Update: March 10, 2020

ADAPT 5 - Installation and Validation

1. System Requirements

ADAPT 5 is supported for the following platforms:

HARDWARE	COMPILER	OPERATING SYSTEM
PC	Intel Parallel Studio XE 2020 (initial release) Only Composer Edition w/Fortran needed. Requires separate installation of MVS[1] 2019.	Windows 10/8/7
PC	Intel Parallel Studio XE 2019 (updates 3-5) Only Composer Edition w/Fortran needed. Requires separate installation of MVS[1] 2019.	Windows 10/8/7
PC	Intel Parallel Studio XE 2019 (initial release, updates 1 &2) Only Composer Edition w/Fortran needed. Distribution will automatically install MVS[1] 2015 Shell & Libraries when MVS 2017 or 2015 not already installed.	Windows 10/8/7
PC	Intel Parallel Studio XE 2018 Only Composer Edition w/Fortran needed. Distribution will automatically install MVS[1] 2015 Shell & Libraries when MVS 2017 or 2015 not already installed.	Windows 10/8/7
PC	Intel Parallel Studio XE 2017 Only Composer Edition w/Fortran needed. Distribution will automatically install MVS[1] 2013 Shell & Libraries when MVS 2017, '15, '13 or '12 not already installed.	Windows 10/8/7
PC	Intel Parallel Studio XE 2016 Only Composer Edition w/Fortran needed. Distribution will automatically install MVS[1] 2013 Shell & Libraries when MVS 2015,2013,2012 not already installed.	Windows 10/8/7
PC	Intel Visual Fortran Composer XE 2015 Distribution includes version with MVS[1] 2010 Shell & Libraries integrated and the version that requires MVS 2013,2012, 2010 to be installed separately.	Windows 8/7
PC	Intel Fortran XE2013, XE2011, 11.x, 10.x also supported	Windows 7

[1]Microsoft Visual Studio. Previous Intel Fortran (XE2013, 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

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 and recent versions of the Intel Fortran Compilers are given below in Sections 2.1 - 2.2. After installing an 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.

  The default path for installation is: C:\BMSR\ADAPT 5\ (changed from previous version)

- After installing ADAPT it may 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 (default: C:\BMSR\ADAPT 5\) 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 2020

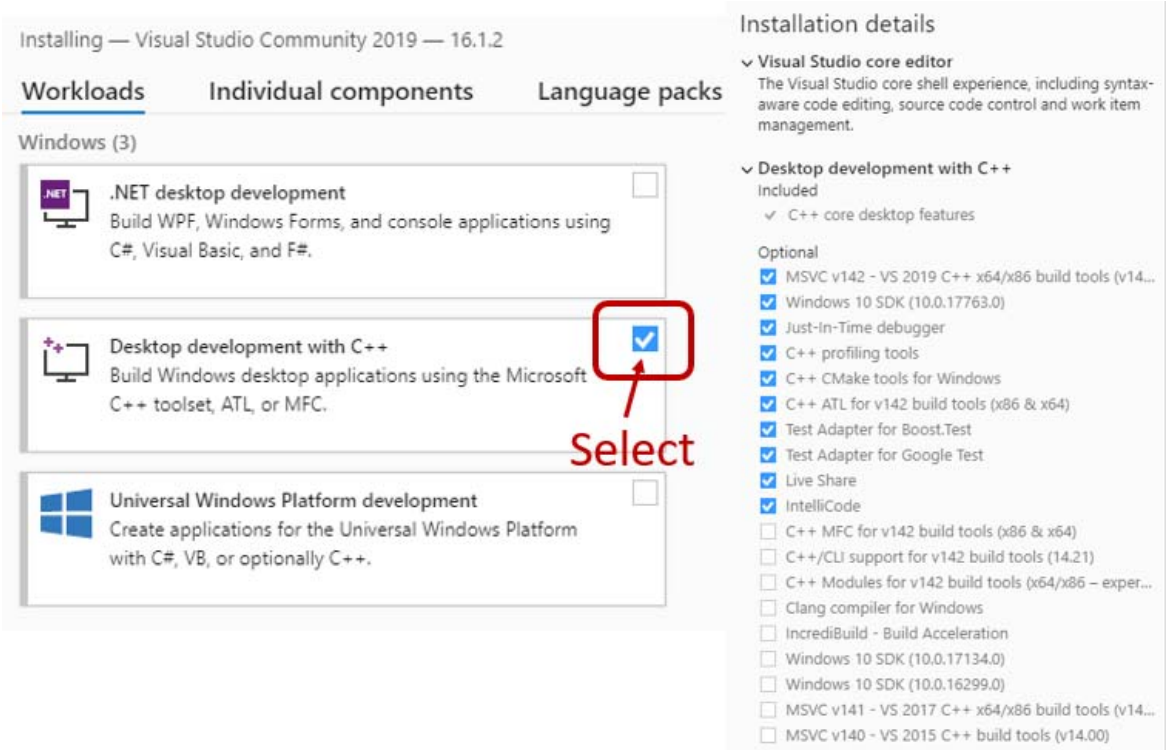
All versions of Intel Parallel Studio XE 2020 can be installed following the instructions below: free academic (student & educator), free noncommercial open source contributor, paid academic research, paid commercial and free trial versions.

2.1.1 Installing MVS 2019 – Free Community Edition

From the link below, download and install the free Community Edition of Visual Studio 2019:

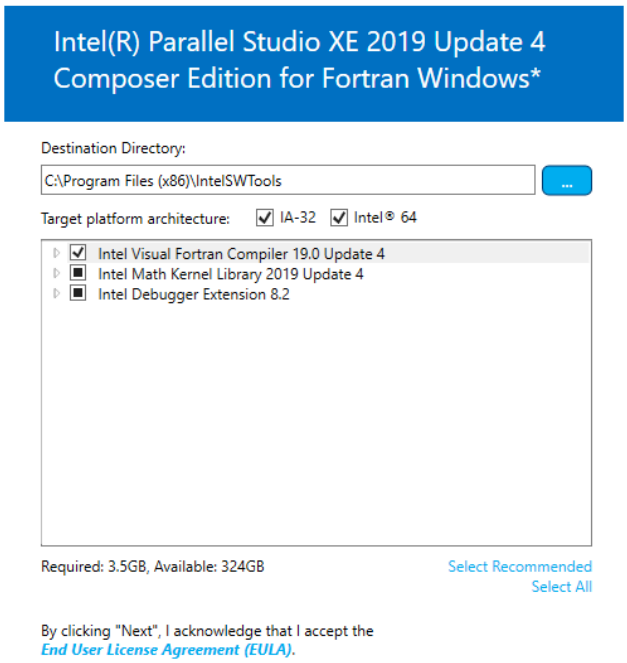
https://visualstudio.microsoft.com/downloads/

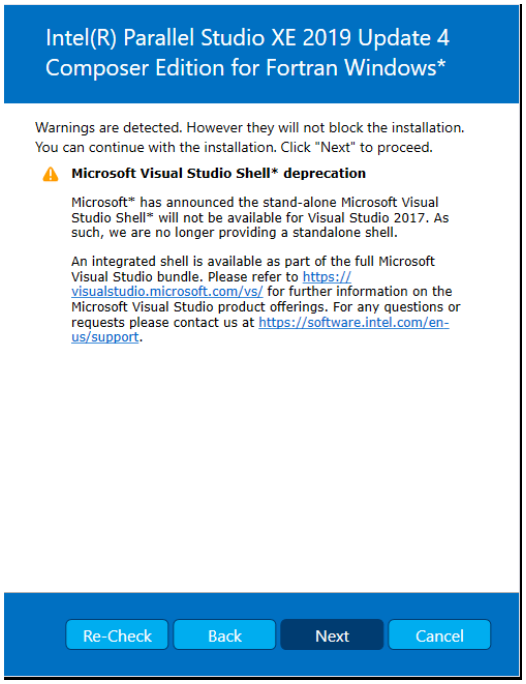
You will need to add the "Desktop development with C++" toolset by checking the box as illustrated in the screen shot below. No other options (workloads) are needed and you do not need to create a Visual Studio Account when the installation completes.



2.1.2 Installing Intel Parallel Studio XE 2020

If MVS 2019 Community Edition is installed properly, you will see the following window during the Intel Parallel Studio XE 2020 installation:





No other warning messages, besides the one in the right panel above, should appear.

2.1 Installing Intel Parallel Studio XE 2019 (updates 3-5)

Starting with Intel Parallel Studio XE 2019 Update 3, Intel can no longer provide a standalone Microsoft Visual Studio Shell, and you will need to independently install Microsoft Visual Studio (MVS). The version of MVS needed is free and the instructions below detail how to install the 2019 version of MVS and the Intel Parallel Studio XE 2019 (update 3 and above).

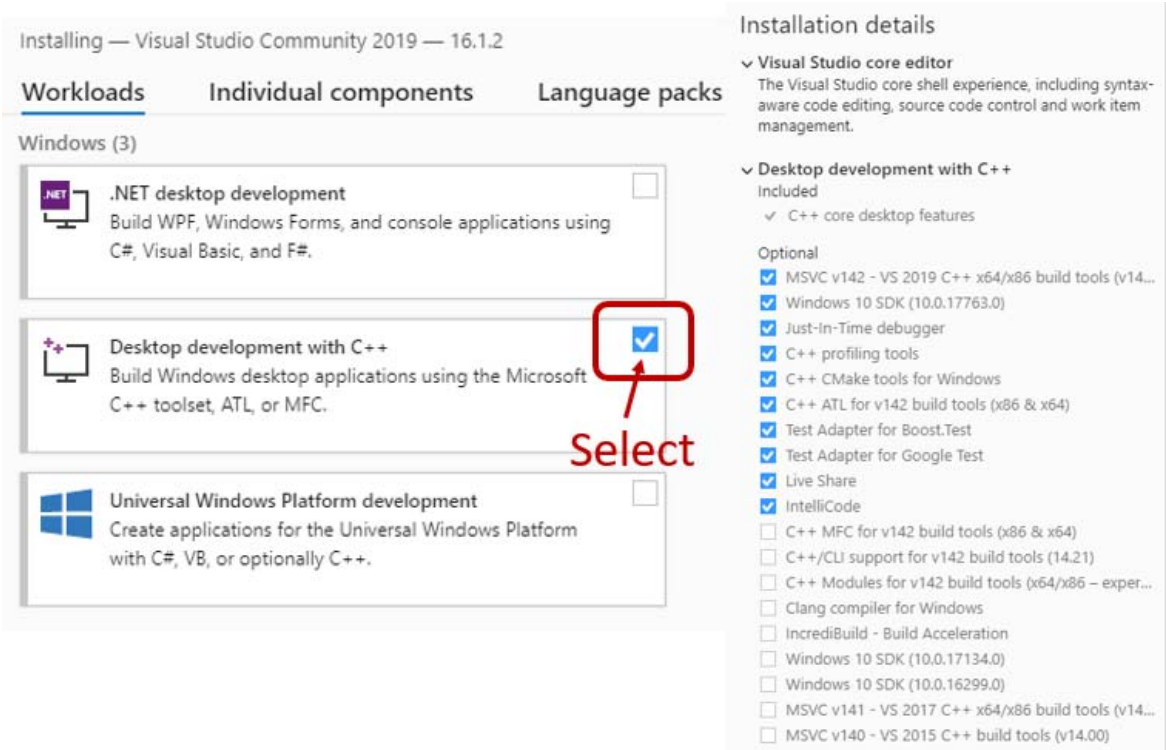
All versions of Intel Parallel Studio XE 2019 (updates 3-5) can be installed following the instructions below: free academic (student & educator), free noncommercial open source contributor, paid academic research, paid commercial and free trial versions.

2.1.1 Installing MVS 2019 – Free Community Edition

From the link below, download and install the free Community Edition of Visual Studio 2019:

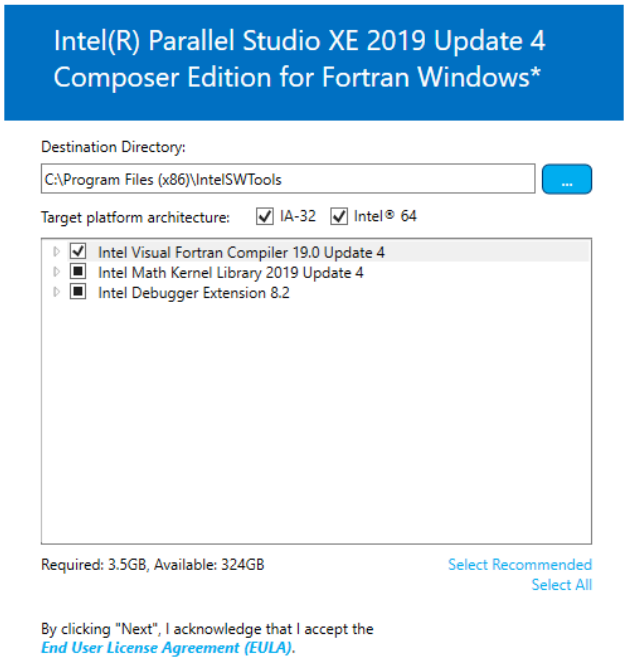
https://visualstudio.microsoft.com/downloads/

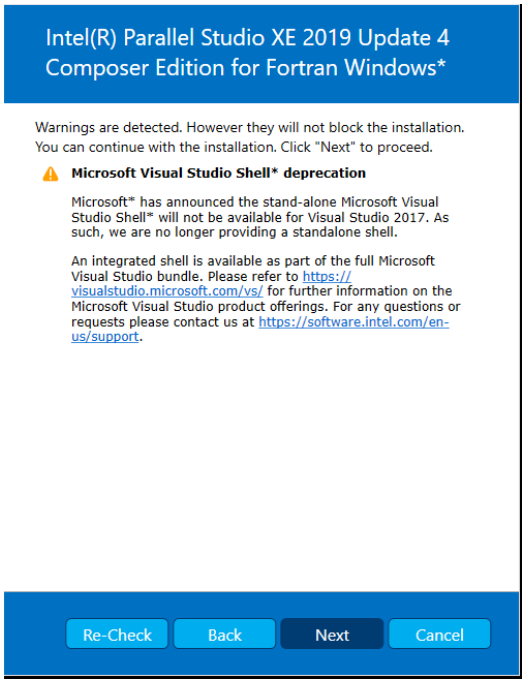
You will need to add the "Desktop development with C++" toolset by checking the box as illustrated in the screen shot below. No other options (workloads) are needed and you do not need to create a Visual Studio Account when the installation completes.



2.1.2 Installing Intel Parallel Studio XE 2019 - update 3-5

If MVS 2019 Community Edition is installed properly, you will see the following window during the Intel Parallel Studio XE 2019 installation (updates 3-5):





No other warning messages, besides the one in the right panel above, should appear.

2.2 Installing Intel Parallel Studio XE 2019 (including updates 1 & 2) or 2018 (all updates)

For the paid commercial and academic versions 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). For these two versions of Intel Fortran, follow the installation instructions in Section 2.2.1 below.

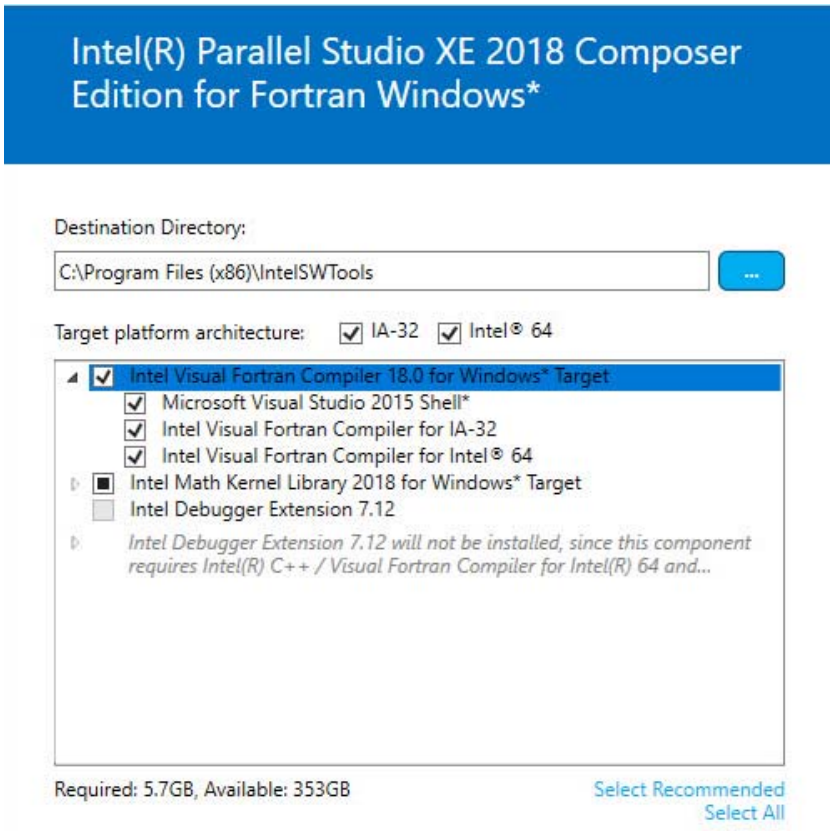
For the Intel evaluation licenses or the "free tools" license obtained through the free software program for students and educators, MVS 2015 Shell is not included with the Intel Fortran as it is with the paid versions. Therefore, you must have MVS installed separately (MVS 2017, 2015, 2013 or 2012). The order of the installation is: MVS, Intel Parallel Studio XE, ADAPT 5. See instructions in Section 2.2.2.

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) 10 before installing the Intel Parallel Studio. To do so, install the version of Windows SDK from the following link:

https://drive.google.com/open?id=19GJmvkso3PosPflK4aUP77yKEwquHJvw.

If SDK 10 is installed properly, you will see the following window during Intel Parallel Studio XE 2018 installation (XE 2019 is similar).



2.2.2 On Machines With MVS Installed Previously

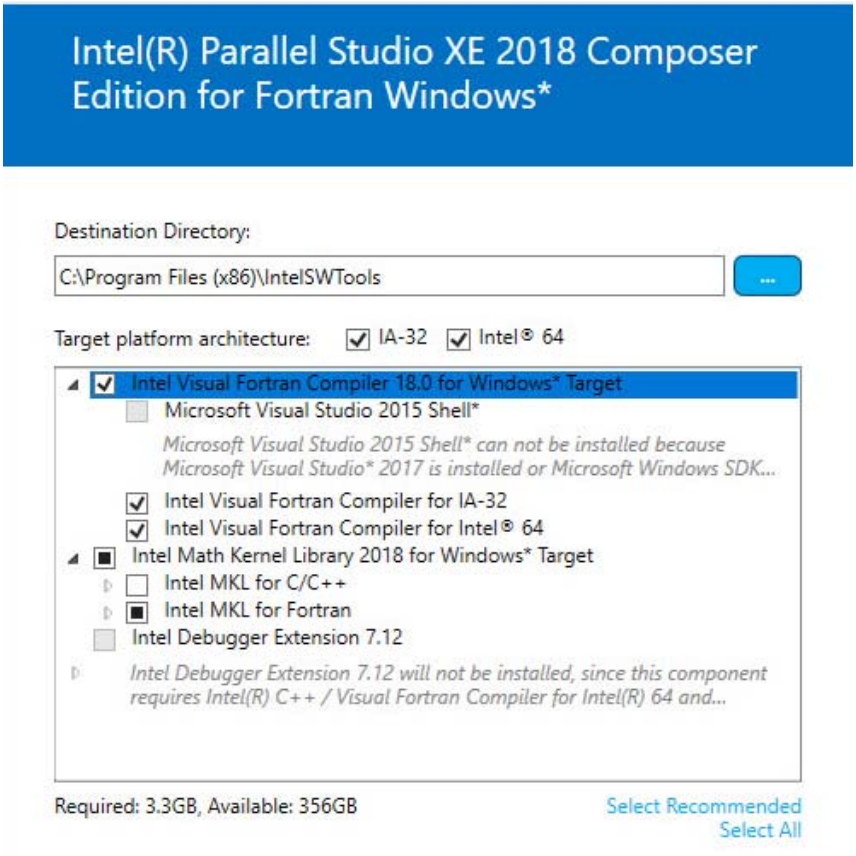
*** Note: When using MVS 2017, there is now a 15-20 sec delay to invoke the Intel Fortran Compiler due to licensing checking. If the "Link" button is selecting before compilation is complete, you will see the message "Error compiling Model File".

For Intel Parallel Studio XE 2019 or 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 (XE 2019 is similar).



2.3 Installing Intel Parallel Studio XE 2017 or XE 2016

For the paid commercial and academic versions 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 2013 Shell). For these two versions of Intel Fortran, follow the installation instructions in Section 2.3.1 below.

For the Intel evaluation licenses or the "free tools" license obtained through the free software program for students and educators, MVS 2015 Shell is not included and you will need to follow the installation instructions in Section 2.3.2 below.

2.3.1 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, install the version of Windows SDK from the following link:

https://drive.google.com/open?id=19GJmvkso3PosPflK4aUP77yKEwquHJvw.

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…**

2.3.2 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. 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

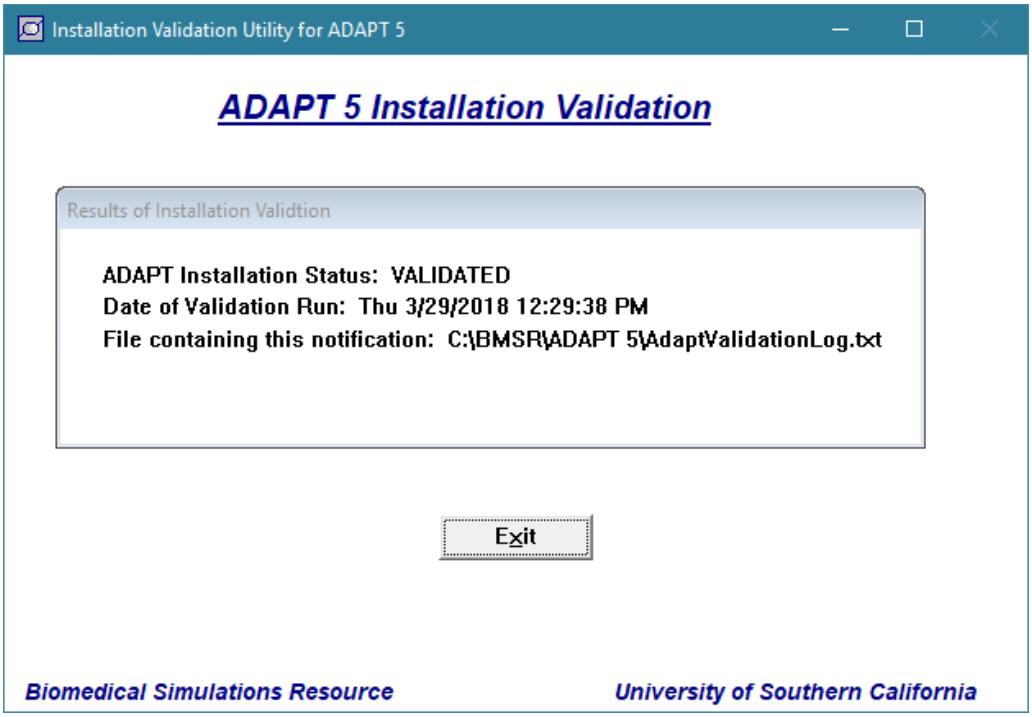
Early in the installation process you will see the following message, which should be ignored:

> **"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.



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).