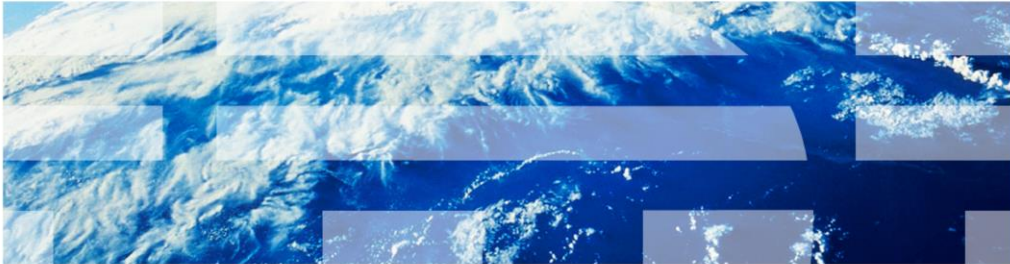


IBM Tivoli Composite Application Manager for Transactions V7.3

How to play back a Rational Functional Tester script



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This module explains how to set up IBM Tivoli® Composite Application Manager for Transactions to playback a Rational® Functional Tester test script on a Robotic Response Time agent.

Objective

When you complete this module, you can perform these tasks:

- Enable your first Rational Functional Tester script playback in IBM Tivoli Composite Application Manager for Transactions environment
- Verify script playback results

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Assumptions

These products must be installed:

- IBM Tivoli Monitoring V6.2 infrastructure (Tivoli Enterprise Monitoring Service or Tivoli Enterprise Portal Server)
- IBM Tivoli Composite Application Manager for Transactions agents V7.3.0.1 Application Management Console agent
- IBM Tivoli Composite Application Manager for Transactions agents V7.3.0.1 Robotic Response Time agent
- Rational Functional Tester V8.2

To play back successfully a robotized Rational Functional Tester script to monitor an Application Under Test, these components must be installed:

- IBM Tivoli Monitoring V6.2 infrastructure (Tivoli Enterprise Monitoring Service or Tivoli Enterprise Portal Server)
- IBM Tivoli Composite Application Manager for Transactions agents V7.3.0.1 Application Management Console agent
- IBM Tivoli Composite Application Manager for Transactions V7.3.0.1 Robotic Response Time agent and Rational Functional Tester V8.2 on a dedicated system (also known as the player system)
- Rational Functional Tester V8.2 on a dedicated system (also known as the recorder system)

Steps to apply

- Record a Rational Functional Tester script, play it manually, and verify that it is correct
- Upload it to ITCAM for Transactions Application Management Console (AMC) agent system
- Enable a robotic response time profile with IBM Tivoli Monitoring Tivoli Enterprise Portal GUI
- Start the targeted Robotic Response Time agent
- Verify results in IBM Tivoli Monitoring Tivoli Enterprise Portal GUI robotic workspaces

These steps are what you must do:

1. Record a Rational Functional Tester script, play it manually, and verify it is correct on the recorder system.
2. Upload it to the IBM Tivoli Composite Application Manager for Transactions Application Management Console (AMC) agent system
3. Enable a robotic response time profile with IBM Tivoli Monitoring Tivoli Enterprise Portal graphical user interface.
4. Start the targeted Robotic Response Time agent service.
5. Verify obtained results in IBM Tivoli Monitoring Tivoli Enterprise Portal GUI robotic workspaces.

Recording a Rational Functional Tester script

- The IBM Education Assistant module [Rational Functional Tester script for ITCAM](#) teaches how to record a test script with Rational Functional Tester Workbench software
- See IBM Tivoli Composite Application Manager for Transactions > 7.3 > Robotic Response Time agent > [Rational Functional Tester script for ITCAM](#)
http://publib.boulder.ibm.com/infocenter/ieduassst/tivv1r0/index.jsp?topic=/com.ibm.iea.cam4trans/cam4trans/7.3/rft/rft_script4itcam/player.html

The lesson developer assumes that you are already familiar with Rational Functional Tester Workbench software and know how to record a test script against the Application Under test targeted application.

If not, you can see the IBM Education Assistant module shown.

You can also use the Rational Functional Tester Workbench online help and Welcome workspace area to become more familiar with Rational Functional Tester script recordings.

After the Rational Functional Tester script is recorded and replayed manually within Rational Functional Tester workbench, you can continue to the next steps.

Verify script upload to AMC agent; see the Tivoli Enterprise Portal

The screenshot shows the Tivoli Enterprise Portal interface. In the left-hand 'Navigator' pane, the tree structure is expanded to 'Enterprise' > 'Windows Systems' > 'NC051069' > 'Application Management Console' > 'Robotic Scripts'. The 'Robotic Scripts' folder is highlighted with a red box. Below this, the 'Physical' view shows a table of script uploads.

Origin Node	Server Path	File Type	Description	Name	Date Modified	File Size	Checksum
nc051071:T3	RPT\nc051069-ISC-WAS-console-9060.zip	RPT		nc051069-ISC-WAS-console-9060.zip	06/13/13 15:37:19	1833865	961830630
nc051071:T3	RPT\ISC_console_nc051069.zip	RPT		ISC_console_nc051069.zip	05/21/13 17:24:02	375117	1481705513
nc051071:T3	RPT\GoTrade_on_netgen69.zip	RPT		GoTrade_on_netgen69.zip	05/21/13 16:26:25	1798753	2121106070
nc051071:T3	RPT\nc051069-PlantsByWebSphere.zip	RPT		nc051069-PlantsByWebSphere.zip	03/14/13 15:57:54	2167557	1979250543
nc051071:T3	CLI_PLAYBACK\testMFU-install.bat.zip	CLI_PLAYBACK		testMFU-install.bat.zip	02/01/13 15:00:35	421	807784834
nc051071:T3	RPT\43500.122.000.198-1.testsuite.zip	RPT		43500.122.000.198-1.testsuite.zip	01/02/13 17:09:44	369279	1050395227
nc051071:T3	ROBOT_GUI\test-browser-singapore.zip	ROBOT_GUI		test-browser-singapore.zip	12/06/12 15:42:02	688	3080585141
nc051071:T3	RPT\nc69-Trade.zip	RPT		nc69-Trade.zip	06/15/12 11:54:44	78117	3819798569
nc051071:T3	CLI_PLAYBACK\RunRFT.zip	CLI_PLAYBACK		RunRFT.zip	06/01/12 13:29:08	539	863338007
nc051071:T3	RFT\RFT_calc_Script1.zip	RFT		RFT_calc_Script1.zip	03/14/12 15:02:36	9868	3547926682
nc051071:T3	RFT\SAPGUI_tet_RPT.zip	RPT		SAPGUI_tet_RPT.zip	01/24/12 15:03:18	525451	3886737506
nc051071:T3	RFT\RFT_calc_Script2_noManualPback.zip	RFT		RFT_calc_Script2_noManualPback.zip	01/17/12 17:15:08	9330	3348446437

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After the Rational Functional Tester script is uploaded (also known as export action) from the Rational Functional Tester workbench recorder system to the Tivoli Composite Application Manager AMC agent, it should display in the Tivoli Monitoring Tivoli Enterprise Portal GUI console. Look under Navigator, AMC node, Application Management Console, in the Robotic Scripts workspace. Here you can start and check the path, the name, the file size of the archive file that contains the Rational Functional Tester script elements.

This information is a good indication of successful script upload to the Application Management Console script 'depot' system.

Rational Functional Tester Script archive details, which are stored locally on AMC file system

The screenshot displays a Windows desktop environment with several windows open:

- Service/Process List:** Shows 'AMC Web Response Time' and 'ITCAM Console' services. The 'ITCAM Console' service is highlighted with a red box.
- File Explorer (Left):** Shows the directory structure of the local computer. The path 'C:\IBM\ITM\kt1depot\t3' is highlighted with a red box.
- File Explorer (Right):** Shows the contents of the 'rft' directory. A file named 'RFT_cak_Script1.zip' is highlighted with a red box.
- ZIP Archive Extraction Window:** Shows the contents of the 'RFT_cak_Script1.zip' archive. The 'resources' subdirectory is highlighted with a red box. The following table represents the contents of this subdirectory:

Name	Size	Packed	Type	Modified	CRC32
resources			Folder		
configurations.rftcfg	4,563	1,072	File rftcfg	3/14/2012 3:02...	67E80E9
RFT_cak_Script1.class	2,195	1,038	File class	3/14/2012 3:02...	C2290F04
RFT_cak_Script1.java	3,157	957	File java	3/14/2012 3:02...	19C53721
RFT_cak_Script1.properties	171	133	File properties	3/14/2012 3:02...	C4000C35
RFT_cak_Script1.rftas	14,754	1,066	File rftas	3/14/2012 3:02...	86089A22
RFT_cak_Script1.testsuite	536	493	File testsuite	3/14/2012 3:02...	D7452956
settings.properties	184	119	File properties	3/14/2012 3:02...	E80F25C7

At the bottom of the screenshot, the text 'How to play back a Rational Functional Tester script' and '© 2013 IBM Corporation' are visible.

If all works as expected with the Tivoli Composite Application Manager for Transactions export phase, the AMC agent file system should store now the Rational Functional Tester exported archive .zip file. For example, on Windows system, Rational Functional Tester test script archives are stored under **ITMHOME/kt1depot/t3/rft** directory, as .zip files.

If you extract one archive file to see more, you should see the Rational Functional Tester script elements. Look for a **resources** subdirectory, a **configurations.rftcfg** file, and the script **.class** and **.java** files of the Rational Functional Tester script, among other files.

Enable a robotic response time profile with AMCe

The screenshot shows the Application Management Configuration Editor (AMCe) interface. The left pane displays a tree view of profiles, with 'Robotic Response Time' selected. The main pane shows the 'Transactions' tab, which contains a table of transactions. Two transactions are listed, both named 'RFT_calc_Script1'. The first is of type 'Application' and the second is of type 'Rational Functional Test'. Both have a status of 'Started'. Below the table, the 'Properties' section is visible, showing various configuration parameters for the script, such as 'Script interval (minutes)' set to 7, 'Timeout period (seconds)' set to 120, and 'Retry lag time (seconds)' set to 3.

Name	Status	Type
RFT_calc_Script1	Started*	Application
RFT_calc_Script1	Started*	Rational Functional Test

Name	Value
Script interval (minutes)	7
Timeout period (seconds)	120
Retry lag time (seconds)	3
Number of retries	1
Importance	Medium
Collect instances	False
Min. response time threshold (seconds)	10.0
Max response time threshold (seconds)	
Enable screen content capture	False
Terminate RFT and reboot when not responding	Agent Default
Abort RFT script on timeout	Agent Default
RFT application configuration	Agent Default

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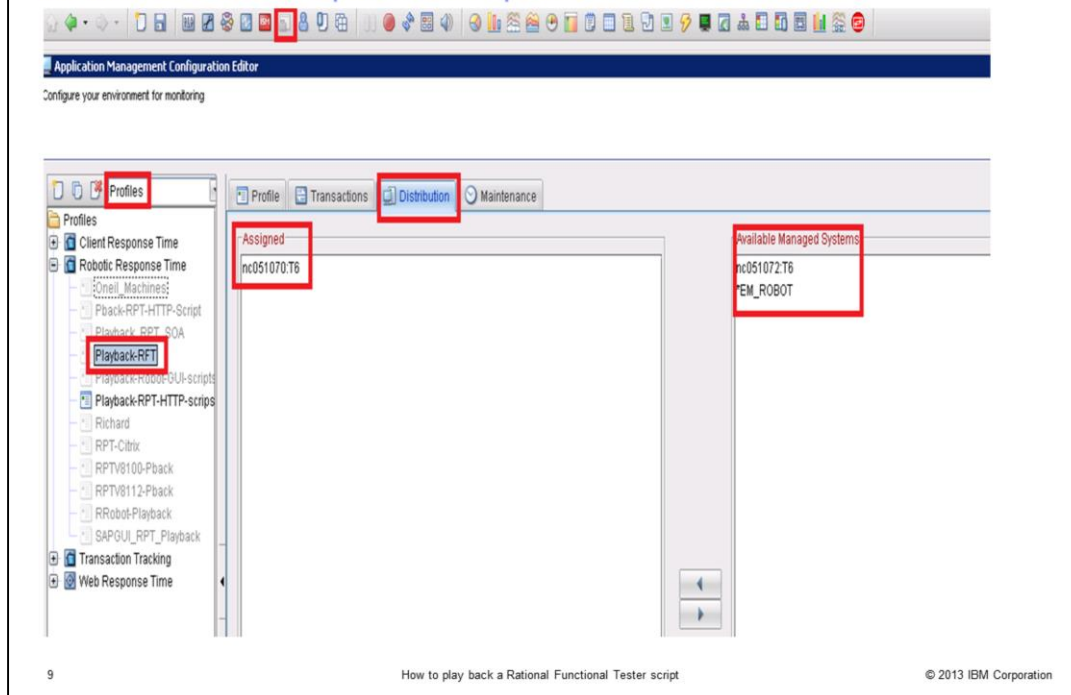
From the Tivoli Monitoring Tivoli Enterprise Portal, start the Application Management Configuration tool (also known as AMC Editor, or AMCe) and found in the top menu icon list of the Tivoli Enterprise Portal.

Now you must create a new or complete an existing **robotic response time profile**.

So select profiles and robotic response time. Right-click and select **create profile** for example.

Set a profile name for the profile; then in the **Transactions** tab, click the **Add** button to select and add your script. In the **properties** area, you can set up the **playback frequency, timeout value**, and so on.

Enable a robotic response time profile with AMCe



To complete the robotic response time profile setting with the Application Management Configuration Editor GUI, do these steps:

1. Go to the **distribution** tab.
2. Select a robotic node agent, for example, nc051070:t6.
3. Move this node to the Assigned list.

You can also select *EM_ROBOT Managed system group as Assigned list so that all of your robotic agents can play back the scripts.

Verify the deployment of the robotic profile with Tivoli Enterprise

The screenshot displays the Tivoli Enterprise console interface. On the left, the Navigator pane shows a tree view with 'Enterprise' at the top, followed by 'Windows Systems', 'Warehouse Proxy', 'Transaction Reporter', 'Applications', 'Components', 'Servers', 'Transactions', 'NC051069', 'NC051070', 'NC051071', 'Application Management Console', 'Configuration', 'Playback Status', 'Robotic Scripts', 'Applications', 'Internet Services', 'Web Response Time', 'NC051072', 'Client Response Time', and 'Robotic Response Time'. The 'Robotic Response Time' folder is expanded, showing 'Configuration' and 'Profile Configuration' sub-folders. The 'Profile Configuration' workspace is active, displaying a table of configuration items. The 'Agent Messages' workspace is also visible, showing a list of messages.

Config Name	Key Name	Value	Config Type	Entry Type
ABClients	IP	*	Client	Include
eric	User	eric@eric.com	Client	Include
eric	User	uid 0	Client	Include
eric	User	eric	Client	Include
ERIC-new-client-for-pmr16424-to-trigger-component	Hostname	eric	Client	Include
nc051068	IP	9.42.51.68	Client	Include
nc051069	IP	9.42.51.69	Client	Include
nc051070	IP	9.42.51.70	Client	Include
nc051071	IP	9.42.51.71	Client	Include
nc051072	IP	9.42.51.72	Client	Include
Playback-RFT-RFT_calc_Script1:RFT_calc_Script1	ProfileName	Playback-RFT	Transaction	Property
Playback-RFT-RFT_calc_Script1:RFT_calc_Script1	ApplicationName	RFT_calc_Script1	Transaction	Include
Playback-RFT-RFT_calc_Script1:RFT_calc_Script1	TransactionName	RFT_calc_Script1	Transaction	Include
Playback-RFT-HTTP-scrips:ISC_console_nc051069:ISC_co...	ProfileName	Playback-RFT-HTTP-scrips	Transaction	Property
Playback-RFT-HTTP-scrips:ISC_console_nc051069:ISC_co...	ApplicationName	ISC_console_nc051069	Transaction	Include

Message Date and Time	Severity	Message ID	Message Text
07/15/13 11:53:23	Information	BWMRA02521	The profile Playback-RFT has been changed.
07/15/13 11:53:23	Information	BWMRA02571	The profile Playback-RFT has been started.
08/18/13 11:14:15	Information	BWMRA02521	The profile Playback-RFT-HTTP-scrips has been changed.

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How to play back a Rational Functional Tester script

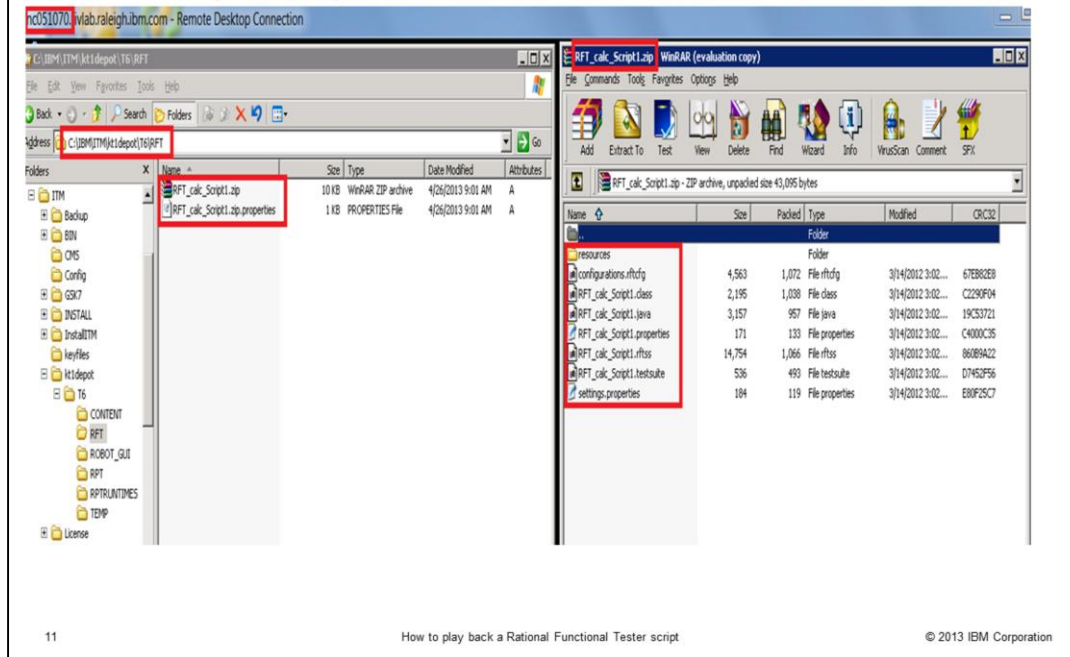
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After the robotic profile is enabled, as shown previously, you can check from the Tivoli Monitoring, Tivoli Enterprise Portal for the robotic agent node. Look under **Robotic Response Time, Configuration, Profile configuration workspace** for the results.

You should see your profile details, for example: the **Playback-RFT** profile name is listed here, with details of the profile configuration.

Also, in the Agent Messages workspace, a message can be displayed like “The profile ‘profile name’ was changed.” This message indicates that the profile is activated.

Rational Functional Tester script archive that is extracted automatically for playback



After the robotic profile is enabled, the Rational Functional Tester test archive is first laid down or downloaded automatically from the AMC agent to the Robotic agent into the **ITMHOME/kt1depot/T6/RFT** directory.

The test script archive content (for example, **RFT_calc_script1.zip**) is extracted automatically for later playback on the robotic agent into the **ITMHOME/tmaitm6/app/rft/scripts/<archive_name>** directory.

Example of robotic script failure

The screenshot displays the Tivoli Enterprise Portal interface. On the left, the Navigator shows a tree view with 'Enterprise' expanded, leading to 'Windows Systems', 'Warehouse Proxy', 'Summarization and Pruning Agent', 'Transaction Reporter', 'Applications', 'Components', 'Servers', 'Transactions', and 'NC051069'. Under 'NC051069', 'Robotic Response Time' is expanded, showing 'Configuration' and 'Playback Status'. The main area shows the 'Profile Configuration' table:

Config Name	Key Name	Value	Config Type	Entry Type
AllClients	IP	*	Client	Include
eric	User	eric@eric.com	Client	Include
eric	User	util 0	Client	Include
eric	User	eric	Client	Include
ERIC-new-client-for-pmr16424-to-trigger-component	Hostname	eric	Client	Include
nc051068	IP	9.42.51.68	Client	Include
nc051069	IP	9.42.51.69	Client	Include
nc051070	IP	9.42.51.70	Client	Include
nc051071	IP	9.42.51.71	Client	Include
nc051072	IP	9.42.51.72	Client	Include
Playback-RFT-RFT_calc_Script1-RFT_calc_Script1	ProfileName	Playback-RFT	Transaction	Property
Playback-RFT-RFT_calc_Script1-RFT_calc_Script1	ApplicationName	RFT_calc_Script1	Transaction	Include
Playback-RFT-RFT_calc_Script1-RFT_calc_Script1	TransactionName	RFT_calc_Script1	Transaction	Include
Playback-RFT-HTTP-scrips:ISC_console_nc051069:ISC_co	ProfileName	Playback-RFT-HTTP-scrips	Transaction	Property
Playback-RFT-HTTP-scrips:ISC_console_nc051069:ISC_co	ApplicationName	ISC_console_nc051069	Transaction	Include

Below the table is the 'Agent Details' pane, which is currently empty. At the bottom, the 'Agent Messages' table shows the following entries:

Message Date and Time	Severity	Message ID	Message Text
07/15/13 12:01:38	Error	BVMRF0121E	Playback of script RFT_calc_Script1 failed. Another instance of the test application might already be running.
07/15/13 11:55:52	Error	BVMRF0120E	The playback of script RFT_calc_Script1 failed. The agent screen might be locked.
07/15/13 11:53:23	Information	BVMRA0252I	The profile Playback-RFT has been changed.
07/15/13 11:53:23	Information	BVMRA0257I	The profile Playback-RFT has been started.

One way to verify the robotic script playback result is to look at the Tivoli Enterprise Portal, under **Robotic Response Time, configuration, Agent Messages workspace**.

If something unexpected or incorrect occurs during playback, a message is displayed in this workspace, such as:

The playback of script <script_name> failed. The agent screen might be locked, with **Severity = Error**.

Refer to troubleshooting guide of IBM Tivoli Composite Application Manager for Transactions for further investigation if needed.

Another example of robotic script failure

The screenshot displays the IBM Tivoli Enterprise Portal interface. The left-hand side shows a Navigator tree with the following structure:

- Enterprise
 - Windows Systems
 - NC051068
 - Warehouse Proxy
 - Summarization and Prun
 - Transaction Reporter
 - Applications
 - Components
 - Servers
 - Transactions
 - NC051069
 - Robotic Response Time
 - Applications
 - Configuration
 - Playback Status
 - Transactions
 - Windows OS
 - NC051071
 - Application Management
 - Configuration

The main content area shows the 'Overall Agent Script Execution Trend (All Scripts)' chart, followed by the 'Robotic Script Playback Status' table:

Robotic Script Name	CLI Playback Command	Current Run Status	Last Run Status	Last Run Start Time	Last Update	Last Run Duration	Profile Name	Robotic Script Type
RFT_calc_Script1	N/A	Idle	Complete	07/15/13 13:49:52	07/15/13 13:50:40	47.265	Playback-RFT	Rational Functional Tester
nc051069-ISC-WAS-console-9060	N/A	Idle	Complete	07/15/13 13:49:53	07/15/13 13:50:52	59.219	Playback-RPT-HTTP-scripts	Rational Performance Tester

Below this is the 'Robotic Script Verification Point Failures' table:

Event Time	Event Type	Profile Name	Robotic Script Name	Script Type	Playback Command	Violated Value	Expected Value	Additional Details
07/15/13 13:50:40	Generic Failure	Playback-RFT	RFT_calc_Script1	Rational Functional Tester	N/A			RFT_calc_Script1 testMain had an unhandled exception, s...

The 'Additional Details' tooltip for the failure event contains the following text:

```
RFT_calc_Script1 testMain had an unhandled exception, s...
RFT_calc_Script1 script_id=RFT_calc_Script1.java
exception_name=com.rational.test.terminalservices
exception_message=CRFCN0557E: Activation failed in
Terminal Services environment. This may be caused by
terminal window - by playing back without minimizing
the terminal window (does not need to be full-screen),
screen_snapshot=rational_8_screensnapshot.jpg
```

Here, another example of robotic script failure is shown. The other important Tivoli Enterprise Portal workspaces to look at are listed:

Robotic Response Time, Playback Status workspace, and more particularly the Robotic script verification point failures

Look for **Event type** like Generic Failure and its **Additional Details** message.

If you move your mouse over the **Additional Details** field, you can see the complete message details.

Here again, the *Troubleshooting Guide for IBM Tivoli Composite Application Manager for Transactions* can help you to determine what is wrong.

Successful Rational Functional Tester robotic script playback

The screenshot displays the Tivoli Enterprise Portal interface. On the left, the Navigator shows a tree view with 'Enterprise' at the top, followed by 'Windows Systems', 'NC051068', 'Warehouse Proxy', 'Summarization and Pruning Agent', 'Transaction Reporter', 'Applications', 'Components', 'Servers', 'Transactions', 'NC051069', 'NC051070', 'Robotic Response Time', 'Applications', 'Configuration', 'Playback Status', 'Transactions', 'Windows OS', 'NC051071', 'Application Management Console', 'Configuration', 'Playback Status', 'Robotic Scripts', 'Applications', 'Internet Services', 'Web Response Time', 'NC051072', 'Client Response Time', and 'Robotic Response Time'. The 'Robotic Response Time' workspace is selected, and the 'Transactions' sub-workspace is expanded, showing 'RFT_calc_script1'.

The main area shows a 'Transaction Availability Historical Summary' chart. The chart has a yellow bar for 'RFT_calc_script1' from 0 to approximately 35 minutes, and green bars for 'ISC_console_nc051069' and 'nc051069-ISC-WAS-console-9060' from 0 to 80 minutes. The x-axis represents time in minutes, ranging from 0 to 80.

Below the chart is a 'Transaction Current Status Details' table:

Application	Transaction	Importance	Percent Available	Percent Slow	Start Time	Average Response Time	End Time
RFT_calc_script1	RFT_calc_script1	Medium	100.000	100.000	07/15/13 14:40:00	10.140	07/15/13 14:47:22
nc051069-ISC-WAS-console-9060	nc051069-ISC-WAS-console-9060	Medium	100.000	0.000	07/15/13 14:45:00	2.640	07/15/13 14:47:22
ISC_console_nc051069	ISC_console_nc051069	Medium	100.000	0.000	07/15/13 14:45:00	2.578	07/15/13 14:47:22

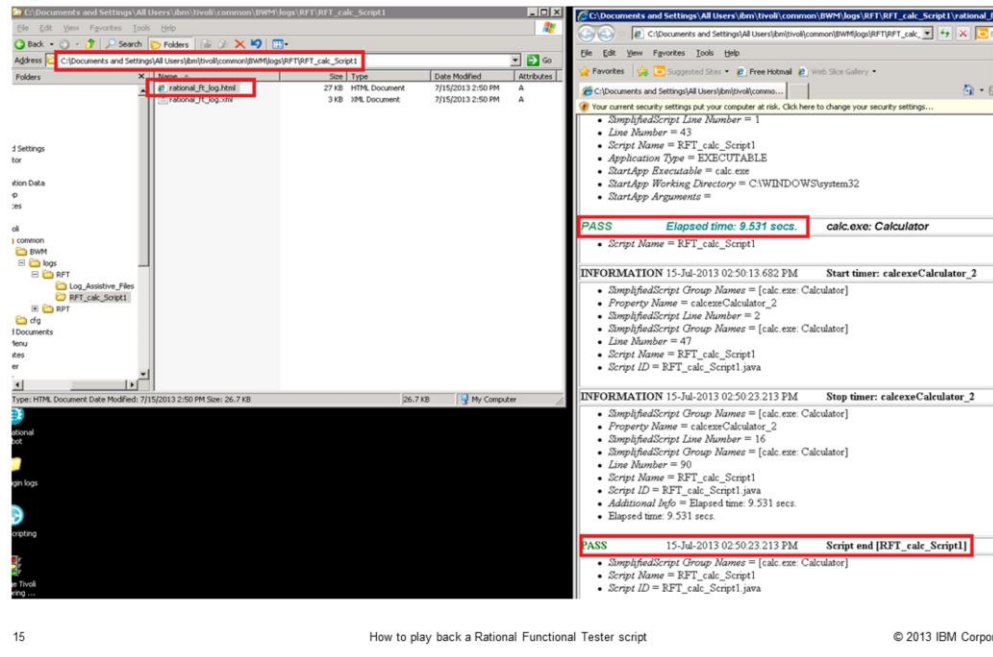
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If a successful playback of Rational Functional Tester script occurs, as expected, none of the two previous messages and workspaces that are shown in the previous two slides show in Tivoli Enterprise Portal robotic workspaces.

Instead, the Robotic Response Time Transactions workspace lists the application under test transaction name, like **RFT_calc_script1**.

An average response time for the monitored transaction is reported too.

Checking Rational Functional Tester script execution log on robotic agent



Another way to check the environment results of the robotic Rational Functional Tester script playback is to verify the execution log of the Rational Functional Tester script directly on the Robotic Response Time agent machine, under the right directory.

The file to look for is **rational_ft_log.html**.

For robotic agent versions before V7.3.0.1, the default location for the file is in the **C:/program files/ibm/tivoli/common/bwm/logs/rft/<script_name>** directory.

For robotic agent V7.3.0.1 and later, the default file location is in the directory **%ALLUSERSPROFILE%/ibm/tivoli/common/bwm/logs/rft/<script_name>**.

For example: **C:/documents and Settings/All users/ibm/tivoli/common/bwm/logs/rft/<script_name>**.

If you edit the **rational_ft_log.html** file, you see at the end of the file a status like **PASS** at the line **Script end**. It is a good indication that the robotic Rational Functional Tester script playback was successful, as shown in this image.

Summary

Now that you completed this module, you can perform these tasks:

- Enable your first Rational Functional Tester script playback in IBM Tivoli Composite Application Manager for Transactions environment
- Verify script playback results

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