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Systems and software engineering — Systems and software assurance —

Part 3: System integrity levels

Ingénierie du logiciel et des systèmes — Assurance du logiciel et des systèmes —

Partie 3: Niveaux d'intégrité du système

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Contents

Page

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 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).

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.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information.

The committee responsible for this document is ISO/IEC JTC 1, *Information Technology*, Subcommittee SC 7, *Software and systems engineering*.

This second edition cancels and replaces the first edition (ISO/IEC 15026-3:2011), which has been technically revised.

ISO/IEC 15026 consists of the following parts, under the general title *Systems and software engineering — Systems and software assurance*:

— *Part 1: Concepts and vocabulary*

— *Part 2: Assurance case*

— *Part 3: System integrity levels*

— *Part 4: Assurance in the life cycle*

The IEEE Computer Society collaborated with ISO/IEC JTC 1 in the development of the ISO/IEC 15026 series.

Systems and software engineering — Systems and software assurance —

Part 3: System integrity levels

1 Scope

This part of ISO/IEC 15026 specifies the concept of integrity levels with corresponding integrity level requirements that are required to be met in order to show the achievement of the integrity level. It places requirements on and recommends methods for defining and using integrity levels and their corresponding integrity level requirements. It covers systems, software products, and their elements, as well as relevant external dependences.

This part of ISO/IEC 15026 is applicable to systems and software and is intended for use by the following:

a) definers of integrity levels such as industry and professional organizations, standards organizations, and government agencies;

b) users of integrity levels such as developers and maintainers, suppliers and acquirers, system or software users, assessors of systems or software and administrative and technical support staff of systems and/or software products.

One important use of integrity levels is by suppliers and acquirers in agreements; for example, to aid in assuring safety, financial, or security characteristics of a delivered system or product.

This part of ISO/IEC 15026 does not prescribe a specific set of integrity levels or their integrity level requirements. In addition, it does not prescribe the way in which integrity level use is integrated with the overall system or software engineering life cycle processes. It does, however, provide an example of use of this part of ISO/IEC 15026 in Annex A.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC/IEEE 12207, *Systems and software engineering — Software life cycle processes*

ISO/IEC/IEEE 15288, *Systems and software engineering — System life cycle processes*

3 Terms and definitions

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

3.1
adverse consequence
consequence (3.3) that results in a specified level of loss

Note 1 to entry: An adverse consequence results from the *system-of-interest* (3.23) being in a *dangerous condition* (3.4) combined with the environment of the *system* (3.21) being in its worst-case state (relative to the adverse consequence).