

# INTERNATIONAL STANDARD

# ISO/IEC 15026-1

First edition  
2013-11-01

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## Systems and software engineering — Systems and software assurance —

### Part 1: Concepts and vocabulary

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

*Partie 1: Concepts et vocabulaire*

Withhold

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Reference number  
ISO/IEC 15026-1:2013(E)



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Published in Switzerland

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## 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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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.

ISO/IEC 15026-1 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*.

This first edition of ISO/IEC 15026-1 cancels and replaces ISO/IEC TR 15026-1:2010, 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 international standards of ISO/IEC 15026. *IEEE Std 1228-1994* and *IEEE Standard for Safety Plan* were used as base documents in the development of this standard.

## Introduction

Software and systems assurance and closely related fields share concepts but have differing vocabularies and perspectives. This part of ISO/IEC 15026 provides a unifying set of underlying concepts and an unambiguous use of terminology across these various fields. It provides a basis for elaboration, discussion, and recording agreement and rationale regarding concepts and the vocabulary used uniformly across all parts of ISO/IEC 15026.

This part of ISO/IEC 15026 clarifies concepts needed for understanding software and systems assurance and, in particular, those central to the use of ISO/IEC 15026-2 to ISO/IEC 15026-4. It supports shared concepts, issues and terminology applicable across a range of properties, application domains, and technologies.

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# Systems and software engineering — Systems and software assurance —

## Part 1: Concepts and vocabulary

### 1 Scope

This part of ISO/IEC 15026 defines assurance-related terms and establishes an organized set of concepts and relationships to establish a basis for shared understanding across user communities for assurance. It provides information to users of the other parts of ISO/IEC 15026 including the combined use of multiple parts. The essential concept introduced by ISO/IEC 15026 is the statement of *claims* in an *assurance case* and the support of those claims through *argumentation* and *evidence*. These claims are in the context of assurance for properties of systems and software within life cycle processes for the system or software product.

Assurance for a service being operated and managed on an ongoing basis is not covered in ISO/IEC 15026.