



**International
Standard**

ISO/IEC 29151

**Information security, cybersecurity
and privacy protection — Controls,
requirements, and guidance for
personally identifiable information
protection**

*Sécurité de l'information, cybersécurité et protection de la vie
privée — Mesures de sécurité, exigences et recommandations
pour la protection des données à caractère personnel*

**Second edition
2026-07**



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This document was prepared by ITU as X.1058 (2025) and drafted in accordance with its editorial rules, in collaboration with Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 27, *Information security, cybersecurity and privacy protection*, and in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/CLC/JTC 13, *Cybersecurity and Data Protection*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO/IEC 29151:2017), which has been technically revised.

The main changes are as follows:

- the content of the guidance for security controls in the main text and the privacy controls in Annex A have been aligned with ISO/IEC 27002:2022.

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.

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

Summary

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 Specification provides such guidance.

Recommendation ITU-T X.1058 | International Standard ISO/IEC 29151 specifies controls, purpose and guidance for implementing controls, to meet the requirements identified by a risk and impact assessment related to the protection of PII. In particular, this Specification specifies requirements and guidance based on ISO/IEC 27002, taking into consideration the controls for processing PII that can be applicable within the context of an organization's information security risk environment(s).

History*

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FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, and information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

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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 Specification provides such guidance.

This Specification 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 International 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, and 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 provide 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 Specification contains two parts:

- the main body consisting of clauses 1 to 8;
- Annexes A and B.

The structure of this Specification, including the clause titles, reflects the main body of ISO/IEC 27002:2022 for the development of PII-specific extensions.

The title of the 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 do not require 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.

Annex A 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;

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- individual participation and access;
- accountability;
- information security; and
- privacy compliance.

Figure 1 describes the relationship between this Specification and other International Standards.

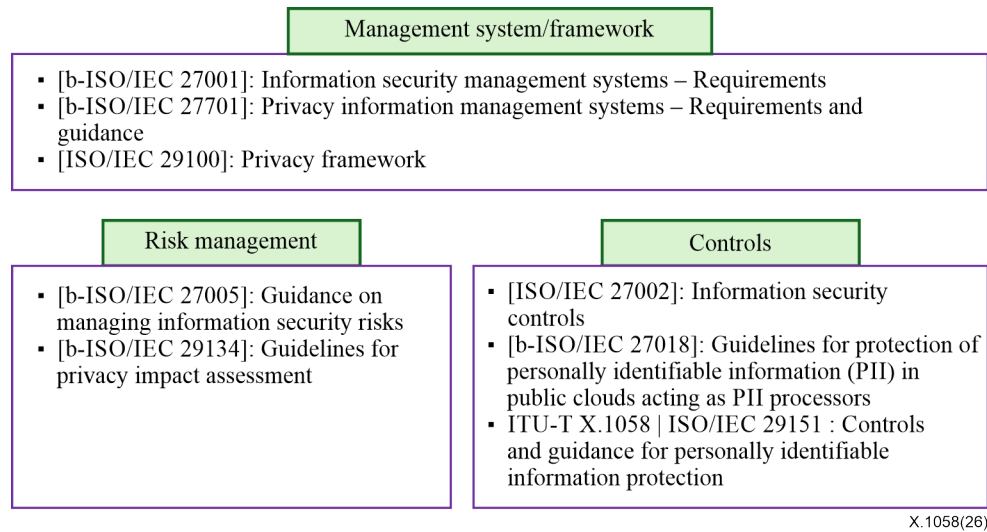


Figure 1 – Relationship between this Specification and other International Standards

This Specification includes guidance based on ISO/IEC 27002. The guidance is adapted 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,
 - 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 can be considered PII in some jurisdictions),
 - within an organization's own processing infrastructure,
 - on a third party's processing platform;
- c) for the collection type 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).

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Ongoing data collection can contain or yield behavioural, locational and other types of PII. In such cases, it is recommended to use PII protection controls that allow:

- access and collection to be managed based on consent, and
- the PII principal to exercise appropriate control over such access and collection.

INTERNATIONAL STANDARD
ITU-T RECOMMENDATION

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

1 Scope

This Recommendation | International Standard specifies 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 requirements and guidance based on ISO/IEC 27002, taking into consideration the controls for processing PII that can be applicable within the context of an organization's information security 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*.

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