A Pattern-based Approach to DSL Development

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Current DSL development

- Good tool support reduces implementation effort
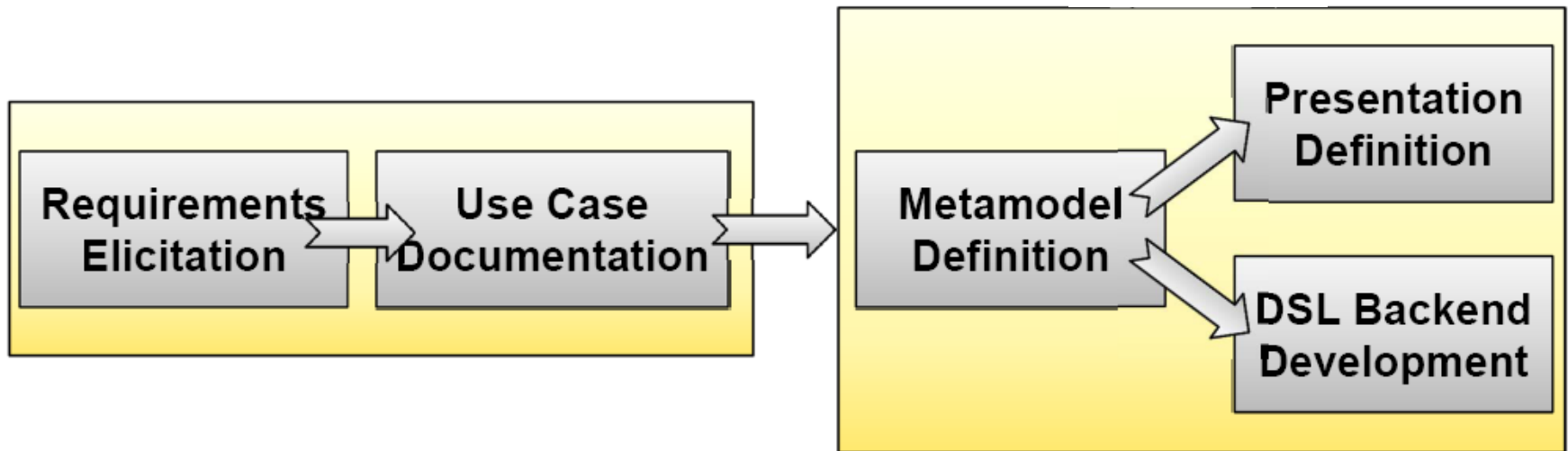- DSLs become applicable in many business contexts

- Major effort used for requirements elicitation
- Lack of language engineering guidelines
- DSL development creatively driven
- Outcome of DSL development not predictable

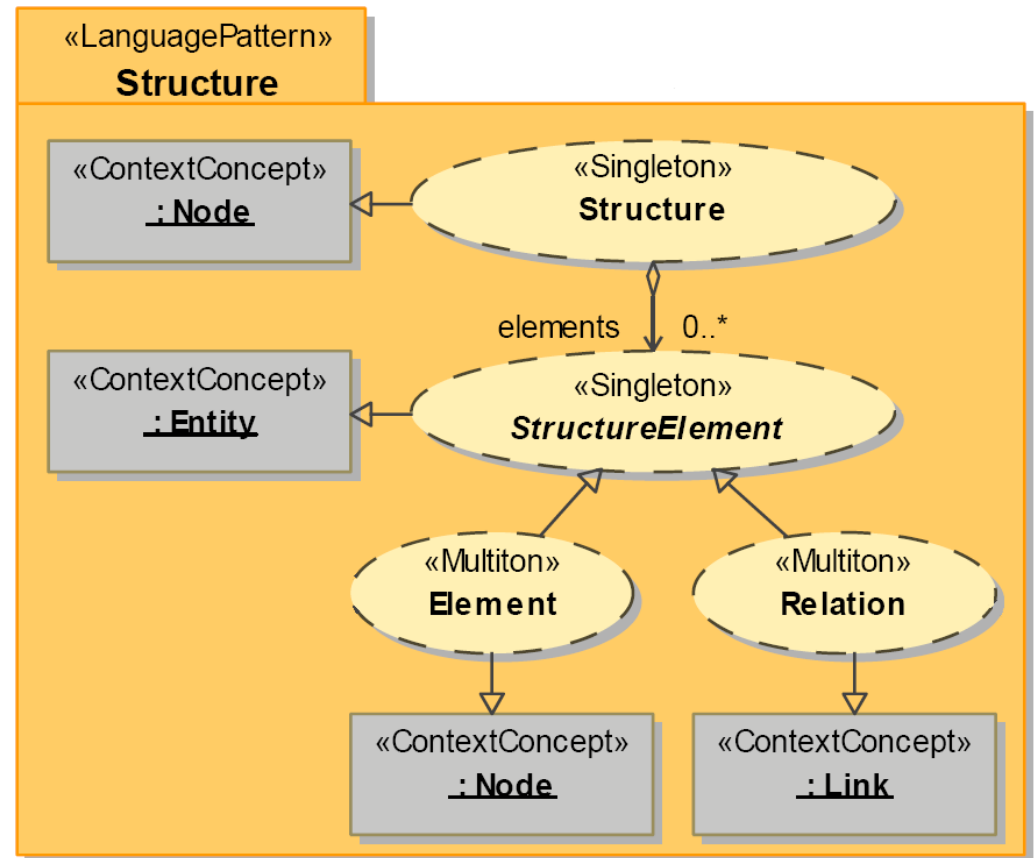# Idea

- **Pattern-based DSL Development**

- Patterns capture best practices
- Stepwise application of patterns yield metamodel
- DSL development becomes systematic & predictable
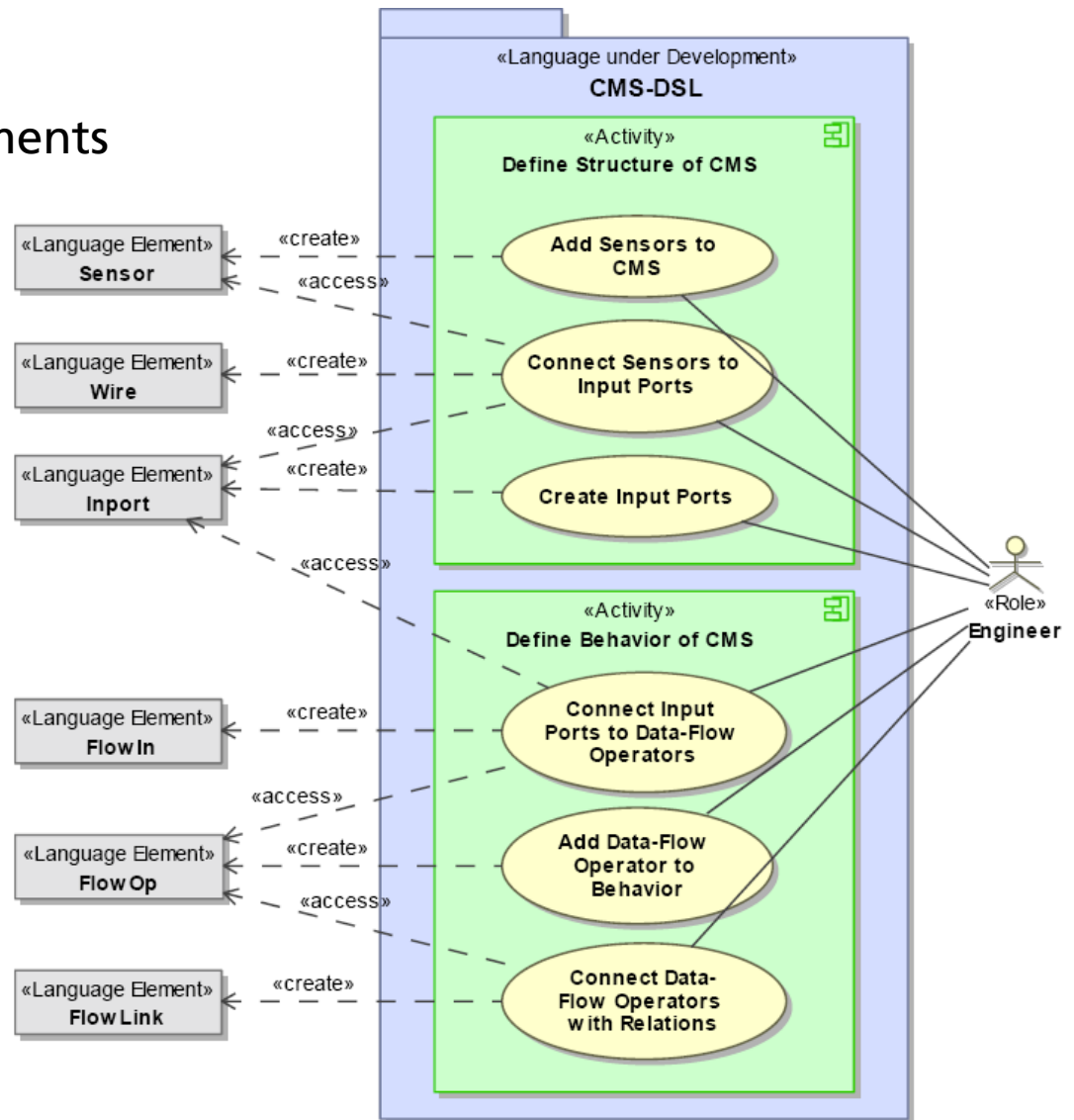- Language elements are traceable to requirements

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DSL Development Workflow

Description of a Language Pattern

- Name: …

- Problem: …

- Context: …

- Forces: …

- Solution: …

- Rationale: …

- Related Patterns: …

«LanguagePattern»
Structure

«ContextConcept»
: Node

«Singleton»
Structure

elements   0..*

«ContextConcept»
: Entity

«Singleton»
StructureElement

«Multiton»
Element

«Multiton»
Relation

«ContextConcept»
: Node

«ContextConcept»
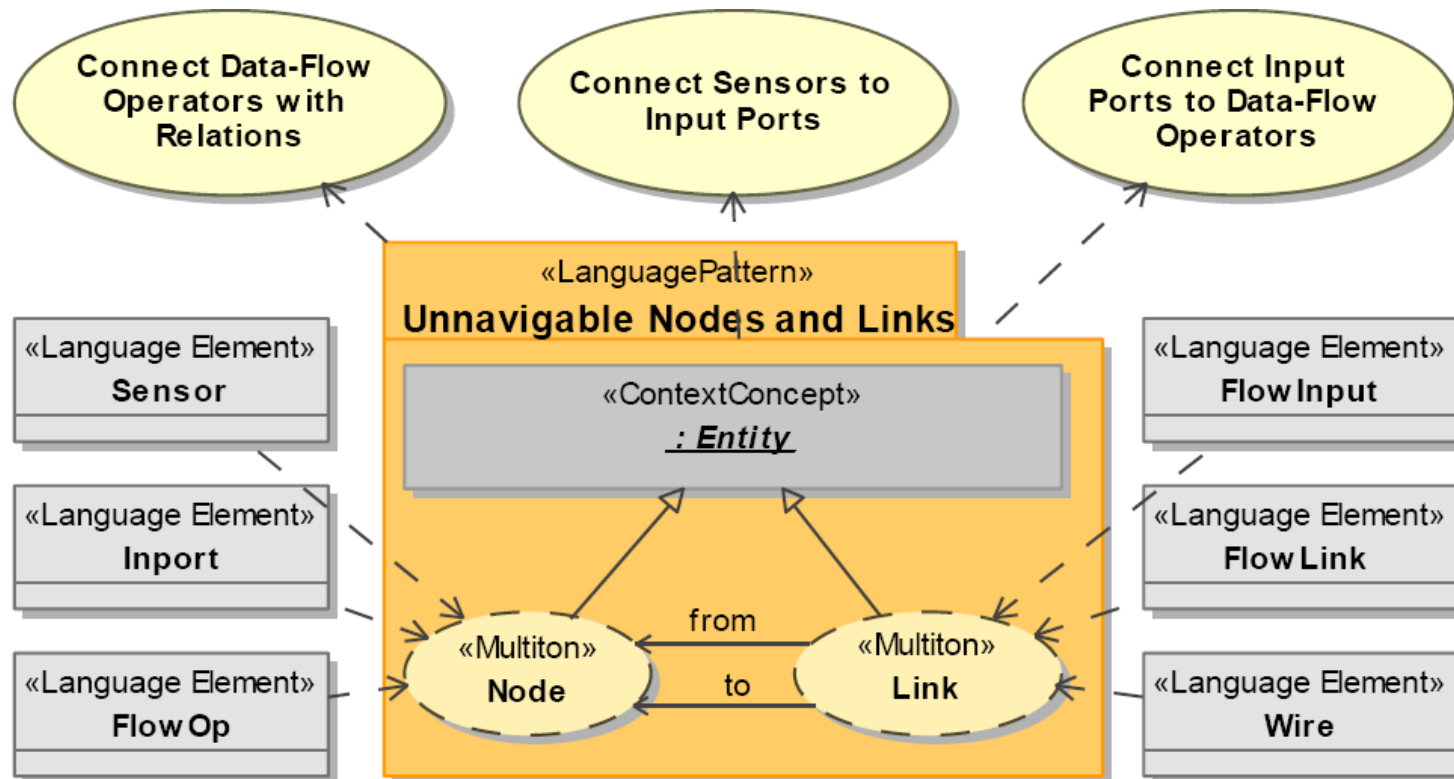**: Link**

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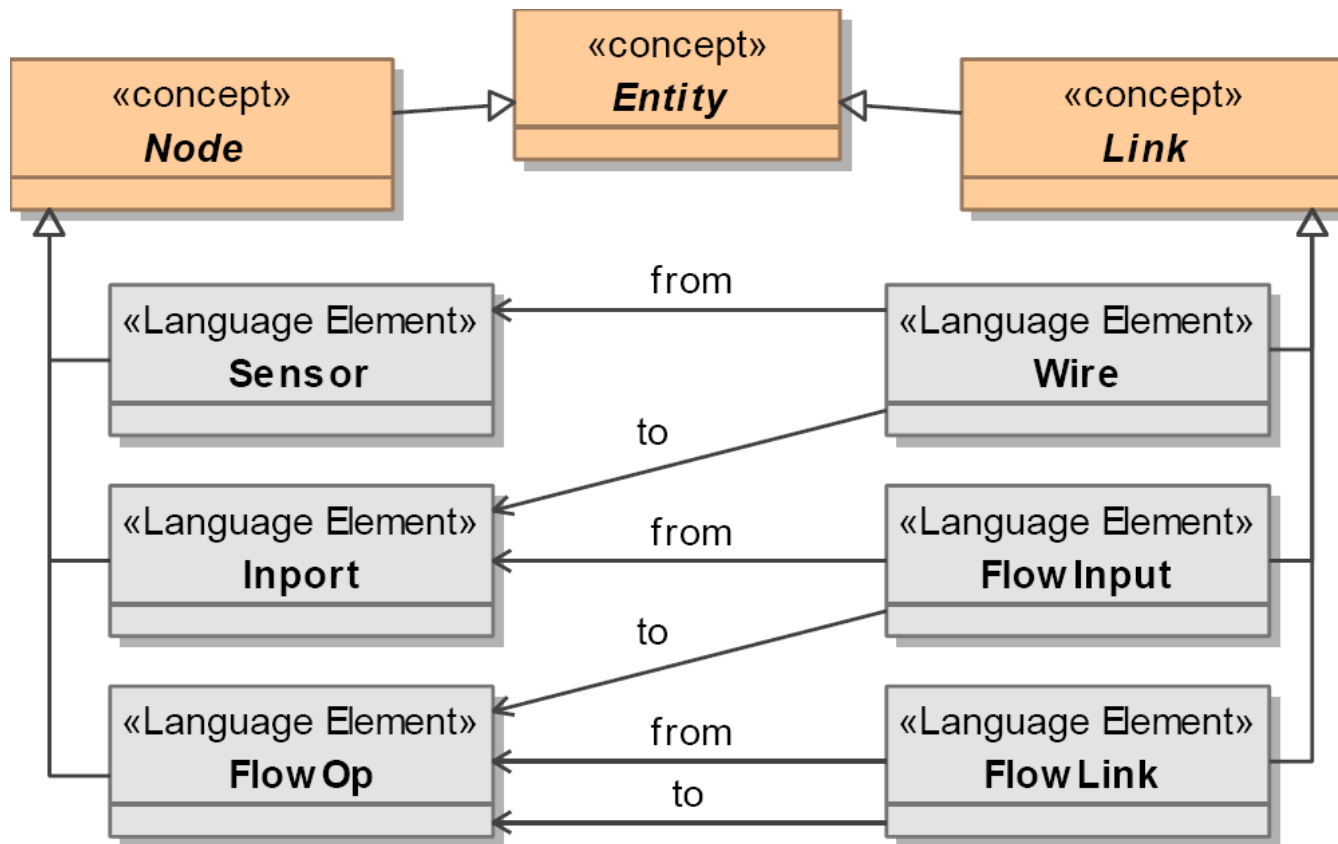IESE

Case Study

Use Cases & Language Elements
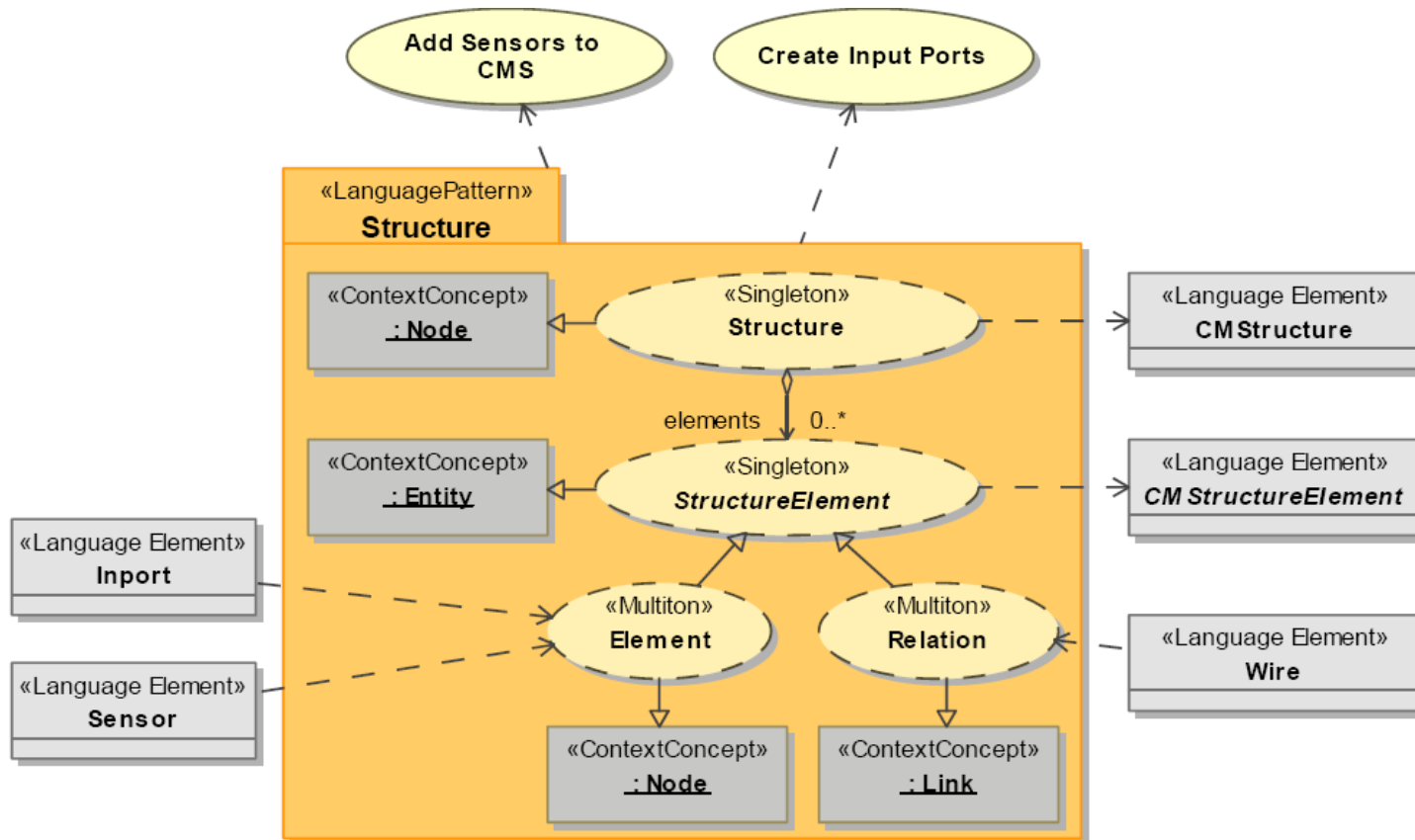
Case Study
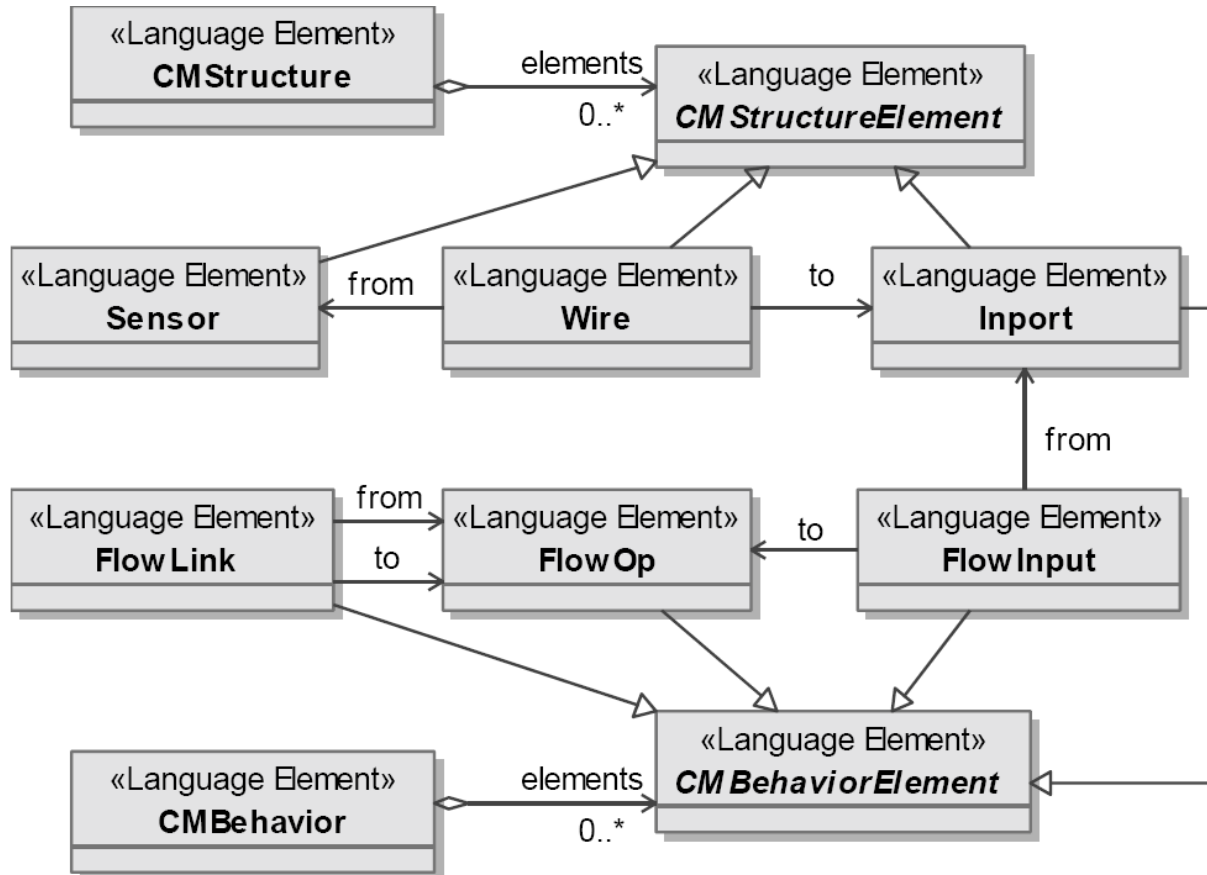
Pattern Application

Case Study

Intermediate Metamodel

Case Study

Pattern Application

Case Study

Resulting Metamodel

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Questions?

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