

INTERNATIONAL  
STANDARD

ISO/IEC/  
IEEE  
15289

Fourth edition  
2019-07

---

---

## Systems and software engineering — Content of life-cycle information items (documentation)

*Ingénierie des systèmes et du logiciel — Contenu des articles  
d'information du cycle de vie (documentation)*



## **COPYRIGHT PROTECTED DOCUMENT**

© ISO/IEC 2019

© IEEE 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

Published in Switzerland

Institute of Electrical and Electronics Engineers, Inc  
3 Park Avenue, New York  
NY 10016-5997, USA

stds.ipr@ieee.org  
www.ieee.org

# Contents

Page

<b>Foreword</b>	<b>vi</b>
<b>Introduction</b>	<b>vii</b>
<b>1 Scope</b>	<b>1</b>
<b>2 Normative references</b>	<b>2</b>
<b>3 Terms, definitions and abbreviated terms</b>	<b>2</b>
3.1 Terms and definitions	2
3.2 Abbreviated terms	5
<b>4 Applicability</b>	<b>5</b>
4.1 Purpose	5
4.2 Intended users of this document	6
4.3 Applicability to work efforts	6
4.4 Applicability to information item audiences	6
<b>5 Conformance</b>	<b>7</b>
5.1 Definition of conformance	7
5.2 Conformance situations	7
5.3 Type of conformance	8
<b>6 Life-cycle data and information items</b>	<b>8</b>
6.1 Life-cycle data characteristics	8
6.2 Records compared to information items (documents)	8
6.3 Management of life-cycle data (records)	9
6.4 Management of information items (documents)	9
6.4.1 General	9
6.4.2 Developing the information management plan	10
6.4.3 Managing and controlling information items	10
<b>7 Generic types of information items</b>	<b>10</b>
7.1 Use of generic types	10
7.2 Description — Generic content	11
7.3 Plan — Generic content	11
7.4 Policy — Generic content	13
7.5 Procedure — Generic content	13
7.6 Report — Generic content	14
7.7 Request — Generic content	15
7.8 Specification — Generic content	16
<b>8 Mapping of information items to the life cycle processes</b>	<b>17</b>
8.1 The process model	17
8.2 Mapping Considerations	18
8.3 Mapping of information items to the system life cycle	18
8.4 Mapping of information items to the software life cycle	23
<b>9 Records</b>	<b>30</b>
9.1 General	30
9.2 Record — Generic content	31
9.3 Specific record contents	31
<b>10 Specific information item (document) contents</b>	<b>35</b>
10.1 General	35
10.2 Acceptance plan	36
10.3 Acceptance report	36
10.4 Acquisition plan	36
10.5 Capacity plan	37
10.6 Change request	37
10.7 Complaint procedure	38

10.8	Concept of operations.....	38
10.9	Configuration management plan.....	39
10.10	Configuration management procedure.....	39
10.11	Configuration status report.....	40
10.12	Contract.....	40
10.13	Customer satisfaction survey.....	41
10.14	Database design description.....	41
10.15	Design description.....	42
10.16	Development plan.....	43
10.17	Evaluation report.....	43
10.18	Implementation procedure.....	44
10.19	Improvement plan.....	44
10.20	Incident management procedure.....	45
10.21	Incident report.....	45
10.22	Information management plan.....	46
10.23	Information management procedure.....	46
10.24	Information security plan.....	47
10.25	Installation report.....	47
10.26	Integration and test report.....	48
10.27	Integration plan.....	48
10.28	Interface description.....	48
10.29	Life-cycle policy.....	49
10.30	Life-cycle procedure.....	49
10.31	Maintenance plan.....	49
10.32	Maintenance procedure.....	50
10.33	Measurement procedure.....	50
10.34	Monitoring and control report.....	50
10.35	Operational concept.....	50
10.36	Problem management procedure.....	51
10.37	Problem report.....	51
10.38	Process description.....	52
10.39	Process improvement report.....	52
10.40	Product need assessment.....	53
10.41	Progress report.....	53
10.42	Project management plan.....	53
10.43	Proposal.....	55
10.44	Quality management plan.....	55
10.45	Quality management policy.....	55
10.46	Quality management procedure.....	56
10.47	Release plan.....	56
10.48	Request for proposal (RFP).....	57
10.49	Resource request.....	57
10.50	Review minutes.....	57
10.51	Risk action request.....	58
10.52	Risk management plan.....	58
10.53	Service catalog.....	58
10.54	Service continuity and availability plan.....	58
10.55	Service level agreement (SLA).....	59
10.56	Service report.....	59
10.57	Supplier management procedure.....	60
10.58	System architecture description.....	60
10.59	System element description.....	61
10.60	System requirements specification.....	61
10.61	Test procedure.....	62
10.62	Test report.....	63
10.63	Training documentation.....	63
10.64	Training plan.....	63
10.65	Transition plan.....	63

10.66	Transition procedure .....	64
10.67	User documentation .....	64
10.68	User notification .....	65
10.69	Validation plan .....	65
10.70	Validation procedure .....	65
10.71	Validation report .....	66
10.72	Verification plan .....	66
10.73	Verification procedure .....	67
10.74	Verification report .....	67
<b>Annex A</b>	<b>(informative) Procedure for identifying information items and their contents .....</b>	<b>68</b>
<b>Annex B</b>	<b>(informative) Information items and records by source .....</b>	<b>69</b>
<b>Bibliography</b>	<b>.....</b>	<b>72</b>
<b>IEEE notices and abstract</b>	<b>.....</b>	<b>74</b>

## 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](http://www.iso.org/directives)).

IEEE Standards documents are developed within the IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Association (IEEE-SA) Standards Board. The IEEE develops its standards through a consensus development process, approved by the American National Standards Institute, which brings together volunteers representing varied viewpoints and interests to achieve the final product. Volunteers are not necessarily members of the Institute and serve without compensation. While the IEEE administers the process and establishes rules to promote fairness in the consensus development process, the IEEE does not independently evaluate, test, or verify the accuracy of any of the information contained in its standards.

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of 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 [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by the Joint Technical Committee ISO/IEC JTC 1, *Information Technology*, Subcommittee 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 fourth edition cancels and replaces the third edition (ISO/IEC/IEEE 15289:2017), which has been technically revised.

The main changes compared to the previous edition are as follows:

- made changes to reflect ISO/IEC/IEEE 12207:2017, which replaces ISO/IEC 12207:2008;
- removed references to ISO/IEC 20000-1:2011 and ISO/IEC 20000-2:2012, which are no longer within the scope of ISO/IEC JTC 1/SC 7 and have been superseded.

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

## Introduction

The purpose of this document is to provide requirements for identifying and planning the specific information items (information products) to be developed and revised during systems and software life cycles and service processes. This document specifies the purpose and content of all identified systems and software life-cycle information items, as well as information items for information technology service management. The information item contents are defined according to generic document types and the specific purpose of the document. Information items are combined or subdivided as needed for project or organizational purposes.

This document is based on the life-cycle processes specified in ISO/IEC/IEEE 12207:2017 and ISO/IEC/IEEE 15288:2015. ISO/IEC/IEEE 12207:2017 and ISO/IEC/IEEE 15288:2015 establish a common framework for system and software life-cycle processes. These standards define an identical process model for the process purposes and outcomes, though their tasks and activities differ. Their process reference model does not represent a particular process implementation approach, nor does it prescribe a system/software life-cycle model, methodology or technique. Their processes are grouped in four categories: agreement, organizational project-enabling, technical management and technical.

ISO/IEC/IEEE 12207:2017 and ISO/IEC/IEEE 15288:2015 establish a common Information Management process as part of a framework for systems and software life-cycle processes, and identify, recommend or require a number of information items (documentation). ISO/IEC/IEEE 12207:2017 does not always specify when software information items are to be prepared, nor does it identify information item contents. This document is intended to be used in this context. IEEE contributed IEEE 12207.1-1997<sup>1)</sup> as a source for the first edition of this document.

---

1) *Guide for Information Technology — Software Life Cycle Processes — Life Cycle Data.*

© ISO/IEC 2019 – All rights reserved

© IEEE 2019 – All rights reserved