Borland®

The Borland Approach to Model Driven Architecture® (MDA®)

MDA has been touted as the biggest shift in software development since the move from assembler machine code to the first high-level languages. With a set of software standards that impose discipline in the development process, MDA aims to increase your control over the applications you have invested in and also over the changes that affect your business.

At the heart of MDA is the OMG standard, the Unified Modeling Language™ (UML™), which uses diagrams—"models"—to design and describe software applications. Using models as an essential part of the development process is now recognized as a best practice, known generally as Model Driven Development™ (MDD™).

Borland offers a pragmatic, nonproprietary view of development in general and MDD in particular that affords customers the freedom to move into the future without abandoning the past. As co-chair of the Object Management Group™ (OMG™) subcommittee in charge of the MDA Guide and an active participant in UML™ 2.0 and OCL 2 standards work, Borland's involvement with MDA runs deep.

Borland is committed to following standards rather than introducing proprietary methods. A central focus is on helping organizations leverage the advantages of key MDA standards, including XML Metadata Interchange (XMI), Object Constraint Language (OCL), and UML within its technologies. Borland is a leading contributor to the UML 2.0 specification and JMI for MOF 2. Borland is further committed to providing input to, and an implementation of, the forthcoming Query-View-Transformation (QVT) specification.

Analyst firms, including Gartner, recognize Borland as a leader in UML-based Model Driven Development. Borland offers true cross-platform MDA—the ability for PIMs to be deployed to multiple platforms from within one product, Together® ControlCenter. This provides language-to-model integration through Borland® LiveSource™ technology, and language-independent modeling by allowing modeling in a design-only language. With a design language, Together ControlCenter is able to allow for the modeling of an application regardless of the underlying platform language. These models are then transferred to a platform specific model, with the desired language source generated in the process.

The Borland Together® line of modeling products pioneered the simultaneous, bi-directional transformation between a Platform-Specific Model (PSM) and a code model with its LiveSource™ technology. A design language is provided as well, for those who wish to create a Platform-Independent Model (PIM) with no tie to an underlying platform or programming language. Improved support for the transformation between PIM and PSM is underway utilizing an extended version of Together legendary pattern technology.

Borland products are beginning to support the UML™ 2.0 specification. Additionally, OCL support will be introduced in the Together® product line, complementing the support found in Borland's Enterprise Core Objects (ECO) framework. Together products have long supported the XML Metadata Interchange (XMI) for UML standard, and are in the process of updating their support to version 2.0.

As the standards upon which MDA are based evolve and mature, Borland products will incrementally adopt them in order to provide a pragmatic, non-proprietary approach to model-driven development, and eventually MDA.