



performance



protection



deployment

Product Data Sheet

Excelsior JET

Release the Power of Java™

Excelsior JET is a complete JVM implementation designed to help developers accelerate their Java SE applications, secure them against reverse engineering, and distribute their Java software products without dependencies

Executive summary

Platform-neutral Java bytecodes cannot be executed directly on the hardware commonly used in PCs and embedded devices. Java applications run on top of the Java Virtual Machine (JVM), which usually has to mediate between the application code and the CPU.

Excelsior JET takes an alternative approach: it is the only Java SE grade JVM implementation that enables Java applications to run directly on the hardware from the very start.

Instead of the slower semi-interpreting virtual machine, Excelsior JET includes an Ahead-Of-Time (AOT) optimizing compiler. Java developers can use it to convert the jar files of an application into a highly optimized native executable. That enables the application to run at full speed immediately upon startup, because its code has been optimized for the underlying hardware before execution.

Excelsior JET effectively removes the overheads inherent to the “traditional” JVMs and improves application performance without source code changes or hardware upgrades.

Excelsior JET also protects proprietary code and data against reverse analysis and tampering. Java classes are easy to decompile, and numerous freely available tools can produce amazingly readable source code from class files. Distributing an optimized native executable instead of Java classes is the only option to avoid the “unintended open source” issue.

Finally, Excelsior JET simplifies Java deployment. Optimized applications no longer require any Java software, such as the JRE, on end-user systems. The Excelsior JET Installation Toolkit creates conventional installation packages without any deployment dependencies.

Excelsior JET 15.3 Features and Benefits

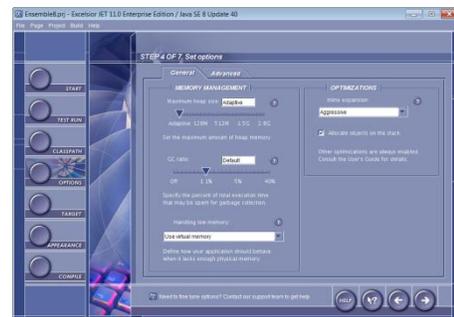
Core engine

AOT (static) compilation	<p>Improves application performance, delivers optimal application response time at startup</p> <p>Protects intellectual property by making Java applications as hard to decompile as if written in C++.</p> <p>Dedicated support for applications based on <i>Spring Boot</i>, <i>Eclipse RCP</i>, and <i>Apache Tomcat</i></p> <p>Increases robustness of Java applications; the code executed on the target system is the code tested and deployed</p> <p>Improves integration of Java applications into native environment</p>
Profile-Guided Optimization	<p>Further improves performance by using actual application execution profile data to guide adaptive offline optimizations</p>
Global (whole-program) optimization	<p>Substantially reduces the download size and disk footprint of Java applications</p> <p>Further increases application performance</p>
Startup Optimization Toolkit	<p>Reduces the cold startup time of Java applications</p>
High-performance runtime	<p>Minimizes Java performance penalties by providing fast memory allocation, effective garbage collection, low-overhead thread synchronization, etc.</p> <p>Optimized for multi-core and multi-CPU systems</p>
OpenJDK 8 API	<p>Implements full Java SE 8 Platform API</p>
Easy build automation	<p>Maven and Gradle plugins</p> <p>Incremental (smart) compilation</p>

Platform Support

Excelsior JET	<p>Windows[®], OS X[®], and Linux on AMD64/Intel 64</p> <p>Windows and Linux on Intel x86</p>
Excelsior JET Embedded	<p>Windows and Linux on Intel x86 and AMD64/Intel 64</p> <p>Linux on ARMv7 and 32-bit ARMv8</p>

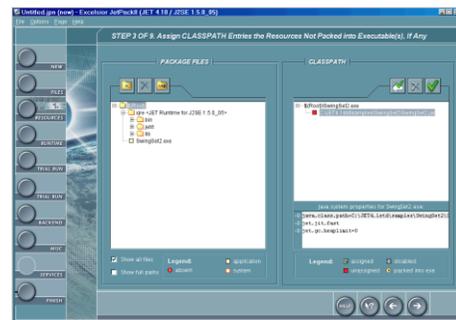
The JET Control Panel enables quick setup of Excelsior JET for compiling Java applications into native code and creates scripts for automated builds



Native-style deployment

Installation Toolkit	<p>Enables native-style deployment for optimized Java applications</p> <p>Removes deployment dependencies such as the JRE</p> <p>Generates setups powered by Excelsior Installer</p> <p>Creates pre-installed applications that run off removable media, such as USB flash drives</p> <p>Simplifies integration with other installation tools</p>
Java SE Compact Profiles support	<p>Reduce the download size and disk footprint of the optimized Java applications through exclusion of the unused parts of the Java SE Platform API from installation packages.</p>
Setups powered by Excelsior Installer	<p>Streamline installation of Java software products through graphical installation wizard¹ or command line interface</p> <p>Customizable installer appearance and functionality</p> <p>Support for multiple languages</p> <p>Reduced download size due to optimized compression</p>

The JetPackII deployment wizard enables the rapid creation of native installation packages and supports automated builds



Extra features

Windows Services Toolkit	<p>Enables installing and running optimized Java applications as Windows services</p>
Generation of trial versions	<p>Creates trial/demo versions of Java software products</p>

¹ Excelsior Installer for Linux has only command line interface; not yet ported to OS X

Learn more

To get more information about Excelsior JET and to download a fully functional evaluation copy, please visit www.ExcelsiorJET.com

About Excelsior

Excelsior LLC provides advanced programming language implementations and consulting services with particular focus on optimizing compilers, high performance runtime environments, and the Java technology.

At the heart of the company's development efforts is Excelsior JET, designed from the ground up to meet the demanding needs of performance- and safety-critical Java applications.

Founded in 1999, Excelsior is headquartered in Novosibirsk Scientific Center, Russia. To learn more about Excelsior, please visit www.excelsior-usa.com



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