

Indian Standard

SYSTEMS AND SOFTWARE ENGINEERING — SOFTWARE LIFE CYCLE PROCESSES

1 Overview

1.1 Scope

This International Standard establishes a common framework for software life cycle processes, with well-defined terminology, that can be referenced by the software industry. It contains processes, activities, and tasks that are to be applied during the acquisition of a software product or service and during the supply, development, operation, maintenance and disposal of software products. Software includes the software portion of firmware.

This International Standard applies to the acquisition of systems and software products and services, to the supply, development, operation, maintenance, and disposal of software products and the software portion of a system, whether performed internally or externally to an organization. Those aspects of system definition needed to provide the context for software products and services are included.

This International Standard also provides a process that can be employed for defining, controlling, and improving software life cycle processes.

The processes, activities and tasks of this International Standard—either alone or in conjunction with ISO/IEC 15288—may also be applied during the acquisition of a system that contains software.

1.2 Purpose

The purpose of this International Standard is to provide a defined set of processes to facilitate communication among acquirers, suppliers and other stakeholders in the life cycle of a software product.

This International Standard is written for acquirers of systems and software products and services and for suppliers, developers, operators, maintainers, managers, quality assurance managers, and users of software products.

This International Standard is intended for use in a two-party situation and may be equally applied where the two parties are from the same organization. The situation may range from an informal agreement up to a legally binding contract. The International Standard may be used by a single party through a self-imposed set of processes. This clause does not prevent the use of ISO/IEC 12207 by suppliers or developers of off-the-shelf software.

1.3 Limitations

This International Standard does not detail the life cycle processes in terms of methods or procedures required to meet the requirements and outcomes of a process.

This International Standard does not detail documentation in terms of name, format, explicit content and recording media. The International Standard may require development of documents of similar class or type; various plans are an example. The International Standard, however, does not imply that such documents be developed or packaged separately or combined in some fashion. These decisions are left to the user of the International Standard.

NOTE ISO/IEC 15289 addresses the content for life cycle process information items (documentation).

This International Standard does not prescribe a specific system or software life cycle model, development methodology, method, model or technique. The parties of the International Standard are responsible for

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selecting a life cycle model for the software project and mapping the processes, activities, and tasks in this International Standard onto that model. The parties are also responsible for selecting and applying the software development methods and for performing the activities and tasks suitable for the software project.

This International Standard is not intended to be in conflict with any organization's policies, procedures, and standards or with any national laws and regulations. Any such conflict should be resolved before using this International Standard.

2 Conformance

2.1 Intended usage

The requirements in this International Standard are contained in Clauses 6 and 7 and Annex A. This International Standard provides requirements for a number of processes suitable for usage during the life cycle of a software product or service. It is recognized that particular projects or organizations may not need to use all of the processes provided by this International Standard. Therefore, implementation of this International Standard typically involves selecting a set of processes suitable to the organization or project. There are two ways that an implementation can be claimed to conform with the provisions of this International Standard. Any claim of conformance is cited in only one of the two forms below.

2.2 Full conformance

A claim of full conformance declares the set of processes for which conformance is claimed. Full conformance is achieved by demonstrating that all of the requirements of the declared set of processes have been satisfied using the outcomes as evidence.

2.3 Tailored conformance

When this International Standard is used as a basis for establishing a set of processes that do not qualify for full conformance, the clauses of this International Standard are selected or modified in accordance with the tailoring process prescribed in Annex A. The tailored text, for which tailored conformance is claimed, is declared. Tailored conformance is achieved by demonstrating that requirements for the processes, as tailored, have been satisfied using the outcomes as evidence.

NOTE 1 When this International Standard is used to help develop an agreement between an acquirer and a supplier, clauses of this International Standard can be selected for incorporation in the agreement with or without modification. In this case, it is more appropriate for the acquirer and supplier to claim compliance with the agreement than conformance with this International Standard.

NOTE 2 Any organization (for example, national, industrial association, company) imposing this International Standard, as a condition of trade, should specify and make public the minimum set of required processes, activities, and tasks, which constitute suppliers' conformance with this International Standard.

NOTE 3 Requirements of this International Standard are marked by the use of the verb "shall." Recommendations are marked by the use of the verb "should". Permissions are marked by the use of the verb "may".

3 Normative references

No normative references are given in this document.