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Information technology — Business operational view —

Part 16: Consolidated set of the rules and guidelines identified in ISO/IEC 15944 Business Operational View standards and their IT-enablement

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Foreword

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

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

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

A list of all parts in the ISO/IEC 15944 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

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Introduction

0.1 Purpose and overview

All parts of the ISO/IEC 15944 BOV series are based on the first and primary characteristic of Open-edi that states that all actions are based on following clear and predefined rules (see ISO/IEC 15944-1:2023, 5.1).

This rule-based approach is central to all existing normative parts of ISO/IEC 15944 and is captured through a series of rules and (associated) guidelines. The main objective of this document is first to bring all these rules and guidelines together in a single document, and second provide an IT-enabled BOV rulebase model to facilitate business applications. The BOV rulebase model can also be used to the construction of other custom rulebases of eBusiness application requirements (e.g. "a rulebase that provide instructions and requirements for implementing aspects of privacy protection").

In keeping also with a central approach and philosophy of the ISO/IEC 15944 series, all rules and associated guidelines will be referenced using eBusiness rule IDs.

The purpose, therefore, of this document is four-fold:

1) to provide a consolidation of all normative rules and associated guidelines;

2) to provide a unique ID number for each rule and associated guideline within the overall ISO/IEC 15944 context;

3) to use a BOV rulebase model approach to capture and describe all BOV rulebases; and

4) to provide a systematic approach enhancing the IT-enablement.

0.2 IT systems environment neutrality

This document does not assume or endorse any specific system environment, database management system, database design paradigm, system development methodology, data definition language, command language, system interface, user interface, syntax, computing platform, or any technology required for implementation, i.e. it is information technology neutral. At the same time, this document maximizes an IT-enabled approach to its implementation and maximizes semantic interoperability.

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Information technology — Business operational view —

Part 16: Consolidated set of the rules and guidelines identified in ISO/IEC 15944 Business Operational View standards and their IT-enablement

1 Scope

This document provides a consolidated set of rules and associated guidelines as found and defined in the existing parts of the ISO/IEC 15944 series.

NOTE Not all parts of the ISO/IEC 15944 series have rules, that is ISO/IEC 15944-6, ISO/IEC 15944-14 and ISO/IEC 15944-20.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 15944-2, *Information technology — Business operational view — Part 2: Registration of scenarios and their components as business objects*

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

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

3.1
attribute
characteristic of an object or *entity* (3.21)

[SOURCE: ISO/IEC 15944-5:2008, 3.4]

3.2
business
series of processes, each having a clearly understood purpose, involving more than one *Person* (3.43), realized through the exchange of recorded information and directed towards some mutually agreed upon goal, extending over a period of time

[SOURCE: ISO/IEC 14662:2010, 3.2]

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3.3
business operational view
perspective of *business transactions* (3.6) limited to those aspects regarding the making of *business* (3.2) decisions and *commitments* (3.11) among *Persons* (3.43), which are needed for the description of a *business transactions*

[SOURCE: ISO/IEC 14662:2010, 3.3]

3.4
BOV rulebase
rulebase (3.59) designed for the consolidated set of *rules* (3.57) and associated *guidelines* (3.24) identified in ISO/IEC 15944 *BOV* (3.3) *standards* (3.65)

3.5
BOV rulebase model
conceptual specification and description of the organization, and *relationship(s)* (3.53) within a *BOV rulebase* (3.4)

3.6
business transaction
predefined set of activities and/or processes of *Persons* (3.43) which is initiated by a *Person* to accomplish an explicitly shared *business* (3.2) goal and terminated upon recognition of one of the agreed conclusions by all the involved *Persons* although some of the recognition may be implicit

[SOURCE: ISO/IEC 14662:2010, 3.4]

3.7
buyer
Person (3.43) *w*ho aims to get possession of a good, service and/or right through providing an acceptable equivalent value, usually in money, to the *Person* providing such a good, service and/or right

[SOURCE: ISO/IEC 15944-1:2023, 3.8]

3.8
capability
user implementation condition stated in a *guideline* (3.24) to a *rule* (3.57) that conveys the ability, fitness, quality, necessary to comply with the *requirement* (3.55) in the rule

Note 1 to entry: Other implementation conditions that are found in guidelines include: permission, possibility and recommendation.

3.9
code
data (3.15) representation in different forms according to a pre-established set of *rules* (3.57)

Note 1 to entry: In this document, the "pre-established set of rules" are determined and enacted by a *Source Authority* (3.64) and shall be explicitly stated.

[SOURCE: ISO 639-2:1998, 3.1]

3.10
coded domain
domain for which (1) the boundaries are defined and explicitly stated as a *rulebase* (3.59) of a coded domain Source Authority; and, (2) each *entity* (3.21) which qualifies as a member of that domain is identified through the assignment of a unique *ID code* (3.27) in accordance with the applicable Registration Schema of that *Source Authority* (3.64)

Note 1 to entry: The rules governing the assignment of an ID code to members of a coded domain reside with its Source Authority and form part of the Coded Domain Registration Schema of the Source Authority.

Note 2 to entry: Source Authorities which are jurisdictional domains are the primary source of coded domains.

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Note 3 to entry: A coded domain is a data set for which the contents of the data element values are predetermined and defined according to the rulebase of its Source Authority and as such have predefined semantics.

Note 4 to entry: Associated with a code in a coded domain can be: a) one and/or more equivalent codes; b) one and/or more equivalent representations especially those in the form of Human Interface Equivalent (HIE) (linguistic) expressions.

Note 5 to entry: In a coded domain the rules for assignment and structuring of the ID codes shall be specified.

Note 6 to entry: Where an entity as member of a coded domain is allowed to have, i.e., assigned, more than one ID code, i.e., as equivalent ID codes (possibly including names), one of these shall be specified as the pivot ID code.

Note 7 to entry: A coded domain in turn can consist of two or more coded domains, i.e., through the application of the inheritance principle of object classes.

Note 8 to entry: A coded domain may contain ID code which pertain to predefined conditions other than qualification of membership of entities in the coded domain. Further, the rules governing a coded domain may provide for user extensions.

EXAMPLE 1 (1) the use of ID Code "0" (or "00", etc.) for “Others, (2) the use of ID Code "9" (or "99", etc.) for “Not Applicable”; (3) the use of “8” (or “98”) for “Not Known”; and/or, if required, (4) the pre-reservation of a series of ID codes for use of “user extensions”.

Note 9 to entry: In object methodology, entities which are members of a coded domain are referred to as instances of a class.

EXAMPLE 2 In UML modelling notation, an ID code is viewed as an instance of an object class.

[SOURCE: ISO/IEC 15944-2:2015, 3.13]

3.11
commitment
making or accepting of a right, obligation, liability or responsibility by a *Person* (3.43) that is capable of enforcement in the *jurisdictional domain* (3.33) in which the commitment is made

[SOURCE: ISO/IEC 14662:2010, 3.5]

3.12
composite identifier
identifier (3.29) (in a *business transaction* (3.6)) functioning as a single unique *identifier* consisting of one or more other *identifiers*, and/or one or more other *data elements* (3.16), whose interworkings are rule-based

Note 1 to entry: Identifiers (in business transactions) are for the most part composite identifiers.

Note 2 to entry: The rules governing the structure and working of a composite identifier should be specified.

Note 3 to entry: Most widely used composite identifiers consist of the combinations of: (a) the ID of the overall identification/numbering schema, (e.g. ISO/IEC 6532, ISO/IEC 7812, ISO/IEC 7506, UPC/EAN, ITU-T E.164, etc.), which is often assumed; (b) the ID of the issuing organization (often based on a block numeric numbering schema); and, (c) the ID of the entities forming part of members of the coded domain of each issuing organization.

[SOURCE: ISO/IEC 15944-2:2015, 3.16]

3.13
concept
unit of knowledge created by a unique combination of characteristics

Note 1 to entry: Concepts are not necessarily bound to particular languages. They are, however, influenced by the social or cultural background which often leads to different categorizations.

[SOURCE: ISO 1087:2019, 3.2.7]

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3.14
controlled vocabulary
vocabulary whose entries, i.e., *definition* (3.17)/*term* (3.66) pairs, are controlled by a *Source Authority* (3.64) based on a *rulebase* (3.59) and process for addition/deletion of entries

Note 1 to entry: In a controlled vocabulary, there is a one-to-one relationship of definition and term.

EXAMPLE The contents of "Clause 3 Terms and definitions" in ISO/IEC standards are examples of controlled vocabularies with the entities being identified and referenced through their ID code, i.e., via their clause numbers.

Note 2 to entry: In a multilingual controlled vocabulary, the definition/term pairs in the languages used are deemed to be equivalent, with respect to their semantics.

Note 3 to entry: The rulebase governing a controlled vocabulary may include a predefined concept system.

[SOURCE: ISO/IEC 15944-5:2008, 3.34]

3.15
data
reinterpretable representation of information in a formalized manner suitable for communication, interpretation, or processing

Note 1 to entry: Data can be processed by humans or by automatic means.

[SOURCE: ISO/IEC 2382:2015, 2121272]

3.16
data element
unit of *data* (3.15) for which the *definition* (3.17), *identification* (3.28), representation and permissible values are specified by means of a set of *attributes* (3.1)

[SOURCE: ISO/IEC 11179-1:2015, 3.3.8]

3.17
definition
representation of a *concept* (3.13) by an expression that describes it and differentiates it from related *concepts*

[SOURCE: ISO 1087:2019, 3.3.1]

3.18
eBusiness
business transaction (3.6), involving the making of *commitments* (3.11), in a defined collaboration space, among *Persons* (3.43) using their IT Systems, according to *Open-edi* (3.39) *standards* (3.65)

Note 1 to entry: eBusiness can be conducted on both a for-profit and not-for-profit basis.

Note 2 to entry: A key distinguishing aspect of eBusiness is that it involves the making of commitment(s) of any kind among the Persons in support of a mutually agreed upon goal, involving their IT systems, and doing so through the use of EDI (using a variety of communication networks including the Internet).

Note 3 to entry: eBusiness includes various application areas such as “e-commerce”, “e-administration”, “e-logistics”, “egovernment”, “e-medicine”, “e-learning”, etc.

Note 4 to entry: The equivalent French language term for “eBusiness” is always presented in its plural form.

[SOURCE: ISO/IEC 15944-7:2007, 3.06]

3.19
eBusiness rule ID
unique alphanumeric character string that unambiguously identifies a *rule* (3.57) in the consolidated set of all *rules* and *guidelines* (3.24) identified in ISO/IEC 15944 *BOV* (3.3) *standards* (3.65)

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3.20
Electronic Data Interchange
EDI
automated exchange of any predefined and structured *data* (3.15) for *business* (3.2) purposes among information systems of two or more *Persons* (3.43)

Note 1 to entry: This definition includes all categories of electronic business transactions.

[SOURCE: ISO/IEC 14662:2010, 3.8]

3.21
entity
any concrete or abstract thing that exists, did exist, or might exist, including associations among these things

EXAMPLE person, object, event, idea, process, etc.

Note 1 to entry: An entity exists whether data about it are available or not.

[SOURCE: ISO/IEC 2382:2015, 2121433]

3.22
external constraint
constraint which takes precedence over internal constraints in a *business transaction* (3.6), i.e., is external to those agreed upon by the parties to a *business transaction*

Note 1 to entry: Normally, external constraints are created by law, regulation, orders, treaties, conventions or similar instruments.

Note 2 to entry: Other sources of external constraints are those of a sectoral nature, those which pertain to a particular jurisdictional domain or mutually agreed common business conventions (e.g. INCOTERMS, exchanges, etc.).

Note 3 to entry: External constraints can apply to the nature of the good, service and/or right provided in a business transaction.

Note 4 to entry: External constraints can demand that a party to a business transaction meet specific requirements of a particular role.

EXAMPLE 1 Only a qualified medical doctor may issue a prescription for a controlled drug.

EXAMPLE 2 Only an accredited share dealer may place transactions on the New York Stock Exchange.

EXAMPLE 3 Hazardous wastes may only be conveyed by a licensed enterprise.

Note 5 to entry: Where the Information Bundles (IBs), including their Semantic Components (SCs) of a business transaction are also to form the whole of a business transaction, (e.g., for legal or audit purposes), all constraints are required to be recorded.

EXAMPLE 4 There may be a legal or audit requirement to maintain the complete set of recorded information pertaining to a business transaction, i.e., as the Information Bundles exchanged, as a record.

Note 6 to entry: A minimum external constraint applicable to a business transaction often requires one to differentiate whether the Person that is a party to a business transaction is an individual, organization, or public administration. For example, privacy rights apply only to a Person as an individual.

[SOURCE: ISO/IEC 15944-1:2023, 3.23]

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3.23
Formal Description Technique
FDT
specification method based on a description *language* (3.35) using rigorous and unambiguous *rules* (3.57) both with respect to developing expressions in the *language* (formal syntax) and interpreting the meaning of these expressions (formal semantics)

[SOURCE: ISO/IEC 14662:2010, 3.9]

3.24
guideline
statement complementing a *rule* (3.57) which supports the implementation of that *rule* in specifying the user compliance conditions of a *recommendation* (3.51), a *permission* (3.42), a *possibility* (3.48), or a *capability* (3.8)

Note 1 to entry: The user compliance conditions of a requirement are only found in the rule statement alone.

3.25
guideline class
object class (3.37) where each instance models a *guideline* (3.24)

3.26
Human Interface Equivalent
HIE
representation of the unambiguous and IT-enabled semantics of an IT interface equivalent (in a *business transaction* (3.6)), often the *ID code* (3.27) of a *coded domain* (3.10) (or a *composite identifier* (3.12)), in a formalized manner, suitable for communication to and understanding by humans

Note 1 to entry: Human interface equivalents can be linguistic or non-linguistic in nature but their semantics remains the same although their representations may vary.

Note 2 to entry: In most cases, there will be multiple Human Interface Equivalent representations as required to meet localization requirements, i.e. those of a linguistic nature, jurisdictional nature, and/or sectoral nature.

Note 3 to entry: Human Interface Equivalents include representations in various forms or formats, (e.g., in addition to written text those of an audio, symbol (and icon) nature, glyphs, image, etc.).

[SOURCE: ISO/IEC 15944-2:2015, 3.35]

3.27
ID code
identifier (3.29) assigned by the coded domain Source Authority (cdSA) to a member of a *coded domain* (3.10)

Note 1 to entry: ID codes shall be unique within the Registration Schema of that coded domain.

Note 2 to entry: Associated with an ID code in a coded domain can be: a) one or more equivalent codes; b) one or more equivalent representations, especially those in the form of human equivalent (linguistic) expressions.

Note 3 to entry: Where an entity as a member of a coded domain is allowed to have more than one ID code, i.e. as equivalent codes (possibly including names), one of these must be specified as the pivot ID code.

Note 4 to entry: A coded domain may contain ID codes pertaining to entities which are not members as peer entities, i.e. have the same properties and behaviours, such as ID codes which pertain to predefined conditions other than member entities. If this is the case, the rules governing such exceptions must be predefined and explicitly stated.

EXAMPLE (1) the use of an ID code "0" (or "00", etc.), for “Other”; (2) the use of an ID code "9" (or "99") for “Not Applicable”; (3) the use of “8” (or “98”) for “Not Known”; and/or, if required, (4) the preservation of a series or set of ID codes for use for “user extensions”.

Note 5 to entry: In UML modeling notation, an ID code is viewed as an instance of an object class.

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[SOURCE: ISO/IEC 15944-2:2015, 3.37]

3.28
identification
rule-based process, explicitly stated, involving the use of one or more *attributes* (3.1), i.e. *data elements* (3.16), whose content value (or combination of values) are used to identify uniquely the occurrence or existence of a specified *entity* (3.21)

[SOURCE: ISO/IEC 15944-1:2023, 3.26]

3.29
identifier (in business transaction)
unambiguous, unique and a linguistically neutral value, resulting from the application of a rule-based *identification* (3.28) process

Note 1 to entry: Identifiers shall be unique within the identification scheme of the issuing authority.

Note 2 to entry: An identifier is a linguistically independent sequence of characters capable of uniquely and permanently identifying that with which it is associated. {See ISO 19135:2005 (4.1.5)}

[SOURCE: ISO/IEC 15944-1:2023, 3.27]

3.30
individual
Person (3.43) who is a human being, i.e. a natural person, who acts as a distinct indivisible *entity* (3.21) or is considered as such

[SOURCE: ISO/IEC 15944-1:2023, 3.28]

3.31
Information Bundle
IB
formal description of the semantics of the recorded information to be exchanged by *Open-edi* (3.39) Parties playing *roles* (3.56) in an *Open-edi scenario* (3.40)

[SOURCE: ISO/IEC 14662:2010, 3.11]

3.32
IT-enablement
transformation of a current *standard* (3.65) used in *business transactions* (3.6), (e.g., *coded domains* (3.10)), from a manual to computational perspective so as to be able to support *commitment* (3.11) exchange and computational integrity

[SOURCE: ISO/IEC 15944-5:2008, 3.65]

3.33
jurisdictional domain
jurisdiction, recognized in law as a distinct legal and/or regulatory framework, which is a source of *external constraints* (3.22) on *Persons* (3.43), their behaviour and the making of *commitments* (3.11) among *Persons* including any aspect of a *business transaction* (3.6)

Note 1 to entry: The pivot jurisdictional domain is a United Nations (UN) recognized member state. From a legal and sovereignty perspective, they are considered "peer" entities. Each UN member state (a.k.a. country) may have sub-administrative divisions as recognized jurisdictional domains, (e.g. provinces, territories, cantons, länder, etc.), as decided by that UN member state.

Note 2 to entry: Jurisdictional domains can combine to form new jurisdictional domains, (e.g. through bilateral, multilateral and/or international treaties).

EXAMPLE The European Union (EU), NAFTA, WTO, WCO, ICAO, WHO, Red Cross, the ISO, the IEC, the ITU, etc.

Note 3 to entry: Several levels and categories of jurisdictional domains may exist within a jurisdictional domain.

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Note 4 to entry: A jurisdictional domain may impact aspects of the commitment(s) made as part of a business transaction including those pertaining to the making, selling, transfer of goods, services and/or rights (and resulting liabilities) and associated information. This is independent of whether such an interchange of commitments is conducted on a for-profit or not-for-profit basis and/or includes monetary values.

Note 5 to entry: Laws, regulations, directives, etc., issued by a jurisdictional domain are considered as parts of that jurisdictional domain and are the primary sources of external constraints on business transactions.

[SOURCE: ISO/IEC 15944-5:2008, 3.67]

3.34
keyword
vocabulary of consolidated eBusiness vocabulary, that represents all or part of *rule* (3.57) statement and is used to facilitate search and retrieval of *rules*

Note 1 to entry: The set of BOV keywords is a vocabulary in a coded domain.

Note 2 to entry: Source of keywords are clause 3 entries of parts ISO/IEC 15944 consolidated eBusiness vocabulary.

3.35
language
systematic use of sounds, characters, symbols or signs to express meaning or communicate meaning or a message

[SOURCE: ISO 5127-1:2017, 3.1.5.01]

3.36
name
designation of an object by a linguistic expression

Note 1 to entry: Adapted from ISO 5217:2000 and ISO 1087-1:2000.

[SOURCE: ISO/IEC 15944-1:2021, 3.35]

3.37
object class
set of ideas, abstractions, or things in the real world that are identified with explicit boundaries and meaning and whose properties and behaviour follow the same *rules* (3.57)

[SOURCE: ISO/IEC 11179-31:2023, 3.1]

3.38
official language
external constraint (3.22) in the form of a natural language specified by a *jurisdictional domain* (3.33) for official use by *Persons* (3.43) forming part of and/or subject to that *jurisdictional domain* for use in communication(s): (a) within that *jurisdictional domain* ; and/or, (b) among such *Persons*, where such communications are recorded information involving *commitment(s)* (3.11)

Note 1 to entry: Unless official language requirements state otherwise, Persons are free to choose their mutually acceptable natural language and/or special language for communications as well as exchange of commitments.

Note 2 to entry: A jurisdictional domain decides whether or not it has an official language. If not, it will have a de facto language.

Note 3 to entry: An official language(s) can be mandated for formal communications as well as provision of goods and services to Persons subject to that jurisdictional domain and for use in the legal and other conflict resolution system(s) of that jurisdictional domain, etc.

Note 4 to entry: Where applicable, use of an official language may be required in the exercise of rights and obligations of individuals in that jurisdictional domain.

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Note 5 to entry: Where an official language of a jurisdictional domain has a controlled vocabulary of the nature of a terminology, it may well have the characteristics of a special language. In such cases, the terminology to be used is required to be specified.

Note 6 to entry: For an official language, the writing system(s) to be used must be specified, where the spoken use of a natural language has more than one writing system.

EXAMPLE 1 The spoken language of use of an official language may at times have more than one writing system. For example, three writing systems exist for the Inuktitut language. Canada uses two of these writing systems, namely, a Latin-1 based (Roman), the other is syllabic-based. The third is used in Russia and is Cyrillic-based.

EXAMPLE 2 Norway has two official writing systems, both Latin-1 based, namely, Bokmål (Dano-Norwegian) and Nynorsk (New Norwegian).

Note 7 to entry: A jurisdictional domain may have more than one official language but these may or may not have equal status.

EXAMPLE 3 Canada has two official languages, Switzerland has three, while the Union of South Africa has eleven official languages.

Note 8 to entry: The BOV requirement of the use of a specified language will place that requirement on any FSV supporting service.

EXAMPLE 4 A BOV requirement of Arabic, Chinese, Russian, Japanese, Korean, etc., as an official language requires the FSV support service to be able to handle the associated character sets.

[SOURCE: ISO/IEC 15944-5:2008, 3.87]

3.39
Open-edi
Electronic Data Interchange (EDI) (3.20) among multiple autonomous *Persons* (3.43) to accomplish an explicit shared *business* (3.2) goal according to Open-edi *standards* (3.65)

[SOURCE: ISO/IEC 14662:2010, 3.14]

3.40
Open-edi scenario
OeS
formal specification of a class of *business transactions* (3.6) having the same *business* (3.2) goal

[SOURCE: ISO/IEC 14662:2010, 3.18]

3.41
organization
unique framework of authority within which a person or persons act, or are designated to act, towards some purpose

Note 1 to entry: The kinds of organizations covered by this document include the following examples:

EXAMPLE 1 An organization incorporated under law.

EXAMPLE 2 An unincorporated organization or activity providing goods and/or services including: a) partnerships; b) social or other non-profit organizations or similar bodies in which ownership or control is vested in a group of individuals; c) sole proprietorships; d) governmental bodies.

EXAMPLE 3 Groupings of the above types of organizations where there is a need to identify these in information interchange.

[SOURCE: ISO/IEC 6523-1:1998, 3.1]

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3.42
permission
user implementation condition stated in a *guideline* (3.24) to a *rule* (3.57) that conveys consent, liberty/opportunity to comply with the *requirement* (3.55) in the *rule*

Note 1 to entry: Other implementation conditions that are found in guidelines include: capability, possibility and recommendation.

3.43
Person
entity (3.21), i.e., a natural or legal person, recognized by law as having legal rights and duties, able to make *commitment(s)* (3.11), assume and fulfil resulting obligation(s), and able of being held accountable for its action(s)

Note 1 to entry: Synonyms for "legal person" include "artificial person", "body corporate", etc., depending on the terminology used in competent jurisdictions.

Note 2 to entry: "Person" is capitalized to indicate that it is being used as formally defined in the standards and to differentiate it from its day-to-day use.

Note 3 to entry: Minimum and common external constraints applicable to a business transaction often require one to differentiate among three common subtypes of Person, namely "individual", "organization", and "public administration".

[SOURCE: ISO/IEC 14662:2010,3.24]

3.44
persona
set of *data elements* (3.16) and their values by which a *Person* (3.43) wishes to be known and thus identified in a *business transaction* (3.6)

[SOURCE: ISO/IEC 15944-1:2023, 3.48]

3.45
personal information
PI
any information about an identifiable *individual* (3.30) that is recorded in any form, including electronically or on paper

EXAMPLE Recorded information about an individual's religion, age, financial transactions, medical history, address, or blood type.

[SOURCE: ISO/IEC 15944-5:2008, 3.103]

3.46
pivot code set
set of *ID codes* (3.27) in a *coded domain* (3.10) which is made publicly known and available, the most stable, representing the defined semantics (most often it is the same as the *ID code*)

Note 1 to entry: The use of the pivot code set (as per ISO/IEC 15944-5) as distinguished from the ID code supports the requirement of a Source Authority to maintain internally and on a confidential basis the ID code of its members.

Note 2 to entry: At times, a coded domain has more than one valid code set (e.g. ISO 639, ISO 3166, etc.).

EXAMPLE ISO 3166-1 the 3-digit numeric code set is the pivot. The 2-alpha and 3-alpha code sets can change when the name of the entity referenced is changed by that entity.

[SOURCE: ISO/IEC 15944-5:2008, 3.104]

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3.47
pivot ID code
most stable *ID code* (3.27) assigned to identify a member of a *coded domain* (3.10) where more than one *ID code* may be assigned and/or associated with a member of that *coded domain*

EXAMPLE ISO 3166-1: contains three code sets: (a) a three-digit numeric code; (b) - a two-alpha code; and, (c) a three-alpha code. The three-digit numeric code set serves as the pivot code. It is the most stable, remains the same even though the two-alpha and/or three-alpha codes may and do change.

[SOURCE: ISO/IEC 15944-5:2008, 3.105]

3.48
possibility
user implementation condition stated in a *guideline* (3.24) to a *rule* (3.57) that conveys an expected or conceivable material, physical or causal outcome as a result of implementing the *requirement* (3.55) in the *rule*

Note 1 to entry: Other implementation conditions that are found in guidelines include: capability, permission and recommendation.

3.49
principle
fundamental, primary assumption and quality which constitutes a source of action determining particular objectives or results

Note 1 to entry: A principle is usually enforced by rules that affect its boundaries.

Note 2 to entry: A principle is usually supported through one or more rules.

Note 3 to entry: A principle is usually part of a set of principles which together form a unified whole.

EXAMPLE Within a jurisdictional domain, examples of a set of principles include a charter, a constitution, etc.

[SOURCE: ISO/IEC 15944-2:2015, 3.81]

3.50
privacy protection
set of *external constraints* (3.22) of a *jurisdictional domain* (3.33) pertaining to recorded information on or about an identifiable *individual* (3.30), i.e. *personal information* (3.45), with respect to the creation, collection, management, retention, access and use and/or distribution of such recorded information about that individual including its accuracy, timeliness, and relevancy

Note 1 to entry: Recorded information collected or created for a specific purpose on an identifiable individual, i.e. the explicitly shared goal of the business transaction involving an individual must not be used for another purpose without the explicit and informed consent of the individual to whom the recorded information pertains.

Note 2 to entry: Privacy protection requirements include the right of an individual to be able to view the recorded information about him/herself and to request corrections to the same in order to ensure that such recorded information is accurate and up-to-date.

Note 3 to entry: Where jurisdictional domains have legal requirements which override privacy protection requirements, these are required to be specified, (e.g. national security, investigations by law enforcement agencies, etc.).

[SOURCE: ISO/IEC 15944-5:2008, 3.109]

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3.51
recommendation
user implementation condition stated in a *guideline* (3.24) to a *rule* (3.57) that conveys a suggested possible choice, or course of action deemed to be particularly suitable without necessarily mentioning or excluding other choices

Note 1 to entry: Other implementation conditions that are found in guidelines include: capability, permission and possibility.

3.52
registration
rule-based process, explicitly stated, involving the use of one or more *data elements* (3.16), whose value (or combination of values) are used to identify uniquely the results of assigning an OeRI

[SOURCE: ISO/IEC 15944-2:2015, 3.95]

3.53
relation
relationship
any association among *entities* (3.21)

[SOURCE: ISO/IEC 15938-5:2003, 3.3.2.29]

3.54
relation class
object class (3.36) where each instance models a *relation* (3.53) among *rules* (3.57)

3.55
requirement
user implementation condition stated in a *rule* (3.57) to convey objectively verifiable criteria to be fulfilled and from which no deviation is permitted if conformance is to be claimed

3.56
role
specification which models an external intended behaviour (as allowed within a scenario) of an *Open-edi* (3.39) Party

[SOURCE: ISO/IEC 14662:2010, 3.25]

3.57
rule
statement governing conduct, procedure, conditions and *relations* (3.53)

Note 1 to entry: Rules specify conditions that must be complied with. These may include relations among objects and their attributes.

Note 2 to entry: Rules are of a mandatory or conditional nature.

Note 3 to entry: In Open-edi, rules formally specify the commitment(s) and role(s) of the parties involved, and the expected behaviour(s) of the parties involved as seen by other parties involved in (electronic) Business transactions. Such rules are applied to: a)content of the information flows in the form of precise and computer-processable meaning, i.e. the semantics of data; b) the order and behaviour of the information flows themselves.

Note 4 to entry: Rules must be clear and explicit enough to be understood by all parties to a business transaction. Rules also must be capable of being able to be specified using a Formal Description Technique(s) (FDTs).

EXAMPLE A current and widely used FDT is “Unified Modelling Language (UML)”.

[SOURCE: ISO/IEC 15944-2:2015, 3.101]

3.58
rule class
object class (3.37) where each instance models a *rule* (3.57)

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3.59
rulebase
pre-established set of *rules* (3.57) which interwork and which together form an autonomous whole

Note 1 to entry: One considers a rulebase to be rules as a database is to data.

[SOURCE: ISO/IEC 15944-2:2015, 3.102]

3.60
rulebase class
object class (3.37) where each instance models a *rulebase* (3.59), a set of *rules* (3.57), and associated *guidelines* (3.24) structured according to the *relations* (3.53) among them

3.61
scenario component
one of the three fundamental elements of a scenario, namely *role* (3.56), *information bundle* (3.31), and *semantic component* (3.63)

[SOURCE: ISO/IEC 15944-2:2015, 3.104]

3.62
seller
Person (3.43) who aims to hand over voluntarily or in response to a demand, a good, service and/or right to another *Person* and in return receives an acceptable equivalent value, usually in money, for the good, service and/or right provided

[SOURCE: ISO/IEC 15944-1:2023, 3.62]

3.63
Semantic Component
SC
unit of recorded information unambiguously defined in the context of the *business* (3.2) goal of the *business transaction* (3.6)

Note 1 to entry: A SC may be atomic or composed of other SCs.

[SOURCE: ISO/IEC 14662:2010, 3.27]

3.64
Source Authority
SA
Person (3.43) recognized by other *Persons* as the authoritative source for a set of constraints

Note 1 to entry: A Person as a Source Authority for internal constraints may be an individual, organization, or public administration.

Note 2 to entry: A Person as Source Authority for external constraints may be an organization or public administration.

EXAMPLE In the field of air travel and transportation, IATA as a Source Authority, is an "organization," while ICAO as a Source Authority, is a "public administration".

Note 3 to entry: A Person as an individual shall not be a Source Authority for external constraints.

Note 4 to entry: Source Authorities are often the issuing authority for identifiers (or composite identifiers) for use in business transactions.

Note 5 to entry: A Source Authority can undertake the role of Registration Authority or have this role undertaken on its behalf by another Person.

Note 6 to entry: Where the sets of constraints of a Source Authority control a coded domain, the SA has the role of a coded domain Source Authority.

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[SOURCE: ISO/IEC 15944-2:2015, 3.109]

3.65
standard
documented agreement containing technical specifications or other precise criteria to be used consistently as *rules* (3.57), *guidelines* (3.24), or *definitions* (3.17) of characteristics, to ensure that materials, products, processes and services are fit for their purpose

Note 1 to entry: This is the generic definition of "standard" of the ISO and IEC (and now found in the ISO/IEC JTC 1 Directives, Part 1, Section 2.5:1998). {See also ISO/IEC Guide 2: 2004 (1.7)}

[SOURCE: ISO/IEC 15944-1: 2011,3.64]

3.66
term
designation that represents a general *concept* (3.13) linguistic means

EXAMPLE "laser printer", "planet", "pacemaker", "chemical compound", "¾ time", "Influenza A virus", "oil painting".

Note 1 to entry: Terms may be partly or wholly verbal.

[SOURCE: ISO 1087:2019, 3.4.2]

4 Abbreviated terms

BOV	Business Operational View
CD	coded domain
cdSA	coded domain Source Authority
CV	controlled vocabulary
EDI	Electronic Data Interchange
FDT	Formal Description Technique
HIE	Human Interface Equivalent
IB	Information Bundle
IT System	Information Technology System
OeRI	Open-edi Registry Item
OeS	Open-edi scenario
PI	personal information
SC	Semantic Component
SA	Source Authority
UML	Unified Modeling Language

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5 Overview of rules and guidelines in the ISO/IEC 15944 series

5.1 General

ISO/IEC 15944-1:2023, Clause 5.1 states that one of the main characteristics of an Open-edi business transaction is that all actions are based on predefined and mutually agreed to rules by the parties involved. These business transaction rules are precise criteria representing common business operational practices and functional requirements. They also formally specify the role(s) and expected behaviours of the parties involved.

In addition, these rules serve as a common set of understanding bridging varied perspectives including commercial, legal and information technology frameworks, as well as those of standardizers and consumers, etc.

For the human interface equivalents (HIEs) of each term in Clause 3 in ISO French, Annex A applies.

5.2 Representation of rules and guidelines in the ISO/IEC 15944 series

5.2.1 General

BOV rules and guidelines are systematically and consistently represented physically and textually with mandated verbal expressions. Both are described below. The purpose of this clause is to ensure that the intelligence in both the physical and verbal representations is captured in this rulebase consolidation.

5.2.2 Physical representation

Rules and guidelines in ISO/IEC 15944 series are systematically and consistently represented.

a) Rules are numbered sequentially in ascending order within each part.

b) They have two components:

   1) an alphanumeric character string “Rule” plus the sequentially allocated ID number, followed by a colon, in **bold font**, (e.g., **Rule 1:**);

   2) textual string of the rule statement on a new line.

c) Associated guidelines inherit the allocated rule ID number to which it is associated, and add a sequential number representing the number of the guideline for that rule.

d) Guidelines are represented as follows in ***bold and italic*** fonts and also has two components:

   1) the alphanumeric string “Guideline”, plus the inherited rule ID number, followed by the capital letter “G”, and then the specific Guideline number, (e.g., ***Guideline 1G1:***)

   2) textual string of the guideline statement on a new line.

Examples are shown in Table 1.

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Table 1 — Example of rule and guideline physical representation in BOV standards

EXAMPLE from ISO/IEC 15944-1:2011(6.4.2) **Rule 47:** **The definition of "data", and related information technology terms and definitions found in this standard shall be able to be mapped into legal frameworks.** ***Guideline 47G1:*** ***Business transactions are primarily data element-based.*** ***Guideline 47G2:*** ***Having a standard definition of "data element" supports requirements of unambiguousness in electronic business.***

5.2.3 Verbal representation

All BOV rules are expressed in natural language.

ISO/IEC Directives Part 2:2021, Clause 7 provides specific verbal forms to indicate criteria required. There are four types of implementation criteria: a) requirement, b) recommendation, c) permission, d) possibility or capability. Only “requirement” applies to rules. The others apply only to guidelines.

These ISO/IEC Directives do not recommend the use of negative instructions, especially for rules.

Rules are always requirements, and shall use “shall” in the statement. “Shall not”, while not recommended, may have been used earlier.

For guidelines, a) recommendations shall use “should”, b) permissions shall use “may”, while c) possibility or capability shall use “can”. Where a negative has been used they will appear as: a) should not, b) may not, c) cannot respectively.

5.3 Principles for the consolidation process of BOV rulebase

5.3.1 Principle 1: Maintain the integrity of the source rule and associated guideline

The rule itself may not be complete for being understood or implemented in application. The context of the rule should be combined with it. The clause in the ISO/IEC 15944 series where the rule originally exists shall be regarded as the context of that rule and both the clause number and the ISO/IEC 15944 standard number should be identified.

Each part of the ISO/IEC 15944 series has a clear and distinct scope, based on the ISO/IEC Directives, and the purpose of each of these documents is focusing on a specific aspect of business transaction. All these parts were developed through a consensus building procedure, where all inconsistencies of contents in these standards should be regarded as being addressed. Thus, it is considered that the meaning of rules in the rulebase in this document should be regarded as not being in conflict with each other.

5.3.2 Principle 2: Maintain the cross referencing mechanism of the rules

The rules are uniquely identified within the original standard document (i.e., by a the rule ID formatted as Rule NNN), and are referencing other rules or guidelines within that standard document. The purpose of this document is to consolidate these rules from all standard document of ISO/IEC 15944. Thus the rule ID specified for a rule in the original document should not be used to identify and reference, an external ID should be specified instead. This also enabled the more efficient cross referencing of rules in different parts of the ISO/IEC 15944 series than using the combination of part number, clause number and rule ID.

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5.3.3 Principle 3: Ensure timeliness of rulebase

The sources for the rules in this document are the ISO/IEC 15944 series. The parts of the ISO/IEC 15944 series will have new editions, and there will also be new parts in the ISO/IEC 15944 series or other business standard for business that is conformant to Open-edi principles in the future editions. The rules of this document will be maintained continuously.

5.3.4 Principle 4: Facilitate search and retrieval for use

One purpose of the consolidation of rules is to provide the business requirements to users as a single set, without further description of the rules. When these further descriptions are needed they shall be retrieved in the original standard document. In the form of a database, this consolidation should be able to provide the search and retrieval feature for the easy use of users. As a fundamental feature of a database, the search function by keywords should be supported in this document. There can be further such functions in the future versions of this document.

6 Rules governing the assignment of unique eBusiness rule ID

6.1 eBusiness rule ID

The focus of this subclause is to ensure that each rule in the consolidated set of all rules and guidelines that are presented in Annex B of this document has its own unique number as an eBusiness rule ID for use in this document and especially its annexes.

Rule 001:

Each rule in the consolidated set of all BOV rules and guidelines shall be assigned a unique ID as its common pivot code to be called "eBusiness rule ID".

Rule 002:

The eBusiness rule ID shall be in the form of "EBRnnnn" where "nnnn" represents a sequentially allocated number in ascending order. (See further Annex B)

NOTE This approach is used in ISO/IEC 15944-7 where each term/definition pair is assigned a unique pivot code ID as an eBusiness Vocabulary ID.

Rule 003:

Any subsequent, i.e., new entry to the consolidated set of all BOV rules and guidelines shall be assigned the next available sequential EBR number.

Rule 004:

Where a BOV rule has an associated guideline, each BOV guideline shall be assigned a unique ID linking it directly to its associated eBusiness rule ID.

Rule 005:

The form of the eBusiness guideline ID shall take the form of "EBRnnnn-Gmm" where "Gmm" represents a sequentially number in ascending order for each associated guideline, (e.g., EBR0303-G01) See further Annex B.

Rule 006:

No eBusiness rule ID once assigned shall be re-used or re-assigned even if the rule is deleted or retired as these IDs are permanently assigned.

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6.2 Composite identifier

Composite identifiers are common in business transactions and by definition, the structure and interworking of elements is specified. They are introduced in this consolidated set of all BOV rules and guidelines to facilitate search and retrieval but also to provide a mechanism to protect, maintain and ensure the integrity of the source reference, i.e., rules and guidelines in a consolidated rulebase are never separated from their source BOV standard. In order to facilitate the management and retrieval of rules and guidelines through the source BOV standards numbers, it is necessary to combine the source BOV standards numbers with the eBusiness rule IDs or eBusiness guideline IDs into the composite identifier.

Rule 007:

The composite identifier for a rule consists of a minimum set of two discrete and mandatory data elements; namely:

1) **a data element consisting of: (a) the standard's body ID; (b) the ISO assigned standard number; (c) its part number, and;(d) the date of publication with the required delimiters, (e.g., ISO/IEC 15944-5:2008) and;**

2) **the eBusiness rule ID as assigned in the consolidated rulebase, (e.g., EBR0274).**

Table 2 presents two examples of the structure of a BOV rule-based composite identifier.

Table 2 — Example of rules composite identifiers — Structure and representation equivalent

Data elements of rule composite identifier		Rule composite identifier
Standard ID	eBusiness rule ID	
ISO/IEC 15944-1:2011	EBR0005	ISO/IEC 15944-1:2011::EBR0005
ISO/IEC 15944-5:2008	EBR0274	ISO/IEC 15944-5:2008::EBR0274
NOTE The use of the double colon (::) as a delimiter between the first data element and the second.		

Rule 008:

The composite identifier for a guideline consists of minimum of 3 discrete and mandatory data elements separated with the appropriate delimiters; namely:

(1) **a data element consisting of : (a) the standard's body ID; (b) the ISO assigned standard number; (c) its part number, and; (d) the date of publication with the required delimiters, (e.g., ISO/IEC 15944-5:2008);**

(2) **the eBusiness rule ID as assigned in the consolidated rulebase, (e.g., EBR0274); and,**

(3) **the unique ID assigned to the guideline associated with the rule, (e.g., G01).**

Table 3 presents two examples of composite identifiers for BOV guidelines indicating their structure and the use of required delimiters.

Table 3 — Example of guidelines composite identifiers — Structure and representation equivalent

Data elements of Guideline Composite Identifier		Guideline Composite Identifier
Standard ID	eBusiness Guideline ID	
ISO/IEC 15944-1:2011	EBR0005-G01	ISO/IEC 15944-1:2011::EBR0005-G01
ISO/IEC 15944-5:2008	EBR0274-G01	ISO/IEC 15944-5:2008::EBR0274-G01
NOTE the use of the double colon (::) as a delimiter between the first data element and the second.		

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7 BOV rulebase model

7.1 Overview of BOV rulebase model

eBusiness standards are by definition rule-based and object-oriented. A consolidated set of the rules and guidelines in this document constitutes a BOV rulebase model, i.e., a pre-established set of rules which interwork and which together form an autonomous whole.

NOTE 1 The BOV rulebase model as illustrated in Figure 1 is a conceptual model and not a physical implementation.

NOTE 2 The BOV rulebase model can be used in the construction of other custom rulebases of eBusiness application requirements (e.g, "a rulebase that provides instructions and requirements for implementing aspects of privacy protection").

The purpose of the BOV rulebase model is to describe the rulebase, the rules, and various relations which exist among rules.

Figure 1 illustrates the BOV rulebase model using Unified Modelling Language (UML) to describe a set of object classes that have a similar structure, behaviour and relations. Each object class has its own set of attributes to describe it.

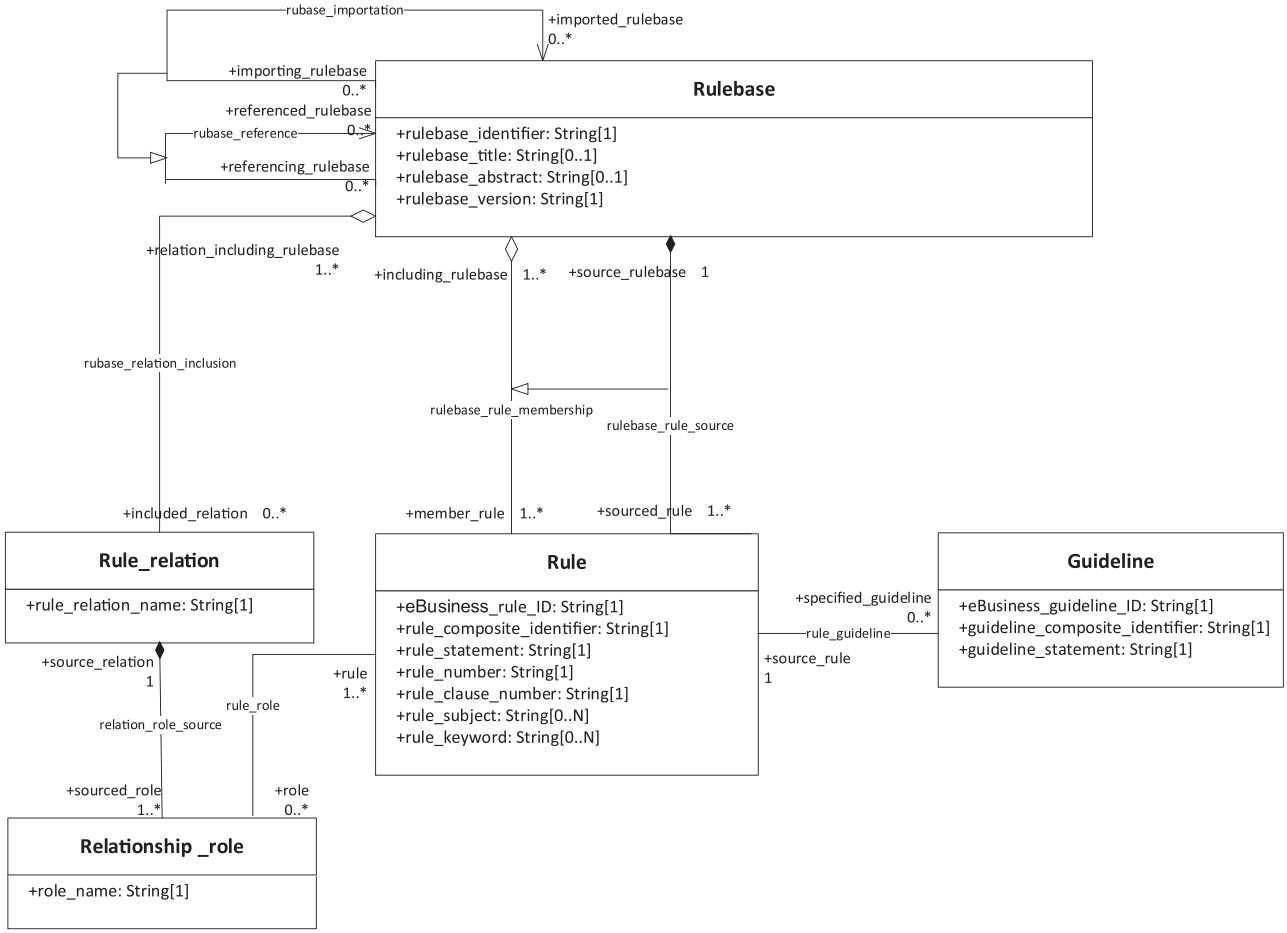

Figure 1 — BOV rulebase model

There are 5 such object classes: (1) rulebase class; (2) rule class; (3) guideline class; (4) rule relation class; and (5) relationship role class.

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Rule 009:

Object classes in the BOV rulebase model shall include 6 attributes, as follows:

a) **Name: name of the attribute for the object class;**

b) **Definition: definition of the attribute for the object class;**

c) **Obligation: 4 conditions under which the attribute is required:**

   1) **Mandatory: always required;**

   2) **Conditional: required to be present under certain specified conditions;**

   3) **Optional: permitted but not required;**

   4) **Mandatory subject to a conditional: mandatory triggered by a conditional attribute.**

d) **Multiplicity: maximum occurrences of attributes.**

   NOTE A single occurrence is indicated as "1", while repeated occurrences are expressed as "N".

e) **Datatype: set of distinct values assigned to each class characterized by properties of those values and by possible operations on those values;**

f) **Note: additional information or example(s).**

7.2 Object classes in the BOV rulebase model

7.2.1 Rulebase class

7.2.1.1 Description of rulebase class

Each instance of a rulebase class models a rulebase, its set of rules and associated guidelines, structuring the relations among them.

A rulebase shall participate in the following associations:

— rulebase_rule_membership by which one or more rules may be included in one or more rulebases. Each rule shall be a member of at least one rulebase.

— rulebase_rule_source by which exactly one rulebase shall be specified as the source of each rule.

A rulebase may participate in the following associations:

— rulebase_reference by which zero or more referenced rulebases may be referenced by zero or more referencing rulebases.

— rulebase_importation by which zero or more imported rulebases may be imported into zero or more importing rulebases. Rulebase_importation is a specialization of rulebase_reference.

— rulebase_relation_inclusion by which zero or more rule_relations may be included in one or more rulebases.

7.2.1.2 Attributes of rulebase class

A rulebase class has 4 attributes; namely, rulebase_identifier, rulebase_title, rulebase_abstract, rulebase_version. Table 4 provides the specifications of each attribute.

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Table 4 — Attributes of rulebase class

Name	Definition	Obligation	Multiplicity	Datatype	Note
rulebase_identifier	an unique reference to the rulebase in this document	Mandatory	1	String	
rulebase_title	a name given to the rulebase	Mandatory	1	String	
rulebase_abstract	a summary of the rule-base	Optional	1	String	
rulebase_version	unique version identifi-er of the *Rulebase*	Mandatory	1	String	

7.2.2 Rule class

7.2.2.1 Description of rule class

Each instance of a rule class models a rule statement which governs the conduct, procedure, conditions, and relations.

A rule shall participate in the following associations:

— rulebase_rule_membership by which one or more rules may be included in one or more rulebase. Each rule shall be a member of at least one rulebase:

— rulebase_rule_source by which exactly one rulebase shall be specified as the source of each rule.

A rule may participate in the following associations:

— rule_guideline by which exactly one rule shall be specified as the associated source of each guideline;

— rule_role by which zero or more relationship_role may be specified as the role of each rule in a rule_relation.

7.2.2.2 Attributes of rule class

A Rule class has 6 attributes; namely, eBusiness_rule_ID, rule_composite_identifier, rule_statement, rule_number, rule_clause_number, rule_keyword. Table 5 provides the specifications of each attribute.

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Table 5 — Attributes of rule class

Name	Definition	Obligation	Multiplicity	Datatype	Note
eBusiness_rule_ID	unique identifier as a pivot code assigned to each rule in this document	Mandatory	1	String	"EBR0001"
rule_composite_identifier	unique composite ID applied to uniquely reference the rule in a given context so as not to erase its relation to the source	Mandatory	1	String	
rule_statement	rule as specified in the original source ISO/IEC 15944 part	Mandatory	1	String	
rule_number	the rule number as assigned in the source part standard	Mandatory	1	Integer	
rule_clause_number	the clause number of the source part standard in which the rule is introduced	Mandatory	1	String	"6.2"
rule_keyword	The e-Business vocabulary ID numbers corresponding to the keyword of the rule of this document. Annex C provides further information about set of rule keywords.	Optional	N	String	"D001"

7.2.3 Guideline class

7.2.3.1 Description of guideline class

Each instance of a guideline class models a guideline which governs the non-mandatory implementation criteria for the requirements found in its related rule.

A guideline shall participate in the following associations:

— rule_guideline by which exactly one rule shall be specified as the associated source of each guideline.

7.2.3.2 Attributes of guideline class

A Guideline has 3 attributes; namely, eBusiness_guideline_ID, guideline_composite_identifier and guideline_statement. Table 6 provides the specifications of each attribute.

Table 6 — Attributes of guideline class

Name	Definition	Obligation	Multiplicity	Datatype	Note
eBusiness_guideline_ID	unique identifier assigned to each guideline in this document associated with the rule pivot code	Mandatory	1	String	
guideline_composite_identifier	unique composite ID applied to uniquely reference the guideline in a given context so as not to erase its relation to the rule to which it is associated.	Mandatory	1	String	
guideline_statement	guideline as specified in the original source ISO/IEC 15944 part	Mandatory	1	String	

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7.2.4 Rule_relation class

7.2.4.1 Description of rule_relation class

Each instance of a rule_relation class models a relation among rules indicating constituent relation roles.

A rule_relaiton shall participate in the following associations:

— rulebase_relation_inclusion by which zero or more rule_relation may be included in one or more rulebase;

— relation_role_source with one or more relationship_role, each of which specifies the role of an element in the rule_relation.

7.2.4.2 Attributes of rule_relation class

A rule_relation has 1 attribute; namely, rule_relation_name. Table 7 provides the specifications of each attribute.

Table 7 — Attributes of relation class

Name	Definition	Obligation	Multiplicity	Datatype	Note
rule_relation_name	a name given to the relation	Mandatory	1	String	

7.2.5 Relationship_role class

7.2.5.1 Description of relationship_role class

Each instance of a relationship_role class models a role of relation among rules.

A relationship_role shall participate in the following associations:

— relation_role_source with one or more relationship_role, each of which specifies the role of an element in the rule_relation;

— rule_role by which zero or more relationship_role may be specified as the role of each rule in a rule_relation.

7.2.5.2 Attributes of relationship_role class

A relationship_role has 1 attribute; namely, role_name. Table 8 provides the specifications of each attribute.

Table 8 — Attributes of relationship_role class

Name	Definition	Obligation	Multiplicity	Datatype	Note
role_name	a name given to the role	Mandatory	1	String	

7.3 Associations in the BOV rulebase model

7.3.1 rulebase_reference association

The rulebase_reference association specifies the reference of zero or more referenced rulebase by zero or more referencing rulebase.

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rulebase_reference association has two roles, both of which reference instances of the class rulebase:

— referenced_rulebase;

— referencing_rulebase.

A referenced_rulebase may be referenced by zero or more referencing_rulebase. A referencing_rulebase may reference zero or more referenced_rulebase.

A referenced_rulebase is not considered to be part of the referencing_rulebase.

7.3.2 rulebase_importation association

The rulebase_importation association specifies the importation of zero or more imported rulebase by zero or more importing rulebase. Such importation specifies that all rules and associated guidelines included in the imported rulebase are also to be included in the importing rulebase.

rulebase_importation association has two roles, both of which reference instances of the class rulebase:

— imported_rulebase (verb form: has_imported_rulebase);

— importing_rulebase (verb form: has_importing_rulebase).

A imported_rulebase may be imported by zero or more importing_rulebase. A importing_rulebase may import zero or more imported_rulebase.

A imported_rulebase is considered to be an integral part of the importing_rulebase.

7.3.3 rulebase_rule_membership association

The rulebase_rule_membership association specifies the inclusion of one or more rules in one or more rulebases.

rulebase_rule_membership has two roles:

— including_rulebase (verb form: is_included_in) which references a rulebase;

— member_rule (verb form: has_member_rule) which references a rule.

Each rule shall have a rulebase_rule_membership association with at least one rulebase.

7.3.4 rulebase_rule_source association

The rulebase_rule_source association specifies the rulebase that is the source of a rule.

rulebase_rule_source has two roles:

— source_rulebase (verb form: has_source) which references a rulebase;

— specified_rule (verb form: specifies_rule) which references a rule.

Each rule shall have exactly one rulebase specified as its source.

7.3.5 rulebase_relation_inclusion association

The rulebase_relation_inclusion association specifies the inclusion of zero or more rule_relations in one or more rulebases.

rulebase_relation_inclusion has two roles:

— relation_including_rulebase (verb form: has_including_rulebase) which references a rulebase;

— included_relation (verb form: includes_relation) which references a rule_relation.

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7.3.6 rule_guideline association

The rule_guideline association specifies a rule as the associated source of each guideline.

rule_guideline has two roles:

— source_rule (verb form: has_souce_rule) which references a rule;

— specified_guideline (verb form: specifies_guideline) which references a guideline.

Each guideline shall have a rule_guideline association with exactly one rule.

7.3.7 relation_role_source association

The relation_role_source association specifies the relationship_roles that participate in the rule_relation.

relation_role_source has two roles:

— sourced_role (verb form: has_sourced_role) which references a relationship_role;

— source_relation (verb form: has_source_relation) which references a rule_relation.

7.3.8 rule_role association

The rule_role association specifies the use of the relationship_role as the role of each rule in a rule_relation.

rule_role has two roles:

— role (verb form: has_role) which references a relationship_role;

— rule (verb form: has_rule) which references a rule.

8 Maintenance and management of BOV rulebase

8.1 General

This clause provides the rules and instructions for the maintenance of a BOV rulebase, as well as management issues such as addition, amendment and deletion of rules, as well as aspects of quality control, (e.g., standardization, accuracy, completeness, and validity of entries).

8.2 Rules for maintenance of BOV rulebase

Rule 010:

The consolidated set of all BOV rules and guidelines shall be administered and maintained in an online computer database in a manner to allow enhanced search and retrieval.

The published version, i.e., this document, has an Annex B presented in matrix form, where each BOV rule is grounded in a unique pivot ID code called an eBusiness rule ID. Each subsequent column represents an attribute of the rulebase as identified in Clause 7. The rules for the assignment and representation of the identifier IDs (pivot and source) meet the requirements of Clause 6.

The database of consolidated BOV rules and guidelines is regularly updated to reflect changes in BOV rules and associated guidelines. These changes are done by the ISO/IEC JTC1 SC32 and its Working Group 1 (WG1) (eBusiness) who are responsible for the ISO/IEC 15944 series.

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Rule 011:

The BOV rulebase shall only be amended if the source, namely, the existing part of the ISO/IEC 15944 series, this document, or a new part, has been changed. The source part shall be deemed to be the authority and no amendment shall be made without their explicit request.

Rule 012:

Deletion, amendment, or addition of the consolidated set of all rules and guidelines shall be the responsibility of ISO/IEC JTC1 SC32 and its Working Group 1 (WG1) (eBusiness) who are responsible for the ISO/IEC 15944 series.

8.3 Rules governing the management of BOV rulebase

8.3.1 General

The purpose of this clause and its related subclauses is to provide rules governing the management aspects of the BOV consolidated rules (and associated guidelines) in the rulebase. In particular, this includes rules for the addition, amendment and deletion of BOV rules.

Rule 013:

The overall approach to the maintenance of entries in the BOV rulebase shall be based on rules governing the maintenance of "business objects" as found in ISO/IEC 15944-2.

Amendments and additions to the rules and associated guidelines in the ISO/IEC 15944 series will inevitably necessitate amendments to this document.

8.3.2 Addition of rules

Addition of rules shall respect the following rules.

Rule 014:

If rules or guidelines are added to an existing standard, they shall be added to the BOV rulebase.

Rule 015:

A new rule added to the BOV rulebase shall be assigned the next available sequential number as its eBusiness rule ID.

Rule 016:

Any and all relations among new rules and existing rules in the BOV rulebase shall be established.

8.3.3 Amendment of rules

Amendment of rules shall respect the following rules.

Rule 017:

If rules or guidelines are amended in an existing standard, they shall be amended in the BOV rulebase.

Rule 018:

Any relationship between a rule and an existing rule that is amended, the BOV rulebase shall also be amended.

Rule 019:

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The sets of rule keywords shall be updated synchronously when any rule is amended.

8.3.4 Deletion of rules

Deletion of rules shall respect the following rules.

Rule 020:

When a rule is deleted from the ISO/IEC 15944 series, or the source standard is invalidated, the corresponding rule in the BOV rulebase shall be deleted.

Rule 021:

Any relationship between existing rules that is deleted, shall be deleted in the BOV rulebase.

8.4 Quality control of rulebase

The quality control requirements for the BOV rulebase are covered with the following rules.

Rule 022:

The description methods, rules and guidelines shall meet the requirements of Clause 7 of this document in order to ensure a systematic and standardized approach.

Rule 023:

To meet accuracy purposes, the statement of rules and guidelines in the BOV rulebase shall be consistent with the source.

Rule 024:

All rules and associated guidelines in the published BOV standards shall be included in the BOV rulebase in order to ensure completeness.

Rule 025:

All rules and guidelines in the BOV rulebase shall be validated against the BOV standards as their source.

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Annex A
(normative)

Consolidated controlled vocabulary definitions and associated terms, as human interface equivalents (HIEs), with cultural adaptability: English and French language equivalency in an IT standardization context

A.1 Purpose

All parts of the ISO/IEC 15944 series of eBusiness standards maximize the use of existing standards, where and whenever possible, and in particular relevant and applicable existing terms and definitions of concepts as found existing ISO/IEC, ISO, or IEC existing standards. They are re-used either "as is" or as "adapted". These are many examples of the application of this rule found in Clause 3 of this document.

In addition, since the inception of the development multipart ISO/IEC 15944 eBusiness standard, back in 2000, the need for unambiguous definitions was recognized to minimize possible ambiguities in the same, as well as, to facilitate their implementations by users in an international and multilingual eBusiness context.

A.2 Maximizing unambiquity and quality control

In order to maximize unambiguity and ensure necessary quality in the ISO/IEC 15944 series of eBusiness standards, as well to facilitate multilingual and international interoperability of key eBusiness definitions and their associated terms, the concept and definition of "human interface equivalencies (HIEs) was developed for several reasons, the four primary reasons being that:

a) international standards development, by its very nature, focuses on identifying new issues, needs and resolving them. This includes identification of new concepts, developing an "international standard" definition for the same, and then deciding on the label, i.e., term, to be assigned to the definition of this new concept. Here it is most likely that the "term" assigned to the definition of the new concept will be, as what is known in terminology work as an invented, i.e., "coined" term[1]. This means that such new English language "coined" terms in an international standard are not found in exiting English language dictionaries, i.e., they are first introduced into the English language via an ISO/IEC (as well as ISO or IEC) standard.

   In order, to ensure that there is no ambiguity in the definition of a new concept. Thus it is very likely that the introduction of these new concepts, the development of their definitions and assignment of a label, i.e. "term" to the same in an international standard will not have a semantic equivalent in another language. As such it is unlikely that equivalent translation exists. Instead, one needs to view this as a challenge of developing a human interface equivalent (HIE) in another language.

   As such, it is the approach of this document and other parts of ISO/IEC 15944, as well as ISO/IEC 14662 to use HIEs in English and French in the IT standardization context.

b) where the use any part of the ISO/IEC 15944 series of eBusiness standard (as well as any other ISO/IEC. ISO, IEC, ITU, etc.), involves, or impacts, an individual as the "buyer" of any good, service and/or right of any nature (including those provided to individuals by private or public sector

1) Regarding the introduction of a new, i.e., a "coined term" in an international standard, see ISO/IEC 15944-7:2009, 5.3.2.

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organizations, including public administrations,then international, regional and national public policy requirements of a legal/and regulatory requirements apply.

The most common of the international legal/regulatory requirement of a "public policy" nature already identified and supported in the multipart series of ISO/IEC 15944 series of eBusiness standards as defined set of rights of an include "consumer protection[2)], privacy protection, individual accessibility[3)], human rights[[21]], etc.[4)].

c) ISO/IEC JTC1 has "cultural adaptability" as the third strategic direction which all standards development should support, where applicable. The other two strategic directions of ISO/IEC JTC1 standards development are "portability" and "interoperability". Here it is noted that ISO Technical Management Board (TMB) has permitted ISO/IEC JTC1 to issue its standards in the English language only, instead of in the three official languages ISO, i.e., English, French and Russian[5)].

Therefore when a new concept, its definition and associated term is developed, it is necessary at the same time to develop HIEs for the same in one or more other languages. This approach,

— adds a level of "quality control check" as developing an equivalency in another language identifies ambiguities in the source language;

— recognizes that in languages other than English, specifying the grammatical gender of the term is essential (since the same word, i.e., character string, may well have a completely different meaning depending on its grammatical gender (see ISO/IEC 15944-5:2008, 6.2.6);

— enhances the widespread adoption and use of eBusiness standards world-wide, especially users of this document who include various industry sectors, different legal perspectives, policymakers and consumer representatives, other standard developers, IT hardware and service providers, etc.; and,

— takes an IT-enabled approach which promotes interoperability from both IT interface and human interface perspective (see ISO/IEC 1944-5). An essential aspect of this approach is to assign and use the unique and unambiguous composite identifier of each term/definition pair as the ID code with which are associated multiple bilingual/multilingual semantically HIE representations.

d) in 2006, the United Nations adopted the *UN Convention of rights of persons with disabilities (CRPD)*[6)]. It is noted that the concept and definition of HIE (developed as part of the 1st edition of ISO/IEC 15944-2:2006 was developed in support of the UN CRPD. It is noted that ISO/IEC JTC1/SC36 developed ISO/IEC 20016-1. Significant normative elements in the development of the ISO/IEC 20016-1, i.e. definitions, rules, etc., are based on ISO/IEC 15944 eBusiness standards. Here ISO/IEC JTC1C32 introduced the concept and Controlled vocabulary of ISO/IEC 15944 eBusiness standards in the development of these standards.

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2) See ISO/IEC 15944-5:2008, 3.33 the definition of the concept of "consumer protection"

3) See ISO/IEC 15944-5:2008, 3.60 the definition of the concept of "individual accessibility

4) These important legal/regulatory requirements as public policy rights of an individual are introduced, explained, fully supported and defined in ISO/IEC 15944-5

5) A primary reason here is that many ISO/IEC JTC1 standards introduce an artificial language, (e.g., a i.e., "programming language", a "database language", etc.) and thus do not use a "natural", i.e., human, language.

6) Currently, all countries who are P-members of ISO/IEC JTC1 are also signatories to the CRPD. The development of this standard had as its primary requirement to implement CRDP requirements in an eLearning context. In addition, its development was based on the assumption that a "requirements pertaining to a "learning transaction" were very similar to those already addressed in a "business transaction", i.e., including the need to identify where in a learning transaction the "buyer", i.e. "learner", in an JTC1/SC36 eLearning standards context was an "individual" or not (e.g. "organizations" providing eLearning services to other). ISO/IEC 20016-1 was also found to be a base foundational "Framework" standards freely available ISO/IEC JTC1 standard.

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A.3 Role and importance of ISO/IEC 15944-7

Based on the need to maximize unambiguity and quality control in the development of an HIE approach to entries in Clause 3, ISO/IEC 15944-7 was developed to capture in a formalized manner.

— applicable international standards in the fields of terminology and vocabulary (These are primarily those of ISO TC 37 and ISO TC 46); and,

— apply them in a practical, IT-enabled and cost-efficient manner in a multilingual eBusiness requirements context. (initially based on the lessons learned in the development of ISO/IEC 14662 and 1st editions of ISO/IEC 15944.1, ISO/IEC 15944-2, ISO/IEC 15944-4, ISO/IEC 15944-5 and ISO/IEC 15944-6)

The results are formalized in ISO/IEC 15944-7:2009, Clause 5" and in particular its subclause 5.2.

An important result is that when and wherever in the development a new Part of ISO/IEC 15944 involved the identification of a new concept and the development of a definition (as well a assignment of a term for a new concept), the rules found in ISO/IEC 15944-7:2009, Clause 5 apply, including the requirements to provide an HIE in at least one other language.

This requirement has been met in the development of this document. For the English and French HIEs in this document, please see ISO/IEC 15944-7:2009, Annex D.

ISO/IEC 15944-7 provides rules and procedures for creating and maintaining a (consolidated) "controlled vocabulary". ISO/IEC 15944-7:2009, Annex D provides a list of HIEs that provides the minimum level of unambiguity in ISO/IEC 15944 eBusiness standards as stated in A.1.

A.4 List of terms and definition with cultural adaptability: English and French language equivalency in the IT standardization context

For English and French HIEs in this document, see ISO/IEC 15944-7:2009, Annex D.

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Annex B
(normative)

Consolidated set of all rules and guidelines identified in ISO/IEC 15944 business operational view standards

The purpose of this annex is three-fold:

1) to provide a consolidated set of all the rules and associated guidelines entries represented by table ordered by their normative source;

2) to note where in the family of eBusiness standards: (1) the rule and associated guidelines are first introduced and serves as its source; and, (2) which of the other parts of this family of eBusiness standard also use and reference the rules and associated guidelines;

3) to serve as a control document for the management of the eBusiness rules and associated guidelines as well as an easy-to-use reference.

The simplified representation method is presented in matrix form in Table B.1:

Table B.1 — Organization of columns in Table B.2

Col. No.	Col. Name	Description
1	eBusiness rule ID	The internal identifier of eBusiness rules in the form of "EBRnnnn"
2	Rule Composite Identifier	The composite identifier for eBusiness rules in the form of "ISO/IEC 15944-5:2008::EBR0274"
3	Rule clause number	the clause number of the source reference in which the rule is introduced
4	Rule Number	The rule identifier defined in the source reference
5	Rule statement	Rule as specified in the source reference. Keywords of the rule are marked in bold. This is an informative column. In case of any inconsistency with the rule statement in the source standard, the source standard shall prevail.
6	eBusiness guideline ID	The internal identifier of eBusiness guidelines in the form of "EBRnnnn-Gmm"
7	Guideline Composite Identifier	The composite identifier for eBusiness guideline in the form of "ISO/IEC 15944-5:2008::EBR0274-G01"
8	Guidelines statement	Guideline as specified in the original source ISO/IEC 15944 part. This is an informative column. In case of any inconsistency with the guideline statement in source standard, the source standard shall prevail.
9	Rule Keyword	The e-Business vocabulary ID numbers corresponding to the keyword of the rule in Annex D of this document, and separate with ';'

The primary reason for organizing the columns in this order is to facilitate the look-up of the source document for the appropriate rule, in English and French. One should note that:

1) the entries are presented per Part number in ascending order; and,

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2) where there are two or more entries taken from a particular standard, the entries are presented in ascending order.

eBusiness rules and associated guidelines entries by source referenced are presented in matrix form in Table B.2.

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Table B.2 — eBusiness rules and associated guidelines entries

eBusi-ness rule ID	Rule Composite Identifier	Rule Clause Number	Rule Number	Rule statement	eBusiness guideline ID	Guideline Composite Identifier	Guidelines statement	Rule Keyword
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
EBR0001	ISO/IEC 15944-1:2011::EBR000 1	6.1.3	Rule 001	**Business transactions** require both **information** exchange and **commitment** exchange.	EBR0001-G01	ISO/IEC 15944-1:2011::EBR0001- G01	The term "Person" is used to represent the generic use of the term "party" plus the ability of a party to be able to make commitments with respect to a business transaction.	D022;D039;D115
EBR0002	ISO/IEC 15944-1:2011::EBR000 2	6.1.3	Rule 002	A **Person** is the only **entity** able to make **commitments** in a **business transaction**.				D022;D039;D093 ;D187
EBR0003	ISO/IEC 15944-1:2011::EBR000 3	6.1.3	Rule 003	In (electronic) **business trans-actions**, all **commitments** shall be stated explicitly and unam-biguously and be understood by all **Persons** involved in a **business transaction**.				D022;D039; D187
EBR0004	ISO/IEC 15944-1:2011::EBR000 4	6.1.4	Rule 004	Existing **standards** shall be used to the greatest degree pos-sible in the building and use of scenarios, **scenario attributes** and **scenario components**.				D238;D239; D252
EBR0005	ISO/IEC 15944-1:2011::EBR000 5	6.1.4	Rule 005	The degree to which ambiguity in (electronic) **business trans-actions** can be minimized is directly related to the ability to realize the opportunities in, and potential of, **Open-edi** as well as its widespread adoption and use.	EBR0005-G01	ISO/IEC 15944-1:2011::EBR0005- G01	The nature and purpose of the business transaction determines the level of certainty (trust, reliability, accountability, etc.), required in the identification of the elements in a business trans-action, (e.g., Person, product, service, etc.).	D022;D155
					EBR0005-G02	ISO/IEC 15944-1:2011::EBR0005- G02	The process of authentication presupposes the existence of an entity and the completion of the application of a rule-based identification process resulting in the assignment of an "identifier". Thus, the authentication process is a corroboration of an identifi-cation process.	

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Table B.2 *(continued)*

eBusi-ness rule ID	Rule Composite Identifier	Rule Clause Number	Rule Number	Rule statement	eBusiness guideline ID	Guideline Composite Identifier	Guidelines statement	Rule Keyword
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
EBR0006	ISO/IEC 15944-1:2011::EBR000 6	6.1.4	Rule 006	Any **entity** relevant to, or used to support a **business transaction**, shall be assigned a unique and **unambiguous identifier** based on an **identification process**.				D022;D093;D110 ;D111;D202;D26 6
EBR0007	ISO/IEC 15944-1:2011::EBR000 7	6.1.4	Rule 007	Natural **names** or **natural language identifiers** shall not be used as **identifiers** in **business transactions**, although they may be associated with them.				D022;D111;D144 ;D145
EBR0008	ISO/IEC 15944-1:2011::EBR000 8	6.1.4	Rule 008	**Open-edi scenarios**, **scenario attributes**, **roles**, **Information Bundles**, **Semantic Components** and other elements shall be identified through unique, **unambiguous** and linguistically neutral **identifiers** and with such **identifiers** may be associated with one or more **names** as needed for market, legal, **localization** and/or multilingual **requirements**.				D111;D116;D132 ;D144;D172;D23 3;D238;D244;D2 66;D342
EBR0009	ISO/IEC 15944-1:2011::EBR000 9	6.1.5	Rule 009	A **business transaction** requires **Person**, **process** and **data**.				D022;D060;D187 ;D202
EBR0010	ISO/IEC 15944-1:2011::EBR001 0	6.2.2	Rule 010	An electronic **business transaction**, like **business transactions** in general, requires **Persons** as decision makers, (as the key real world **entity** and point of departure) instead of **information** technology applications (devices, tokens, **information** systems, etc.).				D022;D093;D115 ;D187

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Table B.2 *(continued)*

eBusi-ness rule ID	Rule Composite Identifier	Rule Clause Number	Rule Number	Rule statement	eBusiness guideline ID	Guideline Composite Identifier	Guidelines statement	Rule Keyword
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
EBR0011	ISO/IEC 15944-1:2011::EBR001 1	6.2.2	Rule 011	Irrespective of the use of any particular **information** technology and related devices in **Open-edi**, **Persons** are the only **entities** which are legally recognized as being able to make **commitments**, agree to the rights and obligations entered into, and can be held accountable for their actions, etc.				D039;D093;D115 ;D155;D187
EBR0012	ISO/IEC 15944-1:2011::EBR001 2	6.2.2	Rule 012	A **Person** shall be able to be identified or represented in a variety of ways, and shall be able to have one or more **personae**.				D187;D188
EBR0013	ISO/IEC 15944-1:2011::EBR001 3	6.2.2	Rule 013	The level of unambiguity, i.e., certainty/reliability, of a **persona** and resulting **identification** of the **Person identity** used by a Person shall be appropriate to the goal of the **business transaction**.				D022;D110;D188 ;D192
EBR0014	ISO/IEC 15944-1:2011::EBR001 4	6.2.2	Rule 014	The **persona** used shall be associated with an identity that can be authenticated to the extent required for the goal of the **business transaction**.				D022;D188

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Table B.2 *(continued)*

eBusiness rule ID	Rule Composite Identifier	Rule Clause Number	Rule Number	Rule statement	eBusiness guideline ID	Guideline Composite Identifier	Guidelines statement	Rule Keyword
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
EBR0015	ISO/IEC 15944-1:2011::EBR0015	6.2.2	Rule 015	**Business transactions** having different goals may allow a **Person** to use the same **persona** and its associated **identification** schema (including resulting **identifiers**), while others may prohibit this.	EBR0015-G01	ISO/IEC 15944-1:2011::EBR0015- G01	A party to a business transaction has the option of prescribing the persona (and associated identifiers) acceptable to it for the purpose of establishing commitment, (e.g., as the data elements comprising a persona and rules governing their values in a business transaction are prescribed by the party offering the good, service, and/or right). A systematic approach to describing the persona and associated identifiers is known as a Registration Schema, and the entity registering the persona is known as a Registration Authority (RA). Usually a Registration Authority assigns an identifier unique within that identification schema to each discrete Person/persona. A RA may use the ID of another Registration Schema if necessary.	D022;D110;D111;D187;D188
					EBR0015-G02	ISO/IEC 15944-1:2011::EBR0015-G02	A Person may have multiple names and a Person may change its name.	
					EBR0015-G03	ISO/IEC 15944-1:2011::EBR0015-G03	Names of natural Persons are not unique. Many different discrete real world natural Persons can and do share the same name (and even date of birth or mother's maiden name, etc.).	

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					EBR0015-G04	ISO/IEC 15944-1:2011::EBR0015-G04	A natural person can and does identify him/herself in a business transaction through a variety of possible data elements comprising a name, (e.g., combination of given names, surname(s), nicknames, titles/qualifications, etc.).	
					EBR0015-G05	ISO/IEC 15944-1:2011::EBR0015-G05	A legal person can and does have multiple names, (e.g., legal, operating, marketing name, etc.), as well as various linguistic equivalents of the same. For example, a jurisdictional domain may well have more than one official language. Consequently, an organization may well have two or more official names, i.e., a linguistically equivalent name in each official language of that jurisdictional domain. This is especially true for names for public sector organizations in jurisdictional domains having more than one official language.	
					EBR0015-G06	ISO/IEC 15944-1:2011::EBR0015-G06	A name of a Person (natural or legal) does not, therefore, necessarily provide for unambiguous identification.	
					EBR0015-G07	ISO/IEC 15944-1:2011::EBR0015-G07	The number of types of (common) data elements pertaining to the name of a Person is finite. A set of standard data elements may serve as a template or catalogue for capturing and exchanging name information on Persons in electronic data interchange.	

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
					EBR0015-G08	ISO/IEC 15944-1:2011::EBR0015-G08	Associated with each persona of the same Person can be a single identifier, or several personae can use the same identifier, and/or, two or more identifiers can be associated with a single persona, (e.g., use of exactly the same "name" on multiple credit cards with different identifiers).	
EBR0016	ISO/IEC 15944-1:2011::EBR001 6	6.2.2	Rule 016	A **Person** can and does use different signatures and that needs be assumed to continue to be the case in present day **business transactions**.				D022;D187
EBR0017	ISO/IEC 15944-1:2011::EBR001 7	6.2.2	Rule 017	An **organization Person** as an employee or officer acting on behalf of an **organization** "signs", i.e., links itself to a **business transaction**, on behalf of that **organization**, in a variety of ways.				D022;D179;D183
EBR0018	ISO/IEC 15944-1:2011::EBR001 8	6.2.2	Rule 018	A **Person** controls the use of its signature.				D187
EBR0019	ISO/IEC 15944-1:2011::EBR001 9	6.2.2	Rule 019	Depending on the context of the **business transaction**, a **Person signature** is used for the purposes of **identification**, **authentication**, authorization, and/or witnessing.	EBR0019-G01	ISO/IEC 15944-1:2011::EBR0019- G01	The definition of Person signature is: Person signature signature, i.e., a name rep-resentation, distinguishing mark or usual mark, which is created by and pertains to a Person	D010;D022;D110 ;D193
EBR0020	ISO/IEC 15944-1:2011::EBR002 0	6.2.2	Rule 020	In an (electronic) **business transaction**, the end **entities** are **Persons** irrespective of the nature and combinations of “technical components” of the functional (support) services of the **information** infrastructure involved.				D022;D093;D115 ;D187

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EBR0021	ISO/IEC 15944-1:2011::EBR002 1	6.2.2	Rule 021	A signature which is created by and/or pertains to a **Person** is deemed to be a "**Person signature**".	EBR0021-G01	ISO/IEC 15944-1:2011::EBR0021- G01	Parties making commitments in a business transaction are Persons. However, as stated in 6.2.5 below a Person as seller or buyer in a business transaction may delegate all or part of its commitment-making role to an agent and/or a buyer and seller may mutually delegate specified common commitments to a third party. They thus all may be signatories to a business transaction.	D187;D193
					EBR0021-G02	ISO/IEC 15944-1:2011::EBR0021- G02	A Person signature may be associated with any information or role in a business transaction.	
EBR0022	ISO/IEC 15944-1:2011::EBR002 2	6.2.3	Rule 022	The **Person identity**, i.e., the **persona** and the associated **identifier**, used by a **Person** in a **business transaction**, shall be capable of being prescribed depending on the context and goal of the **business transaction**.				D014;D022;D111 ;D187;D188;D192;d250
EBR0023	ISO/IEC 15944-1:2011::EBR002 3	6.2.3	Rule 023	In a **business transaction**, a **recognized Person identity (rPi)** is established by either: (a) mutual recognition and acceptance; or, (b) by referring to an **identifier** in a **Registration Schema** of a **Registration Authority**.	EBR0023-G01	ISO/IEC 15944-1:2011::EBR0023- G01	A recognized Person identity based on a Registration Schema of a Registration Authority has the added attribute of being re-useable and thus is the preferred approach in support of Open-edi.	D022;D111;D208 ;D222;D224
EBR0024	ISO/IEC 15944-1:2011::EBR002 4	6.2.3	Rule 024	A **Registration Authority** (**RA**) for **Persons** shall have explicitly stated **rules** for transforming a **Person identity (PI)** into a **recognized Person identity (rPi)** to meet a stated **business requirement**.	EBR0024-G01	ISO/IEC 15944-1:2011::EBR0024- G01	The rules governing a business transaction may either require the use of a specified recognized Person identity (rPi) or allow for several of a similar nature. (For example, credit card payment may be acceptable from several credit card issuers).	D014;D187;D192 ;D208;D222;D236;D342

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
EBR0025	ISO/IEC 15944-1:2011::EBR002 5	6.2.3	Rule 025	In a **business transaction**, **Person authentication** is established by either: (a) mutual recognition and acceptance; or, (b) referring to predefined **Registration Schema** and **process**.				D022;D191;D202 ;D224
EBR0026	ISO/IEC 15944-1:2011::EBR002 6	6.2.4	Rule 026	The two most common **roles** of a **Person** in a **business transaction** are those of **buyer** and **seller**.				D022;D026;D18 7;D233;D243
EBR0027	ISO/IEC 15944-1:2011::EBR002 7	6.2.4	Rule 027	Unless bound by **external constraints**, **buyers** and **sellers** as **Persons** are free to undertake any **business transaction** involving any good, service, and/or right they mutually agree to.				D022;D026;D098 ;D187;D243
EBR0028	ISO/IEC 15944-1:2011::EBR002 8	6.2.4	Rule 028	**External constraints** governing **rules** and practices of "**buyers**" and "**sellers**" in **business transactions** apply either to **Persons** (undifferentiated) or distinguish among "**individuals**", "**organizations**", and "**public administrations**".				D022;D026;D09 8;D113;D179;D1 87;D204;D236;D 243
EBR0029	ISO/IEC 15944-1:2011::EBR002 9	6.2.5	Rule 029	Rights or obligations arising from **commitments** in a **business transaction** shall be fulfilled either directly by the **Person** as the end **entity** or by an **agent** acting on its behalf.				D005;D022;D039 ;D093;D187
EBR0030	ISO/IEC 15944-1:2011::EBR003 0	6.2.5	Rule 030	The ability to delegate a **role** to an **agent** shall be explicitly stated; and if **constraints** are required to be satisfied before such delegation can take place, they shall be explicitly stated.				D005;D048;D233
EBR0031	ISO/IEC 15944-1:2011::EBR003 1	6.2.5	Rule 031	Where delegation of a **role** cannot take place this shall be explicitly stated.				D233

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EBR0032	ISO/IEC 15944-1:2011::EBR003 2	6.2.5	Rule 032	A **business transaction** takes place primarily between two **Persons**, i.e., a **buyer** and a **seller**. Other **Persons**, i.e., **third parties**, may fulfil specified **role(s)** or functions(s) on mutual agreement of the two primary **Persons**, or as a result of **external constraints**.				D022;D026;D098 ;D187;D233;D243;D260
EBR0033	ISO/IEC 15944-1:2011::EBR0033	6.2.6	Rule 033	**External constraints** exist on the provisioning of goods and services and the behaviour of **Persons** as players in **business transactions** including those provided via electronic commerce.				D022;D098;D187
EBR0034	ISO/IEC 15944-1:2011::EBR003 4	6.2.7	Rule 034	From a minimal **external constraints** perspective, the three basic sub-types of **Persons** as **role** players in any **business scenario** are: 1) **individual**, 2) **organization**, and, 3) **public administration**.				D014;D098;D113 ;D179;D187;D204;D233;D329
EBR0035	ISO/IEC 15944-1:2011::EBR003 5	6.2.7	Rule 035	A legal (or artificial) **Person** consists of one or more natural **Persons** and/or one or more other legal **Persons**.				D187
EBR0036	ISO/IEC 15944-1:2011::EBR003 6	6.2.7	Rule 036	An **organization**, unlike an **individual**, can have more than one **organization parts** identified for **information** exchange pertaining to a **business transaction** among autonomous parties.				D022;D113;D115 ;D179;D182
EBR0037	ISO/IEC 15944-1:2011::EBR003 7	6.2.7	Rule 037	In a **business transaction**, an **organization** Person may make **commitments** for an **organization** or **organization part**, i.e., as authorized to do so on behalf of the **organization**.				D022;D039;D179 ;D182;D183

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EBR0038	ISO/IEC 15944-1:2011::EBR003 8	6.2.8	Rule 038	From a minimal **external constraints** perspective, a common **set** of **constraints** on a **business transaction** where the **buyer** is an **individual** are those of a **consumer protection** nature.				D022;D026;D048 ;D050;D098;D11 3;D246
EBR0039	ISO/IEC 15944-1:2011::EBR003 9	6.3.1	Rule 039	Conceptually, a **business transaction** can be considered to be constructed from a **set** of five fundamental activities, which are planning, **identification**, negotiation, actualization and post-actualization.				D022;D110; D246
EBR0040	ISO/IEC 15944-1:2011::EBR004 0	6.3.1	Rule 040	The five fundamental activities may take place in any order.				
EBR0041	ISO/IEC 15944-1:2011::EBR004 1	6.3.1	Rule 041	A **Person** may terminate a **business transaction** by any agreed method of conclusion.				D022;D187
EBR0042	ISO/IEC 15944-1:2011::EBR004 2	6.3.1	Rule 042	The five fundamental **sets** of activities may be completed in a single continuous interactive dialogue or through multiple **sets** of interactions among **buyer** and **seller** and possibly involve **agents** or **third parties** as well.				D005;D026;D243 ;D246;D260
EBR0043	ISO/IEC 15944-1:2011::EBR004 3	6.4.1	Rule 043	In a **business transaction**, **information** is either recorded or it is not.				D022;D115
EBR0044	ISO/IEC 15944-1:2011::EBR004 4	6.4.1	Rule 044	Electronic **business transactions** require "**recorded information**".				D022;D209
EBR0045	ISO/IEC 15944-1:2011::EBR004 5	6.4.2	Rule 045	Not all **recorded information** is **data**, but all **data** is **recorded information**.				D059;D209
EBR0046	ISO/IEC 15944-1:2011::EBR004 6	6.4.2	Rule 046	Electronic **business transactions** require (1) **data**; and, (2) **data** that is recorded or stored on any **medium** in or by a **computer system**.				D022;D045; D059;D137

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