



Tivoli software

IBM Tivoli Composite Application Manager for WebSphere

Highlights

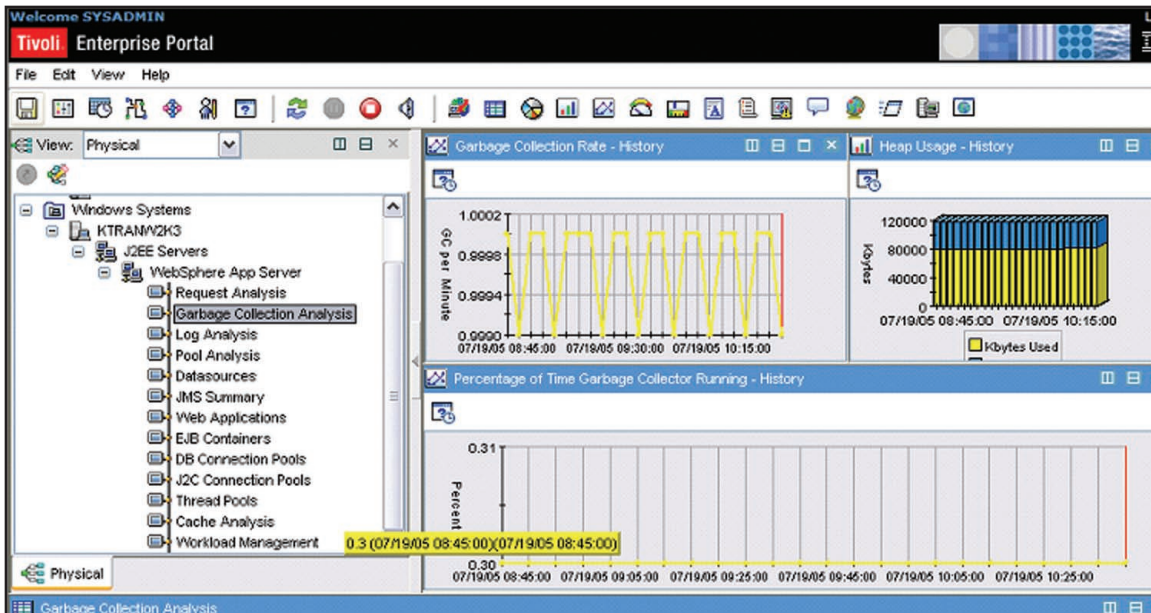
- Simplify management throughout the life cycle of complex IBM WebSphere-based J2EE applications that span multiple subsystems
- Detect, analyze and repair WebSphere performance issues in production and test environments, using real-time and historic data to maintain high levels of uptime and responsiveness
- Isolate performance bottlenecks through correlated tracing of composite transactions that span J2EE and back-end systems such as IBM CICS and IBM IMS
- Create reports that deliver insight into performance trends through deep-dive analytical views at the application, transaction, server or instance levels
- Leverage powerful memory diagnostics to help IT staff quickly detect and fix application memory leaks for specific Java classes
- Integrate smoothly with other Tivoli products to provide a comprehensive application management solution for complex environments
- Integrate with other IBM Rational Eclipse-based developer products to provide live performance data from production directly to the developer desktop — and thereby enable operations and development to work closely together

Establish an application management solution for high availability and performance

Today's dynamic on demand business depends on an array of complex applications. These applications are *composite*, meaning that they are deployed as partitioned business logic and data that span Web servers, Java™ 2 Enterprise Edition (J2EE™) application servers, integration middleware and mainframe systems including CICS® and IMS™. Traditional tools that monitor individual resources typically cannot solve composite application performance and availability problems. As a result, operations and development teams waste countless hours trying to identify, isolate and fix these problems. Poorly performing composite applications can have serious financial consequences on top- and bottom-line results of the business.

Middleware is Everywhere

Can you see it?



ITCAM for WebSphere supplies the Tivoli Enterprise Portal with a complete set of performance metrics, including advanced Garbage Collection Analysis workspaces.

Detect and repair problems before they impact users

IBM Tivoli® Composite Application Manager (ITCAM) for WebSphere® delivers unparalleled, integrated management tools for your Web and enterprise infrastructure that help maintain availability and performance of your on demand business. Part of the IBM Tivoli family of application management solutions, ITCAM for WebSphere helps you quickly pinpoint the source of bottlenecks or other defects in application code, server resources or external system dependencies.

Unlike other solutions that lack integrated tools across the problem resolution and application life cycles, ITCAM for WebSphere helps you rapidly identify and fix performance problems before they impact customers and other end users. The end result? You can keep your business running smoothly — to meet customer demands for exceptional service around the clock and around the world.

Monitor, manage and enhance performance across subsystems

Through a set of diagnostics, reporting, analysis and resolution tools, ITCAM

for WebSphere enables advanced monitoring and management of WebSphere-based J2EE applications, which allow you to:

- Detect, analyze and repair WebSphere performance issues in production and test environments.
- Maintain high uptime, performance and responsiveness standards for both mainframe and distributed systems.
- Understand overall application health at a glance across multiple system types.

Simplify application management throughout the life cycle

Rather than require you to modify application code each time it cycles through a change process, ITCAM for WebSphere allows you to monitor newly deployed applications as soon as they become active. Out of the box, you can begin to correlate deep-dive performance data gathered from multiple middleware environments, including J2EE, CICS, IMS and IBM WebSphere Portal. As a result, your IT support teams can pinpoint precise hotspots in application code — no matter how deep — with little effort. Your organization benefits by delivering a simplified, lower-cost application management solution for your ongoing operational and support initiatives.

Uncover performance problems

To enable you to rapidly identify and resolve problems, ITCAM for WebSphere includes a comprehensive set of management functions. Using the software's automation and other capabilities, you can:

- View all in-flight J2EE transactions, including composite transactions that cross into the CICS and IMS subsystems.

Tivoli Enterprise Portal

- Key Tivoli Enterprise Portal workspaces:
 - Application server summary
 - Application summary
 - Application health trend
 - Application server health
 - Memory analysis
 - Response analysis (trends for request types, such as Enterprise Java)

- Analyze problematic transactions both historically and in real time, drill down into the details and share the information with other stakeholders using built-in, interactive reporting tools that preserve some problem context.
- Correlate and profile transactions across multiple subsystems to determine the precise location and root causes of application failures.
- Set traps and alerts to detect and fix potentially troublesome situations before they affect end users.
- Analyze resource consumption patterns, perform trends or historical analysis, and plan for future growth.

Capture vital information quickly through an easy-to-use, Web-based console

Built as a multitier monitoring infrastructure, ITCAM for WebSphere consists of a J2EE-based managing server — the back-end component — and data collectors, or agents, that are deployed to each monitored server, including optional CICS and IMS host data collectors. The software collects

application data natively at the individual transaction level, making all code paths and call trees visible to the application monitor. The advanced data collector technology then parses each transaction and evaluates it based on user-defined criteria that helps analyze the transaction and isolate performance issues.

The Web-based managing console displays rich, graphical IBM WebSphere Application Server data and provides a single interface into all managed environments, including J2EE servers and control regions. The console represents data visually — using meters, bars, charts and buttons. Many of the displays are hyperlinked or have drop-down menus to navigate to detailed views of performance data, making it easy for support teams, subject-matter experts and developers to quickly diagnose and resolve performance problems.

REPORT PROPERTIES

Nesting Summary Drilldown View Flow View Search

Threshold Highlighter

Δ Elapsed Time >= 5 (ms) Δ CPU Time >= 5.0 (ms) Apply Reset

COMPLETE FLOW VIEW 1000 per Page

Queue Names Match Queue Names Don't Match ** indicates values that cross thresholds

1 - 8 of 8 Results 1

Depth	Event Type	Event Data	Elapsed Time (ms)	CPU Time (ms)	Δ Elapsed Time (ms)	Δ CPU Time (ms)
0	Servlet Entry	/admin/statusTray.do?action=next>	0	0	0	0
1	JSP Entry	/admin/secure/layouts/statusTrayLayout.jsp?action=next>	0	0	0	0
2	JSP Entry	/admin/secure/layouts/statusTrayLayout.jsp?action=next>	0	0	0	0
2	JSP Exit	/admin/secure/layouts/statusTrayLayout.jsp?action=next>	15	0	** 15 **	0
2	JSP Entry	/admin/secure/layouts/statusTrayLayout.jsp?action=next>	15	0	0	0
2	JSP Exit	/admin/secure/layouts/statusTrayLayout.jsp?action=next>	31	0	** 16 **	0
1	JSP Exit	/admin/secure/layouts/statusTrayLayout.jsp?action=next>	31	0	0	0
0	Servlet Exit	/admin/statusTray.do?action=next>	31	0	0	0

Queue Names Match Queue Names Don't Match ** indicates values that cross thresholds

1 - 8 of 8 Results 1

View of low-level application flow that displays the exact amount of CPU and elapsed time consumed per every event within the application call path.

View key performance metrics in user-appropriate workspaces

On its own and through integration with other Tivoli and Rational® solutions, ITCAM for WebSphere delivers performance data to users in familiar, highly useable formats.

Out-of-the-box reporting in ITCAM for WebSphere enables users to analyze historical performance information and help optimize application performance and resolve problems. Reports are interactive and allow users to drill down and decompose transactions, for example by application or transaction type. Reports are available for both application and server resource analysis.

Through integration with next-generation Tivoli infrastructure monitoring solutions, ITCAM for WebSphere supplies IBM Tivoli Enterprise Portal with key performance metrics. Operations and support teams can use this rich visual data to spot trends pointing to delays or other symptoms that can be correlated from a wide range of potential failure points, including other monitored systems and resources such as databases and integration middleware.

Using Tivoli Enterprise Portal, users can define business workspaces that integrate with other IBM Tivoli Monitoring tools to provide an end-to-end view of the front-end, middleware and back-end processes of end-user applications. Application support, test and development teams can then gain deep insight into the health of your applications.

ITCAM for WebSphere also works in conjunction with other IBM Tivoli Composite Application Management products to send low-level application trace data to Rational Eclipse-based developer tools, such as IBM Rational Application Developer. This provides application teams with live production intelligence to quickly access and fix application code, eliminating the need to recreate the problem at the developer's desktop.

Use memory analysis tools to perform deep-dive analysis and facilitate resolution

ITCAM for WebSphere provides robust memory analysis capabilities, including:

- Memory trends graphing and metric comparison — to help optimize Java virtual machine (JVM) memory parameters, detect memory leaks and lock contention conditions.
- Heap analysis — to help pinpoint leaking classes and determine the best path for problem resolution.
- Capturing the line number of code responsible for suspected leaking classes and methods — to help establish relationship between referenced objects in heap and allocating class names.

Monitoring trends through connection pools or JVM memory functions, users can track the health of servers and automate event management by creating *situations*, which generate alerts or take automated, user-defined actions such as change a resource pool size when threshold conditions you set are exceeded. By continuously monitoring the health of all your production WebSphere J2EE applications, you

can more easily maximize return on investment, meet service level agreements and satisfy user demand.

Leverage Tivoli to keep business-critical applications running

The Tivoli composite application management solution can optimize performance for J2EE, portal, service oriented architecture (SOA) and main-frame applications. It brings application problem diagnosis and performance optimization capabilities like capacity planning, configuration management and performance tuning to a complex, heterogeneous computing environment. Its integration with Rational tools helps businesses successfully monitor, diagnose and resolve problems through the IT life cycle by enabling operations, support and development to manage application performance together as one team. Tivoli composite application management is also an integral part of IBM IT Service Management solutions that are designed to help deliver consistent, repeatable and measurable IT services based on a best-practices framework.

For more information

To learn more about ITCAM for WebSphere and other integrated solutions from IBM, contact your IBM sales representative or IBM Business Partner, or visit ibm.com/tivoli

About Tivoli software from IBM

Tivoli software from IBM helps organizations efficiently and effectively manage information technology (IT) resources, tasks and processes in order to meet ever-shifting business requirements and deliver flexible and responsive IT service management, while reducing costs. The Tivoli portfolio spans software for security, compliance, storage, performance, availability, configuration, operations and IT lifecycle management, and is backed by world-class IBM services, support and research.



ITCAM for WebSphere at a glance

ITCAM for WebSphere is ready to be used against a Java application and does not require the user to access the application source code.

ITCAM for WebSphere system requirements

Monitored environments:

Data collectors are designed to monitor applications running on the WebSphere Application Server within the following environments:

- IBM AIX®
- HP-UX
- Linux®
- IBM OS/400®
- Sun Solaris
- Microsoft® Windows®
- zLinux
- IBM z/OS®

ITCAM for WebSphere also supports the IBM zSeries® Application Assist Processor (zAAP). Data collectors for CICS and IMS are available separately.

Managing server environments:

If you so choose, ITCAM for WebSphere can automatically install the WebSphere Application Server and IBM DB2® database, which are included with and used by the product.

The ITCAM for WebSphere Managing Server can be installed on one of the following environments:

- AIX
- Red Hat Enterprise Linux
- Solaris
- Windows
- zLinux

Browsers:

- Microsoft Internet Explorer

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