DRAFT International Standard

ISO/IEC DIS 29187-1

ISO/IEC JTC **1**/SC **36**

Secretariat: **KATS**

Voting begins on:
2024-07-09

Voting terminates on:
2024-10-01

Information technology — Identification of privacy protection requirements pertaining to learning, education and training (LET) —

Part 1: Framework and reference model

Technologies de l'information — Identification des exigences de protection privée concernant l'apprentissage, l'éducation et la formation (AÉF) —

Partie 1: Cadre général et modèle de référence

ICS: 03.100.30; 35.240.90

This document is circulated as received from the committee secretariat.

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENTS AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

Reference number
ISO/IEC DIS 29187-1:2024(en)

© ISO/IEC 2024



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2024

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Foreword vi

Introduction vii

1 Scope 1
1.1 Statement of scope – ISO/IEC 29187 multipart standard 1
1.2 Statement of scope – Part 1: Framework and Reference Model 1
1.3 IT-systems environment neutrality 1

2 Normative references 2

3 Terms and definitions 3

4 Symbols and acronyms 38

5 Fundamental principles and assumptions governing privacy protection requirements in learning transactions involving individual learners 40
5.1 Overview of primary sources of privacy protection principles (PPP) 40
5.2 Exceptions to the application of the privacy protection principles 44
5.3 Fundamental Privacy Protection Principles 45
5.3.1 Privacy Protection Principle 1: Preventing Harm 45
5.3.2 Privacy Protection Principle 2: Accountability 45
5.3.3 Privacy Protection Principle 3: Identifying Purposes 49
5.3.4 Privacy Protection Principle 4: Informed Consent 49
5.3.5 Privacy Protection Principle 5: Limiting Collection 51
5.3.6 Privacy Protection Principle 6: Limiting Use, Disclosure and Retention 52
5.3.7 Privacy Principle 7: Accuracy 56
5.3.8 Privacy Protection Principle 8: Safeguards 57
5.3.9 Privacy Protection Principle 9: Openness 58
5.3.10 Principle 10: Individual Access 59
5.3.11 Privacy Protection Principle 11: Challenging Compliance 62
5.4 Requirement for tagging (or labelling) data elements in support of privacy protection requirements 63

6 Collaboration space and privacy protection 64
6.1 Introduction 64
6.2 Privacy collaboration space: Role of individual learner, LET provider and regulator 64
6.3 Learning collaboration space (of a learning transaction) 66

7 Public policy requirements of jurisdictional domains 66
7.1 Introduction 66
7.2 Jurisdictional domains and public policy requirements 67
7.2.1 Privacy protection 68
7.2.2 Consumer protection 69
7.2.3 Individual accessibility 70
7.2.4 Human rights 71
7.2.5 Privacy as a right of an "individual" and not right of an organization or public administration 71
7.2.6 Need to differentiate between (a) "privacy protection" and, (b) "confidentiality", "security", etc. 72

8 Principles and rules governing the establishment, management and use of identities of an individual (and "individual learner") 72
8.1 Introduction 72
8.2 Rules governing the establishment of personae, identifiers and signatures of an individual 73

© ISO/IEC 2024 – All rights reserved

8.3 Rules governing the assignment of unique identifiers to an individual by Registration Authorities (RAs) 79
8.4 Rules governing individual identity(ies), authentication, recognition, and use 80
8.5 Legally recognized individual identity(ies) (LRIIs) 85

9 Person component – individual sub-type 86
9.1 Introduction 86
9.2 Role qualification of a Person as an individual (learner) 86
9.3 Persona and legally recognized names (LRNs) of an individual 87
9.4 Truncation and transliteration of legally recognized names of individuals 88
9.5 Rules governing anonymization of individuals in a learning transaction 89
9.6 Rules governing pseudonymization of personal information in a learning transaction 90

10 Process component 91
10.1 Introduction 91
10.2 Planning 92
10.3 Identification 92
10.4 Negotiation 93
10.5 Actualization 93
10.6 Post-Actualization 93

11 Data (element) component of a learning transaction 94
11.1 Introduction 94
11.2 Rules governing the role of Learning Transaction Identifier (LTI) in support of privacy protection requirements 94
11.3 Rules governing state change management of SRIs in a learning transactions in support of privacy protection requirements 95
11.4 Rules governing records retention of personal information in a learning transaction 96
11.5 Rules governing time/date referencing of personal information in a learning transaction 97

12 Conformance statement 97
12.1 Purpose 97
12.2 Conformance to the ISO/IEC 29187-1 Reference Model 98
12.3 Conformance to ISO/IEC 29187-2+ parts 99

Annex A (normative) Learning Transaction Model (LTM): Classes of constraints 100
A.1 Introduction 100
A.2 Fundamental components of a learning transaction 100
A.3 Learning Transaction Model (LTM) and its two classes of constraints 103

Annex B (normative) Integrated set of information life cycle management (ILCM) principles in support of information law compliance 106
B.1 Introduction 106
B.2 Purpose 106
B.3 Approach 107
B.4 Integrated set of information life cycle management (ILCM) principles 107

Annex C (normative) Coded domains for specifying state changes and record retention management in support of privacy protection requirements 109
C.1 Introduction 109
C.2 State changes 111
C.2.1 Introduction 111
C.2.2 Specification of state changes allowed to personal information 111
C.2.3 Store change type 113
C.2.4 Records retention 115
C.2.5 Records destruction 118

Annex D (informative) Use and adaptation of the ISO/IEC 14662 Open-edi Reference Model 120
D.1 Introduction 120

© ISO/IEC 2024 – All rights reserved

D.2 Relevance of Open-edi Reference Model 121
D.3 Basic aspects of Open-edi collaboration space: Buyer and seller 124

Annex E (informative) Potential parts 2+ for ISO/IEC 29187 based on results of the ISO/IEC JTC1/SC 36 Ad-Hoc on Privacy (AHP) 126
E.1 Introduction 126
E.2 Purpose 127
E.3 User requirements and issues identified by the SC36/AHP of sub-types of data in a LET context requiring privacy protection standard(s) 127
E.4 User requirements of specific LET needs pertaining to privacy issues 128
E.5 User requirements for ISO/IEC 29187-1 resulting from JTC1/SC36 resolution 128
E.6 User requirements for Parts 2+ resulting from responses to JTC1/SC36/WG3 N360 129

Annex F (informative) "Exclusions to the Scope of ISO/IEC 29187-1" 130
F.1 Functional services view (FSV) 130
F.2 Overlap of and/or conflict among jurisdictional domains as sources of privacy protection requirements 130
F.3 Publicly available personal information 131

Annex G (informative) "Aspects not currently addressed in this document" 132

Annex H (informative) Abstract of ISO/IEC 29187-1 136

Bibliography 137

© ISO/IEC 2024 – All rights reserved

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 ISO documents 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/IEC JTC 1/SC 36.

This *2nd edition of ISO/IEC 29187-1* edition cancels and replaces the first edition (*ISO/IEC 29187-1*), which has been technically revised.

A list of all parts in the *ISO/IEC 29187-1* series can be found on the ISO website.

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.

© ISO/IEC 2024 – All rights reserved

Introduction

NOTE This document is intended to be used in conjunction with ISO/IEC 14662, ISO/IEC 15944-1, ISO/IEC 15944-5 and ISO/IEC 15944-8.

0.1 Purpose and overview

For the purposes of this standard, the use of LET covers learning, education and training. In order to determine the need and focus of LET standards in support of privacy protection requirements applicable to personal information of an individual learner, ISO/IEC JTC1/SC36 established an "Ad-Hoc on Privacy (AHP)"[1] The results of this detailed preparatory work and survey by this ISO/IEC JTC1/SC36 AHP the identified user requirements and serve as the basis for the need for this multipart standard[2] {See further Annex E below}

ISO/IEC JTC1/SC36 considers it important that international standards which facilitate the use of information and communication technologies (ICT) be structured to be able to support legal requirements of the jurisdictional domains in which they are to be implemented and used. This is particularly so where such standards are used to capture and manage *recorded information* for decision-making about individuals. Common legal and regulatory requirements of this nature, which impact the development of ICT-based standards, include those of a public policy nature such as those pertaining to *consumer protection*, *privacy protection*, *individual accessibility*, human rights, etc.

The role of ISO/IEC JTC1/SC36 is to develop ICT-based standards in the fields of learning, education and training (LET). Since the application and use of a majority of ISO/IEC JTC1/SC36 standards involve the role of an individual as "learner", i.e. as an "*individual learner*", this means that any *recorded information* on or about an identifiable *individual* as a "learner" is subject to applicable privacy/data protection a requirement.

ISO/IEC 29187-1 serves as a "Framework and Reference Model". Based on a set of (primary) principles, the "Framework and Reference Model" is composed of a number of conceptual and structural models. These are represented via "illustrative" figures and associated lexical models[3] in the form of rules.

More specific and detailed "typical models" are to be developed in Parts 2+ of this multipart standard. These Parts 2+ will focus on more detailed specifications of particular components of the Framework and Reference Model.

0.2 Benefits of using a multipart ISO/IEC 29187 standard approach

There are several benefits from taking an integrated approach: First, a multipart standard approach provides for a systematic, cost-efficient and effective approach to the creation of robust, (re-)useable components in support of LET privacy protection requirements, including those needed to facilitate the use of generic global requirements perspective as well as added requirements of particular jurisdictional domains of human interface equivalents (HIEs) at any level of granularity.

Second, this multipart standard will provide cost savings to those organizations and public administrations, individual learners and suppliers of LET-based products and services, i.e., "LET providers". It will do so from

[1] The majority of the ISO/IEC JTC1/SC36 P-members represent jurisdictional domains which are governed by privacy/data protection requirements of a legislative/regulatory nature which apply to "individual learners.

[2] The mandate and objectives of this ISO/IEC JTC1/SC36 AHP as well as the Survey instrument are stated in document 36N1436.

[3] One such lexical model is the key concepts and their definitions of the Framework and Reference Model as presented in Clause 3 below.

© ISO/IEC 2024 – All rights reserved

a multilingual requirement[4] perspective and in support of cultural adaptability, individual accessibility and diversity.

Third, having a common IT-facilitated approach will: (1) benefit individual users world-wide (doing so in respect and support of cultural diversity); (b) ensure that requirements of jurisdictional domains (at whatever level) can be supported in a very cost-effective and efficient manner; and, (3) also benefit suppliers of LET focused products and services.

The concept of (semantic) collaboration space (SCS), introduced in Clause 7 below is directed at supporting the implementation of the *UN Convention on the Rights of Persons with Disabilities* in an ITLET context including those of a privacy protection nature.

0.3 Informed consent and learning transaction

A key privacy protection requirement is that it requires informed consent[5] of the individual, including in the role of an individual learner. It also requires the identification of the purpose(s), goal for which the personal information is to be created/collected, used, managed, shared, deleted, etc. In addition to identifying purpose(s) and informed consent (presented below) as Privacy Protection principles in Clauses 5.3.3 and 5.3.4. There are also the Privacy Protection Principles of "accountability" of "limiting collection", "limiting use, disclosure and retention", "accuracy", "openness", "individual access", and "challenging compliance" (presented below Privacy Protection principles in Clauses 5.3.3, 5.3.2, 5.3.5, 5.3.6, 5.3.7, 5.3.9, 5.3.10, and 5.3.11 respectively).

Requirements of this nature focus on what might be considered the LET operational view (LOV). In addition, there are ICT technical support requirements for privacy protection principles #8 "safeguards" (see Clause 5.3.8 below). These include security services, communication services, etc.

Requirements of this nature are not unique to a LET (or ITLET) context. They have already been identified and addressed in a generic manner in the ISO/IEC 14662 *Open-edi Reference Model* as being a "transaction" nature in support of an agreed upon commitment exchange between an individual learner and a LET provider.

Consequently, the "LET Privacy Protection Framework and Reference Model" (presented below in Figure 1) is based on the ISO/IEC 14662 standard *Open-edi Reference Model*. A key construct of the Open-edi Reference Model is that it recognizes that a commitment exchange, modelled as a transaction, needs to be treated and supported as a whole. At the same time, and from an ICT (including ITLET perspective) it is recognized that ICT-based support services, i.e., functional support services view change as ICT changes on the whole, but those of the user and operational requirements view remain fairly constant. The interaction and inter-working between (a) the user operational view; and, (b) the ICT support services view in modelling a transaction, and then developing standards in support of the same as presented in the Open-edi Reference Model as the need to differentiate between the business operation view (BOV) and functional services view (FSV).[6] LET privacy protection Framework and Reference Model uses these two views of the Open-edi Reference Model to describe the relevant aspects of a learning transaction:

a) the "Learning Operational View (LOV) aspects of a learning transaction; and,

b) the "LET- FSV view of a learning transaction.

[4] Multilingual communications (whatever the supporting IT platform used including the Internet) is already supported by existing technologies. Many ISO/IEC and ISO standards already exist (or are under development) whose contents can and will be used as building blocks for the integration of this new LET standard.

[5] See Annex D below "Open-edi Reference Model and Learning transaction" provides informative information on the key modelling constructs introduced in ISO/IEC 29187-1.

[6] See further below, Annex D (informative) titled "*Use and adaptation of the Open-edi Reference Model".*

© ISO/IEC 2024 – All rights reserved

The Learning Operational View (LOV) addresses the aspects of the context and semantic aspects of personal information in a learning transaction including data management and interchange aspects. The LOV also can be referred to as the operational and user requirements view.

The LET-FSV addresses the ICT infrastructure and support services meeting the mechanical needs of the Learning Operational View. Its purpose is to support the demands on the supporting ICT infrastructure of the Learning Operational View. It focuses on ICT aspects of:

— functional capabilities;

— service interfaces; and

— protocols and APIs.

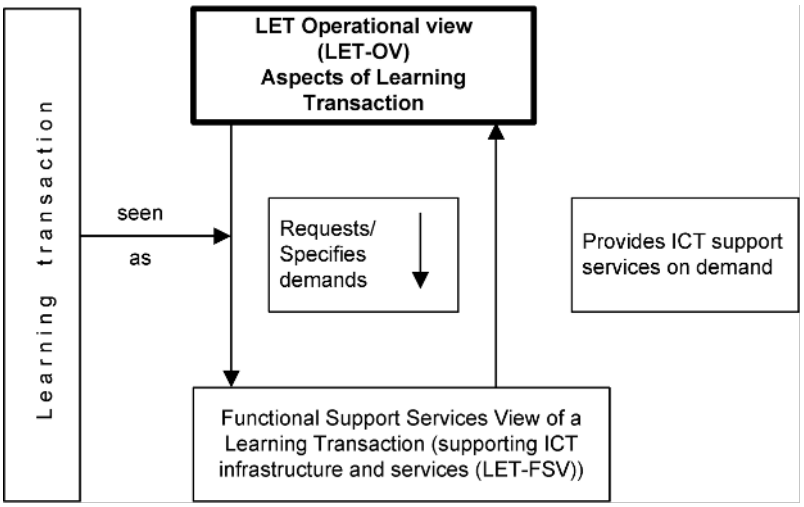


Figure 1 — Learning Transaction - Privacy Protection – Framework and Reference Model

0.4 Use of "jurisdictional domain", jurisdiction, country

Multiple different definitions are currently in use for “jurisdiction”. Some have legal status and others do not[7]. Further, it is a common practice to equate “jurisdiction” with “country”. Yet, at the time, it is also a common practice to refer to “provinces”, “states”, “länder”, “cantons, “territories”, “municipalities”, etc., as jurisdictions. In addition, several UN member states can combine to form a “jurisdiction”, (e.g., the European Union, NAFTA, etc.).

In this standard:

— the use of “jurisdictional domain” represents its use as a defined term; and

— the use of “jurisdiction(s)” and/or country(ies) represents their use in generic contexts and do not imply any legal effects perse.

[7] For more detailed information on this and related matters pertaining to “jurisdictional domain”, see ISO/IEC 15944-5 *Information Technology - Business Operational View - Part 5: Identification and referencing of requirements of jurisdictional domains as sources of external constraints.* This is a freely available ISO/IEC standard. See http://standards.iso.org/ittf/PubliclyAvailableStandards/

© ISO/IEC 2024 – All rights reserved

Most often in this document "jurisdictional domain" is used as it represents the primary source of external constraints pertaining to "privacy protection" rights of individuals. It also reflects the fact that in UN member states which are "federated" in nature, that it is the "province", "state", länder, "territory", in that UN member state which is often responsible for LET-related activities and thus is the responsible jurisdictional domain.

This standard incorporates the common aspects of such laws and regulations as pertaining to privacy protection, applicable at the time of publication only. The concept of "privacy protection" also integrates these various set of legal and regulatory requirements and does so from a public policy requirements perspective. (See below Clause 7)

It has to be born in mind that the delivery of "privacy protection" requires action both at the LET operational level (LOV) and technology level of functional service (FSV). Where human beings interact with recorded information once it has passed through an Open-edi transaction, they may have the potential to compromise technical controls (FSV) that may have been applied. It is essential that LET models take account of the need to establish overarching operational processes that address issues that have not been, and/or cannot be resolved by the technical FSV controls applied so as to provide the overall privacy demands of regulation that must be applied to personal data, their use, proscribed dissemination and so on. In this regard, the interplay of the LOVLOV and FSV views of all organizations must be taken into account.

0.5 Use of "Person", "individual", "organization", "public administration" and "person" in the context of a learning transaction

It is important to differentiate an "individual" from the other two sub-types of Person, namely that of an "organization" and a "public administration". There are several reasons why this is necessary. These include:

a) the fact that in UN conventions, Charters, treaties, etc., as well as in the laws and regulations of jurisdictional domains, the word "person" is often used without explicitly specifying whether here "person" applies only to a human being, a natural person, i.e., as an "individual," but also other types of persons recognized in law, i.e., legal persons such as organizations and public administrations[8]. For example, the human right of "freedom of expression" which is stated in the UN Charter as written and was intended to be a right of human beings (natural persons) only. However, in some well as the Constitution (and/or Charter of Human Rights) and of most jurisdictional domains was jurisdictional domains, corporations have been allowed to claim the right of "freedom of expression" since they are also "Persons" i.e., "legal persons", with the result that "freedom of expression" rights are applied to "advertising";

b) the need to ensure that public policy requirements of jurisdictional domains {see further Clause 6 below} which are created and intended for human beings continue to pertain to human beings only, i.e., "individual"; and

c) for the first 20-30 years, the use of ICT was restricted to organizations and public administrations. The advent of the Internet and the World-Wide Web (WWW) has resulted in "individuals" becoming full participants in the use of ICT.

Consequently, many, if not most of the ISO/IEC JTC1 standards, as well as other ICT based standards of ISO, IEC and ITU (and others) do not distinguish whether or not the real end user is: (a) another IT system; or, (b) a Person, i.e., an entity able to make a commitment; and then whether that entity making a commitment is doing so on behalf of itself, i.e., as an "individual", or on behalf of an organization, i.e., as an organization Person.

[8] The "U*N Convention on the Rights of Persons with Disabilities*" does not explicitly state or define what a "Person" is. From its purpose and context, one deduces that these are "natural persons" and not "legal persons", (e.g., not organizations or public administrations). In an ICT environment (or the virtual world) one needs to be very explicit.

© ISO/IEC 2024 – All rights reserved

To address these and related requirements, the additional concept and term of "Person" was introduced and defined[9] in such a way that it is capable of having the potential legal and regulatory constraints applied to it, i.e., as "external constraints". In the context of this standard, these include:

— external constraints of a public policy nature in general and of a "privacy protection" nature in particular as legal rights of an individual; and

— external constraints of a public policy nature in general and of a privacy protection nature in particular, which apply to organizations or public administrations as legal obligations to be complied with when providing goods and services to any individual.

In summary, there are three broad categories of a Person as a player in any process involving the making of a decision; and/or the making of a "commitment" namely: (1) the Person as "individual"; (2) the Person as "organization"; and, (3) the Person as "public administration". There are also three basic (or primitive) roles of Persons in learning transactions, i.e., the making of a commitment of whatever nature, namely "buyer", "seller", and "regulator".

The reader of this standard should understand that:

— the use of Person with a capital "P" represents Person as a defined term, i.e., as the entity that carries the legal responsibility for making commitment(s);

— "individual", "organization" and "public administration" are defined terms representing the three common sub-types of "Person"; and

— the words "person(s)" and/or "party(ies)" are used in their generic contexts independent of roles of "Person" (as defined in the ISO/IEC 14662:2010 and ISO/IEC 15944-1 standards). A "party" to any decision making process, a commitment making process (including any kind of learning transaction) has the properties and behaviours of a "Person".

0.6 Importance of definitions and terms

The ISO/IEC Directives Part 2 provide for "Terms and definitions" as a "Technical normative element", necessary for the understanding of certain terms used in the document[10]. A primary reason for having "Terms and definitions" in a standard is because one cannot assume that there exists a common understanding, worldwide, for a specific concept. And even if one assumes that such an understanding exists, then having such a common definition in Clause 3 serves to formally and explicitly affirm (re-affirm) such a common understanding, i.e., ensure that all parties concerned share this common understanding as stated through the text of the definitions in Clause 3.

A primary objective of the ISO/IEC 29187-1 standard on LET privacy protection is the need:

1) to have clear, unambiguous and explicitly stated definitions for the concepts introduced or used;

2) to appreciate and understand that one needs to be careful in the choice of the "label" i.e., term, to be associated with a concept; and,

[9] See further Clause 6.2 "*Rules Governing the Person component*" in ISO/IEC 15944-1 (3rd ed.) titled *"Information technology – Business operational view – Part 1: Operational Aspects of Open-edi for implementation".* The multipart ISO/IEC 15944 eBusiness standard, as well as the ISO/IEC 14662 *Open-edi Reference Model* standard, are "publicly available" ISO standards, see http://standards.iso.org/ittf/PubliclyAvailableStandards/index.html.

[10] See further, the document titled *"Importance of Definitions for Concepts",* (2008-05-20) ISO/IEC JTC1/SC36/WG7 N0129.

© ISO/IEC 2024 – All rights reserved

3) to understand that (1) and (2) are essential to privacy protection and the creation and provision of human interface equivalents (HIEs) of the semantics of the content of what is intended to be communicated. This is required to support the "informed consent" privacy protection requirement.

If one looks at any UN convention, treaty, covenant, any law or regulation of a jurisdictional domain, an international standard, etc., one will find that their first two chapters, clauses, articles or sections are: (1) "purpose" or "scope", and, (2) "definitions". From an academic and scientific LET perspective, the introduction of a new concept, its definition, what it "is" (or meant to be understood as), how and where it fits or is to be used, etc., is the focus of many papers, presentations, etc.[11)]

Definitions of concepts form the foundation of research and even more so in a multidisciplinary network context. As such, it is important that definitions be explicit, unambiguous, and precise with respect to the semantics conveyed.

This is important because the "definition" and associated label, i.e., "term", of a concept not only:

4) serves as the basis for a "common understanding" of all parties involved; but also,

5) serves as the basis for (a) any other (non-involved) individual to be able to understand the meaning and use of a concept as per its definition; and, (b) a common bridge between ICT-based and ICT-neutral approaches.

At times, in order to ensure that the concept being defined is not confused with other related concepts, i.e., via word, label, or term, used to denote the concept, it is necessary to introduce, i.e., invent or "coin", a new term as the label for that concept. The key purpose is not to have multiple different meanings associated with a single label or term.

0.7 Based on Rules and Guidelines

This standard[12)] is intended to be used within and outside of the ISO, IEC, and ITU communities by diverse sets of users having different perspectives and needs.

ISO states that a new standard is a: *"documented agreement containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics to ensure that materials, products, processes and services are fit for their purpose".*

This standard focuses on "other precise criteria to be used consistently as rules, guidelines or definitions of characteristics, to ensure that products, processes and services are fit for their purpose", i.e., from an operational and user perspective by individuals and in compliance with applicable external constraints.

This means that this standard is based on rules which are predefined and mutually agreed to. {See further Clause 5+ below}

0.8 Size of document and role of "*Part 1 Framework and Reference Model*"

While in an ITLET context, this Part 1 of ISO/IEC 29187 may seem to be voluminous, it is noted that there are many ISO/IEC JTC1 (and ISO or IEC) standards which are over 1,000 pages in size. The purpose of this "Part 1 Framework and Reference Model" is exactly that, to provide an overall "Framework and Reference Model" in an ITLET context to identify the requirements and context for implementation of these requirements in subsequent Parts of this multipart standard.

---

11) The designation ISO before a natural language refers to the use of that natural language in ISO standards.

12) ISO/IEC JTC1 Directives, Part 1, Section 2.5:1998; and, ISO/IEC Guide 2:1996, 1.7.

© ISO/IEC 2024 – All rights reserved

In order that subsequent Parts 2+ of this multipart standard can be as "short" as possible, it is necessary for them to be able to use and reference normative and informative Clauses and Annexes of this Part 1 document.

0.9 Use of "identifier" (in a learning transaction)

Unambiguous identification of the two primary parties to a learning transaction, i.e., the individual learner and the LET provider (as well as associated agents or third parties) is a primary LET privacy protection requirement. Clause 8 and Clause 11 below address the issues pertaining to the establishment and management of use of identities of parties to a learning transaction, that of the parties to a learning transaction (including the use of various personae (or names) identities, etc.

However, "unambiguous" is a key issue in learning transactions because states of unambiguity and uncertainty are not permitted in the context of LET privacy requirements and even more so with respect to LET transactions which involve EDI. A key assumption of Open-edi Reference Model which applies to any commitment made among autonomous parties is that the resulting transaction shall also have its own unique identifier.

0.10 Use of "privacy protection" in the context of a commitment exchange and learning transaction

To be able to address privacy protection requirements, one needs to do this in the context of a commitment exchange among an individual learner and a LET provider involving identified purpose and informed consent. Such a set of activities is modelled as a learning transaction, i.e., a set of activities or processes which is initiated either by an individual learner or a LET provider to accomplish and explicitly shared goal and terminated upon recognition of one of the agreed conclusions by all the involved Persons although some of the recognition may be implicit, (e.g., a student drops out of a class or a study programme).

0.11 Aspects currently not addressed

This second edition of this document focuses on the essential, i.e., generic and primitive aspects only.

Many other aspects identified in the development of this document remain to be addressed. For detailed information on these see Annex G.

0.12 IT-systems environment neutrality

This document, like all the other parts of ISO/IEC 15944, does not assume nor endorse any specific system environment, database management system, database design paradigm, system development methodology, data definition language, command language, system interface, user interface, syntax, computing platform, or any technology required for implementation, i.e., it is information technology neutral. At the same time, this document maximizes an IT-enabled approach to its implementation and maximizes semantic interoperability.

0.13 Organization and description of document

The ISO/IEC 29187-1 Framework and Reference Model standard identifies basic common LET privacy protection requirements, as external constraints of jurisdictional domains, on the modelling of learning transactions.

Clauses 0.1 – 0.n provide key concepts and common content for this multipart standard. (These are based on the ISO/IEC 14662:2010 Open-edi Reference Model as well as the multipart ISO/IEC 15944 standard).

Clause 1 Scope, which follows, not only provides the overall scope of this multipart standard, including that of "Part 1: Framework and Reference Model" but this states its exclusions as well as relevant aspects not yet addressed in this 1st edition of the Framework and Reference Model.

© ISO/IEC 2024 – All rights reserved

Clause 2 provides the Normative References used in this document. It is noted that a key principle in the development of ISO/IEC 29187-1 (as well as subsequent Parts) is to maximize use of existing international ISO, ISO/IEC, JTC1, IEC, and ITU-T standards, as well as applicable referenced specifications.

The principle of maximizes re-use of applicable international standards also applies to subsequent Clause 3 "Definitions" and Clause 4 "Symbols and abbreviations".

Clause 5 provides the key elements applicable to not only this Part 1 but all other subsequent Parts of this multipart standard. Clause 5 identifies the fundamental principles governing privacy protection requirements on learning transactions involving individual learners.

The purpose of Clause 6 is to place the Clause 5 privacy protection requirements identified as "Fundamental Principles" in Clause 5) in the context of the use of the "collaboration space" modelling construct" in support of privacy protection requirements. The focus of Clause 6 is to place LET privacy protection requirements in a "collaboration space" context. The purpose is recognition and support of the fact that the "identifying purpose" and "informed consent" LET privacy protection requirements. (See further below Clauses 5.3.3 and 5.3.4) Clause 6 introduces the concept of "learning collaboration space" and does so in the context of a "learning transaction".

The purpose of Clause 7 is to situate LET privacy protection requirements in the context of other similar public policy requirements such as consumer protection and individual accessibility.

Clause 8 focuses on presenting the principles and rules governing the management of use of identities of an individual learner. Based on generic Open-edi standards, it brings to the fore the fact of an individual having multiple personae, identities, associated unique identifiers, legally recognized individual identities, etc.

Clause 9 introduces the Person components focusing on the individual (learner) sub-type. It addresses issues such as rule qualification, legally recognized names, truncation of names, as well as anonymization and pseudonymization.

The five fundamental activities comprising the Process component of a learning transaction are introduced in Clause 10. They are planning, identification, negotiation, actualization and post-actualization.

The data (element) component of a learning transaction are presented in Clause 11. This Clause includes sets of rules governing the role of a Learning Transaction Identifier (LIT), those pertaining to change management as well as records retention of the SRIs in the learning transaction. Clause 11 concludes with h a set of rules governing date/time referencing.

Clause 12 provides two types of Conformance Statements, namely (1) which pertains to ISO/IEC 29187-1 Reference Mode; and, (2) one which applies to Conformance with any of the Parts 2+ of this multipart standard.

At the end of this document are some helpful Annexes that provide elaboration as well as normative references in the main body. Normative references include Annex "A", which is a consolidated list of the definitions found in Clause 3 presented in matrix form of ISO French equivalents.

Other normative Annexes include Annex B which beings forward key aspects of the Learning transaction model (LTM) and classes of constraints. Normative Annex C provides, in summary form, the applicable set of information life cycle management principles (ILCM), while normative Annex D focuses on presenting coded domains for specifying state changes and records management decisions in support of privacy protection requirements.

Annex E provides added informative information on the Open-edi Reference Model. Annex F (informative) provides information on the results of the ISO/IEC JTC1/SC36 Ad-Hoc on Privacy (AHP) including the identification of potential Parts 2+ in the further development of this multipart standard as well as those

© ISO/IEC 2024 – All rights reserved

resulting from the developments of ISO/IEC 29187-1 standard. Annex F introduces the potential parts 2+ for ISO/IEC 29187 based on results of the ISO/IEC JTC1/SC 36 Ad-Hoc on Privacy (AHP). Annex G describes the Exclusions to the Scope of ISO/IEC 29187-1. Annex H lists the figures of the 2nd version of ISO/IEC 29187-1. Annex I which includes the aspects not currently addressed in this document. Finally, Annex J reminds the abstract of abstract of ISO/IEC 29187-1.

© ISO/IEC 2024 – All rights reserved

Information technology — Identification of privacy protection requirements pertaining to learning, education and training (LET) —

Part 1:
Framework and reference model

1 Scope

1.1 Statement of scope – ISO/IEC 29187 multipart standard

This (multipart) standard focuses on the identification of privacy protection requirements which apply to any ISO/IEC JTC1/SC36 ITLET standard or LET activity which involves:

1) the identification of an individual, (e.g., as a learner or student, a teacher, professor, or instructor, an administrator, etc.), in the use and implementation of the ISO/IEC JTC1/SC36 standard; and/or

2) any standard which involves the recording of any information on or about an identifiable individual by any LET provider.

1.2 Statement of scope – Part 1: Framework and Reference Model

Part 1 of this (multipart) standard identifies and summarizes principles governing privacy protection requirements which are generic in nature and applies them to the field of learning, education and/or training (LET). The LET transaction – Privacy Protection - Framework and Reference Model is learning transaction focused, rule-based, and conformant to the generic ISO/IEC 14662 Open-edi Reference Model. It maximizes re-use of existing ISO standards including applicable concepts and their definitions. LET privacy protection requirements are placed in the generic context of applicable public policy requirements, those pertaining to establishment and management of identities of an individual learner, as well as state changes and records retention requirements of personal information on or about an individual learner. This standard also incorporates best practices and policies as have already been implemented in LET environments in support of privacy protection requirements.

This document does not specify the technical mechanisms, i.e., functional support services (FSV) which are required to support LOV-identified requirements. Detailed exclusions to the scope of this document are provided in Annex H.

1.3 IT-systems environment neutrality

This standard does not assume nor endorse any specific system environment, database management system, database design paradigm, system development methodology, data definition language, command language, system interface, user interface, syntax, computing platform, or any technology required for implementation, i.e., it is information technology neutral. At the same time, this standard maximizes an IT-enabled approach to its implementation and maximizes semantic interoperability.

© ISO/IEC 2024 – All rights reserved

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.

EN ISO 19115-1:2014/A1:2018, *Geographic information - Metadata - Part 1: Fundamentals - Amendment 1 (ISO 19115-1:2014/Amd 1:2018)*

EN ISO 19135-1:2015:2016, *Geographic information - Procedures for item registration - Part 1: Fundamentals (ISO 19135-1:2015)*

ISO 1087:2019, *Terminology work and terminology science — Vocabulary*

ISO 19115:2003/Cor 1:2006, *Geographic information — Metadata — Technical Corrigendum 1*

ISO 2382-12:1988, *Information processing systems — Vocabulary — Part 12: Peripheral equipment*

ISO 5127:2017, *Information and documentation — Foundation and vocabulary*

ISO 5127-1:1983, *Documentation and information — Vocabulary — Part 1: Basic concepts*

ISO 639-2:1998, *Codes for the representation of names of languages — Part 2: Alpha-3 code*

ISO/IEC 10181-2:1996, *Information technology -- Open Systems Interconnection -- Security frameworks for open systems: Authentication framework*

ISO/IEC 10181-2:1996, *Information technology — Open Systems Interconnection — Security frameworks for open systems: Authentication framework*

ISO/IEC 11179-1:2015, *Information technology - Metadata registries (MDR) - Part 1: Framework*

ISO/IEC 11179-3:2013, *Information technology -- Metadata registries (MDR) -- Part 3: Registry metamodel and basic attributes*

ISO/IEC 11179-3:2003/COR1:2004, *Corrigendum 1 - Information technology -- Metadata registries (MDR) -- Part 3: Registry metamodel and basic attributes -*

ISO/IEC 14662:2010, *Information technology -- Open-edi reference model*

ISO/IEC 14662:2010, *Information technology -- Open-edi reference model*

ISO/IEC 14662:2010, *Information technology -- Open-edi reference model*

ISO/IEC 15944-1:2011, *Information technology — Business operational view — Part 1: Operational aspects of open-edi for implementation*

ISO/IEC 15944-1:2011, *Information technology -- Business Operational View -- Part 1: Operational aspects of Open-edi for implementation*

ISO/IEC 15944-1:2011, *Information technology -- Business Operational View -- Part 1: Operational aspects of Open-edi for implementation*

ISO/IEC 15944-10:2013, *Information technology -- Business Operational View -- Part 10: IT-enabled coded domains as semantic components in business transactions*

© ISO/IEC 2024 – All rights reserved

ISO/IEC 15944-2:2015, *Information technology - Business Operational View - Part 2: Registration of scenarios and their components as business objects*

ISO/IEC 15944-4:2015, *Information technology -- Business Operational View -- Part 4: Business transaction scenarios -- Accounting and economic ontology*

ISO/IEC 15944-5, *Information technology - Business Operational View - Part 5: Identification and referencing of requirements of jurisdictional domains assources of external constraints*

ISO/IEC 15944-5:2008, *Information technology - Business Operational View - Part 5: Identification and referencing of requirements of jurisdictional domains assources of external constraints*

ISO/IEC 15944-7:2009, *Information technology — Business operational view — Part 7: eBusiness vocabulary*

ISO/IEC 15944-8:2012, *Information technology -- Business Operational View -- Part 8: Identification of privacy protection requirements as external constraints on business transactions*

ISO/IEC 2382:2015, *Information technology -- Vocabulary*

ISO/IEC 2382-17:1999, *Information technology -- Vocabulary -- Part 17: Databases*

ISO/IEC 2382-23:1994, *Information technology -- Vocabulary -- Part 23: Text processing*

ISO/IEC 2382-4:1999, *Information technology -- Vocabulary -- Part 4: Organization of data*

ISO/IEC 29187-1:2013, *Information technology -- Identification of privacy protection requirements pertaining to learning, education and training (LET) -- Part 1: Framework and reference model*

ISO/IEC 6523-1:1998, *Information technology -- Structure for the identification of organizations and organization parts -- Part 1: Identification of organization identification schemes*

ISO/IEC 9798-1:2010, *Information technology -- Security techniques -- Entity authentication -- Part 1: General*

ISO/IEC TR 13335-1:1996, *Information technology — Guidelines for the management of IT Security — Part 1: Concepts and models for IT Security*

3 Terms and definitions

For the purposes of this document, the *following terms and definitions / terms and definitions given in , as well as the following [delete what doesn't apply]* apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
address
set of *data elements* (3.27) that specifies a *location* (3.84) to which a *recorded information* (3.129) item(s), a *business* (3.7)*object* (3.91)(s), a material *object* (3.91)(s) and/or a person(s) can be sent or from which it can be received

Note 1 to entry: An *address* (3.1) can be specified as either a *physical address* (3.111) and/or *electronic address* (3.37).

© ISO/IEC 2024 – All rights reserved