

ORACLE JAVA SE ADVANCED

JAVA DIAGNOSTICS AND MONITORING

KEY FEATURES

- After-the-fact analysis
- Zero performance overhead
- Latency analysis
- Garbage collection analysis
- No code modification
- Java Usage tracking
- Advanced Management Console for Enterprise wide Java identification and control
- Microsoft Windows Installer (MSI) Enterprise JRE Installer

KEY BENEFITS

- Always on, detailed diagnostics
- Complete Java stack analysis
- Designed for production deployment
- Monitor key performance indicators and diagnose root causes in minutes
- Integrated with Oracle Fusion Middleware
- Track all desktop Java installations
- Ease of managing Java version compatibility and control updates
- Simplify JRE installation in an enterprise with MSI compatible Installer
- Enhanced control and secure network infrastructure

Oracle Java SE Advanced is a package designed to help enterprises that use Java SE as a part of their mission critical infrastructure. With features to handle in-production diagnostics and monitoring, after-the-fact incident analysis, enterprise wide usage tracking, visualizing and managing Java version compatibility and control, Java SE Advanced is uniquely suited to assist the modern enterprise.

Monitoring and Fulfilling Service Level Agreements

Businesses today have stringent service level agreements that they must fulfill continuously. If an outage would occur, rapid resolution and explanation is expected by customers. Often this means quickly restarting a failing service and afterwards investigating what went wrong by inspecting data collected after the event occurred. Oracle Java SE Advanced helps businesses to rapidly analyze, understand and resolve application issues if an SLA outage should occur. Oracle Java SE Advanced provides two features, Java Flight Recorder and Java Mission Control that together create a complete tool chain to continuously collect low level and detailed runtime information enabling after-the-fact incident analysis.

Always-on Profiling in Production Environments

Java Flight Recorder is a profiling and event collection framework built into the Oracle JDK. It allows Java administrators and developers to gather detailed low level information about how the Java Virtual Machine (JVM) and the Java application are behaving.

The deep integration of Java Flight Recorder into the Oracle JDK enables low level detailed data collection without performance impact. The collected data is invaluable when tuning the application, tracing excessive allocation, pinpointing code bottlenecks, lock contention or uncovering slow I/O.

The following key features enable Java Flight Recorder to become the solution for always-on profiling in production environments.

- **Flight recorder mode.** Continuous data collection in-memory or on disk that can be requested at any point in time to do after-the-fact analysis.
- **Always available.** Data collection can be started, stopped and configured dynamically without requiring the Java application to be restarted.
- **Integrated.** Java Flight Recorder is fully integrated into the Java SE stack, and able to collect information from the OS and JVM level all the way up to the Java libraries and your Java application.
- **Zero performance overhead.** Traditional profiling tools add significant overhead affecting application performance and stability. The deep integration with Oracle JDK enables JFR to collect information without impacting performance or stability making it possible and safe to use in production environments.
- **No code modification.** Java Flight Recorder doesn't require any code changes, and does not

modify any code when profiling, enabling accurate and nonintrusive profiling.

Advanced Graphical Analysis Tools

Java Mission Control is an advanced set of tools that enables efficient and detailed analysis of the extensive of data collected by Java Flight Recorder. The tool chain enables developers and administrators to collect and analyze data from Java applications running locally or deployed in production environments.

- **Overview.** Java Mission Control provides sections for common analysis areas such as code performance, memory and latency. Each section provides a high level overview and allows the user do more detailed analysis within the area.
- **Time and Event Filtering.** Users can zoom in on interesting time periods and use operative sets to filter out data not relevant for the current analysis.
- **Drill-down.** From the overview tabs Java Mission Control enables advanced users to drill-down into specific events and do ad-hoc analysis of all the available data.
- **Advanced Plugins.** Java Mission Control includes plugins that add specialized tabs for analysis of Oracle Fusion Middleware application data.



Figure 1: Java Mission Control

Tracking Java Usage across an Enterprise

Large enterprises often have tens of thousands of desktops with Java deployed and in active use. Enterprises normally rely on Software Management tools to manage the life cycle of deployed applications. Generally these tools do not provide any information about application usage.

The Usage Tracking feature enables enterprises to collect information about how Java is used across the enterprise. System administrators will be able to gain insight into which versions, configurations and applications are most commonly used, and proactively test these before deploying updates of Java SE and any Java applications.

Java Usage Tracker Information		
Date and time	Java version	Application name
Host name and IP address	JRE location	Class path
OS and CPU architecture	JRE arguments	User defined properties

Table 1: Example of data logged by Java Usage Tracker. For detailed information please visit the Java Usage Tracker documentation, <http://docs.oracle.com/javase/products/usagetracker.html>.

Runs	URL	Java Version	Title	Vendor
8	http://www.services.toshiba.co.jp/1600702843-476/Application27.php	1.7		International Corp
1	http://hfcg-vspgoad-35-175-253-253.sgs.oracle.com/1600702096-725/Application26.php	1.8.0_26		Oracle Ltd
3	http://hfcg-vspgoad-35-175-253-253.sgs.oracle.com/1600702236-873/Application4.php	1.9-ee	JNLP 8180Applet	Vendor
1	http://www.ibm.com/1600702260-125/index.html	1.6		
6	http://sourceforge.net/1600702298-728/Application13.php	1.6		Oracle Ltd
1	http://hfcg-vspgoad-35-175-253-253.sgs.oracle.com/1600702312-854/Application22.php	1.6		
1	http://www.services.toshiba.co.jp/1600702363-258/Application21.php	1.8.0_84		
4	http://www.services.toshiba.co.jp/1600702374-562/Application14.php	1.6	App 3188Application	
6	http://www.ibm.com/1600702389-411/Application26.php	1.6.0_13	JNLP 6188Application	Vendor
7	http://www.services.toshiba.co.jp/1600702437-357/Application20.php	1.8.0_66		Vendor
5	http://www.ibm.com/1600702478-981/Application3.php	1.6.0_14		
5	http://sourceforge.net/1600702574-481/Application27.php	1.6.0_43		Vendor
2	http://www.services.toshiba.co.jp/1600702695-676/Application11.php	1.8		
7	http://sourceforge.net/1600702768-237/Application23.php	1.7	App 8170Application	
7	http://www.ibm.com/1600702870-925/Application23.php	1.8		Oracle Ltd
2	http://sourceforge.net/1600702984-353/Application13.php	1.7	JNLP 8304Applet	
8	http://sourceforge.net/1600703064-305/Application11.php	1.8.0_85		
3	http://www.ibm.com/1600703090-664/Application22.php	1.9-ee	JNLP 5399Application	Vendor
6	http://hfcg-vspgoad-35-175-253-253.sgs.oracle.com/1600703177-434/Application20.php	1.7		

Advanced Management Console

The Java Advanced Management Console (AMC) enables system administrators to easily identify web based Java applications and Java Runtime Environment (JRE) versions across company systems. AMC provides usage tracking as well as tools for controlling compatibility and availability of current and older Java installations through deployment rule sets. The result is a measurable and streamlined experience for users running Java applications and limited accessibility of older JREs. By tracking Java usage, system administrators can identify and whitelist applications to run with no prompts, and make adjusted configurations with lower end-user involvement. This can simplify various support cases where users need to run different Java applications.

Simplify JRE installation in an enterprise with Microsoft Windows Installer (MSI) Compatible Enterprise JRE Installer.

Available for Windows 64 and 32 bit systems in the Oracle Java SE Advanced products, the MSI compatible installer enables system administrators to provide automated, consistent installation of the JRE across all desktops in the enterprise, free of user interaction requirements. With the MSI Installer in place the common set of features to rollback unsuccessful installations to the previous state, to support repairing broken installations and even to install over broken existing installations can all now be leveraged.

ORACLE JAVA SE ADVANCED DESKTOP

Oracle Java SE Advanced Desktop is designed to help enterprises that use Java SE as a part of their desktop infrastructure for business critical applications. Java SE Advanced, along with the corresponding maintenance and support contract, provides a rich set of features and benefits to manage and pre-empt incidents with access to updates for older versions of Java SE, access to Oracle

Support, handle in-production diagnostics and monitoring, after-the-fact incident analysis, and Java usage tracking. Java SE Advanced Desktop is uniquely suited for managing the Java SE environments on desktops in an enterprise

Features	Java SE Advanced + Maintenance and Support	Java SE Advanced Desktop + Maintenance and Support
Usage tracking feature	✓	✓
Advanced Management Console	✓	✓
MSI Compatible JRE Installer	✓	✓
Diagnostics, tooling and monitoring (desktop only)	✓	✓
Diagnostics, tooling and monitoring (server/desktop)	✓	
Access to MyOracle Support*	✓	✓
24x7, 27 language support*	✓	✓
Fast fix turnarounds*	✓	✓
Access to updates for older versions of Java SE*	✓	✓

* Support benefits available with licensed products with valid maintenance & support contract.

Contact Us

For more information about Oracle Java SE Advanced, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.



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Hardware and Software, Engineered to Work Together