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**Systems and software engineering —
Life cycle management —**

Part 1:
Guidelines for life cycle management

*Ingénierie des systèmes et du logiciel — Gestion du cycle de vie —
Partie 1: Lignes directrices pour la gestion du cycle de vie*



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Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Life cycle-related concepts	10
4.1 General	10
4.2 System concepts	11
4.2.1 General	11
4.2.2 Systems	11
4.2.3 System structure	12
4.2.4 Enabling systems	13
4.3 Life cycle concepts	14
4.3.1 System life cycle model	14
4.3.2 System life cycle stages	16
4.3.3 Stages in a system-of-interest and its enabling systems	17
5 Life cycle stages	18
5.1 General	18
5.2 Concept Stage	19
5.2.1 Overview	19
5.2.2 Purpose	19
5.2.3 Outcomes	19
5.3 Development Stage	20
5.3.1 Overview	20
5.3.2 Purpose	20
5.3.3 Outcomes	20
5.4 Production Stage	21
5.4.1 Overview	21
5.4.2 Purpose	21
5.4.3 Outcomes	21
5.5 Utilization Stage	22
5.5.1 Overview	22
5.5.2 Purpose	22
5.5.3 Outcomes	22
5.6 Support Stage	23
5.6.1 Overview	23
5.6.2 Purpose	23
5.6.3 Outcomes	23
5.7 Retirement Stage	24
5.7.1 Overview	24
5.7.2 Purpose	24
5.7.3 Outcomes	24
6 Life cycle adaptation	25
6.1 General	25
6.2 Adaptation sequence	25
6.2.1 General	25
6.2.2 Identify the project environment and characteristics	25
6.2.3 Solicit inputs	25
6.2.4 Select the appropriate standards	26
6.2.5 Select development strategy	26
6.2.6 Select stages and processes	26
6.2.7 Document the adaptation decisions and rationale	27

6.3	Life cycle model adaptation guidance.....	27
6.3.1	General.....	27
6.3.2	Scope adaptation.....	27
6.3.3	Stage adaptation.....	28
6.3.4	Life cycle model adaptation for domains, disciplines and specialties.....	28
6.4	Adapting evaluation-related activities.....	31
7	Relationship with detailed process standards.....	32
Annex A	(informative) Process concepts.....	34
Annex B	(informative) Organizational concepts.....	46
Annex C	(informative) Project concepts.....	48
Annex D	(informative) Process views.....	53
Annex E	(informative) Guidance on development strategies and build planning.....	63
Annex F	(informative) Candidate joint management reviews.....	66
Annex G	(informative) Problem reporting capability.....	69
	Bibliography.....	71
	IEEE notices and abstract.....	73

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the rules given in the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology, SC 7, Software and systems engineering* in cooperation with the Systems and Software Engineering Standards Committee of the IEEE Computer Society, under the Partner Standards Development Organization cooperation agreement between ISO and IEEE.

This first edition of ISO/IEC/IEEE 24748-1 cancels and replaces ISO/IEC TS 24748-1:2016, which has been technically revised to include movement of material from the new edition of ISO/IEC/IEEE 24748-2.

A list of all parts in the ISO/IEC/IEEE 24748 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The purpose of this document is to facilitate the joint usage of the process content of the latest revisions of both ISO/IEC/IEEE 15288 and ISO/IEC/IEEE 12207, by providing unified and consolidated guidance on life cycle management of systems and software. This is to help ensure consistency in system concepts and life cycle concepts, models, stages, processes, process application, key points of view, adaptation and use in various domains as the two International Standards are used in combination. That will in turn help a project team design a life cycle model for managing the progress of their project. Hence, ISO/IEC/IEEE 15288 and ISO/IEC/IEEE 12207 are the documents that apply the concepts found in this document to specific processes.

NOTE ISO/IEC/IEEE 16326 also applies the concepts found in this document, in the process context for project management.

This document will also aid in identifying and planning use of life cycle processes described in ISO/IEC/IEEE 15288 and ISO/IEC/IEEE 12207 that will enable the project to be completed successfully, meeting its objectives/requirements for each stage and for the overall project.

Besides the above, there is also increasing recognition of the importance of helping to ensure that all life cycle stages and all aspects within each stage are supported with thorough guidance to enable alignment with any process documents that might subsequently be created that focus on areas besides systems and software, including hardware, humans, data, processes (e.g. review process), procedures (e.g. operator instructions), facilities and naturally occurring entities (e.g. water, organisms, minerals).

By addressing these needs specifically in this document, the users of the process-focused ISO/IEC/IEEE 12207 and ISO/IEC/IEEE 15288 will not only benefit from having one document complementarily addressing the aspect of product or service life cycle: they will also benefit from a framework that links life cycle management aspects to more than just the systems or software aspects of products or services.

ISO/IEC/IEEE 15288 and ISO/IEC/IEEE 12207 also have published guidelines (ISO/IEC/IEEE 24748-2 and ISO/IEC TR 24748-3), respectively, to support use of the two revised International Standards individually.

Systems and software engineering — Life cycle management —

Part 1: Guidelines for life cycle management

1 Scope

This document provides guidelines for the life cycle management of systems and software, complementing the processes described in ISO/IEC/IEEE 15288 and ISO/IEC/IEEE 12207. This document:

- addresses systems concepts and life cycle concepts, models, stages, processes, process application, key points of view, adaptation and use in various domains and by various disciplines;
- establishes a common framework for describing life cycles, including their individual stages, for the management of projects to provide, or acquire either products or services;
- defines the concept and terminology of a life cycle;
- supports the use of the life cycle processes within an organization or a project. Organizations and projects can use these life cycle concepts when acquiring and supplying either products or services;
- provides guidance on adapting a life cycle model and the content associated with a life cycle or a part of a life cycle;
- describes the relationship between life cycles and their use in applying the processes in ISO/IEC/IEEE 15288 (systems aspects) and ISO/IEC/IEEE 12207 (software aspects);
- shows the relationships of life cycle concepts to the hardware, human, services, process, procedure, facility and naturally occurring entity aspects of projects; and
- describes how its concepts relate to detailed process standards, for example, in the areas of measurement, project management and risk management.

2 Normative references

There are no normative references in this document.