

JAVA™ 2 PLATFORM, STANDARD EDITION (J2SE™)

VERSION 1.3

The Java™ 2 Platform, Standard Edition (J2SE™) is a feature-complete development and deployment platform for the dot-com age. Designed from the ground up for the Web, J2SE software enables rapid development of software applications that have fewer defects than other technologies as well as the ability to deploy applications over the Web to multiple operating systems and platforms.

J2SE version 1.3 delivers significant performance gains and improved Web deployment for enterprise, client-side Java applets and applications. It includes a new client Java virtual machine (JVM™), tuned libraries throughout the platform, and enhancements to the Java Plug-in software for improved Web browser deployments.

The J2SE platform includes two binary deliverables:

- Java 2 SDK, Standard Edition
- Java 2 Runtime Environment, Standard Edition (JRE)

Using the J2SE platform, enterprise software developers (ISVs, in-house IT groups, system integrators) can rapidly produce custom software applications with fewer defects and easily deploy them to customers. J2SE software includes a robust set of tools for creating graphical user interfaces (GUIs), accessing enterprise resources (databases, directories, CORBA-based backend systems), fine-grained security, and many development APIs and functions.

WHAT'S NEW ABOUT J2SE SOFTWARE

- New Java HotSpot™ client virtual machine delivers faster performance for client applications
- Improved Web browser deployment options

- Simplified deployment includes a new caching feature that stores deployed applets on the local drive until updated, dramatically improving applet performance while reducing network traffic
- Java Optional Package installation makes it easy to customize applications with additional packages such as Java Media Framework, Java 3D™, XML, and more

ENHANCED PERFORMANCE

The Java HotSpot client virtual machine is specifically designed to make client-side Java applets and applications run faster. Tuned libraries throughout the platform significantly enhance Java applet and application performance and fidelity. This improves the user's experience by launching Java applets and applications more rapidly than ever before. In addition, a reduced memory footprint makes more efficient use of system memory.

EASIER WEB DEPLOYMENT

Now, Java applets remain stored on the local disk until updated by the system administrator. This drastically improves Java applet performance as subsequent visits to the host Web page will launch the applet locally, rather than downloading it across the Web. Network traffic is also reduced.

Java Optional Package installation enables flexible, mix-and-match installation of the JRE and Java Optional Packages to create customized applications. New solutions that depend on market-specific extensions not found in the base platform may also be deployed.

- Tuned performance through new Java HotSpot client virtual machine and Java Foundation Classes (JFC) libraries
- 40 percent faster startup time for typical JFC Swing applications; 25 percent reduction in memory footprint (compared to J2SE version 1.2)
- Optimized for Web deployment with new applet caching feature; easy Java Optional Package installation
- Enhanced enterprise interoperability through RMI/IIOP (CORBA), Java Naming and Directory Interface™ (JNDI), and LDAP version 3 support
- Improved security with support for RSA signature and x.590 certificates
- Eases development with Java 2D™ multiple monitor support; AWT enhancements including robot API for automated testing/accessibility

CLIENT-SIDE DEPLOYMENT

Internationalization (I18N) is important because it gives developers the ability to write applets and applications in the Java language that can be deployed to multiple locales around the globe. Sun continues to improve I18N support with below-the-spot editing, particularly useful for the Chinese language. This allows end users to input Chinese characters into Java applets and applications.

Deploying media-rich applications is easier than ever with the new Java Sound API, which affords capture, processing, and playback of audio and MIDI data. Distance learning and other applications that require enhanced sound can be developed and deployed.

ENTERPRISE INTEROPERABILITY

Today's Java client software must be able to easily connect and interact with traditional backend enterprise software such as order entry applications, accounting, and customer management. To bring this about, J2SE version 1.3 includes new CORBA connectivity software (RMI/IIOP) and directory access (JNDI).

CORBA is a standards-based distributed computing environment that has been widely adopted in backend systems. Java applets and applications can interoperate in this environment, reducing application development time and enabling the reuse of existing software.

Directory services are also important in the enterprise. Via JNDI, Java applets and applications can connect to Lightweight Directory Access Protocol (LDAP)-supported directories. LDAP is a common protocol for accessing information needed by software applications such as user names, address information, telephone information, access privileges, and much more. Other naming and directory services are also supported.

ADDITIONAL SECURITY

Supporting RSA signatures and X.509 certificates provides the same security user experience when using Java applets and applications as non-Java applications.

RSA offers widely adopted security functions including digital signing. Java applets and applications can now recognize RSA digital signatures. In addition, the included Jarsigner utility can verify JAR files signed by the Netscape™ signing tool. X.509 certificates are often used by software vendors as a mechanism to prove that the software being used is provided by the vendor and not an untrusted third party.

EASE OF DEVELOPMENT

Multiple monitor support enables programmers to display output on two or more screens at once, enhancing productivity when writing applets or applications in the Java language.

The robot API for automated testing and accessibility support helps automate testing of JFC/Swing and AWT-based Java applets and applications. Automation increases the speed of testing and enables programmers to more quickly update and iterate software during the development process. In addition, the robot API can be used by Java applets and applications that need automation, for example, computer-based training and accessibility-enabled applications.

Java Platform Debugger Architecture (JPDA) gives third-party development tool providers access to internal JVM information. In turn, Java developer tools that integrate JPDA debugging functions can be used to create software with less defects.

Completely rewritten for J2SE version 1.3, the new javac is significantly faster, saving time when compiling software that is written in the Java language to bytecode.

FOR MORE INFORMATION

To learn more about the Java 2 Platform, Standard Edition, please visit Sun's Web site at <http://java.sun.com/j2se/>.