



Functional Testing with Mercury QuickTest Professional



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Functional Testing Overview

Definition

“Certify the application from a business perspective”

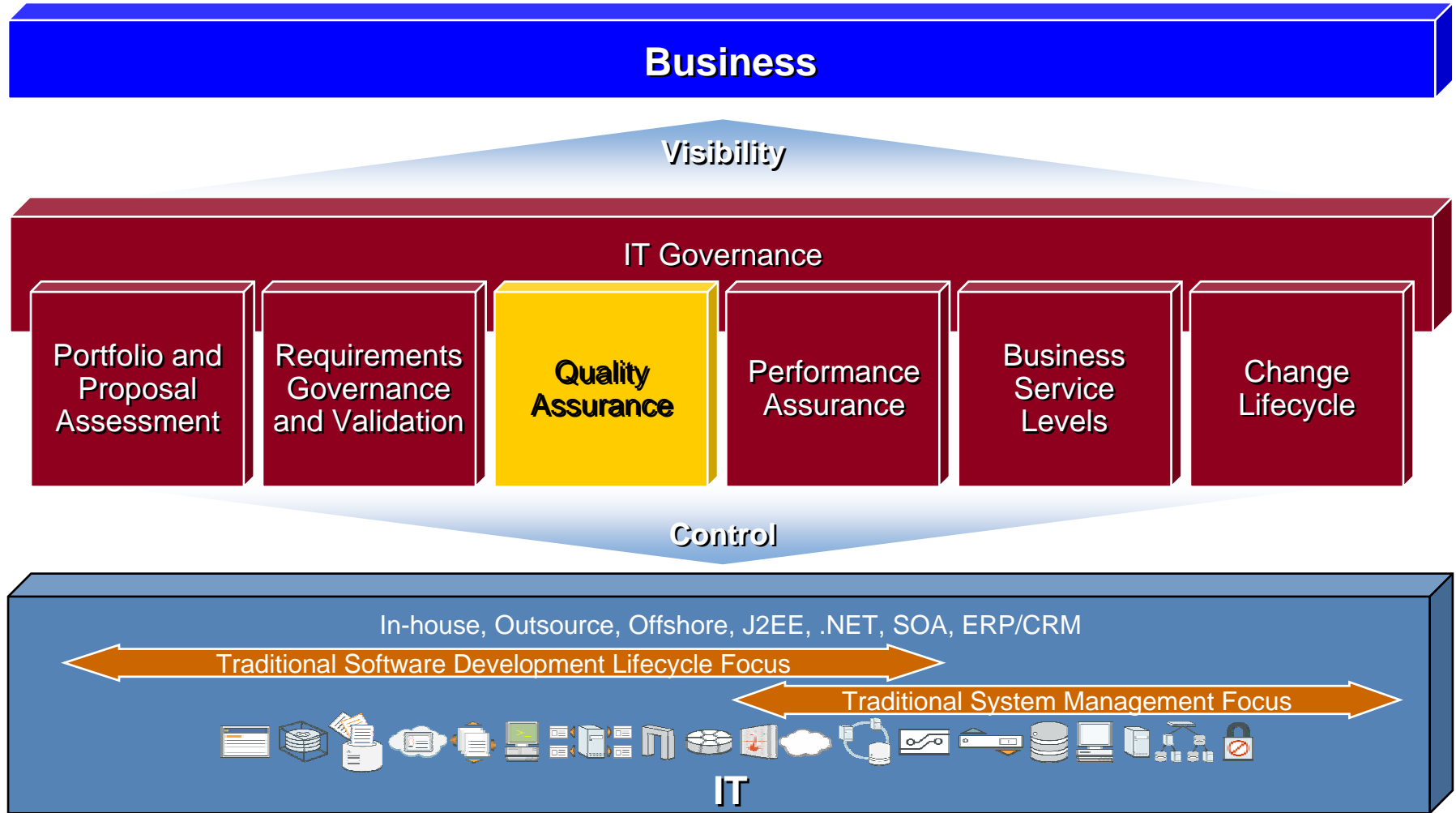
Process

- Validate application functions against the functional specification, i.e., *functions yield the expected results?*
- Report and track defects
- Measure test coverage and track application quality

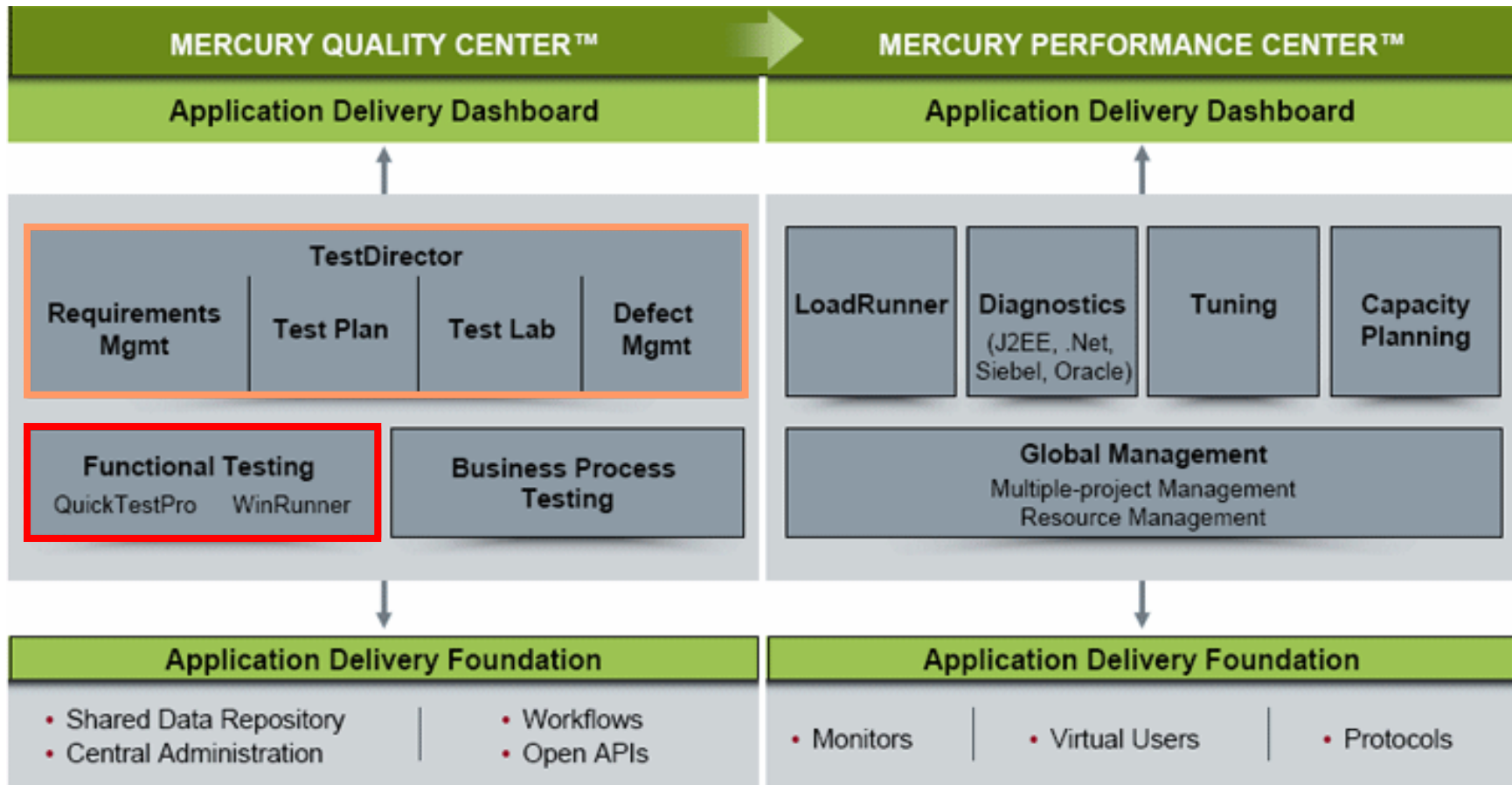


Mercury Business Technology Optimization

Optimize The Business Outcome of IT



Mercury Application Delivery Products



Functional Testing Elements (and Resources)

- **Test Environment** (People, Processes, Hardware)
 - Dedicated people, infrastructure, test database(s)
- **Test Case Inventory** (QA Analyst; Excel or TestDirector)
 - Documented inventory of tests (Step, Action, Data, Expected Result)
- **Test script development** (Automated QA Analyst; QuickTestPro)
 - Convert documented test case into *reusable* automated script
- **Test Case Execution** (QA Analyst; Manual, QTP, or TestDirector)
 - Execute test cases, document results



Functional Testing Elements (and Resources)-2

- **Defect Reporting** (QA Analyst; Excel or TestDirector)
 - If Actual Result \neq Expected Result, raise defect
- **Test Coverage** (QA Manager; Excel or TestDirector)
 - *What percentage of application functions tested?*
- **Quality Measurement** (QA Manager; Excel or TestDirector)
 - Trended rate of finding / fixing defects

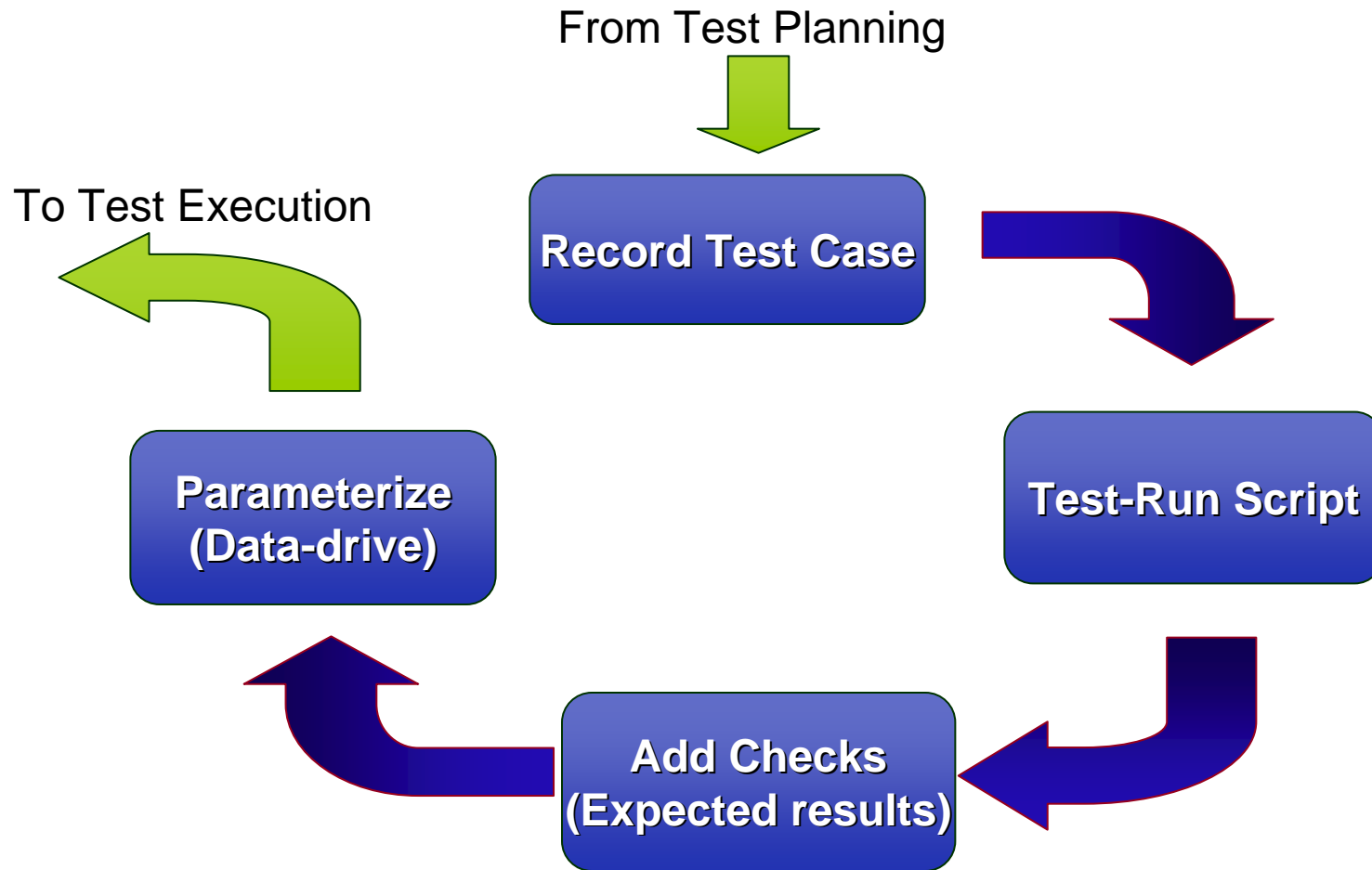


Test Development

- **Pre-requisites**
 - Test environment
 - Documented test cases
 - Release Management process
 - Defect Tracking process
- **Script Development Planning**
 - Define development standards
 - Define modular development / reusability elements
 - Train QA Analysts (in use of QTP, development standards)
 - Train Developers (defect tracking process)



Script Development with QTP



Expected Result “Checkpoints”

Checkpoint Type	Description	Example of Use
Standard Checkpoint	Checks values of an object's properties.	Check that a radio button is selected.
Image Checkpoint	Checks the property values of an image.	Check that the image source file is correct.
Table Checkpoint	Checks information in a table.	Check that the value in a table cell is correct.
Page Checkpoint	Checks the characteristics of a Web page.	Check how long a Web page takes to load or if a Web page contains broken links.
Text / Text Area Checkpoint	Checks that a text string is displayed in the appropriate place in a Web page or application window.	Check whether the expected text string is displayed in the expected location on a Web page or dialog box.
Bitmap Checkpoint	Checks an area of a Web page or application after capturing it as a bitmap	Check that a Web page (or any portion of it) is displayed as expected.
Database Checkpoint	Checks the contents of databases accessed by an application or Web site	Check that the value in a database query is correct.
Accessibility Checkpoint	Identifies areas of a Web site to check for Section 508 compliance.	Check if the images on a Web page include ALT properties, required by the W3C Web Content Accessibility Guidelines.
XML Checkpoint	Checks the data content of XML documents.	Note: XML file checkpoints are used to check a specified XML file; XML application checkpoints are used to check an XML document within a Web page.



QTP Demonstration

The screenshot displays the QuickTest Professional 8.2 interface. The main window shows the 'Add-ins' section, which is currently empty. An 'Add-in Manager' dialog box is open, allowing the user to select add-ins to load. The dialog box contains a table with the following data:

Add-in	License	Time Remaining
<input checked="" type="checkbox"/> ActiveX	Built-In	
<input checked="" type="checkbox"/> Oracle	Time-Limited	13 day(s) 21 ho...
<input checked="" type="checkbox"/> Visual Basic	Built-In	
<input checked="" type="checkbox"/> Web	Built-In	

Below the table, there is an 'Add-in description' field containing the text 'Tests ActiveX controls'. At the bottom of the dialog box, there is a 'Show on startup' checkbox (checked), and 'OK', 'Cancel', and 'Help' buttons.

The main window also shows a 'Welcome to QuickTest Professional 8.2' dialog box with the following text:

Welcome to QuickTest Professional 8.2

What's New in QuickTest

- New features - Keyword View enables advanced keyword-driven testing; Unicode support; Business component support for Business Process Testing; Step Generator for easy step generation; Result reports

The interface also shows a 'Keyword View' table with columns A through G and rows 1 through 7. The status bar at the bottom indicates 'Ready'.



QuickTestPro Automation Benefits

Fast	QuickTest can run tests significantly faster than human users.
Reliable	Tests perform precisely the same operations each time they are run, virtually eliminating human error.
Repeatable	You can test execution of the same operations many times on different (or the same) application versions and maintenance releases.
Ease-of-Use with Depth of Function	Keyword View and visual reference to the screens being tested provide rich options for verifying expected results and enhancing test capabilities without scripting
Data-Driven	You can drive execution paths and iterations with parameterized data in Excel-like data sheets.
Comprehensive	You can build a suite of tests that covers many application features.
Reusable	You can combine tests and test modules in different execution flows.
Documented	Automatically-generated step documentation in plain English improves test clarity and user-transferability

