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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Software and systems engineering - Capabilities of software
testing tools**

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules of Standardization Documents"

drafted.

This document is revised and adopted ISO /IEC 30130.2016 "Software Engineering Software Testing Tool Capability".

Compared with ISO /IEC 30130.2016, this document has made the following structural adjustments.

--- Added Appendix C (normative).

The technical differences between this document and ISO /IEC 30130.2016 and their reasons are as follows.

--- Modified the content in the scope (see Chapter 1) to meet the scope compilation requirements of our technical standards;

--- Replaced ISO /IEC /IEEE29119-2 (see 4.1) with the normatively cited GB/T 38634.2-2020 to adapt to our country

technical conditions to increase operability;

--- Replaced ISO /IEC 25010 (see 6.1, 6.2) with the normatively quoted GB/T 25000.10-2016 to adapt to our country's technology

surgical conditions;

--- Increase the compliance of various quality characteristics [see a) ~ h) of 6.2] to adapt to the technical conditions of our country;

--- Changed the title of Chapter 6 from "Software Testing Tool Features" to "Test Object Features" to better fit the standard content, eliminating

ambiguity;

--- Changed "Risk-Based Prioritization" to "Risk-Based Prioritization" to more accurately describe capabilities (see

7.2, 7.5, Appendix A, Appendix C);

--- Added the relevant content of the interface test (see Table 1, Appendix A, Table C.1 of 7.2.2 and 7.5), the interface test is the current software test

a key direction;

--- Added technical requirements for testing tool capabilities (see Appendix C).

The following editorial changes have been made to this document.

--- In order to harmonize with existing standards, change the standard name to "Software and Systems Engineering Software Testing Tool Capability";

--- The "test object" in Figure 3 and Figure 4 is repeated and corrected;

--- Added "Note" in 4.1;

--- Change the "example" content of 6.4 to "example" form representation;

--- Deleted the "Note" of ISO /IEC 30130.2016, and added the specification of Appendix A and Appendix B (see 7.1);

--- Delete the column item number "a)" of ISO /IEC 30130.2016 (see 7.3.1, 7.4.1, 7.4.2, 7.4.4), because these items only have

A column item a), and Table A.2 ~ Table A.5 have been modified accordingly;

--- Merge "Test Environment" in "Classification" of Table 1 into "Dynamic Test Execution", and make corrections to the table header, which is consistent with the description in 5.2.4;

In "Classification", "Verification and Validation" is revised to "Verification and Validation Report" (see 7.5), which is consistent with the title of 5.4.5;

"Review" in "Review" is revised to "Code Review", which is consistent with the content in 7.3.1; the ability of "Test Management" and "Quality Record Report" are added.

The mapping relationship between the "Notice" categories is consistent with the content in 7.4.3;

--- Replaced IEEE1012 with GB/T 32423 cited for information;

--- Adjusted the normative references in Chapter 2 and the list of documents in the bibliography.

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

1 Scope

This document specifies the competency framework and specific requirements for software testing tools, which are used to determine the software testing tools used in software testing projects.

product capability.

This document is applicable to the development, evaluation and selection of software testing tools by the acquirer, supplier, maintainer and independent evaluator.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to this document.

GB/T 25000.10-2016 System and Software Engineering System and Software Quality Requirements and Evaluation (SQuaRE) Part 10.

Systems and Software Quality Models (ISO /IEC 25010:2011, MOD)

GB/T 38634.2-2020 System and Software Engineering Software Testing Part 2. Testing Process (ISO /IEC /IEEE29119-

2:2013, MOD)

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1

qualityrecordreport

Reports generated by dynamic test execution and code analysis to document test results and other outputs.

Note. Contains test results, static code analysis reports, test event reports and measurements.

3.2

Test object version testtargetversion

A specific version of the test object used to perform a dynamic test or code analysis.

3.3

testingtool testingtool

Specific or generic tools for test execution and test management.

Note. Such as test result recording, test result display, test result interpretation, test data generation, test step generation, test script generation, test modeling, etc.

3.4

package

The namespace for grouping elements.

3.5

keyword-driven testing

Test using test cases consisting of keywords.

[Source. ISO /IEC /IEEE29119-5.2016, 4.5]