INTERNATIONAL STANDARD

ISO/IEC 15944-8

First edition
2012-04-01

Information technology — Business Operational View —

Part 8: Identification of privacy protection requirements as external constraints on business transactions

Technologies de l'information — Vue opérationnelle d'affaires —

Partie 8: Identification des exigences de protection de la vie privée en tant que contraintes externes sur les transactions d'affaires

Reference number
ISO/IEC 15944-8:2012(E)

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Published in Switzerland

Contents

Page

Figures

Page

Tables

Page

Foreword

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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.

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ISO/IEC 15944-8 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 32, *Data management and interchange*.

ISO/IEC 15944 consists of the following parts, under the general title *Information technology — Business Operational View*:

— *Part 1: Operational aspects of Open-edi for implementation*

— *Part 2: Registration of scenarios and their components as business objects*

— *Part 4: Business transaction scenarios — Accounting and economic ontology*

— *Part 5: Identification and referencing of requirements of jurisdictional domains as sources of external constraints*

— *Part 6: Technical introduction to e-Business modelling* [Technical Report]

— *Part 7: eBusiness vocabulary*

— *Part 8: Identification of privacy protection requirements as external constraints on business transactions*

— *Part 10: Coded domains*

The following parts are under preparation:

— *Part 3: Open-edi description techniques (OeDTs)*

— *Part 9: Traceability framework*

0 Introduction

0.1 Purpose and overview

Modelling business transactions using scenarios and scenario components is done by specifying the applicable constraints on the data content using explicitly stated rules. The Open-edi Reference Model identified two basic classes of constraints, "internal constraints" and "external constraints". External constraints apply to most business transactions. {See Clause 0.4 and Annex E}

Jurisdictional domains are the primary source of external constraints on business transactions. Privacy protection requirements in turn are a common requirement of most jurisdictional domains, although they may also result from explicit scenario demands from or on the parties involved in a business transaction. (Requirements for secrecy or confidentiality are not addressed in this part of ISO/IEC 15944, unless they are implicitly needed to apply privacy protection requirements to data).

This part of ISO/IEC 15944 describes the business semantic descriptive techniques needed to support privacy protection requirements when modelling business transactions using the external constraints of jurisdictional domains

In addition to the existing strategic directions of "portability" and "interoperability", the added strategic direction of ISO/IEC JTC1 of "cultural adaptability" is also supported in this part of ISO/IEC 15944. The external constraints of jurisdictional domains as a primary factor in choice and use of language and application of public policy are also addressed.

0.1.1 ISO/IEC 14662 "Open-edi Reference Model"[1]

The ISO/IEC 14662 Open-edi Reference Model[2] states the conceptual architecture necessary for carrying out electronic business transactions among autonomous parties. That architecture identifies and describes the need to have two separate and related views of the business transaction.

The first is the Business Operational View (BOV). The second is the Functional Service View (FSV). Figure 1 from ISO/IEC 14662:2010 illustrates the Open-edi environment. {For definitions of the terms used in Figure 1, please see Clause 3 below}

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1 The ISO/IEC 14462 Open-edi Reference Model serves as the basis of the 2000 Memorandum of Understanding (MOU) among ISO, IEC, ITU and the UN/ECE concerning standardization in the field of electronic business. {See http://www.itu.int//ITU-T/e-business/files/mou.pdf }

2 ISO/IEC 14662:2010 (3rd ed. E/F) *"Information technology — Open-edi Reference Model/Technologies de l'information — Modèle de référence EDI-ouvert*".

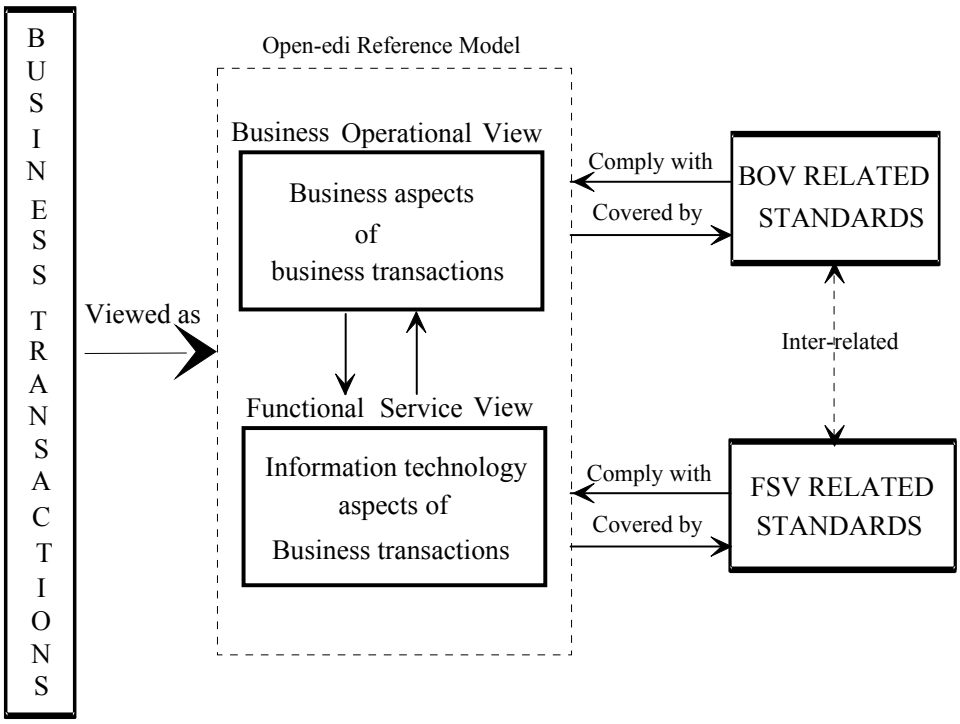


Figure 1 — Open-edi environment – Open-edi Reference Model

ISO/IEC 14662:2010, Clause 5 states:

> "*The intention is that the sending, by an Open-edi Party, of information from a scenario, conforming to Open-edi standards, shall allow the acceptance and processing of that information in the context of that scenario by one or more Open-edi Parties by reference to the scenario and without the need for agreement.*
>
> *However, the legal requirements and/or liabilities resulting from the engagement of an organization in any Open-edi transaction may be conditioned by the competent legal environment(s) of the formation of a legal interchange agreement between the participating organizations. Open-edi Parties need to observe rule-based behaviour and possess the ability to make commitments in Open-edi, (e.g., business, operational, technical, legal, and/or audit perspectives)*".

In addition, Annex A of the ISO/IEC 14662:2010 "Open-edi Reference Model" contains Figure A.1 *"Relationships of Open-edi standardization areas with other standards and import of the legal environment"*. This part of ISO/IEC 15944 is a BOV standard which focuses on the legal environment for the application of privacy and/or data protection from an Open-edi perspective, and, as required follow-up standards development in support of the "Open-edi Reference Model".

ISO/IEC 15944-5 is used to identify the means by which laws and regulations impacting scenarios and scenario components, as external constraints, may be modelled and represented. The primary source of these external constraints is jurisdictional domains.

ISO/IEC 15944-1 creates rules for creating the specification of external constraints when modelling business transactions through scenarios, scenario attributes and scenario components. Several parts of ISO/IEC 15944 are used as input to this part. They are consolidated in this part of ISO/IEC 15944 in Annex B.

ISO/IEC 15944-1:2011 in Clause 7 *"Guidelines for scoping Open-edi Scenarios"* states in Clause 7.1:

> *"The approach taken is that of identifying the most primitive common components of a business transaction and then moving from the general to the more detailed, the simplest aspects to the more*

complex, from no external constraints on a business transaction to those which incorporate external constraints, from no special requirements on functional services to specific requirements, and so on".

This part of ISO/IEC 15944 focuses on addressing commonly definable aspects of external constraints that relate to privacy and data protection when the source is a jurisdictional domain. A useful characteristic of external constraints is that, at the sectoral level, national and international levels, etc., focal points and recognized authorities often already exist. The rules and common business practices in many sectoral areas are already known. Use of this part of ISO/IEC 15944 (and related standards) addresses the transformation of these external constraints (business rules) into specified, registered, and re-useable scenarios and scenario components.

0.1.2 ISO/IEC 15944-1 "Business Agreement Semantic Descriptive Techniques" ("Business Operational View (BOV")")

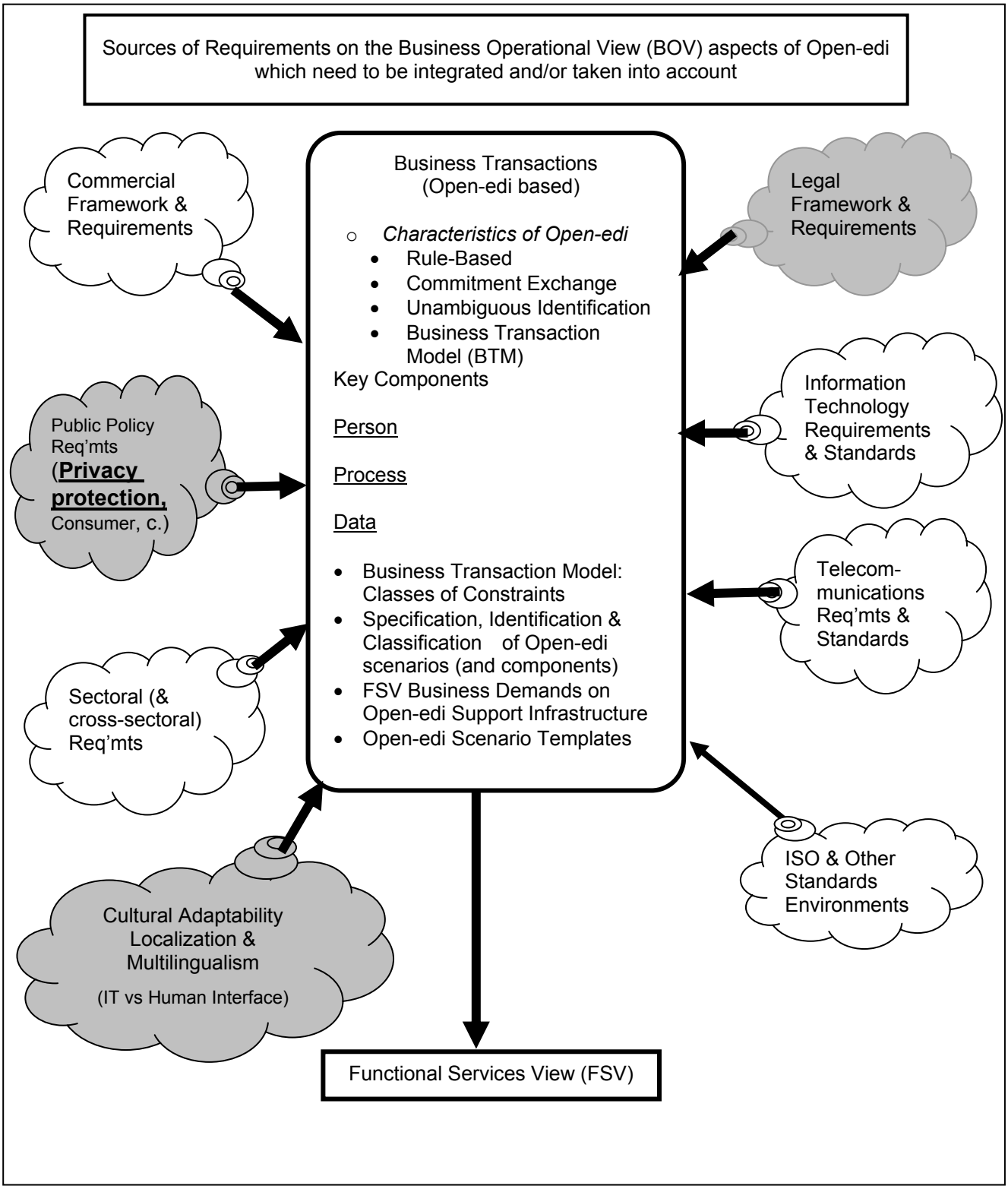
ISO/IEC 15944-1 states the requirements of the BOV aspects of Open-edi in support of electronic business transactions. They shall be taken into account in the development of business semantic descriptive techniques for modelling e-business transactions and components thereof as re-useable business objects. They include:

- commercial frameworks and associated requirements;
- legal frameworks and associated requirements;
- public policy requirements particularly those of a generic nature such as consumer protection, privacy, accommodation of handicapped/disabled;
- requirements arising from the need to support cultural adaptability. This includes meeting localization and multilingual requirements, (e.g., as may be required by a particular jurisdictional domain or desired to provide a good, service and/or right in a particular market. Here one needs the ability to distinguish, the specification of scenarios, scenario components, and their semantics, in the context of making commitments, between:

  a) the use of unique, unambiguous and linguistically neutral identifiers (often as composite identifiers) at the information technology (IT) interface level among the IT systems of participation parties on the one hand; and, on the other,

  b) their multiple human interface equivalent (HIE) expressions in a presentation form appropriate to the Persons involved in the making of the resulting commitments.

Figure 2 shows an integrated view of these business operational requirements. It is based on Figure 3 from ISO/IEC 15944-1. Since the focus of this part of ISO/IEC 15944 is that of external constraints for which jurisdictional domains are the primary source these primary sources have been shaded in Figure 2 below).



In electronic business transactions, whether undertaken on a for profit or not-for-profit basis, the key element is commitment exchange among Persons made among their Decision Making Applications (DMAs) of the

Information Technology Systems (IT Systems)[3] acting on behalf of "Persons". "Persons" are the only entities able to make commitments[4]. Clause 0.4 in ISO/IEC 15944-1 states:

> *"When the ISO/IEC 14662 Open-edi Reference Model standard was being developed, the "Internet" and "WWW" were an embryonic stage and their impact on private and public sector organizations was not fully understood."*

The **Business Operational View (BOV)** was therefore defined as:

> *"perspective of **business transactions** limited to those aspects regarding the making of **business** decisions and **commitments** among **organizations** which are needed for the description of a **business transaction**".*

The ISO/IEC 6523 definition of "organization" was used in the first edition (1997) of ISO/IEC 14662. The fact that today Open-edi, through the Internet and WWW, also involves "individuals" has been taken into account in the development of the 2nd and subsequent editions. ISO/IEC 15944-1 defines the term "commitment". However, the definition of the term "Open-edi Party" previously used proved not to be specific enough to satisfy scenario specifications when the legal aspects of commitment were considered. In many instances commitments were noted as being actually among IT systems acting under the direction of those legally capable of making commitment, rather than actually the individuals acting in their own capacities. It was also recognized that in some jurisdictions a commitment could be made by "artificial" persons such as corporate bodies. Finally, it was noted that there are occasions where agents act, either under the instruction of a principal, or as a result of requirement(s) laid down by a jurisdiction, or where an individual is prevented by a relevant jurisdiction from being able to make a commitment in their own right, (e.g., a minor), and this must be incorporated into the standard.

To address these extended requirements the additional concept and term of "Person", has been defined. A Person is defined such that they are capable of having the appropriate legal and regulatory constraints applied to them.

There are three categories of Person as a role player in Open-edi, 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 business transactions, namely: "buyer", "seller", and "regulator".

When modelling business transactions, jurisdictional domains prescribe their external constraints in the role of "regulator" and execute them as "public administration". {See further below Clause 6.3}

While “public administration” is one of the three distinct sub-types of Person, most of the rules applicable to “organization” also apply to “public administration”. In addition, an unincorporated seller is also deemed to function as an “organization”. Consequently, the use of “organization” throughout this part of ISO/IEC 15944 also covers “public administration”. Where it is necessary to bring forward specific rules, constraints, properties, etc., which apply specifically to “public administration”, this is stated explicitly.

The requirements of jurisdictional domains are specified through the use of sets of "Codes representing X..." Such sets of codes are created and maintained by Source Authorities via a rulebase with resulting coded domains in the form of data elements whose permitted values represent predefined semantics in a structured form, i.e., as a type of semantic component. Jurisdictional domains serve as Source Authorities for such coded domains.

These three categories of Person also identify the possible Source Authorities for coded domains. Source Authorities for coded domains are therefore either "organizations" or "public administrations".

Throughout this part of ISO/IEC 15944:

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3 See further Clause 5.2 "*Functional Services View*" in ISO/IEC 14662:2010 *"Open-edi Reference Model"* (3rd edition).

4 The text in this section is based on existing text in Section "0.3" in ISO/IEC 15944-1:2011 and ISO/IEC 14662:2010 (3rd edition).

- the use of Person with a capital "P" represents Person as a defined term, i.e., as the entity within an Open-edi Party 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 and ISO/IEC 15944-1 standards. A "party" to a business transaction has the properties and behaviours of a "Person".

0.3 Importance and role of terms and definitions[5]

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, where the words have special, extended or technical meaning.

The ISO/IEC 15944 multipart standard sets out the processes for achieving a common understanding of the Business Operational View (BOV) from commercial, legal, ICT, public policy and cross-sectoral perspectives. It is therefore important to check and confirm that a “common understanding” in any one of these domains is also unambiguously understood as identical in the others.

This sub-clause is included in each part of ISO/IEC 15944 to emphasize that harmonized terms and definitions are essential to the continuity of the overall standard. Definitions and their assigned terms should be established as early as possible in the development process. Comments on any definition/term pair should address the question of changes needed to avoid possible misinterpretation. Definitions may need to be amended/improved as part of the harmonization of definitions and their assigned terms among the various parts of ISO/IEC 15944.

In order to minimize ambiguity in the definitions and their associated terms, each definition and its associated term has been made available in at least one language other than English in the part in which it is introduced. In this context, it is noted that ISO/IEC 15944-7 *eBusiness vocabulary* already also contains human interface equivalents (HIEs) in ISO Chinese, ISO French, and ISO Russian.

Normative Annex A “*Consolidated list of terms and definitions with cultural adaptability: ISO English and ISO French language equivalency*” is derived from Clause 3 of each part of ISO/IEC 15944.[6] Annex A is repeated in each part of ISO/IEC 15944 as a convenient reference. The designation ISO before a natural language refers to the use of that natural language in ISO standards, and has no other meaning.

0.4 Importance of the two classes of constraints of the Business Transaction Model (BTM)

The BTM has two classes of constraints; namely:

1) those which are "self-imposed" and agreed to as commitments among the parties themselves, i.e., "internal constraints"; and,

2) those which are imposed on the parties to a business transaction based on the nature of the good, service and/or rights exchanged, the nature of the commitment made among the parties (including ability to make

5 All the terms and definitions of the current editions of the ISO/IEC 14669 *Open-edi Reference Model* and the multipart ISO/IEC 15944 eBusiness standard have been consolidated in ISO/IEC 15944-7:2009. 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.

6 Canada has committed to maintain this comprehensive list in a database as the reference file for Annex A. This Annex A reference file will insure the consistency of definitions and their assigned terms among the various parts in the on-going harmonization effort. {See also ISO/IEC 15944-7 *e-Business Vocabulary}*

commitments, the location, information identifying the parties as living individuals, and so on), i.e., "external constraints".

This part of ISO/IEC 15944 addresses external constraints. Jurisdictional domains are the primary source of external constraints.[7] Privacy protection is addressed as a common set of external constraint requirements coming from of jurisdictional domains.

ISO/IEC 15944-1:2011, Clause 6.1.6 provides normative text for these two classes of constraints. It is included for convenience in this part of ISO/IEC 15944 as Annex C.

0.5 Need for a standard based on rules and guidelines[8]

This part of ISO/IEC 15944 is intended to be used within and outside of the ISO and IEC by diverse sets of users having different perspectives and needs {See above Figure 2 in Clause 0.2}.

In an ISO, IEC, ISO/IEC JTC1 context, a standard is considered to be 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*."[9]

This Business Operational View (BOV) standard focuses on "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".

Open-edi is based on rules which are predefined and mutually agreed to. They are precise criteria and agreed upon requirements of business transactions representing common business operational practices and functional requirements.

Clause 5 "*Characteristics of Open-edi*" in ISO/IEC 15944-1:2011 defines the "Business Operational View (BOV)" type of Open-edi standards as "rule-based" standards[10]. Of particular relevance here is the first key characteristic of Open-edi as stated in Clause 5.1 "*Actions based upon following clear, predefined rules"*. It is useful to quote some key normative text of ISO/IEC 15944-1:2011 so that users of ISO/IEC 15944-5 have a clear understanding of the nature and purpose of this BOV standard.

> *"Open-edi requires the use of clear and pre-defined rules, principles and guidelines. These rules formally specify the role(s) of the parties involved in Open-edi and the available expected behaviour(s) of the parties as seen by other parties engaging in Open-edi. Open-edi rules are applied to:*

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7 For business requirements of the Functional Service View and business demands on the Open-edi support infrastructure with respect to internal constraints, see further ISO/IEC 15944-1:2011, Clause 6.5.2 "*Self-Imposed Constraints"*. ISO/IEC 15944-4:2007, which focuses on accounting and economic aspects of business transactions, does so from an "internal constraints" perspective.

8 This introductory clause is primarily based on that found in ISO/IEC 15944-1:2011, Clause 6.1.2 titled "*Standard based on rules and guidelines*".

9 See entry D252, Annex D, ISO/IEC 15944-7. One can interpret "agreement" in a variety of ways. The ISO/IEC Guide 2:2004 (1.7) uses the term "consensus" which need not imply unanimity but rather "absence of sustained opposition to substantial issues…"

10 The key characteristics of Open-edi are (as stated in Clause 5, ISO/IEC 15944-1:2011, pp.12-14) are:

- actions based on following predefined rules;
- commitment of the parties involved;
- communications among parties are automated;
- parties control and maintain their states;
- parties act autonomously; and,
- multiple transactions can be supported.

The six sub-clauses of Clause 5 of ISO/IEC 15944-1:2011 describe each of these in more detail.

- *the content of information flows; and,*

- *the order and behaviour of information flows themselves.*

The combination of both of these provides a complete definition of the relationships among the parties since it requires them to achieve a common semantic understanding of the information exchanged. They must also have consistent generic procedural views on their interaction. Therefore, rule sets have to be agreed to in advance and captured in Open-edi scenarios. This is a major component of the agreement required among parties."

These rules also serve as a common set of understanding bridging the varied perspectives of the commercial framework, the legal framework, the information technology framework, standardizers, consumers, etc.[11]

For ease of reference, common rules have been sequentially enumerated, and are presented in **bold** font. Where guidelines associated with a rule are provided, they are numbered sequentially after that rule and are shown in **bold** and italic font[12]. Choice of words in the rules, the guidelines and the terms and definitions are governed by maximizing the ability to map, on the one hand, to all the sources of requirements of the Business Operational View (BOV) of any e-business transaction, (e.g., commercial, legal, public policy, cultural adaptability, sectoral, etc.), frameworks of the day-to-day world of business, and, on the other hand, those pertaining to the Functional Services View (FSV) in support of BOV requirements, (e.g., that of those providing information technology and communication services in support of commitment exchange of any kind and among all parties involved in a business transaction).

0.6 Use of "jurisdictional domain", and "jurisdiction" (and "country") in the context of business transaction and commitment exchange

The term "jurisdiction" has many possible definitions. Some "jurisdictions" have accepted international legal status while others do not. It is also common practice to equate "jurisdiction" with "country", although the two are by no means synonymous. It is also common practice to refer to states, provinces, länder, cantons, territories, municipalities, etc., as "jurisdictions", and in contract law it is customary to specify a particular court of law as having jurisdiction or a defined national body, or an international body as having jurisdiction (even if that is not legally enforceable), and so on. Finally, there are differing "legal" definitions of "jurisdiction". Readers of this part of ISO/IEC 15944 should understand that in this part of ISO/IEC 15944:

- the use of the term "jurisdictional domain" represents its use as a defined term; and,

- the use of the terms "jurisdiction(s)" and/or "country(ies)" represents their use in their generic contexts and do not imply that this part of ISO/IEC 15944 has any legal effect per se.

At the same time, a set of external constraints of a jurisdictional domain lends itself to being modelled through scenarios and semantic components. For example, Annex "I" in ISO/IEC 15944-1:2011, titled, "*Scenario Description Using the Open-Edi Scenario Template, Telecommunications Operations Map Example"* is a scenario of an external constraint of a jurisdictional domain, i.e., the USA, that provides a business process framework for the enterprise process required for a telecommunications service provider. Here, the fact that external constraints of jurisdictional domains are a primary factor in choice of language and application of public policy are also addressed in this part of ISO/IEC 15944.

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11 The working principle here is that of "coordinated autonomy", i.e., all parties are autonomous. Therefore, the extent to which they cooperate, agree on common needs, business rules constraints, practices, etc., and reach agreement on the same in form of precise rules, terms and definitions, etc., is a key influence on the creation of necessary standards as well as common scenarios, scenario attributes and scenario components.

12 For example, "Guideline 5G2" equals the second Guideline under Rule 5.

0.7 Use of "identifier" as "identifier (in business transaction)" to prevent ambiguity[13]

Clause 6.1.4 of ISO/IEC 15944-1:2011 focuses on the requirement for the unambiguous identification of entities in business transactions. "Unambiguous" is a key issue in business transactions because states of ambiguity and uncertainty are an anathema from commercial, legal, consumer and information technology perspectives. Issues of unambiguousness apply to all aspects of a business transaction and even more so to those which are EDI-based. Open-edi transactions anticipate that all entities are fully and clearly identified prior to the transaction.

The ISO/IEC 15944 multipart standard serves as a methodology and tool for the specification and unambiguous identification of Open-edi scenarios, scenario attributes and scenario components as re-useable elements, i.e., as re-useable business objects, in support of common business transactions. These and related objectives of interoperability and re-usability of Open-edi scenarios and scenario components for business transactions require their unambiguous identification.

ISO/IEC 15944-1 defines "unambiguous" as follows:

> ***unambiguous***
>
> *level of certainty and explicitness required in the completeness of the semantics of the* ***recorded information*** *interchanged that is appropriate to the goal of a* ***business transaction***
>
> [ISO/IEC 15944-1:2011 (3.66)]

and "identifier (in business transaction)" as follows:

> ***identifier (in business transaction)***
>
> ***unambiguous****, unique and a linguistically neutral value, resulting from the application of a* ***rule-based identification process***
>
> *NOTE Identifiers must be unique within the identification scheme of the issuing authority.*
>
> [ISO/IEC 15944-1:2011 (3.27)]

Thus, readers of this part of ISO/IEC 15944 should understand that the "identifier" in this part of ISO/IEC 15944 is used as a defined term as "identifier (in a business transaction)".[14]

0.8 Use of “privacy protection” in the context of business transaction and commitment exchange

Jurisdictional domains such as UN member states (and/or their administrative sub-divisions), have enacted various “privacy” laws, “data protection” laws, “protection of personal information” laws, etc., (as well as pursuant regulations). Some of these sources of legal requirements focus on the protection of personal information in IT systems only, (e.g., “data protection”), while others focus on the protection of personal information irrespective of the medium[15] used for the recording of personal information and/or its communication to other Persons.

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13 This is a summary of ISO/IEC 15944-1:2011, Clause 6.1.4 "*Business transactions: Unambiguous identification of entities".* See also Annex C in ISO/IEC 15944-1 titled *Unambiguous Identification of Entities in a Business Transaction* which provides the informative and explanatory text for the rules and definitions in Clause 6.1.4.

14 Identifiers in business transactions can be simple or composite identifiers. This is dependent on (1) the rules governing "identifiers" as a rule-based process; (2) the "registration schema" used (as well as any permitted combinations of the same).

15 “Medium” is a defined concept. {See ISO/IEC 15944-1:2011, Clause 6.4. “*Rules governing the data component”*, and its Clause 6.4.1 “*Recorded informaton*”}.

In the case of personal information, this is currently defined by most jurisdictional domains to be a specific sub-set of recorded information relating to the Person as an "individual" – where the qualities of such type of Person are that they must be an identifiable, living individual. So this may only apply to some proportion of the specific role players in a business transaction (including their personae) and not others.

This part of ISO/IEC 15944 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 sets of legal and regulatory requirements and does so from a public policy requirements perspective. {See below at Clause 6.3 and Clause 7}

It has to be borne in mind that the delivery of "privacy protection" requires action both at the business level (BOV) and technology levels (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 business models take account of the need to establish overarching business 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 BOV and FSV views of all organizations must be taken into account.

0.9 Organization and description of this document

This part of ISO/IEC 15944 identifies basic common requirements of privacy protection requirements, as external constraints of jurisdictional domains, on the modelling of a business transaction through scenarios and scenario components.

Following Clauses 0, 1, 2, 3 and 4, which have common content in the multipart standard, Clause 5 introduces a fundamental set of principles and assumptions governing privacy protection requirements in business transactions involving individuals as Persons. The essential aspects of eleven common privacy protection principles have been identified and their requirements are captured in the form of rules. Also, included in Clause 5 are exclusions and rules for tagging (or labelling) data elements in support of privacy protection requirements.

The importance of the concept of "collaboration space" introduced in ISO/IEC 15944-4 is carried forward and adapted in the privacy protection context in Clause 6, as the "privacy collaboration space (PCS)". Refer to ISO/IEC 15944-4 in order to understand and use the concept of collaboration space and apply it in an ISO/IEC 15944-8 context. Generic public policy requirements which apply whenever individuals engage in a business transaction, i.e., as a buyer, are summarized in Clause 7, which is based on ISO/IEC 19544-5. Refer to ISO/IEC 15944-5 in order to understand and use of the concept of public policy requirements. (Privacy protection is one of several common public policy requirements; others include consumer protection and individual accessibility.) Clause 7 concludes by noting that privacy protection is a right of an "individual" only and not of an organization or public administration.

The establishment, management and use of the different identities that an individual has, is the focus of Clause 8. Here the generic principles and rules already stated in ISO/IEC 15944-1 pertaining to Person are used, being placed in a privacy protection requirements context. These include "persona", "identifiers" (and their assignment by Registration Authorities), signature, individual identity (ii)", authentication, recognition, i.e., as a recognized individual identity (rii), recognized individual name (RIN), etc.

Many aspects of the individual as a sub-type of Person and the resulting link to privacy protection were anticipated in the development of ISO/IEC 15944-1 and ISO/IEC 15944-5. The purpose of Clause 9 is to consolidate those which apply to an individual, and do so in a privacy protection requirements context. Clause 9 addresses role qualifications of an individual, a legally recognized name (LRN), truncation of LRNs, anonymization and use of pseudonyms.

Clause 10 focuses on the process component of the Business Transaction Model (BTM) which is constructed of five fundamental activities: planning, identification, negotiation, actualization and post-actualization. Here the generic rules in Clause 6.5 of ISO/IEC 15944-1:2011 are brought forward, and those which pertain to an individual as a buyer are adapted and applied from a privacy protection perspective.

Similarly, Clause 11 focuses on the data component of the BTM and brings forward in summary form applicable concepts and rules in ISO/IEC 15944-1 and ISO/IEC 15944-5 in the context of privacy protection requirements. Specific aspects addressed in Clause 11 include the role or the business transaction identifier (BTI), change management and records retention of personal information, and associated data synchronization requirements, for personal information among all parties to a business transaction as well as date/time referencing.

As in ISO/IEC 15944-1, ISO/IEC 15944-2, and ISO/IEC 15944-5, Clause 12 provides a checklist through the use of templates, to guide the user through the mechanics of determining the source of the external constraints where these are jurisdictional domains; and of determining the adequacy of a scenario specification as well as of available scenario components.

Finally, annexes are provided for elaboration of points raised in the main body.

Annex A is a consolidated list of the definitions and their associated terms used in this part of ISO/IEC 15944 in ISO English and ISO French. As stated in the main body of this part of ISO/IEC 15944, the issue of semantics and their importance of identifying the correct interpretation across official aspects is critical.

Annex B identifies rules stated in the other parts of ISO/IEC 15944 that are applicable to this part of ISO/IEC 15944. Annex C is common to ISO/IEC 15944-2, ISO/IEC 15944-4, and ISO/IEC 15944-5. It summarizes the Business Transaction Model (BTM). Annex D presents, in summary form, an integrated set of information life cycle principles (ILCM) in support of information law compliance from a jurisdictional domain perspective.

The purpose of Annex E is to bring forward and highlight the key concepts and their definitions applicable to the establishment and management, etc., of the multiple identities of a single individual.

Annex F provides the primitive and essential set of coded domains whose interworking is required in order to be able to support state changes and record retention requirements in support of privacy protection requirements.[16]

[16] The coded domains presented in this Annex F are an application in a privacy protection context of those stated in Clause 6.6.4 of ISO/IEC 15944-5:2008, which presents a high level generic approach. The reason that this normative text is in an annex is to facilitate its possible future use of a new part of ISO/IEC 15944 which takes these coded domains as new part of ISO/IEC 15944.

Information technology — Business Operational View —

Part 8: Identification of privacy protection requirements as external constraints on business transactions

1 Scope

1.1 Statement of scope

This part of ISO/IEC 15944:

- provides method(s) for identifying, in Open-edi modelling technologies and development of scenarios, the additional requirements in Business Operational View (BOV) specifications for identifying the additional external constraints to be applied to recorded information in business transactions relating to personal information of an individual, as required by legal and regulatory requirements of applicable jurisdictional domains having governance over the personal information exchanged among parties to a business transaction;

- integrates existing normative elements in support of privacy and data protection requirements as are already identified in the current editions of ISO/IEC 14662 and ISO/IEC 15944-1, ISO/IEC 15944-2, ISO/IEC 15944-4, and ISO/IEC 15944-5 which apply to information concerning identifiable living individuals as buyers[17] in a business transaction or whose personal information is used in the transaction;

- provides overarching operational 'best practice' statements for associated (and not necessarily automated) processes, procedures, practices and governance requirements that must act in support of implementing and enforcing technical mechanisms needed to support privacy/data protection requirements necessary for the implementation in Open-edi transaction environments;

- identifies and provides a sample scenario and implementation (use case) for one or more use cases of privacy/data protection in business transactions; and,

- provides guidelines on the need for procedural mechanisms in the event that mandatory disclosure rules of transactional information must be implemented.

This part of ISO/IEC 15944 is a BOV-related standard which addresses basic (or primitive) requirements of a privacy protection environment, as legal requirements represented through jurisdictional domains, on business transactions, and also integrates the requirements of the information technology and telecommunications environments.

This part of ISO/IEC 15944 contains a methodology and tool for specifying common classes of external constraints through the construct of "jurisdictional domains". It meets the requirements set in ISO/IEC 15944-1 and ISO/IEC 15944-2 through the use of explicitly stated rules, templates, and Formal Description Techniques (FDTs).

[17] As stated in Clauses 6.2.4 – 6.2.8, and Figure 18 of ISO/IEC 15944-1:2011, a natural person who provides a good, service and/or right is deemed to be an organization. Most jurisdictional domains also view an unincorporated activity providing a good, service and/or right to be an organization. {See further ISO/IEC 6523}

1.2 Exclusions

1.2.1 Functional Services View (FSV)

This part of ISO/IEC 15944 focuses on the BOV aspects of a business transaction, and does not concern itself with the technical mechanisms needed to achieve the business requirements (the FSV aspects, including the specification of requirements of a Functional Services View (FSV) nature which include security techniques and services, communication protocols, etc.). The FSV 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.

1.2.2 Internal behaviour of organizations (and public administration)

Excluded from the scope of this part of ISO/IEC 15944 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 business transactions (which focus on external behaviours pertaining to electronic data interchange among the autonomous parties to a business transaction). As such, excluded from the scope of this part of ISO/IEC 15944 are any:

1) internal use and management of recorded information pertaining to an identifiable organization Person an organization (or public administration) within an organization; and,

2) 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.

This should not be taken to mean that an organization could not adapt this part of ISO/IEC 15944 in order to model internal behaviour if they so wished, say when moving personal data within the organization.

1.2.3 "organization Person"

From a public policy privacy protection requirements perspective, an "organization Person" is a "natural person" who acts on behalf of and makes commitments on behalf 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. Privacy protection requirements which do apply to an organization Person are placed in an employee-employer context with associated contractual elements. In addition, some jurisdictional domains have privacy protection laws and regulations which apply specifically to employees of their public administrations.

As such, from a business 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 this part of ISO/IEC 15944. {See further ISO/IEC 15944-1:2011, 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)*"}

1.2.4 Overlap of and/or conflict among jurisdictional domains as sources of privacy protection requirements

A business transaction requires an exchange of commitments among autonomous parties. Commitment is the making or accepting of a right, an obligation, liability or responsibility by a Person. In the context of a business transaction, the making of commitments pertains to the transfer of a good, service and/or right among the Persons involved.

Consequently, it is not an uncommon occurrence, depending on the goal and nature of the business transaction, that the Persons (and parties associated) are in different jurisdictional domains, and that 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 part of ISO/IEC 15944.

However, modelling business 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, if only within the context of a specific transaction).

The application of business semantic descriptive techniques to laws, regulations, etc., of jurisdictional domains and their modelling of such sets of external constraints as scenarios and scenario components is an essential step to their application in a systematic manner to (electronic) business transactions (and especially e-government, e-commerce, e-education, etc.).

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

NOTE This part of ISO/IEC 15944 is based on the following assumptions:

1) the privacy protection requirements of the individual, as a buyer in a business transaction, are those of the jurisdictional domain in which the individual made the commitments associated with the instantiated business transaction; and,

2) where the seller is in a jurisdictional domain other than that of the individual, as the buyer, this edition of ISO/IEC 15944 incorporates and supports the *"OECD Guidelines on the Protection of Privacy and Transborder Data Flows of Personal Data"*.[See further below Clause 2.2]

1.2.5 Publicly available personal information

Excluded from the scope of this part of ISO/IEC 15944 is "publicly available personal information" (PAPI). In a business transaction context, the seller does not collect personal information of this nature from the individual (particularly in the "planning phase" of the business transaction process).

For example, the seller in advertising product to the market may:

1) publish personal information that is publicly available personal information, such as that found in telephone directories;

2) make use of any personal information declared to be of a public information by a regulation based on an law or regulation of the applicable jurisdictional domain; and, or,

3) include that which the individual itself chose to make public, (e.g., via one or more Internet based applications such as "Facebook").

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

publicly available personal information (PAPI)

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 a similar 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 "PAPI" nature is also excluded from the scope of this part of ISO/IEC 15944.

1.3 Aspects currently not addressed

This part of ISO/IEC 15944 focuses on the essential and basic aspects of privacy protection requirements. The purpose of this Clause is to identify aspects not currently addressed. These will be addressed in either:

a) an Amendment to this part of ISO/IEC 15944,

b) new editions of this part of ISO/IEC 15944,

c) through a new part of ISO/IEC 15944,

d) in a new edition of an existing part of ISO/IEC 15944 (as may be applicable),

e) through a new edition of an existing standard of ISO/IEC JTC1, or another existing ISO/IEC JTC1/SC, or ISO, IEC or ITU; and/or,

f) new standard(s) by any of the above noted committees.

ISO/IEC 15944-8 also does yet address the following requirements:

1) differences in equality in the use of official languages by an individual, in being informed and exercising privacy protection rights within a jurisdictional domain[18];

2) interworking between privacy protection and consumer protection requirements as two sets of external constraints applicable to an individual as a buyer in a business transaction;

3) 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 in a specific context;

4) 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 business transaction;

5) more detailed rules and associated text pertaining to the BOV perspective with respect to transborder data flows of personal information;

6) inter-operation between jurisdictional domains where they do not possess defined equivalents to their protection requirements (interoperability) or where protection requirements simply are different;

7) instances in which privacy protection requirements continue to apply to the personal information of an individual after his/her death;

   In addition, from a business 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 business transaction, (e.g., health care matters, warranties on products, service contracts, rights (including IP), etc.). Instantiated business transactions may require personal information to be retained and continue to be protected following the death of the individual.

[18] This part of ISO/IEC 15944 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 business transaction.

NOTE 1 This may also include a settlement of wills, probate, investments, etc., pertaining to that individual once proved deceased.

NOTE 2 Tax information filed has 4-6 years record 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 and public hearings.

NOTE 3 Instantiated business transactions may require personal information to be retained and 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).

NOTE 4 One may need to have an added Clause on privacy protection of personal information on individuals consequent upon the death of the individual.

8) personal information found in journalistic reports:

The use of personal information in a business transaction which is found in journalistic reports including news items, public broadcasts, items published by news media about an individual, personal information published and made available by third parties on the internet, (e.g., via Google, Facebook, Twitter, etc.), which in some jurisdictional domains is held to be “in the public interest”, is not included in this part of ISO/IEC 15944.

The reasons for exclusion are 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 of personal information is a “grey area” which courts in various jurisdictional domains are addressing and thus not yet resolved;

9) this part of ISO/IEC 15944 does not address the question of negotiated consent, but rather considers the simplest case, that a scenario may be registered which includes a specific form of consent within it;

10) the use of biological characteristics and attributes of an individual which require the 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)[19];

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 business 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.

[19] 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.

12) this part of ISO/IEC 15944 does not address the role of an “ombudsperson”, “Privacy Commissioner”, a “Data Protection Commissioner”, etc., who serves as an independent adjudicator of complaints and ensures 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 which may be a role similar in application to public administration.

13) detailed rules pertaining to the use of agents and/or third parties by a seller in a business transaction

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

14) an agent acting on behalf of an individual

    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.

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 is required for as the business transactions(s) and its associated BTI(s);

16) mergers and acquisitions

    It is presumed that when an organization “A” merges with, or is acquired by another organization “B”, that the privacy protection requirements applicable to personal information under the control of organization “A” continue to apply and be enforced. It is also assumed the personal information under the control of organization “A” remains under its control and that a merger with or acquisition by organization “B” does not allow organization “B” to access and/or use personal information held by organization “A” without the express and informed consent of the individuals whose personal information is/was organization “A”.

17) ICT and other service providers

    It is presumed that any ICT (or other) services provider which is under contract to provide ICT services to an organization or public administration (which has personal information under its control) shall not access or use such personal information processed as part of its services offering to that organization, unless it has a formal contractual arrangement to do so, in compliance with applicable privacy protection requirements.

18) data mining

    It is also presumed that an organization shall ensure that any data mining activities undertaken by itself (or via an agent or third party on its behalf) shall be in compliance with applicable privacy protection requirements, and not involve any secondary use or any other use of personal information for which the individual(s) concerned have not provided explicitly informed consent.

19) formal Conformance Statements

    Clause 13 below deals with conformance requirements at the most primitive level only. More detailed conformance statements with associated rules and procedures are required in implementation. It is also necessary to ensure that any such conformance statement, i.e., declaration by an organization or public administration is “verifiable”.

20) linkages and similarities between privacy protection and consumer protection requirements

Many of the external constraints pertaining to personal information of a privacy protection nature in a business transaction are similar to consumer protection requirements. {See further below Clause 7.2.2}

It is anticipated that some or all of these requirements will be addressed in future editions of ISO/IEC 15944-8 or in companion standards or technical reports (including possible new parts of ISO/IEC 15944).

1.4 IT-systems environment neutrality

This part 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 part of ISO/IEC 15944 maximizes an IT-enabled approach to its implementation and maximizes semantic interoperability.

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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.

2.1 ISO/IEC, ISO and ITU[20]

ISO 639-2:1998(E/F), *Codes for the representation 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 (all parts) (E/F), *Information technology — Vocabulary/Technologies de l'information — Vocabulaire*

ISO 3166-1:2006(E/F), *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes/Codes pour la représentation des noms de pays et de leur subdivisions — Partie 1: Codes pays*

ISO 3166-2:2007(E/F), *Codes for the representation of names 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 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'organisations*

ISO/IEC 6523-2:1998(E/F), *Information technology — Structure for the identification of organizations and organization parts — Part 2: Registration of organization 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'organisations*

ISO/IEC 7501-1:2008(E), *Identification cards — Machine readable travel documents — Part 1: Machine readable passport*

ISO/IEC 7501-2:1997(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: Machine readable official travel documents*

ISO/IEC 7812-1:2006(E), *Identification cards — Identification of issuers — Part 1: Numbering system*

ISO/IEC 7812-2:2007(E), *Identification cards — Identification of issuers — Part 2: Application and registration procedures*

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[20] 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.

ISO 8601:2004(E), *Data elements and interchange formats — Information interchange — Representation of dates and times*

ISO/IEC 14662:2010(E/F), *Information technology — Open-edi reference model/Technologies de l'information — Modèle de référence EDI-ouvert*

ISO/IEC 15944-1:2011(E), *Information technology — Business Operational View — 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: Business 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 15944-7:2009(E), *Information technology — Business Operational View — Part 7: eBusiness vocabulary*

ISO 19108:2002(E), *Geographic information — Temporal schema*

ISO/IEC 19501:2005(E), *Information technology— Open Distributed Processing — Unified Modeling Language (UML) Version 1.4.2*[21]

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

2.2 Referenced specifications[22]

APEC Privacy Framework. (2005)

Charter of the United Nations (as signed 1945 and Amended 1965, 1968, and 1973+), United Nations (UN).

Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data (1995) Directive

OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data (1980)

UN Convention on the Rights of Disabled Persons (2006+)

Vienna Convention of the Law of Treaties (1969), United Nations (UN)

21 Throughout this part of ISO/IEC 15944, ISO/IEC 19501:2005 is simply referenced as “UML”.

22 All references in this sub-clause were correct at the time of approval of this part of ISO/IEC 15944. The provisions of the referenced specifications, as identified in this sub-clause, are valid within the context of this part of ISO/IEC 15944. The reference to a specification within this part of ISO/IEC 15944 does not give it any further status within ISO/IEC; in particular, it does not give the referenced specification the status of an International Standard.