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OMG Submission

Re: e-GEN by Gentastic! (www.gentastic.com)

e-GEN, made by Gentastic!, is a general-purpose, model driven rapid application development tool. As with the Object Management Group's Model Driven Architecture® (MDA®), e-GEN supports an open, vendor-neutral approach to the challenge of business and technology change. Using OMG standards like the Unified Modeling Language™ (UML™) and W3C standards like XMI®/XML¹, e-GEN is able to facilitate an architect-driven process that separates the platform-independent application requirements from the underlying platform technology. By using UML to express the structure and constraints of components in a platform-independent fashion and XML to represent information about UML model classes in an XML compliant schema, e-GEN is able to import and enhance abstract² or "meta" models of application requirements. e-GEN also supports the creation of these meta models with the tool.

The e-GEN meta-models are domain specific meta-models which utilize a Meta Object Facility™ (MOF™)-based representation of software components (equivalent to OMG's meta-level 3 or "M3") to define a specification of the platform-independent model (PIM) for a particular domain (equivalent to OMG's meta-level 2 or "M2").

The e-GEN meta-model not only embodies the requirements for designing an application in accordance with MDA, but it also supplies e-GEN the necessary information to dynamically generate a design application and associated repository for managing meta-level 1 or "M1" design data. This e-GEN design application is a web-based application based on J2EE standards and dynamically custom built for each PIM. The e-GEN design application is uniquely designed to facilitate an accurate yet platform-independent design process (i.e., a process of capturing application design specifications separate from technology-specific code) in accordance with the specific domain requirements.

¹ Extensible Markup Language/XML Metadata Interchange

² The term *abstract* takes the same connotation as in MDA - in this sense defined in the Reference Model of Open Distributed Processing (RM-ODP) Part 2: the suppression of irrelevant detail.

e-GEN is also used to specify the platform-specific model (PSM) and underlying design patterns that will dictate the platform-specific rules about object references, value types, semantics of call by value, etc. From within e-GEN, the architect creates a base set of code templates that will capture a specification of the PSM.

e-GEN moves beyond the MDA standards by providing an Integrated PSM Editor, enabling the definition of architectural patterns and software templates that provide for highly configurable software generation. e-GEN uses the defined PSM to apply the platform-independent design information captured during the design process to generate technology-specific code (i.e., build the application).

e-GEN can support software generation across a range of open and proprietary platforms, including CORBA®, J2EE, .NET, and Web Services, as well as any other platform that may be required based on the defined architectural needs.

The approach used by e-GEN to fully-specify platform independent models - in this case meta-models - and to also capture design information separate from the underlying platform, moves the capture of intellectual property away from technology-specific code, helping to insulate business from technology change and promote interoperability.

By defining the attributes of the software architecture separate from the business domain, MDA proposes that it is easier to take advantage of software automation and reuse techniques. MDA proposes to achieve these objectives using a process and architectural framework based on well-defined OMG and industry standards, such as UML, XML/XMI, MOF, CORBA, J2EE, and .NET. Gentastic! supports the MDA Initiative and offers a solution - e-GEN - that can be used to greatly advance the efforts of those wishing to adopt MDA.

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