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# Systems and software engineering — Life cycle management —

## Part 1:
## Guide for life cycle management

*Ingénierie des systèmes et du logiciel — Gestion du cycle de vie —*

*Partie 1: Guide de gestion du cycle de vie*

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# Contents

Page

 

# 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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

In exceptional circumstances, the joint technical committee may propose the publication of a Technical Report of one of the following types:

— type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;

— type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;

— type 3, when the joint technical committee has collected data of a different kind from that which is normally published as an International Standard (“state of the art”, for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC TR 24748-1, which is a Technical Report of type 3, was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*.

ISO/IEC TR 24748 consists of the following parts, under the general title *Systems and software engineering — Life cycle management*:

*Part 1: Guide for life cycle management*

Guides for the application of ISO/IEC 15288 (systems life cycle processes) and ISO/IEC 12207 (software life cycle processes) will form the subjects of future parts 2 and 3, respectively.

# Introduction

ISO/IEC 15288, *Systems and software engineering — System life cycle processes*, and ISO/IEC 12207, *Systems and software engineering — Software life cycle processes*, each have published guides (ISO/IEC TR 19760 and ISO/IEC TR 15271, respectively) for the use of each International Standard individually. The purpose of this Technical Report is to facilitate the joint usage of the process content of the latest revisions of ISO/IEC 15288 and ISO/IEC 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.

This Technical Report will also aid in identifying and planning use of life cycle processes described in ISO/IEC 15288 and ISO/IEC 12207 that will enable the project to be completed successfully, meeting its objectives/requirements for each stage and for the overall project. ISO/IEC TR 19760 and ISO/IEC TR 15271 will be replaced by ISO/IEC TR 24748-2 and ISO/IEC TR 24748-3, respectively, to support use of the two revised International Standards individually.

Besides the above, there is also increasing recognition of the importance of ensuring 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, 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 Technical Report, the users of the process-focused ISO/IEC 12207 and ISO/IEC 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.