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oSIST prEN ISO/IEC 29151:2025
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Informacijska varnost, kibernetika varnost in varstvo zasebnosti - Kontrole in smernice obnašanja pri varovanju osebnih podatkov

Information security, cybersecurity and privacy protection - Controls and guidance for personally identifiable information protection (ISO/IEC DIS 29151:2024)

Informationstechnik - Sicherheitsverfahren - Leitfaden für den Schutz personenbezogener Daten (ISO/IEC DIS 29151:2024)

Sécurité de l'information, cybersécurité et protection de la vie privée - Mesures de sécurité et recommandations pour la protection des données à caractère personnel (ISO/IEC DIS 29151:2024)

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Contents

Page

Introduction **vi**

1 Scope **1**

2 Normative references **1**

3 Terms and Definitions and abbreviated terms **1**

 3.1 Definitions 1

 3.2 Abbreviated terms 2

4 Overview **3**

 4.1 Objective for the protection of PII 3

 4.2 Requirement for the protection of PII 3

 4.3 Controls 3

 4.4 Selecting controls 3

 4.5 Developing organization specific guidelines 4

 4.6 Life cycle considerations 4

 4.7 Structure of this document 4

5 Organizational controls **8**

 5.1 Policies for information security 8

 5.2 Information security roles and responsibilities 8

 5.3 Segregation of duties 9

 5.4 Management responsibilities 9

 5.5 Contact with authorities 9

 5.6 Contact with special interest groups 9

 5.7 Threat intelligence 9

 5.8 Information security in project management 10

 5.9 Inventory of information and other associated assets 10

 5.10 Acceptable use of information and other associated assets 10

 5.11 Return of assets 11

 5.12 Classification of information 11

 5.13 Labelling of information 11

 5.14 Information transfer 11

 5.15 Access control 11

 5.16 Identity management 11

 5.17 Authentication information 12

 5.18 Access rights 12

 5.19 Information security in supplier relationships 12

 5.20 Addressing information security within supplier agreements 12

 5.21 Managing information security in the ICT supply chain 13

 5.22 Monitoring, review and change management of supplier services 13

 5.23 Information security for use of cloud services 13

 5.24 Information security incident management planning and preparation 13

 5.25 Assessment and decision on information security events 14

 5.26 Response to information security incidents 14

 5.27 Learning from information security incidents 14

 5.28 Collection of evidence 15

 5.29 Information security during disruption 15

 5.30 ICT readiness for business continuity 15

 5.31 Legal, statutory, regulatory and contractual requirements 15

 5.32 Intellectual property rights 15

 5.33 Protection of records 15

 5.34 Privacy and protection of PII 15

 5.35 Independent review of information security 15

 5.36 Conformance with policies, rules and standards for information security 16

 5.37 Documented operating procedures 16

6 People controls **16**

ISO/IEC DIS 29151:2024(en)

6.1	Screening.....	16
6.2	Terms and conditions of employment.....	16
6.3	Information security awareness, education and training.....	16
6.4	Disciplinary process.....	16
6.5	Responsibilities after termination or change of employment.....	17
6.6	Confidentiality or non-disclosure agreements.....	17
6.7	Remote working.....	17
6.8	Information security event reporting.....	17
7	Physical controls.....	17
7.1	Physical security perimeters.....	17
7.2	Physical entry.....	17
7.3	Securing offices, rooms and facilities.....	17
7.4	Physical security monitoring.....	17
7.5	Protecting against physical and environmental threats.....	17
7.6	Working in secure areas.....	18
7.7	Clear desk and clear screen.....	18
7.8	Equipment siting and protection.....	18
7.9	Security of assets off-premises.....	18
7.10	Storage media.....	18
7.11	Supporting utilities.....	18
7.12	Cabling security.....	18
7.13	Equipment maintenance.....	18
7.14	Secure disposal or re-use of equipment.....	18
8	Technological controls.....	19
8.1	User endpoint devices.....	19
8.2	Privileged access rights.....	19
8.3	Information access restriction.....	19
8.4	Access to source code.....	19
8.5	Secure authentication.....	20
8.6	Capacity management.....	20
8.7	Protection against malware.....	20
8.8	Management of technical vulnerabilities.....	20
8.9	Configuration management.....	20
8.10	Information deletion.....	20
8.11	Data masking.....	20
8.12	Data leakage prevention.....	20
8.13	Information backup.....	20
8.14	Redundancy of information processing facilities.....	20
8.15	Logging.....	20
8.16	Monitoring activities.....	21
8.17	Clock synchronization.....	21
8.18	Use of privileged utility programs.....	21
8.19	Installation of software on operational systems.....	21
8.20	Networks security.....	21
8.21	Security of network services.....	21
8.22	Segregation of networks.....	21
8.23	Web filtering.....	21
8.24	Use of cryptography.....	21
8.25	Secure development life cycle.....	22
8.26	Application security requirements.....	22
8.27	Secure system architecture and engineering principles.....	22
8.28	Secure coding.....	22
8.29	Security testing in development and acceptance.....	22
8.30	Outsourced development.....	22
8.31	Separation of development, test and production environments.....	22
8.32	Change management.....	22
8.33	Test information.....	22
8.34	Protection of information systems during audit testing.....	22

ISO/IEC DIS 29151:2024(en)

Annex A (normative) Extended control set for PII protection (This annex forms an integral part of this Recommendation International Standard.)	23
Annex B (informative) Correspondence of ISO/IEC 29151:202X (this document) with ISO/IEC 29151:2017 (This annex forms a non-integral part of this Recommendation International Standard.).....	43
Bibliography	46

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ISO/IEC DIS 29151:2024(en)

Introduction

The number of organizations processing personally identifiable information (PII) is increasing, as is the amount of PII that these organizations deal with. At the same time, societal expectations for the protection of PII and the security of data relating to individuals are also increasing. A number of countries are augmenting their laws to address the increased number of high profile data breaches.

As the number of PII breaches increases, organizations collecting or processing PII will increasingly need guidance on how they should protect PII in order to reduce the risk of privacy breaches occurring, and to reduce the impact of breaches on the organization and on the individuals concerned. This document provides such guidance.

This document offers guidance for PII controllers on a broad range of information security and PII protection controls that are commonly applied in many different organizations that deal with protection of PII. Other ISO/IEC standards that provide guidance or requirements on other aspects of the overall process of protecting PII are as follows:

- ISO/IEC 27001 specifies an information security management system, which is a suitable foundation for protecting any information, including PII.
- ISO/IEC 27002 provides guidelines for organizational, people-related, physical and technological information security controls that can be used for the protection of all kinds of information, including PII.
- ISO/IEC 27005 provides guidance to assist organizations to address information security risks and perform information security risk management activities, specifically information security risk assessment and treatment.
- ISO/IEC 27018 offers guidance to organizations acting as PII processors when offering processing capabilities as cloud services.
- ISO/IEC 27701 specifies requirements and provides guidance for establishing, implementing, maintaining and continually improving a Privacy Information Management System (PIMS).
- ISO/IEC 29100 provides a privacy framework which: specifies a common privacy terminology, defines the actors and their roles in processing personally identifiable information (PII), describes privacy safeguarding considerations, provides references to known privacy principles for information technology.
- ISO/IEC 29134 provides guidelines for assessing the potential impacts on privacy of a process, information system, programme, software module, device or other initiative which processes personally identifiable information (PII), while ISO/IEC 27001 together with ISO/IEC 27005 provides guidance to perform information security risk management activities.

Controls are chosen based on the risks identified as a result of a risk analysis to develop a comprehensive, consistent system of controls. Controls are adapted to the context of the particular processing of PII.

This document contains two parts: 1) the main body consisting of [clauses 1 to 8](#), and 2) a normative [annex A](#) (Extended control set for PII protection) and informative [Annex B](#) (Correspondence of ISO/IEC 29151:202X (this document) with ISO/IEC 29151:2017). This structure reflects normal practice for the development of PII-specific extensions to ISO/IEC 27002 for the main body.

The structure of the main body of this document, including the clause titles, reflects the main body of ISO/IEC 27002:2022. The introduction and [clauses 1 to 4](#) provide background on the use of this document. Headings for subclauses in [clauses 5 to 8](#) mirror those of ISO/IEC 27002:2022, reflecting the fact that this document builds on the guidance in ISO/IEC 27002:2022, adding new controls specific to the protection of PII. Many of the controls in ISO/IEC 27002:2022 need no amplification in the context of PII controllers. However, in some cases, additional implementation guidance is needed, and this is given under the appropriate heading (and clause number) from ISO/IEC 27002:2022.

ISO/IEC DIS 29151:2024(en)

The normative annex contains an extended set of PII protection-specific controls. These new PII protection controls, with their associated guidance, are divided into twelve categories, corresponding to the privacy policy and the eleven privacy principles of ISO/IEC 29100:

- consent and choice;
- purpose, legitimacy and specification;
- collection limitation;
- data minimization;
- use, retention and disclosure limitation;
- accuracy and quality;
- openness, transparency and notice;
- individual participation and access;
- accountability;
- information security; and
- privacy compliance.

[Figure 1](#) describes the relationship between this document and other ISO/IEC standards.

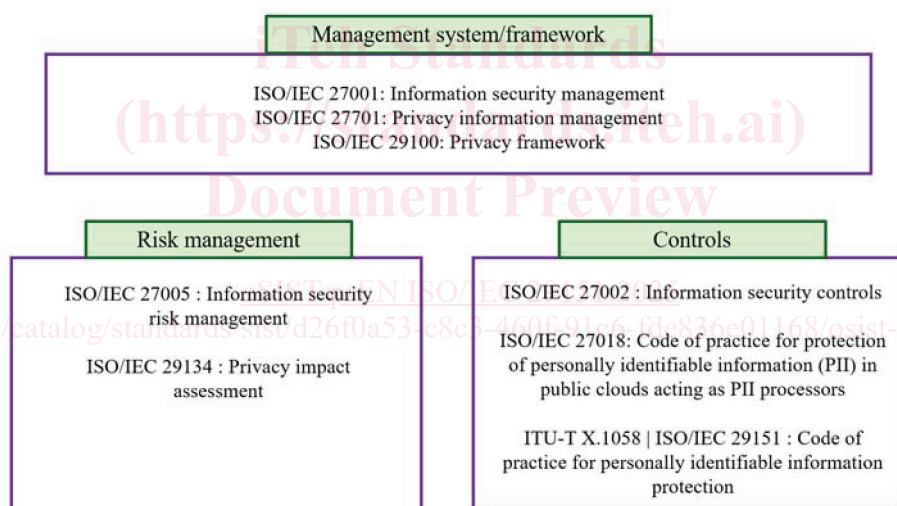


Figure 1 — The relationship of this document and other ISO/IEC standards

This document includes guidelines based on ISO/IEC 27002, and adapts these as necessary to address the privacy needs that arise from the processing of PII:

- a) In different processing domains such as:
- public cloud services,
 - social networking applications,
 - internet-connected devices in the home,
 - search, analysis,
 - targeting of PII for advertising and similar purposes,

ISO/IEC DIS 29151:2024(en)

- big data analytics programmes,
 - employment processing,
 - business management in sales and service (enterprise resource planning, customer relationship management);
- b) In different locations such as:
- on a personal processing platform provided to an individual (e.g., smart cards, smart phones and their apps, smart meters, wearable devices),
 - within data transportation and collection networks (e.g., where mobile phone location data is created operationally by network processing, which may be considered PII in some jurisdictions),
 - within an organization's own processing infrastructure,
 - on a third party's processing platform;
- c) For the collection characteristic such as:
- one-time data collection (e.g., on registering for a service),
 - ongoing data collection (e.g., frequent health parameter monitoring by sensors on or in an individual's body, multiple data collections using contactless payment cards for payment, smart meter data collection systems, and so on).

NOTE Ongoing data collection can contain or yield behavioural, locational and other types of PII. In such cases, the use of PII protection controls that allow access and collection to be managed based on consent and that allow the PII principal to exercise appropriate control over such access and collection, need to be considered.

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Information security, cybersecurity and privacy protection – Controls and guidance for personally identifiable information protection

1 Scope

This Recommendation | International Standard establishes controls, purpose, and guidance for implementing controls, to meet the requirements identified by a risk and impact assessment related to the protection of personally identifiable information (PII).

In particular, this Recommendation | International Standard specifies guidance based on ISO/IEC 27002, taking into consideration the controls for processing PII that may be applicable within the context of an organization's privacy risk environment(s).

This Recommendation | International Standard is applicable to all types and sizes of organizations acting as PII controllers (as defined in ISO/IEC 29100), including public and private companies, government entities and not-for-profit organizations that process PII, in particular, organizations that do not establish or operate a privacy information management system.

2 Normative references

The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this Recommendation | International Standard. At the time of publication, the editions indicated were valid. All Recommendations and Standards are subject to revision, and parties to agreements based on this Recommendation | International Standard are encouraged to investigate the possibility of applying the most recent edition of the Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a list of currently valid ITU-T Recommendations.

ISO/IEC 27002:2022, *Information security, cybersecurity and privacy protection — Information security controls*

ISO/IEC 29100:2024, *Information technology — Security techniques — Privacy framework*

3 Terms and Definitions and abbreviated terms

3.1 Definitions

For the purposes of this Recommendation | International Standard, the terms and definitions that are given in ISO/IEC 27000:2018, ISO/IEC 27002:2022, ISO/IEC 29100 and the following apply.

The ISO *Online browsing platform*, IEC *Electropedia* and ITU *Terms and definitions* are terminological databases for use in standardization.

3.1.1

chief privacy officer (CPO):

Senior management individual who is accountable for the protection of personally identifiable information (PII) in an organization.

ISO/IEC DIS 29151:2024(en)

3.1.2

de-identification process:

Process of removing the association between a set of identifying data and the data principal, using de-identification techniques.

3.1.3

organization:

person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its objectives.

Note 1 to entry: The concept of organization includes, but is not limited to, sole-trader, company, corporation, firm, enterprise, authority, partnership, charity or institution, or part or combination thereof, whether incorporated or not, public or private.

3.1.4

personally identifiable information (PII):

information that (a) can be used to establish a link between the information and the natural person to whom such information relates, or (b) is or might be directly or indirectly linked to a natural person

Note 1 to entry: The “natural person” in the definition is the *PII principal* (3.1.3). To determine whether a PII principal is identifiable, account should be taken of all the means which can reasonably be used by the privacy stakeholder holding the data, or by any other party, to establish the link between the set of PII and the natural person.

[SOURCE: ISO/IEC 29100:2024, 3.7]

3.1.5

PII controller:

privacy stakeholder (or privacy stakeholders) that determines the purposes and means for processing *personally identifiable information (PII)* (3.1.4) other than natural persons who use data for personal purposes

Note 1 to entry: A PII controller sometimes instructs others [e.g. *PII processors* (3.1.7)] to process PII on its behalf while the responsibility for the processing remains with the PII controller.

[SOURCE: ISO/IEC 29100:2024, 3.8]

3.1.6

PII principal, data subject: natural person to whom the *personally identifiable information (PII)* (3.1.4) relates

[SOURCE: ISO/IEC 29100:2024, 3.9]

3.1.7

PII processor:

privacy stakeholder that processes *personally identifiable information (PII)* (3.1.4) on behalf of and in accordance with the instructions of a *PII controller* (3.1.5)

[SOURCE: ISO/IEC 29100:2024, 3.10]

3.2 Abbreviated terms

For the purposes of this document, the following abbreviations apply.

CPO	Chief Privacy Officer
PIA	Privacy Impact Assessment
PII	Personally Identifiable Information

ISO/IEC DIS 29151:2024(en)

4 Overview

4.1 Objective for the protection of PII

This document provides a set of controls for PII protection. The objective of the protection of PII is to enable organizations to put in place a set of controls as part of their overall PII protection programme. They can be used in a framework for demonstrating compliance with privacy-related laws and regulations, managing privacy risks and meeting the expectations of PII principals, regulators or clients, in accordance with the privacy principles described in ISO/IEC 29100.

4.2 Requirement for the protection of PII

An organization should identify its PII protection requirements. The privacy principles in ISO/IEC 29100 apply to the identification of requirements. There are three main sources of PII protection requirements:

- legal, statutory, regulatory and contractual requirements related to protection of PII including, for example, PII requirements that an organization, its trading partners, contractors and service providers have to comply with;
- assessment of risks (i.e., security risks and privacy risks) to the organization and the PII principal, taking into account the organization's overall business strategy and objectives, through a risk assessment;
- corporate policies: an organization may also choose voluntarily to go beyond the criteria that are derived from previous requirements.

Organizations should also adhere to the principles (i.e., privacy principles defined in ISO/IEC 29100), objectives and business requirements for processing PII that have been developed to support their operations.

PII protection controls (including security controls) should be selected on the basis of a risk assessment. The results of a privacy impact assessment (PIA), e.g., as specified in ISO/IEC 29134, will help to guide and determine the appropriate treatment action and priorities for managing risks to the protection of PII and for implementing controls selected to protect against these risks.

A PIA document such as that in ISO/IEC 29134 may provide PIA guidance, including advice on risk assessment, risk treatment plan, risk acceptance and risk review.

4.3 Controls

A privacy risk assessment can assist organizations in identifying the specific risks of privacy breaches resulting from unlawful processing or of infringements of the rights and freedom of the PII principal involved in an envisaged PII processing or from inadequate or not effective information security or privacy controls. Organizations should identify and implement controls to treat the risks identified by the risk impact process. The controls and treatments should then be documented, ideally in a separate risk register. Certain types of PII processing can warrant specific controls for which the need only becomes apparent once an envisaged operation has been carefully analysed.

4.4 Selecting controls

Controls can be selected from this document (which includes by reference the controls from ISO/IEC 27002, creating a combined reference control set). If required, controls can also be selected from other control sets or new controls can be designed to meet specific needs, as appropriate.

The selection of controls is dependent upon organizational decisions based on the criteria for risk treatment options and the general risk management approach, applied to the organization and, through contractual agreements, to its customers and suppliers, and should also be subject to all applicable national and international legislation and regulations.

The selection and implementation of controls is also dependent upon the organization's role in the provision of infrastructure or services. Many different organizations may be involved in providing infrastructure

ISO/IEC DIS 29151:2024(en)

or services. In some circumstances, selected controls may be unique to a particular organization. In other instances, there may be shared roles in implementing controls. Contractual agreements should clearly specify the PII protection responsibilities of all organizations involved in providing or using the services.

The controls in this document can be used as reference for organizations that process PII, and are intended to be applicable for all organizations acting as PII controllers. Organizations acting as PII processors should do so, in accordance with the instructions of the PII controller. PII controllers should ensure that their PII processors are able to implement all the necessary controls included in their PII processing agreement, in accordance with the purpose of PII processing. PII controllers using cloud services as PII processors may review ISO/IEC 27018 to identify relevant controls to implement.

The controls in this document are explained in more detail in [clauses 5](#) to [8](#), along with implementation guidance. Implementation may be made simpler if requirements for the protection of PII have been considered in the design of the organization's information systems, services and operations. Such consideration is an element of the concept that is often called privacy by design (PBD). More information about selecting controls and other risk treatment options can be found in ISO/IEC 29134. Other relevant references are listed in the bibliography.

4.5 Developing organization specific guidelines

This document can be regarded as a starting point for developing organization specific guidelines. Not all of the controls and guidance in this document are applicable to all organizations.

Furthermore, additional controls and guidelines not included in this document may be required. When documents are developed containing additional guidelines or controls, it may be useful to include cross-references to clauses in this document, where applicable, to facilitate compliance checking by auditors and business partners.

4.6 Life cycle considerations

PII has a natural life cycle, from creation or origination, collection, through storage, use and transfer to its eventual disposal (e.g., secure destruction). The value of, and risks to, PII may vary during its life cycle, but protection of PII remains important at all stages and in all contexts of its life cycle.

Information systems also have life cycles within which they are conceived, specified, designed, developed, tested, implemented, used, maintained, and eventually retired from service and disposed of. PII protection should also be taken into account at each of these stages. New system developments and changes to existing systems present opportunities for organizations to update and improve security controls as well as controls for the protection of PII, taking actual incidents, and current and projected information security and privacy risks into account.

4.7 Structure of this document

Control descriptions in ISO/IEC 27002:2022 are structured as follows. Each control has the following elements:

- a) Control title: Short name of the control;
- b) Attribute table: A table shows the value(s) of each attribute for the given control;
- c) Control: What the control is;
- d) Purpose: Why the control should be implemented;
- e) Guidance: How the control should be implemented;
- f) Other information: Explanatory text or references to other related documents.

Subheadings are used in the guidance text for some controls to aid readability where guidance is lengthy and addresses multiple topics. Such headings are not necessarily used in all guidance text. Subheadings are underlined.