Validation of the DPM and database implementation

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LABDA Group – Carlos III University of Madrid

Summary

1. Summary
2. Introduction DPM
3. Proof of concept
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6. Conclusion and future work
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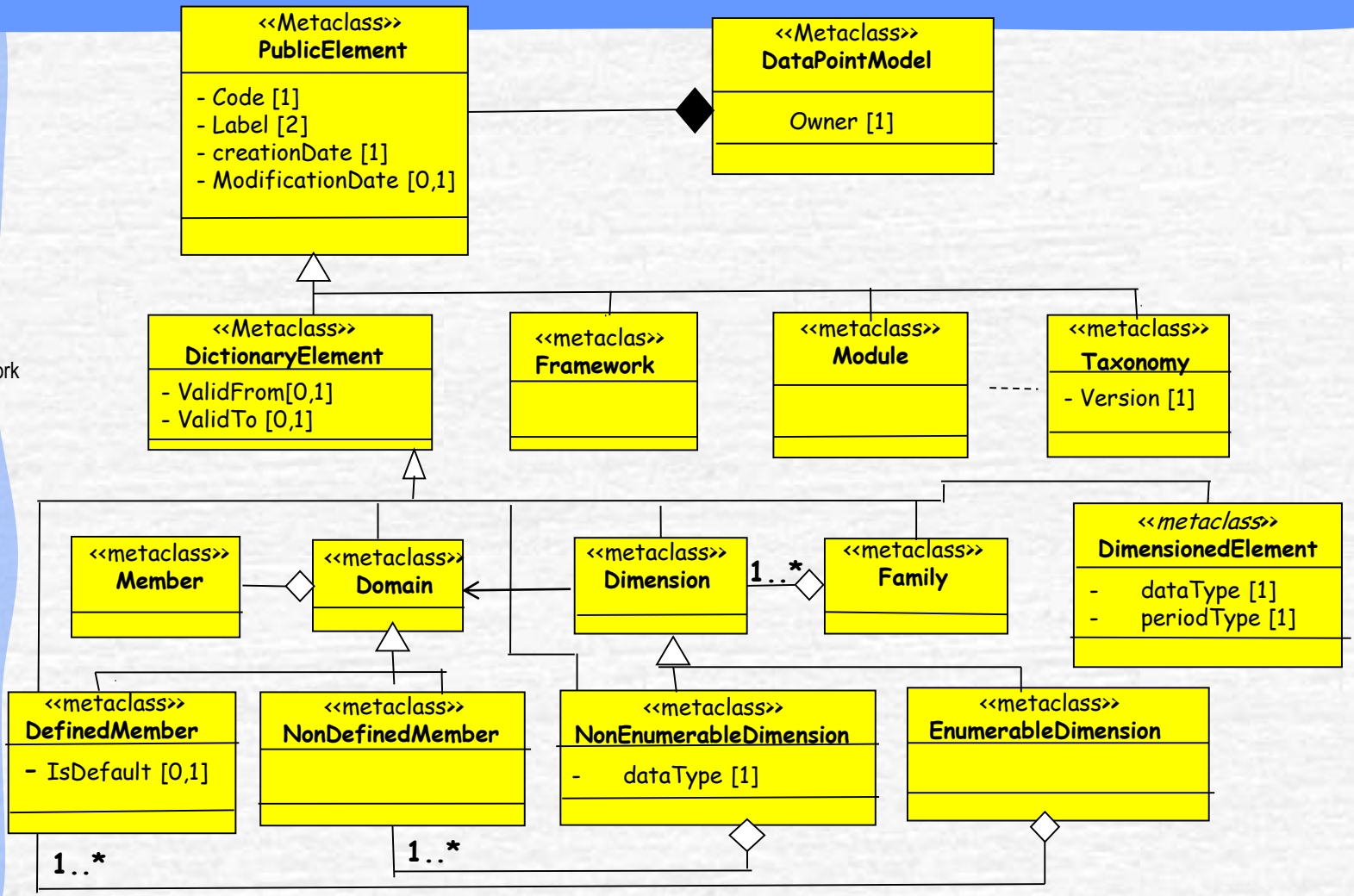
Introduction DPM I

The Data Point metamodel consists of:

- Sets of necessary Data Points or facts in the European Supervisory reports.
- Definitions and rules of expert users (Supervisor/Regulators).
- These reports have semantic meaning.

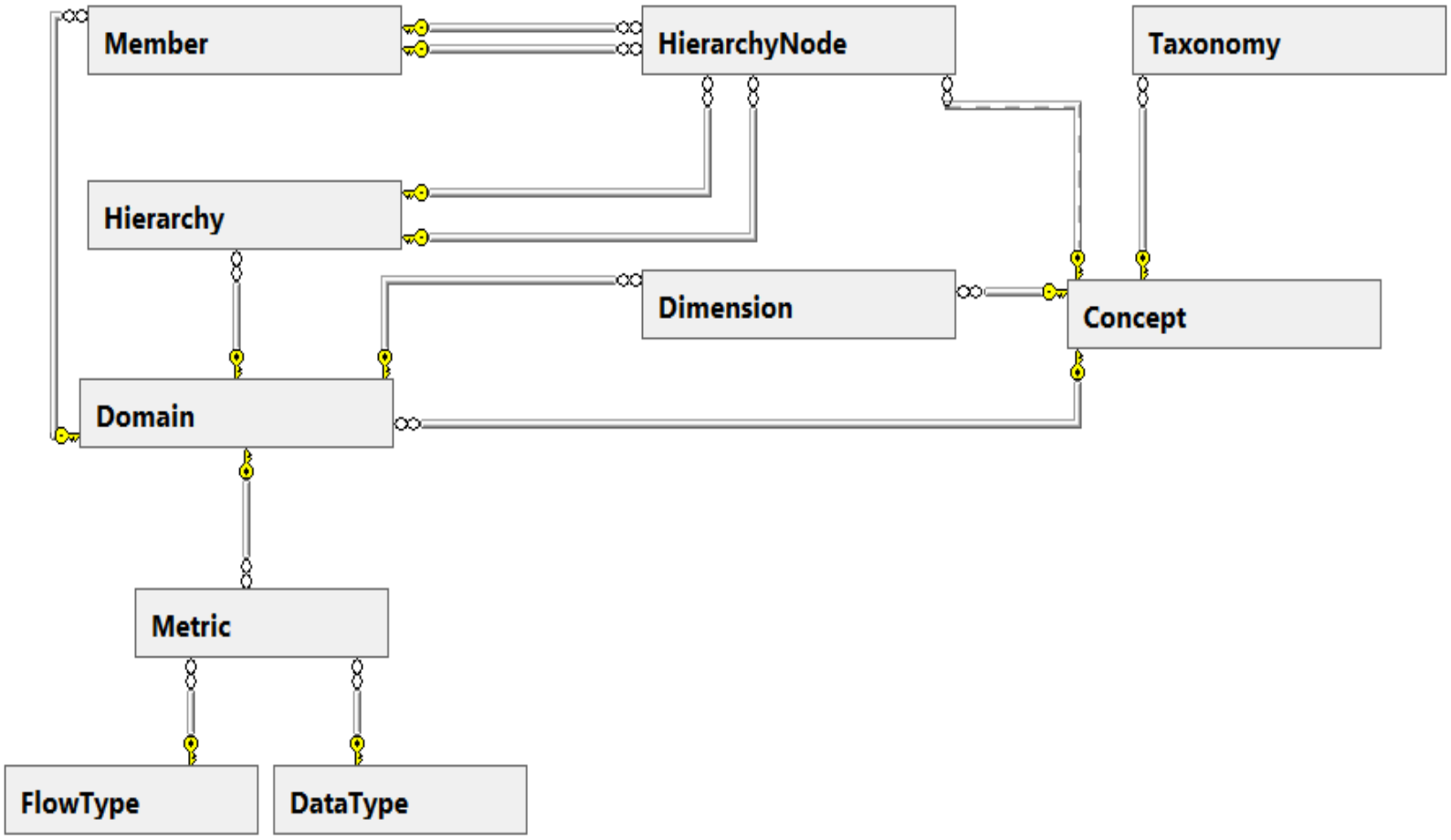
Used terms: Concept, Data Point Model (DPM), Dimension, Domain, Family, item, (Domain) member, Metric, Namespace, Owner, Public elements, Table Group, DateCube, module and Hypercube

Introduction DPM II



Data Point Model: Set of artefacts in UML.

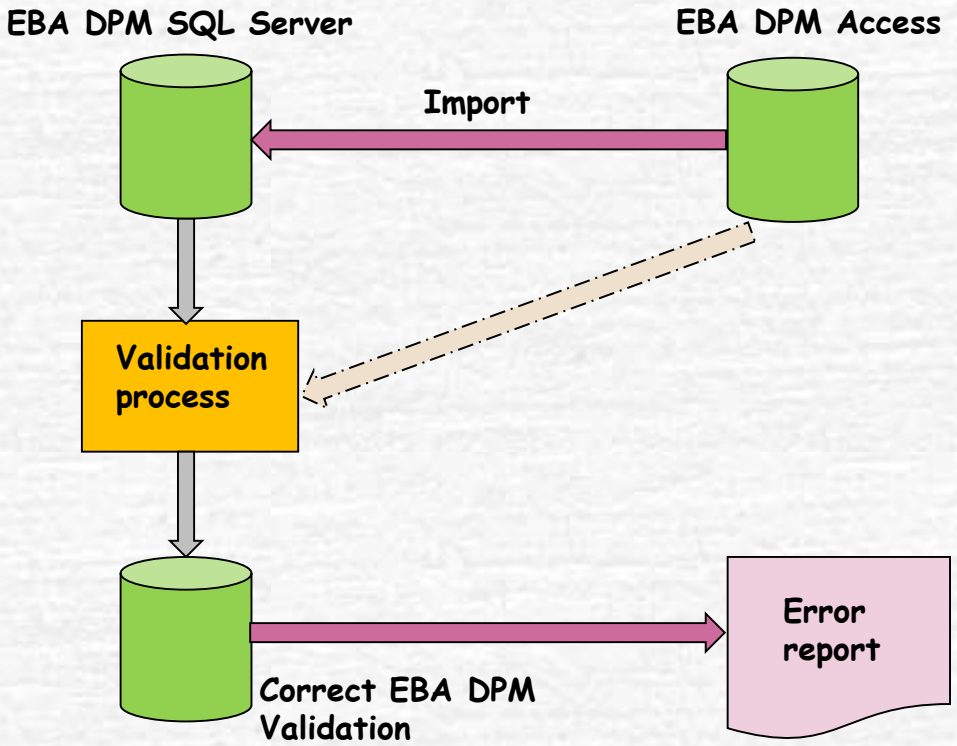
Introduction DPM III



Structure of validation in the Relational Model.

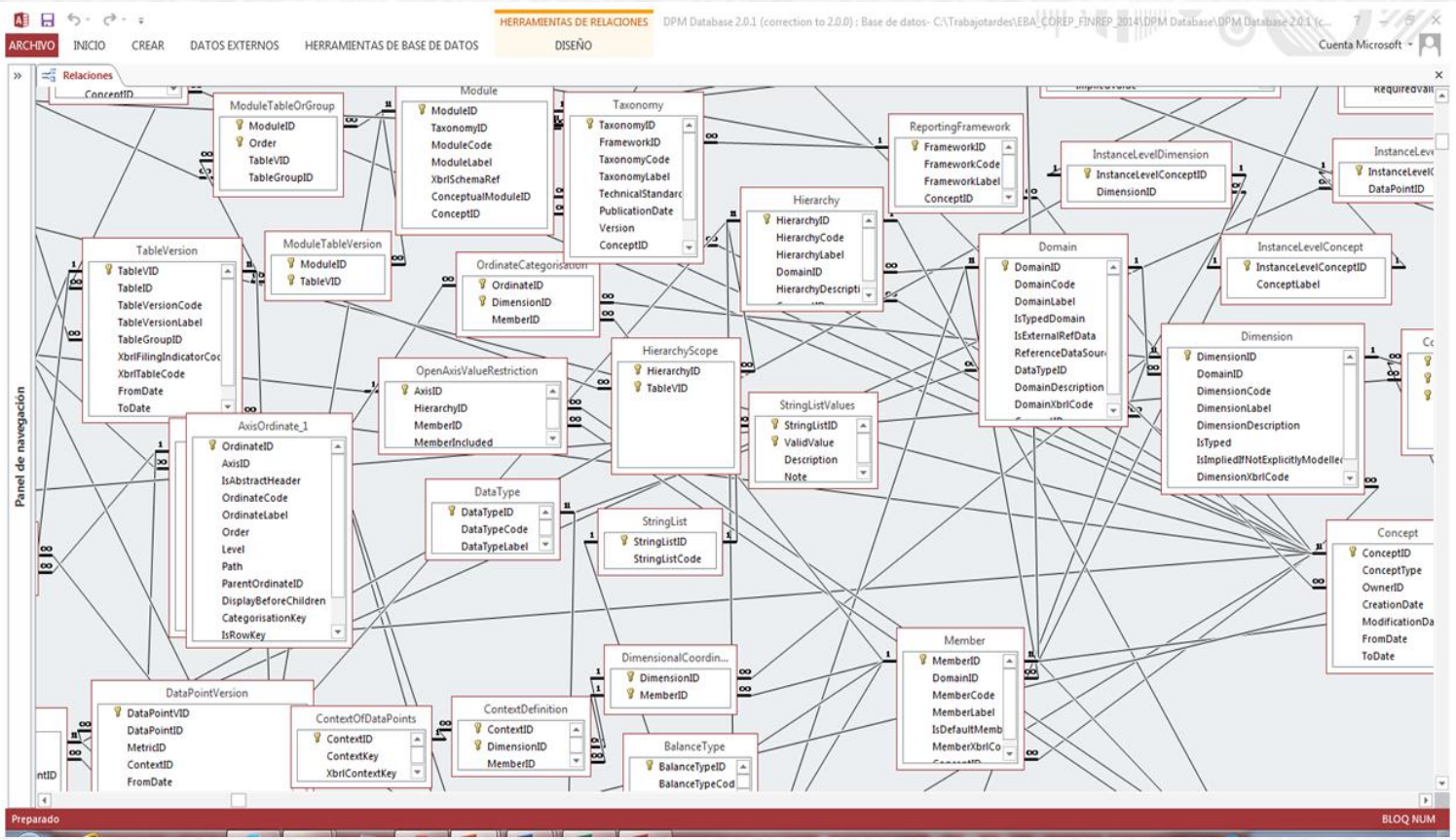
Proof of concept I

- The validation is element to element.



Structure of the proof.

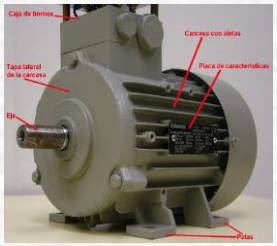
Proof of concept II



Part of the EBA DPM

Proof of concept III

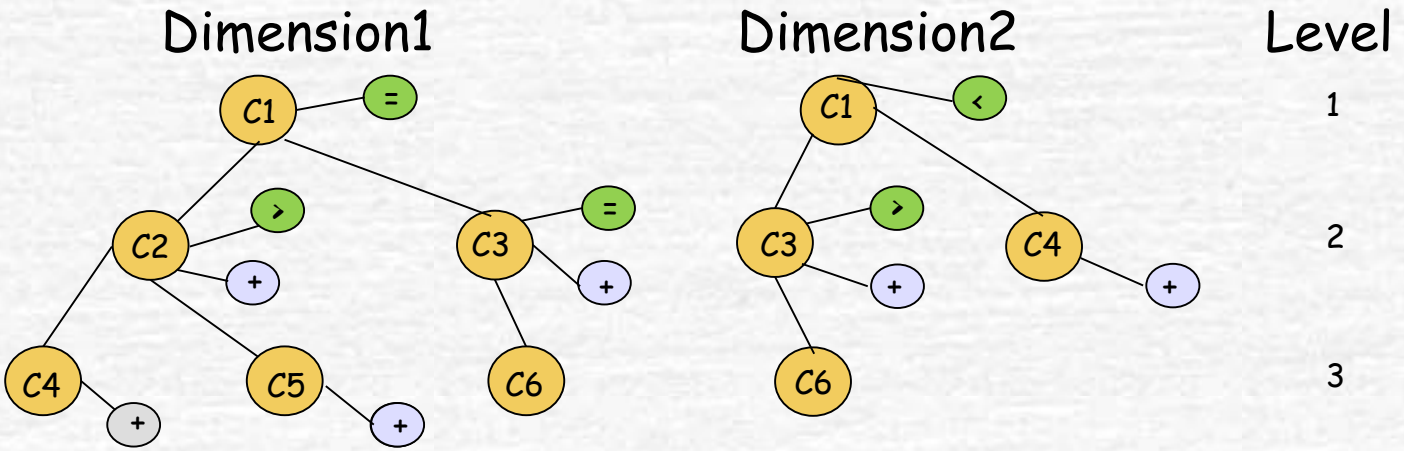
- Load EBA DPM access into SQL SERVER.
- Validation Process DB model.
- EBA DPM validated.



Validation I

Domain1 ={C1, C2, C3, C4, C5, C6}

Dimension1, Dimension2 Є Domain1



Hierarchy1 Hierarchy2

Hierarchy → Dimension

Hierarchy validation

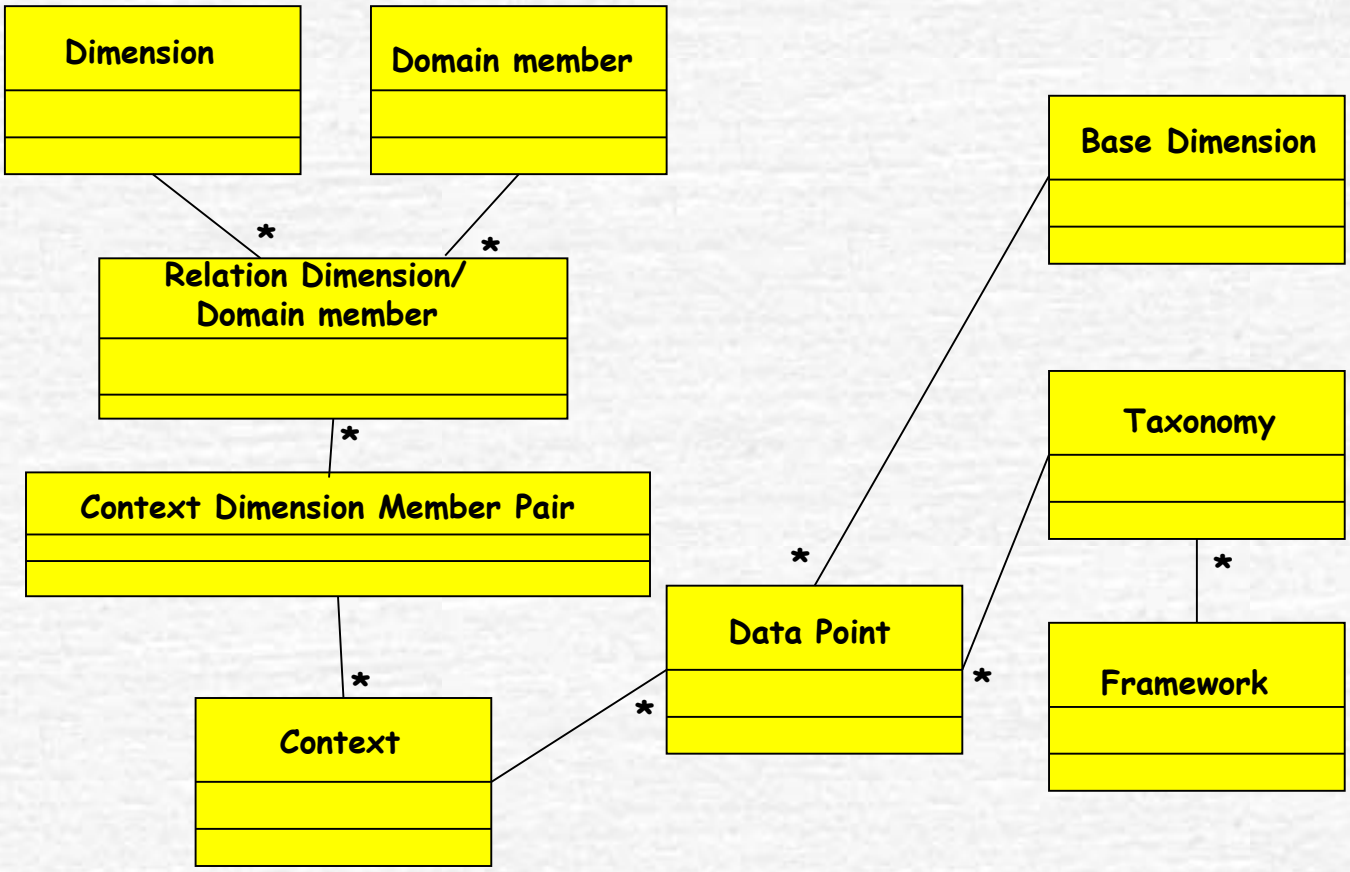
Validation II

- The main objective of this validation is to ensure the ability of the DPM to be used and to accomplish the design objectives.
- The validation of conceptual models at early phases of their development can help correct faults in the design at a point where they may still be corrected with relative ease.
- From the templates in the spreadsheets are obtained: data types, domains, concepts, primary items, dimensions, etc.
- Each element type is inserted in the structural artefacts and validated.

Validation III

- This proof uses the Framework Release 07/2014 (applicable as of December 2014)
- DPM data base 2.2.
- From this version, in Access, the constructors are obtained.
- NEW !!!! Framework Release 03/2015 Patch 1 (applicable as of June 2015), 2.3.1 DPM

Star model I



Star model of the DPM using a ROLAP tool

Star Model II

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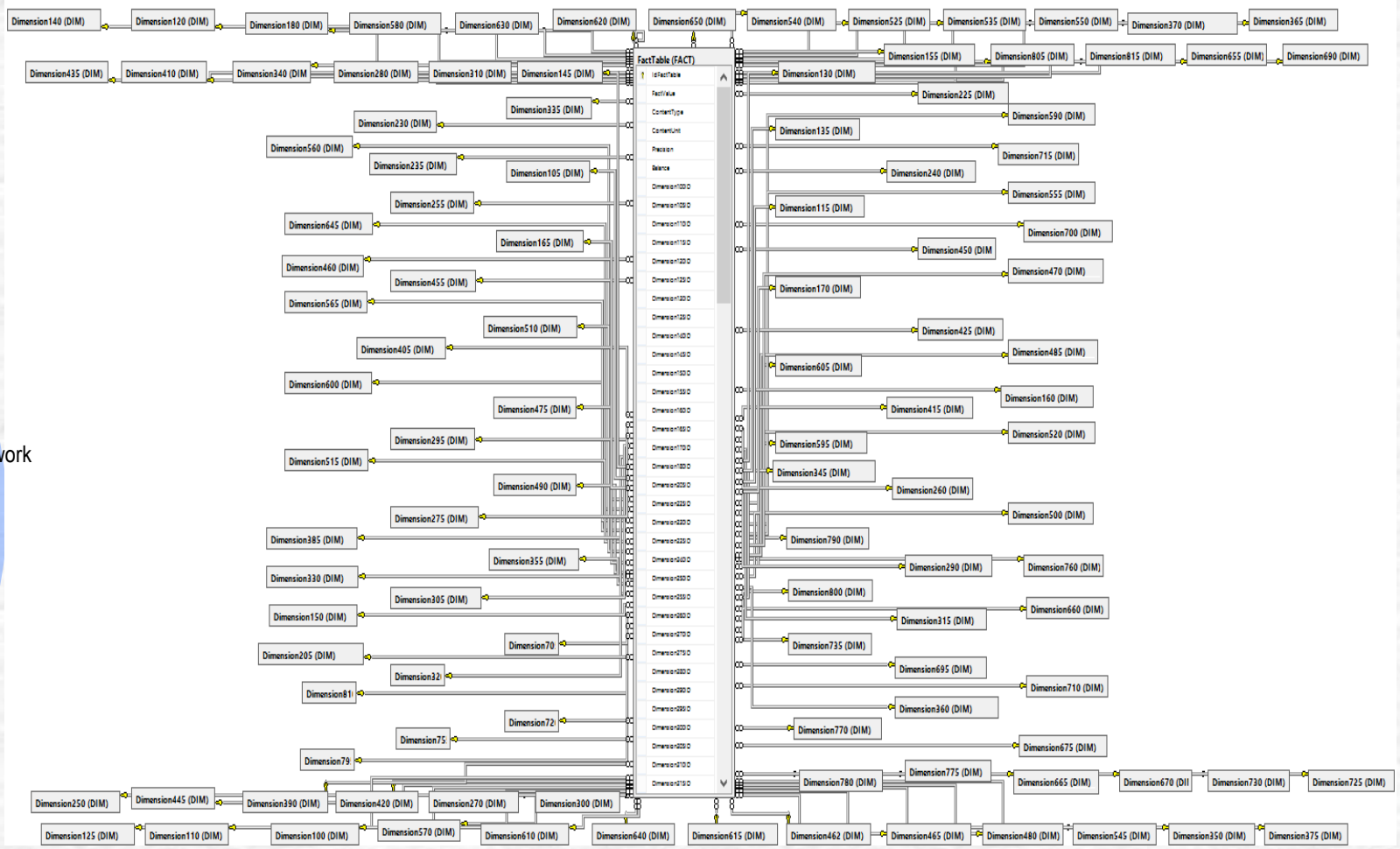


Star Model III

This gives us:

- Manages large amounts of information
- Compress and adds information
- Integrate and associated information from various sources

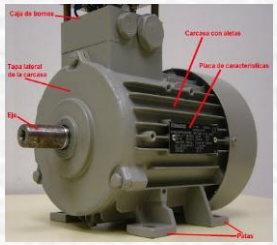
The star model is generated with the data of the dimension table EBA DPM, it is done by a dynamic process in an automatic way, in SQL for each Dimension.

Star Model IV

Data Minning.

Implementation Analisys Services.

- Star Model.
- Cube.
- Dimensions & Fact Table.
- Measures.



Conclusion and future Work

- It is necessary to validate the rest of constructors as: Tables, Tablegroup, etc.
- The target is to produce well-built metadata for semantic economic/financial reports.
- Structural validation.
- Validation with experts users in order that the validation can be semantically complete.

References

- Declerck T., Heince K., Hommes R., Santos I. and Weber A., 2013. Improving transparency in financial and business reporting-Harmonisation topic. CEN Workshop XBRL.
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Questions

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