XBRL, UML and Databases: State of art

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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).
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- **XBRL Data Model.**

- Multidimensional Data Model.

- Proposal of Automation.

- Conclusions.
Figure 1.- UML design of XBRL Schemas and linkbases (DTS).
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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Figure 5.- View of Dimensional table with Xwand Of Fujitsu
<table>
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<th>Distribution</th>
<th>Grupo Consolidable</th>
<th>Otras entidades</th>
<th>Entidades de Seguro</th>
<th>Grupo Consolidable de Entidades de Crédito</th>
<th>Total</th>
<th>Time 30-9-2008</th>
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<td>Caja de depósitos en bancos</td>
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<td>centrales</td>
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<tr>
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<td>25.680</td>
<td>4.366</td>
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</tr>
</tbody>
</table>

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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Figure 8.-Global transformation of the XBRL metamodel.
Figue 9.- Activity Diagram of the transformation of XBRL Data Model to Multidimensional Data Modeling
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- Build an abstract data model and analyze anomalies.
- Automation Process.
- Performance in each of the transformations.
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