CVL Tutorial

OMG RFP

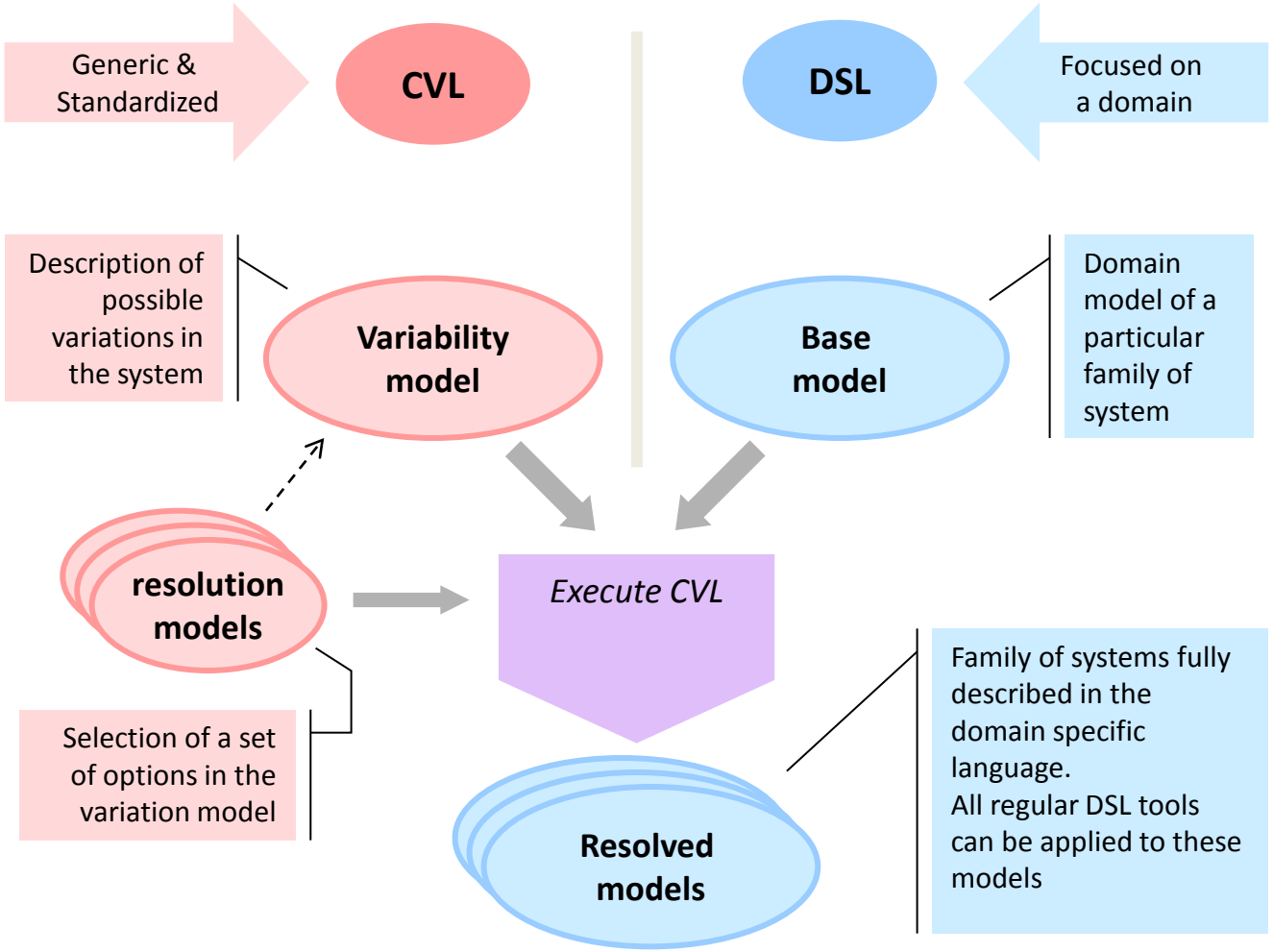
Request For Proposal

Issued December 2009

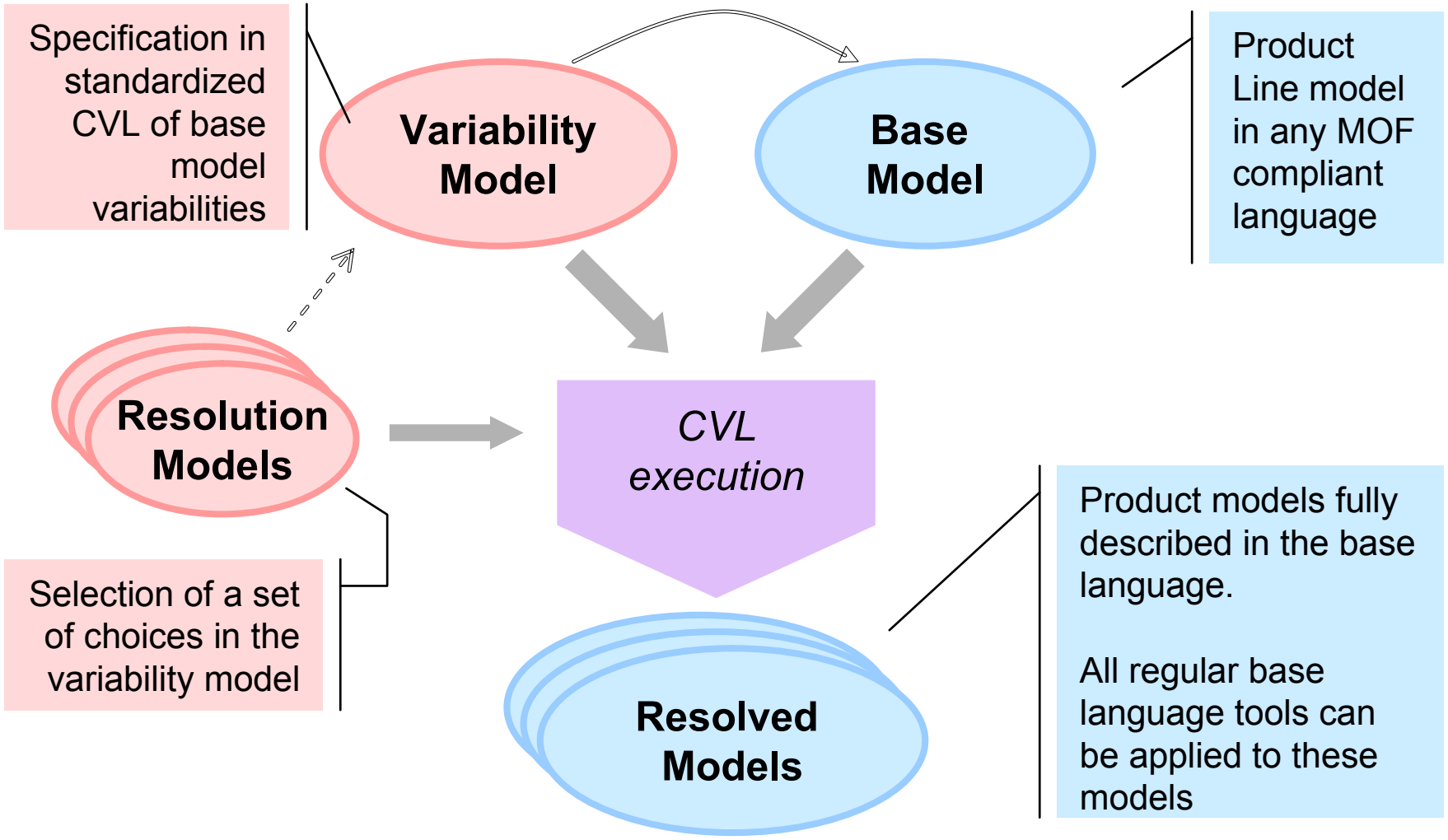
Early presentations for the OMG

- Earlier presentations for ADTF on variability modeling
  - ad/05-02-10: Product families – another area for OMG technology?
  - ad/08-03-05: Should the OMG standardize variability modeling?
  - ad/09-03-10: CVL -Common Variability Language
  - ad/09-08-07: Common Variability Language DRAFT RFP
- Current resources
  - ad/2009-11-02: CVL RFP (before 4 week deadline)
  - ad/2009-12-02: CVL RFP (iteration after review by AB members)
  - ad/2009-12-03: CVL RFP (iteration after AB meeting)
  - Wiki: http://variabilitymodeling.org
  - E-mail list: cvl@omg.org
  - Series of WebEx meetings

Common Variability Language (CVL)



CVL overview and terms



CVL RFP 6.5.1 Coverage

- 6.5.1.1 Proposals shall define a language that can express variabilities on models in any language that is defined by means of a MOF-compliant metamodel.
- The language shall support:
  - The most common variability mechanisms, like optionality, alternatives, etc. that have been acknowledged as mature within the fields of product line modeling and feature modeling.
  - Constraints on the variabilities;
  - Abstraction mechanisms that support the definition and application of compound variability specifications.
  - Resolutions of the variabilities, defining the set of actual choices.

CVL RFP 6.5.1 Coverage (cont.)

- 6.5.1.2 The proposed language shall specify variability as a model separate from the base model on which the variabilities apply.
- 6.5.1.3 The proposed language shall have mechanisms for relating variability specifications to those base model elements that are subject to variation. These relationship mechanisms may assume that base models are made in languages that are defined by MOF-compliant metamodels.
- 6.5.1.4 The proposed language shall be defined by means of a MOF-compliant metamodel.
- 6.5.1.5 Proposals shall provide a non-normative demonstration of a CVL description applied to a base model in UML including profiles.

CVL RFP 6.5.2 Semantics

- 6.5.2.1 The proposal shall define the semantics of the variability language e.g. by using QVT or other transformation languages. The execution of a variability model with specific resolutions should result in either alterations (at runtime) of an executing product (system), or materialize (by filtering or by generation) as a specific product model in the base language.

CVL RFP 6.5.3 Notation

- 6.5.3.1 Proposals shall specify the complete concrete syntax for CVL,
- 6.5.3.2 Proposals shall demonstrate how the notation of Feature Diagrams can be integrated within the concrete syntax of the proposed language.
- 6.5.3.3 Proposals shall define the notation for relationships either in separate descriptions or as annotations to the base model notation.

6.6 Optional Requirements

- 6.6.1 Interface between CVL tool and base language tool

  Proposals may define a standardized interface (e.g. by using IDL [IDL]) to be realized by the base model tools to support seamless integration with tools that support the variability language

6.7 and 6.8

- 6.7 Issues to be discussed
  - Proposals shall discuss to which degree the proposed language can be defined by other meta-metamodeling facilities than MOF.
- 6.8 Evaluation Criteria
  - To which degree the proposed language covers exactly the domain of variability mechanisms.
  - The size and complexity of the language, favoring the small and simple.

CVL in OMG

- Request for Proposals in end of 2009
- Initial Submissions in end of 2010
- Revised Submission in September 2012
- Joint Submission Team
  - Initiators from MoSiS project:
    - SINTEF and University of Oslo and Tecnalia
  - Research institutes and universities
    - University of Waterloo, IT University of Copenhagen, INRIA, Fraunhofer FOKUS, CEA
  - Tool vendors
    - IBM (Rational), pure-systems, Atego
  - Users and consultants
    - Thales, TCS