

Process Summary

[Test Process Stages](#)

[Test Stage Descriptions](#)

[Development Testing](#)

[System Testing](#)

[User Acceptance Testing](#)

[Live User Testing](#)

Test Process Stages

This document describes each of the four stages of dynamic testing to be performed.

Development Testing

This testing aims to demonstrate that individual software components (computer programs/modules/units) work, in isolation, in accordance with design documentation and/or specified requirements. During development testing the creator of a software component tests his/her own work in the development environment, without using documented Test Procedures (sometimes called test scripts), but making appropriate use of generic Development Test Checklists, updating them where necessary. Thorough Development Testing can significantly reduce the time scales and cost of the subsequent phases of testing by detecting and eliminating faults early and inexpensively.

System Testing

This testing aims to demonstrate that the IT system as a whole (unchanged functionality as well as new/changed functionality) works in accordance with the Functional Specification(s) and the URD(s). System testing may include non-functional tests, such as performance and recovery tests and interface tests with other systems. Once the Regression Test Library (RTL) is available, tests originally designed in previous projects for system testing and UAT will be selected for inclusion in the current project's RTL and executed during System Testing. Whenever possible, System Testing should be performed by staff who are independent from the creators of the software components under test.

User Acceptance Testing

This testing aims to demonstrate that the IT system meets the business functional requirements when tested in an environment which is close to the target production system. UAT includes tests that will exercise the system in a similar manner to the way in which business users will use the system in production. UA tests are based on prepared business scenarios derived from Business Processes and Business Process Flowcharts (and indirectly from the URD). UA tests aim to demonstrate that the system can support the business processes for all business decision outcomes.

Live User Testing

This testing aims to demonstrate that the IT system has been configured correctly and that new/changed and unchanged functions continue to work correctly. LUT takes place as part of the release implementation process and consists of developers/system testers executing a subset of System Test Procedures (sometimes called test scripts) and business users executing a subset of UA Test Procedures on the production machine.

Test Deliverables

This refers to the set of testing deliverables for a project are specified in the Introduction to the Test Process.

Test Stage Descriptions

The stages of testing that make up the test process are described in the subsequent sections. Each stage of testing is described in a table under 8 headings as follows:

Test Objectives	<ul style="list-style-type: none"> • The objectives of this stage of testing, e.g. faults to be found, risks to be avoided; demonstrations to be performed.
Component(s) under Test	<ul style="list-style-type: none"> • The architectural components (or Business Processes) to be subjected to the test.
Baseline	<ul style="list-style-type: none"> • Document(s) defining the requirements to be met for the components under test (to predict expected results).
Environment	<ul style="list-style-type: none"> • Environment in which the test(s) will be performed.
Entry Criteria	<ul style="list-style-type: none"> • Criteria that must be met before test execution may start.
Exit Criteria	<ul style="list-style-type: none"> • Criteria to be met for the test stage to end.
Techniques/tools	<ul style="list-style-type: none"> • Special techniques, methods to be adopted; test harnesses, drivers or automated test tools to be used.
Deliverables	<ul style="list-style-type: none"> • Inventory of deliverables from the test level.

Development Testing

Test Objectives	<ul style="list-style-type: none"> • Demonstrate that individual software components (programs/modules/units) function correctly. • Demonstrate that individual programs/modules/units have robust error handling capabilities. • Demonstrate that as well as doing what it is supposed to do, the software does not do what it is not supposed to do.
Component(s) under Test	<ul style="list-style-type: none"> • Individual software components (e.g. individual programs/modules/units).
Baseline	<ul style="list-style-type: none"> • Program Specifications. • Detailed Design Specifications.
Environment	<ul style="list-style-type: none"> • Development environment.
Entry Criteria	<ul style="list-style-type: none"> • Approved Functional Specification. • Approved Program Specification or equivalent Detailed Design Specification. • Draft or Approved Behaviour Inventory. • Draft or Approved System Test Condition List. • Up to date generic Development Testing Checklist.
Exit Criteria	<ul style="list-style-type: none"> • All planned tests execute without failure.

Techniques/tools

- Equivalence Partitioning.
- Boundary Value Analysis.

Deliverables

- Development tested software components.
- Maintained Development Test Checklists.

System Testing**Test Objectives**

- To demonstrate that the entire system meets functional and requirements.
- To demonstrate that existing functions have not been degraded by the changes, as well as testing that new/changed functions work correctly.

Component(s) under Test

- Complete IT System.
- Interfaces with other systems.

Baseline

- User Requirements Definition.
- Functional Specification.
- Feature Inventory.
- Behaviour Inventory.

Environment

- System Test environment.

Entry Criteria

- Approved Master Test Plan.
- Approved System Test Specification (containing the System Test Condition List).
- Completed System Test Procedures (derived from prioritised System Test Conditions).
- System Test Environment and Test Data available.

Exit Criteria

- All planned system tests executed without failure.
- Agreed resolution to all outstanding Observations (if any).

Techniques/tools

- Functional testing, using test conditions, as the framework for Test Procedures.
- Interface tests across interfaces, internal and external, to the system under test.
- Performance and load tests of the most widely used transactions.

Deliverables

- Fully functionally tested system.
- System Test Specification (containing the System Test Condition List).
- Set of repeatable System Test Procedures (sometimes called test scripts).
- Set of System Test Run Logs.
- Observations and PR Tracker Log.
- System Test Report.
- Updated Regression Test Pack.

User Acceptance Testing**Test Objectives**

- To demonstrate that the entire IT system

- meets the Business Requirements.
- Ensure an independent test is performed.

Component(s) under Test

- Complete IT System.

Baseline

- User Requirements Definition.
- Feature Inventory.
- Behaviour Inventory.
- Business Processes.
- Business Process Flowcharts.
- User Guides (when available).

Environment

- User Acceptance Test environment.

Entry Criteria

- Availability of full initialised test environment.
- Approved User Acceptance Test Specification.
- Availability of trained users with relevant business experience to resource the testing team.

Exit Criteria

- All planned system tests executed without failure.
- Agreed resolution to all outstanding Observations (if any).
- Approved User Acceptance Test Report.

Techniques/tools

- Functional testing using Business Scenarios as the framework for Test Procedures (test scripts).
- Full end-to-end tests which exercise all interfaces.
- Simple checks of security access.

Deliverables

- Fully functionally tested system, capable of supporting the business activities, accepted by the business user representatives or Go-Live Panel.
- User Acceptance Test Specification (including the Business Scenario Inventory).
- Set of repeatable User Acceptance Test Procedures.
- Set of User Acceptance Test Run Logs.
- Observations and PR Tracker Log.
- User Acceptance Test Report.
- User Acceptance Sign Off Sheet.
- Updated Regression Test Pack.

Live User Testing**Test Objectives**

- To provide final assurance that the system is configured correctly and that new/changed functions and unchanged functions continue to work correctly.

Component(s) under Test

- Production IT system.

Baseline

- Regression Test Pack.

Environment

- Production.

Entry Criteria

- Software under test has been implemented in the production environment.

Exit Criteria

- All planned tests executed without failure.
- Agreed resolution to all outstanding Observations (if any).

Techniques/tools

- (Partial) regression test only.

Deliverables

- Live User Checklist.
- Live User Regression Test Procedures.
- Live User Sign-Off Sheet.
- Observations and PR Tracker Log.

[Top](#)