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**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*



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## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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.

ISO/IEC 29187-1 was prepared by Joint Technical Committee ISO/IEC JTC1, *Information technology*, Subcommittee SC 36, *Information technology for learning, education, and training*.

ISO/IEC 29187 consists of the following parts, under the general title *Information technology — Identification of privacy protection requirements pertaining to learning, education and training (LET)*:

— *Part 1: Framework and reference model*

Further parts may be added in the future.

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## 0 Introduction

### 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)”<sup>1)</sup> The results of this detailed preparatory work and survey by this JTC1/SC36 AHP the identified user requirements and serve as the basis for the need for this multipart standard<sup>2)</sup> {See further Annex F 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 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<sup>3)</sup> in the form of rules.

More specific and detailed “typical models” are to be developed in Parts 2+ of this multipart standard. These Part 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.

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<sup>1)</sup> The majority of 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

<sup>2)</sup> The mandate and objectives of this JTC1/SC36 AHP as well as the Survey instrument are stated in document 36N1436

<sup>3)</sup> One such lexical model is the key concepts and their definitions of the Framework and Reference Model as presented in Clause 3.0 below.

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 a multilingual requirements<sup>4)</sup> 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 <sup>5)</sup>

A key privacy protection requirement is that it requires informed consent 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”, “limiting collection”, “limiting use, disclosure and retention”, “accuracy”, “openness”, “individual access”, and “challenging compliance” (presented below Privacy Protection principles in Clauses 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 (LET-OV). 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 “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 service, 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. This operation between the user view and the ICT view in modelling a transaction and developing standards in support of the same is presented in the Open-edi Reference Model as the need to differentiate between the business operation view (BOV) and functional services view (FSV).<sup>6)</sup> 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 (LET-OV) aspects of a learning transaction; and,
- b) the “LET- FSV view of a learning transaction.

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<sup>4)</sup> 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.

<sup>5)</sup> Annex E below “Open-edi Reference Model and Learning transaction” provides informative information on the key modelling constructs introduced in ISO/IEC 29187-1.

<sup>6)</sup> See further below, Annex E (informative) titled “Use and adaptation of the Open-edi Reference Model”.

The Learning Operational View addresses the aspects of the context and semantic aspects of personal information in a learning transaction including data management and interchange aspects. The LET-OV 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:

- a) functional capabilities;
- b) service interfaces;
- c) protocols and APIs.

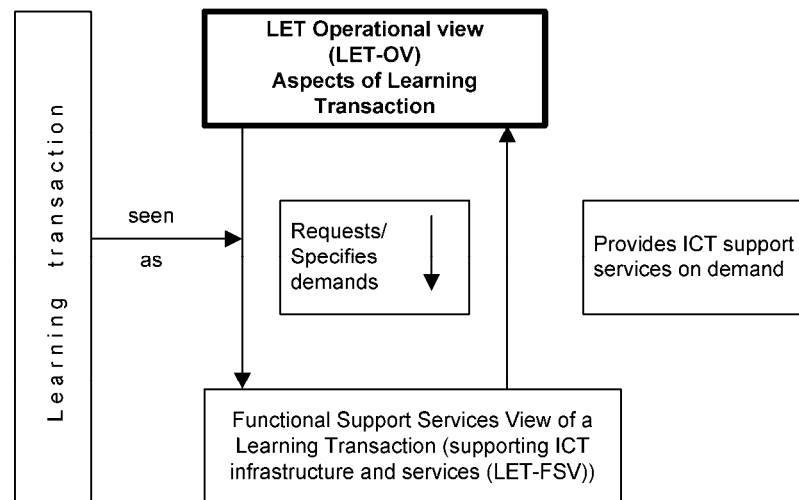


Figure 1 — Learning Transaction - Privacy Protection – Framework and Reference Model

#### 0.4 Use of "jurisdictional domain", jurisdiction, country<sup>7)</sup>

Multiple different definitions are currently in use for "jurisdiction". Some have legal status and others do not. 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:

- a) the use of "jurisdictional domain" represents its use as a defined term; and,
- b) the use of "jurisdiction(s)" and/or country(ies) represents their use in generic contexts.

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.

<sup>7)</sup> For more detailed information on this and related matters pertaining to "jurisdictional domain", see ISO/IEC 15944-5:2008 (E) *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.

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 (LET-OV) 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 LET-OV 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<sup>8)</sup>

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”;
- 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.

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<sup>8)</sup> The “UN 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 here.

To address these and related requirements, the additional concept and term of “Person” was introduced and defined<sup>9)</sup> 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:

- a) external constraints of a public policy nature in general and of a “privacy protection” nature in particular as legal rights of an individual; and,
- b) 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:

- a) 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);
- b) “individual”, “organization” and “public administration” are defined terms representing the three common sub-types of “Person”; and,
- c) 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<sup>10)</sup>

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. 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.

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<sup>9)</sup> See further Clause 6.2 “Rules Governing the Person component” in ISO/IEC 15944-1:2010 (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>.

<sup>10)</sup> See further, the document titled “*Importance of Definitions for Concepts*”, (2008-05-20) SC36/WG7 N0129.

## ISO/IEC 29187-1:2013(E)

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,
- 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.

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:

- 1) serves as the basis for a “common understanding” of all parties involved; but also,
- 2) 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 here is not to have multiple different meanings associated with a single label or term.

### 0.7 Standard based on rules and guidelines

This standard 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.

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. Clauses 8 and 11 below addresses 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 have a 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 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 1<sup>st</sup> edition of the Framework and Reference Model.

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 here 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”.

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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 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 English and ISO French equivalents.

Other normative Annexes include Annex B which brings 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 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 resulting from the developments of ISO/IEC 29187-1 standard.



# 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 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 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 Open-edu 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.

### 1.3 Exclusions

#### 1.3.1 Functional services view (FSV)

This standard focuses on the Learning Operational View (LOV) aspects of a learning transaction, and does not concern itself with the technical mechanisms needed to achieve the learning requirements. In a LET context, the FSV definition of the LET functional services view (or LET-FSV) is as follows:

*perspective of learning transactions limited to those information technology interoperability aspects of IT Systems needed to support the execution of Open-edu transactions*

*[adapted from ISO/IEC 14662:2004, 3.10]*

Various LET-FSV aspects include the specification of requirements of a Functional Services Support View (LET-FSV) nature which include security techniques and services, communication protocols, etc. This includes any existing standard (or standards development of an FSV nature), which have been ratified by existing ISO, IEC, UN/ECE and/or ITU standards.

### **1.3.2 Overlap of and/or conflict among jurisdictional domains as sources of privacy protection requirements**

A learning transaction requires an exchange of commitments among autonomous parties, i.e., an individual learner, a LET provider. Commitment is the making or accepting of a right, an obligation, liability or responsibility by a Person. In the context of a learning transaction, the making of commitments pertains to the transfer of a LET good, service and/or right among the Persons involved. In the past and still to a large extent today, the individual learner and the LET provider share the same jurisdictional domain. The advent of the Internet, online, distance, mobile, etc., learning has the result that parties to a learning transaction are often located in differing jurisdictional domains.

Consequently, it is not an uncommon occurrence depending on the goal and nature of the learning transaction that the Persons (and parties associated) are in different jurisdictional domains, and that, therefore, multiple sets of external constraints apply and overlap will occur. It is also not an uncommon occurrence that there is overlap among such sets of external constraints and/or conflict among them. This is also the case with respect to laws and regulations of a privacy protection nature. Resolving issues of this nature is outside the scope of this standard.

However, the modelling of learning transaction as scenarios and scenario components as re-useable business objects may well serve as a useful methodology for identifying specific overlaps and conflicts (thereby serving as a tool for their harmonization).

As such, the Open-edi descriptive techniques methodologies and constructs, can serve as a tool in harmonization and simplification of external constraints arising from jurisdictional domains.

NOTE This 1<sup>st</sup> edition of Part 1 is based on the following assumptions:

- 1) the privacy protection requirements of the individual learner, as a buyer in a learning transaction, are those of the jurisdictional domain in which the individual made the commitments associated with the instantiated learning transaction; and,
- 2) where the LET provider is in a jurisdictional domain other than that of the individual learner, this 1<sup>st</sup> edition of Part 8 incorporates and supports the generic common privacy protection requirements which are expressed in eleven principles in Clause 5 below.

### **1.3.3 Publicly available personal information**

Excluded from the scope of this standard personal information which is publicly available, i.e., “publicly available personal information. In a learning transaction context, the LET provider does not collect personal information of this nature from the individual (particularly in the “planning phase” of the learning transaction process).

For example, the LET provider in advertising a new LET product or service to the market may access and use;

- 1) public personal information, i.e., publicly available personal information such as that found in telephone directories;
- 2) any personal information declared to be of a public information by a regular based on an law or regulation of the applicable jurisdictional domain; and/or;
- 3) that which the individual itself to make public, (e.g., via one or more Internet based applications such as “Facebook”, Twitter, letters to the editor, etc. These also include those applications where the individual decides not to invoke or use available “privacy settings”.

In a privacy protection context, publicly available personal information is defined as follows:

**personal information** about an **individual** that the **individual** knowingly makes or permits to be made available to the public, or is legally obtained and accessed from: (a) government records that are available to the public; or, (b) information required by law to be made available to the public

*EXAMPLE 1* Examples of personal information which an individual knowingly makes or permits to be made available include public telephone directories, advertisements in newspapers, published materials, postings of this nature on the internet, etc.

*EXAMPLE 2* Examples of government records that are publicly available include registers of individuals who are entitled to vote, buy or sell a property, or any other personal information that a jurisdictional domain requires to be publicly available, etc.

Further, determining whether or not personal information is of a publicly available information nature is also excluded from the scope of this standard.

#### 1.4 Aspects currently not addressed<sup>11)</sup>

This 1<sup>st</sup> edition of ISO/IEC 29187-1 focuses on the essential, i.e., generic and primitive, aspects only. The purpose of this Clause is to identify aspects not currently addressed. These will be addressed either:

- 1) in an Addendum to this standard;
- 2) in the 2<sup>nd</sup> edition of this standard;
- 3) through a new Part of this multipart standard; and/or
- 4) in a new ISO standard.

In this context, this 1<sup>st</sup> edition of ISO/IEC 29187-1 does not currently support the following requirements:

- 1) the differences in equality in use of official languages by an individual, in being informed and exercising privacy protection rights within a jurisdictional domain<sup>12)</sup>
- 2) the interworking between privacy protection and consumer protection requirements as two sets of external constraints applicable to an individual as a buyer in a learning transaction;
- 3) the identification and registration of schemas involving the control and management of legally recognized names (LRNs) as personas and associated unique identifiers for the unambiguous identification of an individual and/or the role qualification of an individual learner in a specific context;
- 4) the more detailed information management and audit requirements pertaining to ensuring privacy protection of personal information that should be enacted by and among organizations and public administrations as parties to a learning transaction;

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<sup>11)</sup> See also below Annex F (informative) "Potential Parts 2+ for ISO/IEC 29187 based on results of the ISO/IEC JTC1/SC36 Ad-Hoc on Privacy (AHP). This Annex F focuses on the identification of user requirements for additional Parts 2+ based on this Part 1 Framework and Reference Model.

<sup>12)</sup> Part 8 focuses on the essential basic, i.e. primitive, aspect of jurisdictional domains as sources of external constraints. As such this edition of ISO/IEC 15944-8 does not address differences in status that may exist among official languages within a jurisdictional domain. It is not uncommon that where a jurisdictional domain has three or more official languages that not all of these have equal status. For example, for use of some official language(s) in a jurisdictional domain, there could be criteria such as "where and when numbers warrant", "there is a significant demand for communication with and services from a public administration in that language", etc. This impacts both the language in which personal information is recorded by an organization or public administration as well as the language of communications of the individual with the organization in a learning transaction.

- 5) the more detailed rules and associated text pertaining to the learning operational view perspective with respect to transborder data flows of personal information<sup>13)</sup>
- 6) interoperation between jurisdictional domains where they do not possess defined equivalents to their privacy protection requirements or where privacy protection requirements are simply different.
- 7) the possible application of privacy protection requirements to personal information of an individual once deceased. On the whole, privacy protection requirements do not apply to an individual after his/her death. However, from a learning transaction perspective there may be some continuity in privacy protection requirements, (e.g., those pertaining to temporal aspects of post-actualization aspects of an instantiated learning transaction, (e.g., health care matters, warranties on products, service contracts, rights (including IP), etc.).

NOTE 1 This may also include a settlement of wills, probate, investments, etc., pertaining to that individual once deceased or obligations of a LET provider to return "personal information" and a decrease "individual learner, (e.g., "student record", granting of a degree, etc.)

NOTE 2 Tax information filed has 4-6 records retention requirements in most jurisdictional domains. In some jurisdictional domains, tax matters are confidential and in others they are public. The status of personal information may change as a result of litigation.

NOTE 3 Instantiated learning transactions not only may require personal information to be required to be retained but continue to be protected following the death of an individual, (e.g., many credit card agreements exist after the death of the credit card holder) the medical or psychological record of an individual learner.

NOTE 4 As such, one may need to have an added Clause on privacy protection of personal information on individuals upon death of that individual (with most of these added requirements being addressed in the 2<sup>nd</sup> edition of Part 1).

- 8) personal information found in journalistic reports

Not yet addressed in this 1<sup>st</sup> edition of Part 1 is the use of personal information in a learning transaction which is found in journalistic reports including news items, public broadcasts, items published by news media about an individual, personal information made available by third parties on the internet, (e.g., via Google, Facebook, Twitter, etc.).

The reasons here that a journalistic report containing personal information about an individual:

- may contain inaccurate information, allegations, and thus should not (can not) be used as "personal information";
- may be subject to libel and other legal actions by the individual;
- etc.

Further issues pertaining to privacy protection versus journalistic reports on identified individuals resulting in the publishing personal information is a "grey area" which courts in various jurisdictional domains are addressing and thus not yet resolved.

- 9) This 1st edition does not address the question of negotiated consent but rather considers the simplest case that a learning transaction may be registered which includes a specific form of consent within it.

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<sup>13)</sup> A useful example here is found from a health informatics perspective in the ISO standard developed by ISO TC215 "Health Informatics" namely: ISO 22857:2004 titled "*Health informatics – Guidelines on data protection to facilitate trans-border flows of personal health information.*"

- 10) The use of biological characteristics and attributes of an individual which require their physical presence of an individual and are physically “taken” from an individual in a particular context and for a specified role action of an individual. These include the use of biometrics, biological (such as hair, blood, DNA samples), dentistry records, etc.
- 11) The application of the rights of individuals who are disabled as stated in the “UN Convention on the Rights of Persons with Disabilities” (2006)<sup>14)</sup> Of particular importance here is that this UN Convention takes as its basis the need to support individuals with disabilities to be a fully functioning member of society means that information necessary for these individuals to be able to make commitments including the undertaking of learning transactions shall be made available in a form and format so that the semantics are fully communicated, the individual is able to have informed consent, etc.
- 12) This 1st edition does not address the role of an “ombudsperson”, “Privacy Commissioner”, a “Data Protection Commissioner”, etc., who serve as an independent adjudicator of complaints, ensure compliance with privacy protection requirements (including of internally of the organization or public administration themselves). Many jurisdictional domains provide for the role of an ombudsperson.
- 13) Detailed rules pertaining to the use of agents and/or third parties by a LET provider in a learning transaction.

This includes their qualification and assurance of compliance with applicable privacy protection requirements for the personal information pertaining to a learning transaction.

- 14) An agent acting on behalf of an individual learner

An individual may request an agent to act on its behalf and this may or may not include the individual to require the agent not to reveal the individual identity or any personal information about the individual, i.e., as an anonymous “client” of the agent<sup>15)</sup>

- 15) detailed rules governing the requirement to tag (or label) at the data elements (or field) level which form part of personal information of an individual generally as was as the business transactions(s) and associated LTIs.”
- 16) Internal behaviour of organizations (and public administration)

Excluded from the scope of this standard is the application of privacy protection requirements within an organization itself. The Open-edi Reference Model, considers these to be internal behaviours of an organization and thus not germane to learning transactions (which focus on external behaviours pertaining to electronic data interchange among the autonomous parties to a learning transaction). As such, excluded from the scope of this standard are any:

- a) internal use and management of recorded information pertaining to an identifiable individual by an organization (or public administration) within an organization; and,
- b) implementation of internal information management controls, internal procedural controls or operational controls within an organization or public administration necessary for it to comply with applicable privacy requirements that may be required in observance of their lawful or contractual rights, duties and obligations as a legal entity in the jurisdictional domain(s) of which they are part.

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<sup>14)</sup> Most, if not all, of the jurisdictional domains of the P-members of ISO/IEC JTC1 are signatories to this UN Convention and are enacting the requirements of this UN Convention into their domestic legislation.

<sup>15)</sup> It may be necessary to introduce and define the concept of an “individual accessibility agent (IAA) as an individual who assists an individual learner from an individual accessibility support perspective, (e.g., someone who “signs”, etc.) and thus helps with communication aspects in a neutral (and not tutor) manner. { See further Clause 7.2.3 below }

17) “organisation Person”

From a public policy privacy protection requirements perspective an “organization Person” is a “natural person” who acts on behalf of and makes commitments of the organization (or public administration) of which that natural person is an “organization part”. But, as an “organization Person, they do not attract inherent rights to privacy.

Examples of roles “organization Person” includes teacher, professor, instructor, tutor, administrator, contractor, consultant, etc., i.e., those working for an organization or public administration.

As such, from a learning transaction perspective, it is an internal behaviour of an organization, as to who makes commitments on behalf of an organization or public administration. How and why organization Persons make decisions and commitments is not germane to the scope and purpose of the 1<sup>st</sup> edition of this standard. {See further Part 1 of ISO/IEC 15944-1:2010, Clause 6.2 “*Person and external constraints: Individual, organization, and public administration*” as well as its Figure 17 “*Illustration of commitment exchange versus information exchange for organization, organization part(s) and organization Person(s)*”}

18) Specification of aspects related to functional support services (FSV) in an IT-platform neutral manner

19) Interoperability considerations of interfaces among different IT-systems.

It is anticipated that some or all of these requirements will be addressed in future editions of ISO/IEC 29187 or in companion standards or technical reports (including possible new Parts of the multipart ISO/IEC 29187 standard).

## **1.5 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.

## 2 Normative references

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.

They have been divided into two parts; namely:

2.1 ISO/IEC and ISO; and,

2.2 Referenced Specifications.

### 2.1 ISO/IEC, ISO and ITU<sup>16)</sup>

ISO 639-2:1998 (E/F), *Codes for the representations of names of languages — Part 2: Alpha-3 code/Codes pour la représentation des noms de langue — Partie 2: Code alpha-3.*

ISO 1087-1:2000 (E/F), *Terminology work — Vocabulary — Part 1: Theory and application/Travaux terminologiques — Vocabulaire - Partie 1: Théorie et application.*

ISO/IEC 2382:1976-2011 (E/F), *Information Technology — Vocabulary, Parts 1-36/Technologies de l'information — Vocabulaire, Parties 1-36 (as applicable).*

ISO 3166-1:1997 (E/F), *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes/Codes pour les représentations des noms de pays et de leur subdivisions — Partie 1: Codes pays.*

ISO 3166-2:1998 (E/F), *Codes for the representation of countries and their subdivisions — Part 2: Country subdivision code/Codes pour la représentation des noms de pays et de leurs subdivisions — Partie 2: Code pour les subdivisions de pays.*

ISO 5127:2001 (E), *Information and documentation — Vocabulary.*

ISO/IEC 5218:2004(E/F), *“Information technology — Codes for the Representation of the Human Sexes”/ «Technologies de l'information — Codes de représentation des sexes humains».*

ISO/IEC 6523-1:1998 (E/F), *Information Technology — Structure for the identification of organizations and organization parts Part 1: Identification of organization identification schemes/Technologies de l'information — Structures pour l'identification des organisations et des parties d'organisations — Partie 1: Identification des systèmes d'identification d'organisation.*

ISO/IEC 6523-2:1998 (E/F), *Information Technology — Structure for the identification of organizations and organization parts Part 2: Registration of organizations identification schemes/Technologies de l'information — Structures pour l'identification des organisations et des parties d'organisations — Partie 2: Enregistrement des systèmes d'identification d'organisation.*

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<sup>16)</sup> For standards referenced for which both English and French versions are available both the English and French language titles are provided. This is independent of whether the English and French language versions of the standard are published as a single document or as separate documents. For those standards which are available in English only, only the English language title is provided.

Further, the reference to “ISO/IEC” here refers to international standards issued jointly by the ISO and the IEC via its Joint Technical Committee 1 – Information Technology, commonly known as “ISO/IEC JTC1” or just “JTC1”. Also, the reference here to the ITU is to those international standards issued by the “ITU-T” (International Telecommunications Union – Telecommunication Standardization sector). and the “ITU-R” (International Telecommunications Union – Radiocommunications Standardization Sector). Note in the field of information and telecommunications technologies, the ITU-T and “ISO/IEC JTC1” often jointly develop and issue international standards.

## ISO/IEC 29187-1:2013(E)

ISO/IEC 7501-1:2005(E), *Identification cards — Machine readable travel documents — Part 1: Machine readable passport.*

ISO/IEC 7501-2: 1977(E), *Identification cards — Machine readable travel documents — Part 2: Machine readable visa.*

ISO/IEC 7501-3:2005(E), *Identification cards — Machine readable travel documents — Part 3: Size 1 and Size 2 Machine readable official travel documents.*

ISO/IEC 7812-1:2000(E), *Identification cards — Identification of issuers Part 1: Numbering system.*

ISO/IEC 7812-2: 2000(E), *Identification cards — Identification of issuers — Part 2: Application and registration procedures.*

ISO 8601:2000 (E), *Data elements and interchange formats — Information interchange — Representation of dates and times (available in English only).*

ISO 15489-1:2001 (E/F), *Information and documentation — Records Management Part 1: General / Information et documentation — «records management» — Partie 1: Principes directeurs.*

ISO/IEC 15944-1:2010 (E), *Information Technology — Business Agreement Semantic Descriptive Techniques — Part 1: Operational Aspects of Open-edi for Implementation.*

ISO/IEC 15944-2:2006 (E), *Information Technology — Business Operational View — Part 2: Registration of Scenarios and their Components as Business Objects.*

ISO/IEC 15944-4:2007 (E), *Information technology — Business Operational View — Part 4: Learning transactions and Scenarios – Accounting and Economic Ontology.*

ISO/IEC 15944-5:2008 (E), *Information technology — Business Operational View — Part 5: Identification and referencing of requirements of jurisdictional domains as sources external constraints.*

ISO/IEC 15944-7:2008 (E), *Information technology — Business Operational View — Part 7: eBusiness vocabulary.*

ISO 19108:2000 (E), *Geographic information — Temporal schema.*

ISO 19115:2003 (E), *Geographic information — Metadata.*

ISO/IEC 19501:2005 (E), *Information technology — Open Distributed Processing — Unified Modelling Language (UML)<sup>17)</sup> Version 1.4.2.*

ISO 22857:2004 (E), *Health informatics — Guidelines on data protection to facilitate trans-border flows of personal health information.*

ISO TS 25237:2008 (E), *Health informatics — Pseudonymization.*

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<sup>17)</sup> Throughout this document, this standard is simply referenced as “UML”.