IBM Tivoli Composite Application Manager for Transactions V7.4.0.1 for AIX, Linux, Solaris, and Windows

User's Guide



Note

Before using this information and the product it supports, read the information in "Notices" on page 593.

This edition applies to V7.4 of IBM Tivoli Composite Application Manager for Transactions (product number 5724-S79) and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this publication

This guide provides information about using all components in the IBM Tivoli Composite Application Manager for Transactions solution. It describes the workspaces, attributes, and situations for each component that enable you to monitor transactions, and isolate and diagnose problems.

Intended audience

This guide is for operators who use IBM Tivoli Composite Application Manager for Transactions to monitor transactions.

Use the information in the other guides listed in "Documentation library" to install and configure IBM Tivoli Composite Application Manager for Transactions.

Readers should be familiar with the following topics:

- IBM Tivoli Monitoring product
- Tivoli Enterprise Portal interface
- IBM application software

Publications

This section lists publications relevant to the use of the IBM Tivoli Composite Application Manager for Transactions. It also describes how to access Tivoli[®] publications online and how to order Tivoli publications.

Documentation library

The following documents are available in the IBM Tivoli Composite Application Manager for Transactions library:

- *IBM Tivoli Composite Application Manager for Transactions Administrator's Guide* This guide provides information about configuring elements of IBM Tivoli Composite Application Manager for Transactions.
- IBM Tivoli Composite Application Manager for Transactions Installation and Configuration Guide

This guide provides information about installing and configuring elements of IBM Tivoli Composite Application Manager for Transactions.

- *IBM Tivoli Composite Application Manager for Transactions Quick Start Guide* This guide provides a brief overview of IBM Tivoli Composite Application Manager for Transactions.
- *IBM Tivoli Composite Application Manager for Transactions Troubleshooting Guide* This guide provides information about using all elements of IBM Tivoli Composite Application Manager for Transactions.
- IBM Tivoli Composite Application Manager for Transactions SDK Guide This guide provides information about the Transaction Tracking API.
- *IBM Tivoli Composite Application Manager for Transactions User's Guide* This guide provides information about the GUI for all elements of IBM Tivoli Composite Application Manager for Transactions.

• IBM Tivoli Composite Application Manager for Transactions Installation and Configuration Guide for z/OS

This guide provides information about using IBM Tivoli Composite Application Manager for Transactions on z/OS.

Prerequisite publications

To use the information in this guide effectively, you must know about IBM Tivoli Monitoring products that you can obtain from the following documentation:

- IBM Tivoli Monitoring Administrator's Guide
- IBM Tivoli Monitoring Installation and Setup Guide
- IBM Tivoli Monitoring User's Guide

If you do not have IBM Tivoli Monitoring installed already you can do a basic IBM Tivoli Monitoring installation using the IBM Tivoli Monitoring Quick Start Guide as a guide.

See IBM Tivoli Monitoring Information Center for further information.

Accessing terminology online

The IBM[®] Terminology website consolidates the terminology from IBM product libraries in one convenient location.

You can access the Terminology website at the following web address:

http://www.ibm.com/software/globalization/terminology

Accessing publications online

IBM posts publications for all products, as they become available and whenever they are updated, to IBM Knowledge Center.

Access IBM Knowledge Center (http://www.ibm.com/support/knowledgecenter) using a browser.

Find supporting information on the Application Performance Management community (http://www.ibm.com/developerworks/servicemanagement/apm/index.html) and connect, learn, and share with experts.

Ordering publications

You can order many Tivoli publications online at the following website:

http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss

You can also order by telephone by calling one of these numbers:

- In the United States: 800-879-2755
- In Canada: 800-426-4968

In other countries, contact your software account representative to order Tivoli publications. To locate the telephone number of your local representative:

- 1. Go to http://www.ibm.com/planetwide/.
- 2. In the alphabetic list, select the letter for your country and then click the name of your country. A list of numbers for your local representatives is displayed.

Accessibility

Accessibility features help users with a physical disability, such as restricted mobility or limited vision, to use software products. With this product, you can use assistive technologies to hear and navigate the interface. You can also use the keyboard instead of the mouse to operate most features of the graphical user interface.

For additional information, see Appendix D, "Accessibility," on page 591.

Tivoli technical training

For information about Tivoli technical training, see the following IBM Tivoli Education website:

http://www.ibm.com/software/tivoli/education/

Support information

If you have a problem with your IBM software, you want to resolve it quickly.

Online

Access the Tivoli Software Support site at http://www.ibm.com/software/ sysmgmt/products/support/index.html?ibmprd=tivman. Access the IBM Software Support site at http://www.ibm.com/software/support/ probsub.html .

IBM Support Assistant

The IBM Support Assistant is a free local software serviceability workbench that helps you resolve questions and problems with IBM software products. The Support Assistant provides quick access to support-related information and serviceability tools for problem determination. The IBM Support Assistant provides the following tools to help you collect the required information:

• Use the IBM Support Assistant Lite program to deploy the IBM Support Assistant data collection tool. This tool collects diagnostic files for your product.

Tip: When you install the IBM Support Assistant data collection tool on 64-bit systems, use a 32-bit Java Runtime Environment to ensure that data collection functions as expected.

• Use the Log Analyzer tool to combine log files from multiple products in to a single view and simplify searches for information about known problems.

For information about installing the IBM Support Assistant software, see http://www.ibm.com/software/support/isa.

Troubleshooting Guide

For more information about resolving problems, see the *IBM Tivoli Composite Application Manager for Transactions Troubleshooting Guide.*

Conventions used in this guide

This guide uses several conventions for operating system-dependent commands and paths, special terms, actions, and user interface controls.

Typeface conventions

This guide uses the following typeface conventions:

Bold

- Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text
- Interface controls (check boxes, push buttons, radio buttons, spin buttons, fields, folders, icons, list boxes, items inside list boxes, multicolumn lists, containers, menu choices, menu names, tabs, property sheets), labels (such as **Tip**, and **Operating system considerations**).
- Keywords and parameters in text

Italic

- · Words defined in text
- · Emphasis of words
- New terms in text (except in a definition list)
- · Variables and values you must provide

Monospace

- Examples and code examples
- File names, programming keywords, and other elements that are difficult to distinguish from surrounding text
- · Message text and prompts addressed to the user
- Text that the user must type
- Values for arguments or command options

Operating system-dependent variables and paths

This guide uses the UNIX system convention for specifying environment variables and for directory notation.

When using the Windows command line, replace *\$variable* with *%variable*% for environment variables. Replace each forward slash (/) with a backslash (\) in directory paths. The names of environment variables are not always the same in the Windows and UNIX environments. For example, *%*TEMP% in Windows environments is equivalent to *\$*TMPDIR in UNIX environments.

Note: If you are using the bash shell on a Windows system, you can use the UNIX conventions.

Variables

The following variables are used in this documentation:

\$CANDLE_HOME

The default IBM Tivoli Monitoring installation directory. On UNIX systems, the default directory is /opt/IBM/ITM.

%CANDLE_HOME%

The default IBM Tivoli Monitoring installation directory. On Windows systems, the default directory is C:\IBM\ITM.

\$ALLUSERSPROFILE

On UNIX systems, /usr

%ALLUSERSPROFILE%

On Windows 7 and 2008, the default directory is C:\ProgramData.

What's new in ITCAM for Transactions V7.4.0.1

In this release of ITCAM for Transactions, updates that were included in the previous release are consolidated. New features are described in this section.

Prerequisites

See ITCAM for Transactions Prerequisites on Service Management Connect for the latest information about supported software.

Internet Service Monitoring updates

The Internet Service Monitoring has the following updates:

- For HTTP and HTTPS monitors, the default user-agent head parameter, Mozilla/5.0 (ISM-MONITOR) is added to every new HTTP or HTTPS element. The default user-agent header is so that the HTTP and HTTPS monitors can be used for websites which switch content based on the browser client.
- For HTTP and HTTPS monitors, you can now specify the body part of a POST request for HTTP or HTTPS monitors.

Response Time updates

The Response Time component of ITCAM for Transactions has the following updates:

- Robotic Response Time:
 - Improved scalability information
 - Rational Performance Tester V8.6 now supported
- Web Response Time:
 - You can now monitor browser timings for your web pages using the JavaScript monitoring component. For more information, see Monitoring browser timings.
 - TLS v1.1 and TLS v1.2 now supported

Transaction Tracking updates

The Transaction Tracking component of ITCAM for Transactions has the following updates:

- **Migration Tool** when you upgrade ITCAM for Transactions from V7.4 to V7.4.0.1, existing Transaction Reporter data such as baselines and topology is saved to a backup directory. Ensure you migrate this historical data if required.
- **Detailed timing metrics** Transaction Tracking can now show more detailed timing metrics. Enable Processing Time Detail reporting to display Processing Time, Initial Time, and Final Time metrics in the Transaction Reporter.
- **Channel topologies** display the topology for a single transaction from its source to its destination, through multiple back-end nodes. Enable discovery of the channel originator which can then be displayed in the topology.
- **Network time for interactions** for nodes which have multiple interactions to the same subtransactions, the maximum, minimum, and average interaction times can now be displayed.

- **Transaction instance alerts** alerts can now be generated on instance level metrics before they are aggregated.
- Occasion baselines you can now use the DATE baseline to specify an occasion, which can then be used to compare data over successive occasions. Specify normal days, weekends, holidays, and special days.
- **Baselines for instances** you can now set situations and alerts on deviation metrics for transaction instances as well as aggregate data.
- **Summarization metrics** maximum and minimum values are now calculated for each transaction node. Using these summarization metrics you can determine hourly, daily, weekly, monthly, quarterly, or yearly maximum and minimum values for each transaction node.

Chapter 1. Introduction

IBM Tivoli Composite Application Manager for Transactions (ITCAM for Transactions) consists of several components which measure internet services and response times, and track transactions, enabling you to identify and isolate problems in your information technology environment. ITCAM for Transactions integrates with the Tivoli Enterprise Portal in IBM Tivoli Monitoring enabling you to manage your entire enterprise with a single user interface.

ITCAM for Transactions includes the following components:

- Internet Service Monitoring
- Response Time
- Transaction Tracking

Overview

ITCAM for Transactions delivers a comprehensive, unified transaction tracking management system that runs on a single, consolidated infrastructure with a tightly integrated user interface. Because problem isolation in today's complex IT environments can often take hours or days and can result in lost time, lost revenue, and low customer satisfaction, ITCAM for Transactions helps you rapidly isolate problem components which speeds up diagnosis and service restoration before poor customer experiences can directly affect revenue.

ITCAM for Transactions offers the following benefits:

- Integrates with the Tivoli Enterprise Portal in IBM Tivoli Monitoring so you can manage the entire enterprise with a single user-interface and quickly navigate views. This integration means that you do not need to learn multiple tools with different user interfaces so you can experience a faster return on investment.
- Provides several components for measuring internet services and response times, and tracking transactions, so that you can identify any problems when they occur or even *before* they occur, and isolate the problems to a specific part of your IT environment. ITCAM for Transactions also integrates with IBM Tivoli diagnostic tools such as Tivoli Business Service Manager, ITCAM for Application Diagnostics, and Tivoli OMEGAMON XE so that you can potentially diagnose and analyze any problems and then hand the details to the appropriate specialist to take corrective action.
- Provides the Application Management Console, so you can have an immediate view of your entire enterprise as a physical mapping of platforms, systems, monitoring agents, and monitored resources that shows operational status with links to the underlying component workspaces.
- Reduces the costs for IT lifecycle operations, support, and development through proactive, real-time, and automated problem resolution by providing an end-to-end view of services, transactions, and associated resources across platforms and subsystems.
- Reduces the time between problem identification and problem resolution by automatically identifying problem components in a transaction.
- Reduces the need for costly and hard-to-find subject matter experts.
- Increases revenue and customer satisfaction by maintaining service level agreements.

- Increases the performance and availability of business-critical applications, including portal and service-oriented architecture (SOA) based technologies.
- Provides role-based user interfaces so you can provide the right level of information to the right user for help with quick problem identification, seamless hand off, and problem resolution.
- Integrates performance, availability, and problem identification information with several other IBM Tivoli products to help deliver even greater value. You can use response time information with the following products:
 - IBM Tivoli Performance Analyzer to identify trends.
 - IBM Tivoli Business Service Manager to identify the impact to overall business services.
 - IBM Tivoli Provisioning Manager to take provisioning actions to help prevent SLA breaches.
 - IBM Tivoli Monitoring to determine if resource monitors (for CPU, memory, disk utilization, and so on) reveal the cause of problems. See "Integration with IBM Tivoli Monitoring" on page 3.

See "Integration with other products" on page 6.

ITCAM for Transactions includes the following components:

• Internet Service Monitoring, which provides the tools to identify availability and response time problems and monitors to test the availability and performance of various internet services, including monitoring web sites, web-based e-commerce applications, and electronic mail (as well as the underlying services such as DNS, LDAP, and SMTP on which those services rely).

See "About Internet Service Monitoring" on page 8 for more information.

- Response Time, which focuses on the end user experience, both real and simulated, by monitoring web transactions, playing back recorded scripts, and real user desktop experiences. Response Time includes the following components:
 - Application Management Console and Application Management Configuration Editor
 - Robotic Response Time
 - Web Response Time
 - See "About Response Time" on page 10 for more information.
- Transaction Tracking, which delivers an end-to-end view of response times across systems to quickly help isolate the cause of response time and availability problems. Transaction Tracking includes the following components:
 - Transaction Collector
 - Transaction Reporter
 - Transaction Tracking API
 - CICS TG Transaction Tracking
 - CICS TXSeries Data Collector
 - Data Collector for WebSphere Message Broker
 - MQ Tracking
 - Tuxedo Tracking
 - WASTT
 - Transaction Tracking for z/OS
 - Transactions Base
 - CICS TG Transaction Tracking

- CICS Tracking
- IMS Tracking
- MQ Tracking for z/OS
- Transaction Tracking also integrates with:
 - Robotic Response Time
 - Web Response Time
 - ITCAM for Application Diagnostics
 - ITCAM for J2EE
 - ITCAM for SOA
 - Tivoli Business Service Manager
 - Optim Performance Manager
 - WebSphere Application Server
 - IBM HTTP Server
 - IBM Tivoli OMEGAMON XE for CICS
 - IBM Tivoli OMEGAMON XE for IMS
 - IBM Tivoli OMEGAMON XE for Messaging
 - Monitoring Agent for Microsoft .NET Framework
 - Monitoring Agent for Microsoft Internet Information Services
 - Monitoring Agent for Active Directory

See "About Transaction Tracking" on page 13 for more information.

Integration with IBM Tivoli Monitoring

IBM Tivoli Monitoring is the base software for ITCAM for Transactions. IBM Tivoli Monitoring provides a way to monitor the availability and performance of enterprise systems from one or several designated workstations. It also provides useful historical data for tracking trends and troubleshooting system problems.

You can use IBM Tivoli Monitoring to do the following tasks:

- Monitor for exception conditions on the systems that you are managing by using predefined situations or custom situations
- Establish performance thresholds
- Investigate the causes leading to an exception condition
- Gather comprehensive data about system conditions
- Perform actions, schedule work, and automate manual tasks
- Using the operating system agents:
 - Provide basic performance data about operating systems and hardware to Tivoli Enterprise Management Agents
 - Provide remote functions for the Tivoli Enterprise Management Agents
 - Provide Proxy Agent Services

Figure 1 on page 4 illustrates the relationship between the IBM Tivoli Monitoring and ITCAM for Transactions components.



Figure 1. How ITCAM for Transactions integrates with IBM Tivoli Monitoring

Table 1 describes the main components illustrated in Figure 1.

Table 1. Tivoli Monitoring and ITCAM for Transactions integration

Component	Description
Tivoli Enterprise Portal Tivoli Enterprise Portal Server	The Tivoli Enterprise Portal Server enables retrieval, manipulation, and analysis of data from the agents. The server is between the client and the Tivoli Enterprise Monitoring Server (monitoring server).
	The Tivoli Enterprise Portal client is a Java-based user interface for viewing and monitoring your enterprise. It provides two modes of operation: desktop and browser.
	The Tivoli Enterprise Portal provides a consolidated view of the monitored environment so you can monitor and resolve performance issues. You can view your enterprise by using default physical views or by using custom created logical views in the Navigator.
Tivoli Enterprise Monitoring Server	Provides the collection and control point for alerts received from the monitoring agents and collects their performance and availability data. There are 2 types of monitoring servers: hub and remote.
Tivoli Data Warehouse	Stores historical data collected from monitoring agents. The data warehouse is located on a DB2 [®] , Oracle, or Microsoft SQL database. To collect information to store in this database, you must install the Warehouse Proxy agent. To perform aggregation and pruning functions on the data, install the Warehouse Summarization and Pruning agent.

Component	Description
Internet Service Monitoring agents and monitors	Provides the tools to identify availability and response time problems and monitors to test the availability and performance of various internet services, including monitoring websites, web-based e-commerce applications, and electronic mail (as well as the underlying services such as DNS, LDAP, and SMTP on which those services rely).
Response Time	Focuses on the end user experience, both real and simulated, by monitoring web transactions, playing back recorded scripts, and real user desktop experiences. Response Time includes the following components:
	• Application Management Console agent and Application Management Configuration Editor - enable you to define and configure the applications and transactions that you want to monitor. By applying common profile configurations across the environment, you can deploy monitoring in large-scale environments more efficiently.
	• Robotic Response Time - reports the results of simulated transactions (robotic scripts) so you can be proactive in managing availability and performance of your applications and identify bottlenecks before they impact customer satisfaction.
	• Web Response Time - reports real-user response time of web applications that can be broken down into browser (client) time, network time, server time, load time, and resolve time. Web Response Time monitors TCP traffic and detects components and protocols. It functions as an Aggregation agent for agentless tracking.
Transaction Tracking	Delivers an end-to-end view of your topology and response times across systems to quickly help isolate the cause of response time and availability problems. Transaction Tracking includes the following components:
	• Transaction Reporter - collects and stores the aggregated data from an Aggregation agent, such as the Transaction Collector and Web Response Time, and sends this data to the Tivoli Enterprise Portal workspaces.
	• Transaction Collectors - store the tracking data from multiple Data Collector plug-ins and compute aggregates.
	• Transaction Tracking API - is installed on each data collector and sends events and tracking information to Transaction Tracking.
	• Data Collector plug-ins - monitor traffic for specific applications and by using the Transaction Tracking API send this information to the Transaction Collectors.
	• Custom ARM applications - your own custom application that you can program to send events and provide tracking information to Transaction Tracking by using the Transaction Tracking API.
Aggregation agents	Agents that store the tracking data from monitors or Data Collector plug-ins, and compute aggregates for use by the Transaction Reporter. Aggregation agents include the Transaction Collector and Web Response Time (T5) agents.

Table 1. Tivoli Monitoring and ITCAM for Transactions integration (continued)

For more information about how to use IBM Tivoli Monitoring and the Tivoli Enterprise Portal, see the publications available from IBM Tivoli Monitoring Information Center.

Integration with other products

Figure 2 shows how IBM Tivoli Monitoring and the monitoring agents integrate with other products.



Figure 2. Integration of IBM Tivoli Monitoring and other products

Table 2 describes the components in Figure 2.

Table 2. How components integrate with IBM Tivoli Monitoring

Product	Description
Change and Configuration Management Database	Provides an enterprise-ready platform for discovering and storing deep, standardized data on configurations and change histories to help integrate people, processes, information, and technology.

Table 2. How components	integrate v	vith IBM	Tivoli Monitoring	(continued)
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Product	Description
IBM Tivoli Business Systems Manager (TBSM) (Later versions renamed to IBM Tivoli Business Service Manager)	Manages real-time problems in the context of the business priorities for an enterprise. Business systems typically span web, client-server, or host environments and are made of many interconnected application components; they rely on diverse middleware, databases, and supporting platforms. TBSM provides customers a single point of management and control for real-time operations of end-to-end business systems management. You can graphically monitor and control interconnected business components and operating system resources from one single console and give a business context to management decisions. The software helps users manage business context to management decisions. The software helps users manage business systems by understanding and managing the dependencies between business systems components and their underlying infrastructure. ITCAM for Transactions can be integrated with TBSM by using Omnibus. Situation events from Transaction Tracking can be forwarded from IBM Tivoli Monitoring to IBM IBM Tivoli Netcool/OMNIbus for display in TBSM. View these in TBSM by navigating to Availability > Service Availability . In the Service Tree, select Imported Business Services > Transactions Business Activities to display Transaction Tracking information. When you install Integration support by using the installation media provided with this release, you can access a new view of the data from Response Time and Transaction Tracking agents
Tivoli Enterprise Management Agent (monitoring agents)	An IBM Tivoli Monitoring agent that is built on the IBM Tivoli Monitoring infrastructure. Tivoli Enterprise Management Agents connect to the Tivoli Enterprise Monitoring Server by using IPv4 or IPv6. Some configuration is required for IPv6. See the latest IBM Tivoli Monitoring Information Center for further information
IBM Tivoli Monitoring (Tivoli Monitoring)	 Provides monitoring for system level resources, detects bottlenecks and potential problems, and automatically recovers from critical situations to free system administrators from manually scanning extensive performance data during problem resolution. Upon notification of a poorly performing transaction component, you can launch either of the following products: The <i>Tivoli Enterprise Portal</i> integrates and consolidates system monitoring end-to-end. The Tivoli Enterprise Portal provides a console from which you can monitor host and distributed systems. You can customize the information that you see in the Tivoli Enterprise Portal for your enterprise. See the IBM Tivoli Monitoring documentation for information about how to use the Tivoli Enterprise Portal. <i>Tivoli Data Warehouse</i> enables you to drill down to a lower level of a transactions and historical data, and enables you to identify issues such as poorly configured systems. With the addition of products such as IBM Tivoli Monitoring for Databases, IBM Tivoli Monitoring for Web Infrastructure, and IBM Tivoli Monitoring for Business Integration, you can further diagnose infrastructure problems and, in many cases, resolve them before they affect the performance of business transactions.

About Internet Service Monitoring

The information gathered and processed by Internet Service Monitoring enables you to determine whether a particular service is performing adequately, identify problem areas, report service performance measured against Service Level Agreements (SLAs), and forward performance data to IBM Tivoli Monitoring, IBM Tivoli Composite Application Manager for Transactions, and other event management tools such as IBM Tivoli Netcool/OMNIbus.

Internet Service Monitoring works by emulating the actions of a real user. For example, the HTTP monitor tries to access particular web pages, then measures how well the HTTP service performed. The data recorded by the monitor provides an immediate indication of the status of the HTTP service to the service operators, and can also be used to provide reports on service performance.

Internet Service Monitoring architecture

The core components of the Internet Service Monitoring architecture are the Internet service monitors.

The Internet service monitors regularly poll or test Internet services to check their status. The test results generate data for SLA evaluation, reporting, and alert generation. Internet Service Monitoring can monitor the protocols listed in Table 3.

Protocols Internet Service Monitoring monitors				
DHCP	ICMP	RADIUS	SNMP	
Dial - deprecated in ITCAM for Transactions V7.3	IMAP4	RPING	SOAP	
DNS	LDAP	RTSP	TCPPort	
FTP	NNTP	SAA	TFTP	
НТТР	NTP	SIP	WMS - deprecated in ITCAM for Transactions V7.3	
HTTPS	POP3	SMTP	Combinations of the other protocols by using TRANSX	

Table 3. List of protocols monitored by Internet Service Monitoring

Figure 3 on page 9 shows a typical Internet Service Monitoring deployment.



Figure 3. Internet Service Monitoring architecture

Figure 3 shows the following Internet Service Monitoring components:

Monitors

Test the specific Internet services and forward the test results to the Databridge. They emulate the actions of a real user of the service. For example, the HTTP monitor periodically attempts to access a web page by emulating requests that a web browser would usually send when a user visits the page. It generates an event containing the results of the test (including status information) which is sent to the Databridge.

Monitors are distinguished from IBM Tivoli Netcool/OMNIbus probes by their polling functions. Probes connect to an event source to acquire the event data that it generates, while monitors actively poll or test services at regular intervals by injecting transactions or queries into the target service, and generating performance evaluation data.

Databridge

Acts as the communications bridge between the monitors, the IBM Tivoli Netcool/OMNIbus ObjectServer, and the Internet service monitoring agent. The Databridge receives the results of service tests performed by the monitors and converts this data into different formats for processing by the ObjectServer and the monitoring agent. The Databridge can also generate XML datalogs that you can use for archiving or simple reporting purposes. Detailed reporting is available within IBM Tivoli Monitoring through workspaces.

Internet service monitoring agent

Converts test results into the format required by IBM Tivoli Monitoring.

ObjectServer module

Converts events into alerts containing SLA and performance data and sends these alerts to the IBM Tivoli Netcool/OMNIbus ObjectServer. IBM Tivoli Netcool/OMNIbus users can then view service status information in the Event List. IBM Tivoli Netcool/OMNIbus ObjectServer and the Event List are part of IBM Tivoli Netcool/OMNIbus and are not installed with Internet Service Monitoring.

Datalog module

Converts test results to XML and then sends this information to a host file system for archiving or simple reporting purposes. The XML is useful for customers who have developed their own reporting tools and want to continue working with these tools.

IBM Tivoli Monitoring module

Sends results to the Internet service monitoring agent that uses a mapping file to convert the results into the format required by IBM Tivoli Monitoring for reporting in workspaces.

About Response Time

The Response Time component of ITCAM for Transactions provides a targeted solution for managing composite applications. It is designed to provide support staff with the information they need to assess whether composite applications are working correctly everywhere in the network. This functionality plays a dual role in enterprise IT. If a composite application is used within your own enterprise environment, you might be able to tolerate a slight drop in performance that has little or no effect on your financial results. If, however, a composite application is used by external customers, a drop in performance might have legal consequences due to violations of preestablished Service Level Agreements (SLAs). While neither of these scenarios is desirable, both are addressed, and in many cases precluded, by the monitoring capabilities provided with Response Time agents. The software offers the following features:

- A single infrastructure built on IBM Tivoli Monitoring.
- A consolidated user interface built on Tivoli Enterprise Portal (TEP), which offers single sign-on and common reporting.
- The ability to fully customize the reports and workspaces.
- Intelligent alerts based on IBM Tivoli Monitoring situations.
- Reports and alerts for real-time or historical metrics.
- Identifies bottlenecks in the Client, Network, or Server (CNS) by breaking down response time data into segments so that you can understand trends and system loads.
- Identifies, reports, and sends alerts on individual clients or locations.
- Discovers, reports on, and sends alerts for backend server resources.
- Provides the capability for configuring data aggregation as frequently as every 5 minutes.
- Provides simplified configuration, including default situations.

Response Time includes the following monitoring agents:

- Application Management Console
- Robotic Response Time
- Web Response Time

Application Management Console

Application Management Console provides an accurate snapshot of ITCAM for Transactions monitoring in near real time. It provides real-time aggregated and consolidated application and transaction availability and response time information for all applications monitored by Internet Services, Response Time, and Transaction Tracking monitoring agents. It collects data in real time at a configurable, constant interval instead of relying on the Tivoli Data Warehouse.

Use the Application Management Console to see status summary and trend analysis information across managed resources and to perform problem determination. This information is displayed in the Tivoli Enterprise Portal.

The Application Management Console agent is required when other ITCAM for Transactions agents are installed. The Application Management Console agent manages and distributes profiles, maintenance windows, client information, and user information for all the other Response Time and Transaction Tracking monitoring agents.

Robotic Response Time

Robotic Response Time provides active monitoring of customer business transactions. These business transactions represent a complex set of steps typically performed by an end user to complete a business objective, such as logging in to an online banking application, checking an account balance, and transferring funds. This set of steps can be recorded and played back by using this agent to verify availability and performance. It is installed separately on various desktop and server systems in your enterprise and on the internet.

Monitoring can be completed from the start of a transaction and, because it is enabled to support TTAPI and can be integrated into the Transaction Collector and Transaction Reporter functions, you can display end-to-end topology views of your robotic transactions as they flow through the system.

Robotic Response Time provides the following features:

- Improved robotic monitoring with Rational Performance Tester.
- Playback of scripts by using Rational Functional Tester against Windows applications, including 3270 applications.
- Immediate playback of robotic scripts.
- Monitoring causes of script failure by viewing actual screen captures and HTML data captures from failed playback sessions in Rational Performance Tester and Rational Functional Tester.
- Monitoring the performance and availability of applications to detect problems before end-users experience them. Robotic Response Time performs this monitoring by using robotic technology to record and play back transactions to determine if the transaction is performing as expected.

Robotic Response Time provides robotic monitoring for the following applications:

- Web applications that use HTTP and HTTPS protocols
- · Microsoft Windows GUI client applications

- Applications or scripts with a command-line interface, such as:
 - Custom monitoring scripts
 - Applications such as DB2 that provide a command-line interface
 - Playback technologies such as Rational Functional Tester or wget
- Mercury LoadRunner HTTP and HTTPS scripts
- Citrix hosted applications
- SAP
- Siebel
- Web Services
- Oracle ERP Applications
- Robotic scripts file transfer discovers and uploads all of the files and file dependencies that are required for robotic scripts. You can also instruct the tool to automatically ARM-instrument a recording that has not previously been instrumented. Robotic scripts record a sequence of steps in a transaction to simulate a particular business transaction executed from specific locations so you can monitor end-user experience with Robotic Response Time

See the *Administrators Guide* for more information about using Rational Performance Tester and Rational Functional Tester with Robotic Response Time.

Web Response Time

Web Response Time provides real end-user monitoring of client web requests to server components. It can be installed locally on the server system, or on a separate system. Web Response Time uses server-side monitoring to capture HTTP and HTTPS transaction data such as response time and status codes. You can use it to capture the performance and availability data of actual users for Service Level Agreement (SLA) reporting. Web Response Time also detects protocols and applications by monitoring TCP/IP network flows.

Using Web Response Time, you can perform the following tasks:

- Monitor end-user performance and availability for web-based applications.
- Capture web request response time and its segmentation.
- Monitor the performance of web page request and each embedded object in that web page. This feature, which can be switched on or off, can identify if any graphics, tables, JavaScript, or Applets are causing response time problems. Audio or video request monitoring is not available.
- Capture and report on HTTP query string and FORM Post data.
- Monitor response times, including response time of the workstation, without being physically located on the workstation.
- Monitor HTTP and HTTPS transactions while running in Appliance Mode.

If you prefer to not modify your web server, you can install the Web Response Time agent in appliance mode, either locally on the server, or remotely on a different host that utilizes a network tap, port spanning, or a hub to gain access to the network traffic of the server. With this configuration, you can monitor your web servers without modifying or impacting the server systems. This method is the preferred method of installation.

- Monitor specific users by their sessions and user names.
- By default, the Web Response Time agent monitors all network interfaces. However, it can also monitor a specific network interface. By default, the Web

Response Time Analyzer automatically selects the correct interface. However, you can limit it to one network interface.

• Monitor transactions from web servers to WebSphere Application Server by using the Web Response Time - Transaction Tracking integration option.

The Web Response Time agent can track transactions without the need for domain-specific or application-specific data collectors. This type of monitoring is called *agentless transaction tracking*, and extends the capabilities of existing ITCAM for Transactions features and functions:

- Monitors generic TCP/IP based network flows.
- Enhanced Tivoli Enterprise Portal workspaces provide additional capabilities to visualize network flow data and dependencies.
- The Transaction Reporter agent uses data from the Web Response Time agent along with data from existing domain-based data collectors, such as Data Collector for WebSphere Message Broker, to display this TCP/IP data in topology views. These topology views can include data from both traditional agent-based data sources and agentless tracking data sources. Using these capabilities together, you can deploy Web Response Time agents to collect data, then display the resulting topology, and successively deploy agent-based data collectors to obtain more detailed tracking information.
- You can use additional capabilities in the Application Management Configuration Editor to create and modify configurations that the Web Response Time agent applies to the monitored TCP/IP network flow data.

Web Response Time is also an Aggregation agent.

Aggregation agents are monitoring agents that provide data storage and compute aggregates for Transaction Tracking. Aggregation agents include Transaction Collectors and Web Response Time agents.

Aggregation agents, including Transaction Collectors and Web Response Time, communicate with the Transaction Reporter through the Tivoli Enterprise Monitoring Server. Multiple Aggregation agents can report to a single Transaction Reporter. Each Aggregation agent can be queried by one or more Transaction Reporters. Transaction Collectors do not communicate with each other.

About Transaction Tracking

Transaction Tracking traces transactions within and between applications. It determines the time spent by the transaction in each application and, where possible, the time spent communicating between applications. It can then generate alerts based on thresholds which specify minimum or maximum permissible values for specific attributes.

Transaction Tracking accommodates a range of different products, correlation techniques, and transaction topologies. It enables you to expand the capabilities of services, and can be customized for specific environments. Transaction Tracking also tracks individual transactions where the correlation techniques make this possible.

Within a complex transaction topology, the transaction path cannot always be determined because of the differences in correlation techniques used. Therefore, as the information from a transaction becomes available, Transaction Tracking uses this accumulated information to start determining the type and details of the full transaction.

The main components of Transaction Tracking are:

Data Collector plug-in

Data Collector plug-ins are a combination of Transaction Tracking API and supporting files that are installed on a *domain*. The Data Collector plug-in enables an application to transmit tracking data to a Transaction Collector.

Aggregation agents

Aggregation agents are monitoring agents that provide data storage and compute aggregates for Transaction Tracking. Aggregation agents include Transaction Collectors and Web Response Time agents.

Transaction Collectors provide distributed storage for all *instance data* that is collected from multiple *data sources*. Transaction Collectors also compute *aggregates*. Configure a Transaction Collector by using the Manage Tivoli Enterprise Monitoring Services console, or remotely in the Tivoli Enterprise Portal if the IBM Tivoli Monitoring operating system agent is installed in the same home directory and is connected to the same IBM Tivoli Monitoring system.

Aggregation agents, including Transaction Collectors and Web Response Time, communicate with the Transaction Reporter through the Tivoli Enterprise Monitoring Server. Multiple Aggregation agents can report to a single Transaction Reporter. Each Aggregation agent can be queried by one or more Transaction Reporters. Transaction Collectors do not communicate with each other.

• Transaction Reporter

The Transaction Reporter is an IBM Tivoli Monitoring Tivoli Enterprise Management Agent (TEMA). The Transaction Reporter contains a number of algorithms that create transaction topologies or transaction instance graphs which are displayed in the Tivoli Enterprise Portal. A single Transaction Reporter can receive information from one or more Transaction Collectors through the Tivoli Enterprise Monitoring Server. Configure the Transaction Reporter by using the Manage Tivoli Enterprise Monitoring Services console, or remotely in the Tivoli Enterprise Portal if the IBM Tivoli Monitoring operating system agent is installed in the same home directory and is connected to the same IBM Tivoli Monitoring

Predefined content

Predefined content includes workspaces, situations, and Take Action commands. The workspaces contain charts or tables showing aggregated data, and are divided into four conceptual monitoring models: applications, components, servers, and transactions. Situations are tests that check the aggregated data against a set of conditions and take action when the conditions are met.

You can modify the predefined content to create workspaces specific to your organization if required.

IBM Tivoli Composite Application Manager for Transactions also uses the following:

• Tivoli Data Warehouse

The Tivoli Data Warehouse stores long term historical data.

• Application Management Console

Application Management Console provides a default set of configuration mappings to Application Response Measurement-enabled applications such as WebSphere[®] Application Server and DB2, and to applications such as CICS[®], IMS[™], IMS Connect, ITCAM for SOA, and WebSphere Application Server by using ITCAM for Application Diagnostics. By using these configuration

mappings, you can track some transactions automatically without further configuration. These mappings are displayed in the Application Management Configuration Editor.

Application Management Configuration Editor is installed with the Application Management Console (t3 agent) and is shared with the Response Time component.

How IBM Tivoli Composite Application Manager for Transactions fits into IBM Tivoli Monitoring

IBM Tivoli Composite Application Manager for Transactions integrates with the IBM Tivoli Monitoring framework. It provides enhancements to the existing infrastructure and new components.

Design

IBM Tivoli Composite Application Manager for Transactions integrates with the IBM Tivoli Monitoring framework by using the Tivoli Enterprise Portal, Tivoli Data Warehouse, situations, and workspaces to collect and display information about transaction response times and interactions. You can access workspaces through the Tivoli Enterprise Portal. The Tivoli Enterprise Portal communicates with the Tivoli Enterprise Portal Server and the Tivoli Enterprise Monitoring Server that form part of the standard IBM Tivoli Monitoring framework.

Figure 4 on page 16 illustrates this design.



Figure 4. How Transaction Tracking fits in to IBM Tivoli Monitoring

Figure 4 displays how IBM Tivoli Composite Application Manager for Transactions fits into the IBM Tivoli Monitoring framework. As you request information in the Tivoli Enterprise Portal, a series of events are triggered throughout the framework, which are indicated by solid lines in the diagram.

The dotted lines show the communication paths between the Transaction Reporter and Aggregation agents, such as the Transaction Collector, through the Tivoli Enterprise Monitoring Server. This is an automatic process that happens in the background at configurable intervals, and is not necessarily initiated by user requests. For further information on configuring the collection time interval, see *Data collection* in *ITCAM for Transactions Administrator's Guide*.

The Transaction Reporter communicates with the Transaction Collector through the Tivoli Enterprise Monitoring Server to obtain *aggregate* and *instance* data, and uses this data to display the transaction topology at various levels of detail:

- **Summary** workspaces provide an overall view of applications communicating with other applications.
- Interaction Detail workspaces and Transaction Instance workspaces provide a specific view of interactions for a transaction instance.
- **Topology** workspaces display the aggregate topology or a specific instance topology.

The Transaction Reporter also communicates with other Aggregation agents, such as Web Response Time, through the Tivoli Enterprise Monitoring Server to obtain network information and uses this data to display data and topologies in **Transactions Overview** and **Agentless Data** workspaces.

The Tivoli Enterprise Monitoring Server provides a communication mechanism only, it does not store any data. Data is stored in the Tivoli Data Warehouse for days, in the Transaction Reporter for hours, and in the Transaction Collector for minutes. For further information on configuring the collection time interval, see *Data collection* in *ITCAM for Transactions Administrator's Guide*.

The Transaction Reporter provides Instance Data only to the Tivoli Data Warehouse via the Warehouse Proxy for Instances that have been requested by a Take Action command. This action is performed by the *Slow_Transaction* situation. Viewing Instance data in the **Transaction Instance** workspace or **Instance Topology** does not make this data available to the Warehouse Proxy.

The Transaction Collector and other Aggregation agents are IBM Tivoli Monitoring Tivoli Enterprise Management Agents. Both the Transaction Reporter and Transaction Collector agents are deployed and configured by using the installer and can be reconfigured by using the Manage Tivoli Enterprise Monitoring Services console.

The Transaction Collector does not provide any data directly to the Warehouse Proxy.

IBM Tivoli Composite Application Manager for Transactions integrates with other products in the Tivoli Enterprise Portal, and you can launch a workspace for another product from an IBM Tivoli Composite Application Manager for Transactions workspace.

How IBM Tivoli Composite Application Manager for Transactions works

IBM Tivoli Composite Application Manager for Transactions provides new components that fit into IBM Tivoli Monitoring and interact with each other to provide views of transaction response times and interactions.

The main components in IBM Tivoli Composite Application Manager for Transactions are the Data Collector plug-ins (including the Transaction Tracking API), Transaction Collectors, Transaction Reporter, and the workspaces displayed in the Tivoli Enterprise Portal. Figure 5 shows how the components within IBM Tivoli Composite Application Manager for Transactions interact. It shows how Data Collector plug-ins send data to their associated Transaction Collector, and that the Transaction Reporter obtains data from various Transaction Collectors and other Aggregation agents. It also shows how applications can interact with each other even though the data is sent to different Transaction Collectors.



Figure 5. IBM Tivoli Composite Application Manager for Transactions component interaction diagram

Data collector plug-ins

Data Collector plug-ins monitor specific applications. They encode application data and transfer it to a Transaction Collector by using the Transaction Tracking API. Data Collector plug-ins are located on the same server as the application they serve. The data gathered by Data Collector plug-ins is used to build comprehensive topologies and display information about transaction response times and interactions.

Different applications can communicate with each other, but each application has its own Data Collector plug-in and transfers data to a Transaction Collector.

Table 4. Transaction Tracking Data Collector plug-ins

Data Collector plug-in	Description
CICS Tracking	An extension to Transaction Tracking for z/OS [®] that provides IBM CICS support on the z/OS operating system. The CICS agent automatically tracks External Call Interface (ECI), Dynamic Program Link (DPL), IBM MQSeries [®] , and SOAP over HTTP traffic and uses the Transactions Base to send events to a Transaction Collector. You can also send your own events from CICS exits or applications by using the Transactions Base API or send Transactions events by using the provided CICS program.
CICS TG Transaction Tracking	Tracks interactions between applications that pass through CICS Transaction Gateway environments, enabling you to monitor the performance of CICS Transaction Gateway components and their effect on your enterprise's applications. Use CICS TG Transaction Tracking with ITCAM for Application Diagnostics and CICS Tracking for complete correlation of transactions flowing from WebSphere Application Server through the CICS TG Gateway Daemon into CICS.
CICS TXSeries Data Collector	Integrates with CICS TXSeries for AIX and collects data related toCICS TXSeries transactions and programs.
IMS Tracking	An extension to Transaction Tracking for z/OS that provides IBM IMS support on the z/OS operating system.
MQ Tracking	An extension to Transaction Tracking for z/OS that provides support for WebSphere MQ on z/OS and distributed operating systems. The MQ agent tracks MQ events and forwards them to a Transactions Collector.
Tuxedo Tracking	Tracks transactions between applications in the Tuxedo application and monitors the performance of these interactions.
WASTT	Tracks interactions between ARM-instrumented applications on WebSphere Application Server and other domains, such as WebSphere MQ.
Data Collector for WebSphere Message Broker	Tracks interactions between applications that pass through WebSphere Message Broker environments. Data Collector for WebSphere Message Broker uses the KK3UserExit WebSphere Message Broker user exit to collect the data for tracking transactions. After analyzing the data, the KK3UserExit user exit dispatches the data as transaction tracking events to a Transaction Collector.
ITCAM for SOA	ITCAM for SOA integrates with ITCAM for Transactions and displays information in Transaction Tracking workspaces and views.

Data Collector plug-in	Description
Custom ARM Applications	An application that already contains the necessary ARM function calls. You can monitor generic ARM applications (such as the web server plug-in for IBM WebSphere Application Server, IBM WebSphere, or IBM DB2) with Transaction Tracking agents.
Custom User Applications	Your own custom application that you can program to send events and provide tracking information to Transaction Tracking by using the Transaction Tracking API.

Table 4. Transaction Tracking Data Collector plug-ins (continued)

Aggregation agents

Aggregation agents are monitoring agents that provide data storage and compute aggregates for Transaction Tracking. Aggregation agents include Transaction Collectors and Web Response Time agents.

Transaction Collectors receive instance data from applications through the Transaction Tracking API installed with Data Collector plug-ins. Install the Transaction Collector on a separate server to the applications. The server should not have critical applications running on it, and have sufficient resources available to run the Transaction Collector.

The Transaction Collector stores this data, computes aggregates, and responds to queries for data from the Transaction Reporter through the Tivoli Enterprise Monitoring Server. Multiple Transaction Collectors can provide data to a Transaction Reporter, but Transaction Collectors do not communicate with each other.

A Transaction Collector removes data older than a configurable age, or because it has reached a configurable volume. For further information on configuring the collection time interval, see "Tuning data collection" in the *IBM Tivoli Composite Application Manager for Transactions Administrator's Guide*.

Transaction Reporters

The IBM Tivoli Composite Application Manager for Transactions workspaces use data from the Transaction Reporter. The Tivoli Enterprise Monitoring Server enables the Transaction Reporter to query one or more Aggregation agents for aggregate data. This happens in the background at set intervals. For further information on configuring the collection time interval, see *Tuning data collection* in the *IBM Tivoli Composite Application Manager for Transactions Administrator's Guide*.

After receiving and caching the aggregate data, the Transaction Reporter collects a subset of instance data. It then uses algorithms to build transaction topologies that are applied to the aggregate data to produce interaction data. The aggregate data and interaction data are displayed in the workspaces and provide an overview of the transaction performance, including the alternate paths a transaction may take. The Transaction Reporter may need to contact the Aggregation agents multiple times to obtain enough tracking data to create a complete transaction topology.

The Transaction Reporter's interaction views at an Aggregate Level, not the Instance level, are an estimate based on the individual Aggregates supplied by the Transaction Collectors and a Topology determined by the Transaction Reporter.
This Topology is determined by sampling the Transaction Collector for some Instance data, then performing tracking for several hops, and then identifying an Aggregate from the Context information in the Instance Data.

When determining Aggregate Interaction Rows, the Transaction Reporter may receive individual Aggregates that have differing counts because the Transaction Collector determines which time period to update, based on the time stamp of the initial instance event for a specific transaction.

For example, if an Instance Level interaction occurs from *A* to *B*, it is possible for *A*'s Aggregate to be in one period and *B*'s Aggregate to be in the following period. The higher the interaction rate, the less significant any difference between the count in Aggregates *A* and *B* will be. However, as the transaction rate approaches 0 it may be that no interactions are determined, as an Aggregate for *A* occurs in one time period, and an Aggregate for *B* occurs in another. Moving from Aggregates to Instance Interactions would display a topology of *A* to *B*, but the Aggregate Interactions Topology would show only *A* or *B*.

Note: In ITCAM for Transactions V7.2.0.1 and later, when the Transaction Reporter queries the Transaction Collector for a single instance, the Transaction Reporter now traces only that single instance.

The Transaction Reporter also provides data that enables workspaces to display specific instance graphs that provide the exact set of interactions that occurred during the processing of a single transaction instance. Historical instance information can also be displayed, see "Transactions: Historical Transaction Instances" on page 455 in the *User's Guide* for further information.

Use the Manage Tivoli Enterprise Monitoring Services console to link the Transaction Reporter to specific Transaction Collectors. The default setting is for the Transaction Reporter to collect data from every Transaction Collector available through the Tivoli Enterprise Monitoring Server.

Chapter 2. Internet Service Monitoring

Internet Service Monitoring works by emulating the actions of a user. Use the workspaces, situations, and attributes to monitor your system.

Workspaces

Use the Internet service monitoring workspaces to view the overall status of monitored Internet services by host, user profile, and service type. You can also view service level histories, and more detailed results of individual tests, as well as the status of each monitor itself.

The workspaces, which are displayed in the Navigator Physical view, are organized in a hierarchy under the **Internet Services Monitors** default workspace. Figure 6 shows the workspace hierarchy, and the links between workspaces.



Figure 6. Internet Service Monitoring workspaces

You must configure and start historical reporting to be able to see data in the history workspaces. See Setting up historical data collection for Internet Service

Monitoring for more information. History workspaces are indicated by ¹⁶ in the toolbar of the view. Click the icon to set the range of historical data to be reported. See the *IBM Tivoli Monitoring Administrator's Guide* for details about setting a time span.

Note: The Monitor Status workspaces are currently only available in English.

Internet Service Monitors workspace

The **Internet Service Monitors** workspace is the default workspace. It provides an overview of the current status of all Internet service level agreements.

Using this workspace

The workspace displays two charts:

Service Levels

The **Service Levels** chart shows the current service levels reported by all profile elements. This chart represents the total number of results returned by profile elements, broken down by service level classification.

Service Status

The **Service Status** chart shows the current service levels reported by all profile elements, grouped by service type. For each service type, it displays the service levels reported by all profile elements that are currently testing the service as a percentage of the total number of tests performed on that service.



Figure 7. The Internet Service Monitors workspace

Use this workspace to gain an overview of all monitored Internet services across all hosts, and whether those services are meeting the defined service level agreements.

Accessing this workspace

- 1. In the Navigator Physical view, expand the operating system node for the system on which the Internet service monitoring agent is located.
- 2. Expand the node for the machine on which the Internet service monitoring agent is located.
- 3. Click Internet Service Monitors.

Links to other workspaces

Not applicable

Host Statistics workspace

The **Host Statistics** workspace provides a summary of service level information for all hosts currently being monitored using profiles deployed on the system.

Using this workspace

The **Host Statistics** workspace displays a chart and a table that summarize the most recent service level classification results:

• Service Levels

The **Service Levels by Monitor** chart shows the total number of Internet service tests currently performed on all hosts, broken down by service level classification.

Hosts

The **Hosts** table summarizes the service level classifications for each monitored host. It lists individual totals for each service level classification, and shows those values as a percentage of the total number of tests performed on that host. Each row in the table contains summary data for one monitored host.

Use the workspace to gain an overview of all monitored Internet services on a per-host basis. Use the workspace links to access more detailed information about a single host.



Figure 8. The Host Statistics workspace

Accessing this workspace

1. In the Navigator Physical view, expand the operating system node for the machine on which the Internet service monitoring agent is located.

- **2.** Expand the node for the machine on which the Internet service monitoring agent is located.
- 3. Expand the Internet Service Monitors node.
- 4. Click Host Statistics.

Links to other workspaces

You can link to the "Host Elements workspace" by right-clicking the link beside a host in the **Hosts** table.

Host Elements workspace:

The **Host Elements** workspace provides service level information for an individual host that is being monitored using profiles deployed on the system.

Using this workspace

The **Host Elements** workspace provides a chart and a table that display the most recent service level classification results for the monitored host:

• Service Levels for this Host

The **Service Levels for this Host** chart shows the total number of Internet service tests currently performed on the monitored host, broken down by service level classification.

• Host Report

The **Host Report** table summarizes the service level classification for a monitored host. Each row in the table contains service level data for one profile element that monitors the host.

Use this workspace to view the most recent service level classification for all profile elements that test an Internet service on the host. If a host is delivering a marginal or bad service level, use the data in this workspace to identify which profile elements are reporting that service level.



Figure 9. The Host Elements workspace

You can link to this workspace from the "Host Statistics workspace" on page 25.

Links to other workspaces

Not applicable

Monitor Status workspace

The **Monitor Status** workspace indicates which Internet service monitors are currently running service tests.

Using this workspace

The workspace contains the **Services** table. Each row in this table shows the status of one Internet service monitor.

Using this workspace, you can determine which of Internet service monitors are currently running tests, and drill down to more detailed information about those tests.

Note: This workspace is currently not translated into other languages.

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Figure 10. The Monitor Status workspace

- 1. In the Navigator Physical view, expand the operating system node for the machine on which the Internet service monitoring agent is located.
- **2**. Expand the node for the machine on which the Internet service monitoring agent is located.
- 3. Expand the Internet Service Monitors node.
- 4. Click Monitor Status.

Links to other workspaces

You can link to the "Monitor workspaces" by right-clicking the link beside a service type in the **Services** table.

Monitor workspaces:

Monitor workspaces display complete test result data for the tests performed by each Internet service monitor.

Using this workspace

The table displays the service test data. It contains one row for each active profile element. Each row lists data from the *most recent* test.

Use the workspace to view the most recent results of all tests being run by a monitor, and drill down to the historical results for any of those tests.

Note: This workspace is currently not translated into other languages.

Figure 11. The Monitor workspace

You can link to this workspace from the "Monitor Status workspace" on page 27.

Links to other workspaces

You can link to "Element History workspaces" by right-clicking the link beside any row of test result data.

Element History workspaces:

Element history workspaces provide detailed history of Internet service data for individual profile elements. You must configure historical reporting to be able to see data in these workspaces.

Using this workspace

Each workspace includes a table listing the test data, one row per test. Where appropriate, workspaces may also provide one or more charts displaying significant attribute data.

Use this workspace to view a history of the service test results for a selected profile element.

Note: This workspace is currently not translated into other languages.



Figure 12. The Element History workspace

You can link to this workspace from the following workspaces:

- "Elements workspace" on page 33
- "Monitor workspaces" on page 28

Links to other workspaces

Not applicable

Profile Statistics workspace

The **Profile Statistics** workspace provides service level information for all profiles deployed on the system.

Using this workspace

The **Profiles** workspace displays the service level information in a chart and a table:

• Service Levels

The **Service Levels** chart shows the current service levels reported by all profile elements. This chart represents the total number of results returned by profile elements, broken down by service level classification.

• Profiles

The **Profiles** table summarizes the results of each profile. Each row in the table contains summary data for one profile, showing the total number of profile elements that were active on the system at the most recent poll, as well as the totals for each service level classification.

From this table, you can access the **Services** workspace for any profile using the link provided.

Using this workspace, you can view the current status of service level agreements for all active profiles, and drill down to more detailed information about each profile.



Figure 13. The Profile Statistics workspace

Accessing this workspace

- 1. In the Navigator Physical view, expand the operating system node for the machine on which the Internet service monitoring agent is located.
- **2**. Expand the node for the machine on which the Internet service monitoring agent is located.
- 3. Expand the Internet Service Monitors node.
- 4. Click **Profile Statistics**.

Links to other workspaces

You can link to "Services workspace" by right-clicking the link beside any profile in the **Profiles** table.

Services workspace:

The **Services** workspace provides service level information for a specific profile deployed on the system.

Using this workspace

The Services workspace displays a chart and a table:

• Profile Service Levels

The **Profile Service Levels** chart shows the current service levels reported for by all profile elements in the profile. This represents the total number of results returned by the profile, broken down by service level classification.

Services

The **Services** table summarizes the results for each service monitored by the profile. Each row in the table contains summary data for one service, showing the total number of profile elements that were active on the system at the most recent poll, as well as the totals for each service level classification.

From this table, you can link to the Elements workspace for any service.

Using this workspace, you can view the service level of each type of service monitored by the profile, and drill down to more detailed information about a particular type of service.



Figure 14. The Services workspace

Accessing this workspace

You can link to this workspace from the "Profile Statistics workspace" on page 30.

Links to other workspaces

You can link to "Elements workspace" on page 33 by right-clicking the link beside any service in the **Services** table.

Elements workspace:

The **Elements** workspace provides service level information for a specific service monitored by a profile.

To access this workspace, use the link in the **Services** workspace that corresponds to the service whose results you wish to view.

Using this workspace

The Services workspace displays a chart and a table:

• Profile Service Levels

The **Profile Service Levels** chart shows the current service levels reported by all profile elements in the profile. This represents the total number of results returned by the profile, broken down by service level classification.

• Services

The **Services** table summarizes the results for each service monitored by the profile. Each row in the table contains summary data for one service, showing the total number of profile elements that were active on the system at the most recent poll, as well as the totals for each service level classification.

Using this workspace, you can view the most recent results of all tests performed by the profile on the selected service type, and drill down to historical test and service level data for a selected profile element.



Figure 15. The Elements workspace

Accessing this workspace

You can link to this workspace from the "Services workspace" on page 31.

Links to other workspaces

You can link to the following workspaces:

- "Element History workspaces" on page 29
- Service Level History workspace

Service Level History workspace:

The **Service Level History** workspace provides service level classification results for individual profile elements over time. You must configure historical reporting to be able to see data in this workspace.

Using this workspace

The Service Level History workspace displays a chart and a table:

• Service Level over Time

The **Service Level over Time** chart shows a history of the service level results reported by the profile element. Each bar in the chart is color-coded to indicate the result of the test.

Service Levels

The **Service Levels** table lists a history of the service level results. Each row in the table contains the results from one test. Only one of the **Good**, **Marginal**, and **Bad** attributes has the value 1, according to the result of the test. The **ServiceLevelString** attribute also indicates the result.



Figure 16. The Service Level History workspace

Use this workspace to view a history of the service level classification result for a selected profile element.

You can link to this workspace from the "Elements workspace" on page 33.

Links to other workspaces

Not applicable.

Example of this workspace

Not applicable.

Service Statistics workspace

The **Service Statistics** workspace provides service level information for all Internet services currently being monitored.

Using this workspace

The **Service Statistics** workspace displays a chart and a table that summarize the most recent service level classification results returned by all profiles deployed on the system:

• Service Levels by Monitor

The **Service Levels by Monitor** chart shows the current service levels for each monitored service. Each bar displays the service level classifications for one monitored Internet service as a percentage of the total number of tests performed on that service.

• Services

The **Services** table summarizes the results for each Internet service monitored. It lists individual totals for each service level classification, and shows those values as a percentage of the total number of tests performed on that service. Each row in the table contains summary data for one Internet service.



Figure 17. The Service Statistics workspace

Use the workspace to view the service level data across all profile elements deployed on the system, broken down by service type.

Accessing this workspace

- 1. In the Navigator Physical view, expand the operating system node for the machine on which the Internet service monitoring agent is located.
- **2.** Expand the node for the machine on which the Internet service monitoring agent is located.
- 3. Expand the Internet Service Monitors node.
- 4. Click Service Statistics.

Links to other workspaces

Not applicable

Situations

Internet Service Monitoring provides predefined situations for service level agreements.

KIS_Host_SLA_Failed

The **KIS_Host_SLA_Failed** situation indicates that a monitored host has failed its service level agreement. By default, this situation is triggered when the percentage of service level classifications returning the result Good falls below 95% of all tests performed on that host.

KIS_Host_SLA_Marginal

The **KIS_Host_SLA_Marginal** situation indicates that a monitored host is close to failing its service level agreement. By default, this situation is triggered when the percentage of service level classifications returning the result Good is below 100% but greater than or equal to 95% of all tests performed on that host.

• KIS_monitor_Inactive

When a monitor is not running or has not submitted any results recently, a situation is triggered to indicate the inactive status of the monitor. If the monitor has stopped, this situation will automatically attempt to restart the monitor using Take Action commands. If the monitor is idle, no action is taken. To stop the monitor for maintenance or similar purposes, stop the agent or the associated situation so that the monitor will not continue to attempt to restart. If you do not wish to be notified of the inactivity of the monitor, stop the situation. This process is applicable to the following situations:

- KIS_Bridge_Inactive
- KIS_DHCP_Inactive
- KIS_DNS_Inactive
- KIS_FTP_Inactive
- KIS_HTTP_Inactive
- KIS_HTTPS_Inactive
- KIS_ICMP_Inactive
- KIS_IMAP4_Inactive
- KIS_LDAP_Inactive
- KIS_NNTP_Inactive
- KIS_NTP_Inactive
- KIS_POP3_Inactive
- KIS_RADIUS_Inactive
- KIS_RPING_Inactive
- KIS_RTSP_Inactive
- KIS_SAA_Inactive
- KIS_SIP_Inactive
- KIS_SMTP_Inactive
- KIS_SNMP_Inactive
- KIS_SOAP_Inactive
- KIS_TCPPORT_Inactive
- KIS_TFTP_Inactive
- KIS_TRANSX_Inactive
- KIS_Element_SLA_Failed

The **KIS_Element_SLA_Failed** situation indicates that the service monitored by a profile element has failed its service level agreement. By default, this situation is triggered when the percentage of service level classifications returning the result Good falls below 95% of all tests performed by the profile element.

• KIS_Element_SLA_Marginal

The **KIS_Element_SLA_Marginal** situation indicates that the service monitored by a profile element is close to failing its service level agreement. By default, this situation is triggered when the percentage of service level classifications returning the result Good is below 100% but greater than or equal to 95% of all tests performed by the profile element.

Tip: Before modifying a predefined situation, always make a copy of it using **Create Another**.

Scenario

You are monitoring Java Virtual Machine using the TCPPORT monitor and would like Internet Service Monitoring to report the Java Virtual Machine host name instead of the agent host name if the monitored Java Virtual Machine stops responding.

Update the situation to report the Java Virtual Machine host name:

- 1. In the Tivoli Enterprise Portal, in the Navigator right-click **Internet Service Monitoring** and select **Situations**.
- 2. In the Situation Editor, select the following values:
 - In the Attribute Group list, KIS TCPPort
 - In the Attribute Item list, ServiceLevel
- 3. In the Formula field, set the situation trigger for ServiceLevel to !=1.
- 4. Click Advanced.
- 5. In the **Advanced Situation Options** dialog box, on the **Display Item** tab, select Host in the **Item** list and click **OK**.
- 6. Click **Apply** to save the situation.
- 7. Distribute the situation to one or more managed systems and click **Apply**.
- **8**. In the left column, right-click the new situation and select **Start** to start the situation.

Attributes

Attributes contain test data values generated by Internet service monitors when they test services.

Host Statistics attributes

These attributes contain the results of tests performed on specific host machines.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Bad (host statistics)" on page 507	Bad	4
"Bad Percentage (host statistics)" on page 507	BadPc	4
"Good (host statistics)" on page 509	Good	4
"Good Percentage (host statistics)" on page 509	GoodPc	4
"Host" on page 510	Host	100
"Last Update (host statistics)" on page 510	LastUpdate	100
"Marg Percentage (host statistics)" on page 511	MargPc	4
"Marginal (host statistics)" on page 511	Marginal	4
"Node" on page 512	Node	32
"Start Time (host statistics)" on page 516	StartTime	100
"Timestamp" on page 517	Timestamp	16

Service Statistics attributes

These attributes contain the results of tests performed on each type of Internet service.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Bad" on page 507	Bad	4
"Bad Percentage" on page 507	BadPc	4
"Good" on page 509	Good	4
"Good Percentage" on page 509	GoodPc	4
"Last Update (service statistics)" on page 510	LastUpdate	100
"Marginal Percentage" on page 511	MargPc	4
"Marginal" on page 511	Marginal	4
"Node" on page 512	Node	32
"Service" on page 515	Service	100
"Start Time (service statistics)" on page 516	StartTime	100
"Timestamp" on page 517	Timestamp	16

The following table includes a description of the attributes in this group.

Profile Statistics attributes

These attributes contain the results of tests performed by each Internet service monitoring profile.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Bad" on page 507	Bad	4
"Bad Percentage" on page 507	BadPc	4
"Description" on page 508	Descr	100
"Elements (profile statistics)" on page 508	Elements	4
"Good" on page 509	Good	4
"Good Percentage" on page 509	GoodPc	4
"Host" on page 510	Host	100
"Ident Checksum" on page 510	IdentChecksum	100
"Last Update (profile statistics)" on page 510	LastUpdate	100
"Marginal Percentage" on page 511	MargPc	4
"Marginal" on page 511	Marginal	4
"Monitor Location" on page 511	MonLoc	100
"Node" on page 512	Node	32

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Profile" on page 514	Profile	100
"Service" on page 515	Service	100
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	100
"Start Time (profile statistics)" on page 516	StartTime	100
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4

Monitor Status attributes

These attributes contain data about the current operation of each Internet service monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Last Update (monitor status)" on page 511	LastUpdate	100
"Monitor Location" on page 511	MonitorLocation	100
"Node" on page 512	Node	32
"Service Type" on page 515	ServiceType	100
"Status" on page 516	Status	100
"Timestamp" on page 517	Timestamp	16

The following table includes a description of the attributes in this group.

DHCP monitor attributes

These attributes contain the results of tests performed by the DHCP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Client IP" on page 508	ClientIp	32
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Lookup Time" on page 511	LookupTime	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Profile" on page 514	Profile	64
"Response Time" on page 514	ResponseTime	4

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	8
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4

DNS monitor attributes

These attributes contain the results of tests performed by the DNS monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Host IP" on page 510	HostIp	32
"Host Lookup" on page 510	HostLookup	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Profile" on page 514	Profile	64
"Response Time" on page 514	ResponseTime	4
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	8
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4

FTP monitor attributes

These attributes contain the results of tests performed by the FTP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Bytes Per Second" on page 507	BytesPerSec	4
"Bytes Transferred" on page 507	BytesTransferred	4
"Connect Time" on page 508	ConnectTime	4
"Description" on page 508	Description	64
"FTP Command" on page 508	FtpCommand	64
"FTP Connection" on page 508	FtpConnection	64
"FTP Local File" on page 508	FtpLocalFile	64
"FTP Remote File" on page 509	FtpRemoteFile	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Lookup Time" on page 511	LookupTime	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Profile" on page 514	Profile	64
"Response Time" on page 514	ResponseTime	4
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	8
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4
"Transfer Time" on page 518	TransferTime	4

The following table includes a description of the attributes in this group.

HTTP monitor attributes

These attributes contain the results of tests performed by the HTTP monitor.

The following	table includes a description of the att	ributes in this group.
on the link for a	Tivoli Data Warehouse term for	Tivoli Data Warehouse data

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Bytes Per Second" on page 507	BytesPerSec	4
"Bytes Transferred" on page 507	BytesTransferred	4
"Connect Time" on page 508	ConnectTime	4
"Description" on page 508	Description	64

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Download Time" on page 508	DownloadTime	4
"Elements (HTTP)" on page 508	Elements	4
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Lookup Time" on page 511	LookupTime	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Page" on page 513	Page	64
"Page Status" on page 513	PageStatus	32
"Port" on page 513	Port	16
"Profile" on page 514	Profile	64
"Response Time" on page 514	ResponseTime	4
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	8
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SSL Handshake Time" on page 516	SslHandshakeTime	4
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4

ICMP monitor attributes

These attributes contain the results of tests performed by the ICMP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Average RTT" on page 507	AverageRTT	4
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Lookup Time" on page 511	LookupTime	4
"Maximum RTT" on page 511	MaxRTT	4
"Minimum RTT" on page 511	MinRTT	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Profile" on page 514	Profile	64
"Respond Percent" on page 514	RespondPercent	4
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4

IMAP4 monitor attributes

These attributes contain the results of tests performed by the IMAP4 monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Description" on page 508	Description	64
"Download Time" on page 508	DownloadTime	4
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"IMAP User" on page 510	ImapUser	64
"Last Service Level" on page 510	LastServiceLevel	4
"Lookup Time" on page 511	LookupTime	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Port" on page 513	Port	64
"Profile" on page 514	Profile	64
"Response Time" on page 514	ResponseTime	4
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Sent To" on page 515	SentTo	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SSL Handshake Time" on page 516	SslHandshakeTime	4
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4

LDAP monitor attributes

These attributes contain the results of tests performed by the LDAP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Connect Time" on page 508	ConnectTime	4
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Init Time" on page 510	InitTime	4
"Last Service Level" on page 510	LastServiceLevel	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Port" on page 513	Port	64
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Search Time" on page 515	SearchTime	4
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"Search Base" on page 515	SrchBase	64
"Search Filter" on page 516	SrchFilter	64
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4
"User Name" on page 518	UserName	64

The following table includes a description of the attributes in this group.

NNTP monitor attributes

These attributes contain the results of tests performed by the NNTP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Connect Time" on page 508	ConnectTime	4
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Lookup Time" on page 511	LookupTime	4

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Monitor Location" on page 511	MonitorLocation	64
"NNTP Action" on page 511	NntpAction	64
"NNTP Group" on page 512	NntpGroup	64
"Node" on page 512	Node	32
"Profile" on page 514	Profile	64
"Response Time" on page 514	ResponseTime	4
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4
"Transfer Time" on page 518	TransferTime	4

NTP monitor attributes

These attributes contain the results of tests performed by the NTP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Lookup Time" on page 511	LookupTime	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Port" on page 513	Port	64
"Profile" on page 514	Profile	64
"Response Time" on page 514	ResponseTime	4
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4

POP3 monitor attributes

These attributes contain the results of tests performed by the POP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Bytes Per Second" on page 507	BytesPerSec	4
"Bytes Transferred" on page 507	BytesTransferred	4
"Connect Time" on page 508	ConnectTime	4
"Description" on page 508	Description	64
"Download Time" on page 508	DownloadTime	4
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Lookup Time" on page 511	LookupTime	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"POP User" on page 513	PopUser	64
"Profile" on page 514	Profile	64
"Response Time" on page 514	ResponseTime	4
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SSL Handshake Time" on page 516	SslHandshakeTime	4
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4

The following table includes a description of the attributes in this group.

RADIUS monitor attributes

These attributes contain the results of tests performed by the RADIUS monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Login IP Host" on page 511	LoginIpHost	32

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Lookup Time" on page 511	LookupTime	4
"Monitor Location" on page 511	MonitorLocation	64
"NAS Port" on page 511	NasPort	64
"Node" on page 512	Node	32
"Port" on page 513	Port	64
"Profile" on page 514	Profile	64
"RADIUS User" on page 514	RadiusUser	64
"Response Time" on page 514	ResponseTime	4
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4

RPING monitor attributes

These attributes contain the results of tests performed by the RPING monitor.

1	C 11 ·	. 11	· 1 1	1		6 11		· .1 ·	
Ino	tollowin	o tanio	includes	ad	loccrintion	of the	attrihiltoc	1n +h1	e oroun
TILL	10110 vv III	e tabic	miciuluco	au		or uic	announce	III UII	$5 $ $\epsilon_1 0 u D$.
									- <u> </u>

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Average RTT" on page 507	AverageRTT	4
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Maximum RTT" on page 511	MaxRTT	4
"Minimum RTT" on page 511	MinRTT	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Profile" on page 514	Profile	64
"Remote Host" on page 514	RemoteHost	64
"Response Time" on page 514	RespondPercent	4
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Router Name" on page 514	RouterName	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Service Level String" on page 515	ServiceLevelString	32
"SNMP Version" on page 515	SnmpVersion	16
"Source Router" on page 515	SourceRouter	64
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4
"VPN" on page 518	Vpn	64

RTSP monitor attributes

These attributes contain the results of tests performed by the RTSP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Connect Time" on page 508	ConnectTime	4
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Lookup Time" on page 511	LookupTime	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Playback Time" on page 513	PlaybackTime	4
"Profile" on page 514	Profile	64
"Response Time" on page 514	ResponseTime	4
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"SDP Download Time" on page 515	SdpDownloadTimed	4
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4

SAA DHCP monitor attributes

These attributes contain the results of tests performed by the SAA DHCP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SNMP Version" on page 515	SnmpVersion	16
"Source Router" on page 515	SourceRouter	64
"Timestamp" on page 517	Timestamp	16
"Total RTT" on page 518	TotalRTT	4
"Total Time" on page 518	TotalTime	4

The following table includes a description of the attributes in this group.

SAA DLSW monitor attributes

These attributes contain the results of tests performed by the SAA DLSW monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Average RTT" on page 507	AverageRTT	4
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Error Total" on page 508	ErrorTotal	4
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Maximum RTT" on page 511	MaximumRTT	4
"Minimum RTT" on page 511	MinimumRTT	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SNMP Version" on page 515	SnmpVersion	16
"Source Router" on page 515	SourceRouter	64
"Target Host" on page 517	TargetHost	64
"Timestamp" on page 517	Timestamp	16
"Total RTT" on page 518	TotalRTT	4
"Total Time" on page 518	TotalTime	4

SAA DNS monitor attributes

These attributes contain the results of tests performed by the SAA DNS monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Host Lookup" on page 510	HostLookup	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SNMP Version" on page 515	SnmpVersion	16
"Source Router" on page 515	SourceRouter	64
"Timestamp" on page 517	Timestamp	16
"Total RTT" on page 518	TotalRTT	4
"Total Time" on page 518	TotalTime	4

SAA FTP monitor attributes

These attributes contain the results of tests performed by the SAA FTP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Description" on page 508	Description	64
"FTP URL" on page 509	FtpUrl	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SNMP Version" on page 515	SnmpVersion	16
"Source Router" on page 515	SourceRouter	64
"Timestamp" on page 517	Timestamp	16
"Total RTT" on page 518	TotalRTT	4
"Total Time" on page 518	TotalTime	4

The following table includes a description of the attributes in this group.

SAA HTTP monitor attributes

These attributes contain the results of tests performed by the SAA HTTP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Description" on page 508	Description	64
"DNS RTT" on page 508	DnsRTT	4
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"HTTP RTT" on page 510	HttpRTT	4
"HTTP URL" on page 510	HttpUrl	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SNMP Version" on page 515	SnmpVersion	16
"Source Router" on page 515	SourceRouter	64
"TCP Connect RTT" on page 517	TcpConnectRTT	4
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4
"Transaction RTT" on page 518	TransactionRTT	4

SAA ICMP monitor attributes

These attributes contain the results of tests performed by the SAA ICMP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Average RTT" on page 507	AverageRTT	4
"Description" on page 508	Description	64
"Error Total" on page 508	ErrorTotal	4
"guid" on page 518	guid	100
"Hop Host Eight" on page 509	HopHostEight	64
"Hop Host Five" on page 509	HopHostFive	64
"Hop Host Four" on page 509	HopHostFour	64
"Hop Host One" on page 509	HopHostOne	64
"Hop Host Seven" on page 509	HopHostSeven	64
"Hop Host Six" on page 509	HopHostSix	64
"Hop Host Three" on page 510	HopHostThree	64
"Hop Host Two" on page 510	HopHostTwo	64
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Maximum RTT" on page 511	MaximumRTT	4
"Minimum RTT" on page 511	MinimumRTT	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	64

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SNMP Version" on page 515	SnmpVersion	16
"Source Router" on page 515	SourceRouter	64
"Timestamp" on page 517	Timestamp	16
"TOS" on page 517	Tos	64
"Total Time" on page 518	TotalTime	4
"VPN" on page 518	Vpn	64

SAA Jitter monitor attributes

These attributes contain the results of tests performed by the SAA Jitter monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Average RTT" on page 507	AverageRTT	4
"Description" on page 508	Description	64
"Error Total" on page 508	ErrorTotal	4
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Maximum RTT" on page 511	MaximumRTT	4
"Minimum RTT" on page 511	MinimumRTT	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Profile" on page 514	Profile	64
"Responder Router" on page 514	ResponderRouter	64
"Response Time" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SNMP Version" on page 515	SnmpVersion	16
"Source Router" on page 515	SourceRouter	64
"Timestamp" on page 517	Timestamp	16
"TOS" on page 517	Tos	64
"Total Time" on page 518	TotalTime	4

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"VPN" on page 518	Vpn	64

SAA SNA monitor attributes

These attributes contain the results of tests performed by the SAA SNA monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Average RTT" on page 507	AverageRTT	4
"Description" on page 508	Description	64
"Error Total" on page 508	ErrorTotal	4
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Maximum RTT" on page 511	MaximumRTT	4
"Minimum RTT" on page 511	MinimumRTT	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Probe Type" on page 513	ProbeType	64
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SNMP Version" on page 515	SnmpVersion	16
"Source Router" on page 515	SourceRouter	64
"Target Host" on page 517	TargetHost	64
"Timestamp" on page 517	Timestamp	16
"Total RTT" on page 518	TotalRTT	4
"Total Time" on page 518	TotalTime	4

SAA UDP monitor attributes

These attributes contain the results of tests performed by the SAA UDP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Average RTT" on page 507	AverageRTT	4
"Description" on page 508	Description	64
"Error Total" on page 508	ErrorTotal	4
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Maximum RTT" on page 511	MaximumRTT	4
"Minimum RTT" on page 511	MinimumRTT	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SNMP Version" on page 515	SnmpVersion	16
"Service Level" on page 515	SourceRouter	64
"Timestamp" on page 517	Timestamp	16
"TOS" on page 517	Tos	64
"Total Time" on page 518	TotalTime	4
"VPN" on page 518	Vpn	64

The following table includes a description of the attributes in this group.

SAA VOIP monitor attributes

These attributes contain the results of tests performed by the SAA VOIP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Average RTT" on page 507	AverageRTT	4
"Description" on page 508	Description	64
"Error Total" on page 508	ErrorTotal	4
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
---	---	---
"Last Service Level" on page 510	LastServiceLevel	4
"Maximum RTT" on page 511	MaximumRTT	4
"Minimum RTT" on page 511	MinimumRTT	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Profile" on page 514	Profile	64
"Responder Router" on page 514	ResponderRouter	64
"Response Time" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SNMP Version" on page 515	SnmpVersion	16
"Source Router" on page 515	SourceRouter	64
"Timestamp" on page 517	Timestamp	16
"TOS" on page 517	Tos	64
"Total Time" on page 518	TotalTime	4
"VPN" on page 518	Vpn	64

SIP monitor attributes

These attributes contain the results of tests performed by the SIP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Authentication Time" on page 507	AuthenticationTime	4
"Call Setup Time" on page 507	CallSetupTime	4
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Options Time" on page 513	OptionsTime	4
"Profile" on page 514	Profile	64
"Registration Time" on page 514	RegistrationTime	4
"Requests Sent" on page 514	RequestsSent	4
"Response Received" on page 514	ResponseReceived	4
"Result Message" on page 514	ResultMessage	64

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Result String" on page 514	ResultString	64
"Server" on page 515	Server	64
"Service" on page 515	Service	8
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"Shutdown Time" on page 515	ShutdownTime	4
"Target" on page 517	Target	64
"Terminated Reason" on page 517	TerminatedReason	32
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4
"User Name" on page 518	Username	64

SMTP monitor attributes

These attributes contain the results of tests performed by the SMTP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Connect Time" on page 508	ConnectTime	4
"Description" on page 508	Description	64
"Email Address" on page 508	EmailAddress	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Lookup Time" on page 511	LookupTime	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Port" on page 513	Port	64
"Profile" on page 514	Profile	64
"Response Time" on page 514	ResponseTime	4
"Result Message" on page 514	ResultMessage	64
"Result Status" on page 514	ResultStatus	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SMTP User" on page 515	SmtpUser	64
"SSL Handshake Time" on page 516	SslHandshakeTime	4
"Timestamp" on page 517	Timestamp	16

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Total Time" on page 518	TotalTime	4
"Upload Time" on page 518	UploadTime	4

SNMP monitor attributes

These attributes contain the results of tests performed by the SNMP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"OIDName Eight" on page 512	OIDNameEight	64
"OIDName Five" on page 512	OIDNameFive	64
"OIDName Four" on page 512	OIDNameFour	64
"OIDName Nine" on page 512	OIDNameNine	64
"OIDName One" on page 512	OIDNameOne	64
"OIDName Seven" on page 512	OIDNameSeven	64
"OIDName Six" on page 512	OIDNameSix	64
"OIDName Three" on page 512	OIDNameThree	64
"OIDName Two" on page 512	OIDNameTwo	64
"OIDName Zero" on page 512	OIDNameZero	64
"OID Group" on page 513	OidGroup	64
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"SNMP Version" on page 515	SnmpVersion	16
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4
"snmp Result Eight" on page 518	snmpResultEight	4
"snmp Result Five" on page 518	snmpResultFive	4
"snmp Result Four" on page 519	snmpResultFour	4
"snmp Result Nine" on page 519	snmpResultNine	4

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"snmp Result One" on page 519	snmpResultOne	4
"snmp Result Seven" on page 519	snmpResultSeven	4
"snmp Result Six" on page 519	snmpResultSix	4
"snmp Result Three" on page 519	snmpResultThree	4
"snmp Result Two" on page 519	snmpResultTwo	4
"snmp Result Zero" on page 519	snmpResultZero	4

SOAP monitor attributes

These attributes contain the results of tests performed by the SOAP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Location" on page 511	Location	32
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Operation" on page 513	Operation	32
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	8
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4
"WSDL" on page 518	WSDL	64

TCPPORT monitor attributes

These attributes contain the results of tests performed by the TCPPORT monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Connect Time" on page 508	ConnectTime	4
"Description" on page 508	Description	64
"Download Time" on page 508	DownloadTime	4
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Lookup Time" on page 511	LookupTime	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Port" on page 513	Port	64
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4

The following table includes a description of the attributes in this group.

TFTP monitor attributes

These attributes contain the results of tests performed by the TFTP monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Bytes Per Second" on page 507	BytesPerSec	4
"Bytes Transferred" on page 507	BytesTransferred	4
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Lookup Time" on page 511	LookupTime	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	8
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"TFTP Command" on page 517	TftpCommand	64
"TFTP Connection" on page 517	TftpConnection	64
"TFTP Local File" on page 517	TftpLocalFile	64
"TFTP Remote File" on page 517	TftpRemoteFile	64
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4
"Transfer Time" on page 518	TransferTime	4

TRANSX monitor attributes

These attributes contain the results of tests performed by the TRANSX monitor.

The following table includes a	description of the	attributes in this group.
--------------------------------	--------------------	---------------------------

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Last Service Level" on page 510	LastServiceLevel	4
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Number Of Steps" on page 512	NumberOfSteps	4
"Number Of Steps Str" on page 512	NumberOfStepsStr	64
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	64
"Result String" on page 514	ResultString	64
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Service Level String" on page 515	ServiceLevelString	32
"Step10 Total Time" on page 516	Step10TotalTime	4
"Step1 Total Time" on page 516	Step1TotalTime	4
"Step2 Total Time" on page 516	Step2TotalTime	4
"Step3 Total Time" on page 516	Step3TotalTime	4
"Step4 Total Time" on page 516	Step4TotalTime	4

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Step5 Total Time" on page 516	Step5TotalTime	4
"Step6 Total Time" on page 516	Step6TotalTime	4
"Step7 Total Time" on page 517	Step7TotalTime	4
"Step8 Total Time" on page 517	Step8TotalTime	4
"Step9 Total Time" on page 517	Step9TotalTime	4
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4
"Transaction Name" on page 518	TransName	64

TRANSX step attributes

These attributes contain the results of transaction steps in tests performed by the TRANSX monitor.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Description" on page 508	Description	64
"guid" on page 518	guid	100
"Host" on page 510	Host	64
"Ident Checksum" on page 510	IdentChecksum	64
"Monitor Location" on page 511	MonitorLocation	64
"Node" on page 512	Node	32
"Profile" on page 514	Profile	64
"Result Message" on page 514	ResultMessage	32
"Result String" on page 514	ResultString	32
"Service" on page 515	Service	64
"Service Level" on page 515	ServiceLevel	4
"Timestamp" on page 517	Timestamp	16
"Total Time" on page 518	TotalTime	4
"Transaction Name" on page 518	TransName	64
"Transaction Step Description" on page 518	TransStepDescription	64

Chapter 3. Response Time

The Response Time component of ITCAM for Transactions provides a targeted solution for managing composite applications. Use these workspaces, situations, and attributes to manage the applications on your network.

Workspaces

Workspaces provide a comprehensive way to gather the information you need to detect problems early and to take appropriate action.

This section describes the Response Time default workspaces as they are configured in the initial installation of the product.

Note: Any modifications that you make to the default workspaces are not reflected in the documented workspace descriptions.

How the software notifies you of problems with monitored applications

The icon on the navigation tree notifies you that a problem exists. This icon is displayed on the node where the problem exists so you can drill down to the level at which the problem occurred. You can use your mouse to hover over the icon to show the error as well as a link to take you to the situation violation workspace.

Linking from one workspace to another workspace

With Response Time monitoring you can link from one workspace to another workspace to see additional details or information about a problem that you discovered. There are several ways to link to another workspace:

From the Navigator

After you expand the Navigator, the following options are available, depending on the workspace and monitoring agent.

Expanded Navigator	Options
Expanded Navigator	 Options Click the workspace name, such as Applications, to go to that workspace. Right-click the workspace name to display a pop-up menu of alternate workspaces and then click the workspace of your choice.
Configuration	

From a link icon

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in table indicates a link to another workspace. The following screen capture shows an example of a link icon in a table:

	Application	Importance	Percent Available	Percent Slow	Timestamp	Average Response Time	Failed Requests	Total Requests	Sample Time	Percent Failed	Perc Goo
69	/ReportingWebService	0	100.000	100.000	05/14/08 14:35:00	0.016	0	1	05/14/08 14:42:18	0.000	0.0
69	/SimpleAuthWebService	0	100.000	100.000	05/14/08 14:25:00	0.016	0	1	05/14/08 14:42:18	0.000	0.0
B	/PlantsByWebSphere/servlet	0	100.000	87.500	05/14/08 13:55:00	2.496	0	8	05/14/08 14:42:18	0.000	12.5
69	/PlantsByWebSphere	0	100.000	80.000	05/14/08 13:55:00	0.802	0	10	05/14/08 14:42:18	0.000	20.0
69	/Client/VebService	0	100.000	50.000	05/14/08 14:25:00	0.008	0	4	05/14/08 14:42:18	0.000	50.0

Link icons can work in the following ways:

- Click the link icon to go to the default linked workspace. (In many cases, this is the only option.)
- Right-click the link icon to display a list of workspaces from a pop-up menu. You can then click the workspace name to which the link takes you.

In the description of each workspace, the section titled *Linking to related workspaces* lists the workspace links that are available from that workspace.

Understanding how information is displayed in workspaces

This section provides general information on how to interpret data in Response Time workspaces.

ITCAM for Transactions displays the graphical and tabular status of all monitoring data (for applications, clients, servers, and transactions) in Tivoli Enterprise Portal workspaces and views, showing general trend information and abnormalities in your monitored environment.

Workspace data flows from general to more specific detailed information. Data displayed in tables and in the Navigator include links to more detailed

workspaces, so you can display increasingly specific information to compare applications, clients, servers, or transactions to each other, or to assist in pinpointing problems.

For example, using the "All Applications (Application Management Console)" on page 82 workspace, you can compare all applications in a specified time range to see if the behavior of a particular application is different than expected. From this workspace you can link to other workspaces showing more detailed information about a selected application, to understand why there are a high number of failed requests, for example, or very long response times. You can investigate behavior of clients and servers using the same approach.

The data displayed for a specific application includes a list of associated transactions, and you can investigate unusual behavior and see additional information about transactions that do not perform as expected. Transaction data also includes information about subtransactions, and you can continue to display more detailed information to the lowest subtransaction level to isolate a particular problem.

The following list provides some guidelines for understanding and working with the data that is displayed in Response Time workspaces:

Refreshing graphical data

Graphical data in workspaces refreshes automatically every 5 minutes, starting from when you first access the workspace. To display the latest

data before the next automatic refresh occurs, click **Refresh** to see updated data immediately.

Navigating subtransaction workspaces

If you use the browser **Back** button after accessing Robotic Response Time subtransaction workspaces, the workspace to which you are returned might be empty or contain inaccurate data. The only way you can reach subtransaction workspaces is by navigating from an associated transaction workspace.

Viewing line and bar graphical data

When viewing bar and line graph data, keep the following information in mind:

- Hovering over an area on the graph displays specific data for that point on the graph. When you hover over a point in a response time line graph, the exact number of seconds for the average response time, and the time and date, are displayed. For example, a display of *1858* (03/12/07 10:30:00) means that the average response time was 1858 seconds at 10:30 on March 12, 2007.
- A horizontal red line shows the current data point for the graph.

Viewing table data using the table icon



Tables usually show data for the most recent 5 minutes, but they can sometimes show 8 hours of data or a multiple timing over the last 8 hours. Tables showing 8 hours of data are labelled *summary*; tables showing multiple times are labeled *historical*. The *column names* in the tables are the same as the attributes that supply the information for the workspace. For a definition of a particular column, see Appendix B, "Response Time -Attributes listed alphabetically," on page 521.

Percent Available/Percent slow

Many workspace tables show the following information based on the Percent Available and Percent Slow attributes:

🔋 Percent Available	Percent Slow
0.000	0.000
0.000	0.000
0.000	0.000
100.000	100.000
100.000	100.000
100.000	100.000
100.000	100.000
100.000	0.000
100.000	0.000

In the Percent Available column, failures are displayed in red cell background. Any failure is important, and Percent Available data is displayed with a green (good) cell background only when a transaction is 100% available. For example, an application that is 99% available is still displayed with a red cell background. Slow transactions are not counted as part of the Percent Available data, and are displayed in the Percent Slow column. In the Percent Slow column, data for any transaction that is considered to be slow is displayed with a yellow cell background. For example, if an application is only 1% slow, the Percent Slow column displays that data with a yellow cell background.

Displaying long application names in the Application Management Console

There is a character limitation for host and application names displayed in the Application Management Console. As a result, a very long name might be truncated. For example, if you have applications named WebSphere Plants and WebSphere Petstore on a computer with a long host name, these application names might be truncated to display in the Application Management Console as WebSpherePl and WebSpherePe, respectively. If the hostname is four characters shorter, these application names would still be truncated, but would each be four characters longer, and displayed as WebSpherePlants and WebSpherePetsto. Notice that the application names are displayed with any blank characters removed.

Displaying overall status in the Application Management Console

This data shows the comprehensive status of an application. Individual monitoring agents collect violation data. The Application Management Console polls the individual monitoring agents and summarizes the collected data. The status (*Fatal, Critical, Minor, Warning, Harmless, Unknown, None*) is based on the highest severity during the monitoring interval.

Displaying workspaces in Admin mode

If you are in *ADMIN MODE* (the title and status bars display *ADMIN MODE* after the user name to indicate that the user ID is in workspace administration mode), you can display version 7.1 or version 7.2 workspaces and some version 6.2.1 workspaces. For more information

about workspace administration mode, see the IBM Tivoli Monitoring product documentation. The following workspaces are compatible with previous versions of the product, but might display incorrectly (blank or with errors) when you are using the latest version of the monitoring agents:

End User Response Time Dashboard workspaces

- Dashboard Table
- Historical Daily/Monthly XRT Trend (for example, Historical Daily CRT Trend)
- Historical Daily/Monthly XRT Application-Client Data
- Historical Daily/Monthly XRT Application-Server Data
- Historical Daily/Monthly XRT Transaction Trend

Robotic Response Time

- Agent Status
- Agent Configuration
- Any Top 5 workspace (for example, Top 5 Slowest Transactions)
- Any Trend workspace (for example, Client Trend)
- Any Summary workspace (for example, Application Summary)
- Any workspace on the transactions node other than Transactions

Web Response Time

- Agent Configuration
- Transaction Trend for an Application
- Application Availability Summary
- Top 5 Worst XXX (for example, Top 5 Worst Clients or Top 5 Worst Servers)
- Client Availability Summary
- Server Availability Summary
- Every workspace in the Configuration node that's not the default workspace

Displaying Web Response Time workspaces during high activity

During periods of high activity, Web Response Time workspaces might temporarily display no data in the charts or tables. To resolve this problem, configure the agent by modifying the **Number of hours to save data for viewing in the Tivoli Enterprise Portal** from 8 hours to 1 hour. This parameter is on the **Data Analysis Configuration** tab in the configuration panels for the monitoring agent. See the *IBM Tivoli Composite Application Manager for Transactions Installation and Configuration Guide* for details.

Displaying warehoused data from multiple time zones in the Tivoli Enterprise

Portal Monitoring agents store warehoused data in the Tivoli Data Warehouse with an agent-local timestamp in Candle Timestamp Format and a time zone difference, giving an offset. Tivoli Enterprise Portal queries can have a \$TIMESPAN\$ construction that is resolved into a simple range query on the Timestamp column. It does not resolve all possible combinations of time zone differences and Timestamp, just one. To see data from monitoring agents that are in different time zones than where your Tivoli Enterprise Portal is located, configure the **Select Time Span** function to include the number of hours between the two time zones. See the IBM Tivoli Monitoring product documentation for details on this procedure.

Gaps in data when there is a time zone difference

Workspaces show gaps in the data when there is a time zone difference. This is displayed in the workspace as a time lag between the table at the top of workspace that displays the selected application, client, server, or transaction, and the table at the bottom of the workspace that displays the time. The time lag occurs because the top table displays current data that is still in memory, while the bottom table displays warehouse data from the hard drive of the system where the monitoring agent is located.

This time difference corrects itself every 5 minutes (the default warehousing time). However, when there is a difference in time zone (for example, between the Tivoli Enterprise Portal server and the monitoring agent), the bottom table does not show everything even after the time lag has been resolved. For example, if the top Selected Application shows a start time of *12:05 p.m.* and the bottom table shows *11:05 a.m.*, this indicates a constant time zone difference of one hour. Thus, when the bottom table displays a time of *12:05 p.m.*, the top table displays *1:05*.

Linking from the Situation Event Console

The Situation Event Console view in Robotic Response Time and Web Response Time provides links to other Response Time workspaces, but that link might display an error if the situation is not provided by a Response Time monitoring agent.

Web Response Time data is not displayed for long periods of time

If there are a large number of unique transactions (more than 10,000), the Tivoli Enterprise Portal view of the Web Response Time agent becomes unresponsive for long periods of time. To resolve this, you can change your reporting rules to avoid creating so many unique transactions, and group them in more compact ways. See the *IBM Tivoli Composite Application Manager for Transactions Administrator's Guide* for more information about defining reporting properties.

Negative response times displayed for Robotic Response Time

If system time and date settings on the Robotic Response Time agent differ significantly from the time and date on the computer on which the Application Management Console and Tivoli Enterprise Monitoring Server are installed, you might see incorrect response time values. This might also occur if the system clock has been changed and the Robotic Response Time agent process has not been restarted.

Application Management Console workspaces

These workspaces provide an accurate snapshot of ITCAM for Transactions monitoring in near real time.

Use the Application Management Console to see status summary and trend analysis across managed resources and to perform problem determination. This interface provides real-time aggregated and consolidated application and transaction availability and response time status of all applications monitored by Response Time, Internet Service Monitoring, and Transaction Tracking monitoring agents. It offers the following features and functions:

- Collects the data in real time at a configurable, constant interval instead of relying on the Tivoli Data Warehouse.
- Provides accurate status directly from the monitoring agent situations.
- Offers the ability to customize status definitions based on situations.

The Application Management Console collects data directly from other agents in real time. The Application Management Console currently collects data for the following ITCAM for Transactions agents:

- Transaction Reporter (KTO)
- Robotic Response Time (KT6)
- Web Response Time (KT5)
- Internet Service Monitoring (KIS)

Data from the first four agents is aggregated together by application name and is displayed in the Tivoli Enterprise Portal in the **Application Management Console** > **Applications** group.



Data from Internet Service Monitoring is sorted according to the defined profile names and is displayed in the Tivoli Enterprise Portal in the **Application Management Console** > **Servers** group.



By default, all agents are included in the collection settings. Data from particular agents can be included or excluded using the **ITCAM Console**. In the Manage Tivoli Enterprise Monitoring Services, right-click **ITCAM Console** and select **Configure**. Edit the settings on the **Data Collection Configuration** tab as required.

specify the Data Collection Configuration. *Data Collection Time Span in hours) 8 *Data Collection Frequency in minutes - 5,10,15 or 30) 5 *Exclude data collection from all agents False *Exclude Client Response Time agent data collection False *Exclude Internet Service Monitor agent data collection False *Exclude Robotic Response Time agent data collection False *Exclude Robotic Response Time agent data collection False *Exclude Tranaction Tracking agent data collection False *Exclude Web Response Time agent data collection False	
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The Application Management Console also provides several workspaces with trend graphs that show multiple lines for comparing data across multiple resources. These graphs display either the response or availability over time in the context of real user usage patterns. For example, when comparing client response time across all clients for a particular application, you might see several disconnects in some of the lines in the graphs. This situation indicates that a particular client was not accessing or using that particular application at that time.

Figure 18 on page 73 shows the path for Application Management Console workspaces:



Figure 18. Application Management Console workspaces

Internet Service Monitoring workspaces

The Application Management Console displays data collected from Internet Service Monitoring version 7.2 (and later) monitoring agents. You might have multiple Internet Service Monitoring agents in your environment, each collecting similar data. In this case you can display all of this data in an aggregated view in Application Management Console workspaces. Using this method gives you a summary overview of the status and trends of the monitored applications across all of your Internet Service Monitoring agents. From this overview, you can display more detailed information for a specific Internet Service Monitoring agent. From there, you can link in context to the associated Internet Service Monitoring workspaces. Using these workspaces helps you resolve problems reported by specific Internet Service Monitoring agents.



Figure 19. Internet Service Monitoring in AMC workspaces

The data that is collected by Internet Service Monitoring agents is different from other Response Time and Transaction Tracking data, and is stored and displayed separately. As you work with Internet Service Monitoring monitoring data in Application Management Console workspaces, keep in mind the following considerations:

- Some of the terminology referring to Internet Service Monitoring data is different from other data. For example, Internet Service Monitoring uses the term *marginal* in a similar context to the Response Time term *slow*. This state is an interim state between *good* and *failed*.
- Time-related data is usually expressed in Application Management Console workspaces in seconds. If Internet Service Monitoring data is displayed in milliseconds, it is also displayed in milliseconds in the Application Management Console. This display is consistent with Internet Service Monitoring workspaces and provides continuity when launching in context to those workspaces.
- If there are errors associated with collecting data from Internet Service Monitoring agents, existing Application Management Console file transfer error messages are displayed.
- The Application Management Console relies on the KT1 file transfer protocol to be installed on the local or remote Tivoli Enterprise Monitoring Server as needed.
- Dynamic subnodes under the Servers node in the Physical Navigator view are defined by the profile names that you define. Similar to the Applications subnode, these Server subnodes become inactive after the time window (8 hours by default) has elapsed. If a profile is stopped or deleted, it is not deleted from the Application Management Console for 8 hours.

Tip: Use the Start and End Time columns to review Response Time historical starting and ending time data. Response Time data appears in these columns rather than the Recording Time column. Recording Time displays data when you

change your time span and use the Recording Time option.

Agent Availability Analysis (Clients)

This workspace monitors the availability of clients from the agent perspective and compares the availability of all gents monitoring a client so you can identify a potential problem agent.

This workspace does not monitor the availability of the agents, rather it monitors the availability of clients from the agent perspective. Use this workspace to determine which monitoring agents are experiencing difficulties with a specific client. From this workspace, you can link to an agent workspace that shows more details about the client. For example, you might use this workspace if you have multiple robotic agents monitoring an application and you want to see the results for a specific failing transaction.



Figure 20. Agent Availability Analysis (Clients) workspace

This workspace has the following views:

Agents

Shows the agents that comprise the detailed data for this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

Agents Availability

Summarizes the availability of monitored agents over time. Availability is defined as the successful execution of a monitored transaction.

Selected Client

Displays information about the monitored client that was selected previously to access this workspace.

Client Volume

Displays a bar chart showing the total number of client requests during the data interval.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon 🖸 . See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 📃 and then click the time range icon, 🍱 . See the IBM Tivoli Monitoring product documentation for

details about how to change time range settings.

Accessing the workspace

You can link to this workspace from the following workspaces using the 🞑 beside a specific application or client:

- "Clients (Application Management Console)" on page 88
- "Client Availability Analysis (Application Management Console)" on page 89
- "Client Response Time Analysis (Application Management Console)" on page 91
- "Application Details (Application Management Console)" on page 84

Linking to related workspaces

You can link to the following workspaces from the link icon

- "Client Availability Analysis (Application Management Console)" on page 89 from the Selected Transactions table. (Click to choose.)
- "Client Response Time Analysis (Application Management Console)" on page 91 from the Selected Transactions table. (Right-click and choose.)
- "Robotic Response Time" on page 125 from the Agent table.
- "Web Response Time" on page 155 from the Agent table.

Agent Availability Analysis (Servers)

This workspace compares the availability of all the servers associated with an application so you can identify a potential problem server.

Use this workspace to determine which monitoring agents are experiencing difficulties with a specific server.



Figure 21. Agent Availability Analysis (Servers) workspace

This workspace has the following views:

Agents

Shows the agents that comprise the detailed data for this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

Agents Availability

Summarizes the availability of monitored agents over time. Availability is defined as the successful execution of a monitored transaction.

Selected Server

Displays information about the monitored server that was selected previously to access this workspace.

Server Volume

Displays a bar chart showing the total number of server requests during the data interval.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace; for a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon <u>C</u>. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 📩 and then click the time range icon, 💽 . See the IBM Tivoli Monitoring product documentation for

Accessing the workspace

details about how to change time range settings.

You can link to this workspace from the following workspaces using the eside a specific server:

- "Servers (Application Management Console)" on page 113
- "Server Availability Analysis (Application Management Console)" on page 115
- "Server Response Time Analysis (Application Management Console)" on page 117

Linking to related workspaces

You can link to the following workspaces from the link icon

- "Server Availability Analysis (Application Management Console)" on page 115(Click to choose.)
- "Server Response Time Analysis (Application Management Console)" on page 117 (Right-click and choose.)

Agent Response Time Analysis (Clients)

This workspace shows the response time of monitored clients from the agent perspective and provides a comparison of the response times.

Use this workspace to determine which monitoring agents are experiencing difficulties with a specific client. From this workspace, you can link to an agent workspace that shows more details about the client. For example, you might use this workspace if you have multiple robotic agents monitoring an application and you want to see the results for a specific failing client.



Figure 22. Agent Response Time Analysis (Clients) workspace

This workspace has the following views:

Agents

Shows the agents that comprise the detailed data for this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

Agents Response Time

Shows the response time for all the different agents that have collected data for the specified client.

Client Volume

Displays a bar chart showing the total number of client requests during the data interval.

Selected Client

Displays information about the monitored client that was selected previously to access this workspace.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon Configuration icon configuration. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 🗾 and then click the

time range icon, is see the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

You can link to this workspace from the following workspaces:

- "Application Details (Application Management Console)" on page 84.
- "Clients (Application Management Console)" on page 88.
- "Client Availability Analysis (Application Management Console)" on page 89.
- "Client Response Time Analysis (Application Management Console)" on page 91.

Linking to related workspaces

You can link to the following workspaces from the link icon :

- "Clients (Application Management Console)" on page 88.
- "Client Availability Analysis (Application Management Console)" on page 89.
- "Client Response Time Analysis (Application Management Console)" on page 91.
- "Robotic Response Time" on page 125 from the Agent table.
- "Web Response Time" on page 155 from the Agent table.

Agent Response Time Analysis (Servers)

Provides a comparison of the response times of all the servers associated with an application so you can identify the problem server.

Use this workspace to determine which monitoring agents are experiencing difficulties with a specific server.



Figure 23. Agent Response Time Analysis (Servers) workspace

This workspace has the following views:

Agents

Shows the agents that comprise the detailed data for this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

Agents Response Time

Shows the response time for all the different agents that have collected data for the specified client.

Selected Server

Displays information about the monitored server that was selected previously to access this workspace.

Server Volume

Displays a bar chart showing the total number of server requests during the data interval.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon Configuration icon configuration. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, $\underbrace{}$ and then click the

time range icon, ¹²⁰. See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

You can link to this workspace from the following workspaces:

- "Servers (Application Management Console)" on page 113
- "Server Availability Analysis (Application Management Console)" on page 115
- "Server Response Time Analysis (Application Management Console)" on page 117

Linking to related workspaces

You can link to the following workspaces from the link icon [

- "Server Availability Analysis (Application Management Console)" on page 115
- "Server Response Time Analysis (Application Management Console)" on page 117

All Applications (Application Management Console)

Provides current status and request load for all monitored applications and shows the period of time for which it is reporting data.

Use this workspace to periodically check the overall status of all monitored applications and isolate a problem with an application. As part of your routine, you should periodically check the overall status of all applications. For example, you might receive an event notification when more than 10% of transactions in a 5 minute interval have exceeded a response time threshold.

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🗄 🙀 Web Response Time	SimpleAuthWebService	Good	Normal 📶	1	1	11/04/09 14:00:00
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	PlantsBywebSphere	Good	Normal	32	32	11/04/09 13:50:00
	IIP-DVI-1104	6000	Normal 1	1	1	11/04/09 15:05:00
	Reporting/vebService	Good	Normal 4	1	1	11/04/09 14:15:00
	web Applications	600d	High	13	11	11/04/09 15:00:00
	developerworks	Good	Normal	2	2	11/04/09 13.25.00
	utilis4Fiants	Cond	Norman	2	4	11/04/09 15:50:00
	winder Annapplication	Good	Normal all	1	4	11/04/09 15:05:00
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Figure 24. All Applications workspace

This workspace has the following views:

Application Status

Shows the current status data for monitored applications.

Data Timespan Information

Shows the time period for most recent data, how often the software checks for data, and the current data interval.

All Internet Service Profiles

Shows details about all of the active Internet Service Monitoring profiles that have been collected by the Application Management Console agent. This view is empty if Internet Service Monitoring is not installed.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon 🚾 . See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 📃 and then click the

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time range icon, ¹⁴⁰. See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

- 1. Click the expansion icon beside the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes.
- 2. Click the expansion icon beside the name of the node on which the agent is located.
- **3**. Do one of the following:
 - Click Application Management Console.
 - Click the expansion icon beside Application Management Console and then click Applications.

Linking to related workspaces

You can link to the following workspaces from the eside a specific application:

- "Application Details (Application Management Console)." (Click to choose.)
- "Application Status and Volume Trend" on page 86. (Right-click and choose.)

Application Details (Application Management Console)

This workspace provides current status and request load for all the resources and transactions for a particular application.

This workspace shows (in table format) problem areas for clients, transactions, and servers. Each table contains the status for specific transactions. You can then link to one of the *Related Workspaces* to further investigate the problem.



Figure 25. Application Details workspace

This workspace has the following views:

Clients

Shows details about the clients that provide the data for this workspace. Only data from Response Time agents is used in this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

The **Clients** table uses the All Clients client group by default. This client group includes all clients by default. Use the Application Management Configuration Editor to customize the information displayed in the All Clients client group.

Add the **Agent Type** column to the workspace if you want to display which agent reported the most recent data for the client.

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

Servers

Displays information about the servers associated with the application. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

Transactions

Shows details about the transactions that provide the detailed data for this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can access this workspace from the Navigator by completing the following steps:

- 1. Click ^{••} beside the operating system for the computer on which the monitoring agent is located to display a list of monitored node.
- 2. Click \square beside the name of the node on which the agent is located.
- 3. Click th beside **Application Management Console**.
- 4. Click th beside **Applications**.
- 5. Click the application for which you want to see a status.

You can link from the "All Applications (Application Management Console)" on

page 82 workspace by clicking eeil beside a specific application.

Linking to related workspaces

You can link to the following workspaces:

- "Application Status and Volume Trend" on page 86.
- "Agent Availability Analysis (Clients)" on page 75. (Click to choose.)

- "Agent Availability Analysis (Servers)" on page 77
- "Agent Response Time Analysis (Clients)" on page 78. (Right-click and choose.)
- "Agent Response Time Analysis (Servers)" on page 80
- "Client Availability Analysis (Application Management Console)" on page 89. (Click to choose.)
- "Client Response Time Analysis (Application Management Console)" on page 91. (Right-click and choose.)
- "Server Availability Analysis (Application Management Console)" on page 115
- "Server Response Time Analysis (Application Management Console)" on page 117
- "Transaction Availability Analysis (Application Management Console)" on page 120. (Right-click and choose.)
- "Transaction Response Time Analysis (Application Management Console)" on page 122. (Right-click and choose.)

Application Status and Volume Trend

Shows the trend of status and request load (volume) for a selected application over time to pinpoint when a problem or high demand started.

The data provided in this workspace is historical data. See Workspace Conditions.



Figure 26. Application Status and Volume Trend workspace

This workspace has the following views:

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

Status and Volume

Highlights status and volume for various times. Use this workspace to investigate how a particular application has changed over time when you see a problem application in the Application Management Console. You can see how long it has exhibited the problem or see general trending information. In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon <u>C</u>. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, in and then click the time range icon, is see the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

You can link from the following workspaces:

- "All Applications (Application Management Console)" on page 82
- "Application Details (Application Management Console)" on page 84
- "Client Availability Analysis (Application Management Console)" on page 89
- "Client Response Time Analysis (Application Management Console)" on page 91
- "Clients (Application Management Console)" on page 88
- "Server Availability Analysis (Application Management Console)" on page 115
- "Server Response Time Analysis (Application Management Console)" on page 117
- "Transaction Availability Analysis (Application Management Console)" on page 120
- "Transaction Response Time Analysis (Application Management Console)" on page 122

Linking to related workspaces

You can link to "Application Details (Application Management Console)" on page 84.

Clients (Application Management Console)

This workspace provides overall status about all of the clients that you are monitoring so that you have a quick view of what is working and what is not.

You can see information about each client (group of end users) for monitored applications to see when a problem or high demand started.

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Figure 27. Clients workspace

This workspace has the following views:

Clients

Shows details about the clients that provide the data for this workspace. Only data from Response Time agents is used in this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

The **Clients** table uses the All Clients client group by default. This client group includes all clients by default. Use the Application Management Configuration Editor to customize the information displayed in the All Clients client group.

Add the **Agent Type** column to the workspace if you want to display which agent reported the most recent data for the client.

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon 🚾 . See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 📃 and then click the

time range icon, ¹²⁰. See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

- 1. Click beside the operating system for the computer on which the monitoring agent is located to display a list of monitored node.
- 2. Click Th beside the name of the node on which the agent is located.
- 3. Click ^{The deside} beside Application Management Console.
- 4. Click th beside **Applications**.
- 5. Click ^T for the application for which you want to see client status.
- 6. Click **Clients**.

Linking to related workspaces

You can link to the following workspaces from the link icon either in the Selected Application table:

• "Application Status and Volume Trend" on page 86.

You can link to the following workspaces from the link icon in the Clients table:

- "Client Availability Analysis (Application Management Console)." (Click to choose.)
- "Client Response Time Analysis (Application Management Console)" on page 91. (Right-click and choose.)
- "Agent Availability Analysis (Clients)" on page 75. (Right-click and choose.)
- "Agent Response Time Analysis (Clients)" on page 78. (Right-click and choose.)

Client Availability Analysis (Application Management Console)

Provides a comparison of the availability of all the clients for an application so you can identify the problem client.

Use this workspace to determine which clients are experiencing difficulties. From this workspace, you can link to client and agent workspaces that provide greater details about the problem.

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Figure 28. Client Availability Analysis workspace

This workspace has the following views:

Application Volume

Shows the volume of requests for the monitored application.

Clients

Shows details about the clients that provide the data for this workspace. Only data from Response Time agents is used in this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

The **Clients** table uses the All Clients client group by default. This client group includes all clients by default. Use the Application Management Configuration Editor to customize the information displayed in the All Clients client group.

Add the **Agent Type** column to the workspace if you want to display which agent reported the most recent data for the client.

Clients Availability

Shows the availability of clients over time. Availability is the successful execution of a monitored transaction.

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon 🗾 . See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 📃 and then click the time range icon, <a>Image icon, See the IBM Tivoli Monitoring product documentation for

details about how to change time range settings.

Accessing the workspace

You can link to this workspace from the following workspaces.

- "Application Details (Application Management Console)" on page 84.
- "Clients (Application Management Console)" on page 88.
- "Agent Response Time Analysis (Clients)" on page 78.
- "Agent Availability Analysis (Servers)" on page 77
- "Client Response Time Analysis (Application Management Console)."

Linking to related workspaces

You can link to the following workspaces from the icon link [1990] in the Selected Application table:

- "Application Status and Volume Trend" on page 86. (Click to choose.)
- "Client Response Time Analysis (Application Management Console)." (Right-click and choose.)

You can link to the following workspaces from [in the Clients table:

- "Agent Availability Analysis (Clients)" on page 75. (Click to choose.)
- "Agent Response Time Analysis (Clients)" on page 78. (Right-click and choose.)

Client Response Time Analysis (Application Management Console)

This workspace provides response time trends for a client so you can determine when a problem or high demand started.

When you notice a problem transaction in the Application Management Console and want to investigate when the problem started and on what client, use this workspace to investigate how the volume and response time has changed over time.



Figure 29. Client Response Time Analysis workspace

This workspace has the following views:

Application Volume

Shows the volume of requests for the monitored application.

Clients

Shows details about the clients that provide the data for this workspace. Only data from Response Time agents is used in this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

The **Clients** table uses the All Clients client group by default. This client group includes all clients by default. Use the Application Management Configuration Editor to customize the information displayed in the All Clients client group.

Add the **Agent Type** column to the workspace if you want to display which agent reported the most recent data for the client.

Clients Response Time

Shows the response time of clients over time. Response time is the time elapsed between the user's request and the completion of the transaction.

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.
Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon <u>C</u>. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 📩 and then click the

time range icon, is see the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

You can link to this workspace from the following workspaces :

- "Agent Availability Analysis (Clients)" on page 75.
- "Agent Response Time Analysis (Clients)" on page 78.
- "Clients (Application Management Console)" on page 88.
- "Client Availability Analysis (Application Management Console)" on page 89.

Linking to related workspaces

You can link to the following workspaces from [in the Selected Application table:

- "Application Status and Volume Trend" on page 86. (Click to choose.)
- "Client Availability Analysis (Application Management Console)" on page 89. (Right-click and choose.)

You can link to the following workspaces from [in the Clients table:

- "Agent Availability Analysis (Clients)" on page 75. (Click to choose.)
- "Agent Response Time Analysis (Clients)" on page 78. (Right-click and choose.)

Internet Services

This workspace shows all active Internet Service Monitoring server profiles.

The Servers subnode is created dynamically under the Application Management Console node when Application Management Console detects active Internet Service Monitoring profiles.

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Figure 30. Internet Services workspace

Data Timespan Information

Shows the time period for most recent data, how often the software checks for data, and the current data interval.

All Internet Service Profiles

Shows details about all of the active Internet Service Monitoring profiles that have been collected by the Application Management Console agent. This view is empty if Internet Service Monitoring is not installed.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon <u>C</u>. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 🗾 and then click the

time range icon, See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

1. Click the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes.

- 2. Click \blacksquare beside the name of the node on which the agent is located.
- 3. Click ^m at Application Management Console.
- 4. Click Servers.

Linking to related workspaces

You can link to the "Internet Services Profile" workspace, by clicking the link icon

next to a table row in the All Internet Service Profiles view, and selecting the Internet Services Profile link. You can also right-click the table row and select the link from the list of available links.

Internet Services Profile

This workspace shows the hosts, services, and agents running the selected Internet Service profile.



Figure 31. Internet Services Profile workspace

This workspace has the following views:

Internet Services Profile

Shows the overall status of the selected profile, including the percentage of good, marginal and failed attempts along with the total number of requests for the time period.

Hosts Shows the overall status of the hosts that are running the selected profile, including the percentage of good, marginal and failed attempts along with the total number of requests for the time period.

Services

Shows the overall status of the services that are running the selected profile, including the percentage of good, marginal and failed attempts along with the total number of requests for the time period.

Agents

Shows the details of the agents that are running the selected profile,

including the percentage of good, marginal and failed attempts along with the total number of requests for the time period.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon Configuration icon configuration. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 🗾 and then click the

time range icon, 2001 . See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

You can access this workspace from the Navigator Physical view using the following procedure:

- 1. Click the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes.
- 2. Click \square beside the name of the node on which the agent is located.
- 3. Click th at **Application Management Console**.
- 4. Click th at Servers.
- 5. Click the desired profile subnode.

You can also link to this workspace from the following associated workspaces:

- From the "Internet Services" on page 93 workspace, you can use either of the following methods:
 - Click the link icon ext to a table row in the All Internet Services Profile view.
 - Right-click a table row in the All Internet Services Profile view and select the Internet Service Profile link from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "ISM Host Details" on page 100 workspace, using either of the following methods:
 - Click the link icon ext to a table row in the Hosts view.
 - Right-click a table row in the Hosts view, and select the ISM Host Details link from the list of available links.
- The "ISM Service Details" on page 103 workspace, using either of the following methods:
 - Click the link icon end in the Services view.
 - Right-click a table row in the Services view, and select the ISM Service Details link from the list of available links.
- The ISM Profile Services workspace, using either of the following methods:
 - Click the link icon ext to a table row in the Agents view, and select the ISM Profile Services link.
 - Right-click a table row in the Agents view, and select the ISM Profile Services link from the list of available links.

See the Internet Services Monitoring chapter for more information about the ISM Profile Services workspace.

ISM Hosts

This workspace shows additional details about the hosts that are running the selected Internet Service profile.

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Figure 32. ISM Hosts workspace

This workspace has the following views:

Internet Services Profile

Shows the overall status of the selected profile, including the percentage of good, marginal and failed attempts along with the total number of requests for the time period.

Host Status

Shows the status of each host that is running the selected profile, including the percentage of good, marginal and failed attempts along with the total number of requests for the time period. In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon <u>C</u>. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, and then click the time range icon, see the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

You can access this workspace from the Navigator Physical view using the following procedure:

- 1. Click beside the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes.
- 2. Click Th beside the name of the node on which the agent is located.
- 3. Click ^T at Application Management Console.
- 4. Click th at Servers.
- 5. Click \square next to the desired profile subnode.
- 6. Click Hosts.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "ISM Host Details" on page 100 workspace, using either of the following methods:
 - Click the link icon ext to a table row in the Host Status view.
 - Right-click a table row in the Host Status view, and select the ISM Host Details link from the list of available links.

ISM Services

This workspace shows additional details about the services that are running the selected Internet Service profile.

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Figure 33. ISM Services workspace

This workspace has the following views:

Internet Services Profile

Shows the overall status of the selected profile, including the percentage of good, marginal and failed attempts along with the total number of requests for the time period.

Service Status

Shows the status of each service that is running the selected profile, including the percentage of good, marginal and failed attempts along with the total number of requests for the time period.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon <u>C</u>. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, \blacksquare and then click the

time range icon, . See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

You can access this workspace from the Navigator Physical view using the following procedure:

- 1. Click the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes.
- 2. Click \square beside the name of the node on which the agent is located.
- 3. Click th at Application Management Console.
- 4. Click th at Servers.
- 5. Click $\stackrel{\text{t}}{=}$ next to the desired profile subnode.
- 6. Click Services.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "ISM Service Details" on page 103 workspace, using either of the following methods:
 - Click the link icon entry next to a table row in the Service Status view.
 - Right-click a table row in the Service Status view, and select the ISM Service Details link from the list of available links.

ISM Host Details

This workspace shows additional details about each host that is running the selected Internet Service profile.



Figure 34. ISM Host Details workspace

Selected Host

Shows the overall status of the selected host that is running the selected profile, including the percentage of good, marginal and failed attempts along with the total number of requests for the time period.

Services Current Status

Shows a bar chart of the current status of the services associated with the selected host, showing overall percentage of good, marginal, and failed attempts for the time period.

Service Response Time

Shows a line graph of the average response time of the services associated with the selected host, during the last 8 hours.

Services

Shows the status of the services that are running the selected profile for each 5 minute interval during the last 8 hours, including the percentage of good, marginal and failed attempts, the counts of good, marginal, and failed attempts, and the total number of requests for the time period.

Service Incident History

Shows a summary of service incidents associated with the selected service during the last 8 hours, including the percentage of good, marginal and failed attempts along with the total number of requests for the time period. From this view you can link to the ISM Service Incident Details or ISM Service Element History workspace. In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon **C** . See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 📃 and then click the time range icon, 💽 . See the IBM Tivoli Monitoring product documentation for

details about how to change time range settings.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "Internet Services Profile" on page 95 workspace, you can use either of the following methods:
 - Click the link icon end next to a table row in the Hosts view.
 - Right-click a table row in the Hosts view and select the ISM Host Details link from the list of available links.
- From the "ISM Hosts" on page 97 workspace, you can use either of the following methods:
 - Click the link icon en next to a table row in the Host Status view.
 - Right-click a table row in the Host Status view and select the ISM Host Details link from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "ISM Host Service Details" on page 105 workspace, using either of the following methods:
 - Click the link icon ext to a table row in the Services view.
 - Right-click a table row in the Services view, and select the ISM Host Service Details link from the list of available links.
- The "ISM Service Incident Details" on page 109 workspace, using either of the following methods:
 - Click the link icon ext to a table row in the Service Incident History view, and select the ISM Service Incident Details link.

- Right-click a table row in the Service Incident History view, select the ISM Service Incident Details link from the list of available links.
- The "ISM Service Element History" on page 107 workspace, using either of the following methods:
 - Click the link icon ext to a table row in the Service Incident History view, and select the ISM Service Element History link.
 - Right-click a table row in the Service Incident History view, select the ISM Service Element History link from the list of available links.

ISM Service Details

This workspace shows additional details about each service that is running the selected Internet Service profile.



Figure 35. ISM Service Details workspace

This workspace has the following views:

Selected Service

Shows the overall status of the selected service that is running the selected profile, including the percentage of good, marginal and failed attempts along with the total number of requests for the time period.

Hosts Current Status

Shows a bar chart of the current status of the hosts associated with the selected service, showing overall percentage of good, marginal, and failed attempts for the time period.

Host Response Time

Shows a line graph of the average response time of the hosts associated with the selected service, during the last 8 hours.

Hosts Shows the status of the hosts that are running the selected profile for each 5 minute interval during the last 8 hours, including the percentage of good, marginal and failed attempts, the counts of good, marginal, and failed attempts, and the total number of requests for the time period.

Service Incident History

Shows a summary of service incidents associated with the selected service during the last 8 hours, including the percentage of good, marginal and failed attempts along with the total number of requests for the time period. From this view you can link to the ISM Service Incident Details or ISM Service Element History workspace.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon <u>C</u>. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 📩 and then click the

time range icon, ¹²⁰. See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "Internet Services Profile" on page 95 workspace, you can use either of the following methods:
 - Click the link icon end is next to a table row in the Services view.
 - Right-click a table row in the Services view and select the ISM Service Details link from the list of available links.
- From the "ISM Services" on page 99 workspace, you can use either of the following methods:
 - Click the link icon ext to a table row in the Service Status view.
 - Right-click a table row in the Service Status view and select the ISM Service Details link from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "ISM Host Service Details" workspace, using either of the following methods:
 - Click the link icon et all next to a table row in the Hosts view.
 - Right-click a table row in the Hosts view, and select the ISM Host Service Details link from the list of available links.
- The "ISM Service Incident Details" on page 109 workspace, using either of the following methods:
 - Click the link icon ext to a table row in the Service Incident History view, and select the ISM Service Incident Details link.
 - Right-click a table row in the Service Incident History view, select the ISM Service Incident Details link from the list of available links.
- The "ISM Service Element History" on page 107 workspace, using either of the following methods:
 - Click the link icon ext to a table row in the Service Incident History view, and select the ISM Service Element History link.
 - Right-click a table row in the Service Incident History view, select the ISM Service Element History link from the list of available links.

ISM Host Service Details

This workspace shows additional details about the service level history and service elements associated with the selected service.



Figure 36. ISM Host Service Details workspace

This workspace has the following views:

Selected Service

Shows the overall status of the selected service that is running the selected profile, including the percentage of good, marginal and failed attempts along with the total number of requests for the time period.

Service Level History

Shows a composite graph that displays a historical view of the service level and total time, in seconds, during each 5-minute interval over the last 8 hours. The service level shows the overall percentage of good, marginal and failed attempts.

Service Element Response Time History

Shows a historical line graph of the service element response time during for each 5-minute interval during the last 8 hours.

Service Elements

Shows the status of service elements associated with the selected service, including the percentage of good, marginal, and failed attempts along with the total number of requests for each five minute interval during the last 8 hours.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon <u>C</u>. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 📩 and then click the

time range icon, <a>Image Constraints . See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "ISM Service Details" on page 103 workspace, you can use either of the following methods:
 - Click the link icon ext to a table row in the Services view.
 - Right-click a table row in the Services view and select the ISM Host Service Details link from the list of available links.
- From the "ISM Host Details" on page 100 workspace, you can use either of the following methods:
 - Click the link icon end in the Hosts view.

- Right-click a table row in the Hosts view and select the ISM Host Service Details link from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "ISM Service Element History" workspace, using either of the following methods:
 - Click the link icon eigen next to a table row in the Service Elements view.
 - Right-click a table row in the Services view, and select the ISM Service Element History link from the list of available links.

ISM Service Element History

This workspace shows additional historical information about the selected service element.



Figure 37. ISM Service Element History workspace

This workspace has the following views:

Selected Service Element

Shows the status of the selected service element, including the percentage of good, marginal, and failed attempts along with the total number of requests.

Service Element SLA History

Shows a composite graph that displays a historical view of the service level agreements associated with the selected service element, and the total time, in seconds, during each 5-minute interval over the last 8 hours. The service level portion of the graph shows the overall percentage of good, marginal and failed attempts for each 5-minute interval.

Agent Response Time History

Shows a graph of agent response time, in seconds, for each 5-minute interval over the last 8 hours.

Agents

Shows a table view of the agent response time data and status details for each 5-minute interval over the last 8 hours.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon **C** . See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 📩 and then click the

time range icon, ¹²⁰. See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "ISM Host Details" on page 100 workspace, you can use either of the following methods:
 - Click the link icon exit in the Service Incident History view.
 - Right-click a table row in the Service Incident History view and select the ISM Service Element History link from the list of available links.
- From the "ISM Service Details" on page 103 workspace, you can use either of the following methods:
 - Click the link icon ext to a table row in the Service Incident History view.
 - Right-click a table row in the Service Incident History view and select the ISM Service Element History link from the list of available links.
- From the "ISM Host Service Details" on page 105 workspace, you can use either of the following methods:
 - Click the link icon eell next to a table row in the Service Elements view.

 Right-click a table row in the Service Elements view and select the ISM Service Element History link from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The ISM SLA Service History workspace, using either of the following methods:
 - Click the link icon ext to a table row in the Agents view.
 - Right-click a table row in the Agents view, and select the ISM SLA Service History link from the list of available links.

See the Internet Services Monitoring chapter for more information about the ISM SLA Service History workspace.

• You can also link to the ISM *<protocol>* Element History workspace, where *<protocol>* is one of many protocols supported by Internet Service Monitoring, such as HTTP, SNMP, and others.

ISM Service Incident Details

This workspace shows additional details about the service incidents associated with the selected service element.



Figure 38. ISM Service Incident Details workspace

This workspace has the following views:

Selected Service

Shows the overall status of the selected service that is running the selected profile, including the percentage of good, marginal and failed attempts along with the total number of requests for the time period.

Service Elements

Shows the status of service elements associated with the selected service, including the percentage of good, marginal, and failed attempts along with the total number of requests for each five minute interval during the last 8 hours.

Agents

Shows a table view of the agent response time data and status details for each 5-minute interval over the last 8 hours.

Host Services

Shows the overall status of host services, including the percentage of good, marginal and failed attempts along with the total number of requests for the time period.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon <u>C</u>. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 🗾 and then click the

time range icon, . See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "ISM Host Details" on page 100 workspace, you can use either of the following methods:
 - Click the link icon ext to a table row in the Service Incident History view.
 - Right-click a table row in the Service Incident History view and select the ISM Service Incident Details link from the list of available links.
- From the "ISM Service Details" on page 103 workspace, you can use either of the following methods:
 - Click the link icon exact next to a table row in the Service Incident History view.
 - Right-click a table row in the Service Incident History view and select the ISM Service incident details link from the list of available links.

Linking to related workspaces

From this workspace you can link to the ISM *<profile>* Element History workspace, where *<profile>* is one of the many protocols supported by Internet Service Monitoring, such as HTTP, SNMP, and others.

Playback Status (Application Management Console)

This workspace provides the current playback status for all robotic scripts.

If you use robotic scripts with Robotic Response Time, this workspace shows the status of those robotic scripts. You can also use this workspace when you see problems with script playbacks and want to investigate the cause of the problems. You can link to the problem agent to further investigate the problem.



Figure 39. Playback Status workspace

This workspace has the following views:

Robotic Playback Status

Shows a listing of robotic scripts and their status.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon <u></u>. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 🗾 and then click the

-

time range icon, ¹⁴⁰. See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

- 1. Click beside the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes.
- 2. Click th beside the name of the node on which the agent is located.
- 3. Click th at Application Management Console.
- 4. Click Playback Status.

Linking to related workspaces

You can link to the following workspace:

• "Playback Status (Robotic)" on page 132.

Robotic Scripts

This workspace displays status information about uploaded robotic scripts and provides access to the Multi File Uploader.



Figure 40. Robotic Scripts workspace

This workspace has the following views:

Multi File Uploader

Multi File Uploader (MFU) discovers and uploads recordings of CLI (command line interface) and Mercury LoadRunner scripts. It can also automatically ARM-instrument a recording that has not previously been instrumented. For more information, see the *ITCAM for Transactions Administrator's Guide*.

Robotic Script Status

The robotic script status table is located directly under Navigator. It provides detailed descriptions about all the scripts that have been uploaded to the file depot.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon 🚾 . See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, \blacksquare and then click the

time range icon, ¹²⁰. See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

- 1. Click the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes.
- 2. Click \square beside the name of the node on which the agent is located.
- 3. Click th at Application Management Console.
- 4. Click Robotic Scripts.

Linking to related workspaces

There are no links to other related workspaces.

Servers (Application Management Console)

This workspace provides overall status about all of the servers for a specific application that you are monitoring so that you have a quick view of what is working and what is not working.

You can see information about each server for a monitored application to see when a problem or high demand started.

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Figure 41. Servers workspace

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

Servers

Displays information about the servers associated with the application. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon 🚾 . See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 📩 and then click the

time range icon, See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

- 1. Click beside the operating system for the computer on which the monitoring agent is located to display a list of monitored node.
- 2. Click \square beside the name of the node on which the agent is located.
- 3. Click th beside **Application Management Console**.
- 4. Click th beside **Applications**.
- 5. Click \square for the application for which you want to see server status.
- 6. Click Servers.

Linking to related workspaces

You can link to "Application Status and Volume Trend" on page 86 from [in the Selected Application table:

You can link to the following workspaces from the Server table:

- "Server Response Time Analysis (Application Management Console)" on page 117 (Click to choose.)
- "Agent Availability Analysis (Servers)" on page 77 (Right-click and choose.)
- "Agent Response Time Analysis (Servers)" on page 80 (Right-click and choose.)
- "Server Availability Analysis (Application Management Console)" (Right-click and choose.)

Server Availability Analysis (Application Management Console)

This workspace provides a comparison of the availability of all the servers for an application so you can identify the problem server.

Use this workspace to determine which servers are experiencing difficulties. From this workspace, you can link to server and agent workspaces that provide greater details about the problem.



Figure 42. Server Availability Analysis workspace

Application Volume

Shows the volume of requests for the monitored application.

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

Servers

Displays information about the servers associated with the application. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

Servers Availability

Shows the availability of servers over time. Availability is the successful execution of a monitored transaction.

Accessing the workspace

You can link to this workspace from the following workspaces.

- "Application Status and Volume Trend" on page 86.
- "Servers (Application Management Console)" on page 113

Linking to related workspaces

You can link to the following workspaces from the Selected Application table:

- "Application Status and Volume Trend" on page 86. (Click to choose.)
- "Server Response Time Analysis (Application Management Console)" on page 117 (Right-click and choose.)

You can link to the following workspaces from the Servers table:

- "Agent Availability Analysis (Servers)" on page 77 (Click to choose.)
- "Agent Response Time Analysis (Servers)" on page 80 (Right-click and choose.)

Server Response Time Analysis (Application Management Console)

This workspace provides response time trends for a server so you can determine when a problem or high demand started.

When you notice a problem transaction in the Application Management Console and want to investigate when the problem started and on what server, use this workspace to investigate how the volume and response time has changed over time.



Figure 43. Server Response Time Analysis workspace

This workspace has the following views:

Application Volume

Shows the volume of requests for the monitored application.

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

Servers

Displays information about the servers associated with the application. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

Servers Response Time

Shows the response time of servers over time. Response time is the time elapsed between the user's request and the completion of the transaction.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon <u>C</u>. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, and then click the time range icon, see the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

You can link to this workspace from the following workspace:

- "Servers (Application Management Console)" on page 113
- "Server Availability Analysis (Application Management Console)" on page 115
- "Agent Availability Analysis (Servers)" on page 77
- "Agent Response Time Analysis (Servers)" on page 80

Linking to related workspaces

You can link to the following workspaces from the Selected Application table:

- "Application Status and Volume Trend" on page 86 (Click to choose.)
- "Agent Availability Analysis (Servers)" on page 77 (Right-click and choose.)

You can link to the following workspaces from [in the Servers table:

- "Agent Availability Analysis (Servers)" on page 77(Click to choose.)
- "Agent Response Time Analysis (Servers)" on page 80 (Right-click and choose.)

Transactions (Application Management Console)

Provides the current status and request load for the transactions of monitored applications to pinpoint problems or high demands for a particular application.

This workspace provides insight into the transactions for a selected application. You can see status as well as supporting information, such as volume. You can also link to other workspaces to find out additional information about a problem.

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Figure 44. Transactions workspace

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

Transactions

Shows details about the transactions that provide the detailed data for this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon 🚾 . See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 🗾 and then click the

time range icon, 🔯 . See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

- 1. Click beside the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
- 2. Click th beside the name of the node on which the agent is located, if necessary.
- 3. Click Th beside **Application Management Console**.
- 4. Click th beside **Applications**.
- 5. Click ^T beside the name of the application for which you want to see status.
- 6. Click **Transactions**.

Linking to related workspaces

You can link to the following workspaces from in the Selected Application table:

• "Application Status and Volume Trend" on page 86. (Click to choose.)

You can link to the following workspaces from in the Transactions table:

- "Client Availability Analysis (Application Management Console)" on page 89. (Click to choose.)
- "Client Response Time Analysis (Application Management Console)" on page 91. (Right-click and choose.)
- "Transaction Availability Analysis (Application Management Console)." (Right-click and choose.)
- "Transaction Response Time Analysis (Application Management Console)" on page 122. (Right-click and choose.)

Transaction Availability Analysis (Application Management Console)

This workspace provides response times and availability trends for any transaction to determine when a problem or high demand started.

When you notice a problem application in the Application Management Console and want to investigate when the problem started and on what transaction, use this workspace to investigate how the application has changed over time for its transactions. The bottom table lists all the transactions that are part of this application.



Figure 45. Transaction Availability Analysis workspace

Application Volume

Shows the volume of requests for the monitored application.

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

Transactions

Shows details about the transactions that provide the detailed data for this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

Transactions Availability

Summarizes the availability of monitored transactions over time. Availability is defined as the successful execution of a monitored transaction

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon Configuration icon configuration. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, 📩 and then click the

time range icon, . See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

You can link to this workspace from the following workspaces:

- "Agent Availability Analysis (Servers)" on page 77
- "Agent Response Time Analysis (Servers)" on page 80
- "Application Details (Application Management Console)" on page 84.
- "Transactions (Application Management Console)" on page 118
- "Transaction Response Time Analysis (Application Management Console)."

Linking to related workspaces

You can link to the following workspaces from [1999] in the Selected Application table:

- "Application Status and Volume Trend" on page 86. (Click to choose.)
- "Transaction Response Time Analysis (Application Management Console)." (Right-click and choose.)

You can link to the following workspaces from [in the Transactions Table:

- "Agent Availability Analysis (Clients)" on page 75. (Click to choose.)
- "Agent Response Time Analysis (Clients)" on page 78. (Right-click and choose.)

Transaction Response Time Analysis (Application Management Console)

This workspace provides response time trends for a transaction so you can determine when a problem or high demand started.

When you notice a problem application in the Application Management Console and want to investigate when the problem started and on what transaction, use this workspace to investigate how the application has changed over time for its transactions. The bottom table lists all the transactions that are part of this application.



Figure 46. Transaction Response Time Analysis workspace

Application Volume

Shows the volume of requests for the monitored application.

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

Transactions

Shows details about the transactions that provide the detailed data for this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

Transactions Response Time

Shows the response time of transactions over time. Response time is the time elapsed between the user's request and the completion of the transaction.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For the definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Workspace conditions

Before this workspace can display data, the following conditions must be met:

- Tivoli Data Warehouse must be installed if you want to see historical data for more than the past 24 hours.
- Historical data collection must be turned on. By default, it is on, but someone might have turned it off. To change the setting, access History Configuration by

clicking the history configuration icon <u>C</u>. See the IBM Tivoli Monitoring product documentation for details about how to change historical data settings.

Tip: You can change the default 8 hour time range to see data for a different time period. For example, you might want to see data for the last 24 or 72 hours. To

change the time range, click the icon bar expansion icon, _____ and then click the

time range icon, <a>Image Constraints . See the IBM Tivoli Monitoring product documentation for details about how to change time range settings.

Accessing the workspace

You can link to this workspace from the following workspaces:

- "Agent Availability Analysis (Servers)" on page 77
- "Agent Response Time Analysis (Servers)" on page 80
- "Application Details (Application Management Console)" on page 84.
- "Transactions (Application Management Console)" on page 118
- "Transaction Response Time Analysis (Application Management Console)" on page 122.

Linking to related workspaces

You can link to the following workspaces from [in the Selected Application table:

- "Application Status and Volume Trend" on page 86.(Click to choose.)
- "Transaction Availability Analysis (Application Management Console)" on page 120. (Right-click and choose.)

You can link to the following workspaces from [in the Transaction table: :

- "Agent Availability Analysis (Clients)" on page 75. (Click to choose.)
- "Agent Response Time Analysis (Clients)" on page 78. (Right-click and choose.)

Robotic Response Time workspaces

Provide an accurate snapshot of Robotic Response Time monitoring in near real time.

This section describes the Robotic Response Time default workspaces (the components of the workspace in its original configuration). Workspaces provide a comprehensive means for gathering the information for detecting problems early and preventing them.

Note: Any modifications that you make to a workspace are not reflected in these descriptions.

Robotic workspaces provide feedback for regular and proactive monitoring of an application. The feedback comes from robotic scripts that automatically execute prerecorded user scenarios (set of steps) that represent a business transaction to test the availability and response time performance of an application.

Figure 47 on page 125 shows the relationship of Robotic Response Time workspaces:



Figure 47. Robotic Response Time workspaces

Robotic Response Time includes the following default workspaces:

- "Robotic Response Time"
- "Applications (Robotic)" on page 127
- "Application Details (Robotic)" on page 129
- "Configuration (Robotic)" on page 131
- "Playback Status (Robotic)" on page 132
- "Robotic Screen Capture" on page 134
- "SubTransaction Details (Robotic)" on page 143
- "SubTransaction History Details (Robotic)" on page 145
- "Transactions (Robotic)" on page 146
- "Transaction History (Robotic)" on page 150
- "Transaction Details (Robotic)" on page 148
- "Transaction Status (Robotic)" on page 152

Robotic Response Time

This workspace provides a general overview of all monitored data, any currently violating situations, and overall status for all the monitored applications and playbacks for Robotic Response Time.

This workspace is the default workspace for Robotic Response Time.

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Figure 48. Robotic Response Time workspace

Applications Current Status

Shows the state of each monitored application. This might differ slightly from what is showing in the Situation Event Console table as new events are generated and old events are cleared.

Playback Status

Shows the current playback status for each robotic script. This might differ slightly from what is showing in the Situation Event Console table as new events are generated and old events are cleared.

Situation Event Console

Shows a list of events generated by the monitoring agent. Events (situations) relate to conditions that you want to examine to determine if a potential problem exists in the systems and resources you are monitoring. The console displays the severity of the event, its current status, the situation that caused the event to be generated, and other details that help you isolate the event so that you can take corrective action. When the monitored application no longer matches the query that generated the event, the software automatically clears the event.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Working with the situation event console: Keep in mind the following tips when working with information on the Situation Event Console. For more information about situations, refer to the IBM Tivoli Monitoring product documentation.

Acknowledging a situation

You can change the status of an situation by acknowledging it.

- 1. Right-click the situation.
- 2. Select Acknowledge Event from the pop-up menu.

3. Select **Quick Acknowledge** to change the status to Acknowledge or select **Acknowledge** to add additional details about your acknowledgement.

Stopping a situation

You can temporarily stop the situation if there is a business reason for doing so.

- 1. Right-click the situation.
- 2. Select Stop Situation from the pop-up menu.
- 3. Remember to start the situation when necessary.

Accessing the workspace

You can access this workspace from the Navigator using the following procedure:

- 1. Click beside the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
- 2. Click th beside the name of the node on which the Robotic Response Time monitoring agent is located, if necessary.
- 3. Click Robotic Response Time.

Linking to related workspaces

From this workspace you can link to the following workspaces:

• The "Application Details (Robotic)" on page 129 workspace, by clicking the link

icon next to a table row in the Situation Event Console view, and selecting the Application Details link. You can also right-click the table row and select the link from the list of available links.

• The "Playback Status (Robotic)" on page 132 workspace, by clicking the link

icon next to a table row in the Playback Status view, and selecting the Playback Status link. You can also right-click the table row and select the link from the list of available links.

Applications (Robotic)

This workspace displays the availability and response time of applications monitored by robotic scripts so that you can evaluate their overall performance.

The Applications (Robotic) workspace displays the availability and response time data for applications monitored by robotic scripts. You can also drill down to see the performance of a specific application.



Figure 49. Applications (Robotic) workspace

Application Availability Historical Summary

Displays a bar graph showing the percentage of times the application failed (red), performed slowly (yellow), or performed as expected (green). When you hover over a bar, percentage of availability is displayed for that bar.

Application Current Status Details

Displays information about specific applications. A warning is shown for an application if it has one slow request where the request time is greater than the minimum response time threshold. If a request time also exceeds the maximum response time, the application is marked as failed.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can access this workspace from the Navigator using the following procedure:

- 1. Click beside the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
- 2. Click beside the name of the node on which the Robotic Response Time monitoring agent is located, if necessary.
- 3. Click Applications.

Linking to related workspaces

From this workspace you can link to the following workspaces:
- The "Application Details (Robotic)" workspace, by right-clicking the graph in the Application Availability Historical Summary view, and selecting the Application Details link.
- You can also link to the "Application Details (Robotic)" workspace by clicking

the link icon next to a table row in the Application Current Status Details view, and selecting the Application Details link. You can also right-click the table row and select the link from the list of available links.

Application Details (Robotic)

This workspace shows the detailed trend and historical status for a selected application so that you have a quick view of what is working and what is not working.

Application Details displays details for a specific application over a specified period of time. You can customize the time period during which data is collected.



Figure 50. Application Details (Robotic) workspace

This workspace has the following views:

Application Availability Trend

Shows the availability status for the selected monitored application over a period of time.

White lines in the graph indicate that no response time metrics were reported during that aggregation interval. If a script cannot be completed in an aggregation interval, that interval may be skipped and no response time metrics are reported for that interval. The script is then run for the next interval. To correct this problem, make the following adjustments:

• Set the number of retries in the profile to zero. If retries are enabled, the script may restart the playback and discard the previous playback time, resulting in irregular playback intervals.

- Set the timeout value in the profile to a very high value. This technique ensures that the Rational Performance Tester engine rather than ITCAM for Transactions times out the script if necessary.
- Increase the playback interval. For example, from 15 minutes to 20 -30 minutes.

Response Time Breakdown

Shows a detailed breakdown of all Client, Network, or Server metrics so you can see where a transaction is taking the most time. Response time is the time elapsed between the user's request and the completion of a transaction.

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

Transaction Current Status

Shows the status of transactions being monitored for the selected application. The table shows all of the associated data for volume and response time. You can sort through this table with IBM Tivoli Monitoring sort mechanisms and find information on every attribute.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "Applications (Robotic)" on page 127 workspace, you can use either of the following methods:
 - Right-click the graph in the Application Availability Historical Summary view, and select the Application Details link.
 - Click the link icon next to a table row in the Application Current Status Details view, and select the Application Details link. You can also right-click the table row and select the link from the list of available links.
- From the "Robotic Response Time" on page 125 workspace, you can use either of the following methods:
 - Click the link icon ext to a table row in the Application Current Status view, and select the Application Details link. You can also right-click the table row and select the link from the list of available links.
 - Click the link icon ext to a table row in the Situation Event Console view, and select the Application Details link. You can also right-click the table row and select the link from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "Playback Status (Robotic)" on page 132 workspace, using either of the following methods:
 - Click the link icon ext to a table row in the Selected Application view, and select the Playback Status link. You can also right-click the table row and select the link from the list of available links.

- Right-click the graph in the Application Availability Trend view, and select the Playback Status link.
- The "Transaction Status (Robotic)" on page 152 workspace, by clicking the link

icon ext to a table row in the Transaction Current Status view, and selecting the Transaction Status link. You can also right-click the table row and select the link from the list of available links.

Configuration (Robotic)

This workspace provides details about the configuration of Robotic Response Time.

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Figure 51. Configuration (Robotic) workspace

This workspace has the following views:

Agent Details

Displays details about the monitoring agent's configuration and version based on the values parameters specified when the agent was set up after installation.

Agent Messages

Displays the messages generated by the monitoring agent as it monitors transactions. It also provides details about the messages based on which attributes were specified when the situation was created.

Profile Configuration

Provides list of profiles and what applications and patterns (transactions or clients) are used by this agent so you can determine if the agent is using the correct profiles and is correctly configured for monitoring.

Realms

Displays the realm authentication information for robotic scripts.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can access this workspace from the Navigator using the following procedure:

- 1. Click th beside the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
- 2. Click beside the name of the node on which theRobotic Response Time monitoring agent is located, if necessary.
- 3. Click Configuration.

Linking to related workspaces

You cannot link to other workspaces from this workspace.

Playback Status (Robotic)

This workspace shows the status of robotic scripts and any playback errors that have occurred due to verification point failures.



Figure 52. Playback Status (Robotic) workspace

This workspace has the following views:

Overall Agent Script Execution Trend (All Scripts)

Provides information about the overall workload trends so that you can verify that all the robotic scrips are running correctly.

Robotic Script Playback Status

Provides information about each script running on the agent in a table view. Use it to monitor the current status of any robotic scripts running on the server.

Robotic Script Verification Point Failures

Shows the list of availability failures detected by verification points defined

in the robotic script. For robotic scripts to detect availability outages, you must add and enable verification points in your robotic script when you record the script.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can access this workspace from the Navigator using the following procedure:

- 1. Click beside the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
- 2. Click beside the name of the node on which the Robotic Response Time monitoring agent is located, if necessary.
- 3. Click Playback Status.

You can also link to this workspace from the following associated workspaces:

- From the "Robotic Response Time" on page 125 workspace, you can use the following method:
 - Click the link icon next to a table row in the Playback Status view, and select the Playback Status link. You can also right-click the table row and select the link from the list of available links.
- From the "Application Details (Robotic)" on page 129 workspace, you can use either of the following methods:
 - Click the link icon ext to a table row in the Selected Application view, and select the Playback Status link. You can also right-click the table row and select the link from the list of available links.
 - Right-click the graph in the Application Availability Trend view, and select the Playback Status link.
- From the "Transaction History (Robotic)" on page 150 workspace, you can use the following method:
 - Click the link icon ext to a table row in the Verification Point Failures view, and select the Playback Status link. You can also right-click the table row and select the link from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- You can link recursively back to this same workspace to display data for a particular script. If you have multiple playbacks you can select one from the Robotic Script Playback Status view table, and this same workspace is displayed again, but filtered to show only data for the selected script.
- The "Robotic Screen Capture" on page 134 workspace, by clicking the link icon

next to a table row in the Robotic Script Verification Point Failures view, and selecting the Robotic Screen Capture link. You can also right-click the table row and select the link from the list of available links. This link is enabled when the Captured Content Location column shows data.

Robotic Screen Capture

This workspace displays captured screen and content information for Robotic Response Time scripts.

When you are running a robotic script and encounter a failure or other problem, you might find it useful to view a screen capture of the transaction or step in the script that fails, to assist you in diagnosing the cause and providing more information to subject matter experts and other personnel in your organization. Using this capability, you can perform the following tasks:

- Navigate between different steps in the script.
- For a step in the script, view a rendering of the failed HTML.
- For a step in the script, compare the screen capture of a failed step to a rendering of a successful step.
- View the source code for a failing page.
- View the HTML headers for a failing page.

These capabilities help you to quickly isolate and analyze failures encountered during playback of scripts on Robotic Response Time agents.

ITCAM for Transactions provides a configuration option using profile properties in the Application Management Configuration Editor so you can capture the content and screens, and save them for later visual comparison with actual views displayed in the Tivoli Enterprise Portal.

This screen capture capability is limited to the following scripts:

- Rational[®] Performance Tester version 8.2.1 or later HTTP or HTTPS scripts
- Scripts using Rational Performance Tester version 8.2.1 or later HTTP or HTTPS protocol extensions

Keep in mind the following additional considerations:

- The content capture for Rational Performance Tester scripts is triggered when a verification point failure is detected during the playback of the scripts. Typical verification point failures for Rational Performance Tester scripts include:
 - HTTP response code violations
 - Content violations
 - Content size violations
- Any other failure that is not a direct result of a Rational Performance Tester script verification point failure will not result in the capture of screen content.
- Screen capture for Rational Functional Tester scripts triggers only when an Image verification point failure point is detected during the playback of scripts. Comparable screen captures are not provided for Data and Properties VP failures or when the script operates successfully.
- The web browser that is included in IBM Tivoli Monitoring has no third party plug-ins. Any content that depends on a plugin is not rendered.
- Web pages that contain a significant amount of Java[™] script will be slow to render.
- The captured content is retained for the same amount of time that other performance and availability data is kept (8 hours by default). You specify this data retention interval when you configure the Robotic Response Time agent.
- Data is retained in Tivoli Enterprise Portal until a maximum size is exceeded. When additional requests for data are received, the oldest data is deleted to make more room for the newer data.

- When screen capture is enabled, a good content capture file is created every time the Robotic Response Time agent is restarted or when you make a change to the profile.
- If you upgrade a previous version of the Robotic Response Time agent, the profiles running on the Robotic Response Time agent have a new configuration option related to enabling of screen capture, but this option is initially disabled. You can modify the profile property at a later time to enable screen capture as needed.
- If the selected application is a Rational Performance Tester schedule that contains an HTTP or HTTPS script (for example, a script using the Citrix web interface), then content capture is only generated for the HTTP or HTTPS scripts inside the schedule.
- When a Rational Performance Tester script is run and screen capture content is enabled in the Application Management Configuration Editor profile for the script, the raw content of the HTTP response is returned. The robotic agent parses the content and comments out all scripting and HTTP meta refresh tags. As a result, pages that contain such dynamic content might fail to render if there is no other visible content present, and a blank page might be displayed. The raw HTML response is still present, however, and you should use the response to diagnose problems by clicking on the source tab in the content capture display page.

Before you can view screen capture information in the Robotic Screen Capture workspace, you must configure the **Enable screen capture content** property in a profile that has been defined for a valid Rational Performance Tester (HTTP or HTTPS) or Rational Functional Tester script. See the Application Management Configuration Editor chapter of the *IBM Tivoli Composite Application Manager for Transactions Administrator's Guide* for more information about defining profiles and configuring property values.

After you have enabled one or more profiles for screen capture content, the resulting verification point failure information is displayed in the Playback Status workspace (see "Playback Status (Robotic)" on page 132) or the Transaction Status workspace (see "Transaction Status (Robotic)" on page 152), similar to the following example:



In this example, you can scroll across to the right end of the table in the Robotic Script Verification Point Failures view and see the Captured Content Location column. This column displays the web URL where a compressed file is located, that contains the screen capture information for each verification point failure. If there is no screen capture content for a row in the table, the cell in this column is empty. You can display this screen capture information by clicking the workspace link or right-clicking a row in the table, and selecting the **Robotic Screen Capture** link. If there is no content to display, this link is not available.

User Authorization: You can also paste this URL into a separate web browser page, but the web server will authenticate your user name before showing you the page, using standard Tivoli Enterprise Portal security processes. Your authorized IBM Tivoli Monitoring Tivoli Enterprise Portal user name must have permission to access Robotic Response Time data in Tivoli Enterprise Portal Server to view the data.

Accessing the workspace

You can access this workspace from the Navigator using either of the following procedures:

- From the Playback Status workspace:
 - In the Robotic Script Verification Point Failures view, scroll the table to the right and examine the last column in the table, Captured Content Location. This column contains the URL for the location of the compressed file containing the screen capture information for each verification point failure. If a cell in this column is empty, then there is no screen capture data available for that failure (it is also possible that the profile associated with that failure is not enabled for screen capture, or it is not a script that is valid for screen capture).

- 2. Click for the verification point failure of interest and select **Robotic Screen Capture** from the list of available link options. Alternatively, you can right-click the row in the table and select **Robotic Screen Capture**.
- From the Transaction Status workspace:
 - 1. In the **Verification Point Failures** view, scroll the table to the right and examine the last column in the table, **Captured Content Location**. This column contains the URL for the location of the compressed file containing the screen capture information for each verification point failure. If a cell in this column is empty, then there is no screen capture data available for that failure (it is also possible that the profile associated with that failure is not enabled for screen capture, or it is not a script that is valid for screen capture).
 - 2. Click for the verification point failure of interest and select **Robotic Screen Capture** from the list of available link options. Alternatively, you can right-click the row in the table and select **Robotic Screen Capture**.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Linking to related workspaces

You cannot link from this workspace to another workspace.

Displaying the screen capture

When you select the Robotic Screen Capture link, two things happen:

• The Tivoli Enterprise Portal workspace is updated to display the selected verification point failure information in a table view, and beneath that table, a help information view is displayed in the workspace, giving you some additional information about configuring the popup blocker settings for your web browser to enable the robotic screen capture information to be displayed. This same information is located in "Displaying the Robotic Screen Capture in a separate browser window" on page 141.

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File Edit View Help												
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🙈 Navigator 🔹 💷 🖯	Uerification Point F	ailures					m 8	🗆 x				
💸 📝 View: Physical 💌 🔍	Robotic Script Name	Event Time	Event Type	Violated Value	Expected *	/alue		Profile N				
Senterprise	plantsScript	11/05/09 11:04:02	HTTP Return Code	404	200,201,202,204,20	6,301,30	2,304	PlantsP				
Linux Systems LINUX Systems												
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	Displaying the Rob	otic Screen Capture i	n a separate browser v	vindow		* * !	II 8	□ ×				
 G Client Response Time Robotic Response Time 	🎲 🐢 🔿 🛷 🎲 🖶 🔍 Location: 💽 http://rh5ms.tiv/ab.austin.ibm.com:9999/help/topic/com.ibm.itcam4t_rthelp.doc/Wol											
Computation Computed Computed	window When you select th using the URL speci Status workspace, and capture data. Using the system di default browser installed on your sys Prompting for use Enterprise Portal JN access the external the Twoil Enterprise needed. On UNIX systems w	a link to display the field in the Capturer On your system, you scond, external brow lefault browser : Th the to the installed, s window is not displ stem before attempti- r. Pachent, you might browser window. If s Portal client, Consu here security is not timon Taoli Entermiss,	Robotic Screen captur I Content Location c should be reading thi ser window should als e default browser for th o when you attempt to when you attempt to aged. In this case, you ng to display the Robo ord: If you are using th be prompted to enter to, enter a user name t with your local IBM ⁻¹ enabled on Twoli Enter.	e workspace, an olumn of the Play s help information to be opened, disp he system is used display the Robo should ensure th should ensure th this Screen Captu ne Twoli Enterprise and password tha Trivoli Monitoring 1 force Jaunchiona the	external browser is la back Status or Trans in the Tivoli Enterpri laying the screen ar l. On some UNIX sys tic Screen Capture w tic a default browser re workspace. B Portal Desktop or th or name and passwoo t is authorized for sig dministrator for asig Server, you must first setveral browser to.	unched action se Porta d conter tems, a orkspac is ne Tivoli d to ning in t tance if enable display.	ıl nt :e,	-				

This workspace has the following views:

Verification Point Failures

Provides detailed information about verification point failures, if you set up verification points for your robotic scripts, so that you can see which transaction caused the problem.

Help information: Displaying the Robotic Screen Capture in a separate browser window

This view displays additional information about the separate external browser that should be launched to display the screen capture information. It provides some assistance to help you configure your browser to disable popup blocking if the external browser is not displayed on your system.

• Assuming that you have a default web browser defined for your system and that it is configured to disable popup blocking for the system where Tivoli Enterprise Portal Server is located, an external browser is launched using the URL specified in the **Captured Content Location** column of the Playback Status or Transaction Status workspace. See the Rational Performance Tester example in the following section.

Example screen capture for a Rational Performance Tester script

When you select the **Robotic Screen Capture** link in the Playback Status workspace (see "Playback Status (Robotic)" on page 132) or the Transaction Status workspace (see "Transaction Status (Robotic)" on page 152), an external browser is launched using the URL specified in the **Captured Content Location** column. Depending on how much information needs to be rendered, it might take a few minutes for the separate browser window to display. If a separate browser window is not displayed, make sure that your system is configured with a default web browser, and that it is configured to disable popup blocking on the system where Tivoli Enterprise Portal Server is located.

The external browser window displays the selected screen capture information similar to the following example:

🚖 Favorites	🌈 Downloading File : CONTENT/97b83b9_12574529423 🚺 👔 🔻 🔊 - 🗔 🖶 🕈 Page - Safety -	Tools • 🔞 • »
Tivoll.		•
Expected	Actual Source	
An Err Jsp Er Using attril information Processin StatusCoo Message Exception	or has occured during PlantsByWebSphere processing. Pror Page putes javax servlet error messagestatus_codeexception as specified by Servlet 2.2 to get g request: http://rh5ma.tivlab.austin.ibm.com/PlantsByWebSphere/error.jsp le: 404 SRVE0190E: File not found: /blah s:java io.FileNotFoundException: /blah	
Please Che	Y WEBSPHERE	3
lone	🚱 Internet 🛷	- 🕀 100% -

Along the top of the external browser window is a rolling navigation pane, showing thumbnail views of each web page in the captured content. By default, the first available failure is highlighted with a red border:

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		· · · · · · · · · · · · · · · · · · ·		

If the first available failure is not displayed, then the first available screen or page content is displayed. You can use the forward and back arrow buttons to navigate through the sequence of thumbnails to display their content as needed.

You can move your cursor over each thumbnail view to display additional tool tip information with the name of the page and, in case of an error, the sequence number of the error.

in 10 + 10 + 10 in 10 + 10 + 10 in 10 + 10 + 10 in 10 + 10	servlet_ShoppingServlet {1} Step 8 of 14	Image: set of the set of th	
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Below this navigation pane, for Rational Performance Tester content, three tabs are displayed:

Expected	Actual	Source	\mathbf{b}				
			-				

Expected

Displays the content that is collected when the script playback is completed successfully. If there is not a single successful playback, then the Expected content is blank with the following error message:

No Data Available, this could happen if the script never played back successfully.

Actual Displays the content that is collected during the playback of the script. In the case of a failure, the failing information is displayed (see the previous example).

Source

Displays the raw source code returned by the web server or application server:

	t and the second
Expected Actual Source	
<html></html>	
<head></head>	
<pre></pre>	
<pre><meta name="DC.LANGUAGE" scheme="rfc1766"/></pre>	0-0009-1-2
<pre></pre>	
<hr/>	
(/tr)	
<pre>(td bgcolor="#e7e4e7" rowspan="4"></pre>	
An Error has occured	during PlantsByWebSphere pro
(tr)	
(10) (h2)Jep Error Page//h2)Heing attributes javay cerulet error me	reave etatue ode encer
<pre></pre>	bm.com/PlantsByWebSphere/erro
StatusCode:	· · · · · · · · · · · · · · · · · · ·
Message: SRVE0190E: File not found: /blah	
<pre> Exception:java.io.FileNotFoundException: /blah</pre>	
<tr></tr>	
<tr></tr>	files for details

Screen capture for Rational Functional Tester scripts

Screen capture content for Rational Functional Tester scripts are JPG or GIF images of the display when the failure occurred. There are no comparable displays of successful runs. There can be more than one failing screen capture for the script.

Displaying the Robotic Screen Capture in a separate browser window: When you select the link to display the Robotic Screen capture workspace, an external browser is launched using the URL specified in the **Captured Content Location** column of the Playback Status or Transaction Status workspace. On your system, you should be reading this help information in the Tivoli Enterprise Portal workspace, and a second, external browser window should also be opened, displaying the screen and content capture data.

Using the system default browser: The default browser for the system is used. On some UNIX systems, a default browser might not be installed, so when you attempt to display the Robotic Screen Capture workspace, the external browser window is not displayed. In this case, you should ensure that a default browser is installed on your system before attempting to display the Robotic Screen Capture workspace.

Prompting for user name and password: If you are using the Tivoli Enterprise Portal Desktop or the Tivoli Enterprise Portal JNLP client, you might be prompted to enter an authorized user name and password to access the external browser window. If so, enter a user name and password that is authorized for signing in to the Tivoli Enterprise Portal client. Consult with your local IBM Tivoli Monitoring administrator for assistance if needed.

On UNIX systems where security is not enabled on Tivoli Enterprise Monitoring Server, you must first enable security by reconfiguring Tivoli Enterprise Monitoring Server before launching the external browser to display the Robotic Screen Capture workspace.

Disabling popup blocking: If you are using the Tivoli Enterprise Portal Browser client, ensure that pop-up blocking is disabled for the host system where Tivoli Enterprise Portal Server is installed, so that the external browser window can display the Robotic Screen Capture workspace.

For Internet Explorer:

- 1. Select Tools -> Pop-up Blocker -> Pop-up Blocker Settings.
- 2. Add the hostname where Tivoli Enterprise Portal Server is located.



For Mozilla Firefox:

- 1. Select **Tools -> Options**.
- 2. Select Content.
- 3. Select the Block pop-up windows check box if it not already selected.
- 4. Click Exceptions for the Block pop-up windows check box.
- 5. Enter the hostname where Tivoli Enterprise Portal Server is located and click **Allow**.



SubTransaction Details (Robotic)

This workspace displays the response time of a transaction so you can see specifically when a problem occurred.

The Subtransaction Details workspace displays details for a specific transaction over a specified period of time. You can customize the time period during which data is collected.



Figure 53. SubTransaction Details (Robotic) workspace

This workspace has the following views:

Response Time Breakdown

Shows a detailed breakdown of all Client, Network, or Server metrics so you can see where a transaction is taking the most time. Response time is the time elapsed between the user's request and the completion of a transaction.

Selected Subtransaction

Displays information about the selected monitored subtransaction.

SubTransaction Availability Trend

Shows the availability and response times over the past 8 hours. Availability is the successful execution of a monitored transaction over a specified period of time. Response time is the time elapsed between the user's request and the completion of a transaction.

SubTransaction Breakdown

Shows the availability of all subtransactions and many other metrics for the selected subtransaction. In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

SubTransactions for Citrix monitoring

When monitoring Citrix applications using Robotic Response Time and Rational Performance Tester, several unique subtransactions are supported when you are using either of the following:

- Rational Performance Tester version 8.1.1.1 or later
- Rational Performance Tester version 8.1.0.3 with patch R5506_Citrix_Transaction_Enhancements_for_ITCAM.

The following Citrix subtransactions are supported:

Citrix://CitrixICASession.Connect

The delay from the creation of the Citrix client until the beginning of the login phase.

Citrix://CitrixICASession.Login

The delay from the end of the connect phase until the end of the user login phase.

Citrix://CitrixICASession.Disconnect

The delay necessary for the logout and the end of the connection.

Citrix://CitrixICASession.SessionActivity

The delay from the end of the login to the beginning of the disconnection.



Figure 54. Citrix SubTransactions

Accessing the workspace

You can link to this workspace from the "Transaction Status (Robotic)" on page 152 workspace using either of the following methods:

• Click the link icon ext to a table row in the SubTransaction Current Status view, and select the SubTransaction Details link.

• Right-click inside the selected table row and select the link from the list of available links.

Linking to related workspaces

You can link recursively back to this same workspace to display data for a particular subtransaction, if any exist. If you have multiple subtransactions you can select one from the SubTransaction Breakdown view table, and this same workspace is displayed again, but filtered to show only data for the selected subtransaction.

SubTransaction History Details (Robotic)

This workspace displays the availability and response time trends for a specific subtransaction and its subtransactions (if any) so you can see when a problem started occurring for a particular point in time.

This workspace displays the response time data for specific subtransactions monitored by robotic scripts.



Figure 55. SubTransaction History Details (Robotic) workspace

This workspace has the following views:

Selected Subtransaction

Displays information about the selected monitored subtransaction.

SubTransaction Breakdown

Shows the availability of all subtransactions and many other metrics for the selected subtransaction.

SubTransaction Response Time Breakdown

Shows a detailed breakdown of all Client/Network/Server metrics so you

can see where a subtransaction is taking the most time. Response time is the time elapsed between the user's request and the completion of a subtransaction.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the "Transaction History (Robotic)" on page 150 workspace. Right-click the graph in the SubTransaction Response Time Breakdown view and select the Subtransaction History Details link.

Linking to related workspaces

You can link recursively back to this same workspace to display data for a particular subtransaction, if there are any. If you have multiple subtransactions you can select one from the SubTransaction Breakdown view table, and this same workspace is displayed again, but filtered to show only data for the selected subtransaction.

Transactions (Robotic)

This workspace shows the overall availability of a server and provides links to more detailed information about each transaction.

This workspace summarizes the availability of all Transactions so that you have a quick view of what is working and what is not working.



Figure 56. Transactions (Robotic) workspace

This workspace has the following views:

Transaction Availability Historical Summary

Displays a bar graph showing the percentage of times the transaction exceeded the maximum response time threshold and failed (red); exceeded the minimum response time threshold and performed slowly (yellow); or performed as expected (green). When you hover over a bar, the date and percentage of availability is displayed for that bar. The graph also shows the date and time that information was collected. Each bar is linked to other relevant workspaces, and the link is not affected by the time you choose on the bar.

Note: This workspace does not display historical data.

Transaction Current Status Details

Displays information about specific transactions. If a transaction exceeds the maximum response time threshold it fails, and Percent Available is displayed in red with a value of **0**. If a transaction exceeds the minimum response time threshold it is slow, and Percent Slow is displayed in yellow with a value of **100**.

For example:



In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can access this workspace from the Navigator using the following procedure:

1. Click beside the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.

- 2. Click beside the name of the node on which the Robotic Response Time monitoring agent is located, if necessary.
- 3. Click Transactions.

Linking to related workspaces

From this workspace you can link to the "Transaction Details (Robotic)" workspace using either of the following methods:

- Click the link icon ext to a table row in the Transaction Current Status Details view, and selecting the Transaction Details link. You can also right-click the table row and select the link from the list of available links.
- Right-click the graph in the Transaction Availability Historical Summary view, and select the Transaction Details link.

Transaction Details (Robotic)

This workspace displays the response time of a transaction so you can see specifically when a problem occurred.

The Transaction Details workspace displays details for a specific transaction over a specified period of time. You can customize the time period during which data is collected.



Figure 57. Transaction Details (Robotic) workspace

This workspace has the following views:

Response Time Breakdown

Shows a detailed breakdown of all Client, Network, or Server metrics so

you can see where a transaction is taking the most time. Response time is the time elapsed between the user's request and the completion of a transaction.

Selected Transaction

Displays information about the monitored transaction that was selected previously to access this workspace.

Transaction Availability Trend

Shows the availability over the past 8 hours. Availability is the successful execution of a monitored transaction over a specified period of time.

Transaction History

Shows a history of the status details for the selected transaction so you can see the historical details and select a particular time range for further details.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "Transactions (Robotic)" on page 146 workspace, you can use either of the following methods:
 - Right-click the graph in the Transaction Availability Historical Summary view, and select the Transaction Details link.
 - Click the link icon next to a table row in the Transaction Current Status Details view, and select the Transaction Details link. You can also right-click the table row and select the link from the list of available links.
- From the "Transaction Status (Robotic)" on page 152 workspace, you can use the following method:
 - Click the link icon next to a table row in the Selected Transaction view, and select the Transaction Details link. You can also right-click the table row and select the link from the list of available links.
- From the "Transaction History (Robotic)" on page 150 workspace, you can use the following method:
 - Right-click a table row in the Selected Transaction view, and select the Transaction Details link from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "Transaction Status (Robotic)" on page 152 workspace, using either of the following methods:
 - Click the link icon ext to a table row in the Selected Transaction view, and select the Transaction Status link. You can also right-click the table row and select the link from the list of available links.
 - Right-click a table row in the Transaction History view, and select the Transaction Status link from the list of available links.
- The "Transaction History (Robotic)" on page 150 workspace, using any of the following methods:

- Right-click a table row in the Selected Transaction view, and select the Transaction History link from the list of available links.
- Right-click a table row in the Transaction History view, and select the Transaction History link from the list of available links.
- Right-click the graph in the Transaction Availability Trend view, and select the Transaction History link.

Transaction History (Robotic)

This workspace displays transaction details for a five minute interval so you can see what happened at a particular time in the past.

This workspace displays the availability and response time data for specific transaction monitored by robotic scripts. It also shows detailed information about verification point failures, if you set up verification points for your robotic scripts, so that you can see which transaction caused the problem.



Figure 58. Transaction History (Robotic) workspace

This workspace has the following views:

Selected Transaction

Displays information about the monitored transaction that was selected previously to access this workspace.

SubTransaction History

Shows a history of the status details for the next level subtransactions of the selected transaction so you can see the historical details and drill down to see additional details.

SubTransaction Response Time Breakdown

Shows a detailed breakdown of all Client/Network/Server metrics so you can see where a subtransaction is taking the most time. Response time is the time elapsed between the user's request and the completion of a subtransaction.

Verification Point Failures

Provides detailed information about verification point failures, if you set up verification points for your robotic scripts, so that you can see which transaction caused the problem.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "Transaction Details (Robotic)" on page 148 workspace, you can use any of the following methods:
 - Click the link icon ext to a table row in the Selected Transaction view, and select the Transaction History link. You can also right-click the table row and select the link from the list of available links.
 - Click the link icon ext to a table row in the Application Transaction History view, and select the Transaction History link. You can also right-click the table row and select the link from the list of available links.
 - Right-click the graph in the Transaction Availability Trend view, and select the Transaction History link.
- From the "Transaction Status (Robotic)" on page 152 workspace, right-click the graph in the Transaction Availability and Response Time Trend view, and select the Transaction History link.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "Playback Status (Robotic)" on page 132 workspace, using the following method:
 - Click the link icon ext to a table row in the Verification Point Failures view, and select the Playback Status link. You can also right-click the table row and select the link from the list of available links.
- The "SubTransaction History Details (Robotic)" on page 145 workspace, using either of the following methods:
 - Click the link icon next to a table row in the SubTransaction History view, and select the SubTransaction History Details link. You can also right-click the table row and select the link from the list of available links.
 - Right-click the graph in the SubTransaction Response Time Breakdown view, and select the Transaction History Details link.
- The "Transaction Details (Robotic)" on page 148 workspace, by right-clicking a table row in the Selected Transaction view, and selecting the Transaction Details link from the list of available links.

Transaction Status (Robotic)

This workspace displays the availability and response time trends for a specific transaction so you can see when problems started occurring.

The Transaction Status (Robotic) workspace displays the availability and response time data for a specific transaction monitored by robotic scripts. From this workspace, you can also drill down to see the performance of subtransactions. It also shows detailed information about verification point failures, if you set up verification points for your robotic scripts, so that you can see which transaction caused the problem.



Figure 59. Transaction Status (Robotic) workspace

This workspace has the following views:

Selected Transaction

Displays information about the monitored transaction that was selected previously to access this workspace.

SubTransaction Current Status

Shows the current status details for the next level subtransactions of the selected transaction so you can see the historical details and drill down to see additional details.

Transaction Availability and Response Time Trend

Shows the transaction's availability and response times over the past 8 hours. Availability is the successful execution of a monitored transaction over a specified period of time. Response time is the time elapsed between the user's request and the completion of a transaction.

Verification Point Failures

Provides detailed information about verification point failures, if you set up verification points for your robotic scripts, so that you can see which transaction caused the problem. In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from "Transaction Details (Robotic)" on page 148 workspace, using either of the following methods:

- Click the link icon ext to a table row in the Selected Transaction view, and select the Transaction Status link. You can also right-click the table row and select the link from the list of available links.
- Right-click a table row in the Transaction History view, and select the Transaction Status link from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "Transaction Details (Robotic)" on page 148 workspace, using the following method:
 - Click the link icon ext to a table row in the Selected Transaction view, and select the Transaction Details link. You can also right-click the table row and select the link from the list of available links.
- The "Transaction History (Robotic)" on page 150 workspace, using the following method:
 - Right-click the graph in the Transaction Availability and Response Time Trend view, and select the Transaction History link.
- The "Playback Status (Robotic)" on page 132 workspace, using the following method:
 - Click the link icon ext to a table row in the Verification Point Failures view, and select the Playback Status link. You can also right-click the table row and select the link from the list of available links.
- The "SubTransaction Details (Robotic)" on page 143 workspace, using the following method:
 - Click the link icon ext to a table row in the SubTransaction Current Status view, and select the SubTransaction Details link. You can also right-click the table row and select the link from the list of available links.
- The "Robotic Screen Capture" on page 134 workspace, using the following method:
 - Right-click the link icon ext to a table row in the Verification Point Failures view, and select the Robotic Screen capture link from the list of available links.

Web Response Time workspaces

This section describes the default Web Response Time workspaces (the components of the workspace in its original configuration).

Use these workspaces to:

- Monitor the performance and availability of web applications used by users.
- Monitor network traffic for HTTP/S requests to the web server.
- Capture real user performance and availability data for service level agreement reporting.
- View different contexts of monitored TCP data, from client and server level to network component and protocol level.
- Identify TCP performance characteristics and possible bottlenecks in your network environment.

Note: Any modifications that you make to a workspace are not reflected in these descriptions.

To understand how Web Response Time captures this data, see *IBM Tivoli Composite Application Manager for Transactions Administrator's Guide*.

Figure 60 on page 155 maps the links between the various workspaces:



Figure 60. Web Response Time workspaces

Web Response Time

This workspace provides a general overview of all monitored data, any currently violating situations, and overall status for all the monitored application, clients, and servers monitored by Web Response Time.

	Situation Ever	nt Console								/ 1 🖽	8 0 ×
0				🏤 🏤 🗙	A 🛈 (#	Active) Filte	red Events: 1	of 6 Item Filter: N	Neb	Response Time	
	Severity	Status	Owner	Situation	Name	Display Item	Source	Impact		Opened	Age
	(8) Critical	Open		WRT_Availabil	ity_Critical I	BM	agents:T5	Applications	•	07/29/09 10:58:2	3 23 Mir
	.*										Þ
	Applications	Current Statu	s							/ * 0	8 🗆 ×
-	Application	Importance	Percent	ent Available	Percent Slow	Average Re	esponse Time	Total Requests		Start Time	🔻 Rank
-	IBM	Medium	Here was	\$2,500	0.000		0.199	8	07.	29/09 11:15:00	437,500
	4										
	Clients Curre	ent Status		/ ‡		Ser	vers Current S	tatus		/ 🗧 🗉	
	Client	🔋 Percent.	Available	Percent Slow	Average Res	sp	Server	IP		Percent Available	Percent SI
	Austin, TX		12,500	0.000	f I	9.4	18.152.105:80	9.48.152.105		0.000	0.0
						9.4	11.254.83:80	9.41.254.83		100.000	0.0
						9.4	18.152.71:80	9.48.152.71		100.000	0.0
						9.4	18.186.19:80	9.48.186.19		100.000	0.0
						9.4	11.254.37:80	9.41.254.37		100.000	0.0
						9.4	11.254.82:80	9.41.254.82		100.000	0.0
						9.4	11.254.24:80	9.41.254.24	1910	100.000	0.0
	1		1			FI 41		Ĭ			

Figure 61. Web Response Time workspace

This workspace has the following views:

Applications Current Status

Shows the state of each monitored application. This might differ slightly from what is showing in the Situation Event Console table as new events are generated and old events are cleared.

Clients Current Status

Shows details about the clients that provide the data for this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

Servers Current Status

Shows status information about Servers in this workspace. Click the link next to a specific server for more detailed information.

Situation Event Console

Shows a list of events generated by the monitoring agent. Events (situations) relate to conditions that you want to examine to determine if a potential problem exists in the systems and resources you are monitoring. The console displays the severity of the event, its current status, the situation that caused the event to be generated, and other details that help you isolate the event so that you can take corrective action. When the monitored application no longer matches the query that generated the event, the software automatically clears the event.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Working with the situation event console: Keep in mind the following tips when working with information on the Situation Event Console. For more information about situations, refer to the IBM Tivoli Monitoring product documentation.

Acknowledging a situation

You can change the status of an situation by acknowledging it.

- 1. Right-click the situation.
- 2. Select Acknowledge Event from the pop-up menu.
- **3.** Select **Quick Acknowledge** to change the status to Acknowledge or select **Acknowledge** to add additional details about your acknowledgement.

Stopping a situation

You can temporarily stop the situation if there is a business reason for doing so.

- 1. Right-click the situation.
- 2. Select **Stop Situation** from the pop-up menu.
- **3**. Remember to start the situation when necessary.

Accessing the workspace

- 1. Click the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
- 2. Click beside the name of the node on which the Web Response Time monitoring agent is located, if necessary.
- 3. Click Web Response Time.

Linking to related workspaces

You can link to the following workspaces by right-clicking the evaluation and selecting from the available list of workspace links:

- From the Applications Current Status view table, you can link to the following workspaces:
 - "Application Details (Web)" on page 159 workspace
 - "Application Interactions (Web)" on page 162 workspace
 - "Errors" on page 187 workspace (if errors exist for the application)
 - Applications: Topology workspace (if the application is also a Transaction Tracking application)
- From the Clients Current Status view table, you can link to the following workspaces:
 - "Client Details (Web)" on page 169 workspace
 - Components: Topology workspace (if the client is also a Transaction Tracking component)
- From the Servers Current Status view table, you can link to the following workspaces:
 - "Server Details (Web)" on page 209 workspace
 - Servers: Topology workspace (if the server is also a Transaction Tracking server)

Applications (Web)

Displays the status of all monitored applications so you can compare their overall availability.

This workspace shows the availability historical summary for all applications, and a table of the applications with status and metric information.



Figure 62. Applications (Web) workspace

This workspace has the following views:

Application Availability Historical Summary

Displays a bar graph showing the percentage of times the application failed (red), performed slowly (yellow), or performed as expected (green). When you hover over a bar, percentage of availability is displayed for that bar.

Application Current Status Details

Displays information about specific applications. A warning is shown for an application if it has one slow request where the request time is greater than the minimum response time threshold. If a request time also exceeds the maximum response time, the application is marked as failed.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

- 1. Click the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
- 2. Click beside the name of the node on which the Web Response Time monitoring agent is located, if necessary.
- 3. Click Applications.

Linking to related workspaces

You can link to the following workspaces by right-clicking the *equal icon and* selecting from the available list of workspace links:

- From the Applications Current Status Details view table, you can link to the following workspaces:
 - "Application Details (Web)" workspace
 - "Application Interactions (Web)" on page 162 workspace
 - Applications: Topology workspace (if the application is also a Transaction Tracking application)

Application Details (Web)

This workspace shows the detailed trend and historical status for a selected application so that you have a quick view of what is working and what is not working.

Application Details displays details for a specific application over a specified period of time. You can customize the time period during which data is collected.



Figure 63. Application Details (Web) workspace

This workspace has the following views:

Application Historical Trend Details

Shows the details of what happened at specific points in time. You can link to the "Application Historical Analysis" on page 161 workspace to display more detailed information about that point in time.

Total Requests shows the number of good requests faster than the Minimum Response Time threshold. **Slow Requests** shows the number of slow requests which fall between the Minimum and Maximum Response Time Thresholds. If the Maximum Response Time threshold has not been set in the Application Management Configuration Editor, **Failed Requests** shows the number of transactions that did not complete correctly or reported an error during the monitoring interval. If the Maximum Response Time threshold is set, failed transactions with a response time greater than or equal to the threshold are also included in the Failed Requests count.

Percent Available is the percentage of requests with a status of good or slow. The sum of Percent Available and Percent Failed is 100%. Any period with less than 100% Percent Available is displayed with a red background.

Average Response Time Trends

Shows the response time breakdown trend. The threshold is determined by the Minimum Response Time Threshold attribute. To collect client browser render time and page tagging data, see *Monitoring web transaction response times* in the *ITCAM for Transactions Administrator's Guide* for configuration information.

Bandwidth Usage

Shows how much bandwidth is used by the selected application. Details are broken down into request and response sizes.

Error Rates

This view displays a bar chart of the historic count of client errors and server errors associated with the selected application, during the reporting interval (the default is the last 8 hours).

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

Users and Requests

Displays historical trend line graphs of the total number of requests and unique users accessing the application during the reporting interval (the default is the last 8 hours).

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the following workspaces:

- "Applications (Web)" on page 158
- "Application Interactions (Web)" on page 162
- "Web Response Time" on page 155

Linking to related workspaces

You can link to the following workspaces by right-clicking the *equal icon and* selecting from the available list of workspace links:

- From the Selected Application view table, you can link to the following workspaces:
 - "Application Interactions (Web)" on page 162 workspace
 - Applications: Topology workspace (if the application is also a Transaction Tracking application)
- From the Application Historical Trend Details view table, you can link to the following workspaces:
 - "Application Historical Analysis" workspace

You can also link to the "Application Historical Analysis" workspace by right-clicking inside any of the charts displayed in the other view of this workspace.

Application Historical Analysis

Displays application details for a five minute interval so you can see what happened at a particular time in the past.



Figure 64. Application Historical Analysis workspace

This workspace has the following views:

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

Response Code Breakdown

Displays a pie chart showing the distribution of response codes for an application.

- Informational refers to response codes in the range of 100–199.
- *Successes* refers to response codes in the range of 200–299.
- *Redirections* refers to response codes in the range of 300–399.
- Client errors refers to response codes in the range of 400-499.
- Server errors refers to response codes in the range of 500–599.

Slowest Transactions

Displays the current slowest transaction aggregates for the selected time range. Aggregate records summarize instance data based on the transaction instance end time. The data is collected in seconds.

Transaction Instances

Displays all instance records starting from the time range selected. The start time range is based on the transaction start time. Records for the selected time range are sorted to the top of the list.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You access this workspace from the "Application Details (Web)" on page 159 workspace or the "Transaction Details (Web)" on page 210 workspace.

Linking to related workspaces

You can link to the following workspaces:

- "Application Interactions (Web)."
- "Transaction Details (Web)" on page 210.

Application Interactions (Web)

This workspace shows all the discovered relationships for a particular application.

The Applications Interactions workspace shows the transaction, client, user, and server relationships for a particular application. It displays the status for each of them so that you can easily isolate problem areas. From this workspace, you can link to detailed information about the problem.

	Selected Applica	tion										1	÷		□ ×
	Appl utma4.tivlab.a	ication ustin.ibm.com	Importance Medium	S 04/20	tart Time 1/11 12:30:00	E 04/20	nd Time (11 12:3:	5:27	Percent Availab	e Percent S	low Ave	erage Re	espoi	nse Time 0.379	Failed F
	4														Þ
	Users			1	* * * *	×	🔲 Trai	nsactions				1	÷		□ ×
	User	Client	Percent Ava	ilable	Percent Slow	Avera			Transacti	on		Clier	nt	Ser	ver
	Anonymous	All Clients	10	0.000	0.000		1 1	images/od	lot.jpg			All Clier	nts	9.48.152	.69:80
							BI	favicon.ico				All Clier	nts	9.48.152	.69:80
							1 1					All Clier	nts	9.48.152	.69:80
							/ Л	PlantsByW	/ebSphere/			All Clier	nts	9.48.152	.69:80
							1 1	PlantsByW	ebSphere/prom	o.html		All Clier	nts	9.48.152	.69:80
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d	All Clients		2.640	0.000		0.	1 9	9.48.152.6	9:80 080	82,640		0.000			0.39
	4					*	U	d	A.c.		×				Þ

Figure 65. Application Interactions (Web) workspace

This workspace has the following views:

Selected Application

Displays information about the monitored application that was selected previously to access this workspace.

Users Displays session details about the users who accessed the application.

Transactions

Shows details about the transactions that provide the detailed data for this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

Clients Summary

Shows details about the clients that provide the data for this workspace. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

Servers Summary

Displays information about the servers associated with the application. Color coding quickly illustrates good or problem areas, and the table is ordered from worst to best.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "Web Response Time" on page 155 workspace, you can use either of the following methods:
 - Right-click the link icon ext to a table row in the Application Current Status view, and select the Application Interactions link.
 - Right-click a table row in the Application Current Status view, and select Application Interactions from the list of available links.

- From the "Applications (Web)" on page 158 workspace, you can use either of the following methods:
 - Right-click the link icon ext to a table row in the Application Current Status Details view, and select the Application Interactions link.
 - Right-click a table row in the Application Current Status Details view, and select Application Interactions from the list of available links.
- From the "Application Details (Web)" on page 159 workspace, you can use either of the following methods:
 - Right-click the link icon ext to a table row in the Selected Application view, and select the Application Interactions link.
 - Right-click a table row in the Selected Application view, and select Application Interactions from the list of available links.
- From the "Application Historical Analysis" on page 161 workspace, you can use any of the following methods:
 - Right-click the link icon ext to a table row in the Selected Application view, and select the Application Interactions link.
 - Right-click a table row in the Selected Application view, and select Application Interactions from the list of available links.
 - Right-click in the pie chart in the Response Code Breakdown view and select Application Interactions from the list of available links.
- From the "User Sessions (Web)" on page 216 workspace, you can use either of the following methods:
 - Right-click the link icon ext to a table row in the Transaction Instances view, and select the Application Interactions link.
 - Right-click a table row in the Transaction Instances view, and select Application Interactions from the list of available links.

Linking to related workspaces

You can link to the following workspaces by right-clicking the evaluation and selecting from the available list of workspace links:

- From the Selected Application view table, you can link to the following workspaces:
 - "Application Details (Web)" on page 159 workspace
 - Applications: Topology workspace (if the application is also a Transaction Tracking application)
- From the Servers Summary view table, you can link to the following workspaces:
 - "Server Details (Web)" on page 209 workspace
 - Servers: Topology workspace (if the application is also a Transaction Tracking application)
- From the Transactions view table, you can link to the following workspaces:
 - "Transaction Details (Web)" on page 210 workspace
 - Transactions: Topology workspace (if the application is also a Transaction Tracking application)
- From the Clients Summary view table, you can link to the following workspaces:
 - "Client Details (Web)" on page 169 workspace
- Components: Topology workspace (if the application is also a Transaction Tracking application)
- From the Users view table, you can link to the following workspaces:
 - "User Details (Web)" on page 214 workspace
 - "User Sessions (Web)" on page 216 workspace

Clients (Web)

This workspace summarizes the availability of all clients so that you have a quick view of what is working and what is not working for each client monitored by Web Response Time.

The bar chart view provides a graphical representation of how your clients are working, showing the percentage of time that they were slow or failed, and the percentage of the time when the clients performed exactly as expected. The table view provides granular details about client availability and has a link so that you can view more details about a specific client.



Figure 66. Clients (Web) workspace

This workspace has the following views:

Client Availability Historical Summary

Displays a bar graph showing the percentage of times the client failed (red), performed slowly (yellow), or performed as expected (green). When you hover over a bar, percentage of availability is displayed for that bar.

Client Current Status Details

Displays information about specific clients.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

- 1. Click beside the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
- 2. Click beside the name of the node on which the Web Response Time monitoring agent is located, if necessary.
- 3. Click Web Response Time
- 4. Click **Clients**.

Linking to related workspaces

You can link to the following workspaces by right-clicking the icon and selecting from the available list of workspace links:

- From the Clients Current Status view table, you can link to the following workspaces:
 - "Client Details (Web)" on page 169 workspace
 - "Client Users (Web)" on page 174 workspace
 - Components: Topology workspace (if the client is also a Transaction Tracking component)

Client Dependencies

This workspace provides more information about a selected client in TCP tracking data, including servers that the client is using and details about the protocols that the selected client is using.

This workspace provides detailed data on the outbound servers and protocols on which the client, selected from the Clients view in one of several related workspaces, has a dependency. This includes historical metric data and information on the servers that the client is using and the protocols that the client is using. This workspace displays summary graphs for the following metrics:

- · Historical trend of active and terminated connections
- · Historical trend of the total number of transactions and average response time
- · Historical trend of send and receive bandwidth, in kilobytes per second

In addition to the standard connection, bandwidth and response time graphs, this workspace provides the All Servers table view and the Protocol Breakdown table view for analyzing the TCP dependencies of this client at various levels of aggregation.

The All Servers table shows the TCP metrics for each server with which the selected client communicates. Note that these metrics reflect the total TCP traffic from the client and are not in the context of a single component. To see a more detailed view of the protocol and client TCP activity of one of these outbound servers, use the link to the "Server Dependencies" on page 206 workspace for the desired server.

The Protocol Breakdown table shows the client's TCP metrics for each protocol that is used by the client. This protocol-level data provides the destination IP address, hostname, port and metrics for the associated TCP traffic. This workspace displays a set of bar charts or line graphs in each view, similar to the following example.



Figure 67. Client Dependencies workspace

This workspace has the following views:

All Servers

This view displays a table with more details about all the servers that the selected client is using.

Average Response Time

This view displays a combined bar chart and line graph, showing the historic trend in average response time (line graph) and the historic trend in the total transaction time, in seconds (bar chart) for the selected client during the specified reporting time interval (default is the last 2 hours).

Bandwidth

This view displays a stacked vertical bar chart showing the historic trend in send bandwidth and receive bandwidth, in kilobytes per second, for the selected client during the specified reporting interval (the default is the last two hours).

Connections

This view displays a multi-bar chart that shows the historic trend of the number of connections (such as active, and terminated) for the selected client during the reporting interval (the default is the last 2 hours).

Protocol Breakdown

This view displays a table with more details about all of the protocols used by the selected client.

Selected Client

Displays information about the monitored client that was selected previously to access this workspace.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see

Appendix B, "Response Time - Attributes listed alphabetically," on page 521. Rows in the tables are highlighted in yellow for response times greater than one second. Links from these tables take you to additional workspaces containing more detail as appropriate.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "Client Facing Components" on page 171 workspace, you can use either of the following methods:
 - Click the link icon en next to a table row in the Clients view.
 - Right-click a table row in the Clients view, and select **Client Dependencies** from the list of available links.
- From the "Component Details" on page 178 workspace, you can use either of the following methods:
 - Click the link icon each next to a table row in the Clients view.
 - Right-click a table row in the Clients view, and select **Client Dependencies** from the list of available links.
- From the "Component Server Details" on page 183 workspace, you can use either of the following methods:
 - Click the link icon ext to a table row in the Clients view.
 - Right-click a table row in the Clients view, and select Client Dependencies from the list of available links.
- From the "Server Dependencies" on page 206 workspace, you can use either of the following methods:
 - Click the link icon ext to a table row in the Clients view.
 - Right-click a table row in the Clients view, and select Client Dependencies from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspace:

- The "Server Dependencies" on page 206 workspace, using any of the following methods:
 - Click the link icon ext to a table row in the All Servers view.
 - Right-click a table row in the All Servers view, and select Server Dependencies from the list of available links.

Client Details (Web)

This workspace shows the detailed trend and historical status for a selected client so that you have a quick view of what is working and what is not working.



Figure 68. Client Details (Web) workspace

This workspace has the following views:

Average Response Time Trends

Shows the response time breakdown trend. The threshold is determined by the Minimum Response Time Threshold attribute. To collect client browser render time and page tagging data, see *Monitoring web transaction response times* in the *ITCAM for Transactions Administrator's Guide* for configuration information.

Bandwidth Usage

Shows how much bandwidth is used by the selected application. Details are broken down into request and response sizes.

Error Rates

This view displays a bar chart of the historic count of client errors and server errors associated with the selected client, during the reporting interval (the default is the last 8 hours).

Selected Client

Displays information about the monitored client that was selected previously to access this workspace.

Transactions for Client

Shows the transactions for this client.

Users and Requests

Displays historical trend line graphs of the total number of requests and unique users associated with the selected client during the reporting interval (the default is the last 8 hours).

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "Web Response Time" on page 155 workspace, you can use the following method:
 - Click the link icon ext to a table row in the Clients Current Status view, and select the Client Details link. You can also right-click the table row and select the link from the list of available links.
- From the "Clients (Web)" on page 165 workspace, you can use the following method:
 - Click the link icon ext to a table row in the Client Current Status
 Details view. You can also right-click the icon or within a table row and select the Client Details link from the list of available links.
- From the "Client Users (Web)" on page 174 workspace, you can use the following method:
 - Click the link icon next to a table row in the Selected Client view. You can also right-click the icon or within a table row and select the Client Details link from the list of available links.
- From the "User Details (Web)" on page 214 workspace, you can use the following method:
 - Click the link icon ext to a table row in the Selected User view. You can also right-click the icon or within a table row and select the Client Details link from the list of available links.
- From the "Application Interactions (Web)" on page 162 workspace, you can use the following method:
 - Click the link icon ext to a table row in the Clients view. You can also right-click the icon or within a table row and select the Client Details link from the list of available links.

Linking to related workspaces

You can link to the following workspaces by right-clicking the *icon* icon and selecting from the available list of workspace links:

- From the Transactions For Client view table, you can link to the following workspaces:
 - "Transaction Details (Web)" on page 210 workspace
- From the Selected Client view table, you can link to the following workspaces:
 - "Client Users (Web)" on page 174 workspace
 - Components: Topology workspace

Client Facing Components

This workspace provides a summary overview of Component data collected by the agentless transaction tracking feature.

This workspace is a companion to the default "Components" on page 175 workspace, and focuses on data aggregated by unique components monitored by the agent. This workspace gives you an indication of how your *client facing* components are performing. In this context, client facing components are the components that clients (not other servers) are accessing directly. For example, when you navigate to a web site, the browser might use the IBM HTTP Server, which in turn might involve calls to WebSphere Application Server or IBM DB2 Server while processing the request. In this example, IBM HTTP Server would be the *client facing* components might be indicative of problems seen by end users.

This workspace displays summary graphs for the following metrics aggregated by component:

- Historical trend of latency time
- · Historical trend of average response time
- Real time send and receive bandwidth, in kilobytes
- Real time number of connections

In addition to the chart views, this workspace also includes table views showing detailed data aggregated by component for client groups and client facing components.

The Clients table provides a list of clients in the TCP monitoring environment. In this context, the term *client* refers to client computers that are not hosting one of the monitored TCP components. This data is also broken down by component, so multiple rows are displayed for each client and component combination. To see more detailed client information, link to the "Client Dependencies" on page 166 for the desired client.

The Client Facing Components table provides metrics for each client facing component in the environment. To see more detailed information on a component, link to the "Component Details" on page 178 workspace for the desired component.

This workspace displays a set of bar charts or line graphs in each view, similar to the following example.



Figure 69. Client Facing Components workspace

This workspace has the following views:

Latency Time

This view displays a multiple-line graph (one line per component) that shows the historic trend of latency time, in seconds, for each component over the specified time interval (default is the last 8 hours). Latency is a measure of the time it takes a client to get a 0-byte TCP response after sending a 0-byte TCP request packet. This latency measurement typically occurs during the first two steps of the TCP handshake process.

Average Response Time

This view displays a multiple-line graph (one line per component) that shows the historic trend of average response time, in seconds, for each component over the specified time interval (default is the last 8 hours).

Bandwidth Summary

This view displays a bar chart that shows the send and receive bandwidth, in kilobytes per second, for each monitored component (such as IBM HTTP Server, WebSphere Application Server, IBM DB2 Server, and others). Each bar shows the total send bandwidth and total receive bandwidth during the monitoring interval for each unique component.

Connections Summary

This view displays a bar chart that shows the number of connections for each monitored component (such as IBM HTTP Server, WebSphere Application Server, IBM DB2 Server, and others). Each bar shows the total number of connections during the monitoring interval for each unique component.

Clients

This view displays a table with more details about each client group aggregated by unique component name.

Client Facing Components

This view displays a table with more information about each client facing component, aggregated by unique component name.

Note: The data displayed in the Client Facing Components table and the Clients table is relative to a particular selection, which means that this relative data cannot be warehoused. The only historical data provided for these tables must come from the workspace historical tables, or must be based on queries that use AGGBY=ClientByComponent or AGGBY=EntryComponents.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521. Rows in the tables are highlighted in yellow for response times greater than one second. Links from these tables take you to additional workspaces containing more detail as appropriate.

Accessing the workspace

You can link to this workspace from the Navigator Physical view:

- 1. Click beside the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
- 2. Click the beside the name of the node on which the Web Response Time monitoring agent is located, if necessary.
- 3. Click Web Response Time
- 4. Click Network.
- 5. Right-click the **Network** node and select **Client Facing Components** from the list of available workspace links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "Client Dependencies" on page 166 workspace, using any of the following methods:
 - Click the link icon entry next to a table row in the Clients view.
 - Right-click a table row in the Clients view, and select **Client Dependencies** from the list of available links.
- The "Component Details" on page 178 workspace, using any of the following methods:
 - Click the link icon ext to a table row in the Client Facing Components view.
 - Right-click a table row in the Client Facing Components view, and select **Component Details** from the list of available links.

Client Users (Web)

This workspace shows information about users that are associated with the selected client.

Selected Clie	ent								13	= 00	8 🗆 ×
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14					User135		0		1 06/09/09 0	8:55:00	
1					User133		0		1 06/09/09 0	8:50:00	
12					User58		0		1 06/09/09 0	8:50:00	
					User2		0		0 06/09/09 0	8:50:00	
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0 06/08/09 12:00 All Users User2 User22 User22 User22 User23 User25 User24 User31 User26 User24 User31 User3	● 00 08/08/09 00 ● Timestamp 06/09/09 10:15:00 06/09/09 09:20:00 06/09/09 09:20:00 06/09/09 09:20:00 06/09/09 09:20:00 06/09/09 09:20:00 06/09/09 09:20:00 06/09/09 09:20:00 06/09/09 09:20:00 06/09/09 09:20:00 06/09/09 09:20:00 06/09/09 09:20:00 06/09/09 09:20:00 06/09/09 09:20:00 06/09/09 09:20:00 06/09/09 09:20:00	Average Client Time 00:00 Average Client Time 0:035 0:085 0:091 0:005 0:005 0:005 0:005 0:005 0:005	Averag	20 Network Time 20 Network Time 0.010 0.010 0.010 0.010 0.010 0.010 0.022 0.141 0.010	Average Serve	r Time Total ki 0.140 0.081 0.091 2.704 0.100 0.117 0.334 0.072 0.217 0.217 0.217	Nytes 34 2 3 234 1 1 7 2 4 220 5	Request kBytes	Reply kBytes Reply kBytes 1 1 2 3 225 1 0 4 14 0 4 7 203 3 3	Avera) → (3 → × ge Obje
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Figure 70. Client Users (Web) workspace

This workspace has the following views:

Selected Client

Displays information about the monitored client that was selected previously to access this workspace.

Total Client Requests

Shows a combined graph of the total number of client requests (Good, Slow, and Failed), and the minimum, maximum, and average response times for those requests for each 5-minute interval over the last 8 hours. Color coding quickly illustrates good or problem areas.

Current User Problems

Shows a table of users that are experiencing problems during the current interval (last 5 minutes), such as failed or slow requests, and additional data to help identify the cause of the problem.

All Users

Shows a table with details about all of the users that are associated with the selected client.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "Clients (Web)" on page 165 workspace, you can use either of the following methods:
 - Right-click the link icon ext to a table row in the Client Current Status Details view, and select the Client Users link.
 - Right-click a table row in the Client Current Status Details view, and select Client Users from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "Client Details (Web)" on page 169 workspace, using any of the following methods:
 - Click the link icon end in the selected Client view.
 - Right-click a table row in the Selected Client view, and select Client Details from the list of available links.
 - Right-click the graph in the Total Client Requests view and select Client Details from the list of available links.
- The "User Details (Web)" on page 214 workspace, using either of the following methods:
 - Click the link icon exact in the Current User Problems view.
 - Right-click a table row in the Client User Problems view, and select User Details from the list of available links.
- The "User Sessions (Web)" on page 216 workspace, using any of the following methods:
 - Click the link icon end with the link icon end of the link icon end of
 - Right-click a table row in the Users view, and select User Sessions from the list of available links.
- The "User Current Status (Web)" on page 212 workspace, using the following method:
 - Right-click a table row in the Users view, and select User Current Status from the list of available links.

Components

This workspace provides a summary overview of TCP tracking data collected by the agentless transaction tracking feature for all components.

This workspace is the default workspace displayed from the Network node in the Navigator view, and is a companion to the "Client Facing Components" on page 171 workspace. The Components workspace provides an aggregated view of many TCP-centric metrics at the component level. Some of these metrics include response times, bandwidth statistics, and connection information. The data in this workspace provides an overall view of the TCP characteristics of Components across the entire environment. To view more detailed server and protocol level detail of the component, use the "Component Details" on page 178 link in the All Components table.

This workspace displays summary graphs for the following metrics:

- · Historical trend of latency time
- · Historical trend of average response time
- Real time send and receive bandwidth, in kilobytes
- Real time number of connections

In addition to the chart views, this workspace also includes a table view showing detailed data aggregated by component for all network flows.

This workspace displays a set of bar charts or line graphs in each view, similar to the following example.





This workspace has the following views:

Latency Time

This view displays a multiple-line graph (one line per component) that shows the historic trend of latency time, in seconds, for each component over the specified time interval (default is the last 8 hours). Latency is a measure of the time it takes a client to get a 0-byte TCP response after sending a 0-byte TCP request packet. This latency measurement typically occurs during the first two steps of the TCP handshake process.

Average Response Time

This view displays a multiple-line graph (one line per component) that shows the historic trend of average response time, in seconds, for each component over the specified time interval (default is the last 8 hours).

Bandwidth Summary

This view displays a bar chart that shows the send and receive bandwidth, in kilobytes per second, for each monitored component (such as IBM HTTP Server, WebSphere Application Server, IBM DB2 Server, and others). Each bar shows the total send bandwidth and total receive bandwidth during the monitoring interval for each unique component.

Connections Summary

This view displays a bar chart that shows the number of connections for each monitored component (such as IBM HTTP Server, WebSphere Application Server, IBM DB2 Server, and others). Each bar shows the total number of connections during the monitoring interval for each unique component.

All Components

This view displays a table with more details about all components, aggregated by unique component name.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521. Rows in the tables are highlighted in yellow for response times greater than one second. Links from these tables take you to additional workspaces containing more detail as appropriate.

Accessing the workspace

You can link to this workspace from the Navigator Physical view:

- 1. Click the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
- 2. Click th beside the name of the node on which the Web Response Time monitoring agent is located, if necessary.
- 3. Click Web Response Time
- 4. Click Network.

Alternatively, you can right-click the **Network** node and select **Components** from the list of available workspace links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "Component Details" on page 178 workspace, using any of the following methods:
 - Click the link icon entry next to a table row in the All Components view.
 - Right-click a table row in the All Components view, and select Component Details from the list of available links.
- The "Component History" on page 181 workspace, using any of the following methods:
 - Right-click a table row in the All Components view, and select **Component History** from the list of available links.

Component Details

This workspace provides details about a selected component in the TCP tracking data collected by the agentless transaction tracking feature.

This workspace provides additional details about component data for a specific component selected from either the "Components" on page 175 workspace or the "Client Facing Components" on page 171 workspace.

The Component Details workspace provides a more in-depth look at the servers hosting the selected component, and the clients that use it. In addition to graphs showing timing, bandwidth and connection trend information, this workspace provides a Clients table view and a Component Servers table view.

This workspace displays summary graphs for the following metrics:

- Historical trend of active and terminated connections
- · Historical trend of the total number of transactions and average response time
- · Historical trend of send and receive bandwidth, in kilobytes per second

In addition to the chart views, this workspace also includes table views showing detailed data for the selected component, clients using the selected component, and servers that are hosting the selected component.

The Clients table provides a breakout of the TCP traffic for each client that is accessing the selected component. You can see what IP addresses or subnets are accessing the component, and the TCP metrics for the traffic coming from each individual client. From this table, you can link to the "Client Dependencies" on page 166 workspace for a detailed look at other components, servers and protocols on which the client depends.

The Component Servers table shows the TCP metrics for each server hosting the component. Note that although the metrics are shown at the server level, the metrics only represent the TCP data going to and from the selected component, and do not reflect the total TCP traffic on the server. To see a more detailed look at the protocol and client TCP activity of these servers, use the "Component Server Details" on page 183 link for the desired server.

This workspace displays the bar charts and line graphs in each view, similar to the following example.



Figure 72. Component Details workspace

This workspace has the following views:

Average Response Time

This view displays a combined bar chart and line graph, showing the historic trend in average response time (line graph) and the historic trend in the total transaction time, in seconds (bar chart) for the selected component during the specified reporting time interval (default is the last 2 hours).

Bandwidth

This view displays a stacked vertical bar chart showing the historic trend in send bandwidth and receive bandwidth, in kilobytes per second, for the selected component (such as IBM HTTP Server, WebSphere Application Server, IBM DB2 Server, and others) during the specified reporting interval (the default is the last two hours).

Clients

This view displays a table with more details about the clients that are using the selected component.

Component Servers

This view displays a table with more details about the servers that are hosting the selected component.

Connections

This view displays a multi-bar chart that shows the historic trend of the number of connections (such as active, and terminated) for the selected component (such as IBM HTTP Server, WebSphere Application Server, IBM DB2 Server, and others) during the reporting interval (the default is the last 2 hours).

Selected Component

This view displays a table with more information about the monitored component that was selected previously to access this workspace.

Limitation on one-way traffic: It is not possible to measure average response time, server time, or network time for one-way traffic (such as

FTP-DATA network flows) without a protocol aware packet analyzer. As a result, the values in these columns of the table are always displayed as 0.000.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521. Rows in the tables are highlighted in yellow for response times greater than one second. Links from these tables take you to additional workspaces containing more detail as appropriate.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "Components" on page 175 workspace, you can use either of the following methods:
 - Click the link icon entry next to a table row in the All Components view.
 - Right-click a table row in the All Components view, and select Component Details from the list of available links.
- From the "Client Facing Components" on page 171 workspace, you can use the following method:
 - Right-click a table row in the Client Facing Components view, and select **Component Details** from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "Component History" on page 181 workspace, using any of the following methods:
 - Click the link icon ext to a table row in the Selected Component view.
 - Right-click a table row in the Selected Component view, and select Component History from the list of available links.
- The "Client Dependencies" on page 166 workspace, using any of the following methods:
 - Click the link icon en next to a table row in the Clients view.
 - Right-click a table row in the Clients view, and select **Client Dependencies** from the list of available links.
- The "Component Server Details" on page 183 workspace, using any of the following methods:
 - Click the link icon ext to a table row in the Component Servers view.
 - Right-click a table row in the Component Servers view, and select
 Component Server Details from the list of available links.

Component History

This workspace provides an historical summary of the selected component in TCP tracking data collected by the agentless transaction tracking feature.

This workspace provides recent historical information about a component selected from either the "Components" on page 175 workspace or the "Component Details" on page 178 workspace. The granularity of this data is determined by the value of the Over Time Interval configuration parameter for the Web Response Time agent (see the *Installation Guide* for more information about configuring the Web Response Time agent).

Though the Component History workspace is the only default historical workspace provided for TCP data, TCP data is warehoused at many different aggregation levels. This allows you to create custom workspaces to examine historical TCP data at the component, server, client, and protocol levels. When creating queries for the WTP_TCP_Status ODI table, the Agg_By column filter determines what aggregation level is used for the resulting data. This same idea holds true when creating queries to be used in historical workspaces.

The following values are valid for the Agg_By column:

- All (0) : Data is aggregated on client, server, component, protocol and destination port.
- Server (1) : Data is aggregated on server.
- Client (2) : Data is aggregated on client.
- ClientByServer (3) : Data is aggregated on client and server.
- ClientByComponent (4) : Data is aggregated on client and component.
- ProtocolByServer (5) : Data is aggregated on protocol and server.
- Component (6) : Data is aggregated on component.
- ComponentByServer (7) : Data is aggregated on component and server.
- ComponentByServerByClient (8) : Data is aggregated on component, server and client.

This workspace displays summary graphs for the following metrics:

- Historical trend of active and terminated connections
- · Historical trend of the total number of transactions and average response time
- · Historical trend of send and receive bandwidth, in kilobytes per second

In addition to the chart views, this workspace also includes table views showing detailed information about the selected component and a table view of component history for each monitoring interval over the reporting interval (default is the last 8 hours).

This workspace displays a set of bar charts or line graphs in each view, similar to the following example.



Figure 73. Component History workspace

This workspace has the following views:

Average Response Time

This view displays a combined bar chart and line graph, showing the historic trend in average response time (line graph) and the historic trend in the total transaction time, in seconds (bar chart) for the selected component during the specified reporting time interval (default is the last 2 hours).

Bandwidth

This view displays a stacked vertical bar chart showing the historic trend in send bandwidth and receive bandwidth, in kilobytes per second, for the selected component (such as IBM HTTP Server, WebSphere Application Server, IBM DB2 Server, and others) during the specified reporting interval (the default is the last two hours).

Component History

This view displays a table with more details about the selected component. Each row in the table contains data for each monitoring interval over the reporting period (default is the last 8 hours).

Connections

This view displays a multi-bar chart that shows the historic trend of the number of connections (such as active, and terminated) for the selected component (such as IBM HTTP Server, WebSphere Application Server, IBM DB2 Server, and others) during the reporting interval (the default is the last 2 hours).

Selected Component

This view displays a table with more information about the monitored component that was selected previously to access this workspace.

Limitation on one-way traffic: It is not possible to measure average response time, server time, or network time for one-way traffic (such as FTP-DATA network flows) without a protocol aware packet analyzer. As a result, the values in these columns of the table are always displayed as 0.000.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521. Rows in the tables are highlighted in yellow for response times greater than one second. Links from these tables take you to additional workspaces containing more detail as appropriate.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "Components" on page 175 workspace, you can use either of the following methods:
 - Right-click a table row in the All Components view, and select **Component History** from the list of available links.
- From the "Component Details" on page 178 workspace, you can use the following method:
 - Right-click a table row in the Selected Component view, and select Component History from the list of available links.

Linking to related workspaces

There are no links available from this workspace.

Component Server Details

This workspace provides more details about a selected server that is hosting a particular component in the TCP tracking data collected by the agentless transaction tracking feature.

This workspace provides an in-depth view of the client and protocol breakdown for the component server selected from the "Component Details" on page 178 workspace.

This workspace displays summary graphs for the following metrics:

- · Historical trend of active and terminated connections
- Historical trend of the total number of transactions and average response time
- Historical trend of send and receive bandwidth, in kilobytes per second

In addition to the trend graphs containing response time, bandwidth and connection information, this workspace provides a Clients table and a Protocol Breakdown table for viewing the TCP metrics for the component server, calculated at the client and protocol level.

The Clients table shows each client that accesses the component on the selected server, and the TCP metrics associated with each client's TCP communication to the server. To see more detailed information on which components and servers a client accesses, select the link to the "Client Dependencies" on page 166 workspace.

The Protocol Breakdown table shows the component's TCP metrics for each component protocol that is hosted by the selected server. This protocol-level data provides the destination IP address, hostname, port and metrics for the associated TCP traffic.

This workspace displays a set of bar charts or line graphs in each view, similar to the following example.



Figure 74. Components Server Details workspace

This workspace has the following views:

Average Response Time

This view displays a combined bar chart and line graph, showing the historic trend in average response time (line graph) and the historic trend in the total transaction time, in seconds (bar chart) for the selected component server during the specified reporting time interval (default is the last 2 hours).

Bandwidth

This view displays a stacked vertical bar chart showing the historic trend in send bandwidth and receive bandwidth, in kilobytes per second, for the selected component server during the specified reporting interval (the default is the last two hours).

Clients

This view displays a table with more details about the clients connecting to the selected component server.

Connections

This view displays a multi-bar chart that shows the historic trend of the number of connections (such as active, and terminated) for the selected component server during the reporting interval (the default is the last 2 hours).

Protocol Breakdown

This view displays a table with more details about the protocol of the monitored traffic associated with the component on the selected server.

Selected Component Server

This view displays a table with more information about the server hosting a particular component, that was selected previously to access this workspace.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521. Rows in the tables are highlighted in yellow for response times greater than one second. Links from these tables take you to additional workspaces containing more detail as appropriate.

Accessing the workspace

You can link to this workspace from the following associated workspace:

- From the "Component Details" on page 178 workspace, you can use either of the following methods:
 - Click the link icon ext to a table row in the Component Servers view.
 - Right-click a table row in the Component Servers view, and select **Component Server Details** from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "Server Dependencies" on page 206 workspace, using any of the following methods:
 - Click the link icon ext to a table row in the Selected Component Server view.
 - Right-click a table row in the Selected Component Server view, and select Server Dependencies from the list of available links.
- The "Client Dependencies" on page 166 workspace, using any of the following methods:
 - Click the link icon en next to a table row in the Clients view.
 - Right-click a table row in the Clients view, and select **Client Dependencies** from the list of available links.

Configuration (Web)

This workspace shows details about the configuration of Web Response Time.

Profile Configuration					1	Ŧ		Ð		×
🔺 Config Name	Key Name		Value		Config Type		Entry Type			
Austin, TX	IP		*	C	Client		Include			
Login	ProfileNa	ProfileName		ults T	Transaction		erty			
Login	HTTP.POST:Email		*	Tra		Inclu	ide			
Login	URL	URL		gin* T	ransaction	Inclu	ide			
New York Branch Office	IP		123.231.32	123.231.321.* C		Include				
PlantsByState	ProfileNa	ProfileName		WRT_Defaults T		Prop	erty			
PlantsByState	HTTP.PO	ST:state	Oklahoma	Т	ransaction	Excl	ude			4
PlantsByState	QueryStrin	ng	action=regis	ster T	ransaction	Inclu	ide			
Web Activity	Veb Activity ProfileNar		WRT_Defau	ults T	ransaction	Property				
Web Activity	URL		*ibm*	T	ransaction	Inclu	ıde			Ŧ
🖽 Agent Details					1	Ŧ				×
Property			Value		1					
Monitoring HTTP		YES								
Data Range Hours		8								
Monitoring Remote HTTPS		NO								
IHS Version		IHSVER60								
Remote HTTPS Keystore										-
Count Unique Users		NO								
Remote HTTPS Servers										
Zero Application Records		NO								
Zero Transaction Records		NO			-					
IHS Home										٣
🛄 Agent Messages					1	Ŧ		B		×
Message Date and Time	Sev	verity	Message ID			Mes	sag	e Te:	xt	
07/22/09 11:03:22 Information			BWMRA02021	The re	The response time agent has sta			arte	ed s	
07/22/09 11:03:22 Information			BVVMRA0252I	Profile	changed: V	VRT_	Defa	aults.		
al							1			

Figure 75. Configuration (Web) workspace

This workspace has the following views:

Agent Details

Displays details about the monitoring agent's configuration and version based on the values parameters specified when the agent was set up after installation.

Agent Messages

Displays the messages generated by the monitoring agent as it monitors transactions. It also provides details about the messages based on which attributes were specified when the situation was created.

Profile Configuration

Provides list of profiles and what applications and patterns (transactions or clients) are used by this agent so you can determine if the agent is using the correct profiles and is correctly configured for monitoring.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

- 1. Click the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
- 2. Click the beside the name of the node on which the agent is located, if necessary.
- 3. Click [•] beside **Web Response Time**.
- 4. Click **Configuration**.

Linking to related workspaces

You cannot link to another workspace from this workspace.

Errors

This workspace provides a view of Web Response Time application errors, including SSL errors and content errors.

You might have a need to understand if a request encountered any Secure Socket Layer (SSL) errors, to help you determine if the request error was caused by SSL communication or certificate errors. The Errors workspace provides views that display information about content errors and network errors, and readily available help information to describe the types of errors that you might encounter. The Errors workspace is similar to the following example:

Those Enterprise Portal Welcome SY:					IBM.
File Edit View Help			8		
			() = 10 🖉		6
Navigator 2 U E	Content Errors			/ ¥ 🖽 E	×□E
O View Physical ✓ ØX © Enterprise ✓ ØX ØX ØX ✓ Gal (max Systems) ✓ ØX ØX ØX ✓ Mindows Systems ✓ ØX ØX ØX ØX) U Type Content Found Content Found	Search String "We detected an Error which may have occurred for one or "We detected an Error which may have occurred for one or	Timestamp 04/07/10 14:33:43 04/07/10 14:33:42	Transaction Name bvt_content_error.htm bvt_content_error.htm	a Appl nl Con nl Con
Application Management Console Gient Response Time) = m ×
Web Response Time	Alert Type Alert Name	Timestamp Server IP Server Port Count Client Group Severity	First Occurrence		
Configuration	Additional Informat	tion About Content and SSL Errors		/ ± 00 E	3 0 ×
	- ◆ ◆ ● ② ♂ Additional Inf	Location: http://utms4.tivlab.austin.ibm.com/1920///cnp/kdh/ill	b//classes/candle/kt3/res	sources/help/Workspace:	s/T5_WR1
	Content Errors: The Time agent (see the 0 the Content Check E the Application Mana	Content Errors table view shows the types of logical content error Content Check Error Type column) and the expected string that Error Condition column). You can configure content checking filt gement Configuration Editor tool.	rs detected by the We was found, triggering ers as part of your pro	eb Response 1 the error (see ofile definitions in	
	SSL Errors: The SSL communication or centre the other columns pro	. Errors table shows information about Secure Socket Layer (SSL rtificate related errors. The Alert Type and Alert Name columns ovide additional details to help you pinpoint and correct the proble	.) Alerts caused by a identify the category m.	variety of SSL of the error, and	
	More Information: S workspace:	See the following topics for additional information about content er	rors and SSL errors d	lisplayed in this	
	SSL Errors Decent tenior Errors				3
📲 Physical	Done				001000000

Figure 76. Errors workspace

This workspace has the following views:

Content Errors

Displays a table showing the details of content errors for applications monitored by the Web Response Time agent.

Network Errors

Displays a table showing the details of network communication errors and warnings for applications monitored by the Web Response Time agent.

Additional Information About Content and SSL Errors

Displays introductory information about content errors and SSL errors that are displayed in this workspace. The view also provides links to additional detailed help information to help you understand these types of errors.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

In various workspaces, such as the "Servers (Web)" on page 204 workspace, you can see a count of content errors or SSL errors and warnings that affected communication with that server. From there you can navigate to the Errors workspace for additional details.

Accessing the workspace

You can link to this workspace from the following associated workspaces (note that the link is only available for selection if you have content or SSL errors):

- From the Navigator Physical view:
 - Click beside the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
 - 2. Click th beside the name of the node on which the Web Response Time monitoring agent is located, if necessary.
 - 3. Click Web Response Time
 - 4. Click Errors.
- For the following workspaces, you can click the link icon next to a table row in the specified view, and select the Errors link. You can also right-click the table row and select the link from the list of available links:
 - "Servers (Web)" on page 204 workspace: From the Server Current Status Details view
 - "Server Details (Web)" on page 209 workspace: From the Transactions for Server view
 - "Clients (Web)" on page 165 workspace: From the Client Current Status Details view
 - "Client Details (Web)" on page 169 workspace:
 - From the Selected Client view
 - From the Transactions For Client view
 - "User Details (Web)" on page 214 workspace:
 - From the Selected User view
 - From the Session Status view
 - "Client Users (Web)" on page 174 workspace:
 - From the Selected Client view
 - From the Current User Problems view
 - From the All Users view
 - "User Sessions (Web)" on page 216 workspace:

- From the Sessions view
- From the Transaction Instances view
- "Applications (Web)" on page 158 workspace: From the Application Current Status Details view
- "Application Interactions (Web)" on page 162 workspace:
 - From the Selected Application view
 - From the Users view
 - From the Clients view
 - From the Transactions view
 - From the Servers view
- "Application Details (Web)" on page 159 workspace: From the Selected Application view
- "Application Historical Analysis" on page 161 workspace: From the Slowest Transactions view
- "Transaction Details (Web)" on page 210 workspace: From the Selected Transaction view
- "Web Response Time" on page 155 workspace:
 - From the Applications Current Status view
 - From the Clients Current Status view
 - From the Servers Current Status view

Linking to related workspaces

There are no links from this workspace to other related workspaces.

Additional Information About Content and SSL Errors: The Content Errors table view shows the types of content errors detected by the Web Response Time agent (see the **Type** column) and the expected string that was found, triggering the error (see the **Search String** column). You can configure content checking filters as part of your profile definitions in the Application Management Configuration Editor tool.

SSL Errors: The SSL Errors table shows information about Secure Socket Layer (SSL) Alerts caused by a variety of SSL communication or certificate related errors. The **Alert Type** and **Alert Name** columns identify the category of the error, and the other columns provide additional details to help you pinpoint and correct the problem.

More Information: See the following topics for additional information about content errors and SSL errors displayed in this workspace:

- "Content Errors" on page 190
- "Network Errors" on page 190

Content Errors:

The Web Response Time agent records content errors and reports them in the Content Errors table view of the Errors workspace. The Content Errors table view displays, among other data, the following details about the content errors:

Type Describes the type of content check error that was found. Valid values include:

- None
- · Page Title Found
- Page Title Not Found
- Content Found
- Content Not Found

Search String

This is a text string that describes the actual condition that was found or not found that triggered the content check error. This is the value specified in the availability check filter for the selected transaction in the profile defined in the Application Management Configuration Editor.

Timestamp

The start time of the current interval.

Transaction Name

The transaction that encountered the error.

Application Name

The application that encountered the error.

Client Name

The client group that encountered the error.

Server The server that encountered the error.

User The user that encountered the error.

For more information about configuring profiles for content checking using the Application Management Configuration Editor, see Configuring for Web Response Time Content Checking in the *Administrator's Guide*.

Network Errors:

The Web Response Time agent records SSL communication errors and warnings, and reports them in the Network Errors table view of the Errors workspace.

The Network Errors table view displays the following details:

Alert Type

Type of SSL Alert derived from the severity. It can be one of several types, described in the next section.

Alert Name

Name of the SSL Alert. There are a number of supported SSL Alerts, described in the next section.

Timestamp

Timestamp of the start of the current summary interval.

Server IP

TCP/IP address of the server that sent or received the SSL Alert.

Server Port

TCP/IP port of the server that sent or received the SSL Alert.

Count Number of times that the specified Alert occurred on the specified server during the current summary interval.

Client Group

Client group of the monitored traffic displayed as an IP address, or IP mask for multiple client addresses

First Occurrence

Timestamp of the first occurrence of the SSL Alert during the current summary interval.

Severity

Severity of the SSL Alert. The severity can be either *Warning* or *Fatal*. A *Warning* severity level means that the sender is willing to continue the connection. A *Fatal* severity level means that the connection is terminating immediately.

Origin Node

The name of the origin node.

Module Name

The name of decoder module from which the data is derived.

SSL Alert Types

SSL Alert types are grouped into five basic categories:

Network Error

The SSL connection failed because packet data was lost or corrupted during transmission due to network problems. Contact your network administrator for assistance.

Server Error

The SSL connection failed because of a fatal client or server configuration problem. See the Alert Name column for additional details about this error.

Server Warning

The SSL connection succeeded, but there might be a client or server configuration problem that needs corrective action. See the Alert Name column for additional details about this error.

Client Error

The SSL connection failed because of a fatal client or server configuration problem. See the Alert Name column for additional details about this error.

Client Warning

The SSL connection succeeded, but there might be a client or server configuration problem that needs corrective action. See the Alert Name column for additional details about this error.

SSL Alert Names

The following SSL Alert Names are displayed in the Alert Name column in the SSL Errors table view:

Access Denied

The server refused the connection because the client is not on its access control list. Ask the server administrator to grant access to the client.

Bad Certificate

The server provided a corrupt or unreadable server certificate. Ask the server administrator to verify their server certificate is not corrupt.

Bad Certificate Hash Value

The server provided a certificate hash which does not match the certificate downloaded by the client. Verify that the downloaded certificate is valid. If so, ask the server administrator to correct the hash value sent by the server.

Bad Certificate Status Response

The server provided an invalid Online Certificate Status Protocol (OCSP) response. Ask the server administrator to verify their OCSP responder is functioning properly.

Bad Record MAC

SSL received a record with an incorrect Message Authentication Code (MAC). This alert might occur due to a problem in the client or server implementation, or possible network packet corruption. Contact your network administrator for assistance.

Certificate Expired

The server provided a server certificate which is no longer valid because it has expired. Ask the server administrator to replace it with a valid certificate.

Certificate Revoked

The server provided a server certificate which has been revoked by the Certificate Authority. Ask the server administrator to replace it with a valid certificate.

Certificate Unknown

The client did not accept the server's certificate because of an unknown error. Verify that the server's certificate is valid and that the client is capable of parsing it.

Certificate Unobtainable

The server was unable to access a client certificate at a remote URL specified by the client. Verify that the certificate URL is valid, and ask the server administrator to verify that the server can access it.

Decode Error

The client or server could not decode an SSL handshake message. This alert might occur due to a problem in the client or server implementation, or possible network packet corruption. Contact your network administrator for assistance.

Decompression Failure

The compressed SSL record that was received could not be successfully decompressed. This alert might occur due to a problem in the client or server implementation, or possible network packet corruption. Contact your network administrator for assistance.

Decrypt Error

The client or server could not complete signature verification or key exchange. This alert might occur due to a problem in the client or server implementation, or possible network packet corruption. Contact your network administrator for assistance.

Decryption Failed

The received SSL record could not be decrypted. This alert might occur

due to a problem in the client or server implementation, or possible network packet corruption. Contact your network administrator for assistance.

Export Restriction

The server refused the connection because all of the ciphersuites requested by the client had a key length greater than 512 bytes, and the server is configured not to use these because of former U.S. export restrictions. Ask the server administrator to configure the server to accept longer keys.

Handshake Failure

The server does not support any of the ciphersuites requested by the client. Configure the client again to use ciphersuites supported by the server, or use a different client program.

Illegal Parameter

The client or server sent a handshake message containing an illegal parameter. Contact your network administrator for assistance.

Insufficient Security

The server does not support any of the ciphersuites requested by the client, because they are too weak. Reconfigure the client to use stronger ciphersuites supported by the server, or use a different client program.

Internal Error

The client or server encountered an internal software error. Contact your network administrator for assistance.

No Certificate

The client does not have a certificate requested by the server. Ask the server administrator how to obtain the necessary certificate for your client.

No Renegotiation

The client or server attempted renegotiation, but the other party has disabled it for security reasons. If the server sent the alert, configure the client again to disable renegotiation. If the client sent the alert, request the server administrator to disable renegotiation, or configure the client to accept it.

Protocol Version

The server does not support the version of SSL or TLS being used by the client. Configure the client to use a newer protocol version, or use a different client program.

Record Overflow

The SSL record that was received is longer than the maximum length permitted. This alert might occur due to a problem in the client or server implementation, or possible network packet corruption. Contact your network administrator for assistance.

Unexpected Message

This alert might occur due to a problem in the client or server implementation, or possible network packet corruption. Contact your network administrator for assistance.

Unknown CA

The server provided a server certificate whose Certificate Authority (CA) is unknown or not trusted. Verify that the CA used by the server is valid. If it is valid, add to the client's list of trusted CA's.

Unknown PSK Identity

The server refused the connection because the client requested a pre-shared

key (PSK) ciphersuite but did not provide a valid PSK identity. Ensure the client is sending a valid PSK identity, or configure it to use only non-PSK ciphersuites.

Unrecognized Name

The server did not recognize the server name specified by the client. Verify that the name sent by the client is valid for the specified server.

Unsupported Certificate

The server does not support any of the certificate types requested by the client. Disable server authentication by the client, or use a different client program.

Unsupported Extension

The server sent a reply containing an extension that the client did not request. Contact the server administrator and verify that the server is configured properly.

SSL Alerts by Alert Type

The following table shows which of the supported SSL Alerts are grouped into the various supported Alert Types.

	Network	Server	Server	Client	Client
Alert Name	Error	Error	Warning	Error	Warning
Access Denied		X		X	
Bad Certificate		X ¹	Х	X ²	Х
Bad Certificate Hash Value		X		X	
Bad Certificate Status Response		X		X	
Bad Record MAC	X				
Certificate Expired		X^1	Х	X ²	Х
Certificate Revoked		X ¹	Х	X ²	Х
Certificate Unknown		X^1	Х	X ²	Х
Certificate Unobtainable		X ¹	X	X ²	Х
Decode Error	X				
Decompression Failure	X				
Decrypt Error	X				
Decryption Failed	X				
Export Restriction		X		Х	
Handshake Failure				X	
Illegal Parameter	X				
Insufficient Security				X	
Internal Error	X				
No Certificate		X ¹	X	X ²	X
No Renegotiation				X ²	X
Protocol Version				X	
Record Overflow	X				

Table 5. SSL Alert Names grouped by SSL Alert Type

Alert Name	Network Error	Server Error	Server Warning	Client Error	Client Warning
Unexpected Message	Х				
Unknown CA		X		Х	
Unknown PSK Identity		X ¹	Х	X ²	Х
Unrecognized Name		X ¹	Х	X ²	Х
Unsupported Certificate		X ¹	Х	X ²	Х
Unsupported Extension				Х	

Table 5. SSL Alert Names grouped by SSL Alert Type (continued)

Note: ¹ If sent by the client with a severity level of *Fatal*.

² If sent by the server with a severity level of *Fatal*.

Historical Errors

This workspace provides a historical view of Web Response Time application errors, including SSL errors and logical content errors.

You might have a need to understand if a request encountered any Secure Socket Layer (SSL) errors, to help you determine if the request error was caused by SSL communication or certificate errors. The Historical Errors workspace provides views that display information about logical content errors and SSL errors, and readily available help information to describe the types of errors that you might encounter. This workspace is identical to the Errors workspace, except it displays historical data instead of current data. The Historical Errors workspace is displayed similar to the following example:



Figure 77. Historical Errors workspace

This workspace has the following views:

Content Errors

Displays a table showing the details of content errors for applications monitored by the Web Response Time agent.

Network Errors

Displays a table showing the details of network communication errors and warnings for applications monitored by the Web Response Time agent.

Additional Information About Content and SSL Errors

Displays introductory information about content errors and SSL errors that are displayed in this workspace. The view also provides links to additional detailed help information to help you understand these types of errors.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

In various workspaces, such as the "Servers (Web)" on page 204 workspace, you can see a count of content errors or SSL errors and warnings that affected communication with that server. From there you can navigate to the Errors workspace and then the Historical Errors workspace for additional details.

Accessing the workspace

You can link to this workspace from the following associated workspaces (note that the link is only available for selection if you have content or SSL errors):

- From the Navigator Physical view:
 - 1. Click Th beside the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
 - 2. Click beside the name of the node on which the Web Response Time monitoring agent is located, if necessary.
 - 3. Click Web Response Time
 - 4. Click **Errors**.
 - **5.** From the Errors workspace, right-click the **Errors** node in the Navigator Physical view and select **Historical Errors**.
- For the following workspaces, you can right-click the link icon ext to a table row in the specified view, and select Historical Errors from the list of available links:
 - "Application Details (Web)" on page 159 workspace: From the Application Historical Trend Details view
 - "Transaction Details (Web)" on page 210 workspace: From the Transaction Historical Trend Details view
 - "User Sessions (Web)" on page 216 workspace: From the Transaction Instances view

Linking to related workspaces

There are no links from this workspace to other related workspaces.

Network

This workspace provides a view of overall network health and statistics for the Web Response Time monitoring agent.

The standard Transmission Control Protocol (TCP) is a guaranteed delivery protocol, with methods of sending information across the network in packets and tracking them as they are sent and received. Packets that are not accounted for are retransmitted as needed. From the perspective of an application, there is no ultimate loss of information.

At the TCP layer, however, there is real or perceived packet loss, which causes a packet retransmission. TCP sessions wait for an acknowledgement of the packets that have been sent, and if the wait time is exceeded, it is assumed that the packet was dropped along the way, and the packet is retransmitted. This retransmission occurs regardless of whether the packet was actually dropped, or if the transit time for the packet takes longer than the acknowledgement wait time. Either way, the packet is sent again and eventually received at the other end of the connection.

All of this packet loss and retransmission activity is not actually noticed by the application because the TCP layer manages it on behalf of the application and ensures a reliable transport of the data, receiving and sorting the packets into the correct sequence at the receiving end.

However, this retransmission activity might adversely affect network performance in several different ways:

- The time for transmitting that block of data is increased.
- The bandwidth consumption of the application is increased.

From an IT perspective this means that service level agreements (SLAs) might be violated, and the total bandwidth usage for the application might be higher than expected. In most cases the bandwidth increase is usually not worth noting because the response time impact far outweighs the small bandwidth increase due to retransmissions. However, in some cases, such as when a large portion of data transmission is intercontinental traffic, these retransmissions can result in nearly doubling the expected bandwidth consumption, because the base transit time exceeds the retransmission timer. For example, this scenario might occur when connecting to US based websites from China or Australia during prime time hours where the intercontinental networks are under heavy loads. For Global companies without local regional data centers, it can be useful to monitor retransmission bytes in order to determine the bandwidth impact. Knowing how frequently the retransmission timer is being exceeded can give the business a chance to adjust these settings appropriately to more reliably serve their website customers.

The Network workspace displays an overview of network health, showing information about network overhead due to packet loss and retransmission for various applications. The number of retransmissions and the amount of data (in kilobytes) that is retransmitted is summarized by clients, users, applications, and servers.

The Network workspace also shows information about network response time, in both graph and table form. Together with the information about packet loss and retransmissions, you can see where your network might be causing your timing delays.



Figure 78. Network workspace

This workspace has the following views:

Application Network Time

A chart showing the average network time for applications over the last 8 hours.

Current Applications

Shows information about network health for current applications, including the number of retransmissions that were detected and the amount of data, in kilobytes, that was retransmitted because of packet loss incidents during transmission.

Current Clients

Shows information about network health for current clients, including the number of retransmissions that were detected and the amount of data, in kilobytes, that was retransmitted because of packet loss incidents during transmission.

Current Servers

Shows information about network health for current servers, including the number of retransmissions that were detected and the amount of data, in kilobytes, that was retransmitted because of packet loss incidents during transmission.

Current Users

Shows information about network health for current users, including the number of retransmissions that were detected and the amount of data, in kilobytes, that was retransmitted because of packet loss incidents during transmission.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521. Rows in the tables are highlighted in yellow for response times greater than one second. Links from these tables take you to additional workspaces containing more detail as appropriate.

Accessing the workspace

You can link to this workspace from the Navigator Physical view:

- 1. Click the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
- 2. Click Th beside the name of the node on which the Web Response Time monitoring agent is located, if necessary.
- 3. Click Web Response Time
- 4. Click Network.
- 5. Right-click the **Network** node and select **Network** from the list of available workspace links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "Application Details (Web)" on page 159 workspace, using any of the following methods:
 - Click the link icon ext to a table row in the Current Applications view.
 - Right-click a table row in the Current Applications view, and select Application Details from the list of available links.
- The "Client Details (Web)" on page 169 workspace, using any of the following methods:
 - Click the link icon ext to a table row in the Current Clients view.
 - Right-click a table row in the Current Clients view, and select Client Details from the list of available links.
- The "Server Details (Web)" on page 209 workspace, using any of the following methods:
 - Click the link icon eigen next to a table row in the Current Servers view.
 - Right-click a table row in the Current Servers view, and select Server Details from the list of available links.
- The "User Details (Web)" on page 214 workspace, using any of the following methods:
 - Click the link icon eigen next to a table row in the Current Users view.
 - Right-click a table row in the Current Users view, and select User Details from the list of available links.

Network Bandwidth

This workspace provides a view of network bandwidth for top applications, clients, and servers being monitored by the Web Response Time monitoring agent.

This workspace is a companion to the "Network" on page 197 workspace, showing the network bandwidth for applications, clients and servers being monitored by the Web Response Time monitoring agent. Use it to see which applications, clients, and servers are using the most network bandwidth during the summary period (the default is 8 hours, configurable at the Web Response Time monitoring agent). Excessive bandwidth might be caused by a larger than expected amount of lost packets that need to be retransmitted in the network.

This workspace displays a set of bar charts in each view, showing the top applications, clients and servers in terms of bandwidth consumed. The bandwidth is displayed in kilobytes.



Figure 79. Network Bandwidth workspace

This workspace has the following views:

Top Bandwidth Usage - Application Summary

Shows one or more bar graphs of the amount of network bandwidth, in kilobytes, for requests and responses for the top applications. Color coding quickly illustrates the amount of request bytes and reply bytes.

Top Bandwidth Usage - Client Summary

Shows one or more bar graphs of the amount of network bandwidth, in kilobytes, for requests and responses for the top clients. Color coding quickly illustrates the amount of request bytes and reply bytes.

Network Bandwidth

Shows one or more bar graphs of the amount of network bandwidth, in
kilobytes, for requests and responses for the top servers. Color coding quickly illustrates the amount of request bytes and reply bytes.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the Navigator Physical view:

- 1. Click the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
- 2. Click beside the name of the node on which the Web Response Time monitoring agent is located, if necessary.
- 3. Click Web Response Time
- 4. Click Network.
- Right-click the Network node and select Network Bandwidth from the list of available workspace links.

Linking to related workspaces

There are no links from this workspace to other related workspaces.

Page Elements Current

This workspace displays the current data views of the web page elements (HTTP request or a set of requests) for a particular transaction.

Page elements include:

- Images, such as .gif and .jpg
- JavaScript
- · Style sheets
- Embedded elements

The collection of Page Elements is disabled by default and should only be enabled when debugging page performance issues. See *IBM Tivoli Composite Application Manager for Transactions Administrator's Guide* for further information.

E Selected	Transact	ion							/	¥ []	8 0 ×
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Transaction	Percent	Available	Percent Slow	Average F	Response Time	Start Ti	me End Time	Total Requests	Failed Req	uests	Slow Reque
4		1									Þ

Figure 80. Page Elements Current workspace

This workspace has the following views:

Page Elements Details

Shows transaction metrics.

Page Element Response Time Breakdown

Shows a detailed breakdown of all page elements metrics so you can see where a transaction is taking the most time. Response time is the time elapsed between the user's request and the completion of a transaction.

Selected Transaction

Displays information about the monitored transaction that was selected previously to access this workspace.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the "Transaction Details (Web)" on page 210

workspace by clicking the eside a table row in the Selected Transaction view.

Linking to related workspaces

You can link to the "Transaction Details (Web)" on page 210 workspace by clicking

next to a table row in the Selected Transaction view.

Page Elements History

This workspace displays the historical views of the web page elements (HTTP request or a set of requests) for a particular transaction.

Page elements include:

- Images, such as .gif and .jpg
- JavaScript
- Style sheets
- Embedded elements

The collection of Page Elements is disabled by default and should only be enabled when debugging page performance issues. See *IBM Tivoli Composite Application Manager for Transactions Administrator's Guide* for further information.

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🛄 Page Elemer	nt Details					× = Ш =	

Figure 81. Page Elements History workspace

This workspace has the following views:

Page Elements Details

Shows transaction metrics.

Page Element Response Time Breakdown

Shows a detailed breakdown of all page elements metrics so you can see where a transaction is taking the most time. Response time is the time elapsed between the user's request and the completion of a transaction.

Selected Transaction

Displays information about the monitored transaction that was selected previously to access this workspace.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the "Transaction Details (Web)" on page 210

workspace by clicking on the eside a table row in the Transaction Historical Trend Details view.

You can also link to this workspace from the "Transaction Details (Web)" on page 210 using any of the following methods:

- Right-click in the graph displayed in the Request and Error Rates view and select the Page Elements History link.
- Right-click in the pie chart displayed in the Current Response Time Breakdown view and select the Page Elements History link.
- Right-click in the graph displayed in the Bandwidth Usage view and select the Page Elements History link.

Linking to related workspaces

You cannot link to another workspace from this workspace.

Servers (Web)

This workspace shows the overall availability of a server and provides links to more detailed information about each transaction.

This workspace summarizes the availability of all servers so that you have a quick view of what is working and what is not working.



Figure 82. Servers (Web) workspace

This workspace has the following views:

Server Availability Historical Summary

Displays a bar graph showing the percentage of times the server failed (red), performed slowly (yellow), or performed as expected (green). When you hover over a bar, the percentage of availability is displayed for that bar.

Server Current Status Details

Displays information about specific servers.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

- 1. Click the operating system for the computer on which the monitoring agent is located to display a list of monitored nodes, if necessary.
- 2. Click beside the name of the node on which the Web Response Time monitoring agent is located, if necessary.
- 3. Click on Web Response Time.
- 4. Click Servers.

Linking to related workspaces

You can link to the following workspaces by right-clicking the icon and selecting from the available list of workspace links:

- From the Servers Current Status Details view table, you can link to the following workspaces:
 - "Server Details (Web)" on page 209 workspace
 - Servers: Topology workspace (if the server is also a Transaction Tracking server)
 - "Errors" on page 187 workspace

Server Dependencies

This workspace provides information about a selected server that is hosting a particular component in the network flow, including information about inbound and outbound servers that the selected server is communicating with in the network flow.

This workspace provides detailed data on the clients, outbound servers and protocols that have a dependency on the server selected in the "Component Server Details" on page 183 workspace.

This workspace displays summary graphs for the following metrics:

- Historical trend of active and terminated connections
- · Historical trend of the total number of transactions and average response time
- · Historical trend of send and receive bandwidth, in kilobytes per second

In addition to the chart views, this workspace also includes table views showing detailed data for the selected server, about inbound and outbound servers that the selected server is communicating with, and a breakdown of the component protocol for the components associated with the selected server.

The Clients table shows each client that accesses the selected server, and the TCP metrics associated with each client's TCP communication to the server. To see more detailed information on which components and servers a client accesses, the user can link to the "Client Dependencies" on page 166 workspace.

The Outbound Servers table shows the TCP metrics for each server with which the selected server communicates. Note that these metrics reflect the total TCP traffic on the server and are not in the context of a single component. To see a more detailed look at the protocol and client TCP activity of one of these outbound servers, use the link to the "Server Dependencies" workspace for the desired server.

The Component Protocol Breakdown table shows the server's TCP metrics for each protocol that is hosted by the selected server. This protocol-level data provides the destination IP address, hostname, port and metrics for the associated TCP traffic. This data is also aggregated separately by component. For example, if more than one component uses the HTTP protocol, then there will be one HTTP row for each component in this table.

This workspace displays a set of bar charts or line graphs in each view, similar to the following example.



Figure 83. Server Dependencies workspace

This workspace has the following views:

Average Response Time

This view displays a combined bar chart and line graph, showing the historic trend in average response time (line graph) and the historic trend in the total transaction time, in seconds (bar chart) for the selected component server during the specified reporting time interval (default is the last 2 hours).

Bandwidth

This view displays a stacked vertical bar chart showing the historic trend in send bandwidth and receive bandwidth, in kilobytes per second, for the selected component server during the specified reporting interval (the default is the last two hours).

Clients

This view displays a table with more details about the clients connecting to the selected component server.

Component Protocol Breakdown

This view displays a table with more details about the protocol of the monitored traffic associated with the component on the selected server.

Connections

This view displays a multi-bar chart that shows the historic trend of the number of connections (such as active, and terminated) for the selected component server during the reporting interval (the default is the last 2 hours).

Outbound Servers

This table view shows real time details about the destination server (identified by IP address and hostname) further downstream relative to the selected server. You can click the workspace links in this table to recursively navigate to the next outbound server and display this same workspace again with details about the selected server in the network flow. For example, you might have a network flow as follows: WebSEAL -> IBM HTTP Server -> WAS HTTP Server -> DB2

If you selected IBM HTTP Server from this table, the workspace would be displayed again with IBM HTTP Server displayed as the selected server and WAS HTTP Server would be displayed in this table. If you then selected WAS HTTP Server from this table view, the workspace would be displayed again with WAS HTTP Server displayed as the selected server and DB2 would be displayed in this table.

Selected Server

Displays information about the monitored server that was selected previously to access this workspace.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521. Rows in the tables are highlighted in yellow for response times greater than one second. Links from these tables take you to additional workspaces containing more detail as appropriate.

Accessing the workspace

You can link to this workspace from the following associated workspace:

- From the "Component Server Details" on page 183 workspace, you can use either of the following methods:
 - Click the link icon ext to a table row in the Selected Component Server view.
 - Right-click a table row in the Selected Component Server view, and select Server Dependencies from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "Client Dependencies" on page 166 workspace, using any of the following methods:
 - Click the link icon ext to a table row in the Clients view.
 - Right-click a table row in the Clients view, and select **Client Dependencies** from the list of available links.
- The "Server Dependencies" on page 206 workspace (recursively), using any of the following methods:
 - Click the link icon ext to a table row in the Outbound Servers view.
 - Right-click a table row in the Outbound Servers view, and select Server Dependencies from the list of available links.
- The "Component Details" on page 178 workspace, using any of the following methods:
 - Click the link icon ext to a table row in the Component Protocol Breakdown view.
 - Right-click a table row in the Component Protocol Breakdown view, and select **Component Details** from the list of available links.

Server Details (Web)

This workspace shows the detailed trend and historical status for a selected application so that you have a quick view of what is working and what is not working.



Figure 84. Server Details (Web) workspace

This workspace has the following views:

Average Response Time Trends

Shows the response time breakdown trend. The threshold is determined by the Minimum Response Time Threshold attribute. To collect client browser render time and page tagging data, see *Monitoring web transaction response times* in the *ITCAM for Transactions Administrator's Guide* for configuration information.

Bandwidth Usage

Shows how much bandwidth is used by the selected server. Details are broken down into request and response sizes.

Error Rates

This view displays a bar chart of the historic count of client errors and server errors associated with the selected server, during the reporting interval (the default is the last 8 hours).

Selected Server

Displays information about the monitored server that was selected previously to access this workspace.

Transactions for Server

Shows status and metrics and links to transaction details for a particular transaction.

Users and Requests

Displays historical trend line graphs of the total number of requests and unique users associated with the selected server during the reporting interval (the default is the last 8 hours).

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the following workspaces:

- "Web Response Time" on page 155
- "Servers (Web)" on page 204.
- "Application Interactions (Web)" on page 162.

Linking to related workspaces

You can link to the following workspaces:

• "Transaction Details (Web)" from a specific transaction by clicking

Transaction Details (Web)

This workspace shows the detailed trend and historical status for a selected application so that you have a quick view of what is working and what is not working.



Figure 85. Transaction Details (Web) workspace

This workspace has the following views:

Average Response Time Trends

Shows the response time breakdown trend. The threshold is determined by

the Minimum Response Time Threshold attribute. To collect client browser render time and page tagging data, see *Monitoring web transaction response times* in the *ITCAM for Transactions Administrator's Guide* for configuration information.

Bandwidth Usage

Shows how much bandwidth is used by the selected application. Details are broken down into request and response sizes.

Current Response Time Breakdown

Shows details about response time during the current interval (last 5 minutes) by client, network, and server time so you can see where the application is taking the most time. Response time is the elapsed time from the time of the user's request to the completion of the requested application.

Request and Error Rates

Shows the total request rate and shows the corresponding number of client and server errors so you can tell where the problem originates.

Selected Transaction

Displays information about the monitored transaction that was selected previously to access this workspace.

Transaction Historical Trend Details

Shows the details of what happened at specific points in time.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the following workspaces:

- "Application Historical Analysis" on page 161
- "Application Interactions (Web)" on page 162.
- "Client Details (Web)" on page 169
- "Page Elements Current" on page 201
- "Server Details (Web)" on page 209

Linking to related workspaces

You can link to the following workspaces:

- "Page Elements History" on page 203
 - In this workspace, the top lead table shows current data for a transaction and the bottom table shows historical data for a transaction. There can be a time discrepancy between the two (5 minutes is the default) since one is historical data and the other is current data. Therefore, when you access the "Page Elements History" on page 203 workspace from the top table it might be blank initially, because the data has not yet been warehoused. If you access "Page Elements History" on page 203 from the bottom table, the data is displayed because it has already been warehoused.
- "Page Elements Current" on page 201

User Current Status (Web)

This workspace shows current status information about users that are associated with the selected client.



Figure 86. User Current Status (Web) workspace

This workspace has the following views:

Selected User

Displays information about the user that was selected previously to access this workspace.

User Current Status

Displays a pie chart showing the total number of transactions for the selected client or user, grouped by Failed, Slow, and Good status.

Client Current Status

Displays a pie chart showing the total number of transactions for the whole client, grouped by Failed, Slow, and Good status.

Application Current Status

Displays a pie chart showing the total number of transactions for the application for the selected client or user, grouped by Failed, Slow, and Good status.

All Sessions

Shows a table with details about all of the sessions that are associated with the selected user.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "Client Users (Web)" on page 174 workspace, you can use either of the following methods:
 - Right-click the link icon ext to a table row in the Users view, and select the User Current Status link.
 - Right-click a table row in the Users view, and select User Current Status from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "Application Details (Web)" on page 159 workspace, using either of the following methods:
 - Click the link icon ext to a table row in the All Sessions view.
 - Right-click a table row in the All Sessions view, and select Application Details from the list of available links.
- The "User Details (Web)" on page 214 workspace, using either of the following methods:
 - Click the link icon end next to a table row in the All Sessions view.
 - Right-click a table row in the All Sessions view, and select User Details from the list of available links.
- The "User Sessions (Web)" on page 216 workspace, using either of the following methods:
 - Click the link icon eigen next to a table row in the All Sessions view.
 - Right-click a table row in the All Sessions view, and select User Sessions from the list of available links.

User Details (Web)

This workspace shows additional information about the selected user.



Figure 87. User Details (Web) workspace

This workspace has the following views:

Selected User

Displays information about the user that was selected previously to access this workspace.

- **User** Displays a combined graph showing the total volume of Good, Slow, and Failed transactions for the selected user, and the response time during the time period.
- **Client** Displays a combined graph showing the total volume of Good, Slow, and Failed client requests for the selected client, and the response time during the time period.

Session Status

Displays a table showing status information about the user sessions associated with the selected user.

Application

Displays a combined graph showing the volume of Good, Slow, and Failed transactions and response time for the application.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "Application Interactions (Web)" on page 162 workspace, you can use either of the following methods:
 - Right-click the link icon exit icon next to a table row in the Users view, and select the User Details link.
 - Right-click a table row in the Users view, and select User Details from the list of available links.
- From the "Client Users (Web)" on page 174 workspace, you can use either of the following methods:
 - Right-click the link icon ext to a table row in the Current User Problems view, and select the User Details link.
 - Right-click a table row in the Current User Problems view, and select User Details from the list of available links.
- From the "User Current Status (Web)" on page 212 workspace, you can use either of the following methods:
 - Right-click the link icon exact in the All Sessions view, and select the User Details link.
 - Right-click a table row in the All Sessions view, and select User Details from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "Application Details (Web)" on page 159 workspace, using the following method:
 - Right-click a table row in the Selected User view, and select Application Details from the list of available links.
- The "Client Details (Web)" on page 169 workspace, using either of the following methods:
 - Click the link icon eigen next to a table row in the Selected User view.
 - Right-click a table row in the Selected User view, and select Client Details from the list of available links.
- The "User Sessions (Web)" on page 216 workspace, using any of the following methods:
 - Click the link icon end line in the selected User view.
 - Right-click a table row in the Selected User view, and select User Sessions from the list of available links.
 - Click the link icon ext to a table row in the Session Status view.
 - Right-click a table row in the Session Status view, and select User Sessions from the list of available links.

User Sessions (Web)

This workspace shows information about users that are associated with the selected client.



Figure 88. User Sessions (Web) workspace

This workspace has the following views:

Selected User

Displays information about the user that was selected previously to access this workspace.

Sessions

Displays a table showing information about the user sessions associated with the selected user.

Transaction Response Time Breakdown

Shows a bar graph summarizing the response time for each unique transaction, broken down by client time, network time, and server time. Response time is the time elapsed between the user request and the completion of the transaction. Because of overlap, the total response time does not equal the sum of all response times for individual page elements. The bar graph of the client time, network time, and server time shows these three response time elements separately without overlap. Because the overlap is not represented in these bar graphs, the total size of the bar graph does not represent the total response time.

Transaction Instances

Displays all instance records starting from the time range selected. The start time range is based on the transaction start time. Records for the selected time range are sorted to the top of the list.

In the tables, the *column names* are the same as the attributes that supply the information to this workspace. For a definition of a particular column, see Appendix B, "Response Time - Attributes listed alphabetically," on page 521.

Accessing the workspace

You can link to this workspace from the following associated workspaces:

- From the "Application Interactions (Web)" on page 162 workspace, you can use the following method:
 - Right-click the link icon ext to a table row in the Users view, and select the User Sessions link.
 - Right-click a table row in the Users view, and select User Sessions from the list of available links.
- From the "User Details (Web)" on page 214 workspace, you can use any of the following methods:
 - Right-click the link icon exit in the selected User view, and select the User Sessions link.
 - Right-click a table row in the Selected User view, and select User Sessions from the list of available links.
 - Right-click the link icon exact in the Session Status view, and select the User Sessions link.
 - Right-click a table row in the Session Status view, and select User Sessions from the list of available links.
- From the "User Sessions (Web)" on page 216 workspace itself, you can use either of the following methods:
 - Right-click the link icon exit in the User Sessions view, and select the User Sessions link.
 - Right-click a table row in the User Sessions view, and select User Sessions from the list of available links.
- From the "Client Users (Web)" on page 174 workspace, you can use either of the following methods:
 - Right-click the link icon ext to a table row in the Users view, and select the User Sessions link.
 - Right-click a table row in the Users view, and select User Sessions from the list of available links.
- From the "User Current Status (Web)" on page 212 workspace, you can use either of the following methods:
 - Right-click the link icon ext to a table row in the All Sessions view, and select the User Sessions link.
 - Right-click a table row in the All Sessions view, and select User Sessions from the list of available links.

Linking to related workspaces

From this workspace you can link to the following workspaces:

- The "Application Interactions (Web)" on page 162 workspace, using any of the following methods:
 - Click the link icon end next to a table row in the Transaction Instances view.
 - Right-click a table row in the Transaction Instances, and select Application Interactions from the list of available links.
- The "User Sessions (Web)" on page 216 workspace itself, using any of the following methods:
 - Click the link icon end next to a table row in the User Sessions view.
 - Right-click a table row in the User Sessions view, and select User Sessions from the list of available links.

Working with the Multi File Uploader

The Multi File Uploader (MFU), a part of the Robotic Scripts workspace, discovers and uploads recordings of CLI (command line interface), and Mercury LoadRunner scripts. It can also automatically ARM-instrument a recording that has not previously been instrumented.

Note: For information about how to record the scripts that you want to upload, refer to the "Customizing Robotic Playbacks" chapter in the Administrator's Guide.

Accessing Multi File Uploader

Access the Multi File Uploader in one of the following ways:

- From the Navigator, complete the following steps:
 - 1. Click $\stackrel{\text{th}}{=}$ beside the operating system for the computer on which the Application Management Console agent is located to display a list of monitored nodes.
 - 2. Click $\textcircled{}^{\textcircled{}}$ beside the name of the node on which the Application Management Console agent is located.
 - 3. Click 🏝 at Application Management Console.
 - 4. Click Robotic Scripts.

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vini.13 RPT/filipPlantszip						
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Hub Time: Wed, 02/27/2008 04:35 F	'M Server Available	Robotic Scripts	- rtwin.tivlab.austin.ibm.com - SYSADMIN	1		

Figure 89. The Multi File Uploader from Robotic Scripts

- From Java WebStart (remotely):
 - 1. Enter the following URL in a web browser:

http://<tepserver>:<port>///cnp/kdh/lib/classes/mfu.jnlp

<tepserver> is the fully qualified host name for the Tivoli Enterprise Portal.</te><port> is the port name for the Tivoli Enterprise Portal.

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Figure 90. The Multi File Uploader from Java WebStart

Configuring Multi File Uploader

This section describes the following procedures:

- "Configuring Multi File Uploader for the Application Management Console"
- "Configuring Multi File Uploader to launch as a Java Web Start application"

Configuring Multi File Uploader for the Application Management Console

The *first* time you access the Multi File Uploader, you must configure it.

- 1. Access Multi File Uploader, as described in "Accessing Multi File Uploader" on page 218.
- 2. Select **File > Preferences** to display the Preferences window.

Preferences	x
Preferences	
Set connection prefe	rences for Multi File Uploader.
Server:	
Port:	1976
SSL	
KeyStore Path:	
KeyStore Password:	
	Ok Cancel

Figure 91. Configuring Preferences

- **3.** Type the fully-qualified host name for the Application Management Console server. For example: horus.tivlab.austin.ibm.com
- 4. Type the port number for Application Management Console. The default port is 1976.
- 5. Check with your IBM Tivoli Monitoring system administrator whether or not you should enable Secure Socket Layer (SSL) communication for the portal. To enable SSL, complete the following steps:
 - a. Click the check box beside SSL.
 - b. Type the complete path to where the .jks file is stored.
 - c. Fill in the keystore password.
- 6. Click OK.

Configuring Multi File Uploader to launch as a Java Web Start application

You can launch the Multi File Uploader directly from a browser as a Java Web Start application, this allows remote users to logon without using the Tivoli Enterprise Portal, by completing the following steps:

1. Access the mfu.jnlp file in the following location on the Tivoli Enterprise Portal server

Windows: <ITM_Installation_Dir>/CNB/classes UNIX: <ITM_Installation_Dir>/<arch>/cw/classes where arch is the operating system and version.

2. Change the codebase attribute of the jnlp entry to the host name and port number of the Tivoli Enterprise Portal server (teps).

For example, if the server host name is teps.mylab.mycompany.com and the port
number is 20455, enter < jnlp codebase="http://
teps.mylab.mycompany.com:20455///cnp/kdh/lib/classes/" href="mfu.jnlp"
spec="1.0+">

- **3**. To restrict remote access, set the host name to localhost. By setting the host name to localhost, you restrict access to the Multi File Uploader to the Tivoli Enterprise Portal; if you do not make this change, Multi File Uploader can be accessed from any host using JNLP.
- 4. Restart the Tivoli Enterprise Portal server.

Using Multi File Uploader to work with robotic scripts

Follow these steps:

- 1. Access Multi File Uploader, as described in "Accessing Multi File Uploader" on page 218.
- 2. You can do any of the following procedures:

Add a Mercury LoadRunner script

Complete the following steps:

- a. If you have not already done so, export the compressed file from Mercury LoadRunner.
- b. Click the Add Script icon
- c. Select **Mercury LoadRunner Script** to display the Add Script window.

Add Script Add a Mercury Lo Adds a file to the M	oadRunner Ro ulti File Uploader	obotic Script rapplication.		×
File:				
Description:				
Auto Instrument:				
Application Name:				
			Ok	Cancel

Figure 92. Add a Mercury LoadRunner Robotic Script window

- d. Type the complete path name to the .zip file at File.
- e. (*Optional*) Type a brief description in the **Description** field to uniquely identify this file when you see it in a list.
- f. *IF* the file is not already ARM-instrumented, click the check box beside **Auto Instrument**.
- g. Type a name of the application in the Application Name field. This is the name of the application that is associated with the robotic script, and the software displays it in the Application workspace. If the default name is not meaningful, you might want to edit it.

h. Click OK.

Add a CLI Playback script

Complete the following steps:

- a. Click the Add Script icon
- b. Select CLI Playback Script to display the Add Script window.

Add Script Add a CLI Playba Adds a file to the M	nck Robotic Script ulti File Uploader application.
Name:	[]
File:	
Description:	
Application Name:	
ARM Enabled:	
	Ok Cancel

Figure 93. Add a CLI Playback Script window

- c. Type the name that you want to give the .zip file you are creating with this procedure in the **Name** field.
- d. Type the complete path name or click the MFU Browse button by the **File** field to navigate to the directory where you can select the file to add. You can enter multiple files by separating them with semicolons in the **File** field.
- e. (*Optional*) Type a brief description in the **Description** field to uniquely identify this file when you see it in a list.
- f. *IF* the file is already ARM-instrumented, click the check box beside **ARM Enabled**.
- g. Type an application name in the **Application Name** field. This is the name of the application that is associated with the robotic script, and the software displays it in the Application workspace. If the default name is not meaningful, you might want to edit it.
- h. Click OK.

Delete a robotic script

Do the following steps:

- a. Select a recording from the list to delete.
- b. Click the Delete icon

Situations

Default situations provided by Response Time creates events that can be viewed in Tivoli Enterprise Portal.

Situations are used for comparing monitored data to established thresholds, and are activated after they are distributed to the agents that are monitoring your applications. When monitored data exceeds a situation threshold, the resulting situation alerts provide event notification.

The Application Management Console queries the current status of all Response Time agents to obtain application status. Current status is based on the default situations provided with the product, and any additional situations that you create and customize for your monitoring environment. If you remove the default situations, you can no longer obtain application status. To create additional situations, make a copy of a default situation and then customize your copy as needed.

You can use default situations as templates for creating customized monitoring situations. You also can create new situations using this monitoring agent's attributes.

The default situations provided with Response Time are grouped by monitoring agents:

- "Robotic Response Time situations"
- "Web Response Time situations" on page 231

Initial Situation Values view

The Enterprise view of the Tivoli Enterprise Portal includes the Situation Event Console, that displays a list of the situation alerts that are triggered by monitored data exceeding a situation threshold. To display additional information about a situation that generated an alert, do the following steps:

- 1. In the Situation Event Console view, right-click a table row for the particular event in which you are interested.
- 2. Select Situation Event Results.

The details of the selected situation alert are displayed. The **Initial Situation Values** view shows the parameters that caused the situation to be triggered.

Robotic Response Time situations

These default situations are designed to configure robotic monitoring.

The predefined situations for Robotic Response Time have names which begin with the letters **RRT**.

Robotic Response Time includes the following default situations:

- "RRT_Agent_Message_Critical" on page 224
- "RRT_Agent_Message_Warning" on page 225
- "RRT_Availability_Critical" on page 225
- "RRT_Availability_Warning" on page 226
- "RRT_Playback_Failed" on page 227
- "RRT_Playback_Overrun" on page 227

- "RRT_Playback_Timeout" on page 228
- "RRT_Response_Time_Warning" on page 228
- "RRT_Robotic_Realms" on page 229
- "RRT_Verification_Point_Failure" on page 230
- "RRT_Verification_Point_Sampled" on page 230

RRT_Agent_Message_Critical

This situation generates a red Critical alert for an administrator that is displayed on the Application Management Console when Robotic Response Time detects a critical error that may might require administrative action.

A critical alert typically indicates an internal error or configuration issue that limits the ability of the agent to monitor the environment.

A red critical alert indicates that you must take action immediately to correct a problem. This alert might be generated when the monitoring agent starts or stops, fails to collect data, or has configuration problems. The situation is created using attributes from the attribute group, "RRT Agent Messages" on page 256.

Formula

*IF *VALUE RRT_Agent_Messages.Severity *EQ ERROR

Responding to an alert from this situation

To find out additional information about this situation, do the following steps:

- Access the "Initial Situation Values view" on page 223 to see the Message Text that describes the problem.
- For additional information about the message, look it up by its message ID in the IBM Tivoli Composite Application Manager for Transactions Troubleshooting Guide.

In the Tivoli Enterprise Portal

- 1. Access the **Configuration** workspace for Robotic Response Time.
- **2.** Examine the Agent Messages view on the agent to compare with any other warning or error messages.

If this situation is being triggered unexpectedly, the threshold value might not be set to the correct value. Modify the threshold setting using the Situation Editor:

- 1. From the Navigator, right-click Robotic Response Time.
- 2. Select **Situations** from the list of available options.
- **3**. In the Situation Editor, double-click this situation name to open it.
- 4. Edit the situation as appropriate and save it when you are finished.

RRT_Agent_Message_Warning

This situation generates a yellow Warning alert that is displayed on the Application Management Console when Robotic Response Time detects a problem that might require administrative action.

This situation typically indicates some type of configuration issue that can limit the ability of the agent to monitor the environment.

A yellow warning alert indicates that a problem is approaching a critical stage. This alert might be generated when the monitoring agent starts or stops, fails to collect data, or has configuration problems. This situation is created with attributes from the attribute group, "RRT Agent Messages" on page 256.

Formula

*IF *VALUE RRT Agent Messages.Severity *EQ WARNING

Responding to an alert from this situation

To find out additional information about this situation, do the following steps:

- Access the "Initial Situation Values view" on page 223 to see the Message Text that describes the problem.
- For additional information about the message, look it up by its message ID in the *IBM Tivoli Composite Application Manager for Transactions Troubleshooting Guide*.

In the Tivoli Enterprise Portal

- 1. Click the **Configuration** workspace for Robotic Response Time.
- **2**. Examine the Agent Messages view on the agent to compare with any other warning or error messages.

If this situation is being triggered unexpectedly, the threshold value might not be set to the correct value. Modify the threshold setting using the Situation Editor:

- 1. From the Navigator, right-click **Robotic Response Time**.
- 2. Select Situations from the list of available options.
- 3. In the Situation Editor, double-click this situation name to open it.
- 4. Edit the situation as appropriate and save it when you are finished.

RRT_Availability_Critical

This situation generates a red Critical alert that is displayed on the Application Management Console when Robotic Response Time detects an availability issue with a monitored application.

This situation is typically triggered when users cannot access the application, and a specified number of transactions fail during a specified time period. The application might either be shutdown or unresponsive.

A red critical alert indicates that you must take action immediately to correct a problem. Use this situation to monitor the status of the scripts that successfully complete and to identify problems in environment. This situation is created using attributes from the attribute group, "RRT Transaction Status" on page 278.

Formula

```
*IF *VALUE RRT_Transaction_Status.Percent_Failed *GT 0 *AND /
*VALUE RRT_Transaction_Status.Percent_Available *EQ 0
```

Responding to an alert from this situation

When you see this alert, you can take the following steps:

- Check to see if the problem has resolved itself or if it is still occurring.
- If the problem persists:
 - 1. Verify that the monitored application is running and responsive.
 - 2. Attempt to manually execute the identified transaction.
 - If you can successfully run the script, then the problem has been corrected.
 - *If you cannot successfully run the script,* then notify the application support personnel. You might also need to do the following steps:
 - **a**. Edit the script in the RPT workbench.
 - b. Test the script manually until it runs successfully.
 - c. Upload the updated script to the file depot.

RRT_Availability_Warning

This situation generates a yellow Warning alert that is displayed on the Application Management Console to tell operators when a Robotic Response Time monitor detects an availability issue with a monitored application, indicating that the monitored application might be unavailable in the near future.

This alert occurs when the application is intermittently unavailable. For example, some of the requests are completing successfully, but others are failing. The situation is triggered when the percentage of transactions that fail during a specified time period exceeds the situation threshold.

A yellow warning alert indicates that a problem is approaching a critical stage. Use this situation to monitor the status of the scripts that successfully complete and to identify problems in environment. This situation is created using attributes from the attribute group, "RRT Transaction Status" on page 278.

Formula

```
*IF *VALUE RRT_Transaction_Status.Percent_Failed *GT 0 *AND \
*VALUE RRT_Transaction_Status.Percent_Available *GT 0
```

Responding to an alert from this situation

When you see this alert, you can take the following steps:

- Check to see if the problem has resolved itself or if it is still occurring.
- If the problem persists:
 - 1. Verify that the monitored application is running and responsive.
 - 2. Attempt to manually execute the identified transaction.

RRT_Playback_Failed

This situation generates a red Critical alert that is displayed on the Application Management Console when a Robotic Response Time script fails to execute.

A red critical alert indicates that you must take action immediately to correct a problem. This situation is typically triggered when an error occurs while launching the robotic script, or an error occurs in the user-defined logic in the robotic script. The situation is created using attributes from the attribute group, "RRT Robotic Playback Status" on page 268.

Formula

*IF *VALUE RRT_Robotic_Playback_Status.Last_Run_Status *EQ FAILED

Responding to an alert from this situation

To find out additional information about this situation, do the following steps:

- Access the "Initial Situation Values view" on page 223 to see the Message Text that describes the problem.
- For additional information about the message, look it up by its message ID in the *IBM Tivoli Composite Application Manager for Transactions Troubleshooting Guide*.

In the Tivoli Enterprise Portal:

- 1. Access the Configuration workspace for Robotic Response Time.
- **2**. Examine the Agent Messages view on the agent to compare with any other Warning or Error messages.
- **3.** Run the script manually from the editor workbench to ensure it plays back successfully.
 - *If you can successfully run the script,* then the problem has been corrected.
 - *If you cannot successfully run the script,* then notify the application support personnel. You might also need to do the following steps:
 - a. Edit the script in the RPT workbench.
 - b. Test the script manually until it runs successfully.
 - c. Upload the updated script to the file depot.

RRT_Playback_Overrun

Generates a yellow Warning alert on the Application Management Console when the last scheduled run did not finish before the next one is scheduled to start.

This situation is triggered if the robotic script execution time exceeded the playback interval. For example, if you define a RPT script playback to occur every 5 minutes and the script takes 6 minutes to execute completely, then the script status is set to **Overrun**, which triggers the situation. The situation is created using attributes from the attribute group, "RRT Robotic Playback Status" on page 268.

Formula

*IF *VALUE RRT_Robotic_Playback_Status.Last_Run_Status *EQ OVERRUN

Responding to an alert from this situation

If the script is running as expected, increase the playback interval period to allow the script enough time to execute. If the script takes longer than expected, you might need to reduce the execution time by editing the script in the corresponding editor to remove delays or think times.

RRT_Playback_Timeout

This situation generates a yellow Warning alert that is displayed on the Application Management Console when the Robotic Response Time script exceeds the user-defined timeout period.

For example, if you define an RPT script timeout of 60 seconds and it takes 61 seconds to complete, then the script status is set to **Timeout**, which triggers the situation. The situation is created using attributes from the attribute group, "RRT Robotic Playback Status" on page 268.

Formula

*IF *VALUE RRT_Robotic_Playback_Status.Last_Run_Status *EQ TIMEOUT

Responding to an alert from this situation

If the script is running as expected, increase the Timeout interval.

The time that it takes to completely process a playback can increase when the load on the system or agent increases. If a large number of scripts are running on the agent in parallel, consider increasing the script timeout.

RRT_Response_Time_Warning

This situation generates a yellow warning alert on the Application Management Console when a Robotic Response Time playback script for the monitored application reports intermittent performance issues.

This situation is triggered when only a small portion of requests perform slowly, meaning that the average response time threshold is exceeded. This situation is created using attributes from the attribute group, "RRT Transaction Status" on page 278.

Formula

```
*IF *VALUE RRT_Transaction_Status.Percent_Slow *GT 0 *AND \
*VALUE RRT_Transaction_Status.Percent_Good *GT 0
```

Responding to an alert from this situation

To find out additional information about this situation, do the following steps:

- Access the "Initial Situation Values view" on page 223 to see the Message Text that describes the problem.
- For additional information about the message, look it up by its message ID in the IBM Tivoli Composite Application Manager for Transactions Troubleshooting Guide.

In the Tivoli Enterprise Portal:

- 1. Access the Configuration workspace for Robotic Response Time.
- 2. Examine the Agent Messages view on the agent to compare with any other Warning or Error messages.
- **3**. Run the script manually from the editor workbench to ensure it plays back successfully.
 - If you can successfully run the script, then the problem has been corrected.

- *If you cannot successfully run the script,* then notify the application support personnel. You might also need to do the following steps:
 - a. Edit the script in the RPT workbench.
 - b. Test the script manually until it runs successfully.
 - c. Upload the updated script to the file depot.

RRT_Robotic_Realms

This situation assists with access to web proxies or web servers configured to require basic authentication for Rational Performance Tester scripts.

Keep in mind the following limitations of this situation:

- This situation does not affect access to non-authenticating web proxies or web servers.
- This situation does not apply to Command Line Playback or Mercury LoadRunner scripts.
- This situation does not configure the Rational Performance Tester script to use a specific web proxy.
- This situation does not assist with Windows NT LAN Manager (NTLM).

Tip: This situation supports only one row of values. If you have multiple realms or proxies to authenticate, create a new situation for each unique configuration.

When a Rational Performance Tester script is recorded to an authenticating web proxy or web server, the authenticating information is saved in the script and used to play it back on a robotic agent. If recorded through a web proxy, the Rational Performance Tester script plays back through the same web proxy. There is no Response Time realm configuration necessary for this behavior.

This situation assists when the user or password information for the authenticating realm has changed. The situation contains the identifying realm information and the changed user name or password for the realm. When the Rational Performance Tester script plays with the recorded realm data (and fails), the RRT_Robotic_Realms situation matching the identifying realm information authenticates with the user name and password in the situation.

RRT_Robotic_Realms include the following fields:

Realm Identification

This field consists of the following parts:

Realm Name is the name as returned in the HTTP WWW-Authenticate header. A basic realm is bonjovi.tivlab.austin.ibm.com.

Realm Type is either PROXY for a web proxy or REALM for a web server.

Auth Type must be BASIC, which is the only authentication type RT assists.

Host Name is the host name for the authenticating realm.

Authentication

This field includes the user name and password.

Formula

"*IF *VALUE RRT_Realms.Realm_Name *EQ '' *AND *VALUE RRT_Realms.Realm
_Type *EQ '' *AND *VALUE RRT_Realms.Auth_Type *EQ 'BASIC' *AND *VALUE RR
T_Realms.Host_Name *EQ '' *AND *VALUE RRT_Realms.User_Name *EQ '' *AND *
VALUE RRT_Realms.Password *EQ ''",

RRT_Verification_Point_Failure

This situation generates a red Critical alert that is displayed on the Application Management Console when a Robotic Response Time playback script detects a problem with the availability of the monitored application.

A red critical alert indicates that you must take action immediately to correct a problem. This situation is typically triggered to indicate that a user-defined verification point failed, or a threshold was exceeded during the playback of a robotic script or command, such as an RPT verification point failure or an unexpected command line return code. The situation is created using attributes from the attribute group, "RRT Robotic Playback Events" on page 267.

Formula

*IF *VALUE RRT_Robotic_Playback_Events.Script_Type *NE ''

Responding to an alert from this situation

To find out additional information about this alert, do the following tasks:

- Access the "Initial Situation Values view" on page 223 and examine the Expected Value, Actual Value, and Additional Details columns to see the description of the problem.
- If this situation is triggering unexpectedly, it is possible that the script values are not set correctly. You can modify the threshold criteria in the corresponding script editor. For example, if the violation is for an IBM Rational Performance Tester (RPT) HTTP Verification Point failure, you can edit the threshold criteria for the script in the RPT workbench and then upload the corrected script to the file depot.

RRT_Verification_Point_Sampled

This situation generates a red Critical alert that is displayed on the Application Management Console when a Robotic Response Time playback script detects a problem with the availability of the monitored application. Because this situation is based on a sampled attribute group, the situation is cleared when the situation recovers.

A red critical alert indicates that you must take action immediately to correct a problem. When this situation is triggered, it typically indicates that a user-defined verification point failed or a threshold was exceeded during the playback of a robotic script or command, such as an RPT verification point failure or an unexpected command line return code. This situation is created using attributes from the attribute group, "RRT Robotic Playback Events Sampled" on page 267

Formula

*IF *VALUE RRT_Robotic_Playback_Events_Sampled.Script_Type *NE ''

Responding to an alert from this situation

To find out additional information about this alert, do the following tasks:

- Access the "Initial Situation Values view" on page 223 and examine the Expected Value, Actual Value, and Additional Details columns to see the description of the problem.
- If this situation is triggering unexpectedly, it is possible that the script values are not set correctly. You can modify the threshold criteria in the corresponding script editor. For example, if the violation is for an IBM Rational Performance Tester (RPT) HTTP Verification Point failure, you can edit the threshold criteria for the script in the RPT workbench and then upload the corrected script to the file depot.

Web Response Time situations

These default situations are designed to monitor critical web server activity.

The predefined situations for Web Response Time have names which begin with the letters **WRT**.

Web Response Time includes the following default situations:

- "WRT_Agent_Message_Critical"
- "WRT_Agent_Message_Warning" on page 232
- "WRT_Availability_Critical" on page 233
- "WRT_Availability_Warning" on page 233
- "WRT_Impacted_Users" on page 234
- "WRT_No_Server_Requests" on page 234
- "WRT_Response_Time_Warning" on page 234
- "WRT_SSL_Error" on page 235
- "WRT_SSL_Warning" on page 235

WRT_Agent_Message_Critical

This situation displays a red Critical alert for an administrator on the Application Management Console when Web Response Time detects a critical error that might require administrative action.

A critical alert typically indicates an internal error or configuration issue that limits the ability of the agent to monitor the environment.

A red critical alert indicates that you must take action immediately to correct a problem. This alert might be generated when the monitoring agent starts or stops, fails to collect data, or has configuration problems. The situation is created with attributes from the attribute group, "WRT Agent Messages" on page 284.

Formula

*IF *VALUE WRT_Agent_Messages.Severity *EQ ERROR

Responding to an alert from this situation

To find additional information about this situation, do the following steps:

- 1. Access the "Initial Situation Values view" on page 223 to see the Message Text that describes the problem.
- 2. For additional information about the message, you can look it up by its message ID in the online help or in the *IBM Tivoli Composite Application Manager for Transactions Troubleshooting Guide*.

- **3**. In the Tivoli Enterprise Portal, click the **Configuration** workspace for Web Response Time.
- 4. Examine the Agent Messages view on the agent to compare with any other warning or error messages.

If this situation is being triggered unexpectedly, the threshold value might not be set to the correct value. Modify the threshold setting using the Situation Editor:

- 1. From the Navigator, right-click Web Response Time.
- 2. Select **Situations** from the list of available options.
- 3. In the Situation Editor, double-click this situation name to open it.
- 4. Edit the situation as appropriate and save it when you are finished.

WRT_Agent_Message_Warning

This situation generates a yellow Warning alert on the Application Management Console when Web Response Time detects an error that might require administrative action.

This alert typically indicates some type of configuration issue that can limit the ability of the agent to monitor the environment.

A yellow warning alert indicates that a problem is approaching a critical stage. This alert might be generated when the monitoring agent starts or stops, fails to collect data, or has configuration problems. This situation is created with attributes from the attribute group. "WRT Agent Messages" on page 284.

Formula

*IF *VALUE WRT_Agent_Messages.Severity *EQ WARNING

Responding to an alert from this situation

To find additional information about this situation, do the following steps:

- 1. Access the "Initial Situation Values view" on page 223 to see the Message Text that describes the problem.
- 2. For additional information about the message, you can look it up by its message ID in the *IBM Tivoli Composite Application Manager for Transactions Troubleshooting Guide*.
- **3.** In the Tivoli Enterprise Portal, click the **Configuration** workspace for Web Response Time.
- 4. Examine the Agent Messages view on the agent to compare with any other warning or error messages.

If this situation is being triggered unexpectedly, the threshold value might not be set to the correct value. Modify the threshold setting using the Situation Editor:

- 1. From the Navigator, right-click Web Response Time.
- 2. Select **Situations** from the list of available options.
- 3. In the Situation Editor, double-click this situation name to open it.
- 4. Edit the situation as appropriate and save it when you are finished.

WRT_Availability_Critical

This situation displays a red Critical alert on the Application Management Console when the application monitored by Web Response Time is not available.

This alert typically indicates that user cannot access the application, and is generated when the number of failing transactions during a specified time period exceeds the situation threshold. The application might either be shutdown or unresponsive.

A red critical alert indicates that you must take action immediately to correct a problem. Use this situation to monitor the status of the transactions that successfully complete and to identify problems in environment.

Formula

*IF *VALUE WRT_Transaction_Status.Percent_Failed *GT 10

Responding to an alert from this situation

When you see this alert, do the following steps:

- Check to see if the problem has resolved itself or if it is still occurring.
- If the problem persists:
 - 1. Verify that the monitored application is running and responsive.
 - 2. Attempt to manually execute the identified transaction.

WRT_Availability_Warning

This situation displays a yellow Warning alert on the Application Management Console to tell operators that the application monitored by Web Response Time might be unavailable in the near future.

This alert occurs when the application is intermittently unavailable. For example, some of the requests are completing successfully, but others are failing. This situation is triggered when the number of failing transactions during a specified time period exceeds the situation threshold.

A yellow warning alert indicates that a problem is approaching a critical stage. Use this situation to monitor the status of transactions that successfully complete and to identify problems in environment.

Formula

```
*IF *VALUE WRT_Transaction_Status.Percent_Failed *GT 0 *AND /
*VALUE WRT Transaction Status.Percent Failed *LT 10
```

Responding to an alert from this situation

When you see this alert, you can take the following steps:

- Check to see if the problem has resolved itself or if it is still occurring.
- If the problem persists:
 - 1. Verify that the monitored application is running and responsive.
 - 2. Attempt to manually execute the identified transaction.

WRT_Impacted_Users

This situation alerts you when one or more users for a monitored client experience multiple slow or failed transactions.

This situation is triggered for a particular client when one or more users of that client experience more than half of their sessions as slow or failed, and the user had 4 or more requests within the 5 minute monitoring interval. Use this situation to identify clients with potential connectivity issues. This situation is created with attributes from the attribute group, "WRT User Sessions" on page 333.

Formula

```
*IF *VALUE WRT_User_Sessions.Percent_Good *LT 50 *AND
*VALUE WRT_User_Sessions.Total_Requests *GT 3 *AND
*VALUE WRT_User_Sessions.Aggby *EQ 3 *AND
*VALUE WRT_User_Sessions.Scope *EQ 0*
```

Responding to an alert from this situation

When you see this alert, you can take the following steps:

- Check to see if the problem has resolved itself within 5 minutes or if it is still occurring. The situation should clear when there is a 5 minute period with the Percent Good sessions at or above 50%, or there are no users with 4 or more requests in the monitored interval for the specified client.
- If the problem persists investigate the client to see if there are any connectivity issues.

WRT_No_Server_Requests

This situation alerts you when there is no server traffic.

This situation is triggered when the total number of requests is zero. This situation alerts you when there is no server traffic. Use this situation to identify possible TEMA configuration errors, or other problems that might be preventing the server from expected traffic. Note that for this situation to be triggered, the Web Response Time agent Data Analysis configuration check box **Report Zero Records for Servers** must be selected to enable zero records. This situation is created with attributes from the attribute group, "WRT Server Status" on page 307.

Formula

*IF *VALUE WRT_Server_Over_Time.Total_Requests *EQ 0

Responding to an alert from this situation

When you see this alert, investigate the expected server traffic and correct any problems.

WRT_Response_Time_Warning

This situation displays a yellow Warning alert on the Application Management Console when the application monitored by Web Response Time experiences intermittent performance issues.

This situation is triggered when only a small portion of requests perform slowly, meaning that the average response time threshold was exceeded. Use this situation to identify transactions that perform outside acceptable boundaries. This situation is created with attributes from the attribute group, "WRT Transaction Status" on page 326.

Formula

*IF *VALUE WRT_Transaction_Status.Percent_Slow *GT 0 / *AND *VALUE WRT Transaction Status.Percent Slow *LT 10

Responding to an alert from this situation

When you see this alert, you can take the following steps:

- Check to see if the problem has resolved itself or if it is still occurring.
- If the problem persists:
 - 1. Verify that the monitored application is running and responsive.
 - 2. Attempt to manually execute the identified transaction.

WRT_SSL_Error

This situation alerts you to a configuration problem causing an SSL error with a severity of *Fatal*.

This situation is triggered when the severity level of the SSL error is *Fatal*. This situation is created with the *Severity* attribute from the attribute group, "WRT SSL Alert Current Status" on page 315.

Formula

*IF *VALUE WRT_SubTransaction_Status.Severity *EQ 'FATAL'

Responding to an alert from this situation

When you see this alert, examine the SSL Errors view in the Errors workspace and use the Alert Type column to determine the type of error and fix the issue causing the problem (for example, an expired certificate).

WRT_SSL_Warning

This situation alerts you to a configuration problem causing an SSL error with a severity of *Warning*.

This situation is triggered when the severity level of the SSL error is *Warning*. This situation is created with the *Severity* attribute from the attribute group, "WRT SSL Alert Current Status" on page 315.

Formula

*IF *VALUE WRT_SubTransaction_Status.Severity *EQ 'WARNING'

Responding to an alert from this situation

When you see this alert, examine the SSL Errors view in the Errors workspace and use the Alert Type column to determine the type of error and fix the issue causing the problem.

Attributes

Attributes are the application properties that are measured and reported, such as the amount of memory used or a message ID.

Some monitoring agents have fewer than 100 attributes, while others have over 1000. Attributes are organized into *attribute groups* according to their purpose. The software displays attributes groups in either a table or chart view.

Attributes specify a condition for testing in situations that monitor for specific alerts or types of alerts. The data samplings from an attribute group return either a single row of data or multiple rows. For example, you can create situations that monitor for alerts with a specific severity. When the values for attributes alerts for a Tivoli Enterprise Management Agent match the values specified in situations, the managed objects associated with the situations change appearance, alerting you to problems. When building situations, specify attributes using the following format:

Group_Name.Attribute_Name

The situation, filter, and threshold functions available for a particular attribute depend on its characteristics. The main types of attributes are:

- *Numeric* attributes represent a count, percentage, seconds, or some other measurement.
- *Text* attributes, such as the host name or a process name.
- *Timestamp* attributes have different names, such as *Start Date & Time*. Most attribute groups have a timestamp attribute. You can tell which attributes are timestamp attributes by their format in a table view, which is mm/dd/yy hh:mm:ss.
- Enumerated attributes are attributes with a predefined set of values.

Application Management Console attribute groups

This section provides information about the attribute groups and attributes for the Application Management Console monitoring agent.

The Application Management Console displays the overall status of monitored composite applications and application resources. It sends real time application status and trends to the Tivoli Enterprise Portal for all Response Time monitoring agents and displays the data in a single aggregated and consolidated view. From this view, you can drill down and display details that help you to identify and resolve the root cause of a performance or availability problem.

Note: The Navigator has limitations on the length of names that it displays and on certain characters (such as blank spaces) within those names. The Application Management Console provides an alias that conforms to both Navigator and operating system limitations. Because of these limitations, dynamic subnode names for applications, clients, or servers might display differently than their actual names.

The Application Management Console monitoring agent includes the following attribute groups:

- "DB Agent Details" on page 250
- "ERT Agent Messages" on page 252
- "DB Depot Status" on page 251
- "DB File Depot" on page 251
- "AMC Internet Service" on page 242
- "AMC Internet Service Agent" on page 243
- "AMC Internet Service Element" on page 244
- "AMC Internet Services Profiles" on page 245
- "AMC ISM" on page 246
- "T3 File Transfer" on page 252
- "AMC Robotic Playback Status" on page 246
- "AMC Agent"
- "AMC Application" on page 239
- "AMC Client" on page 240
- "AMC Server" on page 247
- "AMC Transaction" on page 248

The following additional attribute groups are also displayed in the Situation Editor for the Application Management Console agent, but do not contain usable data and should not be used:

- AMC Client Agents
- AMC Server Agents
- DB Application Summary
- DB Client Summary
- DB Sub Node App Client Summary
- DB Sub Node Application Over Time
- DB Sub Node Application Summary
- DB Sub Node App Server Summary
- DB Sub Node Client Over Time
- DB Sub Node Client Server Summary
- DB Sub Node Client Summary
- DB Sub Node Server Over Time
- DB Sub Node Server Summary
- DB Sub Node Transaction Over Time
- DB Sub Node Transaction Summary

AMC Agent

The AMC Agent attribute group provides summary information about the monitored application, transaction and monitoring agent.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Agent" on page 521	Agent	128	Yes
"Agent Type" on page 521	Data_Collector_Type	32	No
"Application (Application Name) " on page 523	Application	128	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Application Key" on page 523	АррКеу	32	Yes
"App Server" on page 523	App_Server	4	Yes
"Average Requests" on page 525	Average_Requests	4	Yes
"Back Status" on page 526	Back_Status	4	Yes
"Bad Requests" on page 526	Bad_Requests	4	Yes
"Client Status" on page 527	Client_Status	4	Yes
"Current Requests" on page 529	Current_Requests	4	Yes
"Data Interval" on page 530	Data_Interval	4	Yes
"Data Time Span" on page 530	Data_Timespan	4	Yes
"Good Requests" on page 536	Good_Requests	4	Yes
"Last Updated" on page 538	Last_Updated	16	Yes
"Max Requests" on page 538	Max_Requests	4	Yes
"Min Requests" on page 539	Min_Requests	4	Yes
"Msg Status" on page 539	Msg_Status	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Overall Status" on page 542	Overall_Status	4	Yes
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Response Time" on page 549	Response_Time	4	Yes
"Request Volume" on page 547	Request_Volume	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Timestamp" on page 554	Timestamp	16	Yes
"Transaction" on page 557	Transaction	128	Yes
"Type" on page 557	Туре	24	Yes
"Web Server" on page 559	Web_Server	4	Yes

AMC Application

The AMC Application attribute group provides summary information about the applications monitored by the Application Management Console monitoring agent.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Agent" on page 521	Agent	128	Yes
"Agent Type" on page 521	Data_Collector_Type	32	No
"App Server" on page 523	App_Server	4	Yes
"Application (Application Name) " on page 523	Application	128	Yes
"Application Key" on page 523	АррКеу	32	Yes
"Average Requests" on page 525	Average_Requests	4	Yes
"Back Status" on page 526	Back_Status	4	Yes
"Bad Requests" on page 526	Bad_Requests	4	Yes
"Client Status" on page 527	Client_Status	4	Yes
"Current Requests" on page 529	Current_Requests	4	Yes
"Data Interval" on page 530	Data_Interval	4	Yes
"Data Time Span" on page 530	Data_Timespan	4	Yes
"Good Requests" on page 536	Good_Requests	4	Yes
"Last Updated" on page 538	Last_Updated	16	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Max Requests" on page 538	Max_Requests	4	Yes
"Min Requests" on page 539	Min_Requests	4	Yes
"Msg Status" on page 539	Msg_Status	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Overall Status" on page 542	Overall_Status	4	Yes
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Request Volume" on page 547	Request_Volume	4	Yes
"Response Time" on page 549	Response_Time	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Timestamp" on page 554	Timestamp	32	Yes
"Type" on page 557	Туре	32	Yes
"Web Server" on page 559	Web_Server	4	Yes

AMC Client

The AMC Client attribute group provides summary information about the monitored clients.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Agent" on page 521	Agent	128	Yes
"Agent Type" on page 521	Data_Collector_Type	32	No
"Application (Application Name) " on page 523	Application	128	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Application Key" on page 523	АррКеу	32	Yes
"App Server" on page 523	App_Server	4	Yes
"Average Requests" on page 525	Average_Requests	4	Yes
"Back Status" on page 526	Back_Status	4	Yes
"Bad Requests" on page 526	Bad_Requests	4	Yes
"Client" on page 526	Client	128	Yes
"Client Status" on page 527	Client_Status	4	Yes
"Current Requests" on page 529	Current_Requests	4	Yes
"Data Interval" on page 530	Data_Interval	4	Yes
"Data Time Span" on page 530	Data_Timespan	4	Yes
"Good Requests" on page 536	Good_Requests	4	Yes
"Last Updated" on page 538	Last_Updated	16	Yes
"Max Requests" on page 538	Max_Requests	4	Yes
"Min Requests" on page 539	Min_Requests	4	Yes
"Msg Status" on page 539	Msg_Status	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Overall Status" on page 542	Overall_Status	4	Yes
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Response Time" on page 549	Response_Time	4	Yes
"Request Volume" on page 547	Request_Volume	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Type" on page 557	Туре	24	Yes
"Web Server" on page 559	Web_Server	4	Yes

AMC Internet Service

This attribute group provides information about Internet Services Monitoring data that is displayed in the Application Management Console.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Origin Node" on page 542	Origin_Node	32	Yes
"Overall Status" on page 542	Overall_Status	4	Yes
"Timestamp (ISM)" on page 554	Timestamp	16	Yes
"Good" on page 535	Good	4	Yes
"Marginal" on page 538	Marginal	4	Yes
"Failed" on page 534	Failed	4	Yes
"Percent Good (ISM)" on page 544	Percent_Good	4	Yes
"Percent Marginal (ISM)" on page 544	Percent_Marginal	4	Yes
"Percent Failed (ISM)" on page 544	Percent_Failed	4	Yes
"TotalTime" on page 556	TotalTime	4	Yes
"Percent Available (ISM)" on page 544	Percent_ Available	4	Yes
"Total Requests (ISM)" on page 556	Total_Requests	4	Yes
"Profile" on page 545	Profile	100	Yes
"Service" on page 552	Service	100	Yes
"Host" on page 536	Host	100	Yes
"Agent" on page 521	Agent	128	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Profile Key" on page 545	Profile_Key	32	Yes
"Description (ISM)" on page 530	Description	100	Yes

AMC Internet Service Agent

This attribute group provides information about Internet Services Monitoring data that is displayed in the Application Management Console.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Origin Node" on page 542	Origin_Node	32	Yes
"Overall Status" on page 542	Overall_Status	4	Yes
"Timestamp (ISM)" on page 554	Timestamp	16	Yes
"Good" on page 535	Good	4	Yes
"Marginal" on page 538	Marginal	4	Yes
"Failed" on page 534	Failed	4	Yes
"Percent Good (ISM)" on page 544	Percent_Good	4	Yes
"Percent Marginal (ISM)" on page 544	Percent_Marginal	4	Yes
"Percent Failed (ISM)" on page 544	Percent_Failed	4	Yes
"TotalTime" on page 556	TotalTime	4	Yes
"Percent Available (ISM)" on page 544	Percent_ Available	4	Yes
"Total Requests (ISM)" on page 556	Total_Requests	4	Yes
"Profile" on page 545	Profile	100	Yes
"Service" on page 552	Service	100	Yes
"Host" on page 536	Host	100	Yes
"Agent" on page 521	Agent	128	Yes
"Profile Key" on page 545	Profile_Key	32	Yes
"Description (ISM)" on page 530	Description	100	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"IdentChecksum" on page 536	IdentChecksum	100	Yes

AMC Internet Service Element

This attribute group provides information about Internet Services Monitoring data that is displayed in the Application Management Console.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Origin Node" on page 542	Origin_Node	32	Yes
"Overall Status" on page 542	Overall_Status	4	Yes
"Timestamp (ISM)" on page 554	Timestamp	16	Yes
"Good" on page 535	Good	4	Yes
"Marginal" on page 538	Marginal	4	Yes
"Failed" on page 534	Failed	4	Yes
"Percent Good (ISM)" on page 544	Percent_Good	4	Yes
"Percent Marginal (ISM)" on page 544	Percent_Marginal	4	Yes
"Percent Failed (ISM)" on page 544	Percent_Failed	4	Yes
"TotalTime" on page 556	TotalTime	4	Yes
"Percent Available (ISM)" on page 544	Percent_ Available	4	Yes
"Total Requests (ISM)" on page 556	Total_Requests	4	Yes
"Profile" on page 545	Profile	100	Yes
"Service" on page 552	Service	100	Yes
"Host" on page 536	Host	100	Yes
"Agent" on page 521	Agent	128	Yes
"Profile Key" on page 545	Profile_Key	32	Yes
"Description (ISM)" on page 530	Description	100	Yes
"IdentChecksum" on page 536	IdentChecksum	100	Yes

AMC Internet Services Profiles

This attribute group provides information about Internet Services Monitoring data that is displayed in the Application Management Console.

The attributes used in this group	p are listed in the following table:
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Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Origin Node" on page 542	Origin_Node	32	Yes
"Overall Status" on page 542	Overall_Status	4	Yes
"Timestamp (ISM)" on page 554	Timestamp	16	Yes
"Good" on page 535	Good	4	Yes
"Marginal" on page 538	Marginal	4	Yes
"Failed" on page 534	Failed	4	Yes
"Percent Good (ISM)" on page 544	Percent_Good	4	Yes
"Percent Marginal (ISM)" on page 544	Percent_Marginal	4	Yes
"Percent Failed (ISM)" on page 544	Percent_Failed	4	Yes
"TotalTime" on page 556	TotalTime	4	Yes
"Percent Available (ISM)" on page 544	Percent_ Available	4	Yes
"Total Requests (ISM)" on page 556	Total_Requests	4	Yes
"Profile" on page 545	Profile	100	Yes
"Service" on page 552	Service	100	Yes
"Host" on page 536	Host	100	Yes
"Agent" on page 521	Agent	128	Yes
"Profile Key" on page 545	Profile_Key	32	Yes
"Aggregated Uniquely By (ISM)" on page 522	AggBy	4	No

AMC ISM

This attribute group provides information about Internet Services Monitoring data that is displayed in a timespan table at the top of several workspaces in the Application Management Console.

Forwarded in events Attribute (click on Tivoli Data Tivoli Data to Netcool/OMNIbus the link for a Warehouse term for Warehouse database or Tivoli Enterprise column size in bytes description) historical reporting Console 32 "Origin Node" on Origin_Node No page 542 "Data Time Span" on 4 Data_Timespan Yes page 530 "Data Interval" on 4 Yes Data_Interval page 530 "Last Updated" on 16 Last_Updated Yes page 538

The attributes used in this group are listed in the following table:

AMC Robotic Playback Status

The AMC Robotic Playback Status attribute group provides current playback status for robotic scripts.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Application Name" on page 523	Application_Name	128	Yes
"CLI Playback Command" on page 528	Command_Name	128	Yes
"Current Run Status" on page 529	Current_Run_Status	32	Yes
"Last Run Duration" on page 537	Last_Run_Duration	4	Yes
"Last Run Start Time" on page 537	Last_Run_Startime	16	Yes
"Last Run Status" on page 537	Last_Run_Status	32	Yes
"Last Updated" on page 538	Last_Updated	16	Yes
"Origin Node" on page 542	Origin Node	32	No
"Robotic Node" on page 549	Robotic Node	32	Yes
"Script Name" on page 550	Script_Name	128	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Script Type" on page 550	Script_Type	128	Yes
"Sample Timestamp" on page 550	Sample_Timestamp	16	Yes
"Situation Name" on page 552	Situation_Name	128	Yes
"Transaction Name" on page 557	Transaction_Name	128	Yes

AMC Server

The AMC Server attribute group provides web server information in the Application Management Console.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Agent" on page 521	Agent	128	Yes
"Agent Type" on page 521	Data_Collector_Type	32	No
"App Server" on page 523	App_Server	4	Yes
"Application (Application Name) " on page 523	Application	128	Yes
"Application Key" on page 523	АррКеу	32	Yes
"Average Requests" on page 525	Average_Requests	4	Yes
"Back Status" on page 526	Back_Status	4	Yes
"Bad Requests" on page 526	Bad_Requests	4	Yes
"Current Requests" on page 529	Current_Requests	4	Yes
"Data Interval" on page 530	Data_Interval	4	Yes
"Data Time Span" on page 530	Data_Timespan	4	Yes
"Good Requests" on page 536	Good_Requests	4	Yes
"Last Updated" on page 538	Last_Updated	16	Yes
"Max Requests" on page 538	Max_Requests	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Min Requests" on page 539	Min_Requests	4	Yes
"Msg Status" on page 539	Msg_Status	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Overall Status" on page 542	Overall_Status	4	Yes
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Request Volume" on page 547	Request_Volume	4	Yes
"Response Time" on page 549	Response_Time	4	Yes
"Server" on page 551	Server	128	Yes
"Server Status" on page 551	Server_Status	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Type" on page 557	Туре	24	Yes
"Web Server" on page 559	Web_Server	4	Yes

AMC Transaction

The AMC Transaction attribute group provides information about the monitored transactions.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Agent" on page 521	Agent	128	Yes
"Agent Type" on page 521	Data_Collector_Type	32	No

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Application (Application Name) " on page 523	Application	128	Yes
"Application Key" on page 523	АррКеу	32	Yes
"App Server" on page 523	App_Server	4	Yes
"Average Requests" on page 525	Average_Requests	4	Yes
"Back Status" on page 526	Back_Status	4	Yes
"Bad Requests" on page 526	Bad_Requests	4	Yes
"Client Status" on page 527	Client_Status	4	Yes
"Current Requests" on page 529	Current_Requests	4	Yes
"Data Interval" on page 530	Data_Interval	4	Yes
"Data Time Span" on page 530	Data_Timespan	4	Yes
"Good Requests" on page 536	Good_Requests	4	Yes
"Last Updated" on page 538	Last_Updated	16	Yes
"Max Requests" on page 538	Max_Requests	4	Yes
"Min Requests" on page 539	Min_Requests	4	Yes
"Msg Status" on page 539	Msg_Status	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Overall Status" on page 542	Overall_Status	4	Yes
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Request Volume" on page 547	Request_Volume	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Response Time" on page 549	Response_Time	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Transaction" on page 557	Transaction	128	Yes
"Type" on page 557	Туре	32	Yes
"Web Server" on page 559	Web_Server	4	Yes

DB Agent Details

The DB Agent Details attribute group provides information about the configuration of the Application Management Console monitoring agent.

This attribute group is used with the ERT Agent Messages attribute group to populate the Application Management Console workspace.

The attributes used in this group are listed in the following table:

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Origin Node" on page 542	Origin_Node	32	No
"Property" on page 545	Property	255	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Timestamp" on page 554	Timestamp	16	Yes
"Value" on page 558	Value	255	Yes

See the following for more information about related attribute groups and workspaces:

- Attribute group: "ERT Agent Messages" on page 252
- Workspace: "Application Management Console workspaces" on page 70

DB Depot Status

The DB Depot Status attribute group provides status information about uploaded robotic script files that you uploaded to the Application Management Console file depot.

The attributes used in this attribute group are listed in the following table:

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Last Update" on page 537	Last_Update	16	Yes
"Origin Node" on page 542	Origin_Node	32	No

See the following for more information about related attribute groups:

• Attribute group: "DB File Depot"

DB File Depot

The DB File Depot attribute group provides information about the robotic script files that you upload for use with the Robotic Response Time monitoring agent.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Attributes" on page 523	Attributes	1024	No
"Checksum" on page 526	Checksum	32	Yes
"Date Modified" on page 530	Date_Modified	16	Yes
"Description" on page 530	Desc	256	Yes
"File Size" on page 535	File_Size	32	Yes
"File Type" on page 535	File_Type	256	Yes
"Hidden" on page 536	Hidden	8	Yes
"Name" on page 539	Name	256	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Path Arg" on page 543	Path_Arg	512	No
"Pattern Arg" on page 543	Pattern_Arg	512	No
"Server Path" on page 551	Server_Path	1024	Yes

See the following for more information about related attribute groups:

• Attribute group: "DB Depot Status" on page 251

ERT Agent Messages

The ERT Agent Messages attribute group provides information about the messages generated by the Application Management Console monitoring agent.

Use the attributes in this attribute group to see how the monitoring agent is functioning. This attribute group is used with the DB Agent Details attribute group to populate the Application Management Console workspace.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Component" on page 528	Component	32	Yes
"Message Date and Time" on page 538	Message_Date_ and_Time	16	Yes
"Message ID" on page 538	Message_ID	32	Yes
"Message Source" on page 539	Message_Source	512	Yes
"Message Text" on page 539	Message_Text	1024	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Sample Timestamp" on page 550	Sample_Timestamp	16	Yes
"Severity" on page 552	Severity	4	Yes

The attributes used in this group are listed in the following table:

See the following for more information about related attribute groups and workspaces:

- Attribute group: "DB Agent Details" on page 250
- Workspace: "Application Management Console workspaces" on page 70

T3 File Transfer

The T3 File Transfer attribute group provides information about transfers of configuration files in the Application Management Configuration Editor.

The Application Management Configuration Editor provides the ability to edit and view profiles, transactions, and client groups. This information is stored in configuration files in the Application Management Console file depot, and are transferred using queries on the Tivoli Enterprise Portal File Transfer table.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Data" on page 530	Data	4096	No
"Data_Len_Post" on page 530	Data_Len_Post	4	Yes
"Data_Len_Pre" on page 530	Data_Len_Pre	4	Yes
"Fail Code" on page 534	Fail_Code	4	Yes
"Fail Type" on page 534	Fail_Type	1	Yes
"File Mod1 Post" on page 534	File_Mode1_Post	4	Yes
"File Mod2 Post" on page 535	File_Mode2_Post	4	Yes
"File Mod1 Pre" on page 535	File_Mode1_Pre	4	Yes
"File Mod2 Pre" on page 535	File_Mode2_Pre	4	Yes
"Offset Post" on page 541	Offset_Post	4	Yes
"Offset Pre" on page 542	Offset_Pre	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Server Path" on page 551	Server_Path	1024	Yes
"Temp ID Post" on page 553	Temp_ID_Post	4	No
"Temp ID Pre" on page 553	Temp_ID_Pre	4	No
"Xfer Mode" on page 559	Xfer_Mode	1	Yes
"Xfer State Post" on page 559	Xfer_State_Post	1	Yes
"Xfer State Pre" on page 559	Xfer_State_Pre	1	Yes

Robotic Response Time attribute groups and attributes

Provides information about the attribute groups and attributes for Robotic Response Time.

The Robotic Response Time monitoring agent monitors the performance and availability of your applications to detect issues before they affect your users. By recording and playing back transactions, you can determine whether a transaction is performing as expected, and you can discover problem areas in your web or application environment. A regularly scheduled robotic monitor is an effective way to simulate the experience of actual users who request web pages or use Microsoft Windows applications in the web environment. Robotic monitoring includes CLI Playback, Generic Windows GUI or VU, Mercury LoadRunner, and Rational Performance Tester (RPT). Robotic Response Time supports robotic monitoring for the following items:

- Web HTTP and HTTPS applications
- Windows GUI clients
- CLI (Command Line Interface) commands for
 - custom scripts
 - applications such as DB2
 - Playback technologies such as Rational Function Tester or wget
- Mercury LoadRunner scripts
- Citrix-hosted applications
- SAP
- Siebel

The following table shows the relationship between applications and the playback technologies that are supported by Robotic Response Time:

	RPT	Robot GUI	CLI Command	Load Runner	Robot VU*
Web (HTTP, HTTPS)	Yes	No	No	No	Yes
Windows GUI clients	No	Yes	No	No	No
CLI Command	No	No	Yes	No	No
LoadRunner	No	No	No	Yes	No
Citrix	Yes	No	No	No	No
SAP	Yes	No	No	No	No
Siebel	Yes	No	No	No	No

Table 6. List of supported playback technologies

Robotic Response Time is associated with the following attribute groups:

- "RRT Agent Details" on page 255
- "RRT Agent Identification" on page 256
- "RRT Agent Messages" on page 256
- "RRT Application Status" on page 256
- "RRT Application Summary" on page 258
- "RRT Client Application" on page 260

- "RRT Client Over Time" on page 262
- "RRT Client Patterns" on page 264
- "RRT Client Summary" on page 264
- "RRT Robotic Playback Configuration" on page 266
- "RRT Robotic Playback Events" on page 267
- "RRT Robotic Playback Events Sampled" on page 267
- "RRT Robotic Playback Status" on page 268
- "RRT Profile Configuration" on page 269
- "RRT Realms" on page 270
- "RRT Subtransaction Instance" on page 270
- "RRT Subtransaction Status" on page 272
- "RRT Subtransaction Summary" on page 273
- "RRT Transaction Instance" on page 275
- "RRT Transaction Patterns" on page 277
- "RRT Transaction Status" on page 278
- "RRT Transaction Summary" on page 280

The following additional attribute groups are also displayed in the Situation Editor for the Robotic Response Time agent, but do not contain usable data and should not be used for reporting purposes:

- RRT Application Over Time (instead, use RRT Application Status, or binary file T6APPCS)
- RRT Transaction Over Time (instead, use RRT Transaction Status, or binary file T6TXCS)
- RRT SubTransaction Over Time (instead, use RRT SubTransaction Status, or binary file T6SUBTXCS)

RRT Agent Details

Provides overall information about the host computer on which the management agent is located, such as its origin node, property, sample time, and value.

These attributes are informational only and cannot be used to create situations. These attributes build the Robotic Configuration workspace.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Sample Time" on page 550	Sample_Time	16	No
"Origin Node" on page 542	Origin_Node	32	No
"Property" on page 545	Property	255	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Value" on page 558	Value	255	Yes

RRT Agent Identification

Identifies the monitoring agent to the Application Management Console.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIBus or Tivoli Enterprise Console
"Origin Node" on page 542	Origin_Node	32	No
"Depot Node" on page 530	Depot Node	32	Yes

The attributes used in this attribute group are listed in the following table:

RRT Agent Messages

This attribute group provides information about the messages generated by the Robotic Response Time monitoring agent.

The attributes used in this attribute group are listed in the following table:

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIBus or Tivoli Enterprise Console
"Component" on page 528	Component	32	Yes
"Message Date and Time" on page 538	Message_Date_and _Time	16	Yes
"Message ID" on page 538	Message_ID	32	Yes
"Message Source" on page 539	Message_Source	512	Yes
"Message Text" on page 539	Message_Text	1024	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Sample Time" on page 550	Sample_Timestamp	16	No
"Severity" on page 552	Severity	4	Yes

RRT Application Status

This attribute group provides information about the current status of a monitored application and applies to data gathered in the last 5 minutes.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Application (Application Name) " on page 523	Application	128	Yes
"Average Client Time" on page 523	Client_Time	4	Yes
"Average Connect Time" on page 524	Average_Connect _Time	4	Yes
"Average DNS Time" on page 524	Average_DNS_TIME	4	Yes
"Average Resolve Time" on page 525	Average_Resolve _Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Average Server Response Time" on page 525	Average_Server_ Response_Time	4	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	Yes
"Data Interval" on page 530	Data_Interval	4	Yes
"End Time" on page 531	Sample_Time	16	No
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Importance" on page 536	Importance	2	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Average Network Time" on page 525	Network_Time	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Rank" on page 545	Rank	14	No
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Scope" on page 550	Scope	2	Yes
"Average Server Time" on page 526	Server_Time	4	Yes
"Situation Status" on page 552	Situation_Status	2	No
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Start Time" on page 553	Timestamp	16	Yes
"Total Connect Time" on page 554	Total_Connect_Time	4	Yes
"Total DNS Time" on page 554	Total_DNS_Time	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Resolve Time" on page 556	Total_Resolve_Time	4	Yes
"Total Server Response Time" on page 556	Total_Server_ Response_Time	4	Yes

RRT Application Summary

This attribute group provides summary information about monitored applications.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Aggregated Uniquely By" on page 522	АддВу	4	No
"Application (Application Name) " on page 523	Application	128	Yes
"Average Client Time" on page 523	Client_Time	4	Yes
"Average Connect Time" on page 524	Average_Connect _Time	4	Yes
"Average DNS Time" on page 524	Average_DNS_TIME	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Average Resolve Time" on page 525	Average_Resolve _Time	4	Yes
"Average Server Response Time" on page 525	Average_Server_ Response_Time	4	Yes
"Data Collector Type" on page 530	Data_Collector_Type	4	Yes
"Data Interval" on page 530	Data_Interval	4	Yes
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Importance" on page 536	Importance	2	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Average Network Time" on page 525	Network_Time	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	No
"Sample Time" on page 550	Sample_Time	16	No
"Average Server Time" on page 526	Server_Time	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Timestamp" on page 554	Timestamp	16	Yes
"Total Connect Time" on page 554	Total_Connect_Time	4	Yes
"Total DNS Time" on page 554	Total_DNS_Time	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Resolve Time" on page 556	Total_Resolve_Time	4	Yes
"Total Server Response Time" on page 556	Total_Server_ Response_Time	4	Yes

RRT Client Application

This attribute group provides summary data of all of the clients that accessed a particular application or the application data accessed by applications on a particular client.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Aggregated Uniquely By" on page 522	AggBy	4	No
"Application (Application Name) " on page 523	Application	128	Yes
"Client" on page 526	Client	128	Yes
"Average Client Time" on page 523	Client_Time	4	Yes
"Average Connect Time" on page 524	Average_Connect _Time	4	Yes
"Average DNS Time" on page 524	Average_DNS_TIME	4	Yes
"Average Resolve Time" on page 525	Average_Resolve _Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Average Server Response Time" on page 525	Average_Server_ Response_Time	4	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Data Interval" on page 530	Data_Interval	4	Yes
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Average Network Time" on page 525	Network_Time	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Rank" on page 545	Rank	14	No
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Average Server Time" on page 526	Server_Time	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Total Connect Time" on page 554	Total_Connect_Time	4	Yes
"Total DNS Time" on page 554	Total_DNS_Time	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Resolve Time" on page 556	Total_Resolve_Time	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Total Server Response Time" on page 556	Total_Server_ Response_Time	4	Yes

RRT Client Over Time

This attribute group provides an aggregated view of all of the transactions for a particular client over time.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Aggregated Uniquely By" on page 522	AggBy	4	No
"Client" on page 526	Client	128	Yes
"Average Client Time" on page 523	Client_Time	4	Yes
"Average Connect Time" on page 524	Average_Connect _Time	4	Yes
"Average DNS Time" on page 524	Average_DNS_TIME	4	Yes
"Average Resolve Time" on page 525	Average_Resolve _Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Average Server Response Time" on page 525	Average_Server_ Response_Time	4	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	Yes
"Data Interval" on page 530	Data_Interval	4	Yes
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Hostname" on page 536	Hostname	128	Yes
"IP" on page 536	IP	16	Yes
"IPV6" on page 537	IPV6	128	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Average Network Time" on page 525	Network_Time	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Rank" on page 545	Rank	14	No
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Average Server Time" on page 526	Server_Time	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Total Connect Time" on page 554	Total_Connect_Time	4	Yes
"Total DNS Time" on page 554	Total_DNS_Time	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Resolve Time" on page 556	Total_Resolve_Time	4	Yes
"Total Server Response Time" on page 556	Total_Server_ Response_Time	4	Yes

RRT Client Patterns

This attribute group provides information about client patterns with which you can discover all clients that can be monitored.

The attributes for this attribute group	are listed in the fe	ollowing table:
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Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Aggregates Uniquely" on page 522	Aggregates_Uniquely	2	Yes
"Client Hostname Pattern" on page 527	Client_Hostname _Pattern	255	Yes
"Client IP Pattern" on page 527	Client_IP_Pattern	255	Yes
"Client Name" on page 527	Client_Name	128	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Sample Time" on page 550	Sample_Time	16	Yes
"Timestamp" on page 554	Timestamp	16	Yes

RRT Client Summary

This attribute group provides summary data for clients.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Aggregated Uniquely By" on page 522	AggBy	4	No
"Client" on page 526	Client	128	Yes
"Average Client Time" on page 523	Client_Time	4	Yes
"Average Connect Time" on page 524	Average_Connect _Time	4	Yes
"Average DNS Time" on page 524	Average_DNS_TIME	4	Yes
"Average Resolve Time" on page 525	Average_Resolve _Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Average Server Response Time" on page 525	Average_Server_ Response_Time	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Data Collector Type" on page 530	Data_Collector_Type	32	Yes
"Data Interval" on page 530	Data_Interval	4	Yes
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Hostname" on page 536	Hostname	128	Yes
"IP" on page 536	IP	16	Yes
"IPV6" on page 537	IPV6	128	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Average Network Time" on page 525	Network_Time	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Rank" on page 545	Rank	14	No
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Average Server Time" on page 526	Server_Time	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Total Connect Time" on page 554	Total_Connect_Time	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Total DNS Time" on page 554	Total_DNS_Time	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Resolve Time" on page 556	Total_Resolve_Time	4	Yes
"Total Server Response Time" on page 556	Total_Server_ Response_Time	4	Yes

RRT Robotic Playback Configuration

This attribute group provides configuration information about the Robotic playback monitoring agent.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Abort On Violation" on page 521	Abort_On_Violation	16	Yes
"Generic Playback Command" on page 535	Generic_Playback _Command	128	Yes
"CLI Success RC" on page 528	CLI_SUCCESS_RC	4	Yes
"Concurrent" on page 528	Concurrent	16	Yes
"Number Retries" on page 541	Number_Retries	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Retry Lag Time" on page 549	Retry_Lag_Time	4	Yes
"Script Name" on page 550	Robotic_Script _Name	128	Yes
"Script Type" on page 550	Script_Type	128	Yes
"Sample Timestamp" on page 550	Sample_Timestamp	16	No
"Timeout Period" on page 553	Timeout_Period	4	Yes

RRT Robotic Playback Events

This attribute group provides information about events that occur during the Robotic playback.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Additional Details" on page 521	Additional_Details	1024	Yes
"Application Name" on page 523	Application_Name	128	Yes
"Captured Content Location" on page 526	Captured_Content _Location	512	Yes
"Generic Playback Command" on page 535	Command_Name	128	Yes
"Event Timestamp" on page 532	Event_Timestamp	16	No
"Event Type" on page 532	Event_Type	128	No
"Expected Data" on page 534	Expected_Data	128	Yes
"Origin Node" on page 542	Origin Node	32	No
"Script Name" on page 550	Script_Name	128	No
"Script Type" on page 550	Script_Type	128	No
"Sample Timestamp" on page 550	Sample_Timestamp	16	No
"Situation Name" on page 552	Situation_Name	128	Yes
"Transaction Name" on page 557	Transaction_Name	128	Yes
"Violation Data" on page 559	Violation_Data	128	Yes

The attributes used in this attribute group are listed in the following table:

RRT Robotic Playback Events Sampled

This attribute group provides information about events that occur during the Robotic playback.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Additional Details" on page 521	Additional_Details	2048	No
"Application Name" on page 523	Application_Name	128	Yes
"Captured Content Location" on page 526	Captured_Content _Location	512	Yes
"Generic Playback Command" on page 535	Command_Name	128	Yes
"Event Timestamp" on page 532	Event_Timestamp	16	No
"Event Type" on page 532	Event_Type	128	Yes
"Expected Data" on page 534	Expected_Data	128	Yes
"Origin Node" on page 542	Origin Node	32	No
"Script Name" on page 550	Script_Name	128	Yes
"Script Type" on page 550	Script_Type	128	Yes
"Sample Timestamp" on page 550	Sample_Timestamp	16	No
"Situation Name" on page 552	Situation_Name	128	Yes
"Transaction Name" on page 557	Transaction_Name	128	Yes
"Violation Data" on page 559	Violation_Data	128	Yes

RRT Robotic Playback Status

This attribute group provides the current and last run status of the Robotic playback.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Application Name" on page 523	Application_Name	128	Yes
"Generic Playback Command" on page 535	Command_Name	128	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Current Run Status" on page 529	Current_Run_Status	32	Yes
"Last Run Duration" on page 537	Last_Run_Duration	4	Yes
"Last Run Start Time" on page 537	Last_Run_Startime	16	Yes
"Last Run Status" on page 537	Last_Run_Status	32	Yes
"Last Updated" on page 538	Last_Updated	16	Yes
"Origin Node" on page 542	Origin Node	32	No
"Script Name" on page 550	Script_Name	128	Yes
"Script Type" on page 550	Script_Type	128	Yes
"Sample Timestamp" on page 550	Sample_Timestamp	16	No
"Situation Name" on page 552	Situation_Name	128	Yes
"Transaction Name" on page 557	Transaction_Name	128	Yes

RRT Profile Configuration

This attribute group provides information about the profiles that the Robotic Response Time monitoring agent is configured to run.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIBus or Tivoli Enterprise Console
"Config Name" on page 528	Config_Name	4	Yes
"Config Type" on page 528	Config_Type	4	Yes
"Entry Type" on page 531	Entry_Type	4	Yes
"Key Name" on page 537	Key Name	32	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Sample Timestamp" on page 550	Sample_Timestamp	16	No
"Value" on page 558	Value	256	Yes

RRT Realms

This attribute group provides the information about realms that host the websites.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Auth Type" on page 523	Auth_Type	32	Yes
"Hostname" on page 536	Host_Name	128	Yes
"Origin Node" on page 542	Origin Node	32	No
"Password" on page 543	Password	32	Yes
"Realm Name" on page 546	Realm_Name	128	Yes
"Realm Type" on page 546	Realm_Type	32	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"User Name" on page 558	User_Name	32	Yes

The attributes used in this attribute group are listed in the following table:

RRT Subtransaction Instance

This attribute group provides the data for the subtransactions that have violations.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Application (Application Name) " on page 523	Application_Name	255	Yes
"Application Pattern" on page 523	Application_Pattern	255	No
"Average Client Time" on page 523	Client_Time	4	Yes
"Average Connect Time" on page 524	Average_Connect _Time	4	Yes
"Average DNS Time" on page 524	Average_DNS_TIME	4	Yes
"Average Resolve Time" on page 525	Average_Resolve _Time	4	Yes
"Average Server Response Time" on page 525	Average_Server_ Response_Time	4	Yes
"Client Hostname Pattern" on page 527	Client_Hostname _Pattern	255	No

Attribute (click on the link	Tivoli Data Warehouse term for historical	Tivoli Data Warehouse database column size in	Forwarded in events to Netcool/OMNIbus or
for a description)	reporting	bytes	Tivoli Enterprise Console
"Client IP Pattern" on page 527	Client_IP_Pattern	255	No
"Client Name" on page 527	Client_Name	255	Yes
"Current UUID" on page 529	CurrentUUID	32	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Instance Root" on page 536	InstanceRoot	16	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Average Network Time" on page 525	Network_Time	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Parent UUID" on page 543	ParentUUID	32	Yes
"Response Time" on page 549	Response_Time	4	Yes
"Root UUID" on page 550	RootUUID	32	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Average Server Time" on page 526	Server_Time	4	Yes
"Status Code" on page 553	Status_Code	2	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Total Connect Time" on page 554	Total_Connect_Time	4	Yes
"Total DNS Time" on page 554	Total_DNS_Time	4	Yes
"Total Resolve Time" on page 556	Total_Resolve_Time	4	Yes
"Total Server Response Time" on page 556	Total_Server_ Response_Time	4	Yes
"Transaction" on page 557	Transaction_Name	255	Yes
"Transaction Pattern" on page 557	Transaction_Pattern	255	No
"Root Transaction Name" on page 549	Transaction_Root_Name	128	Yes

RRT Subtransaction Status

This attribute group provides information about a monitored subtransaction and applies to data gathered in the last 5 minutes.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Application (Application Name) " on page 523	Application	128	Yes
"Average Client Time" on page 523	Client_Time	4	Yes
"Average Connect Time" on page 524	Average_Connect _Time	4	Yes
"Average DNS Time" on page 524	Average_DNS_Time	4	Yes
"Average Resolve Time" on page 525	Average_Resolve _Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Average Server Response Time" on page 525	Average_Server_ Response_Time	4	Yes
"Current UUID" on page 529	CurrentUUID	32	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Data Interval" on page 530	Data_Interval	4	Yes
"End Time" on page 531	Sample_Time	16	No
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Network Time" on page 539	Network_Time	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Parent UUID" on page 543	ParentUUID	32	Yes
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
---	---	---	---
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	No
"Root UUID" on page 550	ROOTUUID	32	Yes
"Scope" on page 550	Scope	2	Yes
"Average Server Time" on page 526	Server _Time	4	Yes
"Situation Status" on page 552	Situation_Status	2	No
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Start Time" on page 553	Timestamp	16	Yes
"Total Connect Time" on page 554	Total_Connect_Time	4	Yes
"Total DNS Time" on page 554	Total_DNS_Time	4	Yes
"Total Resolve Time" on page 556	Total_Resolve_Time	4	Yes
"Total Server Response Time" on page 556	Total_Server_ Response_Time	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Transaction" on page 557	Transaction	128	Yes
"Root Transaction Name" on page 549	Transaction_Root_Name	128	Yes

RRT Subtransaction Summary

This attribute group provides the summary data for the monitored subtransactions.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Average Client Time" on page 523	Client_Time	4	Yes
"Application (Application Name) " on page 523	Application	128	Yes
"Average Connect Time" on page 524	Average_Connect _Time	4	Yes
"Average DNS Time" on page 524	Average_DNS_TIME	4	Yes
"Average Resolve Time" on page 525	Average_Resolve _Time	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Average Server Response Time" on page 525	Average_Server_ Response_Time	4	Yes
"Current UUID" on page 529	CurrentUUID	32	Yes
"Data Collector Type" on page 530	Data_Collector_Type	4	No
"Data Interval" on page 530	Data_Interval	4	Yes
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Average Network Time" on page 525	Network_Time	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Parent UUID" on page 543	ParentUUID	32	Yes
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	No
"Root UUID" on page 550	RootUUID	32	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Average Server Time" on page 526	Server_Time	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Total Connect Time" on page 554	Total_Connect_Time	4	Yes
"Total DNS Time" on page 554	Total_DNS_Time	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Resolve Time" on page 556	Total_Resolve_Time	4	Yes
"Total Server Response Time" on page 556	Total_Server_ Response_Time	4	Yes
"Transaction" on page 557	Transaction	128	Yes
"Root Transaction Name" on page 549	Transaction_Root_Name	128	Yes

RRT Transaction Instance

This attribute group provides data about transactions that have violations.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Aggregated Uniquely By" on page 522	AggBy	4	No
"Application (Application Name) " on page 523	Application_Name	255	Yes
"Application Pattern" on page 523	Application_Pattern	255	No
"Average Client Time" on page 523	Client_Time	4	Yes
"Average Connect Time" on page 524	Average_Connect _Time	4	Yes
"Average DNS Time" on page 524	Average_DNS_TIME	4	Yes
"Average Resolve Time" on page 525	Average_Resolve _Time	4	Yes
"Average Server Response Time" on page 525	Average_Server_ Response_Time	4	Yes
"Client Hostname Pattern" on page 527	Client_Hostname _Pattern	255	No
"Client IP Pattern" on page 527	Client_IP_Pattern	255	No
"Client Name" on page 527	Client_Name	255	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Importance" on page 536	Importance	2	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Instance Root" on page 536	InstanceRoot	16	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Average Network Time" on page 525	Network_Time	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Response Time" on page 549	Response_Time	4	Yes
"Root UUID" on page 550	RootUUID	32	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Scope" on page 550	Scope	2	No
"Server" on page 551	Server	128	Yes
"Average Server Time" on page 526	Server_Time	4	Yes
"Status Code" on page 553	Status_Code	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Total Connect Time" on page 554	Total_Connect_Time	4	Yes
"Total DNS Time" on page 554	Total_DNS_Time	4	Yes
"Total Resolve Time" on page 556	Total_Resolve_Time	4	Yes
"Total Server Response Time" on page 556	Total_Server_ Response_Time	4	Yes
"Transaction" on page 557	Transaction_Name	255	Yes
"Transaction Pattern" on page 557	Transaction_Pattern	255	No

RRT Transaction Patterns

This attribute group provides transaction patterns with which you can discover all the transactions that can be monitored.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Aggregate Applications Uniquely" on page 521	Aggregate _Applications_ Uniquely	2	Yes
"Aggregate Transactions Uniquely" on page 522	Aggregate _Transactions_ Uniquely	2	Yes
"Application (Application Name) " on page 523	Application_Name	128	Yes
"Application Pattern" on page 523	Application_Pattern	255	Yes
"Collect Instances" on page 528	Collect_Instances	2	Yes
"Importance" on page 536	Importance	2	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Sample Time" on page 550	Sample_Time	16	No
"Sampling Percent" on page 550	Sampling_Percent	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Transaction" on page 557	Transaction_Name	128	Yes
"Transaction Pattern" on page 557	Transaction_Pattern	128	Yes

RRT Transaction Status

This attribute group provides information about a monitored transaction and applies to data gathered in the last 5 minutes.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Application (Application Name) " on page 523	Application	128	Yes
"Average Client Time" on page 523	Client_Time	4	Yes
"Average Connect Time" on page 524	Average_Connect _Time	4	Yes
"Average DNS Time" on page 524	Average_DNS_TIME	4	Yes
"Average Resolve Time" on page 525	Average_Resolve _Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Average Server Response Time" on page 525	Average_Server_ Response_Time	4	Yes
"Client" on page 526	Client	128	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Data Interval" on page 530	Data_Interval	4	Yes
"End Time" on page 531	Sample_Time	16	No
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Importance" on page 536	Importance	2	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Average Network Time" on page 525	Network_Time	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	Yes
"Root UUID" on page 550	RootUUID	32	Yes
"Scope" on page 550	Scope	2	Yes
"Server" on page 551	Server	128	Yes
"Average Server Time" on page 526	Server_Time	4	Yes
"Situation Status" on page 552	Situation_Status	2	No
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Start Time" on page 553	Timestamp	16	Yes
"Total Connect Time" on page 554	Total_Connect_Time	4	Yes
"Total DNS Time" on page 554	Total_DNS_Time	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Resolve Time" on page 556	Total_Resolve_Time	4	Yes
"Total Server Response Time" on page 556	Total_Server_ Response_Time	4	Yes
"Transaction" on page 557	Transaction	128	Yes

RRT Transaction Summary

This attribute group provides summary information about a monitored transaction over the current collection interval.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Aggregated Uniquely By" on page 522	AggBy	4	No
"Application (Application Name) " on page 523	Application	128	Yes
"Average Client Time" on page 523	Client_Time	4	Yes
"Average Connect Time" on page 524	Average_Connect _Time	4	Yes
"Average DNS Time" on page 524	Average_DNS_TIME	4	Yes
"Average Resolve Time" on page 525	Average_Resolve _Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Average Server Response Time" on page 525	Average_Server_ Response_Time	4	Yes
"Client" on page 526	Client	128	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Data Interval" on page 530	Data_Interval	4	Yes
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Importance" on page 536	Importance	2	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Average Network Time" on page 525	Network_Time	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	Yes
"Root UUID" on page 550	RootUUID	32	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Server" on page 551	Server	128	Yes
"Average Server Time" on page 526	Server_Time	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Total Connect Time" on page 554	Total_Connect_Time	4	Yes
"Total DNS Time" on page 554	Total_DNS_Time	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Resolve Time" on page 556	Total_Resolve_Time	4	Yes
"Total Server Response Time" on page 556	Total_Server_ Response_Time	4	Yes
"Transaction" on page 557	Transaction	128	Yes

Web Response Time attribute groups and attributes

Web Response Time monitors HTTP and HTTPS web pages and embedded objects in web pages, such as graphics files (if configured to do so).

The Web Response Time monitoring agent detects problems before they have an impact upon availability and service levels to help ensure the reliability and performance of the transaction environment. The monitoring agent provides response time and other performance data, and tracks navigation paths and usage behavior.

With Web Response Time, you can:

- Monitor user experience of web-based application performance.
- See different views of the same web request response.
- Evaluate the performance of web page requests and embedded object in that web page.
- Evaluate performance of HTTP and HTTPS requests.
- Monitor response time at the workstation without the monitoring agent being physically located on the workstation.

The Tivoli Enterprise Management Agent collects monitoring data from the managed system and passes it to the Tivoli Enterprise Monitoring Server. The client gathers the current values of the attributes and produces reports formatted into tables and charts. You can use these and other attributes in situation definitions.

Web Response Time is associated with the following attribute groups:

- "WRT Agent Details" on page 283
- "WRT Agent Identification" on page 284
- "WRT Agent Messages" on page 284
- "WRT Application Status" on page 285
- "WRT Application Summary" on page 288
- "WRT Client Application" on page 291
- "WRT Client Server" on page 293
- "WRT Client Status" on page 296
- "WRT Client Summary" on page 300
- "WRT Periods" on page 303
- "WRT Profile Configuration" on page 303
- "WRT Server Application" on page 304
- "WRT Server Status" on page 307
- "WRT Server Summary" on page 311
- "WRT SSL Alert Current Status" on page 315
- "WRT Subtransaction Instance" on page 316
- "WRT Subtransaction Status" on page 317
- "WRT Subtransaction Summary" on page 319
- "WRT TCP Status" on page 322
- "WRT Transaction Instance" on page 323
- "WRT Transaction Status" on page 326
- "WRT Transaction Summary" on page 330

• "WRT User Sessions" on page 333

The following additional attribute groups are also displayed in the Situation Editor for the Web Response Time agent, but do not contain usable data, so do not use them for reporting purposes:

- WRT Application Over Time (instead, use WRT Application Status, or binary file T5APPCS)
- WRT Periods (instead, use WRT TCP Status, or binary file T5TCPSTAT)
- WRT Client Over Time (instead, use WRT Client Status, or binary file T5CLNTCS)
- WRT Server Over Time (instead, use WRT Server Status, or binary file T5SRVCS)
- WRT Transaction Over Time (instead, use WRT Transaction Status, or binary file T5TXCS)
- WRT SubTransaction Over Time (instead, use WRT SubTransaction Status, or binary file T5SUBTXCS)

WRT Agent Details

The WRT Agent Details attribute group displays information about the configuration of the Web Response Time monitoring agent.

These attributes are used with the WRT Agent Messages attribute group to populate the Web Configuration workspace.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIBus or Tivoli Enterprise Console
"Origin Node" on page 542	Origin_Node	32	No
"Property" on page 545	Property	255	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Timestamp" on page 554	Timestamp	16	Yes
"Value" on page 558	Value	255	Yes

The attributes used in this attribute group are listed in the following table:

See the following for more information about related attribute groups:

• Attribute group: "WRT Agent Messages" on page 284

WRT Agent Identification

This attribute group identifies the monitoring agent to the Application Management Console.

The attributes used in this attribute group are listed in the following table:

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIBus or Tivoli Enterprise Console
"Origin Node" on page 542	Origin_Node	32	No
"Depot Node" on page 530	Depot_Node	32	Yes

WRT Agent Messages

This attribute group provides information about the messages generated by the Web Response Time monitoring agent.

These attributes show how the monitoring agent is functioning. This attribute group is used with the WRT Agent Details attribute group to populate the Web Configuration workspace.

The attributes used in this attribute group are listed in the following table:

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIBus or Tivoli Enterprise Console
"Component" on page 528	Component	32	Yes
"Message Date and Time" on page 538	Message_Date_and _Time	16	Yes
"Message ID" on page 538	Message_ID	32	Yes
"Message Source" on page 539	Message_Source	512	Yes
"Message Text" on page 539	Message_Text	1024	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Sample Time" on page 550	Sample_Timestamp	16	No
"Severity" on page 552	Severity	4	Yes

See the following for more information about related attribute groups:

• Attribute group: "WRT Agent Details" on page 283

WRT Application Status

This attribute group provides information about the current status of a monitored application and applies to data gathered in the currently configured collection interval, 5 minutes by default.

Tip: Configure the collection interval in the Manage Tivoli Enterprise Monitoring Services for Web Response Time. In the Manage Tivoli Enterprise Monitoring Services, select **ITCAM for Web Response Time** > **Reconfigure** and step through the configuration windows to the **Data Analysis** window. Set **Number of minutes to aggregate data before writing out a data point** to the required value.

≜ ITCAM for Web Response Ti	me	×
 ✓ Basic Configuration ✓ Advanced Configuration 	Specify Configuration Information on how data is analyzed. The Number of minutes to aggregate data before writing out a data point.	_
	5 Number of hours to save data for viewing in the Tivoli Enterorise Portal	

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent of 403s" on page 544	Percent_of_403s	4	Yes
"Percent of 404s" on page 544	Percent_of_404s	4	Yes
"Percent of 500s" on page 545	Percent_of_500s	4	Yes
"Application (Application Name) " on page 523	Application	128	Yes
"Average Client Time" on page 523	Average_Client_Time	4	Yes
"Average Load Time" on page 525	Average_Load_Time	4	Yes
"Average Network Time" on page 525	Average_Network _Time	4	Yes
"Average Page Views Per Session" on page 525	Average_Page_Views _Per_Session	4	No
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Average Session Duration" on page 526	Average_Session _Duration	4	No
"Client Errors" on page 527	Client_Errors	4	Yes
"Percent Client Errors" on page 544	Percent_Client _Errors	4	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Data Interval" on page 530	Data_Interval	4	Yes
"End Time" on page 531	Sample_Time	16	No
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Importance" on page 536	Importance	2	Yes
"Informational" on page 536	Informational	4	Yes
"Percent Informational" on page 544	Percent _Informational	4	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Number Active Sessions" on page 540	Number_Active _Sessions	4	No
"Number Failed Sessions" on page 541	Number_Failed _Sessions	4	No
"Number Good Sessions" on page 541	Number_Good _Sessions	4	No
"Number Slow Sessions" on page 541	Number_Slow _Sessions	4	No
"Number of 403s" on page 541	Number_of_403s	4	Yes
"Number of 404s" on page 541	Number_of_404s	4	Yes
"Number of 500s" on page 541	Number_of_500s	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	No
"Redirections" on page 546	Redirections	4	Yes
"Percent Redirections" on page 545	Percent _Redirections	4	Yes
"Render Time" on page 546	Average_Render _Time	4	Yes
"Reply Ack Packet Count" on page 546	Reply_Ack_Packet _Count	4	Yes
"Reply kBytes" on page 546	Reply_kBytes	4	Yes
"Reply Packet Count" on page 546	Reply_Packet_Count	4	Yes
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	Yes
"Request Bytes" on page 546	Request_kBytes	4	Yes
"Request Packet Count" on page 547	Request_Packet _Count	4	Yes
"Resolve Time" on page 549	Average_Resolve _Time	4	Yes
"Scope" on page 550	Scope	2	Yes
"Server Errors" on page 551	Server_Errors	4	Yes
"Percent Server Errors" on page 545	Percent_Server _Errors	4	Yes
"Average Server Time" on page 526	Average_Server _Time	4	Yes
"Situation Status" on page 552	Situation_Status	2	No
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Start Time" on page 553	Timestamp	16	Yes
"Successes" on page 553	Successes	4	Yes
"Percent Successes" on page 545	Percent_Successes	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Total Bytes" on page 554	Total_kBytes	4	Yes
"Total Failed Users" on page 555	Average_Failed_ Users	4	Yes
"Total Good Users" on page 555	Average_Good_Users	4	Yes
"Total Header Request Resolve Time" on page 555	Total_Header _Request _Resolve_Time	4	Yes
"Total Header Requests Count" on page 555	Total_Header_ Requests_Count	4	Yes
"Total Object Count" on page 555	Average_Object _Count	4	Yes
"Total Object Size" on page 555	Average_Object_Size	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Slow Users" on page 556	Average_Slow_Users	4	Yes
"Total Users" on page 557	Average_Users	4	Yes
"Number of Retransmissions" on page 541	Number_of _Retransmissions	4	No
"KiloBytes Retransmitted" on page 537	KiloBytes _Retransmitted	4	No
"Number of Content Check Errors" on page 540	Number_of_Content _Check_Errors	4	No
"User Logins" on page 558	User_Logins	4	No

WRT Application Summary

This attribute group provides summary information about the monitored applications and applies to data gathered in the currently configured collection interval, 5 minutes by default.

Tip: Configure the collection interval in the Manage Tivoli Enterprise Monitoring Services for Web Response Time. In the Manage Tivoli Enterprise Monitoring Services, select **ITCAM for Web Response Time** > **Reconfigure** and step through the configuration windows to the **Data Analysis** window. Set **Number of minutes to aggregate data before writing out a data point** to the required value.

🕌 ITCAM for Web Response T	ime	×
 ✓ Basic Configuration ✓ Advanced Configuration □ Data Analysis 	Specify Configuration Information on how data is analyzed.	
	The Number of minutes to aggregate data before writing out a data point.	
	5	
	Number of hours to save data for viewing in the Tivoli Enterprise Portal	

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent of 403s" on page 544	Percent_of_403s	4	Yes
"Percent of 404s" on page 544	Percent_of_404s	4	Yes
"Percent of 500s" on page 545	Percent_of_500s	4	Yes
"Aggregates Uniquely" on page 522	AggBy	4	No
"Application (Application Name) " on page 523	Application	128	Yes
"Average Client Time" on page 523	Average_Client_Time	4	Yes
"Average Load Time" on page 525	Average_Load_Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Client Errors" on page 527	Client_Errors	4	Yes
"Percent Client Errors" on page 544	Percent_Client _Errors	4	Yes
"Data Collector Type" on page 530	Data_Collector_Type	16	No
"Data Interval" on page 530	Data_Interval	4	Yes
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Importance" on page 536	Importance	2	Yes
"Informational" on page 536	Informational	4	Yes
"Percent Informational" on page 544	Percent _Informational	4	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Average Network Time" on page 525	Average_Network _Time	4	Yes
"Number of 403s" on page 541	Number_of_403s	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Number of 404s" on page 541	Number_of_404s	4	Yes
"Number of 500s" on page 541	Number_of_500s	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	No
"Redirections" on page 546	Redirections	4	Yes
"Percent Redirections" on page 545	Percent _Redirections	4	Yes
"Render Time" on page 546	Average_Render_ Time	4	Yes
"Reply Ack Packet Count" on page 546	Reply_Ack_Packet _Count	4	Yes
"Reply kBytes" on page 546	Reply_kBytes	4	Yes
"Reply Packet Count" on page 546	Reply_Packet_Count	4	Yes
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	Yes
"Request Bytes" on page 546	Request_kBytes	4	Yes
"Request Packet Count" on page 547	Request_Packet _Count	4	Yes
"Resolve Time" on page 549	Average_Resolve _Time	4	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Server Errors" on page 551	Server_Errors	4	Yes
"Percent Server Errors" on page 545	Percent_Server _Errors	4	Yes
"Average Server Time" on page 526	Average_Server _Time	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Successes" on page 553	Successes	4	Yes
"Percent Successes" on page 545	Percent_Successes	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Total Bytes" on page 554	Total_kBytes	4	Yes
"Total Failed Users" on page 555	Average_Failed_Users	4	Yes
"Total Good Users" on page 555	Average_Good_Users	4	Yes
"Total Header Request Resolve Time" on page 555	Total_Header _Request _Resolve_Time	4	Yes
"Total Header Requests Count" on page 555	Total_Header_ Requests_Count	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Total Object Count" on page 555	Average_Object _Count	4	Yes
"Total Object Size" on page 555	Total_Object_Size	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Slow Users" on page 556	Average_Slow_Users	4	Yes
"Total Users" on page 557	Average_Users	4	Yes
"Number of Retransmissions" on page 541	Number_of _Retransmissions	4	Yes
"KiloBytes Retransmitted" on page 537	KiloBytes _Retransmitted	4	Yes
"Number of Content Check Errors" on page 540	Number_of_Content _Check_Errors	4	Yes

WRT Client Application

This attribute group provides summary data on all of the clients accessing a particular application, or information about the data accessed by applications on a particular client.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent of 403s" on page 544	Percent_of_403s	4	Yes
"Percent of 404s" on page 544	Percent_of_404s	4	Yes
"Percent of 500s" on page 545	Percent_of_500s	4	Yes
"Aggregates Uniquely" on page 522	AggBy	4	No
"Application (Application Name) " on page 523	Application	128	Yes
"Average Client Time" on page 523	Average_Client_Time	4	Yes
"Average Load Time" on page 525	Average_Load_Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Resolve Time" on page 549	Average_Resolve _Time	4	Yes
"Client" on page 526	Client	128	Yes
"Client Errors" on page 527	Client_Errors	4	Yes
"Percent Client Errors" on page 544	Percent_Client _Errors	4	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Data Interval" on page 530	Data_Interval	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Informational" on page 536	Informational	4	Yes
"Percent Informational" on page 544	Percent _Informational	4	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Average Network Time" on page 525	Average_Network _Time	4	Yes
"Number of 403s" on page 541	Number_of_403s	4	Yes
"Number of 404s" on page 541	Number_of_404s	4	Yes
"Number of 500s" on page 541	Number_of_500s	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	No
"Redirections" on page 546	Redirections	4	Yes
"Percent Redirections" on page 545	Percent _Redirections	4	Yes
"Render Time" on page 546	Average_Render_ Time	4	Yes
"Reply Ack Packet Count" on page 546	Reply_Ack_Packet _Count	4	Yes
"Reply kBytes" on page 546	Reply_kBytes	4	Yes
"Reply Packet Count" on page 546	Reply_Packet_Count	4	Yes
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	Yes
"Request Bytes" on page 546	Request_kBytes	4	Yes
"Request Packet Count" on page 547	Request_Packet _Count	4	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Server Errors" on page 551	Server_Errors	4	Yes
"Percent Server Errors" on page 545	Percent_Server _Errors	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Average Server Time" on page 526	Average_Server _Time	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Successes" on page 553	Successes	4	Yes
"Percent Successes" on page 545	Percent_Successes	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Total Bytes" on page 554	Total_kBytes	4	Yes
"Total Failed Users" on page 555	Average_Failed_Users	4	Yes
"Total Good Users" on page 555	Average_Good_Users	4	Yes
"Total Header Request Resolve Time" on page 555	Total_Header _Request _Resolve_Time	4	Yes
"Total Header Requests Count" on page 555	Total_Header_ Requests_Count	4	Yes
"Total Object Count" on page 555	Average_Object _Count	4	Yes
"Total Object Size" on page 555	Average_Object_Size	4	Yes
"Total Slow Users" on page 556	Average_Slow_Users	4	Yes
"Total Users" on page 557	Average_Users	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Number of Content Check Errors" on page 540	Number_of_Content _Check_Errors	4	Yes

WRT Client Server

This attribute group provides summary data of all of the clients that connected to a particular server, or information indicating to which servers a particular client connected.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent of 403s" on page 544	Percent_of_403s	4	Yes
"Percent of 404s" on page 544	Percent_of_404s	4	Yes
"Percent of 500s" on page 545	Percent_of_500s	4	Yes
"Aggregated Uniquely By" on page 522	AggBy	4	No

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Average Client Time" on page 523	Average_Client_Time	4	Yes
"Average Load Time" on page 525	Average_Load_Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Client" on page 526	Client	128	Yes
"Client Errors" on page 527	Client_Errors	4	Yes
"Percent Client Errors" on page 544	Percent_Client _Errors	4	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Data Interval" on page 530	Data_Interval	4	Yes
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Informational" on page 536	Informational	4	Yes
"Percent Informational" on page 544	Percent _Informational	4	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Network Time" on page 539	Average_Network _Time	4	Yes
"Number of 403s" on page 541	Number_of_403s	4	Yes
"Number of 404s" on page 541	Number_of_404s	4	Yes
"Number of 500s" on page 541	Number_of_500s	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Redirections" on page 546	Redirections	4	Yes
"Percent Redirections" on page 545	Percent _Redirections	4	Yes
"Rank" on page 545	Rank	14	No
"Render Time" on page 546	Average_Render _Time	4	Yes
"Reply Ack Packet Count" on page 546	Reply_Ack_Packet _Count	4	Yes
"Reply kBytes" on page 546	Reply_kBytes	4	Yes
"Reply Packet Count" on page 546	Reply_Packet_Count	4	Yes
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	Yes
"Request Bytes" on page 546	Request_kBytes	4	Yes
"Request Packet Count" on page 547	Request_Packet _Count	4	Yes
"Resolve Time" on page 549	Average_Resolve _Time	4	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Server" on page 551	Server	128	Yes
"Server Errors" on page 551	Server_Errors	4	Yes
"Percent Server Errors" on page 545	Percent_Server _Errors	4	Yes
"Average Server Time" on page 526	Average_Server _Time	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Successes" on page 553	Successes	4	Yes
"Percent Successes" on page 545	Percent_Successes	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Total Bytes" on page 554	Total_kBytes	4	Yes
"Total Failed Users" on page 555	Average_Failed_ Users	4	Yes
"Total Good Users" on page 555	Average_Good_Users	4	Yes
"Total Header Request Resolve Time" on page 555	Total_Header _Request _Resolve_Time	4	Yes
"Total Header Requests Count" on page 555	Total_Header_ Requests_Count	4	Yes
"Total Object Count" on page 555	Average_Object _Count	4	Yes
"Total Object Size" on page 555	Average_Object_Size	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Slow Users" on page 556	Average_Slow_Users	4	Yes
"Total Users" on page 557	Average_Users	4	Yes
"Number of Content Check Errors" on page 540	Number_of_Content _Check_Errors	4	Yes

WRT Client Status

This attribute group provides current data about the client and applies to data gathered in the currently configured collection interval, 5 minutes by default.

Tip: Configure the collection interval in the Manage Tivoli Enterprise Monitoring Services for Web Response Time. In the Manage Tivoli Enterprise Monitoring Services, select **ITCAM for Web Response Time** > **Reconfigure** and step through the configuration windows to the **Data Analysis** window. Set **Number of minutes to aggregate data before writing out a data point** to the required value.

ITCAM for Web Response T	ïme	×
Basic Configuration	Specify Configuration Information on how data is analyzed.	
Advanced Configuration	The Number of minutes to aggregate data before writing out a data point.	
	5	
	Number of hours to save data for viewing in the Tivoli Enterprise Portal	

The data returned by these attributes is only new data that has been collected since the last aggregate record was completed.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent of 403s" on page 544	Percent_of_403s	4	Yes
"Percent of 404s" on page 544	Percent_of_404s	4	Yes
"Percent of 500s" on page 545	Percent_of_500s	4	Yes
"Average Client Time" on page 523	Average_Client_Time	4	Yes
"Average Load Time" on page 525	Average_Load_Time	4	Yes
"Resolve Time" on page 549	Average_Resolve _Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Client" on page 526	Client	128	Yes
"Client Errors" on page 527	Client_Errors	4	Yes
"Percent Client Errors" on page 544	Percent_Client _Errors	4	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Data Interval" on page 530	Data_Interval	4	Yes
"End Time" on page 531	Sample_Time	16	No
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Hostname" on page 536	Hostname	128	Yes
"Informational" on page 536	Informational	4	Yes
"Percent Informational" on page 544	Percent _Informational	4	Yes
"IP" on page 536	IP	16	Yes
"IPV6" on page 537	IPV6	128	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Average Network Time" on page 525	Average_Network _Time	4	Yes
"Number of 403s" on page 541	Number_of_403s	4	Yes
"Number of 404s" on page 541	Number_of_404s	4	Yes
"Number of 500s" on page 541	Number_of_500s	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	No
"Redirections" on page 546	Redirections	4	Yes
"Percent Redirections" on page 545	Percent _Redirections	4	Yes
"Render Time" on page 546	Average_Render _Time	4	Yes
"Reply Ack Packet Count" on page 546	Reply_Ack_Packet _Count	4	Yes
"Reply kBytes" on page 546	Reply_kBytes	4	Yes
"Reply Packet Count" on page 546	Reply_Packet_Count	4	Yes
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	Yes
"Request Bytes" on page 546	Request_kBytes	4	Yes
"Request Packet Count" on page 547	Request_Packet _Count	4	Yes
"Scope" on page 550	Scope	2	Yes
"Server Errors" on page 551	Server_Errors	4	Yes
"Percent Server Errors" on page 545	Percent_Server _Errors	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Server Time" on page 551	Average_Server _Time	4	Yes
"Situation Status" on page 552	Situation_Status	2	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Successes" on page 553	Successes	4	Yes
"Percent Successes" on page 545	Percent_Successes	4	Yes
"Start Time" on page 553	Timestamp	16	Yes
"Total Bytes" on page 554	Total_kBytes	4	Yes
"Total Failed Users" on page 555	Average_Failed_ Users	4	Yes
"Total Good Users" on page 555	Average_Good_Users	4	Yes
"Total Header Request Resolve Time" on page 555	Total_Header _Request _Resolve_Time	4	Yes
"Total Header Requests Count" on page 555	Total_Header_ Requests_Count	4	Yes
"Total Object Count" on page 555	Average_Object _Count	4	Yes
"Total Object Size" on page 555	Average_Object_Size	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Slow Users" on page 556	Average_Slow_Users	4	Yes
"Total Users" on page 557	Average_Users	4	Yes
"Number of Retransmissions" on page 541	Number_of _Retransmissions	4	Yes
"KiloBytes Retransmitted" on page 537	KiloBytes _Retransmitted	4	Yes
"Number of Content Check Errors" on page 540	Number_of_Content _Check_Errors	4	Yes

WRT Client Summary

This attribute group provides summary data for clients, and applies to data gathered in the currently configured collection interval, 5 minutes by default.

Tip: Configure the collection interval in the Manage Tivoli Enterprise Monitoring Services for Web Response Time. In the Manage Tivoli Enterprise Monitoring Services, select **ITCAM for Web Response Time** > **Reconfigure** and step through the configuration windows to the **Data Analysis** window. Set **Number of minutes to aggregate data before writing out a data point** to the required value.

🕌 ITCAM for Web Response 1	ïme	×
Sasic Configuration	Specify Configuration Information on how data is analyzed.	
Advanced Configuration	The Number of minutes to aggregate data before writing out a data point.	
Data Analysis	5	
	Number of hours to save data for viewing in the Tixoli Enterorise Portal	

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent of 403s" on page 544	Percent_of_403s	4	Yes
"Percent of 404s" on page 544	Percent_of_404s	4	Yes
"Percent of 500s" on page 545	Percent_of_500s	4	Yes
"Aggregated Uniquely By" on page 522	AggBy	4	No
"Average Client Time" on page 523	Average_Client_Time	4	Yes
"Average Load Time" on page 525	Average_Load_Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Client" on page 526	Client	128	Yes
"Client Errors" on page 527	Client_Errors	4	Yes
"Percent Client Errors" on page 544	Percent_Client _Errors	4	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Data Interval" on page 530	Data_Interval	4	Yes
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Hostname" on page 536	Hostname	128	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Informational" on page 536	Informational	4	Yes
"Percent Informational" on page 544	Percent _Informational	4	Yes
"IP" on page 536	IP	16	Yes
"IPV6" on page 537	IPV6	128	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Network Time" on page 539	Average_Network _Time	4	Yes
"Number of 403s" on page 541	Number_of_403s	4	Yes
"Number of 404s" on page 541	Number_of_404s	4	Yes
"Number of 500s" on page 541	Number_of_500s	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	No
"Redirections" on page 546	Redirections	4	Yes
"Percent Redirections" on page 545	Percent _Redirections	4	Yes
"Render Time" on page 546	Average_Render_ Time	4	Yes
"Reply Ack Packet Count" on page 546	Reply_Ack_Packet _Count	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Reply kBytes" on page 546	Reply_kBytes	4	Yes
"Reply Packet Count" on page 546	Reply_Packet_Count	4	Yes
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	Yes
"Request Bytes" on page 546	Request_kBytes	4	Yes
"Request Packet Count" on page 547	Request_Packet _Count	4	Yes
"Resolve Time" on page 549	Average_Resolve _Time	4	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Server Errors" on page 551	Server_Errors	4	Yes
"Percent Server Errors" on page 545	Percent_Server _Errors	4	Yes
"Average Server Time" on page 526	Average_Server _Time	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Successes" on page 553	Successes	4	Yes
"Percent Successes" on page 545	Percent_Successes	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Total Bytes" on page 554	Total_kBytes	4	Yes
"Total Failed Users" on page 555	Average_Failed_ Users	4	Yes
"Total Good Users" on page 555	Average_Good_Users	4	Yes
"Total Header Request Resolve Time" on page 555	Total_Header _Request _Resolve_Time	4	Yes
"Total Header Requests Count" on page 555	Total_Header_ Requests_Count	4	Yes
"Total Object Count" on page 555	Average_Object _Count	4	Yes
"Total Object Size" on page 555	Average_Object_Size	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Total Slow Users" on page 556	Average_Slow_Users	4	Yes
"Total Users" on page 557	Average_Users	4	Yes
"Number of Retransmissions" on page 541	Number_of _Retransmissions	4	Yes
"KiloBytes Retransmitted" on page 537	KiloBytes _Retransmitted	4	Yes
"Number of Content Check Errors" on page 540	Number_of_Content _Check_Errors	4	Yes

WRT Periods

The WRT Periods attribute group provides information about interval start, end, and update times for TCP data across all monitored components.

These attributes are for internal use only and should not be used in situations.

The attributes used in this attribute group are listed in the following table:

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"End Time" on page 531	End_Time	16	No
"Origin Node" on page 542	Origin_Node	32	No
"Start Time" on page 553	Start_Time	16	Yes
"Updated Time" on page 558	Update_Time	16	No

WRT Profile Configuration

This attribute group provides information about the profiles that the Web Response Time monitoring agent is configured to run.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIBus or Tivoli Enterprise Console
"Config Name" on page 528	Config_Name	4	Yes
"Config Type" on page 528	Config_Type	4	Yes
"Entry Type" on page 531	Entry_Type	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIBus or Tivoli Enterprise Console
"Key Name" on page 537	Key Name	32	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Sample Time" on page 550	Sample_Time	16	No
"Value" on page 558	Value	256	Yes

WRT Server Application

This attribute group provides summary data for all of the servers accessed by a particular application, or information about the data that is accessed by applications on a particular server.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent of 403s" on page 544	Percent_of_403s	4	Yes
"Percent of 404s" on page 544	Percent_of_404s	4	Yes
"Percent of 500s" on page 545	Percent_of_500s	4	Yes
"Aggregated Uniquely By" on page 522	AggBy	4	No
"Application (Application Name) " on page 523	Application	128	Yes
"Average Client Time" on page 523	Average_Client_Time	4	Yes
"Average Load Time" on page 525	Average_Load_Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Client Errors" on page 527	Client_Errors	4	Yes
"Percent Client Errors" on page 544	Percent_Client _Errors	4	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Data Interval" on page 530	Data_Interval	4	Yes
"Failed Requests" on page 534	Failed_Requests	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Good Requests" on page 535	Good_Requests	4	Yes
"Informational" on page 536	Informational	4	Yes
"Percent Informational" on page 544	Percent _Informational	4	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Network Time" on page 539	Average_Network _Time	4	Yes
"Number of 403s" on page 541	Number_of_403s	4	Yes
"Number of 404s" on page 541	Number_of_404s	4	Yes
"Number of 500s" on page 541	Number_of_500s	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	No
"Redirections" on page 546	Redirections	4	Yes
"Percent Redirections" on page 545	Percent _Redirections	4	Yes
"Render Time" on page 546	Average_Render_ Time	4	Yes
"Reply Ack Packet Count" on page 546	Reply_Ack_Packet _Count	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Reply kBytes" on page 546	Reply_kBytes	4	Yes
"Reply Packet Count" on page 546	Reply_Packet_Count	4	Yes
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	Yes
"Request Bytes" on page 546	Request_kBytes	4	Yes
"Request Packet Count" on page 547	Request_Packet _Count	4	Yes
"Resolve Time" on page 549	Average_Resolve _Time	4	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Server" on page 551	Server	128	Yes
"Server Errors" on page 551	Server_Errors	4	Yes
"Percent Server Errors" on page 545	Percent_Server _Errors	4	Yes
"Average Server Time" on page 526	Average_Server _Time	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Successes" on page 553	Successes	4	Yes
"Percent Successes" on page 545	Percent_Successes	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Total Bytes" on page 554	Total_kBytes	4	Yes
"Total Failed Users" on page 555	Average_Failed_ Users	4	Yes
"Total Good Users" on page 555	Average_Good_Users	4	Yes
"Total Header Request Resolve Time" on page 555	Total_Header _Request _Resolve_Time	4	Yes
"Total Header Requests Count" on page 555	Total_Header_ Requests_Count	4	Yes
"Total Object Count" on page 555	Average_Object _Count	4	Yes
"Total Object Size" on page 555	Average_Object_Size	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Slow Users" on page 556	Average_Slow_Users	4	Yes
"Total Users" on page 557	Average_Users	4	Yes
"Number of Content Check Errors" on page 540	Number_of_Content _Check_Errors	4	Yes

WRT Server Status

This attribute group provides information about a monitored server and applies to data gathered in the currently configured collection interval, 5 minutes by default.

Tip: Configure the collection interval in the Manage Tivoli Enterprise Monitoring Services for Web Response Time. In the Manage Tivoli Enterprise Monitoring Services, select **ITCAM for Web Response Time** > **Reconfigure** and step through the configuration windows to the **Data Analysis** window. Set **Number of minutes to aggregate data before writing out a data point** to the required value.

👙 ITCAM for Web Response Ti	me	×
Sasic Configuration	Specify Configuration Information on how data is analyzed.	
Advanced Configuration Data Analysis	The Number of minutes to aggregate data before writing out a data point. 5	
	Number of hours to save data for viewing in the Tivoli Enterorise Portal	

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent of 403s" on page 544	Percent_of_403s	4	Yes
"Percent of 404s" on page 544	Percent_of_404s	4	Yes
"Percent of 500s" on page 545	Percent_of_500s	4	Yes
"Average Client Time" on page 523	Average_Client_Time	4	Yes
"Average Load Time" on page 525	Average_Load_Time	4	Yes
"Average Page Views Per Session" on page 525	Average_Page_Views _Per_Session	4	No
"Average Response Time" on page 525	Average_Response _Time	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Average Session Duration" on page 526	Average_Session _Duration	4	No
"Client Errors" on page 527	Client_Errors	4	Yes
"Percent Client Errors" on page 544	Percent_Client _Errors	4	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"End Time" on page 531	Sample_Time	16	No
"Data Interval" on page 530	Data_Interval	4	Yes
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Informational" on page 536	Informational	4	Yes
"Percent Informational" on page 544	Percent _Informational	4	Yes
"IP" on page 536	IP	16	Yes
"IPV6" on page 537	IPV6	128	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Network Time" on page 539	Average_Network _Time	4	Yes
"Number Active Sessions" on page 540	Number_Active _Sessions	4	No
"Number Failed Sessions" on page 541	Number_Failed _Sessions	4	No
"Number Good Sessions" on page 541	Number_Good _Sessions	4	No
Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
---	---	---	--
"Number Slow Sessions" on page 541	Number_Slow _Sessions	4	No
"Number of 403s" on page 541	Number_of_403s	4	Yes
"Number of 404s" on page 541	Number_of_404s	4	Yes
"Number of 500s" on page 541	Number_of_500s	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	No
"Redirections" on page 546	Redirections	4	Yes
"Render Time" on page 546	Average_Render _Time	4	Yes
"Percent Redirections" on page 545	Percent _Redirections	4	Yes
"Reply Ack Packet Count" on page 546	Reply_Ack_Packet _Count	4	Yes
"Reply kBytes" on page 546	Reply_kBytes	4	Yes
"Reply Packet Count" on page 546	Reply_Packet_Count	4	Yes
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	Yes
"Request Bytes" on page 546	Request_kBytes	4	Yes
"Request Packet Count" on page 547	Request_Packet _Count	4	Yes
"Resolve Time" on page 549	Average_Resolve _Time	4	Yes
"Scope" on page 550	Scope	2	Yes
"Server" on page 551	Server	128	Yes
"Server Errors" on page 551	Server_Errors	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent Server Errors" on page 545	Percent_Server _Errors	4	Yes
"Server Time" on page 551	Average_Server _Time	4	Yes
"Situation Status" on page 552	Situation_Status	2	No
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Start Time" on page 553	Timestamp	16	Yes
"Successes" on page 553	Successes	4	Yes
"Percent Successes" on page 545	Percent_Successes	4	Yes
"Total Bytes" on page 554	Total_kBytes	4	Yes
"Total Failed Users" on page 555	Average_Failed_ Users	4	Yes
"Total Good Users" on page 555	Average_Good_Users	4	Yes
"Total Header Request Resolve Time" on page 555	Total_Header _Request _Resolve_Time	4	Yes
"Total Header Requests Count" on page 555	Total_Header_ Requests_Count	4	Yes
"Total Object Count" on page 555	Average_Object _Count	4	Yes
"Total Object Size" on page 555	Average_Object_Size	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Slow Users" on page 556	Average_Slow_Users	4	Yes
"Total Users" on page 557	Average_Users	4	Yes
"Number of Retransmissions" on page 541	Number_of _Retransmissions	4	No
"KiloBytes Retransmitted" on page 537	KiloBytes _Retransmitted	4	No
"Number of Content Check Errors" on page 540	Number_of_Content _Check_Errors	4	No
"Number of fatal SSL alerts" on page 540	Number_of_ SSL_Errors	4	No

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Number of warning SSL alerts" on page 541	Number_of_ SSL_Warnings	4	No
"Number of network SSL alerts" on page 540	Number_of_Network _SSL_Errors	4	No
"Number of fatal server SSL alerts" on page 540	Number_of_Server _SSL_Errors	4	No
"Number of warning server SSL alerts" on page 540	Number_of_Server _SSL_Warnings	4	No
"Number of fatal client SSL alerts" on page 540	Number_of_Client _SSL_Errors	4	No
"Number of warning client SSL alerts" on page 540	Number_of_Client _SSL_Warnings	4	No
"User Logins" on page 558	User_Logins	4	No

WRT Server Summary

This attribute group provides summary information about a monitored server and applies to data gathered in the currently configured collection interval, 5 minutes by default.

Tip: Configure the collection interval in the Manage Tivoli Enterprise Monitoring Services for Web Response Time. In the Manage Tivoli Enterprise Monitoring Services, select **ITCAM for Web Response Time** > **Reconfigure** and step through the configuration windows to the **Data Analysis** window. Set **Number of minutes to aggregate data before writing out a data point** to the required value.

👙 ITCAM for Web Response Time 🛛 🗙			
🗹 Basic Configuration	Specify Configuration Information on how data is analyzed.		
Advanced Configuration Data Analysis	The Number of minutes to aggregate data before writing out a data point.		
- Data maryono	5	_ 1	
	Number of hours to save data for viewing in the Tivoli Enterprise Portal		

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent of 403s" on page 544	Percent_of_403s	4	Yes
"Percent of 404s" on page 544	Percent_of_404s	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent of 500s" on page 545	Percent_of_500s	4	Yes
"Aggregates Uniquely" on page 522	AggBy	4	No
"Average Client Time" on page 523	Average_Client_Time	4	Yes
"Average Load Time" on page 525	Average_Load_Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Client Errors" on page 527	Client_Errors	4	Yes
"Percent Client Errors" on page 544	Percent_Client _Errors	4	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Data Interval" on page 530	Data_Interval	4	Yes
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"IP" on page 536	IP	16	Yes
"IPV6" on page 537	IPV6	128	Yes
"Informational" on page 536	Informational	4	Yes
"Percent Informational" on page 544	Percent _Informational	4	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Network Time" on page 539	Average_Network _Time	4	Yes
"Number of 403s" on page 541	Number_of_403s	4	Yes
"Number of 404s" on page 541	Number_of_404s	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Number of 500s" on page 541	Number_of_500s	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	No
"Redirections" on page 546	Redirections	4	Yes
"Percent Redirections" on page 545	Percent _Redirections	4	Yes
"Render Time" on page 546	Average_Render _Time	4	Yes
"Reply Ack Packet Count" on page 546	Reply_Ack_Packet _Count	4	Yes
"Reply kBytes" on page 546	Reply_kBytes	4	Yes
"Reply Packet Count" on page 546	Reply_Packet_Count	4	Yes
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	Yes
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	Yes
"Request Bytes" on page 546	Request_kBytes	4	Yes
"Request Packet Count" on page 547	Request_Packet _Count	4	Yes
"Resolve Time" on page 549	Average_Resolve _Time	4	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Server" on page 551	Server	128	Yes
"Server Errors" on page 551	Server_Errors	4	Yes
"Percent Server Errors" on page 545	Percent_Server _Errors	4	Yes
"Average Server Time" on page 526	Average_Server _Time	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Total Bytes" on page 554	Total_kBytes	4	Yes
"Successes" on page 553	Successes	4	Yes
"Percent Successes" on page 545	Percent_Successes	4	Yes
"Total Failed Users" on page 555	Average_Failed_ Users	4	Yes
"Total Good Users" on page 555	Average_Good_Users	4	Yes
"Total Header Request Resolve Time" on page 555	Total_Header _Request _Resolve_Time	4	Yes
"Total Header Requests Count" on page 555	Total_Header_ Requests_Count	4	Yes
"Total Object Count" on page 555	Average_Object _Count	4	Yes
"Total Object Size" on page 555	Average_Object_Size	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Slow Users" on page 556	Average_Slow_Users	4	Yes
"Total Users" on page 557	Average_Users	4	Yes
"Number of Retransmissions" on page 541	Number_of _Retransmissions	4	Yes
"KiloBytes Retransmitted" on page 537	KiloBytes _Retransmitted	4	Yes
"Number of Content Check Errors" on page 540	Number_of_Content _Check_Errors	4	Yes
"Number of fatal SSL alerts" on page 540	Number_of_ SSL_Errors	4	Yes
"Number of warning SSL alerts" on page 541	Number_of_ SSL_Warnings	4	Yes
"Number of network SSL alerts" on page 540	Number_of_Network _SSL_Errors	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Number of fatal server SSL alerts" on page 540	Number_of_Server _SSL_Errors	4	Yes
"Number of warning server SSL alerts" on page 540	Number_of_Server _SSL_Warnings	4	Yes
"Number of fatal client SSL alerts" on page 540	Number_of_Client _SSL_Errors	4	Yes
"Number of warning client SSL alerts" on page 540	Number_of_Client _SSL_Warnings	4	Yes

WRT SSL Alert Current Status

The WRT SSL Alert Current Status attribute group displays information about SSL alerts that were encountered by a request, to help determine the cause of a failed connection.

These attributes are used to populate the WRT Errors workspace.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Alert Name" on page 522	Alert_Name	4	Yes
"Alert Type" on page 523	Alert_Type	4	Yes
"Client Group" on page 527	Client_Group	128	Yes
"Count" on page 529	Count	4	Yes
"First Occurrence" on page 535	First_Occurrence	16	Yes
"Module Name" on page 539	Module_Name	256	No
"Origin Node" on page 542	Origin_Node	32	No
"Sample Time" on page 550	Sample_Time	16	No
"Scope" on page 550	Scope	2	Yes
"Server IP" on page 551	Server_IP	128	Yes
"Server Port" on page 551	Server_Port	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Severity" on page 552	Severity	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes

WRT Subtransaction Instance

This attribute group provides data about a subtransaction instance. An instance is a single transaction or subtransaction.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIBus or Tivoli Enterprise Console
"Application (Application Name) " on page 523	Application_Name	255	Yes
"Application Pattern" on page 523	Application_Pattern	255	No
"Average Connect Time" on page 524	Average_Connect _Time	4	Yes
"Average Download Time" on page 524	Average_Download _Time	4	Yes
"Client Hostname Pattern" on page 527	Client_Hostname _Pattern	255	No
"Client IP Pattern" on page 527	Client_IP_Pattern	255	No
"Client Name" on page 527	Client_Name	255	Yes
"Average Client Time" on page 523	Client_Time	4	Yes
"Current UUID" on page 529	CurrentUUID	32	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Instance Root" on page 536	InstanceRoot	16	Yes
"Average Network Time" on page 525	Network_Time	4	Yes
"Number Browser Connections" on page 540	Number_Browser _Connections	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Parent UUID" on page 543	ParentUUID	32	Yes
"Response Time" on page 549	Response_Time	4	Yes
"Root UUID" on page 550	RootUUID	32	Yes
"Sample Time" on page 550	Sample_Time	16	No

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIBus or Tivoli Enterprise Console
"Average Server Time" on page 526	Server_Time	4	Yes
"Status Code" on page 553	Status_Code	2	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Total Connect Time" on page 554	Total_Connect_Time	4	Yes
"Total Download Time" on page 555	Total_Download _Time	4	Yes
"Transaction" on page 557	Transaction_Name	255	Yes
"Transaction Pattern" on page 557	Transaction_Pattern	255	No
"Root Transaction Name" on page 549	Transaction_Root_Name	128	Yes

WRT Subtransaction Status

This attribute group provides information about a monitored subtransaction and applies to data gathered in the currently configured collection interval, 5 minutes by default.

Tip: Configure the collection interval in the Manage Tivoli Enterprise Monitoring Services for Web Response Time. In the Manage Tivoli Enterprise Monitoring Services, select **ITCAM for Web Response Time** > **Reconfigure** and step through the configuration windows to the **Data Analysis** window. Set **Number of minutes to aggregate data before writing out a data point** to the required value.

≜ ITCAM for Web Response Ti	me	×
	ecify Configuration Information on how data is analyzed.	
	The Number of minutes to aggregate data before writing out a data point.	
	5	
	Number of hours to save data for viewing in the Tivoli Enterorise Portal	

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIBus or Tivoli Enterprise Console
"Application (Application Name) " on page 523	Application	128	Yes
"Average Connect Time" on page 524	Average_Connect _Time	4	Yes
"Average Download Time" on page 524	Average_Download _Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Average Client Time" on page 523	Client_Time	4	Yes
"Current UUID" on page 529	CurrentUUID	32	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIBus or Tivoli Enterprise Console
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Data Interval" on page 530	Data_Interval	4	Yes
"End Time" on page 531	Sample_Time	16	No
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Network Time" on page 539	Network_Time	4	Yes
"Number Browser Connections" on page 540	Number_Browser _Connections	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Parent UUID" on page 543	ParentUUID	32	Yes
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	No
"Root UUID" on page 550	ROOTUUID	32	Yes
"Scope" on page 550	Scope	2	Yes
"Average Server Time" on page 526	Server_Time	4	Yes
"Situation Status" on page 552	Situation_Status	2	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Start Time" on page 553	Timestamp	16	Yes
"Total Connect Time" on page 554	Total_Connect_Time	4	Yes
"Total Download Time" on page 555	Total_Download _Time	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Transaction" on page 557	Transaction	128	Yes
"Root Transaction Name" on page 549	Transaction_Root_Name	128	Yes

WRT Subtransaction Summary

This attribute group provides information about a subtransaction and applies to data gathered in the currently configured collection interval, 5 minutes by default.

Tip: Configure the collection interval in the Manage Tivoli Enterprise Monitoring Services for Web Response Time. In the Manage Tivoli Enterprise Monitoring Services, select **ITCAM for Web Response Time** > **Reconfigure** and step through the configuration windows to the **Data Analysis** window. Set **Number of minutes to aggregate data before writing out a data point** to the required value.

≜ ITCAM for Web Response T	ime	×
Basic Configuration	Specify Configuration Information on how data is analyzed.	
 Advanced Configuration Data Analysis 	The Number of minutes to aggregate data before writing out a data point.	_
	5 Number of hours to save data for viewing in the Tivoli Enterorise Portal	

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent of 403s" on page 544	Percent_of_403s	4	Yes
"Percent of 404s" on page 544	Percent_of_404s	4	Yes
"Percent of 500s" on page 545	Percent_of_500s	4	Yes
"Average Client Time" on page 523	Average_Client_Time	4	Yes
"Average Load Time" on page 525	Average_Load_Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Client Errors" on page 527	Client_Errors	4	Yes
"Percent Client Errors" on page 544	Percent_Client _Errors	4	Yes
"Current UUID" on page 529	CurrentUUID	32	Yes
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Data Interval" on page 530	Data_Interval	4	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Informational" on page 536	Informational	4	Yes
"Percent Informational" on page 544	Percent _Informational	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Network Time" on page 539	Average_Network _Time	4	Yes
"Number of 403s" on page 541	Number_of_403s	4	Yes
"Number of 404s" on page 541	Number_of_404s	4	Yes
"Number of 500s" on page 541	Number_of_500s	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Parent UUID" on page 543	ParentUUID	32	Yes
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	4	No
"Redirections" on page 546	Redirections	4	Yes
"Percent Redirections" on page 545	Percent _Redirections	4	Yes
"Render Time" on page 546	Average_Render _Time	4	Yes
"Reply Ack Packet Count" on page 546	Reply_Ack_Packet _Count	4	Yes
"Reply kBytes" on page 546	Reply_kBytes	4	Yes
"Reply Packet Count" on page 546	Reply_Packet_Count	4	Yes
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	Yes
"Request Bytes" on page 546	Request_kBytes	4	Yes
"Request Packet Count" on page 547	Request_Packet _Count	4	Yes
"Resolve Time" on page 549	Average_Resolve _Time	4	Yes
"Root UUID" on page 550	RootUUID	32	Yes
"Server Errors" on page 551	Server_Errors	4	Yes
"Percent Server Errors" on page 545	Percent_Server _Errors	4	Yes
"Server Time" on page 551	Average_Server _Time	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Timestamp" on page 554	Timestamp	16	Yes
"Successes" on page 553	Successes	4	Yes
"Percent Successes" on page 545	Percent_Successes	4	Yes
"Total Bytes" on page 554	Total_kBytes	4	Yes
"Total Failed Users" on page 555	Average_Failed_ Users	4	Yes
"Total Good Users" on page 555	Average_Good_Users	4	Yes
"Total Header Request Resolve Time" on page 555	Total_Header _Request _Resolve_Time	4	Yes
"Total Header Requests Count" on page 555	Total_Header_ Requests_Count	4	Yes
"Total Object Count" on page 555	Average_Object _Count	4	Yes
"Total Object Size" on page 555	Average_Object_Size	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Slow Users" on page 556	Average_Slow_Users	4	Yes
"Total Users" on page 557	Average_Users	4	Yes
"Root Transaction Name" on page 549	Transaction_Root_Name	128	Yes
"Application (Application Name) " on page 523	Application	128	Yes
"Transaction" on page 557	Transaction	128	Yes
"Number of Retransmissions" on page 541	Number_of _Retransmissions	4	Yes
"KiloBytes Retransmitted" on page 537	KiloBytes _Retransmitted	4	Yes
"Number of Content Check Errors" on page 540	Number_of_Content _Check_Errors	4	Yes

WRT TCP Status

The WRT TCP Status attribute group displays information about low-level TCP data for agentless transaction tracking.

These attributes are used to capture low level TCP data for WRT agentless transaction tracking. This data is displayed in the Component related workspaces.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Active Connections" on page 521	Active_Connections	4	Yes
"Aggregate By" on page 522	Aggregate_By	4	Yes
"Average Network Time" on page 525	Average_Network _Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Average Server Time" on page 526	Average_Server _Time	4	Yes
"Client" on page 526	Client	128	Yes
"Component" on page 528	Component	128	Yes
"Data Interval" on page 530	Data_Interval	4	Yes
"Destination Hostname" on page 531	Destination _Hostname	128	Yes
"Destination IP" on page 531	Destination_IP	128	Yes
"Destination Port" on page 531	Destination_Port	4	Yes
"End Time" on page 531	End_Time	16	No
"Latency Time" on page 538	Latency_Time	4	Yes
"New Connections" on page 540	New_Connections	4	Yes
"Number of Retransmissions" on page 541	Number_of _Retransmissions	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Protocol" on page 545	Protocol	128	Yes
"Receive Bandwidth" on page 546	Receive_Bandwidth	8	Yes
"Send Bandwidth" on page 550	Send_Bandwidth	8	Yes
"Server" on page 551	Server	128	Yes
"Source Hostname" on page 553	Source_Hostname	128	Yes
"Source IP" on page 553	Source_IP	128	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Start Time" on page 553	Start_Time	16	Yes
"Terminated Connections" on page 553	Terminated _Connections	4	Yes
"Total kBytes Received" on page 554	Total_kBytes_Received	8	Yes
"Total kBytes Sent" on page 554	Total_kBytes_Sent	8	Yes
"Total Packets Received" on page 556	Total_Packets _Received	4	Yes
"Total Packets Sent" on page 556	Total_Packets_Sent	4	Yes
"Total Transactions" on page 556	Total_Transactions	4	Yes

WRT Transaction Instance

This attribute group provides data about a transaction instance.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Aggregates Uniquely" on page 522	AggBy	4	No
"Application (Application Name) " on page 523	Application_Name	255	Yes
"Application Pattern" on page 523	Application_Pattern	255	No
"Application Protocol" on page 523	Application_Protocol	32	No
"Average Client Time" on page 523	Average_Client_Time	4	Yes
"Average Load Time" on page 525	Average_Load_Time	4	Yes
"Browser Description" on page 526	Browser_Description	254	No
"Client Hostname Pattern" on page 527	Client_Hostname _Pattern	255	No
"Client IP Pattern" on page 527	Client_IP_Pattern	255	No
"Client Name" on page 527	Client_Name	255	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Content Error Search String" on page 529	Content_Error _Search_String	256	No
"Content Error Type" on page 529	Content_Error_Type	4	No
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"GMT Offset" on page 535	GMT_Offset	2	No
"Importance" on page 536	Importance	2	No
"Instance Root" on page 536	InstanceRoot	16	Yes
"IP Destination Address" on page 537	IP_Destination _Address	64	Yes
"IP Destination Port" on page 537	IP_Destination_Port	2	Yes
"IP Source Address" on page 537	IP_Source_Address	64	Yes
"KiloBytes Retransmitted" on page 537	KiloBytes _Retransmitted	4	No
"Method" on page 539	Method	2	No
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	No
"Network Time" on page 539	Average_Network _Time	4	Yes
"Number of Retransmissions" on page 541	Number_of _Retransmissions	4	No
"Origin Node" on page 542	Origin_Node	32	No
"Page Title" on page 543	Page_Title	254	Yes
"Referrer URL" on page 546	Referrer_URL	254	No
"Render Time" on page 546	Render_Time	4	No
"Reply Ack Packet Count" on page 546	Reply_Ack_Packet _Count	4	No

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Reply Bytes" on page 546	Reply_Bytes	4	No
"Reply Packet Count" on page 546	Reply_Packet_Count	4	No
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	No
"Request Bytes" on page 546	Request_Bytes	4	No
"Request Packet Count" on page 547	Request_Packet _Count	4	No
"Response Time" on page 549	Response_Time	4	Yes
"Resolve Time" on page 549	Average_Resolve _Time	4	Yes
"Root UUID" on page 550	RootUUID	32	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Server" on page 551	Server	128	Yes
"Server Description" on page 551	Server_Description	254	No
"Average Server Time" on page 526	Average_Server _Time	4	Yes
"Session" on page 552	Session	32	No
"Sort Order" on page 552	Sort_Order	2	No
"Status Code" on page 553	Status_Code	2	Yes
"Time Zone" on page 554	Timezone	32	No
"Timestamp" on page 554	Timestamp	16	Yes
"Total Bytes" on page 554	Total_Bytes	4	Yes
"Total Header Request Resolve Time″ on page 555	Total_Header _Request _Resolve_Time	4	No
"Total Header Requests Count" on page 555	Total_Header_ Requests_Count	4	No
"Total Object Count" on page 555	Total_Object_Count	4	No
"Total Object Size" on page 555	Total_Object_Size	4	No

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Transaction" on page 557	Transaction_Name	255	Yes
"Transaction Pattern" on page 557	Transaction_Pattern	255	No
"URL" on page 558	URL	254	Yes
"URL Anchor" on page 558	URL_Anchor	126	No
"URL File" on page 558	URL_File	254	No
"URL Hostname" on page 558	URL_Hostname	254	No
"URL Path" on page 558	URL_Path	254	No
"URL Query String" on page 558	URL_Query_String	254	No
"User" on page 558	User	64	No

WRT Transaction Status

This attribute group provides information about a monitored transaction and applies to data gathered in the currently configured collection interval, 5 minutes by default.

Tip: Configure the collection interval in the Manage Tivoli Enterprise Monitoring Services for Web Response Time. In the Manage Tivoli Enterprise Monitoring Services, select **ITCAM for Web Response Time** > **Reconfigure** and step through the configuration windows to the **Data Analysis** window. Set **Number of minutes to aggregate data before writing out a data point** to the required value.

🛓 ITCAM for Web Response Time 🛛 🗙			
 ✓ Basic Configuration ✓ Advanced Configuration □ Data Analysis 	Specify Configuration Information on how data is analyzed. The Number of minutes to aggregate data before writing out a data point.		
	3 Number of bours to save data for viewing in the Tivoli Enterprise Portal		

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent of 403s" on page 544	Percent_of_403s	4	Yes
"Percent of 404s" on page 544	Percent_of_404s	4	Yes
"Percent of 500s" on page 545	Percent_of_500s	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Application (Application Name) " on page 523	Application	128	Yes
"Average Client Time" on page 523	Average_Client_Time	4	Yes
"Average Load Time" on page 525	Average_Load_Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Resolve Time" on page 549	Average_Resolve _Time	4	Yes
"Client" on page 526	Client	128	Yes
"Client Errors" on page 527	Client_Errors	4	Yes
"Percent Client Errors" on page 544	Percent_Client _Errors	4	No
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Data Interval" on page 530	Data_Interval	4	Yes
"End Time" on page 531	Sample_Time	16	No
"Failed Requests" on page 534	Failed_Requests	4	Yes
"Good Requests" on page 535	Good_Requests	4	Yes
"Informational" on page 536	Informational	4	Yes
"Percent Informational" on page 544	Percent _Informational	4	No
"Importance" on page 536	Importance	2	Yes
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Network Time" on page 539	Average_Network _Time	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Number of 403s" on page 541	Number_of_403s	4	Yes
"Number of 404s" on page 541	Number_of_404s	4	Yes
"Number of 500s" on page 541	Number_of_500s	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	14	No
"Redirections" on page 546	Redirections	4	Yes
"Percent Redirections" on page 545	Percent _Redirections	4	No
"Render Time" on page 546	Average_Render _Time	4	Yes
"Reply Ack Packet Count" on page 546	Reply_Ack_Packet _Count	4	Yes
"Reply kBytes" on page 546	Reply_kBytes	4	Yes
"Reply Packet Count" on page 546	Reply_Packet_Count	4	Yes
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	Yes
"Request Bytes" on page 546	Request_kBytes	4	Yes
"Request Packet Count" on page 547	Request_Packet _Count	4	Yes
"Root UUID" on page 550	ROOTUUID	32	Yes
"Scope" on page 550	Scope	2	Yes
"Server" on page 551	Server	128	Yes
"Server Errors" on page 551	Server_Errors	4	Yes
"Percent Server Errors" on page 545	Percent_Server _Errors	4	No

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Average Server Time" on page 526	Average_Server _Time	4	Yes
"Situation Status" on page 552	Situation_Status	2	No
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Successes" on page 553	Successes	4	Yes
"Percent Successes" on page 545	Percent_Successes	4	No
"Start Time" on page 553	Timestamp	16	Yes
"Total Bytes" on page 554	Total_kBytes	4	Yes
"Total Failed Users" on page 555	Average_Failed_ Users	4	Yes
"Total Good Users" on page 555	Average_Good_Users	4	Yes
"Total Header Request Resolve Time" on page 555	Total_Header _Request _Resolve_Time	4	Yes
"Total Header Requests Count" on page 555	Total_Header_ Requests_Count	4	Yes
"Total Object Count" on page 555	Average_Object _Count	4	Yes
"Total Object Size" on page 555	Average_Object_Size	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Slow Users" on page 556	Average_Slow_Users	4	Yes
"Total Users" on page 557	Average_Users	4	Yes
"Transaction" on page 557	Transaction	128	Yes
"Number of Retransmissions" on page 541	Number_of _Retransmissions	4	Yes
"KiloBytes Retransmitted" on page 537	KiloBytes _Retransmitted	4	Yes
"Number of Content Check Errors" on page 540	Number_of_Content _Check_Errors	4	Yes

WRT Transaction Summary

This attribute group provides summary information about a transaction and applies to data gathered in the currently configured collection interval, 5 minutes by default.

Tip: Configure the collection interval in the Manage Tivoli Enterprise Monitoring Services for Web Response Time. In the Manage Tivoli Enterprise Monitoring Services, select **ITCAM for Web Response Time** > **Reconfigure** and step through the configuration windows to the **Data Analysis** window. Set **Number of minutes to aggregate data before writing out a data point** to the required value.

🚖 ITCAM for Web Response Time 🛛 🗙			
Sasic Configuration	pecify Configuration Information on how data is analyzed.		
Advanced Configuration	The Number of minutes to aggregate data before writing out a data point.		
Data Analysis	5		
	Number of hours to save data for viewing in the Tivoli Enterprise Portal		

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Percent of 403s" on page 544	Percent_of_403s	4	Yes
"Percent of 404s" on page 544	Percent_of_404s	4	Yes
"Percent of 500s" on page 545	Percent_of_500s	4	Yes
"Aggregated Uniquely By" on page 522	AggBy	4	No
"Application (Application Name) " on page 523	Application	128	Yes
"Average Client Time" on page 523	Average_Client_Time	4	Yes
"Average Load Time" on page 525	Average_Load_Time	4	Yes
"Average Response Time" on page 525	Average_Response _Time	4	Yes
"Client" on page 526	Client	128	Yes
"Client Errors" on page 527	Client_Errors	4	Yes
"Percent Client Errors" on page 544	Percent_Client _Errors	4	No
"Data Collector Type" on page 530	Data_Collector_Type	32	No
"Data Interval" on page 530	Data_Interval	4	Yes
"Failed Requests" on page 534	Failed_Requests	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Good Requests" on page 535	Good_Requests	4	Yes
"Importance" on page 536	Importance	2	Yes
"Informational" on page 536	Informational	4	Yes
"Percent Informational" on page 544	Percent _Informational	4	No
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes
"Average Network Time" on page 525	Average_Network _Time	4	Yes
"Number of 403s" on page 541	Number_of_403s	4	Yes
"Number of 404s" on page 541	Number_of_404s	4	Yes
"Number of 500s" on page 541	Number_of_500s	4	Yes
"Origin Node" on page 542	Origin_Node	32	No
"Percent Available" on page 544	Percent_Available	4	Yes
"Percent Failed" on page 544	Percent_Failed	4	Yes
"Percent Good" on page 544	Percent_Good	4	Yes
"Percent Slow" on page 545	Percent_Slow	4	Yes
"Rank" on page 545	Rank	4	No
"Redirections" on page 546	Redirections	4	Yes
"Percent Redirections" on page 545	Percent _Redirections	4	No
"Render Time" on page 546	Average_Render_ Time	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Reply Ack Packet Count" on page 546	Reply_Ack_Packet _Count	4	Yes
"Reply kBytes" on page 546	Reply_kBytes	4	Yes
"Reply Packet Count" on page 546	Reply_Packet_Count	4	Yes
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	Yes
"Request Bytes" on page 546	Request_kBytes	4	Yes
"Request Packet Count" on page 547	Request_Packet _Count	4	Yes
"Resolve Time" on page 549	Average_Resolve _Time	4	Yes
"Root UUID" on page 550	RootUUID	32	Yes
"Sample Time" on page 550	Sample_Time	16	No
"Server" on page 551	Server	128	Yes
"Server Errors" on page 551	Server_Errors	4	Yes
"Percent Server Errors" on page 545	Percent_Server _Errors	4	No
"Average Server Time" on page 526	Average_Server _Time	4	Yes
"Slow Requests" on page 552	Slow_Requests	4	Yes
"Successes" on page 553	Successes	4	Yes
"Percent Successes" on page 545	Percent_Successes	4	No
"Timestamp" on page 554	Timestamp	16	Yes
"Total Bytes" on page 554	Total_kBytes	4	Yes
"Total Failed Users" on page 555	Average_Failed_ Users	4	Yes
"Total Good Users" on page 555	Average_Good_Users	4	Yes
"Total Header Request Resolve Time" on page 555	Total_Header _Request _Resolve_Time	4	Yes
"Total Header Requests Count" on page 555	Total_Header_ Requests_Count	4	Yes

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console
"Total Object Count" on page 555	Average_Object _Count	4	Yes
"Total Object Size" on page 555	Average_Object_Size	4	Yes
"Total Requests" on page 556	Total_Requests	4	Yes
"Total Slow Users" on page 556	Average_Slow_Users	4	Yes
"Total Users" on page 557	Average_Users	4	Yes
"Transaction" on page 557	Transaction	128	Yes
"Number of Retransmissions" on page 541	Number_of _Retransmissions	4	Yes
"KiloBytes Retransmitted" on page 537	KiloBytes _Retransmitted	4	Yes
"Number of Content Check Errors" on page 540	Number_of_Content _Check_Errors	4	Yes

WRT User Sessions

This attribute group provides information about user sessions.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console	
"Percent of 403s" on page 544	Percent_of_403s	4	Yes	
"Percent of 404s" on page 544	Percent_of_404s	4	Yes	
"Percent of 500s" on Percent_of_500s page 545		4	Yes	
"Aggregated Uniquely By" on page 522	AggBy	4	No	
"Application (Application Name) " on page 523	Application	128	Yes	
"Average Client Time" on page 523	Average_Client_Time	4	Yes	
"Average Load Time" on page 525	Average_Load_Time	4	Yes	

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console	
"Average Response Time" on page 525	Average_Response _Time	4	Yes	
"Client" on page 526	Client	128	Yes	
"Client Errors" on page 527	Client_Errors	4	Yes	
"Percent Client Errors" on page 544	Percent_Client _Errors	4	Yes	
"Data Collector Type" on page 530	Data_Collector_Type	32	No	
"Data Interval" on page 530	Data_Interval	4	Yes	
"Failed Requests" on page 534	Failed_Requests	4	Yes	
"Good Requests" on page 535	Good_Requests	4	Yes	
"Informational" on page 536	Informational	4	No	
"Percent Informational" on page 544	ercent Percent formational" on _Informational ge 544		No	
"Maximum Response Time" on page 538	Maximum_Response _Time	4	Yes	
"Maximum Response Time Threshold" on page 538	Maximum_Response _Time_Threshold	4	Yes	
"Minimum Response Time" on page 539	Minimum_Response _Time	4	Yes	
"Minimum Response Time Threshold" on page 539	Minimum_Response _Time_Threshold	4	Yes	
"Network Time" on page 539	Average_Network _Time	4	Yes	
"Number of 403s" on page 541	Number_of_403s	4	Yes	
"Number of 404s" on page 541	Number_of_404s	4	Yes	
"Number of 500s" on page 541	Number_of_500s	4	Yes	
"Number of Content Check Errors" on page 540	Number_of_Content _Check_Errors	4	Yes	
"Number of Sessions" on page 541	Number_of_Sessions	4	Yes	
"Number of Requests" on page 541	Number_of_Requests	4	Yes	

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console	
"Origin Node" on page 542	Origin_Node	32	No	
"Percent Available" on page 544	Percent_Available	4	Yes	
"Percent Failed" on page 544	Percent_Failed	4	Yes	
"Percent Good" on page 544	Percent_Good	4	Yes	
"Percent Slow" on page 545	Percent_Slow	4	Yes	
"Rank" on page 545	Rank	14	No	
"Redirections" on page 546	Redirections	4	No	
"Percent Redirections" on page 545	Percent _Redirections	4	No	
"Render Time" on page 546	Average_Render_ Time	4	Yes	
"Reply Ack Packet Count" on page 546	Reply_Ack_Packet _Count	4	Yes	
"Reply kBytes" on page 546	Reply_kBytes	4	Yes	
"Reply Packet Count" on page 546	Reply_Packet_Count	4	Yes	
"Request Ack Packet Count" on page 546	Request_Ack _Packet_Count	4	No	
"Request Bytes" on page 546	Request_kBytes	4	Yes	
"Request Packet Count" on page 547	Request_Packet _Count	4	Yes	
"Resolve Time" on page 549	on Average_Resolve 4 Yes		Yes	
"Sample Time" on page 550	Sample_Time	16	No	
"Scope" on page 550	Scope	2	Yes	
"Server Errors" on page 551	Server_Errors	4	Yes	
"Percent Server Errors" on page 545	Percent_Server _Errors	4	Yes	
"Server Time" on page 551	Average_Server _Time	4	Yes	
"Session" on page 552	Session	32	Yes	
"Session Duration" on page 552	Session_Duration	4	Yes	

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	Forwarded in events to Netcool/OMNIbus or Tivoli Enterprise Console	
"Session End Time" on page 552	Session_End_Time	16	Yes	
"Session Start Time" on page 552	Session_Start_Time	16	Yes	
"Slow Requests" on page 552	Slow_Requests	4	Yes	
"Successes" on page 553	Successes	4	No	
"Percent Successes" on page 545	Percent_Successes	4	No	
"Timestamp" on page 554	Timestamp	16	Yes	
"Total Bytes" on page 554	Total_kBytes	4	No	
"Total Header Request Resolve Time" on page 555	Total_Header _Request _Resolve_Time	4	Yes	
"Total Header Requests Count" on page 555	Total_Header_ Requests_Count	4	Yes	
"Total Object Count" on page 555	Average_Object _Count	4	Yes	
"Total Object Size" on page 555	Average_Object_Size	4	Yes	
"Total Requests" on page 556	Total_Requests	4	Yes	
"User" on page 558	User	64	Yes	
"Number of Retransmissions" on page 541	Number_of _Retransmissions	4	Yes	
"KiloBytes Retransmitted" on page 537	KiloBytes _Retransmitted	4	Yes	

Application Management Console Take Action commands

Use the Application Management Console Take Action commands to start or stop applications, transactions, and profiles, or delete robotic scripts from within the Tivoli Enterprise Portal. These commands can be used in automatic situations and as isolated take action requests.

Using Take Action commands

Tip: You can also start, stop and delete applications, transactions, and profiles, and robotic scripts from the Application Management Configuration Editor.

Run a Take Action command using either of the following methods:

- In the Tivoli Enterprise Portal, right-click an Application Management Console node such as **Robotic Scripts**, and select **Take Action**.
- Use the **tacmd executeAction** command. See Using tacmd commands in the *Administrator's Guide* for more information.

Available Take Action commands

ITCAM for Transactions contains the following Take Action commands for Application Management Console:

Take Action	Command	Parameters	Description	Impact
Delete a robotic script	KT3:DeleteFile	Server_Path	If you delete a robotic script, all transactions and profiles which use this script are affected.	The script is removed from the profile. If a profile has more than one script, it continues to run.
Start Monitoring Application	KT3:StartMonitoringApp	App_Name	Start all transactions that are configured to use the specified application.	
Start Monitoring Profile	KT3:StartMonitoringProfile	Profile_Name	Start all transactions that are configured in the specified profile.	
Start Monitoring Transaction	KT3:StartMonitoringTrans	App Trans Type Opt_Profile	Start a transaction in all profiles where the transaction is configured.	
Stop Monitoring Application	KT3:StopMonitoringApp	App_Name	Stop all transactions that are configured to use the specified application.	If there is more than one application in a profile, the profile continues to run. If there is only one application, the profile no longer runs. Application information is still displayed in the Application Management Console and Robotic Response Time Applications workspaces, but not the Playback status workspaces.
Stop Monitoring Profile	KT3:StopMonitoringProfile	Profile_Name	Stop all transactions that are configured in the specified profile.	The robotic scripts are no longer run and are inactive in the Tivoli Enterprise Portal.
Stop Monitoring Transaction	KT3:StopMonitoringTrans	App Trans Type Opt_Profile	Stop a transaction in all profiles where the transaction is configured.	If a profile contains more than one transaction it continues to run. The transaction is no longer displayed in the Transactions workspaces.

Display in the Tivoli Enterprise Portal

The navigator items are displayed with different icons to indicate the object state:

Stopped

If the object is stopped, its navigator item is inactive (grayed out). The object is stopped when everything included in this object is stopped. For example, if all transactions within an application are stopped, the application is displayed as grey in the navigation tree.

• Started

When the navigator item displays normally, it is in the started state.

Chapter 4. Transaction Tracking

Transaction Tracking tracks transactions within and between applications. Use the workspaces, situations, attributes, and take action commands to monitor transactions on your system.

Workspaces

A workspace is the working area of the Tivoli Enterprise Portal application window. In Transaction Tracking, use workspaces to view the topology of your network and to isolate problems within the transactions of your enterprise. Monitor transaction problems by using four different categories: **Applications**, **Components**, **Servers**, or **Transactions**.

Using workspaces

Select a workspace from the **Navigator** view either by clicking on an item to see the default workspace, or by right-clicking an item to select an alternative workspace. Workspaces are typically divided into several views offering different information. Views may have links to other workspaces. This allows you to drill down to more detailed information. Each workspace also has a set of properties associated with it.

Note: Each time you drill down to another workspace, the target workspace is filtered. For example, if you right-click on a component and select **Link To** to access the **Applications** workspace, it will display only the applications the component is comprised of, and not all the applications listed in your system.

Transaction Tracking provides predefined workspaces. You are prevented from overwriting or deleting the predefined workspaces. However, you can use a predefined workspace to create a new workspace by editing the predefined workspace and then saving it under a different name.

Categories

Transaction Tracking workspaces display data derived from different sources, either from the Web Response Time Aggregation agent (agentless) or from the Transaction Collector Aggregation agent (agent-based) or from both. Transaction Tracking workspaces are divided into the following four categories:

- Applications
- Components
- Servers
- Transactions

For the workspaces that display only agent-based data, each of these categories has the following subset of workspaces:

- **Summary** (this is the default workspace when you select an item from the **Navigator**)
- Interaction By Time
- Interaction by Transaction Rate
- Topology

From these workspaces, link to the following workspaces which display more detailed information for a particular managed system:

- Detail
- Interaction Detail
- Transaction Instances
- Historical Transaction Instances

Linking between workspaces

Figure 94 on page 341 shows how you can link to more detailed workspaces in Transaction Tracking.



Figure 94. Linking between the different levels of workspaces

The Transaction Collector workspace provides diagnostic information.

The **Transaction Reporter** workspaces provide diagnostic information and overview information from both the Web Response Time Aggregation agent (agentless) and from the Transaction Collector Aggregation agent (agent-based). Depending on the data source, you can then link to other Web Response Time or Transaction Tracking workspaces.

From the **Summary** workspaces, you can link to four more workspaces for a particular transaction interaction by right-clicking it.

Note: For each category, the first option you have is to drill down to the category that is the next most detailed. For example, when you are viewing the **Applications Summary** workspace, you can drill down to the **Transactions Summary** workspace for that particular transaction interaction; when you are viewing the **Components Summary** workspace, you can drill down to the **Applications Summary** workspace for the particular transaction interaction you select, and so forth. In these cases, the options that become available for linking are the same as if you had selected the more detailed category in the first place.

The **Transactions** category is the most detailed, and you cannot drill down to another category from there. The additional option from the **Transactions Summary** workspace is to view the **Transaction Instances** workspace, which is only available from this category.

The **Summary**, **Interaction by Time**, and **Interaction by Transaction Rate** workspaces can display a different level of detail depending on how you reach the information. If you select these workspaces from the **Navigator** view, you will see the information for all transaction interactions of a particular category. If, however, you make a selection from within a **Summary** workspace, you will get the summary, interaction by time, or interaction by transaction rate details for just the single transaction interaction you select.

Reach the **Interaction Detail** workspaces either by selecting the **Interaction by Time** from the **Navigator** view and drilling down from there, or by linking to the **Interaction by Time** workspace from a **Summary** workspace, and then drilling down to the **Interaction Detail** workspace from there. This also applies to the **Interaction by Transaction Rate** workspaces.

Displaying historical data

If historical data collection is configured for the managed systems from which you are querying data, you can display historical data for a specified period.

For example, to display the transaction rate and time for the last week:

- 1. Go to the **Transaction Detail** workspace. By default, the **Transaction Rate and Time** chart shows the last 2 hours of data.
- 2. Click i Time Span to open the Select the Time Span window.
- 3. Change the values in the Last field to 1 and Weeks and click OK.

🖉 Select the Time Span	
⊖ Real time	
⊖ Real time plus Last	Hours
• Last	1 Weeks
Last parameters	

The **Transaction Rate and Time** chart now displays data from the last week. The period that the chart covers is displayed in the lower-left corner.



If you want to keep your historical data settings for a chart or table, create a new workspace when you are prompted to do so.

See Setting a time span to display in the *IBM Tivoli Monitoring*, *Tivoli Enterprise Portal User's Guide* for further information.

More information about workspaces

The *IBM Tivoli Monitoring User's Guide* contains more information about creating, customizing, and working with workspaces.

Transaction Collector

This workspace provides general information about the status and aggregation periods of the Transaction Collector on your managed system. Use this information to manage the Transaction Collector.

Using this workspace

Use this workspace to determine that the Transaction Collector is functioning properly. It displays details such as number of incomplete instance queries, number of unprocessed events, and number of events from previous intervals.

It contains two views in addition to the standard Navigator view:

- Collector Status table
- Aggregation Periods table

Tivoli. Enterprise										I	BM.
File Edit View H	elp										
♠ 🖬 🖼 🛃 🍇	3 🖬 🖬 🛔 🕖	🔁 💵 🧶 🖑	🖪 🚳 🖌 🕥 📘	L 🕾 🙆 🖲 🖬 🗊 🗖	🗈 🖸 🗷 🤣 🛢 🖉 📥 🗖	66					
🛁 Navigator		*	Collector Status					1	¥ (1)	8 0	- ×
* 🗗 🛛 V	lew: Physical		Timestamp	Instance Query Queue Size	Transport Dispatch Queue Size	Old Instance Data Counter	Ancient Instance Data Counter	Uncor	nitted Ins	tance l	Data C
Enterprise Linux System Linux System Windows Sys Windows Sys OLL185 IBMX3250 IBMX3250 IBMX3250 IBMX3250 IBMX3250 IBMX3250 IBMX3250	s Jems J-03 J-10 TEST01 TEST08 action Collector action Reporter	•	11100040.33								
Aggregation Period	ods End Timestamp	Number of records	Number of exc	sluded records				1	* D	8 0	- ×
01/08/10 09:40:00	01/08/10 09:45:00	-	3	0							
01/08/10 09:50:00	01/08/10 09:55:00		2	0							

Figure 95. The Transaction Collector workspace

Use the **Collector Status** table to monitor the data queries on the Transaction Collector. Table 8 describes the fields in this table.

Table 8. Collector Status table

Column	Description
Timestamp	Local time when the data was collected.
Instance Query Queue Size	Number of incomplete instance queries.
Transport Dispatch Queue Size	Number of unprocessed events.
Old Instance Data Counter	Number of events received from previous intervals.
Ancient Instance Data Counter	Number of events received from intervals that are no longer tracked.
Uncommitted Instance Data Counter	Number of transactional events dropped as a result of belonging to intervals that are no longer tracked.

Use the **Aggregation Periods** table to display information about the aggregation periods of a specific Transaction Collector. Table 9 describes the fields in this table.

Table 9. Aggregation Periods table

Column	Description
Start Timestamp	Start time of this period.
End Timestamp	End time of this period.
Number of records	Number of records in this period.
Table 9. Aggregation Periods table (continued)

Column	Description
Number of excluded records	Number of records excluded by the Transaction Collector in this period because of settings in the Application Management Configuration Editor such as the filter configuration.

Accessing this workspace

Access this workspace by clicking Transaction Collector in the Navigator view.

Links to other workspaces

From this workspace, you cannot link to any other predefined workspaces.

Transaction Collector Diagnostics

This workspace provides general diagnostic information about the Transaction Collector on your managed system. Use this information to troubleshoot problems.

Using this workspace

Use this workspace to determine that the Transaction Collector is functioning properly. It displays details such as number of incomplete instance queries, number of unprocessed events, and number of events from previous intervals. In addition, it displays diagnostic messages, and the importance of the message.

It contains two views in addition to the standard Navigator view:

- Collector Status table
- Collector Diagnostic table

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Figure 96. The Transaction Collector Diagnostics workspace

Use the **Collector Status** table to monitor the data queries on the Transaction Collector. Table 10 on page 346 describes the fields in this table.

Table 10. Collector Status table

Column	Description
Timestamp	Local time when the data was collected.
Instance Query Queue Size	Number of incomplete instance queries.
Transport Dispatch Queue Size	Number of unprocessed events.
Old Instance Data Counter	Number of events received from previous intervals.
Ancient Instance Data Counter	Number of events received from intervals that are no longer tracked.

Use the **Collector Diagnostic** table to display diagnostic messages about the Transaction Collector. Table 11 describes the fields in this table.

Table 11. Collector Diagnostic table

Column	Description
Message	Provides the diagnostic message. The Message field can contain both IPv4 and IPv6 addresses with a port number.
	If the Message Class displays the type Transport.DCAddresses , the Message field contains the IP/Port of the Data Collector plug-in.
Message Class	Indicates the group the message belongs to, which allows messages to be sorted. There are two types:
	• Transport.ListenAddresses lists all network interfaces that the Transaction Collector is listening on.
	• Transport.DCAddresses lists the Data Collector plug-ins currently attached to the Transaction Collector.
	• Transport.ClockDeltas lists the clock deltas between connected Data Collector plug-ins.
	• Transport.EventsDropped lists the number of events dropped on the client side since the application started. Events may be dropped when the Data Collector plug-in is tracking faster than events can be sent to the Transaction Collector or if the connection is down.
	• Transport.ConnectionsMade lists the number of connections made over the lifetime of the application.
Importance	Defines the importance of the message. The value is currently set to INFO .
Unit of Measurement	The Unit Of Measurement. If this is a compound message, the Unit of Measurements are contained in a comma separated list. The Unit of Measurement field is currently set to IP .
Timestamp	Local time when the message was sent.

Accessing this workspace

To access this workspace, right-click **Transaction Collector** in the **Navigator** view, and select **Workspace** > **Transaction Collector Diagnostic**.

Links to other workspaces

From this workspace, you cannot link to another predefined workspace.

Transaction Reporter

The Transaction Reporter workspaces display transaction and subtransaction relationship information for your enterprise in either a table or topology view. The workspaces hierarchically group transactions into servers, components, applications, and transactions.

The topology view:

- Provides an end-to-end transaction topology overview
- · Provides hotspots for problem isolation

The tables in each workspace provide further detail about the information displayed in the topology.

Reading topologies

The end-to-end transaction topologies in the Transaction Reporter provide visual cues to help you interpret the data.

Transaction grouping

Transactions are grouped and labelled in the following way:

- Server labelled with the short host name. For example, for the domain name dmz1.ibm.com, dmz1 is used.
- Component labelled with the name of the product or the domain being tracked. For example, **MQ** or **WebSphere:APPLICATION_SERVER**.
- Application labelled with the name of the instance of the product or component. For example, the queue manager name for MQ; the Cell, Node or Server for WebSphere Application Server.
- Transaction labels vary according to the domain, but typically an identifier for the resource being accessed. For example, an MQ queue name, a CICS transaction name, or a URL.

Aggregate or instance topologies

Aggregate topology views show any known transaction that is involved in the overall topology. Because Transaction Tracking aggregates each node independently of its relationship to other nodes, if any two transactions share a common node, the overall aggregate topology shows all the nodes involved in both transactions, and shows the transactions sharing the common node.

Instance topologies show only those interactions involved in a single transaction. Instance topologies show additional context for an instance and enable you to isolate specific instances that might have a problem.

Links in the topology

Links between two or more nodes indicate that they interact with each other. The node which initiates the interaction is called the parent node. The node that receives a request is called the child node. There are three types of communication possible between two nodes:

• One way communication. The parent node calls the child node, but does not expect a reply.

For example, a user logs in to a system. A log file records that somebody has logged in to a system, but does not need to send a reply for the user to be able to continue.

• One way communication. The parent node calls the child node, does not expect a reply, but the child node initiates an action upon receipt of the message.

For example, a user logs in to a system. A log file records that a user has logged in to a system. No reply needs to be sent for the user to continue, but an application handling the log file is initiated to check how often this particular user has logged in.

• Two way communication. The parent node calls the child node, and expects a reply.

For example, a person logs in to a system with a password. The system has to wait for the password to be verified before the user can continue.

Visually, a link with an open arrow indicates a one-way interaction, and a link with a solid arrow indicates an interaction in both directions. The following topology snippet shows a one-way interaction on the right, and a two-way interaction on the left.



In this example, the links shown are combined links which include more than one component. You can expand the links so that each component is displayed on a separate link.

The direction of the arrow indicates the direction of the transaction. The parent node is the node where the arrow starts, and the child node is indicated by the arrow head. The originating node for an instance is highlighted with a green arrow

The originating node is the most upstream node. In aggregated views, multiple nodes may be highlighted as originating nodes as the instances overlap.

The value displayed on the link is determined by the attribute selected for the Primary Link Display Metric. By default, this is the average response time in milliseconds of transactions that have passed between the nodes. When communication is asynchronous, for example in MQ, the destination node does not issue a response, and therefore no value is shown.

Pseudo and implied nodes

In addition to standard nodes, there are two other types of nodes to explain the processes in your system, implied nodes and pseudo nodes.

Implied nodes are created when an aggregate is not collected for the current period, but has previously been part of the topology and is therefore known. Implied nodes are displayed as grayed-out versions of the original node, and their interaction data, such as counts and response times, is incomplete.

Implied nodes may indicate one of the following situations:

- Lack of data a node did not have any transactions for a period. This is the most likely, and quite normal cause of implied nodes. When the transaction is repeated this situation is rectified and the node becomes regular again.
- Problem with the monitoring infrastructure if a data collector or the Transaction Collector becomes unresponsive see the Troubleshooting Guide for tips.
- Problem with the application being tracked application errors are typically reported by data collectors so a lack of data should not indicate a problem with the application.

The implied node is highlighted in the following example topology.



Pseudo nodes represent an untracked part of a transaction. They occur when there has not been an aggregate at the node before and a Data Collector plug-in provides information about a remote node in an interaction, but the remote node is not actually instrumented. If there is a request with matching horizontal context values, a pseudo node is created for this request. Pseudo nodes are displayed as standard icons, but the connection side of the pseudo node displays a dashed line instead of a solid line.

Pseudo nodes are displayed only if there are no other regular or implied nodes to stitch or link to. If a node represented by a pseudo node is subsequently tracked, the real node replaces the pseudo node. The following pseudo nodes are created by data collectors in Transaction Tracking:

- WebSphere MQ clients
- Oracle Tuxedo clients
- Microsoft Active Directory (from .NET)

The connection side of the pseudo node is highlighted in the following example topology.



By default, for new installations both implied nodes and pseudo nodes are calculated. Disable implied and pseudo nodes using the Transaction Reporter Configuration. Use the Forget Topology Take Action command to clear implied nodes in the next aggregation period without disabling them entirely.

Icons for nodes

If Transaction Tracking can identify the domain, the icons used to display that domain in the topology are customized. Table 12 shows the icons used for both the standard and implied nodes for different domains.

Topology icon	Implied topology icon	Represents
V	Ø	Active Directory
		Application
		Enterprise JavaBean
0	0	Component
		CICS
8	0	CICS TG
\diamond	\diamond	DataPower
0	\odot	DB2

Table 12. Transaction Reporter topology icons

Topology icon	Implied topology icon	Represents
		.NET
		Server
		IMS
	() ()	IMS Connect
4		JBoss
2	-Z-	JDBC
0		Lotus application
		Mainframe
***		NetWeaver
	Ę	Optim Performance Manager
0	0	Oracle
<i>i</i>	*	Transaction
0	0	Rational application
P	Ē	Java Remote Method Invocation
43	-	Servlet

Table 12. Transaction Reporter topology icons (continued)

Topology icon	Implied topology icon	Represents
	0	Tivoli application
	A	Tomcat
		Tuxedo
(3)	0	URL
		Web services
0		WebLogic
(\odot	WebSphere
		WebSphere CE
P	79	WebSphere MQ
\swarrow	\bigcirc	WebSphere Message Broker
		Windows application
-		Remote node that links to topology on a separate Transaction Reporter

Table 12. Transaction Reporter topology icons (continued)

Total Time, Baselines, and Deviations

• Total Time

In aggregate workspaces, the Total Time is the average total transaction time, in milliseconds, of all instances of a transaction that make up an aggregate. Total Time does not include the time taken for failures, unless all transactions have failed. Transaction Reporter uses tracking events (**STARTED**, **INBOUND**, **OUTBOUND**, **FINISHED**) sent by the

Data Collector plug-ins to the Transaction Collector to formulate an end-to-end view of an application environment and calculate various performance metrics, including reporting the Total Time of a transaction instance as the difference between the timestamp of the **STARTED** and the **FINISHED** events.

• Baseline

The transaction baseline is calculated automatically, based on the Transaction Reporter configuration. The **Baseline Style**, **History Duration**, and **History Period** are all used to calculate the baseline. These values are set in the **History** tab of the Transaction Reporter Agent Configuration window. See Transaction Reporter agent configuration parameters in the Administrator's Guide for further information.

• Deviation

The Transaction Reporter keeps a 24-hour rolling average of Total Time metrics which are used as a baseline. The Transaction Reporter compares the Total Time for the current 5-minute period to the baseline, and reports how much the current Total Time has deviated from its calculated baseline.

Tip: Initially, deviation and baseline values are 0. When the Transaction Reporter has enough data to build a baseline, which takes about 20 minutes, you will see baseline values.

Hotspots

Use hotspots in the topology to help you isolate problems in your enterprise. If a node exceeds the specified deviation threshold for the primary link display, it is highlighted in the topology as a hotspot. The node that has the most significant transaction time deviation is the only node highlighted. Aggregated deviations include the historical transactions of the past 24 hours, and the transactions of the current period. They are marked as warning, minor, or critical. The actual deviation values are shown as a percentage, but do not reflect a linear relationship as the deviations:

Deviation level	Default Percentage	Default Deviation	Hotspot color	Example
Warning	50%	Transactions are approximately two times slower.	Yellow	8ms 1m re: TION SERV
Minor	100%	Transactions are approximately five times slower.	Orange	∂
Critical	200%	Transactions are approximately ten times slower.	Red	→ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
Improved	-	The node no longer has any warnings associated with it.	Green	₽

Table 13. Hotspots in Transaction Tracking topology workspaces

You might also see an icon showing that an instance trace has timed out:



The Timeout icon (.) is displayed when the Transaction Reporter tries to find more details for a node, but the corresponding Transaction Collector fails to return data in a timely manner. If instance traces repeatedly time out, the Transaction Collector may not be working correctly.

After you have isolated the problem using Transaction Tracking, you can link to diagnostic tools such as Tivoli OMEGAMON XE for Messaging and ITCAM for Application Diagnostics for more detailed domain-specific information.

Transactions Overview

The Transactions Overview workspace combines metric information derived from TCP traffic by the Web Response Time agent (agentless transaction tracking), and agent-based data derived from data collector plug-ins into a single topology and interactions table.

Use the agentless transaction tracking approach to detect protocols and components. Add agent-based Transaction Tracking data collector plug-ins at those points where you need further information to help resolve problems.

Enabling agentless data in this workspace

See "Enabling this workspace" on page 363 for information about enabling agentless transaction tracking data in this workspace.

Using this workspace

The **Transactions Overview** workspace contains the following views in addition to the standard **Navigator** view:

- Server Component Topology displays nodes detected by both agentless and agent-based tracking
- **Deviations** table displays metrics for the links displayed in the topology detected by both agentless transaction tracking and agent-based tracking

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9 05/31/11 Ibm-a5a67ac4845	-21	2251	-40	1	
5/31/11 ibm a5a67ac4845	-67	1334	-36	1	-
() Hub Time: Wed, 06/01/2011 12:14 AM	Server Available	Transactions Overview -	10 4 251 242 - SYSADMIN *A	DMIN MODE*	

Figure 97. Transactions Overview workspace

Server information is displayed in a tooltip when you hover the mouse over a node. If the node represents a source server in all detected interactions, the tooltip displays only the Server name. Otherwise, the tooltip displays the Server name and if this information is available, the Parent Sub-Transaction Time, Baseline, and Deviation.

Component information is displayed on the links in the topology. Links between nodes display the Parent Sub-Transaction Time in milliseconds.

Tip: If you require more information about a particular node and it was detected using the agentless transaction tracking method, consider installing an agent-based data collector for that node. You can then use the Applications, Components, Servers, and Transactions workspaces to access detailed information.

Use the Deviations table to view information about servers or components on your network detected using either Web Response Time (agentless transaction tracking) or data collector plug-ins (agent-based). Table 14 describes the columns in this table.

Column	Description
Timestamp	Local time when the data was collected.
Source Server Name	Name of the server that originated the transaction or TCP traffic. The name is either that of the client group configured in the Application Management Configuration Editor, or if the server has already been identified as a destination, that host name is used.
Destination Server Name	Host name of the server to which the transaction or TCP traffic is flowing.

Table 14. Deviations table

Column	Description
Parent Sub-Transaction Time Deviation	Percentage deviation of the Parent Sub-Transaction Time from the baseline.
Parent Sub-Transaction Time	Average subtransaction time, in milliseconds, of transactions in the destination aggregate as seen from transactions in the source aggregate. Also known as the Average Response Time.
Transaction Rate	Average number of transactions per minute for transactions that make up the aggregate.
Transaction Rate Deviation	Percentage deviation of the Transaction Rate from the baseline.
Transaction Count	For TCP traffic, the number of request/reply transactions during the aggregate interval.
Failed Percent	Percentage of transaction instances that failed.
Slow Percent	Percentage of transaction instances that were slow.
Good Percent	Percentage of transaction instances that were good.

Table 14. Deviations table (continued)

Note: Metrics are only displayed if there is traffic related to those metrics.

Tip: Set thresholds in the Properties window on the **Thresholds** tab to highlight values in the table for times or deviations that are outside the required performance parameters for your system.

Accessing this workspace

To access this workspace, select Transaction Reporter in the Navigator view.

Links to other workspaces

From the topology, right-click on a node or link and select **Link to** to link to the following workspaces:

- For nodes detected by Web Response Time (agentless):
 - Client Dependencies workspace (Web Response Time > Network > Workspace > Client Dependencies)
 - Server Dependencies workspace (Web Response Time > Network > Workspace > Server Dependencies)
- For links detected by Web Response Time (agentless), Component Server Details workspace (Web Response Time > Network > Workspace > Component Server Details).

If you link to **Component Server Details** from a link between nodes which represents multiple components, a row is displayed for each protocol of each component in the **Protocol Breakdown** table of the **Component Server Details** workspace. If the link between nodes represents only a single component, only the protocols observed for that component are shown in the **Protocol Breakdown** table. Similarly, if the links are expanded (see "Displaying multiple links between nodes" on page 371) only the protocols for the component on the selected link are shown in the **Protocol Breakdown** table.

• For nodes detected by Transaction Tracking data collector plug-ins, **Servers** (Transaction Reporter > Servers).

From the Deviations table, select the link icon:

- For data detected by Web Response Time, link to Component Server Details workspace (Web Response Time > Network > Workspace > Component Server Details).
- For data detected by Transaction Tracking data collector plug-ins, link to **Servers** workspace (**Transaction Reporter** > **Servers**).

Transaction Tracking Overview (deprecated)

This workspace displays an overview of the Transaction Reporter, and highlights any problems that your system might have. Monitor the component topology, the response time of business applications, and time deviations for all categories. This workspace is deprecated in ITCAM for Transactions V7.3 and later. You will only have access to this workspace if you are upgrading to ITCAM for Transactions V7.3 from an earlier version.

Using this workspace

Use this workspace to isolate problems within the components, applications, and transactions of your enterprise.

It contains three views in addition to the standard Navigator view:

- Component Aggregate Topology
- Business Application Transaction Time
- Deviations



Figure 98. The Transaction Tracking Overview workspace

Use the **Component Aggregate Topology** view to observe a visual representation of the connections between different components on your system. Move the mouse over a node or link to display hover help. Link to another workspace by right-clicking a node, selecting **Link To**, and selecting the workspace you wish to view.

Use the **Business Application Transaction Time** view to monitor the response time of transaction interactions between business applications on your system.

Note: Business applications are applications that are also originator nodes of a composite application. These can be identified by their green triangles when viewing the **Application Topology** workspace.

Use the **Deviations** view to determine which interactions have the largest time deviations from a set baseline value. This is a composite list of time deviations in all categories: Applications, Components, Servers, and Transactions. Table 15 describes the fields in this table.

Column	Description
Group Level	Displays the type of aggregate.
Name	The name of the Application , Component , Server , or Transaction .
Total Time	Average total transaction time of the transactions that make up the aggregate.
Total Time Deviation	Deviation of the total response time from the determined baseline, measured as a percentage from the baseline.
Percent Failed	Percentage of transaction instances that failed.
Percent Slow	Percentage of transaction instances that were slow.
Percent Good	Percentage of transaction instances that were good.

Table 15. Deviations table

Accessing this workspace

Access this workspace by selecting **Transaction Reporter** > **Transaction Tracking Overview** in the **Navigator** view.

Links to other workspaces

From this workspace, you can link to a number of different workspaces.

In the **Component Aggregate Topology** view, right-click a node and select **Link To** to access the **Applications** workspace or the **Component Detail** workspace.

In the **Business Application Transaction Time** view, right-click a bar in the bar graph and select **Link To** to access the **Application Topology** workspace.

You can also view a more detailed **Topology** workspace for a specific application, component, server or transaction by clicking the link icon in the table in the **Deviations** view.

Transaction Reporter Agent Status

This workspace provides general information about the status and configuration settings of the Transaction Reporter on your managed system. Use this information to manage the Transaction Reporter.

Using this workspace

Use this workspace to determine that the Transaction Reporter is functioning properly.

It contains two views in addition to the standard **Navigator** view:

- Reporter Status table
- Reporter Configuration table

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Figure 99. The Transaction Reporter Agent Status workspace

Use the **Reporter Status** table to determine the health and status of your Transaction Reporter and Aggregation agents. Use this information to determine when the Transaction Reporter collects information, that all the Aggregation agents are available, and the times that the aggregates are collected. Table 16 describes the fields in this table.

Table 16. Reporter Status table

Column	Description
System Name	The managed system name of the Transaction Reporter providing this information.
Timestamp	Local time when the data was collected.
Start Timestamp	Local time when the Transaction Reporter started.
Aggregation Agent Contact Timestamp	Local time when the Transaction Reporter attempted to contact any Aggregation agent.
Aggregation Agent Contacts Available	Number of Aggregation agents available at the last time of contact.

Table 16. Reporter Status table (continued)

Column	Description
AggregateRow Cache Start Timestamp	Time of the earliest period in the Aggregate Row Cache.
AggregateRow Cache End Timestamp	Time of the latest period in the Aggregate Row Cache.
AggregateRow History Start Timestamp	Time of the earliest period in the Aggregate Row History.
AggregateRow History End Timestamp	Time of the latest period in the Aggregate Row History.
InteractionRow Cache Start Timestamp	Time of the earliest period in the Interaction Row Cache.
InteractionRow Cache End Timestamp	Time of the latest period in the Interaction Row Cache.
InteractionRow History Start Timestamp	Time of the earliest period in the Interaction Row History.
InteractionRow History End Timestamp	Time of the latest period in the Interaction Row History.

Use the **Reporter Configuration** table to determine the current values for the configuration settings of the Transaction Reporter. Table 17 describes the fields in this table.

Table 17. Reporter Configuration table

Column	Description
System Name	The managed system name of the Transaction Reporter providing this information.
Timestamp	Local time when the data was collected.
Aggregation Agent Contact Interval Seconds	Interval measured in seconds at which the Transaction Reporter contacts the Aggregation agents for new data.
Aggregation Period Minutes	Duration of aggregation period in the Aggregation agent, measured in minutes.
Aggregation Period Count	Number of aggregation periods to be tracked in the Aggregation agent.
Cache Period Count	Number of aggregation periods stored in the cache.
Cache Remove Count	Number of aggregation periods to be removed from the cache when the number of aggregation periods exceeds the Cache Period Count .
Cache Maximum Period Minutes	Maximum duration of an aggregation period, measured in minutes, that can be stored in cache.
History Period Minutes	Duration of a historic aggregation period, measured in minutes.
History Period Count	Number of aggregation periods stored in history.

Table 17. Reporter Configuration table (continued)

Column	Description
History Remove Count	Number of aggregation periods to be removed from history when the number of aggregation periods exceeds the History_Period_Count.
History Maximum Period Minutes	Maximum duration that an aggregation period can be stored in history, measured in minutes.
Aggregation Agent List	List of Aggregation agents from which the Transaction Reporter collects data.
Show Latest Data	Shows the latest aggregation data in the workspaces when it is set to 1.

Accessing this workspace

To access this workspace, right-click **Transaction Reporter** in the **Navigator** view, and select **Workspace**.

Links to other workspaces

From this workspace, you cannot link to any other predefined workspaces.

Transaction Reporter Agent Diagnostics

This workspace provides general diagnostic information about the Transaction Reporter on your managed system.

Using this workspace

Use this workspace to obtain information about the current state of the Transaction Reporter. External monitoring software can request the data on the workspace and provide summary information on the Transaction Reporter. In addition, the ITCAM Console can use these diagnostic messages to raise situations and errors when necessary.

This workspace contains one view in addition to the standard Navigator view:

• Diagnostics table

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Transaction Collector		INFO	ibm-9d3c050dea9:T5@HUB_DARRENAS-ITM622,201105052050,201105052055,0,1	Periods	05/05/11 21:03:12
Transaction Conector		INFO	ibm-9d3c050dea9:T5@HUB_DARRENAS-ITM622,201105052055,201105052100,0,1	Periods	05/05/11 22:03:12
+ Mahadelahriteponen		INFO	ibm-9d3c050dea9:T5@HUB_DARRENAS-ITM622,201105052100,201105052105,0,1	Periods	05/05/11 22:03:12
IBM-9D3C050DE49		INFO	ibm-a5a67ac4845:T5@HUB_DARRENAS-ITM622,201105052045,201105052050,0,4	Periods	05/05/11 20:57:12
BM-858678C4845		INFO	ibm-a5a67ac4845:T5@HUB_DARRENAS-ITM622,201105052050,201105052055,0,1	Periods	05/05/11 21:03:12
		INFO	ibm-a5a67ac4845:T5@HUB_DARRENAS-ITM622,201105052055,201105052100,0,4	Periods	05/05/11 22:03:12
	_	INFO	ibm-a5a67ac4845:T5@HUB_DARRENAS-ITM622,201105052100,201105052105,0,4	Periods	05/05/11 22:03:12

Figure 100. The Transaction Reporter Agent Diagnostics workspace

Use the **Diagnostics** table to display diagnostic messages about the Transaction Reporter. Table 18 describes the fields in this table.

Table 18. Diagnostics table

Column	Description
Importance	Defines the importance of the message. The value is currently set to INFO .
Message	 Provides the diagnostic message. The Message field displays the following information: Aggregation Agent ID Start Time of the Period End Time of the Period Interval#
Message Class	Indicates the group the message belongs to, which allows messages to be sorted. There is currently one message type, Periods , which contains information about the aggregate intervals obtained by the Transaction Reporter.
Timestamp	Local time when the message was sent.

Accessing this workspace

Access this workspace by right-clicking **Transaction Reporter** in the **Navigator** view, and using the **Workspace** option.

Links to other workspaces

From this workspace, you cannot link to another predefined workspace.

Agentless Data

The Agentless Data workspace displays topology and metric information derived from TCP traffic on the network monitored by the Web Response Time agent. You can customize the way in which this data is displayed in the workspace.

Enabling this workspace

To enable the display of agentless transaction tracking data in Transaction Tracking workspaces, you must configure the Web Response Time (T5) agent to monitor TCP traffic.

To enable monitoring of TCP data:

- 1. In the Manage Tivoli Enterprise Monitoring Services, right-click Web Response Time and select **Configure**.
- 2. On the Basic Configuration window, select Monitor All TCP data.
- **3**. On the Advanced Configuration window, ensure that **Monitor remote network traffic** is selected.
- 4. Click OK.

The TCP data is displayed in the Web Response Time, **Network** workspaces (see Component for more information about the default workspace displayed from the Network node along with additional workspaces that display TCP data) and is interpreted by Transaction Tracking for display in the Transactions Overview and Agentless Data workspaces. The Transaction Reporter uses standard IBM Tivoli Monitoring ports to query the Web Response Time agents.

Using this workspace

The **Agentless** workspace contains the following views in addition to the standard **Navigator** view:

- **Network Topology** displays server interactions detected using agentless tracking, including details about servers and components
- Network Interactions table displays metrics for server interactions



Figure 101. The Agentless Data workspace

Server information is displayed in a tooltip when you hover the mouse over a node. If the node represents a source server in all detected interactions, the tooltip displays only the Server name. Otherwise, the tooltip displays the Server name and if this information is available, the Parent Sub-Transaction Time, Baseline, and Deviation.

Links between nodes display component information and the Parent Sub-Transaction Time in milliseconds.

Use the Network Interactions table to view information about interactions between the nodes on your network. The following table describes the fields in this table.

Table 19. Network Interactions table

Column	Description
Timestamp	Local time when the data was collected.
Source Server Name	Name of the server that originated the TCP traffic. The name is either that of the client group configured in the Application Management Configuration Editor, or if the server has already been identified as a destination, that host name may be used.
Destination Server Name	Host name of the server to which the TCP traffic is flowing.
Parent Sub-Transaction Time	Average sub-transaction time, in milliseconds, of transactions in the destination aggregate as seen from transactions in the source aggregate. Also known as the Average Response Time.
Parent Sub-Transaction Time Deviation	Percentage deviation of the Parent Sub-Transaction Time from the baseline.

Column	Description
Child Response Time	For TCP traffic, the average of the time, in milliseconds, between the last request packet and the first reply packet in a TCP transaction. Also known as the Average Server Time.
Child Response Time Deviation	Percentage deviation of the Child Response Time from the baseline.
Average Network Time	For TCP traffic, the average in milliseconds of the time between the last request packet and the first request packet, plus the time between the first reply packet and the last reply packet in a TCP transaction.
Average Network Time Deviation	Percentage deviation of the Average Network Time from the baseline.
Transaction Count	For TCP traffic, the number of request/reply transactions during the aggregate interval.

Table 19. Network Interactions table (continued)

Note: Metrics are only displayed if there is traffic related to those metrics.

Tip: Set thresholds in the Properties window on the **Thresholds** tab to highlight values in the table for times or deviations that are outside the required performance parameters for your system.

Accessing this workspace

To access this workspace, right-click **Transaction Reporter** and select **Workspace** > **Agentless Data** in the **Navigator** view.

Links to other workspaces

From the topology, right-click on a node or link and select **Link to** to link to the following workspaces:

- For nodes detected by Web Response Time (agentless):
 - Client Dependencies workspace (Web Response Time > Network > Workspace > Client Dependencies)
 - Server Dependencies workspace (Web Response Time > Network > Workspace > Server Dependencies)
- For links detected by Web Response Time (agentless), Component Server Details workspace (Web Response Time > Network > Workspace > Component Server Details).

If you link to **Component Server Details** from a link between nodes which represents multiple components, a row is displayed for each protocol of each component in the **Protocol Breakdown** table of the **Component Server Details** workspace. If the link between nodes represents only a single component, only the protocols observed for that component are shown in the **Protocol Breakdown** table. Similarly, if the links are expanded (see "Displaying multiple links between nodes" on page 371) only the protocols for the component on the selected link are shown in the **Protocol Breakdown** table.

From the Network Interactions table, select the link icon and link to **Component Server Details** workspace (**Web Response Time** > **Network** > **Workspace** > Component Server Details).

Customizing the presentation of data in the topology

You can customize the data displayed in the topology in a number of ways.

Creating custom topology views

You can create new, custom Aggregate or Instance topology views:

- Aggregate topology
 - Use with Flexible Context
 - Display one or more attributes from Server Name, Component Name, Application Name, Transaction Name, depending on how you want to group your data
 - Customize the attribute and metrics displayed on links between nodes
 - Apply filters to limit the information displayed in the topology
- Instance topology
 - Use with Fixed Context
 - Server Name, Component Name, Application Name, Transaction Name are displayed and cannot be customized
 - Links in the topology cannot be customized
 - Topology filters cannot be applied

To create a new topology view:

1. In the Tivoli Enterprise Portal, click **Topology** in the menu bar and click in the workspace to which you want to add a view.

Tip: Remember that the default workspaces are read-only. Work within a workspace that is similar to what you want to create. You will be prompted to save the workspace under a new name.

- 2. In the Select Topology Source window, select the type of topology you want to create based on the information above, and click **OK**.
- **3**. Click **Edit Properties** and specify how you want your data displayed. See the following sections for more information.

Customizing node grouping and labeling in topologies:

The Network Topology in the default Agentless Data workspace shows servers on nodes and components on links between nodes. In ITCAM for Transactions V7.3 and later, you can customize grouping and labeling in topologies, for example to display protocols instead of components on the links between nodes, or to group aggregates with the same names.

The Server, Component, Application, and Transaction workspaces retain their *Fixed Context* hierarchy with related labeling. You can switch between Fixed Context and *Flexible Context* topologies using the topology **Properties** window, and customize how the information is displayed in the workspace.

Using Flexible Context, you can group topology nodes by any combination of available attributes. Group nodes with something in common such as a name.

Similarly, you can label nodes with any attribute selected for grouping. Label nodes with attributes that render the most specific grouping. If you have only a few servers for example, but many components, use the Component attribute to label the nodes.

Configuring node grouping

In the following example topology, we want to collapse all aggregates with the same Application and Transaction name to produce a topology similar to a Component Topology.



Figure 102. Topology before configuration

To collapse aggregates, remove the Application Name and Transaction Name attributes from the grouping configuration:

- 1. In the topology, click **Edit Properties**.
- 2. On the Nodes Configuration tab, in the Properties pane, select Flexible Context.
- 3. In the Available Attribute(s) list, select Agent and then in the Selected Attribute(s) list, select Application Name and Transaction Name.

Transaction Aggregate Topology	
Available Attribute(s)	Selected Attribute(s)
Transaction Name	Server Name
	Component Name
Add Remove Clear All	Application Name
Advanced	Transaction Name
Node Display Attribute Transaction Name	•
Number of interactions to display	
○ Display all ● Limit interactions to:	100
Refresh worksnace after making changes	

- 4. Click Remove.
- 5. In the Available Attribute(s) list, select Transaction Name , and then in the Selected Attribute(s) list ensure that Application Name and Transaction Name no longer appear.
- 6. Click OK.
- 7. Press F5 to refresh the topology and display your changes.

The following image shows the subsequent topology.



Configuring node labeling

You can label nodes in the topology with any one of the attributes that you have selected for grouping which are displayed in the **Selected Attribute(s)** list.

To label the Server, Component, Application, Transaction topology shown in Figure 102 on page 367 with their Component attribute:

- 1. In the topology, click **Edit Properties**.
- 2. On the **Nodes Configuration** tab, in the **Properties** pane, select **Flexible Context**.

3. Select the required attribute in the **Node Display Attribute** list of the **Nodes Configuration** tab.

Node Properties Categorization type: O Fixed Context Fixed Title New name!	exible Context
Available Attribute(s)	Selected Attribute(s)
Agent	Server Name
Add Remove Clear All Advanced	Component Name
Node Display Attribute Component Name	
Number of interactions to display	
O Display all	100
Refresh workspace after making changes	
Nodes Configuration Links Configuration	Filter Configuration

Tip: Enter a name in the **Title** field to name your customized workspace. **4.** Click **OK**.

- 5. Press F5 to refresh the topology and display your changes.

The following image shows the subsequent topology.



Customizing link labeling in topologies:

In ITCAM for Transactions V7.3 and later, you can label links in the topology with attributes of either the source or destination. You can also leave these links blank.

Using the Primary and Secondary Link Display Metric options, choose which metric to display on the links. If the primary metric is not available, the secondary metric is used if it is available.

Link Display Attribute	None	
	Expand links	
Primary Link Display Metric	Parent Sub-Transaction Time	
Secondary Link Display Metric	Parent Sub-Transaction Time	

Asynchronous transactions, such as PUTs and GETs to WebSphere MQ, do not have metrics associated with them in the topology by default. To display metrics on the links, select a metric such as Transaction Rate as a Link Display Metric.

Displaying protocols on links

To display protocols on the links in an agentless topology:

- 1. In the topology, click **Edit Properties**.
- 2. On the Nodes Configuration tab, in the Properties pane, select Flexible Context.

Tip: Use the **Available Attribute(s)** list to select one or more attributes on which to group the aggregates.

3. On the Links Configuration tab, in the Link Display Attribute list, select Destination Protocol.

Note: There must be traffic for all selections in the **Link Display Attribute** list to be available.

- 4. Click OK.
- 5. Press F5 to refresh the topology and display your changes.

To switch back to displaying components on links:

- 1. In the Topology, click **Edit Properties**.
- 2. In the **Properties** pane, select **Flexible Context**.
- 3. On the Links Configuration tab, in the Link Display Attribute list, select Destination Component Name.
- 4. Click OK.
- 5. Press F5 to refresh the topology and display your changes.

Displaying multiple links between nodes

By default, links between nodes for multiple components are displayed in the topology as a single link. The names of the components to which the link applies are displayed on the link separated by commas. You can expand the links so that each component has its own link and multiple links are displayed between nodes.



To display the links for each component as a separate link in the topology:

- 1. In the topology, click **Edit Properties**.
- 2. On the Links Configuration tab, in the Link Properties pane, select Expand Links.
- 3. Click OK.
- 4. Press F5 to refresh the topology and display your changes.



Customizing the number of interactions displayed:

Because large numbers of nodes are difficult to read when displayed in the topology, the number of aggregate interactions displayed are limited to 100 by default.

You can customize the number of interactions displayed to suit your environment. For example, if you have a powerful computer and large monitors, you may be able to comfortably process and display more than 100 interactions.

If a complete topology is not displayed because your environment has more than 100 interactions, a message is displayed in the status bar which reads **Topology incomplete: check topology properties**.



To customize the number of interactions displayed in the topology and table:

- 1. In the topology, click **Edit Properties**.
- 2. In the **Number of interactions to display** section on the **Nodes Configuration** tab of the **Properties** dialog box, either select **Display all** or enter a new value

in the Limit interactions to field.

Transaction Reporter	Preview a Server Component Topology			
Views				
Table Views Table Views	4			
	A _e Style			
		Node Properties Categorization type: O Fixed Context Title Server Component Topology		
		Available Attribute(s) Selected Attribute(s)		
		Agent Add Remove Clear All Advanced	Server Name	
		Node Display Attribute Server Name		
		Number of interactions to display O Display all	100	
		Refresh workspace after making changes Nodes Configuration Links Configuration	Filter Configuration	
	E		<u>O</u> K Ca <u>n</u> cel <u>H</u> elp	

- 3. Click OK.
- 4. Press F5 to refresh the topology and display your changes.

Filtering data in topologies:

You can customize the information that is displayed in the Agentless topology using filter elements and operands which describe how to manipulate the data.

You can adjust the information displayed in a Transaction Tracking topology using one or more filter elements. Table columns from the Interaction Metrics table corresponding to source and destination contexts and metrics can be used as filter elements. Table 20 lists the most commonly used filter elements.

Table 20. Common filter elements

Filter element	Description
Destination Agent	Use to specify the agents from which to display data.
Destination Component Name	Use to limit the data displayed to particular components, such as IBM HTTP Server, orWebSphere Application Server.
Numerical interaction metric columns. For example, Received Bandwidth	Use to display data only above or below a particular threshold.

For each filter element, use an operand described in Table 21 together with a value to limit the data displayed in the topology.

Table 21. Filtering operands for Agentless topologies

Description	String	Numerical
Include only the data that matches the specified value.	==	==

Description	String	Numerical
Exclude data that matches the specified value.	!=	!=
Include only data that contains the specified value.	LIKE	
Exclude data that contains the specified value.	!LIKE	
Include data with a value greater than that specified.		>
Include data with a value less than that specified.		<
Include data with a value greater than or equal to that specified.		>=
Include data with a value less than or equal to that specified.		<=

Table 21. Filtering operands for Agentless topologies (continued)

Tip: When specifying filters in the Properties window, the filters that you have set are displayed in the **Formula** text box.

As for other Tivoli Enterprise Portal adapters, all filter conditions defined on a single row are combined in an AND statement, and filters on separate rows are added as OR statements.

Described next are some common filters that you might want to apply.

You can also filter Web Response Time data, such as IP addresses and URLs, before it reaches the topology presentation layer. See Using filters.

Specifying a data source

To limit the data shown in the topology to data gathered by a particular agent:

- 1. In the topology, click **Edit Properties**.
- 2. On the Filter Configuration tab, in the Filters pane, specify a data source:

Transaction Reporter	Preview	Proview & Server Component Topology				
Views	da Server Com					
A Berver Component Topol Table Views	ibm 4 A _n Style	266a46ca80eb AI C	iients 9.48.185.230 br	m+9d3c050 dea9		
		Filters				
	44 660	Destination Agent	Destination Application Name	Destination Componer		
		LIKE TS@				
	-					
		Cléar				
		Formula				
۹ <u>ـــــــــــــــــــــــ</u> ۲		Destination Agent LikE: T5@				
		Nodes Configuration	Links Configuration Filter Confi	guration		
			Ōĸ	Ca <u>n</u> cel <u>H</u> elp		

a. Scroll across and select Destination Agent.

Note: Metrics are only displayed if there is traffic related to those metrics.

- b. Click in the row and select LIKE.
- **c.** Enter the agent code of the required destination agent and any additional text that might help isolate the correct agent. Ensure that the value is unique by including additional characters. For example, if you specify T5 for Web Response Time, the value might also match H0ST5. Because the agent context is *host*:T5@*TEMS* (where *host* is the hostname, T5 is the product code, and *TEMS* is the name of the Tivoli Enterprise Monitoring Server) you can instead enter :T5@ to match this agent.
- 3. Click OK.
- 4. Press F5 to refresh the topology and display your changes.

Displaying data for a single component

You can filter the data so that only the data for a particular component is displayed in the topology. You can either exclude data for those components that you are not interested in, or include only data for those components in which you are interested.

To filter the data so that only the data for a particular component is displayed in the topology:

- 1. In the topology, click **Edit Properties**.
- 2. On the Filter Configuration tab, in the Filters pane, specify the component:
 - a. Scroll across and select **Destination Protocol**.

Note: Metrics are only displayed if there is traffic related to those metrics.

- b. To include only IBM HTTP Server, MQ, and WebSphere Application Server:
 - Click in a row, select ==, and enter IBM HTTP Server.
 - Click in the next row, select ==, and enter MQ.
 - Click in the next row, select ==, and enter WebSphere Application Server.

- 3. Click OK.
- 4. Press **F5** to refresh the topology and display your changes.



Removing links for which there is no traffic

To display only those links between nodes for which there is traffic:

- 1. In the topology, click **Edit Properties**.
- 2. On the **Filter Configuration** tab, in the **Filters** pane, specify the amount of traffic that you want to monitor:
 - a. Scroll across and select Received Bandwidth.

Note: Metrics are only displayed if there is traffic related to those metrics. b. Click in the row and select >.

- c. Enter the value 0.
- 3. Click OK.
- 4. Press F5 to refresh the topology and display your changes.

Removing all filters

To remove all filters, in the Filters pane of the Properties window, click Clear.

Displaying channel topologies:

For ITCAM for Transactions V7.4.0.1 and later, you can enable discovery of the channel originator which you can then display in the topology.

This means that you can display the topology for a single transaction from its source to its destination, through multiple back-end nodes.

Enabling channel topologies

To enable the display of channel topologies:

- In the Transaction Collector agent configuration parameters, on the Context Discovery tab, set Discover the channel originator to Y (yes) and set the other required parameters. See Transaction Collector agent configuration parameters for more information.
- 2. Set the link properties to display multiple channels or separate topologies for each channel, as described next.

Displaying links for each channel

The following image shows a standard Server Component Topology before links for each channel are enabled. (Select Transaction Reporter in the navigator to display this topology.)



Notice that the transactions from Host_4 and Host_5 traverse Host_10 and Host_13 before reaching their destination at Host_14.

To display links in the topology for each channel:

- 1. In the topology, click **Edit Properties**.
- 2. On the Nodes Configuration tab, select Flexible Context.
- 3. On the Links Configuration tab, in the Link Display Attribute list, select SrcChannel.

Ag Style				
	Link Properties			
	Link Display Attribute	SrcChannel		•
		🗹 Expand links	s	
	Primary Link Display Metric	Child Total Time	e	•
	Secondary Link Display Metric Parent Sub-Transaction Time			•
	L			,
	Nodes Configuration Links	Configuration	Filter Configuration	

4. Set Expand links.

- 5. Click OK.
- 6. Press F5 to refresh the topology and display your changes. In the resulting topology, a labeled link is displayed for each channel::



Notice that the transactions from Host_4 and Host_5 are labeled Src4 and Src5. You can see the links for these individual channels between each node, Host_10-Host_3, and Host_13-Host_14.

Displaying separate topologies for each channel

Within the same topology, you can also display a separate topology flow for each channel.

To display a separate topology for each channel:

- 1. In the topology, click **Edit Properties**.
- 2. On the **Nodes Configuration** tab, in the **Properties** pane, select **Flexible Context**.

- Ag Style Node Properties -Categorization type: O Fixed Context
 Flexible Context Title Server Component Topology Available Attribute(s) Selected Attribute(s) Channel -Server Name Channel Add Remove Clear All Advanced... Node Display Attribute Server Name . Number of interactions to display O Display all
 Limit interactions to: 100 Refresh workspace after making changes Nodes Configuration Links Configuration Filter Configuration
- 3. In the Available Attribute(s) list, select Channel and click Add.

- 4. Click OK.
- Press F5 to refresh the topology and display your changes. In the resulting topology, a labeled link is displayed for each channel:



You can see the separate Src4 and Src5 topologies.

Setting up alerts for incomplete channels for the Transaction Reporter

You can create situations for the Transaction Reporter to alert you about channels with incomplete transactions, using aggregates, or specific channels with incomplete transactions, using aggregate interactions.

For example:

- 1. In the **Situation Editor** in the Tivoli Enterprise Portal, select Transaction Reporter and create a new situation.
- 2. To set alerts for incomplete transactions on any channel:
- a. Select Aggregate Situations from the Attribute Group pane.
- b. From the Attribute Item pane, select Display Format, Filter Format, Metric Name, Metric Value, and Filter Value and click OK.
- **c**. On the **Formula** tab:
 - Provide a name for the new situation, such as Channel_Incomplete_Transaction, or if you know the source and destination names of the channel Aggre_Interaction_Incomplete.
 - 2) In the **Formula** pane, set the following attributes:

Situation Editor				×
	🟂 Formula 🔄 Distribution 🕕 Expert Advice 🔗 Action	n 🕑 Until		
Situations				
🖲 🔯 All Managed Systems	Name			
🕑 🔯 Tivoli Enterprise Monitoring Serv	Channel Incomplete Transaction			
🕑 🞯 Tivoli Enterprise Portal Server]
📧 🔯 Transaction Collector	Description			
Transaction Reporter				
Aggre_Interaction_Incomplet				
Channel_Incomplete_Trans				
Failed_Transactions	Formula			
Recomplete				-
Parent Sub Transaction Til	JX			<u>v</u>
Parent Sub Transaction Til	Display Format Filter Format M	Metric Name Metri	: Value	Filter
- rfsdfs	1 == '\${Context.Channel}' == '\${Context.Channel}' == Inco	ompletePercent > 0	== 'Incomple	teS1_Incor +
- 💹 Slow_Transactions 👎	2			
- Mansaction_Rate_C	3			
- M Transaction_Rate_M				
Transaction_Rate_W	1			•
				-
	Formula editor			
	Click inside a cell of the formula editor to see a description of	The attribute for that colu	mn and to compose	
	· · · · · · · · · · · · · · · · · · ·			
	Situation Formula Capacity 35%		Add conditions	Advanced
	Sampling Interval			
	0/0:0:30	Run at startu	0	
	ddd bb mm ce			
	000 111 1111 55			
4				
	OK	Cancel	Annh Groun	Help
	<u>Sr</u>	- Jucer	Citrap.	Telb
	Cha	annel Incomplete Trans	action	

- Display Format == '\${Context.Channel}'
- Filter Format == '\${Context.Channel}'
- Metric Name == IncompletePercent
- Metric Value > 0
- Filter Value == 'server name_channel name_application name
- **3**. Alternatively, to generate alerts for incomplete transactions on specific channels where you know the source and destination of the channel
 - a. Select Interaction Situations from the Attribute Group pane.
 - b. From the Attribute Item pane, select Display Format, Filter Format, Metric Name, and Filter Value and click OK
 - c. In the Formula pane, set the following attributes:

Situation Editor			
	A Formula C Distribution O Exper	Advice G Action O LIntil	
Situations	Par Formula 2 Distribution 0 Experi	Action Contra	
🖲 🔯 All Managed Systems	Name		
🖲 🔯 Tivoli Enterprise Monitoring Serv	Aggre Interaction Incomplete		
🛞 🔯 Tivoli Enterprise Portal Server			
Image: Section Collector	Description		
Image: Section Reporter			
Aggre_interaction_incomplet			
- Failed Transactions			
Incomplete	Formula		
- 🔤 Parent_Sub_Transaction_Tit	fx		1
Parent_Sub_Transaction_Tit	Display Format	Filter Format	Filter Value
Parent_Sub_Transaction_Til	1 == '\${DestinationContext.Channel}'	== '\${DestinationContext.Channel}' =	= '_IncompleteS1_IncompleteC1_Inc +
- Infodfs	2		
Transaction Rate C	3		
Transaction Rate M			
Transaction_Rate_W	4		•
	Formula editor		
	Click inside a cell of the formula editor to	see a description of the attribute for tha	t column and to compose
	the everession. To add an everession to	he formula take one of the following a	rtinns:
	Situation Formula Capacity	37%	Add conditions Advanced
	Sampling interval		
	0 (0 - 0 - 30	Run at s	startup
	ddd bb mm oo	-	
	uuu iin min ss		
		OK Canaal	Annha Groun Holn
		OK Caŭcel	Why Group Helb
		Aggre Interaction Inc.	omplete
		riggio_merotabil_mer	

- **Display Format** == '\${DestinationContext.Channel}'
- Filter Format == '\${DestinationContext.Channel}'
- Metric Name == IncompleteCount
- Metric Value > 0
- Filter Value == 'server name_channel name_application name
- 4. On the **Distribution** tab, select which Transaction Reporters to assign the situation to.
- 5. Click OK.
- **6**. Right-click on Transaction Reporter in the Tivoli Enterprise Portal and select **Situations**.
- 7. Click Select Situation filter criteria , select Eligible for Association, and click OK.
- 8. Right-click on the new situation and select Associate, and click OK.

If there are incomplete transactions for channels, an alert is displayed for the Transaction Reporter in the Tivoli Enterprise Portal navigator.

Twoli, Enterprise Portal vielcore SYSADMN	Log out IBM.
File Edit View Help	
😪 Havigator 💲 🔟 🖶 📥 Server Component Topology	/ 1 0 8 0 ×
View: Physical V Q 27 T Q Q A A D D R	
	3
or Physical Total: 3 Balanteet 0 Last retendent: 03/07/015	02:45 PM
	/ # 0 8 0 ×
Timestamp Bource Server Name Destination Server Name Parent Sub-Transaction Time Transaction Rate Transaction Count 0 032776 5124500 Incomplete31 9000 0 1 0 032776 5124500 Incomplete31 9000 0 0 0	

Hover over the alert, and click the link to display more information about the incomplete transactions.



Tivoli, Enterprise Portal Mekone SYSADM					Logout IBM.
File Edit View Help					
	* 🖬 🕼 🤘) 🗉 🤣 🖬 🕢 📥 🚺 🛅 🛅	M 🕸	3
Ravigator	* 🗆 🖻	Initial Situation Values			/ 00 8 8 ×
View: Physical	- 0 3	Q			
R Enterprise	-	Oisplay Format	Filter Format	Filter Value	Metric Name ±
E 🎦 Linux Systems		\${DestinationContext.Channel}	\${DestinationContext.Channel}	IncompleteS1_IncompleteC1_IncompleteA1	IncompleteCount
B B bvtt73rh5k32 D bvtt73rh5k32 D					
wttr7401itm623					
B Wtt7401rh5x32					
Transaction Collector		1			🖬 =
Aggre Interaction Incomplete		Current Situation Values			/ 00 8 0 ×
Channel_Incomplete_Transaction		Q			
Incomplete		Oisplay Format	Filter Format	Filter Value	🔕 Metric Name ±
Applications		\${DestinationContext.Channel}	\${DestinationContext.Channel}	IncompleteS1_IncompleteC1_IncompleteA1	IncompleteCount
- Servers					
Transactions					
bvtt7401rh6x64					
I ⊆li bett7401rb7z64					
DG Physical		×			🖬 🖬

Creating custom dynamic workspace links for agentless data:

You can create dynamic workspace links which link from derived data in the Transaction Reporter or Agentless Data tables to the workspaces you select.

You can create dynamic workspace links using table columns from the Interaction Metrics (KT0INTMET) table and the Aggregate Metrics (KT0AGGMET) table.

Tip: The tooltip for each derived column contains its ID.

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To create dynamic links for derived content:

- Right-click a cell in the Deviations or Network Interactions table and select Link to > Link Wizard.
- 2. On the Link Wizard Welcome window, select **Create a new link** and click **Next**.
- **3**. On the Link Name window, type a name and description to identify the link and click **Next**.
- 4. On the Link Type window, select Dynamic as the link type and click Next.
- 5. On the Target Workspace window, select the target node and workspace and click **Next**.
- 6. On the Target Filters window, select **Managed System Name** and click **Modify Expresssion** to open the Expression Editor.
- 7. In the Expression Editor, enter the following expression: \$kfw.TableRow:ATTRIBUTE.{KTOINTMET|KTOAGGMET}.{ID_FROM_TOOLTIP}\$+":TO"

For example, \$kfw.TableRow:ATTRIBUTE.KTOINTMET.SRCSERVERNAME\$+":TO"

- **8**. Click **Evaluate** to test the expression. The value returned should be that of the selected cell.
- 9. Click OK, OK again to close the Expression Editor, and then click Next.
- 10. Click Finish.

Applications: Summary

This workspace provides general information about the performance of transactions within the applications on your managed system. Use this information to monitor applications and determine if they have any problems.

Using this workspace

This workspace acts as a summary workspace for its category, and provides general information about transactions within applications, components, servers, or transactions. It contains four views in addition to the standard **Navigator** view:

- Lowest Availability
- Largest Time Deviation
- Largest Transaction Rate Deviation

• A summary table called **Applications**, **Components**, **Servers**, or **Transactions** depending on the category you select.



Figure 103. The Summary workspace

Use the **Lowest Availability** view to monitor whether transactions of a specific application, component, or server are slow or have failed. The data in this graph measures transactions that occurred during the last aggregation period. The default aggregation period is five minutes. The results of these queries are not sorted. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

If you move your mouse over different colored categories within a bar, hover help will indicate the relative percentage of that category. Right-click on the bar to link to more detailed workspaces for a particular application, component, server, or transaction.

Use the **Largest Time Deviation** view to determine which applications have the largest time deviation from a set baseline value. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.

Use the **Largest Transaction Rate Deviation** view to determine a deviation in the number of transactions of an application from its baseline value. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The results of these queries are not sorted.

Depending on the category you select, the **Applications**, **Components**, **Servers**, or **Transactions** view provides a table that you can use to monitor the transactions on your applications. Transaction Interaction Information table describes the fields in this table.

Column	Description
Name	The name of the Application , Component , Server , or Transaction .
Total Time	Measures the average time for a transaction to complete, in milliseconds. The value in this column does not include the time taken for failures, unless all transactions have failed. The Total Time measures the following transactions based on which category you are looking at:
	• For Applications , it measures the average of all the transactions that make up an application.
	• For Components , it measures the average of all the transactions within a component.
	• For Servers , it measures the average of all the transactions on a server.
	• For Transactions , it measures the average of all the transaction instances that make up the specific transaction.
Total Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate a slower total time than the baseline value, and negative numbers indicate a faster total time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions. This is measured in transactions per minute. The Transaction Rate calculates the following rate of transactions based on which category you are looking at:
	• For Applications , it calculates the sum of all transaction instances of the transactions within an application.
	• For Components , it calculates the sum of all transaction instances of all the transactions within a component.
	• For Servers , it calculates the sum of all transaction instances of all the transactions on a server.
	• For Transactions , it calculates the average number of transaction instances of a specific transaction.
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the number of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction instances that have failed.
Percent Slow	Indicates the percentage of transaction instances that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction instances that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Table 22. Transaction Interaction Information table

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

From this workspace, you can link to the **Interaction by Time** workspace, **Interaction by Transaction Rate** workspace, and **Detail** workspace, by right-clicking a bar in a graph or clicking a link icon in the table and selecting **Link To**. You can also view a more detailed **Topology** workspace for a specific application, component, server, or transaction by clicking the link icon in the table. These workspaces provide more detailed information for a particular application, component, server, or transaction. In addition, you can link to a more detailed category workspace, except in the **Transactions** category as this is the most detailed level to view transactions.

Note: You can also select the **Interaction by Time** workspaces and **Interaction by Transaction Rate** workspaces by right-clicking a category in the **Navigator** view and selecting **Workspace**. In this case, these workspaces display all the transaction interactions for a category.

Applications: Detail

This workspace provides more detailed information for a selected application. Use this workspace to monitor the change in availability, deviations, response times, and transaction rates over a period of time.

Using this workspace

The **Detail** workspace provides detailed information about a specific transaction, application, component, or server, depending on which category you select from the **Navigator** view. Using the views in this workspace you can observe how availability, deviations, response times, and transaction rates have changed over time. The **Detail** workspace contains three views in addition to the **Navigator** view:

- Availability of your selection
- Deviations on your selection
- Transaction Rate and Time on your selection



Figure 104. The Detail workspace

Use the **Availability of** *your selection* view to observe the pattern of availability for your selected item over a period of time. The x-axis displays the polling time. Each bar in the graph displays the number of transactions that are slow or have failed. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

Move your mouse over the colored bars in the graph to display hover help, which indicates the percentage of transactions for that section, the date, and polling time.

The **Deviations on** *your selection* view uses a line graph to show the time deviation and deviation in the number of transactions from a set baseline value measured as a percentage. The blue line displays the time. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The yellow line displays the transaction rate. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. The time and transaction rate are plotted along the y-axis. The x-axis displays the polling time. Move your mouse over a point on a line to display hover help, which indicates the time or transaction rate deviation, and the polling time.

The **Transaction Rate and Time on** *your selection* view displays the actual time and transaction rate. The bars display the number of transactions, and the line displays the time. Move your mouse over the bars to display hover help, which indicates the number of transactions, the date, and polling time. Similarly move your mouse over a point on the time line to view information about the time, date and polling time. The y-axis on the left side of the graph plots the transaction rate, and the y-axis on the right hand side plots the time. The x-axis displays the polling time.

Access this workspace by right-clicking a graph or link icon in a table within a **Summary** workspace, and using the **Link To** option.

Links to other workspaces

From this workspace, you cannot link to any other predefined workspaces.

Applications: Interaction by Time

This workspace provides information about the response time of transaction interactions between applications. Use this workspace to monitor transactions between different applications on your system and determine if they have any problems.

Using this workspace

The **Interaction by Time** workspace shows transaction interactions that occur on your system. You can monitor these transaction interactions at different levels of detail, depending on which category you are in:

- The **Transactions** category is the most detailed, and displays all transaction interactions that have occurred within a set time frame.
- The **Applications** category displays the transaction interactions between applications.
- The **Components** category displays the transaction interactions between components.
- The Servers category displays all the transaction interactions between servers.

Each of these transaction interactions has a response time associated with it, and is measured against a preset baseline value. Use the **Interaction by Time** workspace to identify any problem points in the response time between transactions, applications, components, or servers.

The **Interaction by Time** workspace contains four views in addition to the standard **Navigator** view:

- Lowest Availability
- Largest Time Deviation
- Slowest Time
- A table called **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** depending on the category you select.



Figure 105. The Interaction by Time workspace

Use the **Lowest Availability** view to monitor which interactions between transactions, applications, components, or servers are slow, or have failed. The data in this graph measures transactions that occurred during the last aggregation period. The default aggregation period is five minutes. The results of these queries are not sorted. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

If you move your mouse over different colored categories within a bar, hover help will indicate the relative percentage of that category. Right-click on the bar to link to more detailed workspaces for a particular application, component, server, or transaction.

Use the **Largest Time Deviation** view to determine which interactions have the largest time deviation from a set baseline value. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The results of these queries are not sorted.

Use the **Slowest Time** view to display a list of all interactions and their times. The slowest interactions are listed at the top.

The **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** view provides a table with more details on the individual interactions. Sub transaction Time and Transaction Rate details table describes the fields in this table.

Column	Description
Interaction	The name of a specific interaction for a Application , Component , Server , or Transaction .
Parent Sub Transaction Time	 Measures the average time of a transaction interaction, in milliseconds. The Parent Sub Transaction Time measures the following transaction interactions based on which category you are looking at: For Transactions, it measures the average sub-transaction time for the transaction instances involved.
	• For Applications , it measures the average sub-transaction time for transaction instances between applications.
	• For Components , it measures the average sub-transaction time for the transaction instances between components.
	• For Servers , it measures the average sub-transaction time for transaction instances between servers.
Parent Sub Transaction Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate transaction interactions that take a longer time than the baseline value, and negative numbers indicate transaction interactions that take less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions in transactions per minute. The Transaction Rate calculates the following rate of transactions based on the category:
	 For Applications, it calculates the number of transaction interactions between applications.
	• For Components , it calculates the number of transaction interactions between components.
	• For Servers , it calculates the number of transaction interactions between servers.
	• For Transactions , it calculates the number of transaction interactions between transactions.
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the rate of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction interactions that have failed.
Percent Slow	Indicates the percentage of transaction interactions that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction interactions that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Table 23. Sub transaction Time and Transaction Rate details table

Access this workspace by clicking on a category in the Navigator view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

When you have identified a problem, you can then link to the Interaction Detail workspace by right-clicking on a bar in a graph and selecting Link To, or right-clicking a link icon in the table. This can help you determine when a problem started.

Example of this workspace

The example below shows the differences between the interactions in the four categories, highlights the different levels at which you can detect errors on your system, and indicates how you can drill down to increasingly detailed levels to locate a problem.



Figure 106. Transaction interactions at different levels

Applications Book Shop and DVD Shop interact with application DB2 through the transactions Buy Book, List Book, Buy DVD, List DVD, Select Product and Insert Product.

In the **Transactions** category, you see all the transaction interactions:

- Buy Book Select Product
- Buy Book Insert Product
- List Book Select Product
- Buy DVD Select Product
- Buy DVD Insert Product
- List DVD Select Product

In the **Applications** category, you see that there were two interactions between the applications on your system:

- Book Shop DB2
- DVD Shop DB2

In the **Components** category, you see that there are interactions between *WebSphere Application Server* and *DB2*.

In the **Servers** category, you see that there are interactions between *Server A* and *Server B*.

In this example, there is a problem in communication between *List Book* and *Select Product*. This causes the following:

- The response time of *List Book* is longer than the baseline value
- The response time of the *List Book Select Product* interaction is longer than the baseline value.

In the **Transactions** category, you see the problematic transactions, as every transaction interaction is listed at this level.

In the **Applications** view, you see that there is a problem when *Select Product* is initiated from *List Book*, represented by an increase in the *Book Shop-DB2* response time.

Note: The **Applications** workspace provides the average of all transactions for a application instead of each transaction individually. If there was a significantly larger number of transactions for *Buy Book* than *List Book*, the percentage of problematic transactions may be so small that you do not detect them at this level. The same discrepancy can apply to the data you see in the **Components** view and **Servers** view.

Applications: Interaction by Transaction Rate

This workspace provides information about the rate of transactions between applications. Use this workspace to monitor the rate of transactions and determine if there are any problems.

Using this workspace

The **Interaction by Transaction Rate** workspace shows the transaction rate and transaction rate deviation for interactions on your system. You can monitor the rate of transactions at different levels of detail, depending on which category you are in:

- The **Transactions** category is the most detailed, and displays the rate of all transaction interactions on your system.
- The **Applications** category displays the rate of transaction interactions between applications.

- The **Components** category displays the rate of transaction interactions between components.
- The **Servers** category displays the rate of transaction interactions between servers.

Use the **Interaction by Transaction Rate** workspace to identify any problem points in the number of transaction interactions per minute between transactions, applications, components or servers.

The **Interaction by Transaction Rate** workspace contains four views in addition to the standard **Navigator** view:

- Lowest Availability
- Largest Transaction Rate Deviation
- Highest Transaction Rate
- A table called **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** depending on the category you select.



Figure 107. The Interaction by Transaction Rate workspace

Use the **Lowest Availability** view to monitor the number of interactions between transactions, applications, components, or servers that are slow or have failed. These are measured against a preset baseline value. The data in this graph measures transactions that occurred during the last aggregation period. The default aggregation period is five minutes. The results of these queries are not sorted. The bars on the graph are color coded:

- · Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

If you move your mouse over different colored categories within a bar, hover help will indicate the relative percentage of that category. Right-click on the bar to link to more detailed workspaces for a particular application, component, server, or transaction.

Use the **Largest Transaction Rate Deviation** view to determine which interactions have the largest deviation in transaction rate from a set baseline value. Positive numbers indicate a higher rate of transaction interactions than the baseline value, and negative numbers indicate a lower rate of transaction interactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The results of these queries are not sorted.

Use the **Highest Transaction Rate** view to see a list of the transaction rates, measured in transactions per minute, of all transaction interactions. The interactions with the highest transaction rate are listed at the top.

The **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** view provides a table with more details on the individual interactions. Sub transaction Time and Transaction Rate details table describes the fields in this table.

Column	Description
Interaction	The name of a specific interaction for a Application , Component , Server , or Transaction .
Parent Sub Transaction Time	Measures the average time of a transaction interaction, in milliseconds. The Parent Sub Transaction Time measures the following transaction interactions based on which category you are looking at:
	• For Transactions , it measures the average sub-transaction time for the transaction instances involved.
	• For Applications , it measures the average sub-transaction time for transaction instances between applications.
	• For Components , it measures the average sub-transaction time for the transaction instances between components.
	• For Servers , it measures the average sub-transaction time for transaction instances between servers.
Parent Sub Transaction Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate transaction interactions that take a longer time than the baseline value, and negative numbers indicate transaction interactions that take less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions in transactions per minute. The Transaction Rate calculates the following rate of transactions based on the category:
	• For Applications , it calculates the number of transaction interactions between applications.
	• For Components , it calculates the number of transaction interactions between components.
	• For Servers , it calculates the number of transaction interactions between servers.
	• For Transactions , it calculates the number of transaction interactions between transactions.

Table 24. Sub transaction Time and Transaction Rate details table

Column	Description
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the rate of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction interactions that have failed.
Percent Slow	Indicates the percentage of transaction interactions that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction interactions that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Table 24. Sub transaction Time and Transaction Rate details table (continued)

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

When you have identified a problem, you can link to the **Interaction Detail** workspace by right clicking on a bar in a graph and selecting **Link To**, or by right-clicking a link icon in the table. This can help you determine why the transaction rate for a specific interaction is outside the specified parameters.

Applications: Interaction Detail

This workspace provides more detailed information about the interactions between two applications. Use this workspace to monitor the change in availability, deviations, response times, and transaction rates for an interaction over a period of time.

Using this workspace

The **Interaction Detail** workspace provides detailed information about a specific interaction between two applications, components, servers, or transactions. Using the views in this workspace you can observe how availability, deviations, response times, and transaction rates for an interaction have changed over time. The **Interaction Detail** workspace contains three views in addition to the **Navigator** view:

- Availability of your selected interaction
- Deviations for your selected interaction
- Transaction Rate and Time for your selected interaction



Figure 108. The Interaction Detail workspace

Use the **Availability of** *your selected interaction* view to observe the pattern of availability for your selected interaction over a period of time. The x-axis displays the polling time. Each bar in the graph displays the number of transactions that are slow or have failed. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

Move your mouse over the colored bars in the graph to display hover help, which indicates the percentage of transactions for that section, the date, and polling time.

The **Deviations for** *your selected interaction* view uses a line graph to show the time deviation and deviation in the number of interactions from a set baseline value measured in percentage. The blue line displays the time. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The yellow line displays the transaction rate. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate more transactions than the baseline value. The numbers indicate fewer transaction rate are plotted along the y-axis. The x-axis displays the polling time. Move your mouse over a point on a line to display hover help, which indicates the time or transaction rate deviation, and the polling time.

The **Transaction Rate and Time for** *your selected interaction* view displays the actual time and transaction rate for an interaction. The bars display the number of transactions, and the line displays the time. Move your mouse over the bars to display hover help, which indicates the number of transactions, the date, and polling time. Move your mouse over a point on the time line to display hover help, which provides information on the time, date and polling time. The y-axis on the left side of the graph plots the numbers for the transaction rate, and the y-axis on the right hand side plots the time. The x-axis displays the polling time.

You can only access this workspace by right-clicking a graph or link icon in a table within an **Interaction by Time** workspace, **Interaction by Transaction Rate** workspace, or **Topologies** workspace and selecting **Link To**.

Links to other workspaces

From this workspace, you cannot link to another predefined workspace.

Applications: Topology

This workspace provides a visual representation of the connections between different applications. You can move the mouse over a node or link to display hover help, or right-click on a node to display a more detailed workspace for a particular application.

Using this workspace

The **Topologies** workspace displays a topology of interactions within your enterprise. The interactions are shown as links between nodes. The node appearance may change if Transaction Tracking can detect which component it refers to. Depending on which category you are in, the nodes in the **Topologies** workspace indicate a different level of detail:

- The **Transactions** category is the most detailed, and displays the interconnections between all transaction interactions that have occurred within a set time frame.
- The **Applications** category displays the interconnections between different applications.
- The **Components** category displays the interconnections between components.
- The Servers category displays the interconnections between servers.

Use the **Topologies** toolbar to change the view of the default topology. For example, you can zoom in on a particular node or link, or show the state of a node or link by selecting an icon from the toolbar. Move your mouse over items in the **Topologies** toolbar to display hover help about their function.

Using the **Topologies** workspace you can identify response times of specific nodes, and observe which nodes in your system interact with each other. The **Topologies** workspace contains two views in addition to the standard **Navigator** view:

- The topology, called **Application Aggregate Topology**, **Component Aggregate Topology**, **Server Aggregate Topology**, or **Transaction Aggregate Topology** depending on the category you select.
- A table called **Applications**, **Components**, **Servers**, or **Transactions** depending on the category you select.

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Figure 109. The Topologies workspace

The table below the topology contains the list of all aggregates. Click a link icon in the table to display more detailed workspaces related to that aggregate. If you link to a more detailed topology workspace, the node that you select will be the focal point of the new topology display, and the surrounding nodes with connecting links indicate how they interact with the selected node. You can identify each node by its name which is displayed in the topology.

To access further information about a node, move the mouse over a node in the topology to display hover help. The hover help displays the node category and name. In addition, if there is sufficient aggregate information, it displays the **Average Time, Baseline** and **Deviation** in milliseconds for the transaction of that node.



Figure 110. Hovering over a node in the Topologies workspace

If the topology is well known, but there is not yet enough information to provide aggregate data, hover help will show basic information as soon as some data is available. An example of this is when you request aggregate data for a time period that has only just started.

If there is not enough data, the **Average Time**, **Baseline**, and **Deviation** will display 0.

When a transaction topology of a composite application changes, the current period will not reflect these changes in the topology. The time period before the change will be correct, and the time period following the current period will be correct. After the current period expires, the correct topology will be displayed. The default expiration of a period is five minutes.

The **Applications**, **Components**, **Servers**, or **Transactions** view provides a table with more details on individual interactions. Below is a description of the fields in this table.

Column	Description
Name	The name of the Application , Component , Server , or Transaction .
Total Time	Measures the average time for a transaction to complete, in milliseconds. The value in this column does not include the time taken for failures, unless all transactions have failed. The Total Time measures the following transactions based on which category you are looking at:
	• For Applications , it measures the average of all the transactions that make up an application.
	• For Components , it measures the average of all the transactions within a component.
	• For Servers , it measures the average of all the transactions on a server.
	• For Transactions , it measures the average of all the transaction instances that make up the specific transaction.
Total Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate a slower total time than the baseline value, and negative numbers indicate a faster total time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions. This is measured in transactions per minute. The Transaction Rate calculates the following rate of transactions based on which category you are looking at:
	• For Applications , it calculates the sum of all transaction instances of the transactions within an application.
	• For Components , it calculates the sum of all transaction instances of all the transactions within a component.
	• For Servers , it calculates the sum of all transaction instances of all the transactions on a server.
	 For Transactions, it calculates the average number of transaction instances of a specific transaction.
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the number of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction instances that have failed.

Table 25. Transaction Interaction Information table

Column	Description
Percent Slow	Indicates the percentage of transaction instances that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction instances that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Table 25. Transaction Interaction Information table (continued)

Interaction Rows at an Aggregate level are used to draw the topologies at the Applications, Components, Servers, and Transactions workspaces. The Transaction Reporter generates these rows from Aggregates retrieved from Transaction Collectors, and a topology that it determines from Instance Data. At startup the Transaction Reporter has no known topology. When the first Aggregates are collected from the Transaction Collectors, the Transaction Reporter will obtain some instance data and perform a multi-hop trace. The Transaction Reporter uses the results to determine that instances associated with one Aggregate Record interact with instances from another Aggregate Record. This is the basis of creating Interaction Rows at the Aggregate Level. If there are a large number of Transaction Collectors or a large number of interactions, the initial traces may take tens of minutes to perform. Since Transaction Collectors produce Aggregates every 5 minutes, the Transaction Collector has a default configuration to spend a maximum of 4 minutes performing these "one-hop" traces before producing Interaction Rows, and moving to the next Aggregation Period. This will result in incomplete Interaction Rows for those initial aggregation periods.

The following parameters relate to the creation of Aggregate Interaction Rows and the hop trace:

- RECALCULATE_INTERACTIONS=N
- CALCULATE_IMPLIED_INTERACTIONS=Y
- CALCULATE_PSEUDO_INTERACTIONS=Y
- MAXIMUM_PROCESS_AGGREGATES_MINUTES=4
- MAXIMUM_TOPOLOGY_TRACE_BACKOFF_MINUTES=120
- INITIAL_TOPOLOGY_TRACE_EVENT_COUNT=2
- MAXIMUM_TOPOLOGY_TRACE_EVENT_COUNT=15
- DETERMINE_TOPOLOGY_TRACE_HOP_COUNT=3
- TOPOLOGY_FORGET_INTERVAL_MINUTES=0

The Transaction Reporter generates Interaction Rows at an Instance level directly from Instance data obtained from Transaction Collectors. An initial instance from which to perform the "full" instance trace is obtained from a Transaction Collector as one that is associated with an Aggregate. The Transaction Collector provides the Transaction Reporter with the identities of the five average, five fastest and five slowest transactions that were used to generate a particular aggregate. Select one of these via the Instances workspace. Afterwards, when selecting an Instance Topology, the Transaction Reporter requests a "full" trace. If there are a large number of Transaction Collectors or a large number of interactions, the full trace may take some minutes to perform. In this case, the workspace may time out without receiving any instance interaction rows. The Transaction Reporter has a number of parameters in the ENV file to limit the time or depth of a full trace. If these parameters are set, the instance interaction rows determined to that point will be returned. By refreshing the workspace, the Transaction Reporter will continue the trace from where it last reached. In this way, a complete trace can be reached after providing some feedback to the workspace.

The following parameters are of interest:

- WORKSPACE_TRACE_TIME_LIMIT_SECONDS=0
- WORKSPACE_TRACE_DEPTH_LIMIT=0

Other similar parameters for Situation initiated traces are:

- SITUATION_TRACE_TIME_LIMIT_SECONDS=0
- SITUATION_TRACE_DEPTH_LIMIT=0

The following parameter improves Transaction Reporter performance when there are multiple Transaction Collectors:

• THREAD_POOL_SIZE=3

Accessing this workspace

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

When you have identified a problem, you can then link to the **Transactions Summary** workspace or the **Application Detail** workspace by right-clicking an icon in the topology and selecting **Link To...** You can also right-click a link icon in the table. This can help you determine where a problem started.

Components: Summary

This workspace provides general information about the performance of transactions within components on your managed system. Use this information to monitor components and determine if they have any problems.

Using this workspace

This workspace acts as a summary workspace for its category, and provides general information about transactions within applications, components, servers, or transactions. It contains four views in addition to the standard **Navigator** view:

- Lowest Availability
- Largest Time Deviation
- Largest Transaction Rate Deviation
- A summary table called **Applications**, **Components**, **Servers**, or **Transactions** depending on the category you select.



Figure 111. The Summary workspace

Use the **Lowest Availability** view to monitor whether transactions of a specific application, component, or server are slow or have failed. The data in this graph measures transactions that occurred during the last aggregation period. The default aggregation period is five minutes. The results of these queries are not sorted. The bars on the graph are color coded:

- · Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

If you move your mouse over different colored categories within a bar, hover help will indicate the relative percentage of that category. Right-click on the bar to link to more detailed workspaces for a particular application, component, server, or transaction.

Use the **Largest Time Deviation** view to determine which applications have the largest time deviation from a set baseline value. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.

Use the **Largest Transaction Rate Deviation** view to determine a deviation in the number of transactions of an application from its baseline value. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The results of these queries are not sorted.

Depending on the category you select, the **Applications**, **Components**, **Servers**, or **Transactions** view provides a table that you can use to monitor the transactions on your applications. Transaction Interaction Information table describes the fields in this table.

Table 26. Transaction I	nteraction	Information	table
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Column	Description
Name	The name of the Application , Component , Server , or Transaction .
Total Time	Measures the average time for a transaction to complete, in milliseconds. The value in this column does not include the time taken for failures, unless all transactions have failed. The Total Time measures the following transactions based on which category you are looking at:
	• For Applications , it measures the average of all the transactions that make up an application.
	• For Components , it measures the average of all the transactions within a component.
	• For Servers , it measures the average of all the transactions on a server.
	• For Transactions , it measures the average of all the transaction instances that make up the specific transaction.
Total Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate a slower total time than the baseline value, and negative numbers indicate a faster total time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions. This is measured in transactions per minute. The Transaction Rate calculates the following rate of transactions based on which category you are looking at:
	• For Applications , it calculates the sum of all transaction instances of the transactions within an application.
	• For Components , it calculates the sum of all transaction instances of all the transactions within a component.
	• For Servers , it calculates the sum of all transaction instances of all the transactions on a server.
	• For Transactions , it calculates the average number of transaction instances of a specific transaction.
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the number of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction instances that have failed.
Percent Slow	Indicates the percentage of transaction instances that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction instances that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

From this workspace, you can link to the **Interaction by Time** workspace, **Interaction by Transaction Rate** workspace, and **Detail** workspace, by right-clicking a bar in a graph or clicking a link icon in the table and selecting **Link To**. You can also view a more detailed **Topology** workspace for a specific application, component, server, or transaction by clicking the link icon in the table. These workspaces provide more detailed information for a particular application, component, server, or transaction. In addition, you can link to a more detailed category workspace, except in the **Transactions** category as this is the most detailed level to view transactions.

Note: You can also select the **Interaction by Time** workspaces and **Interaction by Transaction Rate** workspaces by right-clicking a category in the **Navigator** view and selecting **Workspace**. In this case, these workspaces display all the transaction interactions for a category.

Components: Detail

This workspace provides more detailed information for a selected component. Use this workspace to monitor the change in availability, deviations, response times, and transaction rates over a period of time.

Using this workspace

The **Detail** workspace provides detailed information about a specific transaction, application, component, or server, depending on which category you select from the **Navigator** view. Using the views in this workspace you can observe how availability, deviations, response times, and transaction rates have changed over time. The **Detail** workspace contains three views in addition to the **Navigator** view:

- Availability of your selection
- Deviations on your selection
- Transaction Rate and Time on your selection



Figure 112. The Detail workspace

Use the **Availability of** *your selection* view to observe the pattern of availability for your selected item over a period of time. The x-axis displays the polling time. Each bar in the graph displays the number of transactions that are slow or have failed. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

Move your mouse over the colored bars in the graph to display hover help, which indicates the percentage of transactions for that section, the date, and polling time.

The **Deviations on** *your selection* view uses a line graph to show the time deviation and deviation in the number of transactions from a set baseline value measured as a percentage. The blue line displays the time. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The yellow line displays the transaction rate. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. The time and transaction rate are plotted along the y-axis. The x-axis displays the polling time. Move your mouse over a point on a line to display hover help, which indicates the time or transaction rate deviation, and the polling time.

The **Transaction Rate and Time on** *your selection* view displays the actual time and transaction rate. The bars display the number of transactions, and the line displays the time. Move your mouse over the bars to display hover help, which indicates the number of transactions, the date, and polling time. Similarly move your mouse over a point on the time line to view information about the time, date and polling time. The y-axis on the left side of the graph plots the transaction rate, and the y-axis on the right hand side plots the time. The x-axis displays the polling time.

Access this workspace by right-clicking a graph or link icon in a table within a **Summary** workspace, and using the **Link To** option.

Links to other workspaces

From this workspace, you cannot link to any other predefined workspaces.

Components: Interaction by time

This workspace provides information about the response time of transaction interactions between components. Use this workspace to monitor transactions between different components on your system and determine if they have any problems.

Using this workspace

The **Interaction by Time** workspace shows transaction interactions that occur on your system. You can monitor these transaction interactions at different levels of detail, depending on which category you are in:

- The **Transactions** category is the most detailed, and displays all transaction interactions that have occurred within a set time frame.
- The **Applications** category displays the transaction interactions between applications.
- The **Components** category displays the transaction interactions between components.
- The Servers category displays all the transaction interactions between servers.

Each of these transaction interactions has a response time associated with it, and is measured against a preset baseline value. Use the **Interaction by Time** workspace to identify any problem points in the response time between transactions, applications, components, or servers.

The **Interaction by Time** workspace contains four views in addition to the standard **Navigator** view:

- Lowest Availability
- Largest Time Deviation
- Slowest Time
- A table called **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** depending on the category you select.



Figure 113. The Interaction by Time workspace

Use the **Lowest Availability** view to monitor which interactions between transactions, applications, components, or servers are slow, or have failed. The data in this graph measures transactions that occurred during the last aggregation period. The default aggregation period is five minutes. The results of these queries are not sorted. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

If you move your mouse over different colored categories within a bar, hover help will indicate the relative percentage of that category. Right-click on the bar to link to more detailed workspaces for a particular application, component, server, or transaction.

Use the **Largest Time Deviation** view to determine which interactions have the largest time deviation from a set baseline value. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The results of these queries are not sorted.

Use the **Slowest Time** view to display a list of all interactions and their times. The slowest interactions are listed at the top.

The **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** view provides a table with more details on the individual interactions. Sub transaction Time and Transaction Rate details table describes the fields in this table.

Table 27. Sub transaction Time and Transaction Rate details table

Column	Description
Interaction	The name of a specific interaction for a Application , Component ,
	Server, or Transaction.

Column	Description
Parent Sub Transaction Time	Measures the average time of a transaction interaction, in milliseconds. The Parent Sub Transaction Time measures the following transaction interactions based on which category you are looking at:
	• For Transactions , it measures the average sub-transaction time for the transaction instances involved.
	• For Applications , it measures the average sub-transaction time for transaction instances between applications.
	• For Components , it measures the average sub-transaction time for the transaction instances between components.
	• For Servers , it measures the average sub-transaction time for transaction instances between servers.
Parent Sub Transaction Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate transaction interactions that take a longer time than the baseline value, and negative numbers indicate transaction interactions that take less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions in transactions per minute. The Transaction Rate calculates the following rate of transactions based on the category:
	• For Applications , it calculates the number of transaction interactions between applications.
	• For Components , it calculates the number of transaction interactions between components.
	• For Servers , it calculates the number of transaction interactions between servers.
	• For Transactions , it calculates the number of transaction interactions between transactions.
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the rate of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction interactions that have failed.
Percent Slow	Indicates the percentage of transaction interactions that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction interactions that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Table 27. Sub transaction Time and Transaction Rate details table (continued)

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

When you have identified a problem, you can then link to the **Interaction Detail** workspace by right-clicking on a bar in a graph and selecting **Link To**, or right-clicking a link icon in the table. This can help you determine when a problem started.

Example of this workspace

The example below shows the differences between the interactions in the four categories, highlights the different levels at which you can detect errors on your system, and indicates how you can drill down to increasingly detailed levels to locate a problem.



Figure 114. Transaction interactions at different levels

Applications *Book Shop* and *DVD Shop* interact with application *DB2* through the transactions *Buy Book, List Book, Buy DVD, List DVD, Select Product* and *Insert Product*.

In the Transactions category, you see all the transaction interactions:

- Buy Book Select Product
- Buy Book Insert Product
- List Book Select Product
- Buy DVD Select Product

- Buy DVD Insert Product
- List DVD Select Product

In the **Applications** category, you see that there were two interactions between the applications on your system:

- Book Shop DB2
- DVD Shop DB2

In the **Components** category, you see that there are interactions between *WebSphere Application Server* and *DB2*.

In the **Servers** category, you see that there are interactions between *Server A* and *Server B*.

In this example, there is a problem in communication between *List Book* and *Select Product*. This causes the following:

- The response time of *List Book* is longer than the baseline value
- The response time of the *List Book Select Product* interaction is longer than the baseline value.

In the **Transactions** category, you see the problematic transactions, as every transaction interaction is listed at this level.

In the **Applications** view, you see that there is a problem when *Select Product* is initiated from *List Book*, represented by an increase in the *Book Shop-DB2* response time.

Note: The **Applications** workspace provides the average of all transactions for a application instead of each transaction individually. If there was a significantly larger number of transactions for *Buy Book* than *List Book*, the percentage of problematic transactions may be so small that you do not detect them at this level. The same discrepancy can apply to the data you see in the **Components** view and **Servers** view.

Components: Interaction by Transaction Rate

This workspace provides information about the rate of transactions between components on your system. Use this workspace to monitor the rate of transactions and determine if there are any problems.

Using this workspace

The **Interaction by Transaction Rate** workspace shows the transaction rate and transaction rate deviation for interactions on your system. You can monitor the rate of transactions at different levels of detail, depending on which category you are in:

- The **Transactions** category is the most detailed, and displays the rate of all transaction interactions on your system.
- The **Applications** category displays the rate of transaction interactions between applications.
- The **Components** category displays the rate of transaction interactions between components.
- The **Servers** category displays the rate of transaction interactions between servers.

Use the **Interaction by Transaction Rate** workspace to identify any problem points in the number of transaction interactions per minute between transactions, applications, components or servers.

The **Interaction by Transaction Rate** workspace contains four views in addition to the standard **Navigator** view:

- Lowest Availability
- Largest Transaction Rate Deviation
- Highest Transaction Rate
- A table called **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** depending on the category you select.



Figure 115. The Interaction by Transaction Rate workspace

Use the **Lowest Availability** view to monitor the number of interactions between transactions, applications, components, or servers that are slow or have failed. These are measured against a preset baseline value. The data in this graph measures transactions that occurred during the last aggregation period. The default aggregation period is five minutes. The results of these queries are not sorted. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

If you move your mouse over different colored categories within a bar, hover help will indicate the relative percentage of that category. Right-click on the bar to link to more detailed workspaces for a particular application, component, server, or transaction.

Use the **Largest Transaction Rate Deviation** view to determine which interactions have the largest deviation in transaction rate from a set baseline value. Positive numbers indicate a higher rate of transaction interactions than the baseline value, and negative numbers indicate a lower rate of transaction interactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The results of these queries are not sorted.

Use the **Highest Transaction Rate** view to see a list of the transaction rates, measured in transactions per minute, of all transaction interactions. The interactions with the highest transaction rate are listed at the top.

The **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** view provides a table with more details on the individual interactions. Sub transaction Time and Transaction Rate details table describes the fields in this table.

Column	Description
Interaction	The name of a specific interaction for a Application , Component , Server , or Transaction .
Parent Sub Transaction Time	 Measures the average time of a transaction interaction, in milliseconds. The Parent Sub Transaction Time measures the following transaction interactions based on which category you are looking at: For Transactions, it measures the average sub-transaction time for
	 For Applications, it measures the average sub-transaction time for transaction instances between applications.
	• For Components , it measures the average sub-transaction time for the transaction instances between components.
	• For Servers , it measures the average sub-transaction time for transaction instances between servers.
Parent Sub Transaction Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate transaction interactions that take a longer time than the baseline value, and negative numbers indicate transaction interactions that take less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions in transactions per minute. The Transaction Rate calculates the following rate of transactions based on the category:
	 For Applications, it calculates the number of transaction interactions between applications.
	 For Components, it calculates the number of transaction interactions between components.
	• For Servers , it calculates the number of transaction interactions between servers.
	 For Transactions, it calculates the number of transaction interactions between transactions.
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the rate of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction interactions that have failed.
Percent Slow	Indicates the percentage of transaction interactions that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction interactions that are running faster than a preset threshold.

Table 28. Sub transaction Time and Transaction Rate details table

Column	Description
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Table 28. Sub transaction Time and Transaction Rate details table (continued)

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

When you have identified a problem, you can link to the **Interaction Detail** workspace by right clicking on a bar in a graph and selecting **Link To**, or by right-clicking a link icon in the table. This can help you determine why the transaction rate for a specific interaction is outside the specified parameters.

Components: Interaction detail

This workspace provides more detailed information about the interactions between two components. Use this workspace to monitor the change in availability, deviations, response times, and transaction rates for an interaction over a period of time.

Using this workspace

The **Interaction Detail** workspace provides detailed information about a specific interaction between two applications, components, servers, or transactions. Using the views in this workspace you can observe how availability, deviations, response times, and transaction rates for an interaction have changed over time. The **Interaction Detail** workspace contains three views in addition to the **Navigator** view:

- Availability of your selected interaction
- **Deviations for** your selected interaction
- Transaction Rate and Time for your selected interaction



Figure 116. The Interaction Detail workspace

Use the **Availability** of *your selected interaction* view to observe the pattern of availability for your selected interaction over a period of time. The x-axis displays the polling time. Each bar in the graph displays the number of transactions that are slow or have failed. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- · Green indicates good transactions.

Move your mouse over the colored bars in the graph to display hover help, which indicates the percentage of transactions for that section, the date, and polling time.

The **Deviations for** *your selected interaction* view uses a line graph to show the time deviation and deviation in the number of interactions from a set baseline value measured in percentage. The blue line displays the time. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The yellow line displays the transaction rate. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate more transactions than the baseline value. The numbers indicate fewer transaction rate are plotted along the y-axis. The x-axis displays the polling time. Move your mouse over a point on a line to display hover help, which indicates the time or transaction rate deviation, and the polling time.

The **Transaction Rate and Time for** *your selected interaction* view displays the actual time and transaction rate for an interaction. The bars display the number of transactions, and the line displays the time. Move your mouse over the bars to display hover help, which indicates the number of transactions, the date, and polling time. Move your mouse over a point on the time line to display hover help, which provides information on the time, date and polling time. The y-axis on the left side of the graph plots the numbers for the transaction rate, and the y-axis

on the right hand side plots the time. The x-axis displays the polling time.

Accessing this workspace

You can only access this workspace by right-clicking a graph or link icon in a table within an **Interaction by Time** workspace, **Interaction by Transaction Rate** workspace, or **Topologies** workspace and selecting **Link To**.

Links to other workspaces

From this workspace, you cannot link to another predefined workspace.

Components: Topology

This workspace provides a visual representation of the connections between different components on your system. You can move the mouse over a node or link to display hover help, or right-click on a node to display a more detailed workspace for a particular component.

Using this workspace

The **Topologies** workspace displays a topology of interactions within your enterprise. The interactions are shown as links between nodes. The node appearance may change if Transaction Tracking can detect which component it refers to. Depending on which category you are in, the nodes in the **Topologies** workspace indicate a different level of detail:

- The **Transactions** category is the most detailed, and displays the interconnections between all transaction interactions that have occurred within a set time frame.
- The Applications category displays the interconnections between different applications.
- The Components category displays the interconnections between components.
- The Servers category displays the interconnections between servers.

Use the **Topologies** toolbar to change the view of the default topology. For example, you can zoom in on a particular node or link, or show the state of a node or link by selecting an icon from the toolbar. Move your mouse over items in the **Topologies** toolbar to display hover help about their function.

Using the **Topologies** workspace you can identify response times of specific nodes, and observe which nodes in your system interact with each other. The **Topologies** workspace contains two views in addition to the standard **Navigator** view:

- The topology, called **Application Aggregate Topology**, **Component Aggregate Topology**, **Server Aggregate Topology**, or **Transaction Aggregate Topology** depending on the category you select.
- A table called **Applications**, **Components**, **Servers**, or **Transactions** depending on the category you select.


Figure 117. The Topologies workspace

The table below the topology contains the list of all aggregates. Click a link icon in the table to display more detailed workspaces related to that aggregate. If you link to a more detailed topology workspace, the node that you select will be the focal point of the new topology display, and the surrounding nodes with connecting links indicate how they interact with the selected node. You can identify each node by its name which is displayed in the topology.

To access further information about a node, move the mouse over a node in the topology to display hover help. The hover help displays the node category and name. In addition, if there is sufficient aggregate information, it displays the **Average Time, Baseline** and **Deviation** in milliseconds for the transaction of that node.



Figure 118. Hovering over a node in the **Topologies** workspace

If the topology is well known, but there is not yet enough information to provide aggregate data, hover help will show basic information as soon as some data is available. An example of this is when you request aggregate data for a time period that has only just started.

If there is not enough data, the **Average Time**, **Baseline**, and **Deviation** will display 0.

When a transaction topology of a composite application changes, the current period will not reflect these changes in the topology. The time period before the change will be correct, and the time period following the current period will be correct. After the current period expires, the correct topology will be displayed. The default expiration of a period is five minutes.

The **Applications**, **Components**, **Servers**, or **Transactions** view provides a table with more details on individual interactions. Below is a description of the fields in this table.

Column	Description
Name	The name of the Application , Component , Server , or Transaction .
Total Time	Measures the average time for a transaction to complete, in milliseconds. The value in this column does not include the time taken for failures, unless all transactions have failed. The Total Time measures the following transactions based on which category you are looking at:
	• For Applications , it measures the average of all the transactions that make up an application.
	• For Components , it measures the average of all the transactions within a component.
	• For Servers , it measures the average of all the transactions on a server.
	• For Transactions , it measures the average of all the transaction instances that make up the specific transaction.
Total Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate a slower total time than the baseline value, and negative numbers indicate a faster total time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions. This is measured in transactions per minute. The Transaction Rate calculates the following rate of transactions based on which category you are looking at:
	• For Applications , it calculates the sum of all transaction instances of the transactions within an application.
	• For Components , it calculates the sum of all transaction instances of all the transactions within a component.
	• For Servers , it calculates the sum of all transaction instances of all the transactions on a server.
	 For Transactions, it calculates the average number of transaction instances of a specific transaction.
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the number of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction instances that have failed.

Table 29. Transaction Interaction Information table

Column	Description
Percent Slow	Indicates the percentage of transaction instances that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction instances that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Table 29. Transaction Interaction Information table (continued)

Interaction Rows at an Aggregate level are used to draw the topologies at the Applications, Components, Servers, and Transactions workspaces. The Transaction Reporter generates these rows from Aggregates retrieved from Transaction Collectors, and a topology that it determines from Instance Data. At startup the Transaction Reporter has no known topology. When the first Aggregates are collected from the Transaction Collectors, the Transaction Reporter will obtain some instance data and perform a multi-hop trace. The Transaction Reporter uses the results to determine that instances associated with one Aggregate Record interact with instances from another Aggregate Record. This is the basis of creating Interaction Rows at the Aggregate Level. If there are a large number of Transaction Collectors or a large number of interactions, the initial traces may take tens of minutes to perform. Since Transaction Collectors produce Aggregates every 5 minutes, the Transaction Collector has a default configuration to spend a maximum of 4 minutes performing these "one-hop" traces before producing Interaction Rows, and moving to the next Aggregation Period. This will result in incomplete Interaction Rows for those initial aggregation periods.

The following parameters relate to the creation of Aggregate Interaction Rows and the hop trace:

- RECALCULATE_INTERACTIONS=N
- CALCULATE_IMPLIED_INTERACTIONS=Y
- CALCULATE_PSEUDO_INTERACTIONS=Y
- MAXIMUM_PROCESS_AGGREGATES_MINUTES=4
- MAXIMUM_TOPOLOGY_TRACE_BACKOFF_MINUTES=120
- INITIAL_TOPOLOGY_TRACE_EVENT_COUNT=2
- MAXIMUM_TOPOLOGY_TRACE_EVENT_COUNT=15
- DETERMINE_TOPOLOGY_TRACE_HOP_COUNT=3
- TOPOLOGY_FORGET_INTERVAL_MINUTES=0

The Transaction Reporter generates Interaction Rows at an Instance level directly from Instance data obtained from Transaction Collectors. An initial instance from which to perform the "full" instance trace is obtained from a Transaction Collector as one that is associated with an Aggregate. The Transaction Collector provides the Transaction Reporter with the identities of the five average, five fastest and five slowest transactions that were used to generate a particular aggregate. Select one of these via the Instances workspace. Afterwards, when selecting an Instance Topology, the Transaction Reporter requests a "full" trace. If there are a large number of Transaction Collectors or a large number of interactions, the full trace may take some minutes to perform. In this case, the workspace may time out without receiving any instance interaction rows. The Transaction Reporter has a number of parameters in the ENV file to limit the time or depth of a full trace. If these parameters are set, the instance interaction rows determined to that point will be returned. By refreshing the workspace, the Transaction Reporter will continue the trace from where it last reached. In this way, a complete trace can be reached after providing some feedback to the workspace.

The following parameters are of interest:

- WORKSPACE_TRACE_TIME_LIMIT_SECONDS=0
- WORKSPACE TRACE DEPTH LIMIT=0

Other similar parameters for Situation initiated traces are:

- SITUATION_TRACE_TIME_LIMIT_SECONDS=0
- SITUATION_TRACE_DEPTH_LIMIT=0

The following parameter improves Transaction Reporter performance when there are multiple Transaction Collectors:

• THREAD_POOL_SIZE=3

Accessing this workspace

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

When you have identified a problem, you can then link to the **Applications Summary** workspace or the **Component Detail** workspace by right-clicking an icon in the topology and selecting **Link To...** You can also right-click a link icon in the table. This can help you determine where a problem started.

Servers: Summary

This workspace provides general information about the performance of transactions on the servers on your managed system. Use this information to monitor servers and determine if they have any problems.

Using this workspace

This workspace acts as a summary workspace for its category, and provides general information about transactions within applications, components, servers, or transactions. It contains four views in addition to the standard **Navigator** view:

- Lowest Availability
- Largest Time Deviation
- Largest Transaction Rate Deviation
- A summary table called **Applications**, **Components**, **Servers**, or **Transactions** depending on the category you select.



Figure 119. The Summary workspace

Use the **Lowest Availability** view to monitor whether transactions of a specific application, component, or server are slow or have failed. The data in this graph measures transactions that occurred during the last aggregation period. The default aggregation period is five minutes. The results of these queries are not sorted. The bars on the graph are color coded:

- · Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

If you move your mouse over different colored categories within a bar, hover help will indicate the relative percentage of that category. Right-click on the bar to link to more detailed workspaces for a particular application, component, server, or transaction.

Use the **Largest Time Deviation** view to determine which applications have the largest time deviation from a set baseline value. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.

Use the **Largest Transaction Rate Deviation** view to determine a deviation in the number of transactions of an application from its baseline value. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The results of these queries are not sorted.

Depending on the category you select, the **Applications**, **Components**, **Servers**, or **Transactions** view provides a table that you can use to monitor the transactions on your applications. Transaction Interaction Information table describes the fields in this table.

Column	Description
Name	The name of the Application , Component , Server , or Transaction .
Total Time	Measures the average time for a transaction to complete, in milliseconds. The value in this column does not include the time taken for failures, unless all transactions have failed. The Total Time measures the following transactions based on which category you are looking at:
	• For Applications , it measures the average of all the transactions that make up an application.
	• For Components , it measures the average of all the transactions within a component.
	• For Servers , it measures the average of all the transactions on a server.
	• For Transactions , it measures the average of all the transaction instances that make up the specific transaction.
Total Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate a slower total time than the baseline value, and negative numbers indicate a faster total time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions. This is measured in transactions per minute. The Transaction Rate calculates the following rate of transactions based on which category you are looking at:
	• For Applications , it calculates the sum of all transaction instances of the transactions within an application.
	• For Components , it calculates the sum of all transaction instances of all the transactions within a component.
	• For Servers , it calculates the sum of all transaction instances of all the transactions on a server.
	• For Transactions , it calculates the average number of transaction instances of a specific transaction.
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the number of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction instances that have failed.
Percent Slow	Indicates the percentage of transaction instances that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction instances that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Table 30. Transaction Interaction Information table

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

From this workspace, you can link to the **Interaction by Time** workspace, **Interaction by Transaction Rate** workspace, and **Detail** workspace, by right-clicking a bar in a graph or clicking a link icon in the table and selecting **Link To**. You can also view a more detailed **Topology** workspace for a specific application, component, server, or transaction by clicking the link icon in the table. These workspaces provide more detailed information for a particular application, component, server, or transaction. In addition, you can link to a more detailed category workspace, except in the **Transactions** category as this is the most detailed level to view transactions.

Note: You can also select the **Interaction by Time** workspaces and **Interaction by Transaction Rate** workspaces by right-clicking a category in the **Navigator** view and selecting **Workspace**. In this case, these workspaces display all the transaction interactions for a category.

Servers: Detail

This workspace provides more detailed information for a selected server. Use this workspace to monitor the change in availability, deviations, response times, and transaction rates over a period of time.

Using this workspace

The **Detail** workspace provides detailed information about a specific transaction, application, component, or server, depending on which category you select from the **Navigator** view. Using the views in this workspace you can observe how availability, deviations, response times, and transaction rates have changed over time. The **Detail** workspace contains three views in addition to the **Navigator** view:

- Availability of your selection
- Deviations on your selection
- Transaction Rate and Time on your selection



Figure 120. The Detail workspace

Use the **Availability of** *your selection* view to observe the pattern of availability for your selected item over a period of time. The x-axis displays the polling time. Each bar in the graph displays the number of transactions that are slow or have failed. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

Move your mouse over the colored bars in the graph to display hover help, which indicates the percentage of transactions for that section, the date, and polling time.

The **Deviations on** *your selection* view uses a line graph to show the time deviation and deviation in the number of transactions from a set baseline value measured as a percentage. The blue line displays the time. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The yellow line displays the transaction rate. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. The time and transaction rate are plotted along the y-axis. The x-axis displays the polling time. Move your mouse over a point on a line to display hover help, which indicates the time or transaction rate deviation, and the polling time.

The **Transaction Rate and Time on** *your selection* view displays the actual time and transaction rate. The bars display the number of transactions, and the line displays the time. Move your mouse over the bars to display hover help, which indicates the number of transactions, the date, and polling time. Similarly move your mouse over a point on the time line to view information about the time, date and polling time. The y-axis on the left side of the graph plots the transaction rate, and the y-axis on the right hand side plots the time. The x-axis displays the polling time.

From this workspace, you cannot link to any other predefined workspaces.

Accessing this workspace

Access this workspace by right-clicking a graph or link icon in a table within a **Summary** workspace, and using the **Link To** option.

Links to other workspaces

From this workspace, you cannot link to any other predefined workspaces.

Servers: Interaction by time

This workspace provides information about the response time of transaction interactions between servers. Use this workspace to monitor transactions between different servers on your system and determine if they have any problems.

Using this workspace

The **Interaction by Time** workspace shows transaction interactions that occur on your system. You can monitor these transaction interactions at different levels of detail, depending on which category you are in:

- The **Transactions** category is the most detailed, and displays all transaction interactions that have occurred within a set time frame.
- The **Applications** category displays the transaction interactions between applications.
- The **Components** category displays the transaction interactions between components.
- The Servers category displays all the transaction interactions between servers.

Each of these transaction interactions has a response time associated with it, and is measured against a preset baseline value. Use the **Interaction by Time** workspace to identify any problem points in the response time between transactions, applications, components, or servers.

The **Interaction by Time** workspace contains four views in addition to the standard **Navigator** view:

- Lowest Availability
- Largest Time Deviation
- Slowest Time
- A table called **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** depending on the category you select.

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Figure 121. The Interaction by Time workspace

Use the **Lowest Availability** view to monitor which interactions between transactions, applications, components, or servers are slow, or have failed. The data in this graph measures transactions that occurred during the last aggregation period. The default aggregation period is five minutes. The results of these queries are not sorted. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

If you move your mouse over different colored categories within a bar, hover help will indicate the relative percentage of that category. Right-click on the bar to link to more detailed workspaces for a particular application, component, server, or transaction.

Use the **Largest Time Deviation** view to determine which interactions have the largest time deviation from a set baseline value. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The results of these queries are not sorted.

Use the **Slowest Time** view to display a list of all interactions and their times. The slowest interactions are listed at the top.

The **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** view provides a table with more details on the individual interactions. Sub transaction Time and Transaction Rate details table describes the fields in this table.

Column	Description
Interaction	The name of a specific interaction for a Application , Component , Server , or Transaction .
Parent Sub Transaction Time	 Measures the average time of a transaction interaction, in milliseconds. The Parent Sub Transaction Time measures the following transaction interactions based on which category you are looking at: For Transactions, it measures the average sub-transaction time for the transaction instances involved.
	• For Applications , it measures the average sub-transaction time for transaction instances between applications.
	• For Components , it measures the average sub-transaction time for the transaction instances between components.
	• For Servers , it measures the average sub-transaction time for transaction instances between servers.
Parent Sub Transaction Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate transaction interactions that take a longer time than the baseline value, and negative numbers indicate transaction interactions that take less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions in transactions per minute. The Transaction Rate calculates the following rate of transactions based on the category:
	 For Applications, it calculates the number of transaction interactions between applications.
	• For Components , it calculates the number of transaction interactions between components.
	• For Servers , it calculates the number of transaction interactions between servers.
	• For Transactions , it calculates the number of transaction interactions between transactions.
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the rate of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction interactions that have failed.
Percent Slow	Indicates the percentage of transaction interactions that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction interactions that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Table 31. Sub transaction Time and Transaction Rate details table

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

When you have identified a problem, you can then link to the **Interaction Detail** workspace by right-clicking on a bar in a graph and selecting **Link To**, or right-clicking a link icon in the table. This can help you determine when a problem started.

Example of this workspace

The example below shows the differences between the interactions in the four categories, highlights the different levels at which you can detect errors on your system, and indicates how you can drill down to increasingly detailed levels to locate a problem.



Figure 122. Transaction interactions at different levels

Applications *Book Shop* and *DVD Shop* interact with application *DB*2 through the transactions *Buy Book, List Book, Buy DVD, List DVD, Select Product* and *Insert Product*.

In the Transactions category, you see all the transaction interactions:

- Buy Book Select Product
- Buy Book Insert Product
- List Book Select Product
- Buy DVD Select Product
- Buy DVD Insert Product
- List DVD Select Product

In the **Applications** category, you see that there were two interactions between the applications on your system:

- Book Shop DB2
- DVD Shop DB2

In the **Components** category, you see that there are interactions between *WebSphere Application Server* and *DB2*.

In the **Servers** category, you see that there are interactions between *Server A* and *Server B*.

In this example, there is a problem in communication between *List Book* and *Select Product*. This causes the following:

- The response time of *List Book* is longer than the baseline value
- The response time of the *List Book Select Product* interaction is longer than the baseline value.

In the **Transactions** category, you see the problematic transactions, as every transaction interaction is listed at this level.

In the **Applications** view, you see that there is a problem when *Select Product* is initiated from *List Book*, represented by an increase in the *Book Shop-DB2* response time.

Note: The **Applications** workspace provides the average of all transactions for a application instead of each transaction individually. If there was a significantly larger number of transactions for *Buy Book* than *List Book*, the percentage of problematic transactions may be so small that you do not detect them at this level. The same discrepancy can apply to the data you see in the **Components** view and **Servers** view.

Servers: Interaction by Transaction Rate

This workspace provides information about the rate of transactions between servers on your system. Use this workspace to monitor the rate of transactions and determine if there are any problems.

Using this workspace

The **Interaction by Transaction Rate** workspace shows the transaction rate and transaction rate deviation for interactions on your system. You can monitor the rate of transactions at different levels of detail, depending on which category you are in:

- The **Transactions** category is the most detailed, and displays the rate of all transaction interactions on your system.
- The **Applications** category displays the rate of transaction interactions between applications.

- The **Components** category displays the rate of transaction interactions between components.
- The **Servers** category displays the rate of transaction interactions between servers.

Use the **Interaction by Transaction Rate** workspace to identify any problem points in the number of transaction interactions per minute between transactions, applications, components or servers.

The **Interaction by Transaction Rate** workspace contains four views in addition to the standard **Navigator** view:

- Lowest Availability
- Largest Transaction Rate Deviation
- Highest Transaction Rate
- A table called **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** depending on the category you select.



Figure 123. The Interaction by Transaction Rate workspace

Use the **Lowest Availability** view to monitor the number of interactions between transactions, applications, components, or servers that are slow or have failed. These are measured against a preset baseline value. The data in this graph measures transactions that occurred during the last aggregation period. The default aggregation period is five minutes. The results of these queries are not sorted. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

If you move your mouse over different colored categories within a bar, hover help will indicate the relative percentage of that category. Right-click on the bar to link to more detailed workspaces for a particular application, component, server, or transaction.

Use the **Largest Transaction Rate Deviation** view to determine which interactions have the largest deviation in transaction rate from a set baseline value. Positive numbers indicate a higher rate of transaction interactions than the baseline value, and negative numbers indicate a lower rate of transaction interactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The results of these queries are not sorted.

Use the **Highest Transaction Rate** view to see a list of the transaction rates, measured in transactions per minute, of all transaction interactions. The interactions with the highest transaction rate are listed at the top.

The **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** view provides a table with more details on the individual interactions. Sub transaction Time and Transaction Rate details table describes the fields in this table.

Column	Description
Interaction	The name of a specific interaction for a Application , Component , Server , or Transaction .
Parent Sub Transaction Time	Measures the average time of a transaction interaction, in milliseconds. The Parent Sub Transaction Time measures the following transaction interactions based on which category you are looking at:
	• For Transactions , it measures the average sub-transaction time for the transaction instances involved.
	• For Applications , it measures the average sub-transaction time for transaction instances between applications.
	• For Components , it measures the average sub-transaction time for the transaction instances between components.
	• For Servers , it measures the average sub-transaction time for transaction instances between servers.
Parent Sub Transaction Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate transaction interactions that take a longer time than the baseline value, and negative numbers indicate transaction interactions that take less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions in transactions per minute. The Transaction Rate calculates the following rate of transactions based on the category:
	• For Applications , it calculates the number of transaction interactions between applications.
	• For Components , it calculates the number of transaction interactions between components.
	• For Servers , it calculates the number of transaction interactions between servers.
	• For Transactions , it calculates the number of transaction interactions between transactions.

Table 32. Sub transaction Time and Transaction Rate details table

Column	Description
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the rate of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction interactions that have failed.
Percent Slow	Indicates the percentage of transaction interactions that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction interactions that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Table 32. Sub transaction Time and Transaction Rate details table (continued)

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

When you have identified a problem, you can link to the **Interaction Detail** workspace by right clicking on a bar in a graph and selecting **Link To**, or by right-clicking a link icon in the table. This can help you determine why the transaction rate for a specific interaction is outside the specified parameters.

Servers: Interaction detail

This workspace provides more detailed information about the interactions between two servers. Use this workspace to monitor the change in availability, deviations, response times, and transaction rates for an interaction over a period of time.

Using this workspace

The **Interaction Detail** workspace provides detailed information about a specific interaction between two applications, components, servers, or transactions. Using the views in this workspace you can observe how availability, deviations, response times, and transaction rates for an interaction have changed over time. The **Interaction Detail** workspace contains three views in addition to the **Navigator** view:

- Availability of your selected interaction
- Deviations for your selected interaction
- Transaction Rate and Time for your selected interaction



Figure 124. The Interaction Detail workspace

Use the **Availability of** *your selected interaction* view to observe the pattern of availability for your selected interaction over a period of time. The x-axis displays the polling time. Each bar in the graph displays the number of transactions that are slow or have failed. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

Move your mouse over the colored bars in the graph to display hover help, which indicates the percentage of transactions for that section, the date, and polling time.

The **Deviations for** *your selected interaction* view uses a line graph to show the time deviation and deviation in the number of interactions from a set baseline value measured in percentage. The blue line displays the time. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The yellow line displays the transaction rate. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate more transactions than the baseline value. The numbers indicate fewer transaction rate are plotted along the y-axis. The x-axis displays the polling time. Move your mouse over a point on a line to display hover help, which indicates the time or transaction rate deviation, and the polling time.

The **Transaction Rate and Time for** *your selected interaction* view displays the actual time and transaction rate for an interaction. The bars display the number of transactions, and the line displays the time. Move your mouse over the bars to display hover help, which indicates the number of transactions, the date, and polling time. Move your mouse over a point on the time line to display hover help, which provides information on the time, date and polling time. The y-axis on the left side of the graph plots the numbers for the transaction rate, and the y-axis

on the right hand side plots the time. The x-axis displays the polling time.

Accessing this workspace

You can only access this workspace by right-clicking a graph or link icon in a table within an **Interaction by Time** workspace, **Interaction by Transaction Rate** workspace, or **Topologies** workspace and selecting **Link To**.

Links to other workspaces

From this workspace, you cannot link to another predefined workspace.

Servers: Topology

This workspace provides a visual representation of the connections between different servers. You can move the mouse over a node or link to display hover help, or right-click on a node to display a more detailed workspace for a particular server.

Using this workspace

The **Topologies** workspace displays a topology of interactions within your enterprise. The interactions are shown as links between nodes. The node appearance may change if Transaction Tracking can detect which component it refers to. Depending on which category you are in, the nodes in the **Topologies** workspace indicate a different level of detail:

- The **Transactions** category is the most detailed, and displays the interconnections between all transaction interactions that have occurred within a set time frame.
- The Applications category displays the interconnections between different applications.
- The Components category displays the interconnections between components.
- The Servers category displays the interconnections between servers.

Use the **Topologies** toolbar to change the view of the default topology. For example, you can zoom in on a particular node or link, or show the state of a node or link by selecting an icon from the toolbar. Move your mouse over items in the **Topologies** toolbar to display hover help about their function.

Using the **Topologies** workspace you can identify response times of specific nodes, and observe which nodes in your system interact with each other. The **Topologies** workspace contains two views in addition to the standard **Navigator** view:

- The topology, called **Application Aggregate Topology**, **Component Aggregate Topology**, **Server Aggregate Topology**, or **Transaction Aggregate Topology** depending on the category you select.
- A table called **Applications**, **Components**, **Servers**, or **Transactions** depending on the category you select.



Figure 125. The Topologies workspace

The table below the topology contains the list of all aggregates. Click a link icon in the table to display more detailed workspaces related to that aggregate. If you link to a more detailed topology workspace, the node that you select will be the focal point of the new topology display, and the surrounding nodes with connecting links indicate how they interact with the selected node. You can identify each node by its name which is displayed in the topology.

To access further information about a node, move the mouse over a node in the topology to display hover help. The hover help displays the node category and name. In addition, if there is sufficient aggregate information, it displays the **Average Time, Baseline** and **Deviation** in milliseconds for the transaction of that node.

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Figure 126. Hovering over a node in the Topologies workspace

If the topology is well known, but there is not yet enough information to provide aggregate data, hover help will show basic information as soon as some data is available. An example of this is when you request aggregate data for a time period that has only just started.

If there is not enough data, the **Average Time**, **Baseline**, and **Deviation** will display 0.

When a transaction topology of a composite application changes, the current period will not reflect these changes in the topology. The time period before the change will be correct, and the time period following the current period will be correct. After the current period expires, the correct topology will be displayed. The default expiration of a period is five minutes.

The **Applications**, **Components**, **Servers**, or **Transactions** view provides a table with more details on individual interactions. Below is a description of the fields in this table.

Column	Description
Name	The name of the Application, Component, Server, or Transaction.
Total Time	Measures the average time for a transaction to complete, in milliseconds. The value in this column does not include the time taken for failures, unless all transactions have failed. The Total Time measures the following transactions based on which category you are looking at:
	• For Applications , it measures the average of all the transactions that make up an application.
	• For Components , it measures the average of all the transactions within a component.
	• For Servers , it measures the average of all the transactions on a server.
	• For Transactions , it measures the average of all the transaction instances that make up the specific transaction.

Table 33. Transaction Interaction Information table

Table 33. Transactio	n Interaction	Information	table	(continued)
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Column	Description
Total Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate a slower total time than the baseline value, and negative numbers indicate a faster total time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions. This is measured in transactions per minute. The Transaction Rate calculates the following rate of transactions based on which category you are looking at:
	• For Applications , it calculates the sum of all transaction instances of the transactions within an application.
	• For Components , it calculates the sum of all transaction instances of all the transactions within a component.
	• For Servers , it calculates the sum of all transaction instances of all the transactions on a server.
	• For Transactions , it calculates the average number of transaction instances of a specific transaction.
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the number of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction instances that have failed.
Percent Slow	Indicates the percentage of transaction instances that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction instances that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Interaction Rows at an Aggregate level are used to draw the topologies at the Applications, Components, Servers, and Transactions workspaces. The Transaction Reporter generates these rows from Aggregates retrieved from Transaction Collectors, and a topology that it determines from Instance Data. At startup the Transaction Reporter has no known topology. When the first Aggregates are collected from the Transaction Collectors, the Transaction Reporter will obtain some instance data and perform a multi-hop trace. The Transaction Reporter uses the results to determine that instances associated with one Aggregate Record interact with instances from another Aggregate Record. This is the basis of creating Interaction Rows at the Aggregate Level. If there are a large number of Transaction Collectors or a large number of interactions, the initial traces may take tens of minutes to perform. Since Transaction Collectors produce Aggregates every 5 minutes, the Transaction Collector has a default configuration to spend a maximum of 4 minutes performing these "one-hop" traces before producing Interaction Rows, and moving to the next Aggregation Period. This will result in incomplete Interaction Rows for those initial aggregation periods.

The following parameters relate to the creation of Aggregate Interaction Rows and the hop trace:

- RECALCULATE_INTERACTIONS=N
- CALCULATE_IMPLIED_INTERACTIONS=Y
- CALCULATE_PSEUDO_INTERACTIONS=Y
- MAXIMUM_PROCESS_AGGREGATES_MINUTES=4
- MAXIMUM_TOPOLOGY_TRACE_BACKOFF_MINUTES=120
- INITIAL_TOPOLOGY_TRACE_EVENT_COUNT=2
- MAXIMUM_TOPOLOGY_TRACE_EVENT_COUNT=15
- DETERMINE_TOPOLOGY_TRACE_HOP_COUNT=3
- TOPOLOGY_FORGET_INTERVAL_MINUTES=0

The Transaction Reporter generates Interaction Rows at an Instance level directly from Instance data obtained from Transaction Collectors. An initial instance from which to perform the "full" instance trace is obtained from a Transaction Collector as one that is associated with an Aggregate. The Transaction Collector provides the Transaction Reporter with the identities of the five average, five fastest and five slowest transactions that were used to generate a particular aggregate. Select one of these via the Instances workspace. Afterwards, when selecting an Instance Topology, the Transaction Reporter requests a "full" trace. If there are a large number of Transaction Collectors or a large number of interactions, the full trace may take some minutes to perform. In this case, the workspace may time out without receiving any instance interaction rows. The Transaction Reporter has a number of parameters in the ENV file to limit the time or depth of a full trace. If these parameters are set, the instance interaction rows determined to that point will be returned. By refreshing the workspace, the Transaction Reporter will continue the trace from where it last reached. In this way, a complete trace can be reached after providing some feedback to the workspace.

The following parameters are of interest:

- WORKSPACE_TRACE_TIME_LIMIT_SECONDS=0
- WORKSPACE_TRACE_DEPTH_LIMIT=0

Other similar parameters for Situation initiated traces are:

- SITUATION_TRACE_TIME_LIMIT_SECONDS=0
- SITUATION_TRACE_DEPTH_LIMIT=0

The following parameter improves Transaction Reporter performance when there are multiple Transaction Collectors:

THREAD_POOL_SIZE=3

Accessing this workspace

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

When you have identified a problem, you can then link to the **Components Summary** workspace or the **Server Detail** workspace by right-clicking an icon in the topology and selecting **Link To...** You can also right-click a link icon in the table. This can help you determine where a problem started.

Transactions: Summary

This workspace provides general information about the performance of transactions on your managed system. Use this information to monitor transactions and determine if they have any problems.

Using this workspace

This workspace acts as a summary workspace for its category, and provides general information about transactions within applications, components, servers, or transactions. It contains four views in addition to the standard **Navigator** view:

- Lowest Availability
- Largest Time Deviation
- Largest Transaction Rate Deviation
- A summary table called **Applications**, **Components**, **Servers**, or **Transactions** depending on the category you select.



Figure 127. The Summary workspace

Use the **Lowest Availability** view to monitor whether transactions of a specific application, component, or server are slow or have failed. The data in this graph measures transactions that occurred during the last aggregation period. The default aggregation period is five minutes. The results of these queries are not sorted. The bars on the graph are color coded:

- Red indicates failed transactions
- · Yellow indicates transactions that are running slow
- Green indicates good transactions.

If you move your mouse over different colored categories within a bar, hover help will indicate the relative percentage of that category. Right-click on the bar to link to more detailed workspaces for a particular application, component, server, or transaction.

Use the **Largest Time Deviation** view to determine which applications have the largest time deviation from a set baseline value. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.

Use the **Largest Transaction Rate Deviation** view to determine a deviation in the number of transactions of an application from its baseline value. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The results of these queries are not sorted.

Depending on the category you select, the **Applications**, **Components**, **Servers**, or **Transactions** view provides a table that you can use to monitor the transactions on your applications. Transaction Interaction Information table describes the fields in this table.

Column	Description
Name	The name of the Application , Component , Server , or Transaction .
Total Time	Measures the average time for a transaction to complete, in milliseconds. The value in this column does not include the time taken for failures, unless all transactions have failed. The Total Time measures the following transactions based on which category you are looking at:
	• For Applications , it measures the average of all the transactions that make up an application.
	• For Components , it measures the average of all the transactions within a component.
	• For Servers , it measures the average of all the transactions on a server.
	• For Transactions , it measures the average of all the transaction instances that make up the specific transaction.
Total Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate a slower total time than the baseline value, and negative numbers indicate a faster total time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions. This is measured in transactions per minute. The Transaction Rate calculates the following rate of transactions based on which category you are looking at:
	• For Applications , it calculates the sum of all transaction instances of the transactions within an application.
	• For Components , it calculates the sum of all transaction instances of all the transactions within a component.
	• For Servers , it calculates the sum of all transaction instances of all the transactions on a server.
	 For Transactions, it calculates the average number of transaction instances of a specific transaction.
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the number of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.

Table 34. Transaction Interaction Information table

Column	Description
Percent Failed	Indicates the percentage of transaction instances that have failed.
Percent Slow	Indicates the percentage of transaction instances that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction instances that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Table 34. Transaction Interaction Information table (continued)

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

From this workspace, you can link to the **Interaction by Time** workspace, **Interaction by Transaction Rate** workspace, and **Detail** workspace, by right-clicking a bar in a graph or clicking a link icon in the table and selecting **Link To**. You can also view a more detailed **Topology** workspace for a specific application, component, server, or transaction by clicking the link icon in the table. These workspaces provide more detailed information for a particular application, component, server, or transaction. In addition, you can link to a more detailed category workspace, except in the **Transactions** category as this is the most detailed level to view transactions.

Note: You can also select the **Interaction by Time** workspaces and **Interaction by Transaction Rate** workspaces by right-clicking a category in the **Navigator** view and selecting **Workspace**. In this case, these workspaces display all the transaction interactions for a category.

You can select two extra detailed workspaces by clicking a link icon in the table view in the **Transactions Summary** workspace, the **Transaction Instances** workspace and the **Historical Transaction Instances** workspace. These are specific to the **Transactions Summary** workspace, and are not available from the other summary workspaces.

Transactions: Detail

This workspace provides more detailed information for a selected transaction interaction. Use this workspace to monitor the change in availability, deviations, response times, and transaction rates over a period of time.

Using this workspace

The **Detail** workspace provides detailed information about a specific transaction, application, component, or server, depending on which category you select from the **Navigator** view. Using the views in this workspace you can observe how

availability, deviations, response times, and transaction rates have changed over time. The **Detail** workspace contains three views in addition to the **Navigator** view:

- Availability of your selection
- Deviations on your selection
- Transaction Rate and Time on your selection



Figure 128. The Detail workspace

Use the **Availability of** *your selection* view to observe the pattern of availability for your selected item over a period of time. The x-axis displays the polling time. Each bar in the graph displays the number of transactions that are slow or have failed. The bars on the graph are color coded:

- · Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

Move your mouse over the colored bars in the graph to display hover help, which indicates the percentage of transactions for that section, the date, and polling time.

The **Deviations on** *your selection* view uses a line graph to show the time deviation and deviation in the number of transactions from a set baseline value measured as a percentage. The blue line displays the time. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The yellow line displays the transaction rate. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. The time and transaction rate are plotted along the y-axis. The x-axis displays the polling time. Move your mouse over a point on a line to display hover help, which indicates the time or transaction rate deviation, and the polling time.

The **Transaction Rate and Time on** *your selection* view displays the actual time and transaction rate. The bars display the number of transactions, and the line displays the time. Move your mouse over the bars to display hover help, which indicates the number of transactions, the date, and polling time. Similarly move your mouse over a point on the time line to view information about the time, date and polling time. The y-axis on the left side of the graph plots the transaction rate, and the y-axis on the right hand side plots the time. The x-axis displays the polling time.

From this workspace, you cannot link to any other predefined workspaces.

Accessing this workspace

Access this workspace by right-clicking a graph or link icon in a table within a **Summary** workspace, and using the **Link To** option.

Links to other workspaces

From this workspace, you cannot link to any other predefined workspaces.

Transactions: Interaction by time

This workspace provides information about the response time of all transaction interactions that have occurred within a set time frame on your system. Use this workspace to monitor transaction interactions on your system and determine if they have any problems.

Using this workspace

The **Interaction by Time** workspace shows transaction interactions that occur on your system. You can monitor these transaction interactions at different levels of detail, depending on which category you are in:

- The **Transactions** category is the most detailed, and displays all transaction interactions that have occurred within a set time frame.
- The **Applications** category displays the transaction interactions between applications.
- The **Components** category displays the transaction interactions between components.
- The Servers category displays all the transaction interactions between servers.

Each of these transaction interactions has a response time associated with it, and is measured against a preset baseline value. Use the **Interaction by Time** workspace to identify any problem points in the response time between transactions, applications, components, or servers.

The **Interaction by Time** workspace contains four views in addition to the standard **Navigator** view:

- Lowest Availability
- Largest Time Deviation
- Slowest Time
- A table called **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** depending on the category you select.

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Figure 129. The Interaction by Time workspace

Use the **Lowest Availability** view to monitor which interactions between transactions, applications, components, or servers are slow, or have failed. The data in this graph measures transactions that occurred during the last aggregation period. The default aggregation period is five minutes. The results of these queries are not sorted. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- · Green indicates good transactions.

If you move your mouse over different colored categories within a bar, hover help will indicate the relative percentage of that category. Right-click on the bar to link to more detailed workspaces for a particular application, component, server, or transaction.

Use the **Largest Time Deviation** view to determine which interactions have the largest time deviation from a set baseline value. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The results of these queries are not sorted.

Use the **Slowest Time** view to display a list of all interactions and their times. The slowest interactions are listed at the top.

The **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** view provides a table with more details on the individual interactions. Sub transaction Time and Transaction Rate details table describes the fields in this table.

Column	Description
Interaction	The name of a specific interaction for a Application , Component , Server , or Transaction .
Parent Sub Transaction Time	Measures the average time of a transaction interaction, in milliseconds. The Parent Sub Transaction Time measures the following transaction interactions based on which category you are looking at:
	• For Transactions , it measures the average sub-transaction time for the transaction instances involved.
	• For Applications , it measures the average sub-transaction time for transaction instances between applications.
	• For Components , it measures the average sub-transaction time for the transaction instances between components.
	• For Servers , it measures the average sub-transaction time for transaction instances between servers.
Parent Sub Transaction Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate transaction interactions that take a longer time than the baseline value, and negative numbers indicate transaction interactions that take less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions in transactions per minute. The Transaction Rate calculates the following rate of transactions based on the category:
	 For Applications, it calculates the number of transaction interactions between applications.
	• For Components , it calculates the number of transaction interactions between components.
	• For Servers , it calculates the number of transaction interactions between servers.
	• For Transactions , it calculates the number of transaction interactions between transactions.
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the rate of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction interactions that have failed.
Percent Slow	Indicates the percentage of transaction interactions that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction interactions that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Table 35. Sub transaction Time and Transaction Rate details table

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

When you have identified a problem, you can then link to the **Interaction Detail** workspace by right-clicking on a bar in a graph and selecting **Link To**, or right-clicking a link icon in the table. This can help you determine when a problem started.

Example of this workspace

The example below shows the differences between the interactions in the four categories, highlights the different levels at which you can detect errors on your system, and indicates how you can drill down to increasingly detailed levels to locate a problem.



Figure 130. Transaction interactions at different levels

Applications *Book Shop* and *DVD Shop* interact with application *DB2* through the transactions *Buy Book, List Book, Buy DVD, List DVD, Select Product* and *Insert Product*.

In the Transactions category, you see all the transaction interactions:

- Buy Book Select Product
- Buy Book Insert Product
- List Book Select Product
- Buy DVD Select Product
- Buy DVD Insert Product
- List DVD Select Product

In the **Applications** category, you see that there were two interactions between the applications on your system:

- Book Shop DB2
- DVD Shop DB2

In the **Components** category, you see that there are interactions between *WebSphere Application Server* and *DB2*.

In the **Servers** category, you see that there are interactions between *Server A* and *Server B*.

In this example, there is a problem in communication between *List Book* and *Select Product*. This causes the following:

- The response time of *List Book* is longer than the baseline value
- The response time of the *List Book Select Product* interaction is longer than the baseline value.

In the **Transactions** category, you see the problematic transactions, as every transaction interaction is listed at this level.

In the **Applications** view, you see that there is a problem when *Select Product* is initiated from *List Book*, represented by an increase in the *Book Shop-DB2* response time.

Note: The **Applications** workspace provides the average of all transactions for a application instead of each transaction individually. If there was a significantly larger number of transactions for *Buy Book* than *List Book*, the percentage of problematic transactions may be so small that you do not detect them at this level. The same discrepancy can apply to the data you see in the **Components** view and **Servers** view.

Transactions: Interaction by Transaction Rate

This workspace provides information about the rate of all transaction interactions on your system. Use this workspace to monitor the rate of transactions and determine if there are any problems.

Using this workspace

The **Interaction by Transaction Rate** workspace shows the transaction rate and transaction rate deviation for interactions on your system. You can monitor the rate of transactions at different levels of detail, depending on which category you are in:

- The **Transactions** category is the most detailed, and displays the rate of all transaction interactions on your system.
- The **Applications** category displays the rate of transaction interactions between applications.

- The **Components** category displays the rate of transaction interactions between components.
- The **Servers** category displays the rate of transaction interactions between servers.

Use the **Interaction by Transaction Rate** workspace to identify any problem points in the number of transaction interactions per minute between transactions, applications, components or servers.

The **Interaction by Transaction Rate** workspace contains four views in addition to the standard **Navigator** view:

- Lowest Availability
- Largest Transaction Rate Deviation
- Highest Transaction Rate
- A table called **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** depending on the category you select.



Figure 131. The Interaction by Transaction Rate workspace

Use the **Lowest Availability** view to monitor the number of interactions between transactions, applications, components, or servers that are slow or have failed. These are measured against a preset baseline value. The data in this graph measures transactions that occurred during the last aggregation period. The default aggregation period is five minutes. The results of these queries are not sorted. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

If you move your mouse over different colored categories within a bar, hover help will indicate the relative percentage of that category. Right-click on the bar to link to more detailed workspaces for a particular application, component, server, or transaction.

Use the **Largest Transaction Rate Deviation** view to determine which interactions have the largest deviation in transaction rate from a set baseline value. Positive numbers indicate a higher rate of transaction interactions than the baseline value, and negative numbers indicate a lower rate of transaction interactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The results of these queries are not sorted.

Use the **Highest Transaction Rate** view to see a list of the transaction rates, measured in transactions per minute, of all transaction interactions. The interactions with the highest transaction rate are listed at the top.

The **Application Interactions**, **Component Interactions**, **Server Interactions**, or **Transaction Interactions** view provides a table with more details on the individual interactions. Sub transaction Time and Transaction Rate details table describes the fields in this table.

Column	Description
Interaction	The name of a specific interaction for a Application , Component , Server , or Transaction .
Parent Sub Transaction Time	Measures the average time of a transaction interaction, in milliseconds. The Parent Sub Transaction Time measures the following transaction interactions based on which category you are looking at:
	• For Transactions , it measures the average sub-transaction time for the transaction instances involved.
	• For Applications , it measures the average sub-transaction time for transaction instances between applications.
	• For Components , it measures the average sub-transaction time for the transaction instances between components.
	• For Servers , it measures the average sub-transaction time for transaction instances between servers.
Parent Sub Transaction Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate transaction interactions that take a longer time than the baseline value, and negative numbers indicate transaction interactions that take less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions in transactions per minute. The Transaction Rate calculates the following rate of transactions based on the category:
	• For Applications , it calculates the number of transaction interactions between applications.
	• For Components , it calculates the number of transaction interactions between components.
	• For Servers , it calculates the number of transaction interactions between servers.
	• For Transactions , it calculates the number of transaction interactions between transactions.

Table 36. Sub transaction Time and Transaction Rate details table

Column	Description
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the rate of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction interactions that have failed.
Percent Slow	Indicates the percentage of transaction interactions that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction interactions that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Table 36. Sub transaction Time and Transaction Rate details table (continued)

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

When you have identified a problem, you can link to the **Interaction Detail** workspace by right clicking on a bar in a graph and selecting **Link To**, or by right-clicking a link icon in the table. This can help you determine why the transaction rate for a specific interaction is outside the specified parameters.

Transactions: Interaction detail

This workspace provides more detailed information about the interactions between two transactions. Use this workspace to monitor the change in availability, deviations, response times, and transaction rates for an interaction over a period of time.

Using this workspace

The **Interaction Detail** workspace provides detailed information about a specific interaction between two applications, components, servers, or transactions. Using the views in this workspace you can observe how availability, deviations, response times, and transaction rates for an interaction have changed over time. The **Interaction Detail** workspace contains three views in addition to the **Navigator** view:

- Availability of your selected interaction
- Deviations for your selected interaction
- Transaction Rate and Time for your selected interaction



Figure 132. The Interaction Detail workspace

Use the **Availability** of *your selected interaction* view to observe the pattern of availability for your selected interaction over a period of time. The x-axis displays the polling time. Each bar in the graph displays the number of transactions that are slow or have failed. The bars on the graph are color coded:

- Red indicates failed transactions
- Yellow indicates transactions that are running slow
- Green indicates good transactions.

Move your mouse over the colored bars in the graph to display hover help, which indicates the percentage of transactions for that section, the date, and polling time.

The **Deviations for** *your selected interaction* view uses a line graph to show the time deviation and deviation in the number of interactions from a set baseline value measured in percentage. The blue line displays the time. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured. The yellow line displays the transaction rate. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate more transactions than the baseline value. The numbers indicate fewer transaction rate are plotted along the y-axis. The x-axis displays the polling time. Move your mouse over a point on a line to display hover help, which indicates the time or transaction rate deviation, and the polling time.

The **Transaction Rate and Time for** *your selected interaction* view displays the actual time and transaction rate for an interaction. The bars display the number of transactions, and the line displays the time. Move your mouse over the bars to display hover help, which indicates the number of transactions, the date, and polling time. Move your mouse over a point on the time line to display hover help, which provides information on the time, date and polling time. The y-axis on the left side of the graph plots the numbers for the transaction rate, and the y-axis on the right hand side plots the time. The x-axis displays the polling time.

You can only access this workspace by right-clicking a graph or link icon in a table within an **Interaction by Time** workspace, **Interaction by Transaction Rate** workspace, or **Topologies** workspace and selecting **Link To**.

Links to other workspaces

From this workspace, you cannot link to another predefined workspace.

Transactions: Transaction Instances

This workspace enables you to view individual transaction instances. Use this workspace to isolate a particularly slow or failed transaction. Access this workspace by clicking a link icon in the table in the **Transactions Summary** workspace.

Using this workspace

A transaction instance is a single occurrence of a transaction within your system. The **Transaction Instances** workspace displays real-time data from your system for the last two or three aggregation periods, depending on your data collection settings. The default is for two aggregation periods to be used when **Show Latest Instances** is set to No. Three aggregation periods are used when **Show Latest Instances** is set to Yes.

The number of instances displayed in the workspace for each Transaction Collector and aggregation period is also determined by your data collection settings. The default is for **TU_MAX_INITIAL_INSTANCE_IDS** to be set to 5, so that the five fastest, slowest, median and failed instances are displayed in the workspace.

For further information about data collection settings, see Transaction Tracking agent data collection in the *IBM Tivoli Composite Application Manager for Transactions Administrator's Guide*.

This workspace contains three views in addition to the standard Navigator view:

- Transaction Instance Topology
- Transaction Instances for transaction name
- Interactions
- Contexts


Figure 133. The Transaction Instances workspace

When you first enter this workspace, the **Transaction Instance Topology** does not display a topology. To display a topology, select a transaction instance from the table in the **Transaction Instances for** *transaction name* view and click **Link to Instance Topology**. It then displays the topology for a single instance of a transaction.

Use the **Transaction Instances** table in the **Transaction Instances for** *transaction name* view to select further details for a transaction instance by clicking on a link icon. When the screen refreshes, you will see a topology for that instance in the **Transaction Instance Topology** view. In addition, you will see further information on the transaction nodes involved in the transaction instance in the **Interactions** table in the **Interactions** view.

Description of the fields in the **Transaction Instances** table describes the fields in the **Transaction Instances for** *transaction name* table.

Column	Description
Instance	Indicates the status of the transaction instance:
Status	• 10: Good status
	• 0: Slow status
	• -10: Failed status
Total Time	Indicates the total time for the transaction instance, in milliseconds.
Total Time Deviation	Indicates the percentage deviation from a baseline value for the transaction instance. Positive numbers indicate a slower total time than the baseline value, and negative numbers indicate a faster total time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Timestamp	Indicates the time a transaction instance started.

Table 37. Description of the fields in the Transaction Instances table

The **Interactions** table in the **Interactions** view does not contain information when you first enter this workspace. To display information about the transaction instance nodes involved in a transaction instance, select a transaction instance from the table in the **Transaction Instances for** *transaction name* view and click **Link to Instance Topology**. The **Interactions** table then displays information about the transaction instance nodes for the selected transaction instance.

Description of the fields in the **Interactions** table describes the fields in the **Interactions** table.

Column	Description		
Instance	Indicates the status of the destination of the transaction instance:		
Status	• Good: No background color		
	Slow: Yellow background color		
	Failed: Red background color		
Interaction	Indicates the two transaction instance nodes involved in the transaction instance.		
Parent Sub Transaction Time	Indicates the sub-transaction time of the destination transaction instance as seen from the source transaction instance, measured in milliseconds.		
Parent Sub Transaction Time Deviation	Indicates the percentage deviation of the parent sub-transaction time from a baseline value for the interaction. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.		
Timestamp	Indicates the time a transaction instance started.		
Enclosing Application	Enclosing application aggregate if applicable.		
Enclosing Component	Enclosing component aggregate if applicable.		
Enclosing Server	Enclosing server aggregate if applicable.		

Table 38. Description of the fields in the Interactions table

The **Contexts** table in the **Contexts** view does not contain information when you first enter this workspace. To display context data for a specific transaction instance, select a transaction instance from the table in the **Transaction Instances for** *transaction name* view and click **Link to Instance Topology**. The **Contexts** table then displays context information for each node displayed in the topology.

Table 39 describes the fields in the **Contexts** table.

Table 39. Description of the fields in the Contexts table

Column	Description
Transaction	Displays the name of the transaction instance.
Name	Context Name field.
Value	Context Value field.

Accessing this workspace

To display the instances of a particular transaction, click a link icon in the table in the **Transactions** view of the **Transactions Summary** workspace, and select the **Transaction Instances** workspace.

Links to other workspaces

From this workspace, you cannot link to another predefined workspace.

Transactions: Historical Transaction Instances

This workspace enables you to view individual historical transaction instances that are collected after you create situations to store transaction instances that have failed or did not perform within set parameters. Use this workspace to compare historical transaction instances with current transaction instances that are failing in a similar way. Access this workspace by clicking a link icon from the table in the **Transactions Summary** workspace.

Enabling this workspace

Historical Transaction Instances are handled differently from the standard historical data management in IBM Tivoli Monitoring. Rather than using the time span to display Historical Transaction Instances, you instead define historical data collection and then enable situations that collect instance data for any aggregate record that exceeds certain thresholds. The Transaction Reporter does a full instance trace and provides the Instance Rows and Instance Interaction Rows to the Tivoli Data Warehouse.

To set up historical data collection, enable data collection for the following attribute groups:

- Transaction Instance Context
- Transaction Instance Interactions
- Transaction Instance Instances

No summarization is required. Set pruning controls to limit growth of the database. Use the following guidelines to decide how much detail to keep:

- The default query for this workspace view retrieves all rows from the Transaction Instance Instances table in ascending date order
- Time Span is not available
- Do not use Set Historical Navigation Mode which prevents the display of any data with the following message: "KFWITM491W Historical data not available for this view. KFWITM491W Query is unable to utilize time span filter"

See Setting up historical data collection for Transaction Tracking for more information.

To send the instance data collected by historical data collection to the Tivoli Data Warehouse, enable the following default situations:

- Failed_Transactions
- Slow_Transactions

See "Situations" on page 476 for more information.

Using this workspace

A transaction instance is a single occurrence of a transaction within your system. The **Historical Transaction Instances** workspace uses situations to display stored data from your system. Compare current data with historical data to determine if there is a pattern in transactions failing or running slow.

This workspace contains three views in addition to the standard **Navigator** view:

- Transaction Instance Topology
- Transaction Instances for transaction name
- Interactions
- Contexts

When you first enter this workspace, the **Transaction Instance Topology** does not display a topology. To display a topology, select a transaction instance from the table in the **Transaction Instances for** *transaction name* view and click **Link to Instance Topology**. It then displays the topology for a single instance of a transaction.

Use the **Transaction Instances** table in the **Transaction Instances for** *transaction name* view to select further details for a transaction instance by clicking on a link icon. When the screen refreshes, you will see a topology for that instance in the **Transaction Instance Topology** view. In addition, you will see further information on the transaction nodes involved in the transaction instance in the **Interactions** table in the **Interactions** view.

Column	Description		
Instance	Indicates the status of the transaction instance:		
Status	• 10: Good status		
	• 0: Slow status		
	• -10: Failed status		
Total Time	Indicates the total time for the transaction instance, in milliseconds.		
Total Time Deviation	Indicates the percentage deviation from a baseline value for the transaction instance. Positive numbers indicate a slower total time than the baseline value, and negative numbers indicate a faster total time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.		
Timestamp	Indicates the time a transaction instance started.		

Table 40. Description of the fields in the Transaction Instances table

The **Interactions** table in the **Interactions** view does not contain information when you first enter this workspace. To display information about the transaction instance nodes involved in a transaction instance, select a transaction instance from the table in the **Transaction Instances for** *transaction name* view and click **Link to Instance Topology**. The **Interactions** table then displays information about the transaction instance nodes for the selected transaction instance.

Description of the fields in the **Interactions** table describes the fields in the **Interactions** table.

Column	Description		
Instance	Indicates the status of the destination of the transaction instance:		
Status	• Good: No background color		
	Slow: Yellow background color		
	• Failed: Red background color		
Interaction	Indicates the two transaction instance nodes involved in the transaction instance.		
Parent Sub Transaction Time	Indicates the sub-transaction time of the destination transaction instance as seen from the source transaction instance, measured in milliseconds.		
Parent Sub Transaction Time Deviation	Indicates the percentage deviation of the parent sub-transaction time from a baseline value for the interaction. Positive numbers indicate transactions taking more time than the baseline value, and negative numbers indicate transactions taking less time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.		
Timestamp	Indicates the time a transaction instance started.		
Enclosing Application	Enclosing application aggregate if applicable.		
Enclosing Component	Enclosing component aggregate if applicable.		
Enclosing Server	Enclosing server aggregate if applicable.		

Table 41. Description of the fields in the Interactions table

The **Contexts** table in the **Contexts** view does not contain information when you first enter this workspace. To display context data for a specific transaction instance, select a transaction instance from the table in the **Transaction Instances for** *transaction name* view and click **Link to Instance Topology**. The **Contexts** table then displays context information for each node displayed in the topology.

Table 39 on page 454 describes the fields in the **Contexts** table.

Table 42. Description of the fields in the Contexts table

Column	Description	
Transaction	Displays the name of the transaction instance.	
Name	Context Name field.	
Value	Context Value field.	
Timestamp	Indicates the start time of the transaction instance.	

Accessing this workspace

To display the historical instances of a particular transaction, click a link icon in the table in the **Transactions** view of the **Transactions Summary** workspace, and select the **Historical Transaction Instances** workspace.

Links to other workspaces

From this workspace, you cannot link to another predefined workspace.

Transactions: Topology

This workspace provides a visual representation of the connections between all transaction interactions that have occurred within a set time frame. You can move the mouse over a node or link to display hover help, or right-click on a node to display a more detailed workspace for a particular transaction.

Using this workspace

The **Topologies** workspace displays a topology of interactions within your enterprise. The interactions are shown as links between nodes. The node appearance may change if Transaction Tracking can detect which component it refers to. Depending on which category you are in, the nodes in the **Topologies** workspace indicate a different level of detail:

- The **Transactions** category is the most detailed, and displays the interconnections between all transaction interactions that have occurred within a set time frame.
- The Applications category displays the interconnections between different applications.
- The Components category displays the interconnections between components.
- The Servers category displays the interconnections between servers.

Use the **Topologies** toolbar to change the view of the default topology. For example, you can zoom in on a particular node or link, or show the state of a node or link by selecting an icon from the toolbar. Move your mouse over items in the **Topologies** toolbar to display hover help about their function.

Using the **Topologies** workspace you can identify response times of specific nodes, and observe which nodes in your system interact with each other. The **Topologies** workspace contains two views in addition to the standard **Navigator** view:

- The topology, called **Application Aggregate Topology**, **Component Aggregate Topology**, **Server Aggregate Topology**, or **Transaction Aggregate Topology** depending on the category you select.
- A table called **Applications**, **Components**, **Servers**, or **Transactions** depending on the category you select.



Figure 134. The Topologies workspace

The table below the topology contains the list of all aggregates. Click a link icon in the table to display more detailed workspaces related to that aggregate. If you link to a more detailed topology workspace, the node that you select will be the focal point of the new topology display, and the surrounding nodes with connecting links indicate how they interact with the selected node. You can identify each node by its name which is displayed in the topology.

To access further information about a node, move the mouse over a node in the topology to display hover help. The hover help displays the node category and name. In addition, if there is sufficient aggregate information, it displays the **Average Time, Baseline** and **Deviation** in milliseconds for the transaction of that node.



Figure 135. Hovering over a node in the Topologies workspace

If the topology is well known, but there is not yet enough information to provide aggregate data, hover help will show basic information as soon as some data is available. An example of this is when you request aggregate data for a time period that has only just started.

If there is not enough data, the **Average Time**, **Baseline**, and **Deviation** will display 0.

When a transaction topology of a composite application changes, the current period will not reflect these changes in the topology. The time period before the change will be correct, and the time period following the current period will be correct. After the current period expires, the correct topology will be displayed. The default expiration of a period is five minutes.

The **Applications**, **Components**, **Servers**, or **Transactions** view provides a table with more details on individual interactions. Below is a description of the fields in this table.

Column	Description
Name	The name of the Application, Component, Server, or Transaction.
Total Time	Measures the average time for a transaction to complete, in milliseconds. The value in this column does not include the time taken for failures, unless all transactions have failed. The Total Time measures the following transactions based on which category you are looking at:
	• For Applications , it measures the average of all the transactions that make up an application.
	• For Components , it measures the average of all the transactions within a component.
	• For Servers , it measures the average of all the transactions on a server.
	• For Transactions , it measures the average of all the transaction instances that make up the specific transaction.

Table 43. Transaction Interaction Information table

Table 43.	Transaction	Interaction	Information	table	(continued)
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Column	Description
Total Time Deviation	Measures the percentage deviation from a baseline value. Positive numbers indicate a slower total time than the baseline value, and negative numbers indicate a faster total time than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Transaction Rate	Measures the average rate of transactions. This is measured in transactions per minute. The Transaction Rate calculates the following rate of transactions based on which category you are looking at:
	• For Applications , it calculates the sum of all transaction instances of the transactions within an application.
	• For Components , it calculates the sum of all transaction instances of all the transactions within a component.
	• For Servers , it calculates the sum of all transaction instances of all the transactions on a server.
	• For Transactions , it calculates the average number of transaction instances of a specific transaction.
Transaction Rate Deviation	Measures the percentage deviation from a baseline value in the number of transactions. Positive numbers indicate more transactions than the baseline value, and negative numbers indicate fewer transactions than the baseline value. A deviation of zero indicates either that there is no deviation or that the deviation has not yet been measured.
Percent Failed	Indicates the percentage of transaction instances that have failed.
Percent Slow	Indicates the percentage of transaction instances that are running slower than a preset threshold.
Percent Good	Indicates the percentage of transaction instances that are running faster than a preset threshold.
Timestamp	Indicates the start time of the period of aggregation.
Enclosing Component	Enclosing component aggregate if applicable.
Enclosing Server	Enclosing server aggregate if applicable.

Interaction Rows at an Aggregate level are used to draw the topologies at the Applications, Components, Servers, and Transactions workspaces. The Transaction Reporter generates these rows from Aggregates retrieved from Transaction Collectors, and a topology that it determines from Instance Data. At startup the Transaction Reporter has no known topology. When the first Aggregates are collected from the Transaction Collectors, the Transaction Reporter will obtain some instance data and perform a multi-hop trace. The Transaction Reporter uses the results to determine that instances associated with one Aggregate Record interact with instances from another Aggregate Record. This is the basis of creating Interaction Rows at the Aggregate Level. If there are a large number of Transaction Collectors or a large number of interactions, the initial traces may take tens of minutes to perform. Since Transaction Collectors produce Aggregates every 5 minutes, the Transaction Collector has a default configuration to spend a maximum of 4 minutes performing these "one-hop" traces before producing Interaction Rows, and moving to the next Aggregation Period. This will result in incomplete Interaction Rows for those initial aggregation periods.

The following parameters relate to the creation of Aggregate Interaction Rows and the hop trace:

- RECALCULATE_INTERACTIONS=N
- CALCULATE_IMPLIED_INTERACTIONS=Y
- CALCULATE_PSEUDO_INTERACTIONS=Y
- MAXIMUM_PROCESS_AGGREGATES_MINUTES=4
- MAXIMUM_TOPOLOGY_TRACE_BACKOFF_MINUTES=120
- INITIAL_TOPOLOGY_TRACE_EVENT_COUNT=2
- MAXIMUM_TOPOLOGY_TRACE_EVENT_COUNT=15
- DETERMINE_TOPOLOGY_TRACE_HOP_COUNT=3
- TOPOLOGY_FORGET_INTERVAL_MINUTES=0

The Transaction Reporter generates Interaction Rows at an Instance level directly from Instance data obtained from Transaction Collectors. An initial instance from which to perform the "full" instance trace is obtained from a Transaction Collector as one that is associated with an Aggregate. The Transaction Collector provides the Transaction Reporter with the identities of the five average, five fastest and five slowest transactions that were used to generate a particular aggregate. Select one of these via the Instances workspace. Afterwards, when selecting an Instance Topology, the Transaction Reporter requests a "full" trace. If there are a large number of Transaction Collectors or a large number of interactions, the full trace may take some minutes to perform. In this case, the workspace may time out without receiving any instance interaction rows. The Transaction Reporter has a number of parameters in the ENV file to limit the time or depth of a full trace. If these parameters are set, the instance interaction rows determined to that point will be returned. By refreshing the workspace, the Transaction Reporter will continue the trace from where it last reached. In this way, a complete trace can be reached after providing some feedback to the workspace.

The following parameters are of interest:

- WORKSPACE_TRACE_TIME_LIMIT_SECONDS=0
- WORKSPACE_TRACE_DEPTH_LIMIT=0

Other similar parameters for Situation initiated traces are:

- SITUATION_TRACE_TIME_LIMIT_SECONDS=0
- SITUATION_TRACE_DEPTH_LIMIT=0

The following parameter improves Transaction Reporter performance when there are multiple Transaction Collectors:

THREAD_POOL_SIZE=3

Accessing this workspace

Access this workspace by clicking on a category in the **Navigator** view, or by right-clicking a specific application, component, server, or transaction.

Links to other workspaces

When you have identified a problem, you can then link to the **Transaction Detail** workspace, the **Transaction Instances** workspace, or the **Historical Transaction Instances** workspace by right-clicking an icon in the topology and selecting Link **To...** You can also right-click a link icon in the table. This can help you determine

where a problem started.

Viewing data from ITCAM Data Collector for WebSphere

If ITCAM Data Collector for WebSphere is installed and integrated with ITCAM for Transactions, you can use the ITCAM for Transactions workspaces to view information about requests monitored by ITCAM Data Collector for WebSphere.

Viewing transaction data from ITCAM Data Collector for WebSphere in ITCAM for Transactions

ITCAM for Transactions displays the transaction data from ITCAM Data Collector for WebSphere in several workspaces.

The transactions monitored by ITCAM Data Collector for WebSphere are included in topology views.

Portlet transactions are displayed as single entities. JMS links are displayed in the Topology View. An entity that participates in transactions instrumented using both ITCAM Agent for WebSphere and ITCAM for SOA is displayed as a single node.

ITCAM for Application Diagnostics supports integration with IBM Optim[™] Performance Manager. If Optim Performance Manager is installed, the user can drill down from Transaction Tracking workspaces to the Optim Performance Manager extended monitoring console to conduct end-to-end analysis of DB2 JDBC calls.

Servers, components, and application workspaces:

You can use servers, components, and applications workspaces to view aggregated transactions and request data.

The following table shows the entity names set by the ITCAM Data Collector for WebSphere for these workspaces to identify servers, components, and applications.

ITCAM for		
workspace	Entity name	Notes®
Servers	Short DNS Name	
Components	WebSphere:Application_Server	
Applications	CellName.NodeName.ServerName (ProfileName)	For stand-alone servers, this name is set by Data Collector by default.
	CellName.NodeName.ServerName (ProfileName)^ClusterName (ClusterType) ClusterType can be either Static or	For Network Deployment or Extended Deployment, this name is set by the Data Collector by default.

These names remain the same for all integrated requests.

Transactions workspace:

Use the transactions workspace to view the aggregated transaction information and to access additional information.

The transactions workspace provides a list of transactions fitting certain criteria. Aggregated information is displayed for every transaction name.

To access the link menu for a transaction, right-click the chain icon at the left of the line in the transaction table. Use the link menu to view additional transaction information, including topology and response time statistics.

If additional components are installed, you can also use the link menu to access detailed information:

- **Request Analysis** displays the Request Analysis workspace. This information is available only if ITCAM Agent for WebSphere Applications is installed. Also, the information is available only for edge requests, not for nested requests. Transactions must be active at this point in time, otherwise the information is unavailable.
- **Diagnostics Recent Completed Requests** displays the recent request detail in the Managing Server Visualization Engine. This information is available only if the Managing Server is installed. The Managing Server is a component of ITCAM for Application Diagnostics, ITCAM for WebSphere, and ITCAM for J2EE.

Important: If the Managing Server used for monitoring an application server is changed, the link to the Visualization Engine might not work. To enable the link again, perform the Forget Topology Take Action in the Transactions workspace. Then ensure that transactions are active, so that data is still sent from the Data Collector. Wait for four aggregation periods (by default, for 20 minutes). At this point, the aggregation period is set in the Translation Reporter configuration and the link is enabled.

Servlet and JSP Request Integration

You can view Servlet and JSP requests in ITCAM for Transactions.

Table 44 shows the transaction names that ITCAM for Transactions displays for servlet and JSP requests.

Value of Name	Notes	
URI	The default value set by Data Collector	
URI + QueryString	If com.ibm.tivoli.itcam.dc.ttapi.servlet.include.	
	<pre>querystring=true is specified in the file DC_home/runtime/server/ ttdc.properties.</pre>	

Table 44. Transaction name displayed in ITCAM for Transactions

Figure 136 on page 465 shows the topology of the IBM HTTP Server (with ARM-enabled plugin) and WebSphere Application Server, displayed in the Transactions workspace.



Figure 136. Servlet and JSP topology in Transactions workspace

On Figure 137, the topology view of the Components workspace shows interaction between the HTTP Server and WebSphere Application Server:



Figure 137. Servlet and JSP topology on Components workspace

On Figure 138, the topology view of the Applications workspace shows interaction between one instance of the HTTP Server and one instance of WebSphere Application Server:



Figure 138. Servlet and JSP topology on Applications workspace

RMI and IIOP Request Integration

You can view RMI and IIOP requests in ITCAM for Transactions.

Table 45 shows the transaction names that ITCAM for Transactions displays for RMI and IIOP requests.

Table 45. Transaction name displayed in ITCAM for Transactions

Value of Name	Notes
Calling Servlet/JSP URI or ClientRequestInterceptor:MethodName	RMI Client
ServerRequestInterceptor:MethodName	RMI Server

Figure 139 shows the topology for a RMI/IIOP request, displayed in the Transactions workspace.



/wlm/BeenThere

ServerRequestInterceptor:_get_runtimeEnvInfo

Figure 139. RMI/IIOP topology view in Transactions workspace

Web services request integration

You can view web service requests in ITCAM for Transactions.

To view web services requests, you must configure the Data Collector to monitor them. See Configuring tracking for web service requests.

Table 46 shows the transaction names that ITCAM for Transactions displays for Web services requests.

Table 46. Transaction name displayed in ITCAM for Transactions

Value of Name Column	Note
Invoking Servlet/JPS or WS:WebServicePort:OperationName	Requester side
WS:WebServicePort:OperationName	Provider side

Figure 140 on page 467 shows the topology for a Web service request, displayed in the Transactions workspace.



Figure 140. Web Services topology view in Transactions workspace

MQI request integration

You can view MQI and MQv7 JMS requests in ITCAM for Transactions.

Transaction names that ITCAM for Transactions displays for MQI and MQv7 JMS requests are PUT/GET: *Invoking Servlet*/JPS or *QueueManagerName:QueueName*.

If the Managing Server is used, for MQI requests except WebSphere MQ v7 JMS requests, details are available in the Managing Server Visualization Engine. For MQ v7 JMS requests, details are **not** available in the Visualization Engine.

Figure 141 shows the topology for MQI requests, displayed in the Transactions workspace.



Figure 141. MQI topology view in Transactions workspace

Figure 142 shows the topology for MQI interaction, displayed in the Components workspace.



Figure 142. MQI topology view in Components workspace

Figure 143 on page 468 shows the topology for MQI interaction, displayed in the Applications workspace.



Figure 143. MQI topology view in Applications workspace

CICS integration

You can view CICS requests in ITCAM for Transactions.

Table 47 shows the transaction names that ITCAM for Transactions displays for CICS requests.

Table 47. Transaction name displayed in ITCAM for Transactions

Value of Name	Notes
WebSphere client: The invoking request URI.	Represents processing by CICS components.
CTG/CICS: "CSMI"	

Figure 144 shows the topology for a CICS request, displayed in the Transactions workspace.



Figure 144. CICS topology view in Transactions workspace

IMS integration

You can view IMS requests in ITCAM for Transactions.

Table 48 shows the transaction names that ITCAM for Transactions displays for IMS requests.

Table 48. Transaction name displayed in ITCAM for Transactions

Value of Name Column	Note
caller.OTMA.REQ	Requesting side
caller.OTMA.RSP	Responding side

The transaction name that ITCAM for Transactions displays for IMS requests is the IMS Connect for Java request URI.

Figure 145 on page 469 shows the topology for an IMS request, displayed in the Transactions workspace.



Figure 145. IMS topology view in Transactions workspace

EJB integration

You can view EJB requests in ITCAM for Transactions.

Transaction names that ITCAM for Transactions displays for EJB requests are EJB *ClassName.methodName*. Only the top-level EJB requests are displayed.

Figure 146 shows the topology for an EJB request, displayed in the Transactions workspace.



Figure 146. EJB topology view in Transactions workspace

Message Driven Bean integration

You can view Message Driven Bean requests in ITCAM for Transactions.

Transaction names that ITCAM for Transactions displays for Message Driven Bean requests are MDB *className*.onMessage.

Figure 147 shows the topology for a Message Driven Bean request, displayed in the Transactions workspace.



Figure 147. Message Driven Bean topology view in Transactions workspace

Custom request integration

You can view custom requests in ITCAM for Transactions.

The transaction name that ITCAM for Transactions displays for a custom request is the RequestName defined in the custom request configuration XML file. Only the top-level custom request is displayed.

Figure 148 shows the topology for a custom request, displayed in the Transactions workspace.



Figure 148. Custom request topology view in Transactions workspace

JDBC nested request integration

You can view JDBC nested requests in ITCAM for Transactions.

Transaction names that ITCAM for Transactions displays for JDBC requests are JDBC:*dataSourceName* or JDBC:*dataSourceName:hostName*. The host name is reported only if JDBC type 4 drivers are used.

Figure 149 shows the topology for JDBC nested requests, displayed in the Transactions workspace.



Figure 149. JDBC nested request view in Transactions workspace

Important: If a JDBC transaction reports any failures within a reporting period, the percentage of failed transactions is displayed for the transaction. You can view individual successful and failed instances by using the Transaction Instances view.

JNDI nested request integration

You can view JNDI nested requests in ITCAM for Transactions.

Transaction names that ITCAM for Transactions displays for JNDI requests are JNDI:*transactionName*.

Figure 150 shows the topology for JNDI nested requests, displayed in the Transactions workspace.



Figure 150. JNDI nested request view in Transactions workspace

Important: If a JNDI transaction reports any failures within a reporting period, the percentage of failed transactions is displayed for the transaction. You can view individual successful and failed instances by using the Transaction Instances view.

JMS messaging topology integration

You can view JMS messaging topology in ITCAM for Transactions.

JMS links are displayed between the following top-level request types:

- EJB, see "EJB integration" on page 469.
- Servlet
- Custom Request

The following JMS providers are supported:

- WebSphere SIBus
- WebSphere MQ
- WebLogic JMS server

JMS topology for WebSphere MQ transactions is not displayed to avoid duplication. JMS topology is displayed for queue transactions where the target is set to JMS (in WebSphere Application Server 7, where **appending RFH version 2 headers** is enabled for the queue).

The following JMS messaging scenarios are supported for TTAPI:

• **Queue sender and queue receiver**. A top-level request invokes the queueSender API to send a message to a queue. A top-level request invokes the queueReceiver API to receive a message from the queue. The application URLs displayed for the sender and receiver are the URLs of the top-level requests. Figure 151 on page 472 shows an example of a queue sender and queue receiver topology.



Figure 151. JMS example topology: queue sender and queue receiver

• **Topic publisher and topic subscriber**. A top-level request invokes the TopicPublisher API to send a message to a topic. One or several top-level requests might invoke the TopicSubscriber API to receive a message from the topic. The application URLs displayed for the sender and receivers are the URLs of the top-level requests. Figure 152 shows an example of a topic publisher and topic subscriber topology.



Figure 152. JMS example topology: Topic publisher and topic subscriber

• Message sender and Message Driven Bean. A top-level request sends a message to a queue or topic. A Message Driven Bean that listens to the queue or topic gets a callback on its onMessage method and receives the message. For the sender, the application URL is displayed; it is the URL of the top-level requests. For the receiver, the Message Driven Bean class name and method name are displayed. Figure 153 shows an example of a message sender and Message Driven Bean topology.



Figure 153. JMS example topology: message sender and message driven bean

Linking from Transaction Tracking to integrated products

Use dynamic workspace links from Transaction Reporter workspaces in Transaction Tracking V7.2 and later to link directly to integrated products to find the source of any reported problems.

To enable dynamic workspace links, the support files for the integrated product must be installed, and the target agent must be installed and they must be connected to the same Tivoli Enterprise Monitoring Server. For example, to enable links to ITCAM for Application Diagnostics, install the ITCAM for Application Diagnostics support files, the Transaction Collector, and the Transaction Reporter and ensure that they all connect to the same Tivoli Enterprise Monitoring Server.

Products to which Transaction Tracking links

Transaction Tracking can link to the following products using dynamic workspace links:

- Web Response Time
- ITCAM Agents for WebSphere Messaging
- ITCAM for Application Diagnostics
- ITCAM for J2EE
- ITCAM for SOA
- Tivoli OMEGAMON XE for CICS
- Tivoli OMEGAMON XE for DB2
- Tivoli OMEGAMON XE for IMS
- Tivoli OMEGAMON XE for Messaging
- Optim Performance Manager
- · Monitoring Agent for Microsoft .NET Framework
- Monitoring Agent for Microsoft Internet Information Services
- Monitoring Agent for Active Directory

ITCAM for Application Diagnostics and ITCAM for J2EE

Link directly from Transaction Tracking V7.2 and later ITCAM for Application Diagnostics data in the Transaction Reporter workspaces to the ITCAM for Application Diagnostics Visualization Engine of the Managing Server.

The dynamic workspace links open a Transaction Reporter workspace-embedded browser, which is automatically populated with the corresponding ITCAM for Application Diagnostics Visualization Engine hyperlink.

Access the links from tables and graphs that show ITCAM for Application Diagnostics transactions, transaction instances, and applications.

Select a row or node that corresponds to ITCAM for Application Diagnostics data. Right-click the selected row or node and select **Link To** > **Diagnostic Recent Completed Requests**. The embedded browser opens. Enter your login and password.

Ensure you select a row or node from ITCAM for Application Diagnostics. WebSphere nodes generated by other data collectors do not link to the ITCAM for Application Diagnostics Visualization Engine. **Note:** You cannot link to the ITCAM for Application Diagnostics Visualization Engine through topology nodes.

Dynamic workspace links can also be used to access the ITCAM for Application Diagnostics data collector workspaces or the ITCAM for J2EE data collector workspaces.

Access these links from the **Components** table in the **Components** category and the **Transactions** table in the **Transactions** category.

In the **Components** table, select a row with, for example, a WebSphere node. Right-click the selected row, choose **Link To**, and select **WebSphere Agent**. The ITCAM for Application Diagnostics data collector agent opens.

In the **Transactions** table, select a row with a WebLogic node. Right-click the selected row, choose **Link To**, and select **Request Analysis**. The ITCAM for J2EE Request Analysis workspace opens.

Note: The ITCAM for Application Diagnostics data collector workspaces and the ITCAM for J2EE data collector workspaces do not open in a Transaction Reporter workspace-embedded browser.

See ITCAM for Application Diagnostics on Documentation Central and ITCAM for J2EE on Documentation Central for further diagnostic information.

ITCAM for SOA

You can link to the ITCAM for SOA **Services Management Agent** workspace from Transaction Tracking Transaction Aggregate workspaces in the following ways:

- In the **Transactions** workspace, click the link icon for a transaction and then select **Services Management Agent** in the list.
- In the **Transaction Topology** workspace, right-click on a Transactions node in the topology panel and select **Link To** > **Services Management Agent**.

Note: The **Services Management Agent** link is available only when the selected transaction is reported by ITCAM for SOA. WebSphere Message Broker nodes for example, can be reported by both ITCAM for Application Diagnostics and ITCAM for SOA. You can only link to ITCAM for SOA by using the **Services Management Agent** link when the node originates from an ITCAM for SOA data collector.

See ITCAM for SOA on Documentation Central for further diagnostic information.

Tivoli OMEGAMON XE for CICS

You can link to Tivoli OMEGAMON XE for CICS workspaces from Transaction Tracking:

- In a Transaction Tracking Application workspace, click the link icon for a CICS region and select CICS Region Overview in the list to access the Region Overview workspace in Tivoli OMEGAMON XE for CICS.
- In a Transaction Tracking instance workspace of CICS transactions, click the link icon and select CICS Transaction Units of Work to access the Units of Work workspace in Tivoli OMEGAMON XE for CICS.

See Tivoli OMEGAMON XE for CICS on Documentation Central for further diagnostic information.

Tivoli OMEGAMON XE for DB2

You can link to the Tivoli OMEGAMON XE for DB2 workspaces from Transaction Tracking workspaces in the following ways:

- In the **Application Aggregate Topology**, right-click on a DB2 node and select **Link To** > **DB2 Status**.
- In the **Transaction Aggregate Topology**, right-click on a DB2 transaction node and select **Link To > DB2 Threads**.

See Tivoli OMEGAMON XE for DB2 Performance Expert and Tivoli OMEGAMON XE for DB2 Performance Monitor on Documentation Central for further diagnostic information.

Tivoli OMEGAMON XE for IMS

You can link to Tivoli OMEGAMON XE for IMS workspaces from Transaction Tracking:

- In a Transaction Tracking Application workspace, click the link icon for an IMS region and select **IMS Address Spaces** in the list to access the **IMS Address Spaces** workspace in Tivoli OMEGAMON XE for IMS.
- In a Transaction Tracking workspace of IMS transactions, click the link icon and select link to **IMS Active Transactions** to access the **IMS Active Transactions** workspace in Tivoli OMEGAMON XE for IMS.
- In a Transaction Tracking instance workspace of IMS transactions, right-click an entry in the Interactions table and select IMS Near Term History in Omegamon for IMS to access the IMS Near Term History workspace in Tivoli OMEGAMON XE for IMS.

See Tivoli OMEGAMON XE for IMS on Documentation Central for further diagnostic information.

Tivoli OMEGAMON XE for Messaging

You can link to Tivoli OMEGAMON XE for Messaging workspaces from Transaction Tracking in the following ways:

- In a Transaction Tracking Application workspace, click the link icon for a queue manager and select **Queue Manager Status** in the list to access the Tivoli OMEGAMON XE for Messaging **Queue Manager Status** workspace.
- In a Transaction Tracking Transaction workspace, click the link icon for a queue and select **Queue Status** in the list to access the Tivoli OMEGAMON XE for Messaging **Queue Statistics** workspace.

See Tivoli OMEGAMON XE for Messaging on Documentation Central for further diagnostic information.

Optim Performance Manager

The Optim Performance Manager data collector can report into Transaction Tracking V7.2.0.1 and later. After installing the Optim Performance Manager data collector and enabling integration (see Enabling Optim Performance Manager integration in the Installation and Configuration Guide for further information), access it through the **Transactions** workspace by right-clicking an item in the **Transactions** table and selecting **Transaction Topology**. Right-click an item in the **Transactions** table in the **Transaction Topology** workspace, and select **Database** Diagnosis to open the embedded Optim Performance Manager workspace.

Information collected for each Transaction Tracking domain

The information collected by Transaction Tracking varies for each domain. Use this table to determine what values you can use for filtering, reporting, or in situations.

Table 49. Information collected for each Transaction Tracking domain

Domain	Server Name	Component Name	Application Name	Transaction Name
WebSphere MQ	zOS: SYSPLEX/SMFID, dist: (short) Host name	MQ	Queue Manager	Queue
WebSphere Message Broker	(short) Host name	WebSphere Message Broker	Execution Group	Message Flow
CICS TG	dist: Host name, zOS: SYSPLEX/SMFID	CTG Client / CTG Gateway	ctgApplid. ctgApplidQualifier	program
CICS	SYSPLEX/SMFID	CICS	Jobname	CICS transaction name
IMS Connect	SYSPLEX/SMFID	IMSConnect	IMS Connect job/STC name	IMS transaction
IMS	SYSPLEX/SMFID	IMS	Jobname	IMS transaction
ITCAM for Application Diagnostics	(short) Host name	WebSphere: APPLICATION_SERVER	cell.node.server	URL
ITCAM for SOA integration	KD4.hostname KD4.ipaddress	KD4.env	KD4.servername	PortName – PortNS
Tuxedo	(short) Host name	Tuxedo Client / Tuxedo	executable process name	process name (client) / service name (server)
.NET	(short) Host name	.NET	Client .exe name	Dir Node Path/db name/search root path/LDAP svr name/RequestID
Internet Information Services	(short) Host name	IIS	IIS process	URL

Situations

Predefined situations describe system conditions that you might want to monitor.

A situation is a logical expression involving one or more system conditions. When a condition matches the specified situation, the action specified in the situation occurs.

Use predefined situations to start monitoring quickly or as a template from which to create your own custom situations.

To display details about the Transaction Tracking predefined situations, select the situation in which you are interested in the navigator in the **Situation Editor**.

In ITCAM for Transactions V7.4.0.1 and later, Transaction Tracking provides the following predefined situation. This situation uses the Transaction Instance Metrics (TUINSTMET) table.

• Slow_Instance_Total_Time, uses the KTU: REMEMBER INSTANCE Take Action command (KTU: REMEMBER INSTANCE

&{Transaction_Instance_Metrics.Instance_ID}

&{Transaction_Instance_Metrics.Timestamp}) to create a situation for the slowest instances for each record in the period, calculated before aggregation.

To activate this situation:

- In the Transaction Collector configuration parameters, set Aggregation > Display alerts for transaction instances to Y (yes). For more information, see Transaction Collector agent configuration parameters.
- 2. In the Situation Editor, select Transaction Collector > Slow Instance Total Time and distribute the situation to the required systems.

You can also create a situation on the deviation of transaction instances from baseline values using the Transaction Instance Metrics (TUINSTMET) table. Create a situation using the KTU: REMEMBER INSTANCE Take Action command and any of the attributes for the following metrics:

- Total_Time
- Processing_Time
- Initial_Time
- Final_Time
- Network_Time

For more information about these attributes, see "Transaction Instance Metrics" on page 486. For information about enabling baseline data in the Transaction Collector, see Transaction instance baselines.

Transaction Tracking also provides the following predefined situations. These situations use the Aggregate Situations (TOAGGSIT) and Interaction Situations (TOINTSIT) tables. The situations are distributed and associated by default, and include both flexible context and flexible metrics.

- Parent_Sub_Transaction_Time_C
- Parent_Sub_Transaction_Time_M
- Parent_Sub_Transaction_Time_W
- Transaction_Rate_C
- Transaction Rate M
- Transaction_Rate_W

You can use default situations as templates for creating customized monitoring situations. You can also create new situations using Transaction Tracking attributes. When specifying a new situation, use the Aggregate Situations (TOAGGSIT) and Interaction Situations (TOINTSIT) tables to define situations that include both flexible context and flexible metrics. See Tivoli Monitoring for further information about creating situations.

Earlier predefined situations

In ITCAM for Transactions V7.2.0.2 and earlier, Transaction Tracking provided the following predefined situations. These situations are not associated by default and do not provide flexible context and flexible metrics:

• Failed_Transactions

The Failed_Transactions situation uses the Group Level and Percent Failed attributes and the KTO: REMEMBER AGGREGATE Take Action command (KTO: REMEMBER AGGREGATE &{Aggregates.Aggregate_ID} failed=1) to indicate a high failure rate for transactions within a topology. By using this situation, you can see the nodes with a high failure rate (more than 50%) in the topology workspaces and identify the transaction instances that are causing the problem. Hover the mouse over Transactions in the Navigator to display details of the situation, agent, date and time, and aggregate name for the transaction that has failed.

The situation causes the Transaction Reporter to obtain the instance for the aggregate that triggered the command by exceeding the condition. The Transaction Reporter performs a full instance trace and provides the Instance Rows and Instance Interaction Rows to the Tivoli Data Warehouse. This situation is run every 5 minutes by default.

Slow_Transactions

The **Slow_Transactions** situation uses the Group Level and Response Time Deviation attributes and the KTO: REMEMBER AGGREGATE Take Action command (**KTO: REMEMBER AGGREGATE &{Aggregates.Aggregate_ID} slow=1**) to identify transactions that are slower than the baseline by 100% or more and store them in the Tivoli Data Warehouse. The baseline is determined by the average of the response times over the last 24 hours (or custom History setting). This situation is run every 5 minutes by default.

KTU_Transport_Queue_Full

The **KTU_Transport_Queue_Full** situation is triggered whenever events are dropped because the number of events in the Transport Dispatch Queue for the Transaction Collector is exceeded. The situation generates an alert which is displayed for 5 minutes in the **Transport Dispatch Queue Size** column of the **Collector Status** pane in the **Transaction Collector** workspace.

Displaying alerts

Alerts created by situations are displayed in the **Situation Event Console**. In the Navigator, select **Enterprise** to display the alerts for your monitored systems.

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Alternatively, you can add an **Situation Event Console** to a workspace:

- 1. In the required workspace, click **Situation Event Console**
- 2. In the workspace, move the mouse to where the console is required and click to place it.

Attributes

Transaction Tracking uses two sets of attributes. One set is related to the Transaction Reporter, and the other to the Transaction Collector.

Note: The Tivoli Enterprise Portal workspaces use all of the Transaction Reporter attributes. Most Transaction Collector attributes are for internal use only and are not to be used for historical reporting. The Health Status attributes are used by the Tivoli Enterprise Portal workspaces.

Transaction Collector attributes

The Transaction Collector in Transaction Tracking uses specific attributes groups.

Most of the attribute groups used by the Transaction Collector are not visible in the Tivoli Enterprise Portal workspaces. The only exceptions are the Health Information for the Transaction Collector (KTU_STATUS), Diagnostics (KTU_DIAG), and Aggregation Periods (KTU_PERIODS) attribute groups which are used by the **Transaction Collector** workspace and the **Transaction Collector Diagnostics** workspace.

The attribute groups used by the Transaction Collector which are not visible through the Tivoli Enterprise Portal workspaces are:

- Context mask for an aggregation period (TURECCMASK)
- Horizontal callers for an aggregation period (TUHCALLER)
- Horizontal context list for a tracking point (TUTPHCONT)
- Instance data (TUTT EVENT)
- Metrics for a tracking point (TUTPMETRIC)
- Records (TURECORDS)
- Strings used in name/value pairs (TUASTRINGS)
- Tracking depot status (TUDEPOTSTS)
- Tracking points of a record (TURECTRACK)
- Vertical context list for records (TURECVCONT)

Aggregation periods

The Aggregation Periods (TUPERIODS) table displays information about the aggregation periods of a specific Transaction Collector.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Created" on page 566	Created	4
"End" on page 569	End	4
"End Timestamp" on page 569	End_Timestamp	16
"Node" on page 577	Node	32

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Number of excluded instances" on page 578	Number_of_excluded_instances	4
"Number of excluded records" on page 578	Number_of_excluded_records	4
"Number of records" on page 578	Number_of_records	4
"Start" on page 583	Start	4
"Start Timestamp" on page 583	Start_Timestamp	16

Context mask for an aggregation period

The Period Context Masks (TURECCMASK) table lists the context masks for a specified period. This information is used to associate tracking points with records, and to identify transaction flows within an application.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Compared" on page 565	Compared	4
"Name key id" on page 576	Name_key_id	4
"Node" on page 577	Node	32
"Number" on page 578	Number	4
"Value key id" on page 590	Value_key_id	4

Diagnostic information of the Transaction Collector

The Diagnostic (TUDIAG) table provides diagnostic information for the Transaction Collector.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"IMPORTANCE" on page 571	IMPORTANCE	2
"MESSAGE" on page 574	MESSAGE	128
"MESSAGECLASS" on page 575	MESSAGECLASS	32
"Node" on page 577	Node	32
"Timestamp" on page 585	Timestamp	16
"UOM" on page 589	UOM	32

Health information for the Collector

The Status (TUSTATUS) table provides health information for the Transaction Collector to determine if it is functioning properly. Health attributes display details such as the number of incomplete instance queries, number of unprocessed events, and number of events from previous intervals.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Ancient Instance Data Counter" on page 562	Ancient_Instance_Data_Counter	4
"Instance Query Queue Size" on page 572	Instance_Query_Queue_Size	4
"Node" on page 577	Node	32
"Old Instance Data Counter" on page 578	Old_Instance_Data_Counter	4
"Timestamp" on page 585	Timestamp	16
"Transport Dispatch Queue Size" on page 589	Transport_Dispatch_Queue_Size	4
"Uncommitted Instance Data Counter" on page 589	Uncommitted_Instance_Data_Counter	4

The following table includes a description of the attributes in this group.

Horizontal context list for a tracking point

Use the attributes in this table to display the horizontal context listing for a record.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Name key id" on page 576	Name_key_id	4
"Node" on page 577	Node	32
"Tracking point id" on page 587	Tracking_point_id	4
"Value key id" on page 590	Value_key_id	4

The following table includes a description of the attributes in this group.

Instance data

Use the attributes in this table to display instance data events.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Blob" on page 564	Blob	512
"Node" on page 577	Node	32

Metrics for tracking points

Use the attributes in this table to display the metrics for tracking points within a transaction to determine the percentage of good, slow, or failed response times.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Average" on page 562	Average	4
"Fail count" on page 569	Fail_count	4
"Good count" on page 570	Good_count	4
"Max" on page 573	Max	4
"Min" on page 575	Min	4
"Node" on page 577	Node	32
"Slow count" on page 581	Slow_count	4
	Tracking_point_id	4
"Incomplete count" on page 571	Incomplete_count	4

The following table includes a description of the attributes in this group.

Records

The Records table (TURECORDS) displays information for specific records stored in an aggregation.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Caller ID" on page 565	Caller_id	4
"Node" on page 577	Node	32
"Record id" on page 580	Record_id	4

Strings used in name/value pairs

The Strings (TUASTRINGS) table displays information about the strings used in name/value pairs. These occur at each tracking point within a transaction instance, and help identify transaction flows within an application.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Node" on page 577	Node	32
"String ID" on page 583	String_id	4
"String Length" on page 584	String_length	4
"String Value" on page 584	String_value	256

Tracking depot status

The Tracking Depot Status (TUDEPOTSTS) table attributes are used to notify the Transaction Collector that there are new configuration updates for it to download; the values in the columns are not used.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Depot Node" on page 566	Depot Node	32
"Origin Node" on page 578	Origin Node	32

Tracking points of a record

The Record Tracking Points (TURECTRACK) table displays the tracking points for a specific record. Tracking points help define transactions.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Node" on page 577	Node	32
"Record id" on page 580	Record_id	4
"Tracking point classification" on page 587	Tracking_point_classification	4
"Tracking point id" on page 587	Tracking_point_id	4
"Tracking point order" on page 587	Tracking_point_order	4

Vertical context list for records

The Record Vertical Contexts (TURECVCONT) table displays the vertical context listing for a record.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Name key id" on page 576	Name_key_id	4
"Node" on page 577	Node	32
"Record id" on page 580	Record_id	4
"Value key id" on page 590	Value_key_id	4

Horizontal Callers

The Horizontal Callers (TUHCALLER) table displays information for specific horizontal callers seen in an aggregation period.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Caller ID" on page 565	Caller_id	4
"End" on page 569	End	4
"Inbound" on page 571	Inbound	4
"Node" on page 577	Node	32
"Outbound" on page 578	Outbound	4
"Start" on page 583	Start	4

Vertical context list for records

The Aggregate Context (TUAGGCTX) table displays the vertical context listing for records.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Name key id" on page 576	Name_key_id	4
"Node" on page 577	Node	32
"Record id" on page 580	Record_id	4
"Value key id" on page 590	Value_key_id	4

Aliases for records to aggregates

The Record Aliases table (TUALIASES) displays information for specific records stored in an aggregation.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Aggregate ID" on page 561	Aggregate_id	4
"Caller ID" on page 565	Caller_id	4
"Filtering rule" on page 570	Filtering_rule	4
"Instance count" on page 572	Instance_count	4
"Node" on page 577	Node	32
"Record id" on page 580	Record_id	4

Data Collector host information

The Data Collector Host (TUDCHOST) table provides information about data collector hosts connected to this Transaction Collector.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Active Conn Count" on page 561	Active_Conn_Count	4
"Network Address" on page 576	Network_address	32
"Node" on page 577	Node	32

Data Collector information

The Data Collector Information (TUDCINFO) table provides information about data collectors connected to this Transaction Collector.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Clock Delta" on page 565	Clock_Delta	4
"Connection Count" on page 566	Connection_Count	2
"DC Address" on page 566	DCAddress	32
"Events Dropped" on page 569	Events_Dropped	4
"Network Address" on page 576	Network_address	32
"Node" on page 577	Node	64

Data Collector type metrics

The Data Collector Information (TUDCTYPE) table provides data collector caller-type information.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Caller Type" on page 565	Caller_Type	32
"Component Name" on page 566	Component_Name	256
"Count" on page 566	Count	4
"Network Address" on page 576	Network_address	32
"Node" on page 577	Node	64

Transaction Instance Alerts

The Transaction Instance Alerts (TUINSTALRT) table displays the Instance IDs of any transactions that have triggered a situation.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Node" on page 577	Node	32
ThruNode	ThruNode	32
Instance ID	Instance_ID	36
"Timestamp" on page 585	Timestamp	16

Transaction Instance Metrics

The Transaction Instance Metrics (TUINSTMET) table displays timings for the slowest transaction instances that have been recorded.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Node" on page 577	Node	32
Instance ID	Instance_ID	36
ThruNode	ThruNode	32
"Timestamp" on page 585	Timestamp	16
Server Name	Server_Name	256
"Component Name" on page 566	Component_Name	256
"Application Name" on page 562	Application_Name	256
"Transaction Name" on page 588	Transaction_Name	256
"Discovery Context Name" on page 568	Discovery_Context_Name	256
"Status" on page 583	Status	32
"Total Time" on page 586	Total_Time	4
"Total Time Baseline Count" on page 586	Total_Time_Baseline	4
"Total Time Baseline Sample Count" on page 587	Total_Time_Baseline_Sample_Count	4
"Total Time Deviation" on page 587	Total_Time_Deviation	4
"Processing Time" on page 579	Processing_Time	4
"Processing Time Baseline" on page 579	Processing_Time_Baseline	4
"Processing Time Baseline Sample Count" on page 580	Processing_Time_Baseline_Sample_Count	4
"Processing Time Deviation" on page 580	Processing_Time_Deviation	4
"Initial Time" on page 571	Initial_Time	4
"Initial Time Baseline" on page 571	Initial_Time_Baseline	4
"Initial Time Baseline Sample Count" on page 572	Initial_Time_Baseline_Sample_Count	4
"Initial Time Deviation" on page 572	Initial_Time_Deviation	4

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Final Time" on page 570	Final_Time	4
"Final Time Baseline" on page 570	Final_Time_Baseline	4
"Final Time Baseline Sample Count" on page 570	Final_Time_Baseline_Sample_Count	4
"Final Time Deviation" on page 570	Final_Time_Deviation	4
"Network Time" on page 577	Network_Time	4
"Network Time Baseline" on page 577	Network_Time_Baseline	4
"Network Time Baseline Sample Count" on page 577	Network_Time_Baseline_Sample_Count	4
"Network Time Deviation" on page 577	Network_Time_Deviation	4

Transaction Instance Situation Data

The Transaction Instance Situation Data (TUINSTSIT) table displays information about transactions instances that have triggered a situation.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Node" on page 577	Node	32
Instance ID	Instance_ID	36
"Name" on page 576	Name	256
"Value" on page 589	Value	256

TU Broadcast

The TU Broadcast (TUBCAST) table contains the broadcast messages from other Transaction Collectors.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Status" on page 583	Status	32
"Node" on page 577	Node	32

Baseline data intended for the Transaction Collector

The Transaction Collector Baseline table (TUBASELINE) provides baseline data for Transaction Collector records.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
System Name	System_Name	512
"Timestamp" on page 585	Timestamp	16

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Record id" on page 580	Record_ID	16
"Total Time Baseline" on page 586	Total_Time_Baseline	4
"Total Time Baseline Count" on page 586	Total_Time_Baseline_Count	4
"Processing Time Baseline" on page 579	Processing_Time_Baseline	4
"Processing Time Baseline Count" on page 580	Processing_Time_Baseline_Count	4
"Initial Time Baseline" on page 571	Initial_Time_Baseline	4
"Initial Time Baseline Count" on page 571	Initial_Time_Baseline_Count	4
"Final Time Baseline" on page 570	Final_Time_Baseline	4
"Final Time Baseline Count" on page 570	Final_Time_Baseline_Count	4
"Network Time Baseline" on page 577	Network_Time_Baseline	4
"Network Time Baseline Count" on page 577	Network_Time_Baseline_Count	4

Transaction Reporter attributes

The Transaction Reporter in Transaction Tracking uses a specific set of attributes.

In most cases, there is a one-to-one correspondence between a workspace type and an attribute group. In other words, a workspace contains data or columns whose contents are extracted from the attributes in a single attribute group. However, some of the workspaces use more than one attribute group. The table below shows the relationship between the predefined workspaces in the Transaction Reporter and the attribute groups.

Workspace type	Related attribute groups
Transaction Tracking Overview	AGGREGATS
Transaction Reporter Agent Status	TOSTATUS
	TOCONFIG
Transaction Reporter Agent Diagnostics	TODIAG
Summary	AGGREGATS
Interaction by Time	INTERACTN
Interaction by Transaction Rate	INTERACTN
Topology	AGGREGATS
Transactions	AGGREGATS
Transaction Instances	TINST
	TINSTINT
	TINSTCXT

Table 50. Relationship between workspaces and attribute groups
Workspace type	Related attribute groups
Historical Transaction Instances	TINST
	TINSTINT
	TINSTCXT
Agentless	TOAGGCTX
	TOINTERTN
	TOSTRMAP
	TOUNITTYPE
	ТОМЕТТҮРЕ
	TOAGGGMET
	TOAGGCMET
	TOINTGMET
	TOINTCMET
	TOAGGSIT
	TOINTSIT

Table 50. Relationship between workspaces and attribute groups (continued)

Configuration information for the Transaction Reporter

The Configuration (TOCONFIG) table displays the current values for the configuration settings of the Transaction Reporter.

The following	table includes a	description	of the attributes	in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Aggregate Initial Track Event Count" on page 561	Aggregate_Initial_Track_Event_Count	4
"Aggregate Maximum Track Event Count" on page 561	Aggregate_Maximum_Track_Event_Count	4
"Aggregate Processing Duration Minutes" on page 562	Aggregate_Processing_Duration_Minutes	4
"Aggregation Period Count" on page 562	Aggregation_Period_Count	4
"Aggregation Period Minutes" on page 562	Aggregation_Period_Minutes	4
"Cache Maximum Period Minutes" on page 564	Cache_Maximum_Period_Minutes	4
"Cache Period Count" on page 564	Cache_Period_Count	4
"Cache Remove Count" on page 564	Cache_Remove_Count	4
"Calculate Implied Interactions" on page 564	Calculate_Implied_Interactions	2
"Calculate Pseudo Interactions" on page 564	Calculate_Pseudo_Interactions	2
"File Path" on page 570	File_Path	128
"History Maximum Period Minutes" on page 571	History_Maximum_Period_Minutes	4

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"History Period Count" on page 571	History_Period_Count	4
"History Period Minutes" on page 571	History_Period_Minutes	4
"History Remove Count" on page 571	History_Remove_Count	4
"History Warehouse Supply Count" on page 571	History_Warehouse_Supply_Count	4
"Instance Cache Period Count" on page 572	Instance_Cache_Period_Count	4
"Instance Warehouse Period Count" on page 572	Instance_Warehouse_Period_Count	4
"Instance Warehouse Supply Count" on page 572	Instance_Warehouse_Supply_Count	4
"Maximum Instance Query Limit" on page 574	Maximum_Instance_Query_Limit	4
"Read Topology XML" on page 580	Read_Topology_XML	2
"Read XML" on page 580	Read_XML	2
"Recalculate Interactions" on page 580	Recalculate_Interactions	2
"Show Latest Data" on page 581	Show_Latest_Data	2
"Show Latest Instance Data" on page 581	Show_Latest_Instance_Data	2
"Situation Depth Limit Seconds" on page 581	Situation_Depth_Limit_Seconds	4
"Situation Time Limit Seconds" on page 581	Situation_Time_Limit_Seconds	4
"System Name" on page 584	System_Name	64
"Thread Pool Size" on page 584	Thread_Pool_Size	4
"Timestamp" on page 585	Timestamp	16
"Topology Determination Maximum Backoff Minutes" on page 585	Topology_Determination_Maximum_ Backoff_Minutes	4
"Topology Forget Interval Minutes" on page 585	Topology_Forget_Interval_Minutes	4
"Transaction Collector Contact Delay Seconds" on page 587	Transaction_Collector_Contact_Delay_ Seconds	4
"Transaction Collector Contact Interval Seconds" on page 587	Transaction_Collector_Contact_Interval_ Seconds	4
"Transaction Collector List" on page 587	Transaction_Collector_List	128
"Transaction Collector Timeout Seconds" on page 588	Transaction_Collector_Timeout_Seconds	4
"Update Available Collectors" on page 589	Update_Available_Collectors	4
"Workspace Depth Limit Seconds" on page 590	Workspace_Depth_Limit_Seconds	4
"Workspace Time Limit Seconds" on page 590	Workspace_Time_Limit_Seconds	4
"Write Topology XML" on page 590	Write_Topology_XML	2

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Write XML Frequency" on page 590	Write_XML_Frequency	4
"Transaction Reporter List" on page 589	Transaction_Reporter_List	128
"Calculate Remote Interactions" on page 564	Calculate_Remote_Interactions	2

Diagnostic information of the Transaction Reporter

Diagnostic information of the Transaction Reporter.

The following	table	includes	а	description	of th	e attributes	in	this	group	
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Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"IMPORTANCE" on page 571	IMPORTANCE	2
"MESSAGE" on page 574	MESSAGE	128
"MESSAGECLASS" on page 575	MESSAGECLASS	32
"Node" on page 577	Node	32
"Timestamp" on page 585	Timestamp	16
"UOM" on page 589	UOM	32

Health and status information for the Transaction Reporter

The Status (TOSTATUS) table attributes determine the health and status of your Transaction Reporter and Transaction Collectors. Use this information to determine when the Transaction Reporter collects information, that all the Transaction Collectors are available, and the times the aggregates are collected.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"AggregateRow Cache End Timestamp" on page 562	AggregateRow_Cache_End_Timestamp	16
"AggregateRow Cache Start Timestamp" on page 562	AggregateRow_Cache_Start_Timestamp	16
"AggregateRow History End Timestamp" on page 562	AggregateRow_History_End_Timestamp	16
"AggregateRow History Start Timestamp" on page 562	AggregateRow_History_Start_Timestamp	16
"InteractionRow Cache End Timestamp" on page 572	InteractionRow_Cache_End_Timestamp	16
"InteractionRow Cache Start Timestamp" on page 573	InteractionRow_Cache_Start_Timestamp	16
"InteractionRow History End Timestamp" on page 573	InteractionRow_History_End_Timestamp	16
"InteractionRow History Start Timestamp" on page 573	InteractionRow_History_Start_Timestamp	16

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Start Timestamp" on page 583	Start_Timestamp	16
"System Name" on page 584	System_Name	64
"Timestamp" on page 585	Timestamp	16
"Transaction Collector Contact Available" on page 587	Transaction_Collector_Contact_Available	4
"Transaction Collector Contact Timestamp" on page 587	Transaction_Collector_Contact_Timestamp	16

Information for transaction instance events

The Instance Events (TINSTEVT) table contains detailed information for transaction instance events.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Description" on page 566	Description	64
"Event ID" on page 569	Event_ID	32
"Instance ID" on page 572	Instance_ID	32
"Name" on page 576	Name	64
"Offset ms" on page 578	Offset_ms	4
"System Name" on page 584	System_Name	64
"Timestamp" on page 585	Timestamp	16
"Value" on page 589	Value	128

The following table includes a description of the attributes in this group.

Performance information for aggregates

The Aggregates (AGGREGATS) table contains response time and transaction rate information for aggregates in each Transaction Reporter.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Aggregate" on page 561	Aggregate	256
"Aggregate ID" on page 561	Aggregate_ID	32
"Dynamic Workspace Link Blob 1" on page 568	Dynamic_Workspace_Link_Blob_1	512
"Dynamic Workspace Link Blob 2" on page 568	Dynamic_Workspace_Link_Blob_2	512
"Dynamic Workspace Link Blob 3" on page 568	Dynamic_Workspace_Link_Blob_3	512
"Dynamic Workspace Link Blob 4" on page 568	Dynamic_Workspace_Link_Blob_4	512
"Enclosing Application" on page 568	Enclosing_Application	256

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Enclosing Application ID" on page 568	Enclosing_Application_ID	32
"Enclosing Component" on page 569	Enclosing_Component	256
"Enclosing Component ID" on page 569	Enclosing_Component_ID	32
"Enclosing ID" on page 569	Enclosing_ID	32
"Enclosing Server" on page 569	Enclosing_Server	256
"Enclosing Server ID" on page 569	Enclosing_Server_ID	32
"Failed" on page 569	Failed	4
"Good" on page 570	Good	4
"Group Level" on page 571	Group_Level	2
"Percent Failed" on page 579	Percent_Failed	2
"Percent Good" on page 579	Percent_Good	2
"Percent Slow" on page 579	Percent_Slow	2
"Slow" on page 581	Slow	4
"Sort Order" on page 582	Sort_Order	4
"System Name" on page 584	System_Name	64
"Timestamp" on page 585	Timestamp	16
"Total Time" on page 586	Total_Time	4
"Total Time Baseline" on page 586	Total_Time_Baseline	4
"Total Time Deviation" on page 587	Total_Time_Deviation	4
"Total Transaction Count" on page 587	Total_Transaction_Count	4
"Transaction Count" on page 588	Transaction_Count	4
"Transaction Rate" on page 588	Transaction_Rate	4
"Transaction Rate Baseline" on page 588	Transaction_Rate_Baseline	4
"Transaction Rate Deviation" on page 588	Transaction_Rate_Deviation	4

Performance information for interactions

The Interaction (INTERACTN) table contains response time and transaction rate information for interactions between aggregates. The interaction can be a one way interaction, where a child node only receives information from its parent node, or it can be an interaction in both directions. These are used in the Topologies workspaces.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Aggregate" on page 561	Aggregate	256
"Aggregate ID" on page 561	Aggregate_ID	32
"Child Response Time" on page 565	Child_Response_Time	4

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Child Response Time Baseline" on page 565	Child_Response_Time_Baseline	4
"Child Response Time Deviation" on page 565	Child_Response_Time_Deviation	4
"Child Total Time" on page 565	Child_Total_Time	4
"Child Total Time Baseline" on page 565	Child_Total_Time_Baseline	4
"Child Total Time Deviation" on page 565	Child_Total_Time_Deviation	4
"Dynamic Workspace Link Blob 1" on page 568	Dynamic_Workspace_Link_Blob_1	512
"Dynamic Workspace Link Blob 2" on page 568	Dynamic_Workspace_Link_Blob_2	512
"Dynamic Workspace Link Blob 3" on page 568	Dynamic_Workspace_Link_Blob_3	512
"Dynamic Workspace Link Blob 4" on page 568	Dynamic_Workspace_Link_Blob_4	512
"Enclosing Application" on page 568	Enclosing_Application	256
"Enclosing Application ID" on page 568	Enclosing_Application_ID	32
"Enclosing Component" on page 569	Enclosing_Component	256
"Enclosing Component ID" on page 569	Enclosing_Component_ID	32
"Enclosing ID" on page 569	Enclosing_ID	32
"Enclosing Server" on page 569	Enclosing_Server	256
"Enclosing Server ID" on page 569	Enclosing_Server_ID	32
"Failed" on page 569	Failed	4
"Good" on page 570	Good	4
"Group Level" on page 571	Group_Level	2
"Interaction" on page 572	Interaction	288
"Link Message ID" on page 573	Link_Message_ID	8
"Link Resource" on page 573	Link_Resource	64
"Link Severity" on page 573	Link_Severity	2
"Node Message ID" on page 577	Node_Message_ID	8
"Node Resource" on page 577	Node_Resource	64
"Node Severity" on page 578	Node_Severity	2
"Parent" on page 578	Parent	256
"Parent ID" on page 579	Parent_ID	32
"Parent Sub Transaction Time" on page 579	Parent_Sub_Transaction_Time	4
"Parent Sub Transaction Time Baseline" on page 579	Parent_Sub_Transaction_Time_Baseline	4
"Parent Sub Transaction Time Deviation" on page 579	Parent_Sub_Transaction_Time_Deviation	4
"Percent Failed" on page 579	Percent_Failed	2
"Percent Good" on page 579	Percent_Good	2

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Percent Slow" on page 579	Percent_Slow	2
"Slow" on page 581	Slow	4
"Sort Order" on page 582	Sort_Order	4
"System Name" on page 584	System_Name	64
"Timestamp" on page 585	Timestamp	16
"Total Transaction Count" on page 587	Total_Transaction_Count	4
"Transaction Count" on page 588	Transaction_Count	4
"Transaction Rate" on page 588	Transaction_Rate	4
"Transaction Rate Baseline" on page 588	Transaction_Rate_Baseline	4
"Transaction Rate Deviation" on page 588	Transaction_Rate_Deviation	4

Performance information for transaction instance contexts

The Transaction Instance Context (TINSTCXT) table contains context data for transaction instances related to a specified transaction instance. This table provides context data for instances identified in the Transaction Instances (TINST) table.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Instance ID" on page 572	Instance_ID	32
"Name" on page 576	Name	256
"System Name" on page 584	System_Name	64
"Timestamp" on page 585	Timestamp	16
"Transaction" on page 587	Transaction	256
"Transaction ID" on page 588	Transaction_ID	32
"Value" on page 589	Value	256

The following table includes a description of the attributes in this group.

Performance information for transaction instances

The Transaction Instances (TINST) table provides a list of transaction instances for a specified aggregate transaction. Interactions for the instances in this table can be obtained from the Transaction Instance Interactions (TINSTINT) table.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Aggregate ID" on page 561	Aggregate_ID	32
"Aggregate Name" on page 561	Aggregate_Name	256
"Display Context" on page 568	Display_Context	256
"Dynamic Workspace Link Blob 1" on page 568	Dynamic_Workspace_Link_Blob_1	512
"Dynamic Workspace Link Blob 2" on page 568	Dynamic_Workspace_Link_Blob_2	512

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes	
"Dynamic Workspace Link Blob 3" on page 568	Dynamic_Workspace_Link_Blob_3	512	
"Dynamic Workspace Link Blob 4" on page 568	Dynamic_Workspace_Link_Blob_4	512	
"Enclosing Application" on page 568	Enclosing_Application	256	
"Enclosing Application ID" on page 568	Enclosing_Application_ID	32	
"Enclosing Component" on page 569	Enclosing_Component	256	
"Enclosing Component ID" on page 569	Enclosing_Component_ID	32	
"Enclosing Server" on page 569	Enclosing_Server	256	
"Enclosing Server ID" on page 569	Enclosing_Server_ID	32	
"Instance ID" on page 572	Instance_ID	32	
"Instance Status" on page 572	Instance_Status	2	
"System Name" on page 584	System_Name	64	
"Timestamp" on page 585	Timestamp	16	
"Total Time" on page 586	Total_Time	4	
"Total Time Baseline" on page 586	Total_Time_Baseline	4	
"Total Time Deviation" on page 587	Total_Time_Deviation	4	

Performance information for transaction instance interactions

The Transaction Instance Interactions (TINSTINT) table contains interactions between transaction instances related to a specified transaction instance. The interaction can be one way, where a child receives information from its parent, or it can be in both directions. This table provides interaction information for instances identified in the Transaction Instances (TINST) table.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Aggregate ID" on page 561	Aggregate_ID	32
"Child Response Time" on page 565	Child_Response_Time	4
"Child Response Time Baseline" on page 565	Child_Response_Time_Baseline	4
"Child Response Time Deviation" on page 565	Child_Response_Time_Deviation	4
"Child Total Time" on page 565	Child_Total_Time	4
"Child Total Time Baseline" on page 565	Child_Total_Time_Baseline	4
"Child Total Time Deviation" on page 565	Child_Total_Time_Deviation	4
"Display Context" on page 568	Display_Context	256
"Dynamic Workspace Link Blob 1" on page 568	Dynamic_Workspace_Link_Blob_1	512

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Dynamic Workspace Link Blob 2" on page 568	Dynamic_Workspace_Link_Blob_2	512
"Dynamic Workspace Link Blob 3" on page 568	Dynamic_Workspace_Link_Blob_3	512
"Dynamic Workspace Link Blob 4" on page 568	Dynamic_Workspace_Link_Blob_4	512
"Enclosing Application" on page 568	Enclosing_Application	256
"Enclosing Application ID" on page 568	Enclosing_Application_ID	32
"Enclosing Component" on page 569	Enclosing_Component	256
"Enclosing Component ID" on page 569	Enclosing_Component_ID	32
"Enclosing Server" on page 569	Enclosing_Server	256
"Enclosing Server ID" on page 569	Enclosing_Server_ID	32
"Instance ID" on page 572	Instance_ID	32
"Instance Status" on page 572	Instance_Status	2
"Interaction" on page 572	Interaction	288
"Link Message ID" on page 573	Link_Message_ID	8
"Link Resource" on page 573	Link_Resource	64
"Link Severity" on page 573	Link_Severity	2
"Node Message ID" on page 577	Node_Message_ID	8
"Node Resource" on page 577	Node_Resource	64
"Node Severity" on page 578	Node_Severity	2
"Parent" on page 578	Parent	256
"Parent ID" on page 579	Parent_ID	32
"Parent Sub Transaction Time" on page 579	Parent_Sub_Transaction_Time	4
"Parent Sub Transaction Time Baseline" on page 579	Parent_Sub_Transaction_Time_Baseline	4
"Parent Sub Transaction Time Deviation" on page 579	Parent_Sub_Transaction_Time_Deviation	4
"System Name" on page 584	System_Name	64
"Timestamp" on page 585	Timestamp	16
"Transaction" on page 587	Transaction	256
"Transaction ID" on page 588	Transaction_ID	32

Context information for aggregates

The Aggregate Context (TOAGGCTX) table contains context information about an aggregate, including vertical context and caller types, which the Transaction Reporter uses to identify the source of aggregates and records.

The	following	table	includes	а	description	of	the	attributes	in	this	group).
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Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Aggregate" on page 561	Aggregate_ID	16
"Context Name" on page 566	Context_Name	4
"Description" on page 566	Description	4
"System Name" on page 584	System_Name	128
"Timestamp" on page 585	Timestamp	64

Interaction definitions

The Aggregates Interactions (TOINTERTN) table defines the interactions between aggregates.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Destination Aggregate ID" on page 566	Destination_Aggregate_ID	4
"Interaction ID" on page 572	Interaction_ID	16
"Interaction Type" on page 572	Interaction_Type	4
"Source Aggregate ID" on page 582	Source_Aggregate_ID	4
"System Name" on page 584	System_Name	4
"Timestamp" on page 585	Timestamp	64

String map

The String Map (TOSTRMAP) table contains the string values used by the TOAGGCTX table.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"String ID" on page 583	String_ID	16
"String Length" on page 584	String_Length	4
"String Value" on page 584	String_Value	4
"System Name" on page 584	System_Name	2
"Timestamp" on page 585	Timestamp	64

Metric units

The Metric Units (TOUNITTYPE) table describes the units of metrics.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"System Name" on page 584	System_Name	256
"Timestamp" on page 585	Timestamp	64
"Unit ID" on page 589	Unit_ID	16
"Unit String" on page 589	Unit_String	2

Metric types

The Metric Types (TOMETTYPE) table stores the metric types for display in table views.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"System Name" on page 584	System_Name	128
"Timestamp" on page 585	Timestamp	64
"Type ID" on page 589	Type_ID	16
"Type String" on page 589	Type_String	2
"Unit" on page 589	Unit	8

Aggregate gauge metrics

The Aggregate Gauge Metrics (TOAGGGMET) table stores gauge metrics for an aggregate, that is, range-based numeric data with an aggregation type of MIN, MAX, or AVG.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Aggregate ID" on page 561	Aggregate_ID	16
"Gauge Value" on page 570	Gauge_Value	2
"Sample Count" on page 580	Sample_Count	8
"System Name" on page 584	System_Name	128
"Timestamp" on page 585	Timestamp	64
"Type" on page 589	Туре	4

Aggregate count metrics

The Aggregate Count Metrics (TOAGGCMET) table stores count metrics for an aggregate, that is, metrics with an aggregation type of TOT, HI, LOW, or LAT.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Aggregate ID" on page 561	Aggregate_ID	16
"Count Value" on page 566	Count_Value	2
"System Name" on page 584	System_Name	2
"Timestamp" on page 585	Timestamp	64
"Type" on page 589	Туре	4

Interaction gauge metrics

The Interaction Gauge Metrics (TOINTGMET) table stores gauge metrics for an interaction, that is, range-based numeric data with an aggregation type of MIN, MAX, or AVG.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Destination ID" on page 567	Destination_ID	4
"Gauge Value" on page 570	Gauge_Value	2
"Interaction ID" on page 572	Interaction_ID	16
"Sample Count" on page 580	Sample_Count	8
"Source ID" on page 582	Source_ID	4
"System Name" on page 584	System_Name	64
"Timestamp" on page 585	Timestamp	64
"Type" on page 589	Туре	4

Interaction count metrics

The Interaction Count Metrics (TOINTCMET) table stores count metrics for an interation, that is metrics with an aggregation type of TOT, HI, LOW, or LAT.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Count Value" on page 566	Count_Value	2
"Destination ID" on page 567	Destination_ID	4
"Interaction ID" on page 572	Interaction_ID	16
"Source ID" on page 582	Source_ID	4
"System Name" on page 584	System_Name	2
"Timestamp" on page 585	Timestamp	64
"Type" on page 589	Туре	4

Aggregate Situations

The Aggregate Situations (TOAGGSIT) table stores metrics for an aggregate in a format suitable for defining situations.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Aggregate ID" on page 561	Aggregate_ID	4
"Display Format" on page 568	Display_Format	256
"Display Value" on page 568	Display_Value	256
"Filter Format" on page 570	Filter_Format	256
"Filter Value" on page 570	Filter_Value	512
"Metric Name" on page 575	Metric_Name	128
"Metric Value" on page 575	Metric_Value	8
"System Name" on page 584	System_Name	64
"Timestamp" on page 585	Timestamp	16

Interaction Situations

The Interaction Situations (TOINTSIT) table stores metrics for an interaction in a format suitable for defining situations.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Destination ID" on page 567	Destination_ID	4
"Display Format" on page 568	Display_Format	256
"Display Value" on page 568	Display_Value	256
"Filter Format" on page 570	Filter_Format	256
"Filter Value" on page 570	Filter_Value	512
"Interaction ID" on page 572	Interaction_ID	4
"Metric Name" on page 575	Metric_Name	128
"Metric Value" on page 575	Metric_Value	8
"Source ID" on page 582	Source_ID	4
"System Name" on page 584	System_Name	64
"Timestamp" on page 585	Timestamp	16

Instance data

Use the attributes in this table to display instance data events.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Blob" on page 564	Blob	512
"Node" on page 577	Node	32

Transaction Instance Alerts

The Transaction Instance Alerts (TUINSTALRT) table displays the Instance IDs of any transactions that have triggered a situation.

The following table includes a description of the attributes in this group.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Node" on page 577	Node	32
ThruNode	ThruNode	32
Instance ID	Instance_ID	36
"Timestamp" on page 585	Timestamp	16

Transaction Instance Metrics

The Transaction Instance Metrics (TUINSTMET) table displays timings for the slowest transaction instances that have been recorded.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Node" on page 577	Node	32
Instance ID	Instance_ID	36
ThruNode	ThruNode	32
"Timestamp" on page 585	Timestamp	16
Server Name	Server_Name	256
"Component Name" on page 566	Component_Name	256
"Application Name" on page 562	Application_Name	256
"Transaction Name" on page 588	Transaction_Name	256
"Discovery Context Name" on page 568	Discovery_Context_Name	256
"Status" on page 583	Status	32
"Total Time" on page 586	Total_Time	4
"Total Time Baseline Count" on page 586	Total_Time_Baseline	4
"Total Time Baseline Sample Count" on page 587	Total_Time_Baseline_Sample_Count	4
"Total Time Deviation" on page 587	Total_Time_Deviation	4
"Processing Time" on page 579	Processing_Time	4

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Processing Time Baseline" on page 579	Processing_Time_Baseline	4
"Processing Time Baseline Sample Count" on page 580	Processing_Time_Baseline_Sample_Count	4
"Processing Time Deviation" on page 580	Processing_Time_Deviation	4
"Initial Time" on page 571	Initial_Time	4
"Initial Time Baseline" on page 571	Initial_Time_Baseline	4
"Initial Time Baseline Sample Count" on page 572	Initial_Time_Baseline_Sample_Count	4
"Initial Time Deviation" on page 572	Initial_Time_Deviation	4
"Final Time" on page 570	Final_Time	4
"Final Time Baseline" on page 570	Final_Time_Baseline	4
"Final Time Baseline Sample Count" on page 570	Final_Time_Baseline_Sample_Count	4
"Final Time Deviation" on page 570	Final_Time_Deviation	4
"Network Time" on page 577	Network_Time	4
"Network Time Baseline" on page 577	Network_Time_Baseline	4
"Network Time Baseline Sample Count" on page 577	Network_Time_Baseline_Sample_Count	4
"Network Time Deviation" on page 577	Network_Time_Deviation	4

Transaction Instance Situation Data

The Transaction Instance Situation Data (TUINSTSIT) table displays information about transactions instances that have triggered a situation.

Attribute (click on the link for a description)	Tivoli Data Warehouse term for historical reporting	Tivoli Data Warehouse database column size in bytes
"Node" on page 577	Node	32
Instance ID	Instance_ID	36
"Name" on page 576	Name	256
"Value" on page 589	Value	256

The following table includes a description of the attributes in this group.

Transaction Tracking Take Action commands

Use Take Action commands to initiate commands for the Transaction Reporter and Transaction Collector from within the Tivoli Enterprise Portal. These commands can be used in automatic situations and isolated take action requests.

Transaction Tracking contains the following Take Action commands:

• **KTO: REMEMBER AGGREGATE** *aggregate id* stores a selection of transaction instances that are related to the specified *aggregate id* from the Aggregates table to the Transaction Reporter and then to the Tivoli Data Warehouse. The *aggregate id* is a variable which must match a row in the Aggregates table. **KTO: REMEMBER AGGREGATE** uses the following parameters:

- good=*count* where *count* is the number of good instances to remember
- failed=*count* where *count* is the number of failed instances to remember
- slow=*count* where *count* is the number of slow instances to remember
- depth=count where count is the number of hops for which to track the instance algorithm
- timeout=seconds where seconds is the time limit restricting the instance algorithm. This defaults to slow=1 and uses the configured depth and timeout.
- supplying failed=count where count checks for instances with Status=Failed
- supplying slow=count where count checks for instances with Status=Slow or the largest total time
- supplying good=count where count checks for instances with the smallest total time

KTO: REMEMBER AGGREGATE counts are limited by the number of instances the Transaction Collector associated with an aggregate. This is the 5 fastest, 5 average, 5 slowest, and 5 failed transactions per aggregate per period. Given that the Transaction Collector keeps three periods of data, 15 is the maximum value that you can set for available for failed, and 15 to 45 for slow and good. Setting counts higher than these values causes more resource consumption as the Instance Algorithm tracks those instances.

This command is used in the Slow_Transactions and Failed_Transactions predefined situations depending on the parameter set.

- **KTO: REMEMBER INSTANCE** *instance id* stores the transaction information for the specified *instance id* from the Transaction Instances table to the Transaction Reporter and then to the Tivoli Data Warehouse. The *instance id* is a variable which must match a row in the Transaction Instances table. The *aggregate id* is a variable which must match a row in the Aggregates table. **KTO: REMEMBER INSTANCE** uses the following parameters:
 - depth=count where count is the number of hops for which to track the instance algorithm
 - timeout=seconds where seconds is the time limit restricting the instance algorithm. This defaults to slow=1 and uses the configured depth and timeout.

To send a particular transaction instance to the Tivoli Data Warehouse:

- 1. In the **Transaction Instances** workspace, select an instance in the Transactions Instances table.
- 2. Right-click and select Take Action > Select.

Tip: You can also right-click an instance in the Transaction Interactions table and select **Take Action** > **Select**.

- 3. In the **Take Action** dialog box, select **Store Instance for Warehousing** in the **Name** menu.
- 4. Click OK.
- 5. Click **OK** to confirm the action.
- **KTU: REMEMBER INSTANCE** *instance id timestamp* warehouses selected instance data for the specified instance reported to the Tivoli Enterprise Monitoring Server situation in the Transaction Instance Metrics table. Instance data warehoused includes Timestamp, full vertical context and Total Time, Processing Time, Initial Time, Final Time and Network Time. Use this command only with an instance situation (which populates the variables from the instance data). Any warehoused instance must have been in the slowest 5 instances for any status type (good, slow, failed) at the time of a request for the Transaction Instance Metrics (TUINSTMET) table.

- **KTO: FORGET TOPOLOGY** clears the learned topology information. When data is collected from the Transaction Collector in the future, the topology is recalculated and the newly determined topology is applied to the new data. Previously collected data remains unchanged.
- **KTO: EXECUTE DLA** creates an iDML book describing the current Transaction Tracking topology. The iDML book is required by Tivoli Business Service Manager to provide a framework for displaying Transaction Tracking situation events in Tivoli Business Service Manager. Once the Take Action has been run and the iDML has been saved, copy the iDML book from the Transaction Reporter to Tivoli Business Service Manager. Run the Take Action and update the iDML book on Tivoli Business Service Manager as required.

Appendix A. Internet Service Monitoring - Attributes listed alphabetically

This section provides an alphabetical listing of all attributes.

Authentication Time

The time, in seconds, taken to authorize both the SIP monitor and the SIP enabled device.

Average RTT

The average round trip time in seconds.

Bad (host statistics)

The total number of received results with a service level of Bad.

Bad

The number of elements currently having a service level of Bad.

Bad Percentage (host statistics)

The percentage of Bad results received in the last hour.

Bad Percentage

The percentage of results that returned a service level of Bad in the last hour (the time frame is determined by the AggDuration setting in the properties file for the Internet service monitoring agent).

Buffering Time

The total time, in seconds, from the start to the end of the first buffering.

Bytes Per Second

The average number of bytes transferred each second.

Bytes Transferred

FTP, POP, TFTP monitors: The number of bytes uploaded or downloaded.

HTTP monitor: The number of bytes downloaded.

Call Setup Time

The time, in seconds, taken to set up a call.

Client IP

The IP address of the host where the monitor is running.

Connect Time

The time, in seconds, taken to connect to the server.

Description

The text description provided in the Description field of the monitor profile element.

DNS RTT

The time, in seconds, for the DNS lookup.

Download Time

HTTP monitor: The time, in seconds, taken to download the page.

IMAP, POP, monitors: The time, in seconds, taken to download the file.

TCPPORT monitor: The time, in seconds, taken to receive the response.

Elements (profile statistics)

The number of elements represented by the row.

Elements (HTTP)

The number of page elements received.

Email Address

The e-mail address of the mailbox used by the monitor to send the test e-mail to.

Error Total

The total number of packets in error.

File Name

The name of the media file that the monitor attempted to stream.

FTP Command

The FTP command issued by the monitor.

FTP Connection

The type of data connection used. This is either ACTIVE or PASSIVE.

FTP Local File

Full pathname of the file stored on the local host.

FTP Remote File

Full pathname of the file stored on the remote host (the FTP server).

FTP URL

The URL used in the FTP test.

Good (host statistics)

The total number of received results with a service level of Good.

Good

The number of elements currently having a service level of Good.

Good

The number of elements currently having a service level of Good.

Good Percentage (host statistics)

The percentage of Good results received in the last hour.

Good Percentage

The percentage of results that returned a service level of Good in the last hour (the time frame is determined by the AggDuration setting in the properties file for the Internet service monitoring agent).

Hop Host Eight

The eighth host visited when using ICMP Echo Path.

Hop Host Five

The fifth host visited when using ICMP Echo Path.

Hop Host Four

The fourth host visited when using ICMP Echo Path.

Hop Host One

The first host visited when using ICMP Echo Path.

Hop Host Seven

The seventh host visited when using ICMP Echo Path.

Hop Host Six

The sixth host visited when using ICMP Echo Path.

Hop Host Three

The third host visited when using ICMP Echo Path.

Hop Host Two

The second host visited when using ICMP Echo Path.

Host

The name of the host, server or router that is running the service being monitored.

Host IP

The IP address of the target host.

Host Lookup

The hostname or IP address of the target host that the monitor tried to locate.

HTTP RTT

The round trip time, in seconds, taken to perform the HTTP operation.

HTTP URL

The url that is monitored.

Ident Checksum

The identifier checksum of the profile element.

IMAP User

The username (account name) used by the monitor to log into the IMAP4 server.

Init Time

The time, in seconds, taken to initialize the LDAP client.

Last Service Level

The service level number of the previous poll. This is cleared if the profile changes.

Last Update (host statistics)

The time when the last update of data occurred.

Last Update (service statistics)

The time of the most recent event still in memory.

Last Update (profile statistics)

The time when the data was last updated.

Last Update (monitor status)

The time when data was last received from the monitor.

Location

The URL of the SOAP service that is monitored.

Login IP Host

The LoginIPHost attribute sent by the RADIUS monitor as part of an Access-Request packet. It may be required by servers that are being monitored.

Lookup Time

The time, in seconds, taken to obtain the IP address of the target host, server or other device.

Marg Percentage (host statistics)

The percentage of Marginal results received in the last hour.

Marginal Percentage

The percentage of results that returned a service level of Marginal in the last hour (the time frame is determined by the AggDuration setting in the properties file for the Internet service monitoring agent).

Marginal (host statistics)

The total number of received results with a service level of Marginal.

Marginal

The number of elements currently having a service level of Marginal.

Maximum RTT

The maximum round trip time in seconds.

Minimum RTT

The minimum round trip time in seconds.

Monitor Location

The name of the host running the monitor.

NAS Port

The NAS-Port attribute sent by the RADIUS monitor as part of an Access-Request packet.

NNTP Action

The action taken by the monitor. This is either READ or POST.

NNTP Group

The name of the monitored newsgroup.

Node

The name of the system on which the Internet service monitoring agent is running.

Number Of Steps

The number of steps in the transaction.

Number Of Steps Str

The number of steps in the transaction. This value is in string format.

OIDName Eight

The name of the ninth MIB object in the OID group.

OIDName Five

The name of the sixth MIB object in the OID group.

OIDName Four

The name of the fifth MIB object in the OID group.

OIDName Nine

The name of the tenth MIB object in the OID group.

OIDName One

The name of the second MIB object in the OID group.

OIDName Seven

The name of the eighth MIB object in the OID group.

OIDName Six

The name of the seventh MIB object in the OID group.

OIDName Three

The name of the fourth MIB object in the OID group.

OIDName Two

The name of the third MIB object in the OID group.

OIDName Zero

The name of the first MIB object in the OID group.

OID Group

The name of the OID group. The OID group contains the OIDs that the monitor has been polling.

Operation

The name of the SOAP operation that is performed.

Options Time

The time, in seconds, taken to query the capabilities of an SIP enabled device.

PPP Negotiation Time

The time, in seconds, taken to negotiate the PPP link. -UNIX only-

Page

The page that is accessed on the HTTP server.

Page Status

If a profile element retrieves multiple pages, this element contains the result string of the last page retrieved. This value is the same as that of \$urlResultn where n is equal to the value of \$pageCount.

Playback Time

The time, in seconds, taken to set up and receive the media.

Playback Time

The time, in seconds, from after the initial buffering to the end of the playback including any re-buffering.

POP User

The username (account name) used by the monitor to log into the POP3 server.

Port

The port on which the service is monitored.

HTTP monitor: The port used to access the HTTP server. If the test used a proxy server, this is the value of the port on the proxy server to which the request was submitted.

Port Time

The time, in seconds, taken to open the modem port on the local machine.

Probe Type

The type of probe used. This issna-name-echo.

Profile

The name of the Internet service monitoring user profile.

RADIUS User

The username used to authenticate the monitor.

Registration Time

The time, in seconds, taken to register both the SIP monitor and the SIP enabled device.

Remote Host

The name or IP address of the server you want the router to ping.

Requests Sent

The number of SIP Request messages sent.

Respond Percent

The percentage of pings sent for which there was a response.

Responder Router

The name of the router that is used to respond to the requests.

Response Received

The number of SIP Response messages received.

Response Time

The time, in seconds, elapsed between establishing a connection and receiving the first byte of data.

Result Message

A text string describing the result of the test (status message). For example, Connection failed, OK, or Success.

Result Status

The status code returned by the SMTP server.

Result String

A text string indicating the service level classification applied to the test results. For example, totalTime > 20.

Router Name

The type of router (Cisco, Juniper, or RFC2925).

SDP Download Time

The time, in seconds, taken to download data about the media file.

Search Time

The time, in seconds, taken to complete the search.

Sent To

The e-mail address used by the SMTP monitor to send the original message.

Server

The hostname of the server being monitored.

Service

The name of the service being monitored.

Service Level

The service level number of the poll, as defined in the service level classification: 0 - Unknown, 1 - Good, 2 - Marginal, 3 - Bad.

Service Level String

The service level string associated with the returned service level (Unknown, Good, Marginal, Bad).

Service Type

The type of monitor. For example, HTTP, FTP, ICMP.

Shutdown Time

The time, in seconds, between sending BYE and receiving 200 OK response.

SMTP User

The username used to log into the SMTP server.

SNMP Version

The version of SNMP used to send SNMP packets (version 1, 2c, or 3).

Source Router

The name or IP address of the router used to send the request.

Search Base

The distinguished name of the entity from which the search was started.

Search Filter

The attribute used to locate the target entity.

SSL Handshake Time

The time, in seconds, taken to establish the SSL connection.

Start Time (host statistics)

The date and time when the Internet service monitoring agent started tracking data for the profile element.

Start Time (service statistics)

The time of the first event still in memory.

Start Time (profile statistics)

The time when the monitor started to send data.

Status

Shows Active if the Internet Service Monitoring agent is receiving service test data from the monitor, and Inactive otherwise.

Step10 Total Time

The timing data, in seconds, returned by step 10.

Step1 Total Time

The timing data, in seconds, returned by step 1.

Step2 Total Time

The timing data, in seconds, returned by step 2.

Step3 Total Time

The timing data, in seconds, returned by step 3.

Step4 Total Time

The timing data, in seconds, returned by step 4.

Step5 Total Time

The timing data, in seconds, returned by step 5.

Step6 Total Time

The timing data, in seconds, returned by step 6.

Step7 Total Time

The timing data, in seconds, returned by step 7.

Step8 Total Time

The timing data, in seconds, returned by step 8.

Step9 Total Time

The timing data, in seconds, returned by step 9.

Target

The target to open the session to.

Target Host

SAA DLSW monitor: The name or IP address of the host on which the target SAA is running.

SAA SNA monitor: The host target for SNA Echo request.

TCP Connect RTT

The round trip time, in seconds, taken to connect to the server.

Terminated Reason

The reason or the connection closure.

TFTP Command

The TFTP command issued by the monitor. This is either GET or PUT.

TFTP Connection

The format in which the monitor transferred the file. This is either OCTET (8 bit) or NETASCII.

TFTP Local File

The full pathname of the file stored on the local host.

TFTP Remote File

The full pathname of the file stored on the remote host (the FTP server).

Timestamp

The date and time at which the test was performed.

TOS

The type of service value.

Total RTT

The total round trip time, in seconds, taken to get an IP from the server.

Total Time

The total time, in seconds, taken to execute an operation. This includes all lookup, connect, and download time where applicable, and interim processing time.

Transaction Name

The name of transaction.

Transaction Step Description

The description of the transaction step.

Transaction RTT

The round trip time, in seconds, taken to download the object specified by the URL.

Transfer Time

The time, in seconds, taken to upload or download the file.

Upload Time

The time, in seconds, to upload the file.

User Name

The user name used to log into the server.

VPN

The name of the virtual private network.

WSDL

The path to a local copy of the WSDL file.

guid

The last 100 characters of the path to the datalog file used by the monitor.

snmp Result Eight

The data returned by the SNMP GET command for the ninth MIB object in the OID group.

snmp Result Five

The data returned by the SNMP GET command for the sixth MIB object in the OID group.

snmp Result Four

The data returned by the SNMP GET command for the fifth MIB object in the OID group.

snmp Result Nine

The data returned by the SNMP GET command for the tenth MIB object in the OID group.

snmp Result One

The data returned by the SNMP GET command for the second MIB object in the OID group.

snmp Result Seven

The data returned by the SNMP GET command for the eighth MIB object in the OID group.

snmp Result Six

The data returned by the SNMP GET command for the seventh MIB object in the OID group.

snmp Result Three

The data returned by the SNMP GET command for the fourth MIB object in the OID group.

snmp Result Two

The data returned by the SNMP GET command for the third MIB object in the OID group.

snmp Result Zero

The data returned by the SNMP GET command for the first MIB object in the OID group.

Appendix B. Response Time - Attributes listed alphabetically

This section includes an alphabetical listing of all attributes that are included in the various Response Time attribute groups, along with a description for each attribute. Note that there are some cases where the same attribute name is defined more than once. This signifies that it is being used slightly differently in different attribute groups.

Abort On Violation

Specifies whether the robotic script is stopped when an availability violation occurs (True or False).

Active Connections

The total number of active TCP socket connections created during the current aggregate interval.

Additional Details

Any additional details about the event.

Agent

The name of the monitoring agent.

Agent Type

The type of data collector (Web Response Time, Robotic Response Time, or Transaction Reporter) that collected the particular data record. The monitoring software returns one of the following values:

- Robotic Response Time
- · Web Response Time
- Transaction Reporter (for Transaction Tracking)

Aggregate Applications Uniquely

Specifies how the agent collects aggregate data that matches the defined application pattern (True or False). This attribute is used with the Application Pattern, Transaction Pattern, and Aggregate Transactions Uniquely attributes to determine the granularity of data collected. Valid values for this attribute are:

True

The agent aggregates data uniquely and generates a unique record for each transaction whose application name matches the value of the Application Pattern attribute. It also provides a statistical summary for each transaction that matches the specified application pattern during the specified hour. This attribute value produces multiple records and increases the amount of overhead in terms of the amount of data that the monitoring agent collects, retains in the database, and displays.

False

The agent aggregates by pattern and creates a single aggregate record, named with the value in the Application Name attribute, that represents the summarized information from all transactions that matched the defined application pattern.

Aggregate Transactions Uniquely

Specifies how the agent collects aggregate data that matches the defined transaction pattern (True or False). Valid values are:

• True

The agent aggregates data uniquely and generates a unique record for each transaction that matches the value in the Transaction Pattern attribute.

• False

The agent aggregates by pattern and creates a single aggregate record, named using the value of the Transaction Name attribute, that represents the summarized information from all transactions that matched the defined transaction pattern.

Aggregate By

Specifies how the Web Response Time monitoring agent aggregates its collected low level TCP data, by client, server, component, protocol, or a combination of these groups.

Aggregated Uniquely By

Specifies how the monitoring agent aggregates its collected data, aggregating by application, client, transaction, or a combination of these groups.

Aggregated Uniquely By (ISM)

Specifies how the Internet Services Monitoring data is to be aggregated (None, Profile, Profile_Host, Profile_Service, or Profile_Agent). For example, if aggregation is by Profile, then the profile is the only key filled in; if aggregation is by Profile_Host, then only the profile host name is filled in.

Aggregates Uniquely

Specifies how the agent collects aggregate data that matches the defined client pattern (Aggregates Uniquely or Aggregate by Pattern). Valid values are:

• Aggregate Uniquely

The agent aggregates data uniquely and generates a unique record for each client that matches values in either the Client IP Pattern or Client Hostname Pattern attribute.

Aggregate by Pattern

The agent creates a single aggregate record (the name is in the Client Name attribute) that represents the summarized information from all client transactions that matched the defined client pattern.

Alert Name

The name of the SSL Alert (such as Decryption Failed or Certificate Expired).

Alert Type

The type of SSL alert (valid values are Network Error, Server Error, Server Warning, Client Error, or Client Warning).

App Server

The application status at the application server tier (Good, Fair, or Poor).

Application (Application Name)

The name of the monitored application reported to the Application Management Console. In Robotic Response Time, the application name is provided by ARM instrumentation. In Web Response Time, the name is part of the URL. If you define the Application Pattern attribute, and set the value of the Aggregates Uniquely attribute to *false*, the value of this attribute is the name of the Application Pattern.

Application Key

The alias name of the subnode for the current application.

Application Name

The name of the monitored application reported to the Application Management Console. In Robotic Response Time, the application name is provided by ARM instrumentation. In Web Response Time, the name is part of the URL. If you define the Application Pattern attribute, and set the value of the Aggregates Uniquely attribute to *false*, the value of this attribute is the name of the Application Pattern.

Application Pattern

The pattern syntax for the name of the application to monitor.

Application Protocol

The protocol used by the monitored application, such as HTTP or HTTPS.

Attributes

A list of user-defined attributes for the robotic script.

Auth Type

The type of authorization for the user name specified in the User Name attribute. You can enter an alphanumeric string with a maximum of 32 characters.

Average Client Time

The average elapsed time, in seconds, from the start of a transaction to the start of outbound network activity for the client. It also includes the average elapsed time from the last network update of the transaction to the end of the transaction. For instance data, this field is an absolute value, not an average.

For the Robotic Response Time agent, average client time indicates the average time that a robotic script takes to run in the runtime environment. The average client time that Robotic Response Time agent scripts returns includes factors such as script initialization overhead, and verification point processing. In some cases, the average client time can be zero, because the Robotic Response Time agent does not report values less than one millisecond.

If the Robotic Response Time agent reports unusually high average client time for script playbacks, this can indicate that there are too many scripts competing for memory or CPU. In some cases, high average client time is associated with a script timeout exception. In other cases, increases in average client time can be attributed to increases in server time and/or network time.

Average Connect Time

The average elapsed time, in seconds, from the time a user requests a browser connection to when the browser connects successfully with the server. If the transaction is interrupted or canceled before the connection is achieved, the elapsed time between the request and the interruption is reported. For instance data, this field is an absolute value, not an average.

Average DNS Time

The average elapsed time, in seconds, to look up the Domain Name System (DNS) address of the website. For instance data, this field is an absolute value, not an average.

Average Download Time

The average elapsed time, in seconds, from the time that the connection is made with a web server to successfully downloading a web page. For non-browser applications, this attribute reports the overall response time. For instance data, this field is an absolute value, not an average.

Average Failed Users

The average number of unique users experiencing Failed performance (a failed transaction). For example, if the user at IP address *128.1.2.3* experiences a Failed performance for a single WRT transaction, and the same user later experiences Failed performance during the same time period, that user is counted only once in both the Failed count and the All count. For the attribute groups that monitor a specific time interval, the value is the actual count for the time period (see Total Failed Users). For all of the Current Status and Summary attribute groups, the values are averages.

Average Good Users

The average number of unique users experiencing Good performance (not a failed transaction and not slower than the minimum response time threshold). For example, if the user at IP address *128.1.2.3* experiences a Good performance for a single Web Response Time transaction, and the same user experiences Good performance again during the same time period, that user is counted only once in both the Good count and the All count. For the attribute groups that monitor a specific time interval, the value is the actual count for the time period (see Total Good Users). For the Current Status and Summary attribute groups, the values are averages.
Average Load Time

The average elapsed time, in seconds, from the time the user requests a download to the completion of the web object download..

Average Network Time

The average elapsed time, in seconds, spent transmitting all required data through the network. This is a calculated time. For instance data, this field is an absolute value, not an average.

Average Object Count

The average number of objects embedded in a web page for the time period.

Average Object Size

The average size of all objects embedded in the web page for the time period.

Average Page Views Per Session

The average number of page views per user session.

Average Render Time

The total time taken, in seconds, to download, parse, and render the page from the user perspective.

Average Requests

The average number of requests for a data interval during the time span for which data is displayed.

Average Resolve Time

The average amount of time, in seconds, required to resolve the domain name of the URL. The resolve time is a part of the overall network time. For instance data, this field is an absolute value, not an average.

Average Response Time

The average response time, in seconds, for a single transaction instance that was observed during the monitoring interval. During each monitoring interval, minimum, maximum, and average response times for the aggregate records are recorded. Use these attributes to analyze the range of response times for the transaction.

Average Server Response Time

The average elapsed time, in milliseconds, for an overall server transaction to complete. For instance data, this field is an absolute value, not an average.

Average Server Time

The average elapsed time, in seconds, that a transaction spends running on the server during the current monitoring interval. For a transaction instance, this value is an absolute time, not an average.

Average Session Duration

The average duration, in seconds, of user sessions for the time period.

Average Slow Users

The average number of unique users experiencing slow performance (not a failed transaction, but slower than the minimum response time threshold) during the time period. For example, if the user at IP address *128.1.2.3* experiences a slow performance for a single WRT transaction, and the same user later experiences slow performance again during the same time period, that user is counted only once in both the Slow count and the All count. For the attribute groups that monitor a specific time interval, the value is the actual count for the time period (see Total Slow Users). For the Current Status and Summary attribute groups, the values are averages.

Average Users

The average number of unique users for the time period, or if no user or session tracking is configured, the number of unique source IP addresses. A user that experiences a Good, Failed, or Slow performance for a single Web Response Time transaction is counted once. For attribute groups that monitor a specific time interval, the value is the actual count for the time period (See Total Users). For the Current Status and Summary attribute groups, the values are averages.

Back Status

The application status at the backend tier (Good, Fair, or Poor).

Bad Requests

The number of transactions that did not complete correctly or reported an error during the data interval.

Browser Description

A description of the web browser on which the web page is displayed.

Captured Content Location

The location of the captured content.

Checksum

The checksum of the robotic script file.

Client

The name of the client that initiated the request (or transaction).

Client Errors

The number of HTTP requests with a status code between 400 and 499.

Client Group

The client group of the monitored traffic displayed as an IP address, or as an IP mask for multiple client addresses.

Client Hostname Pattern

The pattern, representing a set of fully qualified hostnames, that defines the hostnames of the clients to monitor. Example: a pattern to match all hostnames ending with *ibm.com*: *.ibm.com.

Client IP Pattern

The pattern, representing a set of client IP addresses, that defines the IP addresses of the clients to monitor. Example: a subnet such as *9.48.24.**. Only transactions from client IP addresses that match this user-defined pattern are recorded.

Client Key

The alias name of the subnode for the current client.

Client Name

A user-defined name for the monitored client that initiated the request. When defining a client pattern, if you select to aggregate by pattern, then the unique IP address and hostname that matches the defined pattern are replaced by the *Client Name* and aggregated together with all other unique clients that also matched the defined pattern.

Client Status

The application status at the client tier (Good, Fair, or Poor).

Client Time

The average elapsed time, in seconds, that the transaction spends running on the client during the current monitoring interval. For a transaction instance, this value is an absolute time, not an average.

For the Robotic Response Time agent, client time indicates the time that a robotic script takes to run in the runtime environment. The client time that Robotic Response Time agent scripts returns includes factors such as script initialization overhead, and verification point processing. In some cases, the client time can be zero, because the Robotic Response Time agent does not report values less than one millisecond.

If the Robotic Response Time agent reports unusually high client time for script playbacks, this can indicate that there are too many scripts competing for memory or CPU. In some cases, unusually high client time is associated with a script timeout exception. In other cases, increases in client time can be attributed to increases in server time and/or network time.

CLI Playback Command

The command and associated options that run a robotic script. If the script has not been uploaded to the depot, you must provide the full path name to the command. You can enter an alphanumeric string with a maximum of 128 characters.

CLI Success RC

The return code that a CLI script returns when it runs successfully.

Collect Instances

Specifies whether to collect every instance (True, False, or On Failure). These values are further defined as follows:

True

Collects all instance data. This includes performance data for every transaction that matches the specified IP address, URL, or data pattern. For a high-traffic website, a large amount of performance data can quickly accumulate.

False

Collects no instance data. It disables the collection of instance data and only collects a single statistical summary record for the aggregate interval. This choice provides a single record and the lowest overheard in terms of the amount of data that the monitoring agent collects, retains in the database, and displays.

• On Failure

Collects transaction instance data after a violation occurs.

Component

The monitoring agent (RPT, or WRM) that generated the message. *RPT* indicates Robotic Response Time, and *WRM* indicates Web Response Time.

Component

The component name of the monitored traffic as specified in the Component definition in the Application Management Configuration Editor.

Concurrent

Specifies if several instances of the same command can be run concurrently (True or False). If concurrent playback causes performance or other problems, set this option to *False*, otherwise all non-concurrent commands are queued and run sequentially. All concurrent commands are run simultaneously and are not affected by non-concurrent commands.

Config Name

The name of the client group or transaction.

Config Type

The type of configuration (can be Transaction or Client; for Web Response Time agents, this can also be Network Flow or Transaction Group).

Content Error Search String

A text string containing information about the error condition associated with content checking.

Content Error Type

The type of content checking error. Valid values include:

- 0 = None
- 1 = Page Title Found
- 2 = Page Title Not Found
- 3 = Content Found
- 4 = Content Not Found

Count

The number of times that the specified SSL Alert occurred on the specified server during the current summary interval.

Current Requests

The total number of requests during the current data interval, displayed for the highest priority monitoring agent (if multiple agents are monitoring the same application). The order of precedence is 1) Transaction Reporter, 2) Web Response Time, and 3) Robotic Response Time. For example, if two robotic agents and a Web Response Time monitoring agent all monitor the same application, the status for the Web Response Time monitoring agent takes precedence.

Current Run Status

The status of the current robotic script playback. These are:

Value	Description of the value
None	There is no playback recorded.
Idle	No playbacks are currently in progress.
In_Progress	The playback is running.
Complete	The monitor ran successfully.
Timeout	The current playback timed out.
Overrun	The current run did not finish before the next run was scheduled.
Queued	The current playback is waiting.
Failed	The playback failed.
Error	There was an error reported.
Not Supported	The script type is not supported.

Current UUID

A unique identifier used with the Root UUID and Parent UUID attributes to completely identify a specific subtransaction in your environment.

Data

The text block of configuration data that is being transferred for a profile, transaction, or client group between the Application Management Configuration Editor and a configuration file stored in the Application Management Console monitoring agent.

Data Collector Type

The type of data collector (Web Response Time, Robotic Response Time, or Transaction Reporter) that collected the particular record.

Data Interval

The frequency, in seconds, that indicates how often the monitoring agent collects data.

Data_Len_Post

The actual length, in bytes, of the text block of configuration data that is transferred. It might take several transfers to read or write the configuration file for a profile, transaction, or client group.

Data_Len_Pre

The length of the text block of configuration data stored in the Data attribute before a transfer. It might take several transfers to read or write the configuration file for a profile, transaction, or client group.

Data Time Span

The amount of time, in hours, during which data is collected (default: 8 hours). You can configure this value for the monitoring agent.

Data Timezone Offset

The time zone offset (from Greenwich Mean Time), in seconds, for the displayed data.

Date Modified

The date and time when the robotic script file was last modified.

Depot Node

The name of the subnode.

Description

The user-defined description of the robotic script file.

Description (ISM)

The description of the Internet Services Monitoring element.

Destination Hostname

The destination hostname of the transaction.

Destination IP

The destination IP address of the transaction.

Destination Node

The destination node of the transaction (for internal use only).

Destination Port

The destination IP port of the transaction.

End Time

The aggregation end time when the monitoring agent stopped collecting data. It uses the MM/DD/YY HH:MM:SS format, using GMT (Greenwich Mean Time). **Example** 01/03/08 12:05:03 indicates the aggregate value for the time period was 12:05 to 12:10 p.m on January 3, 2008.

End Time

The end time of the most recent interval for TCP data across all monitored components. This time is for internal use only and should not be used in situations.

Entry Type

The type of configuration entry (Include, Exclude, Reporting, or Property).

```
package test;
import org.eclipse.hyades.test.common.event.EventProperty;
import org.eclipse.hyades.test.common.event.VerdictEvent;
import com.ibm.rational.test.lt.kernel.services.ITestExecutionServices;
import com.ibm.rational.test.lt.kernel.services.ITestLogManager;
/**
* @author unknown
*/
public class MyCustomCode implements
com.ibm.rational.test.lt.kernel.custom.ICustomCode2 {
/**
* Instances of this will be created using the no-arg constructor.
*/
public MyCustomCode() {
/**
* For javadoc of ICustomCode2 and ITestExecutionServices interfaces, select 'Help
* Contents' in the Help menu and select 'IBM Rational Performance Tester TES'.
*/
public String exec(ITestExecutionServices tes, String[] args) {
//Create the event
ITestLogManager tlm = tes.getTestLogManager();
VerdictEvent verdict = new VerdictEvent();
verdict.setCausedBy("CausedBy Description: custom code VP failure.");
verdict.setEventType("MyCustomEvent");
verdict.setText("Text message: force VP failure in Custom RPT code");
verdict.setReason(VerdictEvent.REASON_SEE_DESCRIPTION);
verdict.setVerdict(VerdictEvent.VERDICT FAIL);
```

```
//Optionally set expected and actual runtime values
EventProperty expected = new EventProperty();
expected.setName("Expected");
expected.setValue("Sample expected value");
expected.setType("String");
verdict.addProperty(expected);
EventProperty actual = new EventProperty();
actual.setName("Actual");
actual.setValue("Sample actual value");
actual.setType("String");
verdict.addProperty(actual);
//Send the event
tlm.reportEvent(verdict);
return null;
```

Event Timestamp

A timestamp indicating data collection times and the time that events occur. To specify a time and date for comparison and testing, use attributes from the IBM Tivoli Monitoring Universal Time or Local Time attribute groups.

Event Type

The type of event. The following table describes the events;

Table 51. Event Types

Event Type Value	Source	Description
Authentication Failure		An HTTP authorization failure (HTTP code 401 or 407) occurred during playback.
Component Failure		A failure occurred to the Internet Service Monitoring, Response Time, or Transaction Tracking components.
Content Failure	Rational Performance Tester	The content returned is unexpected. A content verification point verifies that the returned response contains or does not contain an expected string.
Content Size	Rational Performance Tester	The byte count returned does not match the byte count specified in a verification point. A response size verification point verifies that the number of bytes returned in a response matches an exact value or is within a range.
Custom Failure	Rational Performance Tester	A failure occurred based on a custom verification point added to the test log with custom code.

Table 51. Event Types (continued)

Event Type Value	Source	Description
Expected Data Failure	Rational Functional Tester	The expected data value and actual data value do not match during playback.
Expected Image Failure	Rational Functional Tester	The expected image and actual image that was found during playback do not match.
Expected Property Failure	Rational Functional Tester	The expected property value and actual value was found during playback do not match
Expected Text Failure		The expected text and actual text that was found during playback do not match
Generic Failure		An error occurred on playback, but no error code is returned.
HTTP Return Code	Rational Performance Tester	The returned response code does not match the expected value. A return code verification point verifies that the returned response code matches an expected value. For the expected value, you can indicate an exact response code or specify that the response code is within a specified list or category.
Page Title Failure	Rational Performance Tester	The returned page title is unexpected. Page title verification points verify that the primary request for a page returns the expected page title. The page title comparison is case-sensitive, but ignores multiple white-space characters, such as spaces, tabs, and carriage returns.
Return Code		An unexpected return code was returned during playback or a time-outs has occurred.
Timeout		The page is not responding in the expected time frame. This event type is returned if you set the playback parameters too small. You can increase the parameter in the Application Management Console Timeout section of the script properties.

Table 51. Event Types (continued)

Event Type Value	Source	Description
URL Unavailable Failure	Rational Performance Tester	The requested page is unavailable. This is a verdict error. You see a page verdict only if a connection problem occurs or if you set verification points.
Verification Point Failure		A breach of parameter values set in a verification point occurred during playback. This is a catch all event type used when none of the others match.

Expected Data

The return code returned by the CLI command. The default expected return code for most executable commands and scripts is 0. Script writers can cause their scripts to exit with unexpected return code values to indicate to the software that an error occurred. If the command returns a value that does not match the expected return code value, then the monitor fails the transaction and optionally sends an Expected Return Code failure event if one is defined for the monitor.

Failed

The number of failed Internet Services Monitoring attempts.

Failed Requests

The number of recorded transactions that either did not complete correctly, or reported an error during the monitoring interval, or whose response time was greater than or equal to the Maximum Response Time Threshold. Failed status is indicated by a transaction Status Code with a value greater than 0. This value is added to the values of the Slow Requests and Good Requests attributes to obtain the value of the Total Requests attribute.

Fail Code

The underlying file system-specific failure code for a failed transfer. Examples include a POSIX errno value or a WIN32 GetLastError() code.

Fail Type

The type of fail (POSIX or WIN32) reported by the Fail Code attribute.

File Mod1 Post

The low-order word portion of the last time that a configuration file was modified after a transfer. This is useful to ensure that the file has not changed between transfers if multiple transfers are needed to read or write the file. The high-order word portion is stored in the File Mod2 Post attribute.

File Mod1 Pre

The low-order word portion of the last time that a configuration file was modified before a transfer. This is useful to ensure that the file has not changed between transfers if multiple transfers are needed to read or write the file. The high-order word portion is stored in the File Mod2 Pre attribute.

File Mod2 Post

The high-order word portion of the last time that a configuration file was modified after a transfer. This is useful to ensure that the file has not changed between transfers if multiple transfers are needed to read or write the file. The low-order word portion is stored in the File Mod1 Post attribute.

File Mod2 Pre

The high-order word portion of the last time that a configuration file was modified before a transfer. This is useful to ensure that the file has not changed between transfers if multiple transfers are needed to read or write the file. The low-order word portion is stored in the File Mod1 Pre attribute.

File Size

The size, in bytes, of the robotic script file.

File Type

The type of robotic script (CLI Playback, Rational Performance Tester, or Mercury LoadRunner).

First Occurrence

The timestamp of the first occurrence of the SSL Alert in the current interval.

Generic Playback Command

The command and options that run a robotic script. If the script has not been uploaded to the depot, you must provide the full path name to the command. You can enter an alphanumeric string with a maximum of 128 characters.

GMT Offset

The difference in the number of hours between Greenwich Mean Time and the time used by the web server.

Good

The number of good Internet Services Monitoring attempts.

Good Requests

The number of recorded transactions that completed successfully, and whose response time was less than the Minimum Response Time Threshold. This value is added to the values of the Slow Requests and Failed Requests attributes to obtain the value of the Total Requests attribute.

Good Requests

The number of recorded transactions that completed successfully.

Hidden

Indicates if the robotic script is a hidden file.

Host

The Internet Services Monitoring host name (example: www.ibm.com).

Host

The TCP/IP host name of the computer on which the client or server is running.

Hostname

The TCP/IP host name of the computer on which the client or server is running.

IdentChecksum

Identifies an Internet Services Monitoring data point for launching in context.

Importance

The business value of the transaction (values, listed in increasing order of importance, include Discretionary, Very Low, Low, Medium, High, Very High, or Highest). You define this indicator in the transaction profile using the Application Management Configuration Editor. Note that the value of this attribute can affect the sorting of ranked applications in certain workspace views. For example, applications that are ranked and displayed in the Applications Availability Historical Summary view of the Applications workspace are displayed sorted by rank values, but these rank values are calculated based on percent failed and slow, but also on Importance values.

Informational

The number of HTTP requests with a status code between 100 and 199.

Instance Root

The unique identifier that pinpoints a particular transaction instance. Use this value with the Root UUID, Parent UUID, and Current UUID attributes to completely identify a specific subtransaction instance in your environment.

IP

The IP address of the server that processed the transaction. Restricting monitoring to one or more IP addresses is useful when you want to monitor transaction performance for a subset of users, such as a specific IT group in one of your internal corporate divisions. The format of this attribute is an alphanumeric string up to 16 characters, specifying either the IP address or a pattern.

IP Destination Address

The IP address (or pattern) for one or more server computers that process page requests. Enter an alphanumeric string up to 16 characters to specify the IP address or enter a pattern.

IP Destination Port

The port number of the server that processes page requests.

IP Source Address

The IP address of the client that originates the page request. Restricting monitoring to one or more IP addresses is useful when you want to monitor transaction performance for a subset of users, such as a specific IT group in one of your internal corporate divisions. Enter an alphanumeric string up to 64 characters to specify the IP address or enter a pattern.

IPV6

The IP (version 6) address of the server that processed the transaction. Restricting monitoring to one or more IP addresses is useful when you want to monitor transaction performance for a subset of users, such as a specific IT group in one of your internal corporate divisions. The format of this attribute is an alphanumeric string up to 16 characters, specifying either the IP address or a pattern. See the IBM Tivoli Monitoring Support Portal (http://www-306.ibm.com/software/sysmgmt/products/support/IBMTivoliMonitoringV6.html) for more information on the IPV6 environment.

Key Name

The name of the configuration entry key.

KiloBytes Retransmitted

The number of kilobytes that were retransmitted.

Last Run Duration

The time, in seconds, that the most recent robotic script playback has been running.

Last Run Start Time

The start date and time of the most recent robotic script playback. The valid format is a 12 character timestamp. To specify a time and date for comparison and testing, use attributes from the IBM Tivoli Monitoring Universal Time or Local Time attribute groups.

Last Run Status

The status of the most recent robotic script playback.

Last Update

The time of the last depot update.

Last Updated

The last date and time when the robotic playback status was updated.

Last Updated

The last date and time when the Application Management Console agent collected data for a workspace.

Latency Time

The time it takes for a client to receive a 0-byte TCP response packet after sending a 0-byte TCP request packet.

Marginal

The number of marginal Internet Services Monitoring attempts.

Max Requests

The maximum number of requests for a data interval during the time span for which data is displayed.

Maximum Response Time

The maximum response time, in seconds, for a single transaction instance that was observed during the monitoring interval. During each monitoring interval, minimum, maximum, and average response times for the aggregate records are recorded. Use these attributes to analyze the range of response times for the transaction.

Maximum Response Time Threshold

The maximum acceptable response time, in seconds, for a transaction to complete before it is marked as Failed. This attribute is an optional value that you can use when defining a new transaction pattern, and is initially displayed as a blank table cell, indicating that no maximum threshold is defined. Setting this value determines how the monitoring agent classifies and reports transaction response time data. All transactions with a response time greater than this value are marked as **Failed** in reports. For example, if this value is set to 10, then all transactions with a response time greater than or equal to 10 seconds are **Failed** transactions. This value is displayed as a decimal formatted to 3 decimal places.

Message Date and Time

The date and time that the message was generated. The message includes a timestamp in the format MM/DD/YY HH:MM:SS. For example, 01/23/07 18:32:03 indicates the message was generated on January 23, 2007 at 18:32:03.

Message ID

The unique ID assigned to the message when it is generated. The message ID must conform to the Tivoli Message Standard.

Message Source

Additional information about the component from which the message was generated.

Message Text

The message text that is generated by the monitoring software.

Method

The method used for performing HTTP requests (GET, POST, HEAD, PUT, OPTIONS, DELETE, TRACE, or CONNECT).

Min Requests

The minimum number of requests for a data interval during the time span for which data is displayed.

Minimum Response Time

The minimum response time, in seconds, for a single transaction instance that was observed during the monitoring interval. During each monitoring interval, minimum, maximum, and average response times for the aggregate records are recorded. Use these attributes to analyze the range of response times for the transaction.

Minimum Response Time Threshold

The maximum acceptable response time, in seconds, for a transaction to complete before it is marked as Slow. If the response time is also greater than the Maximum Response Time Threshold, it is marked as Failed. This attribute is an optional value that you can use when defining a new transaction pattern. Setting this value determines how the monitoring agent classifies and reports transaction response time data. All transactions with a response time greater than this value are marked as **Slow** in reports. For example, if this value is set to 8, then all transactions with a response time greater than 8 seconds (and less than the Maximum Response Time Threshold) are **Slow** transactions. This value is displayed as a decimal formatted to 3 decimal places.

Module Name

The name of the decoder module from which the data is derived.

Msg Status

The application status at the messaging tier (Good, Fair, or Poor).

Name

The user-defined name for the robotic script.

Network Time

The average time, in seconds, spent transmitting through the network all of the required data for the transaction.

Network Time

The average time, in seconds, spent transmitting through the network all of the required data for the transaction.

New Connections

The total number of new TCP socket connections created during the current aggregate interval.

Number Active Sessions

The number of active user sessions.

Number Browser Connections

The number of transactions that are associated with connecting to a web browser.

Number of Content Check Errors

The number of requests with content check errors.

Number of fatal client SSL alerts

The total number of fatal SSL Alerts of type Client Error encountered by the server during the current monitoring interval. The SSL connection failed because the client did not send a valid certificate requested by the server, or the client does not support the minimum set of SSL features expected by the server.

Number of fatal server SSL alerts

The total number of fatal SSL Alerts of type Server Error encountered by the server during the current monitoring interval. The SSL connection failed because the server did not send a valid certificate requested by the client.

Number of fatal SSL alerts

The total number of fatal SSL Alerts encountered by the server during the current monitoring interval.

Number of network SSL alerts

The total number of SSL Alerts of type Network Error encountered by the server during the current monitoring interval. The SSL connection failed because the packet data was corrupted during network transmission.

Number of warning client SSL alerts

The total number of warning SSL Alerts of type Client Error encountered by the server during the current monitoring interval. The SSL connection resulted in a warning because the client did not send a valid certificate requested by the server.

Number of warning server SSL alerts

The total number of warning SSL Alerts of type Server Error encountered by the server during the current monitoring interval. The SSL connection resulted in a

warning because the server did not send a valid certificate requested by the client.

Number of warning SSL alerts

The total number of warning SSL Alerts encountered by the server during the current monitoring interval.

Number Failed Sessions

The number of failed user sessions.

Number Good Sessions

The number of good user sessions.

Number of 403s

The number of HTTP requests with the status code 403.

Number of 404s

The number of HTTP requests with the status code 404.

Number of 500s

The number of HTTP requests with the status code 500.

Number Retries

The number of times to retry the transaction after the first attempt fails. For example, if the value of this attribute is 4, the transaction will be attempted up to 5 times (the initial attempt plus four specified retries) before generating an event.

Number of Sessions

The number of user sessions.

Number of Requests

The number of requests.

Number of Retransmissions

The number of packets retransmitted.

Number Slow Sessions

The number of slow user sessions.

Offset Post

The file offset read or write position after a transfer, when multiple transfers are needed to read or write a configuration file.

Offset Pre

The file offset read or write position before a transfer, when multiple transfers are needed to read or write a configuration file.

Origin Node

The name of the host subnode.

Overall Status

The overall status (Good, Warning, or Critical) of the application, based on metric data collected during the monitoring interval, such as the number of failing transactions and the number of slow transactions. Individual monitoring agents collect violation data. The Application Management Console polls the individual monitoring agents and summarizes the collected data to arrive at the overall status for the monitoring interval.

The value of the Application Management Console Overall Status attribute is determined by failing (critical) transactions, and slow (warning) transactions.

As the Application Management Console collects data from the agents, it merges all the status data from all of the agents in the Transaction tables, and then again for the Application tables. The highest severity status during the monitoring interval is displayed. Consider the following example of data collected for a Web Response Time agent:

Application	Transaction	Agent	Number of failures	Number of slow
App1	Trans1	Agent1	0	2
App1	Trans1	Agent2	2	0
App1	Trans2	Agent1	0	0
App1	Trans3	Agent1	0	1

Table 52. Example Application Management Console status

The Transaction workspaces for the Application Management Console agent show the overall status for each transaction. In this table, the two rows for *Trans1* are combined into one row with an overall status of *Critical* (worst status for the transaction).

 Table 53. Overall Status for sample Application Management Console transactions

Application	Transaction	Overall Status
App1	Trans1	Critical
App1	Trans2	Good
App1	Trans3	Warning

The Application Management Console Application workspaces show the overall status for applications. In this table, all the rows for *App1* are combined into one row with an overall status of *Critical* (worst status for the application).

Table 54. Overall status for sample Application Management Console application

Application	Overall Status
App1	Critical

In the database the values of the Overall Status are stored not as text strings but as numerical values:

- 0 = None
- 10 = Good
- 20 = Informational
- 30 = Harmless
- 40 = Warning
- 50 = Minor
- 60 = Critical
- 70 = Fatal

Note: For ISM attributes, the Internet Services Monitoring *Marginal* state maps to the Response Time *Warning* state, and the Internet Services Monitoring *Failed* state maps to the Response Time *Critical* state.

Overall Time

The overall elapsed time for the application.

Packets Retransmitted

The number of packets retransmitted during the monitoring interval.

Page Title

The title of the web page.

Parent UUID

A unique identifier used with the Root UUID and Current UUID attributes to completely identify a specific subtransaction in your environment.

Password

Specifies the password that is used to logon to the realm in which the proxy server runs. You can enter an alphanumeric string with a maximum of 32 characters.

Path Arg

This attribute is for internal use only.

Pattern Arg

This attribute is for internal use only.

Percent Available

The percentage of transactions with a transaction status of Good or Slow, but not Failed. The sum of this attribute value and Percent Failed should total 100 percent. Any failure is considered important, so table cell for this attribute is displayed in the TEP with a green background only when the value for Percent Available is 100 percent. Any value less than 100 percent is displayed in the TEP with a red background in the table cell.

Percent Available (ISM)

The percentage of Internet Services Monitoring attempts that were either Good or Marginal, but not Failed. The sum of this attribute value and Percent Failed should total 100 percent.

Percent Client Errors

The percentage of requests with a status code between 400 and 499.

Percent Failed

The percentage of transactions whose requests were marked as Failed. This value is calculated by dividing Failed Requests by Total Requests and multiplying by 100%. The sum of this attribute value and the value of the Percent Available attribute should total 100%.

Percent Failed (ISM)

The percentage of Internet Services Monitoring attempts that failed.

Percent Good

The percentage of transactions whose requests were marked as Good. This value is calculated by dividing Good Requests by Total Requests and multiplying by 100%. The sum of this attribute value and the value of the Percent Slow attribute should equal the value of the Percent Available attribute.

Percent Good (ISM)

The percentage of Internet Services Monitoring attempts that were good.

Percent Informational

The percentage of requests with a status code between 100 and 199.

Percent Marginal (ISM)

The percentage of Internet Services Monitoring attempts that were marginal.

Percent of 403s

The percentage of HTTP requests with the status code 403.

Percent of 404s

The percentage of HTTP requests with the status code 404.

Percent of 500s

The percentage of HTTP requests with the status code 500.

Percent Redirections

The percentage of requests with a status code between 300 and 399.

Percent Server Errors

The percentage of requests with a status code between 500 and 599.

Percent Slow

The percentage of transactions whose requests were marked as Slow. This value is calculated by dividing Slow Requests by Total Requests and multiplying by 100%. The sum of this attribute value and the value of the Percent Good attribute should equal the value of the Percent Available attribute. Any value for this attribute that is greater than 0 percent is displayed with a yellow background in the TEP.

Percent Successes

The percentage of requests with a status code between 200 and 299.

Profile

The name of the Internet Services Monitoring profile. Note that this is different from the Application Management Configuration Editor profile name.

Profile Key

A unique name for the Application Management Console agent to identify the workspaces.

Property

Internal information about the current monitoring agent configuration. Use this attribute with the VALUE attribute.

Protocol

The user-defined networking protocol used for the TCP Transaction.

Rank

An internal calculation that sorts the transactions in order of highest to lowest importance for display in the workspace. Rank is calculated using a combination of values from the Importance, Number of Failed Requests, and Number of Slow Requests attributes. A larger numeric value suggests that the (higher ranked) transaction is more of a concern than a lower ranked transaction. Because the number is used for internal calculation, this value might not be consistent from release to release.

Realm Name

The name of the realm, typically the name of the server that hosts the website. You can enter an alphanumeric string with a maximum of 128 characters.

Realm Type

The type of server (Proxy or Realm) in the realm. *Proxy* means the server provides an indirect connection to a web server. *Realm* provide a direct connection to the realm.

Receive Bandwidth

The average number of kilobytes per second received by a server from a client during the current monitoring interval.

Redirections

The number of requests with a status code between 300 and 399.

Referrer URL

The URL from which the end user made a request.

Render Time

The total time taken, in seconds, to download, parse, and render the page from the user perspective.

Reply Ack Packet Count

The average number of acknowledgement packets from the server for requests made during the data interval. For instance data, this field is an absolute value, not an average.

Reply Bytes

The total number of bytes in each reply of the request during the data interval.

Reply kBytes

The total number of bytes in each reply of the request during the data interval.

Reply Packet Count

The average number of reply packets returned from the server for requests made during the data interval.

Request Ack Packet Count

The average number of acknowledgement packets in a request during the data interval. For instance data, this field is an absolute value, not an average.

Request Bytes

The total number of bytes in the request during the data interval.

Request kBytes

The total number of bytes in the request during the data interval.

Request Packet Count

The average number of packets in the request during the data interval. For instance data, this field is an absolute value, not an average.

Request Volume

The percentage (in 10 percent increments) of the current volume of requests compared to all of the previously recorded request volumes during the current Data Time Span.

The value of the Application Management Console "Current Requests" on page 529 attribute is used to determine how the current request volume compares as an approximate percentage of all the previous volumes recorded during the current Data Time Span.

For example, consider the following table of values recorded for the "Current Requests" on page 529 attribute every 5 minutes during the current Data Time Span:

Time	Current Requests	Request Volume
12:00	157	Normal
12:05	222	Very High
12:10	189	Normal
12:15	193	High
12:20	311	Very High
12:25	201	High
12:30	167	Very Low
12:35	212	High
12:40	201	Normal
12:45	288	Very High
12:50	184	Low
12:55	201	Normal
13:00	179	Very Low
13:05	199	Normal
13:10	220	High
13:15	215	High
13:20	207	High
13:25	197	Low
13:30	201	Normal

Table 55. Samples of recorded Current Requests and the resulting overall Request Volumes over time

The algorithm considers each current request in relation to the request volumes seen previously, and determines the resulting Request Volume using the relationship $(A/B)^*$ 100%, where:

- A is the number of previously recorded "Current Requests" on page 529 that are less than the current value.
- B is the total number of previously recorded values for "Current Requests" on page 529.

The calculation of (A/B)*100% is compared to the values in the following table to arrive at the final determination for Request Volume:

Value	Percentage Range	Name
0	0-19%	Very Low
20	20-39%	Low
40	40-59%	Normal
60	60-79%	High
80	80-100%	Very High
1000	n/a	None

Table 56. Request volume values

For this example, the values for Request Volume are determined as follows:

- At time 12:00, there is only one value recorded, so by default it is determined to be at a *Normal* request volume. This is represented in the database not as the text string *Normal*, but as the value 40, according to the previous table.
- At time 12:05, the current value and the one previously recorded value are sorted into the ascending list, (157, 222). For the current value 222, there is one previously recorded value that is less than 222, so A=1, and there is one previously recorded value, so B=1. The ratio of A/B=1, or 100%, and the value for Request Volume is determined to be *Very High*. This is represented in the database by the value *80*.
- At time 12:10, the current value of 189 is sorted in ascending order with the two previous values, resulting in the ordered list (157, **189**, 222). There is one previously recorded value that is less than 189, so A=1, and there are a total of two previously recorded values (157 and 222), so B=2. The ratio is then (1/2)*100% = 50%, or *Normal*.
- Continuing further in time, at time 12:50, the current request value of *184* is sorted with the previous values in ascending order as (157, 167, **184**, 189, 193, 201, 201, 212, 222, 288, 311). There are 2 previously recorded values that are less than 184, so A=2, and there are a total of 10 previously recorded values, so B=10, and the resulting Request Volume is calculated as 20%, or *Low*.

Repeating values: If the value of "Current Requests" on page 529 is a duplicate of one or more previously recorded values, then the values are sorted into ascending order the current value is placed in the middle of the other like values in the list. For example, at time 12:55, the current request value of 201 is the same as two previously recorded values, at time 12:25 and time 12:40. The values are sorted in ascending order, resulting in the current value of 201 being placed in the middle of the three identical recorded values: (157, 167, 184, 189, 193, 201, 201, 201, 212, 222, 288, 311). In this case the calculation of Request Volume is modified to $[(A+C)/B]^*$ 100%, where C is one half the number of previously recorded values that are

identical to the current value. In this case, there are 2 previously recorded values of 201, so C=1, and the Request Volume is calculated as [(5+1)/11]*100% = 54.54%, or *Normal*.

Normalizing over time: As more and more values for "Current Requests" on page 529 are recorded during the current Data Time Span, the calculation of Request Volume is based on a larger sample of previously recorded values, resulting in a normalization of values over time. Note in the above example that early values of Request Volume include the extremes of *Very High* and *Very Low*, but by 13:30, the values are trending toward more frequent values of *Low*, *Normal*, and *High*).

After the current Data Time Span is completed, a new Data Time Span is started, and values of "Current Requests" on page 529 that were recorded during the previous Data Time Span are no longer considered in the calculation of Request Volume.

Resolve Time

Reports the number of seconds (up to 3 decimal places) that was required to resolve the domain name of the URL. The resolve time is a part of the overall network time.

Response Time

The elapsed time, in seconds, required for the transaction to complete.

Response Time

Reports the end user response time status as Good, Fair, or Poor. This is displayed on the Application Management Console.

Retry Lag Time

The elapsed time, in seconds, to wait before attempting to retry a failed subtransaction or robotic script. For example, if the value of this attribute is set to 1, there will be a 1 second wait time between retries. As another example, if you set the number of retries to 3 with a lag time of 1, the software times out and generates an event when both of the following events take place:

- The software tries the transaction four times (once as part of the playback, plus the three specified retries).
- The software waits one second between retries.

Robotic Node

The name of the robotic node reported to the Application Management Console.

Robotic Script Name

The robotic script to play back for data collection. Enter an alphanumeric string of up to 128 characters or enter a pattern using one or more wildcard characters.

Root Transaction Name

For a subtransaction, this is the name of the associated main, or parent, transaction.

Root UUID

A unique identifier used with the Current UUID and Parent UUID attributes to completely identify a specific subtransaction in your environment.

Round Trip Time

The time it takes for a source computer to receive a one-byte TCP response after sending a one-byte TCP request packet.

Sample Time

The time and date (in Greenwich Mean Time) that the data was requested from the agent for storage or viewing. This information is displayed in the format, MM/DD/YY HH:MM:SS. For example, 01/03/07 12:05:03 means 12:05 p.m. on January 3, 2007.

Sample Timestamp

The date and time when the sample was collected.

Sampling Percent

The percentage of transactions to return that match a specified pattern during the data interval. For example, a value of *50* returns 50 percent of the matching transactions. This is a user-defined attribute.

Scope

The frequency at which status is reported (every 8 hours or every 5 minutes). Valid values are Summary_Status (every 8 hours) or Current_Status (every five minutes).

Scope

The amount of data that is returned (CURRENT means that only the last entry for each service is returned; ALL means that data for all intervals in the current summary interval (default 8 hours) is returned).

Script Name

The name of the robotic script to play back for data collection. Enter an alphanumeric string of up to 128 characters or enter a pattern.

Script Type

The type of robotic script that collected data for Robotic Response Time (CLI_Command_Playback, Rational_Performance_Tester, Rational_Functional_Tester, or Loadrunner (Mercury).

Send Bandwidth

The average number of kilobytes per second sent by a server to a client during the current monitoring interval.

Server

The name of the server that processed the transaction. This could be the hostname of the physical machine, the IP, or the Sysplex.

Server

The name or IP address of the server for the TCP Transaction.

Server Description

The description of the server that processed the web page requests.

Server Errors

The number HTTP requests with a status code between 500 and 599.

Server IP

The IP address of the server that originated the request. Restricting monitoring to one or more IP addresses is useful when you want to monitor transaction performance for a subset of users, such as a specific IT group in one of your internal corporate divisions. Enter an alphanumeric string up to 16 characters to specify the IP address or enter a pattern.

Server IP

The TCP/IP address of the server that sent or received the SSL Alert.

Server Key

The alias name of the subnode for the current server.

Server Path

The relative path name where the robotic script file is located on the file depot server.

Server Port

The TCP/IP port of the server that sent or received the SSL Alert.

Server Status

The application status at the client tier (Good, Fair, or Poor).

Server Time

The average timing of the server in seconds.

Server Time

The average timing of the server in seconds.

Service

The Internet Services Monitoring service name (examples: DNS, or HTTP).

Session

The name of the user session. The valid format is an alphanumeric string with a maximum of 32 characters.

Session Duration

The duration for the user session, in seconds.

Session End Time

The time that the user session ended.

Session Start Time

The time that the user session started.

Severity

The severity of the message (such as Informational, Warning, or Critical).

Severity

The severity of the SSL error (Warning or Fatal). A fatal error means the sender is disconnecting now. A warning error means the sender is willing to continue.

Situation Name

The name of the playback configuration profile that triggered the event.

Situation Status

The status of the transaction, based on the status of one or more default situations provided with ITCAM for Transactions. Note that user defined custom situations do not affect this attribute. If a recorded transaction triggers one or more default situations, this attribute contains the most severe status of the associated situations. This status is displayed in the Application Management Console.

Slow Requests

The number of recorded transactions that completed successfully, but whose response time was greater than or equal to the Minimum Response Time Threshold. This value is added to the values of the Good Requests and Failed Requests attributes to obtain the value of the Total Requests attribute.

Slow Requests

The number of recorded transactions that are slow during the current data interval.

Sort Order

The sort order.

Source Hostname

The source hostname for the transaction.

Source IP

The source IP for the transaction.

Source Node

The source node for the transaction (for internal use only).

Start Time

The time (during the last 8 hours) when the monitoring agent started collecting data. It uses the MM/DD/YY HH:MM:SS format, using GMT (Greenwich Mean Time). **Example** 01/03/08 12:05:03 indicates the aggregate value for the time period was 12:05 to 12:10 p.m. on January 3, 2008.

Start Time

The earliest interval start time for TCP data across all monitored components. This time is for internal use only and should not be used in situations.

Status Code

The response code associated with the transaction, depending on the monitoring agent. For ARM transactions, this attribute displays ARM response codes. For Web Response Time, it displays HTTP response codes. For CLI Playback, it displays the return code for the command that was executed, such \$? or %ERRORLEVEL%.

Successes

The number of HTTP requests with a status code between 200 and 299.

Temp ID Post

The ID of the temporary file on the file depot server after a transfer.

Temp ID Pre

The ID of the temporary file on the file depot server before a transfer.

Terminated Connections

The total number of terminated TCP socket connections created during the current aggregate interval.

Timeout Period

The time, in seconds, to wait for a subtransaction or robotic script to respond before timing out and retrying. For example, if you set the number of retries to 3, a lag time of 1, and a timeout period of 30, the software times out and generates an event when all of the following events occur:

• The subtransaction or robotic script is tried four times (once as part of the playback, plus three retries).

- Each time, the subtransaction or robotic script does not respond within in 30 seconds.
- The software waits one second between retries.

If the Timeout Period is too short, the process is terminated after retrying for the number of times specified in Retry Lag Time. When you define the timeout period, add a little extra time to the setting. For example, if your script takes 5 minutes to run, define a 6 minute timeout period to include a 1 minute buffer (enter *360* to define a 6 minute timeout period).

Timestamp

A timestamp that indicates the beginning of the aggregate time for the record, expressed in localized format (such as MM/DD/YY HH:MM:SS). For example, 01/03/07 12:05:03 indicates the aggregate value for the time period was 12:05 to 12:10 p.m. on January 3, 2007. In instance tables this value represents the exact time that the transaction completed.

Timestamp (ISM)

A timestamp indicating the time when Internet Services Monitoring data is received by the Application Management Console, expressed in Greenwich Mean Time (GMT), in the format of the local settings.

Timestamp

A timestamp that indicates the start of the current summary interval.

Time Zone

The time zone in which the web server operates.

Total Bytes

The total number of bytes transferred for all request during the time period.

Total kBytes Received

The total number of kilobytes of data received by the server during the current aggregate interval.

Total kBytes Sent

The total number of kilobytes of data sent by the server during the current aggregate interval.

Total Connect Time

The average elapsed time, in seconds, from the time a request is made to when the browser successfully connects to the web server. For instance data, this field is an absolute value, not an average.

Total DNS Time

The time, in seconds, required to look up the Domain Name System (DNS) address of the website.

Total Download Time

The amount of time (in hours, minutes, seconds, and milliseconds) elapsed between connecting with the web server and downloading the web page. If the transaction is interrupted or canceled before the page is downloaded, the elapsed time from the connection to the interruption is reported.

Total Failed Users

The total number of unique users experiencing Failed performance (a failed transaction). For example, if the user at IP address *128.1.2.3* experiences a Failed performance for a single WRT transaction, and the same user later experiences Failed performance during the same time period, that user is counted only once in both the Failed count and the All count. For the attribute groups that monitor a specific time interval, the value is the actual count for the time period. For all of the Current Status and Summary attribute groups, the values are averages (see Average Failed Users).

Total Good Users

The total number of unique users experiencing Good performance (not a failed transaction and not slower than the minimum response time threshold) for the time period. For example, if the user at IP address *128.1.2.3* experiences a Good performance for a single Web Response Time transaction, and the same user experiences Good performance again during the same time period, that user is counted only once in both the Good count and the All count. For the attribute groups that monitor a specific time interval, the value is the actual count for the time period. For the Current Status and Summary attribute groups, the values are averages (see Average Good Users).

Total Header Request Resolve Time

The average elapsed time, in seconds, that is required to resolve all header requests. For instance data, this field is an absolute value, not an average.

Total Header Requests Count

The total number of header requests that return an HTTP response code of 304, or that return no content.

Total kBytes

The total number of bytes transferred for all requests during the time period.

Total Object Count

The total number of objects embedded in a web page for the time period. For the attribute groups that monitor a specific time interval, the value is the actual count for the time period. For the Current Status and Summary attribute groups, the value is an average.

Total Object Size

The total size of all objects embedded in the web page for the time period. For the attribute groups that monitor a specific time interval, the value is the actual count

for the time period. For the Current Status and Summary attribute groups, the value is an average.

Total Packets Received

The total number of IP packets received by the server during the current aggregate interval.

Total Packets Sent

The total number of IP packets sent by the server during the current aggregate interval.

Total Requests

The total number of recorded transactions observed during the monitoring interval. The value for this attribute is the sum of the Good Requests, Slow Requests, and Failed Requests attributes.

Total Requests (ISM)

The total number of Internet Services Monitoring attempts. The value for this attribute is the sum of the Good, Marginal, and Failed attempt attributes.

Total Resolve Time

The time, in seconds, required to resolve the domain name of the website.

Total Server Response Time

The difference between the request finish time and the request start time (request finish time – request start time). If there are multiple requests run in a collection period, the Total Server Time is the sum of all the requests.

Total Slow Users

The total number of unique users experiencing slow performance (not a failed transaction, but slower than the minimum response time threshold) for the time period. For example, if the user at IP address *128.1.2.3* experiences a slow performance for a single WRT transaction, and the same user later experiences slow performance again during the same time period, that user is counted only once in both the Slow count and the All count. For the attribute groups that monitor a specific time interval, the value is the actual count for the time period. For the Current Status and Summary attribute groups, the values are averages (see Average Slow Users).

TotalTime

The total amount of time for the Internet Services Monitoring attempt.

Total Transactions

The total number of request and response sequences observed by the monitoring agent during the current aggregate interval.

Total Transaction Time

The average of the TCP transaction time during the aggregate monitoring interval, that is, the time between the last reply packet and the first request packet for a transaction.

Total Users

The total number of unique users for the time period. A user that experiences a Good, Failed, or Slow performance for a single Web Response Time transaction is counted once. For attribute groups that monitor a specific time interval, the value is the actual count for the time period. For the Current Status and Summary attribute groups, the values are averages (See Average Users).

Transaction

A user-defined name of the monitored transaction. When defining a transaction pattern, if you select to aggregate by pattern, then the transaction that matches the defined pattern is replaced by the Transaction Name and aggregated together with all other unique transactions that also match the defined pattern.

Transaction Name

The transaction name reported to the Application Management Console.

Transaction Pattern

The pattern for specifying the names of specific transactions to monitor

Туре

Displays the type of data collector (ARM, ROBOT, or WRM) that collected the data record. Valid values are:

ARM Indicates Robotic Response Time

ROBOT

Indicates Robotic Response Time

WRM

Indicates Web Response Time

Universal Messages

This is an IBM Tivoli Monitoring attribute group. Refer to the IBM Tivoli Monitoring product documentation for more information.

Universal Time

This is an IBM Tivoli Monitoring attribute group. Refer to the IBM Tivoli Monitoring product documentation for more information.

Updated Time

The start time of the most recent interval for TCP data across all monitored components. This time is for internal use only and should not be used in situations.

URL

The URL of the monitored web page.

URL Anchor

The anchor text displayed for the hyperlink of the monitored web page.

URL File

The URL of the file in the monitored web page.

URL Hostname

The TCP/IP hostname of the URL.

URL Path

The URL path to the file on the server hosting the web page.

URL Query String

The string of a URL that contains the search parameters when a dynamic web site is searched.

User

Specifies the user name for the user session. The valid format is an alphanumeric string with a maximum of 64 characters.

User Logins

The number of user logins. The valid format is an integer.

User Name

The name of a valid user for the realm in which the proxy server runs. The valid format is an alphanumeric string with a maximum of 32 characters.

Value

Internal information about the current monitoring agent configuration, used with the Property attribute.

Value

The value of the property that is specified by the Key Name attribute. For example, if Key Name is URL, then this attribute specifies the value of the URL.

Violation Data

The value of the data that caused the event violation.

Web Server

The application status at the web server tier (Good, Fair, or Poor).

Xfer Mode

Indicates if the Application Management Configuration Editor is trying read a file (R), save a file (S), or delete a file (D).

Xfer State Post

The state of the file transfer after it completes (B = Begin, W = Working, C = Complete, F = Failed).

Xfer State Pre

The state of the file transfer before it begins (B = Begin, W = Working, C = Complete, F = Failed).
Appendix C. Transaction Tracking - Attributes listed alphabetically

This section provides an alphabetical listing of all attributes.

Active Conn Count

Number of active network connections from the network address.

Active Connections

Active connections.

Active Connections Baseline

Baseline for the active connections.

Active Connections Deviation

Deviation of the active connections from the determined baseline.

Agent

Agent.

Aggregate

Aggregate can refer to the following circumstances: a. Name of aggregate. The label 'Aggregate' corresponds to the label 'Name' shown in the workspace. b. If the aggregate has a source aggregate, it is the name of the destination aggregate in the interaction.

Aggregate ID

Aggregate ID can refer to the following circumstances: a. In a simple aggregate, it is the identifier of the aggregate. b. If there is a source aggregate, it is the identifier of the destination aggregate in the interaction. c. If it is part of an instance, it is the identifier of the aggregate transaction. d. If there is a source transaction instance, it is the identifier of the destination aggregate transaction. e. For a situation, it is the identifier of the source aggregate.

Aggregate Initial Track Event Count

Initial event count to determine the topology from aggregate records.

Aggregate Maximum Track Event Count

Maximum event count to determine the topology from aggregate records.

Aggregate Name

Name of the aggregate transaction this instance is part of.

Aggregate Processing Duration Minutes

Duration measured in minutes to process Aggregate Records for a single time period. Set to 0 to disable.

AggregateRow Cache End Timestamp

Time of the latest period in the Aggregate Row Cache.

AggregateRow Cache Start Timestamp

Time of the earliest period in the Aggregate Row Cache.

AggregateRow History End Timestamp

Time of the latest period in the Aggregate Row History.

AggregateRow History Start Timestamp

Time of the earliest period in the Aggregate Row History.

Aggregation Period Count

Number of aggregation periods to be tracked in the Aggregation Agent.

Aggregation Period Minutes

Duration of aggregation period in the Aggregation Agent, measured in minutes.

Ancient Instance Data Counter

Number of events received from intervals that are no longer tracked.

Application Name

Application name of the aggregate if applicable.

Application Name Resource

Resource for the application context of the aggregate.

Average

Average value.

Average Bytes

The average number of bytes in the aggregate.

Average Bytes Retransmitted

The average bytes retransmitted in the aggregate.

Average Client Time

The average client time for the Transaction Group instances.

Average Final Time

Average Final Time.

Average Initial Time

Average Initial Time.

Average Maximum Instance Network Time

Average of the Maximum Instance Network Time.

Average Network Time

The average network time for the Transaction Group Aggregate.

Average Network Time Baseline

Baseline for the average network time.

Average Network Time Deviation

Deviation of the average network time from the determined baseline.

Average Network Time

Average network time.

Average Processing Time

Average Processing Time of the Transaction Group instances.

Average Response Time Baseline

Baseline for the average response time.

Average Response Time Deviation

Deviation of the average response time from the determined baseline.

Average Response Time

Average response time.

Average Retransmissions

The average number of retransmissions in the aggregate.

Average Server Time

The average server time for the Transaction Group Aggregate.

Average Server Time Baseline

Baseline for the average server time.

Average Server Time Deviation

Deviation of the average server time from the predetermined baseline.

Average Server Time

Average server time.

Average Step Response Time

The average step response time for the instance.

Avg SubTransaction Time

Avg SubTransaction Time.

Avg TotalSubTransaction Time

Average total subtransaction time.

Blob

Event BLOB (Binary Large OBjects).

Bytes Retransmitted

The number of bytes retransmitted for the Transaction Group Aggregate.

Cache Maximum Period Minutes

Maximum duration of an aggregation period, measured in minutes, that can be stored in cache.

Cache Period Count

Number of aggregation periods stored in the cache.

Cache Remove Count

Number of aggregation periods to be removed from the cache when the number of aggregation periods exceeds the Cache_Period_Count.

Calculate Implied Interactions

Calculate implied interactions from historical topology data.

Calculate Pseudo Interactions

Calculate pseudo interactions from horizontal context data.

Calculate Remote Interactions

Calculate interactions from remote Transaction Reporter agents.

Caller Type

Caller type for the transaction.

Caller ID

Caller type, or horizontal caller type, for this record.

Channel

Channel.

Child Response Time

Child Response Time can refer to the following circumstances: a. Average transaction time of transactions in the destination aggregate when initiated by transactions in the source aggregate, measured in milliseconds. b. Sub-transaction time of the destination transaction instance when initiated by the source transaction instance.

Child Response Time Baseline

Baseline for the child response time, measured in milliseconds.

Child Response Time Deviation

Deviation of the child response time from the determined baseline, measured as a percentage from the baseline.

Child Total Time

Child Total Time can refer to the following circumstances: a. If there is a source aggregate, it is the average transaction time of transactions in the destination aggregate. b. If there is a source transaction instance, it is the total transaction time of the destination transaction instance.

Child Total Time Baseline

Baseline for the child total time, measured in milliseconds.

Child Total Time Deviation

Deviation of the child total time from the determined baseline, measured as a percentage from the baseline.

Client Name

Client.

Clock Delta

Clock delta, in signed seconds.

Compared

Boolean value comparing contexts against this mask when set to 1.

Component Name

Component type for the transaction or aggregate.

Component Name Resource

Resource for the component context of the aggregate.

Connection Count

Number of connections made this session.

Context Name

Identifier of the aggregate context name.

Count

Number of instances for this component.

Count Value

Value of the metric.

Created

Time this period was created.

DC Address

Network address of the Data Collector, including port number.

Depot Node

The name of the depot node.

Description

Description can refer to the following circumstances: a. Description of the Property of the transaction instance event. b. Identifier of the aggregate context value.

Destination Agent

Destination agent.

Destination Aggregate ID

Identifier of the destination aggregate.

Destination Application Name

Destination application name.

Destination Application Name Resource

Resource for the destination application context.

Destination Channel

Destination channel.

Destination Client Name

Destination client.

Destination Component Name

Destination component name.

Destination Component Name Resource

Resource for the destination component context.

Destination ID

Identifier of the destination aggregate.

Destination Port

Destination port.

Destination Protocol

Destination protocol.

Destination Server Address

Destination server address.

Destination Server IP Address

Destination server IP address.

Destination Server Name

Destination server name.

Destination Server Name Resource

Resource for the destination server context.

Destination Server Port

Destination server port.

Destination Transaction Group

Destination transaction group name.

Destination Transaction Group ID

Unique identifier for the destination transaction group.

Destination Transaction Name

Destination transaction name.

Destination Transaction Name Resource

Resource for the destination transaction context.

Discovery Context Name

Discovery Context Name.

Display Context

Configurable Context Value display field.

Display Context

Configurable Context Value display field.

Display Format

Format specification for the display text column.

Display Format

Format string for the display text.

Display Value

Configurable text to display for situations.

Dynamic Workspace Link Blob 1

Dynamic workspace link to Binary Large OBject (BLOB) 1.

Dynamic Workspace Link Blob 2

Dynamic workspace link to Binary Large OBject (BLOB) 2.

Dynamic Workspace Link Blob 3

Dynamic workspace link to Binary Large OBject (BLOB) 3.

Dynamic Workspace Link Blob 4

Dynamic workspace link to Binary Large OBject (BLOB) 4.

Enclosing Application

Enclosing application aggregate if applicable.

Enclosing Application ID

Identifier of enclosing application aggregate if applicable.

Enclosing Component

Enclosing component aggregate if applicable.

Enclosing Component ID

Identifier of enclosing component aggregate if applicable.

Enclosing ID

Identifier of the enclosing aggregate.

Enclosing Server

Enclosing server aggregate if applicable.

Enclosing Server ID

Identifier of enclosing server aggregate if applicable.

End

End time of this period.

End Timestamp

End time of the timestamp for this period.

Event ID

Identifier of the transaction instance event.

Events Dropped

Number of events dropped, client side.

Fail count

Number of occurrences that failed.

Failed

Failed can refer to the following circumstances: a. In a simple aggregate, the number of transactions instances that failed. b. Number of failed transactions in the destination aggregate when initiated by a transaction in the source aggregate.

Failed Count

Number of failed transactions.

Failed Percent

Percentage of transactions that failed.

File Path

Directory location where the Transaction Reporter collects, reads and writes data to, and from.

Filter Format

Format specification for the filter value column.

Filter Value

Configurable formatted column for filtering on.

Filtering rule

Name identifier for the filtering rule which created this record, or -1 if no matching rule was found.

Final Time

Average final processing time of transactions that make up the aggregate or of the transaction instance.

Final Time Baseline

Baseline for the final time, measured in milliseconds.

Final Time Baseline Count

The sample count for the final time baseline.

Final Time Baseline Sample Count

Sample count for the Baseline of the Final Time of the transaction.

Final Time Deviation

Deviation of the final processing time for the transaction or transaction instance from the determined baseline, measured as a percentage from the baseline.

Gauge Value

Value of the metric.

Good

Good can refer to the following circumstances: a. In a simple aggregate, the number of transactions instances that were good. b. Number of good transactions in the destination aggregate when initiated by a transaction in the source aggregate.

Good count

Number of occurrences with a good response time.

Good Percent

Percentage of transactions that were good.

Group Level

Type of aggregate.

History Maximum Period Minutes

Maximum duration an aggregation period can be stored in history, measured in minutes.

History Period Count

Number of aggregation periods stored in history.

History Period Minutes

Duration of a historic aggregation period, measured in minutes.

History Remove Count

Number of aggregation periods to be removed from history when the number of aggregation periods exceeds the History_Period_Count.

History Warehouse Supply Count

Number of aggregation periods supplied from history to the Tivoli Data Warehouse for a query.

IMPORTANCE

Defines the importance of the message. The value is currently set to INFO.

Inbound

Number of inbound events for the horizontal caller type in this period.

Incomplete count

Number of occurrences that were marked as incomplete.

Initial Time

Average initial processing time of the transacation instance or transactions that make up the aggregate.

Initial Time Baseline

Baseline for the initial processing time, measured in milliseconds.

Initial Time Baseline Count

The sample count for the initial time baseline.

Initial Time Baseline Sample Count

Sample count for the Baseline of the Initial Time of the transaction.

Initial Time Deviation

Deviation of the initial processing time from the determined baseline, measured as a percentage from the baseline.

Instance count

Number of instances that made up this record.

Instance Cache Period Count

Maximum number of periods of instance traces that are kept in memory.

Instance ID

Instance ID can refer to the following circumstances: a. Identifier of this transaction instance. b. Identifier of the transaction instance record. c. Identifier of the transaction instance that these transaction instances are related to.

Instance Query Queue Size

Number of incomplete instance queries.

Instance Status

Status of this instance, or the destination instance, as reported by the data collector.

Instance Warehouse Period Count

Maximum number of periods of instance traces for the Tivoli Data Warehouse.

Instance Warehouse Supply Count

Maximum number of periods of instance traces that are supplied to the Tivoli Data Warehouse for a single query.

Interaction

Interaction label.

Interaction ID

Identifier of the interaction.

Interaction Type

Type of interaction.

InteractionRow Cache End Timestamp

Time of the latest period in the Interaction Row Cache.

InteractionRow Cache Start Timestamp

Time of the earliest period in the Interaction Row Cache.

InteractionRow History End Timestamp

Time of the latest period in the Interaction Row History.

InteractionRow History Start Timestamp

Time of the earliest period in the Interaction Row History.

Latency Time

Latency time.

Latency Time Baseline

Baseline for the latency time.

Latency Time Deviation

Deviation of the latency time from the determined baseline.

Link Message ID

Determines the message to display when displaying the link from source to destination in a topology.

Link Resource

Resource to use when displaying the link from source to destination in a topology.

Link Severity

Severity of a link.

Link Severity

Displays the severity of a link.

Max

Maximum value.

Max SubTransaction Time

Max SubTransaction Time.

Max TotalSubTransaction Time

Max TotalSubTransaction Time.

Maximum Client Time

The maximum client time for the Transaction Group instances.

Maximum Final Time

Maximum final processing time of transactions that make up the aggregate.

Maximum Initial Time

Maximum initial processing time of transactions that make up the aggregate.

Maximum Instance Query Limit

Maximum number of instance events collected from the Aggregation Agent.

Maximum Instance Network Time

Maximum of the Maximum Instance Network Time.

Maximum Network Time

The maximum network time for the aggregate.

Maximum Processing Time

Maximum processing time of transactions that make up the aggregate.

Maximum Response Time

The maximum response time the of the Transaction Group instances.

Maximum Server Time

The maximum server time for the aggregate.

Maximum Step Response Time

The maximum step response time for the instance.

Maximum Sub-Transaction Time

Maximum subtransaction time of transactions in the destination aggregate as seen from transactions in the source aggregate.

Maximum Total Sub-Transaction Time

Maximum total subtransaction time of transactions in the destination aggregate as seen from transactions in the source aggregate.

Maximum Total Time

Maximum transaction time of transactions that make up the aggregate.

MESSAGE

Provides the diagnostic message. The Message field can contain the following:

- Transaction Collector the Message field can contain both IPv4 and IPv6 addresses with a port number. If the Message Class displays the type Transport.DCAddresses, the Message field contains the IP address and port number of the Data Collector plug-in.
- Transaction Reporter the Message field displays the following information:
 - Aggregation Agent ID
 - Start Time of the Period
 - End Time of the Period
 - Interval#, where Interval is the number of aggregates in a time period which correspond to the Aggregation periods table for the Aggregation agent.

MESSAGECLASS

Indicates the group to which the message belongs, which allows messages to be sorted. MessageClass can refer to the following circumstances:

For Transaction Collector with one of the following types:

Transport.ListenAddresses, lists all network interfaces on which the Transaction Collector is listening

Transport.DCAddresses, lists the Data Collector plug-in currently attached to the Transaction Collector

Transport.ClockDeltas, lists the clock deltas between connected Data Collector plug-ins

Transport.EventsDropped, lists the number of events dropped on the client side since the application started

Transport.ConnectionsMade, lists the number of connections made over the lifetime of the application

• For Transaction Reporter:

Periods, contains information about the aggregate intervals obtained by the Transaction Reporter

Metric Name

Name of the metric type.

Metric Value

Value of the metric.

Min

Minimum value.

Min SubTransaction Time

Minimum subtransaction time.

Min TotalSubTransaction Time

Minimum total subtransaction time.

Minimum Client Time

The minimum client time for the Transaction Group instances.

Minimum Final Time

Minimum final processing time of transactions that make up the aggregate.

Minimum Initial Time

Minimum initial processing time of transactions that make up the aggregate.

Minimum Maximum Instance Network Time

Minimum of the Maximum Instance Network Time.

Minimum Network Time

The minimum network time for the aggregate.

Minimum Processing Time

Minimum processing time of transactions that make up the aggregate or of the Transaction Group instances.

Minimum Server Time

The minimum server time for the aggregate.

Minimum Step Response Time

The minimum step response time for the instance.

Minimum Sub-Transaction Time

Minimum subtransaction time of transactions in the destination aggregate as seen from transactions in the source aggregate.

Minimum Total Sub-Transaction Time

Minimum total subtransaction time of transactions in the destination aggregate as seen from transactions in the source aggregate.

Minimum Total Time

Minimum transaction time of transactions that make up the aggregate.

Name

Name can refer to the following circumstances: a. Name of the Property of the transaction instance event. b. Context Name field.

Name key id

Name identifier.

Network Address

Network address of the Data Collector, in some cases excluding the port number.

Network Time

Network time or Total Network Time of the transaction instance, measured in milliseconds

Network Time Baseline

Baseline for the network time of the transaction, measured in milliseconds.

Network Time Baseline Count

The sample count for the network time baseline.

Network Time Baseline Sample Count

Sample count for the Baseline of the Network Time of the transaction.

Network Time Count

Sample count for Network Time.

Network Time Deviation

Deviation of the network time of the transaction or transaction instance from the baseline, measured as a percentage from the baseline.

New Connections

New connections.

New Connections Baseline

Baseline for the new connections.

New Connections Deviation

Deviation of the new connections from the determined baseline.

Node

Node can refer to the following circumstances: a. Managed system name of the Transaction Collector. b. Managed system name of the Transaction Reporter.

Node Message ID

Node Message ID can refer to the following circumstances: a. If it is an interaction, it determines the message to display for the destination aggregate node in a topology. b. If it is a transaction instance interaction, it determines the message to display for the destination node in a topology.

Node Resource

Determines the appearance of the destination aggregate node in a topology.

Node Severity

Severity of a node.

Number

Context Mask Number indexed from 1.

Number of excluded instances

Number of instances excluded in this period.

Number of excluded records

Number of records excluded by the Transaction Collector in this period because of settings in the AMCE such as filter configuration.

Number of records

Number of records in this period.

Number of original records

Number of original, unfiltered records in this period.

Number of Retransmissions

Number of retransmissions for the Transaction Group Aggregate..

Number of Retransmissions Baseline

Baseline for the number of retransmissions.

Number of Retransmissions Deviation

Deviation of the number of retransmissions from the determined baseline.

Offset ms

Offset time in milliseconds of the event from the first event.

Old Instance Data Counter

Number of events received from previous intervals.

Origin Node

The name of the origin node.

Outbound

Number of outbound events for the horizontal caller type in this period.

Parent

Name of the source aggregate, or the source transaction instance, in the interaction.

Parent ID

Identifier of the source aggregate, or the source transaction instance, in the interaction.

Parent Sub Transaction Time

Parent Sub Transaction Time can refer to the following circumstances: a. Average sub-transaction time of transactions in the destination aggregate as seen from transactions in the source aggregate. b. Sub-transaction time of the destination transaction instance as seen from the source transaction instance.

Parent Sub Transaction Time Baseline

Baseline for the parent sub-transaction time, measured in milliseconds.

Parent Sub Transaction Time Deviation

Deviation of the parent sub-transaction time from the determined baseline, measured as a percentage from the baseline.

Percent Failed

Percent Failed can refer to the following circumstances: a. In a simple aggregate, the percentage of transaction instances that failed. b. Percentage of failed transactions in the destination aggregate when initiated by a transaction in the source aggregate.

Percent Good

Percent Good can refer to the following circumstances: a. In a simple aggregate, the percentage of transaction instances that were good. b. Percentage of good transactions in the destination aggregate when initiated by a transaction in the source aggregate.

Percent Slow

Percent Slow can refer to the following circumstances: a. In a simple aggregate, the percentage of transaction instances that were slow. b. Percentage of slow transactions in the destination aggregate when initiated by a transaction in the source aggregate.

Port

Port.

Processing Time

Average processing time of the transaction instance or transactions that make up the aggregate.

Processing Time Baseline

Baseline for the processing time, measured in milliseconds.

Processing Time Baseline Count

The sample count for the processing time baseline.

Processing Time Baseline Sample Count

Sample count for the Baseline of the Processing Time of the transaction.

Processing Time Deviation

Deviation of the processing time from the determined baseline, measured as a percentage from the baseline.

Protocol

Protocol.

Read Topology XML

If set to Y, the Transaction Reporter reads topology data at startup.

Read XML

If set to Y, the Transaction Reporter reads historical data at startup.

Recalculate Interactions

Recalculate interactions for unchanged aggregates, ignoring any topology changes.

Received Bandwidth

Receive bandwidth.

Received Bandwidth Baseline

Baseline for the received bandwidth.

Received Bandwidth Deviation

Deviation of the received bandwidth from the determined baseline.

Record id

Identifier for this record.

Sample Count

Sample count of the metric.

Sent Bandwidth

Send bandwidth.

Sent Bandwidth Baseline

Baseline for the sent bandwidth.

Sent Bandwidth Deviation

Deviation of the sent bandwidth from the determined baseline.

Server Address

Server address.

Server IP Address

Server IP address.

Server Name

Server name of the aggregate if applicable.

Server Name Resource

Resource for the server context of the aggregate.

Server Port

Server port.

Show Latest Data

Shows the latest aggregation data in workspaces when it is set to Y.

Show Latest Instance Data

Shows the latest instance data in workspaces when it is set to Y. The default displays Show_Latest_Data.

Situation Depth Limit Seconds

Performs an instance trace initiated from a situation of a set number of nodes. Set to 0 to disable.

Situation Time Limit Seconds

Maximum duration measured in seconds to perform an instance trace initiated from a situation. Set to 0 to disable.

Slow

Slow can refer to the following circumstances: a. In a simple aggregate, the number of transactions instances that were slow. b. Number of slow transactions in the destination aggregate when initiated by a transaction in the source aggregate.

Slow count

Number of occurrences with a slow response time.

Slow Percent

Percentage of transactions that were slow.

Sort Order

Field that determines the sort order of rows by good, slow or failed transactions.

Source Agent

Source agent.

Source Aggregate ID

Identifier of the source aggregate.

Source Application Name

Source application name.

Source Application Name Resource

Resource for the source application context.

Source Channel

Source channel.

Source Client Name

Source client.

Source Component Name

Source component name.

Source Component Name Resource

Resource for the source component context.

Source ID

Identifier of the source aggregate.

Source ID

Identifier of the source aggregate.

Source Port

Source port.

Source Protocol

Source protocol.

Source Server Address

Source server address.

Source Server IP Address

Source server IP address.

Source Server Name

Source server name.

Source Server Name Resource

Resource for the source server context.

Source Server Port

Source server port.

Source Transaction Group

Source transaction group name.

Source Transaction Group ID

Unique identifier for the source transaction group.

Source Transaction Name

Source transaction name.

Source Transaction Name Resource

Resource for the source transaction context.

Start

Start time of this period.

Start Timestamp

Start Timestamp can refer to the following circumstances: a. Local time when the Transaction Reporter started. b. Start time of the timestamp for this period of this Transaction Collector.

Status

Transaction Instance Status

Step Instance Count

The number of step instances in the aggregate.

String ID

Identifier of the string.

String Length

Remaining length of the string.

String Value

Value of the string.

Sub-Transaction Time

Average subtransaction time of transactions in the destination aggregate as seen from transactions in the source aggregate.

Sub-Transaction Time Baseline

Baseline for the subtransaction time.

Sub-Transaction Time Deviation

Deviation of the subtransaction time from the determined baseline.

SubTransaction Time Count

Sample count for subtransaction Time.

System Name

Managed system name of the Transaction Reporter providing this information.

Terminated Connections

Terminated connections.

Terminated Connections Baseline

Baseline for the terminated connections.

Terminated Connections Deviation

Deviation of the terminated connections from the determined baseline.

Thread Pool Size

Number of threads used to contact Aggregation Agents simultaneously.

ThruNode

Name of the TEMS that hosts the Transaction Collector

Timeout Count

The number of timeouts that occurred.

Timestamp

Timestamp can refer to the following circumstances: a. In status information, it refers to the local time when the data was collected. b. Start time of the period of aggregation. c. Start time of the transaction instance. d. Start time of the interaction. e. Local time when the message was sent. f. Time of the event. g. Start time of the baseline period.

Topology Determination Maximum Backoff Minutes

Exponential backoff for unknown interactions limited to an aggregation period, measured in minutes. Set to 0 to disable.

Topology Forget Interval Minutes

Time limit to remove the topology for an aggregate record, measured in minutes. Set to 0 to disable.

Total Bytes

The total number of bytes for the Transaction Group Aggregate.

Total Bytes Received

Total bytes received.

Total Bytes Received Baseline

Baseline for the total bytes received.

Total Bytes Received Deviation

Deviation of the total bytes received from the determined baseline.

Total Bytes Sent

Total bytes sent.

Total Bytes Sent Baseline

Baseline for the total bytes sent.

Total Bytes Sent Deviation

Deviation of the total bytes sent from the determined baseline.

Total Count

Total count of Transaction Group Instances.

Total Count Baseline

Baseline for the total count.

Total Packets Received

Total packets received.

Total Packets Received Baseline

Baseline for the total packets received.

Total Packets Received Deviation

Deviation of the total packets received from the determined baseline.

Total Packets Sent

Total packets sent.

Total Packets Sent Baseline

Baseline for the total packets sent.

Total Packets Sent Deviation

Deviation of the total packets sent from the determined baseline.

Total Sub-Transaction Time

Average total subtransaction time of transactions in the destination aggregate as seen from transactions in the source aggregate.

Total SubTransaction Time Baseline

Baseline for the total subtransaction time.

Total Sub-Transaction Time Deviation

Deviation of the total subtransaction time from the determined baseline.

Total SubTransaction Time Count

Sample count for Total SubTransaction Time.

Total Time

Total Time can refer to the following circumstances: a. Average total transaction time of the transactions that make up the aggregate. b. Total response time for this transaction instance.

Total Time Baseline

Baseline for the total response time, measured in milliseconds; or for baseline calculations, baseline for the total time.

Total Time Baseline Count

The sample count for the total time baseline.

Total Time Baseline Sample Count

Sample count for the Baseline of the Total Time of the transaction

Total Time Deviation

Deviation of the total response time from the determined baseline; or for instances, deviation of the Total Time of the transaction instance from the baseline. Measured as a percentage from the baseline.

Total Transaction Count

Total number of transaction instances, including failed transactions.

Tracking point classification

Tracking point classification.

Tracking point id

Identifier for this tracking point.

Tracking point order

Tracking point order.

Transaction

Transaction can refer to the following circumstances: a. Name of the destination transaction instance in the interaction. b. Name of the transaction instance.

Transaction Collector Contact Available

Number of Aggregation Agents available at the last time of contact.

Transaction Collector Contact Delay Seconds

Initial delay measured in seconds after which the Transaction Reporter contacts the Aggregation Agent for new data.

Transaction Collector Contact Interval Seconds

Interval measured in seconds at which the Transaction Reporter contacts the Aggregation Agent for new data.

Transaction Collector Contact Timestamp

Local time when the Transaction Reporter attempted to contact any Aggregation Agent.

Transaction Collector List

List of Aggregation Agents the Transaction Reporter collects data from.

Transaction Collector Timeout Seconds

Timeout measured in seconds when the Transaction Reporter contacts the Aggregation Agent for data.

Transaction Count

Number of transaction instances, not including failed transactions.

Transaction Count Baseline

Baseline for the transaction count.

Transaction Count Deviation

Deviation of the transaction count from the determined baseline.

Transaction Group

Transaction group name.

Transaction Group ID

Unique identifier for the transaction group.

Transaction ID

Transaction ID can refer to the following circumstances: a. Identifier of the destination transaction instance in the interaction. b. Identifier of the transaction instance in the interaction.

Transaction Name

Transaction name of the aggregate if applicable.

Transaction Name Resource

Resource for the transaction context of the aggregate.

Transaction Rate

Transaction Rate can refer to the following circumstances: a. Average number of transactions per minute for transactions that make up the aggregate. b. Average number of transactions per minute for transactions in the destination aggregate that are initiated from transactions in the source aggregate.

Transaction Rate Baseline

Baseline for the transaction rate, measured in transactions per minute.

Transaction Rate Deviation

Deviation of the transaction rate from the determined baseline, measured as a percentage from the baseline.

Transaction Reporter List

List of other Transaction Reporter agents from which the current Transaction Reporter collects data.

Transport Dispatch Queue Size

Number of unprocessed events.

Туре

Identifier of the metric type.

Type ID

Identifier of the metric type.

Type String

String representation of the metric type.

Uncommitted Instance Data Counter

Number of transactional events dropped as a result of belonging to intervals that are no longer tracked.

Unit

Identifier of the metric unit.

Unit ID

Identifier of the metric unit.

Unit String

String representation of the metric unit.

UOM

The Unit Of Measure. If this is a compound message, the UOMs are contained in a comma separated list. It can refer to the following circumstances: a. (Transaction Collector) The UOM field is currently set to IP. b. (Transaction Reporter) The UOM field is currently set to STR,TS,INT.

Update Available Collectors

Seconds between determining the list of available Aggregation Agents.

Value

Value can refer to the following circumstances: a. Value of the Property of the transaction instance event. b. Context Value field.

Value key id

Value identifier.

Workspace Depth Limit Seconds

Performs an instance trace initiated from a workspace of a set number of nodes. Set to 0 to disable.

Workspace Time Limit Seconds

Maximum duration measured in seconds to perform an instance trace initiated from a workspace. Set to 0 to disable.

Write Topology XML

If set to Y, the Transaction Reporter writes topology data.

Write XML Frequency

If set to > 0, the Transaction Reporter writes historical data after collecting it from the Aggregation Agents.

Appendix D. Accessibility

Accessibility features help users with physical disabilities, such as restricted mobility or limited vision, to use software products successfully.

The major accessibility features in this product enable users to do the following:

- Use assistive technologies, such as screen-reader software and digital speech synthesizer, to hear what is displayed on the screen. Consult the product documentation of the assistive technology for details on using those technologies with this product.
- Operate specific or equivalent features using only the keyboard.
- Magnify what is displayed on the screen.

In addition, the product documentation was modified to include the following features to aid accessibility:

- All documentation is available in both HTML and convertible PDF formats to give the maximum opportunity for users to apply screen-reader software.
- All images in the documentation are provided with alternative text so that users with vision impairments can understand the contents of the images.

Navigating the interface using the keyboard

Standard shortcut and accelerator keys are used by the product and are documented by the operating system. See the documentation provided by your operating system for more information.

Magnifying what is displayed on the screen

You can enlarge information on the product windows using facilities provided by the operating systems on which the product is run. For example, in a Microsoft Windows environment, you can lower the resolution of the screen to enlarge the font sizes of the text on the screen. See the documentation provided by your operating system for more information.

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Glossary

agent Software installed to monitor systems. The agent collects data about an operating system, a subsystem, or an application.

agent group

A group of management agents that run the same policy or policies. Each management agent is associated with one or more listening and playback components.

agentless

A method a data collection where data is collected from traffic on networks monitored by Web Response Time rather than a domain-specific agent or Data Collector plug-in.

aggregate

(1) An average of all response times detected by the monitoring software over a specific time period. (2) In Transaction Tracking, a node in a transaction topology.

aggregate record

A summary of instance data from all transactions that match a defined pattern.

aggregate topology

A transaction topology that displays all known and implied transactions which may not all be related. See also instance topology.

Aggregation agent

An agent that stores the tracking data from more than one Data Collector plug-in and other monitors and computes aggregates for use by the Transaction Reporter. The Transaction Collector and Web Response Time agent are examples of a Aggregation agent.

aggregation period

The time period, measured in minutes, over which monitoring occurs.

alert A message or other indication that signals an event or an impending event.

application

One or more computer programs or software components that provide a function in direct support of a specific business process or processes.

application pattern

A rule that determines what transactions to monitor and how to group them.

arithmetic expression

A statement that contains values joined together by one or more arithmetic operators and that is processed as a single numeric value. See also arithmetic operator.

arithmetic operator

A symbol, such as + or -, that represents a fundamental mathematical operation. See also arithmetic expression.

ARM-instrumented application

An application in which ARM calls are added to the source code to enable the performance of the application to be monitored by management systems.

attribute

The application properties that are measured and reported on, such as the amount of memory used or a message ID. See also attribute groups.

attribute group

A set of related attributes that can be combined in a data view or a situation.

availability

The successful execution of a monitored transaction over a specified period of time.

client A software program or computer that requests services from a server.

client pattern

A method to define which clients to monitor, and how to group them for reporting.

client time

The time it takes to process and display a web page in a browser.

condition

A test of a situation or state that must be in place for a specific action to occur.

configuration

The manner in which the hardware and software of an information processing system are organized and interconnected.

context

The means used to group tracking data as part of a transaction flow.

Data Collector plug-in

The monitoring component that records the transaction data.

data interval

A time period in minutes for the summary data record. See also summary data.

data source

An application, server, transaction, or other process from which raw data is gathered.

domain

A part of a network that is administered as a unit with a common protocol.

down time

See mean time to recovery.

edge

In transaction monitoring, the point at which a transaction first comes in contact with the monitoring instrumentation.

event An occurrence of significance to a task or system. Events can include completion or failure of an operation, a user action, or the change in state of a process. See also situation.

failure

An individual instance of a transaction that did not complete correctly. See also incident.

firewall

A network configuration, typically both hardware and software, that prevents unauthorized traffic into and out of a secure network.

horizontal

Pertaining to data that is tracked between applications in a domain. See also vertical.

horizontal context

A method of identifying a transaction flow within a transaction which is used to group interactions based on the application supplying the tracking data.

host A computer that is connected to a network and that provides an access point

to that network. The host can be a client, a server, or both a client and a server simultaneously.

hot spot

A graphical device used in topologies to highlight the part of an end-to-end transaction that has crossed specified thresholds and has a significant transaction time deviation.

incident

A failure or set of consecutive failures over a period of time without any successful transactions. An incident concerns a period of time when the service was unavailable, down, or not functioning as expected.

instance

A single transaction or subtransaction.

implied node

A node that is assumed to exist and is therefore drawn in the Transaction Tracking topology. An implied node is created when an aggregate collected in an earlier aggregation period is not collected for the current aggregation period.

instance algorithm

A process used by the Transaction Reporter to track composite applications with multiple instances.

instance topology

A transaction topology that displays a specific instance of a single transaction. See also aggregate topology.

interval

The number of seconds that have elapsed between one sample and the next.

linking

In Transaction Tracking, the process of tracking transactions within the same domain or from data collector plugins of the same type.

load time

The time elapsed between the user's request and completion of the web page download.

managed system

A system that is being controlled by a given system management application.

Management Information Base

(1) In the Simple Network Management

Protocol (SNMP), a database of objects that can be queried or set by a network management system. (2) A definition for management information that specifies the information available from a host or gateway and the operations allowed.

mean time between failures

The average time in seconds between the recovery of one incident and the occurrence of the next one.

mean time to recovery

The average number of seconds between an incident and service recovery.

metric A measurement type. Each resource that can be monitored for performance, availability, reliability, and other attributes has one or more metrics about which data can be collected. Sample metrics include the amount of RAM on a PC, the number of help desk calls made by a customer, and the mean time to failure for a hardware device.

metrics aggregation

A process used by the Transaction Collector to summarize tracking data using vertical linking and stitching to associate items for a particular transaction instance. Metrics aggregation ensures that all appropriate tracking data is aggregated.

MIB See Management Information Base.

monitor

An entity that performs measurements to collect data pertaining to the performance, availability, reliability, or other attributes of applications or the systems on which the applications rely. These measurements can be compared to predefined thresholds. If a threshold is exceeded, administrators can be notified, or predefined automated responses can be performed.

monitoring agent

See agent.

monitoring schedule

A schedule that determines on which days and at what times the monitors collect data.

MTBF See mean time between failures.

MTTR

See mean time to recovery.

network time

Time spent transmitting all required data through the network.

node A point in a transaction topology that represents an application, component, or server whose transaction interactions are tracked and aggregated by Transaction Tracking.

over time interval

The number of minutes the software aggregates data before writing out a data point.

parameter

A value or reference passed to a function, command, or program that serves as input or controls actions. The value is supplied by a user or by another program or process.

pattern

A process used to group data into manageable pieces.

platform

The combination of an operating system and hardware that makes up the operating environment in which a program runs.

predefined workspace

A workspace that is included in the software which is optimized to show specific aspects of the collected data, such as agentless data.

probe A monitor that tests a transaction and then detects and reports any errors that were generated during that test.

profile element

An element or monitoring task belonging to a user profile. The profile element defines what is to be monitored and when.

pseudo node

A node that represents an untracked part of a transaction where information about a remote node is provided by a Data Collector plug-in, but that remote node is not itself tracked.

query In a Tivoli environment, a combination of statements that are used to search the configuration repository for systems that meet certain criteria.

regular expression

A set of characters, meta characters, and operators that define a string or group of strings in a search pattern.

reporting rule

A rule that the software uses for naming the collected data that is displayed in the workspaces.

request

See transaction.

response time

The elapsed time between entering an inquiry or request and receiving a response.

round-trip response time

The time it takes to complete the entire page request. Round-trip time includes server time, client, network, and data transfer time.

robotic script

A recording of a typical customer transaction that collects performance data which helps determine whether a transaction is performing as expected and exposes problem areas of the web and application environment.

SAF See Store and Forward.

sample

The data that the product collects for the server.

schedule

A planned process that determines how frequently a situation runs with user-defined start times, stop times, and parameters.

SDK Software Development Kit.

server A software program or a computer that provides services to other software programs or other computers.

server time

The time it takes for a web server to receive a requested transaction, process it, and respond to it.

service

A set of business processes (such as web transactions) that represent business-critical functions that are made available over the internet.

service level agreement

A contract between a customer and a service provider that specifies the expectations for the level of service with respect to availability, performance, and other measurable objectives.

service level classification

A rule that is used by a monitor to evaluate how well a monitored service is performing. The results form the basis for service level agreements (SLAs).

service recovery

The time it takes for the service to recover from being in a failed state.

situation

A set of conditions that, when met, create an event.

SLA See service level agreement.

status The state of a transaction at a particular point in time, such as whether it failed, was successful, or slow.

stitching

The process of tracking transactions between domains or from different types of data collector plugins.

store and forward

The temporary storing of packets, messages, or frames in a data network before they are retransmitted toward their destination.

subtransaction

An individual step (such as a single page request or logging on to a web application) in the overall recorded transaction.

summary data

Details about the response times and volume history, as well as total times and counts of successful transactions for the whole application.

summary interval

The number of hours that data is stored on the agent for display in the Tivoli Data Warehouse workspaces.

summary status

An amount of time in which to collect data on the Tivoli Enterprise Management Agent.

threshold

A customizable value for defining the

acceptable tolerance limits (maximum, minimum, or reference limit) for a transaction, application resource, or system resource. When the measured value of the resource is greater than the maximum value, less than the minimum value, or equal to the reference value, an exception or event is raised.

tracking data

Information emitted by composite applications when a transaction instance occurs.

transaction

An exchange between two programs that carries out an action or produces a result. An example is the entry of a customer's deposit and the update of the customer's balance.

transaction definition

A set of filters and maintenance schedules created in the Application Management Configuration Editor which are applied to the collected data and determine how that data is processed and displayed.

transaction flow

The common path through a composite application taken by similar transaction instances.

transaction interaction

See transaction.

transaction pattern

The pattern for specifying the name of specific transactions to monitor. Patterns define groupings of transactions that map to business applications and business transactions.

trend A series of related measurements that indicates a defined direction or a predictable future result.

uptime

See Mean Time Between Failure.

user profile

For Internet Service Monitoring, an entity such as a department or customer for whom services are being performed.

vertical

Pertaining to data that is tracked within the same application and domain. See also horizontal.

vertical context

The method used to distinguish one transaction flow from another within an application or group of applications. The vertical context enables Transaction Tracking to group individual transactions as part of a flow, label a node in a topology map, and link to an IBM[®] Tivoli Monitoring application.

view A logical table that is based on data stored in an underlying set of tables. The data returned by a view is determined by a SELECT statement that is run on the underlying tables.

workspace

In Tivoli management applications, the working area of the user interface, excluding the Navigator pane, that displays one or more views pertaining to a particular activity. Predefined workspaces are provided with each Tivoli application, and systems administrators can create customized workspaces.

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