

MATLAB[®] Builder for Java[™] Release Notes

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Summary by Version

This table provides quick access to what's new in each version. For clarification, see “About 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 (R2007b)	Yes Details	Yes	Bug Reports	Printable Release Notes: PDF Current product documentation
V1.1 (R2007a)	Yes Details	No	Bug Reports	No
V1.0 (R2006b)	Yes Details	No	No	No

About Release Notes

Use release notes when upgrading to a newer version to learn about new features and changes, and the potential impact on your existing files and practices. Release notes are also beneficial if you use or support multiple versions.

If you are not upgrading from the most recent previous version, review release notes for all interim versions, not just for the version you are installing. For example, when upgrading from V1.0 to V2.0, review the New Features and Changes, Version Compatibility Considerations, and Bug Reports for V1.1 and V2.0.

New Features and Changes

These include

- New functionality
- Changes to existing functionality

- Changes to system requirements (complete system requirements for the current version are at the MathWorks Web site)
- Any version compatibility considerations associated with each new feature or change

Version Compatibility Considerations

When a new feature or change introduces a reported incompatibility between versions, its description includes a **Compatibility Considerations** subsection that details the impact. For a list of all new features and changes that have reported compatibility impact, see the “Compatibility Summary for MATLAB Builder for Java” on page 13.

Compatibility issues that are reported after the product has been released are added to Bug Reports at the MathWorks Web site. Because bug fixes can sometimes result in incompatibilities, also review fixed bugs in Bug Reports for any compatibility impact.

Fixed Bugs and Known Problems

MathWorks Bug Reports is a user-searchable database of known problems, workarounds, and fixes. The MathWorks updates the Bug Reports database as new problems and resolutions become known, so check it as needed for the latest information.

Access Bug Reports at the MathWorks Web site using your MathWorks Account. If you are not logged in to your MathWorks Account when you link to Bug Reports, you are prompted to log in or create an account. You then can view bug fixes and known problems for R14SP2 and more recent releases.

Related Documentation at Web Site

Printable Release Notes (PDF). You can print release notes from the PDF version, located at the MathWorks Web site. The PDF version does not support links to other documents or to the Web site, such as to Bug Reports. Use the browser-based version of release notes for access to all information.

Product Documentation. At the MathWorks Web site, you can access complete product documentation for the current version and some previous versions, as noted in the summary table.

Version 2.0 (R2007b) MATLAB Builder for Java

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	Bug Reports	Printable Release Notes: PDF Current product documentation

New features and changes introduced in this version are

- “Support for RMI” on page 4
- “Interactive MATLAB Graphics Support” on page 4
- “Enhanced CTF Archives” on page 5
- “Web Deployment Documentation” on page 5
- “Enhanced Javadoc Support” on page 5
- “Functions Being Removed” on page 5

Support for RMI

The Java™ native RPC mechanism, RMI, is now supported for “Creating Scalable Web Applications With 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.

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 Java Builder, interactive Web graphics, and performance features utilizing RMI are now included in the MATLAB Builder for Java User's Guide Documentation.

Enhanced Javadoc Support

Javadoc is now searchable from the MathWorks Web site and is also available within packaged Java Builder components.

Functions Being Removed

For more information about The MathWorks process of removing functions, see the section "About Functions Being Removed" in "About Release Notes".

Functions Being Removed	What Happens When You Run Function?	Use This Instead	Compatibility Considerations
buildmcr	Errors	MCRInstaller.exe (Windows), MCRInstaller.bin (UNIX), MATLAB_Component_Runtime.dmg (Mac)	See the MATLAB Compiler User's Guide documentation for more details.
comtool	Undefined function error	deploytool	Migrate to deploytool.
dotnettool	Undefined function error	deploytool	Migrate to deploytool.

Functions Being Removed	What Happens When You Run Function?	Use This Instead	Compatibility Considerations
mxltool	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

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	Printable Release Notes: PDF Current product documentation

New features and changes introduced in this version are

- “Support Added for Win 64, Mac, Intel Mac, and Solaris 64” on page 7
- “Support Dropped for Solaris 2” on page 7
- “Java Objects Accessible by MATLAB Java Interface” on page 8
- “Conversion Methods Available for Java Primitive Types” on page 8
- “Image Conversion from RGB to Java AWT Format Available” on page 8
- “Issues with the Microsoft Windows Vista Operating System” on page 8

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

Support has been added for the following operating systems:

- Windows 64-bit
- Mac
- 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 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 compatibility issues with Microsoft Vista as of this release:

- 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\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.

Version 1.0 (R2006b) MATLAB Builder for Java

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	Printable Release Notes: PDF Current product documentation

New features and changes introduced in this version are:

- “Support for MATLAB Features in Java” on page 10
- “Deployment Tool User Interface” on page 11
- “Known Issues” on page 11

MATLAB Builder for Java (also called Java Builder), a new product, is an extension to MATLAB Compiler. Use Java 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 Java 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

Java Builder 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, Java 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. Java

Builder also provides automatic data conversion for passing arguments that are Java types.

Java Builder 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 Java 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 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 Java** 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`.

Compatibility Summary for MATLAB Builder for Java

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 (R2007b)	See “Functions Being Removed” on page 5.
V1.1 (R2007a)	None
V1.0 (R2006b)	None