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Systems and software engineering — Capabilities of issue management tools

Ingénierie du logiciel et des systèmes — Capacités des outils de gestion des écarts



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Foreword

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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 Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering.*

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.

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Introduction

Issue management tools have become increasingly important in project management and been applied to a wide range of lifecycle processes, from development process to operation process. Information managed by these tools has been expanded further than ever before, such as work items and claims as well as defects. These tools need to cooperate with many other tools such as configuration management tools, build tools, etc.

There are many issue management tools on the market but with no clear definition of their category and their capabilities. Therefore, it is becoming difficult for project managers to choose the right tool.

This document provides a framework of category of issue management tools and a list of their capabilities. The capabilities are gathered from existing tools (see Annex B). This document is prepared as one of the capability series to select the appropriate tool in combination with ISO/IEC 20741 "Guideline for the evaluation and selection of software engineering tools" (see Annex A).

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Systems and software engineering — Capabilities of issue management tools

1 Scope

This document defines the capabilities of issue management tools and is used to select the most appropriate one from many issue management tools. The evaluation and selection of the issue management tools is performed in accordance with ISO/IEC 20741 which defines the general evaluation selection process and evaluation characteristics. Issue management is based on the tasks described in several activities in their processes (e.g. project assessment and control, decision management, and system/software requirements definition) of ISO/IEC/IEEE 12207.

This document is independent of development methodology or approaches (e.g. Waterfall or Agile) or lifecycle processes (e.g. implementation or operation).

2 Normative reference

There is no normative reference in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
defect
imperfection or deficiency in a work product where that work product does not meet its requirements or specifications and needs to be either repaired or replaced

[SOURCE: IEEE 1044:2009, 2]

3.2
incident
anomalous or unexpected event, set of events, condition, or situation at any time during the life cycle of a project, product, *service* (3.5), or system

[SOURCE: ISO/IEC/IEEE 15288:2015, 4.1.21]

3.3
issue
observation that deviates from expectations

EXAMPLE Potential *defect* (3.1), improvement or point needing clarification.

[SOURCE: ISO/IEC 20246:2017, 3.9]

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3.4
problem
cause of one or more actual or potential *incidents* (3.4)

[SOURCE: ISO/IEC 20000-10:2018, 3.2.10]

3.5
service
means of delivering value for the user by facilitating results the user wants to achieve

[SOURCE: ISO/IEC TS 25011:2017, 3.3.1, modified — Notes 1 and 2 to entry have been removed.]

4 Object model for issue management tools

4.1 Overview of issue management

The overall structure of object model of issue management consists of the following elements:

a) issue management use case; defined in 4.2, a use case for describing issue management as an integrated activity, building on the activities and tasks described in ISO/IEC/IEEE 12207 in generic way,

b) issue management entity; defined in 4.3 and Clause 5, a set that represents identifiable information which appears in issue management tasks and described as a class in the object model, and

c) issue management tool; defined Clause 6, a tool that supports creating, referring, updating and deleting an issue management entity.

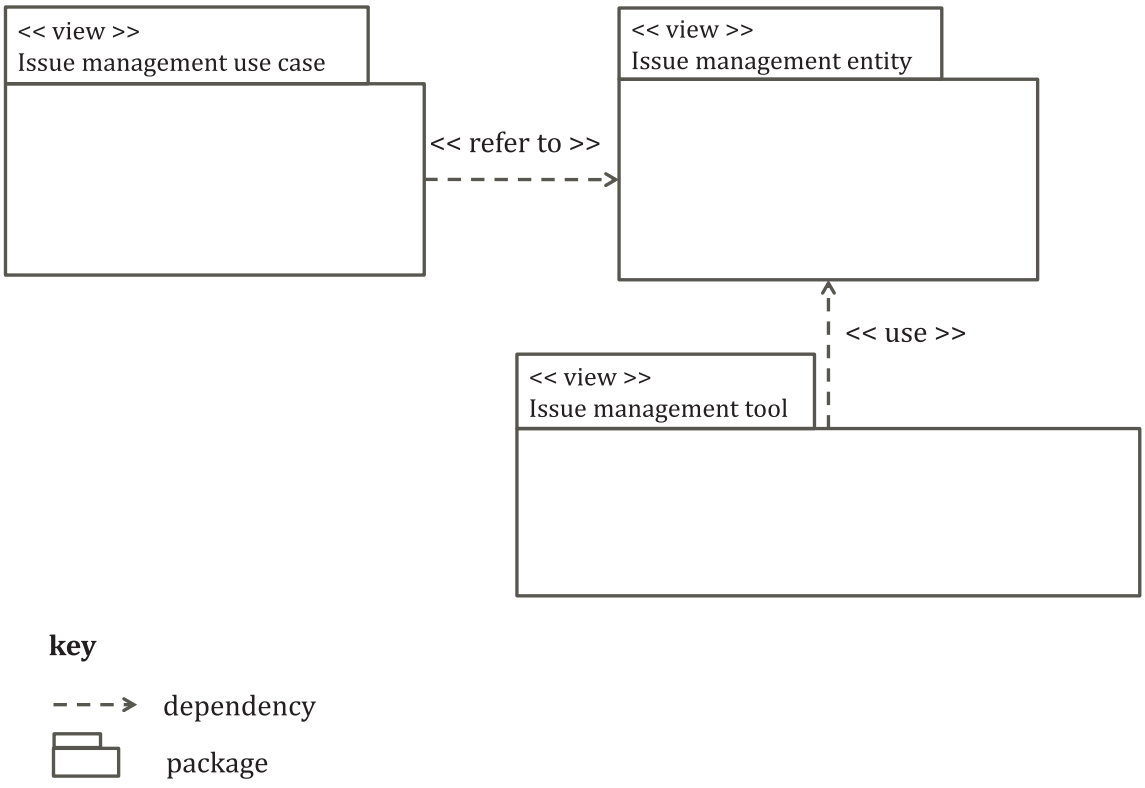


Figure 1 — Object model of issue management

The issue management entity comprises multiple entities. A set of entities is created when an issue occurs, and referred, updated through its life to keep track the status, and archived after closing the issue. There are two type of entities. One is the information of the issue itself such as issue-ID, date,

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