
Java for Mac OS X 10.4 Release 5 Release Notes

Java



2007-03-08



Apple Inc.
© 2007 Apple Inc.
All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, mechanical, electronic, photocopying, recording, or otherwise, without prior written permission of Apple Inc., with the following exceptions: Any person is hereby authorized to store documentation on a single computer for personal use only and to print copies of documentation for personal use provided that the documentation contains Apple's copyright notice.

The Apple logo is a trademark of Apple Inc.

Use of the "keyboard" Apple logo (Option-Shift-K) for commercial purposes without the prior written consent of Apple may constitute trademark infringement and unfair competition in violation of federal and state laws.

No licenses, express or implied, are granted with respect to any of the technology described in this document. Apple retains all intellectual property rights associated with the technology described in this document. This document is intended to assist application developers to develop applications only for Apple-labeled computers.

Every effort has been made to ensure that the information in this document is accurate. Apple is not responsible for typographical errors.

Apple Inc.
1 Infinite Loop
Cupertino, CA 95014
408-996-1010

Apple, the Apple logo, Mac, Mac OS, and QuickTime are trademarks of Apple Inc., registered in the United States and other countries.

Intel and Intel Core are registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Java and all Java-based trademarks are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries.

PowerPC and the PowerPC logo are trademarks of International Business Machines Corporation, used under license therefrom.

Simultaneously published in the United States and Canada.

Even though Apple has reviewed this document, APPLE MAKES NO WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS DOCUMENT, ITS QUALITY, ACCURACY, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. AS A RESULT, THIS DOCUMENT IS PROVIDED "AS IS," AND YOU, THE READER, ARE ASSUMING THE ENTIRE RISK AS TO ITS QUALITY AND ACCURACY.

IN NO EVENT WILL APPLE BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT OR INACCURACY IN THIS DOCUMENT, even if advised of the possibility of such damages.

THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS, ORAL OR WRITTEN, EXPRESS OR IMPLIED. No Apple dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty.

Some states do not allow the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Contents

Introduction **Introduction to Java for Mac OS X v10.4 Release 5 Release Notes** 7

- Who Should Read This Document? 7
- Organization of This Document 7
- See Also 8

Chapter 1 **Resolved Issues** 9

- Java Applets 9
- Java Application Support 9
- Java AWT 10
- Java Events 10
- Java Graphics 10
- Java Input Methods 11
- Java Libraries 11
- Java Printing 12
- Java SWT Support 12
- Java Virtual Machine 14
- Java Web Start 14
- Other Resolved Issues 15

Chapter 2 **Outstanding Issues** 17

- Java Printing 17
- Java Virtual Machine 17

Document Revision History 19

Tables

Chapter 1

Resolved Issues 9

Table 1-1 Various Resolved Issues in Java for Mac OS X v10.4 Release 5 15

Introduction to Java for Mac OS X v10.4 Release 5 Release Notes

This release of Java for Mac OS X includes improvements for Java 2 Platform, Standard Edition 5.0 (J2SE 5.0) and Java 2 Platform, Standard Edition 1.4.2 (Java 1.4.2) on Mac OS X. It features Apple's implementation of Sun's J2SE Versions 1.5.0_07 and 1.4.2_12.

What is Java for Mac OS X v10.4 Release 5?

Java for Mac OS X v10.4 Release 5 provides updates for recent changes to Daylight Saving Time in the United States, as well as numerous enhancements and bug fixes for Apple's implementation of J2SE 5.0 and Java 1.4.2 on Mac OS X v10.4. This release includes compatibility with Sun's Java 2 Platform Standard Edition, versions 5.0 (1.5.0_07) and 1.4.2 (1.4.2_12).

For general information about Java changes in J2SE 5.0, see *Release Notes - Java 2 SDK, Standard Edition Version 5.0* at <http://java.sun.com/j2se/1.5.0/relnotes.html>. For general information about Java changes in Java 1.4.2, see *Release Notes - Java 2 SDK, Standard Edition Version 1.4.2* at <http://java.sun.com/j2se/1.4.2/relnotes.html>.

Note: J2SE 5.0 is the preferred Java version in Java for Mac OS X v10.4 Release 5. This release includes an updated version of Java 1.4.2, but applications run with J2SE 5.0 unless they specifically request Java 1.4.2.

Who Should Read This Document?

Any developer who wants to distribute Java applications for Mac OS X should read this document since various issues and fixes found in this release may affect your application. Anyone interested in new Java development on Mac OS X v10.4 should read this document for the most current information on new features and outstanding issues with Java on Mac OS X.

Organization of This Document

This document contains the following chapters:

- **"Resolved Issues"** (page 9) highlights a selection of high-visibility bugs that have been addressed in this release. This chapter is broken down by the category where the bug occurs and provides a brief description of what the issue was and how it was resolved.
- **"Outstanding Issues"** (page 17) presents a selection of high-visibility bugs that you may need to work around with this release. This chapter is broken down by the category where the bug occurs and provides a brief description of what the issue is and often provides a workaround for the issue.

INTRODUCTION

Introduction to Java for Mac OS X v10.4 Release 5 Release Notes

This document also contains a revision history.

If you are just beginning Java development for Mac OS X, you can probably just read the “[Outstanding Issues](#)” (page 17) chapter. Otherwise, it is recommended that Java developers read all chapters.

See Also

The Following Apple Java documentation may be helpful:

- *Java Development Guide for Mac OS X*
- *Java Property, VM Option, and Info.plist Key Reference for Mac OS X*
- Previous Java Release Notes
- *Java on Mac OS X Frequently Asked Questions* (<http://developer.apple.com/java/faq/>)

Resolved Issues

This chapter lists high-visibility bugs that have been addressed in this release. It is not a complete listing of all of the bugs addressed. If you still have issues with any of these bugs, please file a new bug at <http://bugreport.apple.com/> under the Java (new bugs) component, version X. Refer to the bug number indicated below in your new bug if you believe it is the same issue.

Java Applets

Radar #4889300

Default applet memory limits too low

Description:

The default maximum heap size for Java applets was set to 64 MB in Java 1.4.2 and J2SE 5.0. This is inconsistent with other platforms and often not enough for memory-hungry applets.

Resolution:

The default maximum heap size for applets is now 96 MB in Java 1.4.2 and J2SE 5.0.

Java Application Support

Radar #4600115

Previous Java application stub incompatibilities

Description:

The Java application stub shipped with J2SE 5.0 Release 4 and various Intel-based Macs requires Mac OS X 10.3.9 or later to run.

Resolution:

A new Java application stub is included with Java for Mac OS X v10.4 Release 5. This stub is Universal (supports both PowerPC and Intel-based Macs) and is compatible with Mac OS X v10.2 and later for Java 1.4.2 applications. This stub also fixes launch issues on Mac OS X v10.3 with QuickTime 7.0.4 and later installed. To use the latest stub, either repackage your application with Jar Bundler or swap your application's stub with the one found in `/System/Library/Frameworks/JavaVM.framework/Resources/MacOS/`.

Note: On Intel-based Macs, applications that set `JVMVersion` to 1.3* and use the new Java application stub are provided J2SE 5.0 as their Java runtime.

Java AWT

Radar #4733011

Transparent window dragging

Description:

Window made transparent via `setBackgroundcolor` couldn't be dragged.

Resolution:

Use a boolean value with the `apple.awt.draggableWindowBackground` per-window client property to control if a window can be moved by dragging its background.

Java Events

Radar #4536860

Dead keys reported incorrectly

Description:

Dead key combinations, such as Option-E and Option-U, were reported as a key event with no key code or key character.

Resolution:

Pressing a dead key combination generates the correct code, such as `VK_DEAD_GRAVE`, `VK_DEAD_ACUTE`, or `VK_DEAD_CIRCUMFLEX`, for that combination.

Java Graphics

Radar #4737115

Incorrect synchronization

Description:

A race condition in the clean-up of drawable delegates for native peers could result in a crash.

Resolution:

The clean-up of drawable delegates for native peers is now synchronized correctly.

Java Input Methods

Radar #4527629

Erroneous Input Method Events

Description:

Components that were not prepared to respond to input method events received them, which caused the AWT to bring up an input window.

Resolution:

Components that return `null` from the `getInputMethodRequests` method no longer receive input method events.

Radar #4693179

Multiple characters generated by one key stroke

Description:

If a component didn't support input method events and a key combination resulting in multiple characters was entered, the component only received one `KEY_TYPED` event for the first character generated by the event.

Resolution:

Entering a key combination that results in multiple characters now generates a `KEY_TYPED` event for each character generated.

Java Libraries

Radar #4801241

Daylight Saving Time adjustment

Description:

Beginning in 2007, Daylight Saving Time in the United States starts three weeks earlier (March 11, 2007) and ends one week later (November 4, 2007).

Resolution:

Java for Mac OS X v.10.4 Release 5 includes new time zone files that handle the recent changes to Daylight Saving Time. The included files are current as of January 8, 2007.

Java Printing

Radar #4729927

Print service lookup returns null results

Description:

When contact with a printer could not be established, `PrintServiceLookup.lookupPrintServices` may have returned an array of `PrintServices` objects that contained null entries.

Resolution:

Printers that cannot be contacted are no longer added to the available printers list. Also, the array returned by `PrintServiceLookup.lookupPrintServices` only contains valid `PrintService` objects.

Radar #4733025

Printer changes ignored

Description:

Changing the printer in a `javax.print` print dialog was sometimes ignored, causing print jobs to route to the default printer.

Resolution:

All print jobs go to the printer specified using the `javax.print` print dialog.

Java SWT Support

Radar #4548747

SWT embedding

Description:

Support for embedding AWT frames into an SWT-based application required a separate download.

Resolution:

The SWT embedding patches are included with Java for Mac OS X v.10.4 Release 5. The patches require Eclipse 3.2RC3 and later. See the Package.org.eclipse.swt.awt documentation for more information on SWT AWT embedding support.

Radar #4558197

AWT frames embedded in SWT composites

Description:

AWT embedded frames would not appear when you created a Composite, set its size, and then added the embedded AWT frame.

Resolution:

Embedded frames always appear, regardless of the size of the parent Composite at creation time.

Radar #4698426

Crashes when embedding AWT Frames in SWT Shells

Description:

Embedding an AWT Frame in an SWT Shell caused crashes shortly after the shell appeared.

Resolution:

Embedding an AWT Frame within an SWT Shell no longer causes crashes. See https://bugs.eclipse.org/bugs/show_bug.cgi?id=171105 for more information.

Radar #4880638

Crashes when embedding AWT Frames in SWT Shells after using SWT Browsers

Description:

An SWT-based application crashed if the application used an SWT Browser before embedding an AWT Frame in an SWT Shell.

Resolution:

Embedding an AWT Frame after using an SWT Browser no longer causes crashes. See https://bugs.eclipse.org/bugs/show_bug.cgi?id=163629 for more information.

Radar #4916044

Crashes when closing embedded AWT Frames

Description:

SWT-based applications crashed after disposing of an embedded AWT Frame and then continuing to work with the window.

Resolution:

Closing an embedded AWT Frame and then working with its window no longer causes crashes. See https://bugs.eclipse.org/bugs/show_bug.cgi?id=162687 for more information.

Java Virtual Machine

Radar #4843607

Concurrent Mark Sweep Garbage Collection Issues

Description:

Applications that use the `+UseConcMarkSweepGC` flag (Concurrent Mark Sweep Garbage Collection algorithm) were often unstable.

Resolution:

Applications that use the `+UseConcMarkSweepGC` algorithm execute properly.

Radar #4848029

Crashes when using the `-server` option

Description:

In some situations, running applications using the C2 compiler (`-server`) on Intel-based Macs crashed during Just-in-time compilation.

Resolution:

The C2 compiler on Intel-based Macs is considerably more reliable in this release.

Java Web Start

Radar #4791213

Java Cache Viewer crash

Description:

Java Cache Viewer crashed if the `icon` element's `name` attribute in a JNLP file did not have a file extension.

Resolution:

Java Cache Viewer accepts any file name for icon elements.

Radar #4821360

JNLP applications use incorrect version of Java Web Start

Description:

JNLP-based applications that use Java 1.4.2 or 1.3.1 were started with a different version of Java Web Start than J2SE 5.0 JNLP-based applications. This caused caching issues and other behavioral issues between versions.

Resolution:

All JNLP applications are launched using the Java Web Start version installed by J2SE 5.0 using the Java Virtual Machine requested by the JNLP file.

Other Resolved Issues

[Table 1-1](#) (page 15) lists numerous issues present in previous versions of Java for Mac OS X that are resolved in Java for Mac OS X v10.4 Release 5.

Table 1-1 Various Resolved Issues in Java for Mac OS X v10.4 Release 5

Radar #	Description
4691177	AWT crash with VoiceOver or Access for Assistive Devices
4360526	Crash when passing <code>jobject</code> references between threads
4564214	<code>jdb</code> failed when <code>MallocScribble</code> was active
4327495	Spurious warning: <code>ERROR: CGContextGetPixelAccess returns NULL in syncToJavaPixels</code>
4517104	Incorrect manipulation of images with type <code>TYPE_USHORT_565_RGB</code> or <code>TYPE_USHORT_555_RGB</code>
4531188	Null Pointer Exception in <code>CPeerSurfaceData.copyArea</code> when using the Sun 2D renderer
4582048	Problems drawing a dotted rectangle using <code>BasicStroke</code>
4915077	<code>fillPolygon</code> crashed under <code>XORMode</code>
4739661	<code>JViewport</code> in <code>BLIT_SCROLL_MODE</code> didn't paint properly using the Sun 2D renderer
4769872	Extraneous <code>Thread.dumpStack</code> when using <code>CustomStroke</code>
4872807	Crash when drawing text into a window that is being disposed
4814231	Untested exception when using <code>HeapDumpOnOutOfMemoryError</code>
4826541	Memory leak in <code>JNI AttachCurrentThread</code> and <code>DetachCurrentThread</code>
4851158	Untested trap when using with <code>+UseParallel101dGC</code>
4900738	<code>java.lang.instrument</code> manifest property <code>Boot-Class-Path</code> caused Bus error
4738148	Root certificates updated to match certificates included with Mac OS X v10.4.8

Outstanding Issues

This chapter provides a listing of bugs that you may need to work around in your Java code for Mac OS X. Where possible, workarounds are provided.

Java Printing

Radar #4729920

PrinterJob.setPrintService issues

Description:

The `PrinterJob.setPrintService` method does not reset the print service attached to the `PrinterJob` and does not throw an exception. When called, `PrinterJob.setPrintService` fails and printing to the selected printer fails as well.

Workaround:

To print a `Printable` and retarget it to different `PrintServices`, create a new `DocPrintJob` from the desired `PrintService` and use its `print` method. This may require creating an intermediate `PagableDoc`, `Book`, and appending your `Printable` using the default page from the `DocPrintJob`.

Java Virtual Machine

Radar #4729920

The `-server` option always regenerates the Java Shared Archive

Description:

Using the `java` command with the `-server` option on a PowerPC-based Mac regenerates the Java Shared Archive every time the command is issued. This issue only affects Java startup time and does not hinder a Java application's performance.

Workaround:

Use the `-Xshare:off` option or explicitly choose `-client` when running the `java` command.

On Mac OS X Server, the `-server` option is the default, so the shared archive is always regenerated unless you explicitly use the `-client` option.

Document Revision History

This table describes the changes to *Java for Mac OS X 10.4 Release 5 Release Notes*.

Date	Notes
2007-03-08	Clarified circumstances for reproduction of Radar #4600115 in "Java Application Support."
2007-02-15	First draft of Java for Mac OS X v.10.4 Release 5 Release Notes

REVISION HISTORY

Document Revision History