International Standard

ISO/IEC 29146

Information technology — Security techniques — A framework for access management

Technologies de l'information — Techniques de sécurité — Cadre pour gestion d'accès

Second edition
2024-01

Reference number
ISO/IEC 29146:2024(en)

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Published in Switzerland

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Foreword

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

This second edition cancels and replaces the first edition (ISO/IEC 29146:2016), of which it constitutes a minor revision. It also incorporates the Amendment ISO/IEC 29146:2016/Amd.1:2022. The changes are as follows:

— the text has been editorially revised and normative references updated.

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.

Introduction

Management of information security is a complex task that is based primarily on a risk-based approach and that is supported by several security techniques. The complexity is handled by several supporting systems that can automatically apply a set of rules or policies consistently.

Within the management of information security, access management plays a key role in the administration of the relationships between the accessing party (subjects that can be human or non-human entities) and the information technology resources. With the development of the Internet, information technology resources can also be located over distributed networks. The management of access is expected to comply to a policy and to have common terms and models defined in a framework.

Identity management is also an important part of access management. Access management is mediated through the identification and authentication of parties that seek to access information technology resources. Access management relies on the existence of an underlying identity management system.

A framework for access management is one part of an overall identity and access management framework. The other part is the framework for identity management, which is defined in the ISO/IEC 24760 series.

This document describes the concepts, actors, components, reference architecture, functional requirements and the practice of an access control framework.

The document focuses mainly on the access control for a single organization. It provides additional considerations for access control in collaborative arrangements across multiple organizations. The document includes examples of access control models.

Information technology — Security techniques — A framework for access management

1 Scope

This document defines and establishes a framework for access management (AM) and the secure management of the process to access information and information and communications technologies (ICT) resources, associated with the accountability of a subject within some contexts.

This document provides concepts, terms and definitions applicable to distributed access management techniques in network environments.

This document also provides explanations about related architecture, components and management functions.

The subjects involved in access management can be uniquely recognized to access information systems, as defined in the ISO/IEC 24760 series.

The nature and qualities of physical access control involved in access management systems are outside the scope of this document.

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 24760-1, *Information technology — Security techniques — A framework for identity management — Part 1: Terminology and concepts*

ISO/IEC 29115, *Information technology — Security techniques — Entity authentication assurance framework*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 24760-1, ISO/IEC 29115, and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
access control
granting or denying an operation to be performed on a *resource* (3.14)

Note 1 to entry: A primary purpose of access control is to prevent unauthorized access to information or use of ICT resources based on the business and security requirements; that is, the application of authorization policies to particular access requests.

Note 2 to entry: When an authenticated *subject* (3.15) makes a request, the resource owner will authorize (or not) access in accordance with access policy and subject privileges.