Integration with Big Lever Software Gears

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Prerequisites

- MagicDraw/Gears Bridge is installed on the modeling tool.
- An asset model is defined in the Big Lever Software Gears program.
- A system model (a superset or 150% model) is defined in MagicDraw.

> **Modeling tool**
> MagicDraw as a modeling tool is used in descriptions as an example.

Connecting asset and system projects

To connect asset and system models

> **Note**
> This procedure is required when starting the project for the first time.

1. In Big Lever Software Gears, click **Add New Asset**, choose the **MagicDraw Project or Package** type of an asset name, and click **OK**.
2. Open the system project in MagicDraw.
3. Define the Bridge Asset URI. In MagicDraw, select the root package (the Model) of your system project. On the main menu, click **Tools** > **Gears** > **Show Project or Package URI**. The URI address appears in the **Gears Output** window. Copy the address and return to the Gears program. Paste the address in the **Bridged Asset URI** box in the **Asset Properties Editor** dialog and click **OK**.
4. Set the Gears focus in MagicDraw. Switch to MagicDraw and, on the main menu, click **Tools** > **Gears**> **Set Gears Focus**. In the **Set Gears Focus** dialog, browse to the Gears project and click **Select** after you are done.

Specifying the variation points in the system model

In the system model, in a modeling tool, you must specify variation points and define how the feature choices impact the variation point. Variation points can be set on Blocs.

To set variation points

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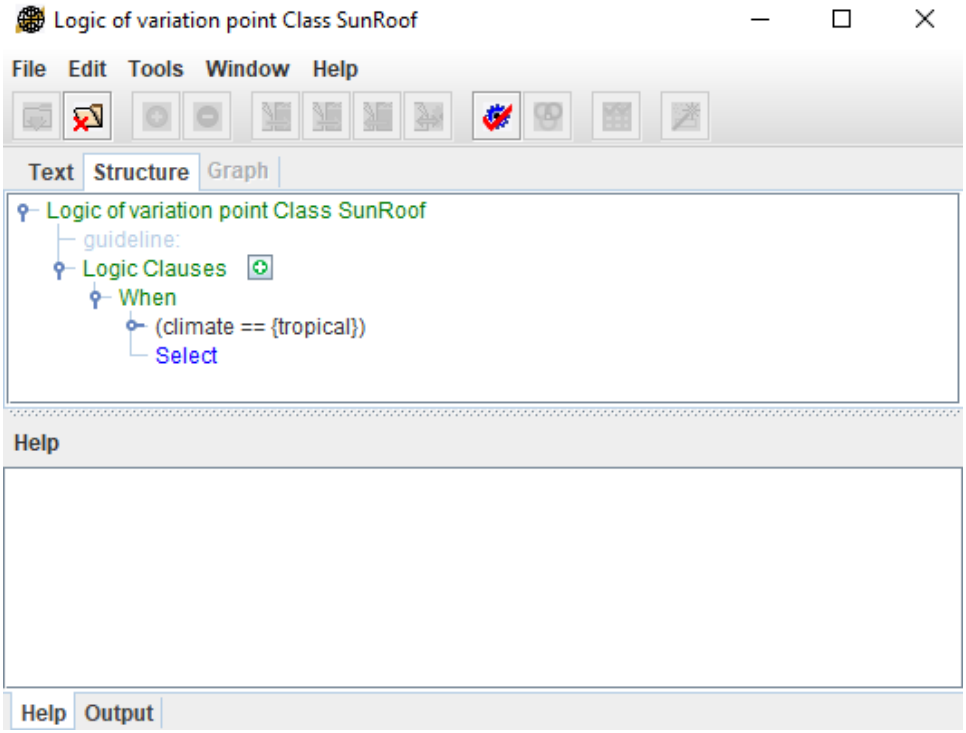
1. In the Block Definition Diagram (BDD), select an element (either an element in the Model Browser or a symbol on a diagram pane) for a variation point.
2. Open the shortcut menu of the selected element. Click **Gears** > **Convert to Variation Point**.
3. Provide the variation point logic to define how the feature choices impact this variation point. Select an element declared as a variation point and, in the element's shortcut menu, click **Gears** > **Edit Logic**.

4. In the open **Logic of variation point** dialog, create the expression and save it.



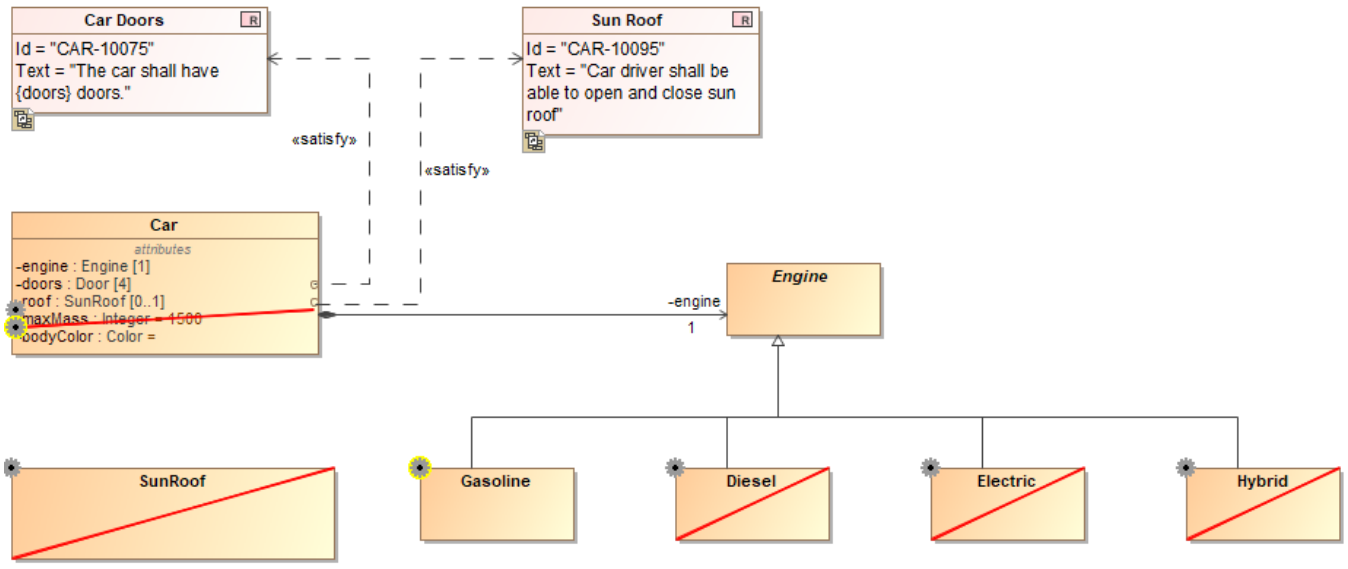
5. Repeat steps from #2 to #4 for all elements you need to set as variation points.

Generating a particular product variant

After assigning variation points and their logic, you can generate a particular product variant.

To preview a particular product variant realization

1. On the main menu, click **Tools** > **Gears** > **Actuate**.
2. In the **Actuate Gears Product** dialog, select one of the defined product configurations and click **OK**. Model elements not needed for this product configuration have a red line across them. Model elements that are needed are highlighted in yellow.



Notation of elements in the model after actuating the project by a defined product configuration.

To generate a particular product variant

1. On the main menu, click **Tools** > **Gears** > **Actuate to Staging Area**.
2. In the **Actuate to Staging Area** dialog, select a product to actuate, specify a location to save a product variant, and type a suffix and/or prefix to add to a project name if needed. Click **OK** after you are done.

Note

You can also generate a particular project variant in the Gears program. In this way, you can cut not only the system model in MagicDraw, but all artifacts connected to the Gears project - requirements, documentation, etc.

Related pages

- Integration with pure::variants
- Creating variants using transformations

Other resources

- Product Line Engineering Meets MBSE — the Best of Both Worlds. A record of the webinar.