

Modeling Elements

Introduction

- ❖ SysML includes modeling elements that do not belong to any specific SysML diagram.
- ❖ These modeling elements can be used in various diagrams.

Rationale

- ❖ Adding the “<<rational>>” stereotype to the UML comment element, we can use that comment to provide more information about the principles or the reasons for the way we chose to build our model.

Rationale

req [package] engine [car specification]

<<requirement>>

Engine Volume

id = "Requirement1002"

text = "The engine volume should be bigger than 2000"

<<rationale>>

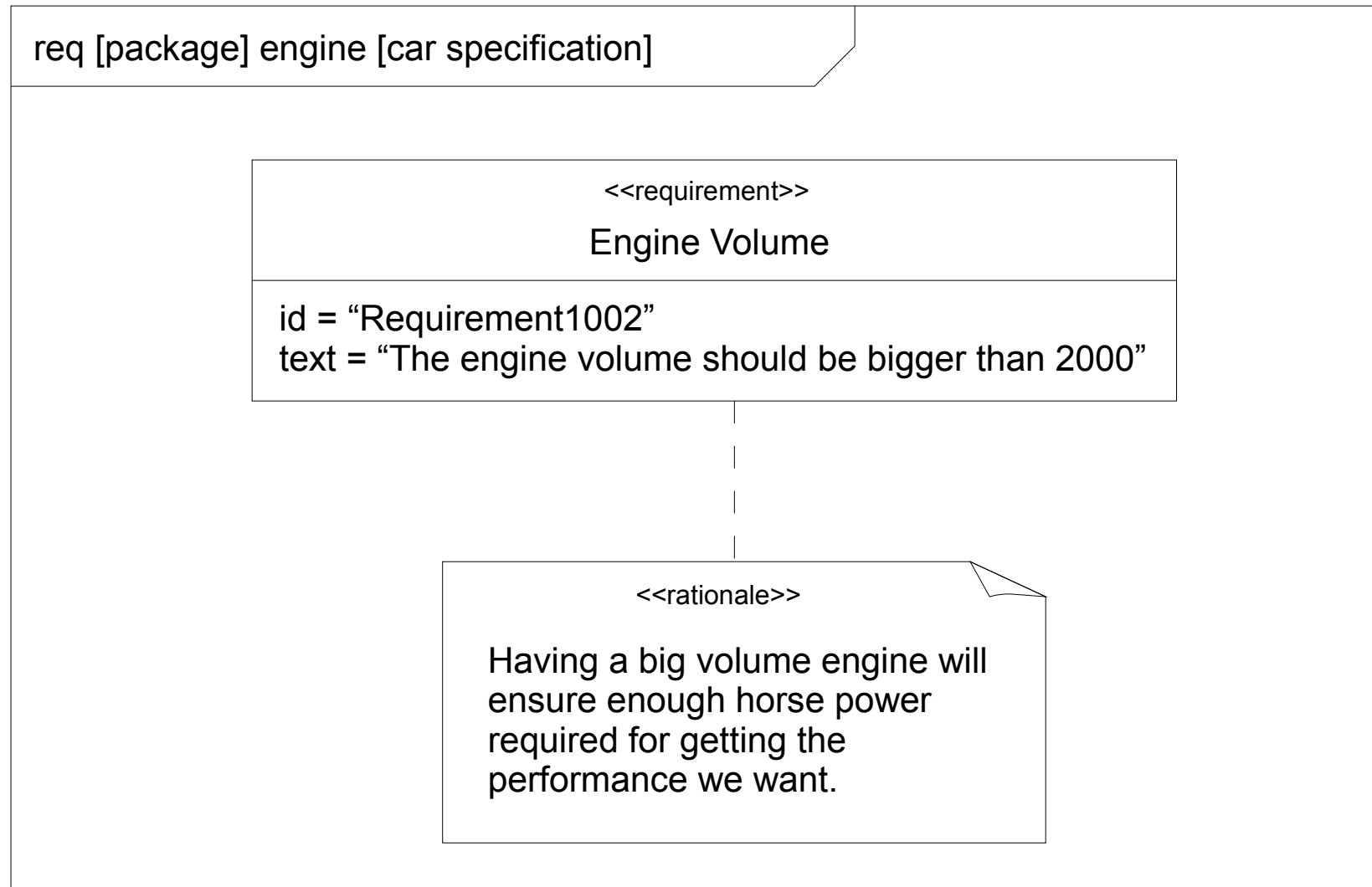
Having a big volume engine will ensure enough horse power required for getting the performance we want.

Diagram Frame

- ❖ Unlike UML, putting the diagram within a frame is mandatory.
- ❖ On top left of our frame we can denote the model element and the element type (in addition to the diagram type and the diagram name).

```
diagram_type [model_element_type] model_element_name [diagram_name]
```

Diagram Frame



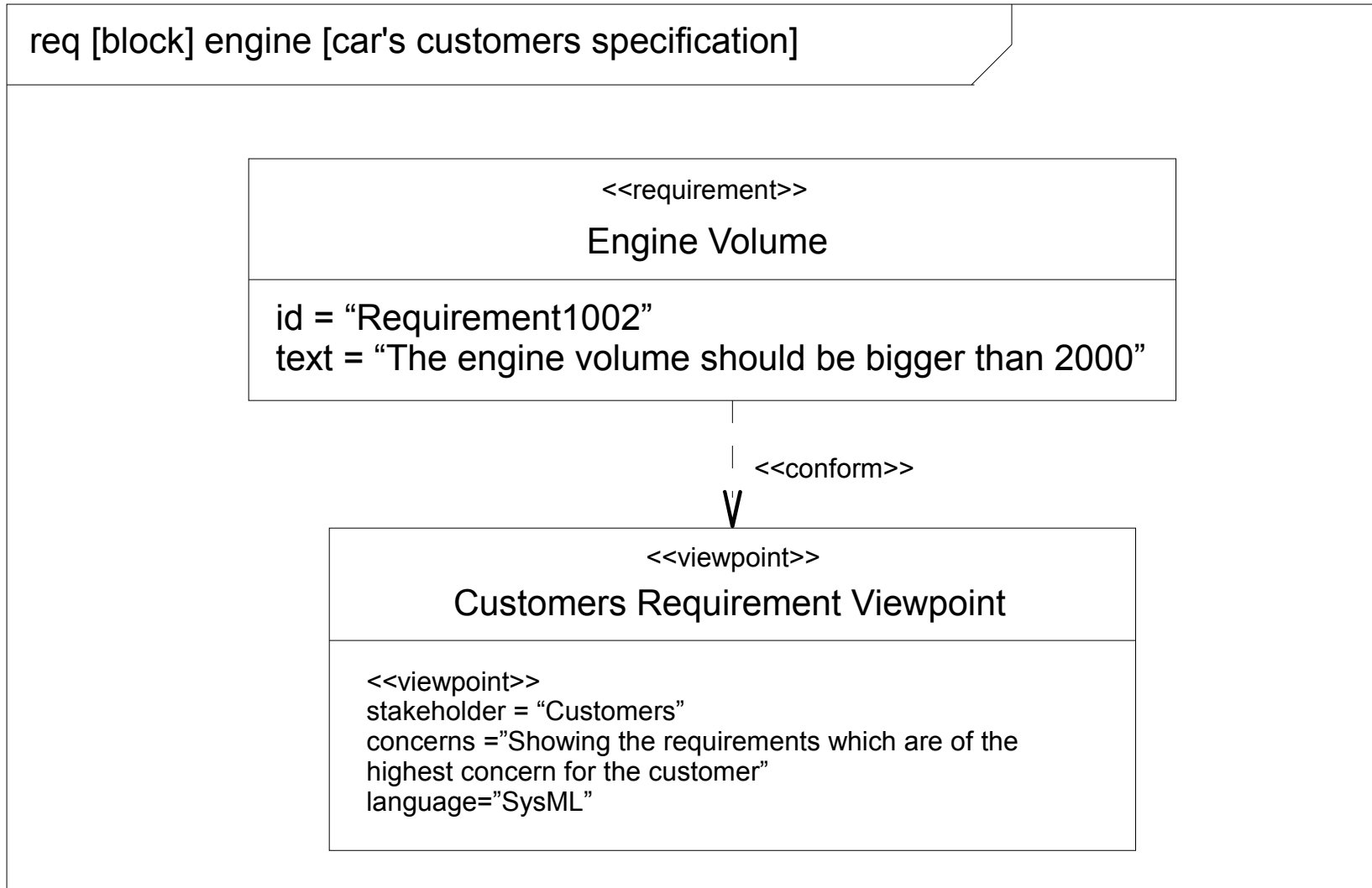
Model View

- ❖ The view is a representation of the entire system as it is seen from a defined viewpoint. Denoting the view is done using the <<view>> stereotype and the package diagram notation.
- ❖ The viewpoint specifies the structure of a view based on the goals of a set of stakeholders. Denoting the viewpoint is done using the <<viewpoint>> stereotype and the block diagram.

Model View

- ❖ The conform relationship binds a view with a viewpoint. We use the dependency arrow together with the <<conform>> relationship in order to depict this relationship.

Model View



Problem

- ❖ Using the <<problem>> stereotype together with the UML comment element it is common to document potential errors or flaws in our model.

Problem

req [block] engine [car's customers specification]

<<requirement>>

Engine Volume

id = "Requirement1002"

text = "The engine volume should be bigger than 2000"

<<problem>>

Due to specific country taxes regulations it might be required to set the volume a bit lower than 2000.

Modeling Elements

05/17/09

© 2009 Haim Michael.

1

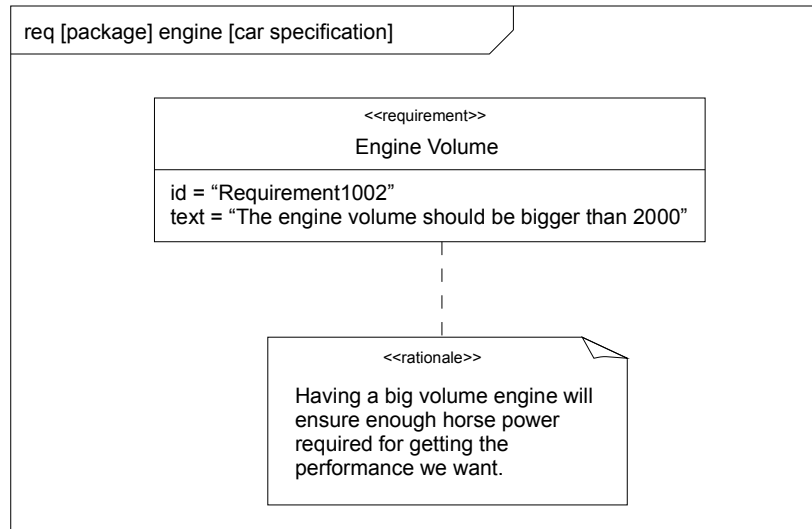
Introduction

- ❖ SysML includes modeling elements that do not belong to any specific SysML diagram.
- ❖ These modeling elements can be used in various diagrams.

Rationale

- ❖ Adding the “<<rationale>>” stereotype to the UML comment element, we can use that comment to provide more information about the principles or the reasons for the way we chose to build our model.

Rationale



05/17/09

© 2008 Haim Michael. All Rights Reserved.

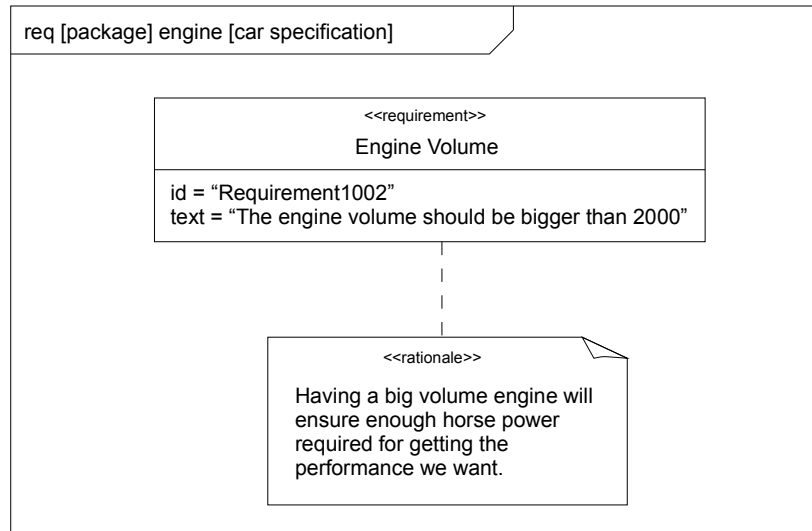
4

Diagram Frame

- ❖ Unlike UML, putting the diagram within a frame is mandatory.
- ❖ On top left of our frame we can denote the model element and the element type (in addition to the diagram type and the diagram name).

```
diagram_type [model_element_type] model_element_name [diagram_name]
```


Diagram Frame



05/17/09

© 2008 Haim Michael. All Rights Reserved.

6

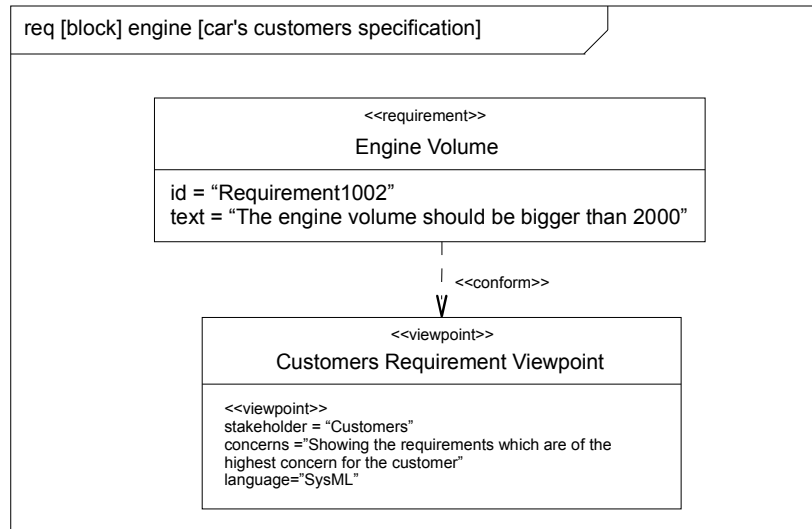
Model View

- ❖ The view is a representation of the entire system as it is seen from a defined viewpoint. Denoting the view is done using the <<view>> stereotype and the package diagram notation.
- ❖ The viewpoint specifies the structure of a view based on the goals of a set of stakeholders. Denoting the viewpoint is done using the <<viewpoint>> stereotype and the block diagram.

Model View

- ❖ The conform relationship binds a view with a viewpoint. We use the dependency arrow together with the <<conform>> relationship in order to depict this relationship.

Model View



05/17/09

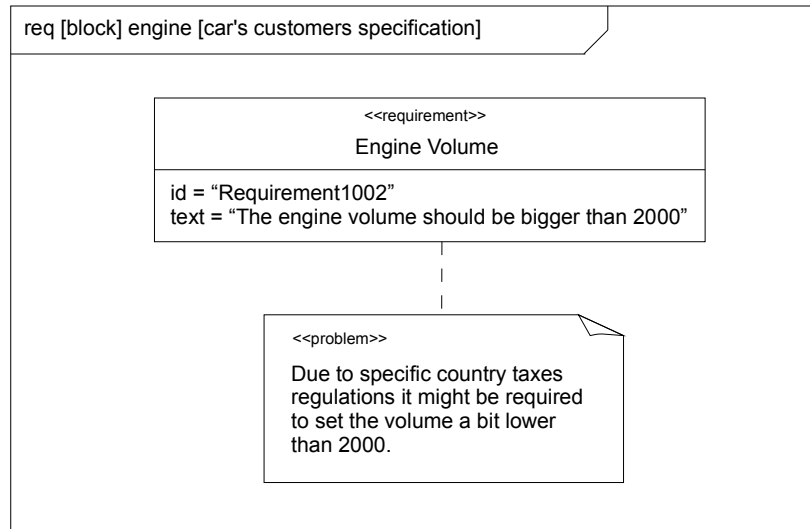
© 2008 Haim Michael. All Rights Reserved.

9

Problem

- ❖ Using the <<problem>> stereotype together with the UML comment element it is common to document potential errors or flaws in our model.

Problem



05/17/09

© 2008 Haim Michael. All Rights Reserved.

11