Matrix schemas for COREP and FINREP taxonomies
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2. Abstract

This document contains information useful to understand "matrix schemas" published on www.corep.info web site for every COREP and FINREP template taxonomies.

Basically, a Matrix schema is a "conceptual framework" able to represent in a formal and user friendly way the structure of a reporting template.

3. Definitions

In this document, the term:
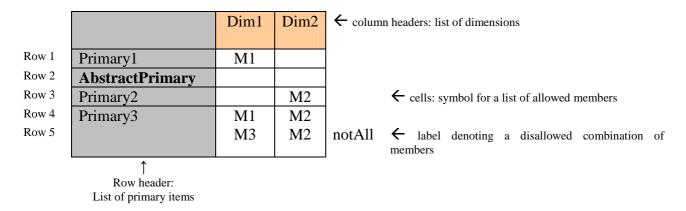- **[Def. 1] Reporting Template** refers to the Excel based COREP and FINREP templates as published on the CEBS web site;
- **[Def. 2] Template taxonomy** is the XBRL taxonomy corresponding to the reporting template;
- **[Def. 3] Primary item, dimension, ..etc** are concepts defined by the XDT 1.0 specification.
- **[Def. 4] Structure of a reporting template** is the set of primary items, dimensions, domain members, allowed and disallowed combinations of domain members that apply to a given Reporting template.

4. Description of a Matrix table

A matrix table is a table where "row headers", "column headers" and "cells" have a well defined meaning.

		Dim1	Dim2	
Row 1	Primary1	M1		← cells: symbol for a list of allowed members
Row 2	**AbstractPrimary**			
Row 3	Primary2		M2	
Row 4	Primary3	M1	M2	
Row 5		M3	M2	notAll ← label denoting a disallowed combination of members

← column headers: list of dimensions

↑ Row header: List of primary items

Img. 1

Row headers contain primary items. Abstract primary items (those primary items that MUST not be reported into an instance document) are identified in **bold**.

Each column header contains a dimension that applies to at least one of the primary items.

Cells contain symbols that represent the name of a "use domain", i.e. the set of allowed values for the dimension in the column header when used in the primary item described in the row header. If a dimension does not participate in a break-down structure of a primary item, then the corresponding cell is empty.

Each row of the matrix describes one primary item, its breakdown structure and its allowable combination of domain-members. To describe disallowed combination of values, a new row is put just below the principal row with a "notAll" label.

For example, **Img 1** describes a multidimensional template with 3 primary items (primary1, primary2 and primary3), an abstract one (abstractPrimary) and 2 dimensions (Dim1 and Dim2):

- Primary1 has Dim1 only in its break-down structure. The allowed set of members is shortly described by the symbol M1;
- Primary2 has Dim2 only in its break-down structure. The allowed set of members is shortly described by the symbol M2;
- Primary3 has both Dim1 and Dim2 in its break-down structure. It has a set of allowed combination of members represented by the Cartesian product M1 x M2 (row 4) and a set of disallowed combination of members represented by the Cartesian product M3 x M2 (row 5).

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5. Description of a Domain table

The table on Img 1 must be completed with the list of members corresponding to each symbol reported into cells. The matrix schema has a "domain table" for each dimension.

Symbol	Domain member	description	M1	M3
X	Member1	Label member1	✓	✓
	Member2	Label member2		
	Member3	Label member3	✓	✓
	Member4	Label member4	✓	
M1	Member1			
	Member3			
	Member4			
M3	Member1			
	Member3			

Img 2 – Domain table for Dim1

Symbol	Domain member	description	M2
X	Member20	Label member20	
	Member21	Label member21	✓
	Member22	Label member22	
	Member23	Label member23	✓
M2	Member21		
	Member23		

Img 3 – Domain table for Dim2

The domain table contains the complete list of the (theoretically) allowable members for a dimension as well as the list of all "use domain"s effectively used into the matrix schema.

For example, Img 2 displays the domain table for the dimension Dim1.
The table is composed by different parts.
The first part, identified by the "X" symbol, describes the complete list of members for the dimension (also known as "General domain"). It contains name and description for each member.

Following parts, identified by symbols "M1" and "M3", describe the sub-domains (or use domain) M1 and M3. Members belonging to the use domain are reported into the "Domain member" column.

In order to make it easy the comparison among different "use domain"s, they are also displayed as additional columns beside the "General domain". A check symbol (✓) identifies which members belong to the given "use domain".

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6. Sections in Matrix schemas

COREP and FINREP template taxonomies contain dimensional relationships (relationships between primary item networks and their break-down structure – represented by hypercubes, dimensions, and so on -) partitioned into different sets through a proper use of extended links.

We refer to these different "sets" of dimensional relationships as **sections**.

In the matrix schema approach, each **section** is rendered with just one **matrix table**.

7. Matrix schemas for COREP and FINREP

A Matrix schema for a given COREP (and/or FINREP) template is an Excel workbook organised in "section" sheets and "Domain" sheets.

A **Section sheet** contains a "Matrix table" describing the structure of the corresponding section of the reporting template.

The name of a **section sheet** is equal to the last part of the Extend linkRole name of the corresponding **section** into the XBRL taxonomy.

According to the naming convention adopted for COREP and FINREP:
- SectionProhibitedItems Section denotes a set of "prohibited" primary items;
- ADimensionalItems Section denotes a set of "adimensional" primary items, i.e. primary items without breakdown structure.

A **Domain sheet** contains a "domain table".

It is worth noting that there is a **Domain sheet** for each distinct domain into the Template. That means that if a template has two dimensions both defined on the same "General domain" then just one "Domain table" is reported into the Excel Workbook.

When a reporting template includes one or more typed dimensions then a **typed dimensions sheet** is added to the Excel workbook. Basically it is a list with three columns:

In the first column (symbol) there is the same URI assigned to the `xbrldt:typedDomainRef` attribute in the typed dimension element to locate the element in the XMLSchema that defines the content of the given typed dimension.

The second and the third columns contain respectively the XML-name and the XML-datatype of the element that defines the content of the given typed dimension.