

META

The META Project (cofunded by the Spanish Department of Science & Technology, under the National Program for Research, Development and Innovation, Ref. TIN2006-15175-C05, and by the European Regional Development Fund) consists of defining, developing, and applying a framework that is independent of metamodels and is based on the open standards of the MDA proposal (Model-Driven Architecture). This framework will allow us to develop, compile, and manage models by combining formal techniques with commercial modelling tools. In addition, some horizontal features of software development, such as security and quality (V&V and metrics), will be supported and applied to the different stages of the software process.

The overall goal of the META project is to define and develop this technological, industrial, and formal framework. The framework will be able to develop complex software systems by dealing with all the stages of the software life cycle (from requirements to implementation); thereby producing high-quality software products. Moreover, the framework will support transformations and equivalences between software artefacts in a formal way (QVT+OCL). These transformations and equivalences will have metrics to measure quality and a bidirectional traceability to create well-defined processes of software development. This project will combine industrial standards (OMG: MOF, QVT, OCL, …) with formal methods (rewriting systems of conditional terms: MAUDE and others) in order to validate and verify transformations (process) and properties of artefacts. The project will support not only interoperational platforms (for example, ECLIPSE), but also widely used proprietary technologies (DSL Tools).

The fundamental goal of this project is to increase the productivity of software development, improve the quality of the code that is generated automatically from models, and facilitate software maintenance. Other additional goals are to improve the portability of software products to new technologies, and to increase the interoperability of applications using data interchange standards. Finally, it is important to demonstrate these improvements in several application domains. These domains will be case studies where the different tools developed during the project will be validated. The specific applications of these domains are distinguished by the relevance of properties such as: the reuse of components, dynamic reconfiguration, variability of requirements, and verification and validation of software products. Some of the application domains are the following: emergency systems, reactive systems, bioinformatic systems, information systems for hospitals, and systems for managing ontologies for the semantic web. The META Project
<http://meta.dsic.upv.es>