INTERNATIONAL STANDARD

ISO/IEC

15944-7

First edition
2009-12-01

Information technology — Business Operational View —

Part 7:
eBusiness vocabulary

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

Partie 7: Vocabulaire e-affaires

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

Contents

Page

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 and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 15944-7 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*

When future parts of ISO/IEC 15944 are completed, terms and definitions for added concepts will be integrated into this part of ISO/IEC 15944, either via an amendment or in the next edition.

The following parts are under preparation:

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

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

0 Introduction

0.1 Purpose and overview

ISO/IEC 15944 focuses on the many requirements of the business operational view aspects of Open-edi in support of electronic business transactions[1]. These requirements need to be integrated and taken into account in the development of business semantic descriptive techniques for modelling eBusiness transactions and components thereof as re-useable business objects. They include:

a) commercial frameworks and associated requirements;

b) legal frameworks and associated requirements;

c) public policy requirements, particularly those of a generic nature such as consumer protection, privacy, accommodation of handicapped/disabled persons;

d) requirements arising from the need to support cultural adaptability. These include meeting localization and multilingual requirements (e.g. as might be required by a particular jurisdictional domain or as desired to provide goods, a service and/or right in a particular market). In the context of making commitments, this requires the ability to distinguish, in the development of specification of scenarios, scenario components, and their semantics, between:

    1) 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 participating parties on the one hand; and, on the other,

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

One of these requirements is to have explicitly stated rules and especially clear, unambiguous and complete definitions (and their associated "terms") of concepts essential to support BOV requirements. This is because these definitions in support of eBusiness requirements are crucial to a harmonized approach and one which is to be used in the making of commitments among parties to a business transaction.

A key purpose therefore of this part of ISO/IEC 15944 is to present, in a single document, a consolidated set of all the eBusiness terms and definitions found in:

⎯ ISO/IEC 14662, *Information technology — Open edi reference model*, and

⎯ all parts of ISO/IEC 15944.

Another purpose of this part of ISO/IEC 15944 is to support and facilitate an IT-enabled approach to the creation and maintenance of human interface equivalents (HIEs) for all the eBusiness terms and definitions in multiple languages of jurisdictional domains (and especially those of ISO P-members).

---

[1] See 0.1.2 and Figure 3 in ISO/IEC 15944-1:2002 for the various sources of requirements on the business operational view (BOV) aspects of Open-edi which need to be integrated and/or taken into account in ISO/IEC 15944.

0.2   Use of "Person", "organization" and "party" in the context of business transaction and commitment exchange

In electronic business transactions, whether undertaken on a for-profit or not-for-profit basis, the key element of any type of business transaction is commitment exchange among Persons made among their Decision Making Applications (DMAs) of the Information Technology Systems (IT Systems)[2] acting on behalf of "Persons". "Persons" are the only entities able to make commitments[3]. Quoting from ISO/IEC 15944-1:2002, 0.4:

> "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 initially defined as:
>
> a 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 existing and widely-used ISO/IEC 6523 definition of "organization" was used in the first edition of ISO/IEC 14662. The fact that today Open-edi through the Internet and WWW also involves "individuals" has now been taken into account in the current editions of both ISO/IEC 14662 and all parts of ISO/IEC 15944. (ISO/IEC 14662:1997 did not define "commitment", nor the discrete properties and behaviours an entity must have to be capable of making a "commitment" as well as bridging legal and IT perspectives in the dematerialized world of the Internet.)

During the development of ISO/IEC 15944-1, the term "commitment" was defined. At the same time it was recognized that in order to be able to make a commitment, the term "Open-edi Party" was not 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 the individuals 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 recognized 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.

To address these extended requirements, an additional concept and term of "Person" was defined. The construct of Person has been defined in such a way that it is capable of having the potential legal and regulatory constraints applied to it.

There are three broad categories, i.e. sub-types, of Persons as players 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".

In modelling business transactions, jurisdictional domains prescribe their external constraints in the role of "regulator" and execute them as "public administration" (See 5.4 in ISO/IEC 15944-1:2002).

Very often the requirements of jurisdictional domains are specified through the use of sets of "Codes representing X...". These sets of codes are created and maintained by Source Authorities via a rulebase with a resulting coded domain(s) in the form of a data element(s) whose permitted values represent predefined semantics and are in a structured form, i.e. as a type of semantic component. As such, jurisdictional domains serve as Source Authorities for coded domains.

These three sub-types of Persons are also the possible Source Authorities for coded domains. On the whole, Source Authorities for coded domains are either "organizations" or "public administrations".

---

[2] See ISO/IEC 14662:2004, 5.2.

[3] The text in this section is based on existing text in 0.3 in ISO/IEC 15944-1:2002 and ISO/IEC 14662:2004.

In this part of ISO/IEC 15944,

— 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 ISO/IEC 14662:2004 and ISO/IEC 15944-1. A "party" to a business transaction has the properties and behaviours of a "Person".

0.3   Importance and role of terms and definitions[4]

An essential element of any standard is that of having clearly and explicitly stated definitions for the concepts which it uses or introduces. Definitions capture the key concepts of a standard and form the essential foundation for any standard. As such, it is important that definitions be explicit, unambiguous and precise with respect to the semantics conveyed. At times, in order to ensure that the concept being defined is not confused with other related concepts (or words that have common or possible different meanings), International Standards introduce, i.e. "invent", new terms as labels for these concepts. This is also because the use of "synonyms" is not allowed in definitions in International Standards. The same approach has been taken in ISO/IEC 15944. See 5.3.2, 5.4, Clause 6 and Clause 7.

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 (or 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 of these concepts in Clause 3.

A primary objective of ISO/IEC 15944 is to ensure that there is a common understanding of the Business Operational View (BOV) from commercial, legal, ITC, public policy and cross-sectoral perspectives. It is therefore very important to ascertain and confirm that which may be considered a "common understanding" in one of these domains is also unambiguously understood and accepted in the others.

This subclause is concluded by:

1) noting that the "definition" of the concept "definition" is *"representation of a concept by a descriptive statement which serves to differentiate it from related **concept**s"* [ISO 1087-1:2000 (3.3.1)];

2) noting that an essential characteristic of eBusiness standards is that they involve and support the making of (legally recognized) "commitments" among two or more autonomous Persons. This requires not only a "common understanding" among all the parties involved but also is one which is as unambiguous as possible, especially where such business transactions are executed via Open-edi based IT systems; and,

3) stating that a very effective and practical approach to supporting the requirements noted in 1) and 2) above, is to develop and provide bilingual/multilingual equivalencies of the definition of a concept (and its associated label or "term") in two or more languages. A primary reason here is that establishing an equivalency of the definition of a concept in another language from the "source language" uncovers "hidden ambiguities" in the source language. Often, it is in the preparation of an HIE for the definition (and its associated term) that ambiguities, i.e. in the semantics, from one language into one or more other languages are discovered. At times, this results in the need to improve the text of the definition of the concept in the source language. Alternatively, such development of one or more HIEs of the definition of

---

[4] This subclause is included in each part of ISO/IEC 15944 to emphasize that harmonized terms and definitions are essential to the understanding and continuity of ISO/IEC 15944.

a concept can result in the addition of a clarifying "Note(s)" or "Example(s)" in both the source language and its HIEs[5].

0.4 Standard based on rules and guidelines[6]

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 Figure 3 "*Sources of Requirements on the Business Operational View (BOV)*" in Clause 0.2 in Part 1 of ISO/IEC 15944.)

ISO states that a standard is a:[7]

"*documented agreement*[8] *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 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".

As stated in the Open-edi Reference Model and re-emphasized in ISO/IEC 15944-1, Open-edi is based on rules which are predefined and mutually agreed upon. They are of a precise criteria and are agreed upon requirements of business transactions representing common business operational practices and functional requirements.

Clause 5 "*Characteristics of Open-edi*" in ISO/IEC 15944-1:2002 makes it clear that the "Business Operational View (BOV)" type of Open-edi standards are "rule-based" standards[9]. Of particular relevance here is the first key characteristic of Open-edi as stated in 5.1 "*Actions based upon following clear, predefined rules*". It is useful to quote some key normative text of ISO/IEC 15944-1 so that users of this part of ISO/IEC 15944 have a clear understanding of the nature and purpose of ISO/IEC 15944.

> "*Open-edi requires the use of clear and predefined 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:*
>
> — *the content of information flows; and*
>
> — *the order and behaviour of information flows themselves.*

---

[5] For the normative elements here, see 5.3 "Essential elements of an entry in the controlled vocabulary"; and, in particular, 5.3.1 "Rules governing the development of a definition for a concept".

[6] This introductory clause is primarily based on text found in ISO/IEC 15944-1:2002, 6.1.2.

[7] This is the generic definition of "standard" of the ISO and IEC (and stated in the ISO/IEC JTC 1 Directives, Part 2.5:1998), in turn based on ISO Guide 2:1996 (1.7). This definition for "standard" is used consistently in the development of all parts of this International Standard.

[8] One can interpret "agreement" in a variety of ways. The ISO/IEC Guide 2, 1996, 1.7 uses the term "consensus", which need not imply unanimity but rather "absence of sustained opposition to substantial issues."

[9] There are six key characteristics of Open-edi (as stated in ISO/IEC 15944-1:2002, Clause 5):
- actions are based on following predefined rules;
- there is 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 subclauses of Clause 5 in ISO/IEC 15944-1:2002 describe each of these six characteristics in more detail.

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 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.[10]

In this part of ISO/IEC 15944, the common rules are sequentially enumerated and presented in **bold** font. Where guidelines are provided for a rule, they are numbered sequentially after that rule and are shown in an italic font[11]. 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 day-to-day world of commitment pertaining to the Business Operational View (BOV) of any eBusiness 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).

0.5   Use of "identifier" as "identifier (in business transactions)"

ISO/IEC 15944-1:2002, 6.1.4, 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 not desired 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.

A key objective of ISO/IEC 15944 is to serve 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 15944-1:2002 defined "unambiguous" as:

> *unambiguous*:   *the level of certainty and explicitness required in the completeness of the semantics of the **recorded information** interchanged appropriate to the goal of a **business transaction**.* [ISO/IEC 15944-1:2002 (3.66)]

and "identifier (in business transaction)" as:

> *identifier (in business transaction)*:   *an **unambiguous**, unique and a linguistically neutral value, resulting from the application of a **rule-based identification process**. **Identifiers** must be unique within the identification scheme of the issuing authority.* [ISO/IEC 15944-1:2002 (3.27)]

Thus users 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)".[12]

---

[10] 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 the 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.

[11] For example, "Guideline 005G2" equals the second Guidelines under Rule 5.

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

Finally, in support of this eBusiness requirement, all the entries in the eBusiness vocabulary have unambiguous identifiers. See 5.3.1.

0.6   Organization and description of this part of ISO/IEC 15944

This part of ISO/IEC 15944 consolidates the key concepts, their definitions and associated terms for eBusiness in the International Standards environment (including legal requirements) [13] generally, and specifically that within an ISO/IEC JTC 1 "Information technology" context, i.e. as found in ISO/IEC 14662 and ISO/IEC 15944.

Following the standard Clauses 0, 1, 2, 3 and 4, Clause 5 states the fundamental principles and rules governing a controlled vocabulary. These are based on existing International Standards and best practices applied in the development of ISO/IEC 14662 and the existing parts of ISO/IEC 15944.

Clause 6 provides the high level rules governing the development of multilingual equivalences for "eBusiness vocabulary" entries. It differentiates through separate subclauses between jurisdictional domains which are ISO/IEC JTC 1, ISO, IEC and/or ITU P-member-based and which are not.

The primary value and use of this part of ISO/IEC 15944 lies in its normative annexes. As such, Clause 7 provides the rules governing the structure and presentation of the eBusiness vocabulary in a human interface equivalent (HIE) context. These are applied to normative Annexes D, E, and F. In addition, Clause 8 presents the initial set of rules governing the maintenance of the "eBusiness vocabulary".

This part of ISO/IEC 15944 also contains a number of normative annexes which represent a consolidation of normative elements of ISO/IEC 14662 and the existing parts of ISO/IEC 15944, including this part.

— Annex A provides a consolidated and integrated list of all the Normative references including their "Referenced Specifications", i.e. those already stated in Clause 2 of ISO/IEC 14662 and the various parts of ISO/IEC 15944.

— Annex B provides a consolidated and integrated list of the symbols and abbreviations, already noted in Clause 4 of ISO/IEC 14662 and the various parts of ISO/IEC 15944.

— Annex C provides a list, in English alphabetical order, of the terms used, a consolidated summary list of the eBusiness vocabulary entries by the International Standards sources referenced, and notes in which International Standard (ISO/IEC 14662 or one of the various parts of ISO/IEC 15944) they were (1) first introduced and (2) then "re-used".

— Annex D is the major element of this part of ISO/IEC 15944. It provides the consolidated and integrated set of all the eBusiness vocabulary entries as found in the existing ISO/IEC eBusiness standards; namely ISO/IEC 14662 and Parts 1, 2, 4, 5, 6, and 7 of ISO/IEC 15944. Each of these entries is provided with a unique internal eBusiness vocabulary ID number, i.e. in a "Dnnn" format, in addition to its source reference information for the International Standard referenced. As such, Annex D is the essential and most important element of this part of ISO/IEC 15944.

— Annex E provides the ISO Russian HIE equivalents for the entries of the eBusiness vocabulary, i.e. the terms and definitions in Russian for the entries in Annex D as provided by the ISO/IEC JTC 1 P-member (Russia).

— Annex F provides the ISO Chinese HIE equivalents for the entries of the eBusiness vocabulary, i.e. the terms and definitions in Chinese for the entries in Annex D as provided by the ISO/IEC JTC 1 P-member (China).

---

[13] See Annex A (normative) "Consolidated list of normative references for the eBusiness vocabulary". Annex A integrates into a single list all the ISO/IEC, ISO, IEC and ITU referenced International Standards as well as the "Referenced Specifications", forming the foundation for the consolidated eBusiness vocabulary. See also Figure 3 in ISO/IEC 15944-1:2002, entitled "*Sources of Requirements on the Business Operational View (BOV) aspects of Open-edi which need to be taken into account and integrated*".

Consistent with the overall approach in this part of ISO/IEC 15944, future annexes after Annex G are reserved for the addition of HIE eBusiness vocabularies in other languages of ISO/IEC JTC 1 P-members, and/or ISO, IEC and/or ITU members (as well as those jurisdictional domains which are not), i.e. in accordance with the rules stated in Clause 8 and Annex G.

A consolidated bibliography concludes this part of ISO/IEC 15944. It contains a list of all the bibliographic references found in ISO/IEC 14662 and existing parts of ISO/IEC 15944 (including those found in the footnotes in these documents).

Information technology — Business Operational View —

Part 7:
eBusiness vocabulary

1   Scope

1.1   Statement of scope

This part of ISO/IEC 15944 provides a consolidated vocabulary of eBusiness concepts as found and defined in the current editions of ISO/IEC 14662 and the existing parts of ISO/IEC 15944, namely, Parts 1, 2, 4, 5, 6 and 7 along with their associated terms.

NOTE   At the time of publication of this part of ISO/IEC 15944, Parts 1, 2, 4, 5 and 6 have been published, the development of Part 3 has been cancelled and Part 8 is under preparation.

This part of ISO/IEC 15944 provides the rules, guidelines and procedures governing the formation of definitions for concepts relevant to eBusiness and choice of terms as a single, harmonized and integrated controlled vocabulary. This includes those governing multilingual expandability which incorporates and integrates cultural capability.

As such, this part of ISO/IEC 15944 facilitates the production of human interface equivalents (HIEs) of eBusiness terms and definitions in the various official (and de facto) languages of ISO members in the form of additional annexes to this part of ISO/IEC 15944.

This part of ISO/IEC 15944 identifies the essential elements of an entry in this controlled vocabulary as well as their rules and specifications. It also includes rules for ensuring quality and integrity control requirement for each entry and the interworking among the entries while doing so in an IT-enabled manner. It also addresses maintenance and update procedures.

1.2   Exclusions

This part of ISO/IEC 15944 is built on ISO/IEC 14662 and the existing Parts 1, 2, 4, 5 and 6 of ISO/IEC 15944. The exclusions which apply to one or more of these International Standards apply to this part of ISO/IEC 15944.

1.3   Aspects not currently addressed

This part of ISO/IEC 15944 does not currently support the following requirements (in no particular order):

a)   the more detailed level of rules (and possible more detailed level of granularity) for the essential elements of "eBusiness vocabulary" entry, as currently specified in 5.3;

b)   the more detailed level of rules for change management of the eBusiness vocabulary. It is most likely that these will be addressed in the second edition (and will be based on or harmonized with the rules in ISO/IEC 15944-2:2006, 6.5, "Registration Status");

c)   the inclusion of added non-essential, i.e. conditional or optional, elements for a controlled vocabulary entry;

d)   the addition of eBusiness concepts with their definitions and associated terms which are not found in ISO/IEC 14662 or any part of ISO/IEC 15944;

e)   the ability to be able to fully support the set of external constraints of jurisdictional documents pertaining to individual accessibility requirements[14];

f)   the provision of Human Interface Equivalents (HIEs) of jurisdictional domains which are administrative sub-divisions of a UN member state[15];

g)   the identification of and rules for "non-essential" or optional elements of an entry in the controlled vocabulary;

h)   the incorporation of individual accessibility requirements, (e.g. as summarized in the UN Convention on the Rights of Disabled Persons);

i)   the establishment of a Registration Authority; and

j)   the development of a "template" of the nature found in the other parts of ISO/IEC 15944.

It is anticipated that some or all of these requirements will be addressed in future editions of this part of ISO/IEC 15944, in companion International Standards or Technical Reports.

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.

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.

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

---

[14]   International Standards development in support of identifying and specifiying requirements of an individual accessibility nature from both BOV and FSC perspectives is already taking place in the work of ISO/IEC JTC 1/SC36 "e-Learning" through its multipart standards development project. ISO/IEC 24751-8 titled "*Language Accessibility and Human Interface Equivalencies (HIEs) in e-Learning Applications: Principles, Rules and Metadata Elements*" is of particular relevance. Should the completed ISO/IEC 24751-8 impact this part of ISO/IEC 15944, this will be addressed in the development of the second edition of ISO/IEC 15944-7.

[15]   See ISO/IEC 15944-5:2008, Annex D, entitled "Unambiguous Semantic Components and Jurisdictional Domains: Standards Default Convention for Identification, Interworking and Referencing of Combinations of Codes Representing Countries, Languages and Currencies". For examples of sub-types of UN member states, a.k.a. "administrative sub-divisions", see ISO 3166-2.

NOTE   The complete set of all normative references (i.e. ISO/IEC, ISO, and ITU[16] standards and "Referenced Specifications") listed in ISO/IEC 14662 and ISO/IEC 15944-1, ISO/IEC 15944-2, ISO/IEC 15944-4, ISO/IEC 15944-5 and ISO/IEC 15944-6 are consolidated and given in A.1 and A.2.

---

[16] The reference here to ITU includes both the ITU-R (Radiocommunications) and ITU-T (Telecommunications) standardization sectors of the ITU. In the ITU context, it labels its international standards as "Recommendations". The ITU makes all its Recommendations "freely available".

3