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Topic III: Object-oriented technologies, component architecture

GESMES/CB – A UML MODEL

Contributed paper

Submitted by the European Central Bank, Germany¹

Summary

1. GESMES/CB is nowadays the most commonly used data format for the exchange of time-series data and descriptive metadata. This paper describes the core data model of GESMES/CB in the Unified Modelling Language (UML).
2. GESMES (Generic Statistical Message) is a message developed for the exchange of multidimensional arrays. It is an international (UN/EDIFACT) standard. See http://www.unece.org/trade/untdid/d01b/trmd/gesmes_c.htm. Additional material and links concerning GESMES can be found via <http://www.gesmes.org>.
3. GESMES/CB is a GESMES profile developed in 1997 for the exchange of time series and related metadata. It supports all needed functions but it could be processed more easily.
4. GESMES/CB has become a very successful EDI format since then. For example, it is the exclusive message format for exchanging statistical data within the European System of Central Banks and Eurostat encourages its use in all cases of time series data exchanges. Since several software products supporting GESMES/CB are available including also free software, interest outside Europe has become increasingly important.
5. The use of GESMES/CB in its EDIFACT expression is already very stable and it is expected to be fully supported also in future, in parallel with the developments in new technology domains. However, the global

¹ Prepared by B. Bodenstorfer (Bernhard.Bodenstorfer@ecb.int).

interest and the emergence of XML demand further standardisation efforts for GESMES/CB. Besides a set of necessary clarifications and improvements to adapt GESMES/CB to new needs of its user community, refactoring the EDIFACT message format into XML is the major present challenge.

6. To aid the ongoing discussion, the successful data model of GESMES/CB has been formulated using the Unified Modelling Language (UML). The set of UML-diagrams will most likely also ease the access to GESMES/CB for IT experts who are not familiar with EDIFACT.

7. This paper presents the core of GESMES/CB expressed in UML. It is based on the GESMES/CB User Guide [1], which is the reference document where the GESMES/CB format was first laid down.

Literature

[1] BIS Data Bank Services, ECB Statistical Information Systems: “GESMES/CB User Guide”; Release 2.00, 2000.

[2] Martin Fowler: “Analysis Patterns”; 10th printing, Addison Wesley, 2001.