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Script Recording Tips

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Script Recording Tips

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Script Recording Tips

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Table of Contents

Welcome to Script Recording Tips ..... **v**
How This Guide Is Organized v
Who Should Read This Guide v
Getting More Information vi

Chapter 1: VuGen Recording Tips **1**
Recommended VuGen Run-Time Settings 1
Recommended VuGen Script Recording Techniques 7

Chapter 2: QuickTest Professional Recording Tips **9**
Recommended QuickTest Professional Script Recording Techniques 9

Index **13**

Welcome to Script Recording Tips

This guide provide tips on recording Business Process Monitor scripts for use in Mercury Business Availability Center.

How This Guide Is Organized

The guide contains the following chapters:

VuGen Recording Tips

Describes tips and recommendations for recording scripts with Mercury Virtual User Generator (VuGen) when recording scripts for use in Mercury Business Availability Center.

QuickTest Professional Recording Tips

Describes tips and recommendations for recording scripts with QuickTest Professional (QTP) when recording scripts for use in Mercury Business Availability Center.

Who Should Read This Guide

This guide is intended for the following users of Mercury Business Availability Center:

- Mercury Business Availability Center administrators
- Mercury Business Availability Center data collector administrators
- Script developers

Readers of this guide should be knowledgeable about enterprise system administration, scripting, and Mercury Business Availability Center recording tools.

Getting More Information

For information on using and updating the Mercury Business Availability Center Documentation Library, reference information on additional documentation resources, typographical conventions used in the Documentation Library, and quick reference information on deploying, administering, and using Mercury Business Availability Center, refer to *Getting Started with Mercury Business Availability Center*.

1

VuGen Recording Tips

This chapter describes tips and recommendations for recording scripts in Mercury Virtual User Generator (VuGen) when recording scripts for use in Mercury Business Availability Center.

This chapter describes:	On page:
Recommended VuGen Run-Time Settings	1
Recommended VuGen Script Recording Techniques	7

Recommended VuGen Run-Time Settings

The following run-time settings are recommended when creating scripts for Mercury Business Availability Center using VuGen. You set run-time settings in VuGen. For details, see "Configuring Run-Time Settings" in *Using Mercury Virtual User Generator*.

Note: For non-Web protocols, not all of the run-time settings described below are available. When recording scripts with non-Web protocols, it is recommended to use the default run-time settings, unless modifications are required to suit your specific environment.

General: Pacing

Recommended Setting	Remarks
Number of iterations: 1 (default setting)	Typically, in Mercury Business Availability Center, there is no need to have a script run multiple iterations during each scheduled run. **Note:** For multiple action protocols, this setting appears under the Run Logic node.
As soon as the previous iteration ends (default setting)	Unless the number of iterations is set to greater than 1, this setting is not applicable to Mercury Business Availability Center.

General: Log

Recommended Setting	Remarks
Enable logging: disabled	When logging is enabled, it increases transaction response times.

General: Think Time

Recommended Setting	Remarks
Ignore think time (default setting)	When think time is enabled, it increases transaction response times when occurring inside a transaction.

General: Additional Attributes

Recommended Setting	Remarks
No additional attributes (default setting)	This setting is not applicable to Mercury Business Availability Center.

General: Miscellaneous

Recommended Settings	Remarks
Continue on error: enabled	Set this in the Error Handling section so that your scripts continue to run when errors occur.
Fail open transactions on lr_error_message: disabled (default setting)	Set this in the Error Handling section. You can insert lr_error_message statements into a transaction for informational messages that can aid in identifying the reason for transaction failure. Such messages will display even with logging turned off (unlike lr_output_message). If statements to explicitly fail transactions are required, use lr_set_transaction_status.
Generate snapshot on error: enabled	Set this in the Error Handling section so that you can later analyze the errors that occur during the script run.
Run Vuser as a process	Set this in the Multithreading section.
All **Automatic Transactions** settings should be disabled.	You should manually insert transactions, either during recording or afterward, that reflect the exact business processes for which you want Mercury Business Availability Center to collect data.

Network: Speed Simulation

Recommended Settings	Remarks
Use maximum bandwidth (default setting) or **Use bandwidth** <typical>	For B2B applications, it is reasonable to assume that maximum bandwidth emulation reflects the end-user experience. Otherwise, select the most widely used connection type of your customer base.

Browser: Browser Emulation (Web protocols)

Recommended Setting	Remarks
User-Agent: Mozilla/4.0 (compatible; MSIE 6.0; Windows NT 5.0; T312461)	Although this is the recommended setting, you should select the browser type most suitable to the application being monitored.
Simulate browser cache: enabled (default setting)	This setting is preferable as it simulates real browser behavior, especially when you have several transactions within the same script that are dependant on one another.
Cache URLs requiring content (HTMLs): disabled	This setting is preferable as, if the setting is enabled, VuGen will not download the content of a URL that is cached and may cause verification checks to fail. The replay engine will not check to see whether the content of the cached page has changed.
Check for newer versions of stored pages every visit to the page: disabled (default setting)	This reflects the default browser setting.
Download non-HTML resources: enabled (default setting)	This setting is preferable as it simulates real end-user experience.
Simulate a new user on each iteration: enabled (default setting)	Unless the number of iterations is set to greater than 1, this setting is not applicable to Mercury Business Availability Center.
Clear cache on each iteration: enabled (default setting)	Unless the number of iterations is set to greater than 1, this setting is not applicable to Mercury Business Availability Center.

Internet Protocol: Proxy (Web protocols)

Recommended Setting	Remarks
No proxy (direct connection to the Internet) (default setting)	This is the recommended setting when direct connection to the Internet from the Business Process Monitor is possible, and/or when your end users are not typically accessing your application through a proxy server. If for any reason connection through a proxy is required to access the Internet (for example, if the Business Process Monitor machine is behind a firewall, or due to company policy requiring connection to the Internet through a proxy), or if you want to emulate end users connecting through a proxy server, select one of the available proxy server settings.

Internet Protocol: Preferences (Web protocols)

Recommended Settings	Remarks
Enable image and text check: enabled	If you are using checks in the script, it is recommended that you use web_reg_find and not web_find, as the latter has a significant effect on transaction response time. When using web_reg_find, you do not need to enable the Checks setting. However, if you are using the web_find or web_image_check functions, this setting needs to be enabled.
All **Generate Web performance graphs** settings should be disabled.	These settings are not applicable to Mercury Business Availability Center.
WinInet replay instead of Sockets (Windows only): disabled (default setting)	Only enable WinInet replay if you are recording in an environment that uses SOCKS proxy or proxy automatic configuration.

Recommended Settings	Remarks
File and line in automatic transaction names: disabled	These settings are not applicable to Mercury Business Availability Center.
Non-critical resource errors as warnings: enabled (default setting)	Similarly to the way IE works, this prevents a transaction from failing on errors such as HTTP 404, which can occur, for example, if one image is missing from the page.
Save snapshot resources locally: disabled	This setting is not applicable to Mercury Business Availability Center.
All **Advanced Options** can be left at default values, or modified as required.	To set Advanced Options, click the **Options** button in the Advanced section.

Internet Protocol: Download Filters (Web protocols)

Recommended Setting	Remarks
Include only addresses in list (default setting)	This setting is ignored as long as no addresses are listed. To enable this feature, choose either option and add entries. For example, you can exclude the downloading of resources from a third-party vendor (address) for which you have no control (such as an ad server).

Internet Protocol: ContentCheck (Web protocols)

Recommended Setting	Remarks
Enable ContentCheck during replay: enabled	It is recommended that you configure and use ContentCheck if possible. If you choose to enable this feature, you must define ContentCheck rules. If you do not have any ContentCheck rules defined, disable the feature. Note that an alternative method to verify content is the use of text checks using web_reg_find.

Recommended VuGen Script Recording Techniques

Use the following recommendations when recording scripts with VuGen for use in Mercury Business Availability Center. For more information about recording-related terminology, see "Recording with VuGen" in *Using Mercury Virtual User Generator*.

- While recording, insert transaction markers to mark the start and end of the specific business processes for which you want Mercury Business Availability Center to collect data. For example, you might record a transaction file that includes navigating to the home page of a Web site, performing a user login, performing a search, and viewing the search results. You could break this script into two separate transactions—login and search. During recording, you would insert start and end transaction markers before and after each separate activity. Mercury Business Availability Center would then track response time and availability data separately for each marked transaction in the transaction file. Note that you can also record a number of business process steps, and then after recording, manually insert transaction markers into the script.
- Record small transactions that contains just one logic step (for example, logging in, accessing a home page, performing a search, and so forth). This will improve the ability to later pinpoint and resolve problems.
- Record transactions that monitor specific components in your application architecture (for example, accessing the home page to monitor the Web server, performing a search to monitor the database server, and so forth).
- Always use correlation and fail the transaction if correlation fails.

- When recording Web-based transactions, include a web_reg_find check inside a transaction to verify that you receive the correct Web page. Ensure that you place the check statement between the start and end transaction statements.
- If you are interested in monitoring performance dependency, you can nest transactions one inside another.
- To get an overall picture of business process performance, while at the same time tracking the performance of individual steps within the business process, create a main transaction inside which you mark sub-transactions.

  For example, say you want to monitor the business process of ordering a book in a Web-based application. You could create one main transaction that involves all the steps: accessing the home page, logging in, performing a search, submitting the order. Within this transaction you could mark sub-transactions that monitor each individual step in the process.

  You monitor the sub-transactions to track the performance of the business process components (which might access different server machines in the application architecture); you monitor the overall transaction to get a clear picture of the performance of the complete business process, which is often useful for reporting, comparing to a competitor's application, and so forth.

2

QuickTest Professional Recording Tips

This chapter describes tips and recommendations for recording scripts in QuickTest Professional (QTP) when recording scripts for use in Mercury Business Availability Center.

This chapter describes:	On page:
Recommended QuickTest Professional Script Recording Techniques	9

Recommended QuickTest Professional Script Recording Techniques

In certain environments, it may be necessary or preferable to use QuickTest Professional instead of VuGen to record scripts for use with Business Process Monitor. Examples of such environments include: certain Java applications, terminal emulator, home-grown applications written in VB or MVS, Lotus Notes, Siebel (in certain cases), a Delphi application using a third-party Oracle integration layer, an application that communicates using a proprietary, compressed, encrypted protocol, or an application using asynchronous communication.

Use the below recommendations when installing and using QuickTest Professional with Mercury Business Availability Center. For more information about QuickTest Professional, refer to the *QuickTest Professional User's Guide*.

- When possible, it is recommended to install QuickTest Professional and record scripts (referred to as tests in the *QuickTest Professional User's Guide*) on the same machine running the Business Process Monitor that will execute the scripts. It is further recommended to use the same operating system image on all Business Process Monitor machines that will execute the script. If it is not possible to record scripts on the Business Process Monitor machine, make sure to record scripts on a machine whose environment is the same as the Business Process Monitor machine(s) that will run the scripts.
- Make sure to install Business Process Monitor prior to installing QuickTest Professional.
- Before recording QuickTest Professional scripts, it is recommended to select the **Record and run on these applications** option in the Record and Run Settings dialog box, and to specify the application(s) against which the script will run. Failure to select this option may result in the failure of Business Process Monitor to run the script. To enable this option, open the script in QuickTest Professional, select **Test** > **Record and Run Settings** > **Windows Applications**, and select the **Record and run on these applications** setting. Make sure the application(s) against which the script will run are defined.
- Every QuickTest Professional script must contain at least one transaction to provide useful information in Business Process Monitor.
- To add transactions in QuickTest Professional, add the following lines to the script:
  - To start a transaction, click the Start Transaction button, or manually add the following statement: Services.StartTransaction "<name of transaction>"
  - To end a transaction, click the End Transaction button, or manually add the following statement: Services.EndTransaction "<name of transaction>"
- You can also add distributed transactions and transactions using manually entered data to scripts. Keep the below points in mind when using distributed transactions. For more information, refer to the QuickTest Professional documentation.
  - When measuring a distributed transaction over two different Business Process Monitor profiles, the profile with the StartDistributedTransaction

statement must be run before the profile with the associated EndDistributedTransaction.

- ➤ When measuring distributed transactions, make sure that you relate the scripts to a single Business Process Monitor instance. Business Process Monitor searches for the end transaction name in all instances, and may close the wrong distributed transaction if it is included in more than one instance.
- ➤ When measuring a distributed transaction over two Business Process Monitor profiles, make sure that the timeout value you specify is large enough so that the profile that contains the StartDistributedTransaction step and all the profiles that run before the profile that contains the EndDistributedTransaction step, will finish running in a time that is less than the value of the specified timeout.

- ➤ When calling values from a parameter file, note the following:
  - ➤ DataTable expects the column name as the first parameter, for example `DataTable("A")` will access value from column A.
  - ➤ By default, QuickTest Professional runs a number of global iterations equal to the number of rows in the global data sheet. You can modify the default range of global iterations in QuickTest Professional from **File** > **Settings** > **Run**.
- ➤ Executing a QuickTest Professional script in a profile (when run by Business Process Monitor) differs from executing it in QuickTest Professional. In Business Process Monitor, the script runs in *mdrv mode*, while in QuickTest Professional the script runs in *QTP mode* (which is a GUI mode). It is recommended to always run scripts in QuickTest Professional in mdrv mode to verify that they run correctly before using them in Business Process Monitor. To test the execution in mdrv mode, use one of the following methods:
  - ➤ Use Silent Test Runner (accessible from **Start** > **Programs** > **QuickTest Professional** > **Tools**), an application for running tests in mdrv mode. It provides a run log and transaction log that can be reviewed to verify that scripts run successfully.
  - ➤ Run mdrv using command line syntax. First, run the following command from the QuickTest Professional path with the -usr flag:

"<QuickTest Professional installation directory>\bin\mdrv.exe" -usr <path to usr file>

Then run the script using the following syntax:

<QTP script path located under the BPM workspace directory>\script name.usr

For example:

"C:\Program Files\Mercury Interactive\BPM\workspace\agent1\Site1\qtp_script\441\Check_users\Check_users.usr"

- When a script starts, it usually launches some application. Scripts should be designed such that the application is closed at the end. Otherwise, the next invocation of the script will launch another instance of the application, which could cause the script to fail. ALternatively, design the script to check whether the application is already open and to launch the application only if it is not open. In this case, the script should return the application to its starting state.
- Note the following additional limitations:
  - External Actions or other external resources (DataTable, Function Library, Shared Object Repository, Ext. Environment) are not supported unless the external resource can be found from the Business Process Monitor machine (that is, if it was defined using the UNC network path and that UNC network path is also accessible from Business Process Monitor).
  - Keep in mind that scripts run faster in mdrv mode than in QTP mode, which can result in synchronizations problems; thus scripts that run correctly in QTP mode might not run correctly in mdrv mode. Usually adding wait time or checking for an object's existence will solve this problem.

Index

Q

QTP, script recording tips 9

R

recording techniques
    QTP 9
    VuGen 7
run-time settings (VuGen), recommended 1

S

script recording tips
    QTP 9
    VuGen 1
scripts
    QTP recording tips 9
    VuGen recording tips 1

V

VuGen
    recording tips 1, 7
    run-time settings, recommended 1