

MATLAB[®] Builder[™] JA Release Notes

How to Contact The MathWorks



www.mathworks.com Web
comp.soft-sys.matlab Newsgroup
www.mathworks.com/contact_TS.html Technical Support



suggest@mathworks.com Product enhancement suggestions
bugs@mathworks.com Bug reports
doc@mathworks.com Documentation error reports
service@mathworks.com Order status, license renewals, passcodes
info@mathworks.com Sales, pricing, and general information



508-647-7000 (Phone)



508-647-7001 (Fax)



The MathWorks, Inc.
3 Apple Hill Drive
Natick, MA 01760-2098

For contact information about worldwide offices, see the MathWorks Web site.

MATLAB® Builder™ JA Release Notes

© COPYRIGHT 2006–2009 by The MathWorks, Inc.

The software described in this document is furnished under a license agreement. The software may be used or copied only under the terms of the license agreement. No part of this manual may be photocopied or reproduced in any form without prior written consent from The MathWorks, Inc.

FEDERAL ACQUISITION: This provision applies to all acquisitions of the Program and Documentation by, for, or through the federal government of the United States. By accepting delivery of the Program or Documentation, the government hereby agrees that this software or documentation qualifies as commercial computer software or commercial computer software documentation as such terms are used or defined in FAR 12.212, DFARS Part 227.72, and DFARS 252.227-7014. Accordingly, the terms and conditions of this Agreement and only those rights specified in this Agreement, shall pertain to and govern the use, modification, reproduction, release, performance, display, and disclosure of the Program and Documentation by the federal government (or other entity acquiring for or through the federal government) and shall supersede any conflicting contractual terms or conditions. If this License fails to meet the government's needs or is inconsistent in any respect with federal procurement law, the government agrees to return the Program and Documentation, unused, to The MathWorks, Inc.

Trademarks

MATLAB and Simulink are registered trademarks of The MathWorks, Inc. See www.mathworks.com/trademarks for a list of additional trademarks. Other product or brand names may be trademarks or registered trademarks of their respective holders.

Patents

The MathWorks products are protected by one or more U.S. patents. Please see www.mathworks.com/patents for more information.

Summary by Version	1
Version 2.0.3 (R2009a) MATLAB® Builder JA Software	3
Version 2.0.2 (R2008b) MATLAB® Builder JA Software	4
Version 2.0.1 (R2008a) MATLAB® Builder JA Software	6
Version 2.0 (R2007b) MATLAB® Builder for Java™ Software	7
Version 1.1 (R2007a) MATLAB® Builder for Java™ Software	10
Version 1.0 (R2006b) MATLAB® Builder for Java™ Software	13
Compatibility Summary for MATLAB® Builder™ JA Software	16

Summary by Version

This table provides quick access to what's new in each version. For clarification, see “Using Release Notes” on page 1.

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Latest Version V2.0.3 (R2009a)	Yes Details	No	Bug Reports	Printable Release Notes: PDF Current product documentation
V2.0.2 (R2008b)	Yes Details	Yes Summary	Bug Reports	No
V 2.0.1 (R2008a)	Yes Details	No	Bug Reports	No
V2.0 (R2007b)	Yes Details	Yes Summary	Bug Reports	No
V1.1 (R2007a)	Yes Details	No	Bug Reports	No
V1.0 (R2006b)	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®) for enhancements, bugs, and compatibility considerations that also might impact you.

If you are upgrading from a software version other than the most recent one, review the release notes for all interim versions, not just for the version you are installing. For example, when upgrading from V1.0 to V1.2, review the release notes for V1.1 and V1.2.

What's 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 is released appear under Bug Reports at the MathWorks Web site. Bug fixes can sometimes result in incompatibilities, so you should also review the fixed bugs in Bug Reports for any compatibility impact.

Fixed Bugs and Known Problems

The 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. This includes 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 2.0.3 (R2009a) MATLAB Builder JA Software

This table summarizes what's new in Version 2.0.3 (R2009a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	None	Bug Reports	Printable Release Notes: PDF Current product documentation

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™ JA deployment requirements.

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

You can now specify run-time options `-nojvm`, `-nodisplay`, 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 guide.

Enhanced Javadoc

Auto-generated Sun™ Javadoc has been enhanced to include information of interest to Java developers. For more information, see “Learning About Java™ Classes and Methods by Exploring the Javadoc” in the product user guide.

Version 2.0.2 (R2008b) MATLAB Builder JA Software

This table summarizes what's new in Version 2.0.2 (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	No

Applications Created with Parallel Computing Toolbox Now Can Be Compiled

MATLAB applications that use the Parallel Computing Toolbox™ are now able to be compiled. Resulting executables and components can scale to multicore and multiprocessing environments using MATLAB Distributed Computing Server. For more information, see “Improving Data Access Using the MCR User Data Interface and MATLAB Builder JA” in the product user guide.

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.

Same Name Class Objects Shared Between MCR Instances Will 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 2.0.1 (R2008a) MATLAB Builder JA Software

This table summarizes what's new in Version 2.0.1 (R2008a):

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

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 JA, and MATLAB Builder NE roadmap pages. From MATLAB, select **Help > Product Help** and select the product from the left pane.

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 2.0 (R2007b) MATLAB® Builder for Java™ Software

This table summarizes what's new in Version 2.0 (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	No

New features and changes introduced in this version are:

- “Support for RMI” on page 7
- “Interactive MATLAB Graphics Support” on page 7
- “Enhanced CTF Archives” on page 8
- “Web Deployment Documentation” on page 8
- “Enhanced Javadoc Support” on page 8
- “Functions Being Removed” on page 8

Support for RMI

The Sun Microsystems® Java™ native RPC mechanism, RMI, is now supported for “Creating Scalable Web Applications Using RMI”. RMI support enables automatic generation of interface code for Java remoting, allowing components to be started in separate processes.

Interactive MATLAB Graphics Support

Interactive graphics are now available for user-developed Web applications, using AJAX technology to enable rotating, zooming, and panning. See “Deploying a MATLAB Figure Over the Web Using WebFigures” for more information.

Enhanced CTF Archives

Output JAR files containing embedded CTF files are now produced for more convenient deployment. Also, it is now possible to ensure that CTF archives containing MEX- files are platform independent.

Web Deployment Documentation

The basics of Web deployment with MATLAB Builder for Java, interactive Web graphics, and performance features using RMI are now included in the User's Guide documentation.

Enhanced Javadoc Support

Sun Microsystems® Javadoc™ is now searchable from the MathWorks Web site and is also available within packaged MATLAB Builder for Java components.

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 "Replacement of MCRInstaller.zip and BUILDMCR Functionality" 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.
mx1tool	Undefined Function Error	deploytool	Migrate to deploytool.
opennb1	Undefined Function Error	deploytool	Migrate to deploytool.
openmx1	Undefined Function Error	deploytool	Migrate to deploytool.
opencb1	Undefined Function Error	deploytool	Migrate to deploytool.

Version 1.1 (R2007a) MATLAB® Builder for Java™ Software

This table summarizes what's new in Version 1.1 (R2007a):

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

New features and changes introduced in this version are:

- “Support Added for Win 64, Mac, Intel Mac, and Solaris 64” on page 10
- “Support Dropped for Solaris 2” on page 10
- “Java Objects Accessible by the MATLAB Java Interface” on page 11
- “Conversion Methods Available for Java Primitive Types” on page 11
- “Image Conversion from RGB to Java AWT Format Available” on page 11
- “Issues with the Microsoft Windows Vista Operating System” on page 11

Support Added for Win 64, Mac, Intel Mac, and Solaris 64

Support has been added for the following operating systems:

- Windows® 64-bit
- Macintosh®
- Intel® Mac
- Solaris™ 64-bit

Support Dropped for Solaris 2

Support has been dropped for the Solaris 2 operating system. It has been replaced by support for Solaris 64.

Java Objects Accessible by the MATLAB Java Interface

Java objects can now be passed by reference to compiled M-functions and be fully accessible by the MATLAB Java interface.

Conversion Methods Available for Java Primitive Types

Conversion methods are now available that force MATLAB numeric array data into Java primitive numeric types.

Image Conversion from RGB to Java AWT Format Available

Conversion of RGB image data to Java AWT image object data format is now available.

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 directory in the `c:\Program Files` directory. 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\msvc80comp.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.

Version 1.0 (R2006b) MATLAB® Builder for Java™ Software

This table summarizes what's new in Version 1.0 (R2006b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	Bug Reports See also “Known Issues” on page 14.	No

New features and changes introduced in this version are:

- “Introducing MATLAB® Builder for Java” on page 13
- “Support for MATLAB Features in Java” on page 13
- “Deployment Tool User Interface” on page 14
- “Known Issues” on page 14

Introducing MATLAB Builder for Java

MATLAB® Builder for Java™ is an extension to MATLAB Compiler software. Use this builder to wrap MATLAB functions into one or more Java classes that comprise a Java package. Each of the MATLAB functions is encapsulated as a method of a Java class and can be invoked from within a Java application.

When you distribute the application to your users, you must include supporting files generated by the builder as well as the MATLAB Component Runtime (MCR), which is provided by the product. Your users do not have to purchase and install MATLAB.

Support for MATLAB Features in Java

MATLAB Builder for Java provides robust data conversion, indexing, and array formatting capabilities to preserve the flexibility of MATLAB when called from Java code. To support the MATLAB data types, the builder provides the `MWArray` class hierarchy. You can use `MWArray` and other Java

class members in your application to convert native arrays to MATLAB arrays and vice versa. builder also provides automatic data conversion for passing arguments that are Java types.

MATLAB Builder for Java provides custom error handling so that errors originating from MATLAB functions are reported as standard exceptions. The error description contains specific references to the MATLAB code, thus simplifying the debugging process.

Deployment Tool User Interface

To use the builder, open the Deployment Tool by issuing the following MATLAB command:

```
deploytool
```

You can use the Deployment Tool to create a project that encapsulates MATLAB code. You can perform the following tasks using the Deployment Tool:



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 can 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 Java** in the Product list.

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

Compatibility Summary for MATLAB® Builder™ JA 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 V2.0.3 (R2009a)	None.
V2.0.2 (R2008b)	“Warning Results When Running Figure-Generating Applications or Printing with -nojvm Flag” on page 4.
V2.0.1 (R2008a)	None
V2.0 (R2007b)	See “Functions Being Removed” on page 8.
V1.1 (R2007a)	None
V1.0 (R2006b)	None