

Supported and Compatible Compilers – Release 2015a

A number of MathWorks products or product features require that you have a third-party compiler installed on your system. The tables below outline the compilers that are supported by various MathWorks products. These compilers are provided by a number of vendors and are available under a variety of commercial, academic, or open source terms; visit the providers' Web sites for further information.

Windows (32-bit)

On 32-bit Windows, the lcc C compiler is installed along with MATLAB, providing out-of-the-box support for most MathWorks products. Further options are available as outlined in this table.

MATLAB Product Family – Release 2015a										
Compiler	MATLAB	MATLAB Compiler	MATLAB Compiler SDK				MATLAB Coder	SimBiology	Fixed-Point Designer	HDL Coder
	<i>For MEX-file compilation and external usage of MATLAB Engine and MATLAB file APIs</i>	<i>Excel add-in for desktop</i>	<i>C/C++</i>	<i>.NET</i>	<i>Java</i>	<i>Excel add-in for MPS</i>	<i>For all features</i>	<i>For accelerated computation</i>	<i>For accelerated computation</i>	<i>For accelerated testbench simulation</i>
lcc-win32 v2.4.1 <i>Included with MATLAB</i>	✓						✓ ¹	✓	✓	✓
Microsoft Windows SDK 7.1 <i>Available at no charge; requires .NET Framework 4.0</i>	✓	✓	✓	✓ ¹			✓ ¹	✓	✓	✓
Microsoft Visual C++ 2013 Professional	✓	✓	✓	✓ ¹			✓	✓	✓	✓
Microsoft Visual C++ 2012 Professional	✓	✓	✓	✓ ¹			✓	✓	✓	✓
Microsoft Visual C++ 2010 Professional SP1	✓	✓	✓	✓ ¹			✓	✓	✓	✓
Microsoft Visual C++ 2008 Professional SP1 ¹	✓	✓	✓	✓ ¹			✓	✓	✓	✓
Intel C++ Composer XE 2013 ²	✓									
Intel C++ Composer XE 2011 ^{1,2}	✓									
Intel Visual Fortran Composer XE 2013 ²	✓									
Intel Visual Fortran Composer XE 2011 ^{1,2}	✓									
Microsoft .NET Framework SDK 2.0, 3.0, 3.5, 4.0 <i>Available at no charge</i>				✓ ^{1,4}		✓ ⁴				
Java Development Kit (JDK) 1.7 <i>Available at no charge</i>					✓					

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Simulink Product Family – Release 2015a

	Simulink	Simulink	Simulink	Stateflow	Simulink Coder	Embedded Coder	Simulink Real-Time
Compiler	For S-Function compilation	For model referencing, Accelerator mode, and MATLAB Function blocks	For Rapid Accelerator mode	For all features	For all features	When targeting the host OS	For all features
Lcc-win32 v2.4.1 <i>Included with MATLAB</i>	✓	✓	✓	✓	✓	✓	
Microsoft Windows SDK 7.1 <i>Available at no charge; requires .NET Framework 4.0</i>	✓	✓	✓	✓	✓	✓	✓
Microsoft Visual C++ 2013 Professional	✓	✓	✓	✓	✓	✓	✓
Microsoft Visual C++ 2012 Professional	✓	✓	✓	✓	✓	✓	✓
Microsoft Visual C++ 2010 Professional SP1	✓	✓	✓	✓	✓	✓	✓
Microsoft Visual C++ 2008 Professional SP1 ¹	✓	✓	✓	✓	✓	✓	✓
Intel C++ Composer XE 2013 ²	✓						
Intel C++ Composer XE 2011 ^{1,2}	✓						
Intel Visual Fortran Composer XE 2013 ²	✓						✓
Intel Visual Fortran Composer XE 2011 ^{1,2}	✓						✓

Notes for the Windows (32-bit) Platform

1.1.Support for this version of this compiler will be discontinued in a future release, at which time a new version will be supported. Consult the [platform road map](#) for more information.

2.Intel compilers depend on tools provided by Microsoft. The following combinations are supported:

	Microsoft Windows SDK 7.1	Microsoft Visual Studio 2012 Professional (32-bit)	Microsoft Visual Studio 2010 Professional SP1 (32-bit)	Microsoft Visual Studio 2008 SP1 Professional Edition (32-bit)
Intel C++ Composer XE 2013	✓	✓	✓	
Intel C++ Composer XE 2011	✓		✓	✓
Intel Visual Fortran Composer XE 2013	✓	✓	✓	
Intel Visual Fortran Composer XE 2011	✓		✓	✓

3.To build .NET components, a Microsoft .NET Framework must be installed. The .NET Framework v3.0 does not contain a framework-specific compiler; compatible components can be built using the v2.0 compiler. The .NET Framework is automatically installed by Visual Studio. It can also be downloaded from the Microsoft Web site. To execute applications that use the resulting .NET components, the target machine must have the matching .NET Framework installed.

4.MATLAB Compiler SDK supports building .NET assemblies but not COM objects when using the Microsoft .NET Framework SDK without Microsoft Visual Studio.

5.This compiler does not support OpenMP. Code generation will treat parfor-loops as for-loops.

6.Fortran compilers are supported with Simulink only for creating Simulink S-Functions using the MATLAB MEX command. The S-Functions can be used with normal and accelerated simulations.

7..sln project generation is not supported when using the Microsoft Windows SDK.

8.Simulink Real-Time supports Fortran code in Simulink models using C-MEX wrapper S-Functions.

9.Office Developer Tools must be installed as part of the Microsoft Visual Studio installation.

Windows (64-bit)

For the 64-bit Windows platform, a C compiler is not supplied with MATLAB. A free download is available that is suitable for most users:



Installation Instructions

The complete set of supported compilers is described below.

MATLAB Product Family – Release 2015a

	MATLAB	MATLAB Compiler	MATLAB Compiler SDK				MATLAB Coder	SimBiology	Fixed-Point Designer	HDL Coder	HDL Verifier
	<i>For MEX-file compilation, loadlibrary, and external usage of MATLAB Engine and MAT-file APIs</i>	<i>Excel add-in for desktop</i>	<i>C/C++</i>	<i>.NET</i>	<i>Java</i>	<i>Excel add-in for MPS</i>	<i>For all features</i>	<i>For accelerated computation</i>	<i>For accelerated computation</i>	<i>For accelerated testbench simulation</i>	<i>For DPI and TLM component generation</i>
Compiler											
Microsoft Windows SDK 7.1 Available at no charge; requires .NET Framework 4.0	✓	✓	✓				✓ ⁴	✓	✓	✓	✓
Microsoft Visual C++ 2013 Professional	✓	✓	✓	✓ ⁴			✓	✓	✓	✓	✓
Microsoft Visual C++ 2012 Professional	✓	✓	✓	✓ ⁴			✓	✓	✓	✓	✓
Microsoft Visual C++ 2010 Professional SP1	✓	✓	✓	✓ ⁴			✓	✓	✓	✓	✓
Microsoft Visual C++ 2008 Professional SP1 and Windows SDK 6.1 ^{1,2}	✓	✓	✓	✓ ⁴			✓	✓	✓	✓	✓
Intel C++ Composer XE 2013 ³	✓										
Intel C++ Composer XE 2011 ^{1,2}	✓										
Intel Visual Fortran Composer XE 2013 ³	✓										
Intel Visual Fortran Composer XE 2011 ^{1,2}	✓										
Microsoft .NET Framework SDK 2.0, 3.0, 3.5, 4.0, 4.5 Available at no charge	✓			✓ ^{4,5}		✓ ⁴					
Java Development Kit (JDK) 1.7 Available at no charge					✓						
Icc-win64 Included with products that support it							✓ ⁴	✓			

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Simulink Product Family – Release 2015a

	Simulink	Simulink	Stateflow	Simulink Coder	Embedded Coder	Simulink Real-Time	HDL Verifier
Compiler	For S-Function compilation	For Model Referencing, Accelerator mode, Rapid Accelerator mode, and MATLAB Function blocks	For all features	For all features	When targeting the host OS	For all features	For DPI and TLM component generation
Microsoft Windows SDK 7.1 Available at no charge; requires .NET Framework 4.0	✓	✓	✓	✓	✓	✓	✓
Microsoft Visual C++ 2013 Professional	✓	✓	✓	✓	✓	✓	✓
Microsoft Visual C++ 2012 Professional	✓	✓	✓	✓	✓	✓	✓
Microsoft Visual C++ 2010 Professional SP1	✓	✓	✓	✓	✓	✓	✓
Microsoft Visual C++ 2008 Professional SP1 and Windows SDK 6.1 ^{1,2}	✓	✓	✓	✓	✓	✓	✓
Intel C++ Composer XE 2013 ³	✓						
Intel C++ Composer XE 2011 ^{1,3}	✓						
Intel Visual Fortran Composer XE 2013 ³	✓					✓	
Intel Visual Fortran Composer XE 2011 ^{1,3}	✓					✓	
icc-win64 Included with products that support it		✓	✓	✓	✓		✓

Notes for the Windows (64-bit) Platform

- Support for this version of this compiler will be discontinued in a future release, at which time a new version will be supported. Consult the [platform road map](#) for more information.
- Both Microsoft Visual Studio 2008 and Windows Software Development Kit (SDK) 6.1 must be installed. When installing Microsoft Visual Studio, you must choose “X64 Compilers and Tools” when installing Microsoft Visual Studio; this is not selected by default.
- Intel compilers depend on tools provided by Microsoft. The following combinations are supported:

	Microsoft Windows SDK 7.1	Microsoft Visual Studio 2012 Professional (64-bit)	Microsoft Visual Studio 2010 Professional SP1 (64-bit)	Microsoft Visual Studio 2008 SP1 Professional Edition (64-bit)
Intel C++ Composer XE 2013	✓	✓	✓	
Intel C++ Composer XE 2011	✓		✓	✓
Intel Visual Fortran Composer XE 2013	✓	✓	✓	
Intel Visual Fortran Composer XE 2011	✓		✓	✓

4.To build .NET components, a Microsoft .NET Framework must be installed. The .NET Framework v3.0 does not contain a framework-specific compiler; compatible components can be built using the v2.0 compiler. The .NET Framework is automatically installed by Visual Studio. It can also be downloaded from the Microsoft Web site. To execute applications that use the resulting .NET components, the target machine must have the matching .NET Framework installed.

5.MATLAB Compiler SDK supports building .NET assemblies but not COM objects when using the Microsoft .NET Framework SDK without Microsoft Visual Studio.

6.This compiler does not support OpenMP. Code generation will treat parfor-loops as for-loops.

7..sln project generation is not supported when using the Microsoft Windows SDK.

8.Fortran compilers are supported with Simulink only for creating Simulink S-Functions using the MATLAB MEX command. The S-Functions can be used with normal and accelerated simulations.

9.Simulink Real-Time supports Fortran code in Simulink models using C-MEX wrapper S-Functions.

10.Office Developer Tools must be installed as part of the Microsoft Visual Studio installation.

Linux (64-bit)

On Linux, no C compiler is supplied with MATLAB. The GNU compiler (gcc) is included with many Linux distributions.

MATLAB Product Family – Release 2015a								
	MATLAB	MATLAB Compiler SDK		MATLAB Coder	SimBiology	Fixed-Point Designer	HDL Coder	HDL Verifier
Compiler	<i>For MEX-file compilation, loadlibrary, and external usage of MATLAB Engine and MAT-file APIs</i>	C/C++	Java	<i>For all features</i>	<i>For accelerated computation</i>	<i>For accelerated computation</i>	<i>For accelerated testbench simulation</i>	<i>For DPI and TLM component generation</i>
GNU gcc/g++ 4.7.x [*] <i>Available at no charge</i>	✓	✓		✓	✓	✓	✓	✓
GNU gfortran 4.7.x <i>Available at no charge</i>	✓							
Java Development Kit (JDK) 1.7 <i>Available at no charge</i>			✓					

Simulink Product Family – Release 2015a						
	Simulink	Simulink	Stateflow	Simulink Coder	Embedded Coder	HDL Verifier
Compiler	<i>For S-Function compilation</i>	<i>For model referencing, Accelerator mode, Rapid Accelerator mode, and MATLAB Function blocks</i>	<i>For all features</i>	<i>For all features</i>	<i>When targeting the host OS</i>	<i>For DPI and TLM component generation</i>
GNU gcc/g++ 4.7.x [*] <i>Available at no charge</i>	✓	✓	✓	✓	✓	✓
GNU gfortran 4.7.x <i>Available at no charge</i>	✓ ²					

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To determine the version of your compiler, see [Solution 1-1880F](#).

Notes for the Linux Platform

1.g++ libraries are required, even when compiling C-language source code. This may require installing the “gcc-g++” (or similar) package on your system.

2.Fortran compilers are supported with Simulink only for creating Simulink S-functions using the MATLAB MEX command. The S-functions can be used with normal and accelerated simulations.

Mac OS X

On the Mac, no C compiler is supplied with MATLAB. If you use products that require one, Apple’s development environment for OS X (Xcode) is available in the Mac App Store.

MATLAB Product Family – Release 2015a

Compiler	MATLAB	MATLAB Compiler SDK		MATLAB Coder	SimBiology	Fixed-Point Designer
	<i>For MEX-file compilation, loadlibrary, and external usage of MATLAB Engine and MAT-file APIs</i>	C/C++	Java	<i>For all features</i>	<i>For accelerated computation</i>	<i>For accelerated computation</i>
Xcode 5.1+ or 6.0 <i>Available at no charge</i>	✓	✓		✓	✓	✓
GNU gfortran 4.3.x <i>Available at no charge</i> <i>NOTE: R2015a is the last release that will support GNU Fortran.</i>	✓					
Intel Fortran Composer XE (2013)	✓					
Java Development Kit (JDK) 1.7 <i>Available at no charge</i>			✓			

Simulink Product Family – Release 2015a

Compiler	Simulink	Simulink	Stateflow	Simulink Coder	Embedded Coder
	<i>For S-Function compilation</i>	<i>For model referencing, Accelerator mode, Rapid Accelerator mode, and MATLAB Function blocks</i>	<i>For all features</i>	<i>For all features</i>	<i>When targeting the host OS</i>
Xcode 5.1+ or 6.0 <i>Available at no charge</i>	✓	✓	✓	✓	✓
GNU gfortran 4.3.x <i>Available at no charge</i> <i>NOTE: R2015a is the last release that will support GNU Fortran.</i>	✓				

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To determine the version of Xcode installed, start Xcode and then select Xcode->About Xcode.

Notes for the Mac Platform

- 1.This compiler does not support OpenMP. Code generation will treat parfor-loops as for-loops.
- 2.Fortran compilers are supported with Simulink only for creating Simulink S-functions using the MATLAB MEX command. The S-functions can be used with normal and accelerated simulations.