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Architecture Description Metamodels Kitalpha



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Version 1.0.0

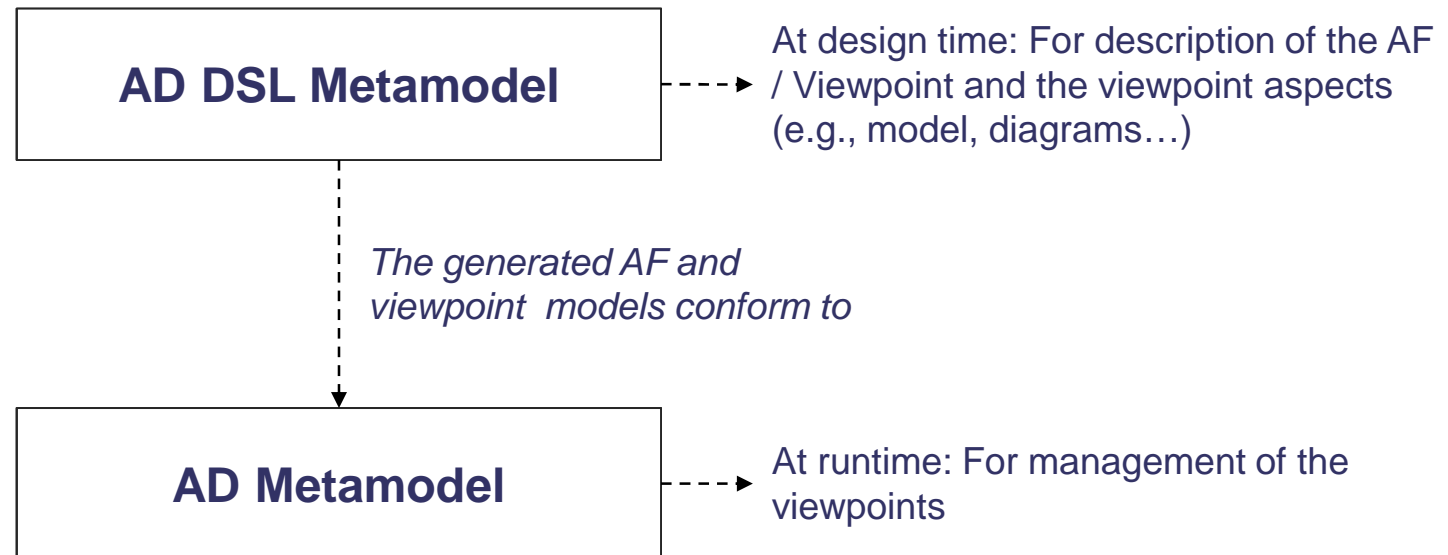
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Introduction

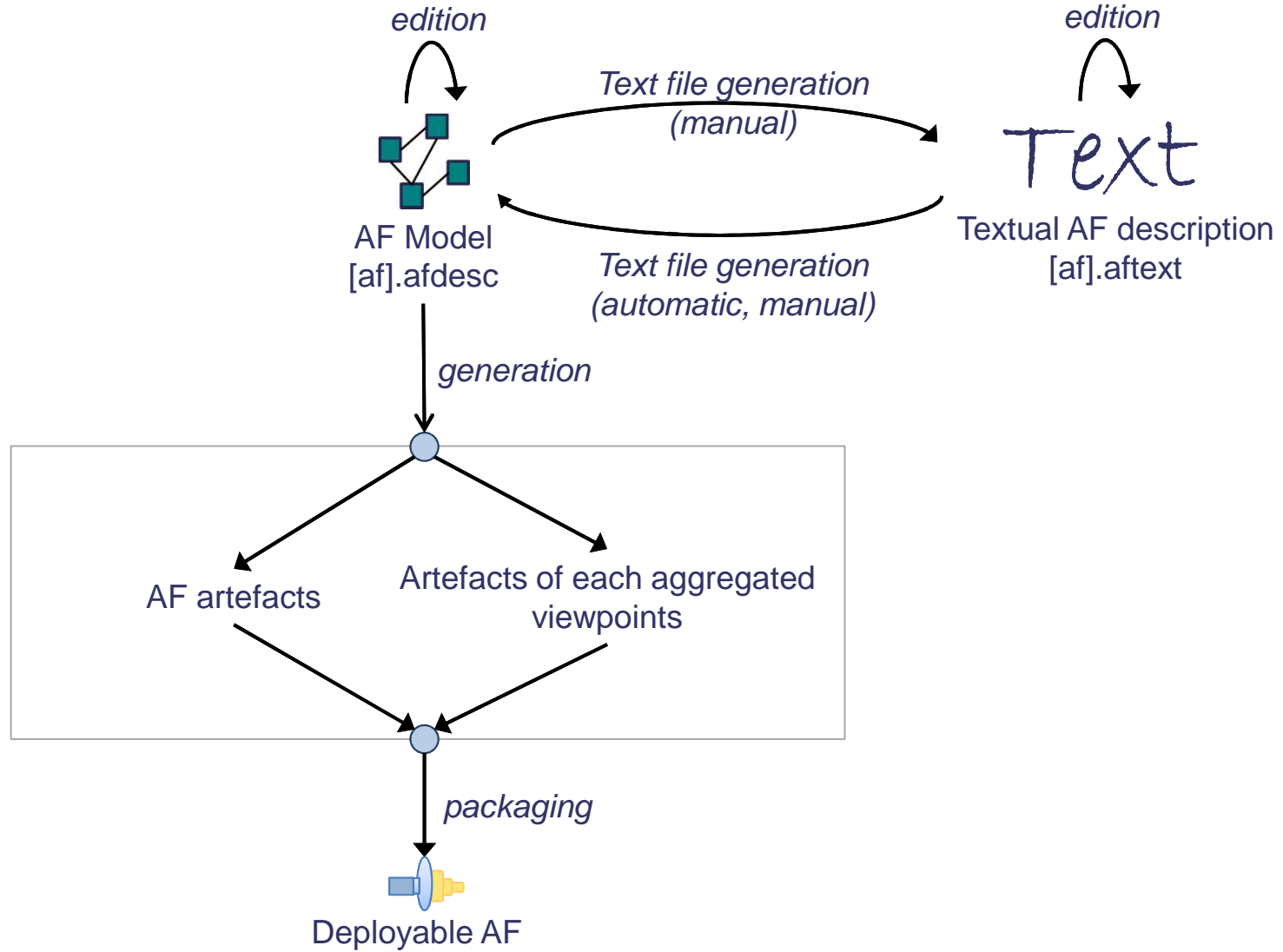


AD: Architecture Description
AF: Architecture Framework
DSL: Domain-Specific Language
VP: Viewpoint

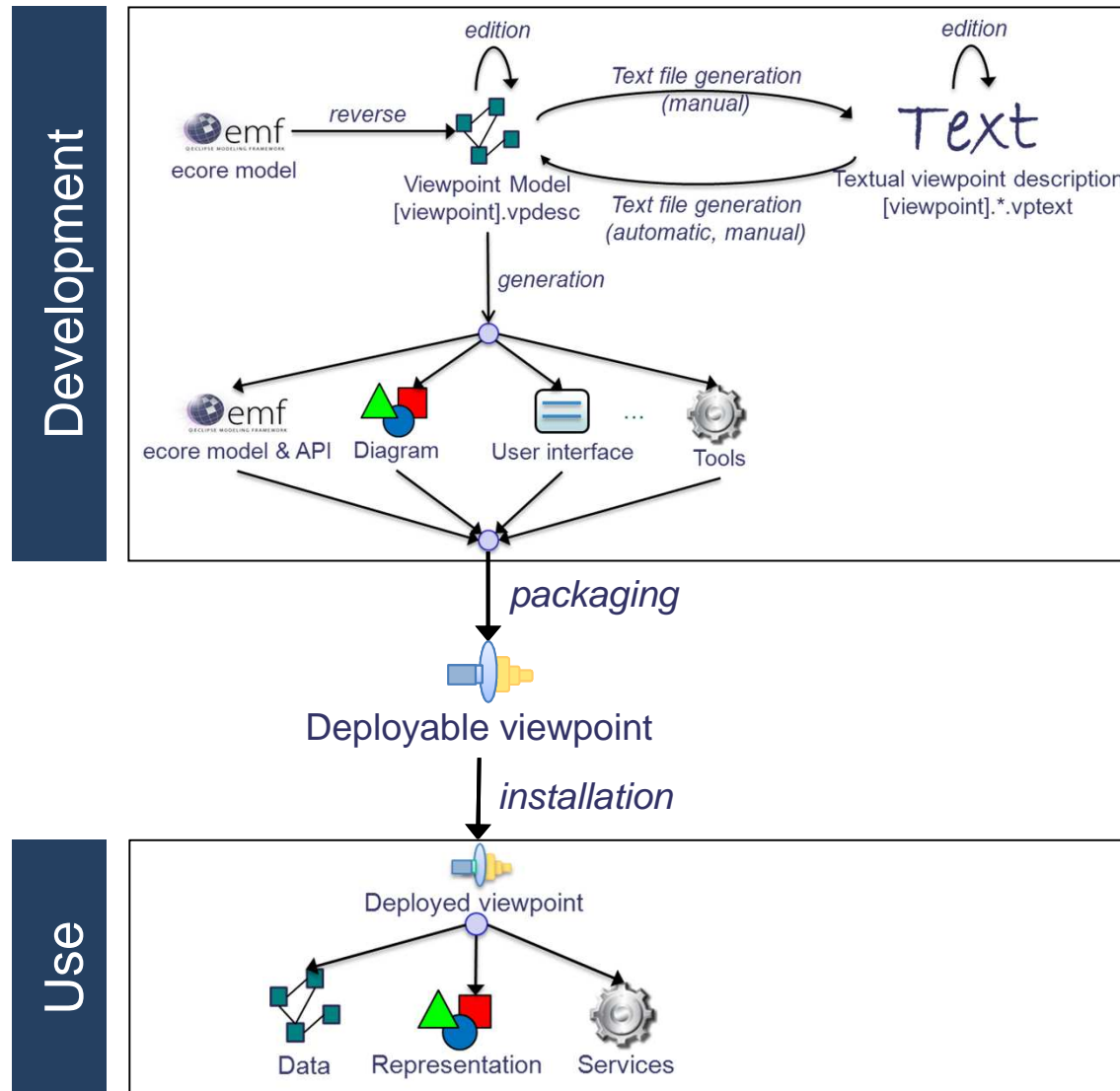
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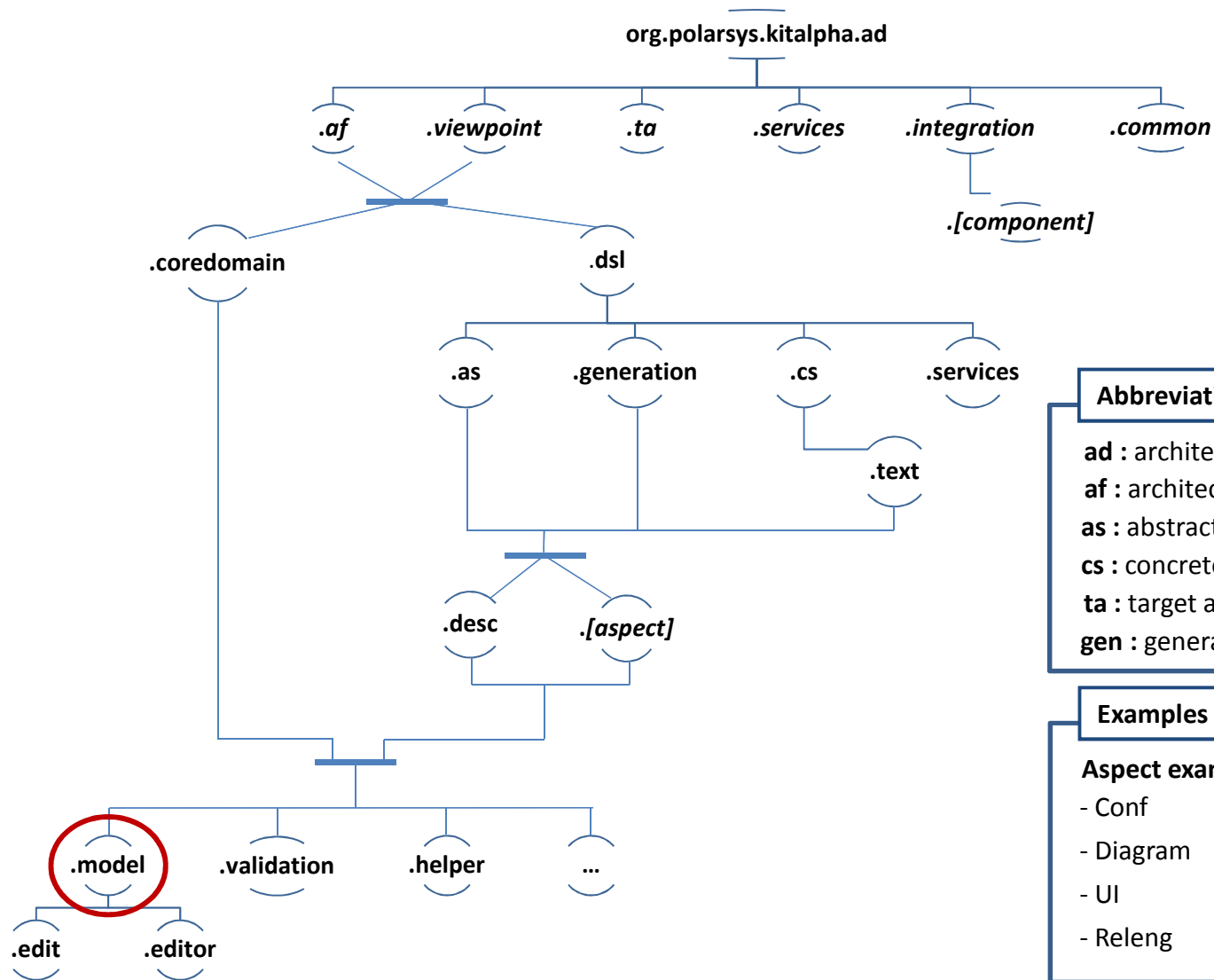
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Abbreviation

- ad** : architecture description (ISO/IEC/IEEE 42010)
- af** : architecture framework (ISO/IEC/IEEE 42010)
- as** : abstract syntax
- cs** : concrete syntax
- ta** : target application
- gen** : generator

Examples

Aspect examples	Component examples
- Conf	- eMde
- Diagram	- Sirius
- UI	
- Releng	

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AD DSL Metamodels

Architecture Framework – Structure

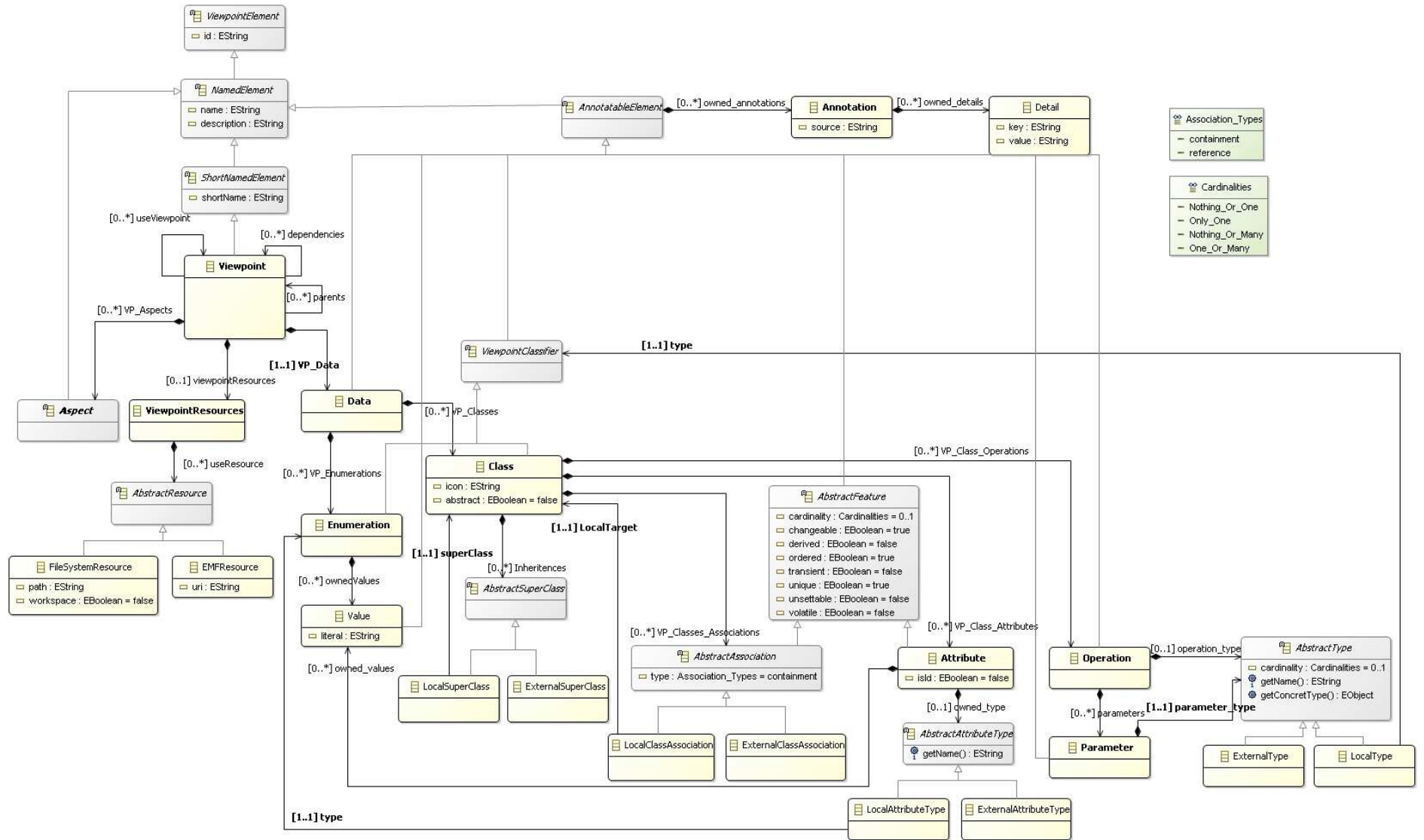
1. An AF DSL is just an aggregation of viewpoint DSLs

Viewpoint DSL – Structure

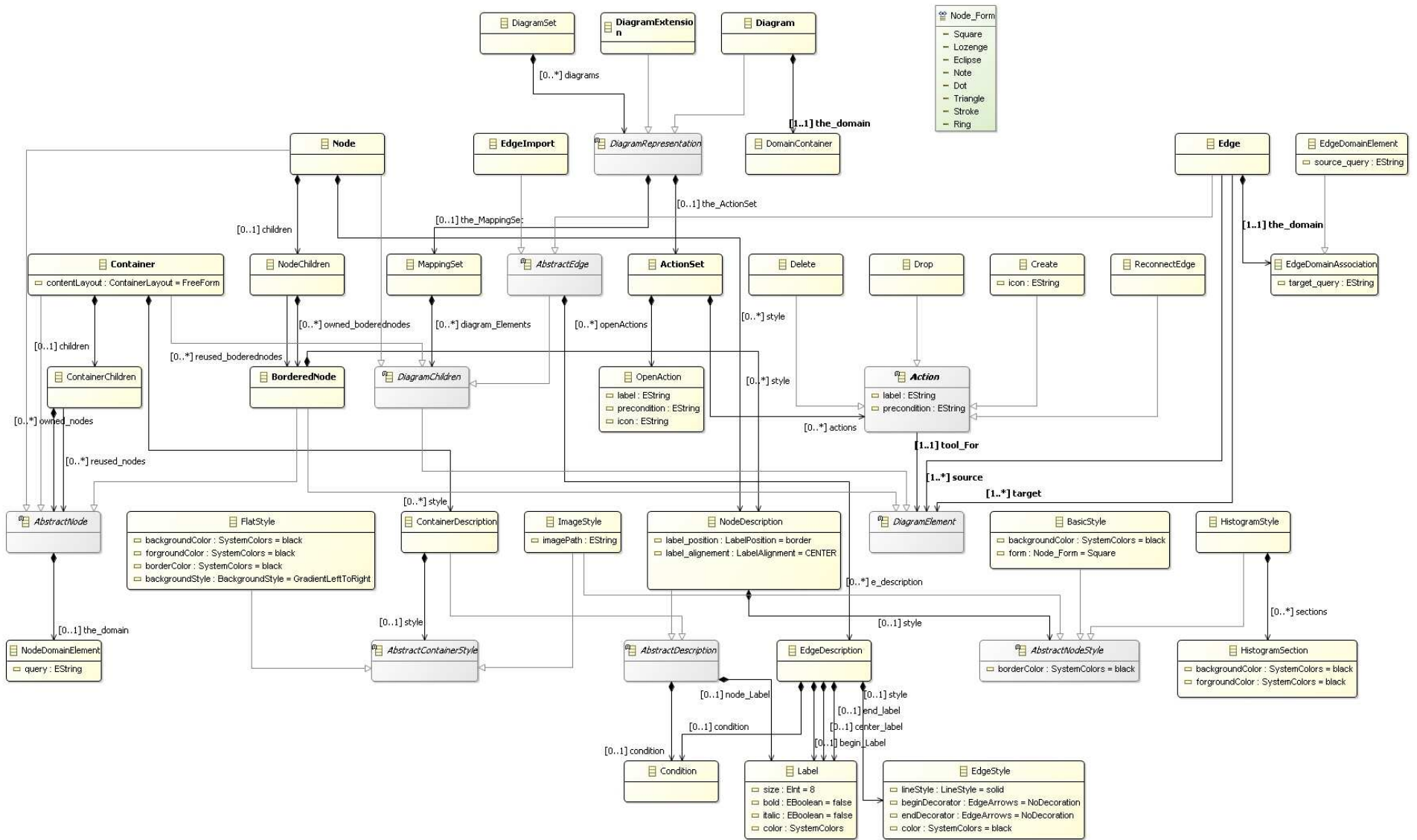
1. The Viewpoint Description is the entry point
2. The Data Aspect is mandatory even if no data are described
3. The Configuration Aspect is mandatory even if no option is described

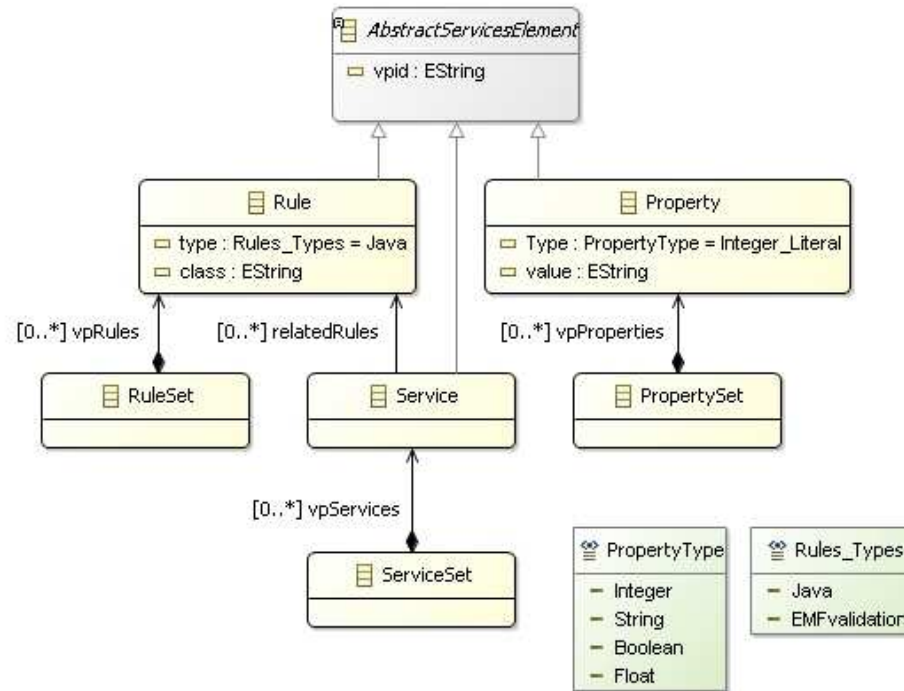
Viewpoint DSL – Extensibility

1. The Viewpoint DSL metamodel is extensible through the Aspect metaclass
2. The aspects not defined in the AD DSL metamodels are considered as additional contributions
3. The integration of a new viewpoint aspect requires: 1) a metamodel definition, 2) the implementation of an associated textual syntax, 3) the development of a generator to produce the expected artefacts.

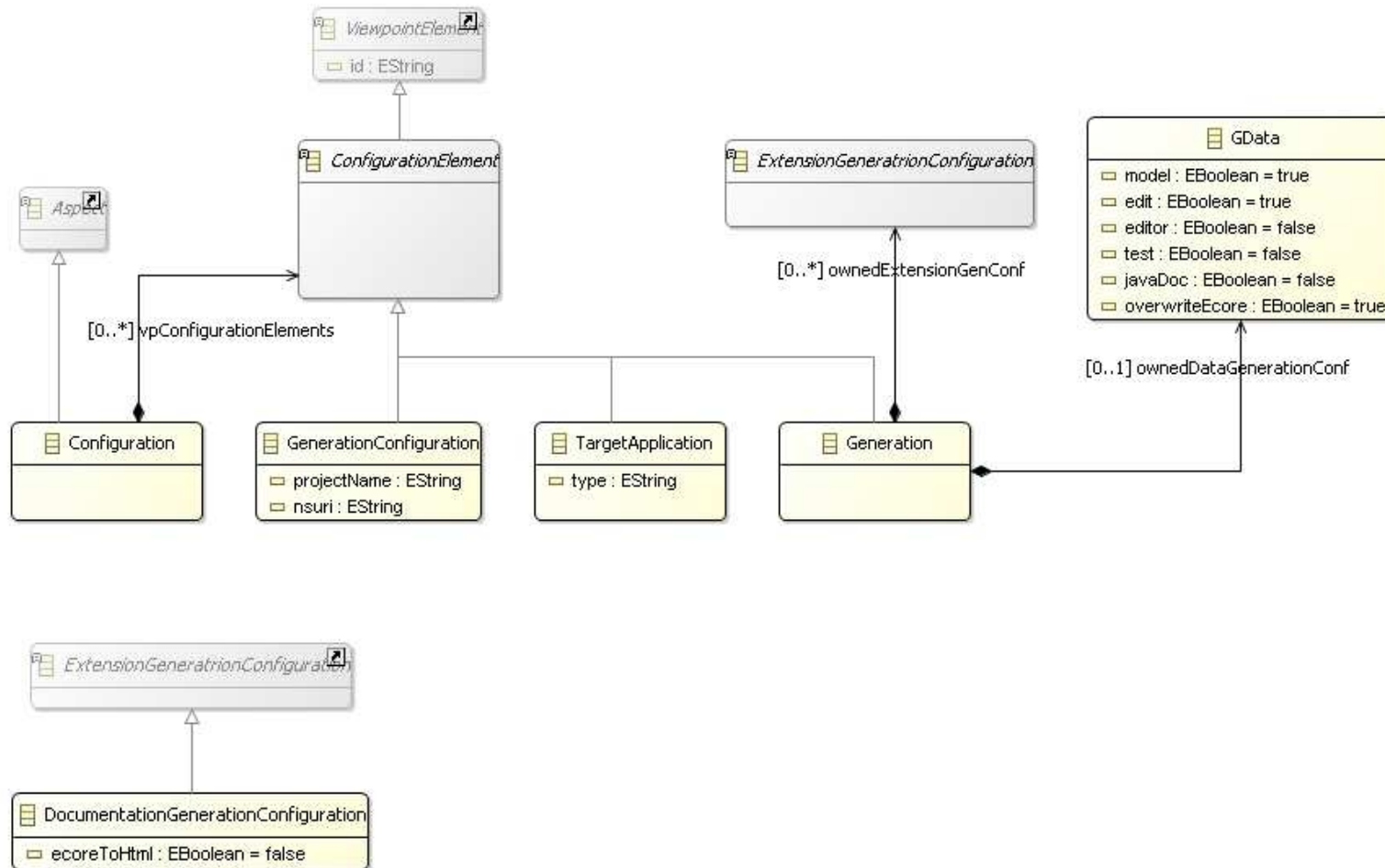


Viewpoint Diagram Description (VP Diagram)





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AD Metamodels

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General

1. The AD and Viewpoint metamodels are technical
2. The AD and Viewpoint metamodels are designed to be executable at runtime but also at design time (in the current workspace)

Architecture Framework – Structure

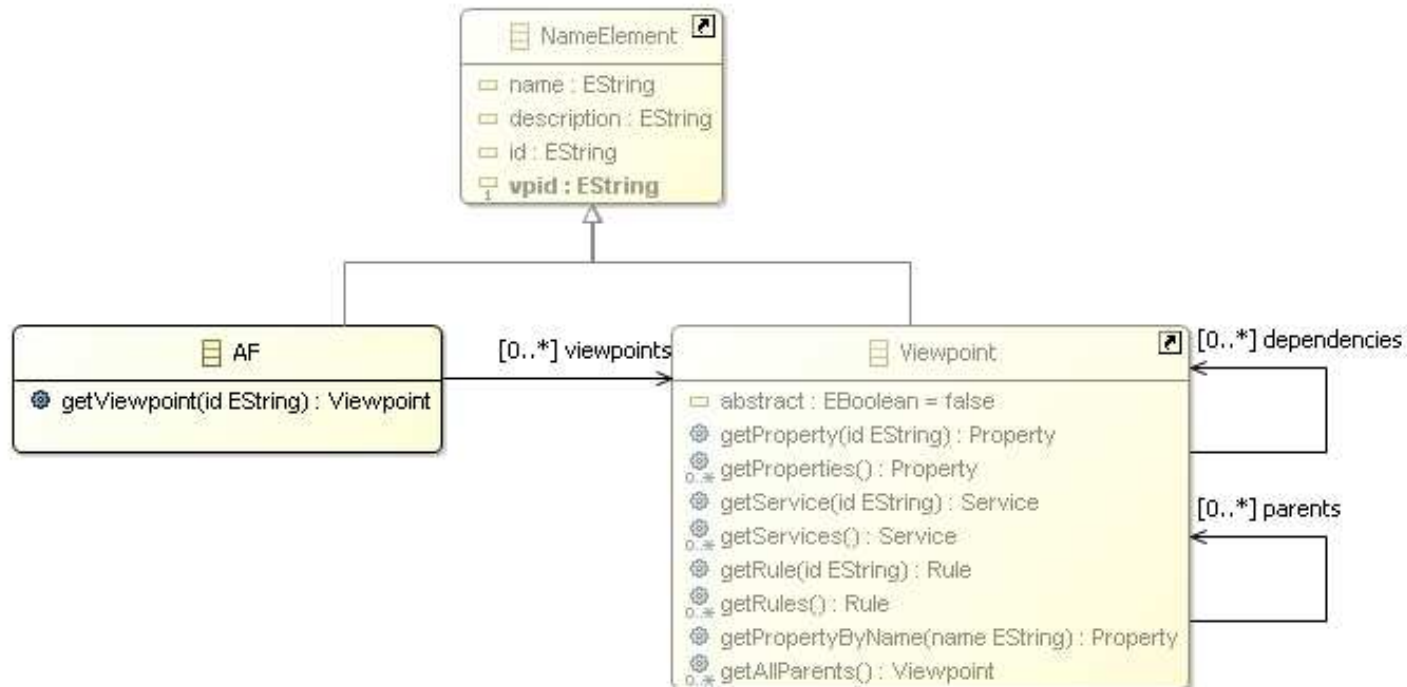
1. An AF is just an aggregation of viewpoints

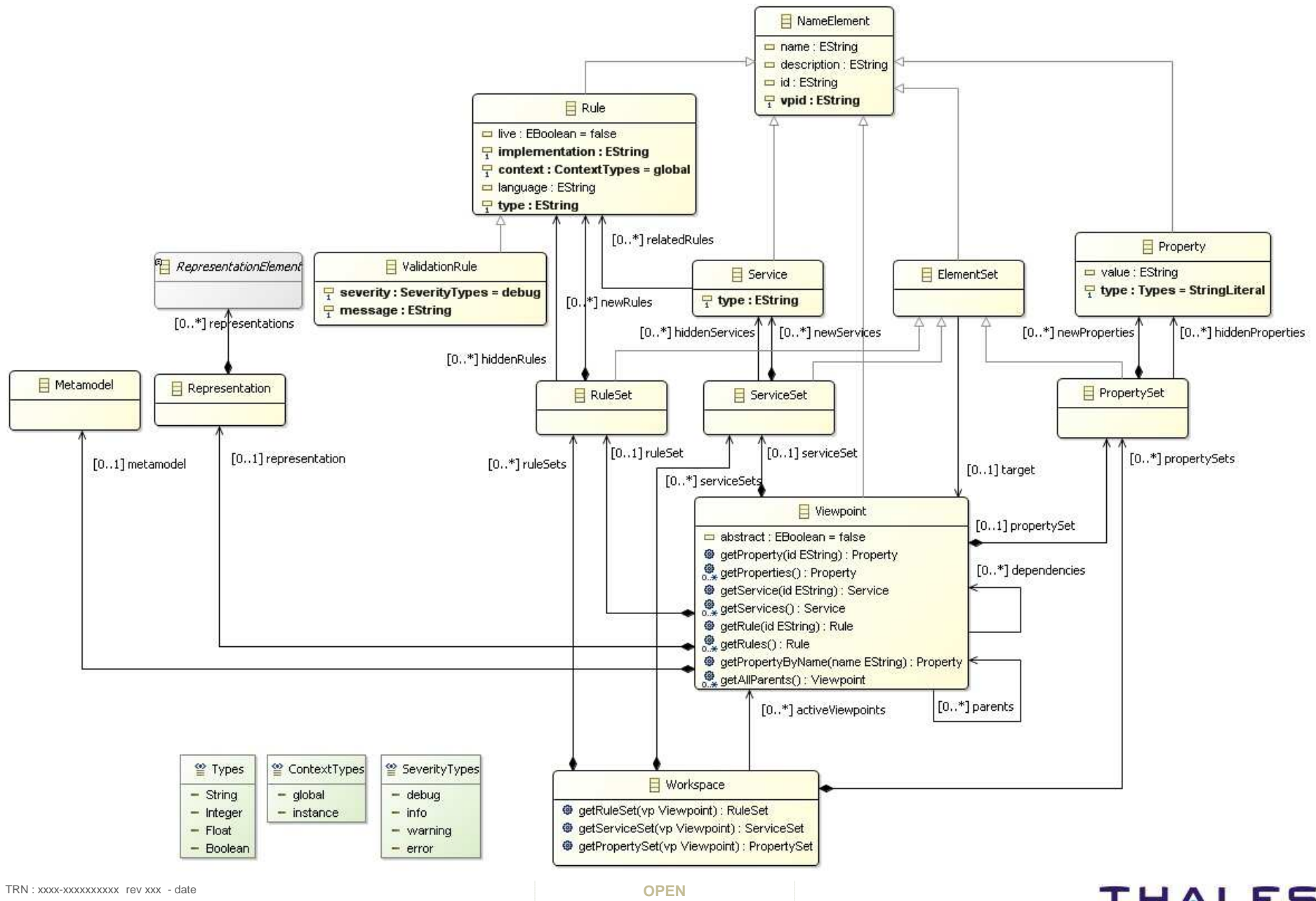
Viewpoint – Structure

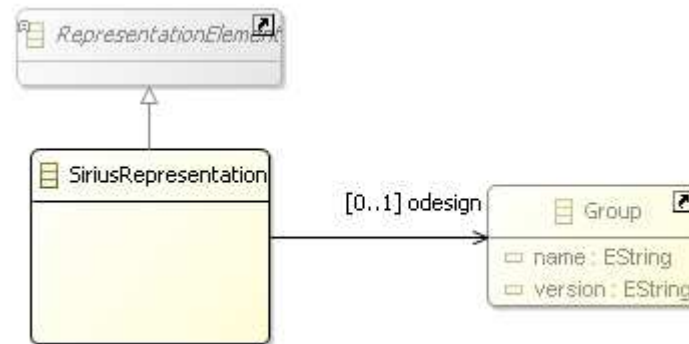
1. The Viewpoint has model and representation (e.g., diagram) references
2. Services and rules are for execution of command and code
3. Property are for the definition of Viewpoint parameters
4. Services, rules and properties can be modified at runtime

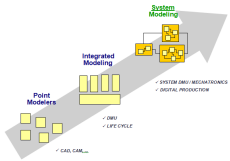
Viewpoint – Extensibility

1. A viewpoint may accept different kinds of representations
2. A representation defines the kind of object for its representation (e.g. a Group for a viewpoint in Sirius)
3. A representation integration defines how to interpret a representation









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 French and European projects



Thαnk You!

<https://www.polarsys.org/projects/polarsys.kitalpha>

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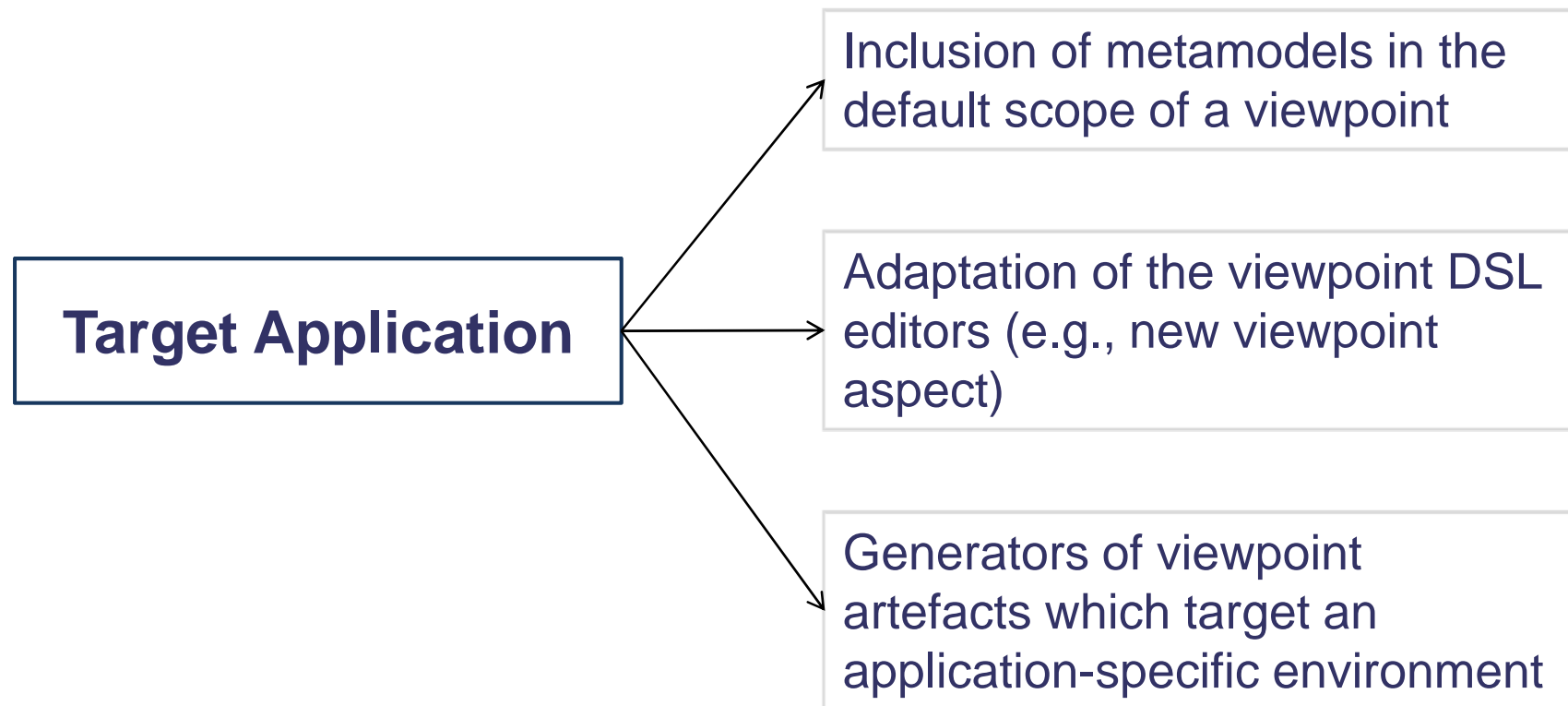
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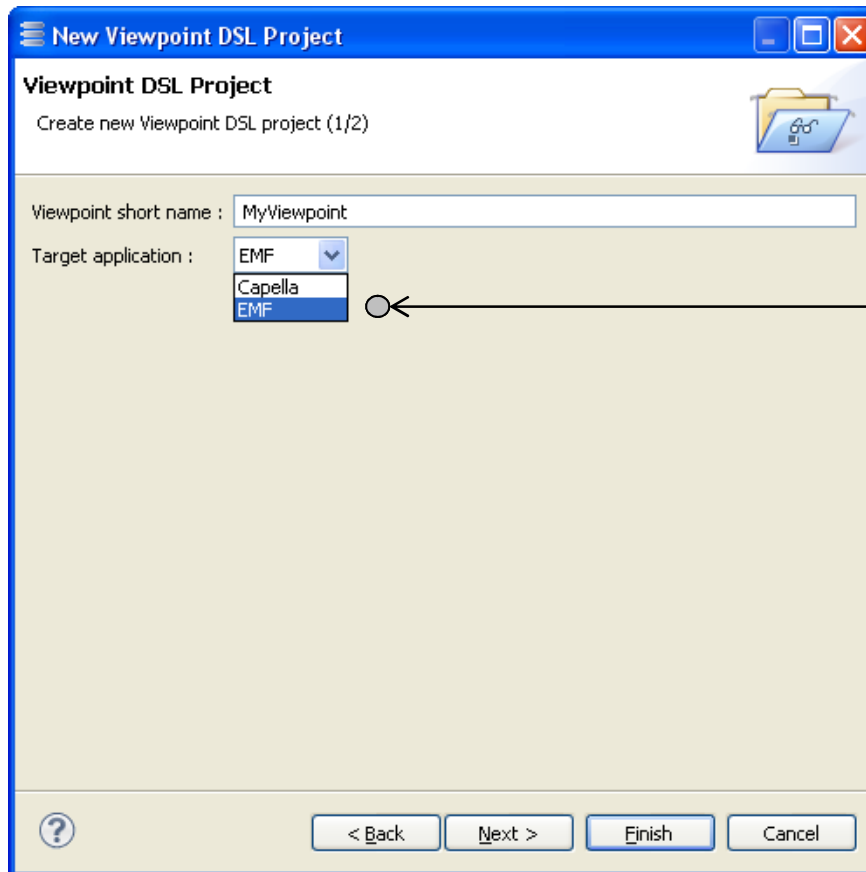
Annex

Viewpoint DSL

Target Application

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At the creation of Kitalha viewpoint project, select a target application.