

# ORACLE ENTERPRISE MANAGER 10g ORACLE DIAGNOSTICS PACK FOR NON-ORACLE MIDDLEWARE



## BENEFITS

- Monitor and diagnose Java applications with low overhead and no server restarts
- View real-time JVM and application state without instrumentation overhead
- Simplify problem resolution with in-flight tracing of transactions and transaction trace from Java requests to the database sessions and vice-versa
- Detect and analyze memory leaks using differential heap analysis
- Trace database and EJB calls across tiers
- Enable end-to-end system monitoring of application servers including events, notifications, reports and historical trends of metrics.

*Most application performance problems surface during peak loads. Often times, these problems are time and resource intensive, if not impossible, to reproduce in test environments. Application administrators need solutions that not only monitor production applications but also provide intelligence to help diagnose problems early and avert emergencies. Oracle Enterprise Manager 10g Diagnostics Pack for Non-Oracle Middleware provides proactive monitoring and advanced diagnostics capabilities for applications running on non-Oracle middleware and for standalone Java applications to help administrators prevent crashes and other undesirable outcomes in high load production environments.*

## **Comprehensive Monitoring and Diagnostics Capabilities**

Oracle Enterprise Manager 10g Diagnostics Pack for Non-Oracle Middleware enables application owners to quickly identify and rapidly diagnose performance problems in even the most complex application environments. This maximizes availability and performance of enterprise applications to help improve productivity while lowering the cost of application administration. Key features in the pack include

- Java application diagnostics
- Java virtual machine (JVM) monitoring
- Application server management and monitoring

## **Oracle Application Diagnostics For Java**

Oracle Application Diagnostics For Java is a low overhead monitoring and diagnostic solution that improves Java application availability and performance. It enables administrators to proactively monitor application performance and provides in-depth application details to diagnose problems. Most importantly, the solution can perform all of these capabilities without any server restarts, no application instrumentation, and no additional performance overhead making it a perfect solution for monitoring and diagnosing production applications.

### Hot Deployment

From an administrator console in Oracle Application Diagnostics for Java, a lightweight agent can be downloaded and deployed on application servers running live applications. Once an agent is deployed, Oracle Application Diagnostics for Java will immediately discover the associated application server without any restart and immediately show the slowest requests and the bottleneck resources affecting the application including CPUs, network devices, memory, slow running or hanging threads, and database locks.

### Monitoring, Notifications, Historical Trends, and Dashboards

Oracle Application Diagnostics for Java agents can run on application servers 24/7 to monitor applications with low overhead. Performance metrics captured by these agents are displayed in a network operations center dashboard. Through this dashboard, administrators can

- Define thresholds for key metrics
- Receive email notifications if a threshold is breached
- View all JVMs with their associated metrics and alerts
- Analyze previous problems using data stored in the application repository
- Identify bottleneck resources and the associated end-user requests

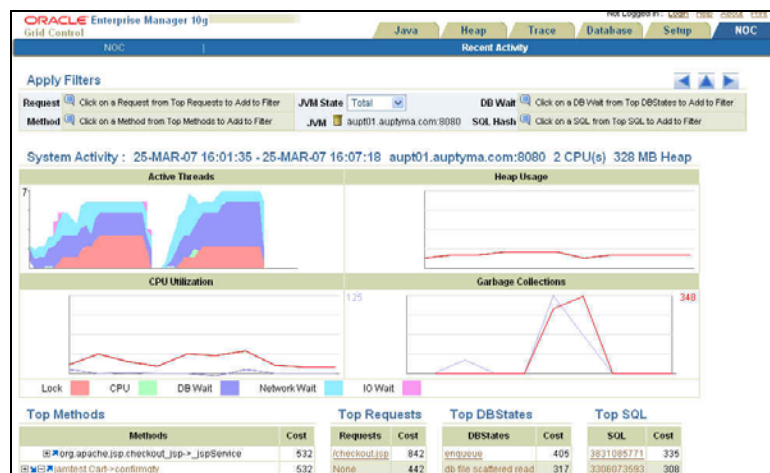


Figure 1. A comprehensive dashboard for 24/7 monitoring of Java environments.

### Real-time Visibility into JVM and Application State

Oracle Application Diagnostics for Java shows in-depth JVM state and application state without having to instrument the application code. Through a powerful console, administrators can see the current state of the JVM and the application, as well as all active threads, their states, and the line of code that each one is executing. If a thread is waiting on a network or lock, administrators can quickly view the state and identify the line causing the wait. The console also enables administrators to identify the slowest requests, the slowest methods, their line numbers in the Java code, and the associated call stack for all applications running on the JVM.

### **Tracing In-flight Transactions**

Using Oracle Application Diagnostics for Java administrators can trace one or more active threads to view stack progression over a period of time. These trace details help analyze the impact of a thread on the JVM by illustrating the time spent by each method waiting for resources. Administrators can view the resource wait time percentages for each method in the call stack.

### **Transaction Trace from Java to the Database**

Oracle Application Diagnostics for Java enables administrators to trace a request activity in Java to the corresponding database session activity and vice-versa. This helps administrators determine the specific cause of performance problems. For example, if an application thread in Java is waiting to return from a database call an administrator can quickly identify the query causing the problem. Alternatively, database administrators can view all database sessions, if a particular database is having performance problems, they can trace back to the responsible Java thread.

### **Cross-tier Trace Between J2EE Containers**

Just as with the database tracing functionality, administrators can trace request activity for cross-tier EJB calls into other J2EE application servers. This enables them to identify specific outbound calls that are causing performance problems and identify the source of bottlenecks across tiers.

### **Differential Heap Analysis**

Memory leaks are the leading cause of application crashes and production slowdowns. Administrators try to reproduce these problems in test environments, but often times they must bring down production systems to find the cause of the memory. It can take weeks or even months to diagnose memory problems. Oracle Application Diagnostics for Java helps administrators rapidly detect memory leaks using real-time heap and garbage collection metrics. In addition, administrators can analyze and compare memory heap dumps over a period of time without disturbing the production application to find the object that is causing the memory leak.

### **Oracle JRockit Mission Control**

Oracle JRockit Mission Control provides operational information about Java applications with minimal overhead using a unique, nonintrusive monitoring technology and diagnostic tools for Oracle JRockit JVM environments. The solution lowers operational costs, accelerates time-to-market, and reduces end-to-end application latency. Oracle JRockit Mission Control features include

- Quick deployment without requiring application code changes
- Near zero overhead monitoring, diagnostics and profiling
- Real-time monitoring of JVM
- Memory leak detection and analysis
- Application and JVM profiling
- Latency analysis
- Eclipse IDE (integrated development environment) integration

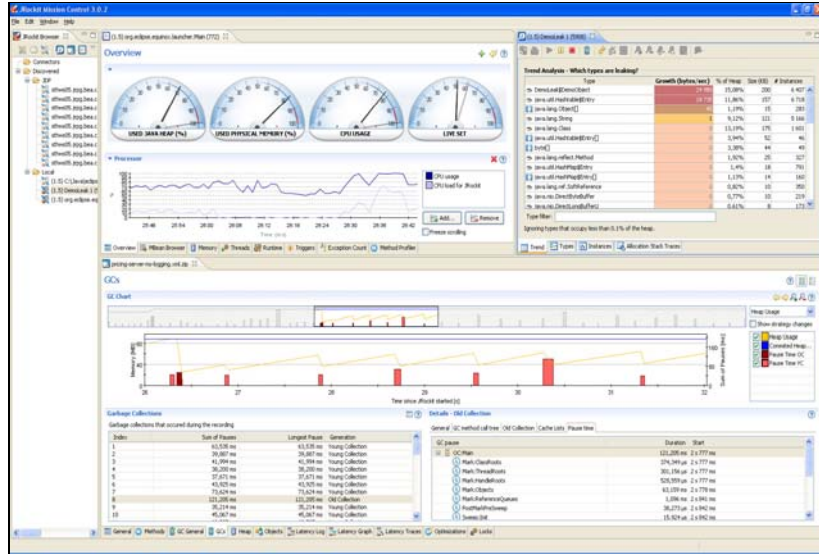


Figure 2. Through nonintrusive technology, Oracle JRockit Mission Control enables real-time monitoring and diagnosis for JVM environments with low overhead.

### Application Server Management

Oracle Enterprise Manager allows administrators to comprehensively and cost-effectively manage and scale third-party application servers including IBM WebSphere, JBoss, and Apache Tomcat application servers. Now, Oracle Database customers can reduce administration costs by managing both Oracle Database and non-Oracle middleware from a single, unified management offering.

### Application Server and Applications Monitoring

The Oracle Diagnostics Pack for Non-Oracle Middleware provides the following application server and monitoring capabilities for third-party application servers.

- Single-step discovery of complete application server environment including clusters and any other application components
- Availability, performance, load and usage metrics monitoring
- Many-as-one monitoring using uniform modeling of application server entities
- Extensible monitoring of application metrics exposed through Java Management Extensions (JMX)
- Event management using metric thresholds, events, notifications, and corrective actions

Select Name	Type	Status	Status Details	Alerts
▼ All Middleware				
▶ div.oracleleads.com	Oracle Application Server Farm	n/a	16 (↑ 16)	0
▶ apps.tdsd01.m1.oracleleads.com	Oracle Application Server	⊕	3 (↑ 3)	0
▶ ecb_app.tdscenterintl.oracleleads.com	Oracle Application Server	⊕	4 (↑ 4)	0
▶ tdsccam01.soa.oracleleads.com.cammi_domain_00	Oracle WebLogic Server Domain	n/a	1 (↑ 1)	0
▶ tdsqcbca01.oracleleads.com.MedRecClusterDomain	Oracle WebLogic Server Domain	n/a	3 (↑ 3)	0
▼ tdsqweb01.oracleleads.com.tdsqweb01Network	IBM WebSphere Application Server Cell	n/a	3 (↑ 3)	0
▼ tdsqweb01.oracleleads.com.tdsqweb01Network.WSCluster	IBM WebSphere Application Server Cluster	⊕	2 (↑ 2)	0
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▼ CLUSTER1	IBM WebSphere MQ Cluster	⊕	2 (↑ 2)	0
qmgr1.queue.manager.141.146.27.95	IBM WebSphere MQ Queue Manager	⊕	↑	0
qmgr2.queue.manager.141.146.27.95	IBM WebSphere MQ Queue Manager	⊕	↑	0
CohCluster	Oracle Coherence	⊕	↑	0
IIS6.tdsintaieb1	Microsoft IIS 6.0	⊕	↑	0
JBoss402Partition	JBoss Partition	n/a	↑	0
ms_activedir.tdsqweb02	Microsoft Active Directory	⊕	↑	1
ms_biztalk.tdsqweb01	Microsoft BizTalk Server 2004	⊕	↑	0
ms_dotnet.tdsqweb01	Microsoft .NET Framework	⊕	↑	2
ms_iis6.tdsqweb01	Microsoft IIS 6.0	⊕	↑	0
tdsqcm01.target1.oracleleads.com_1099	JBoss Application Server	⊕	↑	0

Figure 3. Manage and scale third-party application servers through a single user interface

Contact Us

For more information about Oracle Enterprise Manager 10g Diagnostics Pack for Non-Oracle Middleware, please visit [oracle.com/enterprise\\_manager/index.html](http://oracle.com/enterprise_manager/index.html) or call +1.800.ORACLE1 to speak to an Oracle representative.



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