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**Information technology — Business  
Operational View —**

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

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

*Partie 5: Identification et référence des exigences de domaines  
juridictionnels en tant que sources de contraintes externes*

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## Foreword

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

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

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

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 15944-5 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 32, *Data management and interchange*.

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

- *Part 1: Operational aspects of Open-edi for implementation*
- *Part 2: Registration of scenarios and their components as business objects*
- *Part 4: Business transaction scenarios — Accounting and economic ontology*
- *Part 5: Identification and referencing of requirements of jurisdictional domains as sources of external constraints*

The following parts are under preparation:

- *Part 6: Technical introduction of e-Business modelling*
- *Part 7: e-Business vocabulary*



## 0 Introduction

### 0.1 Purpose and overview

#### 0.1.1 ISO/IEC 14662 "Open-edi Reference Model"

The ISO/IEC 14662 Open-edi Reference Model<sup>1</sup> provides the conceptual architecture necessary for carrying out electronic business transactions. That architecture describes the need to have two separate and related views of the business transaction. The first is the Business Operational View (BOV). The second is the Functional Service View (FSV). Figure 1, taken from ISO/IEC 14662:2004, illustrates the Open-edi environment. For definitions of the terms in Figure 1, see Clause 3.

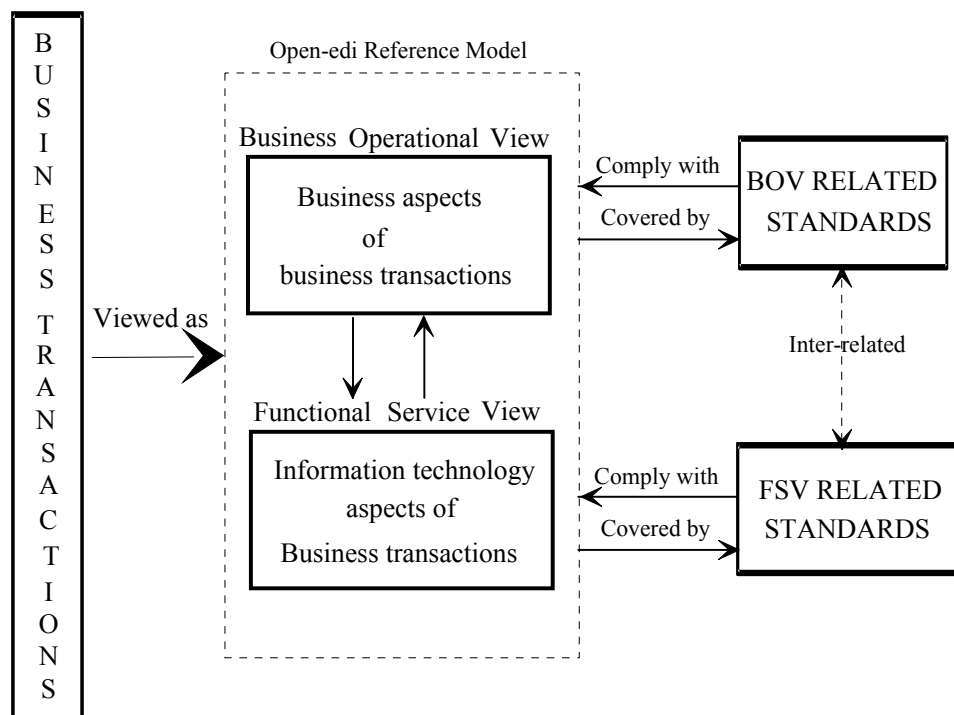


Figure 1 — Open-edi environment

ISO/IEC 14662:2004, Clause 5 contains the following text:

*"The intention is that the sending, by an Open-edi Party, of information from a scenario, conforming to Open-edi standards, shall allow the acceptance and processing of that information in the context of that scenario by one or more Open-edi Parties by reference to the scenario and without the need for agreement. However, the legal requirements and/or liabilities resulting from the engagement of an organization in any Open-edi transaction may be conditioned by the competent legal environment(s)"*

<sup>1</sup> ISO/IEC 14662:2004, *Information technology — Open-edi reference model/Technologies de l'information — Modèle de référence EDI-ouvert*. The English and French versions of this ISO/IEC standard are publicly available. (See <http://www.jtc1.org> and go to "Freely Available Documents".)

*of the formation of a legal interchange agreement between the participating organizations. Open-edi Parties need to observe rule-based behaviour and possess the ability to make commitments in Open-edi, (e.g., business, operational, technical, legal, and/or audit perspectives)”.*

In addition, ISO/IEC 14662:2004, Annex A contains a Figure A.1 “*Relationships of Open-edi standardization areas with other standards and import of the legal environment*”. This part of ISO/IEC 15944 focuses on the legal environment from an Open-edi perspective and, as required, follow-up standards development in support of the “Open-edi Reference Model”.

This part of ISO/IEC 15944 is thus directed at being able to identify and reference laws and regulations impacting scenarios and scenario components as external constraints. The primary source of such external constraints is jurisdictional domains.

In ISO/IEC 15944-1, constant reference is made and many rules are stated pertaining to the specification of external constraints when modelling business transactions through scenarios, scenario attributes and scenario components. These are consolidated in Annex B of this part of ISO/IEC 15944.

Finally, it is noted that the approach taken in ISO/IEC 15944-1:2002 in Clause 7 “*Guidelines for scoping Open-edi Scenarios*” is as stated in 7.1:

*“The approach taken is that of identifying the most primitive common components of a business transaction and then moving from the general to the more detailed, the simplest aspects to the more complex, from no external constraints on a business transaction to those which incorporate external constraints, from no special requirements on functional services to specific requirements, and so on.”*

This part of ISO/IEC 15944 focuses on addressing the more simple, i.e. definable, aspects of external constraints for which the source is a jurisdictional domain. A useful characteristic of external constraints is that at the sectoral, national and international levels, etc. focal points and recognized authorities often already exist. The rules and common business practices in many sectoral areas are already known. Use of this standard (and related standards) will facilitate the transformation of these external constraints (business rules) into specified, registered and re-useable scenarios and scenario components.

### **0.1.2 ISO/IEC 15944-1 “Business Agreement Semantic Descriptive Techniques”**

ISO/IEC 15944-1:2002 is the first part of a multipart BOV standard which focuses on the many requirements of the business operational view aspects of Open-edi in support of electronic business transactions. These requirements need to be integrated and taken into account in the development of business semantic descriptive techniques for modelling e-business transactions and components thereof as re-useable business objects. They include:

- commercial frameworks and associated requirements;
- legal frameworks and associated requirements;
- public policy requirements particularly those of a generic nature, such as consumer protection, privacy, accommodation of handicapped/disabled;
- requirements arising from the need to support cultural adaptability. This includes meeting localization and multilingual requirements (e.g. as may be required by a particular jurisdictional domain or desired to provide a good, service and/or right in a particular market. Here one needs the ability to distinguish the specification of scenarios, scenario components and their semantics in the context of making commitments between:
  - (1) the use of unique, unambiguous and linguistically neutral identifiers (often as composite identifiers) at the information technology (IT) interface level among the IT systems of participation parties on the one hand; and, on the other,
  - (2) their multiple human interface equivalent (HIE) expressions in a representation form appropriate to the Persons involved in the making of the resulting commitments.

Figure 2 provides an integrated view of these business operational requirements. Figure 2 is based on Figure 3 from ISO/IEC 15944-1:2002. Since the focus of this part of ISO/IEC 15944 is that of external constraints for which jurisdictional domains are the primary source, these have been highlighted here (in shaded form).

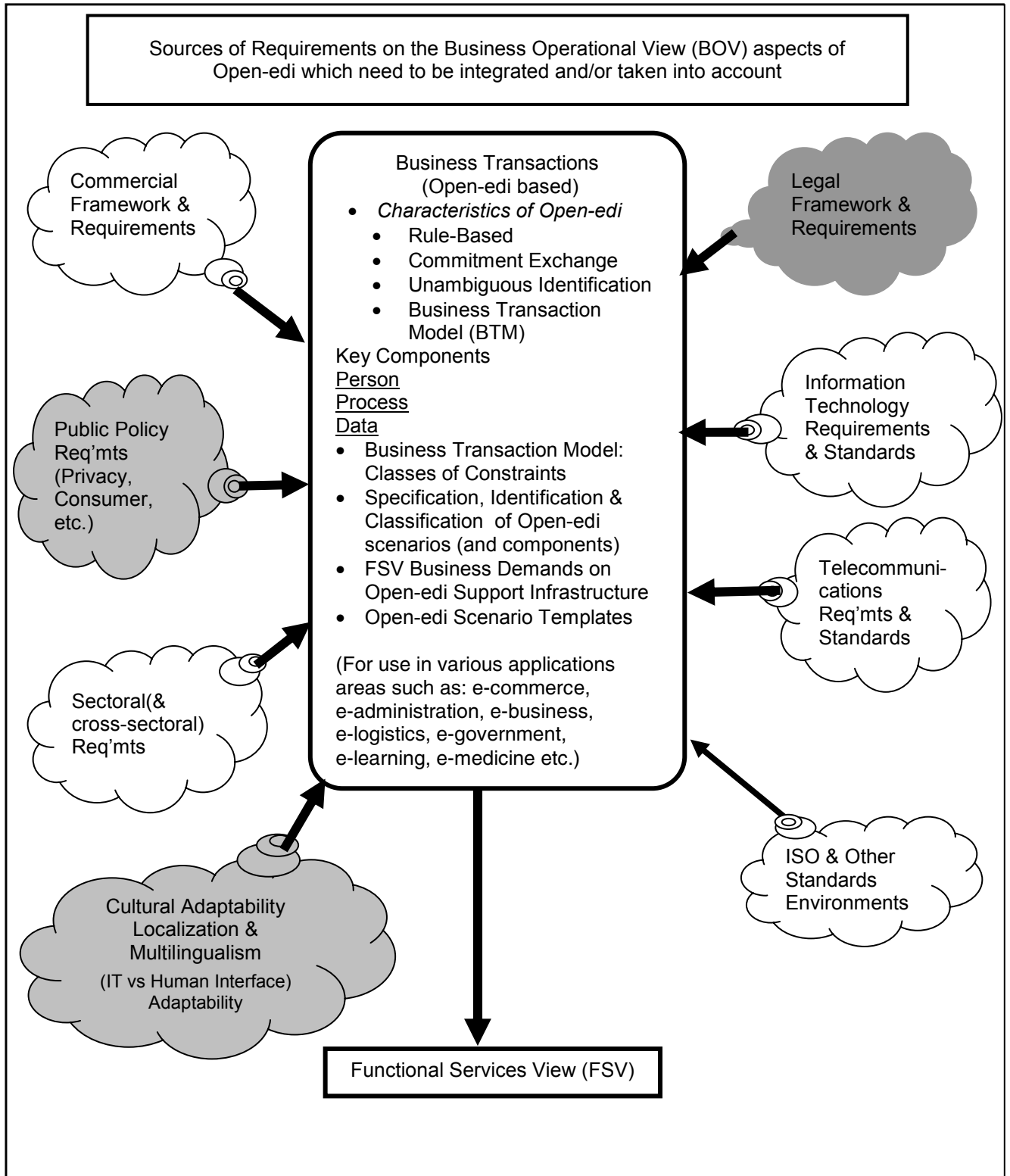


Figure 2 — Integrated View – Business Operational Requirements: External Constraints Focus

## 0.2 Use of “Person”, “organization” and “party” in the context of business transactions and commitment exchange

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

*‘When the ISO/IEC 14662 Open-edi Reference Model standard was being developed, the “Internet” and “WWW” were at an embryonic stage and their impact on private and public sector organizations was not fully understood. The Business Operational View (BOV) was therefore initially defined as:*

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

The existing and widely-used ISO/IEC 6523 definition of “organization” was used in ISO/IEC 14662. The fact that today Open-edi through the Internet and WWW also involves “individuals” has now been taken into account in this standard. Further, ISO/IEC 14662:1997 did not define “commitment”, nor the discrete properties and behaviours an entity must have to be capable of making a “commitment” as well as bridging legal and IT perspectives in the dematerialized world of the Internet.

During the development of ISO/IEC 15944-1, the term “commitment” was defined. At the same time it was recognized that in order to be able to make a commitment, the term “Open-edi Party” was not specific enough to satisfy scenario specifications when the legal aspects of commitment were considered. In many instances, commitments were noted as being actually among IT systems acting under the direction of those legally capable of making commitment, rather than the individuals in their own capacities. It was also recognized that in some jurisdictions a commitment could be made by “artificial” persons such as corporate bodies. Finally, it was recognized that there are occasions where agents act, either under the instruction of a principal or as a result of requirement(s) laid down by a jurisdiction, or where an individual is prevented by a relevant jurisdiction from being able to make a commitment.

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

There are three broad categories, i.e. sub-types, of Persons as players in Open-edi, namely:

- (1) the Person as “individual”,
- (2) the Person as “organization”; and
- (3) the Person as “public administration”.

There are also three basic (or primitive) roles of Persons in business transactions, namely “buyer”, “seller” and “regulator”.

In modelling business transactions, jurisdictional domains prescribe their external constraints in the role of “regulator” and execute them as “public administration”. See 5.4.

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<sup>2</sup> See further 5.2 “Functional Services View” in ISO/IEC 14662:2004.

<sup>3</sup> The text in this section is based on existing text in 0.3 of ISO/IEC 15944-1:2002 and ISO/IEC 14662:2004.

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

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

Within this part of ISO/IEC 15944,

- the use of Person with a capital “P” represents Person as a defined term, i.e. as the entity within an Open-edi Party that carries the legal responsibility for making commitment(s);
- “individual”, “organization” and “public administration” are defined terms representing the three common sub-types of “Person”; and
- the words “person(s)” and/or “party(ies)” are used in their generic contexts independent of roles of “Person” as defined in ISO/IEC 14662:2004 and ISO/IEC 15944-1. A “party” to a business transaction has the properties and behaviours of a “Person”.

### 0.3 Importance and role of terms and definitions

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

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

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

In order to minimize ambiguity in the terms and definitions introduced in Clause 3 of each part of ISO/IEC 15944, Canada has committed to develop French language equivalents for the same. Some terms and definitions may need to be amended/improved as part of developing the French language translation.

Annex A “*Consolidated list of terms and definitions with cultural adaptability: ISO English and ISO French language equivalency*” is derived from Clause 3 of each part of ISO/IEC 15944.<sup>4</sup> Annex A is repeated in each part of ISO/IEC 15944 as a convenient reference.

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<sup>4</sup> Canada has committed to maintain this comprehensive list in a database as the reference file for Annex A. This Annex A reference file will ensure the consistency of terms and definitions among the various parts in the on-going harmonization effort.

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

The Business Transaction Model has two classes of constraints, namely:

- (1) those which are “self-imposed” and agreed to as commitments among the parties themselves, i.e. “internal constraints”; and
- (2) those which are imposed on the parties to a business transaction based on the nature of the good, service and/or rights exchanged, and the nature of the commitment made among the parties (including ability to make commitments, the location, etc.), i.e. “external constraints”.

The focus of this part of ISO/IEC 15944 is on external constraints. Jurisdictional domains are the primary source of external constraints.<sup>5</sup>

ISO/IEC 15944-1:2002, 6.1.6 provides normative text for these two classes of constraints. It is included in this part of ISO/IEC 15944 as Annex C. In addition, Annex G provides examples of various ontologies that result when modelling business scenarios with (1) internal constraints only and (2) external constraints.

## 0.5 Standard based on rules and guidelines<sup>6</sup>

This standard is intended to be used within and outside of the ISO and IEC by diverse sets of users having different perspectives and needs (see Figure 2).

ISO states that a standard is a<sup>7</sup>

*“documented agreement containing technical specifications or other precise criteria to be used consistently as rules, guidelines or definitions of characteristics to ensure that materials, products, processes and services are fit for their purpose”*.<sup>8</sup>

This BOV standard focuses on “other precise criteria to be used consistently as rules, guidelines or definitions of characteristics to ensure that materials, products, processes and services are fit for their purpose”.

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

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<sup>5</sup> For business requirements of the Functional Service View and business demands on the Open-edi support infrastructure with respect to internal constraints, see further ISO/IEC 15944-1:2002, 6.5.2 “*Self-imposed constraints*”. ISO/IEC 15944-4:2006 focuses on accounting and economic aspects of business transactions from an “internal constraints” perspective.

<sup>6</sup> This introductory clause is primarily based on that found in ISO/IEC 15944-1:2002, 6.1.2 titled “*Standard based on rules and guidelines*”.

<sup>7</sup> This is the generic definition of “standard” of the ISO and IEC (and now found in the ISO/IEC JTC 1 Directives).

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



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

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

- *the content of information flows, and*
- *the order and behavior of information flows themselves.*

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

These rules also serve as a common set of understanding bridging the varied perspectives of the commercial framework, the legal framework, the information technology framework, standardizers, consumers, etc.<sup>10</sup>

In this part of ISO/IEC 15944, the common rules are sequentially enumerated and presented in **bold** font. Where guidelines are provided for a rule they are numbered sequentially after that rule and are shown in an italic font<sup>11</sup>. Choice of words in the rules, the guidelines, and the terms and definitions are governed by maximizing the ability to map, on the one hand, to all the sources of requirements of the day-to-day world of commitment pertaining to the BOV of any e-business transaction (e.g. commercial, legal, public policy, cultural adaptability, sectoral, etc. frameworks of the day-to-day world of business), and on the other hand, those pertaining to the FSV in support of BOV requirements (e.g. that of those providing information technology and communication services in support of commitment exchange of any kind and among all parties involved in a business transaction).

## **0.6 Use of “jurisdictional domain” and “jurisdiction” (and “country”) in the context of business transactions and commitment exchange**

Multiple definitions are currently in use for “jurisdiction”. Some have legal status and others do not. Further, it is also a common practice to equate “jurisdiction” with “country”. Yet at the same time, it is also a common practice to refer to provinces, länder, cantons, territories, municipalities, etc. as “jurisdictions” or to a court of law or international body as having jurisdiction, etc. In summary, “jurisdiction” is commonly utilized with many

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<sup>9</sup> There are six key characteristics of Open-edi (as stated in ISO/IEC 15944-1:2002, Clause 5):

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

The six sub-clauses of Clause 5 in ISO/IEC 15944-1:2002 describe each of these six characteristics in more detail.

<sup>10</sup> The working principle here is that of “coordinated autonomy”, i.e. all parties are autonomous. Therefore, the extent to which they cooperate, agree on common needs, business rules, constraints, practices, etc., and reach agreement on the same in the form of precise rules, terms and definitions, etc. is a key influence on the creation of necessary standards as well as common scenarios, scenario attributes and scenario components.

<sup>11</sup> For example, “*Guideline 5G2*” equals the second guideline under Rule 5.

different meanings in various contexts. Finally, there are differing “legal” definitions of “jurisdiction”. Within this part of ISO/IEC 15944:

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

### 0.7 Use of “identifier” as “identifier (in business transactions)”<sup>12</sup>

ISO/IEC 15944-1:2002, 6.1.4 focuses on the requirement for the unambiguous identification of entities in business transactions. “Unambiguous” is a key issue in business transactions because states of ambiguity and uncertainty are not desired from commercial, legal, consumer and information technology perspectives. Issues of unambiguousness apply to all aspects of a business transaction and even more so to those which are EDI-based.

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

ISO/IEC 15944-1:2002, 3.66 defines “unambiguous” as

*level of certainty and explicitness required in the completeness of the semantics of the **recorded information** interchanged appropriate to the goal of a **business transaction***

ISO/IEC 15944-1:2002, 3.27 defines “identifier (in business transaction)” as

***unambiguous**, unique and a linguistically neutral value, resulting from the application of a **rule-based identification** process. Identifiers must be unique within the **identification** scheme of the issuing authority*

Within this part of ISO/IEC 15944, “identifier” is used as a defined term as “identifier (in a business transaction)”.<sup>13</sup>

### 0.8 Organization and description of this part of ISO/IEC 15944

This part of ISO/IEC 15944 provides the key concepts required for addressing the legal environment in developing the BOV of business transactions and scenarios which involve and are required to support external constraints.

Following the standard Clauses 0, 1, 2, 3 and 4, this part of ISO/IEC 15944 begins in Clause 5 with an exploration of the jurisdictional domain as a source of external constraint on the business process, both from the perspective of a Person and as a Public Administration. Clause 5 presents key constraints governing this part of ISO/IEC 15944 and does so through principles and rules. It utilizes the concept of “collaboration space” to identify and differentiate between modelling business transactions under (1) internal constraints only and (2) with external constraints being added, including the introduction of the role of the regulator. As pointed out in Clause 5, Public Administrations can be viewed as both Buyers and Sellers. However, they perform a very

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<sup>12</sup> This is a summary of ISO/IEC 15944-1:2002, 6.1.4 “Business transaction: unambiguous identification of entities”. See also ISO/IEC 15944-1:2002, Annex C “Unambiguous identification of entities in (electronic) business transactions”, which provides the informative and explanatory text for the rules and definitions in 6.1.4.

<sup>13</sup> Identifiers in business transactions can be simple or composite identifiers. This is dependent on (1) the rules governing “identifiers” as a rule-based process and (2) the “registration schema” utilized (as well as any permitted combinations of the same).



important role as Regulator within the context of their respective jurisdictions. It examines the bounds of these jurisdictions, from the traditional localized jurisdictions such as states to those of pivot jurisdictional domains as represented, for example, by agreements among UN member states.

Clause 6 examines a key element in business transactions, that of the use of language. Jurisdictions can identify and, in some cases, impose the use of language in a business transaction. In this regard, this part of ISO/IEC 15944 looks at the relationship of the constraint imposed by a jurisdictional domain on the choice of language used. It examines such terms as “natural language”, “official language” and their relationships with Human Interchange Equivalents (HIEs) between and among jurisdictions, business processes and Persons.

Public policy constraints are also examined and key requirements for their inclusion in external constraints are identified in Clause 6, especially where they may affect the modelling of Open-edi scenarios and the business transaction components of Persons, data and processes. In particular, there is a set of rules that govern the identification and categories of jurisdictional domains as individual states as well as sets of entities, both regional and international.

Clause 7 focuses on the identification of rules governing the formation and identification of jurisdictional domains. Clause 7 identifies the more primitive subtypes of jurisdictional domains and includes two approaches for the unambiguous identification of referencing of (subtypes of) jurisdictional domain.

This part of ISO/IEC 15944 (like ISO/IEC 15944-1 and ISO/IEC 15944-2) also provides checklists, through the use of templates in Clause 8, to guide the user through the mechanics of determining the source of the external constraint(s) where these are jurisdictional domains and determining the adequacy of the scenario specification as well as those of the scenario components.

At the end of this part of ISO/IEC 15944 are annexes that provide elaboration on the points raised in the main body. Annex A is a consolidated list of the terms used in this part of ISO/IEC 15944 in ISO English and ISO French. As stated in the main body of this part of ISO/IEC 15944, the issue of linguistics and the importance of identifying the correct interpretation across official languages is a key element.

Annex B identifies rules stated in ISO/IEC 15944-1 that are applicable to this part of ISO/IEC 15944. Annex C is common to parts 2, 4 and 5 of ISO/IEC 15944. Annex D presents default conventions for the unambiguous identification and interworking of country, language and currency codes in the modelling of business transactions from a commitment exchange and a jurisdictional domain requirements perspective. Annexes E, F, I, J and K provide information in support of Annex D as well as serving as real-world examples in support of the concepts, definitions and rules stated in Clauses 5, 6, 7 and 8. Annex G serves as an example of bridging between ISO/IEC 15944-4 and this part of ISO/IEC 15944.

# Information technology — Business Operational View —

## Part 5:

# Identification and referencing of requirements of jurisdictional domains as sources of external constraints

## 1 Scope

### 1.1 Statement of scope

The modelling of a business transaction through scenarios and scenario components is done by specifying the applicable constraints through explicitly stated rules. The Open-edi Reference Model identified two basic classes of constraints, namely “internal constraints” and “external constraints” (see further Annex G). ISO/IEC 15944-4 focuses on internal constraints with a specific focus on doing so from an economic ontology perspective.

External constraints apply to most business transactions.

Jurisdictional domains are the primary source of external constraints on a business transaction.

The primary purpose of this part of ISO/IEC 15944 is to address specific aspects of business semantic descriptive techniques in order to be able to support legal requirements in modelling business transactions, i.e. in the form of jurisdictional domains as sources of external constraints.

As such, this part of ISO/IEC 15944 addresses fundamental, i.e. more primitive, requirements of the legal environment, as represented through jurisdictional domains, on business transactions and also integrates the requirements of the information technology and telecommunications environments.

This part of ISO/IEC 15944 contains a methodology and tool for specifying common classes of external constraints through the construct of “jurisdictional domains”. It does so, following the approach already taken by ISO/IEC 15944-1 and ISO/IEC 15944-2 through the use of explicitly stated rules, templates and Formal Description Techniques (FDTs).

At the same time, a set of external constraints of a jurisdictional domain lends itself to being modelled through scenarios and scenario components. For example, ISO/IEC 15944-1:2002, Annex I, ‘Scenario descriptions using the Open-edi scenario template: “Telecommunications Operations Map” example’ is a scenario of an external constraint of a jurisdictional domain, i.e. the USA, that provides a business process framework that provides the enterprise process required for a telecommunications service provider.

Other examples of external constraints which lend themselves to being modelled as scenarios and scenario components include the customer clearance process of the World Customs Organization (WCO), one or more of the INCOTERMs, etc.

In addition to the existing strategic directions of “portability” and “interoperability”, the added strategic direction of ISO/IEC JTC 1 of “cultural adaptability” is also supported in this part of ISO/IEC 15944. Here, the fact that external constraints of jurisdictional domains are a primary factor in the choice of language and application of public policy are also addressed in this part of ISO/IEC 15944.

## 1.2 Exclusions

### 1.2.1 Mutual recognition of jurisdictional domain by other jurisdictional domains

Resolving the issue of recognition of a jurisdictional domain, of whatever nature, by other jurisdictional domains is outside the scope of this part of ISO/IEC 15944.

### 1.2.2 Formation of jurisdictional domains

A jurisdictional domain can and does create other jurisdictional domains within it<sup>14</sup>.

Processes pertaining to the formation of a jurisdictional domain are outside the scope of this part of ISO/IEC 15944.

### 1.2.3 “Overlap” of and/or conflict among jurisdictional domains as sources of external constraints

A business transaction by its very nature involves an exchange of commitments among autonomous parties. Commitment is the making or accepting of a right, an obligation, liability or responsibility by a Person, whereas while a business transaction pertains to the transfer of a good, service and/or right among the Persons involved.

It is not an uncommon occurrence that, depending on the goal and nature of the business transaction, multiple external constraints apply originating from various jurisdictional domains. It is also a not uncommon occurrence that there is overlap among such sets of external constraints and/or conflict among them.

Resolving issues of this nature is outside the scope of this part of ISO/IEC 15944. However, the modelling of business transactions as scenarios and scenario components as re-useable business objects may well serve as a useful methodology for identifying specific overlaps and conflicts (thereby serving as a tool for their harmonization).

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

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

### 1.2.4 Artificial languages, programming languages, mark-up languages, etc.

This part of ISO/IEC 15944 includes clauses which focus on external constraints on business transactions which pertain to the use of a “natural language” and/or a “special language” for the human interface equivalents of the business semantics of the set of commitments comprising a business transaction modelled through scenarios and scenario components. A primary source of such external constraints is jurisdictional domains.

With respect to the use of language(s) to provide human interface equivalent values, the following are excluded from the scope of this part of ISO/IEC 15944:

- “artificial languages”;
- “programming languages”;<sup>15</sup>

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<sup>14</sup> For example, on 1 April 1999, the Canadian government through an Act of Parliament created the Territory of Nunavut out of the existing Northwest Territories.

<sup>15</sup> As stated in ISO/IEC 15944-1:2002, 6.1.1, the focus of ISO/IEC 15944 is the “WHATs”, i.e. BOV aspects, and not the FSV aspects, including programming language(s) used for implementations.

- “hypertext languages”;
- “indexing languages”;<sup>16</sup>
- “mark-up languages”.<sup>17</sup>

### 1.3 Aspects not currently addressed

This part of ISO/IEC 15944 does not currently support the following requirements:

- the differences in equality of use of official languages within a jurisdictional domain<sup>18</sup>;
- the identification and mapping of legally recognized languages for a specific purpose or within a particular jurisdictional domain;
- the identification and registration of schemas involving the control and management of legally recognized personas and associated unique identifiers for the unambiguous identification of the role qualification of a Person in a specified context;
- the more detailed requirements of common public policy requirements of jurisdictional domains including consumer protection, privacy protection, individual accessibility and human rights;
- the more detailed requirements of records retention and other related information management requirements pertaining to commitment exchange among autonomous parties and subject to external constraints;
- the temporal schemas which are particular to a specific UN member state, a culture, a religion, etc. (even though they may have legal status and form part of the legal requirements of one or more jurisdictional domains);
- the identification and referencing of sources of external constraints which are not of the nature of a jurisdictional domain.

It is anticipated that some or all of these requirements will be addressed in future editions of this part of ISO/IEC 15944 or in companion standards or technical reports.

### 1.4 IT systems environment neutrality

This part of ISO/IEC 15944 neither assumes nor endorses any specific system environment, database management system, database design paradigm, system development methodology, data definition language, command language, system interface, user interface, syntax, computing platform or any technology required for implementation, i.e. it is information technology neutral. At the same time, this part of ISO/IEC 15944 maximizes an IT-enabled approach to its implementation and maximizes semantic interoperability.

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<sup>16</sup> There may be requirements of a jurisdictional domain for the use of an “indexing language” as a specified vocabulary, a controlled terminology, etc. However, on the whole “indexing languages” are outside the scope of this part of ISO/IEC 15944.

<sup>17</sup> This part of ISO/IEC 15944 is independent of, but maps to, any mark-up language which may be used as a syntax for its implementation, (SGML, HTML, XML, RELAX-NG, tML, ebXML, etc.).

<sup>18</sup> This part of ISO/IEC 15944 focuses on the essential basic, i.e. primitive, aspect of jurisdictional domains as sources of external constraints. As such, it does not address differences in status that may exist among official languages within a jurisdictional domain. It is not uncommon that where a jurisdictional domain has three or more official languages not all these have equal status. For example, for use of some official language(s) in a jurisdictional domain, there could be criteria such as “where and when numbers warrant”, “there is a significant demand for communication with and services from a public administration in that language”, etc.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

The Normative References are divided into two parts:

- ISO/IEC, ISO and ITU
- Referenced Specifications<sup>19</sup>

### 2.1 ISO/IEC, ISO and ITU<sup>20</sup>

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

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

ISO/IEC 2382 (all parts) (E/F), *Information technology — Vocabulary/Technologies de l'information — Vocabulaire*

ISO 2788:1986 (E/F), *Documentation — Guidelines for the establishment and development of monolingual thesauri/Documentation — Principes directeurs pour l'établissement et le développement de thésaurus monolingues*

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

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

ISO 3166-3:1999 (E/F), *Codes for the representation of names of countries and their subdivisions — Part 3: Code for formerly used names of countries/Codes pour la représentation des noms de pays et de leurs subdivisions — Partie 3: Code pour les noms de pays antérieurement utilisés*

ISO 4217:2001 (E/F), *Codes for the representation of currencies and funds/Codes pour la représentation des monnaies et types de fonds*

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

ISO/IEC 5218:2004 (E/F), *Information technology — Codes for the representation of human sexes/Technologies de l'information — Codes de représentation des sexes humains*

ISO 5964:1985 (E/F), *Documentation — Guidelines for the establishment and development of multilingual thesauri/Documentation — Principes directeurs pour l'établissement et le développement de thésaurus multilingues*

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<sup>19</sup> See further, ISO/IEC JTC 1 N 8024, "The Normative Referencing of Specifications other than International Standards in JTC1 International Standards — Guidelines for JTC1 SCs".

<sup>20</sup> For standards referenced for which both English and French versions are available, both the English and French language titles are provided. This is independent of whether the English and French language versions of the standard are published as a single document or as separate documents. For those standards which are available in English only, only the English language title is provided.

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

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

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

ISO/IEC 7501-2:1997 (E), *Identification cards — Machine readable travel documents — Part 2: Machine readable visa*

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

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

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

ISO 8583-1:2003 (E), *Financial transaction card originated messages — Interchange message specifications — Part 1: Messages, data elements and code values*

ISO 8583-2:1998 (E/F), *Financial transaction card originated messages — Interchange message specifications — Part 2: Application and registration procedures for Institution Identification Codes (IIC)/ Messages initiés par cartes de transaction financière — Spécifications d'échange de messages — Partie 2: Procédures d'application et d'enregistrement pour codes d'identification d'institution (IIC)*

ISO 8583-3:2003 (E), *Financial transaction card originated messages — Interchange message specifications — Part 3: Maintenance procedures for messages, data elements and code values*

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

ISO/IEC 9798-1:1997 (E), *Information technology — Security techniques — Entity authentication — Part 1: General*

ISO/IEC 11179-1:2004 (E), *Information technology — Metadata registries (MDR) — Part 1: Framework*

ISO/IEC 11179-3:2003 (E), *Information technology — Metadata Registries (MDR) — Part 3: Registry Metamodel and basic attributes*

ISO/IEC 14662:2004 (E), *Information technology — Open-edi reference model*

ISO/IEC TR 15285:1998 (E), *Information technology — An operational model for characters and glyphs*

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

ISO/IEC 15944-1:2002 (E), *Information technology — Business agreement semantic descriptive techniques — Part 1: Operational aspects of Open-edi for implementation*

ISO/IEC 15944-2:2006 (E), *Information technology — Business Operational View — Part 2: Registration of scenarios and their components as business objects*



ISO/IEC 15944-4:2006 (E), *Information technology — Business Operational View — Part 4: Business transaction scenarios — Accounting and economic ontology*

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

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

ISO 19135:2005 (E), *Geographic information — Procedures for item registration*

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

ITU-R TF.460-6, *Standard-frequency and time-signal emissions*

ITU-R TF.686-2, *Glossary and definitions of time and frequency terms*

## 2.2 Referenced specifications<sup>22</sup>

Basil Convention on the Control of Transborder Movement of Hazardous Wastes 1989+, United Nations (UN)

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

Constitution of the World Health Organization (WHO) International Health Regulations (1969)

Convention on the Law of the Sea (UNCLOS or LOS), 1982, United Nations (UN)

Convention for the Unification of Certain Rules for International Carriage by Air (Warsaw Convention), 1929+, International Civil Aviation Organization (ICAO)

General Agreement on Tariffs and Trade (GATT), 1947, 1994+, Council for Trade in Goods (Goods Council), World Trade Organization (WTO)

Harmonized Commodity Description and Coding System (Harmonized System or HS System, 1983, and subsequent amendments), World Customs Council (WCO)

International Commercial Terms (INCOTERMS®), 2000, International Chamber of Commerce (ICC)

International Covenant on Economic, Social and Cultural Rights, 1966, United Nations (UN)

International Convention for the Safety of Life at Sea (SOLAS), 1974, International Maritime Organization (IMO)

International Maritime Dangerous Goods (IMDG) Code, 1974, International Maritime Organization (IMO)

International Labour Standards<sup>23</sup>, 1919+, International Labour Organization (ILO)

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

<sup>22</sup> This set of referenced specifications is not exhaustive but includes only those referenced in this document. The first or earliest date when these referenced specifications are published is provided. Many have had subsequent amendments. The Source Authority is also noted. Information on these referenced specifications, if not their full text (at times in several languages), is available from the Source Authority noted (often for free). One can use the titles provided as the basis for an Internet-based (Google) search to obtain these documents.

<sup>23</sup> The International Labour Standards are also known as ILO Conventions which have the status of international treaties.

International Patent Classification (IPC), (Strasbourg Agreement of 1971), World Intellectual Property Organization (WIPO)

TRIPS — Agreement on Trade-Related Aspects of Intellectual Property Rights, 1994, World Trade Organization (WTO)

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