AS/NZS ISO/IEC 15288:2013
ISO/IEC 15288:2008

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Australian/New Zealand Standard™

Systems and software engineering—System life cycle processes

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee IT-015, Software and System Engineering. It was approved on behalf of the Council of Standards Australia on 7 November 2013 and on behalf of the Council of Standards New Zealand on 31 October 2013.
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

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Australian/New Zealand Standard™

Systems and software engineering—System life cycle processes

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-015, Software and System Engineering.

The objective of this Standard is to create a common framework to improve communication and cooperation among the parties that create, utilize and manage modern systems in order that they can work in an integrated, coherent fashion.

This Standard is identical with, and has been reproduced from ISO/IEC 15288:2008, *Systems and software engineering—System life cycle processes.*

As this Standard is reproduced from an International Standard, the following applies:

(a) In the source text ISO/IEC 15288 should read this Australian/New Zealand Standard.

(b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
ISO/IEC 12207	Systems and software engineering—Software life cycle processes	AS/NZS ISO/IEC 12207	Systems and software engineering—Software life cycle processes

Only normative references that have been adopted as Australian or Australian/New Zealand Standard have been listed.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

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INTRODUCTION

The complexity of man-made systems has increased to an unprecedented level. This has led to new opportunities, but also to increased challenges for the organizations that create and utilize systems. These challenges exist throughout the life cycle of a system and at all levels of architectural detail. They arise from several sources:

— There are inherent differences among the hardware, software and human elements from which systems are constructed.

— Almost every present-day system contains, and/or is modelled and supported by computer-based technology.

— There is a lack of harmonization and integration of the involved disciplines, including science, engineering, management and finance.

There is therefore a need for a common framework to improve communication and cooperation among the parties that create, utilize and manage modern systems in order that they can work in an integrated, coherent fashion.

This International Standard provides a common process framework covering the life cycle of man-made systems. This life cycle spans the conception of ideas through to the retirement of a system. It provides the processes for acquiring and supplying systems. In addition, this framework provides for the assessment and improvement of the life cycle processes.

This revised International Standard is an initial step in the SC7 harmonization strategy to achieve a fully integrated suite of system and software life cycle processes and guidance for their application. This revision aligns with the revision to ISO/IEC 12207 within the context of system life cycle processes and applies SC7 guidelines for process definition to support consistency, to improve usability and to align structure, terms, and corresponding organizational and project processes.

The processes in this International Standard form a comprehensive set from which an organization can construct system life cycle models appropriate to its products and services. An organization, depending on its purpose, can select and apply an appropriate subset to fulfil that purpose.

This International Standard can be used in one or more of the following modes:

— By an organization — to help establish an environment of desired processes. These processes can be supported by an infrastructure of methods, procedures, techniques, tools and trained personnel. The organization may then employ this environment to perform and manage its projects and progress systems through their life cycle stages. In this mode this International Standard is used to assess conformance of a declared, established environment to its provisions.

— By a project — to help select, structure and employ the elements of an established environment to provide products and services. In this mode this International Standard is used in the assessment of conformance of the project to the declared and established environment.

— By an acquirer and a supplier — to help develop an agreement concerning processes and activities. Via the agreement, the processes and activities in this International Standard are selected, negotiated, agreed to and performed. In this mode this International Standard is used for guidance in developing the agreement.

— By process assessors — to serve as a process reference model for use in the performance of process assessments that may be used to support organizational process improvement.

This International Standard contains requirements in two clauses: Clause 6, that defines the requirements for the system life cycle processes and Annex A that provides requirements for tailoring of this International Standard. There are also several informative annexes contained in this International Standard:

— Annex B provides information about use of the system life cycle processes as a process reference model to support process assessment.

— Annex C provides a description of the process constructs used in this standard.

— Annex D provides an example of a process view for Specialty Engineering, intended to illustrate how a project might assemble processes, activities and tasks of ISO/IEC 15288 to provide focused attention to the achievement of product characteristics that have been selected as being of special interest.

— Annex E describes the alignment of the processes of ISO/IEC 15288 and ISO/IEC 12207.

— Annex F describes relationships to other IEEE standards.

NOTE A future Technical Report (ISO/IEC TR 24748) will describe the relations between this International Standard and ISO/IEC 12207:2008.

AUSTRALIAN/NEW ZEALAND STANDARD

Systems and software engineering—System life cycle processes

1 Overview

1.1 Scope

This International Standard establishes a common framework for describing the life cycle of systems created by humans. It defines a set of processes and associated terminology. These processes can be applied at any level in the hierarchy of a system's structure. Selected sets of these processes can be applied throughout the life cycle for managing and performing the stages of a system's life cycle. This is accomplished through the involvement of all interested parties, with the ultimate goal of achieving customer satisfaction.

This International Standard also provides processes that support the definition, control and improvement of the life cycle processes used within an organization or a project. Organizations and projects can use these life cycle processes when acquiring and supplying systems.

This International Standard concerns those systems that are man-made and may be configured with one or more of the following: hardware, software, data, humans, processes (e.g., processes for providing service to users), procedures (e.g., operator instructions), facilities, materials and naturally occurring entities.

When a system element is software, the software life cycle processes documented in ISO/IEC 12207:2008 may be used to implement that system element. The two standards are harmonized for concurrent use on a single project or in a single organization. When the system element is hardware, refer to other International Standards outside the scope of SC7.

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 system.

This International Standard applies to organizations in their roles as both acquirers and suppliers. It can be used by a single organization in a self-imposed mode or in a multi-party situation. Parties can be from the same organization or from different organizations and the situation can range from an informal agreement to a formal contract.

The processes in this International Standard can be used as a basis for establishing business environments, e.g., methods, procedures, techniques, tools and trained personnel. Annex A provides normative direction regarding the tailoring of these system life cycle processes.

1.3 Field of application

This International Standard applies to the full life cycle of systems, including conception, development, production, utilization, support and retirement of systems, and to the acquisition and supply of systems, whether performed internally or externally to an organization. The life cycle processes of this International Standard can be applied concurrently, iteratively and recursively to a system and its elements.

There is a wide variety of systems in terms of their purpose, domain of application, complexity, size, novelty, adaptability, quantities, locations, life spans and evolution. This International Standard describes the processes that comprise the life cycle of any man-made system. It therefore applies to one-of-a-kind systems, mass-produced systems and customized, adaptable systems. It also applies to a complete stand-alone system and to systems that are embedded and integrated into larger more complex and complete systems.