INTERNATIONAL STANDARD

ISO/IEC 15408-1

Fourth edition
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Information security, cybersecurity and privacy protection — Evaluation criteria for IT security —

Part 1: Introduction and general model

Sécurité de l'information, cybersécurité et protection de la vie privée — Critères d'évaluation pour la sécurité des technologies de l'information —

Partie 1: Introduction et modèle général

Reference number
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Foreword

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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 or www.iec.ch/members_experts/refdocs).

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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. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 27, *Information security, cybersecurity and privacy protection*.

This fourth edition cancels and replaces the third edition (ISO/IEC 15408-1:2009), which has been technically revised.

The main changes are as follows:

— the document has been restructured;

— technical changes have been introduced:

  — the terminology has been reviewed and updated;

  — the exact conformance type has been introduced;

  — low assurance protection profiles (PPs) have been removed and direct rationale PPs have been introduced;

  — PP-Modules and PP-Configurations for modular evaluations have been introduced;

  — multi-assurance evaluation has been introduced.

A list of all parts in the ISO/IEC 15408 series can be found on the ISO and IEC websites.

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 and www.iec.ch/national-committees.

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Introduction

The ISO/IEC 15408 series permits comparability between the results of independent security evaluations by providing a common set of requirements for the security functionality of IT products and for assurance measures applied to these IT products during a security evaluation. These IT products may be implemented in hardware, firmware, or software.

The evaluation process establishes a level of confidence that the security functionality of these IT products and the assurance measures applied to these IT products meet these requirements. The evaluation results may help consumers to determine whether these IT products fulfil their security needs.

The ISO/IEC 15408 series is useful as a guide for the development, evaluation and/or procurement of IT products with security functionality.

The ISO/IEC 15408 series is intentionally flexible, enabling a range of evaluation approaches to be applied to a range of security properties of a range of IT products. Therefore, users of the standard are cautioned to exercise care that this flexibility is not misused. For example, using the ISO/IEC 15408 series in conjunction with unsuitable evaluation methods/activities, irrelevant security properties, or inappropriate IT products, can result in meaningless evaluation results.

Consequently, the fact that an IT product has been evaluated has meaning only in the context of the security properties that were evaluated and the evaluation methods that were used. Evaluation authorities are advised to carefully check the products, properties, and methods to determine that an evaluation provides meaningful results. Additionally, purchasers of evaluated products are advised to carefully consider this context to determine whether the evaluated product is useful and applicable to their specific situation and needs.

The ISO/IEC 15408 series addresses the protection of assets from unauthorized disclosure, modification, or loss of use. The categories of protection relating to these three types of failure of security are commonly called confidentiality, integrity, and availability, respectively. The ISO/IEC 15408 series may also be applicable to aspects of IT security outside of these three categories. The ISO/IEC 15408 series is applicable to risks arising from human activities (malicious or otherwise) and to risks arising from non-human activities. The ISO/IEC 15408 series may be applied in other areas of IT but makes no claim of applicability in these areas.

Certain topics, because they involve specialized techniques or because they are somewhat peripheral to IT security, are considered to be outside the scope of the ISO/IEC 15408 series. Some of these are identified below:

a) the ISO/IEC 15408 series does not contain security evaluation criteria pertaining to administrative security measures not related directly to the IT security functionality. However, it is recognized that significant security can often be achieved through or supported by administrative measures such as organizational, personnel, physical, and procedural controls;

b) the ISO/IEC 15408 series does not address the evaluation methodology under which the criteria should be applied;

   NOTE 1 The baseline methodology is defined in ISO/IEC 18045. ISO/IEC 15408-4 can be used to further derive evaluation activities and methods from ISO/IEC 18045.

c) the ISO/IEC 15408 series does not address the administrative and legal framework under which the criteria may be applied by evaluation authorities. However, it is expected that the ISO/IEC 15408 series is intended to be used for evaluation purposes in the context of such a framework;

d) the procedures for use of evaluation results in accreditation are outside the scope of the ISO/IEC 15408 series. Accreditation is the administrative process whereby authority is granted for the operation of an IT product (or collection thereof) in its full operational environment including all of its non-IT parts. The results of the evaluation process are an input to the accreditation process. However, as other techniques are more appropriate for the assessments of non-IT related properties

and their relationship to the IT security parts, accreditors must make separate provisions for those aspects;

e) the subject of criteria for the assessment of the inherent qualities of cryptographic algorithms is not covered in the ISO/IEC 15408 series. In the case that independent assessment of mathematical properties of cryptography is required, the evaluation scheme under which the ISO/IEC 15408 series is applied shall make provision for such assessments.

NOTE 2 This document uses bold and italic type in some cases to distinguish terms from the rest of the text. The relationship between components within a family is highlighted using a bolding convention. This convention calls for the use of bold type for all new requirements. For hierarchical components, requirements are presented in bold type when they are enhanced or modified beyond the requirements of the previous component. In addition, any new or enhanced permitted operations beyond the previous component are also highlighted using bold type.

The use of italics indicates text that has a precise meaning. For security assurance requirements the convention is for special verbs relating to evaluation.

Information security, cybersecurity and privacy protection — Evaluation criteria for IT security —

Part 1: Introduction and general model

1 Scope

This document establishes the general concepts and principles of IT security evaluation and specifies the general model of evaluation given by various parts of the standard which in its entirety is meant to be used as the basis for evaluation of security properties of IT products.

This document provides an overview of all parts of the ISO/IEC 15408 series. It describes the various parts of the ISO/IEC 15408 series; defines the terms and abbreviations to be used in all parts of the standard; establishes the core concept of a Target of Evaluation (TOE); describes the evaluation context and describes the audience to which the evaluation criteria is addressed. An introduction to the basic security concepts necessary for evaluation of IT products is given.

This document introduces:

— the key concepts of Protection Profiles (PP), PP-Modules, PP-Configurations, packages, Security Targets (ST), and conformance types;

— a description of the organization of security components throughout the model;

— the various operations by which the functional and assurance components given in ISO/IEC 15408-2 and ISO/IEC 15408-3 can be tailored through the use of permitted operations;

— general information about the evaluation methods given in ISO/IEC 18045;

— guidance for the application of ISO/IEC 15408-4 in order to develop evaluation methods (EM) and evaluation activities (EA) derived from ISO/IEC 18045;

— general information about the pre-defined Evaluation Assurance Levels (EALs) defined in ISO/IEC 15408-5;

— information in regard to the scope of evaluation schemes.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 15408-2:2022, *Information security, cybersecurity and privacy protection — Evaluation criteria for IT security — Part 2: Security functional components*

ISO/IEC 15408-3:2022, *Information security, cybersecurity and privacy protection — Evaluation criteria for IT security — Part 3: Security assurance components*

ISO/IEC 18045, *IT security techniques — Methodology for IT security evaluation*

ISO/IEC IEEE 24765, *Systems and software engineering — Vocabulary*