Supported and Compatible Compilers – Release 2015b

Windows (64-bit)

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.

MATLAB Product Family – Release 2015b

Compiler	MATLAB	MATLAB Compiler	MATLAB Compiler SDK				MATLAB Coder	SimBiology	Fixed Point Designer
	For MEX-file compilation, `loadlibrary`, and external usage of MATLAB Engine and MAT-file APIs	Excel add-in for desktop	C/C++ & COM	.NET	Java	Excel add-in for MPS	For all features	For accelerated computation	For accelerated computation
MinGW 4.9.2 C/C++ (Distributor: TDM-GCC) Available at no charge	✔						✔ [6]	✔	✔
Microsoft Visual C++ 2015 Professional	✔	✔	✔	✔ [4]					
Microsoft Visual C++ 2013 Professional	✔	✔	✔	✔ [4]			✔	✔	✔
Microsoft Visual C++ 2012 Professional	✔	✔	✔	✔ [4]			✔	✔	✔
Microsoft Visual C++ 2010 Professional SP1	✔	✔	✔	✔ [4]			✔	✔	✔
Microsoft Windows SDK 7.1 Available at no charge; requires .NET Framework 4.0	✔	✔	✔				✔ [6]	✔	✔
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 3]	✔								
Intel Visual Fortran Composer XE 2013 [3]	✔								
Intel Visual Fortran Composer XE 2011 [1 3]	✔								
Microsoft .NET Framework SDK 2.0, 3.0, 3.5, 4.0, 4.5 Available at no charge	✔			✔ [4,5]		✔ [11]			
Java Development Kit (JDK) 1.7 Available at no charge					✔				
lcc-win64 Included with products that support it							✔ [6]	✔	✔

MathWorks®
Accelerating the pace of engineering and science

Simulink Product Family – Release 2015b

Compiler	Simulink *For S-Function compilation*	Simulink *For Model Referencing, Accelerator mode, Rapid Accelerator mode, and MATLAB Function blocks*	Stateflow *For all features*	Simulink Coder *For all features*	Embedded Coder *When targeting the host OS*	Simulink Real-Time *For all features*	HDL Verifier *For DPI and TLM component generation*	HDL Coder *For accelerated testbench simulation*
MinGW 4.9.2 C/C++ (Distributor: TDM-GCC) Available at no charge	✓	✓	✓	✓	✓		✓	✓
Microsoft Visual C++ 2013 Professional	✓	✓	✓	✓	✓	✓	✓	✓
Microsoft Visual C++ 2012 Professional	✓	✓	✓	✓	✓	✓	✓	✓
Microsoft Visual C++ 2010 Professional SP1	✓	✓	✓	✓	✓	✓	✓	✓
Microsoft Windows SDK 7.1 Available at no charge; requires .NET Framework 4.0	✓	✓	✓	✓ [7]	✓ [7]	✓	✓	✓
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]	✓ [8]					✓ [9]		
Intel Visual Fortran Composer XE 2011 [1][3]	✓ [8]					✓ [9]		
lcc-win64 Included with products that support it		✓	✓	✓	✓			✓

Notes for the Windows (64-bit) Platform

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. 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.

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

MathWorks®
Accelerating the pace of engineering and science

mathworks.com

	Microsoft Windows SDK 7.1	Microsoft Visual Studio 2013 Professional (64-bit)	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 with out 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.

11. When building Excel add-ins for MPS, MATLAB Compiler SDK requires .NET framework 4.0 or later.

Additional Notes:

- Support for MinGW 4.9.2 (Distributor: TDM-GCC) was added in R2015b
- Support for Microsoft Visual C++ 2015 Professional was added in R2015b
- Microsoft Visual C++ 2008 will no longer be supported in R2016a

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 2015b

Compiler	MATLAB *For MEX-file compilation, `loadlibrary`, and external usage of MATLAB Engine and MAT-file APIs*	MATLAB Compiler *Excel add-in for desktop*	MATLAB Compiler SDK *C/C++ & COM*	*.NET*	*Java*	*Excel add-in for MPS*	MATLAB Coder *For all features*	SimBiology *For accelerated computation*	Fixed Point Designer *For accelerated computation*	HDL Coder *For accelerated test-bench simulation*
lcc-win32 v2.4.1 Included with MATLAB	✔						✔ [5]	✔	✔	✔
Microsoft Visual C++ 2015 Professional	✔	✔	✔	✔ [3]						
Microsoft Visual C++ 2013 Professional	✔	✔	✔	✔ [3]			✔	✔	✔	✔
Microsoft Visual C++ 2012 Professional	✔	✔	✔	✔ [3]			✔	✔	✔	✔
Microsoft Visual C++ 2010 Professional SPI	✔	✔	✔	✔ [3]			✔	✔	✔	✔
Microsoft Windows SDK 7.1 Available at no charge; requires .NET Framework 4.0	✔	✔	✔	✔ [3]			✔ [5]	✔		
Microsoft Visual C++ 2008 Professional SP1 [1]	✔	✔	✔	✔ [3]			✔	✔	✔	✔
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 Available at no charge				✔ [3,4]		✔ [4]				
Java Development Kit (JDK) 1.7 Available at no charge					✔					

MathWorks®
Accelerating the pace of engineering and science

mathworks.com

Simulink Product Family – Release 2015b

Compiler	Simulink	Simulink	Simulink	Stateflow	Simulink Coder	Embeded Coder	Simulink Real-Time
	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*
Lcc-win32 v2.4.1 Included with MATLAB	✔	✔	✔	✔	✔	✔	✔
Microsoft Visual C++ 2013 Professional	✔	✔	✔	✔	✔	✔	✔
Microsoft Visual C++ 2012 Professional	✔	✔	✔	✔	✔	✔	✔
Microsoft Visual C++ 2010 Professional SP1	✔	✔	✔	✔	✔	✔	✔
Microsoft Windows SDK 7.1 Available at no charge; requires .NET Framework 4.0	✔	✔	✔	✔	✔ [7]	✔ [7]	✔
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]	✔ [6]						✔ [8]
Intel Visual Fortran Composer XE 2011 [1 2]	✔ [6]						✔ [8]

Notes for the Windows (32-bit) Platform

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:

MathWorks®
Accelerating the pace of engineering and science

	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 with out 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.

Additional Notes:

- Support for Microsoft Visual C++ 2015 Professional was added in R2015b
- Microsoft Visual C++ 2008 will no longer be supported in R2016a

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 2015b

Compiler	MATLAB	MATLAB Compiler SDK		MATLAB Coder	SimBiology	Fixed-Point Designer
	For MEX-file compilation, `loadlibrary`, *and external usage of MATLAB Engine and MAT-file APIs*	*C/C++*	*Java*	*For all features*	*For accelerated computation*	*For accelerated computation*
Xcode 7.x *(Review required setup)*	✔					
Xcode 5.1+ or 6.x Available at no charge	✔	✔		✔ [1]	✔	✔
Intel Fortran Composer XE (2013)	✔					
Java Development Kit (JDK) 1.7 Available at no charge			✔			

Simulink Product Family – Release 2015b

Compiler	Simulink	Simulink	Stateflow	Simulink Coder	Embedded Coder
	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*
Xcode 5.1+ or 6.x Available at no charge	✔	✔	✔	✔	✔

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.

Additional Notes:

- Support for GNU gfortran 4.3 has been dropped as of R2015b
- Support for Xcode 6.1+ has been added as of R2015b
- Support for Xcode 5.x will be dropped as of R2016a
- Support for Xcode 7.x was added after the release of R2015b *(Review required setup)*

MathWorks®
Accelerating the pace of engineering and science

mathworks.com

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 2015b

Compiler	MATLAB	MATLAB Compiler SDK		MATLAB Coder	SimBiology	Fixed-Point Designer	HDL Coder	HDL Verifier
	For MEX-file compilation, `loadlibrary`, and external usage of MATLAB Engine and MAT-file APIs	C/C++	Java	For all features	For accelerated computation	For accelerated computation	For accelerated test-bench simulation	For DPI and TLM component generation
GCC C/C++ 4.7.x Available at no charge	✔	✔		✔	✔	✔	✔	✔
GNU gfortran 4.7.x Available at no charge	✔							
Java Development Kit (JDK) 1.7 Available at no charge			✔					

Simulink Product Family – Release 2015b

Compiler	Simulink	Simulink	Stateflow	Simulink Coder	Embedded Coder	HDL Verifier
	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 DPI and TLM component generation
GCC C/C++ 4.7.x Available at no charge	✔	✔	✔	✔	✔	✔
GNU gfortran 4.7.x Available at no charge	✔ [2]					

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.

MathWorks®
Accelerating the pace of engineering and science