

XBRL, UML and Databases: State of art



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Summary

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Introduction

XBRL Data Model.

Multidimensional Data Model.

Proposal of Automation

Conclusions

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- XML and Data Warehouse (DW) applications.
- eXtensible Business Reporting Language (XBRL), based on XML.
- XBRL represents business information, and it is multidimensional.
- The target is a "Data Warehouse".
- The objective is to analyze the semantics of taxonomies and instances, and then map this data model to the Multidimensional Data Model (Conceptual Model).

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Proposal of Automation.

Conclusions.

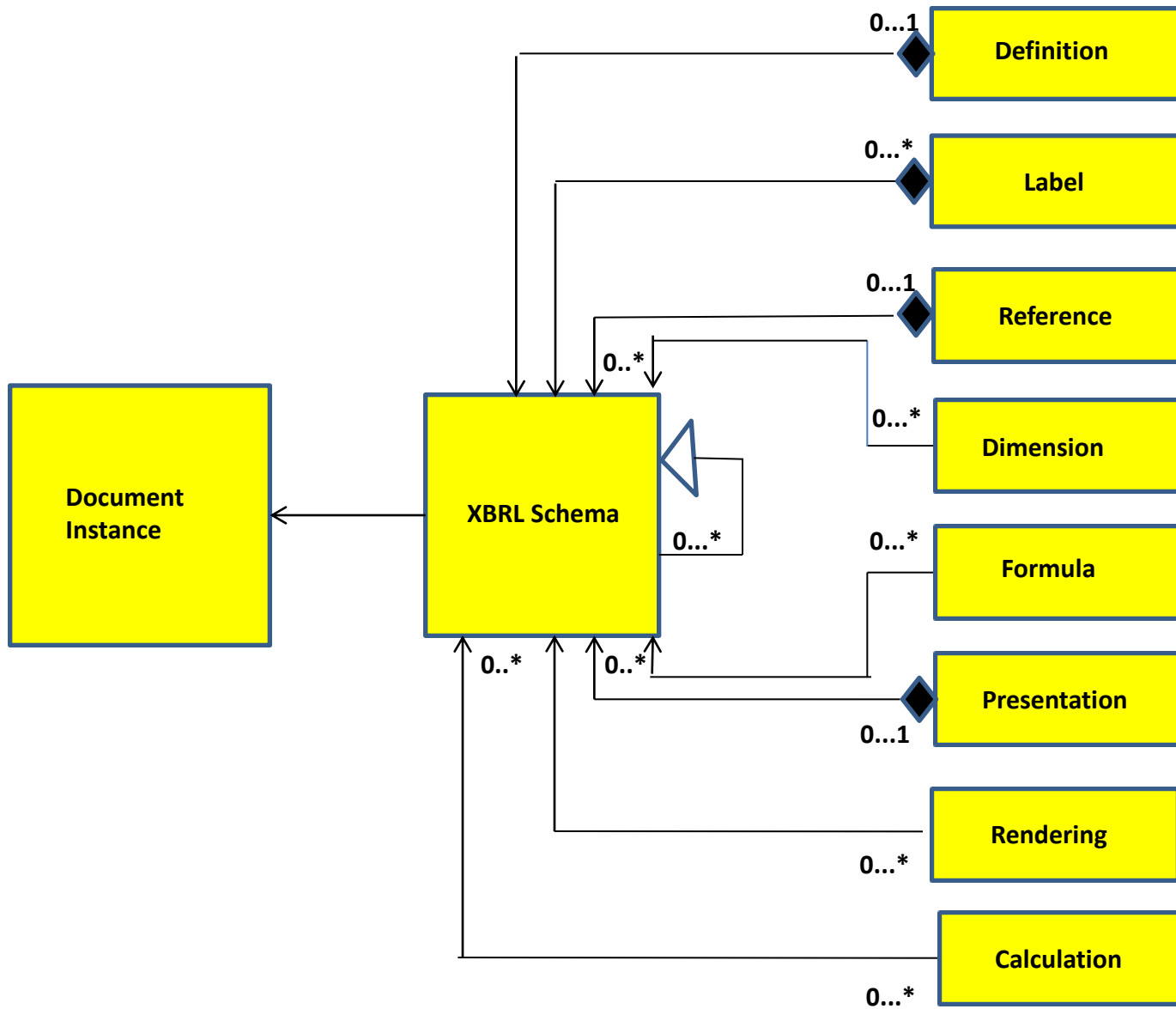


Figure 1.- UML design of XBRL Schemas and linkbases (DTS).

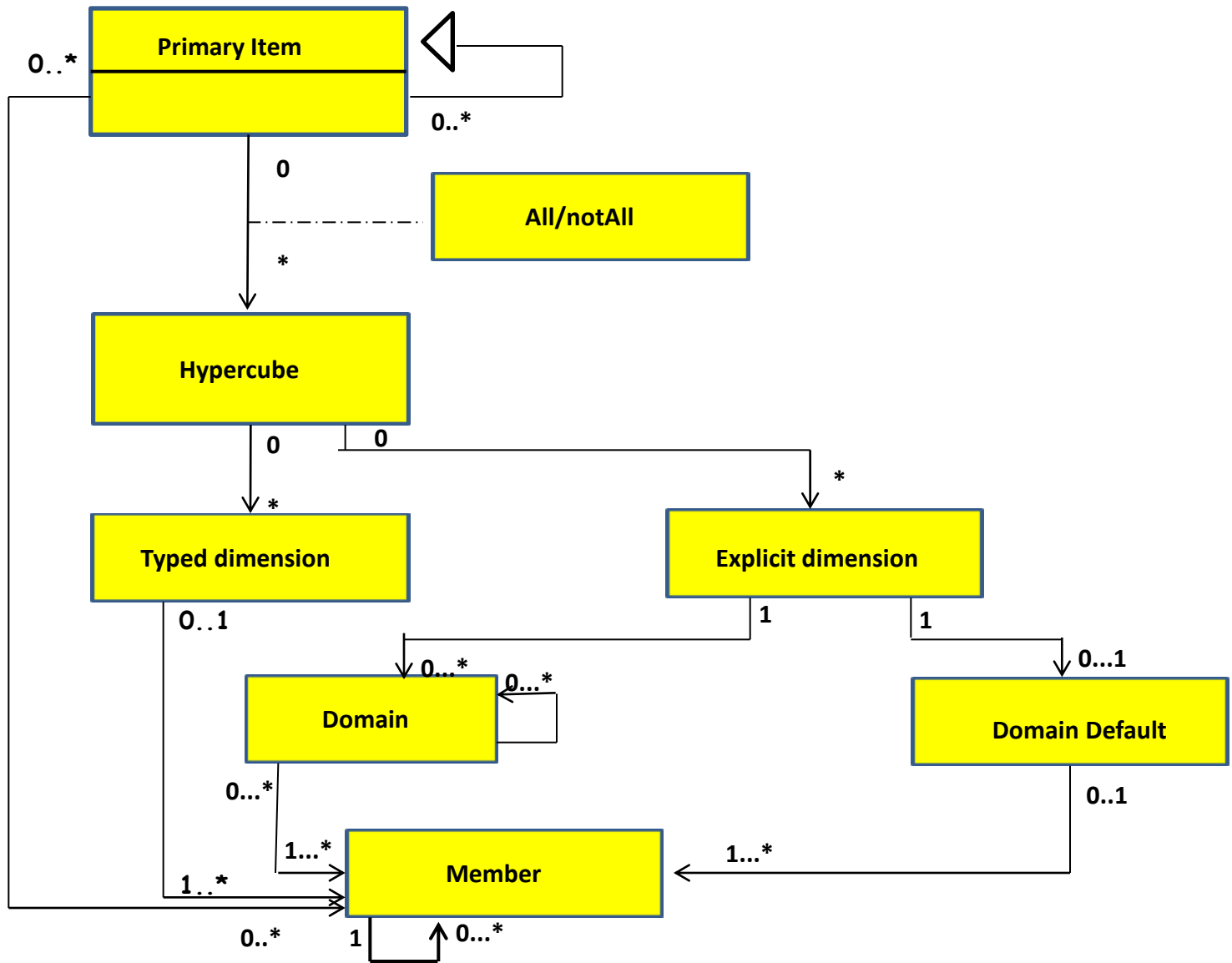


Figure 2.- Design the XDT model with UML.

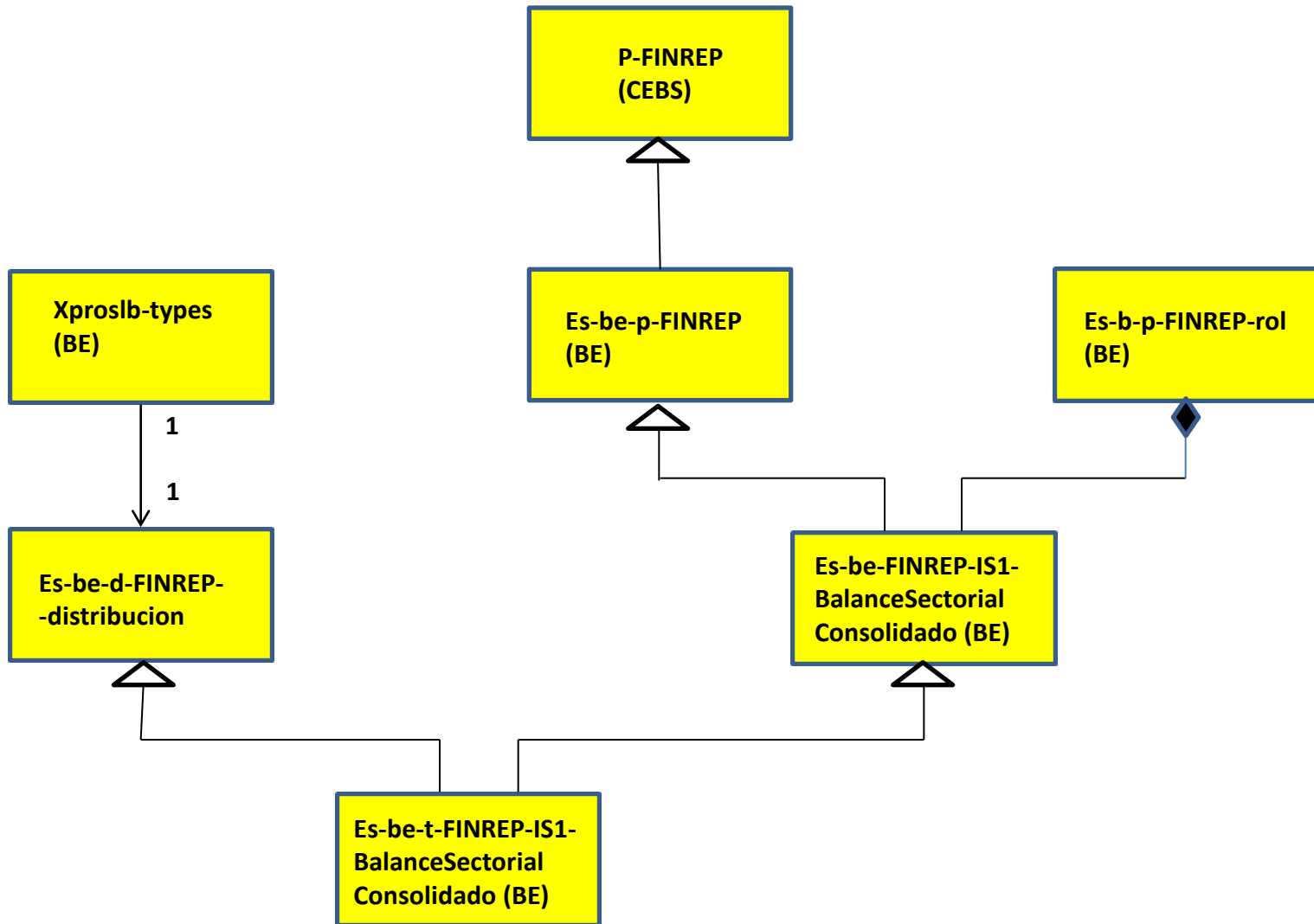


Figure 3.- Simplified UML diagram of the taxonomies of the 6610 report.

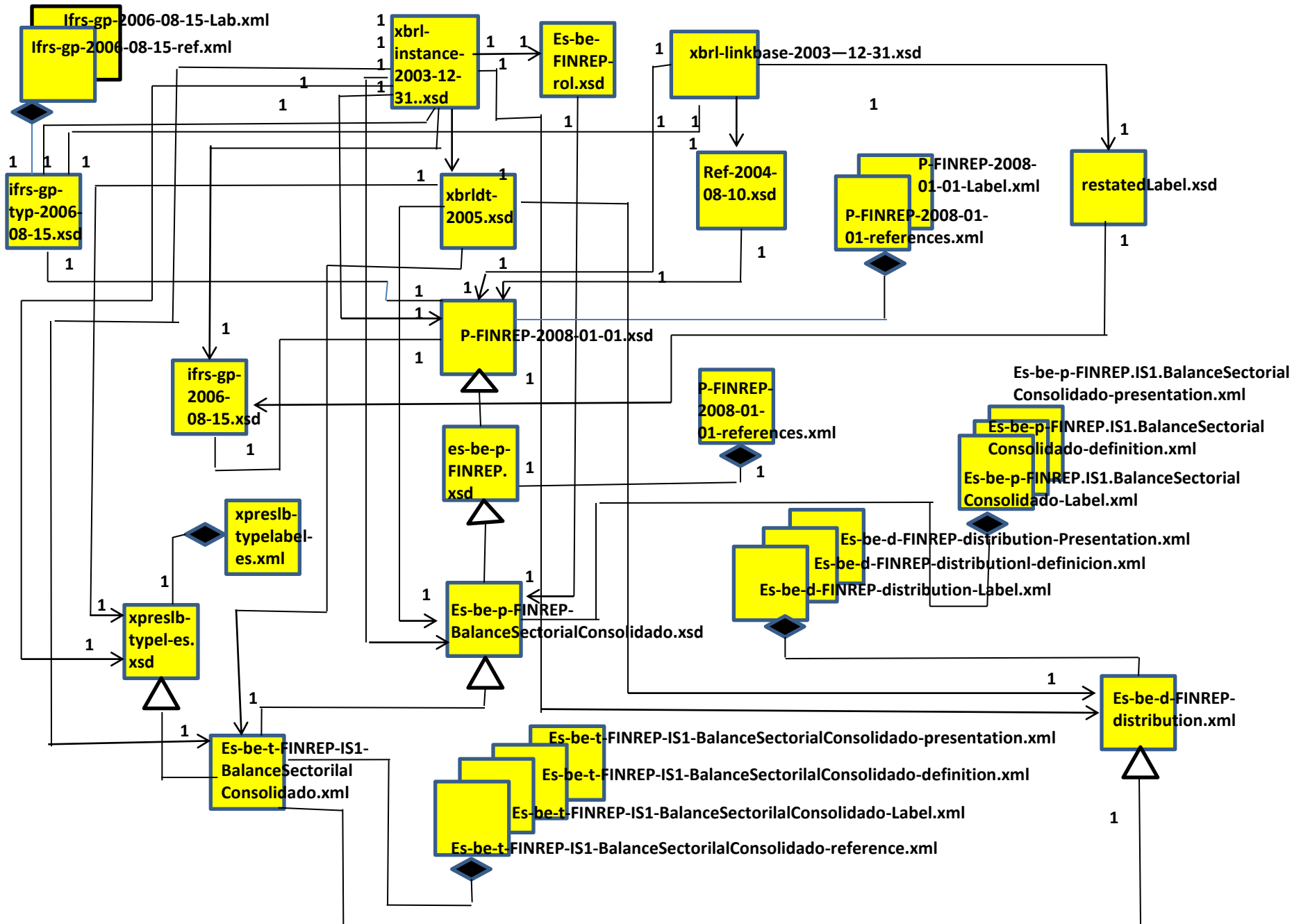


Figure 4.- UML Complete model design of the 6610 report taxonomies.

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Multidimensional Data Model.

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Conclusions

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- # Conclusions.

Presentation Link Definition Link Calculation Link Label Link Reference Link Content Model
 Role Type List Arcrole Type List Element Declaration Table Query Table Dimension User-Defined Link

XLink Role : Información Sectorial. Balance Consolidado
 Primary Item : ESTADO IS. 1 INFORMACIÓN SECTORIAL. BALANCE CONSOLIDADO
 Hypercube : Balance Sectorial Consolidado (Hypercube) [open] [scenario]

Drop a dimension item here to add

Page Fact Schema Dimension

Ex Distribucion (Dimension)

	TOTAL	DISTRIBUCIÓN			
		GRUPO CONSOLIDABLE DE ENTIDADES DE CRÉDITO	ENTIDADES DE SEGUROS	OTRAS ENTIDADES	AJUSTES Y ELIMINACIONES
ESTADO IS. 1 INFORMACIÓN SECTORIAL. BALANCE CONSOLIDADO					
ACTIVO					
Caja y depósitos en bancos centrales					
Cartera de negociación					
Depósitos en entidades de crédito					
Crédito a la clientela					
Valores representativos de deuda					
Instrumentos de capital					
Derivados de negociación					
Pro-memoria: Prestados o en garantía					
Otros activos financieros a valor razonable con cambios					
Depósitos en entidades de crédito					
Crédito a la clientela					
Valores representativos de deuda					
Instrumentos de capital					

Fact attributes or measures Attribute of dimension facts

Figure 5.- View of Dimensional table with Xwand Of Fujitsu

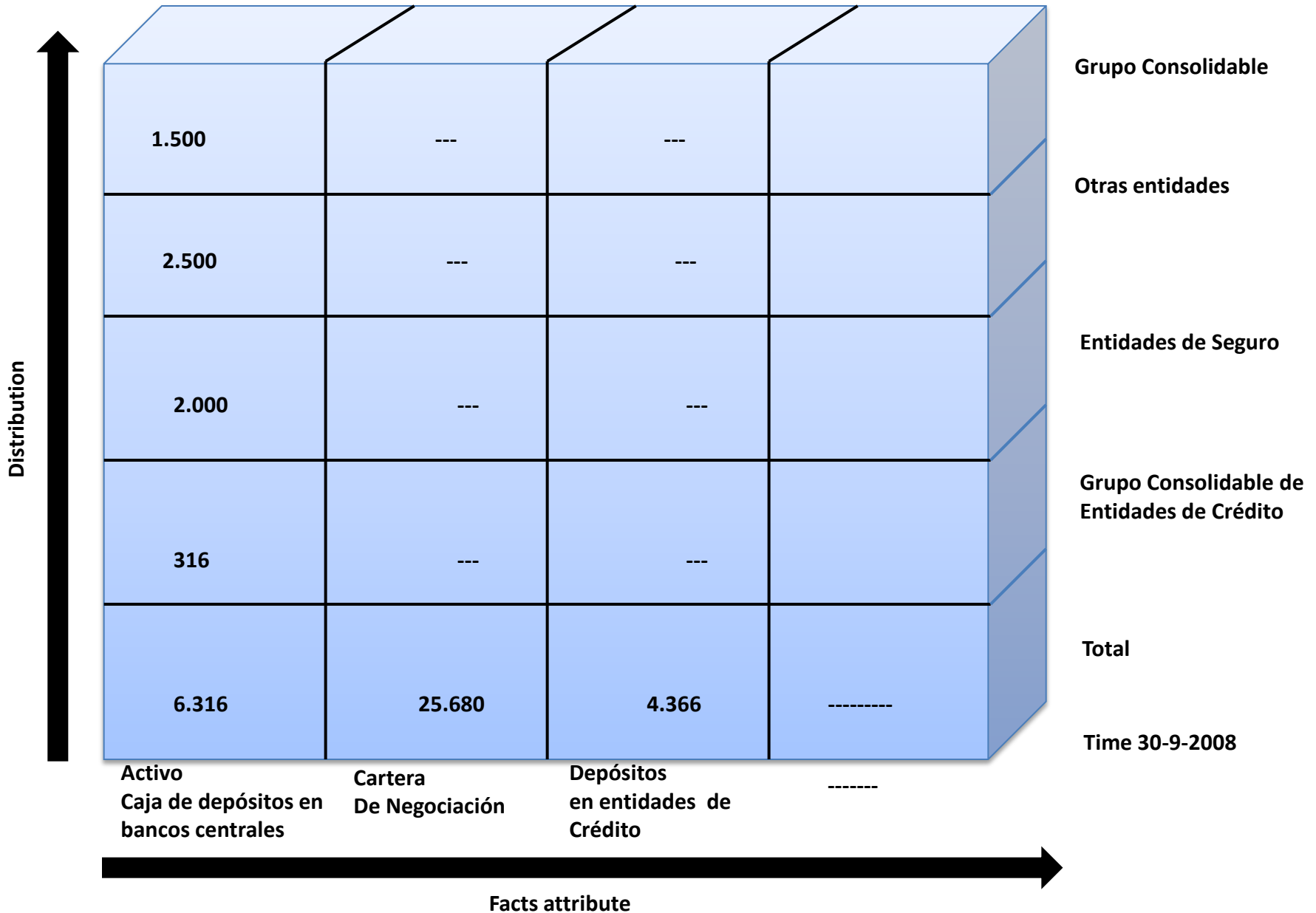


Figure 6.- Dimensional graphic of the example 6610 report («Balance Público Consolidado»).

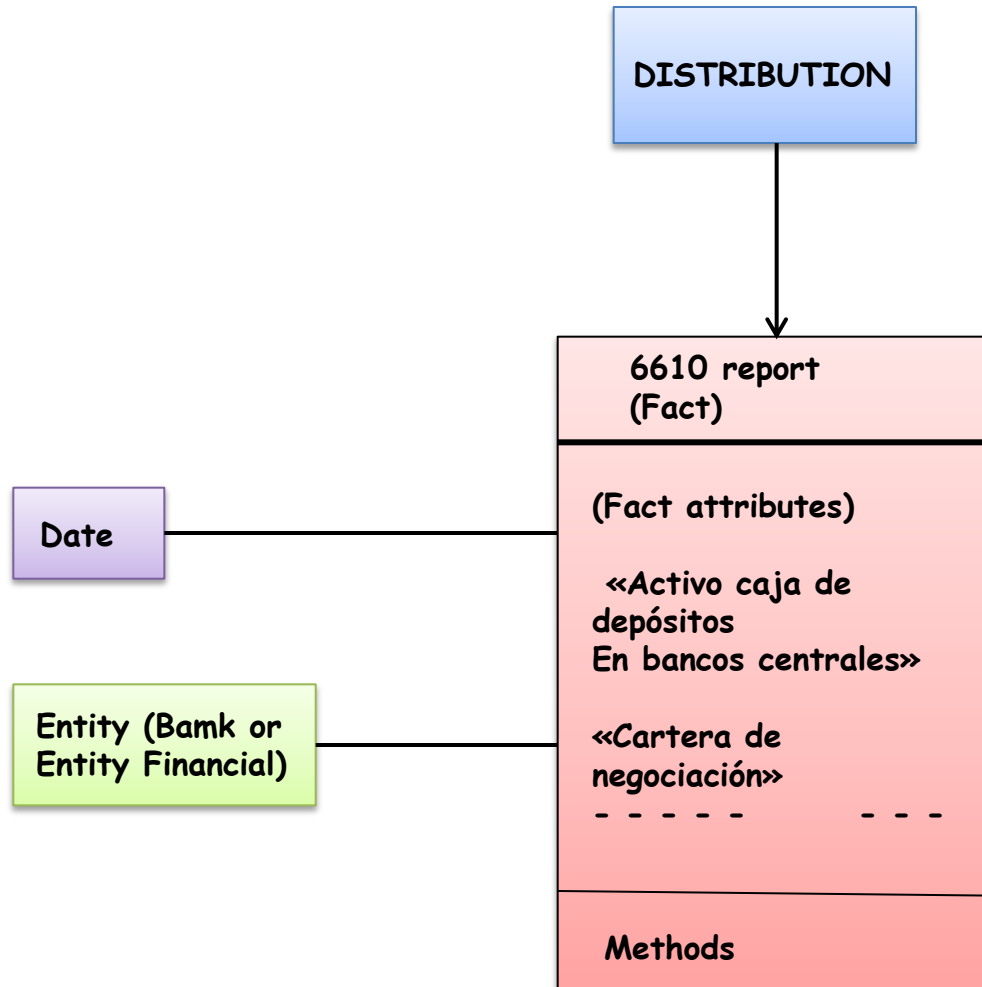


Figure 7.- Multidimensional Data Model of the 6610 report

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Introduction

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- # *Proposal of Automation.*
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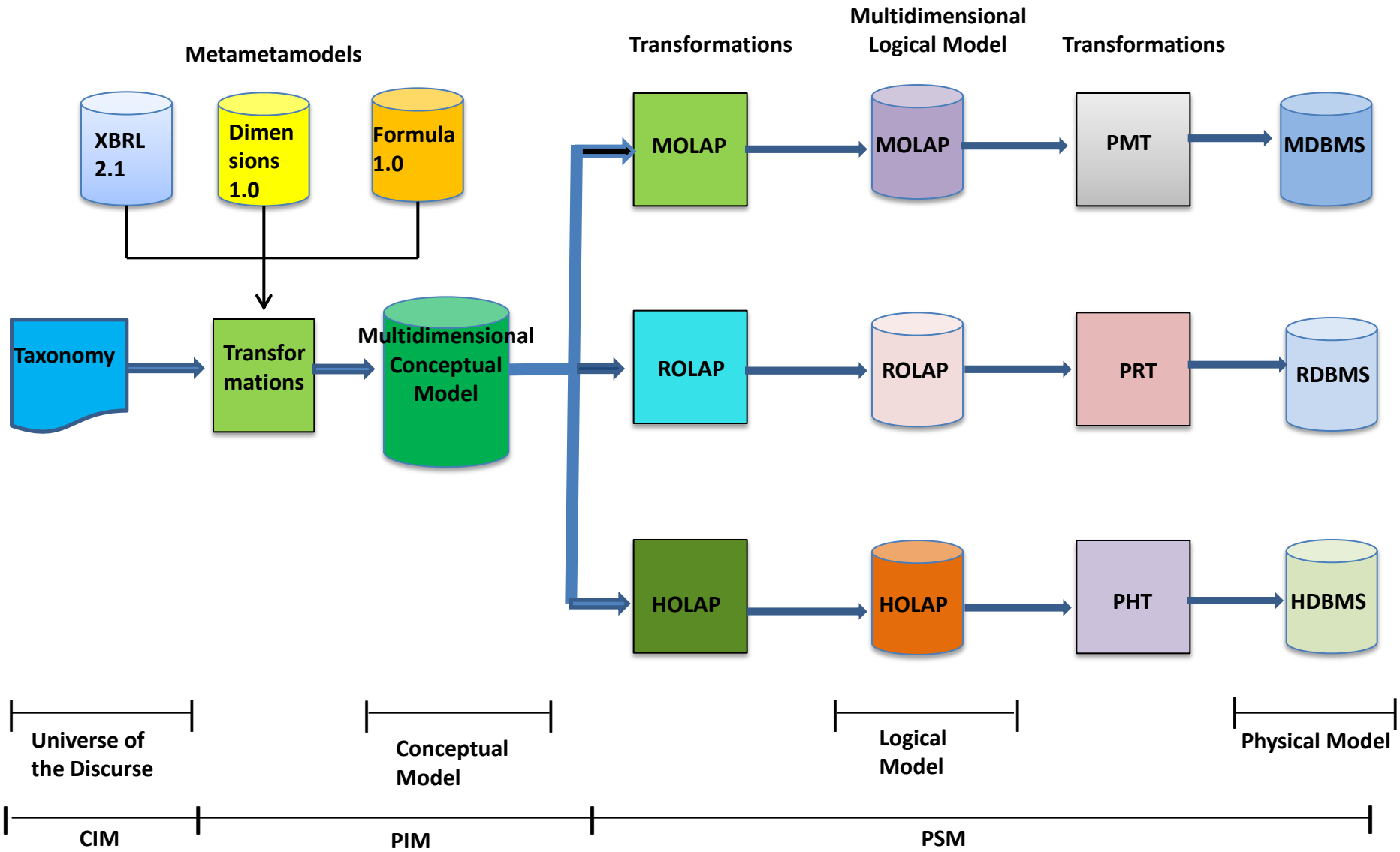


Figure 8.-Global transformation of the XBRL metamodel.

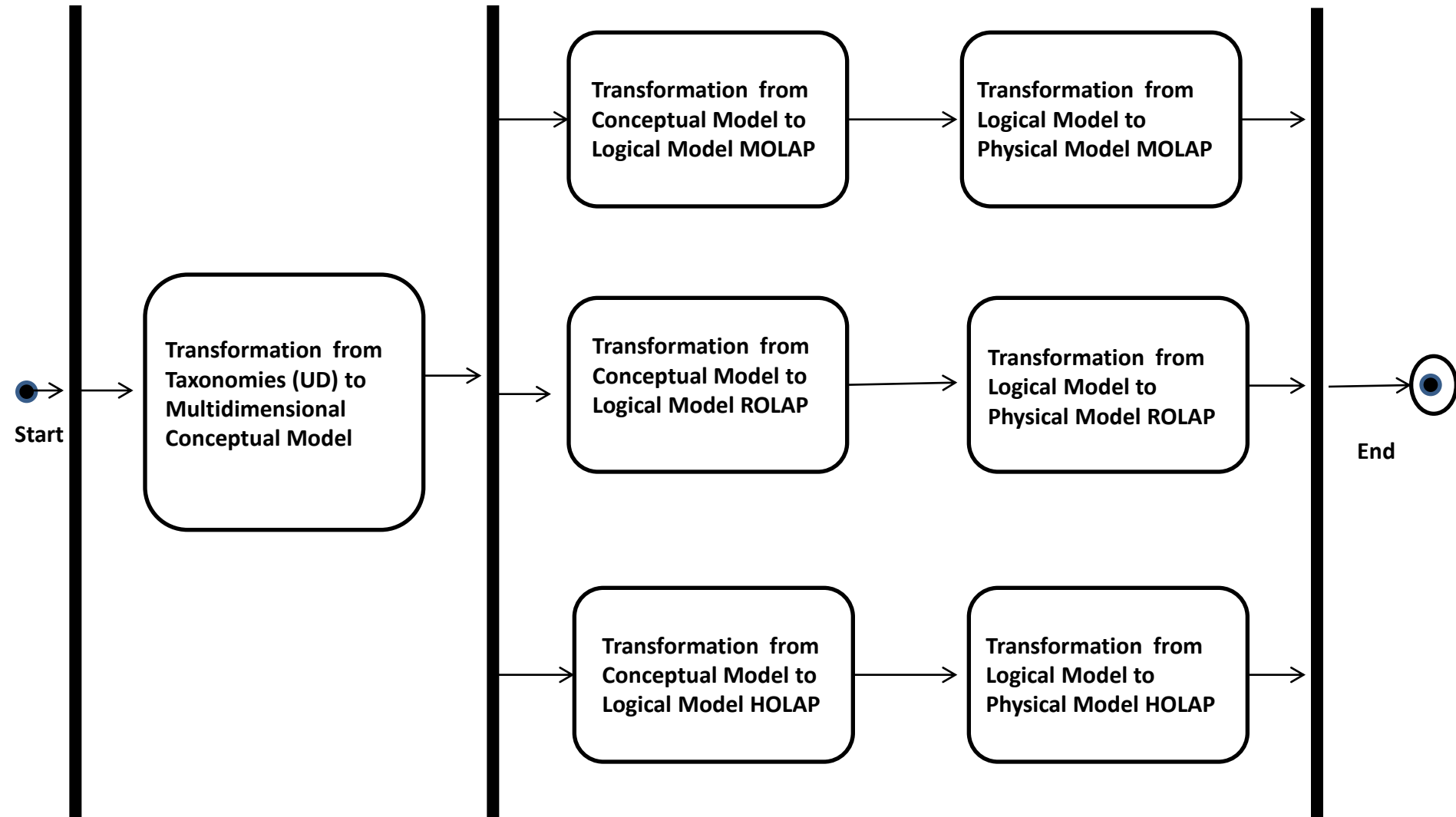


Figure 9.- Activity Diagram of the transformation of XBRL Data Model to Multidimensional Data Modeling

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Introduction

XBRL Data Model.

Multidimensional Data Model.

Proposal of Automation.

Conclusions

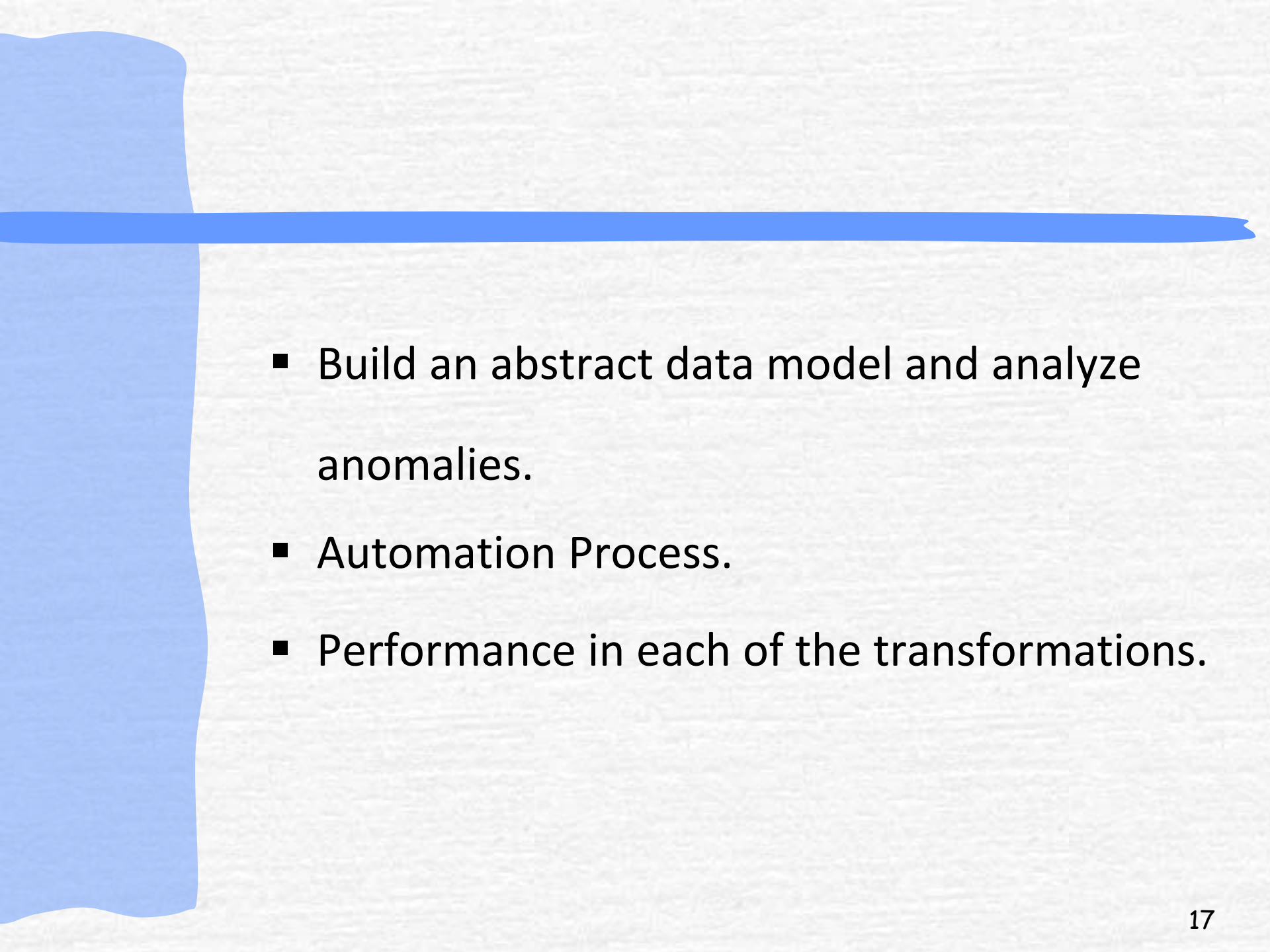
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- 
- Build an abstract data model and analyze anomalies.
 - Automation Process.
 - Performance in each of the transformations.

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