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TECHNICAL REPORT

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TR
15944-6

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**Information Technology — Business
Operation View —**

Part 6:

Technical Introduction to e-Business Modelling

Reference number
ISO/IEC TR 15944-6:2008(E)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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

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

Attention is drawn to the possibility that some of the elements of this part of ISO/IEC 15944 may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

International Technical Report ISO/IEC 15944 6 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 3: Open-edi description techniques

Part 4: Business transaction scenarios – Accounting and economic ontology

Part 5: Identification and mapping of various categories of jurisdictional domains as sources of external constraints

Part 6: Technical Introduction to eBusiness Modelling

Part 7: eBusiness vocabulary

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

0 Introduction

It is desired to be able to commence eBusiness by simply choosing a particular scenario from the registered set of scenarios and applying the same to the actual, i.e. instantiated, business transaction. In this context, the registered Open-edi scenario is supposed to be a generic class of various specific scenarios. In addition, if the generic scenario class were successfully obtained, it could consist of a small number of mandatory attributes and many conditional and/or optional attributes, i.e. as scenario components.

Although such a standardization idea for Open-edi scenarios seems to be a straightforward solution, it is likely to be difficult to distinguish a particular scenario from the others. In particular, the scenario description with many conditional attributes may be so complex that the semantics could not be clearly compiled even if an excellent description technique is employed. In addition, for those scenarios having the same attributes but with slightly different domains and the combinatorial, it is not evident whether they all have to be interpreted as single scenario class or not. Even if individual scenario could be formally identified, having a unique identifier, many scenarios that are semantically equivalent may be redundantly registered. The more redundant registration increases, the more confusion occurs.

One of the effective solutions to avoid the redundant registration is to establish a classification scheme based on well-defined criteria, which may reduce the complexity of conditional attributes as much as possible.

This technical report discusses the fundamentals of business transaction and the principles of eBusiness modelling, from which the classification scheme are derived for Open-edi scenarios and their components. This is in addition to:

- 1) the use of the templates for scoping Open-edi Scenarios, the rules for specifying Open-edi scenarios and their components as stated in ISO/IEC 15944-1:2002;
- 2) the use of templates for registering Open-edi Scenarios and their components as stated in ISO/IEC 15944-2:2006; and,
- 3) the use of templates for the identification and referencing of scenarios and scenario components which are structured to be able to support the requirements of jurisdictional domains as sources of external constraints as stated in ISO/IEC 15944-5:2007.”

1 Scope

This technical report discusses and describes of the following three topics of e-business modelling:

- Fundamentals of business transaction modelling that describes the conceptual aspects of eBusiness
- Principles of eBusiness modelling that specifies the semantic aspect of business transactions and their components and relationships involved in the business transaction
- Classification scheme of Open-edi scenarios based on the eBusiness modelling

2 Normative references¹

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

ISO/IEC 14662: 2004, Information technology - Open-edi reference model

¹ For the complete set of all the Normative References and Referenced Specifications utilized in the ISO/IEC 14662 “Open-edi Reference Model” as well as all the Parts of the ISO/IEC 15944 multipart e-Business series of standards, see Annex A in ISO/IEC 15944-7 titled “e-Business Vocabulary”

ISO/IEC 15944-1: 2002 Information technology- Business agreement semantic descriptive techniques - Part 1: Business operational aspects of Open-edi for implementation

ISO/IEC 15944-2: 2006 Information technology - Business Operational View - Part 2: Registration of Scenarios and their Components as Business Objects

ISO/IEC 15944-4: 2007 Information technology - Business Operational View - Part 4: eBusiness Ontology

ISO/IEC 15944-5: 2007 Information technology – Business Operational View – Part 5: Identification and Mapping of Categories of Jurisdictional Domains as Sources of External Constraints

ISO/IEC IS 19501: 2005 Information technology -- Open Distributed Processing -- Unified Modeling Language (UML) Version 1.4.2

3 Definitions²

3.1
agent
Person acting for another **Person** in a clearly specified capacity in the context of a **business transaction**

NOTE Excluded here are agents as "automatons" (or robots, bobots, etc.). In ISO/IEC 14662, "automatons" are recognized and provided for but as part of the Functional Service View (FSV) where they are defined as an "Information Processing Domain (IPD)".

[ISO/IEC 15944-1:2002 (3.1)]

3.2
attribute
characteristic of an object or entity

[ISO/IEC 11179-3:2003 (3.1.3)]

3.3
authentication
provision of assurance of the claimed identity of an **entity**

[ISO/IEC 10181-2:1996(3.30)]

3.4
business
series of **processes**, each having a clearly understood purpose, involving more than one **Person**, realised through the exchange of recorded information and directed towards some mutually agreed upon goal, extending over a period of time

[ISO/IEC 14662:2004 (3.2)]

3.5
business transaction
predefined set of activities and/or **processes** of **Persons** which is initiated by a **Person** to accomplish an explicitly shared **business** goal and terminated upon recognition of one of the agreed conclusions by all the involved **Persons** although some of the recognition may be implicit

[ISO/IEC 14662:2004 (3.4)]

3.6
buyer

² This Clause 3 contains a subset of key terms and definitions used in Part 6. For the complete set of concepts and their definitions as well as associated terms used in the ISO/IEC 14662 "Open-edi Reference Model" as well as those used in all the Parts of the multipart ISO/IEC 15944 e-Business standard see "Annex D (normative) Consolidated list of normative references for the eBusiness Vocabulary" in Part 7 "e-Business Vocabulary".

Person who 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

[ISO/IEC 15944-1:2002 (3.8)]

3.7

collaboration space

business activity space where an economic exchange of valued resources is viewed independently and not from the perspective of any **business partner**

NOTE In collaboration space, an individual partner's view of economic phenomena is de-emphasized. Thus, the common use business and accounting terms like purchase, sale, cash receipt, cash disbursement, raw materials, and finished goods is not allowed because they view resource flows from a participant's perspective.

[ISO/IEC 15944-4:2006 (3.12)]

3.8

commitment

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

[ISO/IEC 14662:2004 (3.5)]

3.9

constraint

rule, explicitly stated, that prescribes, limits, governs or specifies any aspect of a **business transaction**

NOTE 1 Constraints are specified as rules forming part of components of Open-edl scenarios, i.e., as scenario attributes, roles, and/or information bundles.

NOTE 2 For constraints to be registered for implementation in Open-edl, they must have unique and unambiguous identifiers.

NOTE 3 A constraint may be agreed to among parties (condition of contract) and is therefore considered an "internal constraint". Or a constraint may be imposed on parties, (e.g., laws, regulations, etc.), and is therefore considered an "external constraint".

[ISO/IEC 15944-1:2002 (3.11)]

3.10

consumer

a **buyer** who is an **individual** to whom **consumer** protection requirements are applied as a set of external **constraints** on a **business transaction**

NOTE 1 Consumer protection is a set of explicitly defined rights and obligations applicable as external constraints on a business transaction.

NOTE 2 The assumption is that a consumer protection applies only where a buyer in a business transaction is an individual. If this is not the case in a particular jurisdiction, such external constraints should be specified as part of scenario components as applicable.

NOTE 3 It is recognized that external constraints on a buyer of the nature of consumer protection may be peculiar to a specified jurisdiction.

[ISO/IEC 15944-1:2002 (3.12)]

3.11

defined market model

trade **model** where the **buyer** and **seller** accept the entry **terms** of a specified market in advance and where that market has an accepted and recognized source for **business rules** and conventions

NOTE In a defined market, the phases of a business transaction –planning, identification, negotiation, actualization, and post-actualization – are governed by the rules and conventions of the particular defined

market.

[ISO/IEC 15944-4:2006 (3.17)]

3.12

Electronic Data Interchange (EDI)

automated exchange of any predefined and structured **data** for **business** purposes among information systems of two or more **Persons**

NOTE This definition includes all categories of electronic business transactions.

[ISO/IEC 14662:2004 (3.8)]

3.13

entity

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

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

NOTE An entity exists whether data about it are available or not.

[ISO/IEC 2382-17:1999 (17.02.05)]

3.14

external constraint

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

NOTE 1 Normally external constraints are created by law, regulation, orders, treaties, conventions or similar instruments.

NOTE 2 Other sources of external constraints are those of a sectorial nature, those which pertain to a particular jurisdiction or a mutually agreed to common business conventions, (e.g., INCOTERMS, exchanges, etc.).

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

NOTE 4 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 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 must be recorded.

EXAMPLE 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 A minimum external constraint applicable to a business transaction often requires one to differentiate whether the Person, i.e., 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".

[ISO/IEC 15944-1:2002 (3.23)]

3.15

governed

association between an economic agreement and the **business transaction** whose conduct and phases are subject to that economic agreement of the **business transaction**

[ISO/IEC 15944-4:2006 (3.35)]

3.16

identification

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

[ISO/IEC 15944-1:2002 (3.26)]

3.17

identifier (in a business transaction)

unambiguous, unique and a linguistically neutral value, resulting from the application of a **rule-based identification process**

NOTE 1 Identifiers must be unique within the identification scheme of the issuing authority.

NOTE 2 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)}

[ISO/IEC 15944-1:2002 (3.27)]

3.18

individual

Person who is a human being, i.e., a natural person, who acts as a distinct indivisible **entity** or is considered as such

[ISO/IEC 15944-1:2002 (3.28)]

3.19

Information Bundle (IB)

formal description of the semantics of the **recorded information** to be exchanged by **Open-edi Parties** playing **roles** in an **Open-edi scenario**

[ISO/IEC 14662:2004 (3.11)]

3.20

internal constraint

constraint which forms part of the **commitment(s)** mutually agreed to among the parties to a **business transaction**

NOTE Internal constraints are self-imposed. They provide a simplified view for modelling and re-use of scenario components of a business transaction for which there are no external constraints or restrictions to the nature of the conduct of a business transaction other than those mutually agreed to by the buyer and seller.

[ISO/IEC 15944-1:2002 (3.33)]

3.21

jurisdictional domain

jurisdiction, recognized in law as a distinct legal and/or regulatory framework, which is a source of **external constraints** on **Persons**, their behaviour and the making of **commitments** among **Persons** including any aspect of a **business transaction**

NOTE 1 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 Jurisdictional domains can combine to form new jurisdictional domains, (e.g., through bilateral, multilateral and/or international treaties).

EXAMPLE Included here, for example, are the European Union (EU), NAFTA, WTO, WCO, ICAO, WHO, Red Cross, the ISO, the IEC, the ITU, etc.

NOTE 3 Several levels and categories of jurisdictional domains may exist within a jurisdictional domain.

NOTE 4 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 interchange of commitments are conducted on a for-profit or not-for-profit basis and/or include monetary values.

NOTE 5 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.

[ISO/IEC 15944-5:2006 (3.67)]

3.22 model

abstraction of some aspect of reality

[ISO 19115:2003 (4.9)]

3.23 Open-edi

electronic data interchange among multiple autonomous **Persons** to accomplish an explicitly shared business goal according to **Open-edi standards**

[ISO/IEC 14662:2004 (3.14)]

3.24 Open-edi Description Technique (OeDT)

specification method such as a Formal Description Technique, another methodology having the characteristics of a Formal Description Technique, or a combination of such techniques as needed to formally specify **BOV** concepts, in a computer processable form

[ISO/IEC 14662:2004 (3.16)]

3.25 Open-edi Party (OeP)

Person that participates in **Open-edi**

NOTE Often referred to generically in this, and other e-business standards, (e.g., parts of the ISO/IEC 15944 multipart “e-business” standard) as “party” or “parties” for any entity modelled as a Person as playing a role in Open-edi scenarios.

[ISO/IEC 14662:2004 (3.17)]

3.26 Open-edi scenario (OeS)

formal specification of a class of **business transactions** having the same **business goal**

[ISO/IEC 14662:2004 (3.18)]

3.27 Open-edi standard

standard that complies with the Open-edi Reference Model

[ISO/IEC 14662:2004 (3.19)]

3.28 organization

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

NOTE The kinds of organizations covered by this International Standard include the following examples:

EXAMPLE 1 An organization incorporated under law.

EXAMPLE 2 An unincorporated organization or activity providing goods and/or services including:
1)partnerships; 2)social or other non-profit organizations or similar bodies in which ownership or control is vested in a group of individuals; 3)sole proprietorships 4)governmental bodies.

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

[ISO/IEC 6523-1:1998 (3.1)]

3.29

partner

sub-type of **Person** that includes **buyer** and **seller**

[ISO/IEC 15944-4:2006 (3.51)]

3.30

Person

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

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

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

NOTE 3 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".

[ISO/IEC 14662:2004 (3.24)]

3.31

principle

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

NOTE 1 A principle is usually enforced by rules that affect its boundaries.

NOTE 2 A principle is usually supported through one or more rules.

NOTE 3 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.

[ISO/IEC 15944-2:2006 (3.81)]

3.32

privacy protection

set of **external constraints** of a **jurisdictional domain** pertaining to recorded information on or about an identifiable **individual**, i.e., personal information, 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 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 shall not be utilized for another purpose without the explicit and informed consent of the individual to whom the recorded information pertains.

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

NOTE 3 Where jurisdictional domains have legal requirements which override privacy protection requirements

these must be specified, (e.g., national security, investigations by law enforcement agencies, etc.).

[ISO/IEC 15944-5:2006 (3.109)]

3.33

process

series of actions or events taking place in a defined manner leading to the accomplishment of an expected result

[ISO/IEC 15944-1:2002 (3.53)]

3.34

property

peculiarity common to all members of an object class

[ISO/IEC 11179-1:2004 (3.3.29)]

3.35

registration

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

[ISO/IEC 15944-2:2006 (3.95)]

3.36

Registration Schema (RS)

formal definition of a set of **rules** governing the data fields for the description of an **entity** and the allowable contents of those fields, including the **rules** for the assignment of identifiers

[ISO/IEC 15944-1:2002 (3.58)]

3.37

regulator

Person who has authority to prescribe **external constraints** which serve as **principles**, policies or **rules** governing or prescribing the behaviour of **Persons** involved in a **business transaction** as well as the provisioning of goods, services, and/or rights interchanged

[ISO/IEC 15944-1:2002 (3.59)]

3.38

responsibility

association between **Persons** where one is responsible to the other or between a **Person** and an **organization Person** where that **Person** is assigned

NOTE Subtypes of Persons include individuals, organizations, and public administrations. An “individual” is non-divisible but organizations and public administrations are and as such will assign specific responsibilities to organization Persons. {See further Clause 6.2.7 and Figure 17 in ISO/IEC 15944-1:2002}

[ISO/IEC 15944-4:2006 (3.59)]

3.39

role

specification which models an external intended behaviour (as allowed within a **scenario**) of an **Open-edition Party**

[ISO/IEC 14662:2004 (3.25)]

3.40

rule

statement governing conduct, procedure, conditions and relations

NOTE 1 Rules specify conditions that must be complied with. These may include relations among objects and their attributes.

NOTE 2 Rules are of a mandatory or conditional nature.

NOTE 3 In Open-edl, 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: -content of the information flows in the form of precise and computer-processable meaning, i.e. the semantics of data; and, -the order and behaviour of the information flows themselves.

NOTE 4 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 using a Formal Description Technique(s) (FDTs).

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

NOTE 5 Specification of rules in an Open-edl business transaction should be compliant with the requirements of ISO/IEC 15944-3 "Open-edl Description Techniques (OeDT)".

[ISO/IEC 15944-2:2006 (3.101)]

3.41

scenario attribute

formal specification of information, relevant to an **Open-edl scenario** as a whole, which is neither specific to roles nor to Information Bundles

[ISO/IEC 14662:2004 (3.26)]

3.42

scenario component

one of the three fundamental elements of a scenario, namely role, information bundle, and semantic component

[ISO/IEC 15944-2:2006 (3.104)]

3.43

seller

Person 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

[ISO/IEC 15944-1:2002 (3.62)]

3.44

Semantic Component (SC)

unit of recorded information unambiguously defined in the context of the **business** goal of the **business transaction**

NOTE A SC may be atomic or composed of other SCs.

[ISO/IEC 14662:2004 (3.27)]

3.45

settlement

association between a requiring economic event and an economic claim where the occurrence of the event causes the economic claim to expire

[ISO/IEC 15944-4:2006 (3.63)]

3.46

standard

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

NOTE This is the generic definition of "standard" of the ISO and IEC (and now found in the ISO/IEC JTC1

Directives, Part 1, Section 2.5:1998). {See also ISO/IEC Guide 2: 1996 (1.7)}

[ISO/IEC 15944-1:2002 (3.64)]

3.47

term

designation of a defined concept in a special language by a linguistic expression

NOTE A term may consist of one or more words i.e. simple term, or complex term or even contain symbols.

[ISO 1087:2000 (5.3.1.2)]

3.48

text

data in the form of characters, symbols, words, phrases, paragraphs, sentences, tables, or other character arrangements, intended to convey a meaning and whose interpretation is essentially based upon the reader's knowledge of some natural language or artificial language

EXAMPLE A business letter printed on paper or displayed on a screen.

[ISO/IEC 2381-23:1994 (23.01.01)]

3.49

third party

Person besides the two primarily concerned in a **business transaction** who is **agent** of neither and who fulfils a specified role or function as mutually agreed to by the two primary **Persons** or as a result of external **constraints**

NOTE It is understood that more than two Persons can at times be primary parties in a business transaction.

[ISO/IEC 15944-1:2002 (3.65)]

3.50

undefined market model

trade **model** where participants are not registered in advance and where that market does not have accepted and recognized sources or **business rules** and conventions

[ISO/IEC 15944-4:2006 (3.67)]

3.51

vendor

seller on whom **consumer** protection requirements are applied as a set of external **constraints** on a **business transaction**

NOTE 1 Consumer protection is a set of explicitly defined rights and obligations applicable as external constraints on a business transaction.

NOTE 2 It is recognized that external constraints on a seller of the nature of consumer protection may be peculiar to a specified jurisdiction.

[ISO/IEC 15944-1:2002 (3.67)]

4 Symbols and abbreviations

D-I-M: Defined Immediate Mediated

D-S-B: Defined Separate Bilateral

D-S-M: Defined Separate Mediated

OeDT: Open-edition Description Technique

OeP: Open-edl Party

OeS: Open-edl scenario

RS: Registration Schema

SC : Semantic Component

U-I-B: Undefined Immediate Bilateral

U-I-M: Undefined Immediate Mediated

U-S-B: Undefined Separate Bilateral

U-S-M: Undefined Separate Mediated

5 Fundamentals of Business Transaction Modelling

5.1 Introduction to Business Transaction Modelling

As shown in **Figure 5-1**, a business goal is achieved with an integrated business transaction that is proceeding in a collaboration space governed by the relevant jurisdictional domains, where the involved business roles participate to share a common business goal. A business transaction consists of a set of semantic exchanges, of which each has a conceptually separate action, conforming to a specification of external business process that all the involved parties have common understandings.

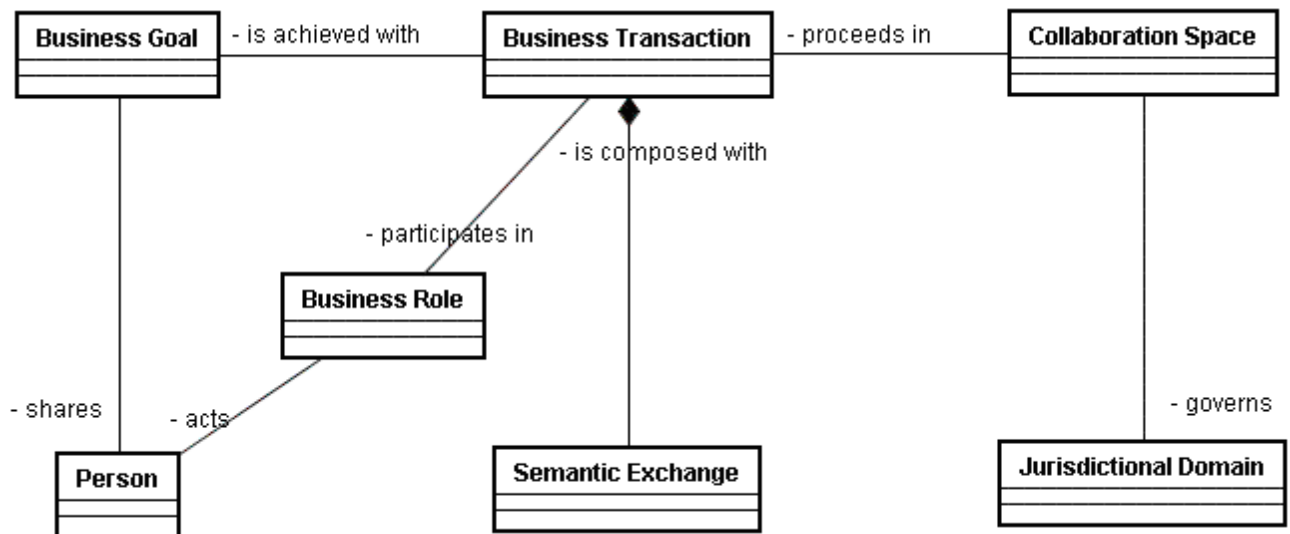


Figure 5-1 General Understandings of Business Transaction

When discussing business transactions, it is important to distinguish the difference between intra-enterprise and inter-enterprise business processes. Even where processes appear to have the same function, the business context is very different when it is operated as an internal business process within an enterprise compared with operation as an external business process between two autonomous enterprises.

When the business process is operated as an internal business process, the completion condition or the interruption case is controlled by the internal procedures and/or rules of enterprise. The accounting business process is interpreted with the internal accounting guidelines. However, when the business process is operated as an external business process, the completion condition or the interruption case have to be defined with a clear understandings of the commitment and obligation among the involved parties. It is necessary to assume various cases to be occurred and to specify clearly the responsibility among parties. If the consideration is insufficient, when an inter-enterprise business process encountered an interruption failure, the involved parties may have to consume much time and money to resolve the problems. In some case, a particular party may owe excessive

obligation, or every party may take unexpected business risks.

To clearly distinguish the nature of two types of business processes, we call such an inter-enterprise business process as a business transaction.

This chapter explains the fundamental concept and characteristics of business transaction that differs from internal business processes.

5.2 Basic Aspects of Business Transaction Modelling

5.2.1 Basic Structure of Business Transaction

The basic structure of business transaction denotes an exchange of economic values between buyer and seller, that the seller provides a goods, services and/or rights to the buyer and the buyer pays the legal money to the seller. The business transaction consists of processes 1) to identify the counterparty as well as the goods, services and/or rights to be provided, 2) to negotiate and close the agreement of the price and delivery terms, and 3) to settle the obligation of both parties by delivering the goods, services and/or rights and paying the legal money according to the agreement.

This basic business transaction is described with a set of model constructs as illustrated in **Figure 5-2**.

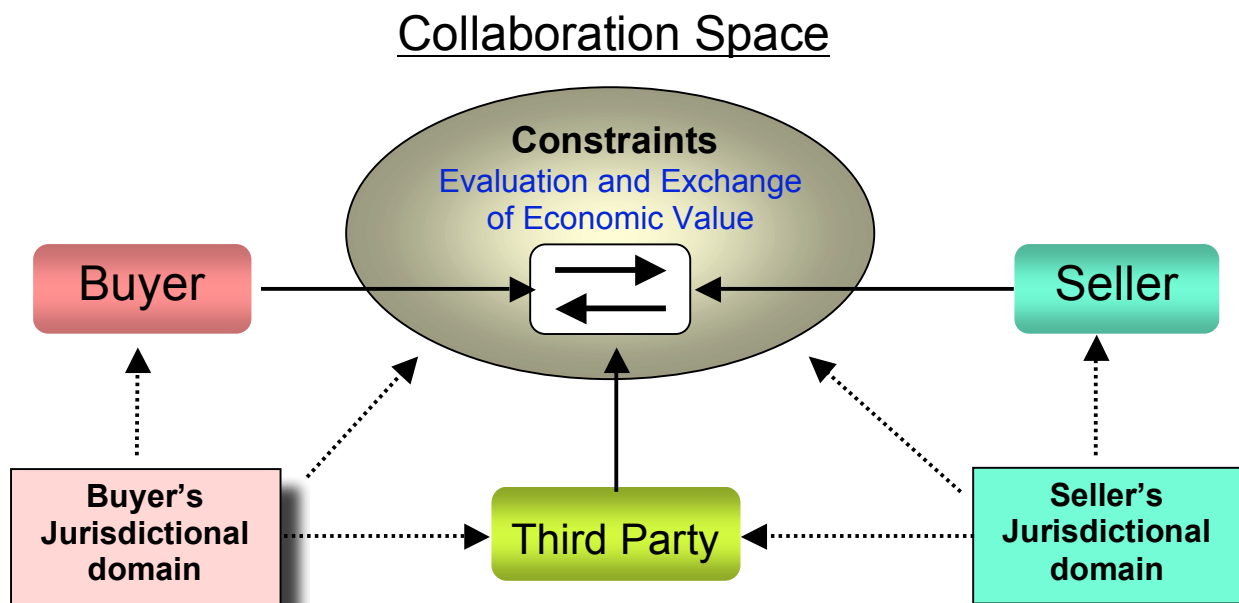


Figure 5-2 Basic Model Constructs of a Business Transaction

5.2.2 Collaboration Space

For a business transaction, the jurisdictional aspects are deeply involved. Two autonomous parties, buyer and seller, are required to establish a mutual consent by explicit or implicit agreement. This type of jurisdictional constraints on business transaction is not addressed for internal business process within an enterprise, but for external business process among enterprises.

International business transaction requires more sophisticated consideration on the jurisdictional constraints, that may be different depending on parties involved in the business transaction. A certain type of constraint is only applied to a specific party, but not to the others. For example, when a Japanese franchise of restaurant intends to procure rice from a US food company, the seller is not disturbed by their regulation, but the Japanese buyer is restricted to import the rice from United States by Japanese regulation of food and drug control .

This type of restriction on business transaction may appear in not only international business, but also a certain type of domestic business. The provision of financial services, medical services and educational services may be

restricted to such business entities that hold specific licences or authorization according to the relevant jurisdictional constraints. In addition, such a restricted business transaction may be operated through specific market or institutional facility complying with the relevant regulation.

In general, a business transaction is operated in a collaboration space that complies explicitly or implicitly the involved jurisdictional constraints. In this context, the collaboration space is a conceptual framework of jurisdictional business environment.

On the other hand, collaboration space may also provide the function of pricing for goods and services, which are exchanged by business transaction. The price of goods, services and/or rights may be planned by buyer or seller based on the marginal utility or production cost. But, actual price is often decided depending on the market position. In the recent eBusiness, we can observe various pricing methods, which are classified into 5 types as follows:

1) list price

The seller will decide the price and show on the price list

2) bidding price

The buyer will choose the lowest price from the prices the sellers have shown.

3) auctioning price

The seller leads the highest price, making the buyers competing with others.

4) reverse auctioning price

The buyer leads the lowest price, making the sellers competing with others.

5) matching price

The seller and buyer show their expected prices to the counterparty respectively and decide on the matching price.

5.2.3 Parties and Business Roles

The buyer and seller are parties in a business transaction, who are acting the relevant business roles in the collaboration space. The business role is a business aspect of Person that denotes specific business function in a business transaction. A Person may be an individual, organization, or two or more organizations acting as a single entity, from a business modelling perspective. Such Persons may, in addition to the roles of a buyer and seller, also include the role of a regulator, as well as a third party, (e.g. acting as a mediator).

A business transaction is an exchange of economic values among parties, which involve at the minimum the roles of a buyer and a seller. The buyer acquires the goods, services and/or rights from the seller and pays the counter money to the seller.

In the real business world, some type of business transaction requires involvement of third party who is also an autonomous entity other than the buyer or seller. Some type of business commitment is effective only if the third party is involved in, or mediates the business transaction. From a business transaction perspective, a business transaction is classified into the following three types based on the difference of participants:

1) Bilateral direct trade

The bilateral direct trade is a trade where buyer and seller directly participates in the business transaction. This is the most primitive business transaction among others, i.e. one which does not involve a third party, use of an agent or the role of a regulator.

2) Bilateral agent trade

The bilateral agent trade is a business transaction that either buyer or seller, or both participate in the business transaction through an agent(s)³. The agent participates in the business transaction behalf of the buyer or of the seller. The ownership of economic value exchanged through the business transaction does not belong to the agent but to the buyer or seller. The obligation of delivery of goods, services and/or rights to the buyer does not belong to the seller's agent but to the seller. And, the obligation of payment to the seller does not belong to the buyer's agent but to the buyer. The agent simply plays a certain role behalf of the seller or buyer, and does not take the ultimate business risk involved in the business transaction.

3) Mediated trade

Some type of business transaction requires involvement of other party than buyer and seller or their agents. These involve the services of a third party who fulfils a specified role or function as mutually agreed to by the buyer and seller, or as the result of external constraints, (e.g. those of the applicable jurisdictional domain). For example, real estate trade through escrow is a typical case of mediated trade involving the use of a third party. In this type of business transaction, buyer deposits the money for the payment with escrow, and the seller entrusts the transfer registration of real estate with escrow. The escrow processes the transfer registration of real estate behalf of the seller, and pays the deposited money to the seller behalf of the buyer, after confirming the legal validity of the real estate transaction. Then, the escrow guarantees the result of business transaction for a certain period, establishing a insurance to cover the payment of real estate transaction for hidden failure. A business transaction settled with credit card is also one of the mediated trade that the credit company gives the credit for the payment to the buyer and takes the payment risk for the seller.

5.2.4 Goods, Services and/or Rights

Ultimate objective of business transaction is to acquire the goods, services and/or rights for the buyer and the money for the seller. There are various goods and services for trade, including physical goods, labour services, rental or lease of facility or equipment, ownership of real estate, intellectual property rights, financial products, insurance, security and bond, etc.

5.2.5 Payment

Usually legal money such as cash or fund transfer of bank account is used to settle the payment of business transaction.

In some cases, an equivalent goods, services and/or rights or other financial product than legal money may be used for the payment of business transaction. However, such an alternative payment may cause various problems. The precise evaluation of actual economic value may be difficult. If the evaluation is significantly biased, the taxation issues may be addressed. If the alternative payment was done with something illegally acquired may lose the validity of payment.

Accordingly, even if the payment of business transaction is settled with other instrument than legal money, it had better to virtually split such a business transaction into two trades, original and counter trade, which are both settled with an estimated amount of legal money.

5.3 Business Transaction Pattern⁴

An example of a typical business transaction pattern consists of five processes as defined in 15944-1. They are planning, identification, negotiation actualization and post-actualization. For the purpose of this document we provide an example that focuses on the following processes and activities as shown in **Figure 5-3**.

³ For the rules governing "agent", see further ISO/IEC 15944-1:2002, Clause 6.2.5 "*Person and delegation to "agent" and/or "third party"*".

⁴ Clause 5.3 here is based on and can be considered an application of ISO/IEC 15944-1:2002, Clause 6.3 "*Rules governing the process component*" which consists of five fundamental activities, namely, planning, identification, negotiation, actualization, and post-actualization.

- Identification of counterparty and objective goods, services and/or rights
- Negotiation of business terms and conditions
- Delivery of goods, services and/or rights (part of actualization)
- Payment of counter money (part of actualization)
- Warranty of post delivery (part of post-actualization)

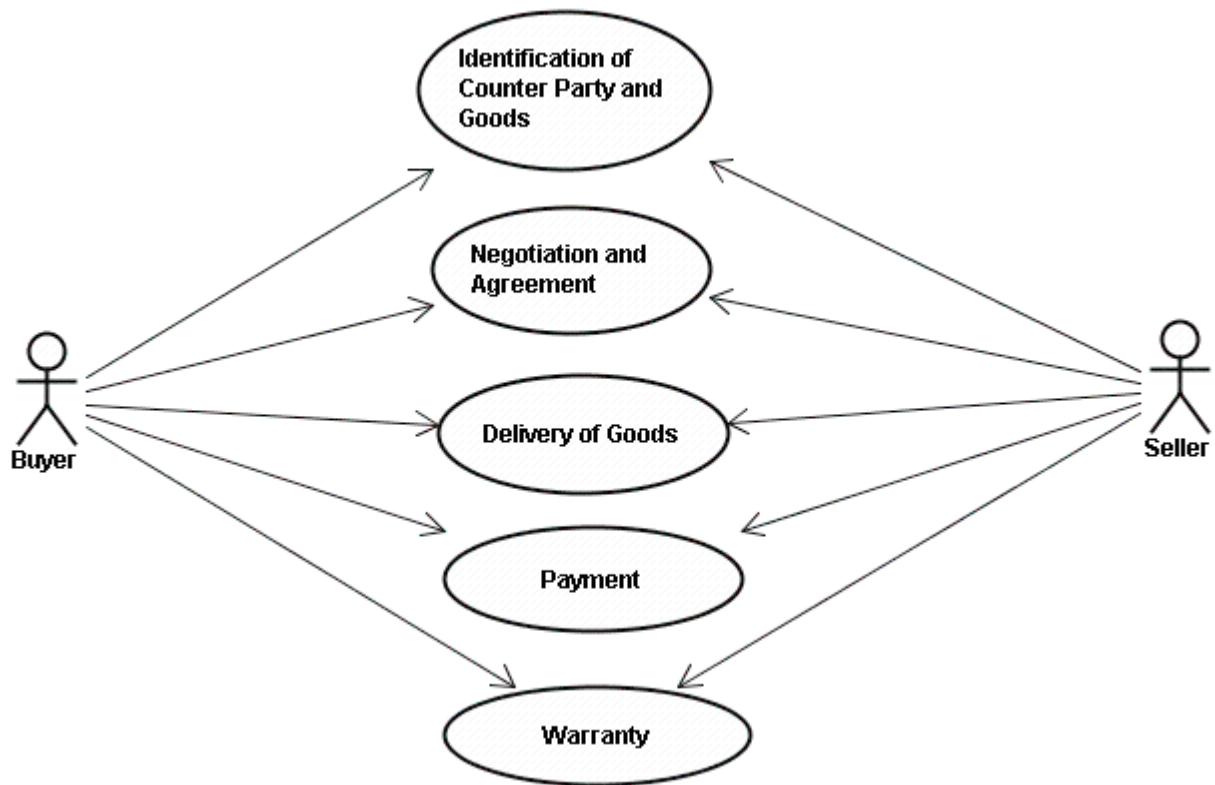


Figure 5-3 Basic Business Transaction Pattern

This basic business transaction pattern denotes a high-level combination of business activities that are logically composed in a typical business transaction. However, the actual business transaction may or may not follow the sequence. In addition, a particular activity could be divided into smaller activities and/or some activities are combined into a bigger activity. And, the sequence of those activities are varying depending on the business cases. The typical variations are as follows:

1) Business transaction with combined identification and negotiation

Usually a business transaction begins from identification of counterparty and goods, services and/or rights. After identification completed, negotiation is triggered and reaches the agreement. And, finally the delivery of goods, services and/or rights and payment will be performed. However, as seen in stock market, some trade types of financial products may follow the very different sequences. As shown in **Figure 5-4**, for a given product list, buyers and sellers propose their own expected prices at the first, and the trade will be closed when both expected prices match mutually. This type of trade does not have a clear precedence between identification of party and negotiation of pricing. Two processes are simultaneously progressing.

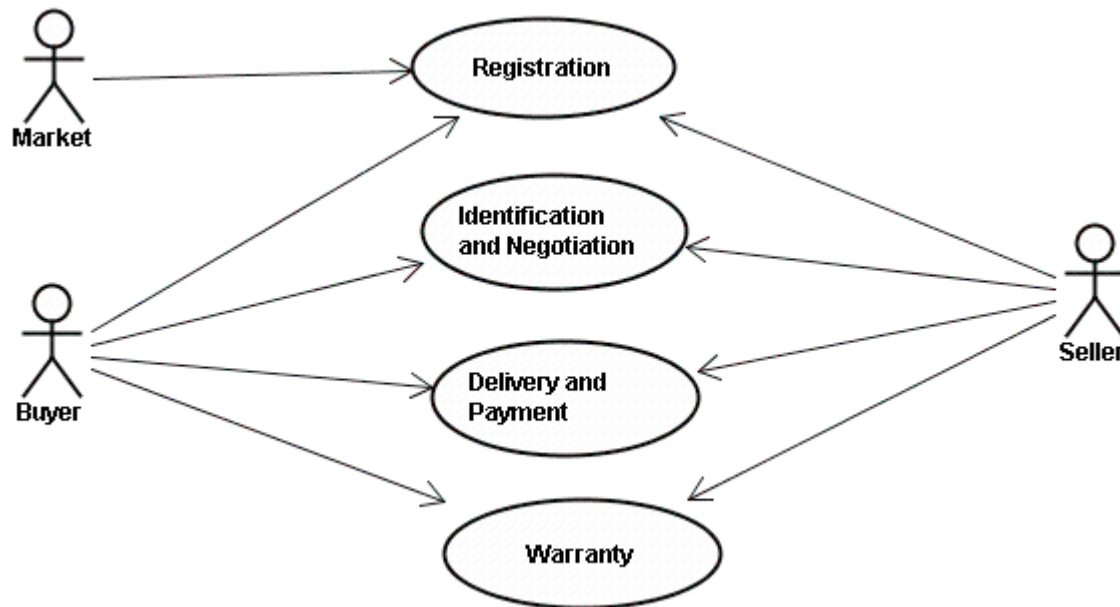


Figure 5-4 Business Transaction with Combined Identification and Negotiation

As long as the traditional business practice of manufacturing and logistics industry, this type of business transaction has been rarely seen. However, this trade type is now recognised by all the industries as an effective procurement approach. The simple replacement of traditional procurement with modern eBusiness process may achieve very restricted advantages, just for labour replacement with computer process. But, this type of business transaction may dramatically save the procurement cost.

To operate effectively the business transaction with combined identification and negotiation, it is necessary to clarify the prescribed conditions and terms for the participants. It is also important to reduce the time and workload for the agreement among relevant parties. It is preferable to develop and establish specialized markets for specific type of business transaction with well-defined rules and procedures for participants.

2) Business transaction with combined delivery and payment

For a usual business transaction, the delivery of goods, services and/or rights precedes the payment, or the precedence is reversed. In this case, either the buyer or seller, of whom payment or delivery preceded the other, should take the business risk. For example, in the case where the delivery of goods, services and/or rights precedes the payment, the seller could have risk of losing money because the buyer may declare bankruptcy after the delivery but before the payment. This type of business transaction conducted over the Internet may have greater risk of failure than through traditional channels.

There are various means to avoid such a default risk associated with business transaction. The simplest solution is to perform the delivery of goods, services and/or rights and the payment at the same time as shown in **Figure 5-5**.

The business transaction with combined delivery and payment is almost equivalent to the trade that the buyer identifies the goods, services and/or rights and buys it with cash, the legal tender, at the shop in downtown. The procurement of digital contents such as music or information provider services with e-money through the internet is very close to the shopping in downtown.

Another safer approach is that the identification and negotiation is made through the internet, but that the delivery of goods, services and/or rights are made at a shop in downtown, or reclaiming the cash by the courier company when delivering the goods, services and/or rights to the buyer. This is a variation of business transaction with combined delivery and payment.

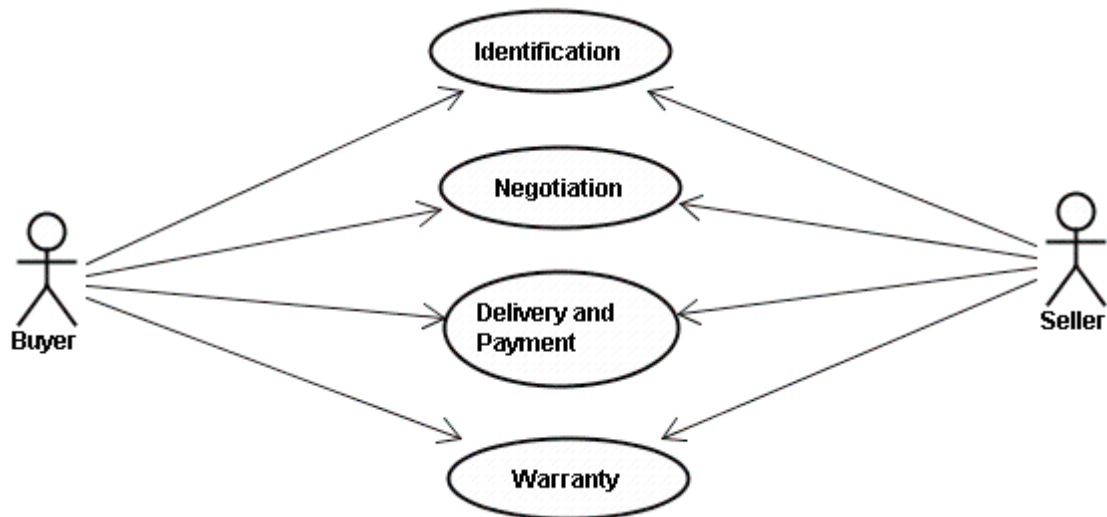


Figure 5-5 Business Transaction with Combined Delivery and Payment

3) Business transaction with advanced delivery against payment

In a typical business transaction, the delivery of the goods, services and/or rights and payment may be usually performed after the negotiation and agreement. Particularly, the international trade often complies the sequence. However, in some countries including Japan, a special business transaction type as shown in **Figure 5-6** is frequently observed, that the supplement of goods is preceded and then the negotiation of condition and terms is made after evaluating the business performance at the certain close date. When the price of goods, services and/or rights is not stable and the evaluation in advance is difficult, the business transaction with advanced delivery against the payment is an effective solution to avoid the excessive pricing risk and efforts for both parties.

Some western oil companies also employ a similar business transaction type for their business of products distribution to the retailers. The oil company delivers their product to the service stations that made the distribution agreement with the oil company. The delivery volume is decided by the oil company after confirming the current stock at the service station. Then, the volume discount is applied later depending on the actual delivery volume. In this case, the service station can reduce the effort of sales planning and accounting workloads. Small size business such as service station can save the cost for back office and focus their resources on maintaining customer relationship and sales supports.

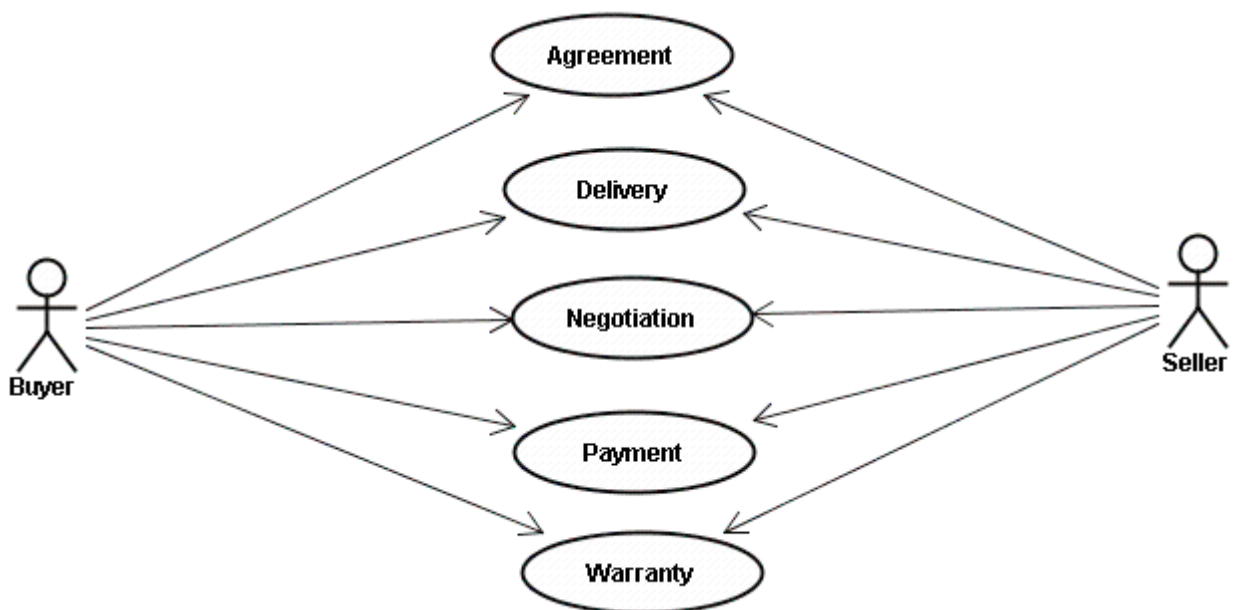


Figure 5-6 Business Transaction with Advanced Delivery against Payment

6 Principles of eBusiness Modelling

6.1 Introduction to eBusiness Modelling

An Open-edi scenario is a specification aspects of eBusiness transaction among the relevant parties, which are particularly focused on the external behaviour of the involved parties.

In general, the internal business processes of business parties are designed and built to optimize their internal value chains reflecting the jurisdictional constraints governing their collaboration space. The relevant consideration of jurisdictional domain is tightly coupled with the internal business processes as their business restrictions and/or accelerators. Their unique conventions and inventions are allowed for the internal business processes to pursue their business competencies as well as they are enforced to comply with a certain type of regulatory constraints. The internal business process may be unique to each business party, but must be consistent to its own business environment. The internal business processes once built under a certain jurisdictional domain may not be compatible with other jurisdictional domain.

On the other hand, business transaction among parties should share a common business process that is recognised as an external business process of the relevant parties. Although the external business process is established upon an agreement of all the relevant parties, the enforcement of the business process may be deeply affected by the individual jurisdictional domain associated with each party involved in and the collaboration space where the business transactions are performed. A business transaction may be valid or invalid depending on the jurisdictional domain actually resided. In addition, the optimization of internal business processes associated with their external behaviour is not necessarily consistent to each other among the parties to the business transaction.

Some difficulties may arise to fully guarantee the enforcement of external business process, particularly when different jurisdictional domains are involved in a business transaction. Either party or all parties may hold a failure risk of business transaction, missing the consistency among jurisdictional domains involved in. A certain type of business risks of a business transaction is eliminated or recovered by a third party involvement in the business transaction, transforming the symmetric and bilateral value exchange process into an asymmetric and multi-lateral one. A credit company, trade insurance company or escrow is a typical third party of business transactions. In a sense, a third party provides to the relevant parties such services that could virtually equate to fill the gaps embedded in an external business process against different jurisdictional domains of involved parties as well as providing the risk conversion and transfer to the third party from the business partners.

One of the most considerable things when discussing Open-edi scenarios is to establish a common framework, i.e. a reference ruler, for analysing and understanding the external business process among relevant parties in a formal manner from the overall viewpoint of business context including economics and jurisdictional aspects but not restricted to those two. **Figure 6-1** illustrates the high-level eBusiness modelling giving a grand perspective of the external business processes among relevant parties.

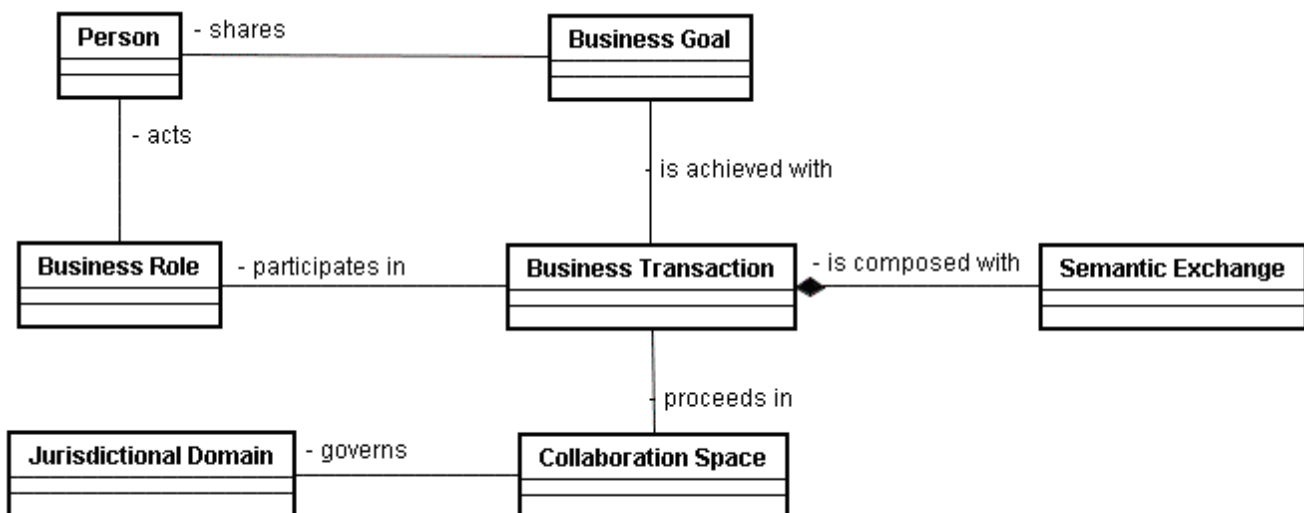


Figure 6-1 High-level eBusiness Modelling

The high-level eBusiness modelling is explained with the relationship among the following components:

- Business Transaction
- Business Goal (<Why/What>, Resources,)
- Business Role and Person (<Who>, Actor)
- Collaboration Space and Jurisdictional Domain (<Where>, Space)
- Semantic Exchange⁵ (<When/How>, Event)

Business transaction is performed by business roles that Persons act in a collaboration space governed by particular jurisdictional domain for a particular business goal with the relevant semantic exchanges.

6.2 Business Role and Person

The business roles in a business transaction are represented by specific Person to the business transaction. The most essential business roles in a business transaction are partners, i.e. buyer and seller. Agent may act behalf of buyer or seller. Some type of business transaction may require involvement of third party independent from buyer and seller to mediate the business transaction. **Figure 6-2** is an illustration focused on the business role and Person of the eBusiness modelling.

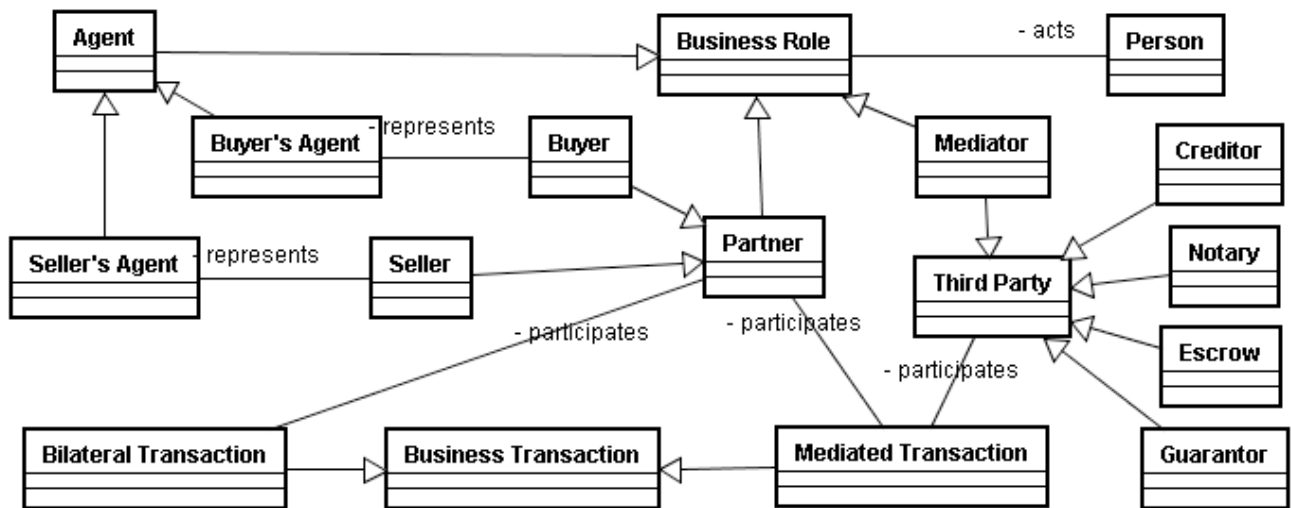


Figure 6-2 eBusiness Modelling focused on Business Role and Person

NOTE With respect to Figure 6-2 above, it must be noted that the inclusion of "Creditor", "Notary", "Escrow", and "Guarantor" in Figure 6-2 serve as examples of types of third parties which must be party to a business transaction when the business transaction is of a nature where the legal or regulatory requirements of the applicable jurisdictional domain require this.

6.3 Business Goal

Business transaction is performed by the relevant parties to achieve a shared business goal, typically an exchanging of resources. The resource is a specific goods, services and/or rights for the buyer and an expected amount of money as a legal tender for the seller. The resources are classified into various types. The legal tender may be various currencies. **Figure 6-3** is the illustration focused on the business goal of the eBusiness modelling.

⁵ Semantic exchange here is used to include Information Bundles (IB), and Semantic Components (SC) which are the two basic components of exchanges of recorded information pertaining to the making and instantiations of commitments among parties to an Open-edi business scenario. With respect to IBs and SCs, see further in ISO/IEC 15944-1, Clause 6.4 "Rules governing the data component" and Annex G "informative Business transaction model: Data Component".

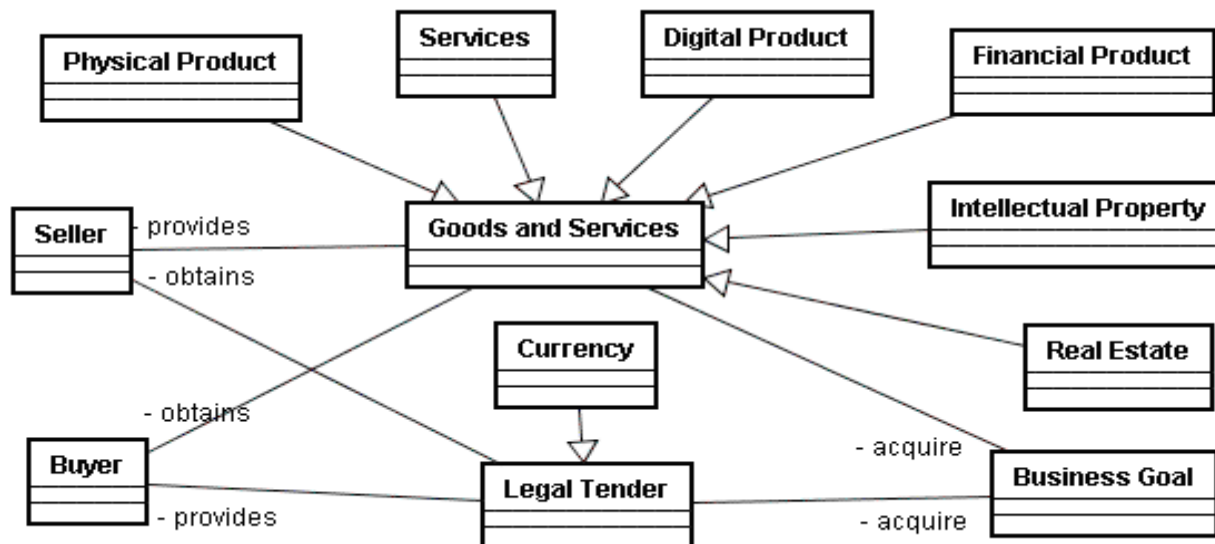


Figure 6-3 eBusiness Modelling focused on Business Goal

NOTE The examples of goods and services, i.e. physical product, services, digital product, financial products, intellectual property and real estate, are of a representative nature only. They are intended to serve as examples.

6.4 Collaboration Space and Jurisdictional Domain

A business transaction is performed in a specific collaboration space, which consist of market and community. Market may or may not be explicitly defined with a certain statement or regulation. Community is governed by a specified jurisdictional domain including legal, geopolitics and cultural aspects but not restricted to those. **Figure 6-4** is the illustration focused on the collaboration space and jurisdictional domain of the eBusiness modelling.

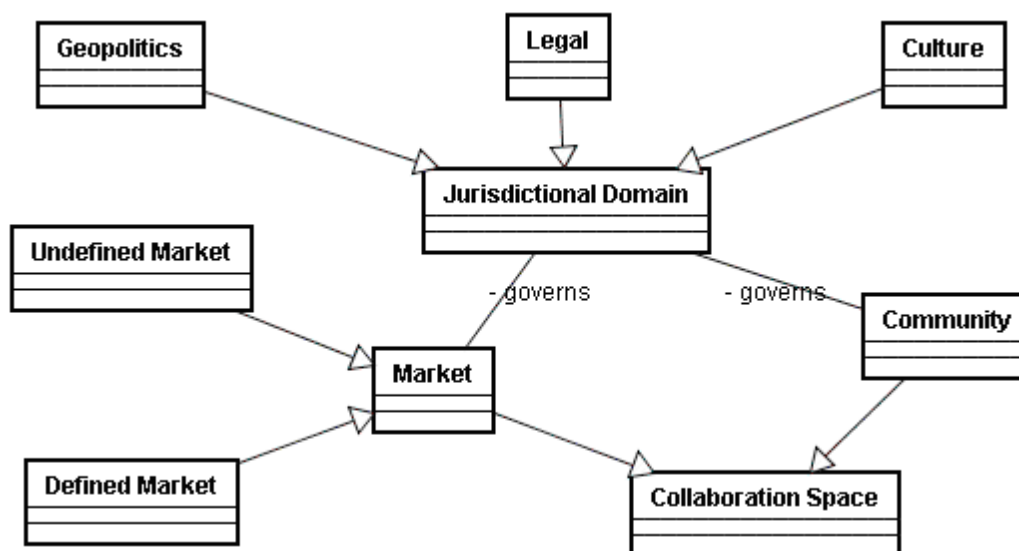


Figure 6-4 eBusiness Modelling focused on Collaboration Space and Jurisdictional Domain

6.5 Business Transaction

Business transaction consists of a series of business activities of which sequence varies depending on the nature of particular business transaction pattern and agreement of the relevant parties. Planning, Identification, Negotiation, Actualization and Post-actualization activities are conceptually essential business activities of a business transaction, although some of them may be physically absorbed or eliminated in an actual business

transaction⁶. In negotiation activity, the terms and condition of business transaction is agreed. The sequence of actualization is aligned by settlement terms and conditions upon agreed among partners. Pricing, order, delivery, payment and warranty activities are performed complying with the corresponding terms and conditions respectively. Identification activity may require mandatory and/or preferred qualification. Negotiation activity is initiated buyer or seller. Agreement has a particular offer type of purchase, contract, rental, lease or consignment. There are various pricing methods including matching, bidding and auction. Order activity is either of ad-hoc and repeating. **Figure 6-5** is the illustration focused on the business activity of the eBusiness modelling.

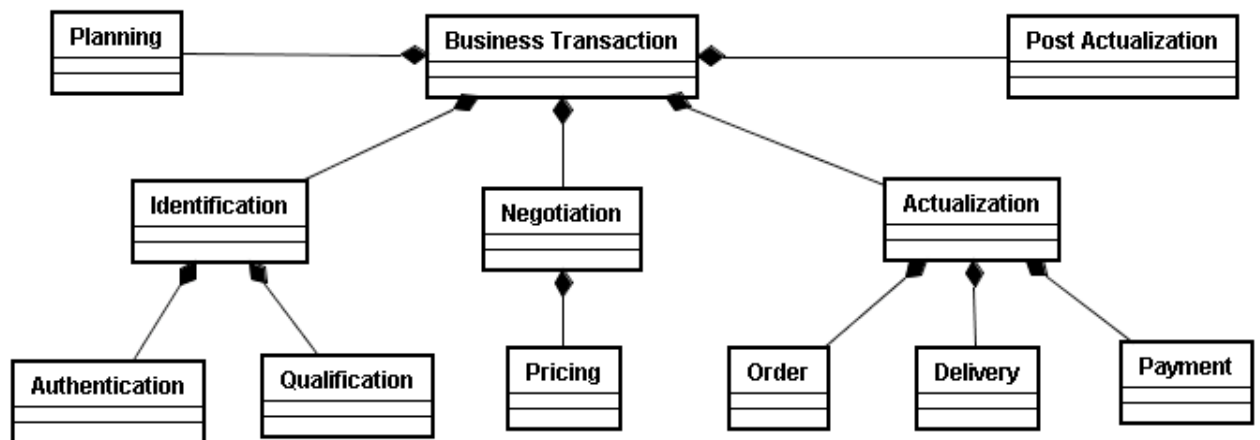


Figure 6-5 eBusiness Modelling focused on Business Activity

NOTE The examples of in Figure 6-5 of "Authentication", "Qualification", "Pricing", "Order", "Delivery", and "Payment" are of a illustrative nature only.

7 Key Attributes for Classification of a Business Transaction

7.1 Introduction to Classification of Open-edi Scenarios

The classification for Open-edi scenarios should meet the following requirements:

- **Simplicity**: the classification is plainly and unambiguously defined.
- **Selectivity**: the classification is disjoint and non-redundant.
- **Inclusiveness**: the classification is an all-inclusive of Open-edi scenarios.
- **Stability**: the classification is stable for the environmental changes.
- **Reality**: the classification is realistic for the real business world.

According to the requirements mentioned above, the classification scheme should be conceived from the fundamentals of business transactions in the real world such as market, party, goods, services and/or rights and payment, not necessarily being tied to the existing classification schemata.

For the purpose, the following three factors are considered as the typical example of key attributes for the classification of Open-edi scenarios. This classification approach could be extensively applied to complex scenarios in real business world when additional classification factors are taken into account.

- **Market Type**

⁶ For example, an "all sales are final" condition would eliminate the "post-actualization" activities such as refunds, warranties, etc.

- **Settlement Type**
- **Participation Type**

7.2 Key Attributes for Classification of a Business Transaction

7.2.1 Market Type on business boundary

In the real business world, a typical business transaction consists of the following business processes.

- 1) A buyer finds a relevant seller(s) through the network by using a certain services and/or tools, such as a portal site and/or a search engine.
- 2) The buyer negotiates the business terms and conditions with the seller(s).
- 3) The buyer receives the goods, services and/or rights and pays the amount of price to the seller(s) according to the business terms and conditions.

Although the business transaction mentioned above does not explicitly describe the market environment, in the real business world, many business transactions are performed through a relevant markets. For example, in a typical case of financial business transaction, which mainly trades a value and/or credit with other persons without the physical delivery of cash or security, the financial markets have significant roles in the business transaction. In such a well-defined market, the buyers and sellers could be free from the individual negotiation efforts of the principal terms and conditions for their business transactions. They would participate in the defined market, accepting the principal terms and conditions at the registration in advance.

Other scenario context, such as authentication procedure, may be also greatly changed depending on whether the defined market exists or not. It seems to be much easier to discuss the classification of Open-edi scenarios if the market type, defined or undefined, is taken into account. The market type is particularly meaningful in identifying the boundary of business transaction such as the trigger and completion terms.

7.2.2 Settlement Type in Business Process

From the viewpoint of a business process, another consideration is that the delivery of goods, services and/or rights and payment are simultaneously settled through the network, or separately performed through different channels. In the case of simultaneous settlement, the business transaction could be immediately completed if the goods, services and/or rights and the payment are both valid and acceptable for all of the participants. On the other hand, if the delivery and payment are separately performed through different channels respectively, the business transaction could not be completed until their acceptance of delivery and settlement of payment would be confirmed later.

In order to bridge the time difference and/or spatial gap of the delivery and payment, the concrete identification of the business transaction and the authentication of either or both of participants are required for establishing the credit and debit relationship among them relevant to the business transaction. It also implies that the scenario is classified depending on the settlement type.

7.2.3 Participation Type of Role

Regarding the role of Open-edi, the participation type, direct or mediated is meaningfully distinguished. In many cases, a business transaction is completed when the delivery and settlement are both confirmed between the buyer and seller. However, in some cases of business transactions, such as a real estate collaboration through an escrow company, the third participant other than the buyer and seller is involved in the business transaction. In that case, the business transaction is completed only when the escrow has confirmed the delivery and settlement of payment according to the terms and conditions of the specific business transaction. Each participation type may have its own scenario class respectively.

7.3 Trade Model Based on the Classification Attributes

7.3.1 Basic Trade Model

The simplest business process shown in **Figure 7-1** is the basic trade model, from which we start the discussion of trade models derived from the classification approach mentioned in 7.1.



Figure 7-1 Basic Trade Model

The brief description of this Basic Trade Model is as follows:

Beginning of Trade: either, or both buyer and seller find the counterparty by appropriate approaches in a market.

Scenario: either or both buyer and seller explicitly or implicitly show a scenario which may be acceptable to the counterparty, and negotiate the terms and conditions of the business transaction. In general, the way how to accept a particular scenario may be a part of the terms and conditions.

Completion of Trade: the trade will complete when both the delivery of goods, services and/or rights and payment are successfully finished.

Authentication of Participants: for the confirmation of the settlement of credit and/or debit between the buyer and seller, the authentication of buyer or seller is mandatory in the case that the payment or delivery is performed later than the agreement. If both delivery and payment are performed later than the agreement, the authentication of both participants is also mandatory. On the contrary, if the delivery and payment are simultaneously and immediately performed as well as the agreement, no authentication is required.

7.3.2 Trade Model by Market Type

Two trade models are derived from the classification of the market type.

Undefined Market Model:

a trade model, conforming to the description of Basic Trade Model, which is performed in unbounded market under the Open-edi environment

In this trade model, the buyer and seller begin the business transaction from seeking their counterparty by appropriate services and/or tools such as a portal site and search engine. The scenario to be applied to the business transaction is decided upon the individual case. The buyer or seller may simply accept the scenario proposed by the counterparty, or they are mutually negotiating.

In order to save the negotiation efforts, it is possible that the buyer or seller is seeking the counterparty specifying a specific scenario in the search criteria at the beginning of the business transaction. However, generally speaking, this type of scenario should explicitly or implicitly include, as a part of scenario, the negotiation process of the terms and conditions. Thus, the Undefined Trade Model necessarily requires the coincident agreement of how to accept a specific scenario and the contents of terms and conditions.

Defined Market Model:

a trade model where buyer(s) and seller(s) accept the entry terms of market in advance and then commence

the actual business transaction in the market under the Open-edi environment.

The scenario class to be applied to this trade model is explicitly established by the market administrator. The market administrator may be a buyer, seller or the third party. In any case, the buyer and seller participate in the market through an explicit or implicit registration procedure in advance. There may be two types of registration scheme; i.e. an explicit registration is required for either of buyer or seller while the other implicitly participates in the market, or the explicit registration is required for both.

The significance of the Defined Market Model is that the scenario applied to the market is defined at the individual market. It makes the buyers and sellers free from the negotiation efforts of principal terms and conditions to be applied for the individual business transaction. In this trade model, although the authentication of buyer and/or seller is not necessarily required, it may not be excluded that the registration procedure of market requires the authentication of participants in advance. The authentication at registration could save the repeating efforts in the individual business transactions.

7.3.3 Trade Model by Settlement Type

Two trade models are derived from the classification of the settlement type.

Immediate Settlement Model:

a trade model where the entire business activities of business transaction, i.e. planning, identification, negotiation, actualization (delivery and payment), is completed in real-time under the Open-edi environment.

One of the typical cases is downloading a software product or music from the vendor site, and paying with e-money or debit account. This trade model is almost equivalent to a casual procurement of goods, services and/or rights, which is done by cash at a store on the street. The procurement can be completed at the moment when it has been confirmed that the goods, services and/or rights is acceptable for the buyer and the payment is valid for the seller. The identification of particular business transaction and/or authentication of buyer and/or seller are not required. Rather, from the viewpoint of privacy protection, such a trade model should not be excluded from the Open-edi environment.

Separate Settlement Model:

a trade model where the business transaction is performed under the Open-edi environment, and where the delivery of goods, services and/or rights and/or payment are separated from the agreement process.

In this trade model, a special consideration should be taken on the scenario to bridge the time difference and/or spatial gap among agreement, delivery and payment.

In this trade model, at the first, an explicit identification of the particular business transaction is required for mapping the agreement to the delivery and/or payment performed separately. Secondly, the authentication of buyer and/or seller is required to confirm the relationship of credit and debit among participants that is kept through the business transaction from agreement to delivery and payment. Thirdly, the transition status of business transaction should be identified to be able to track the completion of individual business activities through the business transaction.

7.3.4 Trade Model by Participation Type

Two trade models are derived from the classification of the participation type.

Bilateral Trade Model:

a trade model where buyer(s) and seller(s) are directly involved in the business transaction without any involvement of any intermediary party.

In this trade model, the business transaction is basically closed among the parties. The business transaction is completed when the credit and/or debit settled between the buyer and seller.

Mediated Trade Model:

a trade model where a third party mediates a specified role(s) or function(s) as mutually agreed to by the buyer(s) and seller(s) for a certain business transaction.

One of the typical cases is the business transaction of real estate that an escrow company mediates the buyer and seller. In this trade model, the role of the third party may have many variations. The scenario is required to explicitly denote the role and responsibility of the third party participating to the business transaction. And, the business transaction should also satisfy the terms and conditions for the completion, which are relevant to the third party, not only the settlement of the debit/credit between the buyer and seller.

7.4 Classification Scheme of Open-edi Scenarios

7.4.1 Scenario Classification and Types

The classification attributes mentioned in the previous section, Market Type, Settlement Type and Participation Type are mutually disjoint. The classification result of Open-edi scenarios according to the three attributes is summarized in **Table 7-1**.

Table 7-1 Scenario Classification and Types

Class	Classification Attributes			Scenario Types
	Market	Settlement	Participation	
U-I-B	Undefined	Immediate	Bilateral	-Basic Bilateral Trade Scenario
U-I-M	Undefined	Immediate	Mediated	-Basic Mediated Trade Scenario
U-S-B	Undefined	Separate	Bilateral	-Bilateral Agreement Scenario -Separate Delivery Scenario -Separate Payment Scenario -Authentication Scenario
U-S-M	Undefined	Separate	Mediated	-Mediated Agreement Scenario -Separate Delivery Scenario -Separate Payment Scenario -Authentication Scenario
D-I-B	Defined	Immediate	Bilateral	-Membership Registration Scenario -Defined Bilateral Trade Scenario
D-I-M	Defined	Immediate	Mediated	-Membership Registration Scenario -Defined Mediated Trade Scenario
D-S-B	Defined	Separate	Bilateral	-Membership Registration Scenario -Defined Bilateral Agreement Scenario -Separate Delivery Scenario -Separate Payment Scenario -Defined Authentication Scenario
D-S-M	Defined	Separate	Mediated	-Membership Registration Scenario -Defined Mediated Agreement Scenario -Separate Delivery Scenario -Separate Payment Scenario -Defined Authentication Scenario

U-I-B Scenario Classification Type:

a scenario class of business transactions, which is attributed by Undefined Market, Immediate Settlement and Bilateral Participation.

This scenario class consists of single Basic Bilateral Trade Scenario that is conforming to the Basic Trade Model under the Open-edi environment.

U-I-M Scenario Classification Type:

a scenario class of business transactions, which is attributed by Undefined Market, Immediate Settlement and Mediated Participation.

This scenario class consists of single Basic Mediated Trade Scenario, which is a complete set of mediated trade processes under the Open-edi environment.

U-S-B Scenario Classification Type:

a scenario class of business transactions, which is attributed by Undefined Market, Separate Settlement and Bilateral Participation.

This scenario class consists of the following four scenario types: Bilateral Agreement Scenario, Separate Delivery Scenario, Separate Payment Scenario and Authentication Scenario.

U-S-M Scenario Classification Type:

a scenario class of business transactions, which is attributed by Undefined Market, Separate Settlement and Mediated Participation.

This scenario class consists of the following four scenario types: Mediated Agreement Scenario, Separate Delivery Scenario, Separate Payment Scenario and Authentication Scenario.

D-I-B Scenario Classification Type:

a scenario class of business transactions, which is attributed by Defined Market, Immediate Settlement and Bilateral Participation.

This scenario class consists of the following two scenario types: Membership Registration Scenario and Defined Bilateral Trade Scenario.

D-I-M Scenario Classification Type:

a scenario class of business transactions, which is attributed by Defined Market, Immediate Settlement and Mediated Participation.

This scenario class consists of the following two scenario types: Membership Registration Scenario and Defined Mediated Trade Scenario.

D-S-B Scenario Classification Type:

a scenario class of business transactions, which is attributed by Defined Market, Separate Settlement and Bilateral Participation.

This scenario class consists of the following five scenario types: Membership Registration Scenario, Defined Bilateral Agreement Scenario, Separate Delivery Scenario, Separate Payment Scenario and Defined Authentication Scenario.

D-S-M Scenario Classification Type:

a scenario class of business transactions, which is attributed by Defined Market, Separate Settlement and Mediated Participation.

This scenario class consists of the following five scenario types: Membership Registration Scenario, Defined Mediated Agreement Scenario, Separate Delivery Scenario, Separate Payment Scenario and Defined Authentication Scenario.

7.4.2 Scenario Types

As mentioned in **Table 7-1**, the scenario types are quite different depending on scenario classes. Those scenario types are described as follows:

7.4.2.1 Basic Bilateral Trade Scenario Type:

This scenario type includes all processes of a business transaction to begin and complete a Basic Bilateral Trade.

At the beginning of trade, either or both the buyer and seller find the counterparty, by appropriate approaches.

Then, either or both the buyer and seller show explicitly or implicitly an acceptable scenario to the counterparty, and negotiate the terms and conditions of business transaction. The way how to accept a particular scenario may be a part of the terms and conditions.

The trade will complete when both the delivery of goods, services and/or rights and payment are coincidentally

and successfully finished.

No authentication of buyer and seller is required because the delivery and payment are simultaneously and immediately performed as well as the agreement of business transaction.

7.4.2.2 Basic Mediated Trade Scenario Type:

This scenario type includes all processes of a business transaction to begin and complete a Basic Mediated Trade.

At the beginning of trade, either or both the buyer and seller find the counterparty by appropriate approaches or through an appropriate mediator.

Then, either or both the buyer and seller show explicitly or implicitly an acceptable scenario to the counterparty, and negotiate the terms and conditions of business transaction under the mediation of mediator(s). The way how to accept a particular scenario may be a part of the terms and conditions.

The trade will complete when both the delivery of goods, services and/or rights and payment are coincidentally and successfully finished and confirmed by the participants according to the terms and conditions agreed upon the business transaction.

No authentication of buyer and seller may be required because the delivery and payment are simultaneously and immediately performed as well as the agreement of business transaction. The mediator is required a certain authentication to qualify the ability of mediation. The qualification depends on the role of mediator.

7.4.2.3 Defined Bilateral Trade Scenario Type:

This scenario type is the core of D-I-B scenario and includes entire processes of a business transaction to begin and complete a Defined Bilateral Trade of which the principal terms and conditions the participants accepted in advance.

Before participating to the trade, the buyer and/or seller are required to make a membership registration to the defined market and to accept the principal terms and conditions of trade.

Either or both the buyer and seller begin the individual business transaction according to the direction provided by the market administrator.

The trade will complete when both the delivery of goods, services and/or rights and payment are coincidentally and successfully finished and confirmed by the participants according to the terms and conditions defined in the market and/or agreed upon the business transaction.

The qualification of membership is required for the participants. But no authentication of buyer and seller may be required because the delivery and payment are simultaneously and immediately performed as well as the agreement of business transaction.

7.4.2.4 Defined Mediated Trade Scenario Type:

This scenario type is the core of D-I-M scenario and includes entire processes of a business transaction to begin and complete a Defined Mediated Trade of which the principal terms and conditions the participants accepted in advance.

Before participating to the trade, the buyer, seller and/or mediator are required to make a membership registration to the defined market and to accept the principal terms and conditions of trade.

Either or both the buyer and seller begin and negotiate the individual business transaction under the mediation of an appropriate mediator according to the direction provided by the market administrator.

The trade will complete when both the delivery of goods, services and/or rights and payment are coincidentally and successfully finished and confirmed by the participants according to the terms and conditions defined in the market and/or agreed upon the business transaction.

The qualification of membership is required for the participants. But no authentication of buyer and seller may be required because the delivery and payment are simultaneously and immediately performed as well as the agreement of business transaction.

7.4.2.5 Bilateral Agreement Scenario Type:

This scenario type is the agreement part of U-S-B scenario, which precedes the delivery of goods, services and/or rights and/or payment of the business transaction.

At the beginning, either or both the buyer and seller find the counterparty, by appropriate approaches. Then, either or both of them show explicitly or implicitly an acceptable scenario to the counterparty, and negotiate the terms and conditions of business transaction. The way how to accept a particular scenario may be a part of the terms and conditions.

In the agreement, it is explicitly described that the delivery and/or payment are separately performed later. A unique identification of the business transaction is required for mapping the agreement to the delivery and/or payment performed separately. And, the identification should be unique in the global scope because the undefined market could not have a well-defined boundary.

The business transaction will complete when both the delivery and payment are successfully finished and confirmed by the participants according to the Separate Delivery Scenario and Separate Payment Scenario.

7.4.2.6 Defined Bilateral Agreement Scenario Type:

This scenario type is the agreement part of D-S-B scenario, which precedes the delivery of goods, services and/or rights and/or payment of the business transaction.

Before participating to the trade, the buyer and/or seller are required to make a membership registration to the specific market and to accept the principal terms and conditions of trade.

Either or both the buyer and seller begin the individual business transaction according to the direction provided by the market administrator.

In the agreement, it is explicitly described that the delivery and/or payment are separately performed later. A unique identification of the business transaction is required for mapping the agreement to the delivery and/or payment performed separately. And, the identification should be unique in the market boundary.

The business transaction will complete when both the delivery and payment are successfully finished and confirmed by the participants according to the terms and conditions defined in the market and/or to the Separate Delivery Scenario and Separate Payment Scenario.

7.4.2.7 Mediated Agreement Scenario Type:

This scenario type is the agreement part of U-S-M scenario, which precedes the delivery of goods, services and/or rights and/or payment of the business transaction.

Either or both the buyer and seller begin and negotiate the individual business transaction under the mediation of an appropriate mediator according to the direction provided by the market administrator.

The trade will complete when both the delivery and payment are and successfully finished and confirmed by the participants according to the Separate Delivery Scenario and Separate Payment Scenario.

In the agreement, it is explicitly described that the delivery and/or payment are separately performed later. In addition, a unique identification of the business transaction is required for mapping the agreement to the delivery and/or payment performed separately. And, the identification should be unique in the global scope because the undefined market could not have a well-defined boundary.

The business transaction will complete when both the delivery and payment are successfully finished and confirmed by the participants according to the Separate Delivery Scenario and Separate Payment Scenario.

7.4.2.8 Defined Mediated Agreement Scenario Type:

This scenario type is the agreement part of D-S-M scenario, which precedes the delivery of goods, services and/or rights and/or payment of the business transaction.

Either or both the buyer and seller begin and negotiate the individual business transaction under the mediation of an appropriate mediator according to the direction provided by the market administrator.

In the agreement, it is explicitly described that the delivery and/or payment are separately performed later. A unique identification of the business transaction is required for mapping the agreement to the delivery and/or payment performed separately. And, the identification should be unique in the market boundary.

The business transaction will complete when both the delivery and payment are successfully finished and confirmed by the participants according to the terms and conditions defined in the market and/or to the Separate Delivery Scenario and Separate Payment Scenario.

7.4.2.9 Separate Delivery Scenario Type:

This scenario type is the delivery part of U-S-B, U-S-M, D-S-B and D-S-M scenarios, which is separately performed after the agreement of business transaction.

When the delivery of goods, services and/or rights is separately performed from the agreement of the business transaction, the specific terms and conditions of delivery should be explicitly described. The delivery status should be explained in the scenario, as the completion of delivery is a mandatory factor for the completion of the business transaction as a whole.

Furthermore, the delivery scenario should keep a stable reference to the precedent agreement scenario to denote the relationship among the separated activities of a business transaction.

7.4.2.10 Separate Payment Scenario Type:

This scenario type is the payment part of U-S-B, U-S-M, D-S-B and D-S-M scenarios, which is separately performed after the agreement activity of business transaction.

When the payment is separately performed after the agreement activity of the business transaction, the payment scenario is required to explicitly describe the specific terms and conditions of payment.

The payment status should also be explained in the scenario, as the completion of payment is a mandatory factor for the completion of the business transaction as a whole.

Furthermore, the payment scenario should keep a stable reference to the precedent agreement scenario to denote the relationship among the separated activities of a business transaction.

7.4.2.11 Authentication Scenario Type:

This scenario type is the authentication part of U-S-B and U-S-M scenarios, which identifies and confirms the agreement and/or the participants relevant to the business transaction.

When the delivery of goods, services and/or rights and/or payment is separately performed after the agreement of the business transaction, the authentication scenario is required to explicitly identify and confirm the credit and debit relationship among participants involved in the business transaction. The identification should be unique in the global scope because the undefined market could not have a well-defined boundary.

The authentication scenario should also keep a stable reference to the relevant agreement scenario to denote the relationship among the business transaction, the agreement and/or the participants.

7.4.2.12 Defined Authentication Scenario Type:

This scenario type is the authentication part of D-S-B and D-S-M scenarios, which identifies and confirms the agreement and/or the participants relevant to the business transaction.

When the delivery of goods, services and/or rights and/or payment is separately performed after the agreement of the business transaction, the authentication scenario is required to explicitly identify and confirm the credit and debit relationship among participants involved in the business transaction.

The market administrator provides the authentication scheme of the market. The identification should be unique in the market boundary.

The authentication scenario should also keep a stable reference to the relevant agreement scenario to denote the relationship among the business transaction, the agreement and/or the participants.

7.4.3 Assumption for scenario classification

For the simplicity of discussion, this scenario classification idea has many assumptions. In the real business world, those assumptions should be further compiled to reflect the practical aspects of business transactions.

Actual business transaction may have many types of regulatory constraints than the normative rules explicitly or implicitly involved in the business transaction. Each of them is partially or entirely applied to a specific market type, participant type, goods, services and/or rights type, delivery type and/or payment type. In addition, some of them are particularly effective in a certain country or region and/or in a certain period. However, the scenario classification is considered to be independent from the regulatory constraints.

Annex A (Normative) Business Transaction Model (BTM): two classes of constraints

Business transactions are modeled for registering, reference and re-use as scenarios and scenario components. Business semantic descriptive techniques are used to identify and specify the key components of a business transaction, i.e., as business objects.

The Business Transaction Model (BTM), as stated in Clause 6.1.5 of ISO/IEC 15944-1, has three required components namely "Person", "Process", and "Data". These three fundamental components of the Business Transaction Model are presented graphically in Figure A-1⁷

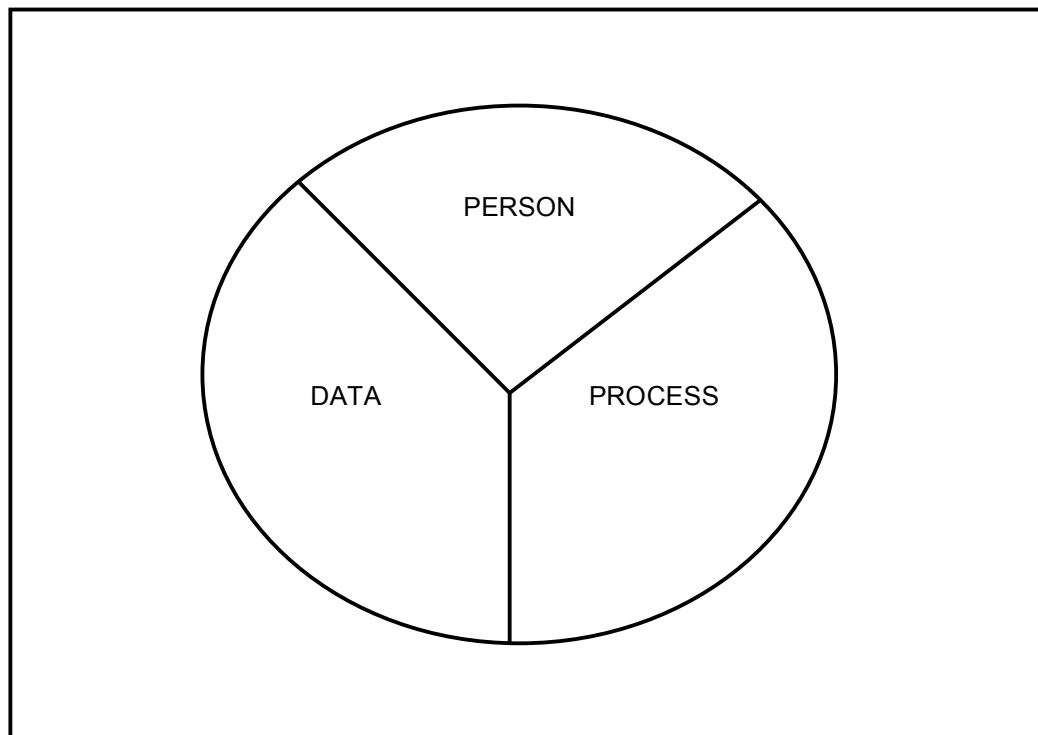


Figure A-1 - Business Transaction Model - Fundamental Elements (Graphic Illustration)

⁷ In ISO/IEC 15944-1:2002 for these three fundamental elements, the essential BOV aspects of the business transaction model, along with associated rules, definitions and terms as well as other attributes are stated in the following clauses:

- (1) Clause 6.2 "Rules governing the Person Component" (and further Annex E);
- (2) Clause 6.3 "Rules governing the Process Component" (and further Annex F); and,
- (3) Clause 6.4 "Rules governing the Data Component" (and further Annex G).

Using UML as a Formal Description Technique, yields the following UML-based representation of the Business Transaction Model and is presented as Figure A-2⁸.

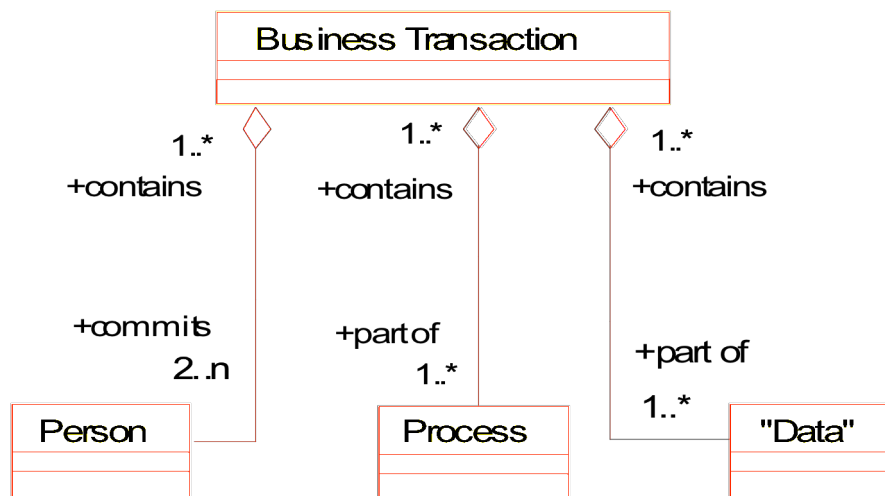


Figure A-2 – UML-based Representation of Figure A-1 – Business Transaction Model – Fundamental Components

The business transaction model focuses on and addresses the essential needs of commitment exchange among autonomous parties, i.e., the ability of Persons as parties to a business transaction being able to make commitments and to do so while maximizing the use of automated methods. This is in addition to existing standards which pertain to various aspects of information exchange only.⁹

As such, what sets Open-edi (or e-business) apart from information exchange in general are six (6) characteristics¹⁰. They are:

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

⁸ This UML-based representation incorporates the rules governing the interworking of these three fundamental components as specified in ISO/IEC 15944-1:2002.

⁹ It is important that users of ISO/IEC 15944 familiarize themselves with Part 1, Clause 6.3.1 titled *"Business transactions commitment exchange added to information exchange"* including the rules and definitions/terms, i.e., "Person", and "commitment" as well as its normative text.

¹⁰ See further in ISO/IEC 15944-1:2002 Clause 5 "Characteristics of Open-edi". Each of these six (6) characteristics is described in more detail in ISO/IEC 15944-1:2002 Clause 5 "Characteristics of Open-edi".

Electronic business transactions therefore require:

- a clearly understood purpose, mutually agreed upon goal(s) explicitness and unambiguity;
- pre-definable set(s) of activities and/or processes, pre-definable and structured data;
- commitments among Persons being established through electronic data interchange;
- computational integrity and related characteristics; and,
- the above being specifiable through Open-edi Description Technique(s) (OeDTs) (as the use of a Formal Description Technique(s) in support of modelling e-business), and executable through information technology systems for use in real world actualizations.

These and related requirements of electronic business transactions are specified in the form of "constraints".

"Constraint" has already been defined as:

constraint: a rule, explicitly stated, that prescribes, limits, governs or specifies any aspect of a business transaction.

NOTE 1 Constraints are specified as rules forming part of components of Open-edi scenarios, i.e., as scenario attributes, roles, and/or information bundles.

NOTE 2 For constraints to be registered for implementation in Open-edi, they must have unique and unambiguous identifiers.

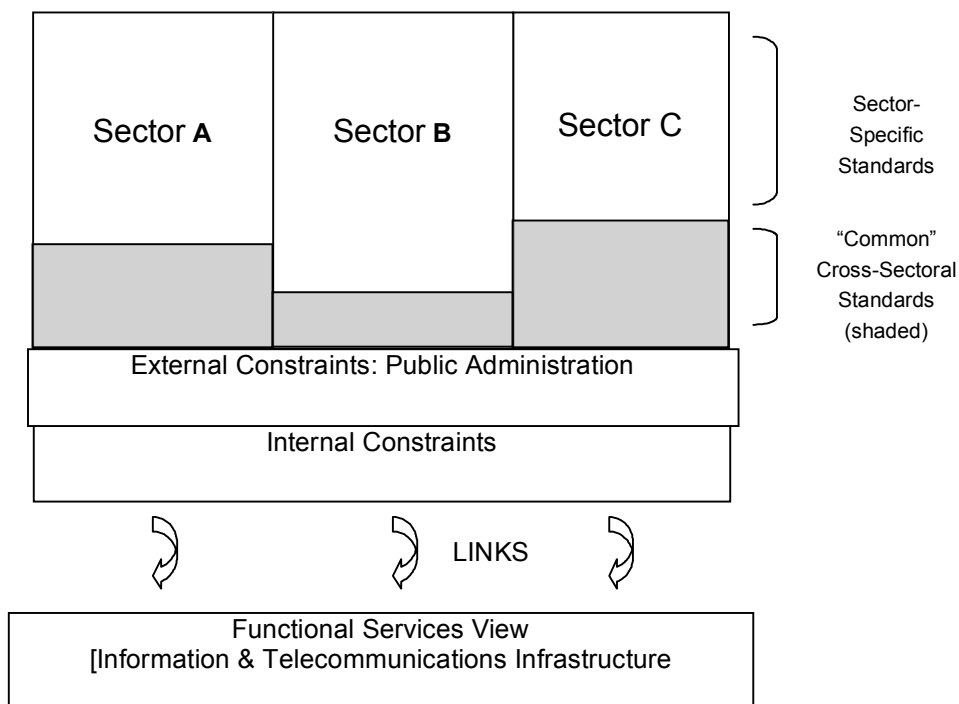
NOTE 3 A constraint may be agreed to among parties (condition of contract) and is therefore considered an "internal constraint". Or a constraint may be imposed on parties, (e.g., laws, regulations, etc.), and is therefore considered an "external constraint". [ISO/IEC 15944-1:2002:3.11]

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, the nature of the commitment made among the parties (including ability to make commitments, the location, etc.), i.e., "external constraints".

These two basic classes of constraints on business transactions are illustrated in Figure A-3.

Figure A-3 — Business Transaction Model: Classes of Constraints



ISO/IEC 15944-1:2002 Clause 6.1.6 provides normative text for these two classes of constraints.

Annex B (informative): Real World Example of Financial Business Transaction

It is required for the standardization concerning eBusiness to be able to support the actual business transaction. EBusiness can be differentiate itself form others only when the difficulties and/or problems along with traditional business approaches are resolved with information technology and the relevant business approaches.

The recent eBusiness in the real world is very sophisticated to control the business risk as well as to gain the productivity of business, that is not able to achieve with the traditional business processes. The discussion in this standard should be also enough applicable to such sophisticated business aspects.

In order to prove the effectiveness of this standard, here mentions a typical example of real world business, stock trading through a stock exchange market, that is simplified for general description but still meaningfully sophisticated.

Usual stock trade of public companies is practiced through a stock exchange market, not actually between security company and customer. The actual business partners are buyer and seller. The security companies simply act as agents behalf of their customers in the stock exchange market.

In addition, the real stock is not actually delivered from seller to buyer. The real stock is kept in a security deposit organization, or just deposit to the accounts of security companies without issuance of real stock. The stock trade is completed by transfer of amount between accounts in the security deposit organization.

The general flow of this type of stock trade is performed as follows, as shown in **Figure B-1**:

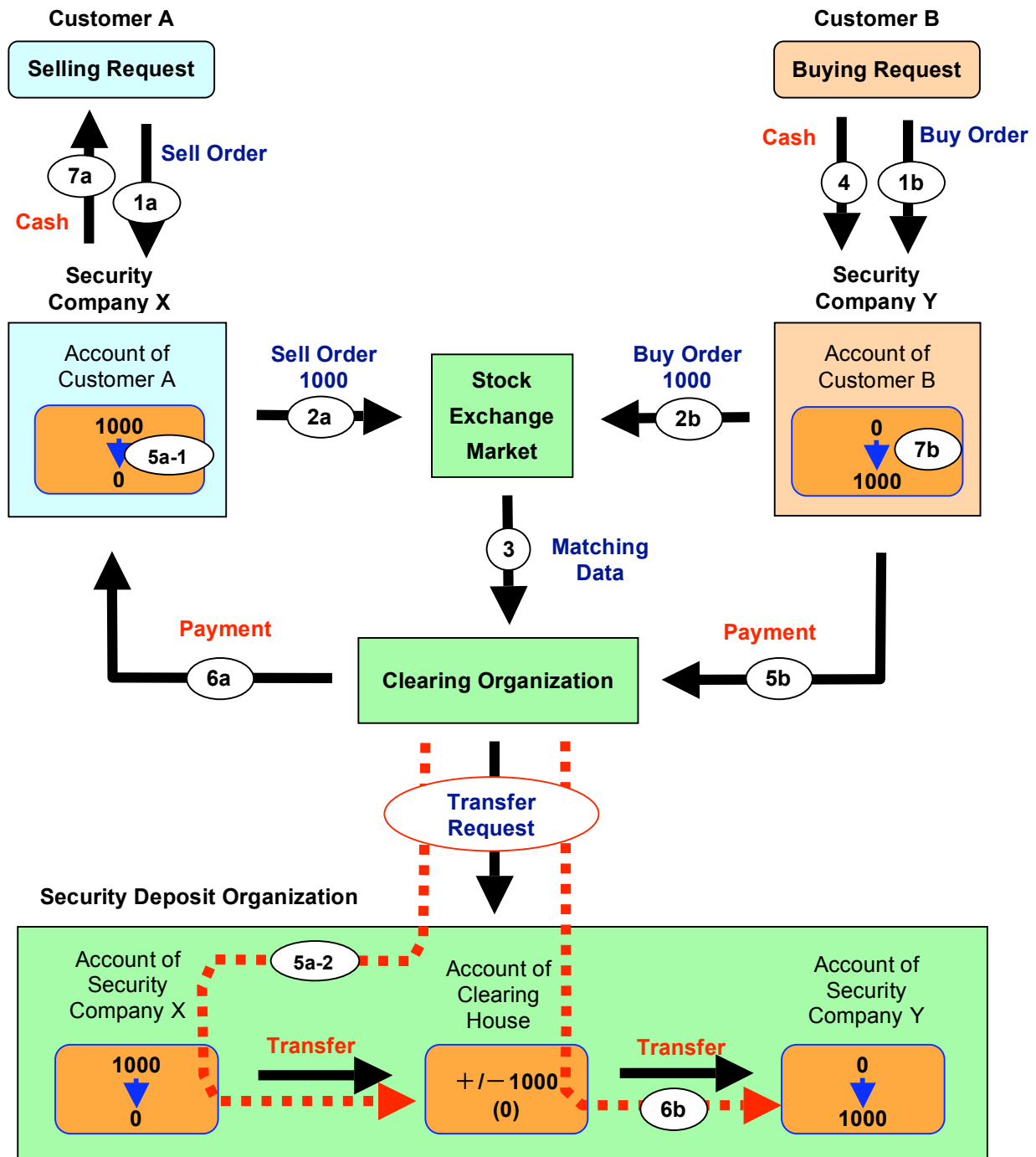


Figure B-1 Stock Trading through Stock Exchange Market

1. Customer A of security company X issues a selling request of amount 1000 of a stock that he or she owns (1a). On the other hand, customer B of security company Y issues a buying request of amount 1000 of the same stock(1b). These buying and selling requests are asynchronously issued.
2. The two trade requests of customer A and B are brought to the stock exchange market through security company X and Y as their agents respectively(2a,2b). Then they are waiting for the matching counter trades.

Note: In general, actual trading requests of stock are more complex so that the buying and selling amounts are not identical. There are various cases; some requests are partially closed or matching is concluded with different unit prices between buying and selling requests.

3. If the matching is occurred, the trade is concluded (agreement). The stock exchange market sends the agreement (matching data) to the clearing organization (3). Then clearing organization identifies the amount of stock and payment by stock, and notifies the information to the involved security companies.
4. The customer B who has issued the buying request of the stock should make the payment to the security company Y in three business days after the agreement (4).

The actions mentioned below through 5 to 7 will be performed for a certain period of business days after the agreement, that is regulated by the stock market convention.

5. The security company Y pays to the clearing organization the money that was received from the customer B (5b). On the other hand, the security company X debits the amount 1000 of the stocks from the account of the customer A (5a-1). Concurrently, the clearing organization requests the security deposit organization to transfer the stock from the account of security company X to the account of clearing organization, and the stock deposit organization performs the stock transfer according to the request (5a-2). Those two transaction are performed asynchronously.
6. After receiving the payment and transfer request from the security company Y, the clearing organization makes the payment to the security company X (6a) and concurrently requests the stock deposit organization to transfer the stock from the account of security company X to the account of security company Y, and then the security deposit organization performs the transfer request of stock to the account of security company Y (6b). Those two transaction are performed asynchronously.

Point 1: The clearing organization makes the payment (6a) and delivery of stock (6b) after confirming both the receipt of payment (5b) and stock (5a). This mechanism around clearing organization guarantees the duality of payment and delivery for stock trading.

Point 2: Actually, the transfer request of stock is sent to the stock deposit organization from the clearing organization, and the transfer processing is performed in the previous night of due date and reflected in book by 9:00 in the morning of due date. The account holder in the stock deposit organization does not have the control of timing of the transfer request. However, with respect to the stock transfer from the account holder, a security company, to the clearing organization, the clearing organization acts as an agent for the security company. From the legal view point, the account holder requests the transfer to the security deposit organization.

7. The customer a of the security company X receives the payment (7a). The security company Y credits the stock to the account of customer b (7b). The stock trading is completed.

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**ISO/IEC JTC 1/
SC32/WG 1**

eBusiness

TITLE:	Disposition of comments on ISO/IEC JTC 1 SC 32 N1669, Summary of Voting on 32N1594 ISO/IEC PDTR3 15944-6 Information technology - Business Agreement Semantic Descriptive Techniques Part 6: Technical Introduction of e-Business Modelling
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STATUS:	Comment resolution to accompany submission of the final draft of ISO/IEC PDTR3 15944-6 Information technology - Business Operational View Part 6: Technical Introduction of e-Business Modelling for publication
ACTION:	Comment resolution for record

	4	5			(6)	(7)
h/ble 1)	Type of comment ²	Comment (justification for change) by the MB			Proposed change by the MB	Secretariat observations on each comment submitted

CA01				Canada approves this document with comments. The purpose of the comments is to improve readability of the document, linkage to the other Parts of the as well as some needed clarifications		So noted
CA02	Foreword	Line 60	ed	Reference to Part 8 is missing , i.e. Part 8: Identification of privacy requirements as external constraints on business transactions	Add title of Part 8 below Line 60	Accepted
CA03	Introduction	Line 61	ed	Add Clause number "0" to title	Change to "0 Introduction"	Accepted
CA04	0. Introduction	Line 62	ed	The use of "one" here is ambiguous as it is not clear what "one" refers to. What appears to be referred to is "scenario".	Change "one" to "scenario"	Accepted
CA05		Line 663-664	ed	Readability of last half of sentence can be improved (with changes to existing text underlined) so that it now reads, "and applying <u>the same to the actual, i.e. instantiated, business transaction.</u>	Apply	Accepted
CA06		Line 63	ed	Readability at start of sentence	Change to read "In this context.."	Accepted
CA07		Line 66	ed	Clarity as to what the attributes refer to	Add at end of sentence " i.e. as scenario components."	Accepted
CA08		Lines 76	ed	It is important to link and situate this Part 6 in with respect to its relation to those parts of 15944 which have a purpose similar to that of Part 6 and how Part 6 complements them and fills a missing gap, i.e. Part 1, 2 and 5.	Add the following text at end of line 76 "This is in addition to, 1) the use of the templates for scoping Open-edi Scenarios, the rules for specifying Open-edi scenarios and their components as stated in ISO/IEC 15944-1:2002; 2) the use of templates for registering Open-edi Scenarios and their components as stated in ISO/IEC 15944-	Accepted

1 **MB** = Member body (enter the ISO 3166 two-letter country code, e.g. CN for China; comments from the ISO/CS editing unit are identified by **)

2 **Type of comment:** **ge** = general **te** = technical **ed** = editorial

NOTE Columns 1, 2, 4, 5 are compulsory.

	4	5			(6)	(7)
h/ble 1)	Type of comment ²	Comment (justification for change) by the MB			Proposed change by the MB	Secretariat observations on each comment submitted
					2:2006; and, 3) the use of templates for the identification and referencing of scenarios and scenario components which are structured to be able to support the requirements of jurisdictional domains as sources of external constraints as stated in ISO/IEC 15944-5:2007.”	
CA09		Line 81	te/ed	It is important to make a clear distinction between 1) the “business transaction model” defined in Part 1 as consisting of Person, process, and data ; and, 2) business transaction modelling which is the focus of this Part 6. The current text here is confusing and does not reflect the purpose of part 6.	Change the text in line 81 to better reflect to purpose of Part so that it reads as follows: “ – Fundamentals of business transaction modelling that denotes the conceptual aspects of eBusiness”	Accepted as follows: “ – Fundamentals of business transaction modelling that describes the conceptual aspects of eBusiness”
CA10	2. Normative References	Line 85	ed/te	Many standards are references and used in this standard which are not listed in Clause 2. At the same time, it is difficult to decide which of these missing Normative References should be included. Since Part 7 now contains an Annex A which lists all the Normative References in the eBusiness standards, these can be referenced	Add a footnote to title of Clause as follows: ¹ For the complete set of all the Normative References and Referenced Specifications utilized in the ISO/IEC 14662 “ <i>Open-ed Reference Model</i> ” as well as all the Parts of the ISO/IEC 15944 multipart e-Business series of standards, see Annex A in ISO/IEC 15944-7 titled “ <i>e-Business Vocabulary</i> ”	Accepted
CA11		Line 94 & 95	ed	Date of standard	Change “x” to “7”	Accepted
CA12	Clause 3	Line 99	ed/te	Completeness of list of terms and definitions in Clause 3. Many terms are used frequently in the text of this TR which are not listed with in Clause 3. At the same time it	Add a footnote to the title of Clause 3 as follows: ¹ This Clause 3 contains a subset of key terms and	Accepted – to be added when the FDIS ballot of 15944-7 is completed.

1 **MB** = Member body (enter the ISO 3166 two-letter country code, e.g. CN for China; comments from the ISO/CS editing unit are identified by **)

2 **Type of comment:** **ge** = general **te** = technical **ed** = editorial

NOTE Columns 1, 2, 4, 5 are compulsory.

	4	5	(6)	(7)
h/ble 1)	Type of comment ²	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted

				is difficult to decide which of these definitely should be included in Clause 3. In the comments below, Canada has identified a limited number of these. The rest can be included by reference to Part 7 which contains the complete set of all the eBusiness terms and definitions.	definitions used in Part 6. For the complete set of concepts and their definitions as well as associated terms used in the ISO/IEC 14662 "Open-edi Reference Model" as well as those used in all the Parts of the multipart ISO/IEC 15944 e-Business standard see "Annex D (normative) Consolidated list of normative references for the eBusiness Vocabulary" in Part 7 "e-Business Vocabulary".	
CA13	3.3	Line 110+	ed	Reference is incomplete	Amend to [ISO/IEC 10181-2:1996 (3.30)]	Accepted
CA14	Between 3.13 and 3.14		ed/te	The concept of "external constraint" is used several times in the document and is <u>very significant</u> to understanding of the document.	Insert existing eBusiness definition for "external constraint" (as well as "internal constraint" as both should be there.	Accepted
CA15	Between 3.14 and 3.15		ed/te	The concept of "identifier (in a business transaction)" is used several times in the document and is <u>significant</u> to understanding of the document	Insert the existing eBusiness definition for "identifier (in a business transaction)"	Accepted
CA16	Between 3.15 and 3.16		ed/te	The concept of "information bundle (IB)" is used several times in the document and is very <u>significant</u> to understanding of the document. It is also one of the three scenario components and scenario component is also frequently used	Insert the existing eBusiness definition for "information bundle(IB)"	Accepted
CA17	Between 3.16 and 3.17		ed/te	The concept of "internal constraint" is used several times in the document and is very <u>significant</u> to understanding of the document.	Insert the existing definition of "internal constraint"	Accepted
CA18	3.17		ed	external constraints should be in bold	Apply	Accepted
CA19	3.19		ed	The terms, electronic data interchange, Person, and Open-edi standards need to be in bold	Apply	Accepted
CA20	Between 3.19 and 3.20		ed/te	The concept of "electronic data interchange (EDI)" is used several times in the document and is <u>very significant</u> to understanding of the document	Insert the existing definition of "electronic data interchange (EDI)".	Accepted
CA21	3.29		ed	"external constraints" should be in bold	Apply	Accepted
CA22	Between 3.33 and 3.34		ed/te	The concept of "regulator" is used several times in the document and is very <u>significant</u> to understanding of the document. It is also used in several figures	Insert the existing eBusiness definition for "regulator".	Accepted

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NOTE Columns 1, 2, 4, 5 are compulsory.

	4	5	(6)	(7)
h/ble 1)	Type of comment ²	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted

CA23	Between 3.34 and 3.35		te/ed	The concept of “role” is used several times in the document and is <u>very significant</u> to understanding of the document. Many of the figures pertain to role sand provide examples of role players.	Insert the existing eBusiness definition for “role”.	Accepted
CA24	Between 3.41. and 3.42		te/ed	The concept of “supplier” is used several times in the document and is significant to understanding of the document. Further, “consumer” is already defined and supplier and consumer work as a pair (as differentiate from seller and buyer)	Insert the existing eBusiness definition for “supplier”.	The reference to “supplier” was in error – delete “vendor” and “consumer” from Fig 7-1
CA25	Clause 5	Line 113	te/ed	The focus of Part 6 is “Modelling” and the text contains several figures of model constructs. The title should reflect this. Currently it does not. Further, the fundamentals of the “business transaction model” as already stated in 15944-1. The title of Clause 5 should be amended to more accurately reflect the purpose and content of Clause 5	Amend title of Clause 5 to “Fundamentals of Business Transaction Modelling”	Accepted
CA26	Clause 5.1	Line 114	te/ed	See above comment	Change “Model” to “Modelling”	Accepted
CA27	Clause 5.2	Line 139	te/ed	See comment on Clause 5.2 title	Change title to “Basic Aspects of Business Transaction Modelling” (and amend ToC accordingly)	Accepted
CA28		Line 147	te/ed	The title for Figure 5-2 should be changed to reflect the figure itself and the preceding text	Change title to “Figure 5-2 Basic Model Constructs of a Business Transaction” or “Figure 5-2 Basic Constructs for Modelling a Business Transaction”.	Accept first option
CA29	Clause 5.2.3	Line 184-185	te/ed	A “group of individual” acting as a single entity is in effect and is modelled as an organization. Note that according to the ISO definition for organization, it does not need to be “incorporated” It simply functions and acts as a single entity to the outside world. Also, the three sub-types of Person are defined in Part 1. Anyway for modelling purposes a group of individuals or organizations, etc., is till modelled as a single entity. Also readability of the sentence would be improved by using two separate sentences.	Rephrase text as follows: “A Person may be an individual, organization, or two or more organizations acting as a single entity, from a business modelling perspective. Such Persons may, in addition to the roles of a buyer and seller, also include the role of a regulator, as well as a third party, (e.g. acting as a mediator).	Accepted
CA30		Line 186	ed	Readability. The introductory sentence needs to reflect the overall context of text below and above. Saying just	Add after ...parties “, which involve at the minimum the roles of a buyer and a seller.”	Accepted

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				"parties" is a bit vague.		
CA31		Line 191	ed	Readability. This sentence should make a direct link to modelling.	Add phrase to start of sentence as follows, "From a business transaction perspective, a business transaction is....."	Accepted
CA32		Line 195	te/ed	The addition of text proposed as an example will help underscore the point being made.	Add at end of sentence, " i.e. one which does not involve a third party, use of an agent or the role of a regulator".	Accepted
CA33		Line 198	te/ed	Grammar and usefulness to reference where more (detailed) information on "agent" can be found, i.e. by referencing Clause 6.2.5. Further there may be more than a single agent.	Amend end of sentence to read as follows: "...through <u>an</u> agent(s). Add the following footnote at the end of this sentence, ¹ For the rules governing "agent", see further ISO/IEC 15944-1:200, Clause 6.2.5 " <i>Person and delegation to "agent" and/or "third party"</i> ".	Accepted
CA34		Line 199	ed	Grammar	Change current text of "...of the buyer or seller" to "...of the buyer or of the seller."	Accepted
CA35		Line 207	ed	Added text to ensure understandability as well as setting the context for the example which follows.	After "...agents." The following sentence, "These involve the services of a third party who fulfils a specified role or function as mutually agreed to by the buyer and seller, or as the result of external constraints, (e.g. those of the applicable jurisdictional domain)"	Accepted
CA36		Line 207	ed	Readability. Need to link sentence to "third party."	Add at end of sentence after "mediated trade" the text "involving the use of a third party."	Accepted
CA37	Clause 5.2.4	Line 222	ed	Clarification. Does "emissions trading" here refer to "carbon emissions"? Is so, this should be stated.	Change "emissions" to "carbon emissions".	Accepted with deletion of the sentence
CA38	Clause 5.3	Line 234	ed	Understandability. Does one here mean a business transaction pattern? As stated in the title for Clause	Change the sentence to "An example of a typical business transaction pattern consists of ---"	Accepted
CA39		Line 234	ed	In order for a user of Part 6 to understand Clause 5.3, its Figures, as well as the choice of types of "processes" ., it would be most useful to refer the user to the text on this as found in Part 1.	Add a footnote at the end of the 1 st sentence with text as follows: ¹ Clause 5.3 here is based on and can be	Accepted

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h/ble 1)	Type of comment ²	Comment (justification for change) by the MB			Proposed change by the MB	Secretariat observations on each comment submitted
					considered an application of ISO/IEC 15944-1:2002, Clause 6.3 “ <i>Rules governing the process component</i> ” which consists of five fundamental activities, namely, planning, identification, negotiation, actualization, and post-actualization.	
CA40	Clause 6.1 (and Clause 6.2, 6.3 and 6.4)	Line 338-345	ed	<p>The sentence states that there are four (4) modelling components but in the bullets below five (5) are presented. At the same time, the high level Figure 6-1 contains seven (7) “boxes” as components of the model.</p> <p>Then there for these seven (7), five (5) or four (4) components, there are only three (3) components for which there are sub-clauses, i.e. “business role”, “business goal” and “business transaction”.</p> <p>It is important that these internal inconsistencies be resolved.</p>	<p>Canada requests the Project Editor to propose changes in text to resolve these inconsistencies and to insert added text, i.e. , for information purposes to explain the current disconnect,</p> <ol style="list-style-type: none"> 1. between Figure 6-1 and its seven “boxes” or “components” and why only four or five of these are “modelling components”; and, 2. why of the four or five modeling components there are subsequent sub-clauses for only four of them, i.e. 6.2 Business Role, 6.3 Business Goal,, 6.4 Collaboration Space and 6.5 Business Transaction <p>Canada requests the Project Editor to propose changes in text to address these internal inconsistencies in text in Clause 6.1 and Figure 6.1.</p> <p>Canada is very open to work with the Project Editor on this matter during the BRM for this ballot document at the October, 2007 SC32/WG1 meeting (China).</p>	Resolved as per discussion and draft text developed by the Project Editor during the BRM session.
CA41	Clause 6.1	Line 345	te/ed	In Line 345 and in Figure 6-1, the high level model introduces as a one of the seven key concepts or constructs that of “semantic exchange”. However, no further explanatory text is provided. However, in the Open-edi Reference Model and Part 1 of 15944, semantics are exchanges in the form of Information	<p>Add a footnote after “semantic exchange” with the following text,</p> <p>¹ Semantic exchange here is used to include Information Bundles (IB), and Semantic Components (SC) which are the two basic</p>	Accepted

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				Bundles (IBs) which consist of one or more semantic components (SC).	components of exchanges of recorded information pertaining to the making and instantiations of commitments among parties to an Open-ed business scenario. With respect to IBs and SCs, see further in ISO/IEC 15944-1, Clause 6.4 "Rules governing the data component" and Annex G (informative Business transaction model: Data Component".	
CA42	Clause 6.1	Line 355	ed	In Figure 6-2 Change current spelling of "Notery" to "Notary"	Apply	Accepted
CA43		Line 355	te/ed	In Figure 6.2 change the "solid lines" to Third Party from Creditor, Notary, Escrow and Guarantor to "dotted lines" to reflect the fact that these are examples only. and not a finite from	Apply	Accepted with addition of the note in point 9 Arial font following the title of the figures
CA44		Line 355	te/ed	Figure 6-2 contains a number of "boxes" which basically represent examples of types of third parties as well as those of a nature which, on the whole, are required to be involved by the legal requirements of jurisdictional domains. The fact that they are and represent illustrative examples only needs to be made clear, Further "mediator" is but one type of roles of many which a third party can have. Added text is necessary in order to make this clear to users of this standard.	1. After Line 355 insert text of the following nature "With respect to Figure 6.2 above, it must be noted that the inclusion of "Creditor", "Notary", "Escrow", and "Guarantor" in Figure 6.2 serve as examples of types of third parties which must be party to a business transaction when the business transaction is of a nature where the legal or regulatory requirements of the applicable jurisdictional domain require this. 2. In Figure 6.2 change the "solid lines" to Third Party from Creditor, Notary, Escrow and Guarantor to "dotted lines" to reflect the fact that these are examples only. and not a finite from	Accepted with addition of the note in point 9 Arial font following the title of the figures
CA45		Line 362	te/ed	There are a number of "boxes" in Figure 6-3 which are really examples of types of goods and services, i.e. there are many others as well. The fact that these are examples only should be made clear.	1. At the end of Line 362, i.e. "...Ontology Model" add a footnote "1 Note that the examples of goods and services, i.e. physical product, services, digital product, financial products, intellectual property and real estate, are of a representative nature only. They	Accepted with addition of the note in point 9 Arial font following the title of the figures

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h/ble 1)	Type of comment ²	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted

					are intended to serve as examples.”	
					2. In Figure 6-3 change the “solid lines” from Physical Product, Services, Digital Product, Financial Product, Intellectual Property, Real Estate to “Goods and Services” to “dotted lines” to indicate that these are examples.	
CA46		Line 366	ed	Grammar. Change “specific” to “specified”	apply	Accepted
CA47		Line 374	ed	It would be useful to provide an example here	Add a footnote at end of sentence “ in an actual business transaction. “ which reads, ¹ For example, an “all sales are final” condition would eliminate the “post-actualization” activities such as refunds, warranties, etc.	Accepted
CA48		Line 382	ed	Spelling change “authentication” to “authentication”	apply	Accepted
CA49	Clause 6.5	Line 383	te/ed	Figure 6.5 contains a number of “boxes” which are examples only and not intended to be business modelling constructs, i.e. the bottom row of “boxes”. See above comments for Figure 6.2 and 6.3 which are similar in nature.	1. Add a footnote at the end of the title for Figure 6-5 which reads “ Note that the examples in Figure 6.5 of “Authentication”, “Qualification”, “Pricing”, “Order”, “Delivery”, and “Payment” are of a illustrative nature only “ 2. In Figure 6.5 change the “solid” lines from the boxes for “Authentication”, “Qualification”, “Pricing”, “Order”, “Delivery”, and “Payment” to the layer of boxes above with “dotted” lines to indicate that these are examples.	Accepted with addition of the note in point 9 Arial font following the title of the figures
CA50	Clause 7.2	Line 402	ed	Need to amend title to more accurately reflect contents of Clause 7.2 whose focus is on classification of a business transaction.	Change title to read “7.2 Key Attributes for Classification of a Business Transaction”	Accepted
CA51	Clause 7.2.3	Line 433	ed	Grammar and understanding. The current text in English	Change title to read “7.2.3 Participation Type of	Accepted

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				implies that the clause pertains to a “role party” as a “participation type” whereas the text of the clause on “role”. Adding “(party)” and then in parentheses is confusing.	Role”	
CA52	Clause 7.4.2	Line 577	te/ed	“scenario component” is a defined concept in Part 1 as are the three scenario components, i.e. role, information bundle (IB), and scenario attribute. This means that the title needs to be changed. The focus of Clause 7.4.2 is classification and the title should reflect this	Change title to read “ 7.4.2 Scenario classification components”	Replace “Scenario Components” to “Scenario Types” in title of 7.4.2 and also in Table 7.1
CA53		Lines 578 - 595	te/ed	See above comment.	Change all occurrences of “scenario components” to “scenario classification components” where these pertain to classification	Replace every occurrence of “classification” with “type” Project Editor for 2 nd edition of Part 1 is requested to make the following edits. In Fig 24, change “constructs” to “scenario types” Change title of 6.6.4.2 from “Scenario Components” to “Scenario Types” and the text for 6.6.4.2 as follows: “As shown in Fig. 24, the scenario types required for each class are quite different depending on scenario classification attributes. The scenario types are now described in more detail, as follows:” In subclauses of 6.6.4.2 change “scenario” to “scenario type” as appropriate
CA54	Clause 7.4.2	Lines 578 - 717	te/ed	In Clause 7.4.2, there are presented twelve (12) classification components. These are important and should become enumerated sub-clauses of 7.4.2	Assign each to each of the scenario classification components list in bold be enumerated as sub-clauses (e.g. as 7.4.2.1 through 7.2.4.12)	Accepted

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	4	5				(6)	(7)	
h/ble 1)	Type of comment ²	Comment (justification for change) by the MB				Proposed change by the MB	Secretariat observations on each comment submitted	
	CA55		Line 726	te/ed	Some time ago SC32/WG1 agreed that each part of the multipart standard should have an “ <i>Annex (Normative) Business Transaction Model (BTM): Classes of Constraints</i> ”. Parts 2, 4 and 5 have done so and it was assumed that this would also be done for Part 6.	Copy in text of this Annex from Part 2, 4 or 5 and add as an Annex to Part 6	Accepted	

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GB	2		ed	References to standards should appear as in the ISO catalogue. The references to ISO/IEC 14662 and ISO/IEC 19501 each contain an extraneous "IS". The detailed wording and capitalisation of other referenced standards also differs from that in the ISO catalogue.	Change "ISO/IEC IS 14662:2004" to ISO/IEC 14662:2004" and change "ISO/IEC IS 19501:2005" to "ISO/IEC 19501:2005". Review the titles of other referenced documents and align with the catalogue.	Accepted
GB	3		ed	The terms and definitions are separated by too many blank lines. Words within definitions should not be emphasised, even if they are the subject of other definitions.	Close up the paragraphs so that the paragraph number, term being defined and definition appear on three successive lines, without intervening blank lines. See Part 2 of the ISO/IEC Directives for a model.	Recommended change is accepted. Defined terms within definitions should remain in bold font.
GB	3.10		ed	The closing bracket at the end of the reference is on the next line, rather than at the end of the reference.		Accepted
GB	3.20		ed	Neither the term "Open-edi Description Technique" nor its abbreviation "OeDT" are used in the document, other than as the title of a document to which reference is made. This and definitions of other terms that are not used in the body of the standard should be deleted.	Delete definition 3.20 and any other definitions of terms that are not used.	Project Editor to verify and take the requested action into account
GB	3.21		ed	The text from "i.e." onwards in the definition of "privacy protection" is in the nature of an explanation of the definition, rather the definition itself, according to the criteria of Part 2 of the ISO/IEC Directives.	Make the text in question a Note following the definition. Check for, and correct where appropriate, similar occurrences in other definitions.	Not accepted
GB	5.1	Page 13, first line (133)	ed	The spelling of "problems" is incorrect.	Change "prblems" to "problems".	Accepted
GB	5.2.1	Figure 5.2	ed	The figure contains annotations that appear to be a record of editing history.	Delete the annotations.	Accepted
GB	6 and 6.1		ed	There appears to be a missing definite article in each of these clause headings.	In each case, change "eBusiness" to "the eBusiness"	Accepted
GB	6.1		ed	The penultimate paragraph states that there are four modelling components, but the lead-in is followed by five bullet points.	In line 340, change "four" to "five".	To be resolved along with CA 40
GB	Annex		ed	The Annex should be identified as "Annex A".	See Directives, Part 2, for appropriate layout.	Accepted, but as Annex B.

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						Also make line 742 Figure B-1. Also make Customer A, not customer a. Also make Security Company X and Security Company Y, not A and B. Correct spelling of Organization to be Organization in two places.
GB	General		ed	The pages of the document have excessively large footers.	Decrease the size of page footers to conform to the usual practice, so that much more text can appear on each page.	Accepted. Adjust as per ISO template
GB	General		ed	In several places, for example at the foot of page 31, a heading appears on one page and the paragraph it relates to appears on the next page.	A technique such as the Word "keep with next" facility should be used to keep headings and text together.	Not accepted; leave for ITTF editing
GB	General		ed	It is not obvious that the colour scheme used in some figures will reproduce legibly in monochrome.	Check the reproduction of colour figures on monochrome rendering devices and adjust the colour scheme as necessary.	So noted
GB	General		ed	Lines should not be numbered in the final document	Delete the line numbers	So noted

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0	1	2	(3)	4	5	(6)	(7)	(8)
#	NB ¹	Clause No./ Subclause No./ Annex	Paragraph/ Figure/Table/ Note #	Comment type ²	Comment (justification for change) by the NB	Proposed change by the NB	Secretariat observations on each comment submitted	Joint project editors' comments
01	US	All		ge	<p>USA votes "Approve, With Comments" for this PDTR.</p> <p>USA fully supports the development of this technical report.</p> <p>USA appreciates the work completed by the Project Editor in addressing a number of very complex sets of issues in an understanding manner.</p> <p>There is work to do on the definition of some the concepts and ideas, especially their harmonization to the other Parts of ISO/IEC 15944.</p> <p>It is requested that time be set aside at the upcoming October 2007 meeting of SC32/WG1 to address and resolve all the comments made.</p>	USA requests that the resolution of comments on this PDTR document be undertaken in a harmonized manner with the resolution of comments for other parts of ISO/IEC 15944.	So noted	
02	US	3. Terms and Definitions	Terms 313,3.14,3.20,3.21,3.23	te	Some of these definitions are new to the body of 15944 work. In the context of a technical report, there should not be new terms added here.	Explanations of these concepts should be moved to Clause 5 or 6 of this report.	Comment has already been accounted for	
03	US	5.2.4	Lines 218-222	ed	The description of goods or services here should be amplified and explained more fully, especially with regard to the addition of "rights" from part 1 of 15944 and the integration of	Amplify and integrate these ideas with special attention to rights and economic resources.	Change 5.2.4 title to be Goods, Services and/or Rights. Also apply throughout the paragraph and wherever Goods or Services appears	

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0	1	2	(3)	4	5	(6)	(7)	(8)
#	NB ¹	Clause No./ Subclause No./ Annex	Paragraph/ Figure/ Table/ Note #	Comment type ²	Comment (justification for change) by the NB	Proposed change by the NB	Secretariat observations on each comment submitted	Joint project editors' comments
					"economic resource" from part 4.			
04	US	5.3,5.4,5.5,5.6	Lines 233-303	te	Paragraphs 5.3 through 5.6 describe basic business transaction patterns very well, but they differ in their starting point from the basic pattern of part 1 of 15944.	Start in paragraph 5.3 with the basic pattern of part 1 which is planning-identification-negotiation-actualization-postactualization. Use that pattern as a base and explain new patterns as variants.	Replace line 234 with the following: A business transaction consists of five processes as defined in 15944-1. They are planning, identification, negotiation, actualization and post-actualization. For the purpose of this document we provide an example that focuses on the following processes and activities as shown in Figure 5-3. Consider putting (part of actualization) at the end of lines 237 and 238 and (part of post-actualization) at the end of line 239.	
05	US	Clause 6 Principles of eBusiness Ontology Model	Lines 305--383	te	The term "ontology" has a very specific technical meaning from part 4 of 15944. It is a single specification of a conceptualization or a single integrated listing of the categories in the 15944 domain. Clause 6 here describes eBusiness modeling, not ontology development,	Suggest that the word "ontology" not be used here and substituted with "model" or "modeling".	Accepted. Also this overrides disposition of GB comment on 6 and 6.1	

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#	NB 1	Clause No./ Subclause No./ Annex	Paragraph/ Figure/Tabl e/ Note #	Com- ment type 2	Comment (justification for change) by the NB	Proposed change by the NB	Secretariat observations on each comment submitted	Joint project editors' comments
06	US	Figure 6-2	Line 354	te	In this UML class diagram, the three generalization links to "Business Role" are incorrectly specified. They should be redirected or specified as associations. Also, the class "Nortery" should be changed to "Notary."	Suggest that these three generalization links be redirected to the "Person" class on this diagram.	Not accepted	

3

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Japan

No. The terminologies in this document should be again reviewed to reflect the enhancements in the other parts of IS15944 since the last WG1 editing meeting. Acceptance of these reasons and appropriate changes in the text will change our vote to approval.

WG 1 Resolution of comment

Although not address in the face-to-face WG 1 meeting, the resolutions of the other comments also resolved this Japanese comment.

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