Rational® TestManager

IBM

Documentation Supplement

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Contents

About this document

This document describes IBM® Rational® TestManager features that have been introduced in the past several service releases, from version 2003.06.12 to version 7.0. The information in this document supplements the information in the IBM Rational TestManager help and *IBM Rational TestManager User's Guide*.

Who should read this document

The information in this document is intended for Rational TestManager users.

Typographical conventions

This manual uses the following typographical conventions:

- *ccase–home–dir* represents the directory into which Rational ClearCase, Rational ClearCase LT, or Rational ClearCase MultiSite has been installed. By default, this directory is /opt/rational/clearcase on the UNIX system and Linux, and C:\Program Files\Rational\ClearCase on Windows.
- *cquest-home-dir* represents the directory into which Rational ClearQuest has been installed. By default, this directory is /opt/rational/clearquest on the UNIX system and Linux, and C:\Program Files\Rational\ClearQuest on Windows.
- **Bold** is used for names the user can enter; for example, command names and branch names.
- A sans-serif font is used for file names, directory names, and file extensions.
- **A serif bold font** is used for GUI elements; for example, menu names and names of check boxes.
- *Italic* is used for variables, document titles, glossary terms, and emphasis.
- A monospaced font is used for examples. Where user input needs to be distinguished from program output, **bold** is used for user input.
- Nonprinting characters appear as follows: <EOF>, <NL>.
- Key names and key combinations are capitalized and appear as follows: Shift, Ctrl+G.
- [ ] Brackets enclose optional items in format and syntax descriptions.
- { } Braces enclose a list from which you must choose an item in format and syntax descriptions.
- | A vertical bar separates items in a list of choices.
- ... In a syntax description, an ellipsis indicates you can repeat the preceding item or line one or more times. Otherwise, it can indicate omitted information.

  Note: In certain contexts, you can use "**...**" within a pathname as a wildcard, similar to "*" or "?". For more information, see the **wildcards_ccase** reference page.

- If a command or option name has a short form, a "slash" (/) character indicates the shortest legal abbreviation. For example:

  `lsc/heckout`

Contacting IBM Customer Support for Rational software products

If you have questions about installing, using, or maintaining this product, contact IBM Customer Support as follows:

The IBM software support Internet site provides you with self-help resources and electronic problem submission. The IBM Software Support Home page for Rational products can be found at http://www.ibm.com/software/rational/support/.

Voice Support is available to all current contract holders by dialing a telephone number in your country (where available). For specific country phone numbers, go to http://www.ibm.com/planetwide/.

Note: When you contact IBM Customer Support, please be prepared to supply the following information:
- Your name, company name, ICN number, telephone number, and e-mail address
- Your operating system, version number, and any service packs or patches you have applied
- Product name and release number
- Your PMR number (if you are following up on a previously reported problem)

Downloading the IBM Support Assistant

The IBM Support Assistant (ISA) is a locally installed serviceability workbench that makes it both easier and simpler to resolve software product problems. ISA is a free, stand-alone application that you download from IBM and install on any number of machines. It runs on AIX®, (RedHat Enterprise Linux® AS), HP-UX, Solaris, and Windows® platforms.

ISA includes these features:
- Federated search
- Data collection
- Problem submission
- Education roadmaps

For more information about ISA, including instructions for downloading and installing ISA and product plug-ins, go to the ISA Software Support page.

IBM Support Assistant: http://www.ibm.com/software/support/isa/

Chapter 1. Getting started

Overview

This documentation provides the following information about Rational TestManager features:

Support for DB2 databases

Rational TestManager has supported IBM DB2® as a database engine for test datastores since version 2003.06.15. DB2 UDB Components for Rational Products version 8.2 is shipped with Rational TestManager. This database platform replaces SQL Anywhere as the database platform offering. This release of Rational TestManager no longer supports SQL Anywhere.

Rational TestManager supports any DB2 database created with the following software:

- DB2 UDB Components for Rational Products version 8.2 (shipped with Rational TestManager)
- DB2 UDB Express version 8.2
- DB2 version 8.2

Note: Only Microsoft® Windows versions of DB2 are supported.

Information about installing DB2 can be found in the *IBM Rational TestManager Installation Guide*.

Upgrading test datastores

When upgrading to Rational TestManager version 7.0 or later, note the following important information related to test datastores:

- To take advantage of new reporting functionality, Crystal Reports version 11 support, and the new Test Case tracking capability, test datastores need to be upgraded during the process of upgrading to Rational TestManager version 7.0 or later. The upgraded clients, however, can connect to a previous (non-upgraded) test datastore until that test datastore can be upgraded manually.
- Datastores that are created in the version 7.0 release can be accessed only in that release and later releases. If the majority of your site has not upgraded to the version 7.0 release or later, do not create new datastores or upgrade existing datastores that were created in previous releases.
- When you upgrade a test datastore, all of the default Listing reports are overwritten. You should not make changes to the default Listing reports. If you

have made changes, save them with a different file name or to a different location before you upgrade the test datastore.

To upgrade a test datastore to version 7.0 or later:

1. Make a backup copy of the datastore.
2. Open the IBM Rational Administrator by Click **Start** > **Programs** > **IBM Rational** > **Rational Administrator**.
3. In the project pane, select the Rational project that contains the test datastore to be upgraded. Right-click the project and then click **Upgrade Assets**.
4. Click **OK** when you see the message reminding you to back up your data.
5. Click **View Log** to examine the results of the operation and ensure that it completed successfully. Click **Done**.

Chapter 2. Support for VMware GSX Server version 3.0

Rational TestManager now supports VMware GSX Server version 3.0 for managing virtual machines on Windows 2000 and Windows XP.

Using TestManager with software that manages virtual machines

To actively manage virtual machines hosting Rational Test Agents, Rational TestManager can now work with software that manages virtual machines, such as VMware GSX Server.

Note: Rational TestManager currently supports VMware GSX Server version 2.5.0 and version 3.0 for managing virtual machines on Windows 2000 and Windows XP. To purchase VMware GSX Server, contact VMware sales at sales@vmware.com or 1-877-4VMWARE.

You can designate a Rational TestManager computer asset as a virtual machine host by adding a special descriptor to its Computer Properties **Description** field. This descriptor associates the name, server, and other management parameters for the virtual machine with the computer.

During a test suite run, the execution states of any virtual machine hosts that are included will be automatically managed by Rational TestManager. If the run includes more virtual machine hosts than a virtual machine server can manage concurrently (for example, due to server resource limitations), the virtual machine hosts will be automatically multiplexed between activated and deactivated states as necessary until the run is completed.

To take advantage of this new function, you must perform the following tasks:

1. Install the VMware GSX Server Scripting API on the Rational TestManager system.
2. Set up Windows Auto-Logon for Test Agent virtual machines.
3. Configure the VMware Authorization Service for servers that host Test Agent virtual machines.
4. Add a new VMHOST_INFO descriptor in the Computer Properties **Description** field.

Setting up Windows Auto-Logon

You cannot use the Rational Test Agent Service (**rtpsvc.exe**). Instead, you must use the Rational Test Agent Daemon (**rtprvd.exe**) and you must configure the daemon to start automatically when a virtual machine hosting a Rational Test Agent is started. First, copy the daemon into the **Startup** folder of an account on the Windows guest operating system for the virtual machine. Then configure Windows to log on automatically using the credentials for that account, as described in the following procedure.

To set the registry keys to enable Windows Auto-Logon:

1. Follow this procedure to open the Registry Editor:
   a. From the Windows desktop, click **Start > Run**.
   b. Type regedit and then click **OK**.

2. In the Registry Editor, expand the tree on the left to display the keys for [HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon].

3. For each of the following keys, right-click the key, click **Modify**, change the value, and then click **OK**.

Table 1. Registry key values

Registry key	Value
AutoAdminLogon	1
DefaultDomainName	*YourDomainName*
DefaultUserName	*YourUserName*
DefaultPassword	*YourPassword*

4. Click **File > Exit** to close the Registry Editor.

5. Repeat Step 1 on page 3 through Step 4 for each virtual machine that hosts a Rational Test Agent.

Configuring the authorization service

To allow Rational TestManager access to the VMware GSX Server remote functions that are needed by for hosting test agent virtual machines, the VMware Authorization Service on the server must be configured with a set of user credentials to authorize this access. All virtual machines that are started by Rational TestManager on that server are then run as that user.

To enable this access, also known as VMware Trusted mode:

1. Run the program named **authtrusted.exe** in the VMware GSX Server product folder.

2. Set the desired user credentials according to the directions provided by VMware GSX Server.

After you have completed these steps, Rational TestManager can remotely manage virtual machines on that server without any further configuration of the VMware GSX Server software.

Adding a new VMHOST_INFO descriptor

For Rational TestManager to recognize that a computer asset is hosted by a virtual machine, you must add a new VMHOST_INFO descriptor to the **Description** field in the Computer Properties window for that computer.

To add the VMHOST_INFO descriptor:

1. From Rational TestManager, click the **Execution** tab.

2. Right-click any computer in the computer list, and click **Properties**.

3. Add the VMHOST_INFO descriptor by using the following format, and then click **OK**.

   This is the format of the descriptor:

   VMHOST_INFO= *vmserver-name*; *vm-name*; *final-state*; *redo-action*

   All fields are required.

   VMHOST_INFO

   > Required descriptor. It must be spelled correctly (no space between VMHOST_INFO and the equal sign) or the remaining

information will be ignored and the computer will be assumed to be a non-virtual machine host.

vmserver-name
The name of the physical machine that is running virtual machine management software and hosting the virtual machine. For VMware GSX Server, this is the name of the VMware GSX Server host where the virtual machine is registered.

vm-name The name of the virtual machine (also known as *virtual host*) that is hosting the test agent associated with the computer. For a virtual machine that is hosted by VMware GSX Server, this is the path name to the virtual machine's configuration file that is registered with the VMware GSX Server host for that virtual machine.

final-state Specifies the desired final state of the virtual machine after a test suite has been run. This field can have one of four values:
- POWEREDON: The virtual machine will be left in the powered-on (started) state.
- SUSPENDED: The virtual machine will be left in the suspended (deactivated) state.
- INITIAL: The virtual machine will be returned to the state it was in before the test suite was run.
- DEFAULT: The virtual machine will be set to the default final state (currently INITIAL).

redo-action Specifies how virtual-disk redo logs that are associated with the virtual machine should be handled when a decision is required by the virtual machine management software. This can happen when a virtual machine is placed in a started or stopped stated and redo logs have been persisted. This field can have one of four values:
- COMMIT: Any pending data for the redo log will be committed to the virtual-disk images.
- DISCARD: Any pending data for the redo log will be discarded. Data that has been discarded cannot be recovered.
- PRESERVE: Any pending data for the redo log data will be preserved (neither committed nor discarded).
- DEFAULT: The default redo action will be taken (currently PRESERVE).

Limitations of using Rational TestManager with virtual machine management software

Rational TestManager does not support the use of virtual machines in a powered-off initial or final state. Transitioning a virtual machine from or to a powered-off state can result in modal blocking conditions that Rational TestManager cannot respond to. This might cause your machine to hang or cause other timeout-related failures.

As an alternative to the powered-off state, you should use suspended mode for initial and final virtual machine states. This allows virtual machines to free resources back to the host operating system when they are no longer needed without requiring powered-off transitions.

Chapter 3. Support for Business Objects Crystal Reports

Rational TestManager includes the Crystal Reports version 11 runtime libraries (DLLs) that are required for viewing and running reports in Rational TestManager clients. Rational TestManager installs the files automatically.

However, to author or edit reports, you must purchase a copy of Crystal Reports Professional Edition or other Crystal Editions that contain Crystal Designer version 11. For instructions about how to install and license Crystal Reports Professional Edition or other Crystal Editions, contact Business Objects at www.businessobjects.com.

Using Rational TestManager with Crystal Reports version 11

Test datastores that were created with earlier versions of Rational TestManager are compatible with version 7.0 of Rational TestManager. However, to benefit from the new features provided with this release, you must upgrade your test datastores to version 2003.06.13 or later.

Versions of Rational TestManager earlier than version 2003.06.13 use Crystal Dictionary to run listing reports. Reports based on Crystal Dictionary are not supported in Crystal Reports version 11, the supported Crystal version for version 2003.06.13. For this reason, version 2003.06.13 provides replacement listing reports that do not use dictionaries. These replacement listing reports were created with Crystal Reports version 8.5 to be fully compatible with Crystal Reports version 8.5 through version 11.

You can continue to use Crystal Reports version 8.5 to run old dictionary-based reports and to create and run new reports that do not rely on dictionaries.

New datastores that you create do not include dictionaries. When you upgrade a version 2003.06.12 datastore that includes dictionaries, the datastore retains those dictionaries. If you previously modified a listing report in Crystal Reports version 8.5 and you now want to edit or run that report in Crystal Reports version 11, you must complete these steps:

1. Upgrade the test datastore for the report to version 2003.06.13 or later, or create a new datastore in version 2003.06.13 or later.
2. Re-create the report by copying and pasting its modified design elements to the corresponding replacement listing report. (For instructions, see "Re-creating reports with Crystal Reports version 11.")

Note: Before you upgrade a test datastore, you must upgrade all clients that use that datastore. If you are not ready to upgrade all clients to version 2003.06.13 or later, do not upgrade the test datastore.

Re-creating reports with Crystal Reports version 11

To re-create a listing report that you modified with Crystal Reports version 8.5:

1. Click **Start** > **Programs** > **IBM Rational** > **Rational TestManager**.
2. In the Rational Test Login window, type the password, select the Rational project, and then click **OK**.

3. In the test asset workspace, click the **Analysis** tab to display the reports. Expand the **Listing Reports** folder to display the listing reports. Find the replacement nondictionary-based listing report that corresponds to the dictionary-based report that you used to create the customized Crystal Reports version 8.5 report. For example, if you created a report in version 8.5 named Modified Build Detail Report based on the Build Detail Report, find the nondictionary-based Build Detail report. Right-click the nondictionary-based report and click **Open**.

4. In the Listing Reports window, click **New**. Type a name for the new report and click **OK**. The report opens for editing.

5. Click **Start > Programs > Crystal Reports** to start Crystal Reports version 8.5.

6. In the Welcome to Crystal Reports window, select **Open an Existing Report** and select the report from the list. The report opens in the Crystal Reports version 8.5 editor.

7. In the Crystal Reports version 8.5 editor, select and copy the design elements that you modified.

8. In the Crystal Reports version 11 editor, paste the design elements into the new report.

9. Click **File > Save** to save the re-created report.

10. Click **File > Close** to end the editing session.

    In version 2003.06.13, changes in the structure of some listing reports has caused some assets to be renamed or moved to new tables. For example, the Build Details report now includes two tables, Build and Iteration. In earlier versions of Rational TestManager, the **Iteration** field identified an iteration name. In version 2003.06.13, the **Iteration** field in the Build table identifies a UID. The iteration name is provided by the **Name** field in the new Iteration table. To determine if this type of problem exists with your report, right-click the report in the Rational TestManager test asset workspace and click **Run**. Examine the report for any unexpected field data.

    - If a problem exists, continue with the next step.
    - If no problems exist, you are done with this report and you can begin recreating your remaining reports.

11. Open the new report in Crystal Reports version 11 and then click **View > Field Explorer** to display the tables and field definitions for the report.

12. In general, to resolve a problem with an asset, go to that table for that asset. For example, to resolve the **Iteration** field problem, go to the Iteration table and use its **Name** field to replace the vfield in the report.

13. Save the changes to the report and run it again to verify that you have solved the problem.

Uninstalling the Crystal Reports version 8.5 runtime package

By default, Rational TestManager version 2003.06.13 or later uses the Crystal Reports version 8.5 runtime package to run your listing reports. After you re-create all modified reports to be compatible with Crystal Reports version 11, uninstall the Crystal Reports version 8.5 runtime package so that Rational TestManager version 2003.06.13 or later uses the Crystal Reports version 11 runtime package to run your reports.

Chapter 4. Citrix and Windows Terminal Server support

Rational TestManager is the central console for test activity management, execution and reporting. Built for extensibility, it supports everything from manual test approaches to various automated paradigms.

With the introduction of Rational TestManager with Terminal Server Support, Rational TestManager can be accessed by disparate members of a project team, ensuring the high visibility of test coverage information, defect trends, and application readiness.

Lifecycle integrations

Rational TestManager can be integrated with Rational's Team Unifying Platform™ tools. Rational TestManager is configured for integration with Rational RequisitePro® ensures seamless traceability between requirements and test cases, resulting in clear test coverage metrics and sensitivity to requirement modification. Rational TestManager is also configured for integration with Rational ClearQuest®, which allows you to perform in-context defect submission directly from the Rational TestManager Log Viewer, automatically porting test run data into the defect report to ensure accuracy.

Supported operations

Table 2 lists the software, platforms, operations, and integrations that Rational TestManager with Terminal Server supports.

Table 2.

Header	Header
Supported terminal software products	• Citrix MetaFrame software Feature Release 3 • Microsoft Window Terminal Server (WTS) 2003, version 5.2, version 2.2 • Rational TestManager version 2003.06.15 (Windows) only
Supported platforms	For a list of supported platforms and versions, see the *IBM Rational TestManager Release Notes*.

Header	Header
Supported operations and integrations	All areas of Rational TestManager are supported within this environment except for the following: • Execution: Only execution of Rational Robot GUI and Manual test types is supported. All other test type execution, such as Rational Functional Tester GUI, VU, Java™, VB, and command line, are not supported and are not features planned for release. • Execution monitoring: This is not supported in the terminal environment. Users needing this functionality should run tests directly from the Rational TestManager client as they do today outside of the terminal environment. • Agent playback: This is not operational, nor is it supported for this release.
Unsupported integrations	• IBM Rational Functional Tester (RFT) is not a supported Rational TestManager Terminal Solution integration. RFT does not support Citrix or WTS environments. • IBM Rational Manual Tester (RMT) is not a supported Rational TestManager Terminal Solution integration. RMT does not support Citrix or WTS environments.

Installation and configuration instructions

This section provides instructions for installing and configuring Citrix and Windows Terminal Server software for use with Rational TestManager.

Installing the software

Install the following software:

• Windows Terminal Server software

For installation and configuration guidelines, see the Citrix or Microsoft WTS documentation.

• Rational TestManager, Rational License Server, and Rational Administrator

For installation and configuration guidelines for these products, see the following guides:

– *IBM Rational TestManager Installation Guide* and the *IBM Rational TestManager Release Notes*

– License Server and Rational Administrator documentation, Readme, and Release Notes

If you are using a Rational Suite or Rational Team Unifying Platform software, see the installation guides for these products.

• The SQL Anywhere Database

Optionally, you may either connect to your existing SQL Anywhere server or install a new server. If you need to install the SQL Anywhere database server, see the installation guide for the IBM Rational product.

Attention: If installing SQL Anywhere 8.0.2 on Windows Server 2003, a patch is required. See http://www-1.ibm.com/support/docview.wss?rs=946 &uid=swg21192670. For SQL Anywhere and datastore configuration instructions, see the readme and the release notes.

Enabling Rational TestManager terminal capabilities

Rational TestManager terminal capabilities are blocked for use. You must enable the functionality with a registry key.

The following procedure adds a registry key to the Terminal Services client computer to disable the functional block.

1. Click **Start > Run**.
2. In the **Run** field, type `regedit` and then click **OK**.
3. In the left pane of the Registry Editor, navigate to the following folder in the registry tree: **\HKEY_LOCAL_MACHINE \Software\Rational Software**
4. Select the **Rational Software** folder in the registry tree.
5. Click **Edit > New > Key**.
6. Type `Rational Administrator` and then press Enter.
7. Select the Rational Administrator folder you just created.
8. Click **Edit > New > Key**.
9. Type `CTXS` and press Enter. You should now have the following key in your registry: \HKEY_LOCAL_MACHINE\Software\Rational Software\Rational Administrator\CTXS.

Setting environment variables

Set environment variables as follows:

1. Right-click the **My Computer** icon and click **Properties**
2. Click the **Advanced** tab.
3. Click the **Environment Variables** button near the bottom of the Advanced page.
4. In the **User variables** section, click **New**.
5. In the **Variable name** field, type `RT_MASTER_SHM_KEY`; in the **Variable value** field, insert values from 1-255.

   Note: This value needs to be unique for each end user that is concurrently running tests, and must be in the range 0 (default) to 255. Assign numbers beginning with 1, 2, or 3. Leave 0 unassigned in case an end user forgets to set a value and uses value 0 by default.

6. Click **OK**.
7. Click **New**.
8. In the **Variable name** field, type `RT_MASTER_MONITOR_VIEW_TIMEOUT`; in the **Variable value** field, insert 5 (or 10).
9. Click **OK** to set the values and then click **OK** on each window until all the windows are closed.
10. Start Rational TestManager. (If a user was running Rational TestManager, make sure to close and restart Rational TestManager to initiate the newly configured variable).

MKS NuTCRACKER platform applications in terminal environments

NuTCRACKER is a Rational TestManager component. To ensure proper operation of NuTCRACKER on Windows Server 2003 or Windows 2000 Service Pack 4, user privileges may need to be updated.

With Windows Server 2003 and Windows 2000 Service Pack 4, Microsoft has disallowed non-privileged users from creating global objects. There is a new privilege Create Global Objects (SeGlobalName) that is needed in order to create, but not access, a global named object.

Citrix and WTS users should reference the technote at http://www.mkssoftware.com/support/tn-wints.asp.

Error messages and troubleshooting

You may see the following error messages:

- RT Master Process error

  The value of RT_MASTER_SHM_KEY needs to be unique for each end user that is concurrently running tests, and must be in the range 0 (default) to 255. Assign numbers beginning with 1, 2, or 3. Leave 0 unassigned in case an end user forgets to set a value and uses value 0 by default.

  If this value is not set a user starting a test while another user's test is running will get the following fatal initialization error message: "Another RTmaster process is running."

  Initializing TestManager Suite run...
  [1.1.4.35]
    check ipc: couldn't remove previous shared memory segment,
  key=-x99990000 [1.1.4.83]
    check ipc: couldn't remove previous semaphore #1,
  key=0xaaab0000 RTmaster: fatal user initialization error [1.1.6.22]
    Another RT master process is running.

  Resolution: Set the RT_MASTER_SHM_KEY values following the instructions in "Setting environment variables" on page 11.

- RT Master Monitor View error

  Execution monitoring, visually monitoring execution progress, is not supported in the terminal environment. Users needing this functionality should run tests directly from the Rational TestManager client outside of the terminal environment. When running tests from within the terminal environment, users will see the following error message instead of the visual monitoring. This error can be safely ignored.

  Initializing TestManager suite run...
   [1.1.4.71]
   Continuing with run, although a timeout of 30031 seconds occurred while waiting for Monitor views to initialize (perhaps due to a large user count). To change this timeout value, set the system environment RT_MASTER_MONITOR_VIEW_TIMEOUT to the desired timeout value, and restart the application.

  The value 30031 represents the default setting of 30 seconds. If you change it to 5 or 10, you will still see it, but the 30 will be changed to 5 or 10, respectively.

Note: The value 30031 corresponds to the default 30 second refresh interval. Though reducing the refresh interval will not resolve this error, the error will be displayed to users sooner. Set the RT_MASTER_MONITOR_VIEW_TIMEOUT values following the instructions in "Setting environment variables" on page 11.

Chapter 5. Enhancements to performance testing

This chapter describes the enhancements to the performance testing features of Rational TestManager.

VU scripts: Defining the maximum size for ODBC columns

You can define a maximum size (in bytes) for the ODBC columns and override the default of 1 MB as the size for binary large object (BLOB) columns.

To define a maximum size, modify your script to specify a maximum column size using the **sqlcursor_setoption()** command with the newly added option ODBC_MAX_DEF_COLSIZE. This option should be added before the **sqlfetch_cursor()** command.

The following **sqlcursor_setoption()** command sets a 1000-byte limit on the column size:

```
stmt_2_1_id = sqldeclare_cursor["ODBC_001"] "", "SELECT TypeID FROM UserTable
  WHERE UserID = ?";
sqlopen_cursor ["ODBC_002"] stmt_2_1_id, "12345";
sqlcursor_setoption(stmt_2_1_id, ODBC_MAX_DEF_COLSIZE, 1000); /* Limit column size
 to 1000 bytes */
sqlfetch_cursor ["ODBC_003"] EXPECT_ROWS 1, stmt_2_1_id, ALL_ROWS;
```

The **sqlcursor_setoption()** command sets the limit for every subsequent cursor for every column. To disable the limit (restore the default of 1 MB), use -1 as the number of bytes (the last parameter).

In selecting the limit value, be sure to choose a number large enough to accommodate the largest expected column. If you use a value that is smaller than the size of a column, you can cause failures such as the following error:

```
ERROR -1:  {error} STATE=01004, CODE=0, MSG=[Microsoft][ODBC SQL Server Driver]
  String data, right truncation
```

Enhanced high-volume testing

You can customize your system settings for high-volume testing on a single computer running Windows (over 2000 virtual testers for each Windows host). To do this, you must edit the registry to increase desktop heap memory (memory used for dynamic memory allocation). For more information, see Appendix A in the *IBM Rational TestManager User's Guide*.

Chapter 6. Enhancements to test asset management and reporting

This chapter describes the enhancements to the test asset management and reporting features of Rational TestManager.

Selection of multiple test assets

You can now select multiple test assets in the Asset Browser Planning view and Test Plan view.

Asset Browser Planning view

If you select multiple test plans, you can delete, copy, paste, export, and import the multiple items simultaneously. Three commands are available from the pop-up menu: delete, copy, and export. There is only one parcel file for multiple exported items. When you import the parcel file, multiple items are imported.

If you select either multiple iterations or different asset types (such as a test plan and an iteration), you can only delete them.

Test Plan view

If you select multiple assets of the same type (such as two test cases), you can delete, copy, paste, export, and import the multiple items simultaneously. Three commands are available from the pop-up menu: delete, copy, and export. There is only one parcel file for multiple exported items. When you import the parcel file, multiple items are imported.

If you select either multiple configured test cases or assets of different types, you can only delete them.

Importing and exporting test assets

You can move or copy existing test assets between and within Rational projects, use vendor software to create importable versions of test assets, or use vendor software to analyze exported test assets. Importing and exporting test assets are subject to the following restrictions:

- Logs, log details, and test case results are not supported by the Rational TestManager import functionality.
- Rational TestManager does not support importing and exporting queries.
- Test Suite implementations are not imported or exported. Test Suite reference names can be imported or exported if the reference name exists in the import destination test datastore.

Changes to test case reports

You can now run test case reports that display test case suspicion status as presented by the test impact analysis capability. Using the test case suspicion feature, you can track meaningful changes to test inputs so that you can update the associated test cases or their implementations.

Chapter 7. General enhancements

The features described in this chapter have been introduced or updated since the last revision of the standard Rational TestManager documentation.

Additional layouts for Extended Log Listing reports

The following report layouts are now available in Extended Log Listing reports:

- Configured Test Case Results Detail
- Configured Test Case Results Overview
- Configured Test Cases
- Manual Script Event Log
- Test Case Detailed Results Overview by Build
- Test Case Results by Suite
- Test Case Results Detail
- Test Case Results Overview
- Test Case Results Summary by Build
- Verification Point History

For more information about these report layouts, go to www.ibm.com/ developerworks/rational/library/4320.html.

Icon and splash screen

The product icon and splash screen for Rational TestManager has changed since the last revision of standard TestManager documentation.

Tracking of test case progress using states and points

Rational TestManager can now track the execution progress of test cases using test case states and points. See *Tracking Test Case Progress Using States and Points*, which is available on the IBM Publications Center at www.ibm.com/shop/publications/ order. to find the document, Search for SY24-6181-00 on the IBM Publications Center.

Note: If you do not want to see state identifiers next to test case names in Rational TestManager, click **Tools > Options > View Options** and clear the **Show Test Case States** check box.

Extracting and reporting on test log details

Rational TestManager now provides the ability to extract test log details and to report on test log details for functional tests. The ability to extract and manage test logs details lets you further analyze test results. You can selectively filter data to identify trends and other valuable information. For detailed information about this function, go to www.ibm.com/developerworks/rational/library/4320.html .

Note: Before you can access these new features, you must upgrade your test datastore. If you do not upgrade the datastore, options related to extracting and reporting on test log details are not available.

To extract test log details:

1. After running a test, click the **Results** tab in Rational TestManager.
2. Click a test log to extract, use Ctrl + click to select multiple logs, or click a build to extract all log detail for that build.
3. Right-click and click **Extract Log Info**.

To overwrite log details that were previously extracted:

1. Select the log or logs to overwrite.
2. Right-click and click **Clear Log from Cache**.

Creation and management of test log detail reports is much like the creation and management of other reports.

To create a report that includes extended test log details:

1. Select the log or logs to use for the report.
2. Extract the test log details as described in the previous procedure.
3. Select **Reports > New > Extended Log Data**.

To specify preferences for how log details are extracted:

1. Click **Tools > Options**.
2. Click the **Extended Log Detail Preferences** tab.

   From this page you can specify several choices for the management of log details:

   - The **Always extract when exiting changed logs** check box indicates that log data is extracted each time a log is closed. This is applied per user.
   - The options in the **When overwriting a previously extracted log** section indicate whether you are asked about log extraction each time a log is closed, or whether the log is always or never extracted without prompting. These options also are applied on a per user basis.
   - The **Log Details** list lets you choose which of about 80 available log details you want to include when you extract data, on a per datastore basis. You can choose one or all of the details, or any in between, to create truly customized data. If you do not specifically choose any log details for extractraction, Rational TestManager extracts the core log details.
3. When you are finished making changes, click **OK**. When you close the window, Rational TestManager extracts log data for the current log according to the options chosen or retained.

As with other reports, you can customize log detail reports through Crystal Reports. For information about customizing reports, see the Crystal Reports documentation.

IBM Rational Functional Tester

Rational Functional Tester (RFT) is an object-oriented automated testing tool that you can use to test Java and HTML applications running on the Windows NT®, Windows 2000, Windows XP, and Linux and UNIX® system platforms.

Note: Rational XDE™ Tester is the old name for this product. It was first introduced as Rational RobotJ in Rational Suites Enterprise Studio, Rational Suites TestStudio®, and Rational TeamTest version 2002.05.02. RFT is integrated with Rational TestManager. It is a stand-alone point product, but

it maintains the same integrations when you have the 2003.06.*xx* versions of both XDE Tester and Rational TestManager.

RFT and Rational TestManager

When you associate an RFT datastore with a Rational project, you can perform these tasks:

- Create and play back scripts, including RFT scripts, from Rational TestManager. Use the Rational TestManager Agent to play back scripts on a remote computer.
- View scripts from the Test Scripts window of Rational TestManager.

You can use the Test Log window of Rational TestManager to perform these tasks:

- Open a test log to view a result.
- Filter the data of a test log to view only the information you need.
- Open the test script that generates a log event in the appropriate test-script development tool. For example, if you create an RFT script and run it from Rational TestManager, when you click a log event, RFT opens and displays the script.
- Analyze the results of a test log using the Verification Point Comparator. If you use RFT to record scripts, you can analyze the results in the Verification Point Comparator to determine why a verification point may have failed.
- Submit a defect for a failed test case or for a failed log event. The test log automatically fills in build, configuration, and script information in the Rational ClearQuest defect form.
- Preview or print data displayed in the active test log in the Test Log window.

Additional built-in test input type: Microsoft Excel

You can now use one or more Microsoft Excel spreadsheets as test input sources. This test input adapter can be useful in many ways. Many teams use Microsoft Excel to manage information in their projects. For example, some teams may document requirements or capture project planning information in a Microsoft Excel spreadsheet. In either case, with the new Microsoft Excel test input adapter, teams can track the testing effort with respect to their information in an Microsoft Excel spreadsheet. Specifically, they can associate test cases with tasks defined in rows of a spreadsheet so that a coverage report can be generated to show progress or completion of those tasks.

Test impact analysis

If a test input changes, Rational TestManager now informs you of the impact of that change on your test plan. For example, if a requirement changes in some meaningful way, you need to know which test cases in your test plans are affected so that you can update them to reflect requirement changes. Rational TestManager automatically identifies and marks the affected test cases as suspect for IBM Rational RequisitePro and Microsoft Excel test input sources.

Enhanced filtering of test input sources

You can now save test input source filters and Test Case Coverage report filters. Test input sources and Test Case Coverage reports are unfiltered by default. When you set a filter for a test input source, the last filter that you set persists in the Test Inputs window and Test Input Select window. When you set a filter for a test input

source, Rational TestManager saves the filter with the test input source. When you set a filter for a Test Case Coverage report, Rational TestManager saves the filter with the report.

Test scripts

This section describes new and enhanced functionality of test scripts in Rational TestManager.

Defining test script options

You can now define additional test script options to control how test script execution adapters run test scripts.

Test Scripts View

You can now view all your test scripts sorted by type from the Test Scripts View. From this window, you manage test scripts. You can also perform basic version control operations (such as check-in and check-out) on registered test scripts that support these operations.

Additional actions in the test script console and test input adapters

Developers of test script console adapters and test-input adapters can now add their own custom actions or commands. You can run these custom actions or commands in Rational TestManager.

Defining test tool options

You can now set test tool options to control how a particular test tool plays back a test script. You can define a test tool option in the test script execution adapter that you have written for a particular test tool.

Enhanced high-volume testing

You can customize your system settings for high-volume testing on a single computer running Windows (over 2000 virtual testers for each Windows host). To do this, you must edit the registry to increase desktop heap memory (memory used for dynamic memory allocation). For more information, see Appendix A in the *IBM Rational TestManager User's Guide*.

Appendix. Notices

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