MATLAB® Builder™ NE Release Notes

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MATLAB® Builder™ NE Release Notes

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Contents

Summary by Version

This table provides quick access to what's new in each version. For clarification, see "Using Release Notes" on page 2.

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Latest Version V3.2 (R2010b)	Yes Details	Yes Summary	Bug Reports Includes fixes	Printable Release Notes: PDF Current product documentation
V3.1 (R2010a)	Yes Details	No	Bug Reports Includes fixes	No
V3.0.2 (R2009b)	Yes Details	Yes Summary	Bug Reports Includes fixes	No
V3.0.1 (R2009a)	Yes Details	No	Bug Reports Includes fixes	No
V3.0 (R2008b)	Yes Details	Yes Summary	Bug Reports Includes fixes	No
V2.2.2 (R2008a)	Yes Details	No	Bug Reports Includes fixes	No
V2.2.1 (R2007b)	Yes Details	Yes Summary	Bug Reports Includes fixes	No
V2.2 (R2007a)	Yes Details	No	Bug Reports Includes fixes	No
V2.1 (R2006b)	Yes Details	Yes Summary	Bug Reports Includes fixes	No
V2.0 (R2006a)	Yes Details	No	No	No

Using Release Notes

Use release notes when upgrading to a newer version to learn about:

- New features
- Changes
- Potential impact on your existing files and practices

Review the release notes for other MathWorks® products required for this product (for example, MATLAB® or Simulink®). Determine if enhancements, bugs, or compatibility considerations in other products impact you.

If you are upgrading from a software version other than the most recent one, review the current release notes and all interim versions. For example, when you upgrade from V1.0 to V1.2, review the release notes for V1.1 and V1.2.

What Is in the Release Notes

New Features and Changes

- New functionality
- Changes to existing functionality

Version Compatibility Considerations

When a new feature or change introduces a reported incompatibility between versions, the **Compatibility Considerations** subsection explains the impact.

Compatibility issues reported after the product release appear under Bug Reports at the MathWorks Web site. Bug fixes can sometimes result in incompatibilities, so review the fixed bugs in Bug Reports for any compatibility impact.

Fixed Bugs and Known Problems

MathWorks offers a user-searchable Bug Reports database so you can view Bug Reports. The development team updates this database at release time

and as more information becomes available. Bug Reports include provisions for any known workarounds or file replacements. Information is available for bugs existing in or fixed in Release 14SP2 or later. Information is not available for all bugs in earlier releases.

Access Bug Reports using your MathWorks Account.

Version 3.2 (R2010b) MATLAB Builder NE Software

This table summarizes what's new in Version 3.2 (R2010b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	Yes Summary	Bug Reports Includes fixes	Printable Release Notes: PDF Current product documentation

New features and changes introduced in this version are:

Include the MCR Installer from a Link on Your Local Network

This feature lets you add a link to an MCR Installer residing on a local area network. Adding this link allows you to invoke the installer over the network, as opposed to copying the installer physically into each deployable package.

See "Packaging Your Deployment Application (Optional)" in the *MATLAB® Compiler™ User's Guide*, or in your respective Builder product User's Guide, for more details.

Support for Microsoft Visual Studio 2010 Added

This release add support for Microsoft® Visual Studio® software on both 32-bit and 64-bit systems. See the "Installation and Configuration" chapter in the *MATLAB Compiler User's Guide* for more information.

Special Instructions for Compiling C# or VB.NET Code Using a 32-Bit Assembly on Windows 64 Systems

Use of the `Any CPU` generic is not recommended when running a 32-bit .NET assembly on a Windows 64 system because of MEX-file compatibility considerations.

Compatibility Considerations

When you compile C# or VB.Net code on Windows 64, using a 32-bit MATLAB® Builder™ NE assembly, change the platform target. Use `x86` instead of `Any CPU` in the **Build** properties of Microsoft Visual Studio.

Alternatively, invoke the C# or Microsoft® Visual Basic® compiler with `/platform:x86`.

Version 3.1 (R2010a) MATLAB Builder NE Software

This table summarizes what's new in Version 3.1 (R2010a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	Bug Reports Includes fixes	Printable Release Notes: PDF Current product documentation

New features and changes introduced in this version are:

Native Data Types Available for Cell Arrays and Data Structures

MATLAB Programmers now have the option of using native .NET data types for cell array and data structure handling. These native types provide data in a more useful, easy-to-process output. See "Using the Native .NET API: The Cell and Struct Example" for more information about using the feature with MATLAB Builder NE.

Deployment Tool Now Available from Command Line

You can now invoke the Deployment Tool GUI from the command line. See "Using the Command Line to Start the Deployment Tool GUI" for more information.

New Video Demo Available

Watch a video about deploying applications using MATLAB Builder NE.

Support for .NET Framework Versions 3.0 and 3.5

In addition to supporting Microsoft® .NET Framework 2.0, MATLAB Builder NE now also supports versions 3.0 and 3.5.

Version 3.0.2 (R2009b) MATLAB Builder NE Software

This table summarizes what's new in Version 3.0.2 (R2009b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	Yes Summary	Bug Reports Includes fixes	Printable Release Notes: PDF Current product documentation

New features and changes introduced in this version are:

Redesigned Deployment Tool GUI

The new Deployment Tool (`deploytool`) interface features intuitive task-based navigation, a cancellable progress dialog, fast loading of previously-created projects, and ability to add supporting files as folders. The GUI also features new context sensitive help.

Memory Management Reliability, Performance Improved for Hosted Applications

Several enhancements have increased the reliability and performance of memory management in hosted applications such as ASP.NET and MicrosoftWindows® services. As a result, previous manual methods of memory management have been deprecated in this release.

Alternate Graphic Renderers Now Available

Graphic renderers Z-Buffer and OpenGL are now available for invocation. See "Supported Renderers for WebFigures" for more information.

Enhanced Auto-Generated Documentation

Compiled Components now feature expanded MWArray API documentation. This documentation is of particular interest to the .NET developer who is integrating components produced by MATLAB Builder NE into enterprise Windows environments. See "Using Enhanced XML Documentation Files" for more information.

New Format for Deployment Tool Projects

If you have projects that were created with the Deployment Tool prior to R2009b, those projects will continue to work. However, projects created or changed in R2009b cannot be opened in previous versions of Deployment Tool (`deploytool`).

Version 3.0.1 (R2009a) MATLAB Builder NE Software

This table summarizes what's new in Version 3.0.1 (R2009a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	Bug Reports Includes fixes	Printable Release Notes: PDF Current product documentation

New features and changes introduced in this version are:

Reduced MCR Size Saves on Transfer Time

MCR copying and transfer time has been improved by 50% following a reduction in the file's contents. The change will not reduce processor time or memory consumption since the deleted files were not loaded into RAM.

Customized readme.txt Produced with Each Compilation

An enhanced version of the `readme.txt` file, which is generated with each successful compilation, is now customized to include specific instructions about MATLAB Builder NE deployment requirements.

Specify Run-Time Options to the MATLAB Compiler Runtime (MCR)

You can now specify run-time options `-nojvm` and `-logfile` to the MATLAB Compiler Runtime (MCR). For more information about this feature, see

"Dynamically Specifying Run-Time Options to the MCR" in the product User's Guide.

Version 3.0 (R2008b) MATLAB Builder NE Software

This table summarizes what's new in Version 3.0 (R2008b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	Yes Summary	Bug Reports Includes fixes	No

New features and changes introduced in this version are:

.NET Components Now Available for Remoting to Distributed .NET Frameworks

.NET components can now be created that are ready for interfacing with distributed .NET Frameworks. For more information, see "Sharing Components Across Distributed Applications Using .NET Remoting" in the MATLAB Builder NE User's Guide.

Web Deployment of MATLAB Figures Available

Manipulation of MATLAB figures over the Web is now available through implementation of the Web Figures feature. For more information, see "Deploying a MATLAB Figure Over the Web Using WebFigures" in the MATLAB Builder NE User's Guide.

CTF Archives Now Embedded in a Single Binary Executable for Convenient Deployment of .NET and COM Components

As of R2008b, CTF data is now automatically embedded directly in .NET and COM components by default for convenient deployment of applications. See "Extracting the CTF Archive Manually Using the MCR Component Cache" and "About Embedded CTF Archives" in the MATLAB Builder NE User's Guide.

Applications Created with Parallel Computing Toolbox Now Able to Be Compiled

MATLAB applications that make use of the Parallel Computing Toolbox™ (PCT) are now able to be compiled. Resulting executables and components can scale to multicore and multiprocessing environments using MATLAB® Distributed Computing Server™. See "Improving Data Access Using the MCR User Data Interface and MATLAB Builder NE" in the MATLAB Builder NE User's Guide.

Support Dropped for .NET Framework Version 1.1 in R2008b

MATLAB Builder NE no longer supports Microsoft .NET Framework 1.1.

Warning Results When Running Figure-Generating Applications or Printing with -nojvm Flag

As of R2008b, running a figure-generating application or printing with the `-nojvm` option results in a warning message. In some cases, figure rendering may succeed, and in other cases it may not. Similarly, various MATLAB graphics functions dependent on Java, such as graphics passed with `-R`

`-nojvm`, will not result in displayable graphics. In a future release, the `-nojvm` option will no longer support figure-generating or printing and will be removed.

MWException Replaced by .NET Exception Class

In order to better support the .NET Remoting feature (see "Sharing Components Across Distributed Applications Using .NET Remoting") in this release, the `MWException` thrown by an error in the generated component or an in the encapsulated MATLAB code is being replaced by the .NET `Exception` class. You should modify your code accordingly to test for a standard .NET `Exception` rather than `MWException`.

Same Name Class Objects Shared Between MCR Instances Do Not Work Correctly

If the same class name is used in two or more separate MCR instances within the same process, the object will not work correctly. This bug impacts all component based targets: C/C++ shared libraries, COM/.Net targets, and Java targets. This bug does not affect standalone executables. This is due to a bug in the MATLAB Object System and is being addressed.

Version 2.2.2 (R2008a) MATLAB Builder NE Software

This table summarizes what's new in Version 2.2.2 (R2008a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	Bug Reports Includes fixes	No

New features and changes introduced in this version are:

Improved Error Diagnostics Available

You can receive enhanced error reporting information by using `mstack` traces. See "Enhanced Error Diagnostics Using mstack Trace" in the MATLAB Builder NE User's Guide documentation for details.

Support Being Dropped for .NET Framework Version 1.1 in R2008b

MATLAB Builder NE will no longer support Microsoft .NET Framework 1.1 in R2008b. Please plan accordingly.

MATLAB Application Deployment Web Example Guide Available

A new publication, the *MATLAB Application Deployment Web Example Guide*, is now available from the MATLAB Compiler, MATLAB Builder NE, and MATLAB Builder JA roadmap pages.

The guide provides full examples of common tasks performed by the MATLAB programmer, IT specialist, and others who play significant roles in deploying MATLAB applications to the Web.

Version 2.2.1 (R2007b) MATLAB Builder NE Software

This table summarizes what's new in Version 2.2.1 (R2007b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	Yes Summary	Bug Reports Includes fixes	No

Functions Being Removed

The following functions were removed in R2007b:

Function Being Removed	What Happens When You Run the Function?	Use This Instead	Compatibility Considerations
`buildmcr`	Errors	`MCRInstaller.exe` (Windows), `MCRInstaller.bin` (UNIX), `MCRInstaller.dmg` (Mac)	See "What Is The MATLAB Compiler Runtime (MCR)?" in the MATLAB Compiler User's Guide documentation.
`comtool`	Undefined Function Error	`deploytool`	Migrate to `deploytool`.

Function Being Removed	What Happens When You Run the Function?	Use This Instead	Compatibility Considerations
`dotnettool`	Undefined Function Error	`deploytool`	Migrate to `deploytool`.
`mxltool`	Undefined Function Error	`deploytool`	Migrate to `deploytool`.
`opennbl`	Undefined Function Error	`deploytool`	Migrate to `deploytool`.
`openmxl`	Undefined Function Error	`deploytool`	Migrate to `deploytool`.
`opencbl`	Undefined Function Error	`deploytool`	Migrate to `deploytool`.

Version 2.2 (R2007a) MATLAB Builder NE Software

This table summarizes what's new in Version 2.2 (R2007a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	Bug Reports Includes fixes	No

New features and changes introduced in this version are:

Support Added for Win64

Support has been added for the Windows 64-bit operating system.

Issues with the Microsoft Windows Vista Operating System

The following are known issues with Windows Vista™ as of this release. To resolve these issues, ensure you are logged in as Administrator.

- With User Account Control (UAC) enabled, a standard user is not able to write to a folder in the `c:\Program Files` folder. See the *MATLAB Release Notes* for more details regarding this issue.
- With User Account Control (UAC) enabled, a standard user is not able to register DLLs. When `mbuild -setup` attempts to register `mwcomutil.dll`, the following errors are displayed:

```
Trying to update options file:
  C:\Users\qe\AppData\Roaming\MathWorks\MATLAB\R2007a\compopts.bat
From template:
  C:\PROGRA~1\MATLAB\R2007a\bin\win64\mbuildopts\msvc80compp.bat
```

```
Done . . .

--> "C:\PROGRA~1\MATLAB\R2007a\bin\win64\mwregsvr C:\PROGRA~1\MATLAB\R2007a\bin\
win64\mwcomutil.dll"

Error: DllRegisterServer in C:\PROGRA~1\MATLAB\R2007a\bin\win64\mwcomutil.dll
failed
Undefined subroutine &mexsetup::expire called at C:\PROGRA~1\MATLAB\R2007a\bin\/
mexsetup.pm line 839.
```

This is also the case when MATLAB Builder for Excel invokes `mbuild` in an attempt to register DLLs after a compilation completes.

- The following message is displayed when MATLAB Builder for .NET, attempts to install a DLL into the Global Assembly Cache from a network location:

```
Unhandled Exception: System.IO.FileLoadException: could not load file or assembly
'GACInstaller, Version=1.0.2568.30711, Culture=neutral, PublicKeyToken=null' or
one of its dependencies. Failed to grant permission to execute. (Exception from
HRESULT: 0x80131418)
File name: 'GACInstaller, Version=1.0.2568.30711, Culture=neutral,
PublicKeyToken=null' ---> System.Security.Policy.PolicyException: Execution
permission cannot be acquired.
   at System.Security.SecurityManager.ResolvePolicy(Evidence evidence,
PermissionSet reqdPset, PermissionSet optPset, PermissionSet denyPset,
PermissionSet& denied, Boolean checkExecutionPermission)
   at System.Security.SecurityManager.ResolvePolicy(Evidence evidence,
PermissionSet reqdPset, PermissionSet optPset, PermissionSet denyPset,
PermissionSet& denied, Int32& securitySpecialFlags, Boolean
checkExecutionPermission)
```

- Printing from a compiled application is not currently available with Microsoft Windows Vista. The following message is displayed if you attempt to print on systems with the Microsoft Windows Vista 32-bit operating system installed:

```
PrintImage Error
StartPage failed with error 6: The handle is invalid.
```

Printing with Vista 64-bit installed results in an error message that lists a manifest as missing. Please check `http://www.mathworks.com/support/` for updates on these issues.

Unsupported MATLAB Data Types

The MATLAB Builder NE product does not support MATLAB object data types (for example, Time Series Objects) and most unsigned numeric types.

Version 2.1 (R2006b) MATLAB Builder NE Software

This table summarizes what's new in Version 2.1 (R2006b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	Yes Summary	Bug Reports Includes fixes See also "Known Issues" on page 23.	No

New features and changes introduced in this version are:

New User Interface

This release of MATLAB Builder for .NET provides a new graphical user interface for creating and building projects. Issue the `deploytool` command in MATLAB to use the new GUI.

Compatibility Considerations

Projects built with the previous user interface cannot be used with the new interface. For the current release, you can still issue the `dotnettool` command to access projects from a previous release. The next release of MATLAB Builder for .NET will no longer support `dotnettool`, or projects from the previous user interface.

Support for Shared Assemblies

When you create a .NET component using the `mcc` command or the Deployment Tool, you can tell builder to create a shared assembly. Click **More Settings** in the Deployment Tool dialog box, and select **.NET Component** in the navigation pane.

Support for Nested Namespaces

MATLAB Builder for .NET now supports nested namespaces, which you can use to create a hierarchical naming structure for types.

Support for .NET Framework Version

You can now specify which version of the .NET Framework you want to use when compiling a component using the `mcc` command of the Deployment Tool. You can specify any of the following three values.

Version Value	Meaning
`0.0`	Use the latest supported version of the framework that is available on the system.
`1.1`	Use Version 1.1
`2.0`	Use Version 2.0

Compatibility Considerations

In previous releases, you can specify a version number when creating a .NET component, but the value was not used. In this release, the version numbers specify which version of the .NET Framework to use. Note also that the interpretation of version number with MATLAB Builder for .NET is different from COM Builder. In COM Builder, the version number specifies the version of the component being created.

Additional Support for Microsoft Visual Studio .NET Users

MWArray.dll Added to Reference Tab

MATLAB Builder for .NET now adds the `MWArray.dll` containing the data conversion classes to the list of .NET components accessible from the **Add Reference** tab in Microsoft Visual Studio .NET.

Sample Applications on Visual Studio .NET 2005

The set of sample applications in *`matlabroot`*`\toolbox\dotnetbuilder\Examples` now includes applications for Visual Studio .NET 2005, as well as for Visual Studio .NET 2003.

Known Issues

The following issue is known and a patch to fix the problem is available at the linked bug report.

Data Returned by ToArray Referencing Sparse Format May Be Corrupt

The data returned by calling `ToArray` on a `MWNumericArray` or `MWLogicalArray` object that references a MATLAB array stored in sparse format may be incorrect or corrupted. More information and a patch that corrects this issue may be found at the Customer Bug Reports area of the MathWorks Web site: http://www.mathworks.com/support/bugreports/index.html?release=R2006b. At the Bug Reports page, select **R2006b** in the Release list, and select **MATLAB Builder for .NET** in the Product list.

This bug does not affect normal (non-sparse) arrays, nor does it affect other methods of retrieving data from a sparse array, such as `get`, `getDouble`, and `getData`.

Version 2.0 (R2006a) MATLAB Builder NE Software

This table summarizes what's new in Version 2.0 (R2006a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	No	No

MATLAB Builder for .NET extends MATLAB Compiler with tools for automatically generating independent .NET assemblies or Common Object Model (COM) objects from your MATLAB algorithms.

These tools allow you to do the following:

- Convert your MATLAB algorithms into .NET or COM components via a graphics user interface
- Create .NET assemblies that can be called from C#, VB.NET, or any other CLS-compliant technology
- Create COM objects that can be called from Visual Basic, ASP, Microsoft Excel, or any other COM-compliant technology
- Support conversion between native .NET and COM data types and the MATLAB array data types, using data conversion classes
- Enable unlimited free desktop and Web deployment of independent components

Compatibility Summary for MATLAB Builder NE Software

This table summarizes new features and changes that might cause incompatibilities when you upgrade from an earlier version, or when you use files on multiple versions. Details are provided in the description of the new feature or change.

Version (Release)	New Features and Changes with Version Compatibility Impact
Latest Version V3.2 (R2010b)	See "Special Instructions for Compiling C# or VB.NET Code Using a 32-Bit Assembly on Windows 64 Systems" on page 5
V3.1 (R2010a)	None
V3.0.2 (R2009b)	See "New Format for Deployment Tool Projects" on page 8
V3.0.1 (R2009a)	None
V3.0 (R2008b)	See "Warning Results When Running Figure-Generating Applications or Printing with -nojvm Flag" on page 12.
V2.2.2 (R2008a)	None
V2.2.1 (R2007b)	See "Functions Being Removed" on page 16.
V2.2 (R2007a)	None
V2.1 (R2006b)	See the **Compatibility Considerations** subheading for each of these new features or changes: • "New User Interface" on page 21 • "Support for .NET Framework Version" on page 22
V2.0 (R2006a)	None