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IEEE Standard for Configuration Management in Systems and Software Engineering

IEEE Computer Society

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Software & Systems Engineering Standards Committee

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IEEE Std 828™-2012
(Revision of
IEEE Std 828-2005)

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Approved 6 February 2012

IEEE-SA Standards Board

Abstract: This standard establishes the minimum requirements for processes for Configuration Management (CM) in systems and software engineering. The application of this standard applies to any form, class, or type of software or system. This revision of the standard expands the previous version to explain CM, including identifying and acquiring configuration items, controlling changes, reporting the status of configuration items, as well as software builds and release engineering. Its predecessor defined only the contents of a software configuration management plan. This standard addresses what CM activities are to be done, when they are to happen in the life cycle, and what planning and resources are required. It also describes the content areas for a CM Plan. The standard supports ISO/IEC/IEEE 12207:2008 and ISO/IEC/IEEE 15288:2008 and adheres to the terminology in ISO/IEC/IEEE Std 24765 and the information item requirements of IEEE Std 15939™.
Keywords: change control, configuration accounting, configuration audit, configuration item, IEEE 828, release engineering, software builds, software configuration management, system configuration management

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Introduction

This introduction is not part of IEEE Std 828-2012, IEEE Standard for Configuration Management in Systems and Software Engineering.

This revision to IEEE Std 828™-2005 replaces the earlier focus on the contents of a Software Configuration Management Plan (SCMP) with a focus on the processes that comprise System and Software Configuration Management. The standard for the SCMP is now included as a normative Annex.

Configuration Management in Systems and Software Engineering is a specialty discipline within the larger discipline of Configuration Management (CM). The purpose of Configuration Management is to:

a) Identify and document the functional and physical characteristics of any product, component, result, or service

b) Control any changes to such characteristics

c) Record and report each change and its implementation status

d) Support the audit of the products, results, services, or components to verify conformance to requirements

Configuration Management is essential to Systems Engineering and to Software Engineering.

CM establishes and protects the integrity of a product or product component throughout its lifespan, from determination of the intended users' needs and definition of product requirements through the processes of development, testing, and delivery of the product, as well as during its installation, operation, maintenance, and eventual retirement. In so doing, CM processes interface with all other processes involved in the product's life.

Annex A provides a condensed view of the purposes and outcomes of the lower level CM processes described in this standard.

Contents

IEEE Standard for Configuration Management in Systems and Software Engineering

1. Overview

1.1 Scope

This standard establishes the minimum requirements for Configuration Management (CM) in Systems and Software Engineering, without restriction to any form, class, or type.

1.2 Purpose

This standard describes CM processes to be established, how they are to be accomplished, who is responsible for doing specific activities, when they are to happen, and what specific resources are required. It addresses CM activities over a product's life cycle. This standard is consistent with IEEE's Software Engineering Body of Knowledge (SWEBOK), ISO/IEC/IEEE 12207:2008 and ISO/IEC/IEEE 15288:2008.