ISB 42303
Software Configuration Management

Status Accounting

Topic & Structure of the lesson

- **Introduction**
- **Status Accounting Information Gathering**
- **Status Accounting Database**
- **Importance of Status Accounting**
- **Status Accounting Reports**
- **Summary**

Learning outcomes

- At the end of this lecture you should be able to:

- Understand the need for configuration status accounting.

- Design CR and PR forms

- Explain the different types of reports used.

Introduction

- Configuration status accounting (CSA) is an element of configuration management that consists of the recording and reporting of information

- It is needed to effectively manage a software system and its characteristics.

- The aim of status accounting is to keep managers, users, developers, and other project stakeholders informed about the various configuration stages and their evolution.

- This implies three basic tasks: data capture, data recording, and report generation.

- CSA correlates, stores, maintains, and provides readily available views of this organized collection of information.

- CSA provides access to accurate, timely information about a product and its documentation throughout the product life cycle.

CSA involves the storage and maintenance of:

- Information about the configuration documentation (such as document identifiers and effective dates);

- Information about the product's configuration (such as part numbers or changes installed in a given unit);

- Information about the CM process (such as the status of change requests.)

- Information about the product's operational and maintenance documentation (such as the documents affected by each change and their update status);

A good status accounting system should be able to answer questions such as the following and many more:

- What is the status of an item?

- Has a particular CR been approved?

- What is its status of pending or open CRs and PRs?

- What items were affected by a particular CR?

- When was the CR approved and who approved it?

- Who performed the change for a particular CR and when was it completed? Who reviewed it? Who approved it?

- Which version of an item implements an approved CR?

- What CRs are assigned to whom?

- How many high-priority CRs are currently not implemented.

- What is different about a new version of a system?

- How many CRs are initiated each month and what is the approval rate?

- How many PRs are filed each month and what is the status of each of them?

- What are the major causes of the problems and defects?

Status Accounting Information Gathering

- Decisions on the information to be captured in the CSA system should be based on such factors as:-

- the nature of the product,

- the environment in which the product will be operated,

- the anticipated volume and complexity of change activity,

- and the information needs of the customer(s)

- The procedure of tracking the status of the CIs should be established early enough in the software development process to allow for data gathering.

Status Accounting Database

- The status accounting database is established to receive and process the data collected regarding the evolution of the various CIs of the product during the different phases of the software development life cycle.

- The amount of data collected and the level of detail will depend on :-

- the size,

- complexity,

- and nature of the project.

The following list gives the necessary information for a simple status accounting report:

- CI name and identification number;
- Name of the next higher level CI;
- Design start date;
- Design approval date and revision number;
- Coding start date;
- Coding finish date;

- Testing start date;

- Testing finish date;

- Build start and finish dates and revision number;

- System merge date;

- System delivery date and revision number;

- CR date, CR number, requestor's name;

- Change disposition date;

- Change incorporation date, implementer's name, and revision number;

- The database is the primary reference point for anything one may need to know or report about the project.

- The database thus should capture as much information as possible.

- If the database is made an integral part of the development environment, then the details necessary for effective status accounting can be captured automatically as and when it happens.

- This will greatly reduce the workload of the SCM team.

- The database should be secured and protected from tampering by authorized or unauthorized persons during the input of data, query, or generation of reports.

Importance of Status Accounting

- Status accounting is the information gathering and dissemination component of SCM.

- It is also used by management in decision making to monitor the progress of the project and can help identify problems before they become critical so that project management can take corrective actions.

- The information provided by the status accounting function helps project management identify problems, pinpoint the source of the problem, and take corrective action before the situation worsens.

- From the reports that are produced and by making ad hoc queries, project management can determine how the project is performing and compare the performance against the plan.

- The information provided by the status accounting function is useful in determining the performance characteristics of the project, such as:-

- number of change requests,

- approval rate,

- number of problem reports,

- average time for a change resolution,

- average implementation time,

- and cost of implementing a change

Status Accounting Reports

- Reported information can be used by various organizational and project elements, including the development team, the maintenance team, project management, and QA activities.

- Reporting can take the form of ad hoc queries to answer specific questions or the periodic production of pre designed reports.

The factors that should be considered while designing the reporting requirements and reports of a system include these:

- Audience for the report;

- Information contained in each report;

- Need for a routine report or need on an ad hoc basis;

- Frequency of the report;

- Distribution list.

Some of the most common routine reports.

- Change Log
- Progress Report
- CI Status Report
- Transaction Log

Change Log

- The change log should contain all information about the CRs in the system.

- The usual distribution frequency is monthly.

- This report should contain information such as change request number, status, originator's name, impacted items, origination date, description of change, and implementer's name.

Progress Report

- The progress report is a summary of development progress since the last report was issued and is used primarily by management to monitor the progress of the project.

- This report should include the reporting period (from and to dates), task ID, a brief description of the work performed during the period on the task, and status of the task (complete, percentage completed).

CI Status Report

- This report is prepared to summarize the status of all CIs in the system and should include information such as a list of the CIs, description, and location of the CIs (the controlled library in which they are stored).

- The CI description should include the name, version number, and details of dependent items.

Transaction Log

- This log contains the transactions that have happened to items, recorded in chronological order.

- The log should contain details such as transaction number, date, originator, nature of the entry, affected items, activity (e.g., change request, CCB approval, analysis, problem report), description, participants, impacted items, and remarks.

- **The objective of the transaction log is to find out what happened during a specific period.**

Some examples of ad hoc reports are as follows:

- List of all CRs that have been approved but not implemented;

- List of all CRs initiated in the last four months;

- List of how many people are working on a particular CR;

- Record of how much time was needed to implement a particular change;

- Number and details of CRs that are pending.

Summary

- Status accounting is the recording activity and serves as a follow-up to the results of the SCM activities of configuration identification and change control.