DIAGRAM EDITORS
GENERATION
IN PAPYRUS

Papyrus Team
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DIAGRAM GENERATION IN PAPYRUS
DIAGRAM CODE GENERATION PROCESS

- org.eclipse.uml2.uml
- org.eclipse.gmf.codegen
- org.eclipse.papyrus.gmfgenextension
- org.eclipse.gmf.codegen.xtend
- org.eclipse.papyrus.def
- UML MM
- GMFGen MM
- PapyrusGMF GenExtension MM
- GMF-Tooling Xtend templates
- Papyrus Xtend templates
- .gmfgen
- Papyrus Code Generator
- Papyrus Code Generator
- GMF-Tooling Code Generator
- extends
- conformsTo
- conformsTo
- Diagram plugin

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Usecase diagram

Editparts (generated) | Editparts (custom-code)
Editpolicies (generated) | Editpolicies (custom-code)
Commands (generated) | Commands (custom-code)
Helpers (generated) | Helpers (custom-code)
... | ...
Usecase diagram:

- Editparts (custom-code)
- Editpolicies (custom-code)
- Commands (custom-code)
- Helpers (custom-code)
- ... (custom-code)

Class diagram:

- Editparts (custom-code)
- Editpolicies (custom-code)
- Commands (custom-code)
- Helpers (custom-code)
- ... (custom-code)
Element Types:

“The domain-specific concepts that can be displayed, created, modified and destroyed as logical elements in a GMF application are described using element types.”
 ELEMENTTYPECONFIGURATION
ARCHITECTURE

UseCase
UML Diagram

Class
UML Diagram

... UML Diagrams

SysML Diagrams

SysML Types

AssociationEditHelper

AssociationCommands

UML Types

ElementTypesConfigurations Framework

GMF ElementTypes
IMPLEMENTATION DETAILS

UML Diagrams

- diagram.elementtype configuration

UML Types (org.eclipse.papyrus.uml.service.types)

- uml.elementtype configuration
- EditHelpers.java
- Advices.java

ElementTypesConfigurations Framework (org.eclipse.papyrus.infra.elementtypesconfiguration)

GMF ElementTypes

Elementtypepec configuration.ecore

Hacked ElementTypesRegistry
Usecase diagram

Editparts
(generated)

... (custom-code)
• Very soon (probably Mars M3)
  ▪ ElementTypesConfiguration Framework as such
  ▪ Migrated UML Service Types
  ▪ Migrated SysML Service Types
  ▪ Migrated Usecase diagram

• Before Mars release
  ▪ All UML diagrams will be migrated to ElementTypesConfiguration
DIAGRAM DEFINITION
DIAGRAM CODE GENERATION PROCESS

UML MM

GMFGen MM

conformsTo

PapyrusGMF GenExtension MM

conformsTo

.gmfgen

Papyrus Code Generator

extends

GMF-Tooling xtend templates

conformsTo

Papyrus Xtend templates

Generation from UMLDI (DD specs of UML)

Tool builder

UML specs

GMF-Tooling Code Generator

Diagram plugin

Papyrus Team
• **Papyrus provides the reference implementation of DD**
  - Implementation of DC metamodel
  - Implementation of DI metamodel
  - Implementation of DG metamodel
  - Implementation of a SVG renderer of DG models

• **Papyrus provides the reference implementation of UMLDI**
  - Implementation of the extension of DI for UML
  - Implementation of the transformation of UMLDI to DG (in QVTo)

• **Papyrus Class diagrams can be exported to standard UMLDI**

Check it out:

```
org.eclipse.papyrus.git/extraplugins/diagram-definition
```
THANK YOU FOR YOUR ATTENTION