

IBM WebSphere Studio Application Monitor

Highlights

- **Manage composite J2EE applications that span multiple subsystems**
- **Track and correlate composite transactions that start in J2EE and branch off to legacy systems such as IBM CICS and IBM IMS**
- **Detect, analyze and repair application problems in real time**
- **Help optimize application performance by mining rich, historic performance data stored at the instance level**
- **Gain deep visibility into applications**



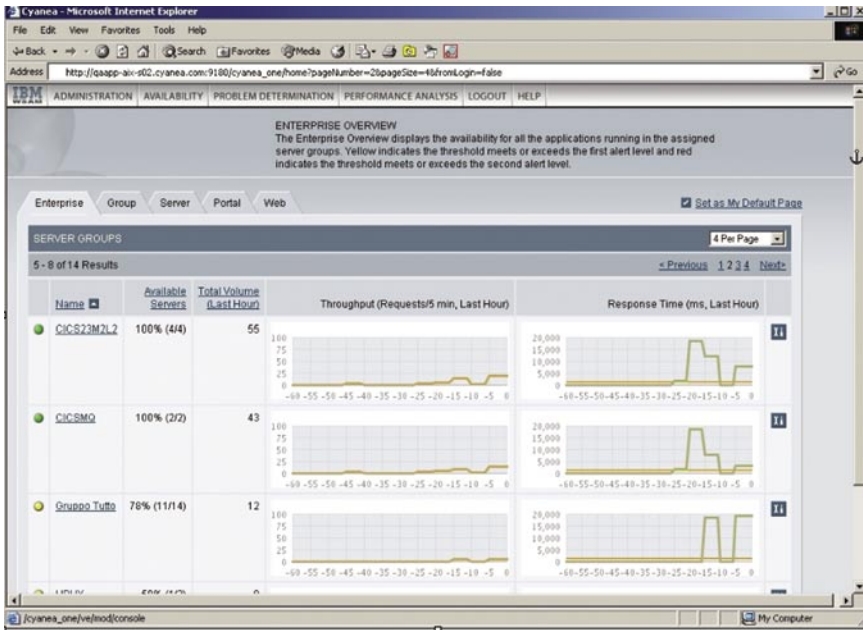
Help meet the challenge of complex enterprise data centers

In today's fast-paced on demand business environments, high-performance applications require enterprises to process millions of transactions over complex data environments, faster and more effectively than ever before. Many businesses have built information-rich enterprise data centers that leverage both the flexibility and performance of Java 2 Enterprise Edition (J2EE™) and their existing legacy infrastructures, such as CICS® and IMS™.

Although these complex data systems have brought about unprecedented

levels of collaboration and access to innovative applications, they have also created significant challenges. Application downtime can dramatically impact performance, overall productivity and return on investment (ROI). The net results are an inefficient use of corporate resources, a significant loss of revenue and damage to brand equity.

To address the enterprise's need for an efficient and cost-effective management solution for J2EE applications, IBM has developed IBM WebSphere® Studio Application Monitor. Part of the IBM Tivoli® software portfolio of application management solutions, WebSphere



The "Enterprise Overview" shows the health of your applications at a glance.

Studio Application Monitor provides effective application management for enterprise J2EE applications, including "composite applications" that have a J2EE user interface coupled with legacy back-end systems.

WebSphere Studio Application Monitor enables you to:

- *Manage heterogeneous environments consisting of both mainframes and distributed systems.*
- *Gain visibility into J2EE, CICS, IMS and IBM WebSphere Portal transactions as well as into Java Database Connectivity (JDBC) and MQ environments.*

- *Identify problems and resolve them in real time to help optimize performance.*
- *View overall application health at a glance across multiple system types.*
- *Analyze resource consumption patterns for planning future application growth.*

Monitor, manage and enhance performance across subsystems

The simple architecture of WebSphere Studio Application Monitor enables you to address the complex issue of monitoring WebSphere transactions, including WebSphere Portal, that span multiple subsystems. Data collectors

for WebSphere Application Server are installed on the Java Virtual Machines (JVMs) to be monitored and send information back to a managing server, where the application data is processed and correlated. When you add the optional data collectors for CICS and IMS, you can monitor, track and correlate composite transactions that span multiple subsystems including J2EE, CICS and IMS.

Composite monitoring reveals performance along the full transaction pathway, even down to the method level for isolating performance bottlenecks. Any J2EE-initiated transaction that travels from WebSphere Application Server to CICS or IMS over MQ is fully monitored at each end point. This gives application support analysts the ability to produce correlated reports of each MQ event that are displayed along with other application events, including MQ hops from start to completion. Users can also analyze trends and drill down to get specific details that reveal the health of the queues servicing the application.

Leverage a comprehensive suite of application management functions

As the first application-centric solution created to address the needs of today's application support analysts and J2EE

administrators, WebSphere Studio Application Monitor offers a comprehensive set of management functions that enables you to:

- *View in-flight J2EE transactions, including composite transactions that cross into the CICS and IMS subsystems.*
- *Analyze problematic transactions in real time, drill down into the details and pass pinpointed code problems to architects or developers for a rapid fix.*
- *Correlate and profile transactions across multiple subsystems to determine the location and root causes of application failures.*
- *Set traps and alerts to detect potentially troublesome situations before they can affect end users.*
- *Analyze resources consumption, perform historical analysis and plan for future growth.*
- *Manage WebSphere Portal transactions.*

WebSphere Studio Application Monitor gives you a comprehensive view of your J2EE applications performance in real time, enabling you to proactively manage your middleware technology and strengthen your position in an ever-changing on demand business environment.

The screenshot displays the 'COMPOSITE METHOD TRACE' interface in WebSphere Studio Application Monitor. It features a navigation menu on the left with options like 'Select New Thread', 'Composite Stack Trace', and 'Composite Method Trace'. The main area shows a 'TRANSACTION OVERVIEW' section with tabs for 'Nesting Summary', 'Drilldown View', 'Flow View', and 'Search'. Below this is a 'Threshold Highlighter' with input fields for 'Elapsed Time >= 5 (ms)' and 'CPU Time >= 5.0 (ms)'. The 'COMPLETE FLOW VIEW' section shows a table of transaction events with columns for Depth, Event Type, Event Data, Elapsed Time (ms), CPU Time (ms), Δ Elapsed Time (ms), and Δ CPU Time (ms). A highlighted row shows a 'Program Entry' event with a CPU time of 400 ms. Below the table, a breadcrumb trail indicates the path: 'From: ADCDPL.M2L2.M2L2.CIC230A1.hcc (L3) Platform: ZOS App Server: CICS Event: Receive'.

Depth	Event Type	Event Data	Elapsed Time (ms)	CPU Time (ms)	Δ Elapsed Time (ms)	Δ CPU Time (ms)
0	CICS TRANSACTION Entry	CSMI.CSMI	0	0	0	0
1	EXEC CICS Entry	LINK PROGRAM (DPLCIC2A)	13,853	0	** 13,853 **	0
2	Program Entry	CIC230A2.DPLCIC2A	14,253	0	** 400 **	0
3	EXEC CICS Entry	ASSIGN	14,650	0	** 397 **	0
3	EXEC CICS Exit		66,098	1	** 51,448 **	1
3	EXEC CICS Entry	ASKTIME ABSTIME	66,098	1	0	0
3	EXEC CICS Exit		67,030	1	** 932 **	0
3	EXEC CICS Entry	FORMATTIME	67,030	1	0	0
3	EXEC CICS Exit		68,182	2	** 1,152 **	1
3	EXEC CICS Entry	DELAY	68,182	2	0	0
3	EXEC CICS Exit		143,672	2	** 75,490 **	0
3	EXEC CICS Entry	RETURN	143,672	3	0	1
3	EXEC CICS Exit		143,672	3	0	0
2	Program Exit	CIC230A2.DPLCIC2A	143,672	3	0	0

WebSphere Studio Application Monitor reveals the entire flow of the transaction.

Detect and repair problems before they impact users

In today's increasingly competitive on demand world, even short periods of downtime can dramatically affect service levels and significantly impact revenue. WebSphere Studio Application Monitor offers you the ability to capture and profile transactions in real time, and quickly zero in on problems before they impact end users.

From your "Enterprise View" panel, you can easily drill down into the details of a single transaction with a few mouse clicks. WebSphere Studio Application Monitor displays information at the "instance level" and shows details relevant to a single specific transaction, rather than just showing aggregated or averaged values. This allows the application support analysts to perform

rapid and precise problem determination. WebSphere Studio Application Monitor can be used for:

- *Proactive problem monitoring – identify potential problems before they occur.*
- *Reactive problem identification and resolution – troubleshoot problems that have already occurred.*
- *Performance analysis and reporting – leverage the latest performance metrics to efficiently manage your applications and plan for the future.*

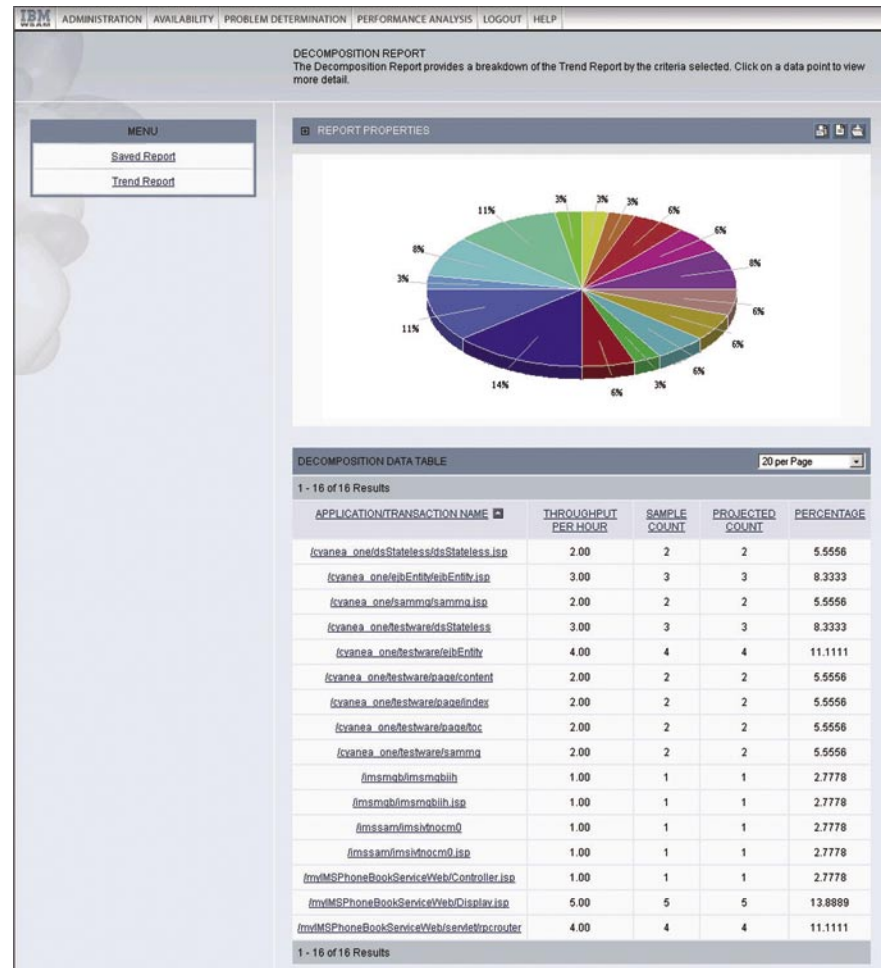
By gaining deep insight into the health of your applications through in-depth monitoring and analysis, you can obtain the knowledge you need to help maximize ROI, meet your service level agreements for uptime and performance, and satisfy user demand.

Access vital information with ease

The full-featured WebSphere Studio Application Monitor offers ease of use. Information-rich availability screens facilitate constant monitoring of applications across your entire heterogeneous server farm. Advanced visualization technology graphically displays throughput and response time against historical baseline data, so you can easily see the entire performance of your applications at a glance.

Using the WebSphere dynamic monitoring technology, you can also change profiling levels without restarting application servers and implement a seamless, responsive monitoring strategy. You can tailor the amount of information to be displayed

to the needs of the moment. For production monitoring, use a high-level “Enterprise View.” When a bottleneck occurs, switch to a more detailed view to gather additional information to better diagnose the problem.



WebSphere Studio Application Monitor provides detailed reports for application performance management.

WebSphere Studio Application Monitor provides advanced features for JVM memory diagnosis and highlights potential memory leaks. You can also perform lock analysis for identifying the cause of thread contention. In addition, an enhanced online help facility assists the user in understanding the metrics displayed, making the product easy to use.

In addition, WebSphere Studio Application Monitor offers other useful features such as:

- *Single-console, multiplatform monitoring.*
- *Application grouping.*
- *Detailed, role-based security.*
- *An easy-to-use, Web-based interface.*

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

WebSphere Studio Application Monitor system requirements

Monitored environments:

WebSphere Studio Application Monitor offers the industry's first true cross-platform, single-console application management solution. Data collectors are designed to monitor applications

running on the WebSphere Application Server within the following environments:

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

WebSphere Studio Application Monitor also supports the IBM zSeries® Application Assist Processor (ZAAP) and applications running on the BEA WebLogic Application Server in selected environments.

Data collectors for CICS and IMS are available separately.

Managing server environments:

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

The WebSphere Studio Application Monitor Managing Server can be installed on one of the following environments:

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

Browser environments:

- *Microsoft Internet Explorer*

Manage your composite applications

WebSphere Studio Application Monitor is a flexible application management solution for complex, multitiered applications that span several environments (J2EE, CICS, IMS, MQ). By providing deep insight into the health of critical business applications and connectivity technology, WebSphere Studio Application Monitor can help you optimize the availability and performance of your composite applications.

Part of a comprehensive solution for application and IT life-cycle management

WebSphere Studio Application Monitor is part of the Tivoli solution that addresses all three dimensions of effective application management: transactions, applications and resource monitoring. It is also a part of the larger IBM IT Lifecycle Management solution, which addresses application creation, testing, deployment and management.



For more information

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

Tivoli software from IBM

An integral part of the comprehensive IBM on demand infrastructure solution, Tivoli technology management software

helps traditional enterprises, emerging on demand business and Internet business worldwide maximize their existing and future technology investments. Backed by world-class IBM services, support and research, Tivoli software provides a seamlessly integrated and flexible on demand business infrastructure management solution that uses robust security to connect employees, business partner and customers.

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