

Test Preparation



ProPath

Office of Information and Technology

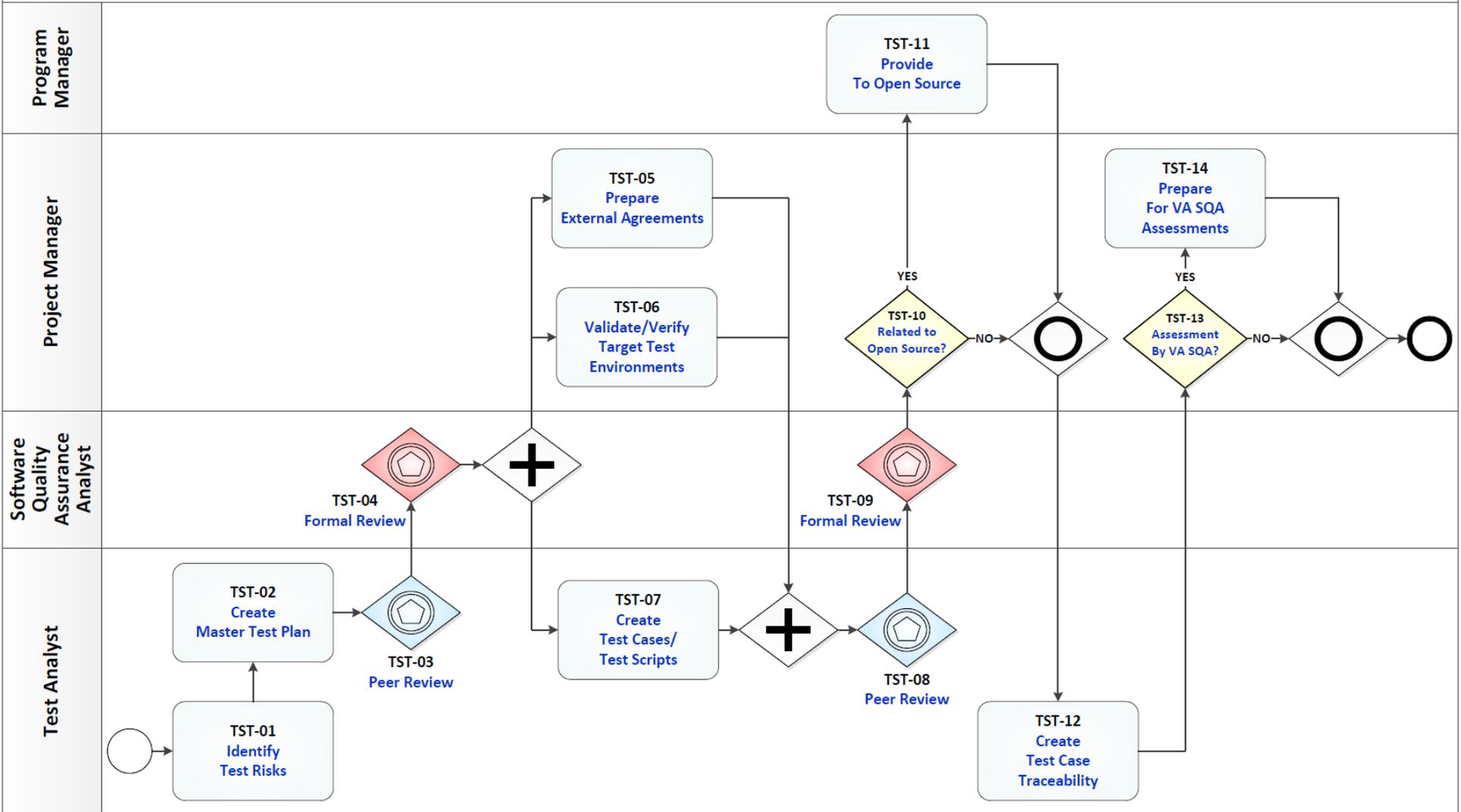
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Test Preparation Process Map

Test Preparation (TST)

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Process: Test Preparation

Overview: The process map for Test Preparation cycles through the following process and review activities:

- TST-01 Identify Test Risks
- TST-02 Create Master Test Plan
- TST-03 Conduct Peer Review of Master Test Plan
- TST-04 Conduct Formal Review of Master Test Plan
- TST-05 Prepare External Agreements
- TST-06 Validate/Verify Target Test Environments
- TST-07 Create Test Cases/Test Scripts
- TST-08 Conduct Peer Review of Test Cases/Test Scripts
- TST-09 Conduct Formal Review of Test Cases/Test Scripts
- TST-10 Related to Open Source?
- TST-11 Provide to Open Source
- TST-12 Create Test Case Traceability
- TST-13 Assessment By VA SQA?
- TST-14 Prepare for VA SQA Assessments

Test Preparation Description and Goals

Description

The Test Preparation process describes the Software Quality Assurance (SQA) activities that take place during the Planning and Development Phases of the System Development Life Cycle (SDLC). The Test Preparation process ensures that test activities are adequately planned and that appropriate test environments are established according to project schedule.

Goals

The goal of the Test Preparation process is to establish the set of activities, roles and artifacts required for test planning.

Specifically the process:

- Select appropriate products and product components for testing.
- Establish and maintain the testing environments, procedures, and criteria.
- Ensure continuous monitoring of testing progress to Program Management and Development Management.

Test Preparation RACI Information

The following describes the RACI information for this process:

TST-01 Identify Test Risks

Responsible Role: Test Analyst

Accountable Role: Project Manager

Consulted Role: Enterprise Testing Service (ETS) Analyst; Software Quality Assurance Analyst

Informed Role: Stakeholder(s); Project Team

TST-02 Create Master Test Plan

Responsible Role: Test Analyst

Accountable Role: Project Manager

Consulted Role: Enterprise Testing Service (ETS) Analyst; Software Quality Assurance Analyst

Informed Role: Stakeholder(s); Project Team

TST-03 Conduct Peer Review of Master Test Plan

Responsible Role: Test Analyst

Accountable Role: Project Manager

Consulted Role: Project Team

Informed Role: Stakeholder(s)

TST-04 Conduct Formal Review of Master Test Plan

Responsible Role: Test Analyst

Accountable Role: Project Manager

Consulted Role: Stakeholder(s); Enterprise Testing Service (ETS) Analyst; Release Agent;
Software Quality Assurance Analyst

Informed Role: Project Team

TST-05 Prepare External Agreements

Responsible Role: Project Manager

Accountable Role: Program Manager

Consulted Role: Project Team; Regional Director; VHA Release Management Team Lead; Business Owner; Customer; Release Agent

Informed Role: Stakeholder(s)

TST-06 Validate/Verify Target Test Environments

Responsible Role: Project Manager

Accountable Role: Program Manager

Consulted Role: Project Team

Informed Role: Stakeholder(s)

TST-07 Create Test Cases/Test Scripts

Responsible Role: Test Analyst

Accountable Role: Project Manager

Consulted Role: Project Team

Informed Role: Stakeholder(s)

TST-08 Conduct Peer Review of Test Cases/Test Scripts

Responsible Role: Test Analyst

Accountable Role: Project Manager

Consulted Role: Project Team

Informed Role: Stakeholder(s)

TST-09 Conduct Formal Review of Test Cases/Test Scripts

Responsible Role: Software Quality Assurance Analyst

Accountable Role: Project Manager

Consulted Role: Stakeholder(s)

Informed Role: None Listed

TST-10 Related to Open Source?

Responsible Role: Project Manager

Accountable Role: Program Manager

Consulted Role: None Listed

Informed Role: None Listed

TST-11 Provide to Open Source

Responsible Role: Project Manager

Accountable Role: Program Manager

Consulted Role: Project Team

Informed Role: Stakeholder(s)

TST-12 Create Test Case Traceability

Responsible Role: Test Analyst

Accountable Role: Project Manager

Consulted Role: None Listed

Informed Role: Stakeholder(s)

TST-13 Assessment By VA SQA?

Responsible Role: Project Manager

Accountable Role: Program Manager

Consulted Role: None Listed

Informed Role: None Listed

TST-14 Prepare for VA SQA Assessments

Responsible Role: Software Quality Assurance Analyst

Accountable Role: Project Manager

Consulted Role: None Listed

Informed Role: Stakeholder(s); Project Team

Test Preparation Associated Artifacts Information

Associated Artifacts information (including hyperlinks) for this process includes:

Artifact Review Agenda and Minutes Template

ESE Registration Form Template

Master Test Plan Template

Open Source Submission Checklist

Open Source Submission Package

Project Management Plan (PMP) Template

Record of Notification Template

Review Findings Summary Template

Test Case Test Scripts

Test Evaluation Template

Test Preparation Tools and Web Sites Information

The Tools and Web Sites associated with this process (including hyperlinks) include:

Enterprise Testing Service Portal

Enterprise Testing Service, Services We Offer

ESE Release Office Site

Rational Quality Manager (Quality Management)

Rational Requirements DOORS Next Generation

Rational Team Concert (Change/Configuration Management)

VA Open Source Site

Test Preparation Standards Information

Standards associated with this process (including hyperlinks) include:

Approved Applications Abbreviations

Digital Signature Guide

Enterprise Systems Engineering Testing Intake Assessment Form User Guide

Enterprise Testing Service Test Center Service Request Form Quick Reference Guide

Enterprise Testing Service Testing Guide

ESE Registration Form User Guide

Initial Operating Capability Site Memorandum of Understanding Guide

Initial Operating Capability Site Selection Guide

Open Source Code in Flight Communications Strategy Guide

Open Source Submission Checklist
Patient Safety Issue Test Request Form Instructions
Quality Assurance Standard
Release Requirements User Stories Decision Tree
VA Open Source Methodology

Test Preparation Process

Process Activity Name: TST-01 Identify Test Risks

Previous Activities

Process Begins

Next Activities

TST-02 Create Master Test Plan

Description

The Test Analyst in conjunction with the Project Manager, Software Quality Assurance Analyst, and Enterprise Testing Service Analyst identifies and manages risks that negatively impact test execution and risks related to the testing of critical functionality. Steps include:

- Assess the potential impacts and probability for each risk
- Identify test execution risks
- Monitor the risks through closure
- Plan mitigation for each risk
- Record the risks in tracking tool

Input

Business Epics

Business Sub-Epics

Business User Stories

Compliance Epics

Compliance Sub-Epics

Compliance User Stories

Project Management Plan

Output

Updated Project Management Plan (Risk Management Plan Section)

Associated Artifacts

Project Management Plan (PMP) Template

Responsible Role

Test Analyst

Accountable Role

Project Manager

Consulted Role

Enterprise Testing Service (ETS) Analyst; Software Quality Assurance Analyst

Informed Role

Stakeholder(s); Project Team

Tools and Websites

Rational Team Concert (Change/Configuration Management)

Rational Quality Manager (Quality Management)

Standards

None Listed

More Info

None Listed

Process Activity Name: TST-02 Create Master Test Plan**Previous Activities**

TST-01 Identify Test Risks

Next Activities

TST-03 Conduct Peer Review of Master Test Plan

Description

The Test Analyst, working with the Project Manager, Software Quality Assurance Analyst, and Enterprise Testing Service Analyst creates the Master Test Plan to document the overall approach to testing. The Master Test Plan includes items to be tested, test strategy, test criteria, test deliverables, test schedule, test environments, staffing and training needs, risks and constraints, and test metrics.

Input

Business Epics

Business Sub-Epics

Business User Stories

Compliance Epics

Compliance Sub-Epics

Compliance User Stories

Project Management Plan

Output

Master Test Plan

Associated Artifacts

Master Test Plan Template

Responsible Role

Test Analyst

Accountable Role

Project Manager

Consulted Role

Enterprise Testing Service (ETS) Analyst; Software Quality Assurance Analyst

Informed Role

Stakeholder(s); Project Team

Tools and Websites

Rational Quality Manager (Quality Management)

Standards

Approved Applications Abbreviations

Release Requirements User Stories Decision Tree

More Info

When the Master Test Plan is created, update the Compliance User Stories contained in the project/product instance of the Rational Requirements Management repository.

Process Activity Name: TST-03 Conduct Peer Review of Master Test Plan**Previous Activities**

TST-02 Create Master Test Plan

Next Activities

TST-04 Conduct Formal Review of Master Test Plan

Description

The Test Analyst conducts the Master Test Plan Peer Review in accordance with the Quality Assurance Standard (appropriate sections pertaining to Peer Reviews) performing the following general steps:

Distribute the Peer Review Materials

Review the Peer Review Materials

Distribute the Consolidated Peer Review Findings

Record the Finding Resolutions

Implement the Finding Resolutions

The goal of the Peer Review of the Master Test Plan is to resolve any questions the project team may have and to ensure quality of the deliverable.

Input

Master Test Plan

Output

Record of Notification

Updated Master Test Plan

Associated Artifacts

Master Test Plan Template

Responsible Role

Test Analyst

Accountable Role

Project Manager

Consulted Role

Project Team

Informed Role

Stakeholder(s)

Tools and Websites

Rational Team Concert (Change/Configuration Management)

Rational Quality Manager (Quality Management)

Standards

Quality Assurance Standard

Release Requirements User Stories Decision Tree

More Info

When the Master Test Plan is updated, also update the Compliance User Stories contained in the project/product instance of the Rational Requirements Management repository.

Process Activity Name: TST-04 Conduct Formal Review of Master Test Plan

Previous Activities

TST-03 Conduct Peer Review of Master Test Plan

Next Activities

TST-05 Prepare External Agreements

And

TST-06 Validate/Verify Target Test Environments

And

TST-07 Create Test Cases/Test Scripts

Description

The Test Analyst conducts the Master Test Plan Formal Review in accordance with the Quality Assurance Standard (appropriate sections pertaining to Formal Reviews) performing the following general steps:

Plan the Formal Review

Review the Formal Review Materials

Implement the Finding Resolutions

The goal of the Formal Review is to obtain stakeholder concurrence of the Master Test Plan and appropriate approval signatures.

Input

Master Test Plan

Output

Artifact Review Agenda and Minutes

Updated Master Test Plan (Approval Signatures included)

Associated Artifacts

Master Test Plan Template

Artifact Review Agenda and Minutes Template

Responsible Role

Test Analyst

Accountable Role

Project Manager

Consulted Role

Stakeholder(s); Enterprise Testing Service (ETS) Analyst; Release Agent; Software Quality Assurance Analyst

Informed Role

Project Team

Tools and Websites

Rational Quality Manager (Quality Management)

Rational Team Concert (Change/Configuration Management)

Standards

Digital Signature Guide

Quality Assurance Standard

Release Requirements User Stories Decision Tree

More Info

When the Master Test Plan is updated, also update the Compliance User Stories contained in the project/product instance of the Rational Requirements Management repository.

Process Activity Name: TST-05 Prepare External Agreements

Concurrent Activities

TST-06 Validate/Verify Target Test Environments

And

TST-07 Create Test Cases/Test Scripts

Previous Activities

TST-04 Conduct Formal Review of Master Test Plan

Next Activities

TST-08 Conduct Peer Review of Test Cases/Test Scripts

Description

Test sites are used for User Acceptance Testing (UAT), as well as Initial Operating Capability (IOC) evaluation whether performed in the site's test or production environment as appropriate for the particular project's situation. The Project Manager solicits test sites; prepares the test site Memorandums of Understanding (MOUs) and related Data Use Agreement, if applicable, between the system development project and the test sites; and obtains MOU approval to ensure sites agree to perform UAT and IOC evaluation according to the specified requirements and evaluation criteria provided in the MOUs.

If the Development Team has not previously specified the test sites, the Project Manager also completes the IT Operations and Services (ITOPS) Action Item Request to ensure End User Operations participation at the identified test sites.

The total number of sites, type of sites, size of sites, duration for the IOC evaluation process, and decision of whether IOC will be performed in a site's test or production environment is determined after an evaluation of the risks posed by the product, system requirements, business requirements and customer requirements. This decision is guided by the development team in conjunction with all Stakeholder(s) to include business owners, customers, and ITOPS representatives.

Input

Business Epics

Business Sub-Epics

Business User Stories

Compliance Epics

Compliance Sub-Epics

Compliance User Stories

Master Test Plan

Project Management Plan

Output

Data Use Agreement, if applicable

Initial Operating Capability Site Memorandum of Understanding

ITOPS Action Request

Associated Artifacts

None Listed

Responsible Role

Project Manager

Accountable Role

Program Manager

Consulted Role

Project Team; Regional Director; VHA Release Management Team Lead; Business Owner; Customer; Release Agent

Informed Role

Stakeholder(s)

Tools and Websites

None Listed

Standards

Approved Applications Abbreviations

More Info

None Listed

Process Activity Name: TST-06 Validate/Verify Target Test Environments

Concurrent Activities

TST-05 Prepare External Agreements

And

TST-07 Create Test Cases/Test Scripts

Previous Activities

TST-04 Conduct Formal Review of Master Test Plan

Next Activities

TST-08 Conduct Peer Review of Test Cases/Test Scripts

Description

The Project Manager validates and verifies that the applicable test environments are available by either creating them or by modifying existing test environments in conjunction with testing platform sources. Configuration Management and Change Control processes have important ties to this test activity. Steps include:

- Identify requirements for the applicable test environment and test data
- Identify test environments procedures and criteria
- Create, acquire, or modify test data serving as input and file conditions for test cases and test scripts
- Determine the integration sequence of the product build
- Maintain the product integration environments throughout the project
- Dispose of those portions of the test environments and test data that are no longer useful

Input

Master Test Plan

Output

Development Test Environments

Associated Artifacts

None Listed

Responsible Role

Project Manager

Accountable Role

Program Manager

Consulted Role

Project Team

Informed Role

Stakeholder(s)

Tools and Websites

None Listed

Standards

Approved Applications Abbreviations

More Info

None Listed

Process Activity Name: TST-07 Create Test Cases/Test Scripts**Concurrent Activities**

TST-05 Prepare External Agreements

And

TST-06 Validate/Verify Target Test Environments

Previous Activities

TST-04 Conduct Formal Review of Master Test Plan

Next Activities

TST-08 Conduct Peer Review of Test Cases/Test Scripts

Description

The Test Analyst creates tests to exercise the product or system under test. These tests are commonly referred to as “Test Cases” or “Test Scripts”. A Test Case is a specific condition being executed within a system under test. A Test Case includes set up steps, input data, user interaction, expected and actual results, and the type of test or technique being performed. A Test Script is a collection of step-by-step instructions that defines a test and enables its execution. Test Scripts may take the form of either documented textual instructions that are executed manually or computer readable instructions that enable automated test execution.

Input

Business Epics

Business Sub-Epics

Business User Stories

Compliance Epics

Compliance Sub-Epics

Compliance User Stories

Output

Test Cases/Test Scripts

Associated Artifacts

Test Case Test Scripts

Responsible Role

Test Analyst

Accountable Role

Project Manager

Consulted Role

Project Team

Informed Role

Stakeholder(s)

Tools and Websites

Rational Quality Manager (Quality Management)

Standards

Release Requirements User Stories Decision Tree

More Info

When the Test Cases/Test Scripts are updated, also update the Compliance User Stories contained in the project/product instance of the Rational Requirements Management repository.

Process Activity Name: TST-08 Conduct Peer Review of Test Cases/Test Scripts**Previous Activities**

TST-05 Prepare External Agreements

AND

TST-06 Validate/Verify Target Test Environments

AND

TST-07 Create Test Cases/Test Scripts

Next Activities

TST-09 Conduct Formal Review of Test Cases/Test Scripts

Description

The Test Analyst conducts the Test Cases/Test Scripts Peer Review in accordance with the Quality Assurance Standard (appropriate sections pertaining to Peer Reviews) performing the following general steps:

- Distribute the Peer Review Materials
- Review the Peer Review Materials
- Distribute the Consolidated Peer Review Findings
- Record the Finding Resolutions
- Implement the Finding Resolutions

The goal of the Peer Review of the Test Cases/Test Scripts is to resolve any questions the project team may have and to ensure quality of the deliverable.

Input

Test Cases/Test Scripts

Output

Record of Notification

Updated Test Cases/Test Scripts

Associated Artifacts

Record of Notification Template

Test Case Test Scripts

Responsible Role

Test Analyst

Accountable Role

Project Manager

Consulted Role

Project Team

Informed Role

Stakeholder(s)

Tools and Websites

Rational Team Concert (Change/Configuration Management)

Rational Quality Manager (Quality Management)

Standards

Quality Assurance Standard

Release Requirements User Stories Decision Tree

More Info

When the Test Cases/Test Scripts are updated, also update the Compliance User Stories contained in the project/product instance of the Rational Requirements Management repository.

Process Activity Name: TST-09 Conduct Formal Review of Test Cases/Test Scripts

Previous Activities

TST-08 Conduct Peer Review of Test Cases/Test Scripts

Next Activities

TST-10 Related to Open Source?

Description

The Software Quality Assurance Analyst conducts the Test Cases/Test Scripts Formal Review in accordance with the Quality Assurance Standard (appropriate sections pertaining to Formal Reviews) performing the following general steps:

- Plan Formal Review
- Review Formal Review Materials
- Implement Finding Resolutions

The goal of the formal review is to obtain stakeholder concurrence of the Test Cases/Test Scripts and appropriate approval signatures.

Input

Test Cases/Test Scripts

Test Evaluation

Output

Artifact Review Agenda and Minutes

Test Cases/Test Scripts Checklist (Review Findings Summary included)

Updated Test Cases/Test Scripts

Updated Test Evaluation (Test Case/Test Script Approvals)

Associated Artifacts

Artifact Review Agenda and Minutes Template

Test Evaluation Template

Test Case Test Scripts

Responsible Role

Software Quality Assurance Analyst

Accountable Role

Project Manager

Consulted Role

Stakeholder(s)

Informed Role

None Listed

Tools and Websites

Rational Quality Manager (Quality Management)

Rational Team Concert (Change/Configuration Management)

Standards

Digital Signature Guide

Quality Assurance Standard

Release Requirements User Stories Decision Tree

More Info

When the Test Cases/Test Scripts are updated, also update the Compliance User Stories contained in the project/product instance of the Rational Requirements Management repository.

When the Test Evaluation is updated, also update the Compliance User Stories contained in the project/product instance of the Rational Requirements Management repository.

Process Activity Name: TST-10 Related to Open Source?**Previous Activities**

TST-09 Conduct Formal Review of Test Cases/Test Scripts

Next Activities

If "Yes":

TST-11 Provide to Open Source

Or

If "No":

TST-12 Create Test Case Traceability

Description

The Project Manager determines if the project is related to Open Source requirements, if yes (YES) the Project Manager provides it to Open Source and if no (NO) the Project Manager asks the Test Analyst to create test case traceability.

Responsible Role

Project Manager

Accountable Role

Program Manager

Consulted Role

None Listed

Informed Role

None Listed

Process Activity Name: TST-11 Provide to Open Source**Previous Activities**

TST-10 Related to Open Source?

Next Activities

TST-12 Create Test Case Traceability

Description

The Project Manager submits a list of required software code, system builds, and artifacts as described in the Open

Source Submission Checklist to OI&T PD Open Source, Configuration & Tools Management Division via the mail group OIT Open Source Software Delivery or OSSOFT@va.gov.

Input

Software Code

System Builds

Product and Project Artifacts

Output

Open Source Submission Checklist

Associated Artifacts

None Listed

Responsible Role

Project Manager

Accountable Role

Program Manager

Consulted Role

Project Team

Informed Role

Stakeholder(s)

Tools and Websites

VA Open Source Site

Standards

Open Source Code in Flight Communications Strategy Guide

More Info

The Open Source Submission Checklist lists different artifacts and/or system builds/codes that are to be submitted at certain intervals or milestones to OIT PD Open Source, Configuration & Tools Management Division, as a product is being built. As project managers are developing their project plans, providing code and artifacts to OI&T PD Open Source, Configuration & Tools Management Division should be considered and incorporated into the plan both based on specific milestones and time intervals basis, as specified in the Open Source Submission Checklist.

Access the OI&T Open Source Software Delivery email group at OSSOFT@va.gov.

Process Activity Name: TST-12 Create Test Case Traceability

Previous Activities

TST-10 Related to Open Source?

Or

TST-11 Provide to Open Source

Next Activities

TST-13 Assessment By VA SQA?

Description

The Test Analyst ensures test case traceability by linking the test cases/test scripts to requirements in order to ensure accurate traceability.

Input

Business Epics

Business Sub-Epics

Business User Stories

Compliance Epics

Compliance Sub-Epics

Compliance User Stories

Test Cases/Test Scripts

Output

Updated Rational Requirements DOORS Next Generation Project Instance

Associated Artifacts

None Listed

Responsible Role

Test Analyst

Accountable Role

Project Manager

Consulted Role

None Listed

Informed Role

Stakeholder(s)

Tools and Websites

Rational Quality Manager (Quality Management)

Rational Requirements DOORS Next Generation

Standards

None Listed

More Info

None Listed

Process Activity Name: TST-13 Assessment By VA SQA?**Previous Activities**

TST-12 Create Test Case Traceability

Next Activities

If "Yes":

TST-14 Prepare for VA SQA Assessments

Or

If "No":

Process Ends

Description

The Project Manager determines if a Software Quality Assurance assessment is required. If yes (YES) the team prepares for VA SQA Assessments and if no (NO) the process ends.

Responsible Role

Project Manager

Accountable Role

Program Manager

Consulted Role

None Listed

Informed Role

None Listed

Process Activity Name: TST-14 Prepare for VA SQA Assessments**Previous Activities**

TST-13 Assessment By VA SQA?

Next Activities

Process Ends

Description

The Project Manager prepares the VA SQA Assessment package and forwards the package to the VA Software Quality Assurance Analyst to conduct an assessment.

Input

Business Epics

Business Sub-Epics

Business User Stories

Compliance Epics

Compliance Sub-Epics

Compliance User Stories

Master Test Plan

Project Management Plan

Test Cases/Scripts

Traceability

Output

VA SQA Assessment Package

Associated Artifacts

None Listed

Responsible Role

Software Quality Assurance Analyst

Accountable Role

Project Manager

Consulted Role

None Listed

Informed Role

Stakeholder(s); Project Team

Tools and Websites

None Listed

Standards

Release Requirements User Stories Decision Tree

More Info

When the VA SQA Assessment Package is updated, also update the Compliance User Stories contained in the project/product instance of the Rational Requirements Management repository.

END OF PROCESS