

SVENSK STANDARD

SS-EN ISO/IEC 27042:2016



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Informationsteknik – Säkerhetstekniker – Riktlinjer för analys och tolkning av digitala bevis (ISO/IEC 27042:2015, IDT)

Information technology – Security techniques – Guidelines for the analysis and interpretation of digital evidence (ISO/IEC 27042:2015, IDT)

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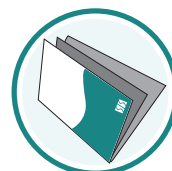
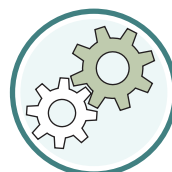
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Europastandarden EN ISO/IEC 27042:2016 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO/IEC 27042:2016.

Denna standard ersätter SS-ISO/IEC 27042:2015, utgåva 1.

The European Standard EN ISO/IEC 27042:2016 has the status of a Swedish Standard. This document contains the official English version of EN ISO/IEC 27042:2016.

This standard supersedes the Swedish Standard SS-ISO/IEC 27042:2015, edition 1.

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Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

EUROPEAN STANDARD

EN ISO/IEC 27042

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2016

ICS 35.040

English Version

**Information technology - Security techniques - Guidelines
for the analysis and interpretation of digital evidence
(ISO/IEC 27042:2015)**

Technologies de l'information - Techniques de sécurité
- Lignes directrices pour l'analyse et l'interprétation de
preuves numériques (ISO/IEC 27042:2015)

Informationstechnik - IT-Sicherheitsverfahren -
Leitfaden für die Analyse und Interpretation digitaler
Beweismittel (ISO/IEC 27042:2015)

This European Standard was approved by CEN on 19 June 2016.

CEN and CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN and CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN and CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN and CENELEC members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

The text of ISO/IEC 27042:2015 has been prepared by Technical Committee ISO/IEC JTC 1 “Information technology” of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) and has been taken over as EN ISO/IEC 27042:2016.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2017, and conflicting national standards shall be withdrawn at the latest by February 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO/IEC 27042:2015 has been approved by CEN as EN ISO/IEC 27042:2016 without any modification.

Introduction

General

This International Standard provides guidance on the conduct of the analysis and interpretation of potential digital evidence in order to identify and evaluate digital evidence which can be used to aid understanding of an incident. The exact nature of the data and information making up the potential digital evidence will depend on the nature of the incident and the digital evidence sources involved in that incident.

When using this International Standard, the user assumes that the guidance given in ISO/IEC 27035-2 and ISO/IEC 27037:2012 has been followed and that all processes used are compatible with the guidance given in ISO/IEC 27043:2015 and ISO/IEC 27041¹⁾.

Relationship to other standards

This International Standard is intended to complement other standards and documents which give guidance on the investigation of, and preparation to investigate, information security incidents. It is not a comprehensive guide, but lays down certain fundamental principles which are intended to ensure that tools, techniques, and methods can be selected appropriately and shown to be fit for purpose should the need arise.

This International Standard also intends to inform decision-makers that need to determine the reliability of digital evidence presented to them. It is applicable to organizations needing to protect, analyse, and present potential digital evidence. It is relevant to policy-making bodies that create and evaluate procedures relating to digital evidence, often as part of a larger body of evidence.

This International Standard describes part of a comprehensive investigative process which includes, but is not limited to, the following topic areas:

- incident management, including preparation, and planning for investigations;
- handling of digital evidence;
- use of, and issues caused by, redaction;
- intrusion prevention and detection systems, including information which can be obtained from these systems;
- security of storage, including sanitization of storage;
- ensuring that investigative methods are fit for purpose;
- carrying out analysis and interpretation of digital evidence;
- understanding principles and processes of digital evidence investigations;
- security incident event management, including derivation of evidence from systems involved in security incident event management;
- relationship between electronic discovery and other investigative methods, as well as the use of electronic discovery techniques in other investigations;
- governance of investigations, including forensic investigations.

These topic areas are addressed, in part, by the following ISO/IEC standards.

- ISO/IEC 27037

1) To be published.

This International Standard describes the means by which those involved in the early stages of an investigation, including initial response, can assure that sufficient potential digital evidence is captured to allow the investigation to proceed appropriately.

— ISO/IEC 27038

Some documents can contain information that must not be disclosed to some communities. Modified documents can be released to these communities after an appropriate processing of the original document. The process of removing information that is not to be disclosed is called “redaction”.

The digital redaction of documents is a relatively new area of document management practice, raising unique issues and potential risks. Where digital documents are redacted, removed information must not be recoverable. Hence, care needs to be taken so that redacted information is permanently removed from the digital document (e.g. it must not be simply hidden within non-displayable portions of the document).

ISO/IEC 27038 specifies methods for digital redaction of digital documents. It also specifies requirements for software that can be used for redaction.

— ISO/IEC 27040:2015

This International Standard provides detailed technical guidance on how organizations can define 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 (security) of information where it is stored and to the security of the information being transferred across the communication links associated with storage. Storage security includes the security of devices and media, the security of management activities related to the devices and media, the security of applications and services, and security relevant to end-users during the lifetime of devices and media and after end of use.

Security mechanisms like encryption and sanitization can affect one’s ability to investigate by introducing obfuscation mechanisms. They have to be considered prior to and during the conduct of an investigation. They can also be important in ensuring that storage of evidential material during and after an investigation is adequately prepared and secured.

— ISO/IEC 27041

It is important that methods and processes deployed during an investigation can be shown to be appropriate. This International Standard provides guidance on how to provide assurance that methods and processes meet the requirements of the investigation and have been appropriately tested.

— ISO/IEC 27043:2015

This International Standard defines the key common principles and processes underlying the investigation of incidents and provides a framework model for all stages of investigations.

The following ISO/IEC projects also address, in part, the topic areas identified above and can lead to the publication of relevant standards at some time after the publications of this International Standard.

— ISO/IEC 27035 (all parts)

This is a three-part standard that provides organizations with a structured and planned approach to the management of security incident management. It is composed of

— ISO/IEC 27035-1

This part presents basic concepts and phases of information security incident management. It combines these concepts with principles in a structured approach to detecting, reporting, assessing, responding, and applying lessons learned.

— ISO/IEC 27035-2

This part presents the concepts to plan and prepare for incident response. The concepts, including incident management policy and plan, incident response team establishment, and awareness briefing and training, are based on the plan and prepare phase of the model presented in ISO/IEC 27035-1. This part also covers the “Lessons Learned” phase of the model.

— ISO/IEC 27035-3

This part includes staff responsibilities and practical incident response activities across the organization. Particular focus is given to the incident response team activities such including monitoring, detection, analysis, and response activities for the collected data or security events.

— ISO/IEC 27044²⁾

This provides guidelines to organizations in preparing to deploy security information and event management processes/systems. In particular, it addresses the selection, deployment, and operations of SIEM. It intends specifically to offer assistance in satisfying requirements of ISO/IEC 27001 regarding the implementation of procedures and other controls capable of enabling prompt detection and response to security incidents, to execute monitoring, and review procedures to properly identify attempted and successful security breaches and incidents.

— ISO/IEC 27050 (all parts)³⁾

This addresses activities in electronic discovery, including, but not limited to identification, preservation, collection, processing, review, analysis, and production of electronically stored information (ESI). In addition, it provides guidance on measures, spanning from initial creation of ESI through its final disposition, which an organization can undertake to mitigate risk and expense should electronic discovery become an issue. It is relevant to both non-technical and technical personnel involved in some or all of the electronic discovery activities. It is important to note that this guidance is not intended to contradict or supersede local jurisdictional laws and regulations.

Electronic discovery often serves as a driver for investigations, as well as evidence acquisition and handling activities. In addition, the sensitivity and criticality of the data sometimes necessitate protections like storage security to guard against data breaches.

— ISO/IEC 30121:2015

This International Standard provides a framework for governing bodies of organizations (including owners, board members, directors, partners, senior executives, or similar) on the best way to prepare an organization for digital investigations before they occur. This International Standard applies to the development of strategic processes (and decisions) relating to the retention, availability, access, and cost effectiveness of digital evidence disclosure. This International Standard is applicable to all types and sizes of organizations. The International Standard is about the prudent strategic preparation for digital investigation of an organization. Forensic readiness assures that an organization has made the appropriate and relevant strategic preparation for accepting potential events of an evidential nature. Actions can occur as the result of inevitable security breaches, fraud, and reputation assertion. In every situation, information technology (IT) has to be strategically deployed to maximize the effectiveness of evidential availability, accessibility, and cost efficiency

[Figure 1](#) shows typical activities surrounding an incident and its investigation. The numbers shown in this diagram (e.g. 27037) indicate the International Standards listed above and the shaded bars show where each is most likely to be directly applicable or has some influence over the investigative process (e.g. by setting policy or creating constraints). It is recommended, however, that all should be consulted prior to, and during, the planning and preparation phases. The process classes shown are defined fully in this International Standard and the activities identified match those discussed in more detail in ISO/IEC 27035-2, and ISO/IEC 27037.

2) To be published.

3) To be published.