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OMG'S ISSUE REPORTING PROCEDURE

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1. List of all mappings

0 Preface

OMG

Founded in 1989, the Object Management Group, Inc. (OMG) is an open membership, not-for-profit computer industry standards consortium that produces and maintains computer industry specifications for interoperable, portable, and reusable enterprise applications in distributed, heterogeneous environments. Membership includes Information Technology vendors, end users, government agencies, and academia.

2 Conformance

A tool shall demonstrate *conformance* with this specification by meeting all of the following requirements.

1. T8iptool shall implement UML4SysML abstract syntax and SysML v1 profile conformant with [SysMLv1]. T8iptool should, but is not required, to provide the ability to import a SysML v1 model using standard XMI Model Interchange format [XMI].
2. T8iptool shall implement SysML v2 abstract syntax conformant with [SysML v2]. T8iptool should, but is not required, to provide the ability to export a SysML v2 model KerML-standard model interchange project (see [KerML], Clause 10; see also [SysML v2], Clause 2).
3. T8iptool shall implement a transformation from an abstract syntax representation of an input SysML v1 model to an abstract syntax representation of an output SysML v2, as specified in view link does not exist of the specification.

A tool may claim

6 Introduction

6.1 Mapping Approach

7 Mappings

7.1 Overview

This Clause is organized in order to match the packages that subdivide the model of the transformation. The `Foundations` package gathers the abstract classes that represent the concepts on top of which the mapping approach is built. The next subclause presents a utility class named `Helper` that provides reusable operations that simplify the OCL statements defining the computation rules of target properties and make them more readable. Libraries play an important role in SysML v2, and a specific one has been created in order to represent semantics equivalent to those of UML/SysML concepts, where needed. It is presented in this subclause as well.

The three next subclauses are dedicated to initializers, factories and generic mappings, respectively. They do not specify mappings, strictly speaking. Instead, they factorize more or less advanced OCL code that will be reused by the actual mapping specifications that are contained in the two last subclauses. The first of them is dedicated to

values for their target element, wherever possible. Those "default operations" are either used as-is or redefined by mappings or factories that can inherit for a specific initializer, as appropriate.

7.2.2


```
->append(BehavioedClassifierFeatureMembership_Mapping.getMapped(src))  
endif
```

- createUUID () : String [1]

enumeration literal.

```
if v.enumeration.qualifiedName =  
  'SysML::Ports&Flows::FlowDirectionKind' then  
  if v = SysML::FlowDirectionKind::_'out' then  
    KerML::FeatureDirectionKind::_'out'  
  else if (v = SysML::FlowDirectionKind::_'in') then  
    KerML::FeatureDirectionKind::_'in'  
  else if (v = SysML::FlowDirectionKind::inout) then  
    KerML::FeatureDirectionKind::inout  
  else  
    invalid  
  endif endif endif  
else  
  invalid  
endif
```

- `getID (in src : Element) : String [1]`
Returns the identifier of a UML4SysML::Element. The specification is implementation-specific and therefore cannot be provided here.
- `getKerMLFeatureDirectionKind (in v : EnumerationLiteral) : FeatureDirectionKind [1]`
Maps a given SysMLv1 feature direction enumeration literal to a SysML v2 FeatureDirectionKind enumeration literal.

```
if v.enumeration.qualifiedName =  
  'SysML::Ports&Flows::FeatureDirectionKind' or  
  v.enumeration.qualifiedName = 'SysML::Ports&Flows::FeatureDirection' then  
  if v = SysML::FeatureDirectionKind::provided then  
    KerML::FeatureDirectionKind::_'out'  
  else if (v = SysML::FeatureDirectionKind::required) then  
    KerML::FeatureDirectionKind::_'in'  
  else if (v = SysML::FeatureDirectionKind::providedRequired) then  
    KerML::FeatureDirectionKind::inout
```

```
invalid  
endif endif endif endif
```

cannot provided here.

- `getTagValueAsElement (in element : Element, in stereotypeName : String, in tagValueName : String) : Element [1]`
Returns the value of a stereotype property. The specification is implementation-specific and therefore cannot provided here.

isInScope operation return "true" for a given model element, this element shall be consider by the transformation. Especially, main mappings - if any - will apply to it. It shall be ignored otherwise.

- isRequirement (in element : Element) : Boolean [1]

Checks whether the stereotype AbstractRequirement is applied to the given element.

```
let stereotypes: Set(UML::Stereotype) =  
    Helper.getAppliedStereotypes(element) in  
stereotypes->exists(s | s.general->collect(g | g.qualifiedName)  
->includes('SysML::Requirements::AbstractRequirement'))
```



```

    attribute isDerived : ScalarValues::Boolean;
}

metadata def BlockData {
  doc /* Metadata definition for
    * SysML::Blocks::Block::isEncapsulated property
    */
  attribute isEncapsulated : ScalarValues::Boolean;
}

metadata def ElementGroupData {
  doc /* Metadata definition for the criterion
    * of a SysML::ModelElements::ElementGroup
    */
  attribute criterion : ScalarValues::String;
}

```

```
doc /* Metadata definition for tagging SysML v2 dependencies
```

Generalizations

- Element_Init (from KerMLInitializers)

Generalizations

- Relationship_Init (from KerMLInitializers)

Attributes

- to : Conjugation [1]

Operations

- isUnique () : Boolean [1]

true

7.4.2.1.14 FeatureChainExpression_Init

Description

Initializes the properties of the SysML v2 eO rption

Description

Attributes of the class Membership.

Generalizations

Relationships: Membership -> Membership (Generalization)

Attributes

- to : Membership [1]

Operations

- memberElement() : Membership (abstract)
- memberName () : String [0..Membership [1]]

- to : OwningMembership [1]

Operations

- ownedMemberElement () : Element [1] {redefines memberElement, abstract}
- ownedRelatedElement () : Element [0..*] {redefines ownedRelatedElement}

Generalizations

- Namespace_Init (from KerMLInitializers)

Attributes

- to : Type [1]

Operations

- isAbstract () : Boolean [1]

false

- isSufficient () : Boolean [1]

60 TFeaturingd(Naolean [1]) TjETBT60.38.0000 617.8260 Td/F4 Descrip00 Tolean [1]

7.4.2.2.9 Definition_Init

Description

Initializes the properties of the SysML v2 element Definition.

Generalizations

- Classifier_Init (from KerMLInitializers)

Attributes

- to : Definition [1]

Operations

- isVariation () : Boolean [1]

false

7.4.2.2.10 EventOccurrenceUsage_Init

Description

Initializes the properties of the SysML v2 element EventOccurrenceUsage.

Generalizations

- OccurrenceUsage_Init (from SystemInitializers)

Attributes

- to : EventOccurrenceUsage [1]

7.4.2.2.11 FlowConnectionUsage_Init

[SYSML2-180](#): Mapping of UML4SysML::InformationFlow between definition elements is not supported

Description

Initializes the properties of the SysML v2 element FlowConnectionUsage.

Generalizations

- ConnectionUsage_Init (from SystemInitializers)

Association Ends

- to : FlowConnectionUsage [1]
(redefines: ConnectionUsage_Init::to)

7.4.2.2.12 ItemDefinition_Init

Attributes

- to : ObjectiveMembership [1]

7.4.2.2.16 OccurrenceDefinition_Init

Description

Initializes the properties of the SysML v2 element OccurrenceDefinition.

Generalizations

- Definition_Init (from SystemInitializers)

Attributes

- to : OccurrenceDefinition [1]

Operations

- isIndividual () : Boolean [1]

false

7.4.2.2.17 OccurrenceUsage_Init

Description

Initializes the properties of the SysML v2 element OccurrenceUsage.

Generalizations

- Usage_Init (from SystemInitializers)

Attributes

- to : OccurrenceUsage [1]

Operations

- isIndividual () : Boolean [1]

Operations

- `isVariation () : Boolean [1]`

`false`

7.5 Factories

7.5.1 Overview

- Factory (from Foundations)
-

7.5.2.10 AssignmentActionUsageParameterMembership_Factory

[SYSML2-4:](#)

Generalizations

- Factory (from Foundations)
- ReferenceUsage_Init (from SystemInitializers)

Operations

- create () : ReferenceUsage [1]
- ownedRelationship () : Relationship [0..*] {redefines ownedRelationship}

```
Set{AssignmentActionUsageFeatureMembership3_Factory.create() }
```

7.5.2.13 AssignmentActionUsageTargetReferenceUsageIn3_Factory

[SYSML2-4](#): Transformation of UML4SysML::AddVariableValueAction is not correct

Description

Generalizations

- Factory (from Foundations)
- RequirementUsage_Init (from SystemInitializers)

Operations

- create () : RequirementUsage [1]
-


```

informationFlow.realizingConnector->collect(c|Subsetting_Factory.create(c))
->including(FeatureTyping_Factory.create(informationFlow))
->including(FlowEndParameterMembership_Factory.create(
    informationFlow,informationFlow.source.get(0)))
->including(FlowEndParameterMembership_Factory.create(
    informationFlow,informationFlow.target.get(0))) in
let itemProperty : UML::Property =
    if Helper.hasStereotypeApplied(informationFlow, 'SysML::Ports&Flows::ItemFlow') then
        Helper.getTagValueAsElement(informationFlow, 'SysML::Ports&Flows::ItemFlow' 'StemPro

```


Factory class to create a feature membership relationship for a feature element with direction 'out' representing a

7.6.2 Common Mappings

7.6.2.1 CommonFeatureReferenceExpression_Mapping

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

-

```
endif
endif
```

7.6.2.4 CommonParameterReferenceUsageIn_Mapping

Description

Common mapping class that creates a parameter reference usage element with direction 'in' and with a type.

General Mappings

CommonParameterReferenceUsageInUntyped_Mapping

Mapping Source

Element

Mapping Target

ReferenceUsage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element

FeatureTyping

Owned Mappings

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ReferenceUsage::direction () : FeatureDirectionKind [0..1]

KerML::FeatureDirectionKind::_'in'

7.6.2.7 CommonReturnParameterFeature_Mapping

Element

Mapping Target

FeatureTyping

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

General Mappings

GenericToReturnParameterMembership_Mapping

Mapping Source

Element

Mapping Target

ReturnParameterMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules


```
endif  
else OclUrteaefined dif
```

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ReferenceUsage::ownedRelationship () : Relationship [0..*]

```
CommonReferenceUsageIn_Mapping.getMapped( from)
endif
```

7.6.2.17 CommonReferenceUsageInFeatureTyping_Mapping

Description

Creates a feature typing relationship owned by the element *typedFeature()*.

General Mappings

GenericToFeatureTyping_Mapping

Mapping Target

ReferenceUsage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ReferenceUsage::direction () : FeatureDirectionKind [0..1]

`KerML::FeatureDirectionKind::_' in '`

- ReferenceUsage::declaredName () : String [0..1]

`from.name`

7.6.3

Generic mapping class for mappings to the SysML v2 element *Conjugation*.

General Mappings

GenericToRelationship_Mapping

Mapping Source

Element

Mapping Target

Conjugation

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

Mapping Target

Element

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Element::ownedRelationship () : Relationship [0..*]

Set { }

- Element::aliasId () : String [0..*]

Set { }

- Element::shortName () : String [0..1]

null

- Element::declaredName () : String [0..1]

null

- Element::elementId () : String [1]

Helper.createUUID()

Mapping rules

(none)

7.6.3.15 GenericToFeatureChaining_Mapping

[SYSML2-213](#):6.3.15

Mapping Target

FeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

General Mappings

GenericToSpecialization_Mapping

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureValue::featureWithValue () : Feature [1]
abstract rule
- FeatureValue::value () : Expression [1]
abstract rule
- FeatureValue::isDefault () : Boolean [1]

false
- FeatureValue::ownedRelatedElement () : Element [0..*]

Set { self.value () }
- FeatureValue::isInitial () : Boolean [1]

false

7.6.3.20 GenericToFunction_Mapping

[SYSML2-213](#): Typo in section 7.6.3 and section 7.6.4: mappingsto

Description

Generic mapping class for mappings to the SysML v2 element *Function*.

General Mappings

GenericToBehavior_Mapping

Mapping Source

Element

Mapping Target

Function

Owned Mappings

(none)

7.6.3.21 GenericToImport_Mapping

[SYSML2-213](#): Typo in section 7.6.3 and section 7.6.4: mappingsto

Description

Generic mapping class for mappings to the SysML v2 element *Import*.

General Mappings

7.6.3.25 GenericToMembership_Mapping

[SYSML2-213](#): Typo in section 7.6.3 and section 7.6.4: mappingsto

Description

Generic mapping class for mappings to the SysML v2 element *Membership*.

General Mappings

GenericToRelationship_Mapping

Mapping Source

Element

Mapping Target

Membership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Membership::memberShortName () : String [0..1]
`null`
- Membership::membershipOwningNamespace () : Element [0..*]
abstract rule
- Membership::visibility () : VisibilityKind [1]
`KerML::VisibilityKind::public`
- Membership::memberElement () : Element [1]
abstract rule
- Membership::memberName () : String [0..1]
`null`

7.6.3.26 GenericToMembershipImport_Mapping

[SYSML2-213](#): Typo in section 7.6.3 and section 7.6.4: mappingsto

Description

Generic mapping class for mappings to the SysML v2 element *MembershipImport*.

General Mappings

GenericToImport_Mapping

Mapping Source

Element

Mapping Target

MembershipImport

Owned Mappings

(none)

Description

Generic mapping class for mappings to the SysML v2 element *NamespaceImport*.

General Mappings

GenericToImport_Mapping

Mapping Source

Element

Mapping Target

NamespaceImport

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- NamespaceImport::importedNamespace () : Namespace [1]
abstract rule

7.6.3.29 GenericToOperatorExpression_Mapping

[SYSML2-213](#): Typo in section 7.6.3 and section 7.6.4: mappingsto

Description

Generic mapping class for mappings to the SysML v2 element *OperatorExpression*.

General Mappings

GenericToExpression_Mapping

Mapping Source

Element

Mapping Target

OperatorExpression

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

Description

Generic mapping class for mappings to the SysML v2 element *Package*.

General Mappings

GenericToNamespace_Mapping

Mapping Source

Element

Mapping Target

Package

Owned Mappings

(none)

7.6.3.32 GenericToParameterMembership_Mapping

[SYSML2-213](#): **Typo in section 7.6.3 and section 7.6.4: mappingsto**

Description

Generic mapping class for mappings to the SysML v2 element *ParameterMembership*.

O rhipaA4ETB1 41ereature2

Parameter

```
Set{self.ownedMemberParameter() }
```

- ParameterMembership::ownedMemberParameter () : Feature [1]

```
null
```

7.6.3.33 GenericToPredicate_Mapping

[SYSML2-213](#): Typo in section 7.6.3 and section 7.6.4: mappingsto

Description

Generic mapping class for mappings to the SysML v2 element *Predicate*.

General Mappings

GenericToFunction_Mapping

Mapping Source

Element

Generic mt

Mapping Target

Predicate

Owned Mappings class for 8 v2 0.0000 Tling0X9enerate

(none)

7.6.3.34 GenericToRedefinition_Mapping

[SYSML2-213](#): Typo in section 7.6.3 and section 7.6.4: mappingsto

Description

Generic mapping class for mappings to the SysML v2 element

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `Redefinition::redefiningFeature () : Feature [1]`
abstract rule
- `Redefinition::redefinedFeature () : Feature [1]`
abstract rule

7.6.3.35 GenericToReferenceSubsetting_Mapping

[SYSML2-213](#): Typo in section 7.6.3 and section 7.6.4: mappingsto

Description

Generic mapping class for mappings to the SysML v2 element *ReferenceSubsetting*.

General Mappings

GenericToSubsetting_Mapping

Mapping Source

Element

Mapping Target

ReferenceSubsetting

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `ReferenceSubsetting::referencedFeature () : Feature [1]`
abstract rule

7.6.3.36 GenericToRelationship_Mapping

[SYSML2-213](#): Typo in section 7.6.3 and section 7.6.4: mappingsto

Description

Generic mapping class for mappings to the SysML v2 element *Relationship*

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Subclassification::subclassifier () : Classifier [1]
null
- Subclassification::superclassifier () : Classifier [1]
null

7.6.3.41 GenericToSubsetting_Mapping

[SYSML2-213](#)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `Type::isAbstract () : Boolean [1]`
`false`
- `Type::isSufficient () : Boolean [1]`
`false`

7.6.3.46

7.6.4

Mapping Target

ActorMembership

Owned Mappings

(none)

7.6.4.3 GenericToAssignmentActionUsage_Mapping

[SYSML2-213](#): Typo in section 7.6.3 and section 7.6.4: mappingsto

Description

Generic mapping class for mappings to the SysML v2 element *AssignmentActionUsage*.

General Mappings

GenericToActionUsage_Mapping

Mapping Source

Element

Mapping Target

AssignmentActionUsage

Owned Mappings

(none)

7.6.4.4 GenericToConnectionUsage_Mapping

[SYSML2-213](#):

7.6.4.5

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ConjugatedPortTyping::conjugatedPortDefinition () : ConjugatedPortDefinition [1]
abstract rule
- ConjugatedPortTyping::portDefinition () : PortDefinition [1]
abstract rule

7.6.4.7 GenericToConstraintDefinition_Mapping

[SYSML2-213](#): Typo in section 7.6.3 and section 7.6.4: mappingsto

Description

Generic mapping class for mappings to the SysML v2 element *ConstraintDefinition*.

General Mappings

GenericToDefinition_Mapping

Mapping Source

Element

Mapping Target

ConstraintDefinition

7.6.4.9 GenericToDefinition_Mapping

[SYSML2-213](#): Typo in section 7.6.3 and section 7.6.4: mappingsto

Description

Generic mapping class for mappings to the SysML v2 element *Definition*.

General Mappings

GenericToClassifier_Mapping

Mapping Source

Element

Mapping Target

Definition

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Definition::isVariation () : Boolean [1]

false

7.6.4.10 GenericToEventOccurrenceUsage_Mapping

[SYSML2-213](#): Typo in section 7.6.3 and section 7.6.4: mappingsto

Description

Generic mapping class for mappings to the SysML v2 element *EventOccurrenceUsage*.

General Mappings

GenericToOccurrenceUsage_Mapping

Mapping Source

Element

Mapping Target

EventOccurrenceUsage

Owned Mappings

(none)

7.6.4.11 GenericToltemDefinition_Mapping

[SYSML2-213](#)

7.6.4.13 GenericToMetadataUsage_Mapping

[SYSML2-213:](#)

General Mappings

GenericToDefinition_Mapping

Mapping Source

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- OccurrenceUsage::isIndividual () : Boolean [1]
false
- OccurrenceUsage::portionKind () : PortionKind [1]
OclUndefined

7.6.4.17 GenericToPartUsage_Mapping

[SYSML2-213](#): Typo in section 7.6.3 and ng rules for individual () : Booleanfcgo000 0.0000 1 6932 TdF495 Td000 Tf(SY

PortConjugation

Owned Mappings

(none)

Applicable filters

(none)

Element

Mapping Target

ReferenceUsage

Owned Mappings

(none)

7.6.4.21 GenericToRequirementUsage_Mapping

[SYSML2-213:](#)

(none)

Description

Generic mapping class for mappings to the SysML v2 element *Usage*.

General Mappings

GenericToFeature_Mapping

Mapping Source

Element

Mapping Target

Usage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

-

7.7.2.3.1.2 AcceptEventAction_Mapping

[SYSML2-246](#)

```

let relationships : Set(KerML::Relationship) = Helper.actionOwnedRelationship(from)
->including(AEAREceiverParameterMembership_Mapping.getMapped(from)) in
let relationshipsWithParameter : Set(KerML::Relationship) =
if (from.trigger.get(0).event.ocIsTypeOf(UML::SignalEvent) or
    from.trigger.get(0).event.ocIsTypeOf(UML::ChangeEvent)) then
    relationships->including(AEAParameterMembership_Mapping.getMapped(from))
else
    relationships
endif in
if from.trigger.get(0).event.ocIsTypeOf(UML::ChangeEvent) then
    relationshipsWithParameter
    ->including(ElementFeatureMembership_Mapping.getMapped(
        from.trigger.get(0).event.ocAsType(UML::ChangeEvent).changeExpression))
else relationshipsWithParameter
endif

```

7.7.2.3.1.3 AEACHangeExpressionMembership_Mapping

Description

Creates a membership relationship for *memberElement()*.

General Mappings

GenericToFeatureMembership_Mapping

Mapping Source

AcceptEventAction

Mapping Target

FeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following list of mapping rules specifies mapping rules for the target element

General Mappings

GenericToReferenceUsage_Mapping

Mapping Source

AcceptEventAction

Mapping Target

ReferenceUsage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ReferenceUsage::direction () : FeatureDirectionKind [0..1]
`KerML::FeatureDirectionKind::_'in'`
- ReferenceUsage::ownedRelationship () : Relationship [0..*]
`Set { AEChangeParameterFeatureValue_Mapping.getMapped (from) }`

7.7.2.3.1.5 AEChangeParameterFeatureValue_Mapping

Description

Creates a feature value relationship.

General Mappings

GenericToFeatureValue_Mapping

2260 Td/10.0000 TfMapping S 6166ttionship riif2260 Td/10.0 unction)TET72.0000 617.8260 Td/10.0000152ue relation10

(none)

Mapping rules

GenericToExpression_Mapping

Mapping Source

AcceptEventAction


```
AEChangeParameterFeature* 3ferenceExpression_Mapping.getMapped(from)
```


Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Membership::memberElement () : Element [1]

```
from.trigger.get(0).event.oclaSType(UML::ChangeEvent).changeExpression
```

7.7.2.3.1.14 AEChangeParameterParameterMembership_Mapping

Description

Creates a membership relationship for *memberElement()*

7.7.2.3.1.18 AEASignalParameter_Mapping

Description


```
    if from.trigger.get(0).event.ocliIsTypeOf(UML::SignalEvent) then
        AEASignalParameter_Mapping.getMapped(from)
    else if from.trigger.get(0).event.ocliIsTypeOf(UML::ChangeEvent) then
        AEChangeParameter_Mapping.getMapped(from)
    else
        OclUndefined
    endif endif
```

7.7.2.3.1.21 AEAReceiverFeatureReferenceExpression_Mapping

Description

The mapping class creates the feature reference expression for the reference usage element for the receiver parameter of the SysML v2 AcceptActionUsage element.

General Mappings

GenericToFeatureReferenceExpression_Mapping

Mapping Source

AcceptEventAction

AcceptEventAction

Mapping Target

Membership

Mapping

Membership4 10.000n f(Mappship) TiETBT72.00017.84.2260 Td/F3 10.0000 T(none)hip

7.7.2.3.2.3 OABody_Mapping

Description

The languages and bodies of a UML4SysML::OpaqueAction are mapped to SysMLv2 TextualRepresentations.

Owned Mappings

(none)

Applicable filters

(none)

(none)

Applicable filters

(none)

Mapping rules

The following shows an example of what the textual SysML v2 syntax of the result of the transformation may look like.

```
action sysMLv1Action {  
    in sysMLv1ValuePin1 = 42;  
}
```

ActionUsage

Owned Mappings

(none)

7.7.2.3.3.2 CallBehaviorAction_Mapping

7.7.2.3.3.6 COAOutputPinFeatureChainExpression_Mapping

Description

The mapping class creates the feature chain expression for the output parameter feature value.

General Mappings

GenericToInvocationExpression_Mapping

Mapping Source

OutputPin

Mapping Target

FeatureChainExpression

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureChainExpression::ownedRelationship () : Relationship [0..*]

```
Set { COAOutputPinParameterMembership_Mapping.getMapped( from ) ,  
      COAOutputPinFeatureChainExpressionMembership_Mapping.getMapped( from ) ,  
      ReturnParameterFeatureMembership_Factory.create() }
```

7.7.2.3.3.7 COAOutputPinFeatureChainExpressionMembership_Mapping

Description

Creates a membership relationship for *memberElement()*.

General Mappings

GenericToMembership_Mapping

Mapping Source

OutputPin

Mapping Target

Membership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Membership::memberElement () : Element [1]

```
from.owner.oclAsType(UML::CallOperationAction).operation
```

7.7.2.3.3.8 COAOutputPinFeatureFeature_Mapping

Description

Creates a feature element for the UML4SysML::CallOperationAction mapping.

General Mappings

GenericToFeature_Mapping

Mapping Source

OutputPin

Mapping Target

Feature

Owned Mappings

(none)

7.7.2.3.3.9 COAOutputPinFeatureFeatureMembership_Mapping

Description

Creates a feature membership relationship for *ownedMemberFeature()*.

General Mappings

GenericToFeatureMembership_Mapping

Mapping Source

OutputPin

Mapping Target

FeatureMembership

Owned Mappings

GenericToFeatureMembership_Mapping

Mapping Source

OutputPin

Mapping Target

FeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature () : Feature [1]
`COAOutputPinReferenceUsage_Mapping.getMapped(from)`

7.7.2.3.3.12 COAOutputPinFeatureReferenceExpression_Mapping

Description

Mapping Target

ParameterMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ParameterMembership::visibility () : VisibilityKind [1]
`KerML::VisibilityKind::private`
- ParameterMembership::ownedMemberParameter () : Feature [1]
`COAOutputPinFeature_Mapping.getMapped(from)`

7.7.2.3.3.15 COAOutputPinReferenceUsage_Mapping

Description

PerformActionUsage

7.7.2.3.3.19 COAPerformActionReferenceSubsetting_Mapping

[SYSML2-200](#): Description of Subsetting mapping classes is not correct

Description

Creates a subsetting relationship.

General Mappings

GenericToReferenceSubsetting_Mapping

Mapping Source

CallOperationAction

Mapping Target

ReferenceSubsetting

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

General Mappings

GenericToFeatureChaining_Mapping

Mapping Source

CallOperationAction
MDescription

Mapping Target

FeatureChaining

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureChaining::chainingFeature () : Feature [1]

`from.target`

7.7.2.3.3.23

ActionUsage

Owned Mappings

(none)

7.7.2.3.3.24 SendSignalAction_Mapping

Description

A UML4SysML::SendSignalAction is mapped to a SysMLv2 ActionUsage that includes a SendActionUsage.

Creates a feature membership relationship for *ownedMemberFeature()*.

General Mappings

GenericToFeatureMembership_Mapping

Mapping Source

InvocationAction

Mapping Target

FeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature () : Feature [1]
SSASendActionUsage_Mapping.getMapped(from)

7.7.2.3.3.26 SSAParams.82 4ii 9Am TjETE[]

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

-

Mapping Target

ParameterMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ParameterMembership::ownedMemberParameter () : Feature [1]
`SSAItemReferenceUsage_Mapping.getMapped(from)`

7.7.2.3.3.29 SSAItemReferenceUsage_Mapping

Description

Creates a reference usage.

General Mappings

GenericToReferenceUsage_Mapping

Mapping Source

InvocationAction

Mapping Target

ReferenceUsage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ReferenceUsage::direction () : FeatureDirectionKind [0..1]
`KerML::FeatureDirectionKind::_in'`

Owned Mappings

(none)

Applicable filters

(none)

(none)

Applicable filters

(none)

Mapping rules

Creates a membership relationship for *memberElement()*.

General Mappings

GenericToMembership_Mapping

Mapping Source

InvocationAction

Mapping Target

Membership

Owned Mappings

(none)

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `FeatureReferenceExpression::ownedRelationship () : Relationship [0..*]`
`Set { SSATargetReferenceUsageFeatureValueMembership_Mapping.getMapped(from) ,`
`ReturnParameterFeatureMembership_Factory.create() }`

7.7.2.3.3.38 SSASendActionUsage_Mapping

Description

7.7.2.3.4.3 CreateLinkObjectAction_Mapping

7.7.2.3.5 Object Actions

7.7.2.3.5.1 CreateObjectAction_Mapping

Description

A UML4SysML::CreateObjectAction is mapped to a SysML v2 ActionUsage.

The following shows an example of what the textual SysML v2 syntax of the result of the transformation may look like.

```
action def SysMLv1Activity {  
    action sysMLv1CreateObjectAction {  
        out result : SysMLv1Block = SysMLv1Block();  
    }  
}  
part def SysMLv1Block;
```

General Mappings

CommonAction_Mapping

Mapping Source

CreateObjectAction

Mapping Target

ActionUsage
Owned Mappings

(none)

7.7.2.3.5.2

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureTyping::type () : Type [1]

`from.classifier`

7.7.2.3.5.3 COAInvocationExpression_Mapping

Description

The mapping class creates the output parameter of the ActionUsage for the mapping of UML4SysML::CreateObjectAction.

General Mappings

Mapping Target

FeatureMembership

Owned Mappings

(none)

Applicable Definition TET 72.0000 594.6260 Td/F 10.001F on mapping.

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the **Target Mapping** properties.

- FeatureMembership::ownedMemberFeature () : Feature [1]
`DOADestroyActionUsageReferenceUsage_Mapping.getMapped(from)`

7.7.2.3.5.9 DOADestroyActionUsageFeatureReferenceExpression_Mapping

Description

The mapping class creates the feature reference expression for the UML4SysML::DestroyObjectAction mapping.

General Mappings

GenericToFeatureReferenceExpression_Mapping

Mapping Source

DestroyObjectAction

Mapping Target

FeatureReferenceExpressionpping Target

7.7.2.3.5.10 DOADestroyActionUsageMembership_Mapping

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element

Mapping Source

ReadIsClassifiedObjectAction

Mapping Target

FeatureValue

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

General Mappings

GenericToFeatureValue_Mapping

Mapping Source


```
Set{PinFeatureTyping_Mapping.getMapped(from),  
RICOAFeatureValue_Mapping.getMapped(from.owner),  
MultiplicityMembership_Mapping.getMapped(from)}
```

7.7.2.3.5.24 ReadExtentAction_Mapping

Description

A UML4SysML::ReadExtentAction is mapped to a SysML v2 ActionUsage.

General Mappings

GenericToFeatureValue_Mapping

Mapping Source

OutputPin

Mapping Target

FeatureValue

Owned Mappings

A UML4SysML::ReadSelfAction is mapped to a SysML v2 ActionUsage.

The following shows an example of what the textual SysML v2 syntax of the result of the transformation may look like.

In addition to the inherited rules, the following lists the mapping class, the specific class, the mapping target element

Mapping Target

Membership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Membership::memberElement () : Element [1]

```
SysML2::Feature.allInstances()  
->any(e | e.qualifiedName = 'Occurrences::Occurrence::this')
```

7.7.2.3.5.35 RSAOutputPin_Mapping

[SYSML2-7: Pin_Mapping::filter: property src should be from](#)
[SYSML2-171: Optimize Pin mapping class generalization hierarchy](#)

Description

The mapping class creates the output parameter of the ActionUsage for the mapping of UML4SysML::ReadSelfAction.

General Mappings

Pin_Mapping

Mapping Source

OutputPin

Mapping Target

ReferenceUsage

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

```
src.owner.ocIsKindOf(UML::ReadSelfAction)
```

Mapping rules

General Mappings

CommonAction_Mapping

Mapping Source

TestIdentityAction

Mapping Target

CalculationUsage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- CalculationUsage::ownedRelationship () : Relationship [0..*]

```
Helper.actionOwnedRelationship(from)  
->including(TIAResultExpressionMembership_Mapping.getMapped(from))
```

7.7.2.3.5.38

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `OperatorExpression::operator () : String [1]`
`' == '`
- `OperatorExpression::ownedRelationship () : Relationship [0..*]`
`Set { EqualOperatorExpressionOperandParameterMembership_Mapping.getMapped(from.first),
EqualOperatorExpressionOperandParameterMembership_Mapping.getMapped(from.second),
CommonReturnParameterFeatureMembership_Mapping.getMapped(from.result) }`

7.7.2.3.5.39 TIAResultExpressionMembership_Mapping

Description

Creates a membership relationship for *memberElement().sult* }

A UML4SysML::ValueSpecificationAction is mapped to a SysML v2 ActionUsage.

The following shows an example of what the textual SysML v2 syntax of the result of the transformation may look like.

```
action def SysMLv1Acticity {  
    action sysMLv1ValueSpecificationAction1 {
```

7.7.2.3.5.41 VSAOutputPin_Mapping

[SYSML2-7](#): Pin_Mapping::filter: property src should be from
[SYSML2-171](#): Optimize Pin mapping class generalization hierarchy

GenericToFeatureValue_Mapping

Mapping Source

OutputPin

Mapping Target

FeatureValue

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureValue::value () : Expression [1]

Description

Description

Abstract The purpose of this study was to investigate the effect of the matrix transformation on the results of the matrix transformation. The results of the matrix transformation are shown in the following table.

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following Tr7tts the mapping class specific mapping rules for the target element properties.

- `ActionUsage::ownedRelationship () : Relationship [0..*]`
`Set {ASFVAFeatureTyping_Mapping.getMapped(from) ,`

7.7.2.3.7.3 ASFVAObjectFeatureMembership_Mapping

[SYSML2-23](#): Transformation of UML4SysML::AddStructuralFeatureValueAction is not correct

Description

Creates a feature membership relationship for *ownedMemberFeature()*.

General Mappings

GenericToFeatureMembership_Mapping

Mapping Source

AddStructuralFeatureValueAction

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature () : Feature [1]

`ASFVATargetReferenceUsage_Mapping.getMapped(from)`

7.7.2.3.7.8 ASFVATargetReferenceUsage_Mapping

[SYSML2-23](#): Transformation of UML4SysML::AddStructuralFeatureValueAction is not correct

Description

Creates a reference usage.

General Mappings

GenericToReferenceUsage_Mapping

Mapping Source

AddStructuralFeatureValueAction

Mapping Target

ReferenceUsage

Mapping Target

FeatureChainExpression

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

FeatureValue

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureValue::value () : Expression [1]

```
ASFVATargetParameterFeatureReferenceExpression_Mapping.getMapped( from )
```

7.7.2.3.7.14 ASFVATargetParameterFeatureReferenceExpression_Mapping

Description

The mapping class creates the feature reference expression element for the target element of the UML4SysML::AddStructuralFeatureValueAction mapping.

General Mappings

GenericToFeatureReferenceExpression_Mapping

Mapping Source

AddStructuralFeatureValueAction

Mapping Target

FeatureReferenceExpression

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureReferenceExpression::ownedRelationship () : Relationship [0..*]

```
Set { ASFVATargetParameterExpressionMembership_Mapping.getMapped( from ) ,  
ReturnParameterFeatureMembership_Factory.create() }
```

7.7.2.3.7.15 ASFVATargetParameterExpressionFeature_Mapping

[SYSML2-23](#): Transformation of UML4SysML::AddStructuralFeatureValueAction is not correct

Description

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Membership::memberElement () : Element [1]

`ASFVAObjectReferenceUsage_Mapping.getMapped(from)`

7.7.2.3.7.17 ASFVATargetParameterFeatureExpressionMembership_Mapping

Description

Creates a membership relationship for *memberElement()*.

General Mappings

GenericToMembership_Mapping

Mapping Source

AddStructuralFeatureValueAction

Mapping Target

Membership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Membership::memberElement () : Element [1]

`from.structuralFeature`

7.7.2.3.7.18 ASFVATargetParameterMembership_Mapping

Description

Creates a membership relationship for *memberElement()*.

General Mappings

GenericToParameterMembership_Mapping

Mapping Source

AddStructuralFeatureValueAction

Mapping Target

ParameterMembership

Owned Mappings

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `Redefinition::redefinedFeature () : Feature [1]`

```
SysML2::ReferenceUsage.allInstances()  
->any(m | m.qualifiedName = 'SysMLv1Library::AddValueAction::target')
```

7.7.2.3.7.20 ClearStructuralFeatureAction_Mapping

Description

The UML4SysML::ClearStructuralFeatureAction is mapped to a SysML v2 ActionUsage. The details of the mapping are not defined yet.

General Mappings

CommonAction_Mapping

Mapping Source

ClearStructuralFeatureAction

Mapping Target

ActionUsage

Owned Mappings

(none)

7.7.2.3.7.21 RSFReferenceUsage_Mapping

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `ReferenceUsage::direction () : FeatureDirectionKind [0..1]`
`KerML::FeatureDirectionKind::_'out'`
- `ReferenceUsage::ownedRelationship () : Relationship [0..*]`
`Set { RSFAReferenceUsageFeatureValue_Mapping.getMapped(from) }`

7.7.2.3.7.22 RSFAReferenceUsageFeatureMembership_Mapping

[SYSML2-234](#): RSFAReferenceUsageFeatureMembership_Mapping uses non-existing mapping class

Description

Creates a feature membership relationship for *ownedMemberFeature()*.

General Mappings

GenericToFeatureMembership_Mapping

Mapping Source

ReadStructuralFeatureAction

Mapping Target

FeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `FeatureMembership::ownedMemberFeature () : Feature [1]`
`RSFAReferenceUsageFeatureValue_Mapping.getMapped(from)`

7.7.2.3.7.23 RSFAReferenceUsageFeatureValue_Mapping

Description

Creates a feature value relationship.

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureChainExpression::ownedRelationship () : Relationship [0..*]

```
Set { RSFAReferenceUsageParameterMembership_Mapping.getMapped(from),  
      RSFAReferenceUsageMembership_Mapping.getMapped(from),  
      ReturnParameterFeatureMembership_Factory.create() }
```

7.7.2.3.7.25 RSFAReferenceUsageExpressionFeature_Mapping

Description

The mapping class creates the feature of the feature chain expression for the reference usage of the UML4SysML::ReadStructuralFeatureValueAction mapping.

General Mappings

GenericToFeature_Mapping

Mapping Source

ReadStructuralFeatureAction

Mapping Target

Feature

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Feature::ownedRelationship () : Relationship [0..*]

```
Set { RSFAReferenceUsageExpressionFeatureValue_Mapping.getMapped(from),  
      RSFAReferenceUsageExpressionFeatureMembership_Mapping.getMapped(from) }
```

7.7.2.3.7.26 RSFAReferenceUsageFeatureChainExpressionFeature_Mapping

Description

The mapping class creates the feature element for the feature chain expression for the UML4SysML::RemoveStructuralFeatureValueAction mapping.

General Mappings

GenericToFeature_Mapping

Mapping Source

ReadStructuralFeatureAction

Mapping Target

Membership

Owned Mappings

(none)

Applicable filters

(none)

7.7.2.3.7.33 ReadStructuralFeatureAction_Mapping

Description

A UML4SysML::ReadStructuralFeatureAction is mapped to a SysML v2 ActionUsage that returns the value of the

General Mappings

CommonAction_Mapping

Mapping Source

RemoveStructuralFeatureValueAction

Mapping Target

ActionUsage

Owned Mappings

(none)

7.7.2.3.8 Structured Actions

7.7.2.3.8.1 LoopNode_Mapping

Description

The UML4SysML::LoopNode is mapped to a SysML v2 ActionUsage. The details of the mapping are not defined yet.

General Mappings

StructuredActivityNode_Mapping

Mapping Source

LoopNode

Mapping Target

ActionUsage

Owned Mappings

(none)

7.7.2.3.8.2 SequenceNode_Mapping

Description

The UML4SysML::SequenceNode is mapped to a SysML v2 ActionUsage. The details of the mapping are not defined yet.

General Mappings

CommonAction_Mapping

StructuredActivityNode_Mapping

Mapping Source

SequenceNode

Mapping Target

ActionUsage

Owned Mappings

(none)

7.7.2.3.8.3 StructuredActivityNode_Mapping**Description**


```

let elementsOMS: Set(UML::Element) =
  ((((((from.ownedElement-initialNodes)-finalNodes)-objectFlowsWithGuard)
    -objectFlows)-elementsFMS)-ignoreInterruptibleActivityRegion) in
elementsOMS->collect(e | ElementOwningMembership_Mapping.getMapped(e))
->union(elementsFMS->collect(e | ElementFeatureMembership_Mapping.getMapped(e)))
->union(initialNodes->collect(e | InitialNodeMembership_Mapping.getMapped(e)))
->union(finalNodes->collect(e | FlowFinalNodeMembership_Mapping.getMapped(e)))
->union(objectFlowsWithGuard
  ->collect(e | ObjectFlowGuardFeatureMembership_Mapping.getMapped(e)))
->union(objectFlows->collect(e | ObjectFlowFeatureMembership_Mapping.getMapped(e)))

```

7.7.2.3.9 Variable Actions

SysML2-16: Subsections for mapping classes in section 7.7.2.3.9 should be ordered alphabetically

7.7.2.3.9.1 AddVariableValueAction_Mapping

Description

A UML4SysML::AddVariableValueAction is mapped to a SysML v2 ActionUsage defined by the SysML v1 library action definition SysMLv1Library::AddValueAction. The following shows an example of what the textual SysML v2 syntax of the result of the transformation may look like.

```

action def SysMLv1Activity {
  private attribute sysMLv1Variable1 : ScalarValues::Integer;
  private attribute sysMLv1Variable2 [0..*] : ScalarValues::Integer;

  action sysMLv1AddVariableValueAction1 : SysMLv1Library::AddValueAction {
    :>> target := sysMLv1Variable1;
  }

  action sysMLv1AddVariableValueAction1 : SysMLv1Library::AddValueAction {
    :>> target := thisIsAVariable;
    :>> isReplaceAll := true;
  }
}

```

General Mappings

CommonAction_Mapping

Mapping Source

AddVariableValueAction

Mapping Target

ActionUsage

Of532IMS-1

ReferenceUsage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

Mapping Target

ReferenceUsage


```
action sysMLv1ClearVariableAction {  
    sysMLv1Variable := null;  
}
```

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `FeatureMembership::ownedMemberFeature () : Feature [1]`

Description

Creates a feature value relationship.

General Mappings

GenericToFeatureValue_Mapping

Mapping Source

ClearVariableAction

Mapping Target

FeatureValue

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureValue::value () : Expression [1]

```
LiteralNull_Factory.create()
```

7.7.2.3.9.17 ReadVariableAction_Mapping

Description

A UML4SysML::ReadVariableValueAction is mapped to a SysML v2 ActionUsage with an out parameter that returns the value of the attribute usage that is the transformation target of the UML4SysML::Variable.

The following shows an example of what the textual SysML v2 syntax of the result of the transformation may look like.

```
action def SysMLv1Activity {  
    private attribute sysMLv1Variable : ScalarValues::Integer;  
  
    action sysMLv1ReadVariableAction {  
        out result : ScalarValues::Integer = sysMLv1Variable;  
    }  
}
```

General Mappings

CommonAction_Mapping

Mapping Source

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `FeatureMembership::ownedMemberFeature () : Feature [1]`
`RVAReferenceUsage_Mapping.getMapped(from.result)`

7.7.2.3.9.19 RVAReferenceUsage_Mapping

Description

Creates a reference usage.

General Mappings

GenericToReferenceUsage_Mapping

Mapping Source

Pin

Mapping Target

ReferenceUsage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element

GenericToFeatureReferenceExpression_Mapping

Mapping Source

Pin

Mapping Target

FeatureReferenceExpression

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureReferenceExpression::ownedRelationship () : Relationship [0..*]

```
Set{RVAReferenceUsageExpressionMembership_Mapping.getMapped(from),  
ReturnParameterFeatureMembership_Factory.create() }
```

7.7.2.3.9.21 RVAReferenceUsageFeatureTyping_Mapping

Description

Creates a feature typing relationship owned by the element *typedFeature()*.

General Mappings

TypedElementFeatureTyping_Mapping

Mapping Source

Pin

Mapping Target

FeatureTyping

Owned Mappings

(none)

7.7.2.3.9.22 RVAReferenceUsageFeatureValue_Mapping

Description

Creates a feature value relationship.

General Mappings

GenericToFeatureValue_Mapping

Mapping Source

Pin

Mapping Target

FeatureValue

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Membership::memberElement (In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.)

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

Creates a feature membership relationship for *ownedMemberFeature()*

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureReferenceExpression::ownedRelationship () : Relationship [0..*]

GenericToRedefinition_Mapping

Mapping Source

RemoveVariableValueAction

Mapping Target

Redefinition

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

Description

A UML4SysML::Activity is mapped to a SysMLv2 ActionDefinition.

The following shows an example of what the textual SysML v2 syntax of the result of the transformation may look like.

```
action def SysMLv1Activity {
  in parIn : SysMLv1Block;
  out parOut;
  out parReturn;
}
part def SysMLv1Block;
```

General Mappings

Behavior_Mapping

Mapping Source

Activity

Mapping Target

ActionDefinition

Owned Mappings

(none)

Description

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ActionDefinition::ownedRelationship () : Relationship [0..*]

```
let relationships : Set(KerML::Relationship) =
  Helper.activityOwnedRelationship(from) in
let parameters : Set(UML::Paramter) =
  from.ownedElement->select(e | e.ocIsKindOf(UML::Parameter)) in
relationships->union(parameters)
```

let relationulestion

GenericToEndFeatureMembership_Mapping

Mapping Source

InitialNode

Mapping Target

EndFeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- EndFeatureMembership::ownedMemberFeature () : Feature [1]
`ActivityEdgeSourceInitialNode_Mapping.getMapped(from)`

7.7.3.3.3

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureValue::value () : Expression [1]

`from.weight`

7.7.3.3.7 ActivityEdgeMetadataOwningMembership_Mapping

Description

Mapping Target

Redefinition

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `Redefinition::redefinedFeature () : Feature [1]`
`SYSML2::AttributeUsage.allInstances()`
`->any(m | m.qualifiedName = 'SysMLv1Library::ActivityEdgeData::weight')`

7.7.3.3.9

```
Set{ActivityEdgeMetadataRedefinition_Mapping.getMapped(from),  
ActivityEdgeMetadataFeatureValue_Mapping.getMapped(from)}
```

7.7.3.3.10 ActivityEdgeSourceEndFeature_Mapping

Description

Creates a SysML v2 feature for the source activity node of the SysML v1 activity edge which subsets the SysML v2 target element of the source activity node.

General Mappings

GenericToFeature_Mapping

Mapping Source

Element

Mapping Target

Feature

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Feature::isEnd () : Boolean [1]

true

- Feature::ownedRelationship () : Relationship [0..*]

```
Set{ActivityEdgeSourceEndSubsetting_Mapping.getMapped(from)}
```

7.7.3.3.11 ActivityEdgeSourceInitialNode_Mapping

Description

Mapping Target

Feature

Owned Mappings

(none)

Applicable filter72.0000 641.026060 Td/irT72.0a6060 Td/99eET72.0000 .9Bne)

Feature

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

GenericToReferenceSubsetting_Mapping

Mapping Source

FinalNode

Mapping Target

ReferenceSubsetting

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ReferenceSubsetting::referencedFeature () : Feature [1]

```
SYSML2::ActionUsage.allInstances()  
->any(m | m.qualifiedName = 'Actions::Action::done')
```

7.7.3.3.22 ControlFlowSuccessionAsUsage_Mapping

[SYSML2-229](#): ControlFlowSuccessionAsUsage_Mapping uses non-existing mapping class
[SYSML2-7](#): Pin_Mapping::filter: property src should be from

Mapping Source

ControlFlow

Mapping Target

SuccessionAsUsage

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation


```
else
    relationshipsConsideringWeight
endif
```

7.7.3.3.23 ControlFlowTargetFinalNode_Mapping

Description

The mapping class maps a UML4SysML::FinalNode to a Feature which will be subsetted by Actions::Action::done. The subsetting is created by the mapping class ControlFlowTargetFinalNodeSubsetting_Mapping.

General Mappings

GenericToFeature_Mapping

Mapping Source

FinalNode

Mapping Target

Feature

Owned Mappings

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- EndFeatureMembership::ownedMemberFeature () : Feature [1]
`ControlFlowTargetEndFeature_Mapping.getMapped(from)`

7.7.3.3.26 ControlFlowTargetEndSubsetting_Mapping

[SYSML2-200](#): Description of Subsetting mapping classes is not correct

[SYSML2-197](#): ControlFlow target SuccessionAsUsage should have end feature with reference subsetting

Description

Creates a subsetting relationship.

General Mappings

GenericToReferenceSubsetting_Mapping

Mapping Source

ActivityNode

Mapping Target

ReferenceSubsetting

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ReferenceSubsetting::referencedFeature () : Feature [1]
`from`

7.7.3.3.27 ControlFlowTransitionUsageFeatureMembership_Mapping

Description

Creates a feature membership relationship for *ownedMemberFeature()*.

General Mappings

GenericToFeatureMembership_Mapping

Mapping Source

ControlFlow

Mapping Target

TransitionFeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

(none)

7.7.3.3.29 DecisionNode_Mapping

Description

The UML4SysML::DecisionNode is mapped to a SysMLv2 DecisionNode.

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `DecisionNode::isComposite () : Boolean [1]`

`true`

7.7.3.3.30

```
then sysMLv1Action2;  
then sysMLv1Action3;  
action sysMLv1Action2;  
then sysMLv1JoinNodection2;
```


(none)

7.7.3.3.34 MergeNode_Mapping

Description

The UML4SysML::MergeNode is mapped to a SysMLv2 MergeNode.

General Mappings

GenericToUsage_Mapping
NamedElementMain_Mapping

Mapping Source

MergeNode

Mapping Target

MergeNode

Owned Mappings

(none)

7.7.3.3.35 ObjectFlow_Mapping

[SYSML2-238](#)

FeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature () : Feature [1]
`ObjectFlowGuard_Mapping.getMapped(from)`

7.7.3.3.38 ObjectFlowGuard_Mapping

[SYSML2-211](#): **Introduce GenericToTransitionUsage_Mapping class**

[SYSML2-238](#): **ObjectFlows targeting a final node or a activity parameter node cannot be mapped**

[SYSML2-7](#): **Pin_Mapping::filter: property src should be from**

Description

A UML4SysML::ObjectFlowFlow with a guard condition is mapped to a combined SysMLv2 TransitionUsage and SysMLv2 SuccessionFlowConnectionUsage.

The following shows an example of what the textual SysML v2 syntax of the result of the transformation may look like.

```
action def SysMLv1Activity {
  action sysMLv1Action1 {
    out outputValue;
  }

  first sysMLv1Action1 if guardCondition.result then sysMLv1ObjectFlow {
    calc guardCondition {
      return : ScalarValues::Boolean;
      language "English"
      /*
       * guard says ok
       */
    }
  }
  succession flow sysMLv1ObjectFlow of SysMLv1Block from
    sysMLv1Action1.outputValue to sysMLv1Action2.inputValue;

  action sysMLv1Action2 {
    out inputValue;
  }
}
```

General Mappings

GenericToTransitionUsage_Mapping
NamedElementMain_Mapping

Mapping Source

ObjectFlow

Mapping Target

TransitionUsage

Owned Mappings

(none)

Applicable filters

Owned Mappings

- objectFlowGuardSuccessionTargetEndSubsetting :
ObjectFlowGuardSuccessionTargetEndSubsetting_Mapping

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element

7.7.3.3.41 ObjectFlowGuardSuccessionTargetEndSubsetting_Mapping

[SYSML2-200](#): Description of Subsetting mapping classes is not correct

Description

Creates a subsetting relationship.

General Mappings

GenericToSubsetting_Mapping

Mapping Source

ObjectFlow

Mapping Target

Subsetting

Owned Mappings

- objectFlowGuardSuccessionTargetEndFeature : ObjectFlowGuardSuccessionTargetEndFeature_Mapping

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Subsetting::subsettingFeature () : Feature [1]
`objectFlowGuardSuccessionTargetEndFeature.to`
- Subsetting::subsettedFeature () : Feature [1]
`ObjectFlow_Mapping.getMapped(from)`

7.7.3.3.42 ObjectFlowItemFeature_Mapping

Description

The mapping class maps the source UML4SysML::ObjectNode to a ItemFeature which is typed by the UML4SysML::ObjectNode type.

General Mappings

ObjectFlowItemFeatureUntyped_Mapping

Mapping Source

ObjectNode

Mapping Target

ItemFeature

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ItemFeature::ownedRelationship () : Relationship [0..*]
`Set {ObjectFlowItemFeatureTyping_Mapping.getMapped(from)}`

7.7.3.3.43 ObjectFlowItemFeatureMembership_Mapping

Owned MappingDescription


```
else
    ObjectFlowItemFeature_Mapping.getMapped(from.source)
endif
```

Mapping Source

ActivityNode

Mapping Target

EndFeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- EndFeatureMembership::ownedMemberFeature () : Feature [1]
ObjectFlowItemFlowEnd_Mapping.getMapped(from)

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target lesrement

```
        ->any(m | m.qualifiedName = 'SysMLv1Library::AddValueAction::value'))  
else if from.name = 'insertAt' then
```

```
ObjectFlowItemFlowEndReferenceUsage_Mapping.getMapped( from)
```

7.7.3.3.50 ObjectFlowItemFlowEndRedefinition_Mapping

SYSML2-2: ItemFlowEnds of ObjectFlow transformation target are not defined correctly

Description

Creates a redefinition relationship for the *redefiningFeature()* and the *redefinedFeature()*.

General Mappings

GenericToRedefinition_Mapping

Mapping Source

ActivityNode

Mapping Target

Redefinition

Owned Mappings

(noog


```

    if from.guard.ocIsKindOf(UML::OpaqueExpression) then
        OpaqueExpressionAsValue_Mapping.getMapped(from.guard)
    else
        from.guard
    endif

```

- TransitionFeatureMembership::kind () : TransitionFeatureKind [1]

```

KerML::TransitionFeatureKind::guard

```

7.7.3.3.53 VariableAttribute_Mapping

SYSML2-7: Pin_Mapping::filter: property src should be from

Description

A UML4SysML::Variable is mapped to a SysML v2 AttributeUsage if the type of the variable is of kind UML4SysML::DataType.

Description

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

```
not src.type.ocIsKindOf(UML::DataType)
```


Owned Mappings

(none)

7.7.4.2.2 Classifier_Mapping

The mapping class creates the default lower bound of a multiplicity element.

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `FeatureMembership::isComposite () : Boolean [1]`

7.7.4.2.6

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `OwningMembership::ownedMemberElement () : Element [1]`

GenericToExpression_Mapping

Mapping Source

Element

Mapping Target

LiteralInteger

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- LiteralInteger::value () : Integer [1]

Applicable filters

(none)

Mapping rules

General Mappings

ValueSpecification_Mapping

Mapping Source

InstanceValue

Mapping Target

FeatureReferenceExpression

Owned Mappings

(none)

AptT72.000ppible filterT72.0000 536.2260 T4cnceMue8TETneral Mappings

(none)

Mapping rules

Mapping Source

MultiplicityElement

Mapping Target

MultiplicityRange

Owned Mappings

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `OwningMembership::ownedMemberElement () : Element [1]`

```
if from.lowerValue.ocIsUndefined() then
    DefaultLowerBound_Mapping.getMapped(from)
else
    from.lowerValue
endif
```
- `OwningMembership::memberName () : String [0..1]`

```
'lowerBound'
```

Description

Creates a owning membership relationship for *ownedMemberElement()*.

General Mappings

GenericToOwningMembership_Mapping

Mapping Source

MultiplicityElement

Mapping Target

OwningMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- OwningMembership::ownedMemberElement () : Element [1]

```
if from.upperValue.ocIsUndefined() then
    DefaultUpperBound_Mapping.getMapped(from)
else
    from.upperValue
endif
```
- OwningMembership::memberName () : String [0..1]

```
'upperBound'
```

7.7.4.2.23 Operation_Mapping**Description**

A UML4SysML::Operation is mapped to a SysML v2 PerformActionUsage.


```
attribute value : ScalarValues::String default := "default value";
```

General Mappings

GenericToFeatureValue_Mapping

Mapping Source

Parameter

Mapping Target

FeatureValue

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureValue::value () : Expression [1]

```
frpt.01[wureValue
```

```
FeatureValueisD "defauue ()Booleasion [1]
```

(none)

Applicable filters

(none)

Mapping rules

ReferenceUsage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ReferenceUsage::ownedRelationship () : Relationship [0..*]

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element
property: FeatureMembership::ownedMemberFeature () : Feature [1]rt

Mapping Target

ReferenceUsage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ReferenceUsage::ownedRelationship () : Relationship [0..*]

```
Set { ParameterSetParameterReferenceUsageFeatureValue_Mapping.getMapped(from) ,  
      MultiplicityMembership_Mapping.getMapped(from) }
```

7.7.4.2.31

- `Feature::isDerived () : Boolean [1]`

The following shows an example of what the textual SysML v2 syntax of the result of the transformation may look like.

```
part def SysMLv1Block {
```


In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

-

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element

Applicaw000 163.015 l0 g72.0000 eoMAppli3aw000 163.015noneApplicaw000 163.015Mapping ruleMAppli3aw000 163.015In a

General Mappings

GenericToTextualRepresentation_Mapping
NamedElementMain_Mapping

Mapping Source

ChangeEvent

Mapping Target

TextualRepresentation

Owned Mappings

(none)

SYSML2-221: UML4SysML::Activities and StateMachines owned by blocks should be mapped to definition elements

Description

A UML4SysML::OpaqueBehavior is mapped to a SysML v2 ActionDefinition.

```
elementsOMS->collect(e | ElementOwningMembership_Mapping.getMapped(e))
->union(features->collect(e | PropertyMembership_Mapping.getMapped(e)))
->union(parameters->collect(e | ParameterMembership_Mapping.getMapped(e)))
->union(parameterSets->collect(e | ParameterSetMembership_Mapping.getMapped(e)))
->union(from.language
      ->collect(1 | OpaqueBehaviorMembership_Mapping.getMapped(from, 1)))
```

7.7.5.3.4 OpaqueBehaviorMembership_Mapping

Description

Mapping Target

TextualRepresentation with qualifier: language:String

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- TextualRepresentation::body () : String [1]

```
let index:Integer = from.language->indexOf(language) in  
from._'body' ->at(index)
```
- TextualRepresentation::language () : String [1]

```
language
```

7.7.5.3.6 TimeEvent_Mapping

De72. s.

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

-

[illegible]

Description

A UML4SysML::Abstraction relationship is mapped to a SysML v2 Dependency relationship.

General Mappings

Dependency_Mapping

Mapping Source

Abstraction

Mapping Target

Dependency

Owned Mappings

(none)

7.7.6.2.2 Comment_Mapping

[SYSML2-7](#)

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

-


```
if (from.ocIsKindOf(UML::NamedElement)) then
    from.ocAsType(UML::NamedElement).visibility
else
    KerML::VisibilityKind::public
endif
```

- Membership::membershipOwningNamespace () : Element [0..*]
Set{ElementMain_Mapping(from)}

```
self.target()
```

7.7.6.2.13 ElementOwningMembership_Mapping

Description

Creates a owning membership relationship for *ownedMemberElement()*.

General Mappings

ElementMembership_Mapping
ElementOwnership_Mapping

Mapping Source

Element

Mapping Target

OwningMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- OwningMembership::ownedRelatedElement () : Element [0..*]

```
Set{self.ownedMemberElement() }
```
- OwningMembership::membershipOwningNamespace () : Element [0..*]

```
Set{ElementMain_Mapping(from) }  
-- will not be used since corresponding attribute is derived,  
-- but required for redefinition
```
- OwningMembership::ownedMemberElement () : Element [1]

```
ElementMain_Mapping.getMapped(from)
```

7.7.6.2.14 NamedElementMain_Mapping

Description

The mapping class is the abstract base class for mappings of UML4SysML::NamedElements.

General Mappings

ElementMain_Mapping

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

GenericToFeature_Mapping
UniqueMapping

7.7.7.2.6 InformationFlowSubclassification_Mapping

SYSML2-180: Mapping of UML4SysML::InformationFlow between definition elements is not supported

Description

Creates a Subclassification relationship between the target element of the UML4SysML::InformationFlow mapping and the target element of the UML4SysML::Association which realizes the flow.

General Mappings

GenericToSubclassification_Mapping

Mapping Source

InformationFlow

Mapping Target

Subclassification with qualifier: element:Relationship

Mapping Target

ItemDefinition

Owned Mappings

(none)

7.7.7.2.8 InformationItemFlowConveyedItemUsage_Mapping

[SYSML2-180](#): Mapping of UML4SysML::InformationFlow between definition elements is not supported

Description

Creates an ItemUsage element representing the conveyed classifier of an UML4SysML::InformationFlow.

General Mappings

GenericToItemUsage

Mapping Source

Classifier

Mapping Target

ItemUsage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ItemUsage::ownedRelationship () : Relationship [0..*]
`Set { InformationItemFlowConveyedItemUsageFeatureTyping_Mapping.getMapped(from) }`

7.7.7.2.9 InformationItemFlowConveyedItemUsageFeatureTyping_Mapping

[SYSML2-180](#): Mapping of UML4SysML::InformationFlow between definition elements is not supported

Description

General Mappings

GenericToFeatureTyping_Mapping

Mapping Source

Classifier

Mapping Target

FeatureTyping

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

[illegible]

(none)

Applicable filters

(none)

- FeatureMembership::memberFeature () : Feature [1]

ElementMain_Mapping.getMapped(from)

Mapping Target

Interaction

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

General Mappings

NamedElementMain_Mapping
GenericToInteraction_Mapping

Mapping Source

InteractionOperand

Mapping Target

Interaction

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the follow cn.ists the mapping class specific mapping rules for the target element properties.

- Interaction::ownedRelationship () : Relationship [0..*]

```
let executionOccurrences: Set(UML::Element) =
    from.ownedElement->select(e | e.ocIsKindOf(UML::ExecutionSpecification)) in
let occurrencesSpecs: Set(UML::Element) =
    from.ownedElement->select(e | e.ocIsKindOf(UML::OccurrenceSpecification)) in
let continuations: Set(UML::Element) =
    from.ownedElement->select(e | e.ocIsKindOf(UML::Continuation)) in
let elements: Set(UML::Element) =
    ((from.ownedElement - executionOccurrences) - occurrencesSpecs) -t elements: Set(UML5e.pR
```

FeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

FeatureTyping

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureTyping::type () : Type [1]
`ElementMain_Mapping.getMapped(from.refersTo)`

7.7.8.3.12 LifelineMembership_Mapping

Description

Creates a membership relationship for *memberElement()*.

General Mappings

GenericToFeatureMembership_Mapping

Mapping Source

Lifeline

Mapping Target

FeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature () : Feature [0..1]
`self.memberFeature()`
- FeatureMembership::memberFeature () : Feature [1]

```
ElementMain_Mapping.getMapped(from)
```

7.7.8.3.13 LifelinePartUsage_Mapping

Description

A UML4SysML::Lifeline is mapped to a SysML v2 PartUsage.

7.7.9.2 UML4SysML::Packages elements not mapped

Table 14. List of SysML v1 elements not mapped of this section

SysML v1 Concept	Rationale
Extension	The mapping of the extension relationship is performed in the context of Stereotype_Mapping.
ExtensionEnd	The mapping of the extension end property is performed in the context of Stereotype_Mapping.
Image	

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element)* :

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Package::ownedRelationship () : Relationship [0..*]

```
let relationships : Set(KerML::Relationship) =
  Helper.packageOwnedRelationship(from) in
if from.viewpoint.oclisUndefined() or from.viewpoint = '' then
  relationships
else
  relationships
->including(ModelViewpointMetadataMembership_Mapping.getMapped(from))
endif
```

7.7.9.3.3 ModelViewpointMetadataUsage_Mapping

7.7.9.3.4 ModelViewpointMetadataFeatureMembership_Mapping

Description

The mapping class cradaec9.7ET..u9.7TBT72.tps
UML4SysML::Model::viewpoint property.

General Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `FeatureTyping::type () : Type [1]`

```
SysMLv2::MetadataDefinition.allInstances()  
->any(m | m.qualifiedProperties.
```

The mapping class maps the value of the property UML4SysML::Model::viewpoint.

General Mappings

GenericToFeatureValue_Mapping

Mapping Source

Model

~~MappingToFeatureValue_Mapping~~

Mapping rules

PackageImport

Mapping Target

NamespaceImport

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

```
if src.oclIsKindOf(UML::PackageImport) then
    Helper.isInScope(src.oclAsType(UML::PackageImport).importedPackage)
else
    false
endif
```

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- NamespaceImport::visibility () : VisibilityKind [0..1]
`Helper.getKerMLVisibilityKind(from.visibility)`
- NamespaceImport::importedNamespace () : Namespace [1]
`Namespace_Mapping.getMapped(from.importedPackage)`

7.7.9.3.13 PackageURIMetadataUsage_Mapping

Description

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element

The mapping class creates the FeatureTyping relationship for the AnnotatingFeature for the metadata to store the UML4SysML::Package::URI property.

General Mappings

GenericToFeatureTyping_Mapping

Mapping Source

Package

Mapping Target

FeatureTyping

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureTyping::type () : Type [1]

```
let m: SysMLv2::Membership = SysMLv2::AttributeDefinition.allInstances()  
->collect(dt | dt.owningRelationship)
```



```
PackageURIValue_Mapping.getMapped( from)
```

7.7.9.3.18 PackageURIMetadataMembership_Mapping

Description

The mapping class creates a membership relationship for the metadata feature value for the UML4SysML::Package::URI property.

General 9260 Tdl5RIMetadataMf87.5 645.9260 Td/F 10.0000 TficToOwnl 9tadataMembershipMapping

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

Profile

Mapping Target

'Profile'

7.7.9.3.24 StereotypeMetadataDefinition_Mapping

Description

A UML4SysML::Stereotype is mapped to a SysML v2 MetadataDefinition.

General Mappings

Class_Mapping

Mapping Source

Stereotype

Mapping Target

MetadataDefinition

Owned Mappings

(none)

7.7.9.3.25 StereotypeMetadataDefinitionMembership_Mapping

Description

Creates a membership relationship for *memberElement()*.

General Mappings

ElementOwningMembership_Mapping

Mapping Source

Stereotype

Mapping Target

OwningMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

Creates a membership relationship for *memberElement()*.

General Mappings

GenericToMembership_Mapping

Mapping Source

Stereotype

Mapping Target

Membership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Membership::ownedMemberElement () : Element [0..1]

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- MultiplicityRange::ownedRelationship () : Relationship [0..*]

General Mappings

GenericToFeature_Mapping

Mapping Source

Stereotype

Mapping Target

Feature

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `ReturnParameterMembership::ownedMemberParameter () : Feature [0..1]`
`StereotypeOccurenceUsageInfinityReturnParameter_Mapping.getMapped(from)`
- `ReturnParameterMembership::ownedRelatedElement () : Element [0..*]`

```
let member: KerML::Element = self.ownedMemberParameter() in
if member.oclIsUndefined() then
  Set{}
else
  Set{self.ownedMemberParameter()}
endif
```
- `ReturnParameterMembership::memberParameter () : Feature [1]`
`self.ownedMemberParameter()`

7.7.9.3.34 StereotypeOccurenceUsageMultiplicityRangeMembership_Mapping


```
let typing: KerML::FeatureTyping =
  AssociationToFeatureTyping_Mapping.getMapped(from) in
let subsetting: Set(KerML::Subsetting) =
  from.subsettedProperty
  ->collect(p | PropertySubsetting_Mapping.getMapped(from, p))->asSet() in
let subsettingMultiplicityTyping: Set(KerML::Relationship) =
  subsetting
  ->union(Set{AttributeRedefinedRedefinition_Mapping.getMapped(from)})->union(
```


7.7.10.2.4 AttributeRedefinedMembership_Mapping

[SYSML2-7: Pin_Mapping::filter: property src should be from](#)

Description

Creates a membership relationship for *memberElement()*.

General Mappings

ElementFeatureMembership_Mapping

Mapping Source

Element

Mapping Target

FeatureMembership

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

```
src.ocIsKindOf(UML::Property)
and (src.ocAsType(UML::Property).redefinedElement->size() > 0)
```

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature () : Feature [0..1]

```
AttributeRedefined_Mapping.getMapped(from)
```

7.7.10.2.5 AttributeRedefinedFeatureTyping_Mapping

Description

Creates a feature typing relationship owned by the element *typedFeature()*.

General Mappings

StructuralFeatureToFeatureTyping_Mapping

FeatureTyping

Owned Mappings

(none)

7.7.10.2.6 BehavioeredClassifier_Mapping

[SYSML2-180](#): Mapping of UML4SysML::InformationFlow between definition elements is not supported

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

-

Mapping Target

ActionUsage

7.7.10.2.11 Enumeration_Mapping

Description

A UML4SysML::Enumeration is mapped to a SysML v2 EnumerationDefinition.

The following shows an example of what the textual SysML v2 syntax of the result of the transformation may look like.

```
enum def SysMLv1Enumeration {  
    enum sysMLv1Literal1;  
    enum sysMLv1Literal2;  
}
```

General Mappings

DataType_Mapping

Mapping Source

Enumeration

Mapping Target

EnumerationDefinition

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- VariantMembership::ownedMemberElement () : Element [1]

from

7.7.10.2.14 Interface_Mapping

Description


```

    from.ownedElement->select(e | e.ocIsKindOf(UML::Generalization)) in
let elements: Set(UML::Element) =
    (from.ownedElement - properties) - generalizations in
elements->collect(e | ElementOwningMembership_Mapping.getMapped(e))
->union(properties->collect(e | PropertyMembership_Mapping.getMapped(e)))
->union(generalizations->collect(e | Generalization_Mapping.getMapped(e)))
->append(conjugatedPortDefinitionMembership)

```

7.7.10.2.15 InterfaceConjugatedPortDefinition_Mapping

Description

As part of the mapping from a UML4SysML::Interface to a SysMLv2 PortDefinition, this mapping class is used to create the appropriate ConjugatedPortDefinition.

General Mappings

GenericToPortDefinition_Mapping

Mapping Source

Interface

Mapping Target

ConjugatedPortDefinition

Owned Mappings

(none)

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `PortConjugation::conjugatedType () : Type [1]`

The PrimitiveTyf 5_Mapping class maps a UML4SysML::rimitiveTyf 5 to a SysML v2 AttributeDefintivon.

7.7.10.2.21 ReceptionFeatureTyping_Mapping

Description

A UML4SysML::Reception is mapped to SysML v2 AttributeUsage. The ReceptionToFeatureTyping_Mapping

(none)

[illegible]

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- StateUsage::isComposite () : Boolean [1]

false

- StateUsage::ownedRelationship () : Relationship [0..*]

```
let toFeatureMS : Set(UML::Element) =
    from.ownedElement->select(e | e.ocIsKindOf(UML::Region)) in
let toElementOMS : Set(UML::Element) =
    from.ownedElement - toFeatureMS in
toElementOMS->collect(e | ElementOwningMembership_Mapping.getMapped(e))
->union(toFeatureMS->collect(e | ElementFeatureMembership_Mapping.getMapped(e)))
```

7.7.11.2.2 FinalState_Mapping

Description

A UML4SysML::FinalState is mapped to a SysML v2 StateUsage. The details of the mapping are not defined yet.

General Mappings

State_Mapping

Mapping Source

FinalState

Mapping Target

StateUsage

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

```
src.ocIsTypeOf(UML::FinalState)
```

Mapping rules

The mapping class only has inherited rules. See the mapping classes in the general mapping section for details.

7.7.11.2.3 PseudoState_Mapping

Description

A UML4SysML::PseudoState is mapped to a SysML v2 StateUsage.

General Mappings

Namespace_Mapping

GenericToStateUsage_Mapping

StateUsage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules


```
from.ownedElement->collect(e | ElementOwningMembership_Mapping.getMapped(e))  
->including(TransitionSuccession_Mapping.getMapped(from))
```

- TransitionUsage::source () : ActionUsage [1]

```
from.source
```

7.7.11.2.8 TransitionSuccession_Mapping

Description

Mapping Source

Transition

Mapping Target

Subsetting

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Subsetting::subsettingFeature () : Feature [1]
`TransitionSuccessionSource_Mapping.getMapped(from)`
- Subsetting::subsettedFeature () : Feature [1]
`ElementMain_Mapping.getMapped(from.source)`

7.7.11.2.10 TransitionSuccessionSource_Mapping

Description

The mapping class creates the Succession element that is part of the TransitionUsage that is the target element of the UML4SysML::Transition mapping.

General Mappings

GenericToFeature_Mapping

Mapping Source

Transition

Mapping Target

Feature

Owned Mappings

(none)

Applicable filters

(none)

EndFeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- EndFeatureMembership::ownedMemberFeature () : Feature [1]
`TransitionSuccessionTarget_Mapping.getMapped (from)`

7.7.11.2.14 TransitionTargetToSubsetting_Mapping

[SYSML2-200](#): Description of Subsetting mapping classes is not correct

Description

Creates a subsetting relationship.

General Mappings

GenericToSubsetting_Mapping

Mapping Source

Transition

Mapping Target

Subsetting

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Subsetting::subsettingFeature () : Feature [1]
`TransitionSuccessionTarget_Mapping.getMapped (from)`

A UML4SysML::AssociationClass is mapped to a SysML v2 ConnectionDefinition. The following shows an example of what the textual SysML v2 syntax of the result of the transformation may look like.

```
part def SysMLv1Block1;  
part def SysMLv1Block2;  
connection def SysMLv1AssociationBlock {  
    end : SysMLv1Block1;  
    end : SysMLv1Block2;  
}
```

General Mappings

AssociationCommon_Mapping

Mapping Source

AssociationClass

Mapping Target

ConnectionDefinition

Owned Mappings

(none)

Description

A UML4SysML::Association is mapped to a SysML v2 ConnectionDefinition. This is the abstract base class of all concrete association mapping classes.

General Mappings

Classifier_Mapping
Relationship_Mapping

Mapping Source

Association

Mapping Target

Association

Owned Mappings

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `FeatureMembership::ownedMemberFeature () : Feature [1]`

```
AssociationMetadataUsageFeature_Mapping.getMapped(from)
```

7.7.12.2.5 AssociationMetadataUsageFeatureTyping_Mapping

Description

Creates a feature typing relationship owned by the element *typedFeature()*.

General Mappings

GenericToFeatureTyping_Mapping

Mapping Source

Association

Mapping Target

FeatureTyping

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `FeatureTyping::type () : Type [1]`

```
SYSMML2::MetadataDefinition.allInstances()  
->any(m | m.qualifiedName = 'SysMLv1Library::AssociationData')
```

7.7.12.2.6 AssociationMetadataUsageFeature_Mapping

Description

The mapping class creates the feature of the MetadataUsage.

General Mappings

GenericToFeature_Mapping

Mapping Source

Association

Mapping Target

Feature

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Feature::ownedRelationship () : Relationship [0..*]

```
Set { AssociationMetadataUsageRedefinition_Mapping.getMapped( from ) ,  
      AssociationMetadataUsageFeatureValue_Mapping.getMapped( from ) }
```

7.7.12.2.7 AssociationMetadataUsageFeatureValue_Mapping

Description

Creates a feature value relationship.

General Mappings

GenericToFeatureValue_Mapping

Mapping Source

Association

Mapping Target

FeatureValue

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureValue::value () : Expression [1]

```
LiteralBoolean_Factory.create( from.isDerived )
```


Applicable filters

(none)

Mapping rules

7.7.12.2.12 Connector_Mapping

Description

Mapping Source

ConnectorEnd

Mapping Target

Feature

Owned Mappings

(none)

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- EndFeatureMembership::ownedMemberFeature () : Feature [1]

The mapping class maps UML4SysML::ConnectorEnd that are part of a SysML::Ports&Flows::NestedConnectorEnd.

General Mappings

ConnectorEndToFeatureCommon_Mapping

Mapping Source

ConnectorEnd

Mapping Target

Feature

Owned Mappings

(none)

Applicable filters

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- OwningMembership::memberName () : String [0..1]

```
from.name+'_Connector_multiplicity'
```

7.7.12.2.19 ConnectorType_Mapping

Description

A UML4SysML::Association is mapped to a SysML v2 ConnectionDefinition.

General Mappings

7.7.12.2.21 End_Mapping

SYSML2-7: Pin_Mapping::filter: property src should be from

Description

The mapping class is the abstract base class of mapping classes for properties that are defined by association ends.

EndFeatureMembership

Owned Mappings

(none)

7.7.12.2.23 EndToSubsettedFeature_Mapping

[SYSML2-7](#): **Pin_Mapping::filter: property src should be from**

Description

The mapping class creates a feature element for the UML4SysML::ConnectorEnd mapping.

General Mappings

PropertyCommon_Mapping

Mapping Source

Property

Mapping Target

Feature

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

```
let property: UML::Property = src.oclAsType(UML::Property) in
not property.association.oclIsUndefined()
and property.association.ownedEnd->excludes(property)
```

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Feature::ownedRelationship () : Relationship [0..*]

```
let chain: OrderedSet(KerML::FeatureChaining) =
  OrderedSet{EndToSubsettedFeatureChaining_Mapping.getMapped(from)} in
chain->including(MultiplicityMembership_Mapping.getMapped(from))
```

7.7.12.2.24 EndToSubsettedFeatureChaining_Mapping

[SYSML2-443](#): **Property_Mapping should map to ItemUsage and the class name is misleading**

Description

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Subsetting::subsettingFeature () : Feature [1]
from

7.7.12.2.26 NonOwnedEndToSubsettingFeatureMembership_Mapping

SYSML2-7: Pin_Mapping::filter: property src should be from

Description

Creates a feature membership relationship for *ownedMemberFeature()*.

(none)

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

Description

Creates a membership relationship for *memberElement()*.

General Mappings

EndMembership_Mapping

Mapping Source

Property

Mapping Target

EndFeatureMembership

Owned Mappings

(none)

Mapping Target

PortUsage

Owned Mappings

(none)

7.7.12.2.35 PropertyToFeatureChaining_Mapping**Description**

The mapping class creates the SysML v2 FeatureChaining for the UML4SysML::Property mapping.

General Mappings

GenericToRelationship_Mapping

Mapping Source

Property

Mapping Target

FeatureChaining

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureChaining::chainingFeature () : Feature [1]

`ElementMain_Mapping.getMapped(from)`

General Mappings

ElementMain_Mapping
BehavioedClassifu al Mappings


```
}  
part def SysMLv1Block;
```

Currently, only one use case subject is supported by the mapping class. Since the UML4SysML::Extend relationship is not considered by the SysML v1 to SysML v2 transformation, the extension points of a use case are also not mapped.

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `ObjectiveMembership::ownedMemberFeature () : Feature [1]`
`UseCaseObjectiveRequirementUsage_Mapping.getMapped(from)`

7.7.13.3.10 UseCaseObjectiveRequirementUsage_Mapping

Description

The mapping class creates the `RequirementUsage` element for the use case objective. The element is not set by an element from the SysML v1 `UseCase`.

General Mappings

`GenericToRequirementUsage_Mapping`

Mapping Source

`UseCase`

Mapping Target

`RequirementUsage`

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `RequirementUsage::ownedRelationship () : Relationship [0..*]`
`Set { UseCaseObjectiveSubjectMembership_Mapping.getMapped(from),
CommonReturnParameterReferenceUsageMembership_Mapping.getMapped(from) }`

7.7.13.3.11 UseCaseObjectiveSubjectMembership_Mapping

Description

Creates a membership relationship for *memberElement()*.

General Mappings

`GenericToSubjectMembership_Mapping`

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element

TypedElement

Mapping Target

Feature

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Feature::ownedRelationship () : Relationship [0..*]

Mapping Target

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `OperatorExpression::ownedRelationship () : Relationship [0..*]`
`Set { ExpressionElseMembership_Mapping.getMapped (from) }`

7.7.14.3.6 ExpressionElseMembership_Mapping

Description

Creates the membership relationship for the textual representation for the else guard condition specification.

General Mappings

GenericToOwningMembership_Mapping

Mapping Source

Expression

Mapping Target

OwningMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `OwningMembership::ownedMemberElement () : Element [1]`
`ExpressionElseSpecification_Mapping.getMapped (from)`

7.7.14.3.7 ExpressionElseSpecification_Mapping

Description

Creates the textual representation for the else guard condition specification.

General Mappings

GenericToTextualRepresentation_Mapping

Mapping Source

Expression

Mapping Target

TextualRepresentation

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the General element properties.

- LiteralBoolean::value () : Boolean [1]

from.value

7.7.14.3.9 LiteralInteger_Mapping

Description

The mapping class maps UML4SysML::LiteralInteger to SysML v2 LiteralInteger.

General Mappings

LiteralSpecificationCommon_Mapping

Mapping Source

LiteralInteger

Mapping Tn to /F 10.0000 TfGene8s5ETT72.0000 495.e76General Manteger)/TfETOwn 1000 565.4460 Td/F 10.0000 403ionCom

Mapping Target

LiteralExpression

Owned Mappings


```
(from.value = -1)
```

Mapping rules

Mapping Target

FeatureChainExpression

Owned Mappings

(none)

Applicable filters

(none)

(none)

Mapping rules

GenericToFeature_Mapping

Mapping Source

OpaqueExpression

Mapping Target

Feature

Owned Mappings

(none)

7.7.14.3.21 OpaqueExpressionFeatureFeatureMembership_Mapping

Description

Creates a feature membership relationship for *ownedMemberFeature()*.

General Mappings

GenericToFeatureMembership_Mapping

Mapping Source

OpaqueExpression

Mapping Target

FeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature () : Feature [1]

GenericToFeatureValue_Mapping

OpaqueExpression

Mapping Target

OwningMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- OwningMembership::ownedMemberElement () : Element [1]
`OpaqueExpressionSpecification_Mapping.getMapped(from)`

7.7.14.3.26 OpaqueExpressionParameterMembership_Mapping

Description

Creates a membership relationship for *memberElement()*.

General Mappings

GenericToParameterMembership_Mapping

Mapping Source

OpaqueExpression

Mapping Target

ParameterMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ParameterMembership::ownedMemberParameter () : Feature [1]

```
OpaqueExpressionFeature_Mapping.getMapped(from)
```

7.7.14.3.27 OpaqueExpressionReferenceUsageReturnParameterMembership_Mapping

Description

Creates a membership relationship for *memberElement()*.

General Mappings

GenericToReturnParameterMembership_Mapping

Mapping Source

OpaqueExpression

Mapping Target

ReturnParameterMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ReturnParameterMembership::ownedMemberParameter () : Feature [1]

```
if from.type.oclIsUndefined() then
    OpaqueExpressionReferenceUsageUntyped_Mapping.getMapped(from)
else
    OpaqueExpressionReferenceUsage_Mapping.getMapped(from)
endif
```

7.7.14.3.28 OpaqueExpressionReferenceUsage_Mapping

Description

The mapping class creates the return parameter reference usage of the calculation usage.

General Mappings

GenericToReferenceUsage_Mapping

Mapping Source

OpaqueExpression

Mapping Target

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `TextualRepresentation::body () : String [1]`

Mapping Source

Element

7.8.2.3.4 ProbabilityMetadataUsageReferenceUsage_Mapping

[SYSML2-7: Pin_Mapping::filter: property src should be from](#)

Description

Creates a reference usage.

General Mappings

GenericToReferenceUsage_Mapping

Mapping Source

Element

Mapping Target

ReferenceUsage

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

`Helper.hasStereotypeApplied(src, 'SysML::Activities::Probability')`

Mapping rules

GenericToFeatureValue_Mapping


```
SYSML2::AttributeUsage.allInstances()  
->any(m | m.qualifiedName = 'SysMLv1Library::RateData::isContinuous')
```

7.8.2.3.13 RateMetadataUsageDiscreteFeatureMembership_Mapping

[SYSML2-7](#)

Element

Mapping Target

ReferenceUsage

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

```
Helper.hasStereotypeApplied(src, 'SysML::Activities::Discrete')
```



```
Helper.hasStereotypeApplied(src, 'SysML::Activities::Discrete')
```

Mapping rules

7.8.2.3.17 RateOwningMembership_Mapping

[SYSML2-7: Pin_Mapping::filter: property src should be from](#)

Description

Creates a owning membership relationship for *ownedMemberElement()*.

General Mappings

GenericToOwningMembership_Mapping

Mapping Source

Element

Mapping Target

OwningMembership

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

```
Helper.hasStereotypeApplied(src, 'SysML::Activities::Rate')  
or Helper.hasStereotypeApplied(src, 'SysML::Activities::Continuous')  
or Helper.hasStereotypeApplied(src, 'SysML::Activities::Discrete')
```

Mapping rules


```

        end :>> source : SysMLv1Activity;
        end :>> target : SysMLv1Block;
        allocate source.sysMLv1Action to target.sysMLv1PartProperty;
    }
    // Allocation of usage to definition
    allocation def {
        end :>> source : SysMLv1Activity;
        end :>> target : SysMLv1Block;
        allocate source.sysMLv1Action to target;
    }

```

General Mappings

Abstraction_Mapping

Mapping Source

Abstraction

Mapping Target

AllocationDefinition

Owned Mappings

(none)

Applicable filters

OCL) condn

Description

Creates a feature membership relationship for *ownedMemberFeature()*.

General Mappings

GenericToFeatureMembership_Mapping

Mapping Source

NamedElement

Mapping Target

FeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature () : Feature [1]

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureTyping::type () : Type [1]

```
if from.ocIsKindOf(UML::Type) then
  from
else
  from.owner
endif
```

7.8.3.3.4 AllocationReferenceUsage_Mapping

[SYSML2-258](#): Mapping of allcation between usage and definition or definition and usage elements does not work

[SYSML2-88](#): Mapping of allocation between usage elements is not specified yet

Description

Creates a reference usage.

General Mappings

GenericToReferenceUsage_Mapping
UniqueMapping

Mapping Source

NamedElement

Mapping Target

ReferenceUsage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ReferenceUsage::isEnd () : Boolean [1]

GenericToFeatureMembership_Mapping

Mapping Source

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

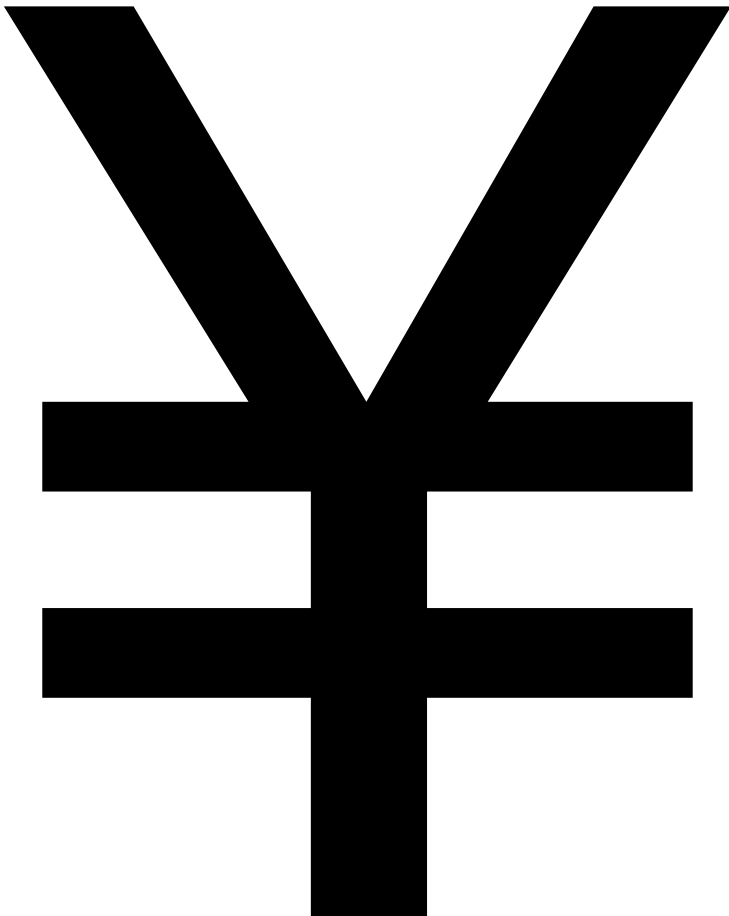
- ReferenceUsage::isEnd () : Boolean [1]
`true`
- ReferenceUsage::ownedRelationship () : Relationship [0..*]
`Set {AllocationFeatureTyping_Mapping.getMapped (from) ,
AllocationTargetReferenceUsageRedefinition_Mapping.getMapped (from) }`

7.8.3.3.8 AllocationTargetReferenceUsageRedefinition_Mapping

[SYSML2-258](#): Mapping of allcation between usage and definition or definition and usage elements does not work

(none)

Description	Mapping rules
-------------	---------------



does not work
[SYSML2-7](#): Pin_Mapping::filter: property src should be from
[SYSML2-88](#): Mapping of allocation between usage elements is not specified yet

Description

A SysML::Allocations::Allocate is mapped to a SysML v2 AllocationUsage owned by a AllocationDefinition if a usage element is source or target of the allocation relationship.

General Mappings

GenericToUsage_Mapping

Mapping Source

Abstraction

Mapping Target

AllocationUsage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- AllocationUsage::ownedRelationship () : Relationship [0..*]

```
Set{AllocationUsageSourceEndFeatureMembership_Mapping.getMapped(from.client.get(0)),  
AllocationUsageTargetEndFeatureMembership_Mapping.getMapped(from.target.get(0))}
```


Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

-

Creates the second feature chaining element for the subsetting feature for the feature element which represents an end of the allocation usage relationship. represents an

NamedElement

Mapping Target

EndFeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- EndFeatureMembership::ownedMemberFeature () : Feature [1]
`AllocationUsageTargetFeature_Mapping.getMapped(from)`

7.8.3.3.18 AllocationUsageTargetFeature_Mapping

SYSML2-258: Mapping of allcation between usage and definition or definition and usage elements does not work

Description

Creates a feature element as an end of the allocation usage relationship.

General Mappings

GenericToFeature_Mapping

Mapping Source

NamedElement

Mapping Target

Feature

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Feature::ownedRelationship () : Relationship [0..*]

`Set { AllocationUsageTargetFeatureSubsetting_Mapping.getMapped(from) }`

7.8.3.3.19 AllocationUsageTargetFeatureChaining_Mapping

[SYSML2-258](#)

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Feature::ownedRelationship () : Relationship [0..*]

```
Set{AllocationUsageTargetFeatureChaining_Mapping.getMapped(from),
AllocationUsageFeatureChainingChainedFeature_Mapping.getMapped(from)}
```

7.8.4 Blocks

SysML v1 Concept	Rationale
NestedConnectorEnd	The concept of NestedConnectorEnd is already included in the SysML v2 language. It is not required to do an explicit mapping.

A SysML::Blocks::BindingConnector is mapped to a SysML v2 BindingConnectorAsUsage.

The following shows an example of what the textual SysML v2 syntax of the result of the transformation may look like.

```
part def SysMLv1Block1 {  
    part sysMLv1PartProperty1 : SysMLv1Block2;  
    part sysMLv1PartProperty2 : SysMLv1Block2;  
  
    binding sysMLv1BindingConnector  
        bind sysMLv1PartProperty1 = sysMLv1PartProperty2;  
}  
part def SysMLv1Block2;
```

General Mappings

Connector_Mapping

Mapping Source

Connector

Mapping Target

BindingConnectorAsUsage

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation

Mapping Target

PartDefinition

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

General Mappings

GenericToOwningMembership_Mapping

Mapping Source

Class

Mapping Target

OwningMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- OwningMembership::ownedMemberElement () : Element [1]
`EncapsulatedBlockMetadata_Mapping.getMapped(from)`

Mapping Tar]5t

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `Redefinition::redefinedFeature () : Feature [1]`

```
SYSMML2::AttributeUsage.allInstances()  
MaSML2::-43ated'.226 Aoarget element
```

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

```
if src.ocIsKindOf(UML::Property) and not src.ocIsKindOf(UML::Port) then
    let p: UML::Property = src.ocAsType(UML::Property) in
    not p.type.ocIsUndefined() and
    Helper.hasStereotypeApplied(p.type, 'SysML::Blocks::Block') and
    (p.association.ocIsUndefined() or p.association.ownedEnd->excludes(p))
else
    false
```


In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- **ConstraintDefinition::ownedRelationship () : Relationship [0..*]**

```
let generalizations : Set(UML::Generalization) =
    from.ownedElement->select(e | e.ocIsKindOf(UML::Generalization)) in
let toElementFMS : Set(UML::Element) =
    from.ownedElement
    ->select(e | e.ocIsKindOf(UML::Property) or e.ocIsKindOf(UML::Constraint)) in
let toElementOMS: Set(UML::Element) =
    (from.ownedElement - generalizations) - toElementFMS in
toElementOMS->collect(e | ElementOwningMembership_Mapping.getMapped(e))ementFMS in
```


General Mappings

GenericToFeatureMembership_Mapping

Mapping Source

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

-

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `OwningMembership::ownedMemberElement () : Element [1]`

`ProblemRationaleMetadataUsage_Mapping.getMapped(from)`

7.8.6.3.6 Concern_Mapping

[SYSML2-7](#)

```
->flatten()  
->includes(src)) or  
(UML::Classifier.allInstances()
```

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Documentation::body () : String [1]
`from.body`

7.8.6.3.8

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature () : Feature [1]

`ElementGroupMetadataReferenceUsage_Mapping.getMapped(from)`

7.8.6.3.17 ElementGroupMetadataFeatureTyping_Mapping

Description

Creates a feature typing relationship owned by the element *typedFeature()*.

General Mappings

GenericToFeatureTyping_Mapping

0 TfMa6F 2urceFTB72.0000 449.2660 Td/F 10.0000 TfCreaomt)TFTB72.0000 62940360 Td/F 10.0000 Tf0 TfMa6FTet elFTB72.

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element

General Mappings

GenericToMetadataUsage_Mapping

Mapping Source

Comment

Mapping Target

Map71 Mappings

Comment

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

7.8.6.3.25 Stakeholder_Mapping

[SYSML2-7](#): Pin_Mapping::filter: property src should be from
[SYSML2-178](#): ClassifierBehaviorFeatureMembership_Mapping does not exist

Description

```
e.oclIsKindOf(UML::Operation) in
```


Mapping Target

(none)

Applicable filters

Description

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

Comment

Mapping Target

ReferenceSubsetting

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

-

Mapping Source

Class

Mapping Target

Redefinition

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ReferenceUsage::ownedRelationship () : Relationship [0..*]

Class

Mapping Target

Class

Mapping Target

FeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

```
ViewpointPresentationsMetadataOperatorExpression_Mapping.getMapped(from)
```

7.8.6.3.50 ViewpointPresentationsMetadataOperatorExpression_Mapping

Description

The mapping class creates the operator expression for the list of presentations of the SysML::ModelElements::Viewpoint mapping.

Generic Mappings

GenericToOperatorExpression_Mapping

Mapping Source

Class

Mapping Target

OperatorExpression

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- OperatorExpression::ownedRelationship () : Relationship [0..*]

```
Helper.getTagValueAsStringColl(from,  
    'SysML::ModelElements::Viewpoint', 'presentation')  
->collect(e | StringParameterMembership_Factory.create(e))
```

Mapping Target

Redefinition

Owned Mappings

(none)

Applicable filter

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

Creates a subsetting relationship.

Mapping rules

7.8.7.3.1 AcceptChangeStructuralFeatureEventAction_Mapping

[SYSML2-7: Pin_Mapping::filter: property src should be from](#)

Description

The SysML::PortsAndFlows::AcceptChangeStructuralFeatureEventAction element is mapped to SysML v2 AcceptActionUsage. The details of the mapping are not defined yet.

General Mappings

AcceptEventAction_Mapping

Mapping Source

AcceptEventAction

Mapping Target

AcceptActionUsage

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

```
Helper.hasStereotypeApplied(src,  
'SysML::Ports&Flows::AcceptChangeStructuralFeatureEventAction')
```

Mapping rules

The mapping class only has inherited rules. See the mapping classes in the general mapping section for details.

7.8.7.3.2 CommonFullPort_Mapping

Description

The abstract mapping class is the base class of the mapping classes for the SysML::Ports&Flows::FullPort mappings.

General Mappings

PropertyCommon_Mapping

Mapping Source

Port

Mapping Target

PartUsage

Port_Mapping
CommonFullPort_Mapping

ng

In addition to 14De inherited rules, 14De following lists 14De mapping class specific mapping rules for 14De target element

Mapping Target

FeatureTyping

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `FeatureTyping::type () : Type [1]`

```
SYSMML2::MetadataDefinition.allInstances()  
->any(m | m.qualifiedName = 'SysMLv1Library::PortData')
```

7.8.7.3.9 FullPortMetadataOwningMembership_Mapping

Description

Creates a owning membership relationship for *ownedMemberElement()*.

General Mappings

GenericToOwningMembership_Mapping

Mapping Source

Port

Mapping Target

OwningMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `OwningMembership::ownedMemberElement () : Element [1]`

```
FullPortMetadata_Mapping.getMapped(from)
```

7.8.7.3.10 FullPortMetadataReferenceUsage_Mapping

Description

Creates a reference usage.

General Mappings

GenericToReferenceUsage_Mapping

Mapping Source

Port

Mapping Target

ReferenceUsage

Owned Mappings

(none)

Applicabs 2 filter

A SysML::Ports&Flows::FullPort element is mapped to a part usage in SysML v2 with metadata that marks the part

Block_Mapping

Description

7.8.8.3.2 DeriveReqFeatureTyping_Mapping

Description

Creates a feature typing relationship owned by the element *typedFeature()*.

Creates a subsetting relationship.

General Mappings

GenericToReferenceSubsetting_Mapping

Mapping Source

Dependency

Mapping Target

ReferenceSubsetting

Owned Mappings

(none)

Applicable filters

(none)

Mapping rule: ~~BT 72.0000 478.6260 /F 10.0000 T-i.6260 /F 10.0000 T-i.6260 /F 10.0000 T-i0000 455.4260 Td/Fadi.000 to the inh.00t1~~

Mapping rules

Mapping Source

Dependency

Mapping Target

ReferenceSubsetting

Mapping Target

Dependency

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `Annotation::annotatingElement () : AnnotatingElement [1]`
`RefineMetadataUsage_Mapping.getMapped(from)`

7.8.8.3.11 from)

Mapping Target

ReferenceUsage

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- ReferenceUsage::ownedRelationship () : Relationship [0..*]

```
Set { RefineMetadataReferenceUsageRedefinition_Mapping.getMapped(from) ,  
      RefineMetadataReferenceUsageFeatureValue_Mapping.getMapped(from) }
```

7.8.8.3.13 RefineMetadataReferenceUsageFeatureValue_Mapping

Description

Creates a feature value relationship.

General Mappings

GenericToFeatureValue_Mapping

Mapping Source

Abstraction

Mapping Target

FeatureValue

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureValue::value () : Expression [1]

```
LiteralBoolean_Factory.create(true)
```

7.8.8.3.14 RefineMetadataReferenceUsageRedefinition_Mapping

Description

Creates a redefinition relationship for the *redefiningFeature()* and the *redefinedFeature()*.

General Mappings

GenericToRedefinition_Mapping

Mapping Source

Abstraction

Mapping Target

Redefinition

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

Description

A SysML::Requirement is mapped to a SysML v2 RequirementUsage.

The following shows an example of what the textual SysML v2 syntax of the result of the transformation may look like.

```
requirement <'id1'> SysMLv1Requirement {  
  doc /*  
      * requirement text  
  */  
  
  requirement <'id2'> SysMLv1NestedRequirement {  
    doc /*  
        * requirement text  
        */  
  }  
}
```

General Mappings

NamedElementMain_Mapping
GenericToRequirementUsage_Mapping

Mapping Source

Class

Mapping Target

RequirementUsage

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

```
Helper.isRequirement(src)
```

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- RequirementUsage::ownedRelationship () : Relationship [0..*]

```
from.ownedElement->collect(e | ElementOwningMembership_Mapping.getMapped(e))  
->including(CommonReturnParameterReferenceUsageMembership_Mapping.getMapped(from))  
->including(RequirementDocumentationMembership_Mapping.getMapped(from))  
->including(RequirementSubjectMembership_Mapping.getMapped(from))
```


Mapping Target

OwningMembership

Owned Mappings

7.8.8.3.21 RequirementSubjectMembership_Mapping

Description


```
satisfy SysMLv1Requirement by sysMLv1BlockUsage.sysMLv1PartProperty {
    sysMLv1BlockUsage : SysMLv1Block;
}
```

General Mappings

GenericToOccurrenceUsage_Mapping
Abstraction_Mapping

Mapping Source

Abstraction

Mapping Target

SatisfyRequirementUsage

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

```
let satisfy: UML::Abstraction = src.oclAsType(UML::Abstraction) in
    if satisfy.oclIsUndefined() then
        false
    else
        Helper.hasStereotypeApplied(satisfy, 'SysML::Requirements::Satisfy')
    endif
```

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- SatisfyRequirementUsage::ownedRelationship () : Relationship [0..*]

```
let relationships : Set(KerML::Relationship) =
    ElementOwnership_Mapping.getMappedColl(from.ownedComment)
```



```
Set{SatisfySubjectReferenceUsageFeatureValue_Mapping.getMapped(from)}
```

7.8.8.3.26 SatisfySubjectReferenceUsageValue_Mapping

Description

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

Description

The mapping class creates the feature chaining element from the source element of the SysML v1 satisfy relationship.

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureValue::value () : Expression [1]

`SatisfySubjectReferenceUsageValue_Mapping.getMapped(from)`

GenericToSubjectMembership_Mapping

Mapping Source

Abstraction

Mapping Target

SubjectMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- SubjectMembership::ownedMemberParameter () : Feature [1]
`SatisfySubjectReferenceUsage_Mapping.getMapped(from)`

7.8.8.3.33 SatisfyFeatureTyping_Mapping

Description

Creates a feature typing relationship owned by the element *typedFeature()*.

General Mappings

GenericToFeatureTyping_Mapping

Mapping Source

Abstraction

Mapping Target

FeatureTyping

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

7.8.8.3.36 TestCaseActivityReturnParameterMembership_Mapping

Description

Creates a membership relationship for

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `ownedRelationship () : Relationship [0..*]`
`Set { Verify_Mapping.getMapped (from) }`

7.8.8.3.39 TestCaseVerifyRequirementUsageReferenceSubsetting_Mapping

[**SYSMML2-200: Description of Subsetting mapping classes is not correct**](#)

Description

Creates a subsetting relationship.

General Mappings

GenericToSubsetting_Mapping

Mapping Source

Abstraction

Mapping Target

ReferenceSubsetting

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

-

The mapping class creates the requirements usage of the SysML v2 test case for the verify relationship.

```

        @SysMLv1Library::TraceData {isTrace = true;}
    }

```

General Mappings

Abstraction_Mapping

Mapping Source

Abstraction

Mapping Target

Dependency

Owned Mappings

(none)

Applicable filters

This mapping applies only if the following (OCL) condition implemented by the operation *filter(src : Element) : Boolean* is verified:

```

    Helper.hasStereotypeApplied(src, 'SysML::Requirements::Trace')

```

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- Dependency::ownedRelationship () : Relationship [0..*]

```

    ElementOwnership_Mapping.getMappedColl(from.ownedComment)
    ->including(TraceAnnotation_Mapping.getMapped(from))

```

7.8.8.3.42 TraceAnnotation_Mapping

Description

The mapping class creates the annotation relationship for the SysML::Requirements::Trace mapping.

General Mappings

GenericToAnnotation_Mapping

Mapping Source

Abstraction

Mapping Target

Annotation

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `Annotation::annotatingElement () : AnnotatingElement [1]`
`TraceMetadataUsage_Mapping.getMapped(from)`

7.8.8.3.43 TraceMetadataFeatureMembership_Mapping

Description

Creates a feature membership relationship for *ownedMemberFeature()*.

General Mappings

GenericToFeatureMembership_Mapping

Mapping Source

Abstraction

Mapping Target

FeatureMembership

Owned Mappings

(none)

Applicable filters

(none)

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- `FeatureMembership::ownedMemberFeature () : Feature [1]`
`TraceMetadataReferenceUsage_Mapping.getMapped(from)`

7.8.8.3.44 TraceMetadataReferenceUsage_Mapping

Description

Creates a reference usage.

Mapping rules

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

-

In addition to the inherited rules, the following lists the mapping class specific mapping rules for the target element properties.

- FeatureTyping::type () : Type [1]

```
SysML2::MetadataDefinition.allInstances()  
->any(m | m.qualifiedName = 'SysMLv1Library::TraceData')
```

7.8.8.3.49 Verify_Mapping

Description

A SysML::Requirements::Verify relationship is mapped to a SysML v2 RequirementVerificationMembership relationship.

The following shows an example of what the textual SysML v2 syntax of the result of the transformation may look like.

```
requirement <'idl'> SysMLv1Requirement {  
    doc /*  
        * requirement text  
        */  
}  
verification def SysMLv1TestCase {  
    objective objective_SysMLv1TestCase {
```

```
Set{TestCaseVerifyRequirementUsage_Mapping.getMapped(from)}
```

7.8.8.3.50 Model Libraries

7.8.8.3.50.1 Verdicts

7.8.8.3.50.1.1 VerdictKind

The enumeration VerdictKind is mapped to the SysML v2 VerificationCases::VerdictKind model library element.