Focused Build for SAP Solution Manager 7.2 – Test Suite
Detail Presentation – Concepts, Processes and Applications (incl. SPS 01)

September 08, 2017
Solution Management, SAP Solution Manager, DBS, SAP SE
1. SAP Solution Manager 7.2 and Focused Build for SAP Solution Manager

2. Test Suite - Overview

3. Requirements to Deploy and Test Suite - Processes

4. Test Suite for Focused Build – Process Flow and Applications

5. Summary

6. Appendix: FB 7.2 SP01 deltas, unit tests, Branch concepts, …
SAP Solution Manager 7.2 and Focused Build for SAP Solution Manager
SAP Solution Manager 7.2
Optimal for Your Digital Business Transformation

One Process Landscape for Business and IT
Launchpad, Apps and Dashboards

Process Management
Agile Innovation

New User Experience

Cloud & Hybrid

On-Premise, Hybrid and Cloud Solutions

DIGITAL BUSINESS
SAP S/4HANA and SAP customer solutions

SAP HANA

SAP Solution Manager on SAP HANA

Transparent requirements to deploy
SAP Solution Manager 7.2 in a nutshell

SAP Solution Manager 7.2 supports 4 key value scenarios

Value scenarios – lifecycle view
SAP Solution Manager Integration Model

Process Flow

The requirement-to-deploy value chain supports the three different change paces at an optimum.

<table>
<thead>
<tr>
<th>Demand</th>
<th>Design</th>
<th>Development</th>
<th>Test</th>
<th>Deploy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fix</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program fix required to resolve disruption</td>
<td>Fix immediately, deliver break-fixes and standard changes</td>
<td>As fast as needed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhancement required for daily business operations</td>
<td>Assess enhancement request, negotiate delivery and cost</td>
<td>Deliver enhancement</td>
<td>Bundled in minor release</td>
<td></td>
</tr>
<tr>
<td>Innovate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategic initiative for new business model</td>
<td>Model to-be processes, collect requirements</td>
<td>Plan solution delivery</td>
<td>Deliver solution with continuous business feedback</td>
<td>Bundled in major release</td>
</tr>
</tbody>
</table>

No overhead.

Monitor Solution Readiness

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SAP Solution Manager Integration Model
Document Flow

Demand → Design → Development → Test → Deploy

Fix
- Incident
- Problem, Request for Change
- Change Document
- Immediately after approval, or minor release

Enhance
- Business Requirement
- IT Requirement
- Minor releases

Innovate
- Requirement*
- Work Package, Scope Change
- Work Item
- Major releases

Solution Readiness Dashboard *

*) Planned innovation: Merge of business requirement and requirement, Solution Readiness Dashboard across the lifecycle
SAP Solution Manager Integration Model
Three Different Change Paces in Requirement to Deploy

<table>
<thead>
<tr>
<th>Fix</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Trigger</td>
<td>Business disruption or standard change</td>
<td></td>
</tr>
<tr>
<td>Scope</td>
<td>Small</td>
<td></td>
</tr>
<tr>
<td>Process Impact</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Approval</td>
<td>Individual</td>
<td></td>
</tr>
<tr>
<td>Deployment</td>
<td>Unbundled on request or bundled with release</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enhance</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Trigger</td>
<td>Improvement request</td>
<td></td>
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<tr>
<td>Scope</td>
<td>Medium</td>
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<tr>
<td>Process Impact</td>
<td>Minimal</td>
<td></td>
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<tr>
<td>Approval</td>
<td>Individual</td>
<td></td>
</tr>
<tr>
<td>Deployment</td>
<td>Bundled with release</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Innovate</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Trigger</td>
<td>Transformation projects, new solutions</td>
<td></td>
</tr>
<tr>
<td>Scope</td>
<td>Large</td>
<td></td>
</tr>
<tr>
<td>Process Impact</td>
<td>Significant</td>
<td></td>
</tr>
<tr>
<td>Approval</td>
<td>Pre-Approved</td>
<td></td>
</tr>
<tr>
<td>Deployment</td>
<td>Bundled with release</td>
<td></td>
</tr>
</tbody>
</table>
Manage Customer Innovation and Transformation Projects
with SAP Solution Manager 7.2 and Focused Build

Possible project types

- Digital Transformation projects including Custom Code adjustments
- Implementation of new business processes
- Extension of existing business processes
- Integration of additional applications

SAP Solution Manager 7.2 includes all capabilities to manage innovation and transformation projects. Focused Build is a turn-key solution to manage agile development projects.
Focused Build for SAP Solution Manager

Requirements to Deploy

- **Prepare**
- **Explore**
- **Realize**
- **Deploy**
- **Run**

- Requirements Management within process models
- Agile development projects: from Sprint to Release
- Modern applications with high usability for all involved roles
- Project governance with automated status reporting

**Focused Build** is a turn-key solution to manage agile development projects.
Focused Build: The Big Picture

Software Solutions for Innovative Business Models
- Understand customers’ new business models
- Accelerate innovation based on preconfigured building blocks

Model Companies on the SAP platform powered by SAP HANA
- Out-task development
- Deliver as one team

One Methodology and Integrated Tool Chain
- Document target operating models end-to-end (transactional and analytical landscape) to derive roles’ and personas’ workspaces.
- Identify gaps requiring major investment and prototype individual parts in early sprints.
- Go from the big picture down to the details, and use the standard tools for ONE Service.
- Automate project reporting based on percentage of completion by developers and consultants.
Value for Business and Discovery Teams

Collaborate with the Business
Capture new business models, target operating models and requirements.

Manage show & tell, testing and training with the business
- Constant feedback loops with business
- Prototyping instead of lengthy blueprinting on paper
- Discovery jumpstarted with model company per industry

Scope what needs to be built
- Prepare work packages for solution build
- Validate functional gaps with MCC industry architects
- SAP R&D to sign off application landscape

Model office shares the vision with the business
Effective collaboration via publication in multiple languages, and a common notation supporting business sign-offs
Value for Build Teams and Solution Delivery

Prototypes replace traditional blueprinting
• Business reviews every few weeks using agile methods
• Scope changes tightly monitored to safeguard project budget

Collaborate for solution delivery
Manage specifications and designs for requirements (WRICEF & gaps) in virtual project rooms and development factories.

Manage agile development in waves and sprints
• Share resources across customers and scale with partners
• Share software building blocks globally
• Track project progress from solution readiness perspective: One single source of truth for the Virtual Project Room

Automation of project work
• Configuration automation via RDS
• Transport automation Dev to QAS to PRD
• Test planning automation for UAT and regression testing
SAP Solution Manager orchestrates and tracks solution readiness

- Consistent methodology and integrated “requirements to deploy” content and toolset
- Quality Gates per wave and phase with defined deliverables, synchronized with the SAP back-end to allow global project governance as well as demand and capacity management across customers

Solution Readiness Dashboard

- Visible risk and issue management
- Ready-to-use work break-down structure enriched with customer-specific work packages for the solution.
- Automated delivery progress dashboards
- Big-picture reporting on program and project level

Run SAP and transition to operations and support is integral part of the implementation
Structure Elements of Focused Build Projects

Focused Build project is structured in five phases

- **Phases** are distinct periods of time during a project that structure work streams so that at the end of an individual phase outcomes are available.
- In a **release**, you capture and aggregate all information relevant for building and deploying the customer solution. A release is the entity that is shipped at the go-live.
- A release is subdivided into **waves**. A wave comprises a well-defined functional scope of work packages that is formally signed-off by customer key-users.
- The lowest level is the **sprint**. In agile development, a sprint is a defined period of time during which software development has to provide deliverables for review. The backlog of a sprint is based on the prioritization of backlog items, i.e. work items.
Transparent Requirements-to-Deploy
Incremental deployment with constant feedback loops with the business

- **Releases** synchronize project go lives and ensure continuous delivery and integration.

- **Project** to bundle deliverables. Multiple and parallel projects are possible

- **Phases** ending with **Quality Gates** Short prepare and scope, incremental build

- **Waves** ending with **Touch and Feel** by the business (~ 8 – 12 weeks)

- **Sprints** with **Show and Tell** sessions to the business (~ 2 weeks)
Transparent Requirements-to-Deploy

Release Management to synchronize projects and keep them under control

Reduce Risks, Simplify Go-Live Process, and Decrease Test Efforts
Remote Delivery

**Project Team Onsite**
- Process and Application Landscape
- Perceived Gaps
- ICC
- Work Packages / Work Items
- Fit
- Onsite Delivery

**SAP**
- SAP Standard Development
- Gap validation
- MCC
- WRICEF/Gap

**Remote Factories**
- Build Factories
- Development Factories
- Central Backlog, Staffing, Budgeting
- GSS Dashboard

**JIRA @ GSS**
For all MaxAttention projects.

**Focused Build for SAP Solution Manager**
Required for all MaxAttention Co-Engineering projects, optional for business standard projects.
Focused Build for Application / Software

PMO
- Create project plan
  - Track project readiness, issues and risks
  - Manage scope change
- Manage q-gate deliverables, sign-off
- Hand-over release to customer
  - Project plan
  - Release, waves, and sprints

Discovery Team (Business)
- Discovery WS for requirements

Build Team (Plan)
- Create work package
  - Assign work items & build teams
  - Develop, configure, unit test
- Document work item & progress
- Release work item
  - Defect correction
  - Plan & execute SFT, FIT, UAT, RT (per wave)
  - Manage defects
- Manage show & tell

Build Team (Development)
- Create project plan
  - Track project readiness, issues and risks
  - Manage scope change
- Manage q-gate deliverables, sign-off
- Hand-over release to customer
  - Project plan
  - Release, waves, and sprints

Test Management
- Manage defects
  - Test request
  - Test plan

Release Management
- Build, test and validate release
- Manage hyper-care
  - Release

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Focused Solutions for SAP Solution Manager
Standard Software, Tailored to You

You get the solution you need. If you don’t need it, don’t buy it.

+ It’s ready-to-run.
+ All the benefits of a personal consulting solution without the cost involved.
+ You get complete maintenance and support.
+ You only pay what you use. No hidden costs. No shelf ware.
+ Everybody can get it easily and instantly through SAP Store.
+ Risk-free test drive, anywhere, anytime.

= Starting at only € 250 per user.

Looking for more information? Local partners are available.
Focused Build
Outcome based delivery - constant feedback loops with the business

Ready-to-run, and integrated, tool-supported methodology to manage requirements and software development in large, agile projects.

Value added by methodology & tools

- Automated visibility of solution readiness against due dates, with integrated risk management
- Management of distributed development teams
- Agile release and software engineering with optional JIRA integration
- Automated test planning, change & release management to support continuous delivery & integration and DevOps
- Full integration of demand, project, process, change, release and test management
SAP Solution Manager 7.2

Test Suite Overview
SAP Solution Manager - Test Suite
A full-blown application for manual / automated testing and change impact analysis

**Functional Scope**
- Manual and automated functional tests
- Automated change impact analysis of maintenance activities for test scope optimization of regression tests
- New requirements triggering semi-automated test planning for user acceptance tests and functional integration tests
- High degree of test automation possible
- Supports agile development approach within requirements-to-deploy process through Focused Build for SAP Solution Manager
- Seemlessly integrated with SAP Solution Manager Process Management, Solution Documentation, ChaRM, ITSM, …

**SAP and non-SAP Solutions**
- SAP Business Suite
- SAP S/4HANA (On-Premise, Cloud Edition)
- Non-SAP applications (On-Premise, Cloud)

**Integration**
- Test system refresh
- Partner: test data identification, validation and provisioning
- Partner: test automation tools

**Single Source of Truth**
- All related information in 1 central SAP Solution Manager system
- No complex data replications

The Test Suite of SAP Solution Manager 7.2 is a comprehensive test solution fitting the needs for the vast majority of SAP customers
SAP Solution Manager 7.2 – Test Suite
Comprehensive Functionality and Customer Benefits

✓ **Manual Tests:** Easy to use manual tests for casual users

✓ **Automated Tests:** high degree of test automation for SAP and non-SAP – seamless integration of certified partner test tools for test planning, execution and reporting

✓ **Test Data:** Test data identification, validation and provisioning for manual and automated tests

✓ **Change Impact Analysis:** Impact of software changes and risk based test scope optimization

✓ **Test Planning:** Test plan generation using manual and attribute driven test case selection

✓ **Tests for SAP and non-SAP:** SAP Business Suite, S/4HANA, Concur, Ariba, … and non-SAP solutions

✓ **Analytics:** operational reporting and comprehensive dashboards with drilldown

✓ **On-premise, Cloud, Hybrid:** Supports functional tests for on premise, cloud and hybrid solutions

✓ **Single Source of Truth:** Test Cases linked to relevant Process Steps and Business Processes in 1 single repository– no integration setup and ongoing data replication required

✓ **Integration:** Seamless integration with related applications: Process Management, Change and Request Management (ChaRM), Test Data Provisioning, Test Automation, Custom Code Lifecycle Management (CCLM) and Focused Build

✓ **Requirements to Deploy:** Supports waterfall and agile development approaches, including Enterprise DevOps
SAP Solution Manager – Test Suite
Capabilities

**Solution Documentation**
- Executable Library
- Process Step Library
- Business Processes

**Change Impact Analysis**
- Scope and Effort Analyzer (SEA)
- Business Process Change Analyzer (BPCA)

**Test Cases**
- Manual Tests
- Automated Tests

**Test Plan Management**
- Test Plan
- Test Packages
- Test Sequences
- Tester assignment

**Test Execution**
- Manual Test Execution
- Automated Test Execution
- Defect Management

**Test Suite Analytics**
- Gap reports
- Status reports
- Progress reports
- Dashboard

**Test Data**
- SAP TDMS
  - Lean test system setup and refresh
- Test Data Container (TDC)
  - Test data storage for manual and automated tests
- DeceSoft DTD (test data identification, validation and provisioning)

**Test Automation Framework**
- CBTA (Component Based Test Automation)
  - HP UFT
  - WorkSoft Certify
  - Tricentis Tosca
  - other 3rd party test automation tools

Supported UI technologies by CBTA: SAPGUI, WD-ABAP, CRM Web-Client, SAPUI5, Fiori, …
Partner test tools: SAP and non-SAP UI technologies
SAP Solution Manager - Test Suite
Test Suite for SAP S/4HANA

- SAP Solution Manager 7.2 – Process Management will be used to import SAP Best Practices and document business processes used in S/4HANA (On-premise or Cloud edition)
- SAP Solution Manager 7.2 – Test Suite will be used for manual and automated tests of implemented or changed business processes for all functional test types

- Business Processes are activated from SAP Best Practices and/or customer defined process implementation
- Business Processes are based on SAP standard software and optional custom code, modifications and integrated partner apps

- Business Processes are activated from SAP Best Practices plus limited extension options
- Business Processes are based on SAP standard software and optional extensions using white-listed APIs and partner apps
## Most Common Vendors for SAP-Centric Test Management

<table>
<thead>
<tr>
<th>Function</th>
<th>SAP Solution Manager</th>
<th>HPE</th>
<th>Other vendors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional Test Organization</td>
<td>Test Suite</td>
<td>HPE ALM</td>
<td>Tricentis Tosca Testsuite</td>
</tr>
<tr>
<td>Manual Tests</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Analytics and Reporting</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Change Impact Analysis</td>
<td>Scope and Effort Analyzer (SEA)</td>
<td>HPE Unified Functional Testing</td>
<td>Worksoft Certify Tricentis Tosca Test Automation</td>
</tr>
<tr>
<td>Business Process Change Analyzer (BPCA)</td>
<td></td>
<td>HPE Mobile Center</td>
<td>Perfecto Mobile</td>
</tr>
<tr>
<td>Automated Tests</td>
<td>Component-based Test Automation (CBTA)</td>
<td></td>
<td>DeceSoft Test Data (DTD)</td>
</tr>
<tr>
<td>Test Automation Framework</td>
<td></td>
<td>HPE LoadRunner</td>
<td>Worksoft Performance</td>
</tr>
<tr>
<td>Mobile Testing</td>
<td></td>
<td>HPE Fortify</td>
<td></td>
</tr>
<tr>
<td>Test Data Provisioning</td>
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<td></td>
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<tr>
<td>Load and Performance Tests</td>
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</tr>
<tr>
<td>Security Tests</td>
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</tbody>
</table>

**Legend**
- **SAP Solution Manager and complementing tools**
- **Alternative products with overlapping functionality to SAP Solution Manager** (requires additional integration and on-going data replication)
SAP Solution Manager - Test Suite
Capabilities of SAP Solution Manager Test Suite and Focused Build

Focused Build for SAP Solution Manager

Prepare ➔ Explore ➔ Realize ➔ Deploy ➔ Run

Test Suite related
- Requirements / Work Package based Test Plan Generation
- Manual Testing: Test Steps

- Test Execution: My Test Executions
- Test Suite Dashboard

SAP Solution Manager – Test Suite

Solution Documentation ➔ Change Impact Analysis ➔ Test Planning ➔ Test System Setup ➔ Test Execution and Analytics

- Manual Test Cases
- Automated Test Cases
- Test Automation Framework with 3rd party test tool integration
- Test Composition Environment to manage SAP and partner tools
- Test Data Management

- Change Impact Analysis
- Test Plan and Test Package Management
- Test Execution of manual and automated tests
- Gap and Completeness Analytics
- Test Execution Analytics
Requirements to Deploy and Test Suite Processes
Test Suite embedded in the R2D Process
Business Processes, Requirements and links to Process Steps

1. **Business Processes** with assigned Process Steps and Executables.
   
   Approaches to create Business Processes
   
   - SAP Best Practices
   - SAP Model Companies
   - Custom defined and modeled business processes

2. **Requirements** defined by LOB business users, business process experts, or key users
   
   - Req definition within Solution Documentation
   - Visibility of Req within Process Diagrams

3. **Requirements** linked to Process Steps

   **Solution Documentation**
   
   **E2E Business Processes**
   - E2E BP 1

   **Modular Processes**
   - Business Process A
     - Process Step 1
     - Process Step 2
   - Business Process B
     - Process Step 2

   **Process Step Library**
   - Area - Process Steps

   **Executable Library**
   - ACH - Executables

   **Requirements Management**
   
   - Requirement 1
   - Requirement 2
   - Requirement 3
Test Suite embedded in the R2D Process

Requirement (REQ) – Work Package (WP) – Process Steps in Solution Documentation

Solution Documentation

E2E Business Processes
- E2E BP 1

Modular Processes
- Business Process A
  - Process Step 1
  - Process Step 2
- Business Process B
  - Process Step …

Process Step Library
- Area - Process Steps

User activities

1. Requirements Management: Create Work Packages (WP) for Requirements (REQ with n:m relationship)

Note: WPs are linked to Solution Documentation nodes indirectly through the existing link of REQ to Process Steps

<table>
<thead>
<tr>
<th>REQ</th>
<th>WP</th>
<th>Relation</th>
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<tbody>
<tr>
<td>REQ 1</td>
<td>WP 1</td>
<td>1:1</td>
</tr>
<tr>
<td>REQ 2</td>
<td>WP 2</td>
<td>1:n</td>
</tr>
<tr>
<td></td>
<td>WP 3</td>
<td>1:n</td>
</tr>
<tr>
<td>REQ 3</td>
<td>WP 4</td>
<td>m:1</td>
</tr>
<tr>
<td>REQ 4</td>
<td>WP4</td>
<td>m:1</td>
</tr>
</tbody>
</table>
Test Suite embedded in the R2D Process
Solution Documentation nodes – Functional Spec – Work Package

User activities
1. Requirements Management: open Work Package – Tab Solution Documentation
2. WP – Tab Solution Documentation: create and assign functional Spec to Process Step for which REQ / WP exists (Req type “Gap”)

Notes:
- Best Practice: 1 functional Spec for each WP
- functional Specs for Req. of type WRICEF can be assigned at Executable Library level as well
User activities

1. Requirements Management: Creation of 1-n Work Items for each Work Package
2. Project Management: Definition of Project (Release), Waves and Sprints and associated timelines
3. Project Management: assignment of
   1. Work Packages to Wave
   2. Work Items to Sprints
Test Suite embedded in the R2D Process
Single Functional Tests (SFT) and Functional Integration Tests (FIT)

User activities

1. Solution Documentation / Test Management: create SFT and assign at Blueprint node for which functional Spec (and WP exists) (Sprint activity)

2. Solution Documentation / Test Management: create FIT and assign to Business Processes (Wave activity)
### Test Case Classification

Classification of all test cases to define their purpose

<table>
<thead>
<tr>
<th>UT</th>
<th>Unit Tests</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Manual or automated tests performed by developers at software object level</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SFT</th>
<th>Single Functional Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Manual tests performed by functional consultants, key user or other expert outside LOB</td>
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<tr>
<th>UAT</th>
<th>User Acceptance Tests</th>
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<tbody>
<tr>
<td></td>
<td>• Manual tests performed by business process experts (BPx) or key users</td>
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<thead>
<tr>
<th>FIT</th>
<th>Functional Integration Tests</th>
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<td>• Manual tests performed by functional consultants, business process experts (BPx) or key users</td>
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<table>
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<tr>
<th>RT</th>
<th>Regression Tests</th>
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</table>
Requirement to Deploy with Change Pace: Innovate
Requirements based Test Approach

- Demand and Design
  - Definition and Specification
    - Requirements
  - Work Packages (WP)
    - Functional Specifications (Spec document)
  - Work Items (Technical Design document)
- Development
  - Implementation and Configuration
  - Functional Specifications
  - Software Implementation and related Configuration
- Test
  - Functional Tests
  - Process Tests
    - User Acceptance Test
    - Regression Tests (optional)
    - Functional Integration Tests (ongoing)
- Deploy
  - Build Release
    - Functional Integration Tests (final)
  - User Acceptance Test (final)
- Run
  - Integration Validation
  - Regression Tests (final)
Requirement to Deploy with Change Pace: Innovate
Test execution during and across Waves and Sprints

Deploy phase
- Final **Functional Integration Tests** to validate E2E processes with new functionality
- Final **Regression Tests**
  Change Impact Analysis + Test Scope Optimization + RT execution for all impacted business processes
- Final **UAT**: get sign-off from business key users
- **Integration Validation**: Performance tests, interface tests, etc to prepare go-live
Test Plan Management for R2D
Activities to prepare Functional Tests

- Requirements → Work Packages → Work Items → Software Implementation and related Configuration

Work Package – Test Case assignment information used to identify test scope

Test Preparation
Create / update tests
- Single Functional Tests
- User Acceptance Tests
- Functional Integration Tests
- Regression Tests

Solution Documentation
- Process Steps
- Business Processes

Test Plan / Test Packages / User assignment
- SFT Test Plan
- UAT Test Plan
- FIT Test Plan
- RT Test Plan

Change Impact Analysis (BPCA) to identify test scope
Test Suite for Focused Build

Process Flow and Applications
SAP Solution Manager - Test Suite
Capabilities of SAP Solution Manager Test Suite and Focused Build

Focused Build for SAP Solution Manager

Prepare  Explore  Realize  Deploy  Run

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- Gap and Completeness Analytics
- Test Execution Analytics
Test Suite
R2D Test Planning and Execution

Work Streams

- Test Preparation
  - Setup of Solution Documentation
  - Setup of Projects and Release
  - Create and select Requirements
  - Create Work Package

- Test Planning
  - Check Assignment of Test Cases to Work Packages
  - Generate Test Plan derived from WP status
  - Create Test Packages
  - Assign Tester

- Test Execution
  - Access Tester Worklist
  - Test Case execution (manual / automatic)
  - Document test Result / set status/ create defects
  - Defect Correction (Developer provides fix)
  - Retest and set test case status

Tasks

- Create / Assign Test Cases to Process Steps
  - Assign Test Case to Work Package

- Operational Test Management Reporting
- Test Management Dashboard
Test Suite for Focused Build

Process Flow and Applications

Check Report
Test Suite for Focused Build
Check Report

Check Report*
• Checks of Configuration and User Authorizations with focus on Test Suite

New features with SP01
• several new checks for project and wave relationships,
• usability improvements to view start and end dates for all included projects and waves,
• forward navigation to dependent entities and configuration, such as projects and service activation

Customer benefits
• Roles like Test Coordinators get a much more comprehensive overview of required configurations and assignments. In addition, many more checks are included to speed-up the Focused Build configuration and setup activities

* Capability provided by Focused Build for SAP Solution Manager 7.2
Check Report for Prerequisites and Authorizations

Check Report - Selection

- **General Checks**
  - Radio button 1: to be used for Test Suite without Focused Build
    - Result: information about selected Solution with available Branches and Views
  - Radio button 2: to be used for Test Suite with Focused Build
    - Result: Wave relationships and start/end dates between Master- / Build / and Cross Projects
    - Result: error messages in case of missing Release or Solution assignment to Project
Check Report for Prerequisites and Authorizations

Check Report - Selection

- Test Suite Checks
  - Check whether ICF Services have been activated
    - required for WD-ABAP and OData Services (see Installation Guide in case of problems)
  - Checks whether Customizing is available, e.g. Test Classification, Mapping of Defect Status, …
  - Checks whether required BW objects have been activated (InfoProvider, InfoCubes, …)
  - Checks whether BEx-Queries have been activated

<table>
<thead>
<tr>
<th>Checks of Configuration and User Authorizations</th>
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<td>- Activation of ICF-Services</td>
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<td>- Service path is active: sap/co/dynpro/abap/mdb/s_ap_ifsv - Test Suite: SAP Solution Manager</td>
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<tr>
<td>- Service path is active: sap/co/dynpro/abap/mdb/s_ap_ifsv - OData Service: Test Suite Dashboard</td>
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<tr>
<td>- Service path is active: sap/co/dynpro/abap/mdb/s_ap_ifsv - OData Service: Simplified Manual Test Execution</td>
</tr>
<tr>
<td>- Service path is active: sap/co/dynpro/abap/mdb/s_ap_ifsv - SAPUI5 Application: Simplified Manual Test Execution</td>
</tr>
<tr>
<td>- Service path is active: sap/co/dynpro/abap/mdb/s_ap_ifsv - SAPUI5 Application: Test Plan Assignment to Project</td>
</tr>
<tr>
<td>- Service path is active: sap/co/dynpro/abap/mdb/s_ap_ifsv - SAPUI5 Application: Assignment Analysis and Test Plan Generation</td>
</tr>
<tr>
<td>- Service path is active: sap/co/dynpro/abap/mdb/s_ap_ifsv - SAPUI5 Application: Manage Test Case Assignments and Test Ready to Test</td>
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<tr>
<td>Customizing</td>
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<td>- Customizing is maintained: Test Classification</td>
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<td>- Customizing is maintained: Defect Status Aggregation for Test Suite Dashboard - Process Type: SKIM (Defect)</td>
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<tr>
<td>- Customizing is maintained: Defect Status Aggregation for Test Suite Dashboard - Process Type: SKIM (Incident) (IT Service Management)</td>
</tr>
<tr>
<td>- Customizing is maintained: Test Plan Status to Test Request Status</td>
</tr>
<tr>
<td>Activation of InfoCubes for Test Suite and IT Service Management</td>
</tr>
<tr>
<td>- InfoCube: OSMTEDCU (Test Suite)</td>
</tr>
<tr>
<td>- InfoCube: OSMTEDSNP (Test Suite)</td>
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<tr>
<td>- InfoCube: OSFRINGU (IT Service Management)</td>
</tr>
<tr>
<td>- InfoCube: OSFRINSNP (IT Service Management)</td>
</tr>
</tbody>
</table>
Check Report for Prerequisites and Authorizations

Check Report - Selection

- User Authorization Checks
  - you can choose the user ID for which the check shall be performed
  - Scope: OData services, Test Suite Dashboard, Test Plans, Test Packages
  - Authorization checks: use transaction SU53 in case of problems
Test Suite for Focused Build

Process Flow and Applications

Manual Tests
Manual Testing
Test Steps and My Test Executions

New approach for manual testing
• New manual test solution using grid approach
• Fully embedded in Test Suite of SAP Solution Manager

Test Steps*
• Designer application for Test Engineer to create manual tests using grid to describe test activities

My Test Executions*
• Access for manual testers with high usability for casual users
• Suitable for single testers as well as teams

Availability
• Focused Build SP01 for SAP Solution Manager 7.2 SP05

* Capability provided by Focused Build for SAP Solution Manager 7.2

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Manual Testing
Test Step Designer

Test Steps*

- Header
  - Flag: strict sequence
  - Template
- Translation
- Test Steps
  - Steps + sub-steps
  - Descriptions
  - Executables
  - Partner
  - Attachments
  - Evidence
  - Result Attributes
- csv upload to create test case
- Attachments, Notes
- Change Log

* Capability provided by Focused Build for SAP Solution Manager
Test Suite for Focused Build

Process Flow and Applications

Automated Tests
Automated Tests
Creation of automated Tests

Creation of Automated Tests

- Definition of automated test scripts using applications from SAP (CBTA) and/or partners (HP UFT, WorkSoft Certify, Tricentis Test Automation)
- Integration to SAP Solution Manager via open interface Test Automation Framework
- Assignment of Test Configuration to Executable, Process Step or Business Process

Changes with SAP Solution Manager 7.2

- New attribute „Test Classification“, e.g. Single Functional Test, Integration Test, Regression Test
- System Data Container (SDC) is generated automatically

Business Process Expert

Execution of business transaction

Test Script embedded in Test Configuration
Automated Tests
Test Configuration and its building blocks

Business Process
Launch creation or maintenance of automated tests

Test Configuration
Test Script
- CBTA, eCATT
- HP UFT

Test Data
Order Type | Customer | Product
---|---|---
OR | C1000 | P-100
OR | C2000 | P-200

System under Test
Test Automation

Composite Tests for E2E business processes covering SAP and non-SAP process steps
CBTA 1 → CBTA 2 → HP UFT 3 → CBTA 4

SAP customers have a choice of test automation tools integrated with SAP Solution Manager through the Test Automation Framework

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Test Automation with integrated partner products

Test Suite

Test Automation Framework

- CBTA (Component Based Test Automation)
- HP UFT
- WorkSoft Certify
- Tricentis Tosca
- other 3rd party test automation tools

Supported UI technologies by CBTA: SAPGUI, WD-ABAP, CRM Web-Client, SAPUI5, Fiori, ...
Partner test tools: SAP and non-SAP UI technologies

Business process


Partner test automation products integrated with SAP Solution Manager

HPE Unified Functional Testing
The complete solution for automation of web, mobile, API, and packaged applications

Worksoft Certify®
Make Sure Every Business Process Works

* Focused solutions circle partner: https://support.sap.com/solution-manager/focused/focused-solutions-circle.html
Automated Tests
Scope of automated Tests

Unit Tests

**Purpose:** automated tests to verify software features at lowest possible level

**When:** during Sprint in DEV System before transport to QAS System

**Tool examples:** ABAP Unit, JUnit, OPA5, QTest, XSUnit

Functional Tests

**Purpose:**
1. User Acceptance Test (UAT): Extension of Business User tests to cover more process variants
2. Regression Test: ensure software quality and configuration, validate negative side effects

**When:** After Sprints in QAS System

**Tool examples:** SAP Solution Manager CBTA, HP-UFT, WS Certify
Test Suite for Focused Build

Process Flow and Applications

Test Planning
Test Planning
Background: Test Plan, Test Packages and Tester Assignments

Solution Documentation

Test Plan

Solution

Business Process
Sales Scenarios
Order to Cash
Create Sales Order
Create Delivery
Create Billing
Rush Order
Procurement Scenarios
Standard Procurement
Create Purchase Req
Create Purchase Order
Process Step Library
Executable Library

Test Packages

Solution

Business Process
Sales Scenarios
Order to Cash
Create Sales Order
Create Delivery
Create Billing
Procurement Scenarios
Standard Procurement
Create Purchase Req
Create Purchase Order

Tester Assignment
Test Planning
Activities to prepare Functional Tests

Test Preparation
Create / update tests
- Single Functional Tests
- User Acceptance Tests
- Functional Integration Tests
- Regression Tests
- Change Impact Analysis (BPCA) to identify test scope

Solution Documentation
- Process Steps
- Business Processes

Work Package – Test Case assignment information used to identify test scope

Test Plan / Test Packages / User assignment
- SFT Test Plan
- UAT Test Plan
- FIT Test Plan
- RT Test Plan

Requirements → Work Packages → Work Items → Software Implementation and related Configuration

Software Implementation and related Configuration → Work Package – Test Case assignment information used to identify test scope → Test Plan / Test Packages / User assignment → Software Implementation and related Configuration

Work Package – Test Case assignment information used to identify test scope
Test Planning
Test Suite Dashboard: Test Preparation view

Test Suite Dashboard*

- Ready to use dashboard for Test Manager and Test Coordinator with aggregated and detail information

New features

- View **Test Preparation**: List of Work Packages with and without Test Cases
- Filter options for
  - Test Cases with / without WP assignment
  - Work Packages
  - Test Classification
- Navigation to application Assignment Analysis for full detail

* Capability provided by Focused Build for SAP Solution Manager 7.2
Test Planning
Assignment Analysis between Processes – Requirements - Work Packages – Test Cases

Assignment Analysis and Test Plan Generation*

Features

• View assignment of Requirements and Work Package to Solution Documentation
• Identify Process Steps with Work Packages, but missing Test Cases
• Identify Work Packages with missing Test Case assignments
• Create and assign missing Test Cases via DropDocs

* Capability provided by Focused Build for SAP Solution Manager
Test Planning
Test Plan generation for Requirements and Work Packages

Assignment Analysis and Test Plan Generation*

Features

- Convenient Test Plan generation based on Test Cases assigned to Work Packages
- New Test Plans include all important attributes, e.g. Project assignment, planned start/end date which is equal to Wave of the Project and Test Classification, e.g. Single Functional Test (SFT)

* Capability provided by Focused Build for SAP Solution Manager
**Assignment Analysis and Test Plan Generation**

**New features**

- Comprehensive filters for Requirements, Work Packages, Test Cases

*Capability provided by Focused Build for SAP Solution Manager 7.2*
Assignment Analysis and Test Plan Generation*

New features

- Auto-generation of Test Packages (TPK) with powerful options,
  - 1 TPK with containing all Test Cases
  - 1 TPK for each WP
  - 1 TPK per Test Classification (like SFT, UAT, FIT, RT)
  - 1 TPK per WP and Test Classification

* Capability provided by Focused Build for SAP Solution Manager 7.2
Test Planning
Assignment Analysis and Test Plan Generation – test case assignment to process nodes

Assignment Analysis and Test Plan Generation*

New features
- Fast assignment of missing test cases to Solution Documentation using drop-docs

* Capability provided by Focused Build for SAP Solution Manager 7.2
Test Planning
Automatic update of Project with latest Test Plan status

Integration Project Management – Test Suite

Features

- Project Manager of the PMO can easily track whether Test Plans have been created for the dedicated purpose, e.g. Single Function Test (SFT) or Functional Integration Test (FIT)
- Test Plan status changes are transparent for the Project Manager without accessing Test Suite
Test Planning
Assignment of existing Test Plans to Project

Test Plan Management – Project Assignment*

Features
- Test Plans generated with standard Test Plan Management functionality can be assigned to Project and Wave
- Adjustment of Test Plan start and end date to dates of the Wave

* Capability provided by Focused Build for SAP Solution Manager
Manage Tester Assignments*

- Assignment and replacement of manual testers to Test Plans and Test Packages

New features

- Improved selection screen with more options.
- Simplified and more powerful mass operations to replace and assign manual testers, for example when consultants left the project or testers got ill.

* Capability provided by Focused Build for SAP Solution Manager 7.2
Test Suite for Focused Build

Process Flow and Applications

Test Data – QAS System Refresh
Test Planning
Activities to prepare Functional Test Execution: Test Data refresh for QAS Systems

<table>
<thead>
<tr>
<th>What</th>
<th>Who</th>
<th>Where</th>
<th>How</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of up-to-date</td>
<td>Consultants</td>
<td>QAS systems</td>
<td>1. Transport of configuration changes from DEV to QAS system</td>
</tr>
<tr>
<td>- Configuration data</td>
<td>Domain Experts</td>
<td></td>
<td>2. Manual posting of master / transactional data or</td>
</tr>
<tr>
<td>- Master data</td>
<td></td>
<td></td>
<td>3. Automated tests to auto-create master - / transactional data</td>
</tr>
<tr>
<td>- Transactional data</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Development: DEV System → QAS System
Test activities: QAS System → Pre-Production
Productive use: Pre-Production → Production
Test Suite for Focused Build

Process Flow and Applications

Test data provisioning for manual / automated tests
Test Preparation
Test Data Provisioning for Manual Tests and Automated Tests

Provisioning of Test Data

- Provisioning of static test data for manual and automated tests via SAP Solution Manager Test Suite
- Identification, planning, validation and provisioning of test data*
- Analysis of posting patterns in various Org Units to derive suitable test data*

Changes with SAP Solution Manager 7.2

- No changes

* integrated partner product DeceSoft Test Data (DTD)
Test data identification, validation and test data provisioning for manual and automated tests

Partner: DeceSoft Test Data (DTD)

- Add-on product for SAP Solution Manager
- Test data identification and test data planning
- Derivation of test data from posted documents
- Test data validation for DEV, QAS and pre-PRD systems before start of test execution
- Advanced test data validation via BADIs to include custom-specific validation rules
- Usage Analytics to understand posting patterns of business teams
- Test data derivation from usage analytics
- Test data provisioning for manual and automated tests (Test Data Container, MS Excel, …)

* Focused solutions circle partner: https://support.sap.com/solution-manager/focused/focused-solutions-circle.html

http://decesoft.com/
Test Suite for Focused Build

Process Flow and Applications

Test Execution
Test Execution
Activities during Test Execution (1)

Test activities

- Launch simplified Manual Test Execution (SAPUI5)
- Read the assigned Test Case
- With 1 button start execution of the business transaction in the Q system
- Enter data to input fields of the business transaction as outlined in the test case section „test data“
- Specify the test status after execution
- Create a screenshot, if requested by the Test Coordinator
- Create a Defect, if something went wrong including a meaningful description and screenshot
Test Execution
Activities during Test Execution (2)

Developer
Consultant

Defect assessment

Software correction

Configuration adjustment

Transport

Tester
Consultant

Retest

Test status

Defect management activities

- Defect assessment: user handling mistake, code problem, configuration problem
- In case of problem: code correction and/or configuration adjustment
- Unit test „re-test“ by developer or consultant
- Transport of correction from development to test system
- Retest in Q system by Tester or Consultant using Simplified Manual Test Execution
- Tester set test status to „ok“ in case that the retest was successful
Test Execution
Test Activities during Test Execution (3)

Test Coordinator activities
- Check test status and test execution progress on a regular basis
- Follow-up on Defects with high priority that are not getting resolved in-time
- Information to Project Manager in case of delays or expected delays
- Sign-off after successful end of Regression Tests
Test Execution
Test execution during multiple Sprints

Sprint 1
- Sprint Planning
- Dev/Config
- Unit Test
- Single Functional Tests
- Sprint Review
- QAS

Functional Integration Tests
in case of incomplete feature / incorrect implementation

Sprint 2
- Sprint Planning
- Dev/Config
- Unit Test
- Single Functional Tests
- Sprint Review
- QAS

Sprint 3
- Sprint Planning
- Dev/Config
- Unit Test
- Single Functional Tests
- Sprint Review
- QAS

Sprint 4

Sprint 5

Functional Integration Tests
Functional Integration Tests

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Test Suite for Focused Build

Process Flow and Applications

My Test Executions
Test Execution
Convenient access for manual Testers to test cases, test execution, defect creation and status setting

My Test Executions*

Benefits
• Tester can easily view Test Packages and included Test Cases assigned to him / her
• The tester can quickly open the assigned test script to get familiar with the test steps that shall be executed
• Convinient access with 1 click to the test system to perform test execution
• Intuitive status setting, test note and optional defect creation

* Capability provided by Focused Build for SAP Solution Manager
Test Execution
My Test Executions for manual tests of type Test Steps

My Test Executions*

- Access of manual tester to his/her assigned test cases
- Left navigation
  - List of Test Packages or Test Cases assigned to the user
- Tab: Header
  - Properties
  - Instructions
- Language selection

* Capability provided by Focused Build for SAP Solution Manager
My Test Executions*

- Tab: Test Steps
  - List of all steps included in the test case
  - No need to download test case descriptions
  - Start of business transaction in test system with 1 click
  - Status setting
  - Assignment of evidence
  - Test result attribute. E.g. posted document number
- Language selection
- Defect creation

* Capability provided by Focused Build for SAP Solution Manager
Test Execution
My Test Executions for manual tests of type Test Steps

* Capability provided by Focused Build for SAP Solution Manager
Test Execution
My Test Executions for manual tests of type Test Steps

My Test Executions*

- Tab: Results
  - Drag and drop of test results, such as screenshots

* Capability provided by Focused Build for SAP Solution Manager
Test Execution
My Test Executions for manual tests of type Test Steps

My Test Executions*
- Tab: Test Data Sets
  - Access to test data
  - Test Data stored in central location – Test Data Container – to enable fast and central maintenance of test data even during test execution

* Capability provided by Focused Build for SAP Solution Manager
Test Suite for Focused Build

Process Flow and Applications

Test Execution and Defect Resolution
Defect Resolution Process

- Testing Team
- L1 Support Team
- Change Management Team

Defect Resolution Process:

1. Defect Creation
2. Defect Processing
   - Fix?
   - Enhancement?
3. Defect Correction
4. Requirement Management
Test Execution and Defect Resolution
Defect with Transaction Type S1DM integrated with Defect Correction

- A new Transaction Type (S1DM) with Lean UI created for Defect
- Once a Test Plan is assigned to SAP Project, it gets Release Information from SAP Project
- When a Defect is created for such a Test Plan, the Test Plan passes on the release information to the Defect
- Changing the status of a Defect can trigger automatic creation of a Defect Correction
- Once a Defect Correction is created, Release information is auto populated eliminating any error in Landscape and Release selection
Test Execution and Defect Resolution

Defect creation

- If the testers run into unexpected situation, Defect creation can be triggered.
- Solution Manager 7.2 supports multiple Transaction Types for Defect creation. The tester is expected to know the correct Transaction type to be selected for his area.
- The context of Test case including Solution Documentation information is passed to the Defect automatically.
Test Execution and Defect Resolution

Defect is created

- Tester creates the Defect using SMTE
- If the Test Plan was associated with SAP Project, that information is passed to the defect in the background
- Tester can provide component to trigger team determination or enter the L1 Support team in 'Processor' field
Test Execution and Defect Resolution
L1 Support team analyzes Defect

- L1 team analyzes the defect
- In case of Master Data or user Error type of issues, a Defect can be resolved by L1 Support team
- In case a fix is required which needs a ‘Transport’, a follow up Defect Correction is created by using the Status ‘Awaiting Defect Correction’
Test Execution and Defect Resolution
Defect is forwarded to L2 Support Team

- In the Defect Correction, the 'Change Cycle' is populated automatically since Release information is passed from Defect to Defect Correction
- The status update of Defect Correction, updates the status of Defect automatically so that Tester/L1 support team can track the progress
Test Execution and Defect Resolution
L2 Team requests for information

- The description or attachments may not be sufficient for L2 Team
- L2 Team can use Text type 'Required Information' to ask more information from stakeholders and then set the status to 'Information Requested'
- This updates the status of Defect to 'Information Required'
- The text entered in the Defect Correction is also passed to the Defect
Test Execution and Defect Resolution

Information is provided

- L1 support team or the tester can provide information
- The text is entered using the text type 'Info for Defect Correction' and status is updated to 'Information Provided'
Test Execution and Defect Resolution
Tester confirms Defect

- The tester is notified via status change or email once the Solution is Provided
- Tester can retest and set the status of Defect to confirmed
- This automatically sets the status of related Defect Correction to confirmed
Test Suite for Focused Build

Process Flow and Applications

Test Suite Analytics
Test Suite Analytics
Classification of Test Suite Analytics

Overview

Test Execution Analytics and Progress Analytics

Completeness and Gap Reports

Test Management Dashboard
Test Suite Analytics
Data Flow for analytical Applications

SAP BO Design Studio

SAP BO Cloud (BOC)

Test Suite Dashboard (Focused Build)

Progress Analytics

Test Suite BW MultiProvider

Standard BEx Queries

Standard Data Extractor

Gap and Completeness Reports

Test Execution Analytics

Test Suite tables

SAP Solution Manager 7.2 Test Suite
Test Suite Analytics
Dashboard for Test Manager and Test Coordinators

Test Suite Dashboard*

- Test Coordinator can assess multiple test plans in a fast and convenient fashion
- Status of open test executions and defects in graphical format
- Details in table format
- Test execution progress
- Test Coordinators can monitor defects created from test executions by priority and resolutions status

* Capability provided by Focused Build for SAP Solution Manager
Test Suite Analytics
Dashboard for Test Manager and Test Coordinators

Test Suite Dashboard*

- Ready to use dashboard for Test Manager and Test Coordinator with aggregated and detail information

New features

- View **Overview**: Test Execution Status by Work Package

---

* Capability provided by Focused Build for SAP Solution Manager 7.2
Test Suite Analytics
Dashboard for Test Manager and Test Coordinators

Test Suite Dashboard*

- Ready to use dashboard for Test Manager and Test Coordinator with aggregated and detail information

New features

- View **Test Execution Status**: Test Cases with Errors and related Defects

---

* Capability provided by Focused Build for SAP Solution Manager 7.2
Test Suite Analytics
Dashboard for Test Manager and Test Coordinators

Test Suite Dashboard*
• Ready to use dashboard for Test Manager and Test Coordinator with aggregated and detail information

New features
• View Traceability Matrix: full traceability for dependencies between project, requirements, WP, process step, test cases, test status, defects, defect status, defect priority
• Filters for:
  • Test Classification
  • Test Case status
  • Defect status
  • WP status

* Capability provided by Focused Build for SAP Solution Manager 7.2
Test Suite Analytics
Dashboard for Test Manager and Test Coordinators

* Capability provided by Focused Build for SAP Solution Manager 7.2
Test Suite

Summary and Information Sources
SAP Solution Manager 7.2 – Test Suite
Comprehensive Functionality and Customer Benefits

✓ **Manual Tests**: Easy to use manual tests for casual users
✓ **Automated Tests**: high degree of test automation for SAP and non-SAP – seamless integration of certified partner test tools for test planning, execution and reporting
✓ **Test Data**: Test data identification, validation and provisioning for manual and automated tests
✓ **Change Impact Analysis**: Impact of software changes and risk based test scope optimization
✓ **Test Planning**: Test plan generation using manual and attribute driven test case selection
✓ **Tests for SAP and non-SAP**: SAP Business Suite, S/4HANA, Concur, Ariba, … and non-SAP solutions
✓ **Analytics**: operational reporting and comprehensive dashboards with drilldown
✓ **On-premise, Cloud, Hybrid**: Supports functional tests for on premise, cloud and hybrid solutions
✓ **Single Source of Truth**: Test Cases linked to relevant Process Steps and Business Processes in 1 single repository – no integration setup and ongoing data replication required
✓ **Integration**: Seamless integration with related applications: Process Management, Change and Request Management (ChaRM), Test Data Provisioning, Test Automation, Custom Code Lifecycle Management (CCLM) and Focused Build
✓ **Requirements to Deploy**: Supports waterfall and agile development approaches, including Enterprise DevOps
Test Suite – more information for customers and partners

SAP Solution Manager WIKI – Test Suite

- Audience: customers and partners
- Positioning presentations
- How to configure and administration
- Tips and tricks
- Offline demos

Focused Build – more information for customers and partners

SAP Support Portal – Focused Build

- Audience: customers and partners
- Positioning presentations
- How to configure and administration
- FAQ
- Training material

Focused Build – more information for customers and partners

Media Center for Focused Build

- Audience: customers and partners
- Positioning presentations
- How to configure and administration
- Application Demos

Navigation: SAP Support Portal → SAP Solution Manager → Overview → Product Information → Media Center

https://wpb101101.hana.ondemand.com/wpb/wa/wa/~tag/published/index.html?library=library.txt&show-group=GR_267560D84F4CD84#show=group!GR_267560D84F4CD84&library=library.txt&hash=group!GR_D52A2E2BF984B994
SAP Solution Manager learning resources overview
Build up your knowledge and skills

Available Learning Resources
From Interest to Expert Knowledge

Management Competence (Introduction)
- Public Videos & Playlists
- Overview Publications
  - SAP Solution Manager for SAP S/4HANA
- Introduction Information
  - Overview, Processes, Product and Release Info
- SAP Solution Manager Homepage
  - (support.sap.com/solutionmanager)

Core Competence (Key Value Chains)
- SAP Solution Manager Media Center
  - Product Videos, System Demos, Tutorials
- SAP Solution Manager Community
  - Blogs & Questions
- System Landscapes
  - Private Evaluation System (CAL), Public Demo System

Expert Competence (Functional Areas)
- Expert WIKIs
  - Functional Areas Expert Content
- Technical Information
  - Supported languages, browsers, and data bases
- Expert Publications
  - Monitoring and Operations with SAP Solution Manager

System Landscapes
- Private Evaluation System (CAL), Public Demo System

Live Expert Sessions & e-Learnings
- EGI, MTE, GDT, AIE, BP

Classroom Trainings*
- SMx (Setup & Config), E2Ex (Functional Overview)

*) Planned availability Q1 2017

SAP Solution Manager Homepage
- (support.sap.com/solutionmanager)

Overview, Processes, Product and Release Info

System Landscapes
- Private Evaluation System (CAL), Public Demo System

Live Expert Sessions & e-Learnings
- EGI, MTE, GDT, AIE, BP

Classroom Trainings*
- SMx (Setup & Config), E2Ex (Functional Overview)
Appendix

Test Suite – delta functionality with FB 7.2 SP01
## Test Suite for Focused Build 7.2 SP01
### Delta Features (1/2)

<table>
<thead>
<tr>
<th>Area</th>
<th>Delta Functionality with FB 7.2 SP01</th>
<th>Customer benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Configuration</strong></td>
<td><strong>Check Report</strong> – several new checks for project and wave relationships, usability improvements to view start and end dates for all included projects and waves, forward navigation to dependent entities and configuration, such as projects and service activation</td>
<td>Roles like Test Coordinators get a much more comprehensive overview of required configurations and assignments. In addition, many more checks are included to speed-up the Focused Build configuration and setup activities.</td>
</tr>
<tr>
<td><strong>Test Planning</strong></td>
<td><strong>Assignment Analysis and Test Plan Generation</strong> – Test Coordinators now get powerful filter capabilities to tailor the analysis of existing vs. missing test cases and assignments to Work Packages. Beside Test Plan generation it is now possible to auto-generate Test Packages with various options, e.g. one Test Package for each Work Package. Several usability improvements including drop-docs to assign missing test cases to Solution Documentation.</td>
<td>Test Coordinators now get powerful additional features to speed-up the test preparation phase. For example, large hierarchies can be filtered to those sections where implementations and configurations took place, which are mature enough to start with functional tests.</td>
</tr>
<tr>
<td><strong>Test Planning</strong></td>
<td><strong>Manage Tester Assignment</strong> – simplified and more powerful mass operations to replace and assign manual testers, for example when consultants left the project or testers got ill. Improved selection screen with more options.</td>
<td>Improved efficiency to manage manual testers assigned to Test Plans and Test Packages.</td>
</tr>
</tbody>
</table>

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## Test Suite for Focused Build 7.2 SP01
### Delta Features (1/2)

<table>
<thead>
<tr>
<th>Area</th>
<th>Delta Functionality with FB 7.2 SP01</th>
<th>Customer benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual Tests</td>
<td><strong>Test Steps Designer</strong> – new manual testing solution using grid approach to describe test activities</td>
<td>Casual testers, like business users get a much easier to consume manual test case. The creation of Test Steps is supported with a comprehensive, but easy to use SAPUI5 application.</td>
</tr>
<tr>
<td>Test Execution</td>
<td><strong>My Test Executions</strong> – the new manual test capability Test Steps is fully embedded in the application for test execution</td>
<td>Casual testers, like business users get a much easier to consume manual test case. The execution of Test Steps is included in the app My Test Executions – an easy to use SAPUI5 application.</td>
</tr>
<tr>
<td>Test Execution</td>
<td><strong>My Test Executions</strong> – user personalization to choose between view by Test Packages or Test Cases on the left navigation panel.</td>
<td>Especially for casual users it is now much easier to view the test cases that are due for testing or retesting.</td>
</tr>
<tr>
<td>Analytics</td>
<td><strong>Test Suite Dashboard</strong> – several new graphics and tables in existing views, including list of open Test Cases and related Defects, Test Execution status by WP, as well as navigation from tiles to graphics and tables</td>
<td>Fast access to information about the current test status and dependencies between Focused Build entities, such as Work Packages and related Tests and Defects</td>
</tr>
<tr>
<td>Analytics</td>
<td><strong>Test Suite Dashboard</strong> – new view Test Preparation to assess existing and missing test cases</td>
<td>Fast access to information about the current test planning activities and missing test cases and assignments.</td>
</tr>
<tr>
<td>Analytics</td>
<td><strong>Test Suite Dashboard</strong> – new view Traceability Matrix to provide transparency from project via requirements, work packages to tests and defects.</td>
<td>Full transparency for the Test Manager and Project / Release Manager about implementation and related test status</td>
</tr>
</tbody>
</table>
Appendix

Test Classification, Branch Setup, Test Activities by System Role, Transport Procedures
Test Suite
Test Classification

<table>
<thead>
<tr>
<th>Unit Test</th>
<th>Single Functional Test</th>
<th>Functional Integration Test</th>
<th>Regression Test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>When</strong></td>
<td><strong>When</strong></td>
<td><strong>When</strong></td>
<td><strong>When:</strong></td>
</tr>
<tr>
<td>during Sprint – before Sprint Review, after Developer has finished SW development / configuration</td>
<td>after Sprint Review Meeting</td>
<td>Recurring tests after new functionality of Sprints became available</td>
<td>Recurring tests after new functionality of Sprints became available</td>
</tr>
<tr>
<td><strong>Who</strong></td>
<td>SAP Functional Consultant from the customer project team (and SME of Dev Factory)</td>
<td><strong>Who:</strong></td>
<td><strong>Who:</strong></td>
</tr>
<tr>
<td>Developer</td>
<td><strong>What</strong></td>
<td>• SAP Functional Consultant from the customer project team</td>
<td>• SAP Functional Consultant from the customer project team</td>
</tr>
<tr>
<td>SW validation at lowest technical level, e.g. function module</td>
<td>Functional Software validation at process steps or single feature level</td>
<td>• Customer SME</td>
<td>• Customer SME</td>
</tr>
<tr>
<td><strong>Where</strong></td>
<td>QAS - customer landscape</td>
<td>• Customer Business User (at a later point in time)</td>
<td>• Test Automation Tool</td>
</tr>
<tr>
<td>DEV – customer landscape</td>
<td><strong>Test Case</strong></td>
<td><strong>What:</strong></td>
<td><strong>What:</strong></td>
</tr>
<tr>
<td>no test case</td>
<td>Functional test cases assigned to Process Steps</td>
<td>Functional test of Business Processes (PH and E2E BP)</td>
<td>Regression test of priority 1 processes to verify that developments do not negatively impact processes</td>
</tr>
<tr>
<td>Manual test execution or automated using ABAP Unit, Junit, Selenium, ...</td>
<td><strong>Where</strong></td>
<td><strong>Where:</strong></td>
<td><strong>Where:</strong></td>
</tr>
<tr>
<td></td>
<td>QAS - customer landscape</td>
<td>QAS - customer landscape</td>
<td>QAS - customer landscape</td>
</tr>
<tr>
<td></td>
<td><strong>Test Case</strong></td>
<td><strong>Test Case</strong></td>
<td><strong>Test case</strong></td>
</tr>
<tr>
<td></td>
<td>FIT test cases assigned to Business Processes</td>
<td>FIT test cases assigned to Business Processes</td>
<td>RT test cases assigned at Process Step or Business Process</td>
</tr>
</tbody>
</table>
SAP Solution Manager Integration Model
Best-Practice Approach for Branch Setup

Production branch
• Production branch represents the productive solution

Operations branch
• Operations branch to apply monitoring instrumentation

Maintenance branch
• Maintenance branch to change the productive solution

Innovation branches
• Import branch to import new best-practice processes
• Design branch to design customer target operating model
• Development branch to build the actual operating model
## Test Suite

### Test Activities by System Role for new Innovations

<table>
<thead>
<tr>
<th>DEV System</th>
<th>QAS System</th>
<th>Pre-PRD (optional)</th>
<th>PRD System</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Customer Dev System</td>
<td>• Customer QAS System</td>
<td>• Functional Integration Tests</td>
<td>• Functional Integration Tests</td>
</tr>
<tr>
<td>• Development and Customizing</td>
<td>• Functional Tests of new functionality from Sprints</td>
<td>• User Acceptance Tests</td>
<td>• User Acceptance Tests</td>
</tr>
<tr>
<td>• Unit Tests by developers (code changes) and consultants (customizing) –</td>
<td>• Functional Integration Tests to verify new functionality in the context</td>
<td>• Performance Tests of business processes including new functionality</td>
<td>• Performance Tests of business processes including new functionality</td>
</tr>
<tr>
<td>potentially using a separate client of the Dev system</td>
<td>of the overall Business Process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Transport to QAS system after successfull Unit Test and Sprint Review</td>
<td>• UAT by business key users</td>
<td></td>
<td></td>
</tr>
<tr>
<td>meeting</td>
<td>• Regression Tests to verify that new developments have no negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>impact</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Performance Tests – in case of no add.Q system</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Overview of Transport Procedure for ABAP Based Systems

1. Customizing of the applications and development is done in customizing + development client (100).
2. Client specific customizing can be transported locally to the test client (400) and to data migration test client (300) using transaction SCC1. The development and customizing requests remain open in customizing + development client (100) until the unit and functional tests in test client (400) or data migration test client (300) are successfully completed.

3. If the implementation was successfully tested in test client (400), the change request is released and imported locally into all target clients.
4. The released change requests can be imported into QAS (e.g. at the end of a sprint)
5. After a successful test in QA: transport into PRE-PROD
6. After a successful test in PRE-PROD: transport into PROD
Appendix

Unit Tests
Unit tests are fast running automated tests that make sure a specific part of your program works as intended. They test specific methods of a dedicated module and have a clear pass/fail condition. Unit tests are a great tool for developers to identify errors instantly even before manual testing can be done to make sure their code works. We can consider unit testing as an automated error-detect-and-prevention mechanism.
Unit Tests (UT)
Motivation and Prerequisites

**Motivation**
- **Technical Test** of every software development to ensure code compliance and validation of technical design
- **Robustness** of custom code created during the project

**Prerequisites**
- Functional Specification and Technical Design available
- Developer has successfully completed the development/configuration activities
- Standard Code Checks like ABAP Test Cockpit (ATC) are performed for new developments
Test Isolation
The principal idea of **Test Isolation** is to **reduce the scope of the code you want to test** by **breaking up dependencies**, especially the test-hindering ones.

Legend:

= dependend on component (**DOC**) = mock objects

= Test Isolation - similair terms: **mock, fake, stub**

## Test Management

### Unit Tests – Overview of available Tools*

<table>
<thead>
<tr>
<th>Technology</th>
<th>Unit Test Tool</th>
<th>Tool for test isolation / mocking / test data</th>
<th>Availability for SAP and SAP Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABAP</td>
<td>ABAP Unit</td>
<td>Test Data Container (TDC)</td>
<td>SAP + SAP customers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Test Double Framework</td>
<td>SAP + SAP customers (SAP NW 7.40 SP09)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Avalon (for CDS Views, AMDP)</td>
<td>Pilot phase (SAP internal)</td>
</tr>
<tr>
<td>Java</td>
<td>JUnit</td>
<td>Mockito EasyMock</td>
<td>SAP + SAP customers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAPUI5 / Fiori (client)</td>
<td>OPA5</td>
<td>Mock Server</td>
<td>SAP + SAP customers included in SAPUI5 web IDE</td>
</tr>
<tr>
<td>JavaScript (client)</td>
<td>QUnit</td>
<td>Sinon</td>
<td>SAP + SAP customers included in SAPUI5 web IDE</td>
</tr>
<tr>
<td>XS for JavaScript (Server)</td>
<td>XSUnit</td>
<td>Jasmine</td>
<td>SAP + SAP customers</td>
</tr>
<tr>
<td>HANA DB Artefacts</td>
<td>XSUnit</td>
<td>Mockstar</td>
<td>SAP + SAP customers</td>
</tr>
</tbody>
</table>

* detail presentation available in SAP JAM
Appendix

Tests of Analytical Applications
Test Management for analytical Applications

Introduction: Test Scope

Traditional BW Architecture with data extraction from SAP / non-SAP solutions into BW

- Data Transfer – Data Cleansing - Transformation
- Repository: BW InfoProvider
- Runtime: OLAP Processor
- Ad-hoc & drilldown Reports, Dashboards, Scorecards

Test Scope 1
Consistent BW Query results based on OLAP Processor using various data access and optimization features

Test Scope 2
Data consistency between source (outside / inside BW) and BW target repositories

- SAP Solutions
  any DB or HANA
- Non-SAP
Test Management for analytical Applications
Introduction: Test Approach Alternatives

<table>
<thead>
<tr>
<th>Traditional BW Architecture</th>
<th>Test Scope</th>
<th>Test Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad-hoc &amp; drilldown Reports, Dashboards, Scorecards</td>
<td>1. Consistent BW Query results based on OLAP Processor using various data access and optimization features</td>
<td>1. Manual tests by experts</td>
</tr>
<tr>
<td>Runtime: OLAP Processor</td>
<td>2. Data consistency between source (outside / inside BW) and BW target repositories</td>
<td>2. Automated approach using • Cross Database Comparison (CDC) • BW Process Chains • Automated BW Query result tests using reference data (RSTT)</td>
</tr>
<tr>
<td>Repository: BW InfoProvider</td>
<td></td>
<td>3. ABAP Unit Tests</td>
</tr>
<tr>
<td>Data Transfer – Data Cleansing - Transformation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SAP Solutions
any DB    HANA

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