XBRL, UML and Databases: State of art

XIII European Banking Supervisors XBRL Workshop
24th - 25th November 2010, Luxembourg
Ignacio Santos & Elena Castro

LABDA Group – Carlos III University of Madrid
Summary

- **Introduction.**
- XBRL Data Model.
- Multidimensional Data Model.
- Automation.
- Conclusions.
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).
Summary

- Introduction.

- **XBRL Data Model.**

- Multidimensional Data Model.

- 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.
Summary

- Introduction.
- XBRL Data Model.
- Multidimensional Data Model.
- Proposal of Automation.
- Conclusions.
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
Summary

- Introduction.
- XBRL Data Model.
- Multidimensional Data Model.
- Proposal of Automation.
- Conclusions.
Figure 8.- Global transformation of the XBRL metamodel.
Figure 9.- Activity Diagram of the transformation of XBRL Data Model to Multidimensional Data Modeling
Summary

- Introduction.
- XBRL Data Model.
- Multidimensional Data Model.
- Proposal of Automation.
- Conclusions.
- Build an abstract data model and analyze anomalies.
- Automation Process.
- Performance in each of the transformations.
XBRL UML and Databases: State of art

Ignacio Santos, ignacio.santos@bde.es
Elena Castro, ecastro@inf.uc3m.es

LABDA Group – Carlos III University of Madrid