

Migrating the GMT/UMLX OCL editor to MDT/OCL

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An OCL text editor was first developed as part of the GMT/UMLX project. Plans are now being discussed as to how to migrate this to the MDT OCL project, where users might find it and use it.

This document briefly summarizes the history of the editor and explains why it was developed in such a seemingly strange place.

The GMT UMLX project has a primary goal to support a QVT Relation-like graphical transformation language. Pursuit of this goal has required a variety of QVT, OCL and model infrastructure issues to be addressed. A text editor framework for languages with LPG grammars was developed. The framework exploits the MDT OCL models and contributed changes to MDT OCL tooling to support re-use by QVT Relation, QVT Core and QVT Operational¹. Since the QVT languages extend OCL, most of an OCL editor had to be implemented. Providing a full OCL editor did not require very much extra effort. The components of this are shown in Drawing 1².

Once the M2M QVT Declarative project was formed, it was decided to migrate the QVT Relations and QVT Core functionality. Since these depend on the OCL editor and Model Registry, these were also migrated. The editor framework was upgraded to exploit IMP and so the current (Galileo) component to project allocation is as shown in Drawing 2.

To accommodate the increasing demand for an OCL editor in the MDT OCL project, it is now proposed to migrate the OCL text editor and IMP+LPG usage framework to MDT OCL.

Migrating the Model Registry to MDT OCL is not particularly sensible. It is therefore suggested that a new EMFT project be created to support it. The resulting component to project allocation is shown in Drawing 3. A write-up on the Model Registry may be found at <http://www.eclipse.org/gmt/umlx/doc/EclipseAndOMG08/ModelRegistry.pdf>. Note that the Model Registry does NOT store models, it stores references to models, allowing a model name in some standard or user-defined naming scheme to be resolved to the model that some tool should use whenever the model name is used to reference the model. Model storage may be EPackage.Registry plugins or workspace files or ... Evolution of the Model Registry may provide a Model Browser based on that developed by M2M/QVT OML.

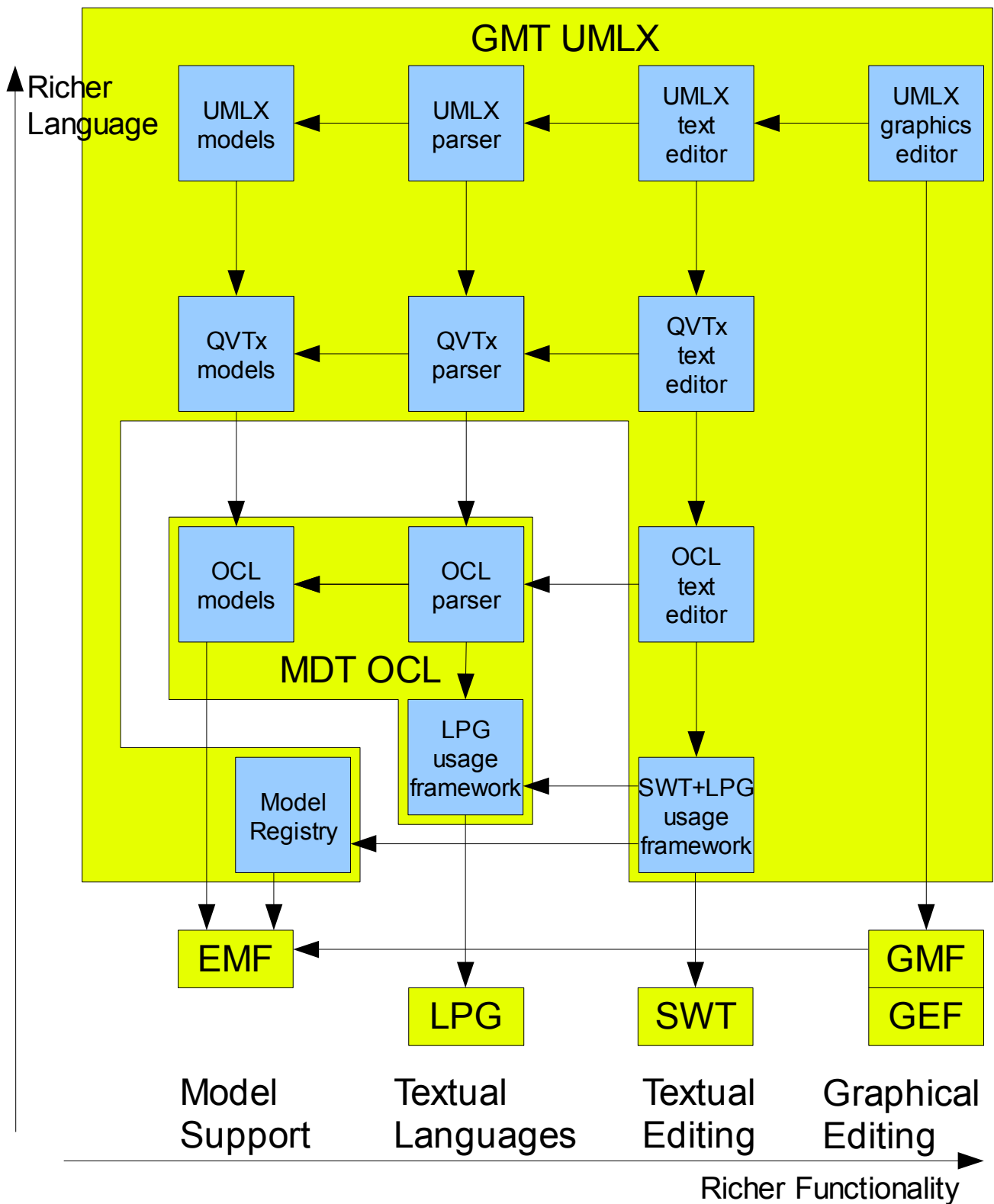
The existing LPG usage framework is useful in non-OCL contexts (UMLX provides a KM3 editor to demonstrate this). The IMP+LPG usage framework is also useful in non-OCL contexts, so if there is an enthusiasm for yet more modeling projects, the two framework components could form part of a new TMF LPG Model Framework ('LMF') project. Eventually the distinction between LMF and XText should be removed;

XText is IMP-independent and supports simple AST-only languages

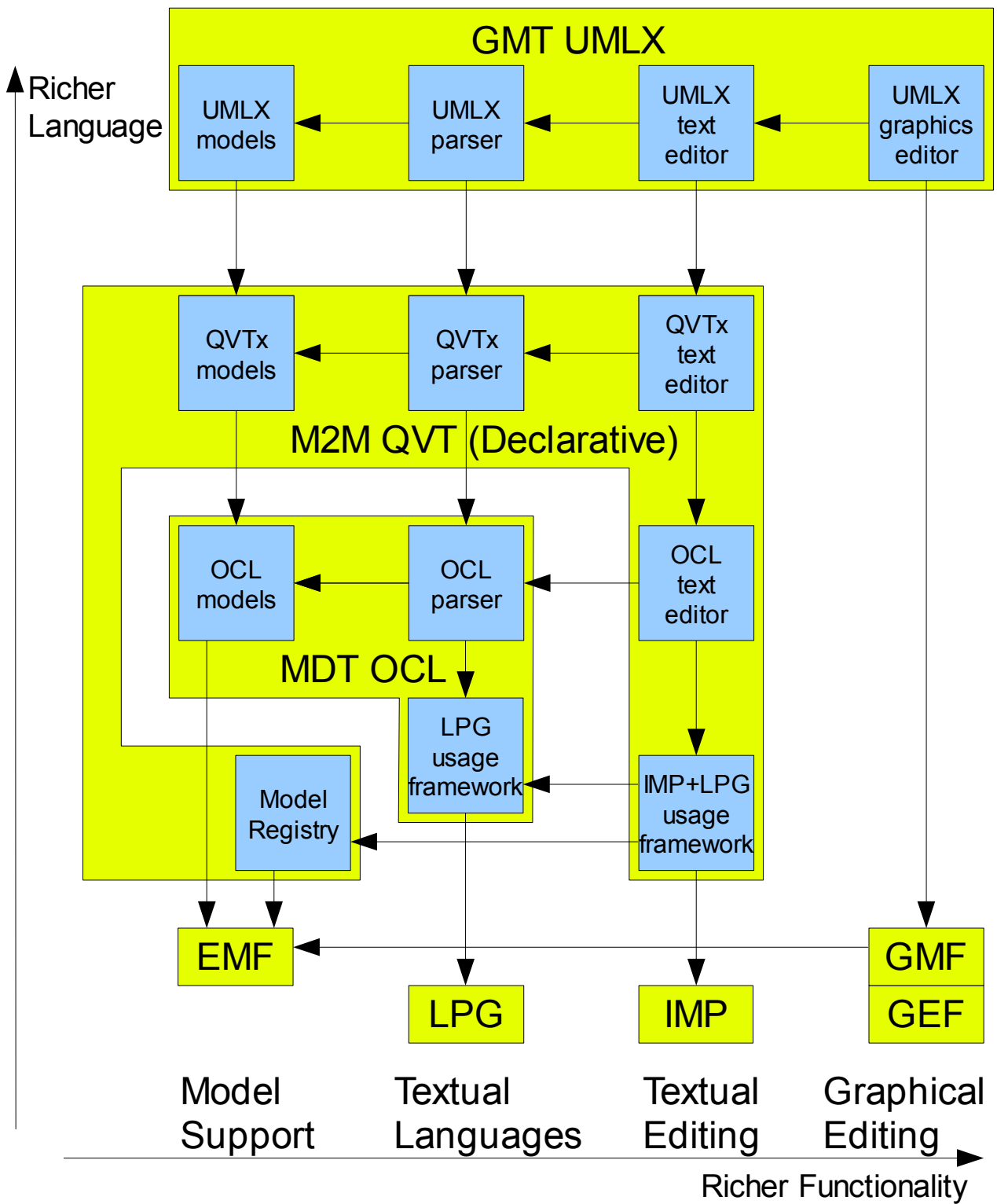
'LMF' is IMP-dependent and supports complex languages with distinct CST and AST.

¹ The basic QVT Operational models were developed by GMT/UMLX. Open Canarias extended these and developed the corresponding LPG parser and editor. Of these, only the models currently form part of the M2M/QVT OML project.

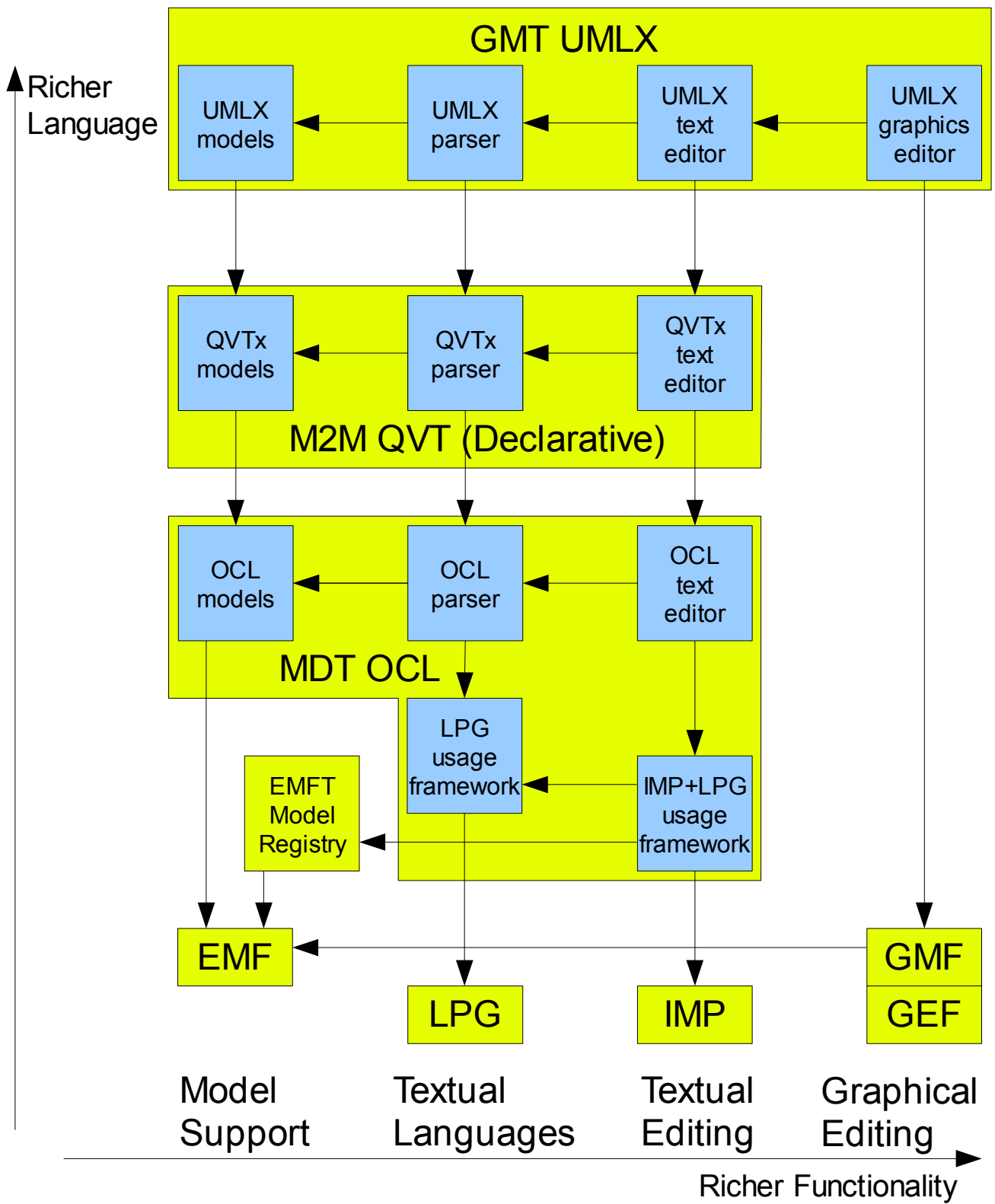
² Arrows are dependencies, outer boxes are 'projects' and inner boxes 'components'.



Drawing 1: Original GMT UMLX dependencies, components and projects



Drawing 2: Current dependencies, components and projects



Drawing 3: Proposed dependencies, components and projects