Supported and Compatible Compilers – Release 2019a

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 compiler support for *previous releases.*

Windows (64-bit)

MinGW is a supported compiler which is available free of charge. *Download MinGW now.*

Note:

- Intel Parallel Studio XE 2019 for C/C++ and Fortran are supported as of R2019a.

- Support for Intel Parallel Studio XE 2015 for C/C++ and Fortran will be discontinued in an upcoming release.

MATLAB Product Family – Release 2019a

Compiler	MATLAB	MATLAB Coder	GPU Coder	SimBiology	Fixed Point Designer	HDL Coder	HDL Verifier	Audio Toolbox
	For MEX-file compilation, `loadlibrary`, and external usage of MATLAB Engine and MAT-file APIs	For all features	For all features	For accelerated computation	For accelerated computation	For accelerated testbench simulation	For DPI and TLM component generation	For validating and generating audio plugins
MinGW 6.3 C/C++ (Distributor: *mingw-w64*) *Download Now* Available at no charge	✔	✔		✔	✔	✔	✔	
Microsoft Visual C++ 2019 product family[11]	✔ Update 3	✔ Update 5	✔ Update 5	✔ Update 5	✔ Update 5	✔ Update 5	✔ Update 5	✔ Update 5
Microsoft Visual C++ 2017 product family[11]	✔	✔	✔	✔	✔	✔	✔	✔
Microsoft Visual C++ 2015 Professional[10]	✔	✔	✔	✔	✔	✔	✔	✔ [1]
Intel Parallel Studio XE 2019 for C/C++ [3]	✔							
Intel Parallel Studio XE 2018 for C/C++ [3]	✔							
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 Parallel Studio XE 2019 for Fortran	✔							
Intel Parallel Studio XE 2018 for Fortran	✔							
Intel Parallel Studio XE 2017 for Fortran [3]	✔							
Intel Parallel Studio XE 2016 for Fortran [3]	✔							
Intel Parallel Studio XE 2015 for Fortran [3]	✔							
lcc-win64 Included with products that support it		✔ [6]		✔	✔	✔	✔	

Simulink Product Family – Release 2019a

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	SerDes Toolbox — For IBIS-AMI model generation
MinGW 6.3 C/C++ (Distributor: *mingw-w64*) Available at no charge	✓	✓	✓	✓	✓		✓
Microsoft Visual C++ 2019 product family [11]	✓ Update 3	✓ Update 3		✓ Update 5		✓ Update 5	
Microsoft Visual C++ 2017 product family [11]	✓	✓	✓	✓	✓	✓ [12]	✓
Microsoft Visual C++ 2015 Professional [10]	✓	✓	✓	✓	✓	✓ [1]	✓
Intel Parallel Studio XE 2019 for C/C++ [3]	✓						
Intel Parallel Studio XE 2018 for C/C++ [3]	✓						
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 Parallel Studio XE 2019 for Fortran [3]	✓						
Intel Parallel Studio XE 2018 for Fortran [3]	✓						
Intel Parallel Studio XE 2017 for Fortran [3]	✓ [7]						
Intel Parallel Studio XE 2016 for Fortran [3]	✓ [7]						
Intel Parallel Studio XE 2015 for Fortran [3]	✓ [7]						
lcc-win64 Included with products that support it		✓	✓	✓	✓		

MATLAB Compiler – Release 2019a

Compiler	MATLAB Compiler — Excel add-in for desktop	MATLAB Compiler SDK — C/C++	COM	.NET	Java	Excel add-in for MPS
MinGW 6.3 C/C++ (Distributor: *mingw-w64*) Available at no charge	✓ [2]	✓	✓ [2]			
Microsoft Visual C++ 2019 product family [11]	✓	✓	✓	✓		
Microsoft Visual C++ 2017 product family [11]	✓	✓	✓	✓		
Microsoft Visual C++ 2015 Professional [10]	✓	✓	✓	✓ [4]		
Microsoft .NET Framework SDK 4.0, 4.5, 4.6 Available at no charge				✓ [4, 5]		✓ [9]

Notes for the Windows 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 require that Microsoft Visual Studio 2015 or 2017 also be installed on your system.

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. 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.

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

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

10. 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.*

11. Community, Professional, and Enterprise editions are supported. The Visual Studio installer groups functionality into workloads; the "Desktop development with C++" workload is required for MEX and associated functionality.

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 macOS, 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.*

- Xcode 8.x is supported as of R2019a.

- Intel Parallel Studio XE 2019 for Fortran is supported as of R2019a.

- Support for Intel Parallel Studio XE 2015 for Fortran will be discontinued in an upcoming release.

MATLAB Product Family – Release 2019a							
Compiler	MATLAB	MATLAB Compiler SDK		MATLAB Coder	SimBiology	Fixed-Point Designer	Audio 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 10.x Available at no charge	✔	✔		✔	✔	✔	✔
Xcode 9.x Available at no charge	✔	✔		✔	✔	✔	✔
Intel Parallel Studio XE 2019 for Fortran	✔						
Intel Parallel Studio XE 2018 for Fortran	✔						
Intel Parallel Studio XE 2017 for Fortran	✔						
Intel Parallel Studio XE 2016 for Fortran	✔						
Intel Parallel Studio XE 2015 for Fortran	✔						

Simulink Product Family – Release 2019a					
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 10.x Available at no charge	✔	✔	✔	✔	✔
Xcode 9.x Available at no charge	✔	✔	✔	✔	✔
Intel Parallel Studio XE 2019 for Fortran	✔ 2				
Intel Parallel Studio XE 2018 for Fortran	✔ 2				
Intel Parallel Studio XE 2017 for Fortran	✔ 2				
Intel Parallel Studio XE 2016 for Fortran	✔ 2				
Intel Parallel Studio XE 2015 for Fortran	✔ 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)

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

MATLAB Product Family – Release 2019a

Compiler	MATLAB	MATLAB Compiler SDK		MATLAB Coder	GPU 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 all features	For accelerated computation	For accelerated computation	For accelerated testbench simulation	For DPI and TLM component generation
GCC C/C++ 6.3.x Available at no charge	✓	✓		✓	✓	✓	✓	✓	✓
GNU gfortran 6.3.x Available at no charge	✓								

Simulink Product Family – Release 2019a

Compiler	Simulink	Simulink	Stateflow	Simulink Coder	Embedded Coder	SerDes Toolbox
	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 IBIS-AMI model generation
GCC C/C++ 6.3.x Available at no charge	✓	✓	✓	✓	✓	
GNU gfortran 6.3.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.