The Interchange of (Meta)Models between MetaEdit+ and Eclipse EMF

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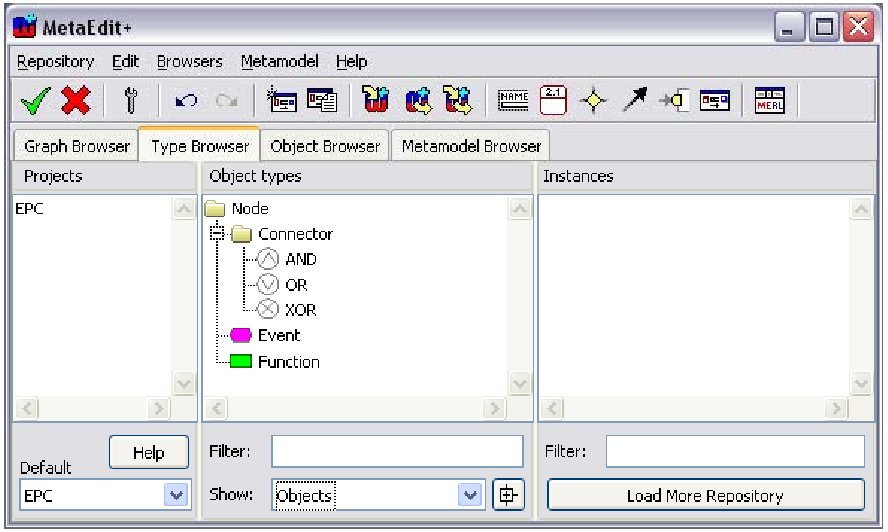
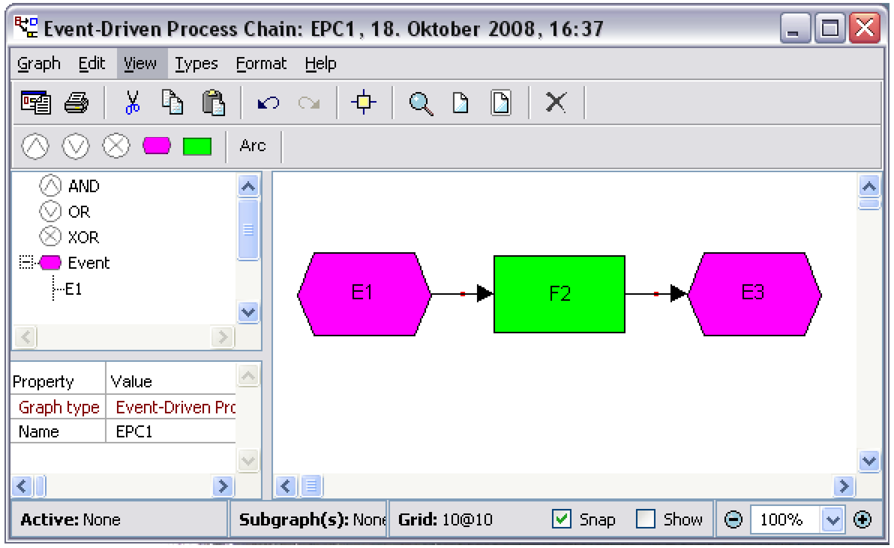
Agenda

1. Introduction
2. MetaEdit-EMF-Bridge
3. Demonstration
4. Summarize

MetaEdit+

- Tool for Domain-Specific Modeling
- Definition of DSLs and modeling
- Different views (diagram, table, matrix)
- Code generator
- Extensive model repository
- Commercial product, MetaCase

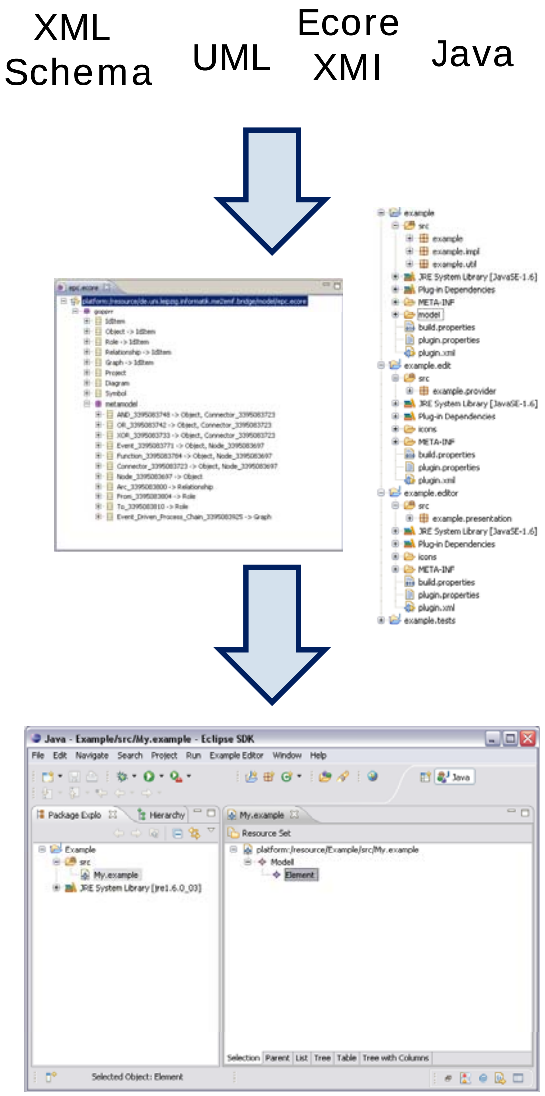



Event-Driven Process Chain: EPC1, 18. Oktober 2008, 16:37
Graph Edit View Types Format Help
Arc
AND
OR
XOR
Event
E1
E1
F2
E3
Active: None
Subgraph(s): None
Grid: 10@10
Snap
Show
100%

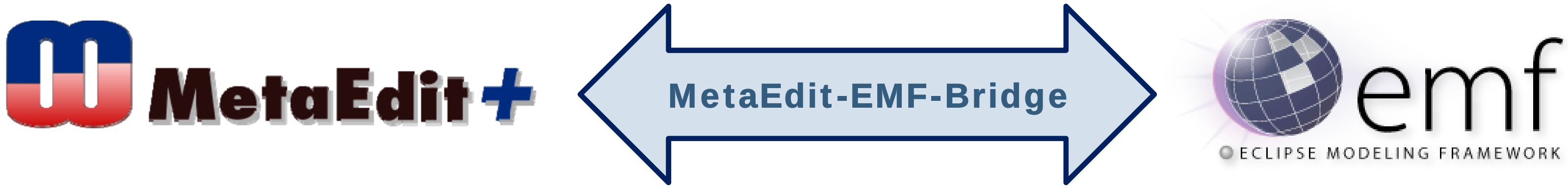
Property	Value
Graph type	Event-Driven Prc
Name	EPC1

Eclipse EMF

- Java framework for building (Eclipse) applications based on models
- Many tools can operate on EMF metamodels and models: ATL, oAW, Epsilon, EMFT
- Tool infrastructure for Model-Driven Engineering
- Similar to the Meta Object Facility (MOF)
- Open source

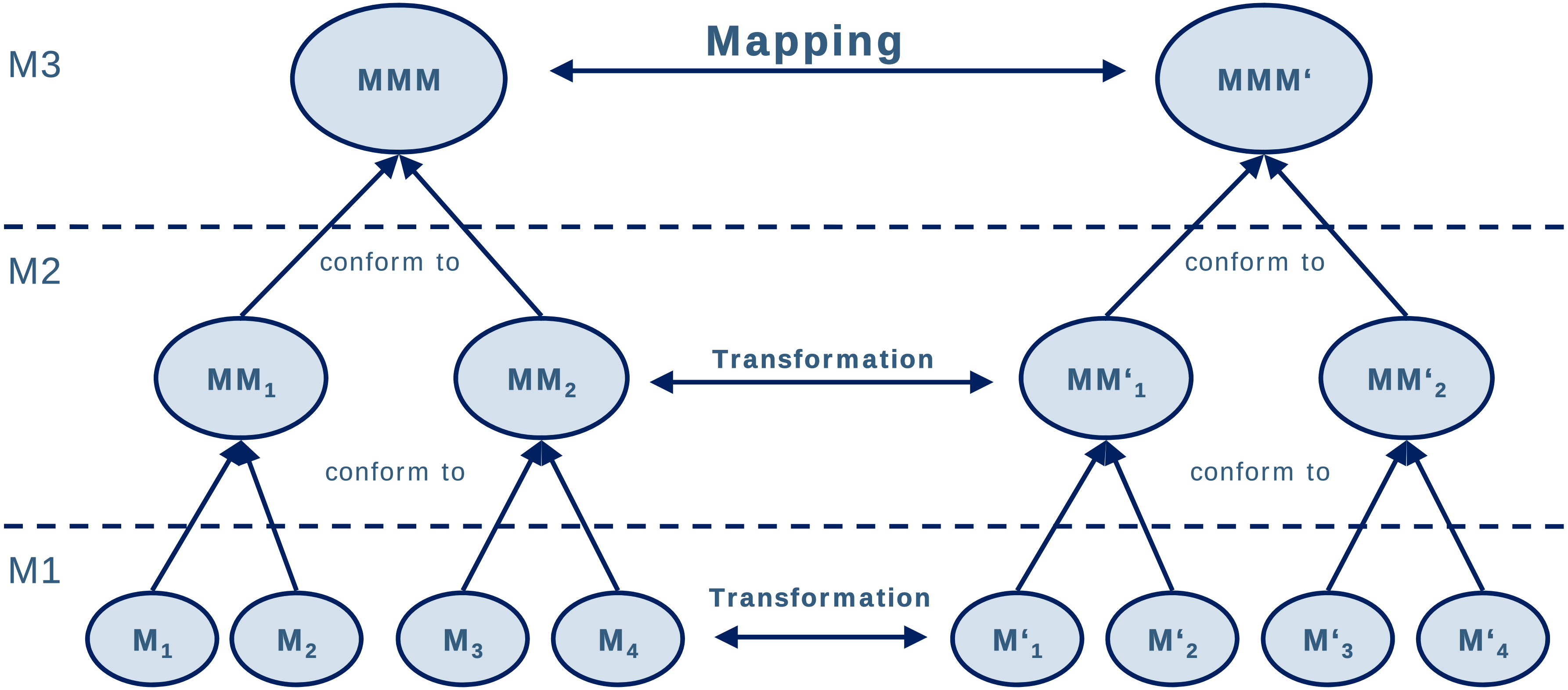


Motivation

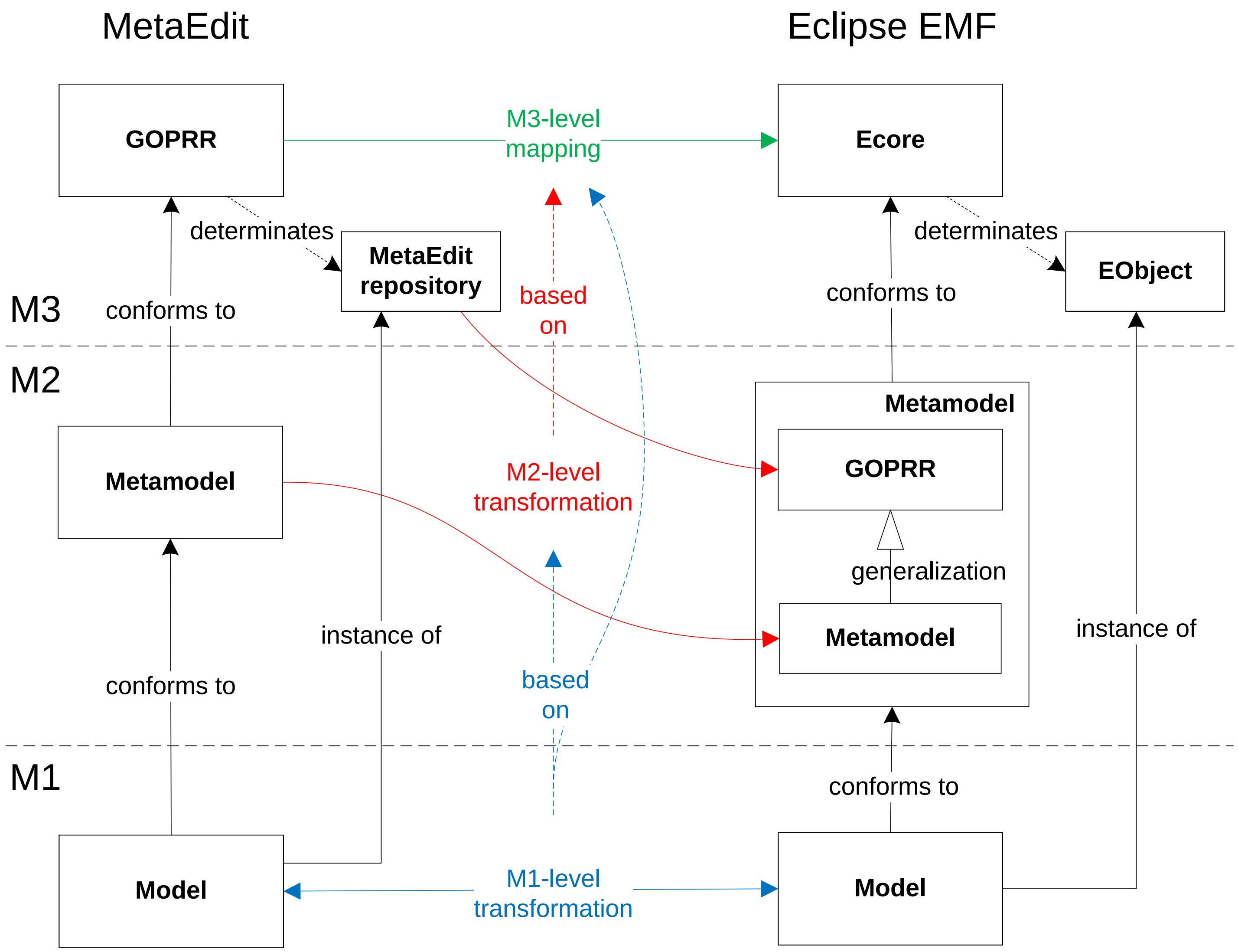


- Combines the advantages of both tool spaces
  - MetaEdit is suitable for DSM
  - Eclipse EMF is suitable for model processing
- MetaEdit models can be processed by EMF tools and vice versa
- Tool chains and re-use of (meta)models, model operations

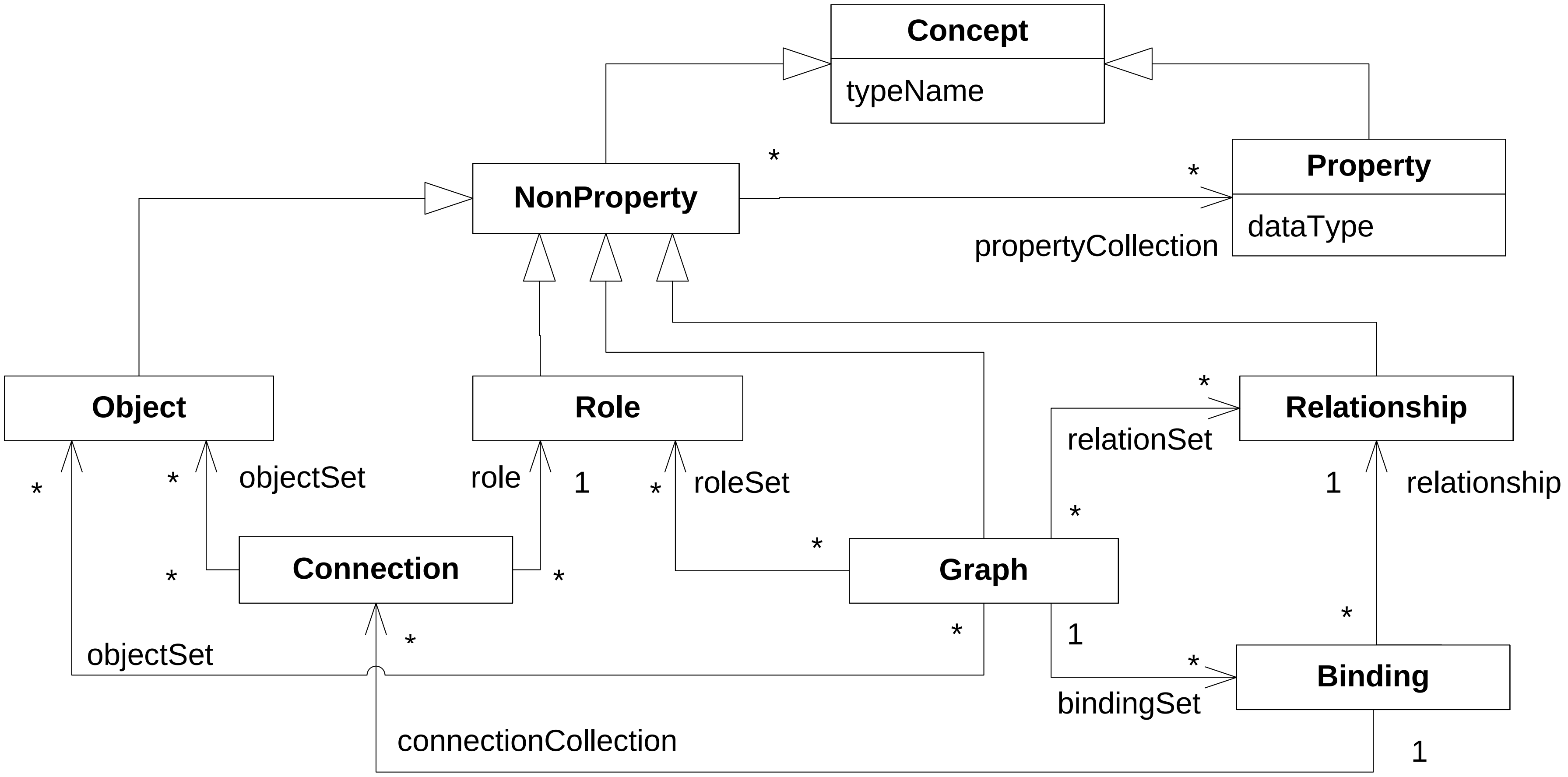
Conceptual Approach



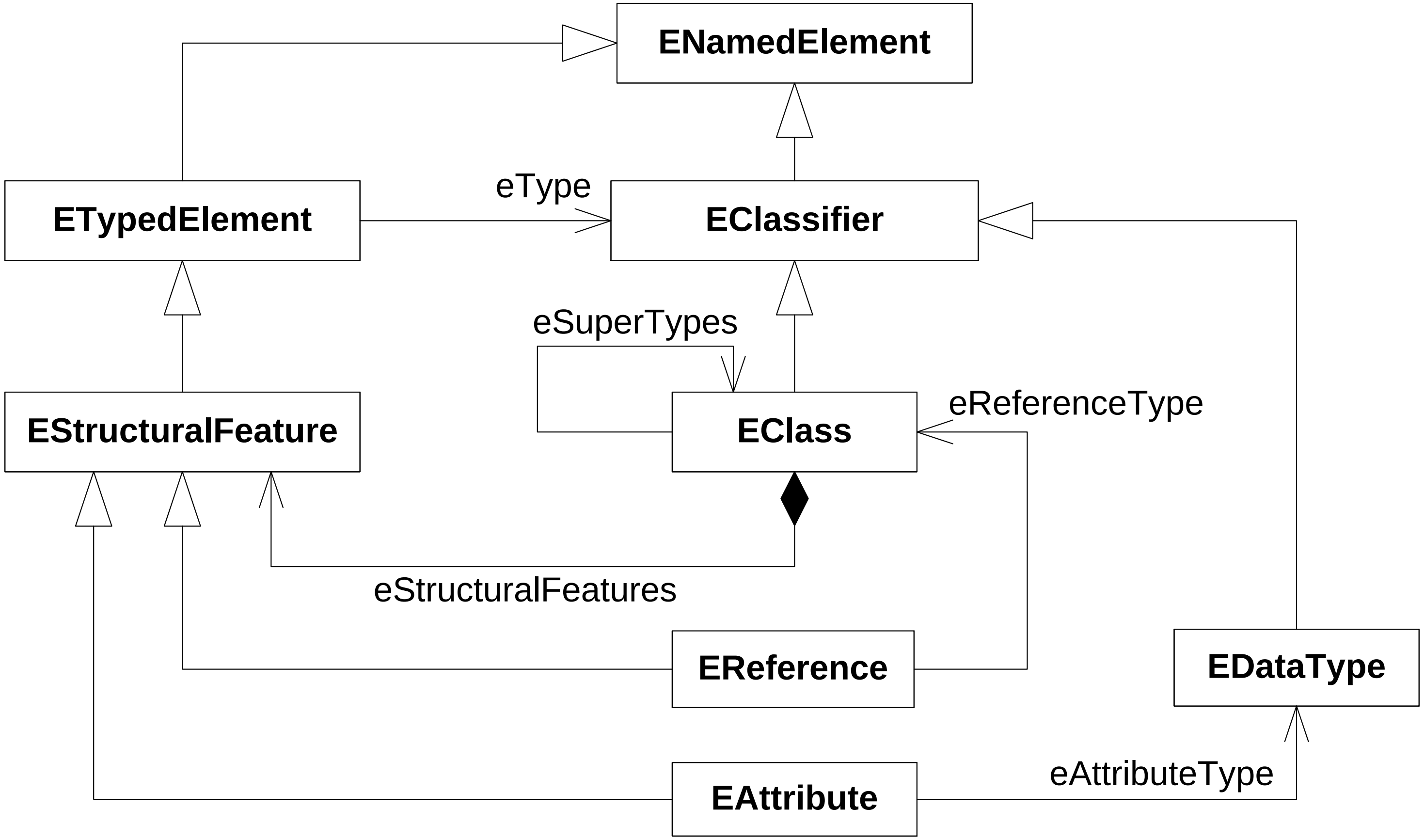
Bridge Overview



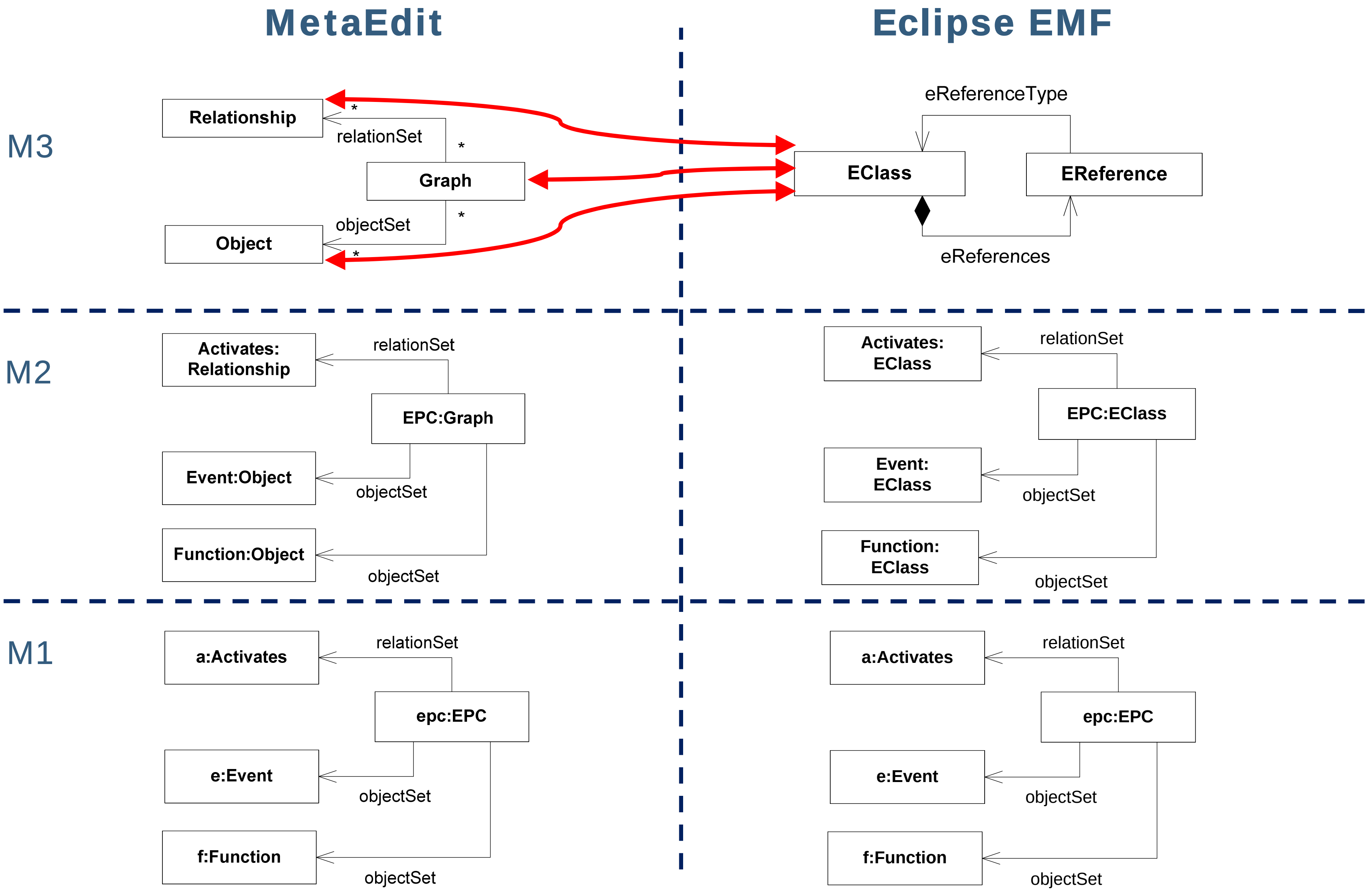
MetaEdit: GOPRR



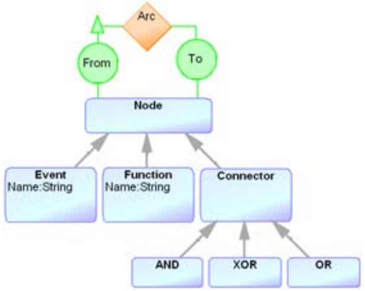
Eclipse EMF: Ecore

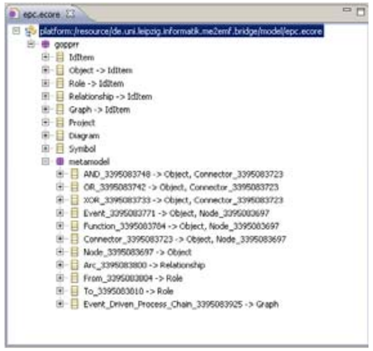


Mapping Rules

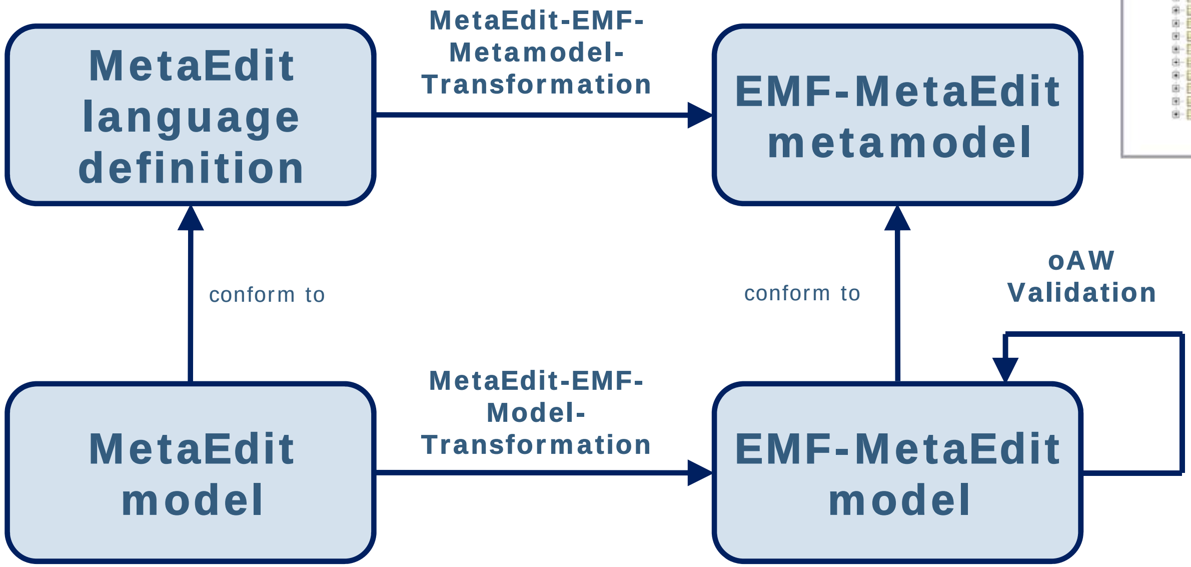


Application example





```
epc.ecore
platform:/resource/de.uni.leipzig.informatik.me2emf.bridge/model/epc.ecore
  gopprr
    IdItem
    Object -> IdItem
    Role -> IdItem
    Relationship -> IdItem
    Graph -> IdItem
    Project
    Diagram
    Symbol
    metamodel
      AND_3395083748 -> Object, Connector_3395083723
      OR_3395083742 -> Object, Connector_3395083723
      XOR_3395083733 -> Object, Connector_3395083723
      Event_3395083771 -> Object, Node_3395083697
      Function_3395083784 -> Object, Node_3395083697
      Connector_3395083723 -> Object, Node_3395083697
      Node_3395083697 -> Object
      Arc_3395083800 -> Relationship
      From_3395083804 -> Role
      To_3395083810 -> Role
      Event_Driven_Process_Chain_3395083925 -> Graph
```



MetaEdit language definition

MetaEdit-EMF-Metamodel-Transformation

EMF-MetaEdit metamodel

conform to

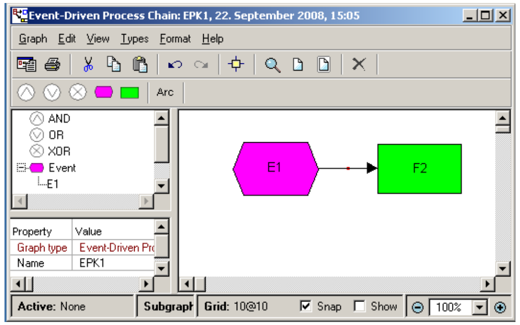
conform to

oAW Validation

MetaEdit model

MetaEdit-EMF-Model-Transformation

EMF-MetaEdit model



Event-Driven Process Chain: EPK1, 22. September 2008, 15:05

Property	Value
Graph type	Event-Driven Pro
Name	EPK1

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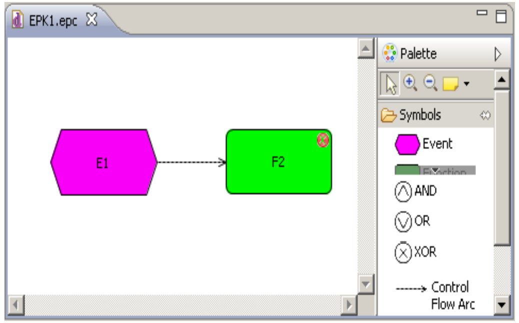

EPK1.epc

Summary

- Development of a M3-level based bridge between MetaEdit and Eclipse EMF
  - Analysis of the both metametamodel
  - Mapping between metametamodels
  - Transformation at M2-level and M1-level
  - Applications of the bridge

- Open issues
  - Formalization of the approach and the M3-level mapping rules
  - Uses cases: Is the approach really practicable in real world?
  - Synchronization

Thank you! Questions?