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(Revision of
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IEEE Standard for Software Configuration Management Plans

Sponsor

Software Engineering Standards Committee of the IEEE Computer Society

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Abstract: The minimum required contents of a Software Configuration Management Plan (SCMP) are established, and the specific activities to be addressed and their requirements for any portion of a software product's life cycle are defined.
Keywords: configuration control board, configuration items, software configuration management, software configuration management activities

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Introduction

(This introduction is not part of IEEE Std 828-1998, IEEE Standard for Software Configuration Management Plans.)

This standard is concerned with the activity of planning for software configuration management (SCM). SCM activities, whether planned or not, are performed on all software development projects; planning makes these activities more effective. Good planning results in a document that captures the planning information, makes the information the property of the project, communicates to all who are affected, and provides a basis for ongoing planning.

SCM is a formal engineering discipline that, as part of overall system configuration management, provides the methods and tools to identify and control the software throughout its development and use. SCM activities include the identification and establishment of baselines; the review, approval, and control of changes; the tracking and reporting of such changes; the audits and reviews of the evolving software product; and the control of interface documentation and project supplier SCM.

SCM is the means through which the integrity and traceability of the software system are recorded, communicated, and controlled during both development and maintenance. SCM also supports reduction of overall software life cycle cost by providing a foundation for product and project measurement.

SCM constitutes good engineering practice for all software projects, whether phased development, rapid prototyping, or ongoing maintenance. It enhances the reliability and quality of software by

- — Providing a structure for identifying and controlling documentation, code, interfaces, and databases to support all life cycle phases
- — Supporting a chosen development/maintenance methodology that fits the requirements, standards, policies, organization, and management philosophy
- — Producing management and product information concerning the status of baselines, change control, tests, releases, audits, etc.

The readers of this document are referred to Annex A for guidelines for using this document to meet the requirements of IEEE/EIA 12207.1-1997, IEEE/EIA Guide for Information Technology—Software life cycle processes—Life cycle data.

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IEEE Standard for Software Configuration Management Plans

1. Overview

1.1 Scope

This standard establishes the minimum required contents of a Software Configuration Management (SCM) Plan (the Plan). It is supplemented by IEEE Std 1042-1987,[1] which provides approaches to good software configuration management planning. This standard applies to the entire life cycle of critical software; e.g., where failure would impact safety or cause large financial or social losses. It also applies to noncritical software and to software already developed. The application of this standard is not restricted to any form, class, or type of software.

The Plan documents what SCM activities are to be done, how they are to be done, who is responsible for doing specific activities, when they are to happen, and what resources are required. It can address SCM activities over any portion of a software product's life cycle.

The content of the Plan is identified in Clause 4 of this standard. The required information is indicated by the words "shall" and "required." Additional optional information is also identified as appropriate. The user of this standard, however, is expected to expand and supplement the minimum requirements as necessary for the development environment, specific industry, organization, and project. Tailoring of a plan in conformance with this standard is described in Clause 5.

The primary users of this standard are assumed to be those planning SCM activities or performing SCM audits.

In considering adoption of this standard, regulatory bodies should be aware that specific application of this standard may already be covered by one or more IEEE standards documents relating to quality assurance, definitions, or other matters (see IEEE Std 730-1998). It is not the purpose of this standard to supersede, revise, or amend existing standards directed to specific industries or applications.

[1]Information on references can be found in Clause 2.

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