
**Software and systems engineering —
Software testing —**

Part 6:
**Guidelines for the use of ISO/IEC/IEEE
29119 (all parts) in agile projects**

Ingénierie du logiciel et des systèmes — Essais du logiciel —

*Partie 6: Lignes directrices pour l'utilisation de l'ISO/IEC/IEEE 29119
(toutes les parties) dans les projets agiles*





COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2021

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
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Concepts	1
4.1 Agile practices and artefacts.....	1
4.2 Mapping of agile practices to ISO/IEC/IEEE 29119-2 test processes.....	2
4.2.1 Overview.....	2
4.2.2 Acceptance criteria.....	3
4.2.3 Acceptance test-driven development (ATDD).....	3
4.2.4 Amplify learning.....	3
4.2.5 Backlog management.....	3
4.2.6 Behaviour-driven development (BDD).....	4
4.2.7 Build integrity in.....	5
4.2.8 Burn-down and burn-up charts.....	5
4.2.9 Co-located teams.....	6
4.2.10 Collective code ownership.....	6
4.2.11 Continuous delivery and deployment.....	6
4.2.12 Continuous integration and continuous testing.....	7
4.2.13 Cross-functional team.....	7
4.2.14 Daily stand-up.....	8
4.2.15 Definition of done.....	8
4.2.16 Definition of ready.....	9
4.2.17 Eliminate waste.....	10
4.2.18 Empowered team.....	11
4.2.19 Emergent design.....	11
4.2.20 Epic.....	11
4.2.21 Fast user feedback.....	11
4.2.22 Feature-driven development (FDD).....	12
4.2.23 Feature toggle.....	12
4.2.24 Frequent interaction with product owner.....	12
4.2.25 Increment.....	12
4.2.26 Informal defect management.....	12
4.2.27 Iteration backlog.....	13
4.2.28 Iteration goal.....	13
4.2.29 Iteration planning.....	13
4.2.30 Iteration review.....	13
4.2.31 Iteration zero.....	14
4.2.32 Just in time.....	14
4.2.33 Limit work in progress.....	14
4.2.34 Mood chart.....	14
4.2.35 Occasional test iterations.....	15
4.2.36 Pair programming.....	15
4.2.37 Parallel test iterations.....	15
4.2.38 Planning poker.....	15
4.2.39 Product backlog.....	16
4.2.40 Product owner.....	16
4.2.41 Refactoring.....	16
4.2.42 Relative estimation.....	16
4.2.43 Release planning.....	17
4.2.44 Retrospective meeting.....	17
4.2.45 Scrum master.....	17

4.2.46	Self-organizing teams	17
4.2.47	Short iterations	17
4.2.48	Simplicity	18
4.2.49	Story mapping	18
4.2.50	Story testing	18
4.2.51	Sustainable pace	18
4.2.52	Task board	18
4.2.53	Team charter	18
4.2.54	Team room	18
4.2.55	Team-based estimation	19
4.2.56	Technical debt	19
4.2.57	Test-driven development (TDD)	19
4.2.58	Timebox	20
4.2.59	Transparency	20
4.2.60	User story	20
4.2.61	User stories – INVEST mnemonic	20
4.2.62	User story format – role/feature/rationale	20
4.2.63	Velocity	21
Annex A (informative) Mapping of The Scrum Guide to ISO/IEC/IEEE 29119-2 test processes		22
Annex B (informative) Mapping of ISO/IEC/IEEE 29119-2 (test processes) to agile practices and techniques covered under Clause 4		24
Annex C (informative) Example mapping of typical agile test artefacts to ISO/IEC/IEEE 29119-3 test documentation		37
Annex D (informative) Example agile test artefact		39
Bibliography		45

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.

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 document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

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) or the IEC list of patent declarations received (see patents.iec.ch).

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. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by Joint Technical Committee ISO/IEC JTC1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*.

A list of all parts in the ISO/IEC/IEEE 29119 series can be found on the ISO and IEC websites.

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 and www.iec.ch/national-committees.

Introduction

The purpose of ISO/IEC/IEEE 29119 (all parts) is to define an internationally agreed set of standards for software testing that can be used by any organization when performing any form of software testing.

This document facilitates understanding of how ISO/IEC/IEEE 29119 (all parts) applies to agile life cycles.

ISO/IEC/IEEE 29119-1 introduces software testing concepts and vocabulary. This document uses the concepts and vocabulary of ISO/IEC/IEEE 29119-1.

ISO/IEC/IEEE 29119-2 comprises test process descriptions that define the software testing processes at the organizational level, test management level and dynamic test levels. It supports dynamic testing, functional and non-functional testing, manual and automated testing and scripted and unscripted testing, and can be utilized within any lifecycle model, including agile lifecycles and methodologies.

ISO/IEC/IEEE 29119-3 defines software test documentation. The requirements specified for templates and examples of test documentation defined in ISO/IEC/IEEE 29119-3 can be met in standard or tailored agile lifecycles and methodologies.

ISO/IEC/IEEE 29119-4 defines test design techniques, which can be utilized in any lifecycle, including agile.

ISO/IEC/IEEE 29119-5 addresses the use of keywords to support automated testing.

This document provides a mapping of agile concepts to ISO/IEC/IEEE 29119-2. It also explains how ISO/IEC/IEEE 29119-2 can be adopted under specific agile methodologies and demonstrates how the test documentation templates defined in ISO/IEC/IEEE 29119-3 can be implemented in agile lifecycles.

[Clause 4](#) maps agile practices and artefacts to corresponding clauses of ISO/IEC/IEEE 29119-2. [Annex A](#) provides a mapping from The Scrum Guide^[6] to ISO/IEC/IEEE 29119-2 clauses. [Annex B](#) provides a mapping from all clauses of ISO/IEC/IEEE 29119-2 to the agile practices and artefacts covered under [Clause 4](#). [Annex C](#) provides an example mapping of typical test artefacts used in agile to ISO/IEC/IEEE 29119-3. [Annex D](#) provides examples of agile test artefacts and explains how they comply with ISO/IEC/IEEE 29119-3.

Software and systems engineering — Software testing —

Part 6:

Guidelines for the use of ISO/IEC/IEEE 29119 (all parts) in agile projects

1 Scope

This document provides guidance for the application of ISO/IEC/IEEE 29119 (all parts) in agile life cycles. This document is intended for (and not limited to) testers, test managers, business analysts, product owners, Scrum masters and developers involved in agile projects. The mappings provided in this document are designed to benefit any team or organization that is either moving away from traditional/waterfall life cycles and into agile or vice versa as well as new organizations that are commencing agile as their chosen life cycle. It is designed to be understandable regardless of the reader's familiarity with ISO/IEC/IEEE 29119 (all parts).

2 Normative references

There are no normative references in this document.