KumbangTools

for modelling and configuring large variability

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As a meta-model (ontology) called Kumbang

van Ommering, 2000
Kumbang Meta-Model

- Kumbang is a *meta-model* (domain ontology, conceptualization), and a *language* for configurable applications
- Kumbang provides concepts for modelling variability from two viewpoints adhering to IEEE 1471-2000 standard
  - The user-visible characteristics, i.e., *features*
  - Synthesizes existing methods
  - The *structure* of the products in terms of components, interfaces etc.
    - Builds on Koala concepts and representation, but does not require Koala component model
- Interrelations between the views can be specified
- Kumbang is provided a formal semantics by defining a mapping from the meta-model to weight constraint rule language
- Supports domain engineering (variability modelling, types) and application engineering (product derivation, instances)
KumbangTools

Domain engineering by Kumbang Modeller

Application engineering by Kumbang Configurator

Kumbang Core uses AI inference engine smodels
KumbangTools

- KumbangTools
  - Feature and structural viewpoints adhering to Kumbang meta-model
  - Several representations to the model such as component type listing, structural diagram, and structure tree
  - Eclipse plug-ins
  - Uses AI inference engine smodels
  - Freely available under GPL
- *Kumbang Modeller* for creating a model of the variability (domain engineering) in a software product family
  - Checks model validity
- *Kumbang Configurator* for resolving the variability (product derivation) in a software product family to meet the specific set of requirements
  - Checks completeness, consistency, and consequences
Demo!

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Final Remarks

- Demo available
- Tools and material available:
  - A USB memory stick here at SPLC for copying
  - www.soberit.tkk.fi/preago
Thank you!

Questions?

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