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# ISO/IEC 27040

# Information technology — Security techniques — Storage security

*Technologie de l'information — Techniques de sécurité — Sécurité de stockage*

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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 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 27040:2015), which has been technically revised.

The main changes are as follows:

— the scope has been expanded to cover requirements;

— the clause structure has been more closely aligned with ISO/IEC 27002:2022;

— requirements have been added in Clauses 7, 9, and 10;

— adjustments have been made regarding the storage technologies which are covered;

— a new controls labelling scheme has been added;

— former Annex A, which provided guidance on sanitizing specific types of media, has been removed and text has been added in Clause 10, recommending IEEE 2883 for this purpose;

— former Annex B, which included table to help prioritize the adoption of recommendation, has been replaced with Annex A that summarizes the requirements and guidance contained in this document;

— former Annex C, which provided tutorial oriented material, has been removed and references to appropriate materials have been added in Clause 10.

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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# Information technology — Security techniques — Storage security

## 1 Scope

This document provides detailed technical requirements and guidance on how organizations can achieve an appropriate level of risk mitigation by employing a well-proven and consistent approach to the planning, design, documentation, and implementation of data storage security. Storage security applies to the protection of data both while stored in information and communications technology (ICT) systems and while in transit across the communication links associated with storage. Storage security includes the security of devices and media, management activities related to the devices and media, applications and services, and controlling or monitoring user activities during the lifetime of devices and media, and after end of use or end of life.

Storage security is relevant to anyone involved in owning, operating, or using data storage devices, media, and networks. This includes senior managers, acquirers of storage products and services, and other non-technical managers or users, in addition to managers and administrators who have specific responsibilities for information or storage security, storage operation, or who are responsible for an organization's overall security programme and security policy development. It is also relevant to anyone involved in the planning, design, and implementation of the architectural aspects of storage network security.

This document provides an overview of storage security concepts and related definitions. It includes requirements and guidance on the threats, design, and control aspects associated with typical storage scenarios and storage technology areas. In addition, it provides references to other international standards and technical reports that address existing practices and techniques that can be applied to storage security.

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## 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 27000, *Information technology — Security techniques — Information security management systems — Overview and vocabulary*

## 3 Terms and definitions

### 3.1 General

For the purposes of this document, the terms and definitions given in ISO/IEC 27000 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/

### 3.2 Terms relating to storage technology

**3.2.1**
**block**
unit in which data is *stored* (3.2.17) and retrieved on *storage devices* (3.2.14) and *storage media* (3.2.16)

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