

# ISB Standards Development

Details of the process and outputs from the development of data standards

## ISB Standards Development

### Document Control

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### **1 Introduction**

In June 2009 the Information Standards Board (ISB) for ESCS refined its process for the development of data & information standards.

The purpose of this document is to summarise the ISB process for developing data standards and to provide details of the main outputs.

### **2 Process For Developing Data Standards**

The process is illustrated overleaf. The key steps are:

- (a) Any participant in the education skills and children's services 'system', including suppliers or members of the SIF community, can raise the need for a new standard, a change to an existing standard, or the adoption of an existing or external (e.g. BSI, cross-government, CEN, ISO etc) standard.
- (b) Likewise members of Special Interest Groups (SIGs) can raise the need for a new standard, or a change to an existing standard, or the adoption of an existing or an external standard.
- (c) An ISB Special Interest Group must sponsor all work, agree priority with the TSS, agree funding of any standards development work, contribute to and agree the business case.
- (d) The TSS produces the business case, and ensures that all issues that need to be considered are included, including who should be involved in and/or consulted during the development of the standards. The ISB approves all business cases.
- (e) Standards that are accepted into the work plan for future development are given the status of F - For future consideration. This will apply to standards that are likely to be needed by to support exchange of business data in education, skills, families' and children's services for which DCSF and BIS have policy responsibility (the "ESCS domain"). These standards are listed mainly to give notice to IT developers of their existence. Standards listed as being 'For future consideration' must:

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- a. be required for interoperability of IT systems in the ESCS domain
  - b. be open, or demonstrate the intention of being open once published
  - c. show evidence of having business benefits in the ESCS domain
- (f) The TSS manage the overall end to end standards development process and are accountable to the ISB for delivering standards that are fit for purpose on schedule and within budget.
- (g) The standards are developed by standards developers who will be drawn from a panel of approved 'experts'. Some of these will be dedicated full time to the task; others can be seconded to the task for a period of time, but with full time engagement for the period of their secondment. The TSS will ensure that the stakeholders identified in the Business Case are engaged in supplying statements of need, and consultations during the standards development. Standards will be peer-reviewed by other members of the panel who have not been involved in their development to ensure that the standards are fit for purpose. Standards development will include further development of the data architecture and controlled vocabularies for the education, skills, and children's services system where this is necessary. In the course of developing the standard, the standard developers may consult with any stakeholder to obtain the information required to develop the standard. At the conclusion of this stage, the standard is a draft standard.
- (h) The draft standard is then submitted to the special interest group that sponsored its development and to stakeholders identified in the Business Case in order to obtain their approval that it is fit for purpose from a business perspective, and meets the needs that were identified in the Business Case. It may also be sent to other interested groups or those involved in its development for feedback. The purpose of this review is to ensure that the standard is fit for purpose. It is not concerned with matters relating to its adoption.
- (i) Once the draft standard has been endorsed by the SIG as being fit for

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purpose, then it is submitted to the ISB for approval with a status of 'Recommended'. Standards listed as being 'Recommended' must:

- a. be required for interoperability of IT systems in the ESCS domain
- b. be open
- c. not be incompatible with an existing Government-wide, national or international standard without a clear, documented justification and an intention to seek a revision to the higher level standard
- d. not clash with, or be a rival to, a standard already listed
- e. be complete and published
- f. have clear indication of market support
- g. be used in a public sector ICT system by DCSF, BIS or their partners and proven effective in at least one system

As part of approving a standard with a status of Recommended, the ISB will agree the period after which the ISB will decide whether it becomes a standard with status 'Adopted'. 'Adopted' standards must:

- a. be required for interoperability of IT systems in the ESCS domain
  - b. be open
  - c. not be incompatible with an existing international standard
  - d. not clash with, or be a rival to, a standard already Adopted
  - e. be complete and published
  - f. have clear indication of market support
  - g. be used in a public sector ICT system by DCSF, BIS or their partners and proven effective in at least two systems
- (j) Before it is resubmitted to the ISB for approval as an 'Adopted' standard, commercial suppliers and in-house IT departments are consulted with regard to their experience of implementing the standards, and what impetus may be needed, from whom, to ensure that the standards adoption progress meets business needs. This may, for example, include a statement from Government Department policy owner or other influential body that has the power to mandate or heavily influence adoption.

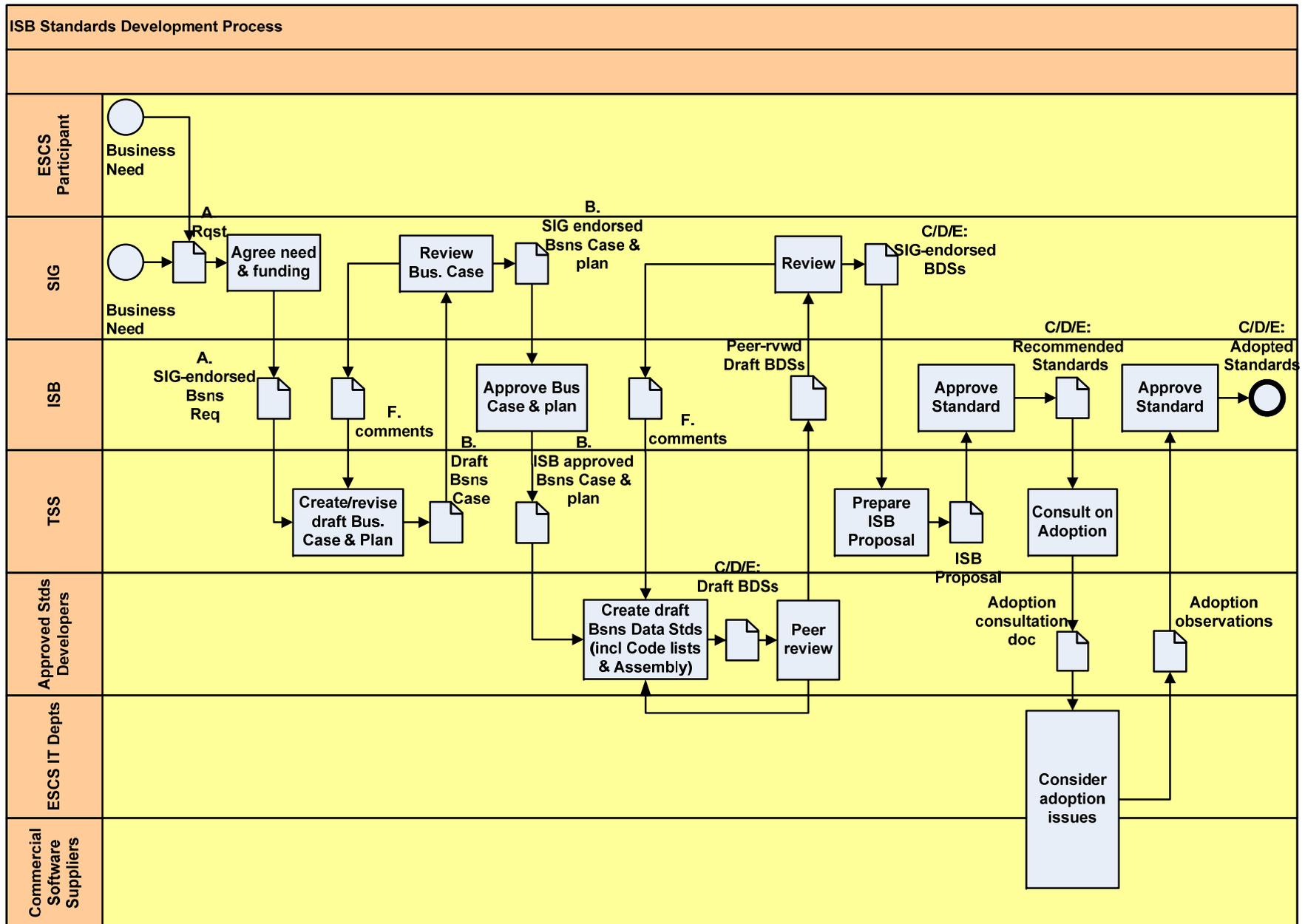
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- (k) Once the above steps have been completed, it is submitted to the ISB for approval and publication as an 'Adopted' standard.
- (l) The ISB process recognises that there are many standards that pre-date the ISB and are in widespread use. Such standards will, in time, become superseded by a number of Business Data Standards. These standards may be recognised and characterised by the ISB as 'Inherited' status standards. An 'Inherited' standard will be accompanied by a statement of scope of (existing) use, together with a commentary on where it has been or is expected to be superseded by a "Recommended" or "Adopted" ISB ESCS standard. The process to ascribe 'Inherited' status is very simple (and not shown on the process model below): a candidate can be put forward to the ISB for approval with status 'Inherited' with the accompanying commentary, and the ISB will approve or reject.
- (m) Once approved by the ISB, commercial software providers and in house IT departments should use the Business Data Standards that are produced to develop technical specifications (also referred to as Technical Data Standards). The difference between Business Data Standards and Technical Data Standards is that the former are independent of any platform that is used for the physical exchange of data and of any communication style and solution architecture pattern, whereas the latter may be platform dependent, and will include considerations of communications styles and solution architecture patterns.
- (n) In translating the Business Data Standard into a Technical Data Standard or specification, it is essential that the integrity of the Business Data Standard is maintained. To give commercial software vendors and in-house IT departments assurance that no loss of integrity has occurred in the translation of a Business Data Standard to a Technical Data Standard, Technical Data Standards developed by software suppliers or in house IT departments can be submitted to the TSS who will provide a statement of assurance that the Technical Data Standard conforms to the Business Data Standard.

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- (o) Even though the process below is depicted as a linear process, it is envisaged that in practice the steps between approval of the Business Case and submission to the ISB for approval may be iterated a number of times to ensure that a standard is developed as quickly as possible.
- (p) In the diagram, the capital letter at the start of each data message icon description is the number of the Annexe below where the template for the document is shown.

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### 3 ISB Process Roles

The following are the key roles in the process:

**ISB Special Interest Groups (SIGS)** – currently there are 5 SIGS: Data Management, Vocabularies, Identity Management, Portfolios Learning Opportunities & Transcripts, and e-Learning and Content Packaging. For the time being we will continue with the existing SIGS, ensuring that they are fully representative of the Central Government, National Delivery Partners, and Local Delivery partners who are involved in formulating policy and delivering services to children, families, young people, and learners. The composition and structure of the SIGS will be periodically reviewed to ensure that they are fully enabling the development of the required standards and represent all sectors of ESCS.

**ESCS participant** – anyone involved in the definition or delivery of education, skills, or children’s services.

**Technical Support Service (TSS)** – the group that supports and manages the operation of the ISB process and assists with development of standards.

**Standards Developers** – independent experts, skilled and experienced in developing data and information standards and architectures.

**Commercial Software Providers** – providers of software to ESCS frontline service providers.

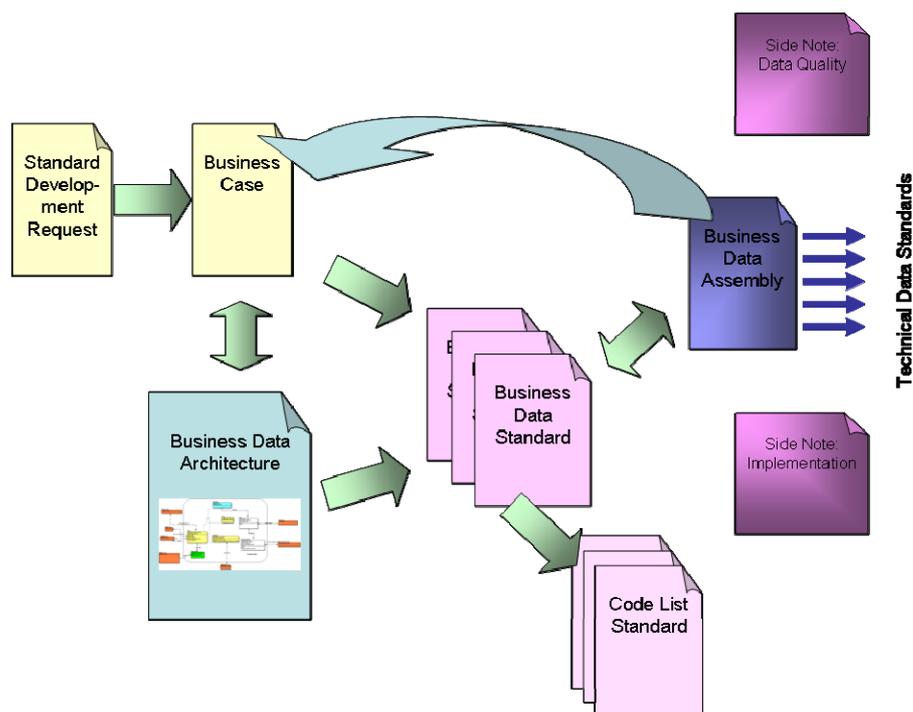
**ESCS IT departments** – who provide software solutions to ESCS organisations

**Information Standards Board (ISB)** – the

### 4 Standards Development Outputs

The key outputs from the ISB standards development process are illustrated below.

## ISB Standards Development



### 4.1 Standard Development Request

A request to develop a standard can be made by any ESCS participant. It is a very simple statement, in the submitter's language, of their perceptions of a business need. The template is enclosed in Annex A. In summary it will include the following details:

- Submitter Details (name, organisation, contact details)
- Requirement Details – What business needs will the requested standard address? What are the business drivers and key benefits?
- Timescales – When is a data standard in this area required?

Once submitted, the ISB Technical Support Service (TSS) will acknowledge safe receipt and progress the request through the process. In the event that the business need can be satisfied by an existing standard or group of standards, the requestor will be advised accordingly.

### 4.2 Business Case

The Business Case for a standard is developed by the ISB Technical Support

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Service (TSS). The template for a Business Case is shown in Annex B. In summary it includes the following elements:

*Business Justification* – Broadly, why is this standard necessary? This will include details of the business services that will be supported by the standard and their underlying business process (at a level of granularity necessary to determine the required data and information flows between organisations in the system that execute each service (step) in the business process).

*Originating Business Drivers* – Details of the business drivers that have prompted the proposed development of the Business Data Standard.

*“Do nothing” implications* - What are the consequences if the standard is not developed and adopted?

*Architectural Scope* – Business services that define the business context for the standard are identified, and for each business service a process is mapped, showing each stakeholder as a ‘swim lane’. Each business process step is described and the roles of stakeholders are identified. The data that is needed, and in particular that needs to be exchanged between swim lanes is identified and the data items are listed together with descriptions. At this stage, the process and the data should be sufficient to form the basis for the development of the standard, but does not have to be definitive.

Where suitable ISB Business Data Standards do not yet exist to satisfy all or part of the business need, the entity or entities within the ESCS Business Data Architecture that will be affected are also referenced in the Business Case to define the scope.

*Stakeholder engagement* – Lists the main stakeholders who will need to be consulted in the development of the standard, any special subject matter experts who need to be consulted, and which members of the standards development panel will be involved in developing the standard.

*Costs and funding arrangements* – Identifies the costs of developing the standard and how these will be met.

*Risks* – Identifies any risks associated with developing the standard and how

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they will be mitigated.

*Benefits* – identifies the main business benefits of the standard to ESCS.

*Work plan and Timeline* – Identifies the planned timeline and key activities for developing the standard, from the approval of the Business Case to approval of the standard by the ISB.

### **4.3 Business Data Assembly**

The Business Data Assembly links the Business Data Standards back to the Business Case. Because a Business Data Standard can be re-used in many different business contexts, the Business Data Assembly lists the standards that are required to satisfy the business need stated in the business case and shows how the data described in the Business Case can be met by using one or more Business Data Standards and how they must be linked together. The Business Data Assembly is also the vehicle for defining those aspects of a standard that are particular to the business context identified in the Business Case to which it applies.

A Business Data Assembly comprises:

- A definitive statement of the business processes and required data identified in the Business Case (to provide context)
- Mapping between the data items identified in the Business Case and the business data standards required to support the business needs identified. These may be existing or new standards.
- A Data Model of how the different Business Data Standards required to satisfy the business needs relate to each other, particularly in terms of the structure of the Business Data Architecture required to maintain the business data integrity. This provides a big picture of the Business Data Standards that fulfil the business needs, and shows the navigation paths between them. To navigate from one entity to another may require going through a third (or more) entity that relates the two together. The entities and relationships that make up the data model within the Business Data Assembly are taken from the overall ESCS Business Data Architecture

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model. The assembly shows an extract from the full architecture that includes only those entities required to support the Business Case. The Business Data Standards must only be related to each other as defined within each standard; the assembly shows these relationships in one big picture.

- Business context specific rules, i.e. those over and above the universal rules contained in the Business Data Standard that are applicable to all business contexts.

The template for a Business Data Assembly is provided in Annex D.

### **4.4 Business Data Standard**

Each Business Data Standard is a basic building block that defines the standard for exchanging data about one entity (a real-world object or concept which is recognized as being capable of an independent existence and which can be uniquely identified and distinguished from other entities) in the business data architecture. Occasionally a Business Data Standard will contain a small group of entities where the inherent structure of the architecture warrants such a grouping. The ESCS Business Data Architecture contains the entities required to support any ESCS business requirement.

A Business Data Standard comprises:

- One (or sometimes more) Entities – the entities from the ESCS business data architecture that will be included in the standard.
- Entity Relationship Diagram – A diagrammatic representation of the Entities and the relationships between the entities from the ESCS Business Data Architecture that makes up the business data standard. The relationships between entities shown in a Business Data Standard must be respected in any realisation of the standard. Entities must not be linked in different ways, or to different entities, to those shown in the Business Data Standard.
- Data definitions – For each attribute or data item or property of each entity that is within the scope of the business data standard, a business

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definition, format, and any universal rules that apply to the use of the attribute, i.e. irrespective of the business context in which it is used.

Primary and Foreign keys – all primary keys(unique identifiers) for all entities in scope, plus all foreign or secondary keys that reference the other entities in the data model to which the entities that are in scope of the Business Data Standard are related, and thus maintain the overall integrity of the data.

Where applicable, a pointer to code lists (see below) that define the permitted domain values of an attribute.

The template for a Data Standard is provided in Annex C.

The Business Data Standard is sufficiently comprehensive and detailed to enable its automatic translation into a technical data standard or specification (for example an XML Schema) insofar as the data content of the Technical Data Standard or specification is concerned, to which the Technical Data Standard developer will need to add anything that pertains to the physical environment that is being used to exchange the data.

The Technical Data Standards developer is at liberty to assemble more than one Business Data Standard into a single Technical Data Standard, provided the rules in the Business Data Standards (which are also contained in the Business Data Assembly) are adhered to. There is of course nothing to stop Technical Data Standards developer from developing a Technical Data Standard or specification for each Business Data Standard if they so wish.

### **4.5 Code List**

Code lists are controlled vocabularies that define the permitted codes or domain values that can be used to populate an attribute of an entity in the business data standard. Because a Business Data Standard may contain many attributes that have defined domain values, there can be many code lists for each business data standard.

An example of a code list is contained in Annex E

#### **4.6 Data Quality Side Note**

In some cases there may be a need to specify a minimum set of data quality rules that relate to an attribute in an entity in the business data architecture. The rule may be universal, i.e. applicable irrespective of the business context in which the data is used, or be specific to a particular business context. It is for this reason that the Data Quality Side Note can be linked to either a Business Data Assembly or a Business Data Standard.

#### **4.7 Implementation Side Note**

An Implementation Side Note puts a Business Data Assembly and associated Business Data Standards into a context that may include existing IT systems and business services. It provides guidance on the use of the standards that is specific to the context.

Including this information in an Implementation Side Note will be of assistance to those who need to develop Technical Data Standards, or who need to use them.

Because an Implementation Side Note can be universal, i.e. applicable irrespective of the business context in which the data standard is used, or context specific, the implementation note can either be linked to a Business Data Assembly or a Business Data Standard.

In an ideal world, there would only be one implemented source of identifiers, reference data, and code lists. However because of the sporadic way in which information systems have been developed in the past, we know that this is not always the case. One of the side benefits of including an Implementation Side Note in the terms discussed above is that it will identify and act as a spur to resolving the duplication of data providers and replacing them with a single definitive source of the required data over time.

#### **4.8 Technical Data Standard**

The products described in sections 4.1 to 4.7 above all relate to the development of a set of business standards that will be submitted to the ISB for approval. On approval by the ISB, the Businesses Data Standards and

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Code Lists are published as ISB standards, all of the other products described in sections 4.3 to 4.7 are also published for information and guidance.

A Technical Data Standard will need to be developed by projects or programmes or other groups that wish to develop specifications for the physical exchange of data using a particular technical platform or environment.

The technical standard will define bindings, transport mechanisms and choreographies needed to support a technical solution design. Normally this will be expressed as XML but other forms of encoding are possible and of course, permissible. In all cases, the technical standard should conform to the business data standard.

There is no requirement for a Technical Data Standard to be formally approved by the ISB as it is seen as implementation-specific. However, Technical Data Standards may be reviewed by the ISB Technical Support Service to provide an assurance that the Technical Data Standard conforms to the Business Data Standard, and if they are assured to be conformant, the ISB can formally note this, and such a note can be published.

## 5 Annex A: Request for Standard



### **ISB [paper number]**

Request for standards development for [standard]

Requestor: [name of requestor/ organisation/ contact details.]

Date:

- **Requirement details**

*This section should provide the context and background for the standard being proposed, and why it is required.*

*It should, where appropriate, make reference to:*

- (a) What business or policy issues will the standard address?*
- (b) Will there be a net financial benefit to ESCS from adoption of the standard and if so how?*
- (c) Whether there are one or more policy or business objectives that cannot be achieved without this standard*
- (d) Whether it is a mandatory European, International, or cross Government standard which must be implemented?*
- (e) Whether it is an existing standard and the ISB is merely asked to*

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*approve it for use in the ESCS system*

*(f) If this is for a technical standard, which BDS supports it?*

- **Time scales**

*By when is the standard needed?*





## ISB Business Case for Attendance Business Data Standard

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## 7 Introduction

This Business Case sets out a justification for the development of one or more Business Data Standards. Although the need for the standard has arisen as described in the Section “Originating Business Drivers” below, the standard developed will, so far as is possible within the time available to meet the immediate needs, aim to take into account and satisfy the needs of all potentially relevant ESCS stakeholders. The information needed to meet the business needs has been developed from a consideration of the relevant business processes and analysis of the data items needed to support the processes.

It does not and must not define data in the context of any specific system design. It is essential at this stage to identify business information needs independent of any system design and to identify the information that is essential to the process regardless of any supporting ICT system. Message flows and choreographies will be considered when technical standards (e.g. XML) are defined that conform to the developed Business data Standards.

The standard will also include an Assembly specification of how to construct a set of data from the individual Business Data Standards to meet the business needs identified below.

This Business Case is concerned with identifying *requirements* for standards, and is not a standard itself.

## 8 Originating Business Drivers

## 9 Business justification

*Broadly this section should identify why this standard is necessary.*

*A justification may, for example include one or all of the following (or there may be other types of justification):*

- 1.1 There will be a net financial benefit to ESCS from adoption of the standard (with one or more projects that will adopt the standard and gain the benefits)*
- 1.2 There are one or more policy objectives that cannot be achieved without this standard*

- It is a mandatory European standard which must be implemented.*

## 10 “Do nothing” implications

- .*

## 11 Architecture Scope

### Business Processes

<b>Step 1.0 xx</b>		
<b>Description</b> <i>Description of the main activity of the process step</i>		
<b>Roles</b> <i>Describe the role(s) participating in the process step</i>		
<b>Data needed</b> <i>The data needed to support each of the process steps described above are summarised in the table below. Where code lists and/or agreed definitions are needed, these are indicated by '*' in the comments field.</i>		
<b>Data needed</b>	<b>Why needed</b>	<b>Comments</b>

## ISB Business Case for Attendance Business Data Standard

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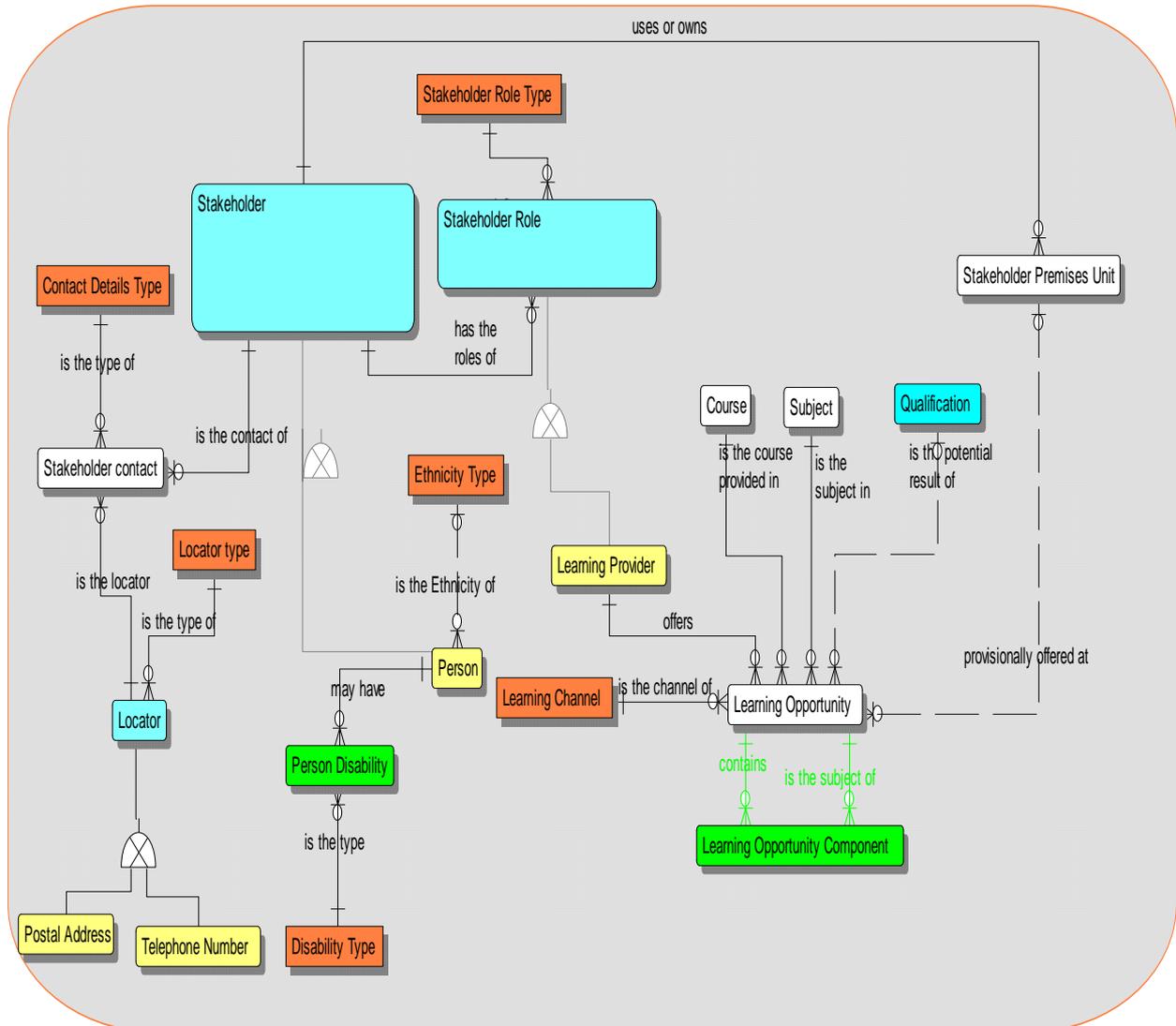
<b>Step 2.0:</b>		
<b>Description</b>		
<b>Roles</b>		
<b>Data needed</b> <i>The data needed to support each of the process steps described above are summarised in the table below. Where code lists and/or agreed definitions are needed, these are indicated by “*” in the comments field.</i>		
Data	Why Needed	Description



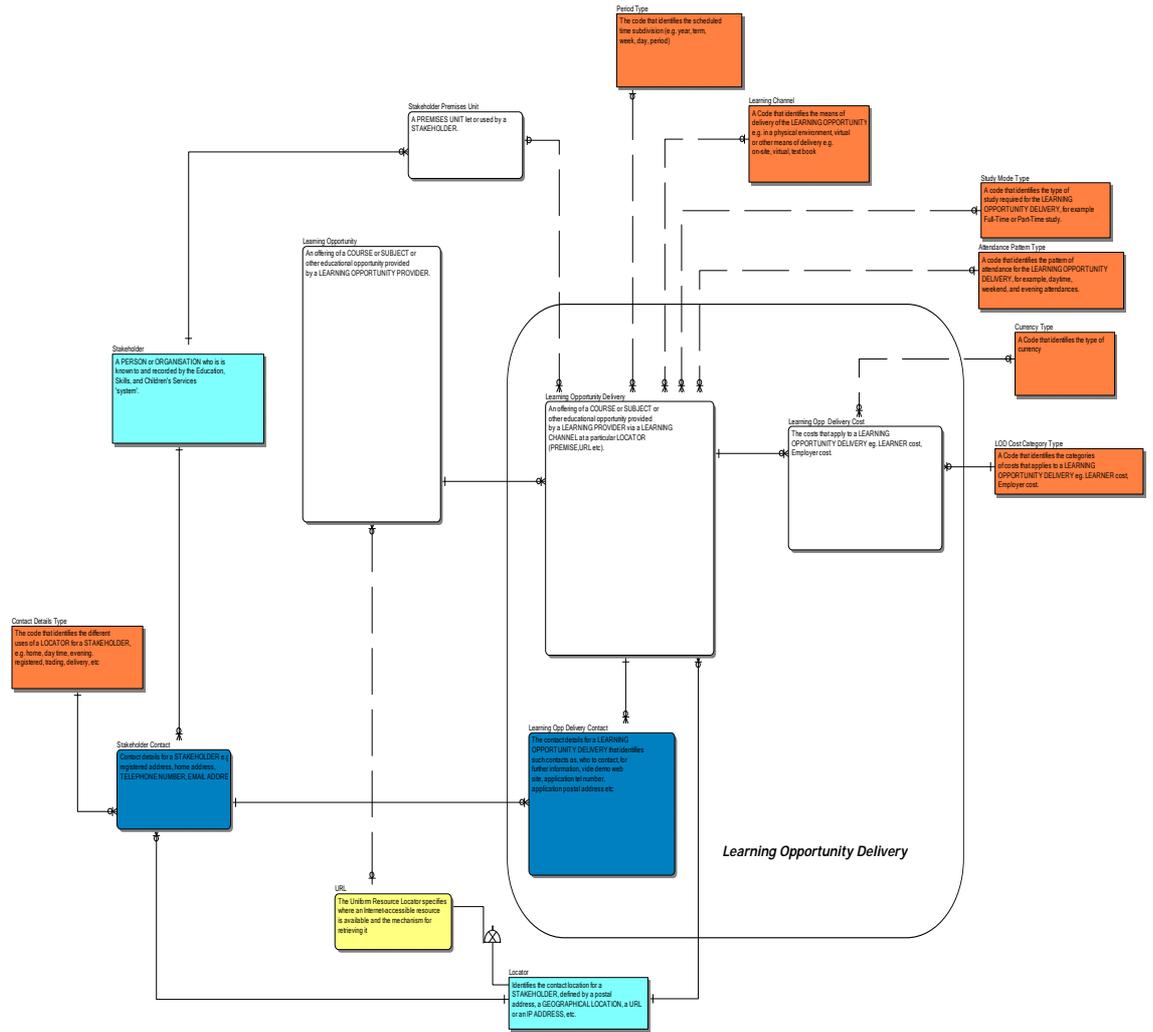
Standard.

<<insert extract from the model here>>

14-19 Diploma - ENROLMENT Business Case Data Architecture



# ISB Business Case for Attendance Business Data Standard



**The data framework**

## 12 Stakeholder engagement

Role	Candidates	Organisation
Subject matter experts		
Stakeholders for business review	Members of the Data Special Interest Group etc	
Standards developers		
Standards development peer review		
Adoption review		
Internal ESCS IT departments		
Any other stakeholder		

## 13 Costs and resources

The development of this standard will be resourced from ....

It is estimated the development will take around xx man days

## 14 Risks

Issue	Mitigation

## 15 Work plan and timeline

The table below summarises key milestones for the development of business standards to meet this business case.

<b>Milestone</b>	<b>Planned Date</b>

## 16 Annex C: Business Data Standard Template

### **Business Data Standard for <title>**

<version>

<date of issue>



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**Document Version History**

<b>Version</b>	<b>Status</b>	<b>Date</b>	<b>Modified by</b>	<b>Change description</b>	<b>Section &amp; line Ref</b>	<b>Changed from</b>	<b>Changed to</b>	<b>Effects of change</b>

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Entity: Learning Opportunity Subject .....	<b>Error! Bookmark not defined.</b>

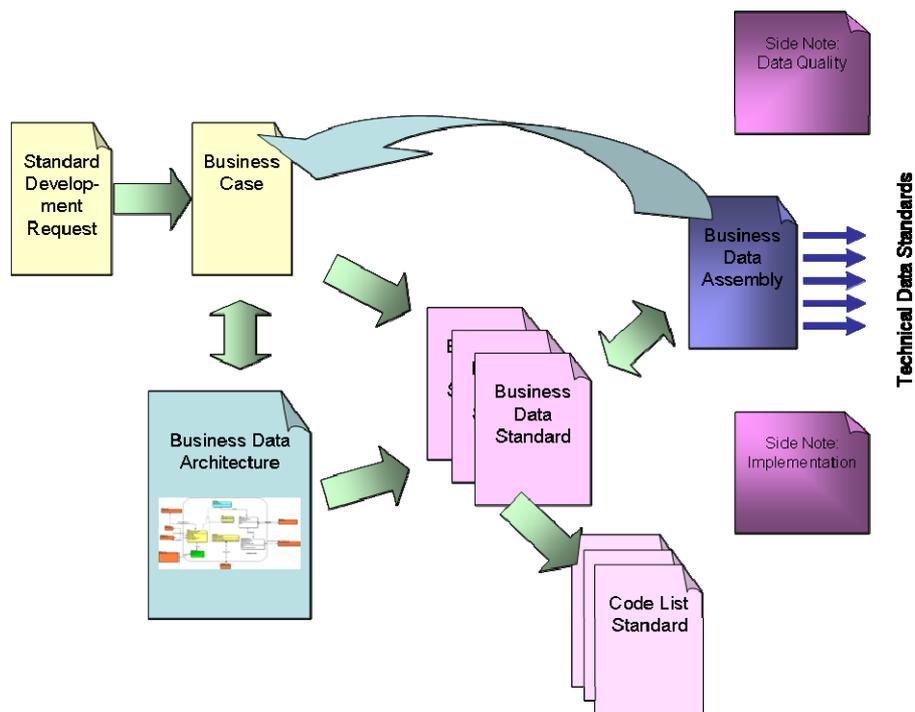
## 17 Introduction

This Business Data Standard has been designed to satisfy all ESCS business needs to exchange information about *<title of standard>*.

It describes data that relates to *<give overview of the data standard area of interest>*.

A Business Data Standard is defined in response to a business need captured in a Business Case. In development, every effort is made to ensure that the Business Data Standard is capable to support all ESCS business needs for the same data. The Business Case may in fact give rise to a number of Business Data Standards, and the way that the standards are associated to meet the originating business need is shown via an “Assembly” document. Each Assembly may in addition need some guidance regarding Data Quality issues and implementation issues and these are contained in “Side Notes”.

The related documents are shown in the following diagram:



Many ESCS ICT systems will need to define Technical Data Standards that specify an encoding schema for data exchange and may include implementation-specific details. Such Technical Data Standards may conform to this and other ESCS ISB Business Data Standards. Those that do conform can be assured that their data will be interchangeable with any other conformant systems. A Technical Data Standard may indicate that within the scope of its use one or more attributes are Mandatory.

This Business Data Standard shows how information relating to Learning Opportunities (advertising and presentation aspects of courses of study, apprenticeships, diplomas etc) shall be structured into entities and relationships according to the ESCS Business Data Architecture and enumerates and defines each information attribute in terms of:

- The relationships between entities in this standard and further entities defined in other standards
- The semantics, or meaning, of each entity and each attribute
- The data type, field length and construction rules for each attribute in an encoding-independent manner.
- Where the value of an attribute is to be defined by a list of permitted values (a “code list”), a reference to the relevant code list standard
- Where the standard relates to information defined by a standard from an external organisation (ISO, BSI, CEN etc) then this will also be noted.
- Any business rules (e.g. mandatory status) that are true for every business use of the standard.

## **Data Standard**

### **Entity relationships**

The following diagrams shows the entities covered in this standard and their relationships to each other. The diagrams are:

- Entity Definition Model – A high level diagram extracted from the ESCS Business Data Architecture showing just the entities, their descriptions and the relationships between the entities.
- Attribute Model – A lower level diagram also extracted from the ESCS Business Data Architecture showing the entities and the names of their attributes. Entities are divided into two sections. The top section contains only attributes that form the primary key of the entity and the remaining attributes are in the bottom section.

### ***Diagram Notation***

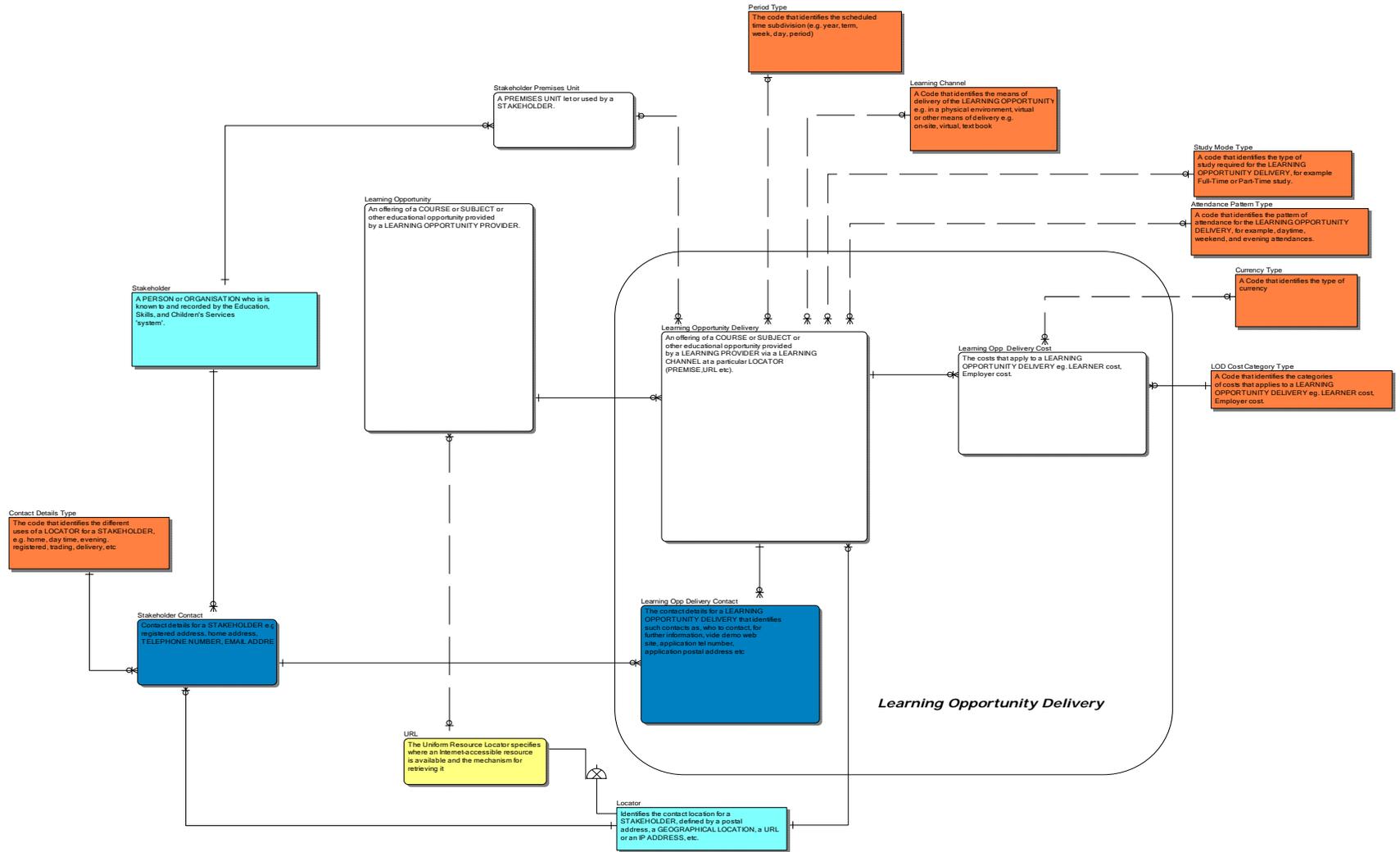
The notation used follows the Business Data Architecture Document notation (refer to ESCS Business Data Architecture document for further details). Only those entities within the boundary square are to be part of the particular data standard. Those entities outside of the boundary square are for context purposes only, or are separate reference data (orange coloured entities)

### ***Entity and Attribute Naming Standards and Conventions used***

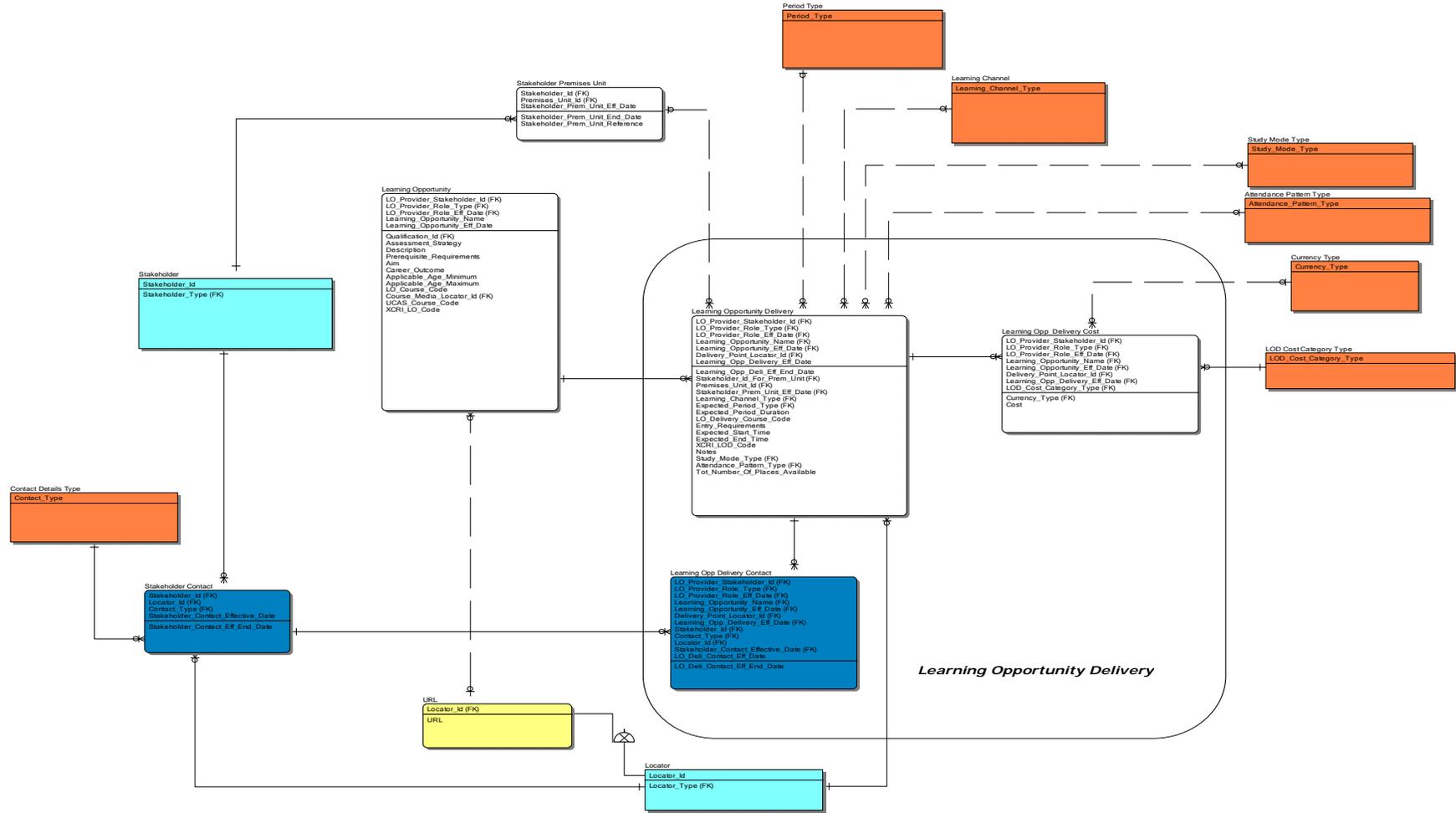
The standards for Business Data Architecture naming and conventions used for this development is Business Data Architecture Naming Standards and Conventions Vs 1.2 by Steve Palmer.

***Entity Definition Model***

*<extract from BDA>*



***Attribute Model***



**Data definitions**

The following section further describes the entities and their attributes covered in this standard.

PK = Primary Key Attribute

FK =Foreign Key Attribute

M = Mandatory Attribute

**NOTE: Data Types are defined according to the conventions set out in the document “BDM Data Standard – Data Type Expressions”**

**Entity: xx**

<definition>

Attribute Name	Attribute Definition	P K	F K	M	Datatype	Parent Entity	Parent Attribute	Code List


**Entity: xx****<definition>**

Attribute Name	Attribute Definition	P K	F K	M	Datatype	Parent Entity	Parent Attribut e	Code List

**Annex D: Business Data Assembly Template****Business Data Assembly - <title>****<version>****<date>**



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## Document Version History

<b>Version</b>	<b>Status</b>	<b>Date</b>	<b>Modified by</b>	<b>Change description</b>	<b>Section &amp; line Ref</b>	<b>Changed from</b>	<b>Changed to</b>	<b>Effects of change</b>
0.1	Draft	18/09/2009	DFoster	Initial Draft	-	-	-	-
0.2	Draft	30/10/2009	T Knowles	2 <sup>nd</sup> draft incorporating changes resulting from stakeholder review of 1 <sup>st</sup> draft				
0.3	Draft	2/11/2009	T Knowles	Internal review				

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Process Roles .....	19-6
a) Apply For Learning Opportunity .....	19-7
b) Assess Application For Learning Opportunity .....	<b>Error! Bookmark not defined.</b>
c) Learner Enrols With a Learning Provider .	<b>Error! Bookmark not defined.</b>
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## Introduction

This Business Data Assembly document shows how to assemble and use the relevant Business Data Standards to meet the needs identified in the Application and Enrolment Business Case.

As a result of consultation on the Business Case and further business analysis, the business processes and supporting data items have progressed from those shown in the Business Case that initiated the work. The resultant current processes, roles and business data items are therefore listed here.

## Scope

The Business Data Assembly describes:

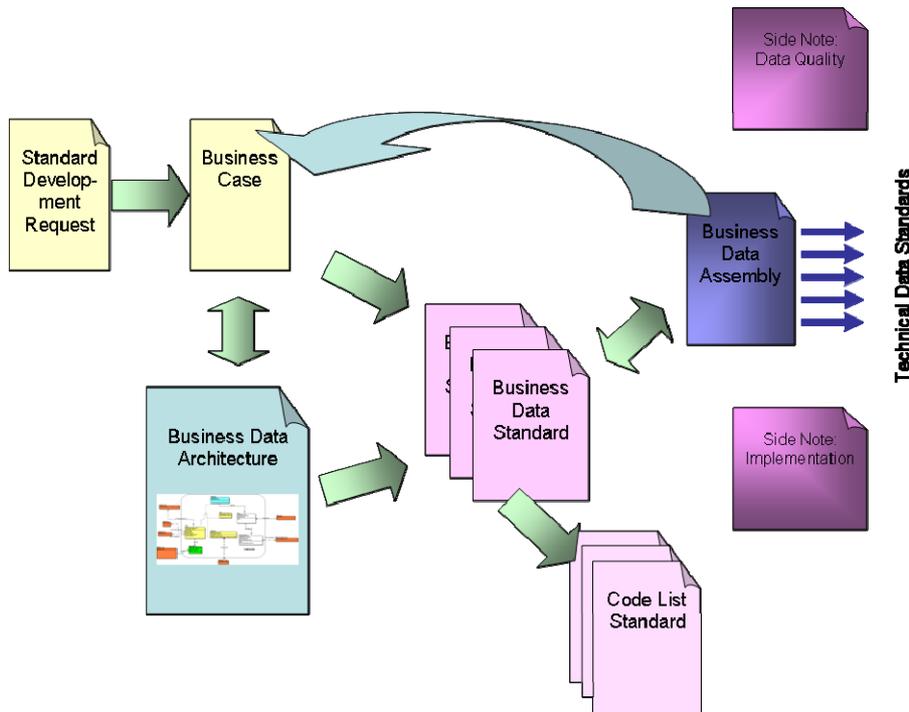
- How to use the Business Data Standards in a given business context
- The business processes and roles representing the current understanding of ESCS-wide processes and roles that support finding, applying for and enrolling into a provider of learning for the purposes of undertaking one or more courses of learning.
- The mapping of the ISB Business Data Standards to one another in a relational model.
- The identified data exchanges inherent in the Application and Enrolment business process, the subset of standards that apply to each data transfer and any variations that need to be applied to satisfy the business conditions of that data transfer.
- It is not in the scope of this document to describe:
  - The details of all of the attributes contained in the data standards.
  - A preferred method of implementing the assembly in an application.

An Assembly document does not define any schema, e.g. XML, it may be realised through to any number of Technical Data Standards (see below).

### 17.2 Document Map

A Business Data Standard is defined in response to a business need captured in a Business Case. In development, every effort is made to ensure that the Business Data Standard is capable to support all ESCS business needs for the same data. The Business Case may in fact give rise to a number of Business Data Standards, and the way that the standards are associated to meet the originating business need is shown via an “Assembly” document. Each Assembly may in addition need some guidance regarding Data Quality issues and implementation issues and these are contained in “Side Notes”.

The related documents are shown in the following diagram:



Many ESCS ICT systems will need to define Technical Data Standards that specify an encoding schema for data exchange and may include implementation-specific details. Such Technical Data Standards may conform to this and other ESCS ISB Business Data Standards. Those that do conform can be assured that their data will be interchangeable with any other conformant systems. A Technical Data Standard may indicate that within the scope of its use one or more attributes are Mandatory.



## 19 Business Processes

The following business processes have been created in consultation with stakeholders across ESCS. They are high level processes whose intention is to be sufficiently generic that all processes relating to application and enrolment are encompassed.

Note that the reader must first consider how roles (identified in the process “swim-lanes”) are mapped onto persons or organisations in their area. For example, the roles of “Learning Provider”, and “Home Centre” will in most cases both be taken by a school for primary and secondary school applications, but may be taken by different members of a Consortium that supplies Diploma learning. Similarly, the “Application Manager applied to” role will be the Local Authority for state schools, but may be a Learning Provider administration role for FE and HE institutions.

The reader must also be willing to consider how the process steps are manifested in their case. For example, step 3.01 “Learning Opportunity details made available” may relate to publication of course-related information in a prospectus for FE or HE institutions and may be a simple matter of making the existence of a school known to an LA in the case of statutory education.

### Process Roles

The following roles take part in the Process

List of Roles	Description


**a) <process area>**

*<give a very short précis of the business process area covered by the process model>:*

*<insert process model>*



**Data Item Mapping**

The following table maps the Data Items from the Application and Enrolment Business Case to Entities, Subtype/s and attributes from the business data model and to the related business data standard.

Data Item from Business Case	Data Model		Data Standard/s
	Entity / Subtype	Attribute	







Data Item from Business Case	Data Model		Data Standard/s
	Entity / Subtype	Attribute	

Data Item from Business Case	Data Model		Data Standard/s
	Entity / Subtype	Attribute	

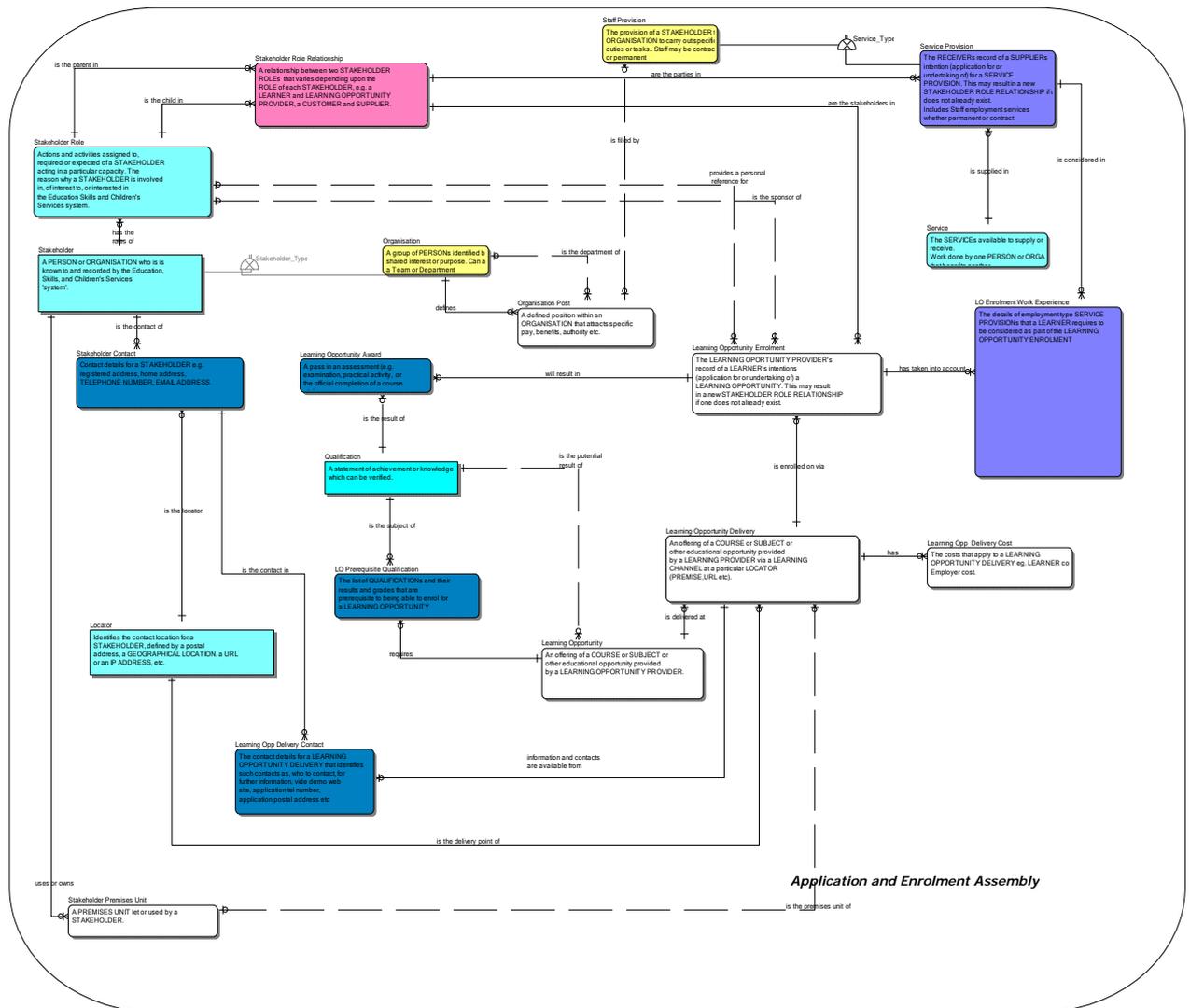


<b>Data Item from Business Case</b>	<b>Data Model</b>		<b>Data Standard/s</b>
	<b>Entity / Subtype</b>	<b>Attribute</b>	

<b>Data Item from Business Case</b>	<b>Data Model</b>		<b>Data Standard/s</b>
	<b>Entity / Subtype</b>	<b>Attribute</b>	

## Business Data Standard Map

The following diagrams show the Business Data Standard documents and how they interrelate. Please note that each standard can contain several data entities, so this diagram should not be interpreted as a true entity relationship diagram. For that level of detail please refer to the individual standards.



## 20 Data Exchanges

The data exchanges in the table below relate to those shown in the process models in the Business Processes section above:

<b>Data Exchange</b>	<b>Data Standards</b>	<b>Context specific rules</b>







## 21 Annex E: Code List Template

### ISB Standard: Code List

Code List: *<title>*

*<Version>*

*<date of issue>*



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**Document Version History**

Version	Status	Date	Modified by	Change description				

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## Introduction

This document contains the formatting and values for an ISB code list standard. This code list is referenced in an approved ISB Business Data Standard.

### Business context

The remit of the Information Standards Board for Education Skills and Children's Services (ESCS) is to develop, approve and promulgate a minimum but sufficient set of data and information standards to support system interoperability across ESCS.

The ISB develops and maintains Business Data Standards which provide a technology independent message specification that can be used by projects, programmes and software vendors to develop consistent, interoperable technical standards. These Business Data Standards are granular 'lego bricks' made up of entities and their attributes extracted from ESCS Enterprise Data Architecture.

The Business Data Standards are supported by a set of code lists which provide a set of approved formatting and values to be used across ESCS. These are also independent ISB Standards in their own right.

### Maintenance

This code list will be updated by the Information Standards Board, via recommendations from the Vocabulary Special Interest Group, on a 3 year basis or following requests for change.

### Code List Description

<b>Code List Name:</b> <name>	
<b>Description</b>	Codes describing xx
<b>Data Type and Format</b>	
<b>Code Set/ Valid Values</b>	See next section




**Annex F: Comments Form**

**Comments Form**    <Standards title>

Document Name	Doc Version	Document Section	Rcvd From	Rcvd Date	Comment