Software Configuration Management Process
IEEE 1074 Standard for Life Cycle Processes

Process Guide

Prepared by:
Warren Mosely
Texas Instruments
Resident Affiliate at the Software Engineering Institute
Carnegie Mellon University

Software Configuration Management Process

Introduction	The Software Configuration Management Process identifies the items in a software development project and provides both for control of the identified items and for the generation of status reports for management visibility and accountability throughout the Software Life Cycle (SLC).
Items to be Managed	Items to be managed are those defined in a Software Configuration Management Plan (SCMP).
	Examples to be considered for inclusion in the SCMP are code, documentation, plans, and specifications.
	Configuration audits, if required by the project, should be addressed in the Verification and Validation Process.
Process Activities	This process is composed of the following activities:

- Plan Configuration Management
- Develop Configuration Management Scheme
- Perform Configuration Control
- Perform Status Accounting

Activity: Planning Configuration Management	This activity plans and documents specific software configuration management organizations and responsibilities, procedures, tools, techniques, and methodologies in an SCMP. The SCMP shall also describe how and when such procedures are performed.
	Overall software configuration management objectives are derived using internal guidelines as well as contractual requirements from the Software Project Management Plan (SPMP).
	Prior to distribution of the plan, the following processes are invoked:

- Verification and Validation Process
- Documentation Development

Activity: Developing Configuration Management Scheme	This activity defines a Configuration Identification Scheme (CIS) which includes project baseline identification, titling, labeling and numbering to reflect the structure of the product for tracking.
	The SCMP identifies those configuration items to be addressed by the Configuration Identification Scheme. The identification scheme shall support the software throughout the SLC, and shall be documented in the SCMP.
	A series of baselines shall be established as the product moves from initial area to the maintenance phase as required by the SCMP. A baseline shall collect the items specified in the SCMP and capture their status at a specified time.

Software Configuration Management Process, continued

Activity: Performing Configuration Control	This activity controls the configuration of products. Changes to controlled products shall be tracked to assure that the configuration of the product is known at all times. Each baseline shall be established and all subsequent changes tracked relative to established baselines. All items specified in the SCMP are subject to this change management discipline. The history of change status to each baseline configuration shall be maintained throughout the SLC for status accounting. Changes to Controlled items shall be made only with approval of the authorized designee. This may result in establishment of a formal software configuration control board. Controlled Items shall be maintained in a software library.
Activity: Performing Status Accounting	Status Reports may include such data as number of changes to date for the project, number of releases, and the latest version and revision identifiers. Prior to distribution of the plan, the following processes are invoked: - Verification and Validation Process - Documentation Development

Software Configuration Management Process
IEEE 1074 Standard for Life Cycle Processes

Software Project Management System (SPMS) Model

Prepared by:
Warren Mosely
Texas Instruments
Resident Affiliate at the Software Engineering Institute
Carnegie Mellon University