCAD is required, install it individually, ensuring that Python installation is disabled if already installed

6. If any other product is required, install it individually.

3.2. Typical Detailed Workflow

Step	Description	Refer to this document section
1	If using the InstallShield package of PSCAD, ensure that the renaming actions are performed, then record the silent install using the RecordSilentInstall_NoDrivers.bat file or equivalent script, keeping in mind that you need to add arguments to skip the USB drivers and skip the python installation /SkipPython	Section 8.1 Section 8.4 #2
2	Ensure the latest Visual C++ 2022 Redistributables x86 and x64 are installed. Available in the InstallShield package. Also available here: https://VisualStudio.com/downloads scroll down to *Other tools, frameworks, and redistributables*.	Section 4
3	Ensure that .NET Framework 4.8 is installed	Section 5
4	Install Enerplot (if needed)	Section 9.2
5	Install PRSIM (if needed)	Section 9.3
6	Install Visual C++ 2012 Redistributable (x86) Update 4 (if Initializer is to be installed). Found in the unzipped \Support\Redists folder for this product installer	Section 4
7	Install Initializer (if needed)	Section 9.3
8	Install GFortran 4.6.2 (if needed)	Section 9.3
9	Install GFortran 8.1 (if needed)	Section 9.3
10	Install the Python 3.7.8 bundled with PSCAD 5.0.2	Section 7
11	Install PSCAD 5.0.2, • Skipping the Python install as that is already doneIf using the InstallShield package, run the RunSilentInstall_NoDrivers.bat file or equivalent script, adding in the /SkipPython argument.If using the InstallerUtility package (which does not include the USB driver), perform the following InstallerUtility.exe /Ignore="Installs_Python" See below for more details.	Section 8.4 #2 Section 8.4 #3

4. Ensuring the Visual C++ Prerequisites are Installed

Review the product's *Minimum Requirements* documents to determine which, if any, Visual C++ prerequisites are required, or, if the product is deployed via the Installer Utility, extract the manifest…xml file from the ZIP file in the *Product* folder, and look for values that look like the following

> VC_Prerequisites="eVCR2022x64"

In either case, then look up the value or name from the table below

VC_Prerequisites value	Redistributable name	Downloadable from here
eVCR2012x86up4	Visual C++ 2012 Update 4 (x86)	http://updater.pscad.com/redistributables/vc2012/vc_redist.x86.exe
eVCR2015x86	Visual C++ 2015 (x86)	http://updater.pscad.com/redistributables/vc2015/vc_redist.x86.exe
eVCR2015x64	Visual C++ 2015 (x64)	http://updater.pscad.com/redistributables/vc2015/vc_redist.x64.exe
eVCR2017x86	Visual C++ 2017 (x86)	http://updater.pscad.com/redistributables/vc2017/vc_redist.x86.exe
eVCR2017x64	Visual C++ 2017 (x64)	http://updater.pscad.com/redistributables/vc2017/vc_redist.x64.exe
eVCR2022x86	Visual C++ 2022 (x86)	https://visualstudio.microsoft.com/downloads/ http://updater.pscad.com/redistributables/vc2022/vc_redist.x86.exe
eVCR2022x64	Visual C++ 2022 (x64)	https://visualstudio.microsoft.com/downloads/ http://updater.pscad.com/redistributables/vc2022/vc_redist.x64.exe

An (x86), or 32-bit, redistributable can be silently installed as follows

> "<absolute_folder_path>\vc_redist.x86.exe" /q

An (x64), or 64-bit, redistributable can be silently installed as follows

> "<absolute_folder_path>\vc_redist.x64.exe" /q

The installer will return a return code which can be looked up in *Appendix A*.

Important Note
Make sure to use the straight quotes, "...", as shown above, and not the slanted Microsoft Word-type quotes, "…".

5. Ensuring the .NET Framework Prerequisite is Installed

To simplify matters, just ensure that the .NET Framework 4.8 is installed, as that satisfies the .NET Framework requirement for all our products.

Where to get the Installer package

You can get it from here:

> https://dotnet.microsoft.com/en-us/download/dotnet-framework/net48

Alternatively, it is available for download here at either of the following links:

> http://updater.pscad.com/frameworks/net48/ndp48-x86-x64-allos-enu.exe

> https://download.visualstudio.microsoft.com/download/pr/7afca223-55d2-470a-8edc-6a1739ae3252/abd170b4b0ec15ad0222a809b761a036/ndp48-x86-x64-allos-enu.exe

How to Install

It can be silently installed as follows:

> "<absolute_folder_path>\ndp48-x86-x64-allos-enu.exe" cmdline="/q /norestart" cmdlinesilent="/q /norestart" returncodetoreboot="1641,3010" requiresmsiengine="1"

The above command line switches are from the InstallShield prerequisite file for the .NET Framework 4.8 version.

The installer will return a return code which you can then look up in *Appendix A*.

> **Important Note**
> Make sure to use the straight quotes, "...", as shown above, and not the slanted Microsoft Word-type quotes, "…".

6. Ensuring the Sentinel USB Driver is Installed

6.1. Background

The Sentinel USB driver should be installed

- only if PSCAD will be configured to use lock-based licensing, which will be performed as self-licensing, and not using a License Manager

6.2. Where to get the Installer package

The Sentinel USB installer is available as follows...

PSCAD InstallShield packages

The Sentinel USB driver installer files are located in the \USBDriver folder on the PSCAD installer media, as shown below
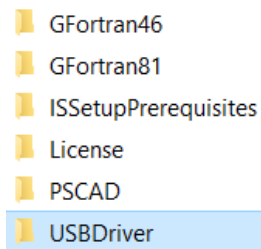
Which normally contains the following files
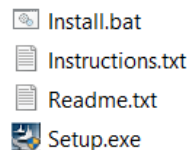
PSCAD Installer Utility packages

These packages do not contain the Sentinel USB installer files.

Download site

Alternatively, you can download the Sentinel USB installer files from here:

http://updater.pscad.com/utilities/USBDrivers_7.6.0.zip

6.3.   How to Install it

You can silently install or repair the Sentinel USB driver on your machine as follows

> "<absolute_folder_path>\Setup.exe" /s /v"/qn+ ADDLOCAL=USB_Driver,Parallel_Driver CONFIRMUPGRADE=TRUE"

The installer will return a return code which you can then look up in *Appendix A*.

> **Important Note**
> Make sure to use the straight quotes, "...", as shown above, and not the slanted Microsoft Word-type quotes, "…".

7. Ensuring That Python is Installed

7.1. Background

Python 3.7.8 (minimum) must be installed if you want to use Python scripting to automate PSCAD V5.

Python 3.5.5 (minimum) must be installed if you want to use Python scripting to automate PSCAD 4.6.x.
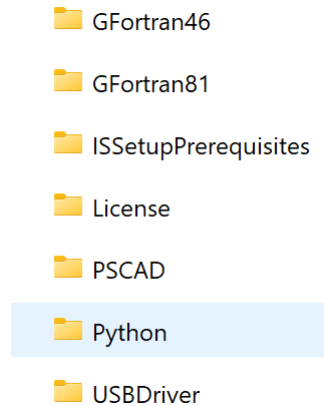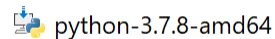
7.2. Where to get the Installer Package

The Python InstallShield package is available as follows…

PSCAD InstallShield packages

The Python installer files are located in the \Python folder on the PSCAD v5.0.2+ installer media, as shown below:

📁 GFortran46

📁 GFortran81

📁 ISSetupPrerequisites

📁 License

📁 PSCAD

📁 Python

📁 USBDriver

Which normally contains the following file:

python-3.7.8-amd64

PSCAD Installer Utility packages

- Request the PSCAD V5 Standalone installer (PSCAD_50x_x64.zip) from [PSCAD Sales](#).
- Download the file, and extract the PSCAD50x_x64.zip file once to a temp folder.
- Browse into the Product folder and extract that ZIP file to a temp folder.
- Extract the *Installs_Python.zip* file to recover the *python-3.7.8-amd64.exe* file.

Installing Python before installing PSCAD

You can silently install the Python as follows:

> "<absolute_PSCAD_installer_path>\Python\python-3.7.8.exe" /passive InstallAllUsers=1

You can silently install a different version of Python on your machine as follows, however, note that this may cause compatibility issues when running Python scripts to automate PSCAD.

> "<absolute_Python_Installer_path>\python-3.x.y.exe" /passive InstallAllUsers=1

The Python installer will return a return code which you can then look up in Appendix A.

7.3.   Skipping the Installation of Python when Installing PSCAD

Python is normally installed as part of the PSCAD installation process. You can skip the installation of Python by doing one of the following actions.

1. When recording the installation of PSCAD using the InstallShield package, when you see the following dialog, then select *No*:
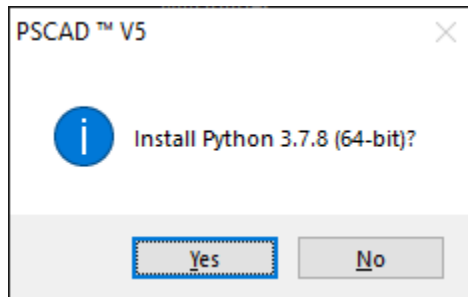
2. When installing PSCAD 5.0.2 or better using the InstallShield package, ensure the following argument is specified,

    Setup.exe **/SkipPython ...**

    To skip the installation of Python <u>and</u> the Python WHL files, ensure the following arguments are specified,

    Setup.exe **d**

3. When installing PSCAD 5.0.2 or better using the Installer Utility package, ensure the following argument is specified,

    InstallerUtility.exe **/Ignore="Installs_Python" ...**

    To skip the installation of Python and the Python WHL files, ensure the following arguments are specified,

    InstallerUtility.exe **/Ignore="Installs_Python;Installers" ...**

Important Note

Make sure to use the straight quotes, "...", as shown in the above arguments, and not the slanted Microsoft Word-type quotes, "…".

8. InstallShield Packages

8.1. Silently Installing PSCAD (InstallShield Package)

It is important to keep in mind that the PSCAD InstallShield package contains the PSCAD-specific installer content, and additionally,

- The Sentinel USB driver installer, and

- Multiple other installers (see table below).

Recall that a silent install should only install one item, so that means you need to disable the installers for the other products

- Before recording the silent installation answers files, and

- When silently installing PSCAD-only on the target machines

On the PSCAD installation media, you need to browse into the sub-folder listed below, <u>if it exists</u>, and perform the specified action

Subfolder	Action
Enerplot	Rename *Installer.exe*
GFortran46	Rename *setup.exe*
GFortran81	Rename *Installer.exe*
Initializer	Rename *Installer.exe*
ISSetupPrerequisites	Browse into this folder Rename the 3 prerequisite files, originally ending in .prq to .prq__, as shown below ☐ Microsoft .NET Framework 4.8 Full.prq__ ☐ Microsoft Visual C++ 2017 Redistributable Package (x64).prq__ ☐ Microsoft Visual C++ 2017 Redistributable Package (x86).prq__
License	Rename *setup.exe*
PRSIM	Rename *Installer.exe*
Python	Delete the python-3.7.8-amd64.exe, or use the /SkipPython argument. See details below.
USBDriver	No action required

You will need to first *record* the silent install answer on a typical machine, and then *run* the silent install on the target machines. See the following documents for more detailed instructions on this:

a. For PSCAD X4:
   If using Certificate licensing, refer to the "Detailed"setup document posted to this <u>article</u>.
   If using Lock-based licensing, refer to the "Detailed"setup document posted to this <u>article</u>.

b. For PSCAD V5:
For either Certificate or Lock-based licensing, refer to the "Detailed"setup document posted to this [article](#).

c. For Enerplot: Refer to the "silent" setup document posted to this [article](#).

d. For GFortran v4.2.1: See the resources listed in Step (a) above.

e. For GFortran v4.6.2: See the resources listed in Step (a) above.

f. For GFortran v8.1: See the resource listed in Step (b) above.

g. For the PSCAD Initializer: Refer to the "silent" setup document posted to this [article](#)

h. For FACE: Refer to the "silent" setup document posted to this [article](#)

i. For PRSIM: Refer to the "silent" setup document posted to this [article](#)

We suggest that you use the following batch file to record your silent installation answers, as it does not install the USB Driver

> RecordSilentInstall_NoDrivers.bat

As that should have already been done separately from the PSCAD installation.

You should skip the installation of the included Python 3.7.8 by doing any one of the following:

1. In the installer, browse to the Python folder and **delete** the python-3.7.8.amd64.exe file, or

2. When launching the Setup.exe, **add** the following argument: /SkipPython

   Example: Setup.exe /SkipPython

   Note
   The /SkipPython argument is only supported as of PSCAD v5.0.2.

   Important Note
   If you are going to use automation to run any of the provided RunSilentInstall*.bat files, you will need to first delete or comment out the following line

   ```
   @pause
   ```

   As that statement will wait for a user to press any key to continue, but since there is no user logged in during automation to do that, it can hang the automated deployment, or delay it until a timeout expires.
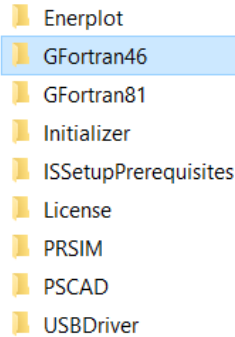
If the silent install on the target machine was launched by running a RunSilentInstall*.bat file, it will display a return code which you can then look up in Appendix C.

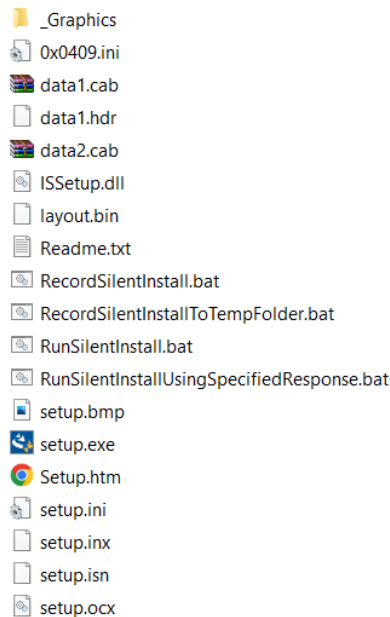## 8.2.   Silently Installing GFortran 4.6.2 (InstallShield Package)

Note
GFortran v4.6.2 is deployed using the InstallShield package with PSCAD v4.6.0 to v5.0.1.
(see Section 1.12 for silently installing GFortran v4.6.2 when using the Installer Utility package,
available at PSCAD v5.0.2++)

If the GFortran 4.6.2 installer is on the PSCAD installer media, it will be located in the following folder

- Enerplot
- **GFortran46**
- GFortran81
- Initializer
- ISSetupPrerequisites
- License
- PRSIM
- PSCAD
- USBDriver

If the product installer was downloaded from your MyCentre account, then you need to extract it once
to a temporary folder first.

In either case, the GFortran 4.6.2 installer contents should look like the following

- _Graphics
- 0x0409.ini
- data1.cab
- data1.hdr
- data2.cab
- ISSetup.dll
- layout.bin
- Readme.txt
- RecordSilentInstall.bat
- RecordSilentInstallToTempFolder.bat
- RunSilentInstall.bat
- RunSilentInstallUsingSpecifiedResponse.bat
- setup.bmp
- setup.exe
- Setup.htm
- setup.ini
- setup.inx
- setup.isn
- setup.ocx

You will need to first record the silent install answer on a typical machine, and then perform the silent
install on the target machines. See the reference documentation listed in Section 8.1 Step (e).for more
detailed instructions on that.

8.3.   Silently Uninstalling Products (InstallShield Package)

There is no known or easy way to silently uninstall a product that was installed from an InstallShield package. You might try researching online for the following text, and see what you find:

InstallShield InstallScript silent uninstall

9. Installer Utility Package

9.1. Silently Installing PSCAD (Installer Utility Package)

It is important to keep in mind that the PSCAD Installer Utility package contains the PSCAD-specific installer content, and additionally,

- The Python installer

Recall that a silent install should only install one item, so that means you need to disable the Python installer when installing PSCAD.

For PSCAD 5.0.0 and 5.0.1, there is no way to skip the Python installation.

For PSCAD 5.0.2, if you want to skip the Python installation…

   "<absolute_path_to_folder_with_installer>\Installer.exe" /Silent=true   /Ignore="Installs_Python"

For PSCAD 5.0.2, if you want to skip the Python installation and skip the installation of the Python WHL files…

   "<absolute_path_to_folder_with_installer>\Installer.exe" /Silent=true   /Ignore="Installs_Python;Installers"

> **Important Note**
> Make sure to use the straight quotes, "…", as shown above, and not the slanted Microsoft Word-type quotes, "…".

9.2. Silently Installing Enerplot (Installer Utility Package)

Note: The following applies to Enerplot 1.1.0 and better only.

It is important to keep in mind that the Enerplot Installer Utility package contains the Enerplot-specific installer content, and additionally,

- The Python installer

Recall that a silent install should only install one item, so that means you need to disable the Python installer when installing Enerplot.

For Enerplot 1.0.0, there is no way to skip the Python installation.

For Enerplot 1.1.0, if you want to skip the Python installation…

"<absolute_path_to_folder_with_installer>\Installer.exe" /Silent=true /Ignore="Installs_Python"

For Enerplot 1.1.0, if you want to skip the Python installation and skip the installation of the Python WHL files…

"<absolute_path_to_folder_with_installer>\Installer.exe" /Silent=true /Ignore="Installs_Python;Installers"

Important Note
Make sure to use the straight quotes, "…", as shown above, and not the slanted Microsoft Word-type quotes, "…".

### 9.3.   Silently Installing Other Products (Installer Utility Package)

Background

Install other products, like Gfortran 4.6.2, Gfortran 8.1, PRSIM, and PSCAD Initializer, if required, by following the steps below for each product to be installed.

Where to get the installer packages

PSCAD InstallShield package

If the installers are on the PSCAD InstallShield package, they will be located in the following highlighted folders:
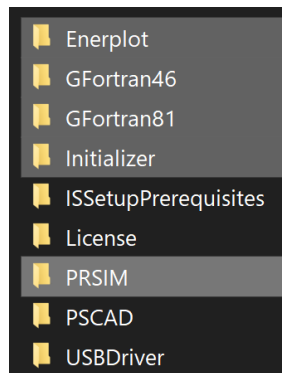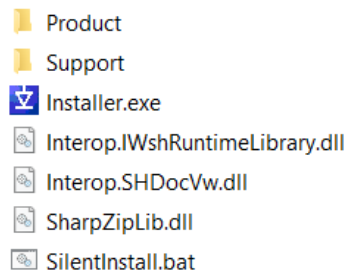

MyCentre

If the product installer was downloaded from your MyCentre account, then you need to extract it once to a temporary folder first.

How to Install

In either case, the Installer Utility package contents should look like the following

Ensure the Installer.exe file is named as it was originally named, as any renaming done previously needs to be reverted.

Run the following command, in an elevated fashion, to silently install the product

"<path_to_product_installer_folder>\Installer.exe" /Silent=True

Alternatively, run the following PowerShell command, in an elevated fashion, to silently install the product

Start-Process "<path_to_product_installer_folder>\Installer.exe" -ArgumentList "/Silent=True" -Wait -NoNewWindow

The installer will return a return code which you can then look up in *Appendix B*.

All installer messages will be logged to the most recent file located in this folder:

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

Important Note
Make sure to use the straight quotes, "...", as shown above, and not the slanted Microsoft Word-type quotes, "…".

9.4. Silently Uninstalling Products (Installer Utility Package)

You can silently uninstall the following non-PSCAD products released as Installer Utility packages if needed,

- PSCAD 5.0.1++

- GFortran 8.1

- GFortran 4.6

- Enerplot

- PRSIM

- PSCAD Initializer

- FACE

By executing the following command in an elevated fashion,

> C:\Users\Public\Documents\Manitoba Hydro International\Installer\Engine\Installer.exe /Silent=True /Uninstall="*ProductIdentifier*"

Or alternatively, the following PowerShell command in an elevated fashion,

> Start-Process " C:\Users\Public\Documents\Manitoba Hydro International\Installer\Engine\Installer.exe" -ArgumentList "/Silent=True /Uninstall=""*ProductIdentifier*""" -Wait -NoNewWindow

The required *ProductIdentifier* can be looked up from the table below

Product to uninstall	ProductIdentifier to specify	Comments
PSCAD 5.0.2	PSCAD 502 x64	
PSCAD 5.0.1	PSCAD 501 x64	
GFortran 8.1	GFortran 81	
GFortran 4.6.2	GFortran 46	Comes with PSCAD 5.0.2 and better
Enerplot 1.1.0	Enerplot 110 x64	
Enerplot 1.0.0	Enerplot 100 x64	
PRSIM 1.1.0	PRSIM 110 x64	
PRSIM 1.0.0	PRSIM 100 x64	
PSCAD Initializer 1.0.1	PSCAD Initializer 101 x64	
PSCAD Initializer 1.0.0	PSCAD Initializer 100 x64	
FACE 2.0.1	Face Standard	

All uninstallation messages will be logged to the most recent file located this folder

C:\Users\USERID\AppData\Local\Manitoba Hydro International\Installer\Messages

Important Note
Make sure to use the straight quotes, "...", as shown above, and not the slanted Microsoft
Word-type quotes, "...".

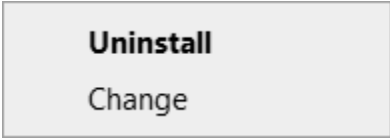For more information, please refer to this [article](#).

10. Manually Uninstalling PSCAD and Other Products

Open the *Programs and Features Control Panel*.

Locate the product you want to uninstall, right click on it, and you should see one of the following

Uninstall/Change

Uninstall
Change

In either case, select *Uninstall* to begin that process.

Appendix A: InstallShield and MsiExec Return Codes

Recall that the InstallShield package or MsiExec is used to install the following products

- Visual C++ Redistributables
- .NET Framework
- Sentinel USB driver
- PSCAD
- License Manager (lock-based)
- GFortran 4.2.1 (compatible with PSCAD 4.2.1)
- GFortran 4.6.2 (compatible with PSCAD 4.3.0…PSCAD V5) (released with PSCAD 4.6 to 5.0.1)

The most common return codes are listed in the table below. If you encounter a return code not listed below, then contact support@mhi.ca.

Return code	Success (Effective)	Interpretation
0	Yes	Success – Product installed successfully
1602		Installation cancelled
1603	Yes	Product is already installed
1618		Another installation in progress
1625		This installation is forbidden by system policy. Contact your system administrator.
1633		This installation package is not supported on this platform. Contact your application vendor.
1638		Another version of this product is already installed. Installation of this version cannot continue. To configure or remove the existing version of this product, use Add/Remove Programs on the Control Panel.
1641	Yes	The installer has started a reboot.
3010	Yes	A reboot is required to complete the install. This does not include installs where the ForceReboot action is run.
5100	Yes	Newer version or service pack is already installed

Appendix B: Installer Utility Package Return Codes

Recall that the Installer Utility package is used to install the following products

- PSCAD 5.0.1++
- GFortran 4.6.2
- GFortran 8.1
- Enerplot
- PRSIM
- PSCAD Initializer
- FACE

The most common return codes are listed in the table below. If you encounter a return code not listed below, then contact support@mhi.ca.

Return code	Success (Effective)	Interpretation
0	Yes	Success • Product installed successfully, or • Product was already installed
9009	No	The batch file did not switch to the drive:\<folder> containing the Installer.exe file
32500	No	A pre-installation sanity check failed.
32501	No	A required login to a valid MyCentre account failed.
32502	No	The product's pre-install action failed to execute correctly.
32503	No	The product's post-install action failed to execute.
32504	No	A module's post-install action failed to execute.
32505	No	Installation folder not specified or is invalid.
32506	No	General installation failure. Usually due to not launching the Installer.exe with elevated privileges.
32507	No	Unable to locate a folder containing a product ZIP file
32511	No	The uninstall failed
32512	No	Silent install fail due to a missing Visual C++ prerequisite
32513	No	Silent install fail due to a missing .NET Framework prerequisite
32514	No	Silent install fail due to a missing .NET prerequisite
32515	No	Silent install fail due to a missing PowerShell prerequisite
32516	No	Silent install fail due to a missing Python prerequisite

Appendix C: RunSilentInstall*.bat Batch File Return Codes

When running any of the RunSilentInstall*.bat files, the return codes are as shown below.

Return code	Interpretation
0	Success
1	Response file not found
2	Installation failed
3	Response file not specified

DOCUMENT TRACKING

Rev.	Description	Date
0	Initial	29/Jul/2022
1	Updated and corrections before hand-off	02/Aug/2022
2	Handling the pause statement, and RunSilentInstall*.bat return codes	04/Aug/2022
3	Moved content to document template	16/Aug/2022
4	Renumbered Sections 1.10…1.13 to Sections 1.11…1.14; Added new headings 1.11.1 and 1.11.2; Added new Section 1.10; Numerous improvements throughout	18/Aug/2023
5	Added heading 1.6.1 to existing paragraph; Added Section 1.6.2; Minor fixes	24/Aug/2023
6	Added GFortran 4.6.2 as an Installer Utility package GFortran 4.6.2 updates Indicated if section referred to InstallShield package or Installer Utility package Added missing prerequisite return codes, restructured content Added IU package instructions for PSCAD 5.0.1++, Appendix C	03/Nov/2023