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)

iTeh Standards
(https://standards.iteh.ai)
Document Preview

ISO/IEC/IEEE 15289:2019
https://standards.iteh.ai/catalog/standards/iso/bd7db7dd-ae27-489b-94a8-2a2ab0b5d413/iso-iec-ieee-15289-2019

Reference number
ISO/IEC/IEEE 15289:2019(E)

© ISO/IEC 2019
© IEEE 2019

iTeh Standards
(https://standards.iteh.ai)
Document Preview

ISO/IEC/IEEE 15289:2019
https://standards.iteh.ai/catalog/standards/iso/bd7db7dd-ae27-489b-94a8-2a2ab0b5d413/iso-iec-ieee-15289-2019

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

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

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

Published in Switzerland

© ISO/IEC 2019 – All rights reserved
© IEEE 2019 – All rights reserved

Contents

Page

Foreword ..... **vi**

Introduction ..... **vii**

1 Scope **1**

2 Normative references **2**

3 Terms, definitions and abbreviated terms **2**
3.1 Terms and definitions 2
3.2 Abbreviated terms 5

4 Applicability **5**
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

5 Conformance **7**
5.1 Definition of conformance 7
5.2 Conformance situations 7
5.3 Type of conformance 8

6 Life-cycle data and information items **8**
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

7 Generic types of information items **10**
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

8 Mapping of information items to the life cycle processes **17**
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

9 Records **30**
9.1 General 30
9.2 Record — Generic content 31
9.3 Specific record contents 31

10 Specific information item (document) contents **35**
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

iTeh Standards
(https://standards.iteh.ai)
Document Preview
ISO/IEC/IEEE 15289:2019
https://standards.iteh.ai/catalog/standards/iso/7d87dd-ae27-489b-94a8-2a2ab0b5d413/iso-iec-ieee-15289-2019

© ISO/IEC 2019 – All rights reserved
© IEEE 2019 – All rights reserved

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

iTeh Standards
(https://standards.iteh.ai)
Document Preview
ISO/IEC/IEEE 15289:2019
https://standards.iteh.ai/catalog/standards/iso/bd7db7dd-ae27-489b-94a8-2a2ab0b5d413/iso-iec-ieee-15289-2019

© ISO/IEC 2019 – All rights reserved
© IEEE 2019 – All rights reserved

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

Annex A (informative) **Procedure for identifying information items and their contents** **68**

Annex B (informative) **Information items and records by source** **69**

Bibliography **72**

IEEE notices and abstract **74**

iTeh Standards
(https://standards.iteh.ai)
Document Preview

ISO/IEC/IEEE 15289:2019
https://standards.iteh.ai/catalog/standards/iso/bd7db7dd-ae27-489b-94a8-2a2ab0b5d413/iso-iec-ieee-15289-2019

© ISO/IEC 2019 – All rights reserved
© IEEE 2019 – All rights reserved

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).

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.

iTeh Standards
(https://standards.iteh.ai)
Document Preview

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).

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

ISO/IEC/IEEE 15289:2019
https://standards.iteh.ai/catalog/standards/sist/8dcf4ad1-e21f-4f90-9f46-2aa0b0d1e5e8/iso-iec-ieee-15289-2019

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.

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.

© ISO/IEC 2019 – All rights reserved
© IEEE 2019 – All rights reserved

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[1)] as a source for the first edition of this document.

iTeh Standards
(https://standards.iteh.ai)
Document Preview

ISO/IEC/IEEE 15289:2019
https://standards.iteh.ai/catalog/standards/iso/bd7db7dd-ae27-489b-94a8-2a2ab0b5d413/iso-iec-ieee-15289-2019

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

© ISO/IEC 2019 – All rights reserved
© IEEE 2019 – All rights reserved