Supported and Compatible Compilers – Release 2017b

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' websites for further information.

Please see *Polyspace documentation* for the list of compilers that Polyspace supports in the current release.

View System Requirements for *previous releases.*

Windows (64-bit)

Note:

- MinGW 4.9.2 has been updated to MinGW 5.3 as of R2017b

- Microsoft Visual C++ 2012 is not supported as of R2017b

- Java Development Kit 1.7 has been updated to Java Development Kit 1.8 as of R2017b

- Microsoft Windows SDK 7.1 is not supported as of R2017b

- Microsoft Visual Studio 2017 is supported as of R2017b.

- Intel C++ Composer XE 2013 and Intel Visual Fortran Composer XE 2013 will not be supported in a future release.

MATLAB Product Family – Release 2017b

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 testbench simulation	HDL Verifier For DPI and TLM component generation	Audio System Toolbox For validating and generating audio plugins
MinGW 5.3 C/C++ (Distributor: *mingw-w64*) Available at no charge	✓	✓[2]	✓[2]				✓	✓	✓	✓	✓	
Microsoft Visual C++ 2017 product family[6]	✓	✓	✓	✓			✓	✓	✓	✓		✓
Microsoft Visual C++ 2015 Professional[11]	✓	✓	✓	✓[4]			✓	✓	✓	✓	✓	✓[1]
Microsoft Visual C++ 2013 Professional	✓	✓	✓	✓[4]			✓	✓	✓	✓	✓	✓[1]
Intel Parallel Studio XE 2017 for C/C++ [3]	✓											
Intel Parallel Studio XE 2016 for C/C++ [3]	✓											
Intel Parallel Studio XE 2015 for C/C++ [3]	✓											
Intel C++ Composer XE 2013 [3]	✓											
Intel Parallel Studio XE 2017 for Fortran [3]	✓											
Intel Parallel Studio XE 2016 for Fortran [3]	✓											
Intel Parallel Studio XE 2015 for Fortran [3]	✓											
Intel Visual Fortran Composer XE 2013 [3]	✓											
Microsoft .NET Framework SDK 4.0, 4.5, 4.6 Available at no charge	✓			✓[4,5]		✓[10]						
Java Development Kit (JDK) 1.8 Available at no charge					✓							
lcc-win64 Included with products that support it							✓[6]	✓	✓	✓	✓	

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
MinGW 5.3 C/C++ (Distributor: TDM-GCC) Available at no charge	✔	✔	✔	✔	✔	
Microsoft Visual C++ 2017 product family [6,12]	✔	✔	✔	✔	✔	✔ [12]
Microsoft Visual C++ 2015 Professional[11]	✔	✔	✔	✔	✔	✔ [1]
Microsoft Visual C++ 2013 Professional	✔	✔	✔	✔	✔	✔ [1]
Intel Parallel Studio XE 2017 for C/C++ [3]	✔					
Intel Parallel Studio XE 2016 for C/C++ [3]	✔					
Intel Parallel Studio XE 2015 for C/C++ [3]	✔					
Intel C++ Composer XE 2013 [3]	✔					
Intel Parallel Studio XE 2017 for Fortran [3]	✔					
Intel Parallel Studio XE 2016 for Fortran [3]	✔ [8]					
Intel Parallel Studio XE 2015 for Fortran [3]	✔ [8]					
Intel Visual Fortran Composer XE 2013 [3]	✔ [8]					✔ [9]
lcc-win64 Included with products that support it		✔	✔	✔	✔	

Simulink Product Family – Release 2017b

Notes for the Windows (64-bit) Platform

1. The corresponding version of Visual Studio Community is reported to work. Full support for Visual Studio Community has not been qualified by MathWorks.

2. Microsoft Windows SDK 10 is required to use MinGW with this product. See *Answer 355476* for more details.

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

	Microsoft Visual Studio 2013 Professional	Microsoft Visual Studio 2015 Professional	Microsoft Visual Studio 2017 Family
Intel Parallel Studio XE 2017 For C/C++	✓	✓	✓
Intel Parallel Studio XE 2016 For C/C++	✓	✓	✓
Intel Parallel Studio XE 2015 For C/C++	✓	✓	✓
Intel Parallel Studio XE 2017 For Fortran	✓	✓	✓
Intel Parallel Studio XE 2016 For Fortran	✓	✓	✓
Intel Parallel Studio XE 2015 For Fortran	✓	✓	✓
Intel C++ Composer XE 2013	✓		✓
Intel Visual Fortran Composer XE 2013	✓		

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. Community, Professional, and Enterprise editions are supported.

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

11. A compiler is not installed by default with this version of Visual Studio and must be specified while performing a custom installation. *See Answer 328432* for more details.

12. *See Answer 348269* for instructions on how to set up Microsoft Visual Studio 2017 for use with Simulink Real-Time.

Mac OS

Note:

On the Mac, no C compiler is supplied with MATLAB. If you use products that require one, Apple's development environment for macOS (Xcode) is *available in the Mac App Store.* Java Development Kit 1.7 has been updated to Java Development Kit 1.8 as of R2017b

- Xcode 9.x is supported as of R2017b
- Xcode 7.x will not be supported in a future release
- Intel Fortran Composer XE (2013) will not be supported in a future release

MATLAB Product Family – Release 2017b							
Compiler	MATLAB	MATLAB Compiler SDK		MATLAB Coder	SimBiology	Fixed-Point Designer	Audio System Toolbox
	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 validating and generating audio plugins
Xcode 9.x Available at no charge	✔	✔		✔	✔	✔	✔
Xcode 8.x Available at no charge	✔	✔		✔ 1	✔	✔	✔
Xcode 7.x Available at no charge	✔	✔		✔ 1	✔	✔	✔
Intel Parallel Studio XE 2017 for Fortran	✔						
Intel Parallel Studio XE 2016 for Fortran	✔						
Intel Parallel Studio XE 2015 for Fortran	✔						
Intel Fortran Composer XE (2013)	✔						
Java Development Kit (JDK) 1.8 Available at no charge			✔				

Simulink Product Family – Release 2017b					
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
Xcode 9.x Available at no charge	✔	✔	✔	✔	✔
Xcode 8.x Available at no charge	✔	✔	✔	✔	✔
Xcode 7.x Available at no charge	✔	✔	✔	✔	✔
Intel Parallel Studio XE 2017 for Fortran	✔ 2				
Intel Parallel Studio XE 2016 for Fortran	✔ 2				
Intel Parallel Studio XE 2015 for Fortran	✔ 2				
Intel Fortran Composer XE (2013)	✔ 2				

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.

Linux (64-bit)

Note:

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

- GCC C/C++ 4.9 will be replaced by a newer version in a future release
- GNU gfortran 4.9 will be replaced by a newer version in a future release
- Java Development Kit 1.7 has been updated to Java Development Kit 1.8 as of R2017b

MATLAB Product Family – Release 2017b								
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++ 4.9.x Available at no charge	✔	✔		✔	✔	✔	✔	✔
GNU gfortran 4.9.x Available at no charge	✔							
Java Development Kit (JDK) 1.8 Available at no charge			✔					

Simulink Product Family – Release 2017b					
	Simulink	Simulink	Stateflow	Simulink Coder	Embedded Coder
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
GCC C/C++ 4.9.x Available at no charge	✔	✔	✔	✔	✔
GNU gfortran 4.9.x Available at no charge	✔ [1]				

To determine the version of your compiler, see *Answer 99897*.

Notes for the Linux Platform

1. 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.