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Information technology — Requirements and Guidelines for Test Methods Specifications and Test Method Implementations for Measuring Conformance to POSIX Standards

Technologies de l'information — Exigences et lignes directrices pour les spécifications de méthodes d'essai et les mises en œuvre de méthode d'essai pour mesurer la conformité aux normes POSIX

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Abstract: This International Standard defines the requirements and guidelines for test method specifications and test method implementations for measuring conformance to POSIX standards. Test specification standard developers for other Application Programming Interface (API) standards are encouraged to use this standard. This document is aimed primarily at developers and users of test method specifications and implementations.

Keywords: assertion, assertion test, implementation under test, option, conformance document, conformance test procedure, conformance test software, test method implementation, test method specification, test result code

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International Standard ISO/IEC 13210: 1999 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology,* Subcommittee SC22, *Programming languages, their environments and system software interfaces*.

This second edition cancels and replaces the first edition (ISO/IEC 13210:1994), which has been technically revised.

Annexes A and B of this edition of ISO/IEC 13210 are for information only.

Participants

IEEE Std 2003-1997 was prepared by the 2003 Working Group, sponsored by the Portable Applications Standards Committee of the IEEE Computer Society. At the time this standard was approved, the membership of the 2003 Working Group was as follows:

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In the preceding list, those individuals identified with asterisks (*) served during the balloting period as Technical Reviewers for resolving comments and objections to designated portions of the standard.

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Information technology—Requirements and Guidelines for Test Methods Specifications and Test Method Implementations for Measuring Conformance to POSIX® Standards

Section 1: General

1.1 Scope

This International Standard is applicable to the development and use of conformance test method specifications for POSIX standards and may be applicable to other application programming interface specifications. This International Standard is intended for developers and users of test method specifications and test method implementations.

The users of this standard include

— Assertion Writers: to format assertions

— Assertion Test Writers: to write assertion tests

— Test Suite or System Procurers: to interpret the results of test suites

The purpose of this standard is to define requirements and guidelines for developing assertions and related test methods for measuring conformance of an implementation under test (IUT) to POSIX standards. Test method implementations may include Conformance Test Software (CTS), POSIX Conformance Test Procedures (CTP), and audits of Conformance Documents (CD).

Testing conformance of an implementation to a standard includes testing the capabilities and behavior of the implementation with respect to the conformance requirements of the standard. Test methods are intended to provide a reasonable, practical assurance that the implementation conforms to the standard. Use of

these test methods will not guarantee conformance of an implementation to the standard; that normally would require exhaustive testing (see 7.2.1), which is impractical for both technical and economic reasons.

1.2 References

1.2.1 Normative References

The following standards contain provisions that, through references in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below.

{1} IEEE Std 729-1983,[1)] *IEEE Glossary of Software Engineering Terminology (ANSI).*

1.2.2 Informative References

Several of the terms defined in 2.2.2, General Terms, have corresponding counterparts that are used in the international community for conformity assessment purposes. The references cited here use terminology and concepts that correlate to some of the terminology used in this standard.

{2} ISO/IEC 9646-1:1994, *Information technology—Open Systems Interconnection—Conformance testing methodology and framework—Part 1, General concepts.*

{3} ISO/IEC *Guide* 25:1990, *General Requirements for the Competence and Calibration of Testing Laboratories.*

1) IEEE documents can be obtained from the The Institute of Electrical and Electronics Engineers, Inc., 445 Hoes Lane, PO Box 1331, Piscataway, New Jersey 08855-1331, USA.