BDM Data Standard – Stakeholder Schedule v0.2

09 November

Licence and IPR Statement

Use of Crown copyright material © Crown copyright 2009

The Information Standards Board (ISB) is an internal advisory body to the Department for Children, Schools and Families (DCSF) and the Department for Business, Innovation and Skills (BIS) which are Crown bodies. The information we produce is subject to Crown copyright, which is administered by the Office of Public Sector Information. Unless otherwise stated on individual documents or pages, the following copyright statement applies to material found on this site.

Authorisation to reproduce any information in this standard which is identified as being the copyright of a third party must be obtained from the copyright holders concerned.

Research and private study

The Crown copyright protected information in this standard may be reproduced free of charge in any format or medium in order to carry out research for non-commercial purposes, for private study or for internal circulation within an organisation. This is subject to the material being reproduced accurately and not used in a misleading context. The material must be acknowledged as Crown copyright and you must give the title of the source document/publication.

Licences

Copying Crown copyright protected material for re-use, distribution or publication, requires a licence. You can apply for a Click-Use licence online, by email or by writing to:

Office of Public Sector Information
Information Policy Team
Kew
Richmond
Surrey
TW9 4DU
Email: licensing@opsi.gsi.gov.uk

Document Version History

Version	Status	Date	Modified by	Change description	Section & line Ref	Changed from	Changed to	Effects of change
0.1	Draft	22/09/2009	DFoster	Initial Draft	-	-	-	-
0.2	Draft	09/11/2009	LHogarth	Definitions amended Document Map updated to show Side Notes and Appendix replaced with a reference to new document				

Contents

Introduction 2
Data Standard 4
Entity relationships 4
Diagram Notation 4
Entity and Attribute Naming Standards and Conventions used 4
Entity Definition Model 5
Attribute Model 6
Data definitions 7
Entity: Stakeholder Schedule 7
Entity: Schedule Hierarchy 9
Entity: Stakeholder Period 12
Appendix A – Stakeholder Schedule Example 14
Stakeholder Schedule Structure Diagram: 15

Introduction

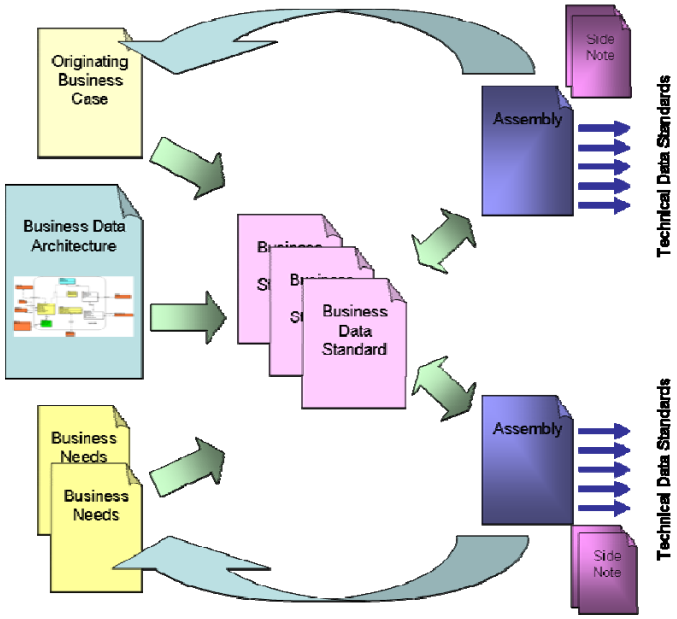
This Business Data Standard has been designed to satisfy all Education Skills and Children's Services (ESCS) business needs to exchange information about stakeholder schedules.

It describes data that relates to stakeholder periods and schedules. Stakeholder periods describe a collection of timeslots (i.e. together periods form a calendar). Stakeholder schedules describe which periods a stakeholder is using and a general purpose they are using the period for.

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 they 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:



This Business Data Standard shows how information relating to Stakeholder Schedule 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.

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.

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.

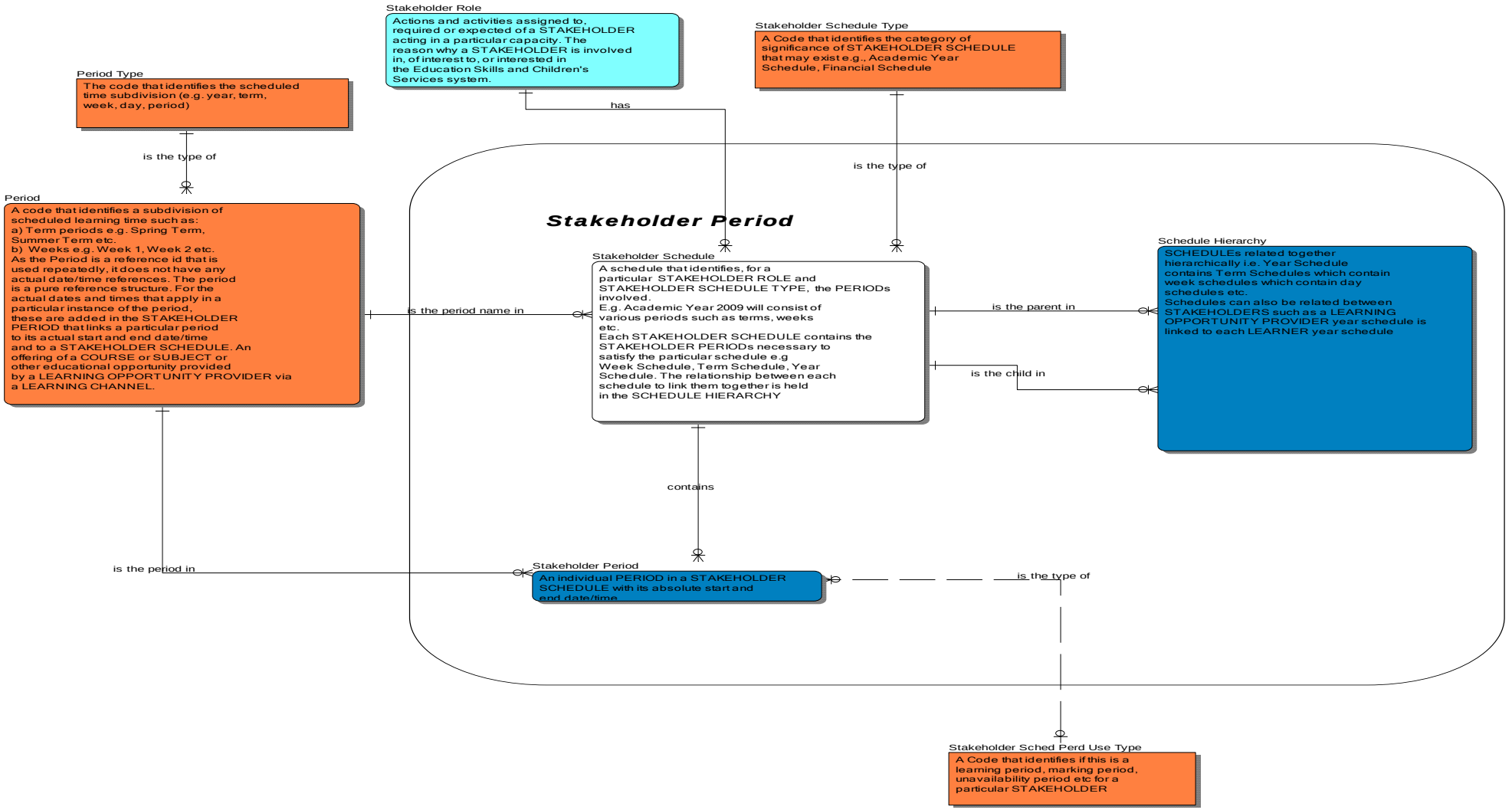
Diagram Notation

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)

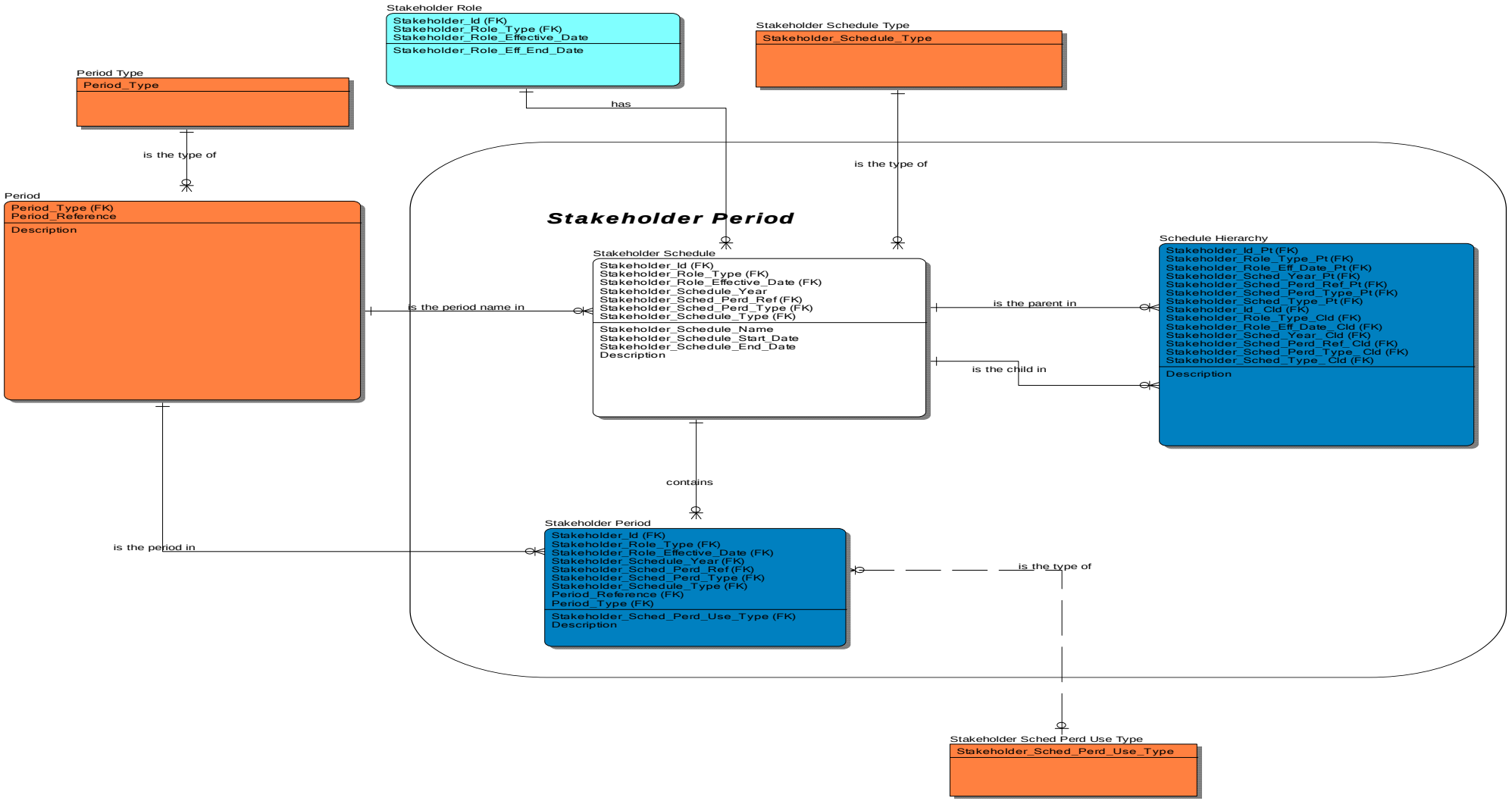
Entity and Attribute Naming Standards and Conventions used

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



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: Stakeholder Schedule

A schedule that identifies, for a particular STAKEHOLDER ROLE and STAKEHOLDER SCHEDULE TYPE, the PERIODs involved.

Attribute Name	Attribute Definition	PK	FK	M	Datatype	Parent Entity	Parent Attribute	Code List
Stakeholder_Id	A value that denotes and distinguishes the STAKEHOLDER	Y	Y	Y	Simple_String (1, 32)	Stakeholder Role	Stakeholder_Id	
Stakeholder_Role_Type	A Code that identifies a specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. This attribute may appear prefixed with the role that is currently being undertaken. In this event the role_type is that specifically named role	Y	Y	Y	Simple_String (1, 50)	Stakeholder Role	Stakeholder_Role_Type	

Stakeholder_Role_Effective_Date	The date from which the STAKEHOLDER is ready and approved (if necessary) to act in the specific role. This attribute may appear prefixed with a role type. In this event the effective date is that of the prefixed role type.	Y	Y	Y	Simple_Date_Time	Stakeholder Role	Stakeholder_Role_Effective_Date	
Stakeholder_Schedule_Year	The Year for which this STAKEHOLDER SCHEDULE is applicable. The type of year (Calendar, Academic, Financial) is identified by the STAKEHOLDER SCHEDULE TYPE	Y	N	Y	Simple_Date_Time			
Stakeholder_Sched_Perd_Ref	A code that denotes and distinguishes the time period that will be used in a schedule. e.g. Period 1, Week 1, Spring Term, etc	Y	Y	Y	Simple_String(1,50)		Period_Reference	CL_Period
Stakeholder_Sched_Perd_Type	The code that identifies the type of period (e.g. year, term, week, day, period)	Y	Y	Y	Simple_String(1,50)		Period_Type	CL_Period
Stakeholder_Schedule_Type	A Code that identifies the category of significance of STAKEHOLDER SCHEDULE that may exist e.g., Academic Year Schedule, Financial Schedule	Y	Y	Y	Simple_String(1,50)			CL_Schedule_Type
Stakeholder_Schedule_Name	A value that denotes this STAKEHOLDER SCHEDULE	N	N	N	Simple_String(1,100)			
Stakeholder_Schedule_Start_Date	The date from which the STAKEHOLDER SCHEDULE starts from	N	N	N	Simple_Date_Time			
Stakeholder_Schedule_End_Date	The date on which the STAKEHOLDER SCHEDULE ends	N	N	N	Simple_Date_Time			

Description	Narrative details about the STAKEHOLDER SCHDULE	N	N	N	Simple_String(1,2000)			

Entity: Schedule Hierarchy

SCHEDULEs related together hierarchically i.e. Year Schedule contains Term Schedules which contain week schedules which contain day schedules etc.

Attribute Name	Attribute Definition	PK	FK	M	Datatype	Parent Entity	Parent Attribute	Code List
Stakeholder_Id_Pt	A value that denotes and distinguishes the STAKEHOLDER	Y	Y	Y	Simple_String (1, 32)	Stakeholder_Schedule	Stakeholder_Id	
Stakeholder_Role_Type_Pt	A Code that identifies a specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. This attribute may appear prefixed with the role that is currently being undertaken. In this event the role_type is that specifically named role	Y	Y	Y	Simple_String (1, 50)	Stakeholder_Schedule	Stakeholder_Role_Type	
Stakeholder_Role_Eff_Date_Pt	The date from which the STAKEHOLDER is ready and approved (if necessary) to act in the specific role. This attribute may appear prefixed with a role type. In this event the effective date is that of the prefixed role type.	Y	Y	Y	Simple_Date_Time	Stakeholder_Schedule	Stakeholder_Role_Eff_Date	

Stakeholder_Sched_Year_Pt	The Year for which this STAKEHOLDER SCHEDULE is applicable. The type of year (Calendar, Academic, Financial) is identified by the STAKEHOLDER SCHEDULE TYPE	Y	Y	Y	Simple_Date_Time	Stakeholder_Schedule	Stakeholder_Sched_Year	
Stakeholder_Sched_Perd_Ref_Pt	A code that denotes and distinguishes the time period that will be used in a schedule. e.g. Period 1, Week 1, Spring Term, etc	Y	Y	Y	Simple_String(1,50)	Stakeholder_Schedule	Stakeholder_Sched_Perd_Ref	
Stakeholder_Sched_Perd_Type_Pt	The code that identifies the type of period (e.g. year, term, week, day, period)	Y	Y	Y	Simple_String(1,50)	Stakeholder_Schedule	Stakeholder_Sched_Perd_Type	
Stakeholder_Sched_Type_Pt	A Code that identifies the category of significance of STAKEHOLDER SCHEDULE that may exist e.g., Academic Year Schedule, Financial Schedule	Y	Y	Y	Simple_String(1,50)	Stakeholder_Schedule	Stakeholder_Sched_Type	
Stakeholder_Id_ Cld	A value that denotes and distinguishes the STAKEHOLDER	Y	Y	Y	Simple_String (1, 32)	Stakeholder_Schedule	Stakeholder_Id	
Stakeholder_Role_Type_Cld	A Code that identifies a specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. This attribute may appear prefixed with the role that is currently being undertaken. In this event the role_type is that specifically named role	Y	Y	Y	Simple_String (1, 50)	Stakeholder_Schedule	Stakeholder_Role_Type	

Stakeholder_Role_Eff_Date_Cld	The date from which the STAKEHOLDER is ready and approved (if necessary) to act in the specific role. This attribute may appear prefixed with a role type. In this event the effective date is that of the prefixed role type.	Y	Y	Y	Simple_Date_Time	Stakeholder_Schedule	Stakeholder_Role_Eff_Date	
Stakeholder_Sched_Year_Cld	The Year for which this STAKEHOLDER SCHEDULE is applicable. The type of year (Calendar, Academic, Financial) is identified by the STAKEHOLDER SCHEDULE TYPE	Y	Y	Y	Simple_Date_Time	Stakeholder_Schedule	Stakeholder_Sched_Year	
Stakeholder_Sched_Perd_Ref_ Cld	A code that denotes and distinguishes the time period that will be used in a schedule. e.g. Period 1, Week 1, Spring Term, etc	Y	Y	Y	Simple_String(1,50)	Stakeholder_Schedule	Stakeholder_Sched_Perd_Ref	
Stakeholder_Sched_Perd_Type_ Cld	The code that identifies the type of period (e.g. year, term, week, day, period)	Y	Y	Y	Simple_String(1,50)	Stakeholder_Schedule	Stakeholder_Sched_Perd_Type	
Stakeholder_Sched_Type_Cld	A Code that identifies the category of significance of STAKEHOLDER SCHEDULE that may exist e.g., Academic Year Schedule, Financial Schedule	Y	Y	Y	Simple_String(1,50)	Stakeholder_Schedule	Stakeholder_Sched_Type	
Description	Details about the SCHEDULE HIERARCHY	N	N	N	Simple_String(1,2000)			

Entity: Stakeholder Period

An individual PERIOD in a STAKEHOLDER SCHEDULE with its absolute start and end date/time.

Attribute Name	Attribute Definition	PK	FK	M	Datatype	Parent Entity	Parent Attribute	Code List
Stakeholder_Id	A value that denotes and distinguishes the STAKEHOLDER	Y	Y	Y	Simple_String (1, 32)	Stakeholder_ Schedule	Stakeholder_Id	
Stakeholder_Role_Type	A Code that identifies a specific role of a STAKEHOLDER.e.g. LEARNER, LEARNING OPPORTUNITY PROVIDER. This attribute may appear prefixed with the role that is currently being undertaken. In this event the role_type is that specifically named role	Y	Y	Y	Simple_String (1, 50)	Stakeholder_ Schedule	Stakeholder_ Role_Type	
Stakeholder_Role_Effective_Date	The date from which the STAKEHOLDER is ready and approved (if necessary) to act in the specific role. This attribute may appear prefixed with a role type. In this event the effective date is that of the prefixed role type.	Y	Y	Y	Simple_Date_Time	Stakeholder_ Schedule	Stakeholder_ Role_Eff_Date	
Stakeholder_Schedule_Year	The Year for which this STAKEHOLDER SCHEDULE is applicable. The type of year (Calendar, Academic, Financial) is identified by the STAKEHOLDER SCHEDULE TYPE	Y	Y	Y	Simple_Date_Time	Stakeholder_ Schedule	Stakeholder_ Sched_Year	

Stakeholder_Sched_Perd_Ref	A code that denotes and distinguishes the time period that will be used in a schedule. e.g. Period 1, Week 1, Spring Term, etc	Y	Y	Y	Simple_String(1,50)	Stakeholder_Schedule	Stakeholder_Sched_Perd_Ref	
Stakeholder_Sched_Perd_Type	The code that identifies the type of period (e.g. year, term, week, day, period)	Y	Y	Y	Simple_String(1,50)	Stakeholder_Schedule	Stakeholder_Sched_Perd_Type	
Stakeholder_Schedule_Type	A Code that identifies the category of significance of STAKEHOLDER SCHEDULE that may exist e.g., Academic Year Schedule, Financial Schedule	Y	Y	Y	Simple_String(1,50)	Stakeholder_Schedule	Stakeholder_Sched_Type	
Period_Reference	A code that denotes and distinguishes the time period that will be used in a schedule. e.g. Period 1, Week 1, Spring Term, etc	Y	Y	Y	Simple_String(1,50)	Period	Period_Reference	
Period_Type	The code that identifies the duration of the schedule period (e.g. year, term, week, day, period)	Y	Y	Y	Simple_String(1,50)	Period	Period_Type	
Stakeholder_Sched_Perd_Use_Type	A Code that identifies if this is a learning period, marking period, unavailability period etc for a particular STAKEHOLDER	N	Y	N	Simple_String(1,50)			CL_Stakeholder_Sched_Perd_Use_Type
Description	Details about the STAKEHOLDER SCHEDULE PERIOD	N	N	N	Simple_String(1,2000)			

Appendix A – Stakeholder Schedule Example

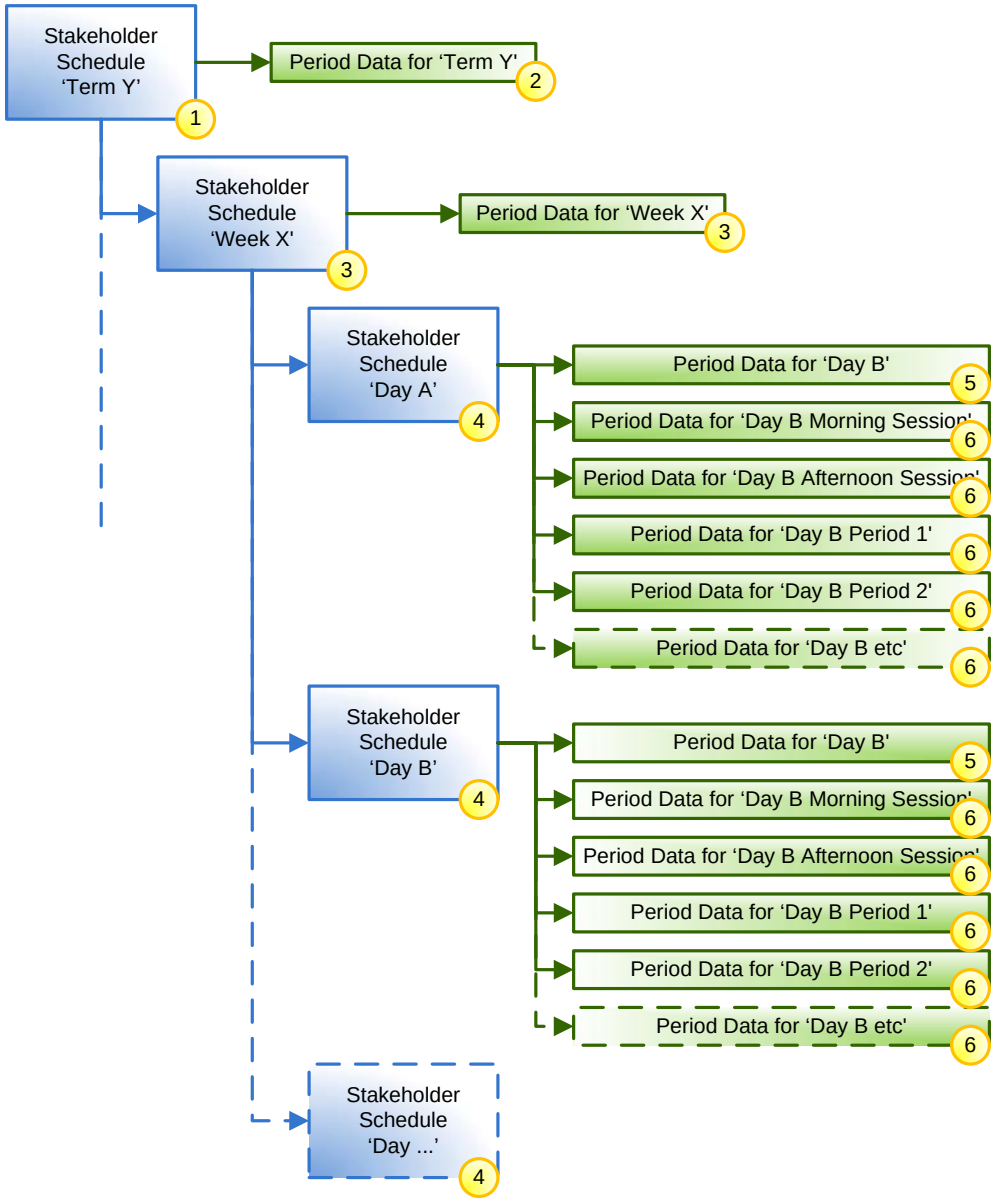
The following section describes an example of how to use this data standard to express a stakeholder's schedule over a period of time. For this example the following business rules/scope have been applied:

1. The stakeholder is a student at a secondary school. This could just as easily be a learning provider, a teacher/instructor, a diploma consortium or any other stakeholder that engages in scheduled activities.
2. The chosen scheduling hierarchy is TERM -> WEEK -> DAY. This means that 'day' records will be the lowest level in the stakeholder schedule hierarchy. When relating stakeholder periods to stakeholder schedules, this business rules means that all periods from the day and below are related to the 'day' schedule and that all schedules above the 'day' schedules have just one stakeholder period related to them to describe the period the schedule covers in greater detail.

   This is just a business rule. A stakeholder can just as easily decide to include a SESSION schedule at the end of their hierarchy, or stop at the week level, or have a completely different stakeholder schedule hierarchy altogether (e.g. YEAR -> SEMESTER -> FORTNIGHT -> DAY).

Stakeholder Schedule Structure Diagram:

The following diagram illustrates the hierarchy of stakeholder schedules and how the stakeholder period records relate to the stakeholder schedules.



Key Points:

1. This is the Term Y stakeholder schedule record.
2. A single stakeholder period record is related to the Term Y stakeholder schedule record. This stakeholder period record contains, amongst other attributes, absolute start and end dates for Term Y.
3. The next level down in the hierarchy is shown as a stakeholder

schedule record for Week X and its related stakeholder period record.

4. Related, via the Stakeholder Schedule Hierarchy, to the Week X stakeholder schedule record are a number of Day stakeholder schedule records.
5. Related to each of the Day schedules is a single stakeholder period record that describes that day.
6. Also related to each day are the stakeholder period records for periods that occur in that day (Sessions and Periods).