05/29/02

David Capocci, CQA, CSTE Sr. QA/QC Consultant SAFECO

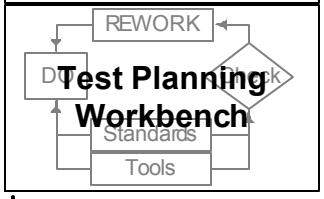
SAFECO

Validation Activities

Focus: Defect Detection

Quality Control

Plan, Gather, Assess

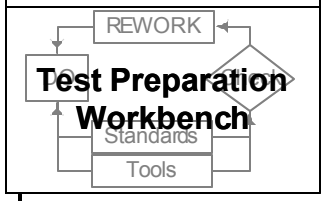


Test Plan -
- What is the QC process for this project?
- What will the deliverables be from testing?
- Estimations & Milestones
- What types of testing will be done? (i.e. function-based, integration, systems-level)
- What is the strategy/ approach for each of the areas of the QC process?

Test Requirements Hierarchy -
- Gathering all info to generate Test Requirements
- Organized in a measurable format
- Sources identified
- Test Coverage established
- Verified & Signed off by Project Team

Risk Analysis (on Test Requirements) -
- Identifying risk factors
- Probability of faults
- Consequence of failures
-Assessed as part of the Test Requirements Hierarchy

Prepare



Test Requirements/ Test Case Traceability Matrix -
- Make Test Coverage visible
- Linking the test cases back to the test requirements they are covering
- Assists in test case design status reporting

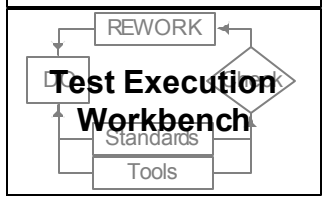
Test Environment Data issues -
- Identify sources for data
- Identify strategies for Gernerating & Maintaining data

Test Environment Architecture issues -
- Managing databases
- Designing, Procuring, Installing, Administering
- Configuring: processing schedules, communications, hardware
- Consideration of interface with automated tools.

Test Environment Training issues -
- Identify subject matter experts
- Lining up training

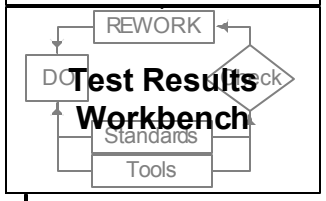
Test Case Design-
- Test Design Specs, or what to track
- Black & White box techniques
- Case Scenarios
- Mapping out data & workflows
-Create reference sheets

Execute



Running the Test -
- Piloting automation
- Recording raw/actual results
- Updating test cases

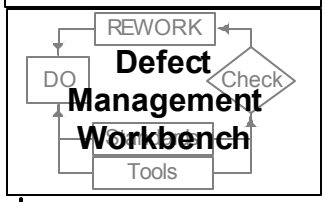
Review & Report



Reviewing Test Results-
- Comparing Actual against Expected Results
- Measuring "Passed" Test Coverage
- Identifying Defects
- Maintaining Test cases and automation

Reporting Test Status-
- Use of measurements within metrics
- Plotting planned/actual/ executed tests against schedule
- Extrapolating Trends
- Reporting Test Coverage (Test Requirements)
- Reporting Test Stability (Defects)
- Assessing schedule impacts, risks, and maintenance costs

Track



Defect Audit Trail-
- Tracking status of a defect throughout its life cycle (New, Assigned, Postponed, Investigated, Resolved, Validated, Failed, or Closed)
- Clearly established roles for who can alter a defect's status
- Traceability of a defect back to the gerenating test case and covered test requirement

Defect Tracking Standards-
- Defect Type Category or problem type classification
- Area of problem occurence
- Severity: impact on the system
- Priority: order in which to address
- Persons assigned
- Test case / Test Requirement
- Estimated/Actual hours

Defect Summary Reporting-
-DEFECTS BY PRIORITY REPORT: defect numbers tallied by Priority
-DEFECTS BY SEVERITY: defect numbers tallied by Severity
-MEAN TIME TO RESOLVE: The average time between discovery of a defect and its resolution to be incorporated into a new build or fix
-MEAN TIME TO CLOSE: The average time between discovery of a defect and its close after retesting.