Test Monitoring and Control

The purpose of **test monitoring**: to <u>gather information</u> and <u>provide feedback</u> and visibility about test activities. Information may be collected manually or automatically and should be used to <u>assess test progress</u>, to measure if the test exit criteria or the testing tasks are satisfied (meeting the targets for coverage of product risks, requirements, or acceptance criteria).

Test control describes any <u>guiding or corrective actions</u> taken as a result of information and metrics gathered and reported. Actions <u>may cover any test activity</u> and <u>may affect any other software lifecycle activity</u>.

Metrics Used in Testing

Metrics are collected during or at the end of test activities to assess:

- progress against the planned schedule and budget

- current quality of the test object

- adequacy of the test approach

- effectiveness of the test activities with respect to the objectives

Common test metrics include:

- % of planned work done in test case preparation / test cases implemented

- % of planned work done in test environment preparation

- test case execution (number of test cases run/not run, test cases passed/failed, test conditions passed/failed)

- defect information (defect density, defect found and fixed, failure rate, confirmation test results)

- test coverage of requirements, user stories, acceptance criteria, risks, or code

- task completion, resource allocation and usage, and effort

- cost of testing, including the cost compared to the benefit of finding the next defect or the cost compared to the benefit of running the next test

Test Reports: Purposes, Contents, and Audiences

The <u>purpose</u> of test reporting: <u>to summarize and communicate test activity information</u>. Test progress reports are prepared during a test activity. Test summary reports are prepared at the end of test activity.

Test progress report <u>includes</u>:

- the status of the test activities and progress against the test plan

- factors impeding progress

- testing planned for the next reporting period

- the quality of the test object

Test summary report <u>includes</u>:

- summary of testing performed

- information on what occurred during a test period

- deviations from plan (in schedule, duration, or effort)

- status of testing and product quality with respect to the exit criteria

- factors blocking or continuing blocking progress

- metrics of defects, test cases, test coverage, activity progress, and resource consumption

- risk remaining

- reusable test work products produced

The <u>content</u> of test reports vary depending on the project, organization requirements, and the software development lifecycle.

Test reports should be tailored based on not only context of the project, but also on the report's <u>audience</u>. For instance, report for technical audience and test team includes detailed information on defect types and trends. Executive summary report is a high-level report that includes a status summary of defects by priority, budget, schedule, and test conditions passed/failed/not tested.