MetaEdit+

MetaEdit+ for Automotive Software and System Development

Software is becoming more important in defining the vehicle than the mechanical parts. Companies involved in the development process must be able to manage the increasing software requirements: reliability, cost-efficiency and growing number of features.

Domain-Specific Languages help by raising the level of abstraction closer to the problem domain — yet generating production code, prototypes, configuration data etc. from high-level models.
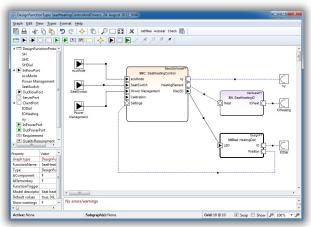
MetaEdit+® is being successfully used to create and support domain-specific modeling languages in various domains across the automotive industry:

- Development of HMI applications for infotainment systems, covering both prototypes and products
- Design of functional architectures and translating them to in-house and external software frameworks (e.g. AUTOSAR)
- Hardware and platform modeling for allocating functionality and software; analyzing different allocation options
- Generating testing and verification data, incorporating the results back to models
- Generating code or models for other tools (Simulink etc.)
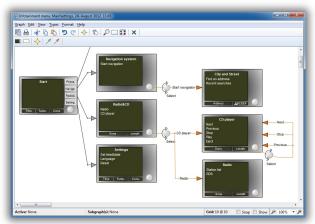- Integrating with programming environments (Visual Studio, Eclipse)

Since automotive systems have a long life with evolution and maintenance, it is crucial that tools can meet these requirements. MetaCase has developed the tools over 20 years and the latest version of MetaEdit+ can still work with the models created in early 90's. All previous designs update automatically to the new language versions (metamodel): work is not lost when e.g. AUTOSAR version change since old models update automatically in MetaEdit+.

MetaEdit+ is tried and proven technology, for more automotive cases visit www.metacase.com.
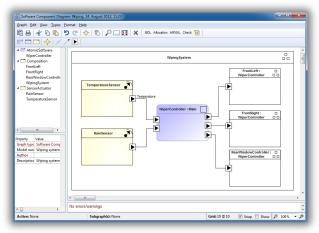
Functional architectures

Infotainment DSLs

Software architectures

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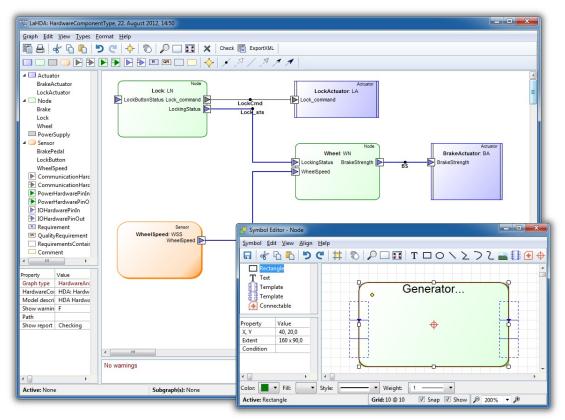info@metacase.com, www.metacase.com

MetaEdit+

Domain-Specific Modeling for Full Code Generation

MetaEdit+ is the tool for implementing and using your own modeling languages and code generators. The technically advanced features allow you to define your modeling tool in a few hours.

This is why MetaEdit+ is your best choice modeling and code generation tool:

- Support for several integrated languages
- Graphical and form-based metamodeling: no programming needed
- Integrated metamodeling and modeling (use your language while you define it)
- Models update automatically yet non-destructively when a metamodel changes
- Multiple concurrent metamodelers
- A repository to handle various metamodels
- WYSIWYG Symbol Editor for defining representations for metamodel elements
- SVG and bitmap importing for symbols
- Code generation using templates, visitor pattern, crawlers and multiple streams
- Generate any language and output format
- Code generator debugger
- Generators and metamodels integrated
- Metamodel import and export in XML
- Large metamodel library available

- Diagram, Matrix and Table Editors
- Multi-user support: share and reuse models and model elements
- Eclipse and Visual Studio integration
- Straight model-to-code transformations: no need for intermediate formats
- "Live code": click generated code to see original model element
- Code generation from multiple models
- Model animation and simulation support
- Re-generation support with protected blocks
- Model import and export in XML
- HTML and RTF document generators
- SOAP/.NET/Web services API
- Scalable up to 4 billion design objects in one project
- Integration with version control systems
- Automated trace of modeling history and changes
- Maintenance, support services & help desk
- Training and consulting services