Supported and Compatible Compilers – Release 2010a

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 - 2010a

Compiler	Version	MATLAB For MEX-file compilation and external usage of MATLAB Engine and MAT-file APIs	MATLAB Compiler For all features	MATLAB Builder EX For all features	MATLAB Builder NE For all features	MATLAB Builder JA For all features	SimBiology For accelerated computation	Fixed-Point Toolbox For accelerated computation
Lcc - win32 *Included with MATLAB*	2.4.1	√	√				√	√
Microsoft Visual C++ 2010 [1] *Available at no charge*	10.0 Express	√						
Microsoft Visual C++ 2010 [1]	10.0 Prof.	√						
Microsoft Visual C++ 2008 [2] *Available at no charge*	9.0 Express Edition	√	√	√	√ [3]		√	√
Microsoft Visual C++ 2008 SP1	9.0 Prof. Edition	√	√	√	√ [3]		√	√
Microsoft Visual C++ 2005 SP1	8.0 Prof. Edition	√	√	√	√ [3]		√	√
Microsoft Visual C/C++ [4]	6.0 Prof. Edition	√	√	√	√ [3]		√	√
Intel C++ [5]	11.1	√						
	9.1 [6]	√						
Open Watcom [4,7] *Available at no charge*	1.8	√					√	√
Intel Visual Fortran [5]	11.1	√						
	10.1 [6]	√						
Microsoft .NET Framework SDK *Available at no charge*	3.5				√ [3,8]			
	3.0				√ [3,8]			
	2.0				√ [3,8]			
Sun Java Development Kit (JDK) *Available at no charge*	1.5					√		

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Simulink Product Family – Release 2010a

Compiler	Version	Simulink For S-function compilation	Simulink For model referencing, Accelerator mode, and Embedded MATLAB	Simulink For Rapid Accelerator mode	Stateflow For all features	Stateflow Coder For all features	Real-Time Workshop When targeting the host OS	Real-Time Workshop Embedded Coder When targeting the host OS	xPC Target For all features
Lcc - win32 *Included with MATLAB*	2.4.1	√	√	√	√	√	√	√	
Microsoft Visual C++ 2008 [2] *Available at no charge*	9.0 Express Edition	√	√	√	√	√	√	√	√
Microsoft Visual C++ 2008 SP1	9.0 Prof. Edition	√	√	√	√	√	√	√	√
Microsoft Visual C++ 2005 SP1	8.0 Prof. Edition	√	√	√	√	√	√	√	√
Microsoft Visual C/C++ [4]	6.0 Prof. Edition	√	√	√	√	√	√	√	√
Intel C++ [5]	11.1	√							
	9.1 [6]	√							
Open Watcom [4,7] *Available at no charge*	1.8	√	√		√	√	√	√	√
Intel Visual Fortran [5]	11.1	√ [9]							√ [10]
	10.1 [6]	√ [9]							

Notes for the Windows (32-bit) Platform

1. Visual C++ 2010 support requires a patch to R2010a. See Solution 1-D5W493 for MEX support files.

2. Microsoft Visual Studio Express Edition, when used with these products, also requires the Microsoft Windows Software Development Kit (SDK). For more information on installing Express Edition, see Solution 1-BYZCYZ.

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 2005 or 2008. 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. When using C++, MATLAB and related products rely on the availability of exception handling in the C++ language. Because these compilers do not properly support C++ exception handling, our support for exception handling is limited. You can find more information in Solution 1-4OKNSV.

5. Intel compilers depend on tools provided by Microsoft development products. The following combinations are supported by MATLAB and Simulink related products:

Intel Compilers on Microsoft Windows		Microsoft Visual Studio 2008 SP1 Professional Edition (32-bit)	Microsoft Visual Studio 2008 Shell (32-bit)	Microsoft Visual Studio 2005 SP1 Professional Edition (32-bit)
Compiler	Version	9.0	9.0	8.0
Intel C++	11.1	√		
	9.1			√
Intel Visual Fortran	11.1	√	√	
	10.1			√

Access to the 2005 SP1 edition is available from Microsoft as part of their Visual Studio with MSDN subscriptions. You should use the Microsoft Visual Studio 2008 Shell that is bundled with certain Intel Visual Fortran packages.

6. Support for this version of this compiler will be discontinued in a future release, at which time a new version will be supported.

7. Open Watcom is supported for use in C/C++ only; Open Watcom Fortran is not supported.

8. MATLAB Builder NE supports building .NET Assemblies but not COM objects when using the Microsoft .NET Framework SDK without Microsoft Visual Studio.

9. 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.

10. xPC Target supports Fortran code in Simulink models using C-MEX wrapper S-functions.

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Windows (64-bit)

On 64-bit Windows, no C compiler is supplied with MATLAB. If you use products that require one, choose one of the supported options outlined below.

MATLAB Product Family – Release 2010a

Compiler	Version	MATLAB For MEX-file compilation and external usage of MATLAB Engine and MAT-file APIs	MATLAB[1] For shared library interface	MATLAB Compiler For all features	MATLAB Builder NE For all features	MATLAB Builder JA For all features	SimBiology For accelerated computation	Fixed-Point Toolbox For accelerated computation
Microsoft Visual C++ 2010[2] *Available at no charge*	10.0 Express	√						
Microsoft Visual C++ 2010[2]	10.0 Prof.	√						
Microsoft Visual C++ 2008[3] *Available at no charge*	9.0 Express Edition	√		√	√[4]		√	√
Microsoft Visual C++ 2008 SP1[3]	9.0 Prof. Edition	√	√	√	√[4]		√	√
Microsoft Visual C++ 2005 SP1[3]	8.0 Prof. Edition	√	√	√	√[4]		√	√
Intel C++[5]	11.1	√						
	9.1[6]	√						
Intel Visual Fortran[5]	11.1	√						
	10.1[6]	√						
Microsoft .NET Framework SDK *Available at no charge*	3.5				√[4,7]			
	3.0				√[4,7]			
	2.0				√[4,7]			
Sun Java Development Kit (JDK) *Available at no charge*	1.5					√		

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Simulink Product Family – Release 2010a

Compiler	Version	Simulink For S-function compilation	Simulink For Model Referencing, Accelerator mode, Rapid Accelerator mode, and Embedded MATLAB	Stateflow For all features	Stateflow Coder For all features	Real-Time Workshop When targeting the host OS	Real-Time Workshop Embedded Coder When targeting the host OS
Microsoft Visual C++ 2008 [3] *Available at no charge*	9.0 Express Edition	√	√	√	√	√	√
Microsoft Visual C++ 2008 SP1 [3]	9.0 Prof. Edition	√	√	√	√	√	√
Microsoft Visual C++ 2005 SP1 [3]	8.0 Prof. Edition	√	√	√	√	√	√
Intel C++ [5]	11.1	√					
	9.1 [6]	√					
Intel Visual Fortran [5]	11.1	√ [8]					
	10.1 [6]	√ [8]					

Notes for the Windows (64-bit) Platform

1. You must install a C compiler to use loadlibrary.

2. Visual C++ 2010 support requires a patch to R2010a. See *Solution 1-D5W493* for MEX support files. If using the Express version of Visual C++ 2010, *Windows SDK 7.1* is also required.

3. To use Microsoft Visual Studio with MATLAB on a 64-bit platform, you must choose "X64 Compilers and Tools" when installing Microsoft Visual Studio. This is not selected by default. Microsoft Visual Studio 2008 Express and Professional Editions also require that the Microsoft Windows Software Development Kit (SDK) is installed properly. For more information on installing Express Edition, see *Solution 1-6IJJ3L.*

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 2005 or 2008. 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. Intel compilers depend on tools provided by Microsoft development products. The following combinations are supported by MATLAB and Simulink related products:

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Intel Compilers on Microsoft Windows		Microsoft Visual Studio 2008 SP1 Professional Edition (64-bit)	Microsoft Visual Studio 2008 Shell (64-bit)	Microsoft Visual Studio 2005 SP1 Professional Edition (64-bit)
Compiler	Version	9.0	9.0	8.0
Intel C++	11.1	√		
	9.1			√
Intel Visual Fortran	11.1	√	√	
	10.1			√

Access to the 2005 SP1 edition is available from Microsoft as part of their *Visual Studio with MSDN* subscriptions. You should use the Microsoft Visual Studio 2008 Shell that is bundled with certain Intel Visual Fortran packages.

6. Support for this version of this compiler will be discontinued in a future release, at which time a new version will be supported.

7. MATLAB Builder NE supports building .NET Assemblies but not COM objects when using the Microsoft .NET Framework SDK without Microsoft Visual Studio.

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.

Linux (32-bit and 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 2010a

Compiler	Version	MATLAB — For MEX-file compilation and external usage of MATLAB Engine and MAT-file APIs	MATLAB1 — For shared library interface	MATLAB Compiler — For all features	MATLAB Builder JA — For all features	SimBiology — For accelerated computation	Fixed-Point Toolbox — For accelerated computation
GNU gcc/g++ Available at no charge	4.2.3	√	√	√		√	√
GNU g95 Available at no charge	0.90	√					
Sun Java Development Kit (JDK) Available at no charge	1.5				√		

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Simulink Product Family – Release 2010a

Compiler	Version	Simulink For model referencing, Accelerator mode, Rapid Accelerator mode, and Embedded MATLAB	Simulink For Embedded MATLAB	Stateflow For all features	Stateflow Coder For all features	Real-Time Workshop When targeting the host OS	Real-Time Workshop Embedded Coder When targeting the host OS
GNU gcc/g++ *Available at no charge*	4.2.3	√	√	√	√	√	√
GNU g95 *Available at no charge*	0.90	√ [2]					
Sun Java Development Kit (JDK) *Available at no charge*	1.5						

To determine the version of your compiler, see *Solution 1-1880F.*

Notes for the Linux (32-bit and 64-bit) Platform

1. You must install a C compiler to use loadlibrary.

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 (32-bit)

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 from Apple at no cost.

Compiler	Version	MATLAB For MEX-file compilation and external usage of MATLAB Engine and MAT-file APIs	MATLAB1 For shared library interface	MATLAB Compiler For all features	MATLAB Builder JA For all features	SimBiology For all features	Fixed-Point Toolbox For all features
Apple Xcode with gcc/g++ *Available at no charge*	3.2 [2, 3]	√	√	√		√	√
	3.1 [4, 5]	√	√	√		√	√
GNU gfortran *Available at no charge*	4.2.2	√					
Sun Java Development Kit (JDK) *Available at no charge*	1.5			√			

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Simulink Product Family – Release 2010a

Compiler	Version	Simulink For all features	Simulink For Embedded MATLAB	Stateflow For all features	Stateflow Coder For all features	Real-Time Workshop When targeting the host OS	Real-Time Workshop Embedded Coder When targeting the host OS
Apple Xcode with gcc/g++ *Available at no charge*	3.2 [2, 3]	√	√	√	√	√	√
	3.1 [4, 5]	√	√	√	√	√	√
GNU gfortran *Available at no charge*	4.2.2	√ [6]					
Sun Java Development Kit (JDK) *Available at no charge*	1.5						

To determine the version of your compiler, see *Solution 1-1880F.*

Notes for the Mac Platform

1.You must install a C compiler to use loadlibrary.

2.The gcc/g++ development tools version 4.0.1 (Apple Computer, Inc. build 5493) and version 4.2.1 (Apple Computer, Inc. build 5646) are required for using Xcode 3.2 with MATLAB on all Mac systems. These are installed with Xcode.

3.This compiler is supported on Mac OS X 10.6.

4. The gcc/g++ development tools version 4.0.1 (Apple Computer, Inc. build 5488) are required for using Xcode 3.1 with MATLAB on all Mac systems. These are installed with Xcode.

5.This compiler is supported on Mac OS X 10.5.

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.

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Mac OS X (64-bit)

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 from Apple at no cost.

MATLAB Product Family – Release 2010a

Compiler	Version	MATLAB For MEX-file compilation and external usage of MATLAB Engine and MAT-file APIs	MATLAB1 For shared library interface	MATLAB Compiler For all features	MATLAB Builder JA For all features	SimBiology For all features	Fixed-Point Toolbox For all features
Apple Xcode with gcc/g++ *Available at no charge*	3.2 [2,3]	√	√	√		√	√
	3.1 [4,5]	√	√	√		√	√
GNU gfortran *Available at no charge*	4.3.0	√					
Sun Java Development Kit (JDK) *Available at no charge*	1.5				√		

To determine the version of your compiler, see *Solution 1-1880F.*

Notes for the Mac Platform

1. You must install a C compiler to use loadlibrary.

2. The gcc/g++ development tools version 4.0.1 (Apple Computer, Inc. build 5493) and version 4.2.1 (Apple Computer, Inc. build 5646) are required for using Xcode 3.2 with MATLAB on all Mac systems. These are installed with Xcode.

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4. The gcc/g++ development tools version 4.0.1 (Apple Computer, Inc. build 5488) are required for using Xcode 3.1 with MATLAB on all Mac systems. These are installed with Xcode.

5. This compiler is supported on Mac OS X 10.5.

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.

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