Easier refactoring of composite used projects

One of the problems caused by the old approach described in Automated project usages, was in refactoring composite used projects (used projects composed of sub-used projects). Whenever a composite used project was re-arranged by removing or re-importing sub-used projects, all of the projects or used projects using this used project more often than not became affected.

The following examples illustrate this problem.

Example 1

Consider a used project *ElectricComponents* with 3 sub-used projects: *Capacitors*, *Inductances*, and *Resistances*. Consider another project *RadioSet*, which uses the used project *ElectricComponents*.

Old problematic behavior

Previous versions of our modeling tool would create these three direct user-defined usages:

- *RadioSet Capacitors,*
- *RadioSet Inductances,* and
- *RadioSet Resistances.*

Effectively, those versions were "freezing" the contents of the used project *ElectricComponents*

If you tried to refactor the used project *ElectricComponents* by removing its sub-used projects and re-importing their contents, the project *RadioSet*

Example 2

Another problem was "freezing" the used project's version. For instance, the project *RadioSet* uses the 100th version of the used project *ElectricComponents,* which in turn uses the 150th version of the sub-used project *Resistances.*

Old problematic behavior

Whenever the project *RadioSet* referenced the sub-used project *Resistances,* the direct usage would be created to the 150th version of it. If you wanted to migrate the project *RadioSet* to use the 200th version of the used project *ElectricComponents,* which used the 300th version of the sub-used project *Resistances,* a version conflict would occur, since the direct usage would be still pinned to the 150th version.

New behavior

As of version 17.0.3, automated usages do not carry information about the version and do not preclude the version update through the user-defined usage paths.

Related pages

- Resolving unconfirmed usages of packages

Complex Composition

If you already have projects with complex composition (having used projects or sub-used projects) that are prepared in any earlier version, you may want to refactor your used project structure to reap the benefits of this feature.

New behavior

As of version 17.0.3, a program creates automated used project usages instead of creating user-defined ones. So when the used project *ElectricComponents* is refactored, it keeps the same model elements but changes its structure. Furthermore, the automated usages in the project *RadioSet* are automatically rearranged.

Another types of problems

Now problems could occur only if the rearranged used project does not contain all the same elements it had before the rearrangement. Thus some automated usages may turn into unconfirmed ones. For more information about unconfirmed usages, see Controlling dependency creation between used projects.