

ADAPT 5 - Installation and Validation

1. System Requirements

ADAPT 5 is supported for the following platforms:

HARDWARE	COMPILER	OPERATING SYSTEM
PC	<u>Intel Parallel Studio XE 2018</u> Only Composer Edition w/Fortran needed. Distribution <u>will</u> automatically install MVS ¹ 2015 Shell & Libraries when MVS 2017 or 2015 <u>not</u> already installed.	Windows 7/8/10
PC	<u>Intel Parallel Studio XE 2017</u> Only Composer Edition w/Fortran needed. Distribution <u>will</u> automatically install MVS ¹ 2013 Shell & Libraries when MVS 2017, '15, '13 or '12 <u>not</u> already installed.	Windows 7/8/10
PC	<u>Intel Parallel Studio XE 2016</u> Only Composer Edition w/Fortran needed. Distribution <u>will</u> automatically install MVS ¹ 2013 Shell & Libraries when MVS 2015,2013,2012 <u>not</u> already installed.	Windows 7/8/10
PC	<u>Intel Visual Fortran Composer XE 2015</u> Distribution <u>includes</u> version with MVS ¹ 2010 Shell & Libraries integrated and the version that requires MVS 2013,2012, 2010 to be installed separately.	Windows 7/8
PC	<u>Intel Visual Fortran Composer XE 2013 SP1</u> Distribution <u>includes</u> version with MVS ¹ 2010 Shell & Libraries integrated and the version that requires MVS 2012, 2010 or 2008 to be installed separately.	Windows 7/8
PC	<u>Compaq 6.6c</u>	Windows XP/Vista/7

¹Microsoft Visual Studio. Previous versions of Intel Fortran (XE2011, 11.x, 10.x) also supported.

The platforms listed in the above table are the only environments on which ADAPT 5 has been tested and validated. For more information on Intel Visual Fortran Compilers visit Intel at the following link (select Composer Edition w/ Fortran alone):

<https://software.intel.com/en-us/parallel-studio-xe/choose-download>

Note on Intel evaluation licenses or the "free tools" license obtained through the free software program for students and educators. For these versions, Microsoft Visual Studio is not included with the Intel Fortran as it is with the paid version. Therefore, you must have Microsoft Visual Studio installed separately (MVS 2017, 2015, 2013 or 2012). The order of the installation is: Microsoft Visual Studio, Intel Fortran Compiler, ADAPT 5.

2. Installing ADAPT

Prior to installing ADAPT, you must first install one of the versions of the Intel Fortran Compiler noted previously. Important instructions for installing the current version of the Intel Fortran Compilers are given below in Section 2.1.

- After installing the Intel Fortran Compiler, ADAPT 5 can be installed as follows. Download ADAPT 5 from the BMSR the web site bmsr.usc.edu, click on the installation icon and follow the on-screen instructions.

On Windows 7 and 8 systems, Use the default path for installation of ADAPT, which is:

32 bit machines C:\Program Files (x86)\BMSR\ADAPT 5

64 bit machines C:\Program Files\BMSR\ADAPT 5

On Windows 10 systems: change the default path (both 32 and 64 bit machines) and use:

C:\BMSR\ADAPT 5\

- After installing ADAPT it will be necessary to change the Properties of the following files in the ADAPT 5 folder: ADAPT 5.exe; Recompile.exe; ValidateADAPT.exe. For each, change the Compatibility Mode as follows: Privilege Level – Administrator.
- The installation can be validated by running the Validation program in the ADAPT Program Group. The pdf file for the ADAPT User's Guide can also be accessed via the ADAPT Program Group after installation.
- The installation folder also includes the subfolders:
 - \Validation, that contains all the model, data, parameter and control input files used to validate the ADAPT 5 installation
 - \Example, that includes the files used for the examples in this User's Guide
 - \Library, contains all the model files that are available in the ADAPT Library

2.1 Installing Intel Parallel Studio XE 2018

For the commercial or academic version of Intel Fortran, it is NOT necessary to separately install Microsoft Visual Studio (MVS). The Intel Fortran download will include a version of MVS (MVS 2015 Shell).

2.1.1 On Machines Without MVS Installed Previously (**RECOMMENDED Installation**)

For Windows 7, 8 or 10, it will be necessary to first install Microsoft Windows Software Development Kit (SDK) 10 before installing the Intel Parallel Studio. To do so, visit this Intel link for detailed instructions: <https://software.intel.com/en-us/vs2015shell-windowssdk>.

If SDK 10 is installed properly, you will see the following window during Intel Parallel Studio XE 2018 installation.

Intel(R) Parallel Studio XE 2018 Composer Edition for Fortran Windows*

Destination Directory:
C:\Program Files (x86)\IntelSWTools

Target platform architecture: ☒ IA-32 ☒ Intel® 64

- ☒ Intel Visual Fortran Compiler 18.0 for Windows* Target
 - ☒ Microsoft Visual Studio 2015 Shell*
 - ☒ Intel Visual Fortran Compiler for IA-32
 - ☒ Intel Visual Fortran Compiler for Intel® 64
- ☐ Intel Math Kernel Library 2018 for Windows* Target
- ☐ Intel Debugger Extension 7.12
- Intel Debugger Extension 7.12 will not be installed, since this component requires Intel(R) C++ / Visual Fortran Compiler for Intel(R) 64 and...*

Required: 5.7GB, Available: 353GB

Select Recommended
Select All

2.1.2 On Machines With MVS Installed Previously

*** Note: When using MVS 2017, there is now a 15-20 sec delay to invoke the Intel Fortran Compiler due to licensing checking. This is a known problem and we hope that it will be addressed and corrected by Intel. If the "Link" button is selecting before compilation is complete, you will see the message "Error compiling Model File".

For Intel Parallel Studio XE 2018 you will need to install either MVS 2017 or 2015. Previous version of MVS are not supported. In addition, you will need to ensure that 'Common Tools for Visual C++ 2015' component from Visual Studio is installed. This component is not installed by default in MVS 2017 and 2015. Please see one of the following links to install this component for MVS 2017 or MVS 2015:

<https://software.intel.com/en-us/articles/intel-c-fortran-compilers-for-windows-integration-into-microsoft-visual-studio-2017>

<https://software.intel.com/en-us/articles/intel-c-fortran-compilers-for-windows-integration-into-microsoft-visual-studio-2015>

If MVS is installed properly, you will see the following window during Intel Parallel Studio XE 2018 installation.

Intel(R) Parallel Studio XE 2018 Composer Edition for Fortran Windows*

Destination Directory:
 ...

Target platform architecture: ☒ IA-32 ☒ Intel® 64

☒ Intel Visual Fortran Compiler 18.0 for Windows* Target

- ☐ Microsoft Visual Studio 2015 Shell*
Microsoft Visual Studio 2015 Shell can not be installed because Microsoft Visual Studio* 2017 is installed or Microsoft Windows SDK...*
- ☒ Intel Visual Fortran Compiler for IA-32
- ☒ Intel Visual Fortran Compiler for Intel® 64
- ☒ Intel Math Kernel Library 2018 for Windows* Target
 - ☐ Intel MKL for C/C++
 - ☒ Intel MKL for Fortran
- ☐ Intel Debugger Extension 7.12
Intel Debugger Extension 7.12 will not be installed, since this component requires Intel(R) C++ / Visual Fortran Compiler for Intel(R) 64 and...

Required: 3.3GB, Available: 356GB Select Recommended Select All

2.2 Installing Intel Parallel Studio XE 2017 or XE 2016

For the commercial or academic version of Intel Parallel Studio, it is NOT necessary to separately install Microsoft Visual Studio (MVS). The Intel Fortran download will include a version of MVS (MVS 2013 Shell).

2.2.1 On Machines Without MVS Installed Previously (**RECOMMENDED Installation**)

For Windows 7, 8 or 10, it will be necessary to first install Microsoft Windows Software Development Kit (SDK) 8.1 before installing the Intel Parallel Studio. To do so, visit this Intel link for detailed instructions: <https://software.intel.com/en-us/vs2013shell-windowssdk>.

If you install Intel Parallel Studio before installing Microsoft Windows SDK, you will see the message:

"Intel® Visual Fortran Compiler will not work because none of the supported environments is found on your computer". Etc...

Note: You only need to install Microsoft Windows SDK 8.1, **not** the complete Microsoft Visual

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Studio.

2.2.2 On Machines With MVS Installed Previously

*** Note: When using MVS 2017, there is now a 15-20 sec delay to invoke the Intel Fortran Compiler due to licensing check. This is a known problem and we hope that it will be addressed and corrected by Intel. If the “Link” button is selecting before compilation is complete, you will see the message “Error compiling Model File”.

For Intel Parallel Studio XE 2017 you will need to install MVS 2017, '15, '13 or '12. For Intel Parallel Studio XE 2016 you will need to install MVS 2015, '13 or '12. If you are using MVS 2017 or 2015, you will need to ensure that 'Common Tools for Visual C++ 2015' component from Visual Studio is installed. This component is not installed by default in MVS 2017 and 2015 (MVS 2013 and 2012 do include this component by default.) Please see one of the following links to install this component for MVS 2017 or MVS 2015:

<https://software.intel.com/en-us/articles/intel-c-fortran-compilers-for-windows-integration-into-microsoft-visual-studio-2017>

<https://software.intel.com/en-us/articles/intel-c-fortran-compilers-for-windows-integration-into-microsoft-visual-studio-2015>

Early in the installation process you will see the following message, which should be ignored:

“Intel® Debugger Extension for Intel® MIC Architecture cannot be installed”. Etc...

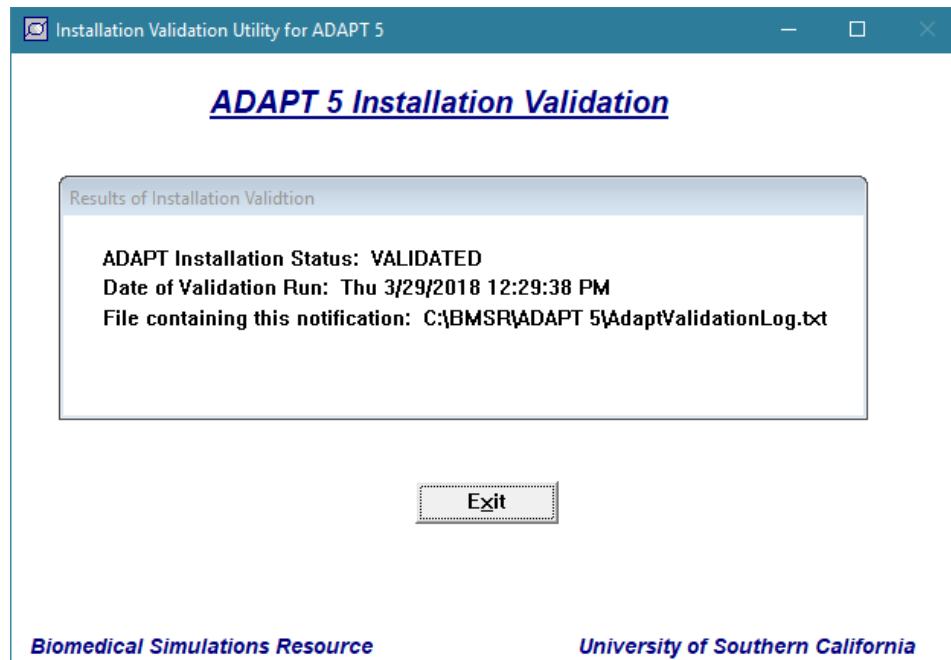
3. Validating the Installation

After successful installation, the installation can be validated by running the Validation program in the ADAPT 5 Program Group as indicated shown below.



This process will run over 29 examples invoking various features of all of the ADAPT programs and will compare the results obtain from the user's installation to the set of results distributed with ADAPT. If these two sets of results agree, the window shown below will be displayed. The full set of results from the validation (all files created by ADAPT) are archived in the validation folder. ADAPT 5 has been validated for all the platforms listed in in the table above.

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The file installSTATUS.txt in the top level of the ADAPT installation folder also indicates the Installation Status.

If ADAPT is uninstalled, all the files in the installation director will be removed, including those in the \Validation, \Example and \Library folders and any files created by the user. Thus, the user should not place his or her project files in the ADAPT installation folder. The globals.inc file, however, with any changes made by the user will be retained and used on reinstallation of ADAPT 5 (see Appendix A of the User's Guide).