Yet Another Approach To Model Merging

very short version

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Who - Where - What

• Diploma thesis
  “A Framework for analysis and transformation of MOF models”
• National Technical University of Athens
  School of Electrical and Computer Engineering
• Supervisor:
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An Algebra for Models

- MOF models, seen as directed, typed, attributed graphs
- Model operations:
  - merging
  - differencing
  - matching
  - splitting
  - ...
- “A manifesto for model merging”
  (Brunet, Chechik, Easterbrook, Nejati, Niu, Sabetzadeh)
Merging and Differencing

- “An algebraic framework for merging incomplete and inconsistent views” (Sabetzadeh, Easterbrook)
- “Difference detection and visualization in UML class diagrams” (Girschick)
- Matching
  - Suppose it has already been computed
  - Simple 1-to-1 relations
  - No inconsistencies or dependencies
Flexible Matching Representation

- More complex relations
  - 1-to-many, many-to-many relations
  - Semantic dependencies, inconsistencies
- A way to handle them: Triple Graph Grammar rules
- “Triple graph grammars: Concepts, extensions, implementations, and application scenarios”
  (Kindler, Wagner)
Merging with TGG Rules

- Required inputs
  - A set of complex relations (ie the matching)
  - A set of TGG rules
  - A rule application mechanism

- “Model Transformation with Triple Graph Grammars” (Konigs)

- End up with simply connected models

- Open issues: Model matching, Rule creation and generation, Rule application