

## IBM Software Demos

### Rational Functional Tester Extension for SAP Testing

#### <01\_Intro>

Functional Testing is an important step for any software development process, whose importance only grows with the complexity of the system being deployed. For large enterprise resource planning deployments such as SAP, manual testing often is too time consuming to ensure full functionality coverage.

In the next few minutes we'll examine how you can use IBM Rational Functional Tester to create test automation scripts to validate the functionality of your SAP system to ensure a successful enterprise deployment.

#### <02\_Record>0

We're going to create a test to validate an account balance in our accounting module. We'll use the automated script generation capability of Functional Tester to convert our onscreen actions into a Java language or Visual Basic.net test script. This will produce a re-usable test which we can run against all subsequent builds or releases of our SAP system.

We'll begin by launching the SAP GUI and logging into our system.

Next, we'll navigate to the Account Balance Display screen.

As we provide the account information for the query, functional tester is capturing not only our actions, but our data as well.

At this point, we could use the Data Driven wizard to provide additional company and account numbers. This would enable us to run test for a variety of companies and accounts, further increasing the reusability of this script and increasing our test case coverage. We'll skip that for now though and continue on to submit our query and validate our data.

#### <03\_Data Validation>

Data can be validated against a static snapshot, a regular expression pattern or against a data series stored in a datapool. Functional Tester can capture individual pieces of data, groups or an entire screen.

Here we'll perform a static snapshot verification. To do this, we'll use the verification point wizard to capture a snapshot of our account information. When the script is run, this data will be used as a baseline for comparison, and Functional Tester will notify us should it find any discrepancies between this expected data and the data actually displayed by the system.

## IBM Software Demos

### Rational Functional Tester Extension for SAP Testing

With our data verification complete, we'll close down our application and examine the test script Functional Tester has created for us.

<04\_View Script>

Functional Tester can generate scripts written in Visual Basic.net or Java, as we've done here. Let's examine the script that Functional Tester has generated for us.

Our first step was to launch the application, after which we logged in with a user id and password.

These next commands were generated as we navigated to the Account Balance Inquiry Screen. On the Account Balance Inquiry screen we entered our data, then performed our verification and closed the application.

As you can see, Functional Tester creates simple, easy to read scripts which can subsequently be edited to provide programmatic logic to enhance the scripts. Using Java or Visual Basic.net as the scripting language provides testers with all the power they need to meet all their testing requirements.

<05\_View Shell>

Before we run our test, let's have a quick look at the Functional Tester editing environment. Because we are working in Java, Functional Tester is using the open source Eclipse environment. This is a powerful environment used by all of the IBM Rational tools – it is the underlying architecture that lets all of our tools share a common look and feel as well as share data.

Our projects pane gives us a list of all of our scripts and our test logs. Below, we have a series of console windows to provide information about our test. Specifically here we see the Process Advisor which provides valuable guidance on tool and test methodology. Finally, we have the Script Explorer which identifies all of the GUI objects that are acted upon in the script. This is part of our ScriptAssure technology which ensures continued test playback, even when there have been changes to the underlying application.

<06\_Run Script>

Let's now execute our script with Functional Tester's ScriptAssure playback technology. ScriptAssure playback technology ensures that our test scripts will

## IBM Software Demos

### Rational Functional Tester Extension for SAP Testing

playback to completion even in cases where there have been changes to the underlying application. By capturing multiple recognition properties for every object in the script, ScriptAssure ensures that no single change to an object, be it its location, caption or even object name, will stop script execution.

This technology is crucial in order to ensure large overnight batch execution of scripts, especially given the dynamic nature of SAP applications.

As the script executes, Functional Tester replays all of our steps, and performs our verifications. Upon completion, Functional Tester will present us with a log of all test events, and provide us with additional data where there have been any discrepancies between the expected and actual output of the SAP system.

#### <07\_View Results>

Test Logs can be recorded as text files, as html files which you can view with a browser or natively in the Functional Tester interface as we have here.

Regardless of the format you choose, the log viewer is where Functional Tester reports key test steps and any discrepancies found between expected values captured during recording and actual values captured at playback.

Here we see that our Verification Point is reporting a failure. Upon further examination of the details we can see that somehow between our original recording and our recent playback, an account transaction has gone missing. Functional Tester identifies for us the missing transaction as well as the modified totals.

#### <08\_Defect>

At this point, we could leverage Functional Tester's integration to IBM Rational ClearQuest, and we could record this defect in our test and change management system. Once the issue has been addressed the cycle would start anew, and we could re-run this same test to ensure the system was functioning correctly.

#### <09\_Wrap Up>

IBM Rational Functional Tester enables you to create robust, low maintenance test scripts to ensure SAP functionality. Novice and professional alike can leverage Functional Tester's SAP testing capabilities to ensure defect free SAP deployments.

IBM Software Demos  
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If you would like more information regarding Rational Solutions for Testing SAP, including our Performance Tester extension for load testing of Sap applications, please visit our web site for additional white papers, videos and evaluation software.