

# Activity Decomposition Hierarchy Wizard



This functionality is available in Standard, Professional, Architect, and Enterprise editions only.

The **Activity Decomposition Hierarchy Wizard** allows you to convert an activity into a class and SysML Block Definition Diagram. This provides the ability to represent, analyze, and document activity hierarchies in the structure diagrams.

Diagram generation rules include:

- Behaviors will be connected with contained object node types by compositions. The name of the object node that corresponds to the composition will be used as the end name of the association on the end towards the object node type.
- Pins are not included in the calculation.
- CallBehaviorActions that are not directly in the Activity, but are in the Structured Activity Nodes contained by the Activity, for example, are also included in the calculation.
- An activity will be connected by composition association with other behaviors that are called by CallBehaviorActions. The part end name must be the same as the name of a CallBehaviorAction in the composing activity. If the action has no name, then the end name is as same as that of the invoked activity.
- Hierarchical layout - Top to Bottom is used to arrange the generated diagram.
- If CallBehaviorAction calls the same activity, the composition to self will be displayed on the generated diagram.  
Recursive structure analysis will be stopped after reaching a behavior that has already been analyzed. This requirement prevents an endless cycle.
  - In such a case, the composition will be created in a previously analyzed activity in the diagram. The new behavior symbol will not be created.
  - There will be as many compositions from one activity into another as different CallBehaviorActions call this activity.

To create a diagram using the **Activity Decomposition Hierarchy Wizard**

1. Open the **Activity Decomposition Hierarchy Wizard** by doing one of the following:
  - On the **Diagrams** menu, select **Diagram Wizards > Activity Decomposition Hierarchy Wizard**.
  - From the **Analyze** menu, select **Model Visualizer**. In the open Model Visualizer dialog, select to open the **Activity Decomposition Hierarchy Wizard** and click **Start**.
2. Follow the steps as directed by the wizard.

What you should know when selecting structure:

- The **Add contained Object Nodes** check box is selected by default. Types of object nodes are displayed and connected to the composition with activities containing object nodes.
- The **Search recursively** check box is selected by default. The search will be conducted in the selected activity and those activities invoked by CallBehaviorActions that are in the selected activity. This search is recursive. If not selected, the search will be conducted in only one level of the selected activity.