

# Pathfinder Solutions is a leading provider of open MDA software.

Our products transform expertise into a high performance software development advantage.

Based on the Object Management Group's Model Driven Architecture (MDA) standard, software development teams rely on Pathfinder to ensure value and reliability of embedded and IT systems. Using Pathfinder's open, configurable MDA transformation environment extends the value of your whole software investment far into the future. Develop in C, C++, or Java, and adapt your system to any deployment platform.

# Transforming Software Development with MDA®

Since it standardized the way we communicate software requirements and designs, UML® has been adopted by thousands of organizations worldwide. Through UML, developers capture detailed application specifications and improve understanding of system architecture and function team-wide.

The OMG® created the Model Driven Architecture framework (MDA®), which takes UML to a new level and is revolutionizing the way embedded and IT software development teams produce solutions. MDA provides the technological foundation for development products like Pathfinder Solution's PathMATE to execute and test platform-independent UML models (PIMs) and automatically transform them into deployable, platform-specific C, C++, or Java applications, which are highly optimized for resource-constrained and high-performance systems. As a result, software development teams:

- Reduce development cycles by 30%
- Cut software defect rates by up to 90%
- Save hundreds of thousands on development & test hardware
- Achieve large-scale software reuse
- Respond to requirements changes faster
- Implement consistent high-performance C, C++ & Java code across the organization
- Automate architectural evolution and platform migration
- Capture and reuse development expertise



### The PathMATE Solution

PathMATE is the most open and configurable MDA transformation environment, which integrates best-of-breed MDA automation & transformation technology with leading UML editors such as Rational Rose.

# Platform Independent Models (Captured in standard UML tools: Rose, Artisan, etc.) PathMATE Model Automation & Transformation Environment PathMATE Transformation Engine Platform Specific Models (C, C++, Java, etc)

### Transformation Engine

The basis for a proposed MDA standard, the Engine plugs into major UML editing tools and rapidly transforms platform-independent MDA models (PIMs) into high-performance embedded software applications

## Transformation Maps

Ready-to-use, customizable mechanisms which drive the Engine's transformation of PIMs into system documentation or consistently implemented, high-performance embedded C, C++ or Java software running on a variety of platforms

advanced model-level testing solution available. You verify and debug applications at the model level—before you begin coding,

which speeds development and

Also a basis for a proposed MDA

standard, Spotlight is the most

Spotlight

increases quality

Leading embedded and IT software developers have made PathMATE their MDA solution of choice because of its unique abilities:

- Architectural control—transform models into different application architectures with the "flip of a switch"
- Customizable Transformation Maps—easily extend PathMATE transformation templates with project-specific code optimizations, patterns and standards
- Clean separation of model and code—PathMATE models are implementation code-free, maximizing deployment flexibility and migration options
- Configurable model execution and testing –get the most realistic and accurate test results, whether you execute models on development or deployment platforms
- **Low cost of ownership**—PathMATE preserves your existing UML investment by integrating with your current UML editor
- Speed—component-focused transformations take just seconds, enabling highly iterative model development, transformation and test cycles



# Thought Leadership & Proven Technology

Pathfinder Solutions and PathMATE have been instrumental in the successful adoption of the model-driven approach in a variety of industries and applications:

- Defense & Avionics
  - Satellite communications
  - o Radar & surveillance
- Medical Instrumentation
  - Sample testing & analysis
  - Assay equipment
  - X-Ray analytics
- Automotive
  - o Product line reuse
- Manufacturing
  - Factory process control systems
- Telecommunications
  - Network switching
  - o Cellular telephone products
- Consumer Electronics
  - o Office automation equipment
  - o Interactive television

# Ensuring Success with PathMATE MDA Mentor Services

MDA is a substantial shift in the way embedded and IT software is developed. To ensure fast, maximum return on your MDA investment, you need guidance from experts with extensive experience in the field. Whether you're new to UML and MDA or you're pushing the MDA envelope, PathMATE MDA Mentor Services can equip you with time-proven methodologies, training, consulting and technical support.

### More Information

If you would like to learn more about PathMATE or to find out if Pathfinder Solutions has helped an organization like yours benefit from MDA, please contact us or visit www.PathfinderMDA.com to access white papers, see demos or to request product evaluations—we look forward to working with you.

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