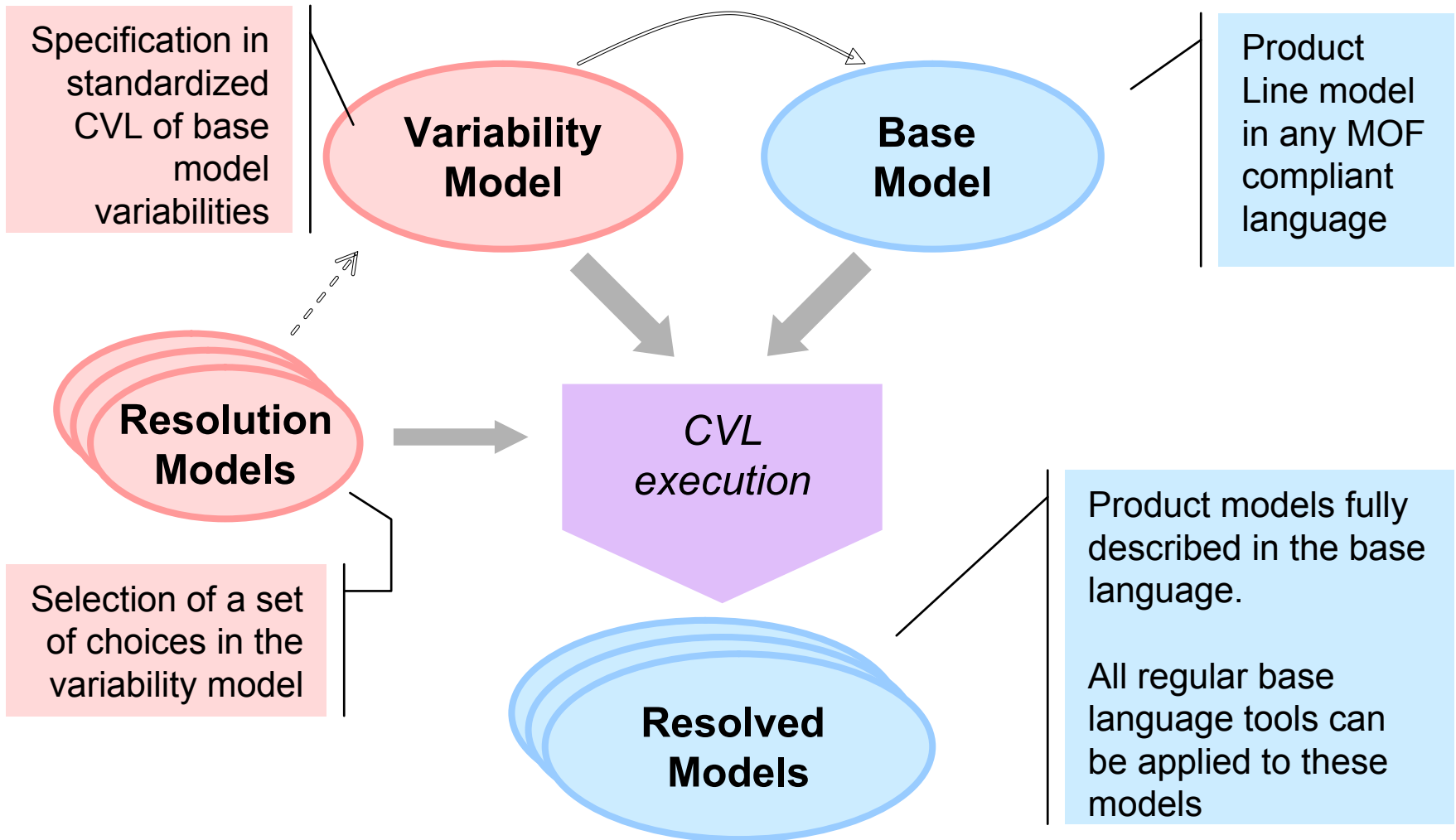


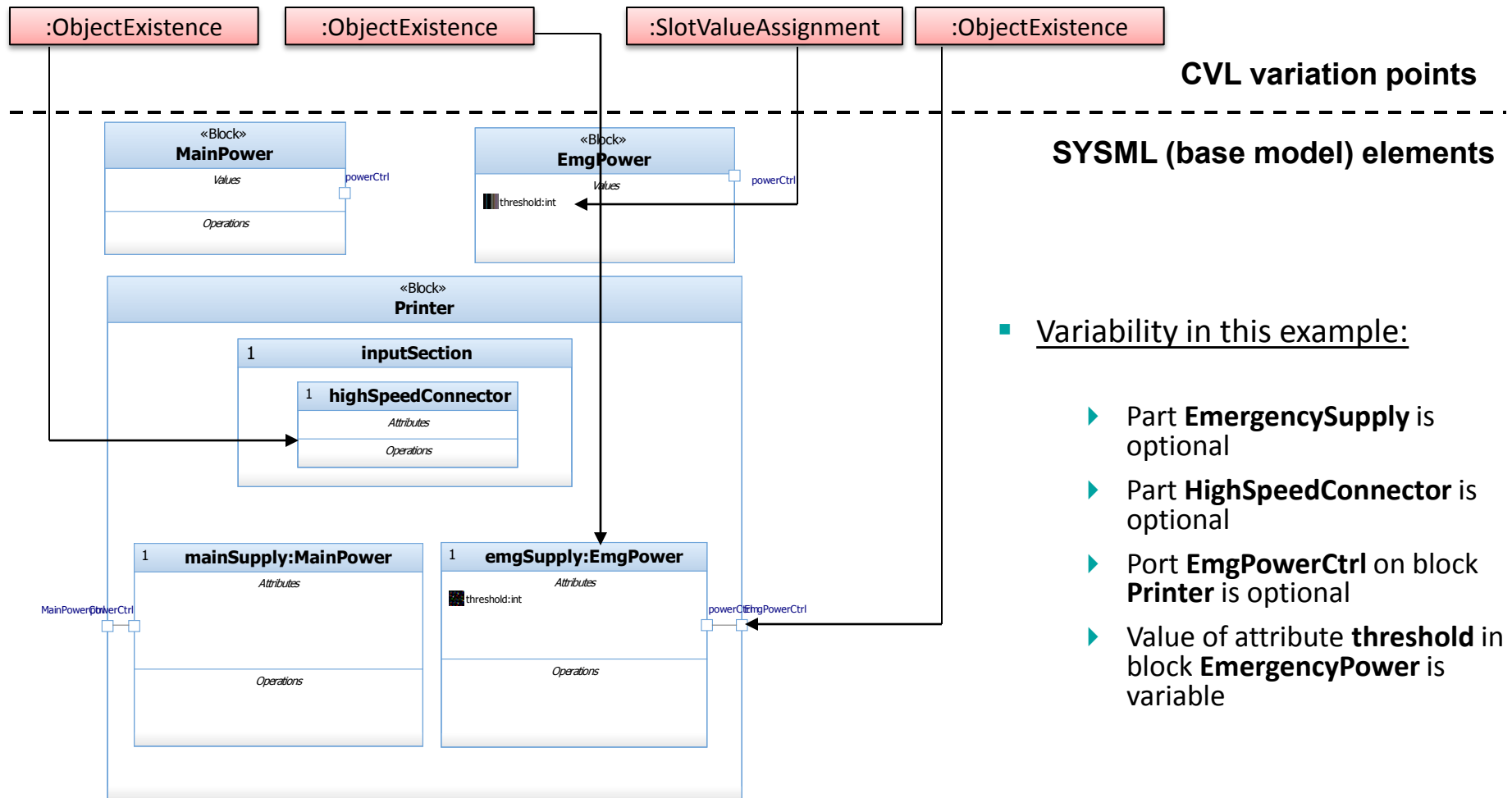
CVL Tutorial

CVL in a Nutshell

CVL overview and terms



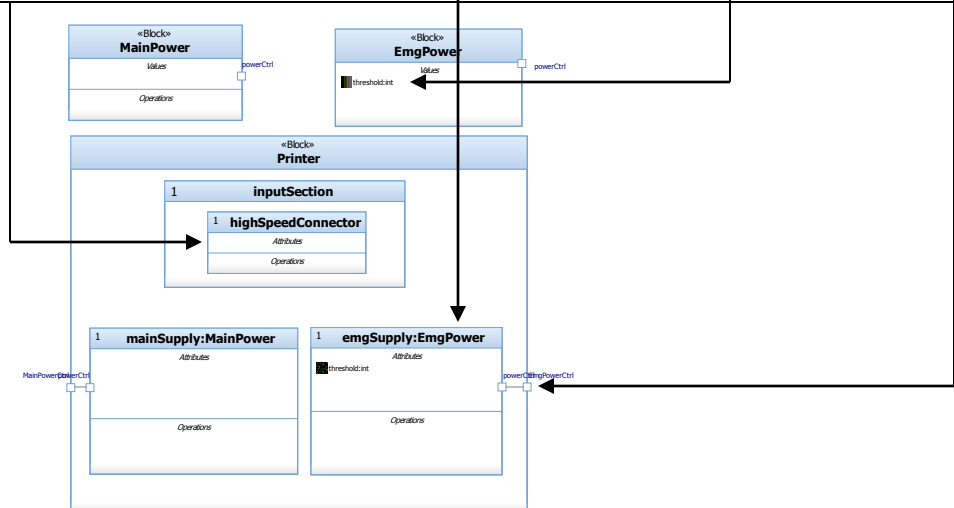
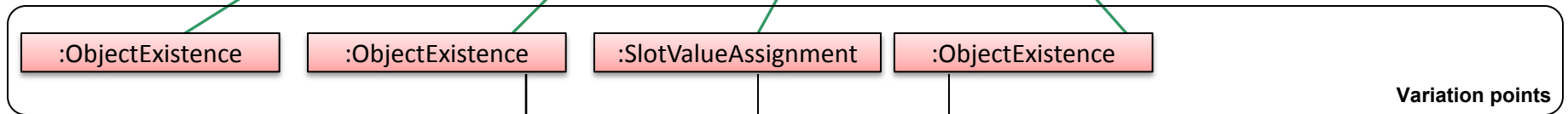
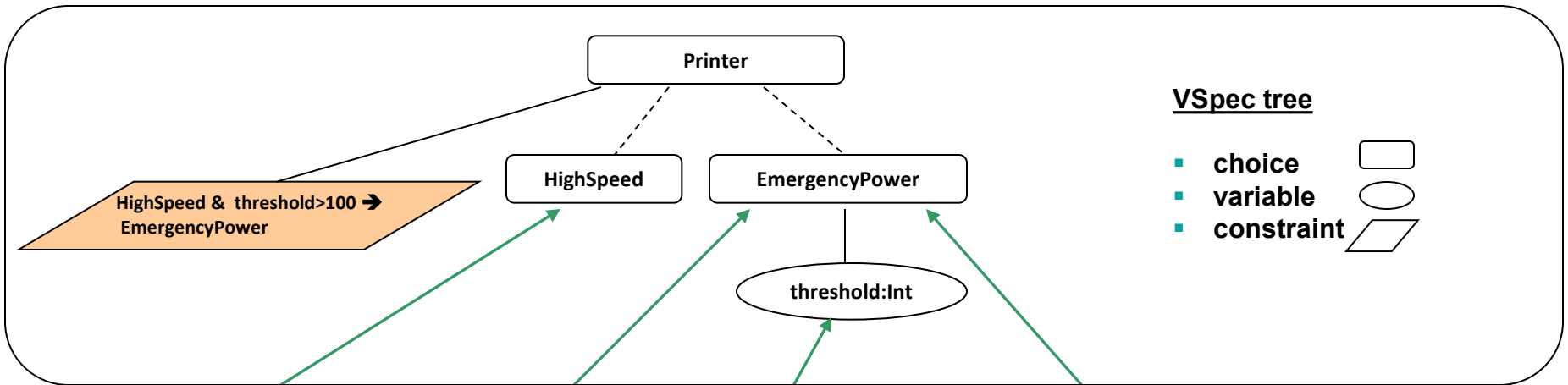
Variation Points over base model



Variation points in CVL

- Variation Points refer to Base objects
- Variation Points define the base model modifications precisely
- There are different kinds of Variation Points
 - Existence
 - Value assignment
 - Substitution
 - Opaque variation point
 - Configurable Unit

VSpec trees and binding



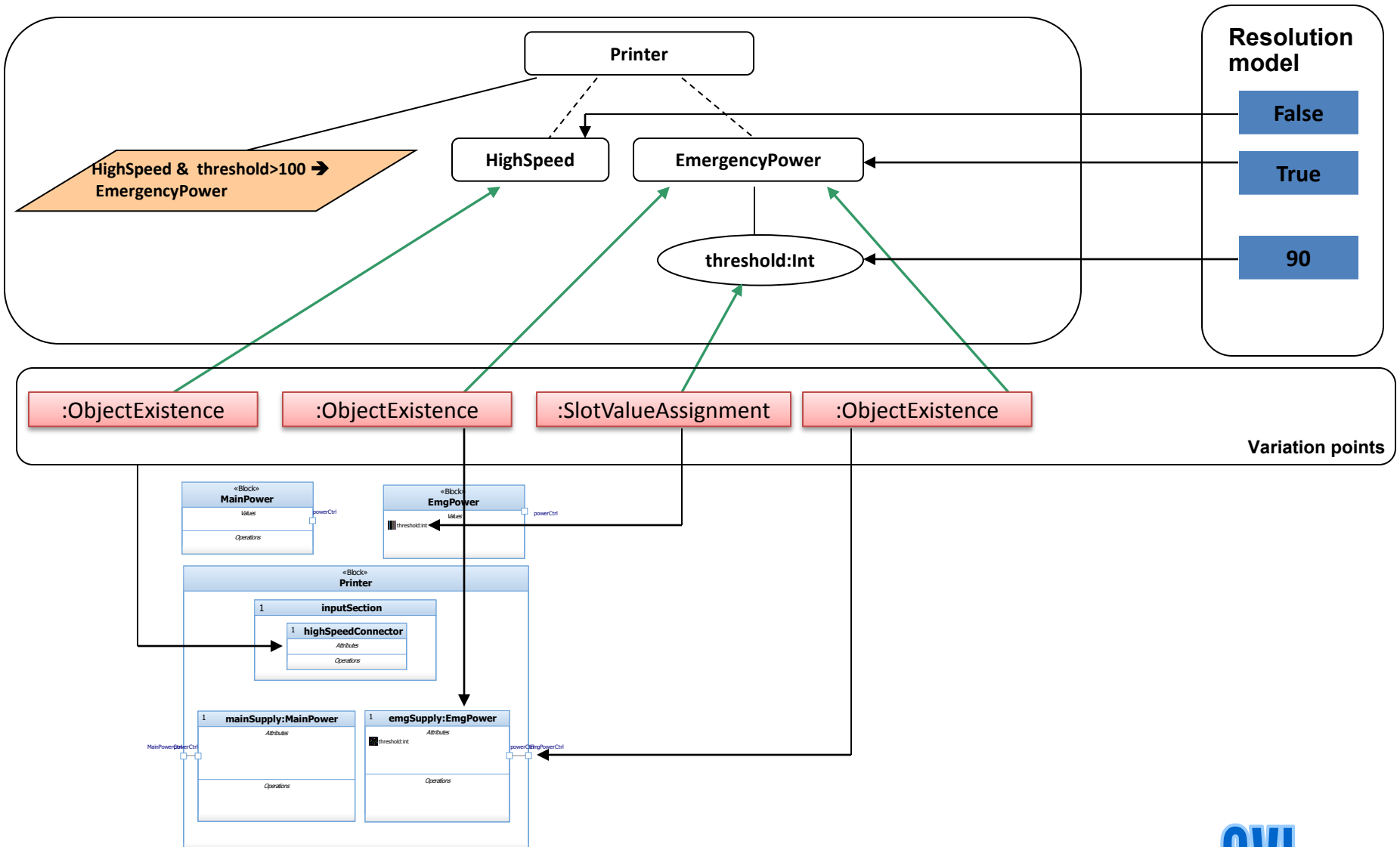
VSpecs in CVL

- VSpecs (Variation Specifications) describe the abstract variability
- Every Variation Point is bound to exactly one VSpec
- VSpecs come in different kinds:
 - Choice
 - Variable
 - Constraint
 - VClassifier
 - CVSpec

Constraints in CVL

- CVL include a basic language for expressing constraints on the VSpec tree
 - Propositional logic is supported
- CVL also has the opportunity to let you apply other constraint languages like OCL

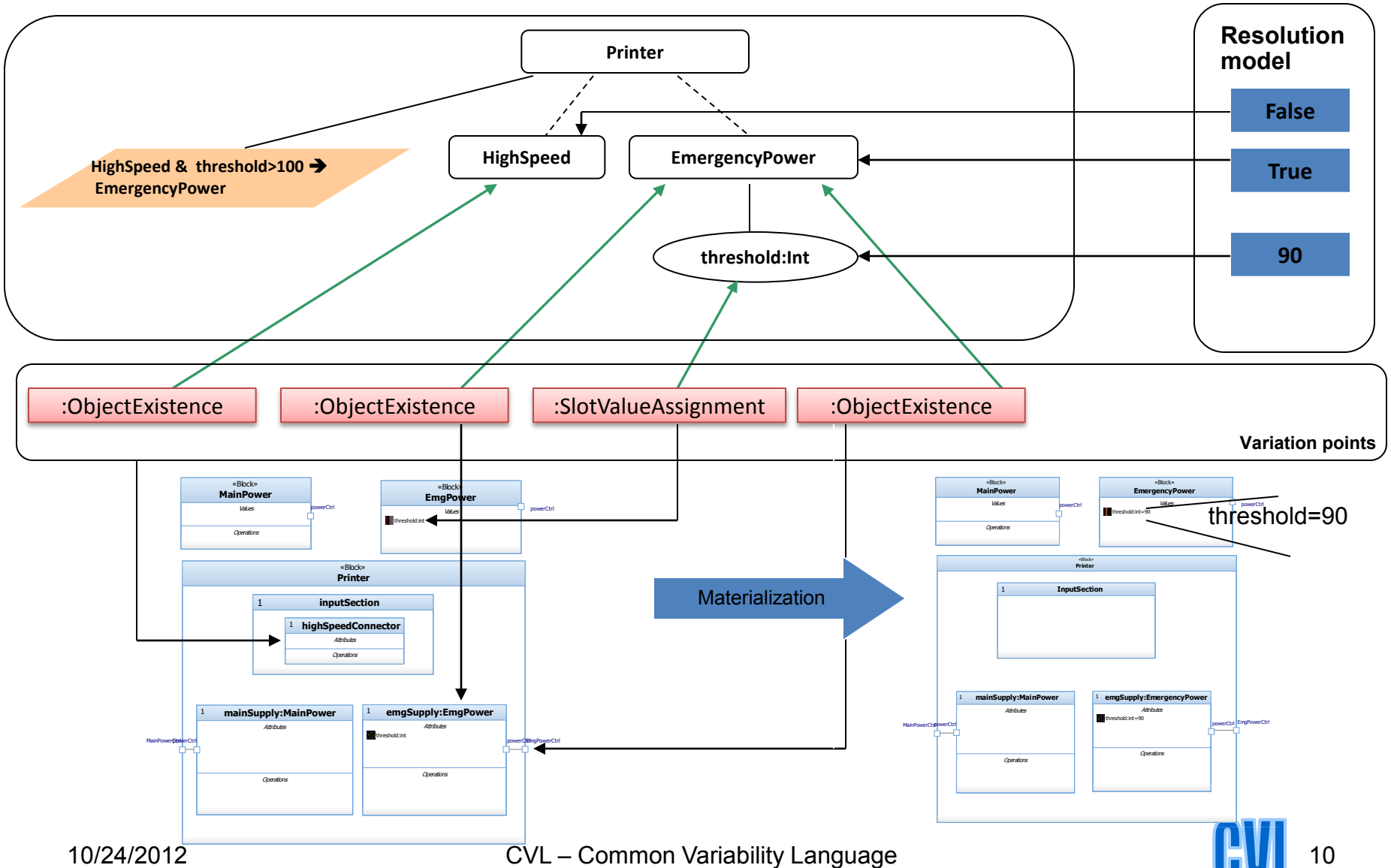
Resolution



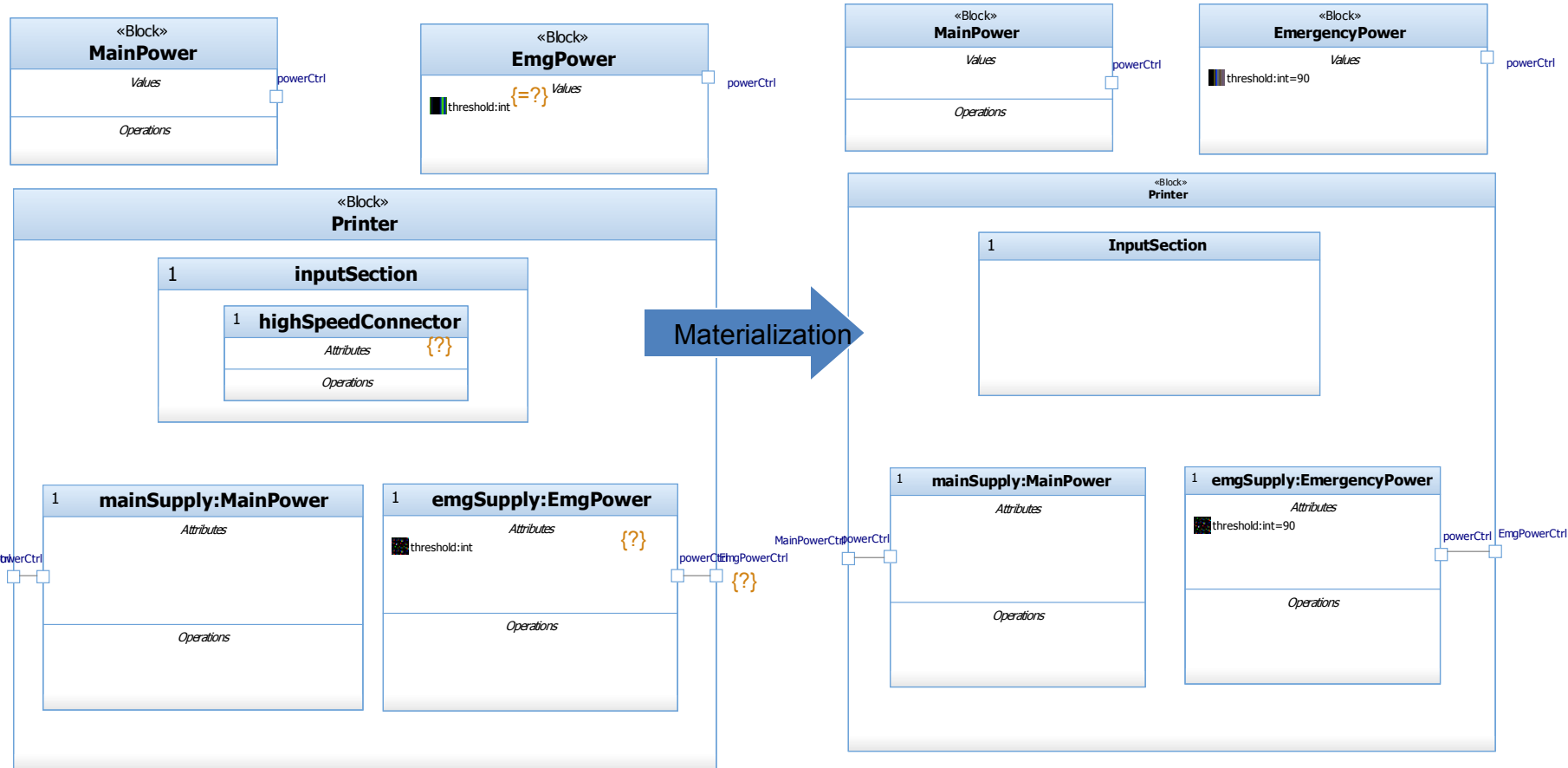
Variability Resolution in CVL

- VSpecResolution elements refer to VSpecs
- The set of valid Resolutions is restricted by the constraints
- Represent information necessary to materialize product models
 - Actual yes/no decisions on Choices
 - Actual values to Variables
 - Instances of VClassifiers
 - Configurations of CVSpecs/Configurable Units

Materialization



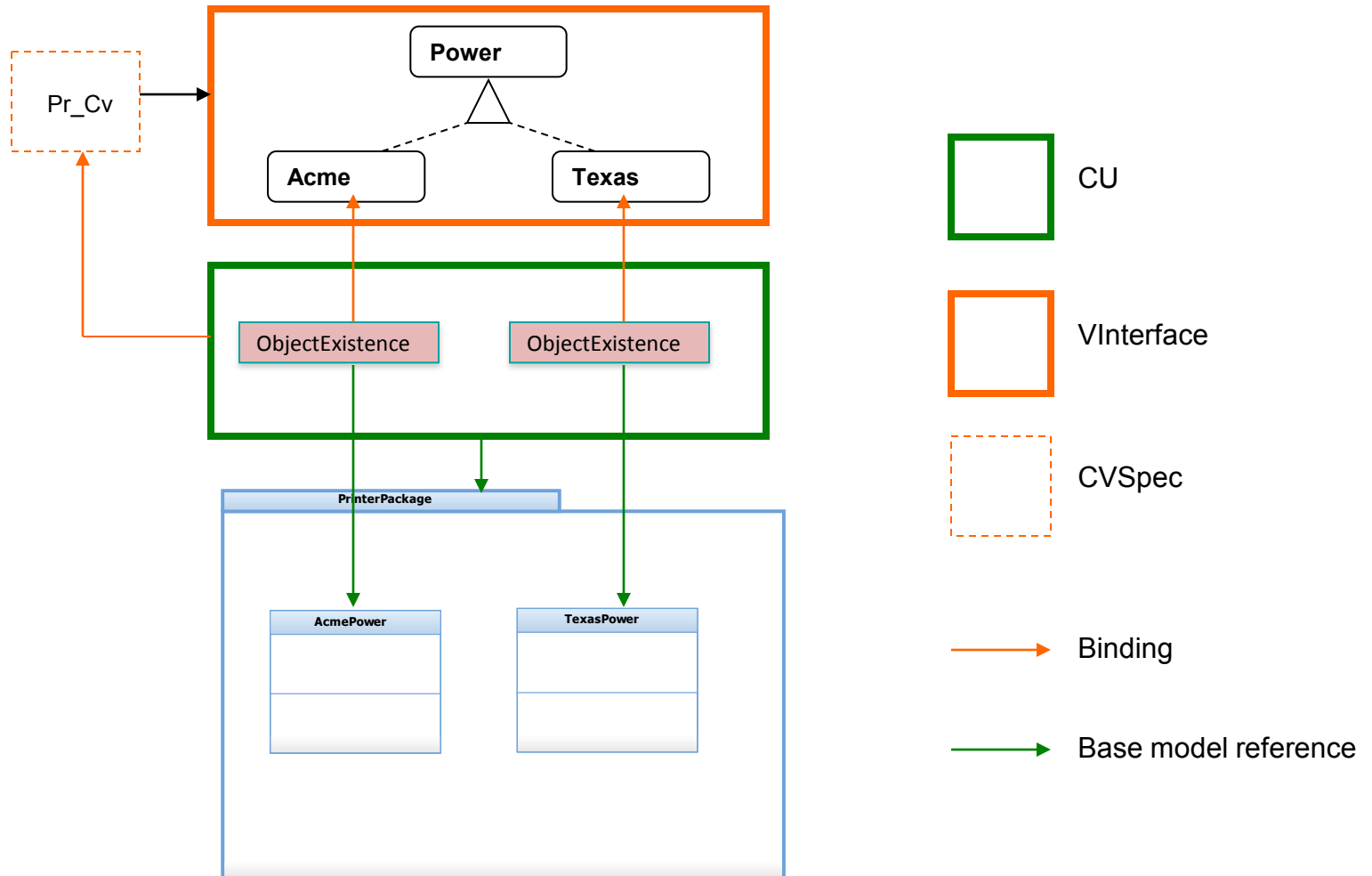
Materialization (with annotations)



Product Line Model

Product Model (materialized model)

Configurable Unit and VInterface



CVL Architecture

