

Crossed-Project Reference for Managing Model Variations

Hironobu Kuruma¹ **Thai Son Hoang²**

¹Research and Development Group, Hitachi Ltd., Japan

²ECS, University of Southampton, U.K.

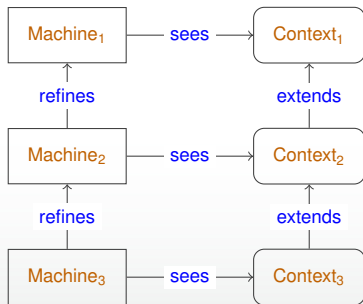
RODIN Workshop 2016

Linz, Austria

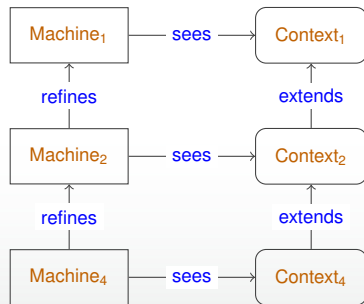
23rd May 2015

- ▶ An Event-B model comprises:
 - ▶ **machines**
 - ▶ **contexts**
 - ▶ combined using **refines**, **extends**, or **sees** relationship.
- ▶ **Encapsulation** within a project.

An (Abstract) Example

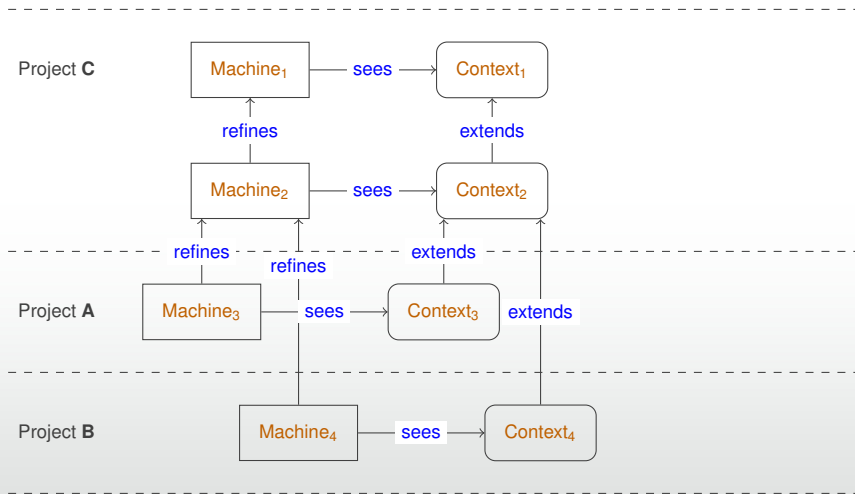


(a) Project A

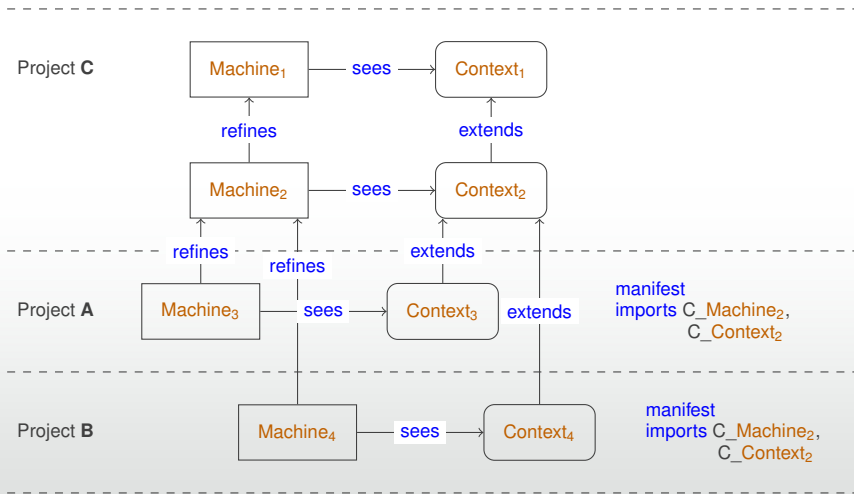


(b) Project B

- ▶ **Sharing** common project components
- ▶ **Project C**: $Machine_1$, $Context_1$, $Machine_2$, $Context_2$
- ▶ **Project A**: $Machine_3$, $Context_3$
- ▶ **Project B**: $Machine_4$, $Context_4$



- ▶ Referencing components from **other** projects.
- ▶ Experimentally introduced a **reference mechanism** into Rodin.
- ▶ A **manifest** component is added for each project.
- ▶ Identifying **components to be imported**.
- ▶ Imported components are **prefixed by project name**
- ▶ **imports** relation must be **acyclic**.



- ▶ **manifest** file is a Rodin Database extension.
- ▶ Renaming and copying the statically checked files.
- ▶ **No verification** is required for the imported components.

A manual imitation !!!

- ✓ The static checker works with the statically checked files.
- ✗ Most Rodin components require unchecked files.
 - ✗ Rodin Editor: Cannot browse to the imported files ([refines](#), [sees](#)).
 - ✗ Rodin Editor: Extended events cannot be viewed/copied.
 - ✗ Generic instantiation ([Fuerst 2014]) uses the unchecked files.


- ▶ Crossed-project reference is **useful**
 - ▶ Managing model variations.
 - ▶ Reuse components.
- ▶ Our implementation is **insufficient** for practical usage.
 - ▶ Does not propagate changes automatically.
- ▶ Further work needs to be done.

#344 Possibility of split a model in several event-b projects 🔔

Milestone: unplanned	Status: open	Owner: nobody	Labels: None
Priority: 7			
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Add possibility of refine/extend from a machine/context of a different project

Discussion



- **Group:** 3.2 --> unplanned [Link](#)

[Laurent Voisin](#)
2015-11-05

Figure: A Feature Request