Setting up the Intel® Fortran Composer for compiling PSCAD Projects

Revision: 8
May 30, 2019
1. **Introduction**

1.1 **Scope**

This manual provides information related to setting up the Intel® Fortran Composer and Microsoft® Visual Studio software for use with PSCAD. Also included are troubleshooting tips and resources for further information.

1.2 **Disclaimer**

The information in this manual was not provided by Intel nor by Microsoft, and is not intended to supersede or replace any data provided by these developers.

This information is only provided as a courtesy to our PSCAD users, and if there are any discrepancies between the content herein and with the developers’ content, the developers’ content shall take precedence.

1.3 **About the Software**

PSCAD is designed to work with a compiler to convert input code (Fortran code and c-code) into executable files that, when run, compute the simulation results. The combination of Intel Parallel Studio XE Composer Edition for Fortran and Microsoft® Visual Studio software are used as the compiling software.

For the convenience of our PSCAD customers, an Intel Fortran Composer license may be purchased through MHI (sales@pscad.com).

There are three editions of Visual Studio to select from. The **Premier Partner Edition** (also known as the Shell Edition) is suitable for compiling PSCAD projects that only contain Fortran code. The Shell Edition does not contain a c-compiler, and is therefore not suited for projects containing c-code. The Shell Edition comes bundled with the licensed edition of the Intel Fortran Composer (Intel 19 Update 2 and earlier).

**Notes**

1. As of Intel Fortran Parallel Studio XE Composer v19 Update 3 and later, the Shell Edition no longer comes bundled with the installer.

2. The standalone Shell Edition that may be downloaded from the Microsoft website is not suitable.

Microsoft® Visual Studio Professional Edition (preferred) and the Enterprise Edition are both suitable for compiling PSCAD projects that contain c-code and/or Fortran code. These editions are available as standalone installations, and are commercially available.

An alternative to using the Intel Fortran Composer and Visual Studio software combination is to use one of the free GFortran compilers that come bundled with PSCAD. The GFortran compilers come with both Fortran code and c-code readers. The following information may be used to choose the appropriate compiler:

- The combination of Intel® Fortran Composer and Microsoft® Visual Studio is preferred over the GFortran compiler for compiling large, complex projects due to its superior simulation speed, debugging environment and optimization features.

- To use any pre-compiled files, your compiler must be compatible with the compiler used to pre-compile them (see [Charts 3.a and 3.b](#)).
1.4 About your Intel Fortran Composer License

An Intel Fortran Composer Named-User (single-user) license may be purchased through MHI (sales@pscad.com) or other authorized agent. Alternatively, either named-user and network licenses may be purchased through Intel.

For a description of the named-user and network licenses, refer to Section 6 Item (f).

A new license comes with “active support” that is valid for one year from the date of purchase. Active support entitles you to software updates and access to support from Intel. The active support may be extended through the Intel website.

1.5 How to use this Manual

It is recommended that the software setup be completed in the order as presented in this manual. First, the software versions and edition should be selected as per Section 2, to ensure that suitable and compatible software will be installed.

Second, the software should be installed in the order presented in Section 3, to help ensure that the two software, Intel Fortran Composer and Visual Studio, are properly integrated.

Third, your setup should be tested as per Section 4 to ensure that the software is properly installed and integrated.

Section 5 contains some solutions to common installation and licensing issues. Section 6 assists with some common software and licensing questions.
2. Selecting your Software

2.1 Selecting the Intel® Fortran Composer Version

A suitable version of the Intel Fortran Composer is one that is compatible with the following:

- Your PSCAD version,
- Your Microsoft Visual Studio edition and version, and
- The software used to pre-compile PSCAD object files or libraries, if applicable.

It is recommended that you review the Software Compatibility Charts to determine the most appropriate software combination. Although Intel Fortran Composer 15 is officially supported at this time, other versions are being used internally and by customers, as outlined in the charts.

One other consideration when selecting the version is whether your Intel license supports that version. For example, if the active support on a license is expired, certain (more recent) versions of Intel Fortran might not be supported with that license. To determine what versions your license supports, please refer to the Intel website, here. Please enter your license key, for example in the format of ####-#######.

**Note**
The PSCAD Support Team will not have this information.

If there are any questions on selecting your software combination, please feel free to contact our support desk (support@pscad.com).
2.2 Selecting the Microsoft® Visual Studio Edition and Version

Compiling PSCAD cases with the Intel Fortran Compiler requires that a suitable edition and version of Microsoft® Visual Studio be installed. There are a few things to note when selecting a suitable edition of Visual Studio:


  This combination of Intel Fortran compiler and Visual Studio Shell Edition can compile PSCAD cases that have Fortran code. However, this combination cannot run PSCAD cases that have C-code.

  In order to run C-code (in addition to Fortran), a different edition of Visual Studio must be installed, namely the Professional or Enterprise Edition (commercially available).

  If using one of the above-listed standalone Visual Studio editions, this would be installed first, before installing Intel Fortran (so that Intel Fortran compiler / Visual Studio may “integrate”).

- **The licensed edition of Intel Fortran Version 19, Update 3 and later**[1]

- **The free trial edition of Intel Fortran**[1]

1. Does not include Visual Studio software. Therefore, a suitable edition of Visual Studio must be installed separately (the Professional Edition or the Enterprise Edition).

   **Note**

   The Visual Studio software would be installed separately, and before installing Intel Fortran (so that Intel Fortran compiler / Visual Studio may “integrate”). See Section 3.
The following table provides a listing of Visual Studio editions and their suitability:

<table>
<thead>
<tr>
<th>Visual Studio Edition</th>
<th>Compiles c-code (contains a c-reader)[1]</th>
<th>Cost</th>
<th>Tested with PSCAD?</th>
<th>How to obtain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Edition</td>
<td>✓</td>
<td>Yes</td>
<td>✓</td>
<td>To purchase</td>
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<tr>
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<td>To download the latest version</td>
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<td></td>
<td></td>
<td>To download an earlier version</td>
</tr>
</tbody>
</table>

1. If your PSCAD projects, libraries, or object files contain c-code, then a Visual Studio edition containing a c-reader is required. Or, if your files do not contain c-code, then any of these editions are suitable.

2. The Professional Edition is normally preferred over the Enterprise Edition, although both editions are completely capable of compiling PSCAD projects.

3. The Premier Partner Edition comes free with a licensed edition of the Intel Fortran Composer, for which there is a cost.

4. The Shell Edition is only included with both of the following:
   - A licensed edition of the Intel Fortran Composer (not included with a trial edition), and
   - With Intel 19 Update 2 and earlier (not included with Intel 19 Update 3 and later).

5. The standalone Shell Edition that is posted on the Microsoft website is not suitable for compiling PSCAD projects.

In addition to selecting an appropriate edition as per the above table, it is also important to select a version that is compatible with your versions of PSCAD and the Intel Fortran Composer. The Software Compatibility Charts can help during this selection. Or please feel free to contact our support desk with any questions (support@pscad.com).
3. Setting up your Software

3.1 Setting up Microsoft® Visual Studio

This section provides some tips for setting up Visual Studio, and is applicable to the following editions:

- Professional Edition
- Enterprise Edition

**Note**

For instructions on setting up the Premier Partner (Shell) Edition, refer to Section 3.2.

a. Requirements for all four editions are as follows:

- A suitable edition and version of Visual Studio should have been selected as per Section 2.2.
- Windows administrator privileges.
- If you will be using one of the standalone versions (see Section 2.2), Visual Studio must be installed prior to the Intel Fortran Composer, to allow these two software to integrate.
- If the following error displays, you are not logged in on your Microsoft user account. To resolve this, log in, then retry the installation.

![Error Message](image)

- A [Microsoft user account](https://support.microsoft.com/en-us/help/17205) is required, and you must be logged in during the installation.
- If downloading an older version, you will be prompted to register with “Visual Studio Dev Essentials”.
- When downloading the installation files, extract the files, and save them to a folder on your local drive. Do not run the installation from zipped files. Do not run the installation from network or remote drives.
b. For Visual Studio 2015 and later:

- This version is only supported with PSCAD v4.6.1 and later.
- Ensure that the items shown below are selected during the installation:

![Visual Studio Professional 2015 Screenshot](image)

**Note**
If these required items are not installed, the Fortran Medic tool will display the error as shown in Section 5.4 Step (d).

- Following the installation of Visual Studio, configure PSCAD v4.6.1+ to be able to use Visual Studio 2015 as per Section 7.36 of the Resolving Issues manual.

Proceed to Section 3.2 to set up the Intel Fortran Composer.
3.2 Setting up the Intel® Fortran Compiler

This section provides instructions for setting up the Intel Fortran Composer.

Disclaimer

The information in this section was not provided by Intel, and is not intended to supersede the content on the Intel website. If there are any discrepancies between the content herein and with the Intel website, the Intel website shall take precedence.

Requirements

- Ensure that a suitable version has been selected as per Section 2.1.
- Windows administrator privileges if operating on Windows Vista or later.
- Internet connection (or, to perform an installation with no Internet connection, please refer Section 6, Item (b)).
- If any of the following Visual Studio editions will be used with the compiler, this software must be installed before installing the Intel Fortran Composer (Section 3.1):
  - Professional Edition
  - Enterprise Edition

Set up the Intel Fortran Composer as follows:

a. Upon purchasing Intel Fortran Composer from MHI, you will receive an e-mail from our Sales Desk containing licensing information and links, similar to the following screenshot:

b. In your e-mail, click on the “REGISTRATION” link, and your web browser will display the Intel “Register a Product” webpage.

   Or, this webpage may be displayed by opening a web browser to the following link:

c. Register your software as shown:

![Register a Product image]

**Note**
Your license key is listed in the e-mail from our Sales Desk.

d. When the “Register an Account” webpage displays, fill out the form, and select “Register an Account”. Fields with red asterisks are required fields.

![Register an Account image]
Setting up the Intel Fortran Composer for Compiling PSCAD Projects

e. Open a web browser to the link below, and your products will be displayed, similar to the following screenshot:

https://registrationcenter.intel.com/

f. Click on the link in the Product Name field, and when the “Subscription History” page displays, click on the Download link associated with “Intel Parallel Studio XE Composer Edition for Fortran Windows”: 
g. Select the required version from the drop-down menu, then click on the download link. In the example below, the latest update in Intel Fortran 15 was selected, and the full installation package was selected.

![Download Options](image)

h. After several minutes, the download will be complete.

i. Unzip the downloaded file and save it to a folder on a local drive (e.g. on your desktop). This might take a few minutes.

j. To launch the installation, right-click on the unzipped file, and select “Run as administrator”. For example, to launch version 15:

![Run as administrator](image)

k. You will be prompted through the installation. Note the following:

- The “Welcome” page will display any detected issues prior to performing the installation. Ensure to read through any messages, and if required, resolve the issue before proceeding with the installation. The following are some examples:

  For example, required prerequisite software might be missing, so the Intel Fortran installation may not proceed. In this case, install the missing software and restart the Intel Fortran Composer installation.

  For example, required prerequisite software might be missing, so that Microsoft Visual Studio will not be installed. If you have determined that you need this free bundled edition of Visual Studio per Section 2.2, then install the missing software and restart the Intel Fortran Composer installation.
For example, if a message similar to the following displays, this message may be disregarded. This message is simply indicating that because Visual Studio is not already installed (e.g. Professional Edition), the “Debugger”, which is not required for compiling PSCAD cases, cannot be installed.

- Copy your license key (to determine your license key, see Step (a), above), and on the “Activation” page, paste your license key into the top field, then select “Next”.

Note
If any errors associated with the license key display, please refer to the Product Licensing FAQ website.

- On the “Options” page, select “Customize” so that you will be prompted to review the software to be installed and the Visual Studio integration:
• When prompted to review the software to be installed, select or de-select Visual Studio Shell edition as required. Some tips are listed below:

- This option will be applicable only for Intel Fortran Composer 19 Update 2 and earlier (removed as of Intel Fortran Composer Update 3).
- Ensure the Visual Studio Shell edition is selected for installation if you do not have a standalone edition of Visual Studio (e.g. Professional / Enterprise).
- Or, you choose whether to de-select the Visual Studio Shell edition if you will be using a standalone edition of Visual Studio.

• When prompted to choose integration, select the Visual Studio software with which you want the Intel Fortran to integrate, for example:

  l. Log out then log back in on your network before proceeding, to apply the changes.
  m. Proceed to Section 4 to test your setup, prior to running your own cases.
4. **Ensuring your Setup Works**

Once the Intel Fortran and Visual Studio software are installed, you should test your setup by trying to build a simple PSCAD case. If this case builds without any errors, then your setup is ready for compiling your own cases.

**Requirement**

Software must be installed (PSCAD, the Intel Fortran Composer and Visual Studio).

Proceed as follows:

a. Launch and license PSCAD, select the Intel Fortran version in the PSCAD application as shown, then select “OK”:

![Screenshot of PSCAD application settings](image1)

b. If Intel Fortran is not available for selection in the application, then there is a problem with your setup. In this case, please send in a Fortran Medic log file to our Support Desk to help us to determine the cause, as follows:

- Download the latest FortranMedic from our website.
- Extract the file, and save it to a local drive.
- Run the extracted “FortranMedic.exe” file, then click on the “Actions” menu and select “Start”.
- After the utility is done retrieving information, click on the “Actions” menu and select “Save Messages”. The FortranMedic message window will display the location of the saved messages text file on your computer.
- Send the log file to support@pscad.com, along with your PSCAD license number and a description of the issue.
c. If Intel Fortran was successfully selected in Step (a), perform the following:

- If your projects will not contain any c-code, load the vdiv.pscx project from the path shown below, and run the project. This will test your compiler setup for Fortran code.

  C:\Users\Public\Documents\Pscad4.x\Examples x64\tutorial\vdiv.pscx

- Or, if your projects will contain c-code, load one of the c-code projects from the path shown below, and run the project. This will test your compiler setup for Fortran code and c-code.

  C:\Users\Public\Documents\Pscad4.x\Examples x64\CInterface\n

d. If there are no build errors during compiling, your setup is good, and you may proceed to run your own cases using this compiler.

e. Or, if there are build errors, then there is a problem with your setup. In this case, please generate a Fortran Medic log file as per Step (b) above, and send this in to support@pscad.com to help us to determine the cause. Ensure to include your PSCAD license number and a description of the issue.
5. Troubleshooting

5.1 Installation Issues

When attempting to install or update Intel Fortran, you encounter one of the following errors:

Installation success or error status: 1603
Error 0x80070643
Error 997. Overlapped I/O operation error – 0x8007063

This is a known issue with the security patch KB2918614 released on August 12, 2014. This issue occurs because update 2918614 uses cryptographic keys and certificates for hashing the installation files together with the logged-in user profile. However, cryptographic keys and certificates cannot be used by mandatory or temporary user profiles. Therefore, when a user uses a mandatory or temporary user profile to install any MSI package, the MSI package installation fails and the error message returns.

The issue may resolved as follows:

a. Browse to C:\ProgramData\Microsoft\Crypto\RSA\S-1-5-18
b. Ensure you have full ownership of it, or have the owner log in
c. Rename the folder
d. Retry the installation

Note
If the ProgramData folder is hidden, set hidden folders to display as follows:
5.2 Compiling Issues

Refer to the Resolving Issues manual to help with troubleshooting any compiling issues.

5.3 Licensing Issues

The following are some of the more frequent licensing issues that we have seen:

a. How to troubleshoot a single-user (named-user) licensing issue:
   - Check that the license is installed in the following location as applicable:
     - On a Windows 64-bit operating system:
       C:\Program Files (x86)\Common Files\Intel\Licenses\n     - On a Windows 32-bit operating system:
       C:\Program Files\Common Files\Intel\Licenses
   - Check whether the license supports the particular version being run. This may be done by reviewing the status of your license, by entering your license key here (for example in the format of ####-########).
   - Check the licensing log file, located as per Section 6, Item (d).
   - If the above suggestions do not resolve the matter, it is recommended to contact Intel Support as per Section 6 Item (i).

b. For a network license for the Intel Fortran Composer, the following are some tips for troubleshooting an issue when trying to activate a license on a client machine

Related Build errors in PSCAD similar to the following might appear:

```
Error: A license for FCompW is not available now (-*,*).
ifort: error #10052: could not checkout FLEXlm license
NMAKE : fatal error U1077: 'C:*' : return code '0x1'
Unable to generate a simulation executable for namespace ‘*’
Make failed to generate a simulation executable for namespace ‘*’. Binary file was not found.
```

- Check that the license server is running.
- Check that the license is installed on the client machine as applicable:
  - On a Windows 64-bit operating system:
    C:\Program Files (x86)\Common Files\Intel\Licenses\n  - On a Windows 32-bit operating system:
    C:\Program Files\Common Files\Intel\Licenses
- Check with your IT department to ensure your license configuration file is pointing correctly to your Intel License server (host name or IP address).
- Check whether all licenses are currently all in use by other users.
- Check whether the FlexLm license manager crashed.
• Check communication between the client and server machines. Is communication blocked (e.g. strict IT policies, overly aggressive anti-virus software)?
• Check whether the license supports the particular version being run. This may be done by reviewing the status of your license, by entering your license key here (for example in the format of ####-########).
• Check the licensing log file, located as per Section 6, Item (d).
• If the above suggestions do not resolve the matter, it is recommended to contact Intel Support as per Section 6 Item (i).

c. For Visual Studio 2015+: If the Medic detects that the common tools registry value does not exist (see example below), then Visual Studio 2015+ must be re-installed, however, ensure to apply the tip listed in Section 3.1 Step (b).

5.4 Messages in the Fortran Medic Tool

The Fortran Medic tool may be used to review software installation. This tool may be run as per Section 4.b, and used to identify any issues as follows:

a. If the Common Directory does not exist, compiling might not work. For example:
b. **For any version of Visual Studio:** If the Medic detects the errors as shown in the following examples, then there is a problem with the installation, and Visual Studio should be re-installed:

- Scroll down to the Visual Studio installation, for example VS 2015:

  **Visual Studio [VS2015]**

  - The VS folder and / or the VC folder is not installed:

    Installation Folders:
    
    VS folder: C:\Program Files (x86)\Microsoft Visual Studio 14.0
    
    Folder exists
    
    VC folder: C:\Program Files (x86)\Microsoft Visual Studio 14.0\VC
    
    Visual Studio VS2015 C compiler is not fully installed. VC\lib folder does not exist
    
    Environment [Required]
    
    LIB
    
    C:\Program Files (x86)\Microsoft Visual Studio 14.0\VC\lib
    
    Segment does not exist in environment
    
    Folder does not exist
    
    PATH
    
    VC\bin
    
    Segment does not exist in environment
    
    Folder does not exist
    
    Common7\IDE
    
    Segment does not exist in environment
    
    Folder does not exist
    
- Either of the following conflicts are displayed:

  - Conflicts
    - Unable to determine ProductDir
    - The required VS7CommonDir registry value is not set
c. **For Visual Studio 2010, 2012 or 2013**: If the Medic detects that the common tools registry value does not exist (see examples below), compiling might not work. In some cases, the Medic can actually repair the missing variable (as documented in the Resolving Issues manual, Appendix A.5, Item 17).

**Visual Studio [VS2010]**

...  
Required Environment and Registry Values  
VS100COMNTOOLS (environment)  
**does not exist**

**Visual Studio [VS2012]**

...  
Required Environment and Registry Values  
VS110COMNTOOLS (environment)  
**does not exist**

**Visual Studio [VS2013]**

...  
Required Environment and Registry Values  
VS120COMNTOOLS (environment)  
**does not exist**

d. **For Visual Studio 2015+**: If the Medic detects that the common tools registry value does not exist (see example below), then Visual Studio 2015+ must be re-installed, however, ensure to apply the tip listed in Section 3.1 Step (b).
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e. **For any version of PSCAD:** If the Medic detects the error as shown below, then later versions of Intel Fortran cannot be used with PSCAD:

   o Scroll down to “Installed PSCAD Versions” and then to the version you are using (e.g. v4.6.2).

   o If the error as shown below exists, right-click on the error and select the option to update the fortran_compilers.xml file:

   **Installed PSCAD versions**

   PSCAD X4 Release (4.6.2 (x86))  [Release date: 2017/06/29 16:46:54]
   Installed by: Installshield
   Install folder: C:\Program Files (x86)\PSCAD46
   Folder exists
   App folder: C:\Program Files (x86)\PSCAD46\bin\win
   master.psk (version = 4.6.2, revised = 2017/06/14 17:04:13)
   fortran_compilers.xml (date: 2015/02/19 timestamp: 2015/02/12 state: outdated)
   matlab_versions.xml (timestamp: 2016/05/30 state: latest)
   TLine.exe (version = 2016.08.11)
   ZSLib2.dll (version = 2017/06/29 16:40:50)
   IF9 emtdc.cfg (version = Intel 10 and VS 2005 or better)
   EMTDC (for Intel 15 and later)
   Configure EMTDC for Visual Studio 2015 and later
   32-bit
      emtdc.lib main.obj Configured for VS 2010, 2012, and 2013 (state = 62)
   User profile file: C:\Users\[user]\AppData\Local\Manitoba HVDC Research Centre\PSCAD\user_profile_46.xml
   File exists
   english_locat: true
   external_tools.xml
   File exists

   **Conflicts**
   The PSCAD 4.6.2 fortran_compilers.xml file is outdated and will not detect the latest Intel Fortran compilers
   File: C:\Program Files (x86)\PSCAD46\fortran_compilers.xml

   o This should allow you to run any of the versions of Intel Fortran with which PSCAD has been configured to run.
f. **For any version of Visual Studio or Intel Fortran Compiler:** if the Medic detects that the “folder exists”, but the “segment does not exist in environment” for any of the “required” variables (see examples below), this error may be **disregarded;** PSCAD can still compile cases if this error is present. The following are examples for both Visual Studio and Intel Fortran compiler:

- Example for Visual Studio 2015:

  ```plaintext
  Environment [Required]:
  LIB
  C:\Program Files (x86)\Microsoft Visual Studio 14.0\VC\lib
  → Segment does not exist in environment
  Folder exists
  C:\Program Files (x86)\Windows Kits\8.1\Lib\winv6.3\um\x86
  → Segment does not exist in environment
  Folder exists
  PATH
  C:\Program Files (x86)\Microsoft Visual Studio 14.0\VC\bin
  → Segment does not exist in environment
  Folder exists
  C:\Program Files (x86)\Microsoft Visual Studio 14.0\Common7\IDE
  → Segment does not exist in environment
  Folder exists
  ```

- Example for Intel Fortran 17:

  ```plaintext
  Environment [Required]:
  LIB
  C:\Program Files (x86)\Intel\SWTools\compilers_and_libraries_2017.4.210\windows\Compiler\Lib\IA32
  → Segment does not exist in environment
  Folder exists
  PATH
  C:\Program Files (x86)\Intel\SWTools\compilers_and_libraries_2017.4.210\windows\Bin\IA32
  → Segment does not exist in environment
  Folder exists
  ```

**Note**

Step (b) is applicable for PSCAD v4.3 and later. If you are using v4.2 and any of the above errors are present, then PSCAD may not compile cases using this software. To resolve this, your options are as follows:

- Contact our support desk ([support@pscad@pscad.com](mailto:support@pscad@pscad.com)) for assistance with setting up this software. Ensure to include your PSCAD license number and the log file from your Fortran Medic tool. Or

- Update your software to v4.3 or later (the latest version is preferred), or

- Switch your compiler, use the free GNU Fortran compiler.
6. Common Questions

The following Intel “Frequently Asked Questions” webpages contains detailed descriptions and setup instructions:

- Installation
- Licensing

The following is a listing of some of the common questions that we have seen:

a. What do the Intel Fortran Composer and Microsoft Visual Studio software do?

The Intel Fortran software compiles Fortran code into object files (.obj). The Visual Studio software links all of the object files, and builds the executable file (.exe) to run the simulation.

Note
If the project contains c-code, the Visual Studio software (Professional or Enterprise Edition) also compiles the c-code into object files (.obj).

b. Where is the license file located?

- On a Windows 64-bit operating system:
  C:\Program Files (x86)\Common Files\Intel\Licenses\

- On a Windows 32-bit operating system:
  C:\Program Files\Common Files\Intel\Licenses

c. Where is the licensing log file that is used to troubleshoot a network licensing issue located?

  C:\Program Files (x86)\Common Files\Intel\Licenses\Logs\instman.log
d. How to run an earlier version of the software?

**Note**

Active support is required in order to obtain earlier versions.

- Sign in to the [Intel Website](https://www.intel.com).
- From the Products List tab, select the download associated with Intel® Parallel Studio XE Composer Edition for Fortran Windows. For example, it should look similar to the following:

![Screen Shot](image)

- When prompted, select the version from the drop-down menu. For example, it should look similar to the following:

![Select Version](image)

e. What is the difference between a named-user (single-user) license and a network license?

A named-user license is a local license that allows the license owner to run the Intel Fortran Composer on multiple computers, but only one instance at a time. A network license is hosted on a server, and shared over the network with client machines.

f. How to move a license to a new machine?

Please refer to the Intel website, [here](https://www.intel.com).

g. How to review the status of your products?

Please display the Intel website, [here](https://www.intel.com), and enter your license key, for example in the format of ####-############.

h. How to obtain support through Intel?

- Refer to the Get Help portal, [here](https://www.intel.com).
i. How to know which version is “integrated” when more than one version is installed? For example, if there are multiple versions of Visual Studio installed, which version is integrated with the Intel Fortran software?

Our Fortran Medic tool will detect this:

- Download the latest “Fortran Medic” tool from our website: http://updater.pscad.com/utilities/FortranMedic.zip
- Extract the FortranMedic.exe file.
- Launch the extracted FortranMedic.exe file, click on the “Actions” menu and select “Start”.
- The utility will display information on your setup. Scroll down to “Intel Fortran Integration” to view the Intel Fortran / Visual Studio integration.

For example, the following data from a test machine shows that Intel 17 is integrated with Visual Studio 2015 (v14):

![Intel Fortran Integration](image)

For example, the following data from a test machine shows that no integration was detected:

![Intel Fortran Integration](image)

- If there are any issues with your setup, please feel free to send in your Fortran Medic log file to our Support Desk (support@pscad.com). Simply click on the “Actions” menu, select “Save Messages”, and attach the file to your-mail. Ensure to include a description of the issue and your PSCAD license number.
## DOCUMENT TRACKING

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<td>1</td>
<td>Added Section 6, minor improvements</td>
<td>15/May/2017</td>
</tr>
<tr>
<td>2</td>
<td>Major re-organization of sections;</td>
<td>18/Oct/2017</td>
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<tr>
<td></td>
<td>Added details for selecting appropriate software and setting up software,</td>
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<td></td>
<td>commonly asked questions and reference to Intel website assistance,</td>
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<tr>
<td></td>
<td>troubleshooting section, and details on software and licensing</td>
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<tr>
<td>3</td>
<td>Update to Section 4 Step (c) and Section 5 Step (b)</td>
<td>08/Nov/2017</td>
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<td>4</td>
<td>Update to New Branding Guidelines</td>
<td>21/Nov/2018</td>
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<tr>
<td>5</td>
<td>Added content to Sections 2.2 and 5</td>
<td>25/Nov/2018</td>
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<tr>
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<td>General improvements</td>
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<td>6</td>
<td>Update to Intel 19 Update 3 – Visual Studio Shell Edition no longer available</td>
<td>10/Apr/2019</td>
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<td>7</td>
<td>Update to Section 2.2;</td>
<td>21/May/2019</td>
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<td>General improvements</td>
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<td>8</td>
<td>Update to Sections 1.3, 2.2 and 6</td>
<td>30/May/2019</td>
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