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Automatic Domain Model Migration to Manage Metamodel Evolution

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Outline



- Motivation
- Model evolution
- Summary
- Conclusion



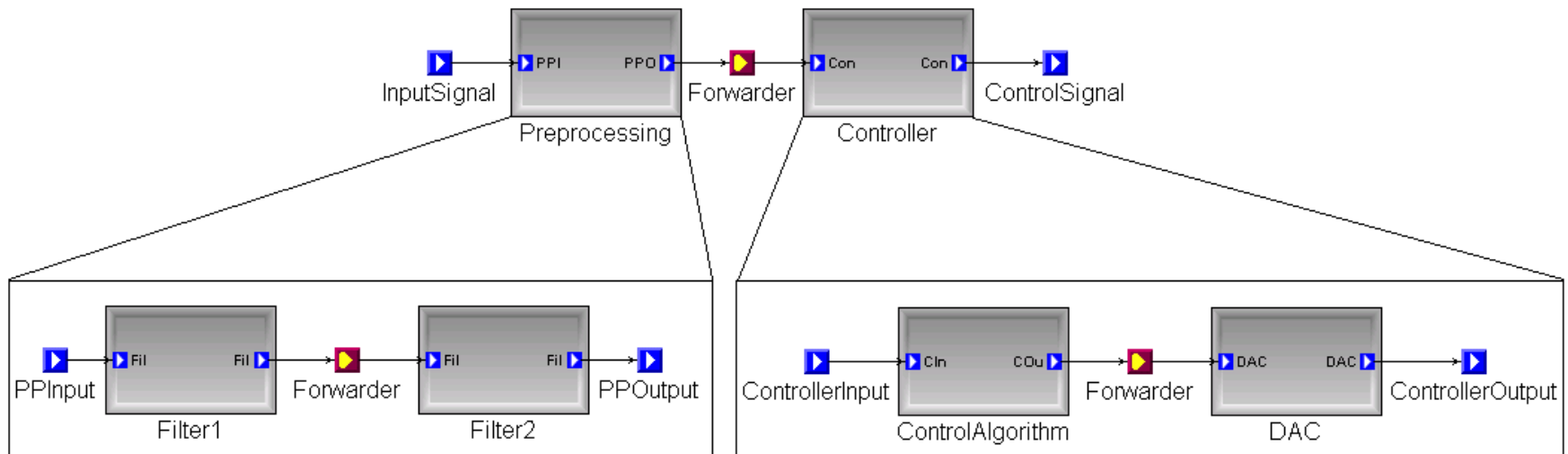
Motivation



- Domain-Specific Languages
 - Understandability for domain expert
 - Support for code generation
 - Generative technique
- Metamodeling
 - Flexibility
 - Usability
- Challenge – industrial applications
 - Metamodels change due to better understanding, domain evolution, etc.
 - Treatment of legacy models and...



Example hierarchical SF





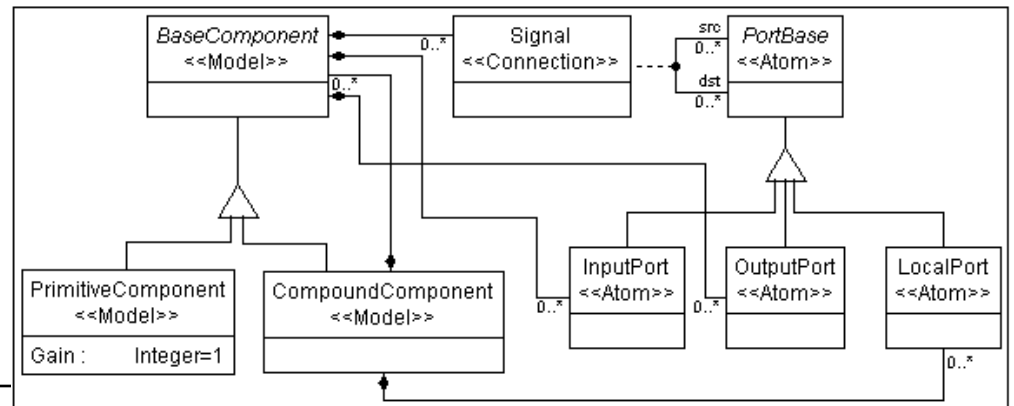
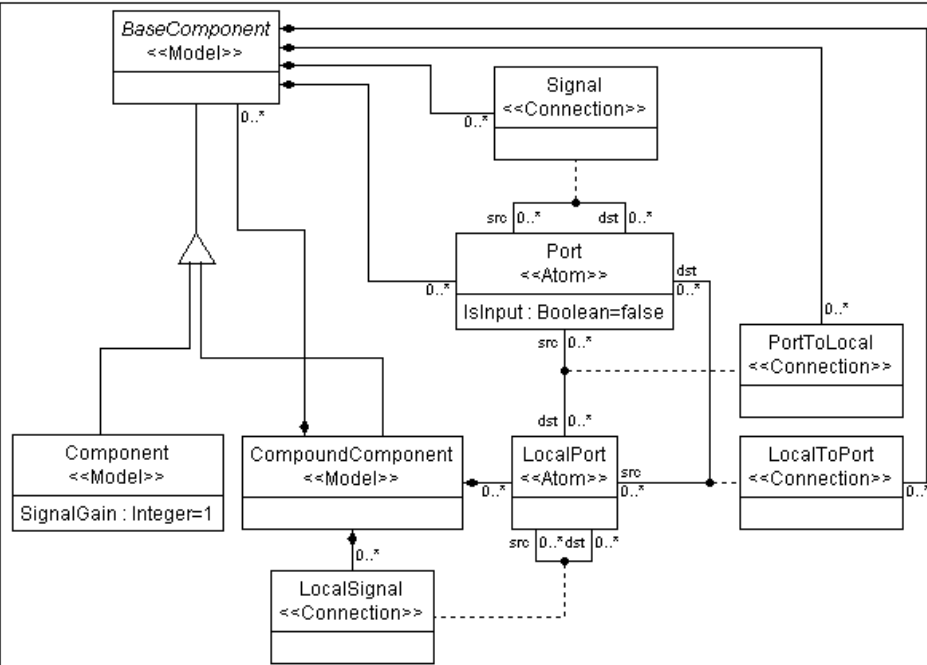
Evolving Legacy Models



Continuous, step-by-step evolution

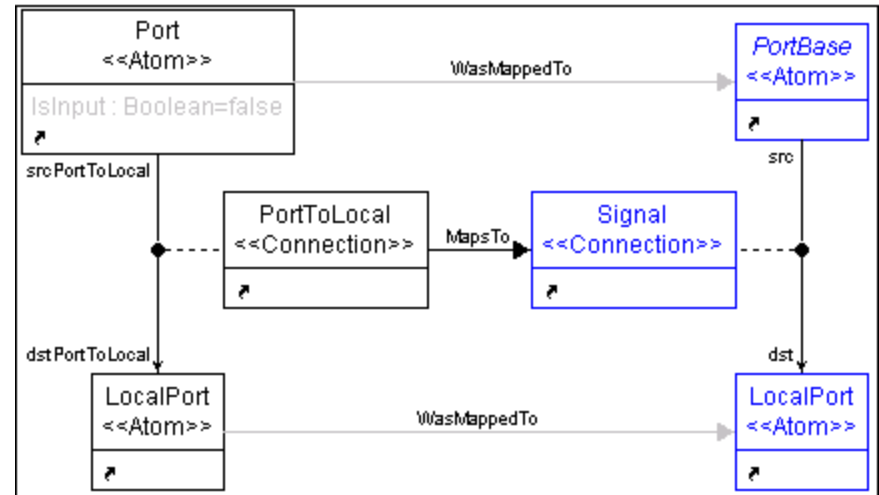
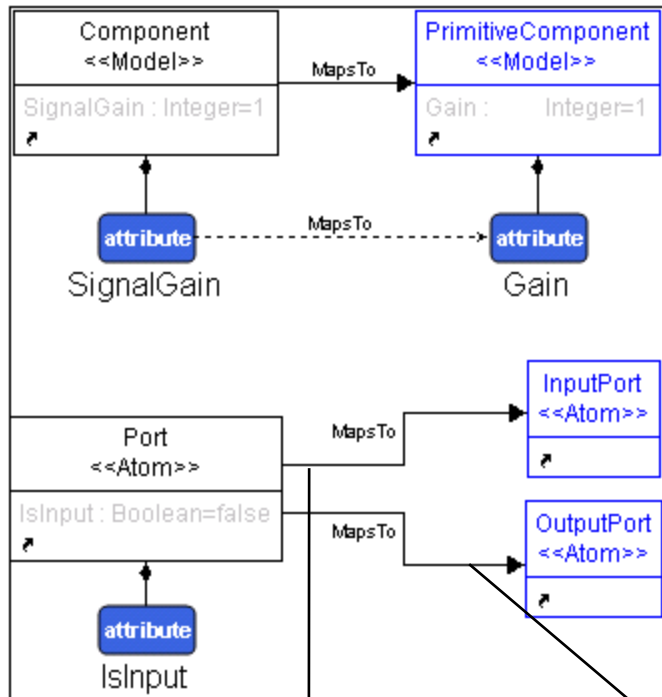
MCL Rules

Original metamodel





MCL Rules

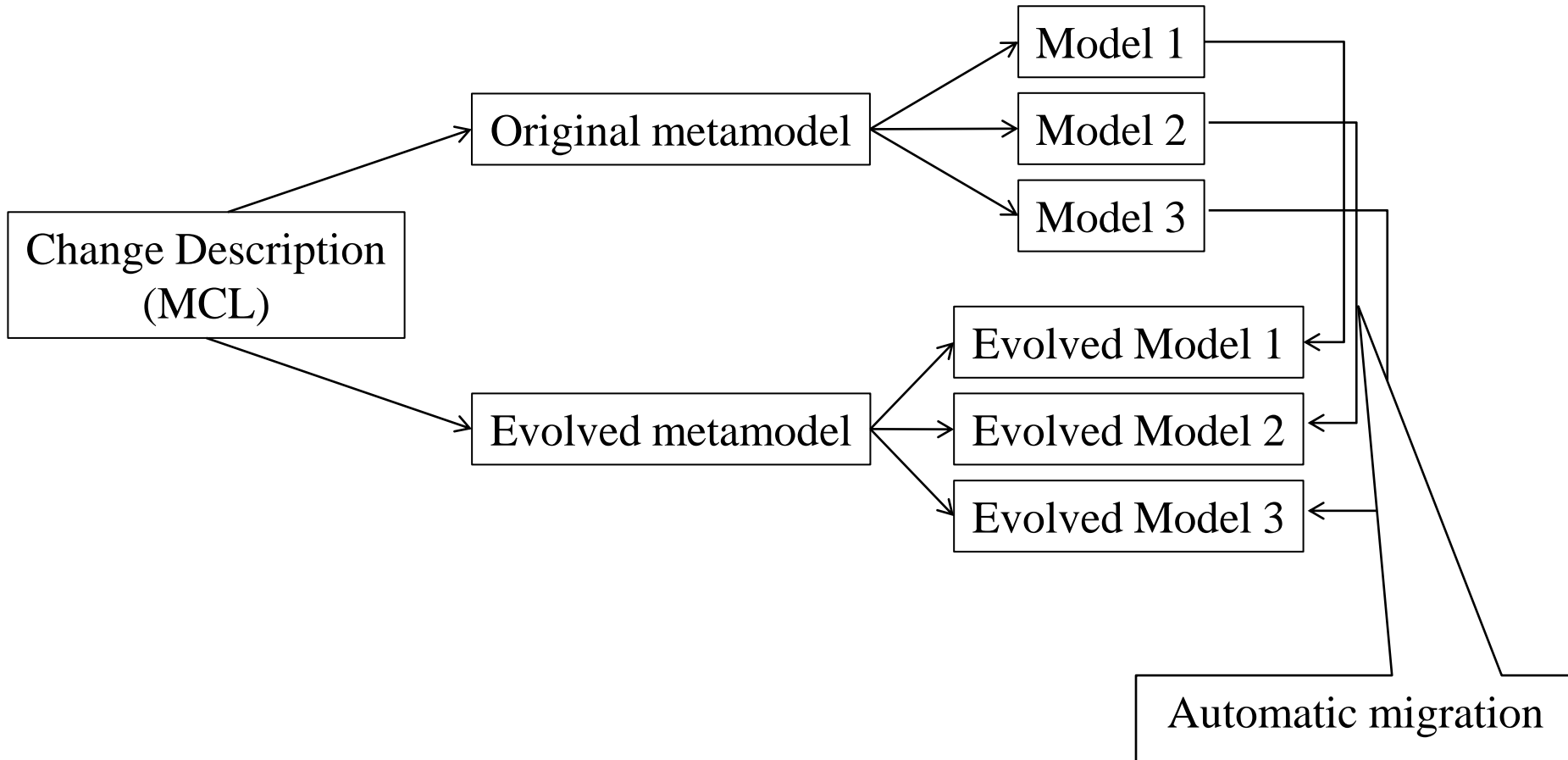


```
return (Port.IsInput());
```

```
return !(Port.IsInput());
```



Summary





Conclusions



- A step-by-step evolution concept
- Using a DSML for specifying migrations
 - Attach original and updated meta-models
 - Define correspondences only between elements that have changed
 - More efficient than the general transformation
- Automatic migration of legacy models