Test Planning with SAP Solution Manager

ALM Solution Management, AGS, SAP AG
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Introduction
Typical Test Process in SAP Solution Manager

**Test Preparation**
- **Business Process Expert**
- **Quality Expert**
  - Check Business Blueprint / Configuration
  - View Business Process
  - Create/Update Test Cases
  - Re-Use Templates

**Change Impact Analysis**
- **Test Coordinator**
  - Check Availability of TBOMs and Test Cases
  - Run Analysis with Business Process Change Analyzer (e.g. for a Customizing Change)
  - Create Test Plan

**Test Planning**
- **Test Coordinator**
  - Get E-Mail Notification
  - Access Tester Worklist
  - Perform manual Test
  - Perform automated Test
  - Document Result
  - Create/Update Test Plan
  - Create Test Packages
  - Assign Tester
  - Define Test Sequences
  - Release Test Plan – Sign Off

**Test Execution**
- **Tester**

**Test Reporting**
- **Test Coordinator**
  - Access Test Status Overview
  - Perform Test Status Analysis
  - Run Test Progress Report
**Test Planning**

Systematic Approach for Test Planning and Test Case Distribution

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**Business Blueprint**

- Repository for Test Cases
- Reusable for several Test Cycles during Implementation/Upgrade Projects and for Regression Tests

**Test Plans**

- Selection of Test Cases for specific Phase
- Could be used to reflect other aspects like Business Area, Country, etc.
- Relevant for Reporting

**Test Packages**

- Selection of Test Cases to be assigned to one or more testers
- Typically used to reflect further organizational aspects like department, user-role, etc.
- Test Sequences can be defined within Test Packages
Re-Use of Test Plans Based on Template Projects
Test Planning
Adoption of Template Approach for Test Management

Re-use existing Test Plans AND keep the freedom to easily adapt to specific needs

- Re-use of test content
- Avoid redundant effort for test planning activities
**Test Planning**
**Template Management Approach**

**Template Management:**
Allows to provide templates for Business Blueprint and Configuration content including Test Cases.

**Pain point:**
Test Plans with related Test Packages, Tester Assignments and Test Sequences did not follow this approach in the past.

**Impact:**
Repeating effort for Test Planning activities although the test content is similar or even the same.
Test Planning
Template Test Plans for Test Management

Re-Use of Business Blueprint & Configuration Content including Test Cases

NEW:
Re-Use of Test Content:
- Test Scope
- Tester Assignment
- Test Sequences
Identification of Gaps in the Test Scope
GOAL
Check to what extent business processes are covered by test cases in order to identify potential gaps in the test scope.

SCOPE
• Display of entire business process structure to get an overview of the test scope completeness
• Identification of business process steps without test case assignment
• Analysis of gaps in the test scope

ACCESS
Work Center Test Management → Test Preparation → Pushbutton Evaluate

BENEFIT
The report allows to see at a glance what still needs to be done to complete the test scope definition.
Identification of Inconsistent Test Plans
GOAL
Identify test plans that have become inconsistent because the business process structure and/or test case descriptions were changed after test plan generation.

SCOPE
- All test plans of a project are listed in a table and inconsistent test plans are indicated
- Icons and specific search options allow you to easily find changed elements in the business process structure

ACCESS
Work Center Test Management → Reports → Inconsistent Test Plans

BENEFIT
The inconsistency check enables enhanced flexibility in the test process and allows you to ensure that test execution is based on the latest process and test descriptions.
Release Status Schema
Test Planning
Release Status Schema for Test Plans

**Phase**
- **Test Planning**
- **Test Execution**
- **After Test**

**Status**
- **New**
  - Test plan is open for changes
  - Test plan is closed for execution
- **Released**
  - Test plan is closed for changes
  - Test plan is open for execution
- **Protected**
  - Test plan is closed for changes
  - Test plan is closed for execution

**Impact**
- Workflow active: Automatic E-Mail notification to all Testers that test execution phase has started
- Automated E-Mail notification to all Testers that Test execution phase has ended

**BENEFIT**
Enables phased approach with Q-Gates and Sign-Off with electronic signature to meet legal requirements
Test Management Work Center
Test Planning
Quick Access via Test Management Work Center

- Intuitive navigation to access Test Plans / Test Packages and related features
- Standard queries *My Test Plans, Favorite Test Plans, Template Test Plans, All Test Plans*
- Users can create their own queries and views based on various selection criteria and columns
Improved Test Plan / Test Package Generation with SAP Solution Manager 7.1
## Test Planning

### Improved Test Plan / Test Package Generation based on Test Case Attributes and Process Attributes

### CHALLENGES

- High volume of Processes and Test Cases to be managed
- Different variants of same Business Process may need to be considered in test planning
- Different types of tests may require different Test Case selection
  - Unit Test
  - Integration Test
  - Regression Test
  - Automated Test
  - ...
- How to find the right Test Cases for test to be planned?

### SAP APPROACH

- Classification of Business Processes and Test Cases via attributes
- These attributes can be used in Test Case selection when generating Test Plans
- New feature for risk-based testing: Business Process Change Analyzer which allows automated Test Plan generation
## Test Planning

### Improved Test Plan / Test Package Generation based on Test Case Attributes and Process Attributes

<table>
<thead>
<tr>
<th>Assign of Business Process Attributes</th>
<th>Assign Test Case Attributes</th>
<th>Test Plan generation</th>
<th>Test Package generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Custom development</td>
<td>Priority</td>
<td>Status</td>
<td>Filter/Selection Test Cases Attributes</td>
</tr>
<tr>
<td>SAP modifications</td>
<td>Keywords / Search Terms</td>
<td>Team Member</td>
<td>New: Test Case Type</td>
</tr>
<tr>
<td>SAP with enhancement</td>
<td>Responsible Person</td>
<td>Keywords</td>
<td>Keywords / Search Terms</td>
</tr>
<tr>
<td>etc.</td>
<td>Document Links</td>
<td>SAP/Customer Attributes</td>
<td>Priority</td>
</tr>
<tr>
<td>Customer attributes</td>
<td></td>
<td>New: Templates</td>
<td>Document Release Status</td>
</tr>
<tr>
<td>e.g. Priority</td>
<td></td>
<td></td>
<td>New: Document Links</td>
</tr>
<tr>
<td>e.g. FDA relevant</td>
<td></td>
<td></td>
<td>New: Test Objects</td>
</tr>
<tr>
<td>Keywords</td>
<td></td>
<td></td>
<td>New: BPCA TBOM relevant</td>
</tr>
<tr>
<td>Responsible</td>
<td></td>
<td></td>
<td>Automated generation</td>
</tr>
<tr>
<td>Status</td>
<td>Test Objects</td>
<td></td>
<td>Business Process Change Analyzer</td>
</tr>
<tr>
<td>Transactions</td>
<td>Development-Objects (Function Group, Package, Web-Service, Transports.. )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Process Change Analyzer: TBOM</td>
<td>Configuration-Objects (IMG-Object, BC-Set, Roles, …)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**BENEFITS:**
- Allows systematic (e.g. Requirements-based and risk-based) Test Planning
- Extend benefit of criteria-based test planning also to Test Package generation
- Reduced effort for Test Planning activities
New Test Case Filters
Filter all Test Cases linked to one or more Documents (Specification)

Filter all Test Cases linked to one or more Test Objects

New Structure Filter for Templates
## Test Planning
### Options to Generate Test Plans

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>APPROACH</strong></td>
<td><strong>APPROACH</strong></td>
</tr>
<tr>
<td>Individual selection of Test Cases based on Business Process Structure</td>
<td>Filter selection based on Business Process Attributes, such as Status, Team Members, or Keywords</td>
</tr>
<tr>
<td><strong>BENEFIT</strong></td>
<td><strong>BENEFIT</strong></td>
</tr>
<tr>
<td>High flexibility, suitable for scenario or process oriented test planning</td>
<td>Useful for high volume processing based on classified Business Processes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Test Case Attribute Filter</th>
<th>4. Business Process Change Analyzer*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>APPROACH</strong></td>
<td><strong>APPROACH</strong></td>
</tr>
<tr>
<td>Filter selection based on Attributes assigned to individual test cases, such as Test Case Type, Status, Priority</td>
<td>Automated selection of Test Cases based on Change Impact Analysis performed with Business Process Change Analyzer (BPCA)</td>
</tr>
<tr>
<td><strong>BENEFIT</strong></td>
<td><strong>BENEFIT</strong></td>
</tr>
<tr>
<td>Useful for high volume processing based on classified Test Cases</td>
<td>Less Test Planning effort, reduced Risk</td>
</tr>
</tbody>
</table>
Test Sequences
Test Planning
Workflow Support for Test Execution via Test Sequences

**Standard approach:**

Test Plan

![Test Package](image)

- Test Case 1
- Test Case 2
- Test Case 3

Several Testers (Tester Pool) are assigned to a collection of Test Cases (Test Package)

![Tester 1](image)

![Tester 2](image)

![Tester 3](image)

**Sequence approach:**

![Test Package](image)

- Create Sales Order
- Outbound Delivery
- Post Goods Issue
- Create Billing Doc.

In addition to standard approach you can assign each Test Case to a Tester and the sequence of test cases can be processed as workflow

![Tester 1](image)

![Tester 2](image)

![Tester 3](image)

**Example:** As soon as Test Case 1 has been processed successfully by Tester 1, Tester 2 will be notified by E-Mail that Test Case 2 is ready to be tested.

**BENEFIT**

Less coordination effort during complex scenario tests and accelerated test execution.
Additional Attributes for Test Plans / Test Packages
TYPICAL CHALLENGES

- Project delay and thus less time for testing
- Available resources are not able to cover planned test scope
- Testers do not have any indication about timelines and priority of assigned tests

SAP APPROACH

Expected Test Effort per Test Case

Planned Start and End Date for Test Plan and/or Test Package

Priority of Test Package

BENEFIT
Maximum transparency about

- timeline
- effort and
- priority
New fields in Tester Worklist allow testers to decide which Test Packages to process first:

**BENEFIT:**
In case of bottlenecks testers are able to decide on which tests to focus first.
Test Planning

Expected effort and timelines

- **Test Preparation**
  - Possibility to maintain expected effort per Test Case

- **Change Impact Analysis**
  - Test Scope Determination based on expected Test Effort and Coverage

- **Test Planning**
  - Test Planning based on estimated effort and available resources

- **Test Execution**
  - Maintain actual effort per Test Case after test execution

- **Test Reporting**
  - Test Reporting including expected and actual test effort

**BENEFIT:**
- Quick and easy calculation of expected test effort even for large tests
- Result of Change Impact Analysis with BPCA can be used to directly get the expected Test Effort for an intended change
- More realistic test planning
- Transparency about Test Effort
- Comparison of planned and actual effort
Inclusion of Shortcuts into Test Planning
With Solution Manager 7.0 EhP1 a new feature called **Shortcuts** was introduced which allows you to create links to existing Scenarios and Business Processes from other Projects or Solutions.

Now with SAP Solution Manager 7.1 this approach has been adopted for Test Planning as well.

**BENEFIT:**

Reduced effort for setting up and maintaining Scenarios and Processes that are used in several Projects or Solutions – even if they are supposed to be used for testing.
Mass Changes of Test Plan / Test Package Attributes
Test Planning
Mass Changes for Test Plans and Test Packages

Typical Use Cases:
- Multiple Test Plans to be re-opened for changes
- Changed responsibility for Test Coordination
- Test activities to be postponed

<table>
<thead>
<tr>
<th>Test Plan</th>
<th>Responsible</th>
<th>Release Status</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>EMEA Logistics</td>
<td>J. Smith</td>
<td>RELEASED → REOPEN</td>
</tr>
<tr>
<td>X</td>
<td>EMEA HCM</td>
<td>W. Mayer</td>
<td>RELEASED → REOPEN</td>
</tr>
<tr>
<td>X</td>
<td>EMEA CRM</td>
<td>S. Gonzalez</td>
<td>RELEASED → REOPEN</td>
</tr>
<tr>
<td>X</td>
<td>....</td>
<td>....</td>
<td>....</td>
</tr>
</tbody>
</table>

Example: Re-open multiple test plans to make changes

Generic Attributes
- Person Responsible
- Release Status Profile
- Priority
- ...

Planning Data
- Start and End dates
- Planning Level for Test Effort

Automated Tests
- Target Systems for execution
Test Planning
Apply same Attribute Value to Multiple Entities

1. Select Test Plans / Test Packages to be changed.

2. Enter the new value in first line and specify to which Test Plans / Test Packages it shall be propagated.

3. The new value is applied to all selected entries.
Thank You!