

Information technology - Security techniques -
Guidelines for identification, collection, acquisition and
preservation of digital evidence (ISO/IEC 27037:2012)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO/IEC 27037:2016 sisaldab Euroopa standardi EN ISO/IEC 27037:2016 ingliskeelset teksti.	This Estonian standard EVS-EN ISO/IEC 27037:2016 consists of the English text of the European standard EN ISO/IEC 27037:2016.
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English Version

Information technology - Security techniques - Guidelines
for identification, collection, acquisition and preservation
of digital evidence (ISO/IEC 27037:2012)

Technologies de l'information - Techniques de sécurité
- Lignes directrices pour l'identification, la collecte,
l'acquisition et la préservation de preuves numériques
(ISO/IEC 27037:2012)

Informationstechnik - IT-Sicherheitsverfahren -
Leitfaden für die Identifikation, Sammlung, Erhebung
und Erhaltung der digitalen Beweissicherung (ISO/IEC
27037:2012)

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

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

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European foreword

The text of ISO/IEC 27037:2012 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 27037:2016.

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of an identical text or by endorsement, at the latest by February 2017, and conflicting national standards shall be withdrawn at the latest by February 2017.

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Endorsement notice

The text of ISO/IEC 27037:2012 has been approved by CEN as EN ISO/IEC 27037:2016 without any modification.

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Introduction

This International Standard provides guidelines for specific activities in handling potential digital evidence; these processes are: identification, collection, acquisition and preservation of potential digital evidence. These processes are required in an investigation that is designed to maintain the integrity of the digital evidence – an acceptable methodology in obtaining digital evidence that will contribute to its admissibility in legal and disciplinary actions as well as other required instances. This International Standard also provides general guidelines for the collection of non-digital evidence that may be helpful in the analysis stage of the potential digital evidence.

This International Standard intends to provide guidance to those individuals responsible for the identification, collection, acquisition and preservation of potential digital evidence. These individuals include Digital Evidence First Responders (DEFRs), Digital Evidence Specialists (DESSs), incident response specialists and forensic laboratory managers. This International Standard ensures that responsible individuals manage potential digital evidence in practical ways that are acceptable worldwide, with the objective to facilitate investigation involving digital devices and digital evidence in a systematic and impartial manner while preserving its integrity and authenticity.

This International Standard also intends to inform decision-makers who need to determine the reliability of digital evidence presented to them. It is applicable to organizations needing to protect, analyze 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.

The potential digital evidence referred to in this International Standard may be sourced from different types of digital devices, networks, databases, etc. It refers to data that is already in a digital format. This International Standard does not attempt to cover the conversion of analog data into digital format.

Due to the fragility of digital evidence, it is necessary to carry out an acceptable methodology to ensure the integrity and authenticity of the potential digital evidence. This International Standard does not mandate the use of particular tools or methods. Key components that provide credibility in the investigation are the methodology applied during the process, and individuals qualified in performing the tasks specified in the methodology. This International Standard does not address the methodology for legal proceedings, disciplinary procedures and other related actions in handling potential digital evidence that are outside the scope of identification, collection, acquisition and preservation.

Application of this International Standard requires compliance with national laws, rules and regulations. It should not replace specific legal requirements of any jurisdiction. Instead, it may serve as a practical guideline for any DEFR or DES in investigations involving potential digital evidence. It does not extend to the analysis of digital evidence and it does not replace jurisdiction-specific requirements that pertain to matters such as admissibility, evidential weighting, relevance and other judicially controlled limitations on the use of potential digital evidence in courts of law. This International Standard may assist in the facilitation of potential digital evidence exchange between jurisdictions. In order to maintain the integrity of the digital evidence, users of this International Standard are required to adapt and amend the procedures described in this International Standard in accordance with the specific jurisdiction's legal requirements for evidence.

Although this International Standard does not include forensic readiness, adequate forensic readiness can largely support the identification, collection, acquisition, and preservation process of digital evidence. Forensic readiness is the achievement of an appropriate level of capability by an organization in order for it to be able to identify, collect, acquire, preserve, protect and analyze digital evidence. Whereas the processes and activities described in this International Standard are essentially reactive measures used to investigate an incident after it occurred, forensic readiness is a proactive process of attempting to plan for such events.

This International Standard complements ISO/IEC 27001 and ISO/IEC 27002, and in particular the control requirements concerning potential digital evidence acquisition by providing additional implementation guidance. In addition, this International Standard will have applications in contexts independent of ISO/IEC 27001 and ISO/IEC 27002. This International Standard should be read in conjunction with other standards related to digital evidence and the investigation of information security incidents.

Information technology — Security techniques — Guidelines for identification, collection, acquisition, and preservation of digital evidence

1 Scope

This International Standard provides guidelines for specific activities in handling digital evidence, which are identification, collection, acquisition and preservation of digital evidence that may be of evidential value. This International Standard provides guidance to individuals with respect to common situations encountered throughout the digital evidence handling process and assists organizations in their disciplinary procedures and in facilitating the exchange of potential digital evidence between jurisdictions.

This International Standard gives guidance for the following devices and/or functions that are used in various circumstances:

- Digital storage media used in standard computers like hard drives, floppy disks, optical and magneto optical disks, data devices with similar functions,
- Mobile phones, Personal Digital Assistants (PDAs), Personal Electronic Devices (PEDs), memory cards,
- Mobile navigation systems,
- Digital still and video cameras (including CCTV),
- Standard computer with network connections,
- Networks based on TCP/IP and other digital protocols, and
- Devices with similar functions as above.

NOTE 1 The above list of devices is an indicative list and not exhaustive.

NOTE 2 Circumstances include the above devices that exist in various forms. For example, an automotive system may include mobile navigation system, data storage and sensory system.

2 Normative reference

The following referenced documents are indispensable for the application 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/TR 15801, *Document management — Information stored electronically — Recommendations for trustworthiness and reliability*

ISO/IEC 17020, *Conformity assessment — Requirements for the operation of various types of bodies performing inspection*

ISO/IEC 17025:2005, *General requirements for the competence of testing and calibration laboratories*

ISO/IEC 27000, *Information technology — Security techniques — Information security management systems — Overview and vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions in ISO/IEC 27000, ISO/IEC 17020, ISO/IEC 17025 and ISO/TR 15801, as well as the following apply.

3.1 acquisition

process of creating a copy of data within a defined set

NOTE The product of an acquisition is a potential digital evidence copy.

3.2 allocated space

area on digital media, including primary memory, which is in use for the storage of data, including metadata

3.3 collection

process of gathering the physical items that contain potential digital evidence

3.4 digital device

electronic equipment used to process or store digital data

3.5 digital evidence

information or data, stored or transmitted in binary form that may be relied on as evidence

3.6 digital evidence copy

copy of the digital evidence that has been produced to maintain the reliability of the evidence by including both the digital evidence and verification means where the method of verifying it can be either embedded in or independent from the tools used in doing the verification

3.7 Digital Evidence First Responder DEFR

individual who is authorized, trained and qualified to act first at an incident scene in performing digital evidence collection and acquisition with the responsibility for handling that evidence

NOTE Authority, training and qualification are the expected requirements necessary to produce reliable digital evidence, but individual circumstances may result in an individual not adhering to all three requirements. In this case, the local law, organizational policy and individual circumstances should be considered.

3.8 Digital Evidence Specialist DES

individual who can carry out the tasks of a DEFR and has specialized knowledge, skills and abilities to handle a wide range of technical issues

NOTE A DES may have additional niche skills, for example, network acquisition, RAM acquisition, operating system software or Mainframe knowledge.