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<Programme_name>

<Project_name>

<Account_name>

<Phase_name>

Test Strategy Template (Agile)

General Instructions

This template includes guidelines which look like this – boxed, red text. Remove them once you understand how to use the template.

It also includes text marked in **blue** which should be replaced with the appropriate information for the relevant program / project.

Text in **grey** is suggested standard text which may be replaced with content more appropriate to your project, if preferred.

Black text relates to the structure of the document and should not normally be replaced.

This template can be used for test strategies at any level, just vary accordingly the amount of detail included based on the strategy level, the project and product risks and the size and requirements of the programme or project(s).

For example, this template can be used for a strategy covering the whole of a programme, an individual project which is part of a programme or a testing phase within a project. If being used for a phase (or lower level) test strategy it will include a more detailed description of a particular phase or level of testing.

All sections of this template should be included at whatever level of strategy. If a section is not relevant, keep it in the document but explain why it is not appropriate for it to contain more detail.

Document Owner	
Date	
State / Version	
Configuration Item #	

Table of Contents

Highlight and use F9 to update the table of contents

1. Document Control

1.1. Approval record

Name	Role	Signature/Date
	Author	
	Approver	
	Reviewer	

1.2. Document history

Date	Version	Type	Reason for Change

1.3. References

No	Title	Document Reference (Path)
1	Test measurement report	
2	Oroduct test risk catalogue	
3	Test monitoring and control procedures	

1.4. Template history

Date	Name	Version	Reason for Change
3 Mar 2017	Adrian Howes	1.0	Format change. Added template history

1.5. Acronyms

Term	Definition
1	

2. Introduction

The purpose of the introduction is to provide brief information to anyone who needs to use the test strategy for an Agile project. Here a summary of the scope of the document is placed. Is this a strategy for the Programme as a whole or for just a particular project or phase / level?

If there are multilevel strategies, each lower-level strategy will reference the next higher-level (preceding) strategy.

It is important that this testing strategy is appropriate to the size and risk of the project. It is expected that a simple enhancement project with a low risk profile would adopt a lighter implementation of the testing Process than would a major release of a business critical system rolled out to large number of users.

For a simple project this might mean that several test roles are combined and several test products are combined into single documents. The main purpose of this testing strategy is to select those elements of the testing Process that implement a cost-effective scope and depth of testing appropriate to the business risk, while maintaining adequate governance.

In line with most Agile documentation this document should be concise and should focus on key information but must contain sufficient detail to enable the delivery of the project.

2.1. Background

This document defines the Agile testing strategy and governing framework which will be implemented across the <programme / project / account / phase name>. The organisation needs to verify and validate, independently of its suppliers, that its IT systems and services are compliant with both specification and business needs. This testing strategy sets the framework by which projects can achieve those goals an Agile development context.

2.2. Purpose and scope of this document

The purpose of this test strategy is to document and achieve agreement to the high-level testing approach from the organisation and external supplier teams working together and is a required deliverable.

It will ensure that all testing activities can be delivered in a controlled, robust and understood fashion and that all testing activities are integrated across the <programme / project / account / phase name>.

The test strategy is issued by the <programme / project / account / phase> test manager to the <programme / project / account / phase> team and all stakeholders who have a vested interest in the associated testing.

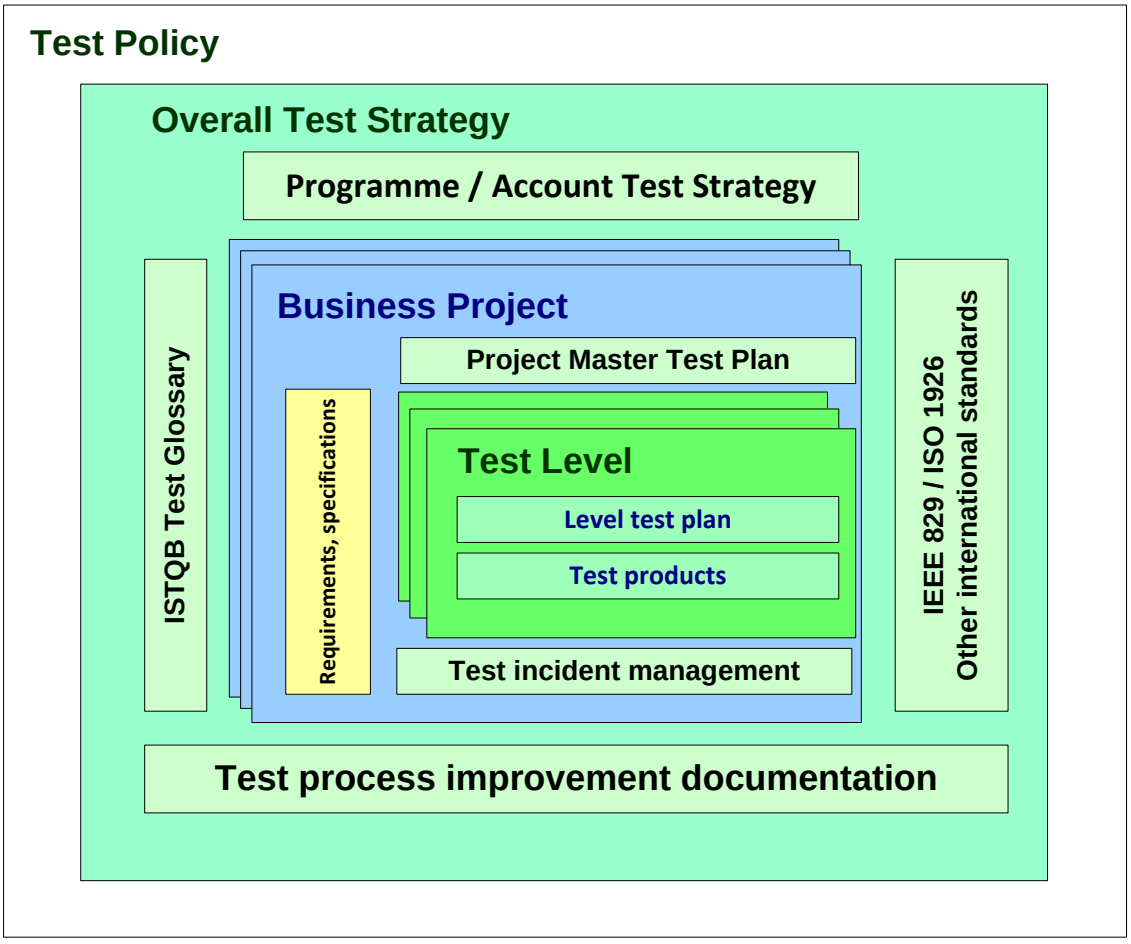
It should be used by all parties involved in testing including internally and by the organisation's suppliers as the basis of a common understanding of the testing strategy to be adopted by the organisation on the <programme / project / account / phase name>.

2.3. Document hierarchy

The test strategy forms part of a series of documents covering the strategic view, the approach, process definition and governance framework. It provides synchronisation of processes in a controlled and orderly manner. More detailed scope identification will be introduced in the preparation phase for the Master and Level Test Plans, which will describe in detail the scope of the testing required for each testing activity.

Include a diagram showing the position of this strategy in relation to other organisation, programme, account and project documents. The diagram below shows the positioning of a programme test strategy.

This testing strategy is set at a level above individual projects.



2.4. Assumptions

List all assumptions made when defining the strategy. Some example assumptions are shown below. Make reference to and link, where possible, to the appropriate risk, assumptions, issues (RAID) log.

- The Project Manager, in conjunction with the appropriate quality assurance function available to the program and business owner (i.e. for the area commissioning the IT development or change) shall be ultimately responsible for project management, integration, delivery, testing and acceptance of the product
- The appropriate quality assurance function available to the program shall source appropriately informed test professionals for the project to facilitate, manage and execute the test activities on behalf of the Business
- Suppliers shall engage appropriately informed test professionals to facilitate, manage and execute the test activities performed during the life of the project.
- The Project Manager, in conjunction with the business owner is responsible for securing adequate budget to support the appropriate participation of Test Services and 3rd party suppliers in the project test activities from first review of the business requirements onwards until the project exit report after implementation
- The project manager, in conjunction with the business owner must budget for and schedule for the involvement of business experts to participate in the project testing for product reviews, clarification of purpose / process, test product reviews, test execution, test incident analysis and reporting
- The appropriate quality assurance function will be engaged to provide necessary controls and structure using the required support and resource from each of the relevant programme / project / accounts and external services.

2.5. Constraints

List all constraints which may impact the implementation of the test strategy.

3. General approach to testing

The testing principles for Agile projects are driven by the general principles of Agile development defined on the industry standard, *The Manifesto for Agile Development.* This manifesto states that the focus of Agile project teams should be:

- Individuals and interactions over processes and tools
- Working software over over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

Building on this, the test objectives for Agile projects are intended to extend the drive for quality and efficiency into an Agile approach:

- To operate as an integral part of project delivery, bringing testing and quality assurance experience to the Agile delivery team
- To support Agile teams in the timely delivery of products that meet business and user requirements

- To ensure testing is directly involved with the evolution of requirements and solutions
- To support identification of defects (deviations from expectation) within Agile delivery
- To seek the most effective resolution.

Agile is a term that encompasses a number of methodologies - Kanban, Scrum, XP, DSDM Atern, Behaviour Diven Development (BDD) and Test Driven Development (TDD) to name a few - and it is expected that an appropriate combination of these will be used to provide comprehensive testing during any non-waterfall phase of the development life cycle. A project may commence using DSDM for requirements gathering and prioritisation them change to Scrum for build and delivery. However, the preferred methodolody is to use Scrum in concert with Kanban and either BDD or TDD.

The objective of all testing, no matter what the methodology, is to check the quality of the products and services delivered so that inappropriate quality does not cause non-realisation of benefits. This will be embedded as part of a risk-based Agile approach.

3.1. Risk-based testing

The risk-based testing approach is achieved from close collaboration between the product owner or key business representative and the development and testing team(s). Risk decisions are an integral part of the process for Agile, given that it needs greater risk management. Because of this, acceptance criteria must be defined for user stories or requirements and the appropriate amount of testing to achieve those criteria agreed between tester and the product owner. Risk management will be interactive and dynamic and a natural part of how the teams work together.

To enable the test activity to fit within practical limits of cost and time yet still deliver a practical level of quality, test activities are to be driven by a risk-based approach. A risk analysis is derived from assessing both the probability and the impact of the possible product failures together with a weighted ranking of the quality characteristics needed by the product or system under test. The combined measures of failure impact, failure probability and weighted quality characteristics are used to determine the focus of attention for the test analysis during the creation of test specifications, test cases and for the subsequent scheduling of the test case execution.

This approach ensures that test effort is directed at the appropriate quality characteristics efficiently and effectively in proportion to the magnitude of the risk exposure caused by the system under test, within the cost and timeframe constraints of the project.

The risk assessment process will determine the point at which it is no longer cost effective to test a condition or at which the level of testing can be reduced due to confidence gained from earlier tests. The goal is to pick the smallest test set from the test inventory to prove that the solution meets the business acceptance criteria.

The risk-based approach to testing shall be implemented to achieve the objectives of:

- Testing to find the most important defects as early as practically possible
- Testing to find defects as early as possible (this starts with test team involvement in reviews of all relevant project documentation as early as pre-sales)
- Test plan(s) that reduce the quality risks in the system under test as quickly as possible by scheduling high-risk tests earlier in the testing life cycle
- Active business involvement to assess the impact of quality risks identified in the risk assessment
- A logically consistent and pragmatic process for prioritising and ranking the test objectives for each test object (where a test object can be a component, sub-system, system, hardware, function, business process, business benefit) taking account of:
    - the probability of the test object failing
    - the impact to the business of the test object failing
    - the relative significance of the quality characteristics for that test object
- Inclusive risk assessment from perspective of:
    - Software (software components, sub-systems and systems)
    - Business (functions, business processes, business benefits)
    - Hardware and infrastructure (servers, storage, networks)
- Allocation of effort, time and resources in proportion to the risk-based ranking of the test objective
- The outcome of the risk assessment should be applied to all levels of test strategy and test plans
- Periodic update of the risk assessment to account for changing probability of failure as a result of test experience
- Impact analysis of project changes on test strategy and test plans shall include a risk-based approach to determine appropriate allocation of effort, time and resources for testing the change.

4. Basic testing principles

4.1. Risk management

Testing is a risk management process, which has to balance the cost, in terms of time and resource, with the necessity to minimise the negative impact of low quality products and services. This test strategy is based upon risk assessment.

The test activity itself is subject to risks that will impact its effectiveness, efficiency or ability to complete on time and within budget. These risks will be escalated into the project risk log to ensure that the appropriate resources can be directed at mitigation.

Project risks will be managed under the standard risk management process.

4.2. Product quality risk analysis

A product quality risk analysis is performed for input into the project master test plan to identify and mitigate quality risks in the product under test.

For larger projects there may be further, lower level, test plans. These must be consistent with the risk analysis in the project master plan.

This strategy and test plans at all levels shall be informed by ISO 9126 for:

- Classification of software quality characteristics, see ISO 9126-1:2001
- Quality metrics for the overall system, see ISO 9126-2:2003, External Metrics
- Quality metrics for the software itself, see ISO 9126-3:2003, Internal Metrics
- Quality metrics for the system in a specific context of use, see ISO 9126-4:2004, Quality in use metrics

The result of the analysis will be used to determine the relative effort and time to be allocated to the various test phases / levels and the scope and depth of coverage within each phase / level.

This strategy requires a risk-based approach to ensure cost-effective and efficient mitigation of quality risks in the systems that it uses.

The organisation and its suppliers shall work in collaboration to ensure that risks identified at supplier level are communicated to the organisation and vice versa. This ensures the appropriate prioritisation of project and supplier test objectives and mitigation of identified risks in the most effective test phase / level. The owner of the test strategy for a project shall be responsible for communicating any risks defined in it to the organisation's project manager for possible inclusion in the project risk log.

4.3. Degree of test independence

Test teams own the final test levels and validate the product on behalf of the business independently of the developer's delivery objectives. Independent testing will follows industry good practice for the separation of testing responsibilities and delivery responsibilities. Test independence will be further enhanced through the Quality Assurance Function validating project testing against the test strategy.

The Quality Assurance Function will also review and witness the test activities of suppliers at pre-defined verification points during the testing life cycle. QAF will work with project managers and