## **SysML Allocation Matrix modes**

When creating a new SysML Allocation Matrix, you can select the kind of matrix you want to create: **Definition** or **Usage**. The definition elements are Activity and Block; usage elements are Action and Part Property. Rows in the matrix represent either the Activity or Action that are the clients of the Allocate relationship. Columns in the matrix represent either the Block or Part Property that are the suppliers of the Allocate relationship.

By default, each time you create a new SysML Allocation Matrix in the SysML projects, the **Create SysML Allocation Matrix** dialog appears, shown in the figure below. The usage allocation matrix is created by default, when creating a new SysML Allocation Matrix in the MagicGrid project. You can change that by specifying the **SysML Allocation Matrix Mode** option value in the **Project Options** dialog. How to change the SysML Allocation Matrix Mode >>

| X Create SysML Allocation Matrix   | × |
|--|---|
| Selecting SysML Allocation Matrix Mode   |   |
| Select the Definition or Usage mode that displays allocation<br>relationships between either the Activity and Block or<br>Action and Part elements in the SysML Allocation Matrix. | n |
| Select SysML Allocation Matrix Mode:   |   |
| O Definition (Activity allocated to Block)   |   |
| Usage (Action allocated to Part)   |   |
|  |   |
| OK Cancel  |   |

The Create SysML Allocation Matrix dialog where you can select the Definition or Usage mode.

The examples of Usage and Definition modes are illustrated below. Figures are created by using the distiller model.mdzip sample model that comes only with the SysML Plugin.

| Definition mode                               |                                 |        |           |                |             |       |    | Usage mode                     |   |                 |                              |                     |                 |                       |                |             |             |             |               |                          |
|---|---------------------------------|--------|-----------|----------------|-------------|-------|----|--------------------------------|---|-----------------|------------------------------|---------------------|-----------------|-----------------------|----------------|-------------|-------------|-------------|---------------|--------------------------|
| Legend<br>↗ Allocate<br>,↗ Allocate (Implied) | 📩 Revised Distiller Structure 📋 | Boiler | Distiller | Heat Exchanger | Tee Fitting | Valve |    |                                |   | P : Tee Fitting | P condenser : Heat Exchanger | P diverter assembly | P drain : Valve | P evaporator : Boiler | P feed : Valve | main1 : H20 | main2 : H20 | main3 : H20 | P main4 : H20 | P splitter : Tee Fitting |
| ⊡ 5. Refined                                  |                                 |        | 2         |                |             | 2     | 11 | 🖃 🔁 Distill Water [5. Refined] |   |                 | 2                            | 1                   | 1               | 1                     |                |             |             |             |               |                          |
| 🔁 Boil Water                                  |                                 |        |           |                |             |       | 18 | a1:Heat Water                  | 1 |                 | 7                            |                     |                 |                       |                |             |             |             |               |                          |
|   |                                 | i –    |           |                |             |       |    | a2:Boil Water                  | 1 |                 |                              |                     |                 | 7                     |                |             |             |             |               |                          |
| 🔁 Distill Water                               |                                 | i –    |           |                |             |       |    | a3:Condense Steam              | 1 |                 | 7                            |                     |                 |                       |                |             |             |             |               |                          |
| 🔁 Divert Feed                                 | 2                               | i –    | 27        |                |             | 2     |    | a4:Drain Residue               | 1 |                 |                              |                     | 7               |                       |                |             |             |             |               |                          |
| 🔁 Drain Residue                               |                                 |        |           |                |             |       |    | a5:Divert Feed                 | 1 |                 |                              | 7                   |                 |                       |                |             |             |             |               |                          |
| 🔁 Heat Water                                  |                                 |        |           |                |             |       |    |                                |   |                 |                              |                     |                 |                       |                |             |             |             |               |                          |
| 🔁 Meter Flow                                  | 2                               |        | 27        |                |             | 7     |    |                                |   |                 |                              |                     |                 |                       |                |             |             |             |               |                          |
| B Separate Flow                               |                                 |        |           |                |             |       |    |                                |   |                 |                              |                     |                 |                       |                |             |             |             |               |                          |

The definition and usage SysML Allocation matrices.

To change the default SysML Allocation Matrix mode

From the main menu, select Options > Project.
 In the Project Options dialog, expand the General node and select SysML.
 Select the SysML Allocation Matrix Mode option value:

 Definition (Activity allocated to Block)
 Usage (Action allocated to Part)
 Always Ask

 Click OK.

 The default SysML Allocation Matrix mode is selected and will be applied each time you create a new SysML Allocation matrix.