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OMG Systems Modeling Language™ (SysML®)

Annex C: SysML v1 to SysML v2 Transformation

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88Solutions Corporation	Lockheed Martin Corporation
Dassault Systèmes	MITRE
GfSE e.V.	Model Driven Solutions, Inc.
IBM	PTC
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A

B

C Annex: SysML v1 to SysML v2 Transformation

C.1 General

C.1.1 Overview

This annex describes a transformation that specifies a semantic translation from SysML v1 [SysMLv1] to SysML v2 in a precise way. (In this annex, "SysML v1" refers to SysML v1.7, the last version of SysML prior to v2.0, and "SysML v2" refers to SysML as defined in this specification.)

The main intent is to provide the rules on which automated conversions of SysML v1 models to the SysML v2 standard can be developed. In addition, this annex can be considered an educational document that provides useful information for people who would like to compare using SysML v2 and using SysML v1.

More sophisticated applications of this transformation can also be envisaged. For instance, a SysML v1 conformant tool could use this transformation to implement a limited subset of the SysML v2 API that will provide "SysMLv2-like" read-only access to its SysMLv1 models for external applications.

Release Note. The transformation specification currently only covers a restricted scope, which will be extended in the final submission.

C.1.2 Mapping Approach

The SysML v1 to v2 transformation is specified by directional mappings between UML metaclasses and stereotypes that are part of the SysML v1 specification and the set of the metaclasses included in KerML and the SysMLv2 libraries.

Each mapping is a directed relationship that reifies a semantic link between a concept belonging to the SysMLv1 scope on the source side and one concept belonging to the SysMLv2 scope on the target side. As a set, the mappings specify a formal transformation that describes how the information encoded by the SysMLv1 concepts can be reliably represented using constructs of SysMLv2 metaclasses instances.

In this approach, a mapping is represented by a UML class that has a pair of associations. One provides the "from" end that designates the source SysML v1 concept while the other provides the "to" end that designates the target SysML v2 metaclass.

In addition to those associations, a mapping class provides a set of operations defining how the attribute values of the target metaclass instance have to be computed based on attribute values reachable from the source object. The computation algorithm is provided by the body condition of those operations and expressed using OCL code.

Note that the values assigned to attributes of the target object shall be instances of the target (i.e., SysMLv2) metamodel, coming themselves from transformations of SysMLv1 objects to SysMLv2 objects. The `getMapped` static operation is provided for this purpose. It returns a (possibly null) value, based on the type of the target metaclass.

Each mapping specification enables the transformation of any object that has the type specified by the "from" role to an object of the type specified by the "to" role, as long as it is not overloaded by a more specific mapping definition. In other words, assume a mapping is specified as the class "A" (i.e., that has A typing its "from" property), then it applies to any instance of a class B if B is a subclass of A and if there is no specialization of that mapping class specified for B (i.e., that has B typing its "from" property).

It is possible to restrict the applicability of a mapping specification to a specific subset of objects. This is achieved by the "filter" static operation that is evaluated against each candidate object. Only objects for which this "filter"

operation returns “true” shall be translated according to the specifications of that mapping class. By default, the filter operation always returns “true”.

Some mapping classes have one or more qualifiers for their "to" attribute. In such a case, each of those qualifiers reflect the specific attribute of the source type (i.e. the type of the "from" attribute) that has the same name and the same type. For those specific mappings, it is expected to get one instance of the target class (as specified by the type of the "to" attribute") for each combination of value of those attributes per instance of object of the source type, assuming they pass the applicability filter as described above.

C.2 Mappings

C.2.1 Overview

C.2.2 Helper

Description

Operations

- `actionOwnedRelationship (in src : Element) : Relationship [0..*]`

```
bodyCondition:
result = let actionInputPin: Set(UML::Element) = src.ownedElement-
>select(e | e.ocIsTypeOf(UML::ActionInputPin)) in let triggers:
Set(UML::Element) = src.ownedElement->select(e |
e.ocIsKindOf(UML::Trigger)) in let toElementFMS: Set(UML::Element) =
src.ownedElement->select(e | e.ocIsKindOf(UML::Pin)) in let
toElementOMS: Set(UML::Element) = (((src.ownedElement - toElementFMS) -
actionInputPin) - triggers) in toElementOMS->collect(e |
ElementOwningMembership_Mapping.getMapped(e)) ->union(toElementFMS-
>collect(e | ElementFeatureMembership_Mapping.getMapped(e)))
```

- `createUUID () : String [1]`
- `getEnumerationType (in t : Enumeration) : EnumerationDefinition [1]`

```
bodyCondition:
result = if t.name = 'VerdictKind' then
SYSML2::EnumerationDefinition.allInstances()->any(e | e.qualifiedName =
'VerificationCases::VerdictKind') else
SYSML2::EnumerationDefinition.allInstances()->any(e | e.qualifiedName =
'SysMLv1Library::Enumerations::' + t.name) endif
```

- `getID (in src : Element) : String [1]`
- `getKerMLFeatureDirectionKind (in v : EnumerationLiteral) : FeatureDirectionKind [1]`

```
bodyCondition:
result = 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 else invalid endif endif endif else
invalid endif

```
- **getKerMLParameterDirectionKind** (in v : ParameterDirectionKind) : FeatureDirectionKind [1]

```

bodyCondition:
result = if v = UML::ParameterDirectionKind::_'in' then
KerML::FeatureDirectionKind::_'in' else if (v =
UML::ParameterDirectionKind::return) then
KerML::FeatureDirectionKind::out else if (v =
UML::ParameterDirectionKind::out) then KerML::FeatureDirectionKind::out
else if (v = UML::ParameterDirectionKind::inout) then
KerML::FeatureDirectionKind::inout else invalid endif endif endif endif

```
  - **getKerMLVisibilityKind** (in v : VisibilityKind) : VisibilityKind [1]

```

bodyCondition:
result = if (v = UML::VisibilityKind::public) then
KerML::VisibilityKind::public else if (v =
UML::VisibilityKind::protected) then KerML::VisibilityKind::protected
else if (v = UML::VisibilityKind::private) then
KerML::VisibilityKind::private else if (v =
UML::VisibilityKind::package) then KerML::VisibilityKind::public else
invalid endif endif endif endif

```
  - **getMetadataByName** (in mdName : String) : AttributeDefinition [1]

```

bodyCondition:
result = SYSML2::AttributeDefiniton.allInstances()->any(e | e.name =
mdName)

```
  - **getScalarValueType** (in t : DataType) : DataType [1]

```

bodyCondition:
result = SYSML2::DataType.allInstances()->any(e | e.qualifiedName =
'ScalarValues::' + t.name)

```
  - **getScalarValueTypeByName** (in ptName : String) : DataType [1]

```

bodyCondition:
result = SYSML2::DataType.allInstances()->any(e | e.qualifiedName =
'ScalarValues::' + ptName)

```
  - **getSysMLv2EnumerationDefinition** (in v1Enumeration : Enumeration) : EnumerationDefinition [1]

```

bodyCondition:
result = if v1Enumeration = UML::ParameterDirectionKind then
KerML::FeatureDirectionKind else invalid endif

```
  - **getTagValue** (in element : Element, in stereotypeName : String, in tagValueName : String) [1]
  - **getTagValueAsElement** (in element : Element, in stereotypeName : String, in tagValueName : String) : Element [1]
  - **getTagValueAsElementColl** (in element : Element, in stereotypeName : String, in tagValueName : String) : Element [0..\*]
  - **getTagValueAsString** (in element : Element, in stereotypeName : String, in tagValueName : String) : String [1]
  - **getTagValueAsStringColl** (in element : Element, in stereotypeName : String, in tagValueName : String) : String [0..\*]

- `globalNamespace () : Namespace [1]`

```
bodyCondition:
result = KerML::Package.allInstances()->any(p | p.owningNamespace-
>isEmpty())
```

- `hasStereotypeApplied (in element : Element, in stereotypeName : String) : Boolean [1]`
- `isConnectionDef (in association : Association) : Boolean [1]`

```
bodyCondition:
result = -- Case 1: composite association with multiplicity 1..1 on
owner side let case1: Boolean = association.memberEnd->exists(e | not
e.isComposite and e.lower=1) and association.memberEnd->exists(e |
e.isComposite) in -- Case 2: association is not composite and there is
no owned end with multiplicity 0..* let case2: Boolean = not
association.memberEnd->exists(e | e.isComposite) and not
association.ownedEnd->exists(e | e.lower = 0 and e.upper = -1) in
association.ocIsTypeOf(UML::AssociationClass) or case1 or case2
```

- `packageOwnedRelationship (in src : Element) : Relationship [0..*]`

```
bodyCondition:
result = let elementGroups: Set(UML::Comment) = src.ownedElement-
>select(e | Helper.hasStereotypeApplied(e,
'SysML::ModelElements::ElementGroup')) in let useCaseAssociations :
Set(UML::Association) = src.ownedElement->select(e |
e.ocIsKindOf(UML::Association))->collect(m | m.memberEnd)->flatten()-
>select(m | m.type.ocIsKindOf(UML::UseCase))->collect(a |
a.association) in let relationships: Set(SysMLv2::Relationship) =
((src.ownedElement - elementGroups) - useCaseAssociations) ->reject(e |
e.ocIsKindOf(UML::ProfileApplication) or
e.ocIsKindOf(UML::GeneralizationSet) or
e.ocIsKindOf(UML::SignalEvent) or e.ocIsKindOf(UML::CallEvent) or
e.ocIsKindOf(UML::ChangeEvent) or e.ocIsKindOf(UML::Extension) or
e.ocIsKindOf(UML::PackageMerge) or
(e.ocIsKindOf(UML::InstanceSpecification) and
e.ocAsType(UML::InstanceSpecification).classifier->size() = 0))
->collect(e | ElementOwningMembership_Mapping.getMapped(e))
->union(elementGroups->collect(e |
ElementGroupMembership_Mapping.getMapped(e))) in if
src.URI.ocIsUndefined() or src.URI = '' then relationships else
relationships-
>including(PackageURIMetadataMembership_Mapping.getMapped(src)) endif
```

- `stateOwnedRelationship (in src : Element) : Relationship [0..*]`

```
bodyCondition:
result = let initialState : Set(UML::Element) = from.ownedElement-
>select(e | e.ocIsKindOf(UML::Pseudostate) and
e.ocAsType(UML::Pseudostate).kind = UML::PseudostateKind::initial) in
let toElementOMS : Set(UML::Element) = from.ownedElement - initialState
in toElementOMS->collect(e |
ElementOwningMembership_Mapping.getMapped(e)) ->union(initialState-
>collect(e | InitialStateMembership_Mapping.getMapped(e)))
```

## C.2.3 Generic Mappings

### C.2.3.1 Overview

Generic mappings are partial definitions of transformation rules that are intended to factorize reusable algorithms for making the global specification more compact and easier to read and maintain. Basically, they provide a default value for all the non-derived attributes of their target metaclass wherever possible, or declare an abstract operation for them otherwise. All of them have "UML::Element" defined as their source type. The operations provided by the generic mappings can be redefined by their specialization, as appropriate according to the source type specified by the redefinition of their "from" attribute.

All of those generic mappings are abstract.

### C.2.3.2 Generic Mappings To KerML

#### C.2.3.2.1 Overview

**Table 1. List of all Overview Mapping Specifications**

| Mapping Class                      | SysML v2 Concept  |
|------------------------------------|-------------------|
| GenericToAnnotatingElement_Mapping | AnnotatingElement |
| GenericToAnnotation_Mapping        | Annotation        |
| GenericToAssociation_Mapping       | Association       |
| GenericToBehavior_Mapping          | Behavior          |
| GenericToClassifier_Mapping        | Classifier        |
| GenericToComment_Mapping           | Comment           |
| GenericToConjugation_Mapping       | Conjugation       |
| GenericToConnector_Mapping         | Connector         |
| GenericToDocumentation_Mapping     | Documentation     |
| GenericToElement_Mapping           | Element           |
| GenericToExpression_Mapping        | Expression        |
| GenericToFeature_Mapping           | Feature           |
| GenericToFeatureChaining_Mapping   | FeatureChaining   |
| GenericToFeatureMembership_Mapping | FeatureMembership |
| GenericToFeatureTyping_Mapping     | FeatureTyping     |
| GenericToFeatureValue_Mapping      | FeatureValue      |
| GenericToFunction_Mapping          | Function          |
| GenericToImport_Mapping            | Import            |
| GenericToMembership_Mapping        | Membership        |
| GenericToNamespace_Mapping         | Namespace         |
| GenericToOwningMembership_Mapping  | OwningMembership  |
| GenericToPackage_Mapping           | Package           |

| Mapping Class                              | SysML v2 Concept          |
|--------------------------------------------|---------------------------|
| GenericToParameterMembership_Mapping       | ParameterMembership       |
| GenericToPredicate_Mapping                 | Predicate                 |
| GenericToRedefinition_Mapping              | Redefinition              |
| GenericToRelationship_Mapping              | Relationship              |
| GenericToReturnParameterMembership_Mapping | ReturnParameterMembership |
| GenericToSpecialization_Mapping            | Specialization            |
| GenericToStep_Mapping                      | Step                      |
| GenericToSubclassification_Mapping         | Subclassification         |
| GenericToSubsetting_Mapping                | Subsetting                |
| GenericToTextualRepresentation_Mapping     | TextualRepresentation     |
| GenericToType_Mapping                      | Type                      |
| GenericToTypeFeaturing_Mapping             | TypeFeaturing             |

### C.2.3.2.2 Mapping Specifications

#### C.2.3.2.2.1 GenericToAnnotatingElement\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToElement\_Mapping

##### Mapping Target

AnnotatingElement

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- AnnotatingElement::annotation

Set{ }

#### C.2.3.2.2.2 GenericToAnnotation\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToRelationship\_Mapping

## Mapping Target

Annotation

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Annotation::owningAnnotatedElement  
`null`
- Element::name  
`null`
- Annotation::annotatingElement  
*abstract rule*
- Element::shortName  
`null`
- Annotation::annotatedElement  
*abstract rule*
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

### C.2.3.2.2.3 GenericToAssociation\_Mapping

## Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToRelationship\_Mapping  
GenericToClassifier\_Mapping

### Mapping Target

Association

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

#### C.2.3.2.2.4 GenericToBehavior\_Mapping

### Description

\*\*\* not specified yet \*\*\*

### General Mappings

GenericToClassifier\_Mapping

### Mapping Target

Behavior

(none)

#### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

#### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

#### **C.2.3.2.2.5 GenericToClassifier\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToType\_Mapping

##### **Mapping Target**

Classifier

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set {}`

### C.2.3.2.2.6 GenericToComment\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToAnnotatingElement\_Mapping

#### Mapping Target

Comment

(none)

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Comment::locale



null

- Element::name

null

- Comment::body  
*abstract rule*
- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

#### C.2.3.2.2.7 GenericToConjugation\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToRelationship\_Mapping

##### Mapping Target

Conjugation

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Conjugation::conjugatedType  
*abstract rule*
- Conjugation::originalType  
*abstract rule*
- Element::name

null

- Element::shortName  
null
- Element::elementId  
Helper.createUUID()
- Element::ownedRelationship  
Set{ }

#### C.2.3.2.2.8 GenericToConnector\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeature\_Mapping

GenericToRelationship\_Mapping

##### Mapping Target

Connector

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set{ }
- Type::isSufficient  
false
- Connector::isDirected  
false
- Element::name  
null
- Element::shortName  
null

- `Type::isAbstract`  
`false`
- `Element::elementId`  
`Helper.createUUID()`
- `Element::ownedRelationship`  
`Set{}`

#### **C.2.3.2.2.9 GenericToDocumentation\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToComment\_Mapping

##### **Mapping Target**

Documentation

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- `Element::aliasId`  
`Set{}`
- `Element::name`  
`null`
- `Element::shortName`  
`null`
- `AnnotatingElement::annotation`  
`Set{}`
- `Element::elementId`  
`Helper.createUUID()`
- `Element::ownedRelationship`

Set{}

#### **C.2.3.2.2.10 GenericToElement\_Mapping**

##### **Description**

This is the general abstract class to be used as an ancestor for any class mapping specification.

##### **General Mappings**

No general mappings.

##### **Mapping Target**

Element

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Element::name

null

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

#### **C.2.3.2.2.11 GenericToExpression\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToStep\_Mapping

##### **Mapping Target**

Expression

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction  
`null`
- Element::name

null

- Feature::isDerived

false

- Feature::isComposite

false

- Element::ownedRelationship

Set{}

#### **C.2.3.2.2.12 GenericToFeature\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToType\_Mapping

##### **Mapping Target**

Feature

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Feature::isUnique

true

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Feature::isOrdered

false

- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false
- Element::ownedRelationship  
Set{}

#### **C.2.3.2.2.13 GenericToFeatureChaining\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToRelationship\_Mapping

##### **Mapping Target**

FeatureChaining

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

- Set{}
- Element::name
  - null
- Element::shortName
  - null
- Element::elementId
  - Helper.createUUID()
- FeatureChaining::chainingFeature
  - abstract rule*
- Element::ownedRelationship
  - Set{}

#### C.2.3.2.2.14 GenericToFeatureMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToOwningMembership\_Mapping  
GenericToTypeFeaturing\_Mapping

##### Mapping Target

FeatureMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement
  - Set{}
- FeatureMembership::ownedRelatedElement
  - Set{self.ownedMemberFeature() }
- Membership::membershipOwningNamespace
  - abstract rule*
- Membership::memberShortName



```

 null

 • Membership::memberElement
 abstract rule
 • Element::shortName

 null

 • Element::elementId

 Helper.createUUID()

 • Element::aliasId

 Set{}

 • FeatureMembership::ownedMemberFeature
 abstract rule
 • FeatureMembership::owningType
 abstract rule
 • Membership::memberName

 null

 • Membership::visibility

 KerML::VisibilityKind::public

 • Element::name

 null

 • Element::ownedRelationship

 Set{}

```

#### C.2.3.2.2.15 GenericToFeatureTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToSpecialization\_Mapping

##### Mapping Target

FeatureTyping

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- `Element::aliasId`  
`Set{}`
- `Relationship::ownedRelatedElement`  
`Set{}`
- `Relationship::source`  
`Set{}`
- `Element::name`  
`null`
- `Element::shortName`  
`null`
- `Element::elementId`  
`Helper.createUUID()`
- `Relationship::target`  
`Set{}`
- `FeatureTyping::type`  
*abstract rule*
- `FeatureTyping::typedFeature`  
*abstract rule*
- `Element::ownedRelationship`  
`Set{}`

#### **C.2.3.2.2.16 GenericToFeatureValue\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToOwningMembership\_Mapping

##### **Mapping Target**

FeatureValue

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement  
`Set{}`
- FeatureValue::isDefault  
`false`
- FeatureValue::isInitial  
`false`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Membership::memberElement  
*abstract rule*
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- FeatureValue::ownedRelatedElement  
`Set{self.value() }`
- Element::aliasId  
`Set{}`
- Membership::memberName  
`null`
- FeatureValue::featureWithValue  
*abstract rule*
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- FeatureValue::value  
*abstract rule*
- Element::ownedRelationship  
`Set{}`

#### C.2.3.2.2.17 GenericToFunction\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToBehavior\_Mapping

##### Mapping Target

Function

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

#### C.2.3.2.2.18 GenericToImport\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToRelationship\_Mapping

### Mapping Target

Import

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Import::importedNamespace  
*abstract rule*
- Import::importedMemberName  
`null`
- Import::isRecursive  
`false`
- Import::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Import::isImportAll  
`false`
- Element::ownedRelationship  
`Set{}`

#### C.2.3.2.2.19 GenericToMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToRelationship\_Mapping

##### Mapping Target

Membership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Membership::memberName  
`null`
- Membership::memberElement  
*abstract rule*
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship

Set{ }

#### **C.2.3.2.2.20 GenericToNamespace\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToElement\_Mapping

##### **Mapping Target**

Namespace

(none)

#### **C.2.3.2.2.21 GenericToOwningMembership\_Mapping**

#### **C.2.3.2.2.22 GenericToPackage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToNamespace\_Mapping

##### **Mapping Target**

Package

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{ }

- Element::name

null

- Element::shortName

null

- Element::elementId

```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

#### C.2.3.2.2.23 GenericToParameterMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Target

ParameterMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace

*abstract rule*

- Membership::memberShortName

```
null
```

- Element::shortName

```
null
```

- Element::elementId

```
Helper.createUUID()
```

- Element::aliasId

```
Set{}
```

- OwningMembership::ownedMemberElement

*abstract rule*

- ParameterMembership::ownedMemberParameter

```
null
```

- Membership::memberName

```
null
```



- `OwningMembership::ownedRelatedElement`  
`Set{self.ownedMemberElement() }`
- `ParameterMembership::ownedRelatedElement`  
`Set{self.ownedMemberParameter() }`
- `TypeFeaturing::featureOfType`  
*abstract rule*
- `TypeFeaturing::featuringType`  
*abstract rule*
- `Membership::visibility`  
`KerML::VisibilityKind::public`
- `Element::name`  
`null`
- `Element::ownedRelationship`  
`Set{ }`

#### **C.2.3.2.2.24 GenericToPredicate\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFunction\_Mapping

##### **Mapping Target**

Predicate

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
 (none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- `Element::aliasId`  
`Set{ }`
- `Type::isSufficient`  
`false`
- `Element::name`

- null
- Element::shortName
  - null
- Type::isAbstract
  - false
- Element::elementId
  - Helper.createUUID()
- Element::ownedRelationship
  - Set{}

#### C.2.3.2.2.25 GenericToRedefinition\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToSubsetting\_Mapping

##### Mapping Target

Redefinition

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId
  - Set{}
- Relationship::ownedRelatedElement
  - Set{}
- Specialization::specific
  - abstract rule*
- Redefinition::redefinedFeature
  - abstract rule*
- Element::name
  - null

- Element::shortName  
null
- Specialization::general  
*abstract rule*
- Element::elementId  
Helper.createUUID()
- Element::ownedRelationship  
Set { }
- Redefinition::redefiningFeature  
*abstract rule*

#### C.2.3.2.2.26 GenericToRelationship\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToElement\_Mapping

##### Mapping Target

Relationship

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement  
Set { }
- Relationship::source  
Set { }
- Relationship::target  
Set { }

#### C.2.3.2.2.27 GenericToReturnParameterMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToParameterMembership\_Mapping

## Mapping Target

ReturnParameterMembership

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  
`Set{self.ownedMemberFeature() }`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- ReturnParameterMembership::isComposite  
  
returns "true" if the element provided as the actual parameter value can have a mapping to an instance of the type specified by the "to" attribute (i.e. can be used as a value for the "from" attribute)  
  
`false`
- Element::aliasId  
`Set{ }`
- FeatureMembership::ownedMemberFeature  
*abstract rule*
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
`null`

- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{ }

#### C.2.3.2.2.28 GenericToSpecialization\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToRelationship\_Mapping

##### Mapping Target

Specialization

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
  
Set{ }
- Specialization::specific  
*abstract rule*
- Element::name  
  
null
- Element::shortName  
  
null
- Specialization::general  
*abstract rule*

- Element::elementId  
Helper.createUUID()
- Element::ownedRelationship  
Set{ }

#### C.2.3.2.2.29 GenericToStep\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeature\_Mapping

##### Mapping Target

Step

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set{ }
- Type::isSufficient  
false
- Element::name  
null
- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Element::ownedRelationship

Set { }

#### **C.2.3.2.2.30 GenericToSubclassification\_Mapping**

#### **C.2.3.2.2.31 GenericToSubsetting\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToSpecialization\_Mapping

##### **Mapping Target**

Subsetting

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set { }

- Relationship::source

Set { }

- Subsetting::ownedRelatedElement

Set { }

- Subsetting::subsettingFeature

*abstract rule*

- Element::name

null

- Subsetting::subsettingFeature

*abstract rule*

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Relationship::target

Set{ }

- Element::ownedRelationship

Set{ }

#### C.2.3.2.2.32 GenericToTextualRepresentation\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToAnnotatingElement\_Mapping

##### Mapping Target

TextualRepresentation

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{ }

- TextualRepresentation::language

*abstract rule*

- Element::name

null

- Element::shortName

null

- TextualRepresentation::body

*abstract rule*

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{ }

#### C.2.3.2.2.33 GenericToType\_Mapping

##### Description



\*\*\* not specified yet \*\*\*

### General Mappings

GenericToNamespace\_Mapping

### Mapping Target

Type

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

#### C.2.3.2.2.34 GenericToTypeFeaturing\_Mapping

### Description

\*\*\* not specified yet \*\*\*

### General Mappings

GenericToRelationship\_Mapping

## Mapping Target

TypeFeaturing

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

## C.2.3.3 Generic Mappings FromTo KerML

### C.2.3.3.1 Overview

### C.2.3.3.2 Mapping Specifications

#### C.2.3.3.2.1 CommonMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToMembership\_Mapping

##### Mapping Source

TypedElement

## Mapping Target

Membership

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Relationship::ownedRelatedElement  
`Set {}`
- Relationship::source  
`Set {}`
- Membership::memberElement  
`from`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Relationship::target  
`Set {}`
- Element::ownedRelationship  
`Set {}`

### C.2.3.3.2.2 CommonParameterReferenceUsageInMembership\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToParameterMembership\_Mapping

## Mapping Source

Element

## Mapping Target

ParameterMembership

## Owned Mappings

- commonParameterReferenceUsageIn : CommonParameterReferenceUsageIn\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  
`Set{self.ownedMemberFeature() }`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{ }`
- FeatureMembership::ownedMemberFeature  
*abstract rule*
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
`null`
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*

- ParameterMembership::ownedMemberParameter

`commonParameterReferenceUsageIn.to`

- Membership::visibility

`KerML::VisibilityKind::public`

- Element::name

`null`

- Element::ownedRelationship

`Set{}`

#### **C.2.3.3.2.3 CommonParameterReferenceUsageIn\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToReferenceUsage\_Mapping

##### **Mapping Source**

Element

##### **Mapping Target**

ReferenceUsage

##### **Owned Mappings**

- commonParameterReferenceUsageInFeatureTyping :  
CommonParameterReferenceUsageInFeatureTyping\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

`false`

- Type::isSufficient

`false`

- ReferenceUsage::direction

- KerML::FeatureDirectionKind::\_in'
- Feature::isUnique
  - true
- Element::shortName
  - null
- Type::isAbstract
  - false
- Element::elementId
  - Helper.createUUID()
- Feature::isOrdered
  - false
- Element::aliasId
  - Set{}
- Feature::isPortion
  - false
- Usage::isVariation
  - false
- Feature::isReadOnly
  - false
- ReferenceUsage::ownedRelationship
  - if from.ocIsKindOf(UML::TypedElement) then Set{commonParameterReferenceUsageInFeatureTyping
- Element::name
  - null
- Feature::isDerived
  - false
- Feature::isComposite
  - false

#### C.2.3.3.2.4 CommonReferenceUsageInFeatureTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToFeatureTyping\_Mapping

## Mapping Source

TypedElement

## Mapping Target

FeatureTyping

## Owned Mappings

- commonReferenceUsageIn : CommonReferenceUsageIn\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Relationship::ownedRelatedElement

Set{}

- Specialization::specific

*abstract rule*

- FeatureTyping::typedFeature

commonReferenceUsageIn.to

- FeatureTyping::type

if from.type.ocIsKindOf(UML::PrimitiveType) then      Helper.getScalarValueType(from.type)el

- Element::name

null

- Element::shortName

null

- Specialization::general

*abstract rule*

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

#### C.2.3.3.2.5 CommonReferenceUsageInUntyped\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToReferenceUsage\_Mapping

##### Mapping Source

TypedElement

##### Mapping Target

ReferenceUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- ReferenceUsage::name  
from.name
- ReferenceUsage::direction  
KerML::FeatureDirectionKind::\_in'
- Feature::isUnique  
true
- Element::shortName  
null
- Type::isAbstract



- false
- Element::elementId
  - Helper.createUUID()
- Feature::isOrdered
  - false
- Element::aliasId
  - Set{}
- Feature::isPortion
  - false
- Usage::isVariation
  - false
- Feature::isReadOnly
  - false
- Feature::isDerived
  - false
- Feature::isComposite
  - false
- Element::ownedRelationship
  - Set{}

#### **C.2.3.3.2.6 CommonReturnParameterFeature\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

CommonReturnParameterFeatureUntyped\_Mapping

##### **Mapping Source**

Element

##### **Mapping Target**

Feature

##### **Owned Mappings**

- commonReturnParameterFeatureTyping : CommonReturnParameterFeatureTyping\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Type::isSufficient

false

- Feature::isUnique

true

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId

Helper.createUUID()

- Feature::isOrdered

false

- Element::aliasId

Set{}

- Feature::isPortion

false

- Feature::ownedRelationship

if from.ocIsKindOf(UML::Property) then Set{commonReturnParameterFeatureTyping.to} else Set{}

- Feature::isReadOnly

false

- Feature::direction

null

- Element::name

null

- Feature::isDerived

false

- Feature::isComposite

false

#### C.2.3.3.2.7 CommonReturnParameterFeatureTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureTyping\_Mapping

##### Mapping Source

Element

##### Mapping Target

FeatureTyping

##### Owned Mappings

- commonReturnParameterFeature : CommonReturnParameterFeature\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set { }

- Relationship::ownedRelatedElement

Set { }

- FeatureTyping::typedFeature

commonReturnParameterFeature.to

- Specialization::specific

*abstract rule*

- FeatureTyping::type

```
if from.ocIsKindOf(UML::Property) then if from.ocIsType(UML::TypedElement).type.ocIsKindOf(UML::Property) then
```

- Element::name

```
null
```

- Element::shortName

```
null
```

- Specialization::general

```
abstract rule
```

- Element::elementId

```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

### C.2.3.3.2.8 CommonReturnParameterFeatureUntyped\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToFeature\_Mapping

#### Mapping Source

Element

#### Mapping Target

Feature

(none)

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

#### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Type::isSufficient

```
false
```

- Element::name

null

- Feature::direction

KerML::FeatureDirectionKind::\_'out'

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

#### C.2.3.3.2.9 CommonReturnParameterFeatureMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToReturnParameterMembership\_Mapping

##### Mapping Source

Element

##### Mapping Target

ReturnParameterMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

null

- Element::shortName

- `Element::elementId`

- `Element::aliasId`

- FeatureMembership::owningType

- ReturnParameterMembership::ownedMemberParameter

- Membership::memberName

- ParameterMembership::ownedRelatedElement

- `TypeFeaturing::featureOfType`

- `TypeFeaturing::featuringType`

- Membership::visibility

- `Element::name`

- `Element::ownedRelationship`

#### C.2.3.3.2.10 CommonReturnParameterReferenceUsageMembership\_Mapping

### Description

\*\*\* not specified yet \*\*\*

## General Mappings

### GenericToReturnParameterMembership Mapping

## Mapping Source

Element

## Mapping Target

ReturnParameterMembership

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- ReturnParameterMembership::ownedMemberParameter

```
if not from.ocliIsKindOf(UML::TypedElement) then CommonReturnParameterReferenceUsageUntyped_
```

- Membership::membershipOwningNamespace

*abstract rule*

- Membership::memberShortName

null

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::aliasId

Set{}

- FeatureMembership::owningType

*abstract rule*

- Membership::memberName

null

- ParameterMembership::ownedRelatedElement

Set{self.ownedMemberParameter() }

- TypeFeaturing::featureOfType

*abstract rule*

- TypeFeaturing::featuringType

*abstract rule*

- Membership::visibility

KerML::VisibilityKind::public

- Element::name

null

- Element::ownedRelationship

Set{}

#### C.2.3.3.2.11 CommonReturnParameterReferenceUsage\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

CommonReturnParameterReferenceUsageUntyped\_Mapping

##### Mapping Source

Element

##### Mapping Target

ReferenceUsage

##### Owned Mappings

- commonReturnParameterReferenceUsageFeatureTyping :  
CommonReturnParameterReferenceUsageFeatureTyping\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- Feature::isUnique  
true
- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Feature::isOrdered



- false
- Element::aliasId
  - Set{}
- Feature::isPortion
  - false
- Usage::isVariation
  - false
- Feature::isReadOnly
  - false
- ReferenceUsage::ownedRelationship
  - if from.ocIsKindOf(UML::TypedElement) then Set{commonReturnParameterReferenceUsageFeatureTy
- Feature::direction
  - null
- Element::name
  - null
- Feature::isDerived
  - false
- Feature::isComposite
  - false

#### **C.2.3.3.2.12 CommonParameterReferenceUsageInFeatureTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureTyping\_Mapping

##### **Mapping Source**

Element

##### **Mapping Target**

FeatureTyping

##### **Owned Mappings**

- commonParameterReferenceUsageIn : CommonParameterReferenceUsageIn\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Relationship::ownedRelatedElement

Set{}

- FeatureTyping::typedFeature

commonParameterReferenceUsageIn.to

- Specialization::specific

*abstract rule*

- Element::name

null

- Element::shortName

null

- FeatureTyping::type

if from.ocIsKindOf(UML::TypedElement) then if from.ocAsType(UML::TypedElement).type.ocIsKindOf(UML::TypedElement) then

- Specialization::general

*abstract rule*

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

#### C.2.3.3.2.13 CommonReturnParameterReferenceUsageFeatureTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureTyping\_Mapping

##### Mapping Source

Element

## Mapping Target

FeatureTyping

## Owned Mappings

- commonReturnParameterReferenceUsage : CommonReturnParameterReferenceUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Relationship::ownedRelatedElement  
`Set {}`
- Specialization::specific  
*abstract rule*
- FeatureTyping::typedFeature  
`commonReturnParameterReferenceUsage.to`
- FeatureTyping::type  
`if from.ocIsKindOf(UML::TypedElement) then if from.ocAsType(UML::TypedElement).type.ocIs`
- Element::name  
`null`
- Element::shortName  
`null`
- Specialization::general  
*abstract rule*
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set {}`

### C.2.3.3.2.14 CommonReturnParameterReferenceUsageUntyped\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToReferenceUsage\_Mapping

## Mapping Source

Element

## Mapping Target

ReferenceUsage

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- ReferenceUsage::direction  
`KerML::FeatureDirectionKind::_'out'`
- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`

- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false
- Element::ownedRelationship  
Set{}

#### C.2.3.4 Generic Mappings To Systems

##### C.2.3.4.1 Overview

**Table 4. List of all Overview Mapping Specifications**

| Mapping Class                             | SysML v2 Concept         |
|-------------------------------------------|--------------------------|
| GenericToActionUsage_Mapping              | ActionUsage              |
| GenericToConjugatedPortDefinition_Mapping | ConjugatedPortDefinition |
| GenericToConjugatedPortTyping_Mapping     | ConjugatedPortTyping     |
| GenericToConnectionUsage_Mapping          | ConnectionUsage          |
| GenericToConstraintDefinition_Mapping     | ConstraintDefinition     |
| GenericToDefinition_Mapping               | Definition               |
| GenericToEventOccurrenceUsage_Mapping     | EventOccurrenceUsage     |
| GenericToItemDefinition_Mapping           | ItemDefinition           |
| GenericToMetadataUsage_Mapping            | MetadataUsage            |
| GenericToOccurrenceDefinition_Mapping     | OccurrenceDefinition     |
| GenericToOccurrenceUsage_Mapping          | OccurrenceUsage          |
| GenericToPartUsage_Mapping                | PartUsage                |
| GenericToPortConjugation_Mapping          | PortConjugation          |
| GenericToPortDefinition_Mapping           | PortDefinition           |

| Mapping Class                   | SysML v2 Concept |
|---------------------------------|------------------|
| GenericToReferenceUsage_Mapping | ReferenceUsage   |
| GenericToUsage_Mapping          | Usage            |

### C.2.3.4.2 Mapping Specifications

#### C.2.3.4.2.1 GenericToActionUsage\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToUsage\_Mapping  
GenericToStep\_Mapping

##### Mapping Target

ActionUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- Feature::isUnique  
true
- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()

- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- ActionUsage::isComposite  
true
- Element::ownedRelationship  
Set{}

#### **C.2.3.4.2.2 GenericToConnectionUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToPartUsage\_Mapping

##### **Mapping Target**

ConnectionUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction  
`null`
- Element::name  
`null`
- Feature::isDerived  
`false`
- Feature::isComposite



false

- Element::ownedRelationship

Set{}

#### **C.2.3.4.2.3 GenericToConjugatedPortDefinition\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToPortDefinition\_Mapping

##### **Mapping Target**

ConjugatedPortDefinition

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Type::isSufficient

false

- Definition::isVariation

false

- Element::name

null

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set { }

#### C.2.3.4.2.4 GenericToConjugatedPortTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureTyping\_Mapping

##### Mapping Target

ConjugatedPortTyping

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set { }

- Relationship::ownedRelatedElement

Set { }

- Specialization::specific  
*abstract rule*
- ConjugatedPortTyping::conjugatedPortDefinition  
*abstract rule*
- ConjugatedPortTyping::portDefinition  
*abstract rule*
- Element::name

null

- Element::shortName

null

- Specialization::general  
*abstract rule*
- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{ }

#### **C.2.3.4.2.5 GenericToConstraintDefinition\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToDefinition\_Mapping

##### **Mapping Target**

ConstraintDefinition

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{ }

- Type::isSufficient

false

- Element::name

null

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{ }

#### C.2.3.4.2.6 GenericToDefinition\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToClassifier\_Mapping

##### Mapping Target

Definition

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- Definition::isVariation  
`false`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

#### C.2.3.4.2.7 GenericToEventOccurrenceUsage\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToOccurrenceUsage\_Mapping

##### Mapping Target

EventOccurrenceUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion

- Usage::isVariation

- `Feature::isReadOnly`

- Feature::direction

- `Element::name`

- Feature::isDerived

- Feature::isComposite

- Element::ownedRelationship

Set { }

#### C.2.3.4.2.8 GenericToltemDefinition\_Mapping

### Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToDefinition\_Mapping

## Mapping Target

### ItemDefinition

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- `Element::aliasId`

Set { }

- Type::isSufficient  
false
- Element::name  
null
- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Element::ownedRelationship  
Set{}

#### **C.2.3.4.2.9 GenericToMetadataUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToUsage\_Mapping

##### **Mapping Target**

MetadataUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- Feature::isUnique

- `Element::shortName`

- `Type::isAbstract`

- `Element::elementId`

- Feature::isOrdered

- `Element::aliasId`

- Feature::isPortion

- Feature::isReadOnly

- Feature::direction

- `Element::name`

- Feature::isDerived

- Feature::isComposite

- Element::ownedRelationship

#### C.2.3.4.2.10 GenericToOccurrenceDefinition\_Mapping

\*\*\* not specified yet \*\*\*

## GenericToDefinition\_Mapping



## Mapping Target

OccurrenceDefinition

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- OccurrenceDefinition::isIndividual  
`false`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

### C.2.3.4.2.11 GenericToOccurrenceUsage\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToUsage\_Mapping

## Mapping Target

OccurrenceUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- OccurrenceUsage::portionKind  
`OclUndefined`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{ }`
- Feature::isPortion  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction

null

- Element::name

    null

- Feature::isDerived

    false

- Feature::isComposite

    false

- OccurrenceUsage::isIndividual

    false

- Element::ownedRelationship

    Set{ }

#### **C.2.3.4.2.12 GenericToPartUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToUsage\_Mapping

##### **Mapping Target**

PartUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

    false

- Type::isSufficient

    false

- Feature::isUnique

    true

- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false
- Element::ownedRelationship  
Set{}

#### **C.2.3.4.2.13 GenericToPortConjugation\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToConjugation\_Mapping

##### **Mapping Target**

PortConjugation

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Relationship::ownedRelatedElement  
`Set {}`
- Relationship::source  
`Set {}`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Relationship::target  
`Set {}`
- PortConjugation::originalPortDefinition  
*abstract rule*
- Element::ownedRelationship  
`Set {}`

#### C.2.3.4.2.14 GenericToPortDefinition\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToDefinition\_Mapping

##### Mapping Target

PortDefinition

(none)

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

#### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

#### C.2.3.4.2.15 GenericToReferenceUsage\_Mapping

##### Description

Provides the basic features to map to a ReferenceUsage element.

##### General Mappings

GenericToUsage\_Mapping

##### Mapping Target

ReferenceUsage

(none)

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction  
`null`
- Element::name  
`null`
- Feature::isDerived  
`false`

- Feature::isComposite

false

- Element::ownedRelationship

Set{}

#### **C.2.3.4.2.16 GenericToUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeature\_Mapping

##### **Mapping Target**

Usage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Usage::isVariation

false

- Type::isSufficient

false

- Element::name

null

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId



```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

## C.2.4 SysML v1.7

### C.2.4.1 Overview

### C.2.4.2 Activities

#### C.2.4.2.1 Overview

Table 5. List of all Overview Mapping Specifications

| SysML v1 Concept | SysML v2 Concept | Mapping Class             |
|------------------|------------------|---------------------------|
| Continuous       | ReferenceUsage   | _Continuous_Mapping       |
| ControlOperator  |                  | *** not specified yet *** |
| Discrete         | ReferenceUsage   | _Discrete_Mapping         |
| NoBuffer         |                  | *** not specified yet *** |
| Optional         | ReferenceUsage   | _Optional_Mapping         |
| Overwrite        |                  | *** not specified yet *** |
| Probability      |                  | *** not specified yet *** |
| Rate             | ReferenceUsage   | _Rate_Mapping             |

#### C.2.4.2.2 Mapping Specifications

##### C.2.4.2.2.1 Rate\_Mapping

##### Description

A SysML::Rate parameter is mapped to a SysMLv2::Feature.

##### General Mappings

Parameter\_Mapping

##### Mapping Source

Parameter

##### Mapping Target

ReferenceUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::Activities::Rate')
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- `Feature::isEnd`  
`false`
- `Element::ownedRelationship`  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- `Type::isSufficient`  
`false`
- `Feature::isUnique`  
`true`
- `Element::name`  
`from.name`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `Usage::isVariation`  
`false`
- `Feature::isReadOnly`  
`false`
- `Feature::direction`  
`null`
- `Element::elementId`  
`Helper.getID(from)`

- Feature::isDerived  
false
- Feature::isComposite  
false

### C.2.4.3 Allocations

#### C.2.4.3.1 Overview

Table 6. List of all Overview Mapping Specifications

| SysML v1 Concept          | SysML v2 Concept | Mapping Class             |
|---------------------------|------------------|---------------------------|
| Allocate                  | AllocationUsage  | AllocationUsage_Mapping   |
| AllocateActivityPartition |                  | *** not specified yet *** |

#### C.2.4.3.2 Mapping Specifications

##### C.2.4.3.2.1 AllocationDefinition\_Mapping

###### Description

\*\*\* not specified yet \*\*\*

###### General Mappings

Abstraction\_Mapping

###### Mapping Source

Dependency

###### Mapping Target

AllocationDefinition

###### Owned Mappings

- allocationDefinitionFromFeatureMembership : AllocationDefinitionFromFeatureMembership\_Mapping
- allocationDefinitionToFeatureMembership : AllocationDefinitionToFeatureMembership\_Mapping

###### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::Allocations::Allocate') and from.client->select(t | t.ocl
```

###### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set { }

- **Dependency::supplier**

```
from.target->collect(e | ElementMain_Mapping.getMapped(e))
```

- **Dependency::name**

```
from.name
```

- **AllocationDefinition::ownedRelationship**

```
Set{allocationDefinitionFromFeatureMembership.to, allocationDefinitionToFeatureMembership.to}
```

- **Relationship::owningRelatedElement**

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

- **Dependency::client**

```
from.source->collect(e | ElementMain_Mapping.getMapped(e))
```

- **Element::elementId**

```
Helper.getID(from)
```

- **Relationship::ownedRelatedElement**

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain_Mapping.getMapped(e))
```

- **Element::shortName**

```
null
```

#### **C.2.4.3.2.2 AllocationDefinitionToFeatureMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

Dependency

##### **Mapping Target**

FeatureMembership

##### **Owned Mappings**

- allocationDefinitionToReferenceUsage : AllocationDefinitionToReferenceUsage\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- FeatureMembership::memberName  
  
'allocatedTo'
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- FeatureMembership::ownedMemberFeature  
  
allocationDefinitionToReferenceUsage.to
- Element::ownedRelationship  
  
Set{ }

### C.2.4.3.2.3 AllocationDefinitionFromFeatureMembership\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToFeatureMembership\_Mapping

## Mapping Source

Dependency

## Mapping Target

FeatureMembership

## Owned Mappings

- allocationDefinitionFromReferenceUsage : AllocationDefinitionFromReferenceUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- FeatureMembership::memberName  
  
'allocatedFrom'
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*

- Membership::visibility  
KerML::VisibilityKind::public
- Element::name  
null
- FeatureMembership::ownedMemberFeature  
allocationDefinitionFromReferenceUsage.to
- Element::ownedRelationship  
Set{}

#### **C.2.4.3.2.4 AllocationDefinitionFromFeatureTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureTyping\_Mapping

##### **Mapping Source**

Dependency

##### **Mapping Target**

FeatureTyping

##### **Owned Mappings**

- allocationDefinitionFromReferenceUsage : AllocationDefinitionFromReferenceUsage\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set{}
- Relationship::ownedRelatedElement  
Set{}
- FeatureTyping::typedFeature  
allocationDefinitionFromReferenceUsage.to

- Specialization::specific  
*abstract rule*
- FeatureTyping::type  
`from.source.get(0)`
- Element::name  
`null`
- Element::shortName  
`null`
- Specialization::general  
*abstract rule*
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

#### **C.2.4.3.2.5 AllocationDefinitionFromReferenceUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToReferenceUsage\_Mapping

##### **Mapping Source**

Dependency

##### **Mapping Target**

ReferenceUsage

##### **Owned Mappings**

- allocationDefinitionFromFeatureTyping : AllocationDefinitionFromFeatureTyping\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- ReferenceUsage::isEnd



- `Type::isSufficient`

- `ReferenceUsage::ownedRelationship`

- Feature::isUnique

- `Element::shortName`

- `Type::isAbstract`

- Element::elementId

- Feature::isOrdered

- `Element::aliasId`

- Feature::isPortion

- Usage::isVariation

- Feature::isReadOnly

- Feature::direction

- `Element::name`

- Feature::isDerived

- Feature::isComposite

false

#### C.2.4.3.2.6 AllocationDefinitionToFeatureTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureTyping\_Mapping

##### Mapping Source

Dependency

##### Mapping Target

FeatureTyping

##### Owned Mappings

- allocationDefinitionToReferenceUsage : AllocationDefinitionToReferenceUsage\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  

```
Set{ }
```
- Relationship::ownedRelatedElement  

```
Set{ }
```
- Specialization::specific  
*abstract rule*
- FeatureTyping::typedFeature  

```
allocationDefinitionToReferenceUsage.to
```
- Element::name  

```
null
```
- Element::shortName  

```
null
```
- Specialization::general  
*abstract rule*

- Element::elementId  
Helper.createUUID()
- Element::ownedRelationship  
Set{}
- FeatureTyping::type  
from.target.get(0)

#### **C.2.4.3.2.7 AllocationDefinitionToReferenceUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToReferenceUsage\_Mapping

##### **Mapping Source**

Dependency

##### **Mapping Target**

ReferenceUsage

##### **Owned Mappings**

- allocationDefinitionToFeatureTyping : AllocationDefinitionToFeatureTyping\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Type::isSufficient  
false
- Feature::isUnique  
true
- Element::shortName  
null
- Type::isAbstract  
false

- ReferenceUsage::isEnd  
`true`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction  
`null`
- Element::name  
`null`
- Feature::isDerived  
`false`
- Feature::isComposite  
`false`
- ReferenceUsage::ownedRelationship  
`Set{allocationDefinitionToFeatureTyping.to}`

#### **C.2.4.3.2.8 AllocationUsage\_Mapping**

##### **Description**

A SysML::Allocate relationship is mapped to a SysMLv2::AllocationUsage.

##### **General Mappings**

GenericToUsage\_Mapping  
Abstraction\_Mapping

## Mapping Source

Dependency

## Mapping Target

AllocationUsage

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::Allocations::Allocate') and not from.client->select(t | t
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Dependency::name  
`from.name`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- Relationship::owningRelatedElement  
`ElementMain_Mapping.getMapped(from.owner)`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`
- Element::aliasId

- Set{}
- Feature::isPortion  
false
- Dependency::supplier  
from.target->collect(e | ElementMain\_Mapping.getMapped(e))
- Feature::isReadOnly  
false
- Dependency::client  
from.source->collect(e | ElementMain\_Mapping.getMapped(e))
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Feature::isDerived  
false
- Relationship::ownedRelatedElement  
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain\_Mapping.getMapped(e))
- Feature::isComposite  
false

#### C.2.4.4 Blocks

##### C.2.4.4.1 Overview

**Table 7. List of all Overview Mapping Specifications**

| SysML v1 Concept                 | SysML v2 Concept                 | Mapping Class                              |
|----------------------------------|----------------------------------|--------------------------------------------|
| AdjunctProperty                  |                                  | *** not specified yet ***                  |
| BindingConnector                 | BindingConnectorAsUsage          | BindingConnector_Mapping                   |
| Block                            | PartDefinition<br>PartDefinition | EncapsulatedBlock_Mapping<br>Block_Mapping |
| BoundReference                   | Feature                          | _BoundReference_Mapping                    |
| ClassifierBehaviorProperty       | Feature                          | _ClassifierBehaviorProperty_Mapping        |
| ConnectorProperty                |                                  | *** not specified yet ***                  |
| DirectedRelationshipPropertyPath |                                  | *** not specified yet ***                  |
| DistributedProperty              |                                  | *** not specified yet ***                  |

| SysML v1 Concept     | SysML v2 Concept | Mapping Class                |
|----------------------|------------------|------------------------------|
| ElementPropertyPath  |                  | *** not specified yet ***    |
| EndPathMultiplicity  | Feature          | _EndPathMultiplicity_Mapping |
| NestedConnectorEnd   |                  | *** not specified yet ***    |
| ParticipantProperty  |                  | *** not specified yet ***    |
| PropertySpecificType |                  | *** not specified yet ***    |
| ValueType            |                  | *** not specified yet ***    |

#### C.2.4.4.2 SysML v1 Blocks elements not mapped

Table 8. List of SysML v1 elements not mapped of this section

| SysML v1 Concept  | Rationale                                                                                                                                               |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| AdjunctProperty   | The concept of adjunct properties is not needed in SysML v2, where the principal of the adjunct property can be used directly in the appropriate place. |
| ConnectorProperty | The connector property is a special case of an adjunct property and is not mapped, just like the adjunct property.                                      |

#### C.2.4.4.3 Mapping Specifications

##### C.2.4.4.3.1 AssociationBlock\_Mapping

###### Description

\*\*\* not specified yet \*\*\*

###### General Mappings

AssociationClass\_Mapping  
Block\_Mapping

###### Mapping Source

AssociationClass

###### Mapping Target

ConnectionDefinition

(none)

###### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
from.memberEnd->select(m | m.type.ocIsKindOf(UML::UseCase))->isEmpty()
```

```
,
```

```
not Helper.hasStereotypeApplied(from, 'SysML::Requirements::Requirement') and not from.ocIsTypeOf(
```

,

```
Helper.hasStereotypeApplied(from, 'SysML::Blocks::Block')
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- **Type::isSufficient**

```
false
```

- **Classifier::ownedRelationship**

```
let toElementFMS: Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Prope
```

- **Relationship::owningRelatedElement**

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

- **Association::ownedRelationship**

```
let nonOwnedEnds: OrderedSet(UML::Property) = (from.memberEnd-from.ownedEnd)->asOrderedSet()
```

- **Element::name**

```
from.name
```

- **Element::shortName**

```
null
```

- **Relationship::target**

```
Set{}
```

- **Element::aliasId**

```
Set{}
```

- **Classifier::isAbstract**

```
from.isAbstract
```

- **Namespace::ownedImport**

```
Set{}
```

- **Relationship::source**

```
Set{}
```

- **Element::elementId**

```
Helper.getID(from)
```

- **Relationship::ownedRelatedElement**

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain_Map
```



#### C.2.4.4.3.2 BindingConnector\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

Connector\_Mapping

##### Mapping Source

Connector

##### Mapping Target

BindingConnectorAsUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::Blocks::BindingConnector')
```

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement  
`Set{}`
- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- Connector::isDirected  
`false`
- Feature::isUnique  
`true`
- Element::name  
`from.name`

- Element::shortName  
null
- Type::isAbstract  
false
- Feature::isOrdered  
false
- Relationship::target  
Set{}
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Feature::isReadOnly  
false
- Relationship::source  
Set{}
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.4.4.3.3 Block\_Mapping**

##### **Description**

A SysML::Block is mapped to a SysMLv2::PartDefinition.

##### **General Mappings**

Class\_Mapping

##### **Mapping Source**

Class

## Mapping Target

PartDefinition

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(src, 'SysML::Blocks::Block')
and not Helper.hasStereotypeApplied(src, 'SysML::ConstraintBlocks::ConstraintBlock')
and not Helper.hasStereotypeApplied(src, 'SysML::Ports&Flows::InterfaceBlock')
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Classifier::isAbstract

```
from.isAbstract
```

- Type::isSufficient

```
false
```

- Namespace::ownedImport

```
Set{}
```

- Classifier::ownedRelationship

```
let toElementFMS: Set(UML::Element) = from.ownedElement->select(e | e.oclIsKindOf(UML::Propo
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

### C.2.4.4.3.4 Part\_Mapping

#### Description

A property with composite aggregation which is typed by a block is mapped to a SysMLv2::PartUsage.

## General Mappings

Property\_Mapping

## Mapping Source

Property

## Mapping Target

PartUsage

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
let p: UML::Property = from.oclAsType(UML::Property) in
if p.type.oclIsUndefined() then false else Helper.hasStereotypeApplied(p.type, 'SysML::Blocks::')
and (p.association.oclIsUndefined() or p.association.ownedEnd->excludes(p)) and p.aggregation =
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isOrdered

```
from.isOrdered
```

- Type::isSufficient

```
false
```

- Feature::isComposite

```
from.isComposite
```

- Feature::ownedRelationship

```
let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping_Mapping.getMapped(from)
```

- Feature::isAbstract

```
false
```

- Feature::isEnd

```
if from.association.oclIsUndefined() then false else from.association.ownedEnd->include
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Feature::isDerived  
`from.isDerived`
- Feature::direction  
`null`
- Element::elementId  
`Helper.getID(from)`
- Feature::isUnique  
`from.isUnique`
- Feature::isReadOnly  
*abstract rule*

#### C.2.4.4.3.5 EncapsulatedBlock\_Mapping

##### Description

A SysML::Block with *isEncapsulated=true* is mapped to a PartDefinition, and, additionally, gets a metadata feature defined by the SysML v1 library which represents the SysML v1 *isEncapsulated* property.

##### General Mappings

Block\_Mapping

##### Mapping Source

Class

##### Mapping Target

PartDefinition

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
not Helper.hasStereotypeApplied(from, 'SysML::Requirements::Requirement') and not from.oclIsTypeOf(
,
Helper.hasStereotypeApplied(src, 'SysML::Blocks::Block')
and not Helper.hasStereotypeApplied(src, 'SysML::ConstraintBlocks::ConstraintBlock')
```

```
and not Helper.hasStereotypeApplied(src, 'SysML::Ports&Flows::InterfaceBlock')
and Helper.getTagValue(src, 'SysML::Blocks::Block', 'isEncapsulated')
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Classifier::isAbstract

```
from.isAbstract
```

- Type::isSufficient

```
false
```

- Namespace::ownedImport

```
Set{}
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

- PartDefinition::ownedRelationship

```
let toElementFMS: Set(UML::Element) = from.ownedElement->select(e | e.oclIsKindOf(UML::Prope
```

### C.2.4.4.3.6 EncapsulatedBlockMetadataMembership\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToOwningMembership\_Mapping

#### Mapping Source

Class

#### Mapping Target

OwningMembership

## Owned Mappings

- encapsulatedBlockMetadata : EncapsulatedBlockMetadata\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement  
`Set{}`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Membership::memberElement  
*abstract rule*
- OwningMembership::ownedMemberElement  
`encapsulatedBlockMetadata.to`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- Membership::memberName  
`null`
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship  
`Set{}`

#### C.2.4.4.3.7 EncapsulatedBlockMetadata\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToMetadataUsage\_Mapping

##### Mapping Source

Class

##### Mapping Target

MetadataUsage

##### Owned Mappings

- encapsulatedBlockMetadataFeatureMembership :  
EncapsulatedBlockMetadataFeatureMembership\_Mapping
- encapsulatedBlockMetadataFeatureTyping : EncapsulatedBlockMetadataFeatureTyping\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- MetadataUsage::ownedRelationship  
`Set{encapsulatedBlockMetadataFeatureMembership.to, encapsulatedBlockMetadataFeatureTyping.to}`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`



- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.4.4.3.8 EncapsulatedBlockMetadataFeatureMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

Class

##### **Mapping Target**

FeatureMembership

## Owned Mappings

- encapsulatedBlockMetadataReferenceUsage : EncapsulatedBlockMetadataReferenceUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature
- Membership::membershipOwningNamespace
- Membership::memberShortName

`encapsulatedBlockMetadataReferenceUsage.to`

*abstract rule*

`null`

- Element::shortName

`null`

- Element::elementId

`Helper.createUUID()`

- Element::aliasId

`Set{}`

- OwningMembership::ownedMemberElement
- Membership::memberName

`null`

- OwningMembership::ownedRelatedElement

`Set{self.ownedMemberElement() }`

- TypeFeaturing::featureOfType
- TypeFeaturing::featuringType
- Membership::visibility

*abstract rule*

*abstract rule*

`KerML::VisibilityKind::public`

- Element::name

`null`

- Element::ownedRelationship

Set{}

#### C.2.4.4.3.9 EncapsulatedBlockMetadataFeatureTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureTyping\_Mapping

##### Mapping Source

Class

##### Mapping Target

FeatureTyping

##### Owned Mappings

- encapsulatedBlockMetadata : EncapsulatedBlockMetadata\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Relationship::ownedRelatedElement

Set{}

- Specialization::specific

*abstract rule*

- Element::name

null

- FeatureTyping::type

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

- Element::shortName

null

- Specialization::general

*abstract rule*

- Element::elementId  
Helper.createUUID()
- FeatureTyping::typedFeature  
encapsulatedBlockMetadata.to
- Element::ownedRelationship  
Set{ }

#### C.2.4.4.3.10 EncapsulatedBlockMetadataReferenceUsage\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToReferenceUsage\_Mapping

##### Mapping Source

Class

##### Mapping Target

ReferenceUsage

##### Owned Mappings

- encapsulatedBlockMetadataFeatureValue : EncapsulatedBlockMetadataFeatureValue\_Mapping
- encapsulatedBlockMetadataRedefinition : EncapsulatedBlockMetadataRedefinition\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- ReferenceUsage::ownedRelationship  
Set{encapsulatedBlockMetadataRedefinition.to, encapsulatedBlockMetadataFeatureValue.to}
- Feature::isUnique

- `Element::shortName`

- `Type::isAbstract`

- `Element::elementId`

- Feature::isOrdered

- `Element::aliasId`

- Feature::isPortion

- Usage::isVariation

- Feature::isReadOnly

- Feature::direction

- `Element::name`

- Feature::isDerived

- `Feature::isComposite`

#### C.2.4.4.3.11 EncapsulatedBlockMetadataFeatureValue\_Mapping

\*\*\* not specified yet \*\*\*

## GenericToFeatureValue\_Mapping

## Mapping Source

Class

## Mapping Target

FeatureValue

## Owned Mappings

- literalBooleanTrue : LiteralBooleanTrue\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

null

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::aliasId

Set{ }

- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName

null

- OwningMembership::ownedRelatedElement

Set{self.ownedMemberElement() }

- Membership::visibility

KerML::VisibilityKind::public

- Element::name

null

- Element::ownedRelationship

Set{}

- FeatureValue::value

literalBooleanTrue.to

#### **C.2.4.4.3.12 EncapsulatedBlockMetadataRedefinition\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToRedefinition\_Mapping

##### **Mapping Source**

Class

##### **Mapping Target**

Redefinition

##### **Owned Mappings**

- encapsulatedBlockMetadataReferenceUsage : EncapsulatedBlockMetadataReferenceUsage\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Subsetting::ownedRelatedElement

Set{}

- Subsetting::subsettingFeature

*abstract rule*

- Element::name

null

- Subsetting::subsettingFeature

*abstract rule*

- Redefinition::redefiningFeature

encapsulatedBlockMetadataReferenceUsage.to

- Element::shortName

null

- Redefinition::redefinedFeature

SysML2::AttributeUsage.allInstances()->any(m | m.qualifiedName = 'SysMLv1Library::BlockData

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

## C.2.4.5 Libraries

### C.2.4.5.1 Requirements

#### C.2.4.5.1.1 VerdictKind

##### Description

The VerdictKind is an enumeration that contains the values fail, inconclusive, pass, and error indicating how this test case execution has performed.

A pass indicates that the test case is successful and that the system under test has behaved according to what should be expected. A fail on the other hand shows that the system under test is not behaving according to the specification. An inconclusive means that the test execution cannot determine whether the system under test performs well or not. An error tells that the test system itself and not the system under test fails.

The VerdictKind is derived from the Verdict element from the UTP specification v1.2.

##### Literals

- error
- fail
- inconclusive
- pass

#### C.2.4.5.2 UnitAndQuantityKind

### C.2.4.6 Model Elements

#### C.2.4.6.1 Overview

Table 9. List of all Overview Mapping Specifications

| SysML v1 Concept | SysML v2 Concept | Mapping Class             |
|------------------|------------------|---------------------------|
| Conform          |                  | *** not specified yet *** |
| ElementGroup     | Package          | ElementGroup_Mapping      |
| Expose           |                  | *** not specified yet *** |
| Problem          | Comment          | Problem_Mapping           |
| Rationale        | Comment          | Rationale_Mapping         |



| SysML v1 Concept | SysML v2 Concept | Mapping Class             |
|------------------|------------------|---------------------------|
| Stakeholder      | PartDefinition   | Stakeholder_Mapping       |
| View             |                  | *** not specified yet *** |
| Viewpoint        |                  | *** not specified yet *** |

## C.2.4.6.2 Mapping Specifications

### C.2.4.6.2.1 ProblemRationaleMetadataUsage\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToMetadataUsage\_Mapping

#### Mapping Source

Comment

#### Mapping Target

MetadataUsage

#### Owned Mappings

- problemRationaleMetadataFeatureMembership :  
ProblemRationaleMetadataFeatureMembership\_Mapping
- problemRationaleMetadataFeatureTyping : ProblemRationaleMetadataFeatureTyping\_Mapping
- unnamed1 : Boolean

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

#### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- Feature::isUnique  
true
- Element::shortName

- `Type::isAbstract`

- `Element::elementId`

- Feature::isOrdered

- `Element::aliasId`

- Feature::isPortion

- Usage::isVariation

- `Feature::isReadOnly`

- MetadataUsage::ownedRelationship

- Feature::direction

- `Element::name`

- Feature::isDerived

- `Feature::isComposite`

#### C.2.4.6.2.2 CommentToConcern\_Mapping

\*\*\* not specified yet \*\*\*

## Comment\_Mapping

## Mapping Source

Comment

## Mapping Target

ConcernDefinition

## Owned Mappings

- commentToConcernReturnParameterMembership :  
CommentToConcernReturnParameterMembership\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
(not Helper.hasStereotypeApplied(from, 'SysML::ModelElements::ElementGroup')) and UML::Classifier.all
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  

```
Set{}
```
- Element::ownedRelationship  

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```
- ConcernDefinition::ownedRelationship  

```
let toStakeholderMS : Set(UML::Classifier) = UML::Classifier.allInstances()->select(s | Hel
```
- Element::elementId  

```
Helper.getID(from)
```
- Element::name  

```
null
```
- Element::shortName  

```
null
```
- AnnotatingElement::annotation  

```
Set{}
```

### C.2.4.6.2.3 CommentToConcernComment\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

### General Mappings

GenericToAnnotatingElement\_Mapping

### Mapping Source

Comment

### Mapping Target

Comment

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{ }

- Comment::body

UML::Classifier.allInstances()->select(s | Helper.hasStereotypeApplied(s, 'SysML::ModelElement'))

- Element::name

null

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{ }

#### C.2.4.6.2.4 CommentToConcernDocumentation\_Mapping

### Description

\*\*\* not specified yet \*\*\*

### General Mappings

GenericToAnnotation\_Mapping

### Mapping Source

Comment

### Mapping Target

Annotation

### Owned Mappings

- commentToConcernComment : CommentToConcernComment\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Relationship::source  
`Set{}`
- Element::name  
`null`
- Annotation::ownedRelatedElement  
`Set{commentToConcernComment.to}`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Relationship::target  
`Set{}`
- Element::ownedRelationship  
`Set{}`

#### C.2.4.6.2.5 CommentToConcernReturnParameter\_Mapping

### Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToReferenceUsage\_Mapping

## Mapping Source

Comment

## Mapping Target

ReferenceUsage

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- Feature::isUnique  
true
- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false
- Element::aliasId  
Set{ }
- Feature::isPortion

- Usage::isVariation

- `Feature::isReadOnly`

- Feature::direction

- Element::name

- Feature::isDerived

- Feature::isComposite

- Element::ownedRelationship

Set { }

#### C.2.4.6.2.6 CommentToConcernReturnParameterMembership\_Mapping

### Description

\*\*\* not specified yet \*\*\*

## General Mappings

## GenericToParameterMembership\_Mapping

## Mapping Source

Comment

## Mapping Target

## ReturnParameterMembership

## Owned Mappings

- `commentToConcernDocumentation` : `CommentToConcernDocumentation_Mapping`
- `commentToConcernReturnParameter` : `CommentToConcernReturnParameter_Mapping`

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  
`Set{self.ownedMemberFeature() }`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{ }`
- FeatureMembership::ownedMemberFeature  
*abstract rule*
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
`null`
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- ReturnParameterMembership::ownedRelatedElement  
`let member: KerML::Element = self.ownedMemberParameter() inif member.oclIsUndefined() then`
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- ReturnParameterMembership::ownedMemberParameter  
`commentToConcernReturnParameter.to`
- Element::ownedRelationship  
`Set{ }`



#### C.2.4.6.2.7 ProblemRationaleMetadataFeatureMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

Comment

##### Mapping Target

FeatureMembership

##### Owned Mappings

- problemRationaleMetadataReferenceUsage : ProblemRationaleMetadataReferenceUsage\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- FeatureMembership::ownedMemberFeature  
  
problemRationaleMetadataReferenceUsage.to
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName

null

- OwningMembership::ownedRelatedElement

    Set { self.ownedMemberElement () }

- TypeFeaturing::featureOfType  
    *abstract rule*
- TypeFeaturing::featuringType  
    *abstract rule*
- Membership::visibility

    KerML::VisibilityKind::public

- Element::name

    null

- Element::ownedRelationship

    Set { }

#### **C.2.4.6.2.8 ProblemRationaleMetadataFeatureTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureTyping\_Mapping

##### **Mapping Source**

Comment

##### **Mapping Target**

FeatureTyping

##### **Owned Mappings**

- problemRationaleMetadataUsage : ProblemRationaleMetadataUsage\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

    Set { }

- Relationship::ownedRelatedElement

```
Set{}
```

- Specialization::specific  
*abstract rule*
- FeatureTyping::typedFeature

```
problemRationaleMetadataUsage.to
```

- FeatureTyping::type

```
let m : SYSML2::Membership = if Helper.hasStereotypeApplied(from, 'SysML::ModelElements::Pro
```

- Element::name

```
null
```

- Element::shortName

```
null
```

- Specialization::general  
*abstract rule*
- Element::elementId

```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

#### C.2.4.6.2.9 ProblemRationaleMetadataReferenceUsage\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToReferenceUsage\_Mapping

##### Mapping Source

Comment

##### Mapping Target

ReferenceUsage

##### Owned Mappings

- problemRationaleMetadataFeatureValue : ProblemRationaleMetadataFeatureValue\_Mapping
- problemRationaleMetadataRedefinition : ProblemRationaleMetadataRedefinition\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- ReferenceUsage::ownedRelationship  
`Set{problemRationaleMetadataRedefinition.to, problemRationaleMetadataFeatureValue.to}`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction  
`null`

- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.4.6.2.10 ProblemRationaleMetadataFeatureValue\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureValue\_Mapping

##### **Mapping Source**

Comment

##### **Mapping Target**

FeatureValue

##### **Owned Mappings**

- literalBooleanTrue : LiteralBooleanTrue\_Mapping
- problemRationaleMetadataFeature : ProblemRationaleMetadataReferenceUsage\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
null
- Element::shortName  
null
- FeatureValue::value  
literalBooleanTrue.to

- Element::elementId  
Helper.createUUID()
- Element::aliasId  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
null
- OwningMembership::ownedRelatedElement  
Set{self.ownedMemberElement() }
- Membership::visibility  
KerML::VisibilityKind::public
- Element::name  
null
- Element::ownedRelationship  
Set{}

#### **C.2.4.6.2.11 ProblemRationaleMetadataMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToMembership\_Mapping

##### **Mapping Source**

Comment

##### **Mapping Target**

Membership

##### **Owned Mappings**

- problemRationaleMetadataUsage : ProblemRationaleMetadataUsage\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Relationship::ownedRelatedElement  
`Set {}`
- Membership::ownedMemberElement  
`problemRationaleMetadataUsage.to`
- Relationship::source  
`Set {}`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Relationship::target  
`Set {}`
- Element::ownedRelationship  
`Set {}`

#### **C.2.4.6.2.12 ElementGroup\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToPackage\_Mapping

##### **Mapping Source**

Comment

##### **Mapping Target**

Package

## Owned Mappings

- elementGroupMetadaMembership : ElementGroupMetadaMembership\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Package::ownedRelationship

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)->including(elementGroupMetadaMembe
```

- Element::name

```
null
```

- Element::shortName

```
null
```

- Element::elementId

```
Helper.createUUID()
```

### C.2.4.6.2.13 ElementGroupCriterion\_Mapping

## Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToExpression\_Mapping

## Mapping Source

Comment

## Mapping Target

LiteralString

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)



## Mapping rules

The following lists the mapping rules for the target element properties.

- `Feature::isEnd`  
`false`
- `Type::isSufficient`  
`false`
- `Feature::isUnique`  
`true`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Element::elementId`  
`Helper.createUUID()`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `LiteralString::value`  
`Helper.getTagValueAsString(from, 'SysML::ModelElements::ElementGroup', 'criterion')`
- `Feature::isReadOnly`  
`false`
- `Feature::direction`  
`null`
- `Element::name`  
`null`
- `Feature::isDerived`  
`false`

- Feature::isComposite  
false
- Element::ownedRelationship  
Set{ }

#### **C.2.4.6.2.14 ElementGroupMetadaMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToMembership\_Mapping

##### **Mapping Source**

Comment

##### **Mapping Target**

Membership

##### **Owned Mappings**

- elementGroupMetadataUsage : ElementGroupMetadataUsage\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set{ }
- Relationship::ownedRelatedElement  
Set{ }
- Relationship::source  
Set{ }
- Membership::ownedMemberElement  
elementGroupMetadataUsage.to
- Membership::memberName  
'ElementGroupData '

- Element::name  
null
- Membership::memberElement  
self.ownedMemberElement()
- Element::shortName  
null
- Element::elementId  
Helper.createUUID()
- Relationship::target  
Set{}
- Element::ownedRelationship  
Set{}

#### **C.2.4.6.2.15 ElementGroupMetadataFeatureMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

Comment

##### **Mapping Target**

FeatureMembership

##### **Owned Mappings**

- elementGroupMetadataReferenceUsage : ElementGroupMetadataReferenceUsage\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*

- Membership::memberShortName  
null
- FeatureMembership::ownedMemberFeature  
elementGroupMetadataReferenceUsage.to
- Element::shortName  
null
- Element::elementId  
Helper.createUUID()
- Element::aliasId  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
null
- OwningMembership::ownedRelatedElement  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
KerML::VisibilityKind::public
- FeatureMembership::memberFeature  
self.ownedMemberFeature()
- Element::name  
null
- Element::ownedRelationship  
Set{}

#### **C.2.4.6.2.16 ElementGroupMetadataFeatureTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureTyping\_Mapping

## Mapping Source

Comment

## Mapping Target

FeatureTyping

## Owned Mappings

- elementGroupMetadataUsage : ElementGroupMetadataUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Relationship::ownedRelatedElement

Set{}

- Specialization::specific

*abstract rule*

- Element::name

null

- Element::shortName

null

- FeatureTyping::type

```
let m : SYSML2::Membership = SYSML2::AttributeDefinition.allInstances()->collect(dt | dt.own
```

- Specialization::general

*abstract rule*

- Element::elementId

Helper.createUUID()

- FeatureTyping::typedFeature

elementGroupMetadataUsage.to

- Element::ownedRelationship

Set{}

#### C.2.4.6.2.17 ElementGroupMetadataFeatureValue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureValue\_Mapping

##### Mapping Source

Comment

##### Mapping Target

FeatureValue

##### Owned Mappings

- elementGroupCriterion : ElementGroupCriterion\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- FeatureValue::value  
  
elementGroupCriterion.to
- Membership::memberName

null

- OwningMembership::ownedRelatedElement

Set { self.ownedMemberElement () }

- Membership::visibility

KerML::VisibilityKind::public

- Element::name

null

- Element::ownedRelationship

Set {}

#### C.2.4.6.2.18 ElementGroupMetadataRedefinition\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToRedefinition\_Mapping

##### Mapping Source

Comment

##### Mapping Target

Redefinition

##### Owned Mappings

- elementGroupMetadataReferenceUsage : ElementGroupMetadataReferenceUsage\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set {}

- Redefinition::redefinedFeature

let m : SYSML2::Membership = SYSML2::AttributeUsage.allInstances()->collect(dt | dt.owningRe

- Subsetting::ownedRelatedElement

```

 Set {}

 • Subsetting::subsettingFeature
 abstract rule
 • Element::name

 null

 • Subsetting::subsettingFeature
 abstract rule
 • Redefinition::redefiningFeature

 elementGroupMetadataReferenceUsage.to

 • Element::shortName

 null

 • Element::elementId

 Helper.createUUID()

 • Element::ownedRelationship

 Set {}

```

#### C.2.4.6.2.19 ElementGroupMetadataReferenceUsage\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToReferenceUsage\_Mapping

##### Mapping Source

Comment

##### Mapping Target

ReferenceUsage

##### Owned Mappings

- elementGroupMetadataFeatureValue : ElementGroupMetadataFeatureValue\_Mapping
- elementGroupMetadataRedefinition : ElementGroupMetadataRedefinition\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules



The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- ReferenceUsage::ownedRelationship  
`Set{elementGroupMetadataRedefinition.to, elementGroupMetadataFeatureValue.to}`
- Feature::isReadOnly  
`false`
- Feature::direction  
`null`
- Element::name  
`null`
- Feature::isDerived

false

- Feature::isComposite

false

#### **C.2.4.6.2.20 ElementGroupMetadataUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToMetadataUsage\_Mapping

##### **Mapping Source**

Comment

##### **Mapping Target**

MetadataUsage

##### **Owned Mappings**

- elementGroupMetadataFeatureMembership : ElementGroupMetadataFeatureMembership\_Mapping
- elementGroupMetadataFeatureTyping : ElementGroupMetadataFeatureTyping\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Type::isSufficient

false

- Feature::isUnique

true

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- MetadataUsage::ownedRelationship  
Set{elementGroupMetadataFeatureTyping.to, elementGroupMetadataFeatureMembership.to}
- Feature::isComposite  
false

#### **C.2.4.6.2.21 ElementGroupMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

ElementOwningMembership\_Mapping

##### **Mapping Source**

Element

##### **Mapping Target**

OwningMembership

### Owned Mappings

- : Comment
- elementGroup : ElementGroup\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::ModelElements::ElementGroup')
```

### Mapping rules

The following lists the mapping rules for the target element properties.

- OwningMembership::ownedMemberElement

```
self.memberElement()
```
- Membership::memberShortName

```
null
```
- Element::shortName

```
null
```
- Element::elementId

```
Helper.createUUID()
```
- Membership::visibility

```
if (from.ocIsKindOf(UML::NamedElement)) then from.ocAsType(UML::NamedElement).visibility
```
- Element::aliasId

```
Set{}
```
- Relationship::target

```
OrderedSet{ElementMain_Mapping.getMapped(from)}
```
- Relationship::source

```
OrderedSet{ElementMain_Mapping.getMapped(from.owner)}
```
- OwningMembership::memberElement

```
elementGroup.to
```
- Membership::memberName

```
null
```
- OwningMembership::ownedRelatedElement

```
let member: KerML::Element = self.ownedMemberElement() inif member.oclisUndefined() then
```

- Membership::membershipOwningNamespace

```
Set{ElementMain_Mapping(from)} -- will not be used since corresponding att is derived, but r
```

- Element::name

```
null
```

- Relationship::ownedRelatedElement

```
self.target()
```

- Membership::memberElement

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

- OwningMembership::memberName

```
Helper.getTagValueAsString(from, 'SysML::ModelElements::ElementGroup', 'name')
```

- Element::ownedRelationship

```
Set{}
```

#### **C.2.4.6.2.22 Problem\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

Comment\_Mapping

##### **Mapping Source**

Comment

##### **Mapping Target**

Comment

##### **Owned Mappings**

- problemRationaleMetadataMembership : ProblemRationaleMetadataMembership\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

```
(not Helper.hasStereotypeApplied(from, 'SysML::ModelElements::ElementGroup')) and Helper.hasStereoty
```

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- `Element::aliasId`  
`Set{}`
- `Element::ownedRelationship`  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- `Element::elementId`  
`Helper.getID(from)`
- `Element::name`  
`null`
- `Comment::ownedRelationship`  
`self.annotation()->append(problemRationaleMetadataMembership.to)`
- `Element::shortName`  
`null`
- `AnnotatingElement::annotation`  
`Set{}`

#### **C.2.4.6.2.23 ProblemRationaleMetadataRedefinition\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToRedefinition\_Mapping

##### **Mapping Source**

Comment

##### **Mapping Target**

Redefinition

##### **Owned Mappings**

- `problemRationaleMetadataReferenceUsage` : `ProblemRationaleMetadataReferenceUsage_Mapping`

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Redefinition::redefinedFeature

if Helper.hasStereotypeApplied(from, 'SysML::ModelElements::Problem') thenlet m : SYSML2::Me

- Subsetting::ownedRelatedElement

Set{}

- Subsetting::subsettingFeature

*abstract rule*

- Element::name

null

- Subsetting::subsettingFeature

*abstract rule*

- Redefinition::redefiningFeature

problemRationaleMetadataReferenceUsage.to

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

#### **C.2.4.6.2.24 Rationale\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

Comment\_Mapping

##### **Mapping Source**

Comment

##### **Mapping Target**

Comment

## Owned Mappings

- problemRationaleMetadataMembership : ProblemRationaleMetadataMembership\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
(not Helper.hasStereotypeApplied(from, 'SysML::ModelElements::ElementGroup')) and Helper.hasStereoty
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  

```
Set{}
```
- Element::ownedRelationship  

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```
- Comment::ownedRelationship  

```
self.annotation()->append(problemRationaleMetadataMembership.to)
```
- Element::elementId  

```
Helper.getID(from)
```
- Element::name  

```
null
```
- Element::shortName  

```
null
```
- AnnotatingElement::annotation  

```
Set{}
```

### C.2.4.6.2.25 Stakeholder\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

Class\_Mapping

#### Mapping Source

Class

#### Mapping Target



PartDefinition

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::ModelElements::Stakeholder')
```

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Classifier::isAbstract

```
from.isAbstract
```

- Type::isSufficient

```
false
```

- Namespace::ownedImport

```
Set{}
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

- PartDefinition::ownedRelationship

```
let toClassifierMS: Sequence(UML::Element) = src.ownedElement->select(e | e.ocIsKindOf(UML::
```

#### C.2.4.6.2.26 StakeholderMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToParameterMembership\_Mapping

##### Mapping Source

Classifier

## Mapping Target

StakeholderMembership

## Owned Mappings

- stakeholderPartUsage : StakeholderPartUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- StakeholderMembership::ownedMemberParameter  
`StakeholderPartUsage_Mapping.getMapped(from)`
- FeatureMembership::ownedRelatedElement  
`Set{self.ownedMemberFeature() }`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{ }`
- FeatureMembership::ownedMemberFeature  
*abstract rule*
- FeatureMembership::owningType  
*abstract rule*
- StakeholderMembership::memberName  
`from.name`
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*

- Membership::visibility  
KerML::VisibilityKind::public
- Element::name  
null
- Element::ownedRelationship  
Set{ }

#### **C.2.4.6.2.27 StakeholderPartUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToPartUsage\_Mapping

##### **Mapping Source**

Classifier

##### **Mapping Target**

PartUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- Feature::isUnique  
true
- Element::shortName  
null
- Type::isAbstract

- false
- Element::elementId
  - Helper.createUUID()
- Feature::isOrdered
  - false
- Element::aliasId
  - Set{}
- Feature::isPortion
  - false
- Usage::isVariation
  - false
- Feature::isReadOnly
  - false
- Feature::direction
  - null
- Element::name
  - null
- Feature::isDerived
  - false
- Feature::isComposite
  - false
- Element::ownedRelationship
  - Set{}

#### **C.2.4.6.2.28 Viewpoint\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

Class\_Mapping

##### **Mapping Source**

Class

## Mapping Target

ViewpointDefinition

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::ModelElements::Viewpoint')
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Classifier::isAbstract

```
from.isAbstract
```

- Type::isSufficient

```
false
```

- Namespace::ownedImport

```
Set{}
```

- ViewpointDefinition::ownedRelationship

```
let toElementFMS: Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Prope
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

### C.2.4.6.2.29 ViewpointPurposeMetadata\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToMetadataUsage\_Mapping

## Mapping Source

Class

## Mapping Target

MetadataUsage

## Owned Mappings

- viewpointPurposeMetadataFeatureTyping : ViewpointPurposeMetadataFeatureTyping\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- MetadataUsage::ownedRelationship  
`Set{viewpointPurposeMetadataFeatureTyping.to}`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion

false

- Usage::isVariation

false

- Feature::isReadOnly

false

- Feature::direction

null

- Element::name

null

- Feature::isDerived

false

- Feature::isComposite

false

#### **C.2.4.6.2.30 ViewpointPurposeMetadataFeatureTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureTyping\_Mapping

##### **Mapping Source**

Class

##### **Mapping Target**

FeatureTyping

##### **Owned Mappings**

- viewpointPurposeMetadata : ViewpointPurposeMetadata\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

```

 Set {}

 • Relationship::ownedRelatedElement

 Set {}

 • FeatureTyping::typedFeature

 viewpointPurposeMetadata.to

 • Specialization::specific
 abstract rule
 • Element::name

 null

 • Element::shortName

 null

 • Specialization::general
 abstract rule
 • FeatureTyping::type

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

 • Element::elementId

 Helper.createUUID()

 • Element::ownedRelationship

 Set {}

```

#### C.2.4.6.2.31 ViewpointPurposeMetadataMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToOwningMembership\_Mapping

##### Mapping Source

Class

##### Mapping Target

OwningMembership

##### Owned Mappings

- viewpointPurposeMetadata : ViewpointPurposeMetadata\_Mapping

##### Applicable filters



This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement  
`Set{}`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Membership::memberElement  
*abstract rule*
- Element::shortName  
`null`
- OwningMembership::ownedMemberElement  
`viewpointPurposeMetadata.to`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- Membership::memberName  
`null`
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship  
`Set{}`

#### C.2.4.6.2.32 ViewpointSubject\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToReferenceUsage\_Mapping

### Mapping Source

Class

### Mapping Target

ReferenceUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- ReferenceUsage::direction  
`KerML::FeatureDirectionKind::_in'`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion

false

- Usage::isVariation

false

- Feature::isReadOnly

false

- Element::name

null

- Feature::isDerived

false

- Feature::isComposite

false

- Element::ownedRelationship

Set{}

#### **C.2.4.6.2.33 ViewpointSubjectMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToParameterMembership\_Mapping

##### **Mapping Source**

Class

##### **Mapping Target**

SubjectMembership

##### **Owned Mappings**

- viewpointSubject : ViewpointSubject\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement

- Set{self.ownedMemberFeature() }
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- SubjectMembership::ownedMemberParameter  
  
viewpointSubject.to
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{ }
- FeatureMembership::ownedMemberFeature  
*abstract rule*
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
  
null
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{ }

## C.2.4.7 PortsAndFlows

### C.2.4.7.1 Overview

**Table 10. List of all Overview Mapping Specifications**

| SysML v1 Concept                   | SysML v2 Concept | Mapping Class             |
|------------------------------------|------------------|---------------------------|
| AcceptChangeStructuralFeatureEvent | Action           | *** not specified yet *** |
| AddFlowPropertyValueOnNestedPort   | Action           | *** not specified yet *** |

| SysML v1 Concept             | SysML v2 Concept    | Mapping Class             |
|------------------------------|---------------------|---------------------------|
| ChangeStructuralFeatureEvent |                     | *** not specified yet *** |
| DirectedFeature              |                     | *** not specified yet *** |
| FlowProperty                 |                     | *** not specified yet *** |
| FullPort                     | PartUsage           | FullPort_Mapping          |
| InterfaceBlock               | PortDefinition      | InterfaceBlock_Mapping    |
| InvocationOnNestedPortAction |                     | *** not specified yet *** |
| ItemFlow                     | FlowConnectionUsage | ItemFlow_Mapping          |
| ProxyPort                    |                     | *** not specified yet *** |
| TriggerOnNestedPort          |                     | *** not specified yet *** |
| ~InterfaceBlock              |                     | *** not specified yet *** |

### C.2.4.7.2 Mapping Specifications

#### C.2.4.7.2.1 AcceptChangeStructuralFeatureEventAction\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

AcceptEventAction\_Mapping

##### Mapping Source

AcceptEventAction

##### Mapping Target

AcceptActionUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

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

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient

- Feature::isUnique

- `ActionUsage::ownedRelationship`

- `Element::name`

- `Element::shortName`

- `Type::isAbstract`

- Feature::isOrdered

- `Element::aliasId`

- Feature::isPortion

- Usage::isVariation

- Feature::isReadOnly

- `Feature::direction`

- `Element::elementId`

- `ActionUsage::isComposite`

- Feature::isDerived

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#### C.2.4.7.2.2 FullPort\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

Part\_Mapping

##### Mapping Source

Port

##### Mapping Target

PartUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

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

,

if from.type.ocIsUndefined() then false
else
let p: UML::Property = src.ocAsType(UML::Property) in
not p.ocIsUndefined() and
not p.type.ocIsKindOf(UML::DataType) and
not (p.name.indexOf('base_') > 0) and
(p.association.ocIsUndefined() or p.association.ownedEnd->excludes(p))
endif
```

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isOrdered  
`from.isOrdered`
- Type::isSufficient  
`false`
- Feature::isComposite  
`from.isComposite`
- Feature::ownedRelationship  
`let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping_Mapping.getMapped(from)`
- Feature::isAbstract

- Feature::isEnd

- Element::name

- `Element::shortName`

- `Element::aliasId`

- `Feature::isPortion`

- Feature::isDerived

- Feature::direction

- `Element::elementId`

- Feature::isUnique

- `Feature::isReadOnly`

#### C.2.4.7.2.3 InterfaceBlock\_Mapping

### Description

\*\*\* not specified yet \*\*\*

## General Mappings

## Block\_Mapping

## Mapping Source

## Class

## Mapping Target

PortDefinition



(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
not Helper.hasStereotypeApplied(from, 'SysML::Requirements::Requirement') and not from.ocIsTypeOf(
,
Helper.hasStereotypeApplied(from, 'SysML::Ports&Flows::InterfaceBlock')
```

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Classifier::isAbstract

```
from.isAbstract
```

- Type::isSufficient

```
false
```

- Namespace::ownedImport

```
Set{}
```

- Classifier::ownedRelationship

```
let toElementFMS: Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Prope
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

#### C.2.4.7.2.4 ItemFlow\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToRelationship\_Mapping

NamedElementMain\_Mapping

## Mapping Source

InformationFlow

## Mapping Target

FlowConnectionUsage

## Owned Mappings

- itemFlowFeatureMembership : ItemFlowFeatureMembership\_Mapping
- itemFlowSourceEndFeatureMembership : ItemFlowSourceEndFeatureMembership\_Mapping
- itemFlowTargetEndFeatureMembership : ItemFlowTargetEndFeatureMembership\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::Ports&Flows::ItemFlow')
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{ }
```

- FlowConnectionUsage::target

```
NamedElementMain_Mapping.getMappedColl(from.informationTarget)
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
null
```

- FlowConnectionUsage::ownedRelationship

```
Set{itemFlowFeatureMembership.to, itemFlowSourceEndFeatureMembership.to, itemFlowTargetEndFeatureMembership.to}
```

- Element::shortName

```
null
```

- FlowConnectionUsage::source

```
NamedElementMain_Mapping.getMappedColl(from.informationSource)
```

### C.2.4.7.2.5 ItemFlowFeatureMembership\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToFeatureMembership\_Mapping

## Mapping Source

InformationFlow

## Mapping Target

FeatureMembership

## Owned Mappings

- itemFlowItemFeature : ItemFlowItemFeature\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature  
`itemFlowItemFeature.to`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
`null`
- OwningMembership::ownedRelatedElement  
`Set{self.ownedMemberElement() }`

- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{ }

#### C.2.4.7.2.6 ItemFlowItemFeature\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeature\_Mapping

##### Mapping Source

InformationFlow

##### Mapping Target

ItemFeature

##### Owned Mappings

- itemFlowItemFeatureTyping : ItemFlowItemFeatureTyping\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
  
Set{ }
- Type::isSufficient  
  
false
- ItemFeature::ownedRelationship

```
Set{itemFlowItemFeatureTyping.to}
```

- Element::name

```
null
```

- Element::shortName

```
null
```

- Type::isAbstract

```
false
```

- Element::elementId

```
Helper.createUUID()
```

#### **C.2.4.7.2.7 ItemFlowItemFeatureTyping\_Mapping**

##### **Description**

Currently, only one conveyed item is supported

##### **General Mappings**

GenericToFeatureTyping\_Mapping

##### **Mapping Source**

InformationFlow

##### **Mapping Target**

FeatureTyping

##### **Owned Mappings**

- itemFlowItemFeature : ItemFlowItemFeature\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{ }
```

- Relationship::ownedRelatedElement

```
Set{ }
```

- FeatureTyping::type

```
if from.conveyed->size() > 0 then Classifier_Mapping.getMapped(from.conveyed.get(0)) else C
```

- Specialization::specific  
*abstract rule*
- Element::name

```
null
```

- Element::shortName

```
null
```

- Specialization::general  
*abstract rule*
- Element::elementId

```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

- FeatureTyping::typedFeature

```
itemFlowItemFeature.to
```

#### C.2.4.7.2.8 ItemFlowSourceEndFeatureMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

InformationFlow

##### Mapping Target

EndFeatureMembership

##### Owned Mappings

- itemFlowSourceFeature : ItemFlowSourceFeature\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- EndFeatureMembership::ownedMemberFeature  
  
itemFlowSourceFeature.to
- Element::ownedRelationship  
  
Set{}

#### C.2.4.7.2.9 ItemFlowSourceFeature\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeature\_Mapping

### Mapping Source

InformationFlow

### Mapping Target

ItemFlowEnd

### Owned Mappings

- itemFlowSourceFeatureSubsetting : ItemFlowSourceFeatureSubsetting\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- ItemFlowEnd::isEnd  
`true`
- Type::isSufficient  
`false`
- ItemFlowEnd::ownedRelationship  
`Set{itemFlowSourceFeatureSubsetting.to}`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`

#### C.2.4.7.2.10 ItemFlowSourceFeatureSubsetting\_Mapping

### Description



\*\*\* not specified yet \*\*\*

## General Mappings

GenericToSubsetting\_Mapping

## Mapping Source

InformationFlow

## Mapping Target

Subsetting

## Owned Mappings

- itemFlowSourceFeature : ItemFlowSourceFeature\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Relationship::ownedRelatedElement  
`Set{}`
- Subsetting::subsettingFeature  
`from.source.get(0)`
- Specialization::specific  
*abstract rule*
- Element::name  
`null`
- Element::shortName  
`null`
- Subsetting::subsettingFeature  
`itemFlowSourceFeature.to`
- Specialization::general  
*abstract rule*
- Element::elementId

```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

#### **C.2.4.7.2.11 ItemFlowTargetEndFeatureMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

InformationFlow

##### **Mapping Target**

EndFeatureMembership

##### **Owned Mappings**

- itemFlowTargetFeature : ItemFlowTargetFeature\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

```
null
```

- Element::shortName

```
null
```

- Element::elementId

```
Helper.createUUID()
```

- Element::aliasId

```
Set{}
```

- OwningMembership::ownedMemberElement  
*abstract rule*

- Membership::memberName  
null
- OwningMembership::ownedRelatedElement  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
KerML::VisibilityKind::public
- Element::name  
null
- EndFeatureMembership::ownedMemberFeature  
itemFlowTargetFeature.to
- Element::ownedRelationship  
Set{ }

#### C.2.4.7.2.12 ItemFlowTargetFeature\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeature\_Mapping

##### Mapping Source

InformationFlow

##### Mapping Target

ItemFlowEnd

##### Owned Mappings

- itemFlowTargetFeatureSubsetting : ItemFlowTargetFeatureSubsetting\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- `Element::aliasId`  
`Set{}`
- `Type::isSufficient`  
`false`
- `ItemFlowEnd::ownedRelationship`  
`Set{itemFlowTargetFeatureSubsetting.to}`
- `ItemFlowEnd::isEnd`  
`true`
- `Element::name`  
`null`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Element::elementId`  
`Helper.createUUID()`

#### **C.2.4.7.2.13 ItemFlowTargetFeatureSubsetting\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToSubsetting\_Mapping

##### **Mapping Source**

InformationFlow

##### **Mapping Target**

Subsetting

##### **Owned Mappings**

- `itemFlowTargetFeature` : `ItemFlowTargetFeature_Mapping`

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Relationship::ownedRelatedElement  
`Set{}`
- Specialization::specific  
*abstract rule*
- Subsetting::subsettingFeature  
`itemFlowTargetFeature.to`
- Subsetting::subsettingFeature  
`from.target.get(0)`
- Element::name  
`null`
- Element::shortName  
`null`
- Specialization::general  
*abstract rule*
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

#### C.2.4.7.2.14 OperationDirectedFeature\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

Operation\_Mapping

##### Mapping Source

Operation

##### Mapping Target

ActionUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

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

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- Feature::isUnique  
true
- Element::name  
from.name
- Element::shortName  
null
- Type::isAbstract  
false
- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Usage::isVariation  
false
- Namespace::ownedImport  
Set{}
- Feature::isReadOnly

false

- Element::elementId

Helper.getID(from)

- Feature::isDerived

false

- ActionUsage::direction

Helper.getKerMLFeatureDirectionKind(Helper.getTagValueAsElement(from, 'SysML::Ports&Flows::Di')

- Feature::isComposite

false

- Namespace::ownedRelationship

from.ownedElement->collect(e | ElementOwningMembership\_Mapping.getMapped(e))

## C.2.4.8 Requirements

### C.2.4.8.1 Overview

**Table 11. List of all Overview Mapping Specifications**

| SysML v1 Concept    | SysML v2 Concept           | Mapping Class             |
|---------------------|----------------------------|---------------------------|
| AbstractRequirement |                            | *** not specified yet *** |
| Copy                |                            | Copy_Mapping              |
| DeriveReq           |                            | DeriveReq_Mapping         |
| Refine              |                            | Refine_Mapping            |
| Requirement         | RequirementDefinition      | Requirement_Mapping       |
| Satisfy             | SatisfyRequirementUsage    | Satisfy_Mapping           |
| TestCase            | VerificationCaseDefinition | TestCaseActivity_Mapping  |
| Trace               | Dependency                 | Trace_Mapping             |
| Verify              |                            | Verify_Mapping            |

### C.2.4.8.2 Mapping Specifications

#### C.2.4.8.2.1 Requirement\_Mapping

##### Description

A SysML::Requirement is mapped to a SysMLv2::RequirementDefinition.

##### General Mappings

GenericToConstraintDefinition\_Mapping

NamedElementMain\_Mapping

##### Mapping Source

Class

### Mapping Target

RequirementDefinition

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::Requirements::Requirement')
```

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- RequirementDefinition::reqId

```
Helper.getTagValueAsString(from, 'SysML::Requirements::Requirement', 'id')
```

- Type::isSufficient

```
false
```

- Definition::isVariation

```
false
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
null
```

- Element::shortName

```
null
```

- Type::isAbstract

```
false
```

- RequirementDefinition::ownedRelationship

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement) ->including(CommonReturnParameterF
```

#### C.2.4.8.2.2 Copy\_Mapping

##### Description

\*\*\* not specified yet \*\*\*



## General Mappings

Abstraction\_Mapping

## Mapping Source

Abstraction

## Mapping Target

Dependency

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::Requirements::Copy')
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  

```
Set{}
```
- Dependency::supplier  

```
from.target->collect(e | ElementMain_Mapping.getMapped(e))
```
- Dependency::name  

```
from.name
```
- Element::ownedRelationship  

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```
- Relationship::owningRelatedElement  

```
ElementMain_Mapping.getMapped(from.owner)
```
- Dependency::client  

```
from.source->collect(e | ElementMain_Mapping.getMapped(e))
```
- Element::elementId  

```
Helper.getID(from)
```
- Relationship::ownedRelatedElement  

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain_Mapping.getMapped(e))
```
- Element::shortName

null

#### C.2.4.8.2.3 DeriveReq Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

Abstraction Mapping

##### Mapping Source

Abstraction

##### Mapping Target

Dependency

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::Requirements::DeriveReq')
```

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  

```
Set{ }
```
- Dependency::supplier  

```
from.target->collect(e | ElementMain_Mapping.getMapped(e))
```
- Dependency::name  

```
from.name
```
- Element::ownedRelationship  

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```
- Relationship::owningRelatedElement  

```
ElementMain_Mapping.getMapped(from.owner)
```
- Dependency::client  

```
from.source->collect(e | ElementMain_Mapping.getMapped(e))
```
- Element::elementId

```
Helper.getID(from)
```

- Relationship::ownedRelatedElement

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain_Map
```

- Element::shortName

```
null
```

#### **C.2.4.8.2.4 Refine\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

Abstraction\_Mapping

##### **Mapping Source**

Abstraction

##### **Mapping Target**

Dependency

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::Requirements::Refine')
```

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{ }
```

- Dependency::supplier

```
from.target->collect(e | ElementMain_Mapping.getMapped(e))
```

- Dependency::name

```
from.name
```

- Element::ownedRelationship

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```

- Relationship::owningRelatedElement

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

- `Dependency::client`

```
from.source->collect(e | ElementMain_Mapping.getMapped(e))
```

- `Element::elementId`

```
Helper.getID(from)
```

- `Relationship::ownedRelatedElement`

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain_Mapping.getMapped(e))
```

- `Element::shortName`

```
null
```

#### **C.2.4.8.2.5 RequirementDocumentation\_Mapping**

##### **Description**

The mapping class creates a Comment contained in a Requirement which contains the SysMLv1::AbstractRequirement::text property.

##### **General Mappings**

GenericToDocumentation\_Mapping

##### **Mapping Source**

NamedElement

##### **Mapping Target**

Documentation

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- `Element::aliasId`

```
Set{}
```

- `Documentation::body`

```
Helper.getTagValueAsString(from, 'SysML::Requirements::Requirement', 'text')
```

- `Comment::locale`

null

- Element::name

    null

- Element::shortName

    null

- AnnotatingElement::annotation

    Set{}

- Element::elementId

    Helper.createUUID()

- Element::ownedRelationship

    Set{}

#### **C.2.4.8.2.6 RequirementDocumentationMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToOwningMembership\_Mapping

##### **Mapping Source**

NamedElement

##### **Mapping Target**

OwningMembership

##### **Owned Mappings**

- requirementDocumentation : RequirementDocumentation\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement

    Set{}

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Membership::memberElement  
*abstract rule*
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
  
requirementDocumentation.to
- Membership::memberName  
  
null
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{}

#### **C.2.4.8.2.7 RequirementSubject\_Mapping**

##### **Description**

The mapping class creates the subject reference usage element of the requirement. It is not used since the concept does not exist SysML v1.

##### **General Mappings**

GenericToReferenceUsage\_Mapping

##### **Mapping Source**

NamedElement

##### **Mapping Target**

ReferenceUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- ReferenceUsage::direction  
`KerML::FeatureDirectionKind::_in'`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- Feature::isReadOnly  
`false`

- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false
- Element::ownedRelationship  
Set{ }

#### **C.2.4.8.2.8 RequirementSubjectMembership\_Mapping**

##### **Description**

The subject is not used, because it is not a SysML v1 concept, but must be created for a SysML v2 requirement.

##### **General Mappings**

GenericToParameterMembership\_Mapping

##### **Mapping Source**

NamedElement

##### **Mapping Target**

SubjectMembership

##### **Owned Mappings**

- requirementSubject : RequirementSubject\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  
Set{ self.ownedMemberFeature() }
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
null



- Element::shortName  
null
- Element::elementId  
Helper.createUUID()
- Element::aliasId  
Set{ }
- FeatureMembership::ownedMemberFeature  
*abstract rule*
- FeatureMembership::owningType  
*abstract rule*
- SubjectMembership::ownedMemberParameter  
requirementSubject.to
- Membership::memberName  
null
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
KerML::VisibilityKind::public
- Element::name  
null
- Element::ownedRelationship  
Set{ }

#### C.2.4.8.2.9 Satisfy\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToOccurrenceUsage\_Mapping  
Abstraction\_Mapping

##### Mapping Source

Abstraction

##### Mapping Target

SatisfyRequirementUsage

## Owned Mappings

- satisfyFeatureTyping : SatisfyFeatureTyping\_Mapping
- satisfySubjectMembership : SatisfySubjectMembership\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::Requirements::Satisfy')
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Dependency::name  
`from.name`
- Type::isSufficient  
`false`
- Relationship::owningRelatedElement  
`ElementMain_Mapping.getMapped(from.owner)`
- Feature::isUnique  
`true`
- SatisfyRequirementUsage::ownedRelationship  
`Set{satisfyFeatureTyping.to, satisfySubjectMembership.to, SatisfyFeatureMembership_Mapping.g}`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`

- Usage::isVariation

false

- Dependency::supplier

from.target->collect(e | ElementMain\_Mapping.getMapped(e))

- Feature::isReadOnly

false

- Dependency::client

from.source->collect(e | ElementMain\_Mapping.getMapped(e))

- Feature::direction

null

- Element::elementId

Helper.getID(from)

- Feature::isDerived

false

- Relationship::ownedRelatedElement

from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain\_Mapping.getMapped(e))

- Feature::isComposite

false

#### **C.2.4.8.2.10 SatisfyFeatureMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

Abstraction

##### **Mapping Target**

FeatureMembership

##### **Owned Mappings**

- satisfyFeatureMembershipReferenceUsage : SatisfyFeatureMembershipReferenceUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- FeatureMembership::ownedMemberFeature  
  
satisfyFeatureMembershipReferenceUsage.to
- FeatureMembership::memberName  
  
'satisfyingFeature'
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- FeatureMembership::memberFeature  
  
self.ownedMemberFeature()
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship

Set{ }

#### **C.2.4.8.2.11 SatisfyFeatureMembershipReferenceUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToReferenceUsage\_Mapping

##### **Mapping Source**

Abstraction

##### **Mapping Target**

ReferenceUsage

##### **Owned Mappings**

- satisfyFeatureMembershipReferenceUsageFeatureTyping :  
SatisfyFeatureMembershipReferenceUsageFeatureTyping\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- Feature::isUnique  
true
- ReferenceUsage::ownedRelationship  
Set{satisfyFeatureMembershipReferenceUsageFeatureTyping.to}
- Element::shortName  
null
- Type::isAbstract  
false

- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.4.8.2.12 SatisfyFeatureMembershipReferenceUsageFeatureTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureTyping\_Mapping

##### **Mapping Source**

Abstraction

##### **Mapping Target**

FeatureTyping

## Owned Mappings

- satisfyFeatureMembershipReferenceUsage : SatisfyFeatureMembershipReferenceUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Relationship::ownedRelatedElement

Set{}

- Specialization::specific

*abstract rule*

- FeatureTyping::type

if Satisfy\_Mapping.getMapped(from).client->size() > 0 then Satisfy\_Mapping.getMapped(from).c

- FeatureTyping::typedFeature

satisfyFeatureMembershipReferenceUsage.to

- Element::name

null

- Element::shortName

null

- Specialization::general

*abstract rule*

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

### C.2.4.8.2.13 SatisfyFeatureTyping\_Mapping

#### Description

The type of the feature typing element is the client of the satisfy relationship. In SysML v1, the satisfy relationship can have only one client element. However, if there is more than one client element, the first one is taken and the others are ignored.

#### General Mappings

GenericToFeatureTyping\_Mapping

### Mapping Source

Abstraction

### Mapping Target

FeatureTyping

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Relationship::ownedRelatedElement

Set{}

- FeatureTyping::typedFeature

Satisfy\_Mapping.getMapped(from)

- Specialization::specific

*abstract rule*

- Element::name

null

- Element::shortName

null

- Specialization::general

*abstract rule*

- Element::elementId

Helper.createUUID()

- FeatureTyping::type

if Satisfy\_Mapping.getMapped(from).supplier->size() > 0 then Satisfy\_Mapping.getMapped(from)

- Element::ownedRelationship

Set{}



#### C.2.4.8.2.14 SatisfySubjectMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToParameterMembership\_Mapping

##### Mapping Source

Abstraction

##### Mapping Target

SubjectMembership

##### Owned Mappings

- satisfySubjectMembershipReferenceUsage : SatisfySubjectMembershipReferenceUsage\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  

```
Set{self.ownedMemberFeature() }
```
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  

```
null
```
- Element::shortName  

```
null
```
- Element::elementId  

```
Helper.createUUID()
```
- Element::aliasId  

```
Set{ }
```
- FeatureMembership::ownedMemberFeature  
*abstract rule*
- FeatureMembership::owningType  
*abstract rule*

- SubjectMembership::ownedMemberParameter  
`satisfySubjectMembershipReferenceUsage.to`
- SubjectMembership::memberParameter  
`self.ownedMemberParameter()`
- Membership::memberName  
`null`
- TypeFeaturing::featureOfType  
`abstract rule`
- TypeFeaturing::featuringType  
`abstract rule`
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship  
`Set{}`

#### C.2.4.8.2.15 SatisfySubjectMembershipFeatureValue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureValue\_Mapping

##### Mapping Source

Abstraction

##### Mapping Target

FeatureValue

##### Owned Mappings

- satisfySubjectMembershipFeatureValueFeatureReferenceExpression :  
SatisfySubjectMembershipFeatureValueFeatureReferenceExpression\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureValue::value  
`satisfySubjectMembershipFeatureValueFeatureReferenceExpression.to`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- FeatureValue::memberElement  
`satisfySubjectMembershipFeatureValueFeatureReferenceExpression.to`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
`null`
- OwningMembership::ownedRelatedElement  
`Set{self.ownedMemberElement() }`
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship  
`Set{}`

#### **C.2.4.8.2.16 SatisfySubjectMembershipFeatureValueFeatureReferenceExpression\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToExpression\_Mapping

## Mapping Source

Abstraction

## Mapping Target

FeatureReferenceExpression

## Owned Mappings

- satisfySubjectMembershipFeatureValueFeatureReferenceExpressionMembership :  
SatisfySubjectMembershipFeatureValueFeatureReferenceExpressionMembership\_Mapping
- satisfySubjectMembershipFeatureValueFeatureReferenceExpressionReturnParameterMembership :  
SatisfySubjectMembershipFeatureValueFeatureReferenceExpressionReturnParameterMembership\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion

- Feature::isReadOnly

- Feature::direction

- Element::name

- Feature::isDerived

- FeatureReferenceExpression::ownedRelationship

- Feature::isComposite

#### C.2.4.8.2.17 SatisfySubjectMembershipFeatureValueFeatureReferenceExpressionMembership\_Mapping

\*\*\* not specified yet \*\*\*

## GenericToMembership\_Mapping

## Mapping Target

(none)

This mapping applies only if the following (OCL) condition is verified:

## Mapping rules

- `Element::aliasId`

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- Relationship::ownedRelatedElement  
Set{}
- Membership::memberElement  
SatisfyFeatureMembershipReferenceUsage\_Mapping.getMapped(from)
- Relationship::source  
Set{}
- Element::name  
null
- Element::shortName  
null
- Element::elementId  
Helper.createUUID()
- Relationship::target  
Set{}
- Element::ownedRelationship  
Set{}

#### **C.2.4.8.2.18**

#### **SatisfySubjectMembershipFeatureValueFeatureReferenceExpressionReturnParameterMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToParameterMembership\_Mapping

##### **Mapping Source**

Abstraction

##### **Mapping Target**

ReturnParameterMembership

##### **Owned Mappings**

- satisfySubjectMembershipFeatureValueFeatureReferenceExpressionReturnParameterMembershipFeature  
:  
SatisfySubjectMembershipFeatureValueFeatureReferenceExpressionReturnParameterMembershipFeature\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  

```
Set{self.ownedMemberFeature() }
```
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  

```
null
```
- ReturnParameterMembership::ownedRelatedElement  

```
let member: KerML::Element = self.ownedMemberParameter() inif member.oclIsUndefined() then
```
- ReturnParameterMembership::memberParameter  

```
self.ownedMemberParameter()
```
- Element::shortName  

```
null
```
- Element::elementId  

```
Helper.createUUID()
```
- Element::aliasId  

```
Set{ }
```
- FeatureMembership::ownedMemberFeature  
*abstract rule*
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  

```
null
```
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  

```
KerML::VisibilityKind::public
```
- Element::name  

```
null
```
- ReturnParameterMembership::ownedMemberParameter

satisfySubjectMembershipFeatureValueFeatureReferenceExpressionReturnParameterMembershipFeatu

- Element::ownedRelationship

Set{ }

#### **C.2.4.8.2.19**

#### **SatisfySubjectMembershipFeatureValueFeatureReferenceExpressionReturnParameterMembershipFeature\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeature\_Mapping

##### **Mapping Source**

Abstraction

##### **Mapping Target**

Feature

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{ }

- Type::isSufficient

false

- Element::name

null

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId



```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

#### **C.2.4.8.2.20 SatisfySubjectMembershipReferenceUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToReferenceUsage\_Mapping

##### **Mapping Source**

Abstraction

##### **Mapping Target**

ReferenceUsage

##### **Owned Mappings**

- satisfySubjectMembershipFeatureValue : SatisfySubjectMembershipFeatureValue\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

```
false
```

- Type::isSufficient

```
false
```

- Feature::isUnique

```
true
```

- Element::shortName

```
null
```

- ReferenceUsage::direction

```
KerML::FeatureDirectionKind::_in'
```

- Type::isAbstract

- `Element::elementId`

- Feature::isOrdered

- `Element::aliasId`

- `Feature::isPortion`

- Usage::isVariation

- ReferenceUsage::ownedRelationship

- Feature::isReadOnly

- Element::name

- Feature::isDerived

- Feature::isComposite

#### C.2.4.8.2.21 TestCaseActivity\_Mapping

\*\*\* not specified yet \*\*\*

## ActivityAsDefinition\_Mapping

## Activity

### VerificationCaseDefinition

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::Requirements::TestCase')

,

true
```

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  

```
Set{}
```
- Classifier::isAbstract  

```
from.isAbstract
```
- Type::isSufficient  

```
false
```
- Namespace::ownedImport  

```
Set{}
```
- VerificationCaseDefinition::ownedRelationship  

```
let initialNodes : Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Initi
```
- Element::elementId  

```
Helper.getID(from)
```
- Element::name  

```
from.name
```
- Element::shortName  

```
null
```

#### C.2.4.8.2.22 Trace\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

Abstraction\_Mapping

##### Mapping Source

Abstraction

### Mapping Target

Dependency

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::Requirements::Trace')
```

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Dependency::supplier

```
from.target->collect(e | ElementMain_Mapping.getMapped(e))
```

- Dependency::name

```
from.name
```

- Element::ownedRelationship

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```

- Relationship::owningRelatedElement

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

- Dependency::client

```
from.source->collect(e | ElementMain_Mapping.getMapped(e))
```

- Element::elementId

```
Helper.getID(from)
```

- Relationship::ownedRelatedElement

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain_Mapping.getMapped(e))
```

- Element::shortName

```
null
```

#### C.2.4.8.2.23 Verify\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

## General Mappings

Abstraction\_Mapping

## Mapping Source

Abstraction

## Mapping Target

Dependency

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
Helper.hasStereotypeApplied(from, 'SysML::Requirements::Verify')
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Dependency::supplier

```
from.target->collect(e | ElementMain_Mapping.getMapped(e))
```

- Dependency::name

```
from.name
```

- Element::ownedRelationship

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```

- Relationship::owningRelatedElement

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

- Dependency::client

```
from.source->collect(e | ElementMain_Mapping.getMapped(e))
```

- Element::elementId

```
Helper.getID(from)
```

- Relationship::ownedRelatedElement

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain_Mapping.getMapped(e))
```

- Element::shortName

null

## C.2.5 UML4SysML

### C.2.5.1 Overview

### C.2.5.2 Actions

#### C.2.5.2.1 Overview

**Table 12. List of all Overview Mapping Specifications**

| SysML v1 Concept                | SysML v2 Concept                                                            | Mapping Class                                                                                                                                                           | Filter                               |
|---------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| AcceptCallAction                | AcceptActionUsage                                                           | AcceptCallAction_Mapping                                                                                                                                                |                                      |
| AcceptEventAction               | FeatureTyping<br>ReferenceUsage<br>ParameterMembership<br>AcceptActionUsage | AcceptEventActionParameterFeatureTyping_Mapping<br>AcceptEventActionParameter_Mapping<br>AcceptEventActionParameterMembership_Mapping<br>AcceptEventAction_Mapping      |                                      |
| Action                          | ActionUsage                                                                 | Action_Mapping                                                                                                                                                          |                                      |
| ActionInputPin                  | ReferenceUsage<br>FeatureTyping                                             | UntypedPin_Mapping<br>PinFeatureTyping_Mapping                                                                                                                          | ActionInputPin.type.ocllsUndefined() |
| AddStructuralFeatureValueAction | ActionUsage<br>AssignmentActionUsage<br>FeatureMembership                   | AddStructuralFeatureValueAction_Mapping<br>AddStructuralFeatureValueActionAssignmentAction_Mapping<br>AddStructuralFeatureValueActionAssignmentActionMembership_Mapping |                                      |
| AddVariableValueAction          | ActionUsage<br>FeatureTyping                                                | AddVariableValueAction_Mapping<br>AddVariableValueActionFeatureTyping_Mapping                                                                                           |                                      |
| BroadcastSignalAction           | ActionUsage                                                                 | Action_Mapping                                                                                                                                                          |                                      |
| CallAction                      | ActionUsage                                                                 | Action_Mapping                                                                                                                                                          |                                      |
| CallBehaviorAction              | FeatureTyping<br>ActionUsage                                                | CallBehaviorFeatureTyping_Mapping<br>CallBehaviorAction_Mapping                                                                                                         |                                      |
| CallOperationAction             | ActionUsage                                                                 | Action_Mapping                                                                                                                                                          |                                      |

| SysML v1 Concept             | SysML v2 Concept                | Mapping Class                                            | Filter                         |
|------------------------------|---------------------------------|----------------------------------------------------------|--------------------------------|
| Clause                       | FeatureTyping                   | DefaultMultiplicityBoundTyping_Mapping                   |                                |
|                              | FeatureTyping                   | CommonParameterReferenceUsageInFeatureTyping_Mapping     |                                |
|                              | Element                         | Mapping                                                  |                                |
|                              | Feature                         | CommonReturnParameterFeatureUntyped_Mapping              |                                |
|                              | FeatureTyping                   | CommonReturnParameterFeatureTyping_Mapping               |                                |
|                              | Relationship                    | ElementOwnership_Mapping                                 |                                |
|                              | Expression                      | CommonValueSpecification_Mapping                         |                                |
|                              | OwningMembership                | DefaultMultiplicityMembership_Mapping                    |                                |
|                              | LiteralInteger                  | DefaultMultiplicityBoundValue_Mapping                    |                                |
|                              | ReturnParameterMembership       | CommonReturnParameterFeatureMembership_Mapping           |                                |
|                              | ParameterMembership             | CommonParameterReferenceUsageInMembership_Mapping        |                                |
|                              | FeatureMembership               | DefaultMultiplicityBoundOwnership_Mapping                |                                |
|                              | FeatureTyping                   | CommonReturnParameterReferenceUsageFeatureTyping_Mapping |                                |
|                              | MultiplicityRange               | DefaultMultiplicityElement_Mapping                       |                                |
|                              | ReferenceUsage                  | CommonReturnParameterReferenceUsageUntyped_Mapping       |                                |
|                              | Element                         | ElementMain_Mapping                                      |                                |
|                              | Membership                      | ElementMembership_Mapping                                |                                |
|                              | ReturnParameterMembership       | CommonReturnParameterReferenceUsageMembership_Mapping    |                                |
|                              | ReferenceUsage                  | CommonParameterReferenceUsageIn_Mapping                  |                                |
| ClearAssociationAction       | ActionUsage                     | ClearAssociationAction_Mapping                           |                                |
| ClearStructuralFeatureAction | ActionUsage                     | Action_Mapping                                           |                                |
| ClearVariableAction          | FeatureMembership               | ClearVariableActionFeatureMembership_Mapping             |                                |
|                              | ActionUsage                     | ClearVariableAction_Mapping                              |                                |
|                              | ReferenceUsage                  | ClearVariableActionReferenceUsage_Mapping                |                                |
|                              | FeatureValue                    | ClearVariableActionReferenceUsageFeatureValue_Mapping    |                                |
| ConditionalNode              | ActionUsage                     | StructuredActivityNode_Mapping                           |                                |
| CreateLinkAction             | ActionUsage                     | CreateLinkAction_Mapping                                 |                                |
| CreateLinkObjectAction       | ActionUsage                     | CreateLinkAction_Mapping                                 |                                |
| CreateObjectAction           | FeatureValue                    | CreateObjectPinFeatureValue_Mapping                      |                                |
|                              | ReferenceUsage                  | CreateObjectPin_Mapping                                  |                                |
|                              | FeatureTyping                   | CreateObjectInvocationExpressionFeatureTyping_Mapping    |                                |
|                              | InvocationExpression            | CreateObjectInvocationExpression_Mapping                 |                                |
|                              | ActionUsage                     | CreateObjectAction_Mapping                               |                                |
|                              | ReturnParameterMembership       | CreateObjectPinMembership_Mapping                        |                                |
| DestroyLinkAction            | ActionUsage                     | DestroyLinkAction_Mapping                                |                                |
| DestroyObjectAction          | ActionUsage                     | Action_Mapping                                           |                                |
| ExpansionRegion              | ActionUsage                     | StructuredActivityNode_Mapping                           |                                |
| InputPin                     | ReferenceUsage<br>FeatureTyping | UntypedPin_Mapping<br>PinFeatureTyping_Mapping           | InputPin.type.oclIsUndefined() |
| InvocationAction             | ActionUsage                     | Action_Mapping                                           |                                |
| LinkAction                   | ActionUsage                     | Action_Mapping                                           |                                |

| SysML v1 Concept    | SysML v2 Concept          | Mapping Class                                            | Filter |
|---------------------|---------------------------|----------------------------------------------------------|--------|
| LinkEndCreationData | FeatureTyping             | DefaultMultiplicityBoundTyping_Mapping                   |        |
|                     | FeatureTyping             | CommonParameterReferenceUsageInFeatureTyping_Mapping     |        |
|                     | Element                   | Mapping                                                  |        |
|                     | Feature                   | CommonReturnParameterFeatureUntyped_Mapping              |        |
|                     | FeatureTyping             | CommonReturnParameterFeatureTyping_Mapping               |        |
|                     | Relationship              | ElementOwnership_Mapping                                 |        |
|                     | Expression                | CommonValueSpecification_Mapping                         |        |
|                     | OwningMembership          | DefaultMultiplicityMembership_Mapping                    |        |
|                     | LiteralInteger            | DefaultMultiplicityBoundValue_Mapping                    |        |
|                     | ReturnParameterMembership | CommonReturnParameterFeatureMembership_Mapping           |        |
|                     | ParameterMembership       | CommonParameterReferenceUsageInMembership_Mapping        |        |
|                     | FeatureMembership         | DefaultMultiplicityBoundOwnership_Mapping                |        |
|                     | FeatureTyping             | CommonReturnParameterReferenceUsageFeatureTyping_Mapping |        |
|                     | MultiplicityRange         | DefaultMultiplicityElement_Mapping                       |        |
|                     | ReferenceUsage            | CommonReturnParameterReferenceUsageUntyped_Mapping       |        |
|                     | Element                   | ElementMain_Mapping                                      |        |
|                     | Membership                | ElementMembership_Mapping                                |        |
|                     | ReturnParameterMembership | CommonReturnParameterReferenceUsageMembership_Mapping    |        |
|                     | ReferenceUsage            | CommonParameterReferenceUsageIn_Mapping                  |        |
| LinkEndData         | FeatureTyping             | DefaultMultiplicityBoundTyping_Mapping                   |        |
|                     | FeatureTyping             | CommonParameterReferenceUsageInFeatureTyping_Mapping     |        |
|                     | Element                   | Mapping                                                  |        |
|                     | Feature                   | CommonReturnParameterFeatureUntyped_Mapping              |        |
|                     | FeatureTyping             | CommonReturnParameterFeatureTyping_Mapping               |        |
|                     | Relationship              | ElementOwnership_Mapping                                 |        |
|                     | Expression                | CommonValueSpecification_Mapping                         |        |
|                     | OwningMembership          | DefaultMultiplicityMembership_Mapping                    |        |
|                     | LiteralInteger            | DefaultMultiplicityBoundValue_Mapping                    |        |
|                     | ReturnParameterMembership | CommonReturnParameterFeatureMembership_Mapping           |        |
|                     | ParameterMembership       | CommonParameterReferenceUsageInMembership_Mapping        |        |
|                     | FeatureMembership         | DefaultMultiplicityBoundOwnership_Mapping                |        |
|                     | FeatureTyping             | CommonReturnParameterReferenceUsageFeatureTyping_Mapping |        |
|                     | MultiplicityRange         | DefaultMultiplicityElement_Mapping                       |        |
|                     | ReferenceUsage            | CommonReturnParameterReferenceUsageUntyped_Mapping       |        |
|                     | Element                   | ElementMain_Mapping                                      |        |
|                     | Membership                | ElementMembership_Mapping                                |        |
|                     | ReturnParameterMembership | CommonReturnParameterReferenceUsageMembership_Mapping    |        |
|                     | ReferenceUsage            | CommonParameterReferenceUsageIn_Mapping                  |        |



| SysML v1 Concept             | SysML v2 Concept                                                                                                                                                                                                                                                                                                                                   | Mapping Class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Filter                    |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| LinkEndDestructionData       | FeatureTyping<br>FeatureTyping<br>Element<br>Feature<br>FeatureTyping<br>Relationship<br>Expression<br>OwningMembership<br>LiteralInteger<br>ReturnParameterMembership<br>ParameterMembership<br>FeatureMembership<br>FeatureTyping<br>MultiplicityRange<br>ReferenceUsage<br>Element<br>Membership<br>ReturnParameterMembership<br>ReferenceUsage | DefaultMultiplicityBoundTyping_Mapping<br>CommonParameterReferenceUsageInFeatureTyping_Mapping<br>Mapping<br>CommonReturnParameterFeatureUntyped_Mapping<br>CommonReturnParameterFeatureTyping_Mapping<br>ElementOwnership_Mapping<br>CommonValueSpecification_Mapping<br>DefaultMultiplicityMembership_Mapping<br>DefaultMultiplicityBoundValue_Mapping<br>CommonReturnParameterFeatureMembership_Mapping<br>CommonParameterReferenceUsageInMembership_Mapping<br>DefaultMultiplicityBoundOwnership_Mapping<br>CommonReturnParameterReferenceUsageFeatureTyping_Mapping<br>DefaultMultiplicityElement_Mapping<br>CommonReturnParameterReferenceUsageUntyped_Mapping<br>ElementMain_Mapping<br>ElementMembership_Mapping<br>CommonReturnParameterReferenceUsageMembership_Mapping<br>CommonParameterReferenceUsageIn_Mapping |                           |
| LoopNode                     | ActionUsage                                                                                                                                                                                                                                                                                                                                        | StructuredActivityNode_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |
| OpaqueAction                 | ActionUsage<br>TextualRepresentation<br>OwningMembership                                                                                                                                                                                                                                                                                           | OpaqueAction_Mapping<br>OpaqueActionBody_Mapping<br>OpaqueActionBodyMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |
| OutputPin                    | OperatorExpression<br>ReferenceUsage<br>FeatureValue<br>FeatureTyping<br>Membership<br>ReferenceUsage<br>ReferenceUsage<br>Feature<br>FeatureReferenceExpression<br>ReferenceUsage<br>FeatureMembership<br>FeatureValue<br>FeatureValue                                                                                                            | ReadExtentActionFeatureValueOperatorExpression_Mapping<br>ReadExtentActionOutputPin_Mapping<br>ReadSelfActionFeatureValue_Mapping<br>ReadExtentActionFeatureValueOperatorExpressionFeatureTyping_Mapping<br>ReadSelfActionFeatureValueFeatureReferenceExpressionMembership_Mapping<br>ValueSpecificationActionOutputPin_Mapping<br>ReadSelfActionOutputPin_Mapping<br>ReadExtentActionFeatureValueOperatorExpressionFeature_Mapping<br>ReadSelfActionFeatureValueFeatureReferenceExpression_Mapping<br>ReadIsClassifiedObjectActionOutputPin_Mapping<br>ReadExtentActionFeatureValueOperatorExpressionMembership_Mapping<br>ReadExtentActionFeatureValue_Mapping<br>ValueSpecificationActionOutputPinFeatureValue_Mapping                                                                                                    |                           |
| Pin                          | ReferenceUsage<br>FeatureTyping                                                                                                                                                                                                                                                                                                                    | UntypedPin_Mapping<br>PinFeatureTyping_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Pin.type.oclIsUndefined() |
| RaiseExceptionAction         | ActionUsage                                                                                                                                                                                                                                                                                                                                        | Action_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |
| ReadExtentAction             | ActionUsage                                                                                                                                                                                                                                                                                                                                        | ReadExtentAction_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |
| ReadIsClassifiedObjectAction | FeatureValue<br>FeatureValue<br>Feature<br>ParameterMembership<br>FeatureReferenceExpression<br>Membership<br>ActionUsage<br>OperatorExpression                                                                                                                                                                                                    | ReadIsClassifiedObjectActionFeatureValue_Mapping<br>ReadIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValue_Mapping<br>ReadIsClassifiedObjectActionFeatureValueOperatorExpressionFeature_Mapping<br>ReadIsClassifiedObjectActionFeatureValueOperatorExpressionParameterMembership_Mapping<br>ReadIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValue_Mapping<br>ReadIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValue_Mapping<br>ReadIsClassifiedObjectAction_Mapping<br>ReadIsClassifiedObjectActionFeatureValueOperatorExpression_Mapping                                                                                                                                                                                                                                   |                           |

| SysML v1 Concept                   | SysML v2 Concept                                                     | Mapping Class                                                                                                            | Filter                                                               |
|------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| ReadLinkAction                     | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |
| ReadLinkObjectEndAction            | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |
| ReadSelfAction                     | ActionUsage                                                          | ReadSelfAction_Mapping                                                                                                   |                                                                      |
| ReadStructuralFeatureAction        | ActionUsage                                                          | ReadStructuralFeatureAction_Mapping                                                                                      |                                                                      |
| ReadVariableAction                 | ActionUsage                                                          | ReadVariableAction_Mapping                                                                                               |                                                                      |
| ReclassifyObjectAction             | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |
| ReduceAction                       | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |
| RemoveStructuralFeatureValueAction | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |
| RemoveVariableValueAction          | ActionUsage                                                          | RemoveVariableValueAction_Mapping                                                                                        |                                                                      |
| ReplyAction                        | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |
| SendObjectAction                   | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |
| SendSignalAction                   | ActionUsage                                                          | SendSignalAction_Mapping                                                                                                 |                                                                      |
| SequenceNode                       | ActionUsage                                                          | SequenceNode_Mapping                                                                                                     |                                                                      |
| StartClassifierBehaviorAction      | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |
| StartObjectBehaviorAction          | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |
| StructuralFeatureAction            | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |
| StructuredActivityNode             | ActionUsage                                                          | StructuredActivityNode_Mapping                                                                                           |                                                                      |
| TestIdentityAction                 | ResultExpressionMembership<br>OperatorExpression<br>CalculationUsage | TestIdentityActionResultExpressionMembership_Mapping<br>TestIdentityActionOperator_Mapping<br>TestIdentityAction_Mapping |                                                                      |
| UnmarshallAction                   | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |
| ValuePin                           | ReferenceUsage<br>FeatureValue<br>Expression<br>ReferenceUsage       | ValuePin_Mapping<br>ValuePinFeatureValue_Mapping<br>ValuePinValue_Mapping<br>ValuePinUntyped_Mapping                     | not ValuePin.type.oclIsUndefined()<br>ValuePin.type.oclIsUndefined() |
| ValueSpecificationAction           | ActionUsage                                                          | ValueSpecificationAction_Mapping                                                                                         |                                                                      |
| VariableAction                     | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |
| WriteLinkAction                    | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |
| WriteStructuralFeatureAction       | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |
| WriteVariableAction                | ActionUsage                                                          | Action_Mapping                                                                                                           |                                                                      |

### C.2.5.2.2 SysML v1 Activities elements not mapped

Table 13. List of SysML v1 elements not mapped of this section

| SysML v1 Concept          | Rationale                                                                                                           |
|---------------------------|---------------------------------------------------------------------------------------------------------------------|
| ReclassifyObjectAction    | The SysMLv1::ReclassifyObjectAction is not supported by SysML v2. It is mapped to a action usage that does nothing. |
| StartObjectBehaviorAction | The SysMLv1::StartObjectBehaviorAction is not supported by SysML v2.                                                |

### C.2.5.2.3 Mapping Specifications

#### C.2.5.2.3.1 Actions

##### C.2.5.2.3.1.1 Action\_Mapping

###### Description

Base mapping class for model elements of kind UML4SysML::Action. The target element is a SysMLv2::ActionUsage.

###### General Mappings

GenericToActionUsage\_Mapping  
NamedElementMain\_Mapping

###### Mapping Source

Action

###### Mapping Target

ActionUsage

(none)

###### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

###### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- Feature::isUnique  
true

- ActionUsage::ownedRelationship  
     Helper.actionOwnedRelationship(from)
- Element::shortName  
     null
- Type::isAbstract  
     false
- Feature::isOrdered  
     false
- Element::aliasId  
     Set{}
- Feature::isPortion  
     false
- Usage::isVariation  
     false
- Feature::isReadOnly  
     false
- Feature::direction  
     null
- Element::elementId  
     Helper.getID(from)
- ActionUsage::isComposite  
     true
- Element::name  
     null
- Feature::isDerived  
     false
- Feature::isComposite  
     false

#### **C.2.5.2.3.1.2 OpaqueAction\_Mapping**

##### **Description**

The UML4SysML::OpaqueAction is mapped to a SysMLv2::ActionUsage with a textual representation. The following shows an example of the expected SysMLv2 textual syntax of a UML4SysML::OpaqueAction.

```
action thisIsAOpaqueAction {
 in x : ScalarValues::Integer;
 out y : ScalarValues::Integer;

 language "OCL"
 /*
 * x = y + 1;
 */
}
```

## General Mappings

Action\_Mapping

### Mapping Source

OpaqueAction

### Mapping Target

ActionUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Element::ownedRelationship  
ElementOwnership\_Mapping.getMappedColl(from.ownedElement)
- Type::isSufficient  
false
- Feature::isUnique  
true
- Element::name  
from.name

- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `Usage::isVariation`  
`false`
- `Feature::isReadOnly`  
`false`
- `ActionUsage::ownedRelationship`  
`if from.body->size() > 0 thenHelper.actionOwnedRelationship(from)->append(OpaqueActionBodyMe`
- `Feature::direction`  
`null`
- `Element::elementId`  
`Helper.getID(from)`
- `Feature::isDerived`  
`false`
- `ActionUsage::isComposite`  
`true`

#### **C.2.5.2.3.1.3 OpaqueActionBody\_Mapping**

##### **Description**

The mapping class maps the language and the body properties from the `UML4SysML::OpaqueAction` to a `SysMLv2::TextualRepresentation`. Currently, multiple languages and bodies are not supported yet.

##### **General Mappings**

`GenericToAnnotatingElement_Mapping`

## Mapping Source

OpaqueAction

## Mapping Target

TextualRepresentation

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  

```
Set{}
```
- TextualRepresentation::body  

```
if from.body.notEmpty() then from.body.first() else OclUndefined endif
```
- TextualRepresentation::language  

```
if from.language.notEmpty() then from.language.first() else OclUndefined endif
```
- Element::name  

```
null
```
- Element::shortName  

```
null
```
- Element::elementId  

```
Helper.createUUID()
```
- Element::ownedRelationship  

```
Set{}
```

### C.2.5.2.3.1.4 OpaqueActionBodyMembership\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToOwningMembership\_Mapping

## Mapping Source

OpaqueAction

## Mapping Target

OwningMembership

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement  
`Set{}`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Membership::memberElement  
*abstract rule*
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
`OpaqueActionBody_Mapping.getMapped(from)`
- Membership::memberName  
`null`
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship



```
Set{}
```

#### C.2.5.2.3.1.5 Pin\_Mapping

##### Description

Base mapping class for model elements of kind UML4SysML::Pin with a type. The target element is a SysMLv2::ReferenceUsage.

##### General Mappings

UntypedPin\_Mapping

NamedElementMain\_Mapping

##### Mapping Source

Pin

##### Mapping Target

ReferenceUsage

##### Owned Mappings

- pinFeatureTyping : PinFeatureTyping\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
not from.type.oclIsUndefined()
```

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  

```
false
```
- Type::isSufficient  

```
false
```
- Feature::isUnique  

```
true
```
- Element::name  

```
from.name
```
- Element::shortName  

```
null
```
- Type::isAbstract

- Feature::isOrdered

false

- `Element::aliasId`

Set { }

- `Feature::isPortion`

false

- Usage::isVariation

false

- `ReferenceUsage::ownedRelationship`

```
Set{pinFeatureTyping.to}
```

- `Feature::isReadOnly`

false

- Feature::direction

null

- `Element::elementId`

```
Helper.getID(from)
```

- Feature::isDerived

false

- Feature::isComposite

false

#### C.2.5.2.3.1.6 PinFeatureTyping\_Mapping

### Description

Creates the feature typing for the UML4SysML::Pin target ReferenceUsage.

## General Mappings

## GenericToFeatureTyping\_Mapping

## Mapping Source

Pin

## Mapping Target

## FeatureTyping

## Owned Mappings

- `pin : Pin_Mapping`

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- `Element::aliasId`

```
Set{}
```

- `Relationship::ownedRelatedElement`

```
Set{}
```

- `Specialization::specific`

*abstract rule*

- `FeatureTyping::typedFeature`

```
pin.to
```

- `Element::name`

```
null
```

- `Element::shortName`

```
null
```

- `Specialization::general`

*abstract rule*

- `Element::elementId`

```
Helper.createUUID()
```

- `FeatureTyping::type`

```
let primitiveType : SysMLv2::DataType = if from.type.ocIsKindOf(UML::DataType) then Helper.g
```

- `Element::ownedRelationship`

```
Set{}
```

### C.2.5.2.3.1.7 UntypedPin\_Mapping

#### Description

Base mapping class for model elements of kind `UML4SysML::Pin` without a type. The target element is a `SysMLv2::ReferenceUsage`.

#### General Mappings

GenericToReferenceUsage\_Mapping  
NamedElementMain\_Mapping

### Mapping Source

Pin

### Mapping Target

ReferenceUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
from.type.oclIsUndefined()
```

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  

```
false
```
- Element::ownedRelationship  

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```
- Type::isSufficient  

```
false
```
- Feature::isUnique  

```
true
```
- Element::shortName  

```
null
```
- Type::isAbstract  

```
false
```
- Feature::isOrdered  

```
false
```
- Element::aliasId  

```
Set{}
```
- Feature::isPortion  

```
false
```



The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::name  
`from.name`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- Feature::isReadOnly  
`false`
- ReferenceUsage::direction  
`if src.ocllIsTypeOf(UML::InputPin) then KerML::FeatureDirectionKind::_'in' else if src.ocllIsTypeOf(UML::OutputPin) then KerML::FeatureDirectionKind::_'out'`
- Element::elementId  
`Helper.getID(from)`
- Feature::isDerived  
`false`

false

- Feature::isComposite

false

- ReferenceUsage::ownedRelationship

Set{pinFeatureTyping.to, ValuePinFeatureValue\_Mapping.getMapped(from)}

#### C.2.5.2.3.1.9 ValuePinFeatureValue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureValue\_Mapping

##### Mapping Source

ValuePin

##### Mapping Target

FeatureValue

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace

*abstract rule*

- Membership::memberShortName

null

- Element::shortName

null

- FeatureValue::value

ValuePinValue\_Mapping.getMapped(from)

- Element::elementId

Helper.createUUID()

- Element::aliasId

Set{ }

- OwingMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName

null

- OwingMembership::ownedRelatedElement

Set{self.ownedMemberElement( ) }

- Membership::visibility

KerML::VisibilityKind::public

- Element::name

null

- Element::ownedRelationship

Set{ }

#### C.2.5.2.3.1.10 ValuePinUntyped\_Mapping

##### Description

Mapping of UML4SysML::ValuePin without a specified type.

##### General Mappings

UntypedPin\_Mapping

##### Mapping Source

ValuePin

##### Mapping Target

ReferenceUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Type::isSufficient



- Feature::isUnique

true

- Element::name

```
from.name
```

- `Element::shortName`

null

- `Type::isAbstract`

false

- Feature::isOrdered

false

- `Element::aliasId`

Set { }

- Feature::isPortion

false

- Usage::isVariation

false

- Feature::isReadOnly

false

- Feature::direction

null

- `Element::elementId`

```
Helper.getID(from)
```

- Feature::isDerived

false

- Feature::isComposite

false

- ReferenceUsage::ownedRelationship

```
Set{ValuePinFeatureValue Mapping.getMapped(from) }
```

#### C.2.5.2.3.1.11 ValuePinValue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToExpression\_Mapping

##### Mapping Source

ValuePin

##### Mapping Target

Expression

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- Feature::isUnique  
true
- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false
- Element::aliasId

Set{}

- Feature::isPortion

false

- Feature::isReadOnly

false

- Feature::direction

null

- Element::name

null

- Feature::isDerived

false

- Feature::isComposite

false

- Element::ownedRelationship

Set{}

#### **C.2.5.2.3.2 Link Actions**

##### **C.2.5.2.3.2.1 ClearAssociationAction\_Mapping**

###### **Description**

\*\*\* not specified yet \*\*\*

###### **General Mappings**

Action\_Mapping

###### **Mapping Source**

ClearAssociationAction

###### **Mapping Target**

ActionUsage

(none)

###### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

###### **Mapping rules**

The following lists the mapping rules for the target element properties.

- `Feature::isEnd`  
`false`
- `Element::ownedRelationship`  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- `Type::isSufficient`  
`false`
- `Feature::isUnique`  
`true`
- `Element::name`  
`from.name`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `Usage::isVariation`  
`false`
- `Feature::isReadOnly`  
`false`
- `Feature::direction`  
`null`
- `Element::elementId`  
`Helper.getID(from)`
- `Feature::isDerived`

false

- ActionUsage::isComposite

true

#### **C.2.5.2.3.2.2 CreateLinkAction\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

Action\_Mapping

##### **Mapping Source**

CreateLinkAction

##### **Mapping Target**

ActionUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Element::ownedRelationship

ElementOwnership\_Mapping.getMappedColl(from.ownedElement)

- Type::isSufficient

false

- Feature::isUnique

true

- Element::name

from.name

- Element::shortName

null

- Type::isAbstract  
false
- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Feature::isDerived  
false
- ActionUsage::isComposite  
true
- ActionUsage::ownedRelationship  
let actionInputPin: Set(UML::Element) = src.ownedElement->select(e | e.ocliIsTypeOf(UML::Acti

#### **C.2.5.2.3.2.3 DestroyLinkAction\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

Action\_Mapping

##### **Mapping Source**

DestroyLinkAction

##### **Mapping Target**

ActionUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::name  
`from.name`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- Feature::isReadOnly

false

- Feature::direction

null

- Element::elementId

Helper.getID(from)

- Feature::isDerived

false

- ActionUsage::isComposite

true

### C.2.5.2.3.3 Object Actions

#### C.2.5.2.3.3.1 CreateObjectAction\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

Action\_Mapping

##### Mapping Source

CreateObjectAction

##### Mapping Target

ActionUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Element::ownedRelationship

ElementOwnership\_Mapping.getMappedColl(from.ownedElement)

- Type::isSufficient



- Feature::isUnique

true

- Element::name

```
from.name
```

- `Element::shortName`

null

- `Type::isAbstract`

false

- Feature::isOrdered

false

- `Element::aliasId`

Set { }

- `Feature::isPortion`

false

- Usage::isVariation

false

- Feature::isReadOnly

false

- `ActionUsage::ownedRelationship`

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

- Feature::direction

null

- `Element::elementId`

```
Helper.getID(from)
```

- Feature::isDerived

false

- `ActionUsage::isComposite`

true

#### C.2.5.2.3.3.2 CreateObjectInvocationExpressionFeatureTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureTyping\_Mapping

##### Mapping Source

CreateObjectAction

##### Mapping Target

FeatureTyping

##### Owned Mappings

- createObjectInvocationExpression : CreateObjectInvocationExpression\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{ }`
- Relationship::ownedRelatedElement  
`Set{ }`
- FeatureTyping::typedFeature  
`createObjectInvocationExpression.to`
- Specialization::specific  
*abstract rule*
- FeatureTyping::type  
`from.classifier`
- Element::name  
`null`
- Element::shortName  
`null`

- Specialization::general  
*abstract rule*
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

### C.2.5.2.3.3.3 CreateObjectInvocationExpression\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToExpression\_Mapping

#### Mapping Source

CreateObjectAction

#### Mapping Target

InvocationExpression

#### Owned Mappings

- createObjectInvocationExpressionFeatureTyping :  
CreateObjectInvocationExpressionFeatureTyping\_Mapping

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

#### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`

- `Type::isAbstract`  
`false`
- `Element::elementId`  
`Helper.createUUID()`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `InvocationExpression::ownedRelationship`  
`Set{createObjectInvocationExpressionFeatureTyping.to, CommonReturnParameterFeatureMembership_`
- `Feature::isReadOnly`  
`false`
- `Feature::direction`  
`null`
- `Element::name`  
`null`
- `Feature::isDerived`  
`false`
- `Feature::isComposite`  
`false`

#### **C.2.5.2.3.3.4 CreateObjectPin\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToReferenceUsage\_Mapping

##### **Mapping Source**

CreateObjectAction

##### **Mapping Target**

ReferenceUsage

### Owned Mappings

- createObjectPinFeatureValue : CreateObjectPinFeatureValue\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- ReferenceUsage::direction  
`KerML::FeatureDirectionKind::_out'`

- ReferenceUsage::ownedRelationship  
Set {createObjectPinFeatureValue.to}
- Feature::isReadOnly  
false
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### C.2.5.2.3.3.5 CreateObjectPinFeatureValue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureValue\_Mapping

##### Mapping Source

CreateObjectAction

##### Mapping Target

FeatureValue

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
null
- Element::shortName  
null

- `Element::elementId`  
`Helper.createUUID()`
- `Element::aliasId`  
`Set{}`
- `OwningMembership::ownedMemberElement`  
*abstract rule*
- `FeatureValue::value`  
`CreateObjectInvocationExpression_Mapping.getMapped(from)`
- `Membership::memberName`  
`null`
- `OwningMembership::ownedRelatedElement`  
`Set{self.ownedMemberElement() }`
- `Membership::visibility`  
`KerML::VisibilityKind::public`
- `Element::name`  
`null`
- `Element::ownedRelationship`  
`Set{}`

#### **C.2.5.2.3.3.6 CreateObjectPinMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToReturnParameterMembership\_Mapping

##### **Mapping Source**

CreateObjectAction

##### **Mapping Target**

ReturnParameterMembership

##### **Owned Mappings**

- `createObjectPin : CreateObjectPin_Mapping`

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- ReturnParameterMembership::ownedMemberParameter  
  
createObjectPin.to
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{ }
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
  
null
- ParameterMembership::ownedRelatedElement  
  
Set{ self.ownedMemberParameter() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{ }

#### C.2.5.2.3.3.7 ReadIsClassifiedObjectAction\_Mapping

##### Description



\*\*\* not specified yet \*\*\*

## General Mappings

Action\_Mapping

## Mapping Source

ReadIsClassifiedObjectAction

## Mapping Target

ActionUsage

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::name  
`from.name`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`
- Element::aliasId

- Set{}
- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Feature::isDerived  
false
- ActionUsage::isComposite  
true

#### **C.2.5.2.3.3.8 ReadIsClassifiedObjectActionFeatureValue\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureValue\_Mapping

##### **Mapping Source**

ReadIsClassifiedObjectAction

##### **Mapping Target**

FeatureValue

##### **Owned Mappings**

- readIsClassifiedObjectActionFeatureValueOperatorExpression :  
ReadIsClassifiedObjectActionFeatureValueOperatorExpression\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- FeatureValue::value  
  
readIsClassifiedObjectActionFeatureValueOperatorExpression.to
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{ }

### C.2.5.2.3.3.9 ReadIsClassifiedObjectActionFeatureValueOperatorExpression\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToExpression\_Mapping

## Mapping Source

ReadIsClassifiedObjectAction

## Mapping Target

OperatorExpression

## Owned Mappings

- readIsClassifiedObjectActionFeatureValueOperatorExpressionParameterMembership :  
ReadIsClassifiedObjectActionFeatureValueOperatorExpressionParameterMembership\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- OperatorExpression::operator  
`if from.isDirect then 'istype' else 'hastype' endif`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`

- Feature::isPortion  
false
- Feature::isReadOnly  
false
- OperatorExpression::ownedRelationship  
Set{readIsClassifiedObjectActionFeatureValueOperatorExpressionParameterMembership.to}
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.5.2.3.3.10 ReadIsClassifiedObjectActionFeatureValueOperatorExpressionFeature\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeature\_Mapping

##### **Mapping Source**

ReadIsClassifiedObjectAction

##### **Mapping Target**

Feature

##### **Owned Mappings**

- readIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValue :  
ReadIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValue\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- Element::name  
`null`
- Feature::direction  
`KerML::FeatureDirectionKind::_'in'`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::ownedRelationship  
`Set{readIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValue.to}`
- Element::elementId  
`Helper.createUUID()`

#### **C.2.5.2.3.3.11 ReadIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValue\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureValue\_Mapping

##### **Mapping Source**

ReadIsClassifiedObjectAction

##### **Mapping Target**

FeatureValue

##### **Owned Mappings**

- readIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValueExpression :  
ReadIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValueExpression\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- FeatureValue::value  
  
readIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValueExpression.to
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{}

#### C.2.5.2.3.3.12

#### ReadIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValueExpression\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToExpression\_Mapping

### Mapping Source

ReadIsClassifiedObjectAction

### Mapping Target

FeatureReferenceExpression

### Owned Mappings

- readIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValueExpressionMembership :  
ReadIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValueExpressionMembership\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- FeatureReferenceExpression::ownedRelationship  
`Set{readIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValueExpressionMembership`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId



Set{}

- Feature::isPortion

false

- Feature::isReadOnly

false

- Feature::direction

null

- Element::name

null

- Feature::isDerived

false

- Feature::isComposite

false

#### **C.2.5.2.3.3.13**

#### **ReadIsClassifiedObjectActionFeatureValueOperatorExpressionFeatureValueExpressionMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToMembership\_Mapping

##### **Mapping Source**

ReadIsClassifiedObjectAction

##### **Mapping Target**

Membership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

- Set{}
- Relationship::ownedRelatedElement
  - Set{}
- Relationship::source
  - Set{}
- Element::name
  - null
- Element::shortName
  - null
- Element::elementId
  - Helper.createUUID()
- Relationship::target
  - Set{}
- Element::ownedRelationship
  - Set{}

#### **C.2.5.2.3.3.14**

#### **ReadIsClassifiedObjectActionFeatureValueOperatorExpressionParameterMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToParameterMembership\_Mapping

##### **Mapping Source**

ReadIsClassifiedObjectAction

##### **Mapping Target**

ParameterMembership

##### **Owned Mappings**

- readIsClassifiedObjectActionFeatureValueOperatorExpressionFeature :  
ReadIsClassifiedObjectActionFeatureValueOperatorExpressionFeature\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  
`Set{self.ownedMemberFeature() }`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- ParameterMembership::visibility  
`KerML::VisibilityKind::private`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{ }`
- FeatureMembership::ownedMemberFeature  
*abstract rule*
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
`null`
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- ParameterMembership::ownedMemberParameter  
`readIsClassifiedObjectActionFeatureValueOperatorExpressionFeature.to`
- Element::name  
`null`
- Element::ownedRelationship  
`Set{ }`

### C.2.5.2.3.3.15 ReadIsClassifiedObjectActionOutputPin\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

## General Mappings

Pin\_Mapping

## Mapping Source

OutputPin

## Mapping Target

ReferenceUsage

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
from.type.ocIsUndefined()
```

,

```
from.owner.ocIsTypeOf(UML::ReadIsClassifiedObjectAction)
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Element::ownedRelationship

ElementOwnership\_Mapping.getMappedColl(from.ownedElement)

- Type::isSufficient

false

- ReferenceUsage::ownedRelationship

Set{pinFeatureTyping.to, ReadIsClassifiedObjectActionFeatureValue\_Mapping.getMapped(from.own

- Feature::isUnique

true

- Element::name

from.name

- Element::shortName

null

- Type::isAbstract  
false
- Feature::isOrdered  
false
- Element::aliasId  
Set{ }
- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- ReferenceUsage::direction  
if src.oclIsTypeOf(UML::InputPin) then KerML::FeatureDirectionKind::\_'in' else if src.oclIsTypeOf(UML::OutputPin) then KerML::FeatureDirectionKind::\_'out'
- Element::elementId  
Helper.getID(from)
- Feature::isDerived  
false
- Feature::isComposite  
false

#### C.2.5.2.3.3.16 ReadExtentAction\_Mapping

### Description

\*\*\* not specified yet \*\*\*

## General Mappings

## Action\_Mapping

## Mapping Source

## ReadExtentAction

## Mapping Target

## ActionUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::name  
`from.name`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction

null

- Element::elementId

Helper.getID(from)

- Feature::isDerived

false

- ActionUsage::isComposite

true

- ActionUsage::ownedRelationship

Helper.actionOwnedRelationship(from)

#### C.2.5.2.3.3.17 ReadExtentActionFeatureValue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureValue\_Mapping

##### Mapping Source

OutputPin

##### Mapping Target

FeatureValue

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

null

- Element::shortName

null

- Element::elementId

```
Helper.createUUID()
```

- FeatureValue::value

```
ReadExtentActionFeatureValueOperatorExpression_Mapping.getMapped(from)
```

- Element::aliasId

```
Set{}
```

- OwningMembership::ownedMemberElement  
*abstract rule*

- Membership::memberName

```
null
```

- OwningMembership::ownedRelatedElement

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

- Membership::visibility

```
KerML::VisibilityKind::public
```

- Element::name

```
null
```

- Element::ownedRelationship

```
Set{}
```

#### **C.2.5.2.3.3.18 ReadExtentActionFeatureValueOperatorExpression\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToExpression\_Mapping

##### **Mapping Source**

OutputPin

##### **Mapping Target**

OperatorExpression

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**



The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- OperatorExpression::operator  
`'all'`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Feature::isReadOnly  
`false`
- OperatorExpression::ownedRelationship  
`Set{ReadExtentActionFeatureValueOperatorExpressionMembership_Mapping.getMapped(from), Common`
- Feature::direction  
`null`
- Element::name  
`null`
- Feature::isDerived

false

- Feature::isComposite

false

#### **C.2.5.2.3.3.19 ReadExtentActionFeatureValueOperatorExpressionFeature\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeature\_Mapping

##### **Mapping Source**

OutputPin

##### **Mapping Target**

Feature

##### **Owned Mappings**

- readExtentActionFeatureValueOperatorExpressionFeatureTyping :  
ReadExtentActionFeatureValueOperatorExpressionFeatureTyping\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Type::isSufficient

false

- Element::name

null

- Element::shortName

null

- Type::isAbstract

false

- Feature::ownedRelationship

```
Set {readExtentActionFeatureValueOperatorExpressionFeatureTyping.to}
```

- Element::elementId

```
Helper.createUUID()
```

#### **C.2.5.2.3.3.20 ReadExtentActionFeatureValueOperatorExpressionFeatureTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureTyping\_Mapping

##### **Mapping Source**

OutputPin

##### **Mapping Target**

FeatureTyping

##### **Owned Mappings**

- readExtentActionFeatureValueOperatorExpressionFeature :  
ReadExtentActionFeatureValueOperatorExpressionFeature\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set {}
```

- Relationship::ownedRelatedElement

```
Set {}
```

- Specialization::specific

*abstract rule*

- FeatureTyping::typedFeature

```
readExtentActionFeatureValueOperatorExpressionFeature.to
```

- Element::name

```
null
```

- Element::shortName  
null
- Specialization::general  
*abstract rule*
- Element::elementId  
Helper.createUUID()
- FeatureTyping::type  
from.owner.classifier
- Element::ownedRelationship  
Set{}

#### C.2.5.2.3.3.21 ReadExtentActionFeatureValueOperatorExpressionMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

OutputPin

##### Mapping Target

FeatureMembership

##### Owned Mappings

- readExtentActionFeatureValueOperatorExpressionFeature :  
ReadExtentActionFeatureValueOperatorExpressionFeature\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
null
- Element::shortName

- `Element::elementId`

- `Element::aliasId`

- `OwningMembership::ownedMemberElement`  
*abstract rule*

null

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

- `TypeFeaturing::featureOfType`  
*abstract rule*

- `TypeFeaturing::featuringType`  
*abstract rule*

- Membership::visibility

```
KerML::VisibilityKind::public
```

null

- FeatureMembership::ownedMemberFeature

```
readExtentActionFeatureValueOperatorExpressionFeature
```

- `Element::ownedRelationship`

Set { }

### Description

## General Mappings

## Pin Mapping

## Mapping Source

## OutputPin

## Mapping Target

ReferenceUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
from.owner.oclIsTypeOf(UML::ReadExtentAction)

,

from.type.oclIsUndefined()
```

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Element::ownedRelationship  
ElementOwnership\_Mapping.getMappedColl(from.ownedElement)
- Type::isSufficient  
false
- Feature::isUnique  
true
- Element::name  
from.name
- Element::shortName  
null
- Type::isAbstract  
false
- Feature::isOrdered  
false
- ReferenceUsage::ownedRelationship  
Set{pinFeatureTyping.to, ReadExtentActionFeatureValue\_Mapping.getMapped(from)}
- Element::aliasId  
Set{}
- Feature::isPortion  
false

- false

- false

- ```
if src.oclIsTypeOf(UML::InputPin) then KerML::FeatureDirectionKind::_in' else if src.oclIs
```

- ```
Helper.getID(from)
```

- false

- false

- false

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```

- **Type::isSufficient**  
false
- **Feature::isUnique**  
true
- **Element::name**  
from.name
- **Element::shortName**  
null
- **Type::isAbstract**  
false
- **Feature::isOrdered**  
false
- **Element::aliasId**  
Set{ }
- **Feature::isPortion**  
false
- **Usage::isVariation**  
false
- **Feature::isReadOnly**  
false
- **Feature::direction**  
null
- **Element::elementId**  
Helper.getID(from)
- **Feature::isDerived**  
false
- **ActionUsage::isComposite**  
true



#### C.2.5.2.3.3.24 ReadSelfActionFeatureValue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureValue\_Mapping

##### Mapping Source

OutputPin

##### Mapping Target

FeatureValue

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
`null`
- OwningMembership::ownedRelatedElement  
`Set{self.ownedMemberElement() }`

- FeatureValue::value

```
ReadSelfActionFeatureValueFeatureReferenceExpression_Mapping.getMapped(from)
```

- Membership::visibility

```
KerML::VisibilityKind::public
```

- Element::name

```
null
```

- Element::ownedRelationship

```
Set{}
```

#### **C.2.5.2.3.3.25 ReadSelfActionFeatureValueFeatureReferenceExpression\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToExpression\_Mapping

##### **Mapping Source**

OutputPin

##### **Mapping Target**

FeatureReferenceExpression

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

```
false
```

- Type::isSufficient

```
false
```

- Feature::isUnique

```
true
```

- Element::shortName

- `Type::isAbstract`

- `Element::elementId`

- Feature::isOrdered

- `Element::aliasId`

- Feature::isPortion

- `Feature::isReadOnly`

- Feature::direction

- Element::name

- Feature::isDerived

- Feature::isComposite

- FeatureReferenceExpression::ownedRelationship

#### C.2.5.2.3.3.26 ReadSelfActionFeatureValueFeatureReferenceExpressionMembership\_Mapping

\*\*\* not specified yet \*\*\*

## GenericToMembership\_Mapping

## OutputPin

## Mapping Target

Membership

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Relationship::ownedRelatedElement  
`Set {}`
- Relationship::source  
`Set {}`
- Membership::memberElement  
`SysML2::Feature.allInstances()->any(e | e.qualifiedName = 'Occurrences::Occurrence::this')`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Relationship::target  
`Set {}`
- Element::ownedRelationship  
`Set {}`

### C.2.5.2.3.3.27 ReadSelfActionOutputPin\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

Pin\_Mapping

### Mapping Source

OutputPin

### Mapping Target

ReferenceUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

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

,

from.type.ocIsUndefined()
```

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Element::ownedRelationship  
ElementOwnership\_Mapping.getMappedColl(from.ownedElement)
- Type::isSufficient  
false
- Element::name  
from.name
- Element::shortName  
null
- Feature::isOrdered  
false
- Element::aliasId  
Set{ }
- Feature::isPortion  
false



This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Element::ownedRelationship

ElementOwnership\_Mapping.getMappedColl(from.ownedElement)

- Type::isSufficient

false

- Feature::isUnique

true

- Element::name

from.name

- Element::shortName

null

- Type::isAbstract

false

- Feature::isOrdered

false

- Element::aliasId

Set{}

- Feature::isPortion

false

- Usage::isVariation

false

- Feature::isReadOnly

false

- CalculationUsage::ownedRelationship

Helper.actionOwnedRelationship(from) ->including(TestIdentityActionResultExpressionMembers

- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Feature::isDerived  
false
- ActionUsage::isComposite  
true

#### C.2.5.2.3.3.29 EqualOperatorExpressionOperand\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToParameterMembership\_Mapping

##### Mapping Source

TypedElement

##### Mapping Target

ParameterMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  
Set{self.ownedMemberFeature() }
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
null
- ParameterMembership::ownedMemberParameter  
EqualOperatorExpressionFeature\_Mapping.getMapped(from)



- Element::shortName  
null
- ParameterMembership::visibility  
KerML::VisibilityKind::private
- Element::elementId  
Helper.createUUID()
- Element::aliasId  
Set{}
- FeatureMembership::ownedMemberFeature  
*abstract rule*
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
null
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Element::name  
null
- Element::ownedRelationship  
Set{}

#### C.2.5.2.3.3.30 CommonFeatureReferenceExpression\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToExpression\_Mapping

##### Mapping Source

TypedElement

##### Mapping Target

FeatureReferenceExpression

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- FeatureReferenceExpression::ownedRelationship  
`Set{CommonMembership_Mapping.getMapped(from), CommonReturnParameterFeatureMembership_Mapping}`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction  
`null`
- Element::name  
`null`

- Feature::isDerived

false

- Feature::isComposite

false

#### **C.2.5.2.3.3.31 CommonReferenceUsageIn\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

CommonReferenceUsageInUntyped\_Mapping

##### **Mapping Source**

TypedElement

##### **Mapping Target**

ReferenceUsage

##### **Owned Mappings**

- commonReferenceUsageInFeatureTyping : CommonReferenceUsageInFeatureTyping\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Type::isSufficient

false

- ReferenceUsage::ownedRelationship

Set{commonReferenceUsageInFeatureTyping.to}

- Feature::isUnique

true

- Element::shortName

null

- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.5.2.3.32 CommonReferenceUsageInFeatureMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

TypedElement

##### **Mapping Target**

FeatureMembership

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature

```
if from.type.oclIsUndefined() then CommonReferenceUsageInUntyped_Mapping.getMapped(from) els
```

- Membership::membershipOwningNamespace

*abstract rule*

- Membership::memberShortName

```
null
```

- Element::shortName

```
null
```

- Element::elementId

```
Helper.createUUID()
```

- Element::aliasId

```
Set{}
```

- OwningMembership::ownedMemberElement

*abstract rule*

- Membership::memberName

```
null
```

- OwningMembership::ownedRelatedElement

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

- TypeFeaturing::featureOfType

*abstract rule*

- TypeFeaturing::featuringType

*abstract rule*

- Membership::visibility

```
KerML::VisibilityKind::public
```

- Element::name

```
null
```

- Element::ownedRelationship

Set{}

#### C.2.5.2.3.3.33 TestIdentityActionOperator\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToExpression\_Mapping

##### Mapping Source

TestIdentityAction

##### Mapping Target

OperatorExpression

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Type::isSufficient

false

- OperatorExpression::operator

'=='

- OperatorExpression::ownedRelationship

Set{EqualOperatorExpressionOperand\_Mapping.getMapped(from.first), EqualOperatorExpressionOperand\_Mapping.getMapped(from.second)}

- Feature::isUnique

true

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.5.2.3.3.34 EqualOperatorExpressionFeature\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeature\_Mapping

##### **Mapping Source**

TypedElement

##### **Mapping Target**

Feature

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{ }`
- Type::isSufficient  
`false`
- Element::name  
`null`
- Feature::ownedRelationship  
`Set{EqualOperatorExpressionFeatureValue_Mapping.getMapped(from) }`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`

#### C.2.5.2.3.35 TestIdentityActionResultExpressionMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

TestIdentityAction

##### Mapping Target

ResultExpressionMembership

(none)

##### Applicable filters



This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- ResultExpressionMembership::ownedMemberFeature  
`TestIdentityActionOperator_Mapping.getMapped(from)`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
`null`
- OwningMembership::ownedRelatedElement  
`Set{self.ownedMemberElement() }`
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship  
`Set{}`

#### C.2.5.2.3.3.36 ValueSpecificationAction\_Mapping

##### Description

The expected SysML v2 textual notation of a SysMLv1::ValueSpecificationAction is as follows:

```
action thisIsAValueSpecificationAction {
 out result : ScalarValues::Integer = 42;
}

action thisIsAnotherValueSpecificationAction {
 out result = thisIsAnOpaqueExpression.result;
 calc thisIsAnOpaqueExpression {
 language "Math"
 /*
 * 42 + 23
 */
 }
}
```

## General Mappings

Action\_Mapping

### Mapping Source

ValueSpecificationAction

### Mapping Target

ActionUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Element::ownedRelationship

ElementOwnership\_Mapping.getMappedColl(from.ownedElement)

- Type::isSufficient

false

- ActionUsage::ownedRelationship

let toElementFMS: Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Pin))

- Feature::isUnique

- `Element::name`  
`from.name`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `Usage::isVariation`  
`false`
- `Feature::isReadOnly`  
`false`
- `Feature::direction`  
`null`
- `Element::elementId`  
`Helper.getID(from)`
- `Feature::isDerived`  
`false`
- `ActionUsage::isComposite`  
`true`

### Description

## General Mappings

OMG Systems Modeling Language (SysML) v2.0, Submission

## Mapping Source

OutputPin

## Mapping Target

ReferenceUsage

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
from.owner.ocIsKindOf(UML::ValueSpecificationAction)
,
from.type.ocIsUndefined()
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Element::ownedRelationship  
ElementOwnership\_Mapping.getMappedColl(from.ownedElement)
- Type::isSufficient  
false
- ReferenceUsage::ownedRelationship  
Set{pinFeatureTyping.to, ValueSpecificationActionOutputPinFeatureValue\_Mapping.getMapped(from.ownedElement)}
- Feature::isUnique  
true
- Element::name  
from.name
- Element::shortName  
null
- Type::isAbstract  
false
- Feature::isOrdered

- `Element::aliasId`

- Feature::isPortion

- Usage::isVariation

- Feature::isReadOnly

- ReferenceUsage::direction

- `Element::elementId`

- Feature::isDerived

- `Feature::isComposite`

#### C.2.5.2.3.38 ValueSpecificationActionOutputPinFeatureValue\_Mapping

## Description

\*\*\* not specified yet \*\*\*

## General Mappings

## GenericToFeatureValue Mapping

## Mapping Source

## OutputPin

## Mapping Target

FeatureValue

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- FeatureValue::value  
  
if from.owner.value.oclIsTypeOf(UML::OpaqueExpression) then OpaqueExpressionAsValue\_Mapping.
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{ }

### C.2.5.2.3.4 Structural Feature Actions

#### C.2.5.2.3.4.1 AddStructuralFeatureValueAction\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

Action\_Mapping

## Mapping Source

AddStructuralFeatureValueAction

## Mapping Target

ActionUsage

## Owned Mappings

- addStructuralFeatureValueActionAssignActionMembership :  
AddStructuralFeatureValueActionAssignmentActionMembership\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- ActionUsage::ownedRelationship  
`Helper.actionOwnedRelationship(from) ->including(addStructuralFeatureValueActionAssignAction)`
- Feature::isUnique  
`true`
- Element::name  
`from.name`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`

- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Feature::isDerived  
false
- ActionUsage::isComposite  
true

#### **C.2.5.2.3.4.2 AddStructuralFeatureValueActionAssignmentAction\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToActionUsage\_Mapping

##### **Mapping Source**

AddStructuralFeatureValueAction

##### **Mapping Target**

AssignmentActionUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**



The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction  
`null`
- Element::name  
`null`
- Feature::isDerived  
`false`
- Feature::isComposite

false

- Element::ownedRelationship

Set{}

#### **C.2.5.2.3.4.3 AddStructuralFeatureValueActionAssignmentActionMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

AddStructuralFeatureValueAction

##### **Mapping Target**

FeatureMembership

##### **Owned Mappings**

- addStructuralFeatureValueActionAssignmentAction :  
AddStructuralFeatureValueActionAssignmentAction\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

null

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::aliasId

Set{}

- OwingMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
  
null
- OwingMembership::ownedRelatedElement  
  
Set { self.ownedMemberElement () }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- FeatureMembership::ownedMemberFeature  
  
addStructuralFeatureValueActionAssignmentAction.to
- FeatureMembership::memberFeature  
  
self.ownedMemberFeature ()
- Element::ownedRelationship  
  
Set { }

#### C.2.5.2.3.4.4 ReadStructuralFeatureAction\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

Action\_Mapping

##### Mapping Source

ReadStructuralFeatureAction

##### Mapping Target

ActionUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::name  
`from.name`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction  
`null`

- Element::elementId  
Helper.getID(from)
- Feature::isDerived  
false
- ActionUsage::isComposite  
true

#### **C.2.5.2.3.5 Structured Actions**

##### **C.2.5.2.3.5.1 SequenceNode\_Mapping**

###### **Description**

\*\*\* not specified yet \*\*\*

###### **General Mappings**

Action\_Mapping  
StructuredActivityNode\_Mapping

###### **Mapping Source**

SequenceNode

###### **Mapping Target**

ActionUsage

(none)

###### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

###### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- Feature::isUnique  
true
- ActionUsage::ownedRelationship

```

 Helper.actionOwnedRelationship(from)

• Element::name
 from.name

• Element::shortName
 null

• Type::isAbstract
 false

• Feature::isOrdered
 false

• Element::aliasId
 Set{}

• Feature::isPortion
 false

• Usage::isVariation
 false

• Namespace::ownedImport
 Set{}

• Feature::isReadOnly
 false

• Feature::direction
 null

• Element::elementId
 Helper.getID(from)

• ActionUsage::isComposite
 true

• Feature::isDerived
 false

• Namespace::ownedRelationship
 from.ownedElement->collect(e | ElementOwningMembership_Mapping.getMapped(e))

```

#### C.2.5.2.3.5.2 StructuredActivityNode\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

Namespace\_Mapping

Action\_Mapping

##### Mapping Source

StructuredActivityNode

##### Mapping Target

ActionUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- ActionUsage::ownedRelationship  
`let valuePin: Set(UML::Element) = src.ownedElement->select(e | e.oclIsTypeOf(UML::ValuePin))`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::name  
`from.name`
- Element::shortName  
`null`

- Type::isAbstract  
false
- Feature::isOrdered  
false
- Element::aliasId  
Set{ }
- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Feature::isDerived  
false
- ActionUsage::isComposite  
true

#### **C.2.5.2.3.6 Variable Actions**

##### **C.2.5.2.3.6.1 AddVariableValueAction\_Mapping**

###### **Description**

\*\*\* not specified yet \*\*\*

###### **General Mappings**

Action\_Mapping

###### **Mapping Source**

AddVariableValueAction

###### **Mapping Target**

ActionUsage



## Owned Mappings

- addVariableValueActionFeatureTyping : AddVariableValueActionFeatureTyping\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::name  
`from.name`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- Feature::isReadOnly

- Feature::direction

- `Element::elementId`

- Feature::isDerived

- `ActionUsage::isComposite`

- `ActionUsage::ownedRelationship`

#### C.2.5.2.3.6.2 AddVariableValueActionFeatureTyping\_Mapping

### Description

\*\*\* not specified yet \*\*\*

## General Mappings

## GenericToFeatureTyping Mapping

## Mapping Source

## AddVariableValueAction

## Mapping Target

## FeatureTyping

## Owned Mappings

- addVariableValueAction : AddVariableValueAction\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- `Element::aliasId`

- Relationship::ownedRelatedElement

```
Set{}
```

- FeatureTyping::type

```
SysML2::ActionUsage.allInstances()->any(m | m.qualifiedName = 'Actions::AssignmentAction')
```

- FeatureTyping::typedFeature

```
addVariableValueAction.to
```

- Specialization::specific

*abstract rule*

- Element::name

```
null
```

- Element::shortName

```
null
```

- Specialization::general

*abstract rule*

- Element::elementId

```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

#### C.2.5.2.3.6.3 ClearVariableAction\_Mapping

##### Description

The expected SysML v2 textual notation of a SysMLv1::ClearVariableAction is as follows

```
action thisIsAClearVariableAction {
 thisIsAVariable = null;
}
```

##### General Mappings

Action\_Mapping

##### Mapping Source

ClearVariableAction

##### Mapping Target

ActionUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- `Feature::isEnd`  
`false`
- `Element::ownedRelationship`  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- `Type::isSufficient`  
`false`
- `ActionUsage::ownedRelationship`  
`Helper.actionOwnedRelationship(from)->including(ClearVariableActionFeatureMembership_Mapping`
- `Feature::isUnique`  
`true`
- `Element::name`  
`from.name`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{ }`
- `Feature::isPortion`  
`false`
- `Usage::isVariation`  
`false`
- `Feature::isReadOnly`  
`false`
- `Feature::direction`  
`null`

- Element::elementId  
Helper.getID(from)
- Feature::isDerived  
false
- ActionUsage::isComposite  
true

#### C.2.5.2.3.6.4 ClearVariableActionFeatureMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

ClearVariableAction

##### Mapping Target

FeatureMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
null
- FeatureMembership::ownedMemberFeature  
ClearVariableActionReferenceUsage\_Mapping.getMapped(from)
- Element::shortName  
null
- Element::elementId  
Helper.createUUID()

- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
`null`
- OwningMembership::ownedRelatedElement  
`Set{self.ownedMemberElement() }`
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship  
`Set{}`

#### **C.2.5.2.3.6.5 ClearVariableActionReferenceUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToReferenceUsage\_Mapping

##### **Mapping Source**

ClearVariableAction

##### **Mapping Target**

ReferenceUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- ReferenceUsage::ownedRelationship  
`Set{ClearVariableActionReferenceUsageFeatureValue_Mapping.getMapped(from)}`
- Feature::isReadOnly  
`false`
- ReferenceUsage::name  
`from.variable.name`
- Feature::direction  
`null`
- Feature::isDerived

false

- Feature::isComposite

false

#### **C.2.5.2.3.6.6 ClearVariableActionReferenceUsageFeatureValue\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureValue\_Mapping

##### **Mapping Source**

ClearVariableAction

##### **Mapping Target**

FeatureValue

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

null

- FeatureValue::value

Null\_Mapping.getMapped(from)

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::aliasId

Set{}



- `OwningMembership::ownedMemberElement`  
*abstract rule*
- `Membership::memberName`  
`null`
- `OwningMembership::ownedRelatedElement`  
`Set{self.ownedMemberElement() }`
- `Membership::visibility`  
`KerML::VisibilityKind::public`
- `Element::name`  
`null`
- `Element::ownedRelationship`  
`Set{ }`

#### **C.2.5.2.3.6.7 Null\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

CommonValueSpecification\_Mapping

##### **Mapping Source**

Element

##### **Mapping Target**

NullExpression

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- `Feature::isEnd`  
`false`
- `Type::isSufficient`  
`false`

- Feature::isUnique  
true
- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false
- Element::ownedRelationship  
Set{}

#### **C.2.5.2.3.6.8 ReadVariableAction\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

Action\_Mapping

### Mapping Source

ReadVariableAction

### Mapping Target

ActionUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::name  
`from.name`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion

- false
- Usage::isVariation
  - false
- Feature::isReadOnly
  - false
- Feature::direction
  - null
- Element::elementId
  - Helper.getID(from)
- Feature::isDerived
  - false
- ActionUsage::isComposite
  - true

#### **C.2.5.2.3.6.9 RemoveVariableValueAction\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

Action\_Mapping

##### **Mapping Source**

RemoveVariableValueAction

##### **Mapping Target**

ActionUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd
  - false

- Element::ownedRelationship  
 ElementOwnership\_Mapping.getMappedColl(from.ownedElement)
- Type::isSufficient  
 false
- Feature::isUnique  
 true
- Element::name  
 from.name
- Element::shortName  
 null
- Type::isAbstract  
 false
- Feature::isOrdered  
 false
- Element::aliasId  
 Set{}
- Feature::isPortion  
 false
- Usage::isVariation  
 false
- Feature::isReadOnly  
 false
- Feature::direction  
 null
- Element::elementId  
 Helper.getID(from)
- Feature::isDerived  
 false
- ActionUsage::isComposite  
 true

### C.2.5.3 Activities

#### C.2.5.3.1 Overview

**Table 14. List of all Overview Mapping Specifications**

| SysML v1 Concept      | SysML v2 Concept                                                                                                                                                                                               | Mapping Class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Filter |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Activity              | Behavior                                                                                                                                                                                                       | CommonActivity_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | true   |
| ActivityEdge          | FeatureMembership<br>OwningMembership<br>FeatureTyping<br>Redefinition<br>MetadataUsage<br>ReferenceUsage<br>FeatureValue                                                                                      | ActivityEdgeMetadataFeatureMembership_Mapping<br>ActivityEdgeMetadataMembership_Mapping<br>ActivityEdgeMetadataFeatureTyping_Mapping<br>ActivityEdgeMetadataRedefinition_Mapping<br>ActivityEdgeMetadata_Mapping<br>ActivityEdgeMetadataReferenceUsage_Mapping<br>ActivityEdgeMetadataFeatureValue_Mapping                                                                                                                                                                                                                                                                                                                   |        |
| ActivityFinalNode     | Membership                                                                                                                                                                                                     | ActivityFinalNodeMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |
| ActivityGroup         | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership                                                                                                       | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                         |        |
| ActivityNode          | EndFeatureMembership<br>EndFeatureMembership<br>Membership<br>Feature<br>EndFeatureMembership<br>Feature<br>EndFeatureMembership<br>Subsetting<br>Feature<br>Feature<br>Subsetting<br>Subsetting<br>Subsetting | ControlFlowSourceEndFeatureMembership_Mapping<br>ControlFlowInitialNodeSourceEndFeatureMembership_Mapping<br>ControlFlowTransitionUsageSourceMembership_Mapping<br>ControlFlowTargetEndFeature_Mapping<br>ControlFlowTargetEndFeatureMembership_Mapping<br>ControlFlowSourceEndFeature_Mapping<br>ControlFlowFinalNodeTargetEndFeatureMembership_Mapping<br>ControlFlowTargetFinalNodeSubsetting_Mapping<br>ControlFlowTargetFinalNode_Mapping<br>ControlFlowSourceInitialNode_Mapping<br>ControlFlowSourceInitialNodeSubsetting_Mapping<br>ControlFlowTargetEndSubsetting_Mapping<br>ControlFlowSourceEndSubsetting_Mapping |        |
| ActivityParameterNode | Redefinition<br>EndFeatureMembership<br>FeatureMembership<br>ItemFlowEnd<br>Subsetting<br>ItemFlowFeature                                                                                                      | ObjectFlowItemFlowRedefinition_Mapping<br>ObjectFlowEndFeatureMembership_Mapping<br>ObjectFlowItemFlowFeatureMembership_Mapping<br>ObjectFlowItemFlowEnd_Mapping<br>ObjectFlowItemFlowSubsetting_Mapping<br>ObjectFlowItemFlowFeature_Mapping                                                                                                                                                                                                                                                                                                                                                                                |        |
| ActivityPartition     | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership                                                                                                       | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                         |        |

| SysML v1 Concept  | SysML v2 Concept                                                                                                                                                                                               | Mapping Class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Filter                                                                        |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| CentralBufferNode | Redefinition<br>EndFeatureMembership<br>FeatureMembership<br>ItemFlowEnd<br>Subsetting<br>ItemFlowFeature                                                                                                      | ObjectFlowItemFlowRedefinition_Mapping<br>ObjectFlowEndFeatureMembership_Mapping<br>ObjectFlowItemFlowFeatureMembership_Mapping<br>ObjectFlowItemFlowEnd_Mapping<br>ObjectFlowItemFlowSubsetting_Mapping<br>ObjectFlowItemFlowFeature_Mapping                                                                                                                                                                                                                                                                                                                                                                                |                                                                               |
| ControlFlow       | TransitionUsage<br>SuccessionAsUsage<br>SuccessionAsUsage<br>FeatureReferenceExpression<br>TransitionFeatureMembership<br>Membership                                                                           | ControlFlowTransitionUsage_Mapping<br>ControlFlowSuccessionAsUsage_Mapping<br>CommonControlFlowSuccessionAsUsage_Mapping<br>ControlFlowTransitionUsageFeatureReferenceExpression_Mapping<br>ControlFlowTransitionUsageFeatureMembership_Mapping<br>ControlFlowTransitionUsageFeatureReferenceExpressionMembership_Mapping                                                                                                                                                                                                                                                                                                    | not<br>ControlFlow.guard.ocIsUndefined()<br>ControlFlow.guard.ocIsUndefined() |
| ControlNode       | EndFeatureMembership<br>EndFeatureMembership<br>Membership<br>Feature<br>EndFeatureMembership<br>Feature<br>EndFeatureMembership<br>Subsetting<br>Feature<br>Feature<br>Subsetting<br>Subsetting<br>Subsetting | ControlFlowSourceEndFeatureMembership_Mapping<br>ControlFlowInitialNodeSourceEndFeatureMembership_Mapping<br>ControlFlowTransitionUsageSourceMembership_Mapping<br>ControlFlowTargetEndFeature_Mapping<br>ControlFlowTargetEndFeatureMembership_Mapping<br>ControlFlowSourceEndFeature_Mapping<br>ControlFlowFinalNodeTargetEndFeatureMembership_Mapping<br>ControlFlowTargetFinalNodeSubsetting_Mapping<br>ControlFlowTargetFinalNode_Mapping<br>ControlFlowSourceInitialNode_Mapping<br>ControlFlowSourceInitialNodeSubsetting_Mapping<br>ControlFlowTargetEndSubsetting_Mapping<br>ControlFlowSourceEndSubsetting_Mapping |                                                                               |
| DataStoreNode     | Redefinition<br>EndFeatureMembership<br>FeatureMembership<br>ItemFlowEnd<br>Subsetting<br>ItemFlowFeature                                                                                                      | ObjectFlowItemFlowRedefinition_Mapping<br>ObjectFlowEndFeatureMembership_Mapping<br>ObjectFlowItemFlowFeatureMembership_Mapping<br>ObjectFlowItemFlowEnd_Mapping<br>ObjectFlowItemFlowSubsetting_Mapping<br>ObjectFlowItemFlowFeature_Mapping                                                                                                                                                                                                                                                                                                                                                                                |                                                                               |
| DecisionNode      | DecisionNode                                                                                                                                                                                                   | DecisionNode_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                               |

| SysML v1 Concept            | SysML v2 Concept                                                                                                                                                                                                                                                                                                                                   | Mapping Class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Filter |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| ExceptionHandler            | FeatureTyping<br>FeatureTyping<br>Element<br>Feature<br>FeatureTyping<br>Relationship<br>Expression<br>OwningMembership<br>LiteralInteger<br>ReturnParameterMembership<br>ParameterMembership<br>FeatureMembership<br>FeatureTyping<br>MultiplicityRange<br>ReferenceUsage<br>Element<br>Membership<br>ReturnParameterMembership<br>ReferenceUsage | DefaultMultiplicityBoundTyping_Mapping<br>CommonParameterReferenceUsageInFeatureTyping_Mapping<br>Mapping<br>CommonReturnParameterFeatureUntyped_Mapping<br>CommonReturnParameterFeatureTyping_Mapping<br>ElementOwnership_Mapping<br>CommonValueSpecification_Mapping<br>DefaultMultiplicityMembership_Mapping<br>DefaultMultiplicityBoundValue_Mapping<br>CommonReturnParameterFeatureMembership_Mapping<br>CommonParameterReferenceUsageInMembership_Mapping<br>DefaultMultiplicityBoundOwnership_Mapping<br>CommonReturnParameterReferenceUsageFeatureTyping_Mapping<br>DefaultMultiplicityElement_Mapping<br>CommonReturnParameterReferenceUsageUntyped_Mapping<br>ElementMain_Mapping<br>ElementMembership_Mapping<br>CommonReturnParameterReferenceUsageMembership_Mapping<br>CommonParameterReferenceUsageIn_Mapping |        |
| ExecutableNode              | EndFeatureMembership<br>EndFeatureMembership<br>Membership<br>Feature<br>EndFeatureMembership<br>Feature<br>EndFeatureMembership<br>Subsetting<br>Feature<br>Feature<br>Subsetting<br>Subsetting<br>Subsetting                                                                                                                                     | ControlFlowSourceEndFeatureMembership_Mapping<br>ControlFlowInitialNodeSourceEndFeatureMembership_Mapping<br>ControlFlowTransitionUsageSourceMembership_Mapping<br>ControlFlowTargetEndFeature_Mapping<br>ControlFlowTargetEndFeatureMembership_Mapping<br>ControlFlowSourceEndFeature_Mapping<br>ControlFlowFinalNodeTargetEndFeatureMembership_Mapping<br>ControlFlowTargetFinalNodeSubsetting_Mapping<br>ControlFlowTargetFinalNode_Mapping<br>ControlFlowSourceInitialNode_Mapping<br>ControlFlowSourceInitialNodeSubsetting_Mapping<br>ControlFlowTargetEndSubsetting_Mapping<br>ControlFlowSourceEndSubsetting_Mapping                                                                                                                                                                                                 |        |
| FinalNode                   | Membership                                                                                                                                                                                                                                                                                                                                         | ActivityFinalNodeMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |
| FlowFinalNode               | Membership                                                                                                                                                                                                                                                                                                                                         | ActivityFinalNodeMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |
| ForkNode                    | ForkNode                                                                                                                                                                                                                                                                                                                                           | ForkNode_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |
| InitialNode                 | Membership                                                                                                                                                                                                                                                                                                                                         | InitialNodeMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |
| InterruptibleActivityRegion | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership                                                                                                                                                                                                                                           | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |
| JoinNode                    | JoinNode                                                                                                                                                                                                                                                                                                                                           | JoinNode_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |
| MergeNode                   | MergeNode                                                                                                                                                                                                                                                                                                                                          | MergeNode_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |
| ObjectFlow                  | SuccessionFlowConnection                                                                                                                                                                                                                                                                                                                           | ObjectFlow_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |



| SysML v1 Concept | SysML v2 Concept                                                                                          | Mapping Class                                                                                                                                                                                                                                 | Filter                                                                                                                                                                                             |
|------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ObjectNode       | Redefinition<br>EndFeatureMembership<br>FeatureMembership<br>ItemFlowEnd<br>Subsetting<br>ItemFlowFeature | ObjectFlowItemFlowRedefinition_Mapping<br>ObjectFlowEndFeatureMembership_Mapping<br>ObjectFlowItemFlowFeatureMembership_Mapping<br>ObjectFlowItemFlowEnd_Mapping<br>ObjectFlowItemFlowSubsetting_Mapping<br>ObjectFlowItemFlowFeature_Mapping |                                                                                                                                                                                                    |
| Variable         | FeatureTyping<br>FeatureMembership<br>Feature                                                             | VariableFeatureTyping_Mapping<br>VariableMembership_Mapping<br>CommonVariable_Mapping                                                                                                                                                         | not<br>src.type.oclIsUndefined()<br>and not<br>src.oclIsKindOf(UML::ValueSpecification)<br>and<br>not(src.type.oclIsKindOf(UML::Enumeration))<br>and<br>Helper.getSysMLv2EnumerationDefinition(src |

### C.2.5.3.2 SysML v1 Activities elements not mapped

Table 15. List of SysML v1 elements not mapped of this section

| SysML v1 Concept      | Rationale                                                                                                                                                                                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ActivityParameterNode | The parameter of the activity is mapped from SysML v1 to SysML v2. The additional concept of the activity parameter node is necessary for the token semantic of SysML v1 activities, which is not part of SysML v2. Therefore, the additional concept of the activity parameter node is not mapped to SysML v2. |
| FlowFinalNode         | The flow final node is required for the token semantic, which is not part of SysML v2. Therefore, the element FlowFinalNode is not mapped.                                                                                                                                                                      |

### C.2.5.3.3 Mapping Specifications

#### C.2.5.3.3.1 ActivityAsDefinition\_Mapping

##### Description

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

##### General Mappings

CommonActivity\_Mapping

##### Mapping Source

Activity

##### Mapping Target

ActionDefinition

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
src.owner.oclIsKindOf(UML::Package)
```

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Classifier::isAbstract

```
from.isAbstract
```

- Type::isSufficient

```
false
```

- Namespace::ownedImport

```
Set{}
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
from.name
```

- Behavior::ownedRelationship

```
let toParameterMS: Set(UML::Element) = from.ownedElement->select(e | e.oclIsKindOf(UML::Para
```

- Element::shortName

```
null
```

#### C.2.5.3.3.2 ActivityAsUsage\_Mapping

##### Description

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

##### General Mappings

CommonActivity\_Mapping

##### Mapping Source

Activity

## Mapping Target

ActionUsage

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
not src.owner.ocIsKindOf(UML::Package)
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Classifier::isAbstract

```
from.isAbstract
```

- Type::isSufficient

```
false
```

- Namespace::ownedImport

```
Set{}
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
from.name
```

- Behavior::ownedRelationship

```
let toParameterMS: Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Para
```

- Element::shortName

```
null
```

### C.2.5.3.3.3 ActivityEdgeMetadata\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToMetadataUsage\_Mapping

## Mapping Source

ActivityEdge

## Mapping Target

MetadataUsage

## Owned Mappings

- activityEdgeMetadataFeatureMembership : ActivityEdgeMetadataFeatureMembership\_Mapping
- activityEdgeMetadataFeatureTyping : ActivityEdgeMetadataFeatureTyping\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`

- Usage::isVariation  
false
- Feature::isReadOnly  
false
- MetadataUsage::ownedRelationship  
Set{activityEdgeMetadataFeatureTyping.to, activityEdgeMetadataFeatureMembership.to}
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.5.3.3.4 ActivityEdgeMetadataFeatureMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

ActivityEdge

##### **Mapping Target**

FeatureMembership

##### **Owned Mappings**

- activityEdgeMetadataReferenceUsage : ActivityEdgeMetadataReferenceUsage\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- FeatureMembership::ownedMemberFeature  
  
activityEdgeMetadataReferenceUsage.to
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{}

#### C.2.5.3.3.5 ActivityEdgeMetadataFeatureTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureTyping\_Mapping

### Mapping Source

ActivityEdge

### Mapping Target

FeatureTyping

### Owned Mappings

- activityEdgeMetadata : ActivityEdgeMetadata\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

`Set{}`

- Relationship::ownedRelatedElement

`Set{}`

- Specialization::specific

*abstract rule*

- FeatureTyping::typedFeature

`activityEdgeMetadata.to`

- FeatureTyping::type

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

- Element::name

`null`

- Element::shortName

`null`

- Specialization::general

*abstract rule*

- Element::elementId

`Helper.createUUID()`

- Element::ownedRelationship

Set{ }

#### C.2.5.3.3.6 ActivityEdgeMetadataFeatureValue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureValue\_Mapping

##### Mapping Source

ActivityEdge

##### Mapping Target

FeatureValue

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

null

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::aliasId

Set{ }

- OwningMembership::ownedMemberElement  
*abstract rule*
- FeatureValue::value

from.weight

- Membership::memberName



null

- OwningMembership::ownedRelatedElement

Set { self.ownedMemberElement () }

- Membership::visibility

KerML::VisibilityKind::public

- Element::name

null

- Element::ownedRelationship

Set { }

### C.2.5.3.3.7 ActivityEdgeMetadataMembership\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToOwningMembership\_Mapping

#### Mapping Source

ActivityEdge

#### Mapping Target

OwningMembership

#### Owned Mappings

- activityEdgeMetadata : ActivityEdgeMetadata\_Mapping

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

#### Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement

Set { }

- Membership::membershipOwningNamespace

*abstract rule*

- Membership::memberShortName

- Membership::memberElement  
*abstract rule*
- OwningMembership::ownedMemberElement

- `Element::shortName`

- `Element::elementId`

- `Element::aliasId`

- Membership::memberName

- Membership::visibility

- `Element::name`

- `Element::ownedRelationship`

#### C.2.5.3.3.8 ActivityEdgeMetadataRedefinition\_Mapping

### Description

\*\*\* not specified yet \*\*\*

## General Mappings

## GenericToRedefinition Mapping

## Mapping Source

ActivityEdge

## Mapping Target

### Redefinition

## Owned Mappings

- activityEdgeMetadataReferenceUsage : ActivityEdgeMetadataReferenceUsage Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Redefinition::redefiningFeature

activityEdgeMetadataReferenceUsage.to

- Redefinition::redefinedFeature

SysML2::AttributeUsage.allInstances()->any(m | m.qualifiedName = 'SysMLv1Library::ActivityEdgeMetadataReferenceUsage')

- Subsetting::ownedRelatedElement

Set{}

- Subsetting::subsettingFeature

*abstract rule*

- Element::name

null

- Subsetting::subsettingFeature

*abstract rule*

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

#### C.2.5.3.3.9 ActivityEdgeMetadataReferenceUsage\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToReferenceUsage\_Mapping

##### Mapping Source

ActivityEdge

## Mapping Target

ReferenceUsage

## Owned Mappings

- activityEdgeMetadataFeatureValue : ActivityEdgeMetadataFeatureValue\_Mapping
- activityEdgeMetadataRedefinition : ActivityEdgeMetadataRedefinition\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- ReferenceUsage::ownedRelationship  
`Set{activityEdgeMetadataRedefinition.to, activityEdgeMetadataFeatureValue.to}`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`

- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.5.3.3.10 ActivityFinalNodeMembership\_Mapping**

##### **Description**

The mapping creates a membership relationship to the action usage library element Systems Library::Actions::Action::done.

##### **General Mappings**

GenericToMembership\_Mapping

##### **Mapping Source**

FinalNode

##### **Mapping Target**

Membership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set{ }

- Relationship::ownedRelatedElement

Set{}

- Relationship::source

Set{}

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Membership::memberElement

SysMLv2::ActionUsage.allInstances()->any(e | e.qualifiedName = 'Actions::Action::done')

- Membership::name

from.name

- Relationship::target

Set{}

- Element::ownedRelationship

Set{}

#### **C.2.5.3.3.11 CommonActivity\_Mapping**

##### **Description**

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

##### **General Mappings**

Behavior\_Mapping

##### **Mapping Source**

Activity

##### **Mapping Target**

Behavior

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

```
not Helper.hasStereotypeApplied(from, 'SysML::Requirements::Requirement') and not from.oclIsTypeOf(
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Classifier::isAbstract

```
from.isAbstract
```

- Type::isSufficient

```
false
```

- Namespace::ownedImport

```
Set{}
```

- Classifier::ownedRelationship

```
let toElementFMS: Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Prope
```

- Behavior::ownedRelationship

```
let initialNodes : Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Initi
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

### C.2.5.3.3.12 CommonControlFlowSuccessionAsUsage\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToConnector\_Mapping

#### Mapping Source

ControlFlow

#### Mapping Target

SuccessionAsUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement

`Set{}`

- Feature::isEnd

`false`

- Type::isSufficient

`false`

- SuccessionAsUsage::ownedRelationship

`Set{ if from.source.ocIsKindOf(UML::InitialNode) then ControlFlowInitialNodeSourceEndFeatu`

- Feature::isUnique

`true`

- Element::shortName

`null`

- Type::isAbstract

`false`

- Element::elementId

`Helper.createUUID()`

- Feature::isOrdered

`false`

- Relationship::target

`Set{}`

- Element::aliasId

`Set{}`

- Feature::isPortion

`false`



- Feature::isReadOnly

false

- Relationship::source

Set{}

- Feature::direction

null

- Element::name

null

- Feature::isDerived

false

- Feature::isComposite

false

#### **C.2.5.3.3.13 ControlFlowTransitionUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToUsage\_Mapping  
NamedElementMain\_Mapping

##### **Mapping Source**

ControlFlow

##### **Mapping Target**

TransitionUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

```
not from.guard.oclIsUndefined()
```

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Type::isSufficient

false

- TransitionUsage::ownedRelationship

let relationships : Set(KerML::Relationship) = Set{ControlFlowTransitionUsageSourceMembershi

- Feature::isUnique

true

- TransitionUsage::isComposite

true

- Element::shortName

null

- Type::isAbstract

false

- Feature::isOrdered

false

- Element::aliasId

Set{}

- Feature::isPortion

false

- Feature::isReadOnly

false

- Feature::direction

null

- Element::elementId

Helper.getID(from)

- Element::name

null

- Feature::isDerived

false

#### **C.2.5.3.3.14 ControlFlowSourceEndFeature\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToFeature\_Mapping

## Mapping Source

ActivityNode

## Mapping Target

Feature

## Owned Mappings

- controlFlowSourceEndSubsetting : ControlFlowSourceEndSubsetting\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Feature::isEnd  
`true`
- Type::isSufficient  
`false`
- Feature::ownedRelationship  
`Set{controlFlowSourceEndSubsetting.to}`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`

#### C.2.5.3.3.15 ControlFlowInitialNodeSourceEndFeatureMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

ActivityNode

##### Mapping Target

EndFeatureMembership

##### Owned Mappings

- controlFlowSourceInitialNode : ControlFlowSourceInitialNode\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- EndFeatureMembership::ownedMemberFeature  
  
controlFlowSourceInitialNode.to
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName

null

- OwingMembership::ownedRelatedElement

Set { self.ownedMemberElement () }

- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility

KerML::VisibilityKind::public

- Element::name

null

- Element::ownedRelationship

Set { }

#### C.2.5.3.3.16 ControlFlowSourceInitialNode\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeature\_Mapping

##### Mapping Source

ActivityNode

##### Mapping Target

Feature

##### Owned Mappings

- controlFlowSourceInitialNodeSubsetting : ControlFlowSourceInitialNodeSubsetting\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set { }

- Feature::isEnd  
true
- Type::isSufficient  
false
- Element::name  
null
- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Feature::ownedRelationship  
Set{controlFlowSourceInitialNodeSubsetting.to}

#### **C.2.5.3.3.17 ControlFlowSourceEndFeatureMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

ActivityNode

##### **Mapping Target**

EndFeatureMembership

##### **Owned Mappings**

- controlFlowSourceEndFeature : ControlFlowSourceEndFeature\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- EndFeatureMembership::ownedMemberFeature  
  
controlFlowSourceEndFeature.to
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{}

#### C.2.5.3.3.18 ControlFlowSourceInitialNodeSubsetting\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToSubsetting\_Mapping

### Mapping Source

ActivityNode

### Mapping Target

Subsetting

### Owned Mappings

- controlFlowSourceInitialNode : ControlFlowSourceInitialNode\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Relationship::ownedRelatedElement  
`Set{}`
- Subsetting::subsettingFeature  
`controlFlowSourceInitialNode.to`
- Subsetting::subsettingFeature  
`SYSMML2::ActionUsage.allInstances()->any(m | m.qualifiedName = 'Actions::Action::start')`
- Specialization::specific  
*abstract rule*
- Element::name  
`null`
- Element::shortName  
`null`
- Specialization::general  
*abstract rule*
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship



Set { }

#### C.2.5.3.3.19 ControlFlowSourceEndSubsetting\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToSubsetting\_Mapping

##### Mapping Source

ActivityNode

##### Mapping Target

Subsetting

##### Owned Mappings

- controlFlowSourceEndFeature : ControlFlowSourceEndFeature\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set { }
- Relationship::ownedRelatedElement  
Set { }
- Specialization::specific  
*abstract rule*
- Subsetting::subsettingFeature  
from
- Element::name  
null
- Element::shortName  
null
- Subsetting::subsettingFeature

controlFlowSourceEndFeature.to

- Specialization::general  
*abstract rule*
- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

#### C.2.5.3.3.20 ControlFlowTargetFinalNodeSubsetting\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToSubsetting\_Mapping

##### Mapping Source

ActivityNode

##### Mapping Target

Subsetting

##### Owned Mappings

- controlFlowTargetFinalNode : ControlFlowTargetFinalNode\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Relationship::ownedRelatedElement

Set{}

- Specialization::specific  
*abstract rule*
- Subsetting::subsettingFeature

controlFlowTargetFinalNode.to

- Element::name

null

- Subsetting::subsettingFeature

`SYSMML2::ActionUsage.allInstances()->any(m | m.qualifiedName = 'Actions::Action::done')`

- Element::shortName

null

- Specialization::general

*abstract rule*

- Element::elementId

`Helper.createUUID()`

- Element::ownedRelationship

`Set{}`

#### C.2.5.3.3.21 ControlFlowSuccessionAsUsage\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

NamedElementMain\_Mapping

CommonControlFlowSuccessionAsUsage\_Mapping

##### Mapping Source

ControlFlow

##### Mapping Target

SuccessionAsUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

`from.guard.oclisUndefined()`

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement

`Set{}`

- Feature::isEnd

- `Type::isSufficient`

- `Connector::isDirected`

- SuccessionAsUsage::ownedRelationship

- Feature::isUnique

- `Element::shortName`

- `Type::isAbstract`

- Feature::isOrdered

- Relationship::target

- `Element::aliasId`

- Feature::isPortion

- Feature::isReadOnly

- Relationship::source

- Feature::direction

- `Element::elementId`

- Element::name

null

- Feature::isDerived

    false

- Feature::isComposite

    false

#### **C.2.5.3.3.22 ControlFlowTargetFinalNode\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeature\_Mapping

##### **Mapping Source**

ActivityNode

##### **Mapping Target**

Feature

##### **Owned Mappings**

- controlFlowTargetFinalNodeSubsetting : ControlFlowTargetFinalNodeSubsetting\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

    Set{ }

- Type::isSufficient

    false

- Element::name

    null

- Feature::ownedRelationship

    Set{controlFlowTargetFinalNodeSubsetting.to}

- Element::shortName

- `Type::isAbstract`

false

- `Element::elementId`

```
Helper.createUUID()
```

- Feature::isEnd

true

### C.2.5.3.3.23 ControlFlowTargetEndFeature\_Mapping

### Description

\*\*\* not specified yet \*\*\*

## General Mappings

## GenericToFeature\_Mapping

## Mapping Source

## ActivityNode

## Mapping Target

Feature

## Owned Mappings

- controlFlowTargetEndSubsetting : ControlFlowTargetEndSubsetting\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- `Element::aliasId`

Set { }

- `Type::isSufficient`

false

- Feature::ownedRelationship

```
Set{controlFlowTargetEndSubsetting.to}
```

- Feature::isEnd

- `Element::name`

null

- `Element::shortName`

null

- `Type::isAbstract`

```
false
```

- `Element::elementId`

```
Helper.createUUID()
```

#### C.2.5.3.3.24 ControlFlowTargetEndFeatureMembership\_Mapping

### Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToFeatureMembership\_Mapping

## Mapping Source

## ActivityNode

## Mapping Target

EndFeatureMembership

## Owned Mappings

- `controlFlowTargetEndFeature` : `ControlFlowTargetEndFeature` Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName

- `Element::elementId`

- EndFeatureMembership::ownedMemberFeature

- `Element::aliasId`

- `OwningMembership::ownedMemberElement`

- Membership::memberName

- `OwningMembership::ownedRelatedElement`

- `TypeFeaturing::featureOfType`

- `TypeFeaturing::featuringType`

- Membership::visibility

- `Element::name`

- `Element::ownedRelationship`

#### C.2.5.3.3.25 ControlFlowTargetEndSubsetting\_Mapping

### Description

\*\*\* not specified yet \*\*\*

## General Mappings

## GenericToSubsetting Mapping

## Mapping Source

## ActivityNode

## Mapping Target

## Subsetting



## Owned Mappings

- `controlFlowTargetEndFeature : ControlFlowTargetEndFeature_Mapping`

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- `Element::aliasId`  
`Set {}`
- `Relationship::ownedRelatedElement`  
`Set {}`
- `Specialization::specific`  
*abstract rule*
- `Subsetting::subsettingFeature`  
`from`
- `Element::name`  
`null`
- `Subsetting::subsettingFeature`  
`controlFlowTargetEndFeature.to`
- `Element::shortName`  
`null`
- `Specialization::general`  
*abstract rule*
- `Element::elementId`  
`Helper.createUUID()`
- `Element::ownedRelationship`  
`Set {}`

### C.2.5.3.3.26 ControlFlowTransitionUsageFeatureMembership\_Mapping

### C.2.5.3.3.27 ControlFlowTransitionUsageFeatureReferenceExpression\_Mapping

## Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToExpression\_Mapping

### Mapping Source

ControlFlow

### Mapping Target

FeatureReferenceExpression

### Owned Mappings

- controlFlowTransitionUsageFeatureReferenceExpressionMembership :  
ControlFlowTransitionUsageFeatureReferenceExpressionMembership\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- FeatureReferenceExpression::ownedRelationship  
`Set{controlFlowTransitionUsageFeatureReferenceExpressionMembership.to, CommonReturnParameter}`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId

Set{}

- Feature::isPortion

false

- Feature::isReadOnly

false

- Feature::direction

null

- Element::name

null

- Feature::isDerived

false

- Feature::isComposite

false

#### **C.2.5.3.3.28 ControlFlowTransitionUsageFeatureReferenceExpressionMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToMembership\_Mapping

##### **Mapping Source**

ControlFlow

##### **Mapping Target**

Membership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Relationship::ownedRelatedElement

Set {}

- Relationship::source

Set {}

- Element::name

null

- Element::shortName

null

- Membership::memberElement

from.guard

- Element::elementId

Helper.createUUID()

- Relationship::target

Set {}

- Element::ownedRelationship

Set {}

#### **C.2.5.3.3.29 ControlFlowTransitionUsageSourceMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToMembership\_Mapping

##### **Mapping Source**

ActivityNode

##### **Mapping Target**

Membership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- `Element::aliasId`  
`Set{}`
- `Relationship::ownedRelatedElement`  
`Set{}`
- `Relationship::source`  
`Set{}`
- `Element::name`  
`null`
- `Element::shortName`  
`null`
- `Element::elementId`  
`Helper.createUUID()`
- `Relationship::target`  
`Set{}`
- `Membership::memberElement`  
`from`
- `Element::ownedRelationship`  
`Set{}`

#### C.2.5.3.3.30 DecisionNode\_Mapping

##### Description

There is no suitable element in SysML v2 for the else condition of an outgoing SysMLv1::ActivityEdge. Therefore, it is mapped to a TextualRepresentation with language "SysML v1" and body "else" (see ExpressionElse\_Mapping class). The expected SysML v2 textual notation of a SysMLv1::DecisionNode is as follows

```
decide thisIsADecisionNode;
 succession flow1 first thisIsADecisionNode if {
 return : ScalarValues::Boolean;
 // guard expression, for example, opaque expression
 }.result then nextAction;
 succession flow2 first thisIsADecisionNode if {
 return : ScalarValues::Boolean;
 language "SysMLv1"
 /*
 * else
 */
 }.result then nextAction;
```

## General Mappings

GenericToUsage\_Mapping  
NamedElementMain\_Mapping

## Mapping Source

DecisionNode

## Mapping Target

DecisionNode

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- DecisionNode::isComposite  
`true`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`
- Element::aliasId

Set{}

- Feature::isPortion

false

- Feature::isReadOnly

false

- Feature::direction

null

- Element::elementId

Helper.getID(from)

- Element::name

null

- Feature::isDerived

false

#### **C.2.5.3.3.31 ForkNode\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToUsage\_Mapping

NamedElementMain\_Mapping

##### **Mapping Source**

ForkNode

##### **Mapping Target**

ForkNode

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

- false
- Element::ownedRelationship
  - ElementOwnership\_Mapping.getMappedColl(from.ownedElement)
- Type::isSufficient
  - false
- Feature::isUnique
  - true
- Element::shortName
  - null
- Type::isAbstract
  - false
- Feature::isOrdered
  - false
- Element::aliasId
  - Set{}
- Feature::isPortion
  - false
- Feature::isReadOnly
  - false
- Feature::direction
  - null
- Element::elementId
  - Helper.getID(from)
- Element::name
  - null
- Feature::isDerived
  - false
- Feature::isComposite
  - false



### C.2.5.3.3.32 InitialNodeMembership\_Mapping

#### Description

The InitialNode\_Mapping class creates a membership relationship to reference the action usage "start" from the system library. The mapping is called in the ownedRelationship() operation of the Activitiy\_Mapping class.

#### General Mappings

GenericToMembership\_Mapping

#### Mapping Source

InitialNode

#### Mapping Target

Membership

(none)

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

#### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  

```
Set{}
```
- Membership::memberName  

```
if from.name = '' then null else from.name endif
```
- Relationship::ownedRelatedElement  

```
Set{}
```
- Membership::memberElement  

```
SysMLv2::ActionUsage.allInstances()->any(e | e.qualifiedName = 'Actions::Action::start')
```
- Relationship::source  

```
Set{}
```
- Element::name  

```
null
```
- Element::shortName  

```
null
```

- Element::elementId  
Helper.createUUID()
- Relationship::target  
Set{ }
- Element::ownedRelationship  
Set{ }

### C.2.5.3.3.33 JoinNode\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToUsage\_Mapping  
NamedElementMain\_Mapping

#### Mapping Source

JoinNode

#### Mapping Target

JoinNode

(none)

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

#### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Element::ownedRelationship  
ElementOwnership\_Mapping.getMappedColl(from.ownedElement)
- Type::isSufficient  
false
- Feature::isUnique  
true

- Element::shortName  
null
- Type::isAbstract  
false
- Feature::isOrdered  
false
- Element::aliasId  
Set{ }
- Feature::isPortion  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.5.3.3.34 MergeNode\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToUsage\_Mapping  
NamedElementMain\_Mapping

##### **Mapping Source**

MergeNode

## Mapping Target

MergeNode

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction  
`null`

- Element::elementId  
Helper.getID(from)
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.5.3.3.35 ObjectFlow\_Mapping**

##### **Description**

A UML4SysML::ObjectFlow is mapped to a SysMLv2::SuccessionFlowConnectionUsage. The expected SysML v2 textual syntax of a mapped object flow between two pins is as follows.

```
succession flow of1 of BlockA from action1.outputValue to action2.inputValue;

action action1 {
 out outputValue : BlockA;
}
action action2 {
 in inputValue : BlockA;
}
part def BlockA;
```

##### **General Mappings**

GenericToConnector\_Mapping  
NamedElementMain\_Mapping

##### **Mapping Source**

ObjectFlow

##### **Mapping Target**

SuccessionFlowConnectionUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement

`Set{}`

- Feature::isEnd

`false`

- Type::isSufficient

`false`

- SuccessionFlowConnectionUsage::ownedRelationship

`Set{ObjectFlowFeatureMembership_Mapping.getMapped(from.source.type), ObjectFlowEndFeatureMen`

- Feature::isUnique

`true`

- Element::shortName

`null`

- Type::isAbstract

`false`

- Feature::isOrdered

`false`

- Relationship::target

`Set{}`

- Element::aliasId

`Set{}`

- Feature::isPortion

`false`

- Feature::isReadOnly

`false`

- Relationship::source

`Set{}`

- Feature::direction

`null`

- Element::elementId

Helper.getID(from)

- Element::name

null

- Feature::isDerived

false

- Feature::isComposite

false

#### **C.2.5.3.36 ObjectFlowFeatureMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

Type

##### **Mapping Target**

FeatureMembership

##### **Owned Mappings**

- objectFlowItemFeature : ObjectFlowItemFeature\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature  
objectFlowItemFeature.to
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
null
- Element::shortName





## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

`null`

- EndFeatureMembership::ownedMemberFeature

`objectFlowItemFlowEnd.to`

- Element::shortName

`null`

- Element::elementId

`Helper.createUUID()`

- Element::aliasId

`Set{}`

- OwningMembership::ownedMemberElement  
*abstract rule*

- Membership::memberName

`null`

- OwningMembership::ownedRelatedElement

`Set{self.ownedMemberElement() }`

- TypeFeaturing::featureOfType  
*abstract rule*

- TypeFeaturing::featuringType  
*abstract rule*

- Membership::visibility

`KerML::VisibilityKind::public`

- Element::name

`null`

- Element::ownedRelationship

`Set{}`

#### C.2.5.3.3.38 ObjectFlowItemFeature\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeature\_Mapping

##### Mapping Source

Type

##### Mapping Target

ItemFeature

##### Owned Mappings

- objectFlowItemFeatureTyping : ObjectFlowItemFeatureTyping\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- ItemFeature::ownedRelationship  
`Set{objectFlowItemFeatureTyping.to}`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`

### C.2.5.3.3.39 ObjectFlowItemFeatureTyping\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToFeatureTyping\_Mapping

#### Mapping Source

Type

#### Mapping Target

FeatureTyping

#### Owned Mappings

- objectFlowItemFeature : ObjectFlowItemFeature\_Mapping

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

#### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set { }`
- Relationship::ownedRelatedElement  
`Set { }`
- Specialization::specific  
*abstract rule*
- Element::name  
`null`
- Element::shortName  
`null`
- Specialization::general  
*abstract rule*
- FeatureTyping::typedFeature  
`objectFlowItemFeature.to`
- Element::elementId

```
Helper.createUUID()
```

- FeatureTyping::type  
from
- Element::ownedRelationship  
Set{}

#### **C.2.5.3.3.40 ObjectFlowItemFlowEnd\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeature\_Mapping

##### **Mapping Source**

ObjectNode

##### **Mapping Target**

ItemFlowEnd

##### **Owned Mappings**

- objectFlowItemFlowSubsetting : ObjectFlowItemFlowSubsetting\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set{}
- Type::isSufficient  
false
- ItemFlowEnd::ownedRelationship  
Set{objectFlowItemFlowSubsetting.to, ObjectFlowItemFlowFeatureMembership\_Mapping.getMapped(f
- Element::name  
null
- Element::shortName

null

- Type::isAbstract

false

- Element::elementId

Helper.createUUID()

#### **C.2.5.3.3.41 ObjectFlowItemFlowFeature\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeature\_Mapping

##### **Mapping Source**

ObjectNode

##### **Mapping Target**

ItemFlowFeature

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{ }

- ItemFlowFeature::ownedRelationship

Set{ObjectFlowItemFlowRedefinition\_Mapping.getMapped(from) }

- Type::isSufficient

false

- Element::name

null

- Element::shortName

null

- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()

#### C.2.5.3.3.42 ObjectFlowItemFlowFeatureMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

ObjectNode

##### Mapping Target

FeatureMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature  
ObjectFlowItemFlowFeature\_Mapping.getMapped(from)
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
null
- Element::shortName  
null
- Element::elementId  
Helper.createUUID()
- Element::aliasId  
Set{ }

- OwingMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName

null

- OwingMembership::ownedRelatedElement

Set { self.ownedMemberElement () }

- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility

KerML::VisibilityKind::public

- Element::name

null

- Element::ownedRelationship

Set { }

#### **C.2.5.3.3.43 ObjectFlowItemFlowRedefinition\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToRedefinition\_Mapping

##### **Mapping Source**

ObjectNode

##### **Mapping Target**

Redefinition

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{ }

- Subsetting::ownedRelatedElement

Set{ }

- Subsetting::subsettingFeature  
*abstract rule*
- Element::name

null

- Subsetting::subsettingFeature  
*abstract rule*
- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{ }

#### C.2.5.3.3.44 ObjectFlowItemFlowSubsetting\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToSubsetting\_Mapping

##### Mapping Source

ObjectNode

##### Mapping Target

Subsetting

##### Owned Mappings

- objectFlowItemFlowEnd : ObjectFlowItemFlowEnd\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules



The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Relationship::ownedRelatedElement

Set{}

- Specialization::specific

*abstract rule*

- Subsetting::subsettingFeature

objectFlowSourceItemFlowEnd.to

- Element::name

null

- Element::shortName

null

- Specialization::general

*abstract rule*

- Element::elementId

Helper.createUUID()

- Subsetting::subsettingFeature

if from.ocIsKindOf(UML::ActivityParameterNode) then Parameter\_Mapping.getMapped(from.parameter)

- Element::ownedRelationship

Set{}

#### **C.2.5.3.3.45 CommonVariable\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

PropertyCommon\_Mapping

##### **Mapping Source**

Variable

##### **Mapping Target**

Feature

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isDerived

false

- Feature::isEnd

false

- Feature::isOrdered

from.isOrdered

- Type::isSufficient

false

- Feature::isAbstract

false

- Element::shortName

null

- Feature::ownedRelationship

let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping\_Mapping.getMapped(from)

- Feature::ownedRelationship

let typing: KerML::FeatureTyping = VariableFeatureTyping\_Mapping.getMapped(from) inif typing

- Element::elementId

Helper.createUUID()

- Feature::isComposite

false

- Element::aliasId

Set{}

- Feature::isPortion

false

- Feature::isEnd

false

- Feature::direction

null

- Element::name

null

- Feature::isDerived

false

- Feature::isComposite

false

- Feature::isUnique

from.isUnique

- Feature::isReadOnly

*abstract rule*

#### **C.2.5.3.3.46 VariableAttribute\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

NamedElementMain\_Mapping  
CommonVariable\_Mapping

##### **Mapping Source**

Variable

##### **Mapping Target**

AttributeUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

`from.type.ocIsKindOf(UML::DataType)`

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isOrdered

- from.isOrdered
- Type::isSufficient
  - false
- Feature::isComposite
  - from.isComposite
- Feature::ownedRelationship
  - let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping\_Mapping.getMapped(from)
- Feature::isAbstract
  - false
- Feature::isEnd
  - if from.association.oclIsUndefined() then      falseelse      from.association.ownedEnd->include
- Element::shortName
  - null
- Element::aliasId
  - Set{}
- Feature::isPortion
  - false
- Feature::isDerived
  - from.isDerived
- Feature::direction
  - null
- Element::elementId
  - Helper.getID(from)
- Element::name
  - null
- Feature::isUnique
  - from.isUnique
- Feature::isReadOnly
  - abstract rule*

#### C.2.5.3.3.47 VariableFeatureTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

## General Mappings

TypedElementToFeatureTyping\_Mapping

## Mapping Source

Variable

## Mapping Target

FeatureTyping

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Relationship::ownedRelatedElement  
`Set{}`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- FeatureTyping::type  
*abstract rule*
- FeatureTyping::typedFeature  
*abstract rule*
- Element::ownedRelationship  
`Set{}`

### C.2.5.3.3.48 VariableItem\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

## General Mappings

NamedElementMain\_Mapping  
CommonVariable\_Mapping

## Mapping Source

Variable

## Mapping Target

ItemUsage

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

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

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isOrdered

```
from.isOrdered
```

- Type::isSufficient

```
false
```

- Feature::isComposite

```
from.isComposite
```

- Feature::ownedRelationship

```
let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping_Mapping.getMapped(from)
```

- Feature::isAbstract

```
false
```

- Feature::isEnd

```
if from.association.ocIsUndefined() then false else from.association.ownedEnd->include
```

- Element::shortName

```
null
```

- Element::aliasId

```
Set{}
```

- Feature::isPortion  
false
- Feature::isDerived  
from.isDerived
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Element::name  
null
- Feature::isUnique  
from.isUnique
- Feature::isReadOnly  
*abstract rule*

#### **C.2.5.3.3.49 VariableMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

ElementFeatureMembership\_Mapping

##### **Mapping Source**

Variable

##### **Mapping Target**

FeatureMembership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement

- Set{self.ownedMemberFeature() }
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- FeatureMembership::visibility  
  
KerML::VisibilityKind::private
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{ }
- FeatureMembership::ownedMemberFeature  
*abstract rule*
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
  
null
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{ }

#### C.2.5.4 Classification

##### C.2.5.4.1 Overview

**Table 16. List of all Overview Mapping Specifications**

| SysML v1 Concept  | SysML v2 Concept | Mapping Class             | Filter |
|-------------------|------------------|---------------------------|--------|
| BehavioralFeature | Usage            | BehavioralFeature_Mapping |        |



| SysML v1 Concept      | SysML v2 Concept                                                                                                                                    | Mapping Class                                                                                                                                                                                                                                                                  | Filter                                                                                                                                                                                   |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Classifier            | ObjectiveMembership<br>FeatureTyping<br>SubjectMembership<br>PartUsage<br>RequirementUsage<br>ReferenceUsage<br>Classifier<br>StakeholderMembership | CaseObjectiveMembership_Mapping<br>CaseSubjectFeatureTyping_Mapping<br>CaseSubjectMembership_Mapping<br>StakeholderPartUsage_Mapping<br>CaseObjectiveRequirementUsage_Mapping<br>CaseEmptySubjectReferenceUsage_Mapping<br>Classifier_Mapping<br>StakeholderMembership_Mapping |                                                                                                                                                                                          |
| Feature               | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership                                            | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping                                                           |                                                                                                                                                                                          |
| Generalization        | Subclassification                                                                                                                                   | Generalization_Mapping                                                                                                                                                                                                                                                         |                                                                                                                                                                                          |
| GeneralizationSet     | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership                                            | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping                                                           |                                                                                                                                                                                          |
| InstanceSpecification | PartUsage<br>OccurrenceUsage<br>Membership<br>FeatureTyping<br>ConnectionUsage<br>PartUsage                                                         | InstanceSpecification_Mapping<br>InstanceValueInstanceSpecification_Mapping<br>InstanceSpecificationFeatureTyping_Mapping<br>InstanceSpecificationLink_Mapping                                                                                                                 | InstanceSpecification.classifier->select( c   c.oclIsTypeOf(UML::Association))->size() = 0<br>InstanceSpecification.classifier->select( c   c.oclIsTypeOf(UML::Association))->size() > 0 |
| InstanceValue         | FeatureReferenceExpression                                                                                                                          | InstanceValue_Mapping                                                                                                                                                                                                                                                          |                                                                                                                                                                                          |
| Operation             | ActionUsage                                                                                                                                         | Operation_Mapping                                                                                                                                                                                                                                                              |                                                                                                                                                                                          |
| Parameter             | ReferenceUsage<br>ParameterMembership<br>FeatureTyping                                                                                              | Parameter_Mapping<br>ParameterMembership_Mapping<br>ParameterToFeatureTyping_Mapping                                                                                                                                                                                           | not src.type.oclIsUndefined()<br>and not src.oclIsKindOf(UML::ValueSpecification)<br>and not(src.type.oclIsKindOf(UML::Enumeration))<br>and Helper.getSysMLv2EnumerationDefinition(src   |



| SysML v1 Concept  | SysML v2 Concept                              | Mapping Class                                                                                                | Filter                                                                                                                                                                                              |
|-------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| StructuralFeature | FeatureTyping<br>FeatureMembership<br>Feature | StructuralFeatureToFeatureTyping_Mapping<br>StructuralFeatureMembership_Mapping<br>StructuralFeature_Mapping | not<br>src.type.oclIsUndefined()<br>and not<br>src.oclIsKindOf(UML::ValueSpecification)<br>and<br>not(src.type.oclIsKindOf(UML::Enumeration))<br>and<br>Helper.getSysMLv2EnumerationDefinition(src) |
| Substitution      | Specialization                                | Realization_Mapping                                                                                          |                                                                                                                                                                                                     |

## C.2.5.4.2 Mapping Specifications

### C.2.5.4.2.1 BehavioralFeature\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToUsage\_Mapping  
Namespace\_Mapping

#### Mapping Source

BehavioralFeature

#### Mapping Target

Usage

(none)

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

#### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Element::ownedRelationship  
ElementOwnership\_Mapping.getMappedColl(from.ownedElement)
- Type::isSufficient

- Feature::isUnique

- Element::name

- `Element::shortName`

- `Type::isAbstract`

- Feature::isOrdered

- `Element::aliasId`

- Feature::isPortion

- `Feature::isReadOnly`

- Feature::direction

- Element::elementId

- Feature::isDerived

- Feature::isComposite

#### C.2.5.4.2.2 Classifier\_Mapping

\*\*\* not specified yet \*\*\*

## OMG Systems Modeling Language (SysML) v2.0, Submission

GenericToClassifier\_Mapping  
Namespace\_Mapping

### Mapping Source

Classifier

### Mapping Target

Classifier

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Classifier::isAbstract

from.isAbstract

- Element::ownedRelationship

ElementOwnership\_Mapping.getMappedColl(from.ownedElement)

- Type::isSufficient

false

- Element::elementId

Helper.getID(from)

- Classifier::ownedRelationship

let generalizations : Set(UML::Generalization) = from.ownedElement->select(e | e.ocIsKindOf

- Element::name

from.name

- Element::shortName

null

#### C.2.5.4.2.3 UpperBoundUnlimitedTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

## General Mappings

MultiplicityBoundTyping\_Mapping

## Mapping Source

MultiplicityElement

## Mapping Target

FeatureTyping

## Owned Mappings

- multiplicityUpperBoundUnlimited : MultiplicityUpperBoundUnlimited\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Relationship::ownedRelatedElement  
`Set{}`
- FeatureTyping::typedFeature  
`self.multiplicityUpperBoundUnlimited.to`
- Element::name  
`null`
- Element::shortName  
`null`
- FeatureTyping::type  
`if from.upper = -1 then      Helper.getScalarValueTypeByName('UnlimitedNatural') else      Help`
- Element::elementId  
`Helper.createUUID()`
- FeatureTyping::type  
*abstract rule*

- FeatureTyping::typedFeature  
*abstract rule*
- Element::ownedRelationship

Set { }

#### C.2.5.4.2.4 UpperBoundValueOwnership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

MultiplicityElement

##### Mapping Target

FeatureMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

null

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::aliasId

Set { }

- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName

null

- OwningMembership::ownedRelatedElement

Set { self.ownedMemberElement () }

- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- FeatureMembership::ownedMemberFeature

if from.upper <> -1 then      LiteralUnlimitedToInteger\_Mapping.getMapped(from.upperValue) els

- Membership::visibility

KerML::VisibilityKind::public

- Element::name

null

- Element::ownedRelationship

Set { }

#### C.2.5.4.2.5 DefaultLowerBoundTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

DefaultMultiplicityBoundTyping\_Mapping

##### Mapping Source

Element

##### Mapping Target

FeatureTyping

##### Owned Mappings

- defaultMultiplicityLowerBoundValue : DefaultMultiplicityLowerBoundValue\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules



The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Relationship::ownedRelatedElement  
`Set{}`
- FeatureTyping::typedFeature  
`self.defaultMultiplicityLowerBoundValue.to`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- FeatureTyping::type  
*abstract rule*
- FeatureTyping::typedFeature  
*abstract rule*
- Element::ownedRelationship  
`Set{}`

#### C.2.5.4.2.6 DefaultMultiplicityBoundOwnership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

Element

##### Mapping Target

FeatureMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace

*abstract rule*

- Membership::memberShortName

null

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::aliasId

Set{}

- OwningMembership::ownedMemberElement

*abstract rule*

- Membership::memberName

null

- OwningMembership::ownedRelatedElement

Set{self.ownedMemberElement() }

- TypeFeaturing::featureOfType

*abstract rule*

- TypeFeaturing::featuringType

*abstract rule*

- FeatureMembership::isComposite

true

- Membership::visibility

KerML::VisibilityKind::public

- Element::name

null

- Element::ownedRelationship

Set{}

### C.2.5.4.2.7 DefaultMultiplicityBoundTyping\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToFeatureTyping\_Mapping

## Mapping Source

Element

## Mapping Target

FeatureTyping

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Relationship::ownedRelatedElement  
`Set {}`
- Specialization::specific  
*abstract rule*
- FeatureTyping::typedFeature  
*abstract rule*
- Element::name  
`null`
- FeatureTyping::type  
`Helper.getScalarValueTypeByName('Integer')`
- Element::shortName  
`null`
- Specialization::general  
*abstract rule*
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set {}`

#### C.2.5.4.2.8 DefaultMultiplicityBoundValue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToExpression\_Mapping

##### Mapping Source

Element

##### Mapping Target

LiteralInteger

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- LiteralInteger::value  
`1`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered

- false
- Element::aliasId
  - Set{}
- Feature::isPortion
  - false
- Feature::isReadOnly
  - false
- Feature::direction
  - null
- Element::name
  - null
- Feature::isDerived
  - false
- Feature::isComposite
  - false
- Element::ownedRelationship
  - Set{}

#### **C.2.5.4.2.9 DefaultMultiplicityElement\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeature\_Mapping

##### **Mapping Source**

Element

##### **Mapping Target**

MultiplicityRange

##### **Owned Mappings**

- defaultMultiplicityLowerBoundOwnership : DefaultMultiplicityLowerBoundOwnership\_Mapping
- defaultMultiplicityUpperBoundOwnership : DefaultMultiplicityUpperBoundOwnership\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- MultiplicityRange::isUnique  
`true`
- MultiplicityRange::ownedRelationship  
`Set{self.defaultMultiplicityLowerBoundOwnership.to, self.defaultMultiplicityUpperBoundOwners`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- MultiplicityRange::name  
`'defaultMultiplicity'`
- Element::elementId  
`Helper.createUUID()`

#### C.2.5.4.2.10 DefaultMultiplicityLowerBoundOwnership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

DefaultMultiplicityBoundOwnership\_Mapping

##### Mapping Source

Element

##### Mapping Target

FeatureMembership

## Owned Mappings

- defaultMultiplicityElement : DefaultMultiplicityElement\_Mapping
- defaultMultiplicityLowerBoundValue : DefaultMultiplicityLowerBoundValue\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  

```
Set{self.ownedMemberFeature() }
```
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  

```
null
```
- FeatureMembership::owningType  

```
self.defaultMultiplicityElement.to
```
- Element::shortName  

```
null
```
- Element::elementId  

```
Helper.createUUID()
```
- Element::aliasId  

```
Set{ }
```
- Membership::memberName  

```
null
```
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  

```
KerML::VisibilityKind::public
```
- Element::name  

```
null
```
- FeatureMembership::ownedMemberFeature

```
self.defaultMultiplicityLowerBoundValue.to
```

- Element::ownedRelationship

```
Set{}
```

#### **C.2.5.4.2.11 DefaultMultiplicityLowerBoundValue\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

DefaultMultiplicityBoundValue\_Mapping

##### **Mapping Source**

Element

##### **Mapping Target**

LiteralInteger

##### **Owned Mappings**

- defaultLowerBoundTyping : DefaultLowerBoundTyping\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

```
false
```

- Type::isSufficient

```
false
```

- Feature::isUnique

```
true
```

- Element::shortName

```
null
```

- Type::isAbstract

```
false
```

- Element::elementId



- Helper.createUUID()
- Feature::isOrdered
  - false
- LiteralInteger::ownedRelationship
  - Set{self.defaultLowerBoundTyping.to}
- Element::aliasId
  - Set{}
- Feature::isPortion
  - false
- Feature::isReadOnly
  - false
- Feature::direction
  - null
- Feature::isDerived
  - false
- Feature::isComposite
  - false
- LiteralInteger::name
  - 'lowerBound'

#### **C.2.5.4.2.12 DefaultMultiplicityMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToOwningMembership\_Mapping

##### **Mapping Source**

Element

##### **Mapping Target**

OwningMembership

##### **Owned Mappings**

- multiplicityElement : DefaultMultiplicityElement\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement  
`Set{}`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Membership::memberElement  
*abstract rule*
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
`self.multiplicityElement.to`
- Membership::memberName  
`null`
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship  
`Set{}`

#### C.2.5.4.2.13 DefaultMultiplicityUpperBoundOwnership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

## General Mappings

DefaultMultiplicityBoundOwnership\_Mapping

## Mapping Source

Element

## Mapping Target

FeatureMembership

## Owned Mappings

- defaultMultiplicityElement : DefaultMultiplicityElement\_Mapping
- defaultMultiplicityUpperBoundValue : DefaultMultiplicityUpperBoundValue\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  

```
Set{self.ownedMemberFeature() }
```
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  

```
null
```
- FeatureMembership::ownedMemberFeature  

```
self.defaultMultiplicityUpperBoundValue.to
```
- Element::shortName  

```
null
```
- Element::elementId  

```
Helper.createUUID()
```
- Element::aliasId  

```
Set{ }
```
- Membership::memberName  

```
null
```

- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{ }
- FeatureMembership::owningType  
  
self.defaultMultiplicityElement.to

#### C.2.5.4.2.14 DefaultMultiplicityUpperBoundValue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

DefaultMultiplicityBoundValue\_Mapping

##### Mapping Source

Element

##### Mapping Target

LiteralInteger

##### Owned Mappings

- defaultUpperBoundTyping : DefaultUpperBoundTyping\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
  
false
- Type::isSufficient

- false
- LiteralInteger::ownedRelationship
  - Set{self.defaultUpperBoundTyping.to}
- Feature::isUnique
  - true
- Element::shortName
  - null
- Type::isAbstract
  - false
- Element::elementId
  - Helper.createUUID()
- Feature::isOrdered
  - false
- Element::aliasId
  - Set{}
- Feature::isPortion
  - false
- Feature::isReadOnly
  - false
- LiteralInteger::name
  - 'upperBound'
- Feature::direction
  - null
- Feature::isDerived
  - false
- Feature::isComposite
  - false

#### C.2.5.4.2.15 DefaultUpperBoundTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

## General Mappings

DefaultMultiplicityBoundTyping\_Mapping

## Mapping Source

Element

## Mapping Target

FeatureTyping

## Owned Mappings

- defaultMultiplicityUpperBoundValue : DefaultMultiplicityUpperBoundValue\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Relationship::ownedRelatedElement  
`Set {}`
- FeatureTyping::typedFeature  
`self.defaultMultiplicityUpperBoundValue.to`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- FeatureTyping::type  
*abstract rule*
- FeatureTyping::typedFeature  
*abstract rule*
- Element::ownedRelationship  
`Set {}`

#### C.2.5.4.2.16 ElementFeatureMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

NamedElement

##### Mapping Target

FeatureMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- FeatureMembership::ownedMemberFeature  
`NamedElementMain_Mapping.getMapped(from)`
- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
*abstract rule*
- FeatureMembership::visibility  
`Helper.getKerMLVisibilityKind(from.oclassType(UML::NamedElement).visibility)`

- Membership::memberName  
null
- OwningMembership::ownedRelatedElement  
Set { self.ownedMemberElement () }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Element::name  
null
- Element::ownedRelationship  
Set { }

#### C.2.5.4.2.17 Generalization\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToSpecialization\_Mapping  
ElementMain\_Mapping

##### Mapping Source

Generalization

##### Mapping Target

Subclassification

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set { }
- Relationship::ownedRelatedElement  
Set { }



- Relationship::source  
`Set{}`
- Subclassification::subclassifier  
`Classifier_Mapping.getMapped(from.specific)`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Subclassification::superclassifier  
`if from.general.oclIsTypeOf(UML::PrimitiveType) and not (Helper.getScalarValueType(from.gen`
- Relationship::target  
`Set{}`
- Element::ownedRelationship  
`Set{}`

#### C.2.5.4.2.18 InstanceSpecificationLink\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

NamedElementMain\_Mapping  
GenericToConnectionUsage\_Mapping

##### Mapping Source

InstanceSpecification

##### Mapping Target

ConnectionUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
from.classifier->select(c | c.oclIsTypeOf(UML::Association)) ->size() > 0
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- `Feature::isEnd`  
`false`
- `Type::isSufficient`  
`false`
- `ConnectionUsage::ownedRelationship`  
`SlotMembership_Mapping.getMappedColl(from.slot) ->union(from.classifier->collect(g | Instance`
- `Feature::isUnique`  
`true`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `Usage::isVariation`  
`false`
- `Feature::isReadOnly`  
`false`
- `Feature::direction`  
`null`
- `Element::elementId`  
`Helper.getID(from)`
- `Element::name`  
`null`

- Feature::isDerived

false

- Feature::isComposite

false

#### C.2.5.4.2.19 InstanceSpecification\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

NamedElementMain\_Mapping

GenericToPartUsage\_Mapping

##### Mapping Source

InstanceSpecification

##### Mapping Target

PartUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
from.classifier->select(c | c.ocIsTypeOf(UML::Association))->size() = 0
```

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Type::isSufficient

false

- PartUsage::ownedFeatureMembership

```
from.classifier->collect(c | InstanceSpecificationToGeneralization_Mapping.getMapped(from, c
```

- Feature::isUnique

true

- PartUsage::ownedRelationship

```
SlotMembership_Mapping.getMappedColl(from.slot)->union(from.classifier->collect(g | Instance
```

- Element::shortName  
null
- Type::isAbstract  
false
- Feature::isOrdered  
false
- Element::aliasId  
Set{ }
- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.5.4.2.20 InstanceSpecificationFeatureTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureTyping\_Mapping

##### **Mapping Source**

InstanceSpecification

### Mapping Target

FeatureTyping with qualifier: classifier:Classifier

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Relationship::ownedRelatedElement  
`Set {}`
- Specialization::specific  
*abstract rule*
- FeatureTyping::typedFeature  
`InstanceSpecification_Mapping.getMapped(from)`
- Element::name  
`null`
- Element::shortName  
`null`
- Specialization::general  
*abstract rule*
- Element::elementId  
`Helper.createUUID()`
- FeatureTyping::type  
`Classifier_Mapping.getMapped(classifier)`
- Element::ownedRelationship  
`Set {}`

#### C.2.5.4.2.21 InstanceValue\_Mapping

### Description

\*\*\* not specified yet \*\*\*

## General Mappings

ValueSpecification\_Mapping

## Mapping Source

InstanceValue

## Mapping Target

FeatureReferenceExpression

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Element::ownedRelationship

ElementOwnership\_Mapping.getMappedColl(from.ownedElement)

- Type::isSufficient

false

- FeatureReferenceExpression::ownedRelationship

ElementOwnership\_Mapping.getMappedColl(from.ownedElement) ->including(InstanceValueInstances)

- Feature::isUnique

true

- Element::name

from.name

- Element::shortName

null

- Type::isAbstract

false

- Feature::isOrdered

false

- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Feature::isReadOnly  
false
- Expression::ownedRelationship  
ElementOwnership\_Mapping.getMappedColl(from.ownedElement)->append(CommonReturnParameterFeatu
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Feature::isDerived  
false
- Feature::isComposite  
false

#### C.2.5.4.2.22 InstanceValueInstanceSpecification\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToMembership\_Mapping

##### Mapping Source

InstanceSpecification

##### Mapping Target

Membership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- `Element::aliasId`  
`Set {}`
- `Relationship::ownedRelatedElement`  
`Set {}`
- `Membership::memberElement`  
`from`
- `Relationship::source`  
`Set {}`
- `Element::name`  
`null`
- `Element::shortName`  
`null`
- `Element::elementId`  
`Helper.createUUID()`
- `Relationship::target`  
`Set {}`
- `Element::ownedRelationship`  
`Set {}`

#### **C.2.5.4.2.23 LowerBoundTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

MultiplicityBoundTyping\_Mapping

##### **Mapping Source**

MultiplicityElement

##### **Mapping Target**

FeatureTyping



## Owned Mappings

- lowerBound : MultiplicityLowerBound\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Relationship::ownedRelatedElement  
`Set {}`
- Element::name  
`null`
- Element::shortName  
`null`
- FeatureTyping::typedFeature  
`self.lowerBound.to`
- Element::elementId  
`Helper.createUUID()`
- FeatureTyping::type  
*abstract rule*
- FeatureTyping::typedFeature  
*abstract rule*
- Element::ownedRelationship  
`Set {}`

### C.2.5.4.2.24 LowerBoundValueOwnership\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToFeatureMembership\_Mapping

#### Mapping Source

MultiplicityElement

## Mapping Target

FeatureMembership

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
    null
- FeatureMembership::ownedMemberFeature  
  
    LiteralInteger\_Mapping.getMapped(from.lowerValue)
- Element::shortName  
  
    null
- Element::elementId  
  
    Helper.createUUID()
- Element::aliasId  
  
    Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
  
    null
- OwningMembership::ownedRelatedElement  
  
    Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
    KerML::VisibilityKind::public
- Element::name  
  
    null

- Element::ownedRelationship

Set {}

#### **C.2.5.4.2.25 MultiplicityBound\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeature\_Mapping

##### **Mapping Source**

MultiplicityElement

##### **Mapping Target**

Feature

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set {}

- Type::isSufficient

false

- Feature::ownedRelationship

Set {}

- Element::name

null

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId

```
Helper.createUUID()
```

#### C.2.5.4.2.26 MultiplicityBoundOwnership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

MultiplicityElement

##### Mapping Target

FeatureMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::isComposite  

```
true
```
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  

```
null
```
- Element::shortName  

```
null
```
- FeatureMembership::owningType  

```
MultiplicityElement_Mapping.getMapped(from)
```
- Element::elementId  

```
Helper.createUUID()
```
- Element::aliasId  

```
Set{}
```

- OwingMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName

null

- OwingMembership::ownedRelatedElement

Set { self.ownedMemberElement () }

- TypeFeaturing::featureOfType  
*abstract rule*

- TypeFeaturing::featuringType  
*abstract rule*

- Membership::visibility

KerML::VisibilityKind::public

- Element::name

null

- Element::ownedRelationship

Set { }

#### **C.2.5.4.2.27 MultiplicityBoundTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureTyping\_Mapping

##### **Mapping Source**

MultiplicityElement

##### **Mapping Target**

FeatureTyping

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

```

 Set {}

 • Relationship::ownedRelatedElement

 Set {}

 • Specialization::specific
 abstract rule
 • FeatureTyping::type

 Helper.getScalarValueTypeByName('Integer')

 • Element::name

 null

 • Element::shortName

 null

 • Specialization::general
 abstract rule
 • FeatureTyping::typedFeature
 abstract rule
 • Element::elementId

 Helper.createUUID()

 • Element::ownedRelationship

 Set {}

```

#### C.2.5.4.2.28 MultiplicityElement\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeature\_Mapping

##### Mapping Source

MultiplicityElement

##### Mapping Target

MultiplicityRange

##### Owned Mappings

- lBoundOwnership : MultiplicityLowerBoundOwnership\_Mapping
- uBoundOwnership : MultiplicityUpperBoundOwnership\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- MultiplicityRange::ownedRelationship  
`Set{lBoundOwnership.to, uBoundOwnership.to}`
- Type::isSufficient  
`false`
- MultiplicityRange::isUnique  
`from.isUnique`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- MultiplicityRange::name  
`'multiplicity'`

#### C.2.5.4.2.29 MultiplicityLowerBound\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

MultiplicityBound\_Mapping

##### Mapping Source

MultiplicityElement

##### Mapping Target

LiteralInteger

## Owned Mappings

- lowerBoundTyping : LowerBoundTyping\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Type::isSufficient

false

- Feature::isUnique

true

- LiteralInteger::ownedRelationship

```
let rels: Set(KerML::Relationship) = Set{self.lowerBoundTyping.to} inif from.lowerValue.oclIs
```

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId

Helper.createUUID()

- Feature::isOrdered

false

- LiteralInteger::name

'lowerBound'

- Element::aliasId

Set{}

- Feature::isPortion

false

- Feature::isReadOnly



false

- LiteralInteger::value

from.lower

- Feature::direction

null

- Feature::isDerived

false

- Feature::isComposite

false

- Element::ownedRelationship

Set{ }

#### **C.2.5.4.2.30 MultiplicityMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToOwningMembership\_Mapping

##### **Mapping Source**

MultiplicityElement

##### **Mapping Target**

OwningMembership

##### **Owned Mappings**

- multiplicityElement : MultiplicityElement\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement

Set{ }

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Membership::memberElement  
*abstract rule*
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
  
self.multiplicityElement.to
- Membership::memberName  
  
null
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{}

#### **C.2.5.4.2.31 MultiplicityUpperBoundUnlimited\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

MultiplicityBound\_Mapping

##### **Mapping Source**

MultiplicityElement

##### **Mapping Target**

LiteralInfinity

## Owned Mappings

- upperBoundTyping : UpperBoundUnlimitedTyping\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
if src.oclIsKindOf(UML::MultiplicityElement) then
 src.oclAsType(UML::MultiplicityElement).upper = -1
else
 false
endif
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- Feature::isUnique  
true
- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- LiteralInfinity::ownedRelationship  
let rels: Set(KerML::Relationship) = Set{self.upperBoundTyping.to} inif from.upperValue.oclIsKindOf(LiteralInfinity) then rels else Set{}
- Feature::isReadOnly

false

- LiteralInfinity::name

'upperBound'

- Feature::direction

null

- Feature::isDerived

false

- Feature::isComposite

false

- Element::ownedRelationship

Set{ }

#### **C.2.5.4.2.32 Operation\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

BehavioralFeature\_Mapping

GenericToStep\_Mapping

##### **Mapping Source**

Operation

##### **Mapping Target**

ActionUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Type::isSufficient

- false
- Feature::isUnique
  - true
- Element::name
  - from.name
- Element::shortName
  - null
- Type::isAbstract
  - false
- Feature::isOrdered
  - false
- Element::aliasId
  - Set{}
- Feature::isPortion
  - false
- Usage::isVariation
  - false
- Namespace::ownedImport
  - Set{}
- Feature::isReadOnly
  - false
- Feature::direction
  - null
- Element::elementId
  - Helper.getID(from)
- Feature::isDerived
  - false
- Feature::isComposite
  - false
- ActionUsage::ownedRelationship

```
let toParameterMS: Set(UML::Element) = src.ownedElement->select(e | e.ocIsKindOf(UML::Param
```

#### C.2.5.4.2.33 Parameter\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToReferenceUsage\_Mapping  
NamedElementMain\_Mapping

##### Mapping Source

Parameter

##### Mapping Target

ReferenceUsage

##### Owned Mappings

- multiplicityMembership : MultiplicityMembership\_Mapping
- parameterToFeatureTyping : ParameterToFeatureTyping\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

```
false
```

- Type::isSufficient

```
false
```

- Feature::isUnique

```
true
```

- ReferenceUsage::ownedRelationship

```
let typing: KerML::FeatureTyping = parameterToFeatureTyping.to inif typing.ocIsUndefined()
```

- Element::shortName

```
null
```

- Type::isAbstract

- Feature::isOrdered

- `Element::aliasId`

- Feature::isPortion

- Usage::isVariation

- Feature::isReadOnly

- ReferenceUsage::direction

- Element::elementId

- `Element::name`

- Feature::isDerived

- Feature::isComposite

#### C.2.5.4.2.34 ParameterMembership\_Mapping

\*\*\* not specified yet \*\*\*

## GenericToParameterMembership\_Mapping

## Parameter

## ParameterMembership

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  
`Set { self.ownedMemberFeature () }`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set {}`
- FeatureMembership::ownedMemberFeature  
*abstract rule*
- ParameterMembership::ownedMemberParameter  
`Parameter_Mapping.getMapped(from)`
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
`null`
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship



Set{ }

#### C.2.5.4.2.35 ParameterToFeatureTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

TypedElementToFeatureTyping\_Mapping

##### Mapping Source

Parameter

##### Mapping Target

FeatureTyping

##### Owned Mappings

- parameter : Parameter\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set{ }
- Relationship::ownedRelatedElement  
Set{ }
- FeatureTyping::typedFeature  
parameter.to
- Element::name  
null
- Element::shortName  
null
- Element::elementId  
Helper.createUUID()

- FeatureTyping::type  
*abstract rule*
- FeatureTyping::typedFeature  
*abstract rule*
- Element::ownedRelationship

Set{}

#### C.2.5.4.2.36 Property\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

PropertyCommon\_Mapping  
NamedElementMain\_Mapping

##### Mapping Source

Property

##### Mapping Target

Feature

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
if from.type.ocIsUndefined() then false
else
let p: UML::Property = src.ocAsType(UML::Property) in
not p.ocIsUndefined() and
not p.type.ocIsKindOf(UML::DataType) and
not (p.name.indexOf('base_') > 0) and
(p.association.ocIsUndefined() or p.association.ownedEnd->excludes(p))
endif
```

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Feature::isOrdered

from.isOrdered

- Type::isSufficient

false

- Feature::isAbstract  
false
- Element::shortName  
null
- Feature::ownedRelationship  
let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping\_Mapping.getMapped(from)
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false
- Feature::isUnique  
from.isUnique
- Feature::isReadOnly  
*abstract rule*

#### **C.2.5.4.2.37 PropertyCommon\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

StructuralFeature\_Mapping

##### **Mapping Source**

Property

## Mapping Target

Feature

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Type::isSufficient

false

- Feature::isComposite

from.isComposite

- Feature::ownedRelationship

let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping\_Mapping.getMapped(from)

- Feature::isEnd

if from.association.oclIsUndefined() then false else from.association.ownedEnd->include

- Feature::isUnique

true

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId

Helper.createUUID()

- Feature::isOrdered

false

- Element::aliasId

Set{}

- Feature::isPortion

false

- Feature::isReadOnly

false

- Feature::isDerived

from.isDerived

- Feature::direction

null

- Element::name

null

- Element::ownedRelationship

Set{}

#### C.2.5.4.2.38 PropertyDefaultValue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureValue\_Mapping

##### Mapping Source

ValueSpecification

##### Mapping Target

FeatureValue

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureValue::isDefault

if from.ocIsUndefined() then false else true endif

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

- `Element::shortName`

- `Element::elementId`

- `Element::aliasId`

- `OwningMembership::ownedMemberElement`  
*abstract rule*

null

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

```
KerML::VisibilityKind::public
```

null

```
ValueSpecification_Mapping.getMapped(from)
```

```
Set { }
```

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureValue::isDefault  
`false`
- FeatureValue::isInitial  
`false`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- FeatureValue::ownedRelatedElement  
`Set{self.value() }`
- Element::aliasId  
`Set{ }`
- Membership::memberName  
`null`
- FeatureValue::value  
`ValueSpecification_Mapping.getMapped( OpaqueExpressionAsValue_Mapping.getMapped(from) )`
- FeatureValue::featureWithValue  
*abstract rule*
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`

- FeatureValue::value  
*abstract rule*
- Element::ownedRelationship

Set{ }

#### C.2.5.4.2.40 PropertySubsetting\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToSubsetting\_Mapping

##### Mapping Source

Property

##### Mapping Target

Subsetting with qualifier: subsettedProperty:Property

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set{ }
- Relationship::ownedRelatedElement  
Set{ }
- Subsetting::subsettingFeature  
Property\_Mapping.getMapped(from)
- Specialization::specific  
*abstract rule*
- Element::name  
null
- Subsetting::subsettedFeature  
Property\_Mapping.getMapped(subsettedProperty)



- Element::shortName  
null
- Specialization::general  
*abstract rule*
- Element::elementId  
Helper.createUUID()
- Element::ownedRelationship  
Set{ }

#### C.2.5.4.2.41 PropertyUntyped\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

PropertyCommon\_Mapping  
GenericToReferenceUsage\_Mapping  
NamedElementMain\_Mapping

##### Mapping Source

Property

##### Mapping Target

ReferenceUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
from.type.ocIsUndefined() and not from.ocIsKindOf(UML::Port)
```

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Feature::isOrdered  
from.isOrdered
- Type::isSufficient  
false

- Feature::isAbstract  
false
- Element::shortName  
null
- Feature::ownedRelationship  
let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping\_Mapping.getMapped(from)
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false
- Feature::isUnique  
from.isUnique
- Feature::isReadOnly  
*abstract rule*

#### **C.2.5.4.2.42 Realization\_Mapping**

##### **Description**

\*\*\* issue \*\*\* This mapping is not appropriate since the Realization can have more than one client and more than one supplier and that the semantics defined in UML is much more informal than those of a generalization

##### **General Mappings**

Abstraction\_Mapping

## Mapping Source

Realization

## Mapping Target

Dependency

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Dependency::supplier

```
from.target->collect(e | ElementMain_Mapping.getMapped(e))
```

- Dependency::name

```
from.name
```

- Element::ownedRelationship

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```

- Relationship::owningRelatedElement

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

- Dependency::client

```
from.source->collect(e | ElementMain_Mapping.getMapped(e))
```

- Element::elementId

```
Helper.getID(from)
```

- Relationship::ownedRelatedElement

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain_Mapping.getMapped(e))
```

- Element::shortName

```
null
```

#### C.2.5.4.2.43 Slot\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeature\_Mapping  
ElementMain\_Mapping

##### Mapping Source

Slot

##### Mapping Target

Feature

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

#### C.2.5.4.2.44 SlotMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

Slot

##### Mapping Target

FeatureMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
*abstract rule*
- FeatureMembership::isReadOnly  
`from.isReadOnly`
- OwningMembership::ownedRelatedElement  
`Set{self.ownedMemberElement() }`

- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- FeatureMembership::ownedMemberFeature

from

- FeatureMembership::memberName

from.definingFeature.name

- Membership::visibility

KerML::VisibilityKind::public

- Element::name

null

- Element::ownedRelationship

Set{}

#### **C.2.5.4.2.45 SlotToFeatureTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureTyping\_Mapping

##### **Mapping Source**

Slot

##### **Mapping Target**

FeatureTyping

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Relationship::ownedRelatedElement

Set{}

- FeatureTyping::type

ElementMain\_Mapping.getMapped(from)

- Specialization::specific

*abstract rule*

- Element::name

null

- Element::shortName

null

- FeatureTyping::typedFeature

Slot\_Mapping.getMapped(from)

- Specialization::general

*abstract rule*

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

#### C.2.5.4.2.46 SlotValue\_Mapping

##### Description

Issue here since a KerML feature cannot have more than one FeatureValue while a UML::Slot can. How to manage collection of values?

##### General Mappings

GenericToFeatureValue\_Mapping

##### Mapping Source

ValueSpecification

##### Mapping Target

FeatureValue

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

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

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- FeatureValue::value  
  
ValueSpecification\_Mapping.getMapped(from)
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- FeatureValue::featureWithValue  
  
Slot\_Mapping.getMapped(from.owner)
- Element::ownedRelationship  
  
Set{}

### C.2.5.4.2.47 MultiplicityLowerBoundOwnership\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings



MultiplicityBoundOwnership\_Mapping

### Mapping Source

MultiplicityElement

### Mapping Target

FeatureMembership

### Owned Mappings

- lowerBound : MultiplicityLowerBound\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  
`Set { self.ownedMemberFeature () }`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID ()`
- Element::aliasId  
`Set { }`
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
`null`
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- FeatureMembership::ownedMemberFeature

```
self.lowerBound.to
```

- Membership::visibility

```
KerML::VisibilityKind::public
```

- Element::name

```
null
```

- Element::ownedRelationship

```
Set{}
```

#### **C.2.5.4.2.48 MultiplicityUpperBound\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

MultiplicityBound\_Mapping

##### **Mapping Source**

MultiplicityElement

##### **Mapping Target**

LiteralInteger

##### **Owned Mappings**

- upperBoundTyping : UpperBoundTyping\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

```
if src.oclIsKindOf(UML::MultiplicityElement) then
 src.oclAsType(UML::MultiplicityElement).upper >= 0
else
 false
endif
```

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

```
false
```

- Type::isSufficient

```
false
```

- Feature::isUnique  
true
- Element::shortName  
null
- LiteralInteger::value  
from.upper
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- LiteralInteger::ownedRelationship  
let rels: Set(KerML::Relationship) = Set{self.upperBoundTyping.to} inif from.upperValue.occl
- Feature::isReadOnly  
false
- Feature::direction  
null
- Feature::isDerived  
false
- Feature::isComposite  
false
- LiteralInteger::name  
'upperBound'
- Element::ownedRelationship  
Set{}

#### C.2.5.4.2.49 MultiplicityUpperBoundOwnership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

MultiplicityBoundOwnership\_Mapping

##### Mapping Source

MultiplicityElement

##### Mapping Target

FeatureMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  
`Set { self.ownedMemberFeature () }`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID ()`
- Element::aliasId  
`Set { }`
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
`null`

- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- FeatureMembership::ownedMemberFeature

```
if from.upper = -1 then MultiplicityUpperBoundUnlimited_Mapping.getMapped(from)else Mu
```

- Membership::visibility

```
KerML::VisibilityKind::public
```

- Element::name

```
null
```

- Element::ownedRelationship

```
Set{}
```

#### C.2.5.4.2.50 StructuralFeature\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeature\_Mapping

##### Mapping Source

StructuralFeature

##### Mapping Target

Feature

##### Owned Mappings

- multiplicityMembership : MultiplicityMembership\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Feature::isOrdered

- `from.isOrdered`
- `Type::isSufficient`
  - `false`
- `Feature::isAbstract`
  - `false`
- `Element::name`
  - `null`
- `Element::shortName`
  - `null`
- `Feature::isUnique`
  - `from.isUnique`
- `Feature::ownedRelationship`
  - `let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping_Mapping.getMapped(from)`
- `Element::elementId`
  - `Helper.createUUID()`
- `Feature::isReadOnly`
  - abstract rule*

#### **C.2.5.4.2.51 StructuralFeatureMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

StructuralFeature

##### **Mapping Target**

FeatureMembership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- FeatureMembership::visibility  
  
if (from.ocIsKindOf(UML::NamedElement)) then      Helper.getKerMLVisibilityKind(from.ocAsType)
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- FeatureMembership::ownedMemberFeature  
  
NamedElementMain\_Mapping.getMapped(from)
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{ }

### C.2.5.4.2.52 StructuralFeatureToFeatureTyping\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

## General Mappings

TypedElementToFeatureTyping\_Mapping

## Mapping Source

StructuralFeature

## Mapping Target

FeatureTyping

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Relationship::ownedRelatedElement  
`Set{}`
- FeatureTyping::typedFeature  
`ElementMain_Mapping.getMapped(from)`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- FeatureTyping::type  
*abstract rule*
- FeatureTyping::typedFeature  
*abstract rule*
- Element::ownedRelationship  
`Set{}`

### C.2.5.4.2.53 TypedElementToFeatureTyping\_Mapping

#### Description



\*\*\* not specified yet \*\*\*

## General Mappings

GenericToFeatureTyping\_Mapping

## Mapping Source

TypedElement

## Mapping Target

FeatureTyping

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
not src.type.ocIsUndefined()
 and not src.ocIsKindOf(UML::ValueSpecification)
 and not (src.type.ocIsKindOf(UML::Enumeration) and Helper.getSysMLv2EnumerationDefinition(src.type))
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Relationship::ownedRelatedElement  
`Set{}`
- FeatureTyping::typedFeature  
*abstract rule*
- Specialization::specific  
*abstract rule*
- Element::name  
`null`
- Element::shortName  
`null`
- Specialization::general  
*abstract rule*
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

- FeatureTyping::type

```
let sysmlv1PrimitiveType : SysMLv2::DataType = if from.type.ocIsKindOf(UML::PrimitiveType)
```

#### C.2.5.4.2.54 UpperBoundTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

MultiplicityBoundTyping\_Mapping

##### Mapping Source

MultiplicityElement

##### Mapping Target

FeatureTyping

##### Owned Mappings

- multiplicityUpperBound : MultiplicityUpperBound\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Relationship::ownedRelatedElement

```
Set{}
```

- FeatureTyping::type

```
if from.upper = -1 then Helper.getScalarValueTypeByName('UnlimitedNatural')else Help
```

- FeatureTyping::typedFeature

```
self.multiplicityUpperBound.to
```

- Element::name

```
null
```

- Element::shortName

```
null
```

- Element::elementId  
Helper.createUUID()
- FeatureTyping::type  
*abstract rule*
- FeatureTyping::typedFeature  
*abstract rule*
- Element::ownedRelationship  
Set{ }

## C.2.5.5 CommonBehavior

### C.2.5.5.1 Overview

**Table 17. List of all Overview Mapping Specifications**

| SysML v1 Concept | SysML v2 Concept                                                                                         | Mapping Class                                                                                                                                                                                                        | Filter                                                                          |
|------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| AnyReceiveEvent  | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |                                                                                 |
| Behavior         | Behavior                                                                                                 | Behavior_Mapping                                                                                                                                                                                                     | true                                                                            |
| CallEvent        | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |                                                                                 |
| ChangeEvent      | TextualRepresentation                                                                                    | ChangeEvent_Mapping                                                                                                                                                                                                  |                                                                                 |
| Event            | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |                                                                                 |
| FunctionBehavior | ActionUsage<br>TextualRepresentation<br>ActionDefinition                                                 | OpaqueBehaviorAsUsage_Mapping<br>OpaqueBehaviorAsDefinition_Mapping                                                                                                                                                  | not<br>src.owner.ocIsKindOf(UML::Package)<br>src.owner.ocIsKindOf(UML::Package) |
| MessageEvent     | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |                                                                                 |
| OpaqueBehavior   | ActionUsage<br>TextualRepresentation<br>ActionDefinition                                                 | OpaqueBehaviorAsUsage_Mapping<br>OpaqueBehaviorAsDefinition_Mapping                                                                                                                                                  | not<br>src.owner.ocIsKindOf(UML::Package)<br>src.owner.ocIsKindOf(UML::Package) |

| SysML v1 Concept | SysML v2 Concept                                                                                         | Mapping Class                                                                                                                                                                                                        | Filter |
|------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| SignalEvent      | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| TimeEvent        | TextualRepresentation                                                                                    | TimeEvent_Mapping                                                                                                                                                                                                    |        |
| Trigger          | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |

### C.2.5.5.2 Mapping Specifications

#### C.2.5.5.2.1 Behavior\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToBehavior\_Mapping  
Class\_Mapping

##### Mapping Source

Behavior

##### Mapping Target

Behavior

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

true

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set { }
- Classifier::isAbstract

`from.isAbstract`

- `Type::isSufficient`

`false`

- `Namespace::ownedImport`

`Set{}`

- `Element::elementId`

`Helper.getID(from)`

- `Element::name`

`from.name`

- `Behavior::ownedRelationship`

`let toParameterMS: Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Para`

- `Element::shortName`

`null`

#### **C.2.5.5.2.2 ChangeEvent\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToTextualRepresentation\_Mapping  
NamedElementMain\_Mapping

##### **Mapping Source**

ChangeEvent

##### **Mapping Target**

TextualRepresentation

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- `Element::aliasId`

```
Set{}
```

- Element::ownedRelationship

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```

- TextualRepresentation::body

```
if from.changeExpression.ocIsKindOf(UML::OpaqueExpression) then if from.changeExpression.
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
null
```

- TextualRepresentation::language

```
if from.changeExpression.ocIsKindOf(UML::OpaqueExpression) then if from.changeExpression.
```

- Element::shortName

```
null
```

- AnnotatingElement::annotation

```
Set{}
```

#### **C.2.5.5.2.3 OpaqueBehaviorAsDefinition\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

Behavior\_Mapping

GenericToDefinition\_Mapping

##### **Mapping Source**

OpaqueBehavior

##### **Mapping Target**

ActionDefinition

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

```
not Helper.hasStereotypeApplied(from, 'SysML::Requirements::Requirement') and not from.ocIsTypeOf(
```

,

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

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Classifier::isAbstract

```
from.isAbstract
```

- Type::isSufficient

```
false
```

- Namespace::ownedImport

```
Set{}
```

- Classifier::ownedRelationship

```
let toElementFMS: Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Prop
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

### C.2.5.5.2.4 OpaqueBehaviorAsUsage\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

Behavior\_Mapping

GenericToDefinition\_Mapping

#### Mapping Source

OpaqueBehavior

#### Mapping Target

ActionUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
not Helper.hasStereotypeApplied(from, 'SysML::Requirements::Requirement') and not from.ocIsTypeOf(
,
not src.owner.ocIsKindOf(UML::Package)
```

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Classifier::isAbstract

```
from.isAbstract
```

- Type::isSufficient

```
false
```

- Namespace::ownedImport

```
Set{}
```

- Classifier::ownedRelationship

```
let toElementFMS: Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Prope
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

#### C.2.5.5.2.5 TimeEvent\_Mapping

##### Description

tbd - just a placeholder yet

##### General Mappings

NamedElementMain\_Mapping

GenericToTextualRepresentation\_Mapping

##### Mapping Source



TimeEvent

### Mapping Target

TextualRepresentation

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- TextualRepresentation::body  
`'tbd timeevent'`
- Element::elementId  
`Helper.getID(from)`
- Element::name  
`null`
- Element::shortName  
`null`
- AnnotatingElement::annotation  
`Set{}`

### C.2.5.6 CommonStructure

### C.2.5.6.1 Overview

**Table 18. List of all Overview Mapping Specifications**

| SysML v1 Concept | SysML v2 Concept           | Mapping Class                                     | Filter                                                                   |
|------------------|----------------------------|---------------------------------------------------|--------------------------------------------------------------------------|
| Abstraction      | ReturnParameterMembership  | SatisfySubjectMembership                          | FeatureValueFeatureReferenceExpressionReturn                             |
|                  | ReferenceUsage             | SatisfyFeatureMembership                          | ReferenceUsage_Mapping                                                   |
|                  | Feature                    | SatisfySubjectMembership                          | FeatureValueFeatureReferenceExpressionReturn                             |
|                  | ReferenceUsage             | SatisfySubjectMembership                          | ReferenceUsage_Mapping                                                   |
|                  | FeatureReferenceExpression | SatisfySubjectMembership                          | FeatureValueFeatureReferenceExpression_Mapping                           |
|                  | FeatureValue               | SatisfySubjectMembership                          | FeatureValue_Mapping                                                     |
|                  | FeatureTyping              | SatisfyFeatureMembership                          | ReferenceUsageFeatureTyping_Mapping                                      |
|                  | SubjectMembership          | SatisfySubjectMembership                          | Membership_Mapping                                                       |
|                  | FeatureTyping              | SatisfyFeatureTyping                              | FeatureTyping_Mapping                                                    |
|                  | Membership                 | SatisfySubjectMembership                          | FeatureValueFeatureReferenceExpressionMembership                         |
|                  | FeatureMembership          | SatisfyFeatureMembership                          | Membership_Mapping                                                       |
|                  | Dependency                 | Abstraction_Mapping                               |                                                                          |
|                  | SatisfyRequirementUsage    | Satisfy_Mapping                                   | Helper.hasStereotypeApplied(Abstraction, 'SysML::Requirements::Satisfy') |
| Comment          | FeatureValue               | ElementGroupMetadataFeatureValue_Mapping          |                                                                          |
|                  | Comment                    | Comment_Mapping                                   | Helper.hasStereotypeApplied(Comment, 'SysML::Comments::ElementGroup')    |
|                  | Membership                 | ProblemRationaleMetadataMembership_Mapping        |                                                                          |
|                  | Redefinition               | ProblemRationaleMetadataRedefinition_Mapping      |                                                                          |
|                  | Package                    | ElementGroup_Mapping                              |                                                                          |
|                  | MetadataUsage              | ProblemRationaleMetadataUsage_Mapping             |                                                                          |
|                  | FeatureTyping              | ProblemRationaleMetadataFeatureTyping_Mapping     |                                                                          |
|                  | FeatureMembership          | ProblemRationaleMetadataFeatureMembership_Mapping |                                                                          |
|                  | FeatureValue               | ProblemRationaleMetadataFeatureValue_Mapping      |                                                                          |
|                  | Comment                    | CommentToConcernComment_Mapping                   |                                                                          |
|                  | Annotation                 | CommentToAnnotation_Mapping                       |                                                                          |
|                  | Redefinition               | ElementGroupMetadataRedefinition_Mapping          |                                                                          |
|                  | MetadataUsage              | ElementGroupMetadataUsage_Mapping                 |                                                                          |
|                  | ReturnParameterMembership  | CommentToConcernReturnParameterMembership_Mapping |                                                                          |
|                  | Membership                 | ElementGroupMetadataMembership_Mapping            |                                                                          |
|                  | ReferenceUsage             | CommentToConcernReturnParameter_Mapping           |                                                                          |
|                  | Annotation                 | CommentToConcernDocumentation_Mapping             |                                                                          |
|                  | FeatureTyping              | ElementGroupMetadataFeatureTyping_Mapping         |                                                                          |
|                  | FeatureMembership          | ElementGroupMetadataFeatureMembership_Mapping     |                                                                          |
|                  | ReferenceUsage             | ProblemRationaleMetadataReferenceUsage_Mapping    |                                                                          |
|                  | ReferenceUsage             | ElementGroupMetadataReferenceUsage_Mapping        |                                                                          |
|                  | LiteralString              | ElementGroupCriterion_Mapping                     |                                                                          |
| Constraint       | AssertConstraintUsage      | ConstraintUsage_Mapping                           |                                                                          |
|                  | ConstraintDefinition       | Constraint_Mapping                                |                                                                          |
|                  | FeatureTyping              | ConstraintUsageFeatureTyping_Mapping              |                                                                          |
|                  | FeatureMembership          | ConstrainedElementFeatureMembership_Mapping       |                                                                          |

| SysML v1 Concept     | SysML v2 Concept                                                                                                                                                                                                                                                                                                                                   | Mapping Class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Filter                                                                                                                                                                                                                                                                                               |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dependency           | FeatureMembership<br>Dependency<br>AllocationUsage<br>FeatureTyping<br>ReferenceUsage<br>AllocationDefinition                                                                                                                                                                                                                                      | AllocationDefinitionFromFeatureMembership_Mapping<br>Dependency_Mapping<br>AllocationUsage_Mapping<br>AllocationDefinitionFromFeatureTyping_Mapping<br>AllocationDefinitionFromReferenceUsage_Mapping<br>AllocationDefinition_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Helper.hasStereotypeApplied(Dependency, 'SysML::Allocations::Allocate') and not Dependency.client->select(t   t.ocIsKindOf(UML::Type))->notEmpty()<br>Helper.hasStereotypeApplied(Dependency, 'SysML::Allocations::Allocate') and Dependency.client->select(t   t.ocIsKindOf(UML::Type))->notEmpty() |
| DirectedRelationship | Relationship                                                                                                                                                                                                                                                                                                                                       | DirectedRelationship_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                      |
| Element              | FeatureTyping<br>FeatureTyping<br>Element<br>Feature<br>FeatureTyping<br>Relationship<br>Expression<br>OwningMembership<br>LiteralInteger<br>ReturnParameterMembership<br>ParameterMembership<br>FeatureMembership<br>FeatureTyping<br>MultiplicityRange<br>ReferenceUsage<br>Element<br>Membership<br>ReturnParameterMembership<br>ReferenceUsage | DefaultMultiplicityBoundTyping_Mapping<br>CommonParameterReferenceUsageInFeatureTyping_Mapping<br>Mapping<br>CommonReturnParameterFeatureUntyped_Mapping<br>CommonReturnParameterFeatureTyping_Mapping<br>ElementOwnership_Mapping<br>CommonValueSpecification_Mapping<br>DefaultMultiplicityMembership_Mapping<br>DefaultMultiplicityBoundValue_Mapping<br>CommonReturnParameterFeatureMembership_Mapping<br>CommonParameterReferenceUsageInMembership_Mapping<br>DefaultMultiplicityBoundOwnership_Mapping<br>CommonReturnParameterReferenceUsageFeatureTyping_Mapping<br>DefaultMultiplicityElement_Mapping<br>CommonReturnParameterReferenceUsageUntyped_Mapping<br>ElementMain_Mapping<br>ElementMembership_Mapping<br>CommonReturnParameterReferenceUsageMembership_Mapping<br>CommonParameterReferenceUsageIn_Mapping |                                                                                                                                                                                                                                                                                                      |
| ElementImport        | Membership                                                                                                                                                                                                                                                                                                                                         | ElementImport_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                      |
| MultiplicityElement  | Feature<br>FeatureMembership<br>OwningMembership<br>FeatureMembership<br>FeatureTyping<br>MultiplicityRange<br>FeatureMembership                                                                                                                                                                                                                   | MultiplicityBound_Mapping<br>MultiplicityBoundOwnership_Mapping<br>MultiplicityMembership_Mapping<br>UpperBoundValueOwnership_Mapping<br>MultiplicityBoundTyping_Mapping<br>MultiplicityElement_Mapping<br>LowerBoundValueOwnership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                      |

| SysML v1 Concept     | SysML v2 Concept                                                                                                                                                                                                                                                                                                                                   | Mapping Class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Filter |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| NamedElement         | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership                                                                                                                                                                                                                                           | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |
| Namespace            | Namespace                                                                                                                                                                                                                                                                                                                                          | Namespace_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |
| PackageableElement   | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership                                                                                                                                                                                                                                           | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |
| PackageImport        | Import                                                                                                                                                                                                                                                                                                                                             | PackageImport_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |
| ParameterableElement | FeatureTyping<br>FeatureTyping<br>Element<br>Feature<br>FeatureTyping<br>Relationship<br>Expression<br>OwningMembership<br>LiteralInteger<br>ReturnParameterMembership<br>ParameterMembership<br>FeatureMembership<br>FeatureTyping<br>MultiplicityRange<br>ReferenceUsage<br>Element<br>Membership<br>ReturnParameterMembership<br>ReferenceUsage | DefaultMultiplicityBoundTyping_Mapping<br>CommonParameterReferenceUsageInFeatureTyping_Mapping<br>Mapping<br>CommonReturnParameterFeatureUntyped_Mapping<br>CommonReturnParameterFeatureTyping_Mapping<br>ElementOwnership_Mapping<br>CommonValueSpecification_Mapping<br>DefaultMultiplicityMembership_Mapping<br>DefaultMultiplicityBoundValue_Mapping<br>CommonReturnParameterFeatureMembership_Mapping<br>CommonParameterReferenceUsageInMembership_Mapping<br>DefaultMultiplicityBoundOwnership_Mapping<br>CommonReturnParameterReferenceUsageFeatureTyping_Mapping<br>DefaultMultiplicityElement_Mapping<br>CommonReturnParameterReferenceUsageUntyped_Mapping<br>ElementMain_Mapping<br>ElementMembership_Mapping<br>CommonReturnParameterReferenceUsageMembership_Mapping<br>CommonParameterReferenceUsageIn_Mapping |        |
| Realization          | Dependency                                                                                                                                                                                                                                                                                                                                         | Realization_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |
| Relationship         | Relationship                                                                                                                                                                                                                                                                                                                                       | Relationship_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |
| Type                 | ItemFeature<br>FeatureTyping<br>FeatureMembership                                                                                                                                                                                                                                                                                                  | ObjectFlowItemFeature_Mapping<br>ObjectFlowItemFeatureTyping_Mapping<br>ObjectFlowFeatureMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |

| SysML v1 Concept | SysML v2 Concept                                                                                                                                                    | Mapping Class                                                                                                                                                                                                                                                                                                                                                                             | Filter                                                                                                                                                                                               |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TypedElement     | FeatureMembership<br>FeatureTyping<br>FeatureTyping<br>FeatureValue<br>ParameterMembership<br>FeatureReferenceExpression<br>Membership<br>Feature<br>ReferenceUsage | CommonReferenceUsageInFeatureMembership_Mapping<br>CommonReferenceUsageInFeatureTyping_Mapping<br>TypedElementToFeatureTyping_Mapping<br>EqualOperatorExpressionFeatureValue_Mapping<br>EqualOperatorExpressionOperand_Mapping<br>CommonFeatureReferenceExpression_Mapping<br>CommonMembership_Mapping<br>EqualOperatorExpressionFeature_Mapping<br>CommonReferenceUsageInUntyped_Mapping | not<br>src.type.ocllsUndefined().<br>and not<br>src.ocllsKindOf(UML::ValueSpecification)<br>and<br>not(src.type.ocllsKindOf(UML::Enumeration))<br>and<br>Helper.getSysMLV2EnumerationDefinition(src) |
| Usage            | Dependency                                                                                                                                                          | Usage_Mapping                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                      |

C.2.5.6.2 Mapping Specifications

C.2.5.6.2.1 Abstraction\_Mapping

Description

There is no way to represent the "mapping" property on the target metaclass

General Mappings

Dependency\_Mapping

Mapping Source

Abstraction

Mapping Target

Dependency

(none)

Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set { }

- Element::ownedRelationship

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```

- Relationship::target

```
from.target->collect(e | ElementMain_Mapping.getMapped(e))
```

- Relationship::owningRelatedElement

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

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
null
```

- Relationship::source

```
from.source->collect(e | ElementMain_Mapping.getMapped(e))
```

- Relationship::ownedRelatedElement

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain_Mapping.getMapped(e))
```

- Element::shortName

```
null
```

#### C.2.5.6.2.2 Comment\_Mapping

##### Description

test

##### General Mappings

ElementMain\_Mapping

GenericToAnnotatingElement\_Mapping

##### Mapping Source

Comment

##### Mapping Target

Comment

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
not Helper.hasStereotypeApplied(from, 'SysML::ModelElements::ElementGroup')
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- `Element::aliasId`  
`Set{}`
- `Comment::annotation`  
`from.annotatedElement->collect(e | CommentToAnnotation_Mapping.getMapped(from, e))`
- `Comment::ownedRelationship`  
`self.annotation()`
- `Element::name`  
`null`
- `Comment::body`  
`if from.body->isEmpty() then '' else from.body endif`
- `Element::shortName`  
`null`
- `Element::elementId`  
`Helper.createUUID()`
- `Element::ownedRelationship`  
`Set{}`

### C.2.5.6.2.3 CommentToAnnotation\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToAnnotation\_Mapping

#### Mapping Source

Comment

#### Mapping Target

Annotation with qualifier: `annotatedElement:Element`

(none)

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- `Element::aliasId`  
`Set {}`
- `Relationship::ownedRelatedElement`  
`Set {}`
- `Annotation::annotatedElement`  
`ElementMain_Mapping.getMapped(annotatedElement)`
- `Annotation::annotatingElement`  
`Comment_Mapping.getMapped(from)`
- `Relationship::source`  
`Set {}`
- `Element::name`  
`null`
- `Element::shortName`  
`null`
- `Annotation::owningAnnotatedElement`  
`null`
- `Element::elementId`  
`Helper.createUUID()`
- `Relationship::target`  
`Set {}`
- `Element::ownedRelationship`  
`Set {}`

#### C.2.5.6.2.4 Constraint\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings



GenericToConstraintDefinition\_Mapping  
NamedElementMain\_Mapping

### Mapping Source

Constraint

### Mapping Target

ConstraintDefinition

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- ConstraintDefinition::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Definition::isVariation  
`false`
- Element::elementId  
`Helper.getID(from)`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`

#### C.2.5.6.2.5 ConstrainedElementFeatureMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToFeatureMembership\_Mapping

## Mapping Source

Constraint

## Mapping Target

FeatureMembership

## Owned Mappings

- constraintUsage : ConstraintUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature  
`constraintUsage.to`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
`null`
- OwningMembership::ownedRelatedElement

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

- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility

```
KerML::VisibilityKind::public
```

- Element::name

```
null
```

- Element::ownedRelationship

```
Set{ }
```

#### **C.2.5.6.2.6 ConstraintUsageFeatureTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureTyping\_Mapping

##### **Mapping Source**

Constraint

##### **Mapping Target**

FeatureTyping

##### **Owned Mappings**

- constraintUsage : ConstraintUsage\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId  

```
Set{ }
```
- Relationship::ownedRelatedElement  

```
Set{ }
```

- Specialization::specific  
*abstract rule*
- FeatureTyping::type  
  
from
- Element::name  
  
null
- Element::shortName  
  
null
- Specialization::general  
*abstract rule*
- FeatureTyping::typedFeature  
  
constraintUsage.to
- Element::elementId  
  
Helper.createUUID()
- Element::ownedRelationship  
  
Set{ }

#### C.2.5.6.2.7 ConstraintUsage\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToUsage\_Mapping

##### Mapping Source

Constraint

##### Mapping Target

AssertConstraintUsage

##### Owned Mappings

- constraintUsageFeatureTyping : ConstraintUsageFeatureTyping\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- `Feature::isEnd`  
`false`
- `Type::isSufficient`  
`false`
- `Feature::isUnique`  
`true`
- `AssertConstraintUsage::ownedRelationship`  
`Set{constraintUsageFeatureTyping.to, CommonReturnParameterReferenceUsageMembership_Mapping.g`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Element::elementId`  
`Helper.createUUID()`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `Feature::isReadOnly`  
`false`
- `AssertConstraintUsage::name`  
`'assert_' + from.name`
- `Feature::direction`  
`null`
- `Feature::isDerived`  
`false`
- `Feature::isComposite`

false

#### C.2.5.6.2.8 Dependency\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

DirectedRelationship\_Mapping

##### Mapping Source

Dependency

##### Mapping Target

Dependency

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  

```
Set{}
```
- Dependency::supplier  

```
from.target->collect(e | ElementMain_Mapping.getMapped(e))
```
- Dependency::name  

```
from.name
```
- Element::ownedRelationship  

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```
- Relationship::source  

```
Set{}
```
- Relationship::owningRelatedElement  

```
ElementMain_Mapping.getMapped(from.owner)
```
- Dependency::client  

```
from.source->collect(e | ElementMain_Mapping.getMapped(e))
```

- Element::elementId

```
Helper.getID(from)
```

- Relationship::ownedRelatedElement

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain_Map
```

- Element::shortName

```
null
```

- Relationship::target

```
Set{}
```

#### **C.2.5.6.2.9 DirectedRelationship\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

Relationship\_Mapping

##### **Mapping Source**

DirectedRelationship

##### **Mapping Target**

Relationship

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Relationship::ownedRelatedElement

```
Set{}
```

- Element::ownedRelationship

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```

- Relationship::target

```
from.target->collect(e | ElementMain_Mapping.getMapped(e))
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
null
```

- Relationship::source

```
from.source->collect(e | ElementMain_Mapping.getMapped(e))
```

- Element::shortName

```
null
```

#### **C.2.5.6.2.10 ElementMain\_Mapping**

##### **Description**

This is the general abstract class to be used as an ancestor for any class mapping specification.

##### **General Mappings**

GenericToElement\_Mapping

##### **Mapping Source**

Element

##### **Mapping Target**

Element

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::ownedRelationship

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```

- Element::elementId

```
Helper.getID(from)
```

#### **C.2.5.6.2.11 ElementMembership\_Mapping**

##### **Description**



\*\*\* not specified yet \*\*\*

## General Mappings

GenericToMembership\_Mapping

## Mapping Source

Element

## Mapping Target

Membership

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Relationship::ownedRelatedElement

Set{}

- Relationship::source

Set{}

- Membership::membershipOwningNamespace

Set{ElementMain\_Mapping(from)} -- will not be used since corresponding att is derived, but r

- Element::name

null

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Relationship::target

Set{}

- Membership::memberElement

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

- Element::ownedRelationship

```
Set{}
```

- Membership::visibility

```
if (from.ocIsKindOf(UML::NamedElement)) then from.ocAsType(UML::NamedElement).visibility
```

#### C.2.5.6.2.12 ElementOwnership\_Mapping

##### Description

##### General Mappings

GenericToRelationship\_Mapping

##### Mapping Source

Element

##### Mapping Target

Relationship

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Relationship::target

```
OrderedSet{ElementMain_Mapping.getMapped(from)}
```

- Relationship::source

```
OrderedSet{ElementMain_Mapping.getMapped(from.owner)}
```

- Element::name

```
null
```

- Relationship::ownedRelatedElement

```
self.target()
```

- Element::shortName  
null
- Element::elementId  
Helper.createUUID()
- Element::ownedRelationship  
Set{ }

#### C.2.5.6.2.13 ElementOwningMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

ElementMembership\_Mapping  
ElementOwnership\_Mapping

##### Mapping Source

Element

##### Mapping Target

OwningMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement  
Set{ }
- Membership::membershipOwningNamespace  
*abstract rule*
- OwningMembership::membershipOwningNamespace  
Set{ElementMain\_Mapping(from)} -- will not be used since corresponding att is derived, but r
- Membership::memberShortName  
null

- Membership::memberElement  
*abstract rule*
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
  
ElementMain\_Mapping.getMapped(from)
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{}

#### **C.2.5.6.2.14 NamedElementMain\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

ElementMain\_Mapping

##### **Mapping Source**

NamedElement

##### **Mapping Target**

Element

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Element::name  
`from.name`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set {}`

#### C.2.5.6.2.15 Namespace\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToNamespace\_Mapping  
NamedElementMain\_Mapping

##### Mapping Source

Namespace

##### Mapping Target

Namespace

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- `Element::aliasId`  
`Set{}`
- `Namespace::ownedImport`  
`Set{}`
- `Element::elementId`  
`Helper.getID(from)`
- `Element::name`  
`null`
- `Element::shortName`  
`null`
- `Namespace::ownedRelationship`  
`from.ownedElement->collect(e | ElementOwningMembership_Mapping.getMapped(e))`

#### **C.2.5.6.2.16 Relationship\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToRelationship\_Mapping  
ElementMain\_Mapping

##### **Mapping Source**

Relationship

##### **Mapping Target**

Relationship

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- `Element::aliasId`

Set{}

- Relationship::owningRelatedElement

ElementMain\_Mapping.getMapped(from.owner)

- Element::name

null

- Relationship::ownedRelatedElement

from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain\_Map

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

#### C.2.5.6.2.17 Usage\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

Dependency\_Mapping

##### Mapping Source

Usage

##### Mapping Target

Dependency

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Element::ownedRelationship

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```

- Relationship::target

```
from.target->collect(e | ElementMain_Mapping.getMapped(e))
```

- Relationship::owningRelatedElement

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

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
null
```

- Relationship::source

```
from.source->collect(e | ElementMain_Mapping.getMapped(e))
```

- Relationship::ownedRelatedElement

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain_Mapping.getMapped(e))
```

- Element::shortName

```
null
```

## C.2.5.7 InformationFlows

### C.2.5.7.1 Overview

**Table 19. List of all Overview Mapping Specifications**

| SysML v1 Concept | SysML v2 Concept     | Mapping Class                              | Filter                                      |
|------------------|----------------------|--------------------------------------------|---------------------------------------------|
| InformationFlow  | FeatureMembership    | ItemFlowFeatureMembership_Mapping          |                                             |
|                  | EndFeatureMembership | ItemFlowTargetEndFeatureMembership_Mapping |                                             |
|                  | Subsetting           | ItemFlowSourceFeatureSubsetting_Mapping    |                                             |
|                  | Relationship         | ItemFlowItemFeatureTyping_Mapping          |                                             |
|                  | FeatureTyping        | ItemFlowTargetFeatureSubsetting_Mapping    |                                             |
|                  | Subsetting           | ItemFlowSourceEndFeatureMembership_Mapping |                                             |
|                  | EndFeatureMembership | ItemFlowSourceFeature_Mapping              |                                             |
|                  | ItemFlowEnd          | ItemFlowTargetFeature_Mapping              |                                             |
|                  | ItemFlowEnd          | ItemFlow_Mapping                           | Helper.hasStereotypeApplied(InformationFlow |
|                  | FlowConnectionUsage  | ItemFlowItemFeature_Mapping                | 'SysML::Ports&Flows::ItemFlow')             |
|                  | ItemFeature          |                                            |                                             |



| SysML v1 Concept | SysML v2 Concept | Mapping Class                                                                                                                                                                                                                                                                  | Filter |
|------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| InformationItem  | ItemDefinition   | CaseObjectiveMembership_Mapping<br>CaseSubjectFeatureTyping_Mapping<br>CaseSubjectMembership_Mapping<br>StakeholderPartUsage_Mapping<br>CaseObjectiveRequirementUsage_Mapping<br>CaseEmptySubjectReferenceUsage_Mapping<br>Classifier_Mapping<br>StakeholderMembership_Mapping |        |

### C.2.5.7.2 Mapping Specifications

### C.2.5.8 Interactions

#### C.2.5.8.1 Overview

**Table 20. List of all Overview Mapping Specifications**

| SysML v1 Concept                   | SysML v2 Concept                                                                                         | Mapping Class                                                                                                                                                                                                        | Filter |
|------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| ActionExecutionSpecification       | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| BehaviorExecutionSpecification     | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| CombinedFragment                   | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| ConsiderIgnoreFragment             | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| Continuation                       | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| DestructionOccurrenceSpecification | FeatureMembership<br>EventOccurrenceUsage                                                                | MessageOccurrenceSpecificationMembership_Mapping<br>MessageOccurrenceSpecification_Mapping                                                                                                                           |        |

| SysML v1 Concept                 | SysML v2 Concept                                                                                         | Mapping Class                                                                                                                                                                                                        | Filter |
|----------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| ExecutionOccurrenceSpecification | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| ExecutionSpecification           | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| Gate                             | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| GeneralOrdering                  | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| Interaction                      | OccurrenceDefinition                                                                                     | Interaction_Mapping                                                                                                                                                                                                  |        |
| InteractionConstraint            | AssertConstraintUsage<br>ConstraintDefinition<br>FeatureTyping<br>FeatureMembership                      | ConstraintUsage_Mapping<br>Constraint_Mapping<br>ConstraintUsageFeatureTyping_Mapping<br>ConstrainedElementFeatureMembership_Mapping                                                                                 |        |
| InteractionFragment              | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| InteractionOperand               | Namespace                                                                                                | Namespace_Mapping                                                                                                                                                                                                    |        |
| InteractionUse                   | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| Lifeline                         | PartUsage<br>FeatureMembership<br>FeatureTyping                                                          | LifelinePartUsage_Mapping<br>LifelineMembership_Mapping<br>LifelineFeatureTyping_Mapping                                                                                                                             |        |

| SysML v1 Concept               | SysML v2 Concept                                                                                         | Mapping Class                                                                                                                                                                                                        | Filter |
|--------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Message                        | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| MessageEnd                     | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| MessageOccurrenceSpecification | FeatureMembership<br>EventOccurrenceUsage                                                                | MessageOccurrenceSpecificationMembership_Mapping<br>MessageOccurrenceSpecification_Mapping                                                                                                                           |        |
| OccurrenceSpecification        | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| PartDecomposition              | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| StateInvariant                 | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |

## C.2.5.8.2 Mapping Specifications

### C.2.5.8.2.1 Interaction\_Mapping

#### Description

A UML4SysML::Interaction is mapped to a SysMLv2::Interaction.

#### General Mappings

ElementMain\_Mapping  
GenericToOccurrenceDefinition\_Mapping

#### Mapping Source

Interaction

## Mapping Target

OccurrenceDefinition

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Type::isSufficient

false

- Definition::isVariation

false

- Element::name

null

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId

Helper.createUUID()

- OccurrenceDefinition::ownedRelationship

let lifelines: Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Lifeline

- Element::ownedRelationship

Set{}

### C.2.5.8.2.2 LifelineMembership\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToFeatureMembership\_Mapping

### Mapping Source

Lifeline

### Mapping Target

FeatureMembership

### Owned Mappings

- lifelinePartUsage : LifelinePartUsage\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- FeatureMembership::memberFeature  
  
self.ownedMemberFeature()
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- FeatureMembership::ownedMemberFeature  
  
lifelinePartUsage.to
- FeatureMembership::memberName  
  
from.name
- OwningMembership::ownedRelatedElement

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

- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility

```
KerML::VisibilityKind::public
```

- Element::name

```
null
```

- Element::ownedRelationship

```
Set{ }
```

#### **C.2.5.8.2.3 LifelinePartUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToPartUsage\_Mapping

##### **Mapping Source**

Lifeline

##### **Mapping Target**

PartUsage

##### **Owned Mappings**

- lifelineFeatureTyping : LifelineFeatureTyping\_Mapping
- messageOccurrenceSpecificationMembership : MessageOccurrenceSpecificationMembership\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd  

```
false
```
- Type::isSufficient  

```
false
```

- Feature::isUnique  
true
- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Usage::isVariation  
false
- PartUsage::ownedRelationship  
Set{lifelineFeatureTyping.to, messageOccurrenceSpecificationMembership.to}
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.5.8.2.4 LifelineFeatureTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToFeatureTyping\_Mapping

## Mapping Source

Lifeline

## Mapping Target

FeatureTyping

## Owned Mappings

- lifelinePartUsage : LifelinePartUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Relationship::ownedRelatedElement  
`Set{}`
- Specialization::specific  
*abstract rule*
- FeatureTyping::type  
`from.represents.type`
- Element::name  
`null`
- Element::shortName  
`null`
- Specialization::general  
*abstract rule*
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship



Set{}

- FeatureTyping::typedFeature

lifelinePartUsage.to

#### **C.2.5.8.2.5 MessageOccurrenceSpecification\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToEventOccurrenceUsage\_Mapping

##### **Mapping Source**

MessageOccurrenceSpecification

##### **Mapping Target**

EventOccurrenceUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Type::isSufficient

false

- OccurrenceUsage::portionKind

OclUndefined

- Feature::isUnique

true

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false
- OccurrenceUsage::isIndividual  
false
- Element::ownedRelationship  
Set{}

#### **C.2.5.8.2.6 MessageOccurrenceSpecificationMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

MessageOccurrenceSpecification

## Mapping Target

FeatureMembership

## Owned Mappings

- messageOccurrenceSpecification : MessageOccurrenceSpecification\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

null

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::aliasId

Set{}

- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName

null

- OwningMembership::ownedRelatedElement

Set{self.ownedMemberElement() }

- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility

KerML::VisibilityKind::public

- Element::name

null

- FeatureMembership::memberFeature  
self.ownedMemberFeature()
- FeatureMembership::ownedMemberFeature  
messageOccurrenceSpecification.to
- Element::ownedRelationship  
Set{}

## C.2.5.9 Packages

### C.2.5.9.1 Overview

**Table 21. List of all Overview Mapping Specifications**

| SysML v1 Concept | SysML v2 Concept                                                                                                                                   | Mapping Class                                                                                                                                                                                                                                                                                                                                               | Filter                                                                                   |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Extension        | FeatureMembership<br>FeatureMembership<br>Redefinition<br>MetadataFeature<br>FeatureTyping<br>Association<br>Feature<br>FeatureValue<br>Annotation | AssociationToMetadataMembership_Mapping<br>AssociationToFeatureMembership_Mapping<br>AssociationToRedefinition_Mapping<br>AssociationToAnnotatingFeature_Mapping<br>AssociationToFeatureTyping_Mapping<br>AssociationCommon_Mapping<br>AssociationToMetadataFeature_Mapping<br>AssociationToMetadataFeatureValue_Mapping<br>AssociationToAnnotation_Mapping | Extension.memberEnd-<br>>select( m  <br>m.type.oclIsKindOf(UML::UseCase))-<br>>isEmpty() |



| SysML v1 Concept   | SysML v2 Concept                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Mapping Class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Filter |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Model              | LiteralString<br>Redefinition<br>FeatureTyping<br>Package<br>FeatureValue<br>ReferenceUsage<br>FeatureMembership<br>MetadataUsage<br>OwningMembership                                                                                                                                                                                                                                                                                                                                                                        | ModelViewpointValue_Mapping<br>ModelViewpointMetadataRedefinition_Mapping<br>ModelViewpointMetadataFeatureTyping_Mapping<br>Model_Mapping<br>ModelViewpointMetadataFeatureValue_Mapping<br>ModelViewpointMetadataReferenceUsage_Mapping<br>ModelViewpointMetadataFeatureMembership_Mapping<br>ModelViewpointMetadataUsage_Mapping<br>ModelViewpointMetadataMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |        |
| Package            | FeatureMembership<br>FeatureValue<br>FeatureTyping<br>OwningMembership<br>Package<br>MetadataUsage<br>LiteralString<br>Redefinition<br>ReferenceUsage                                                                                                                                                                                                                                                                                                                                                                        | PackageURIFeatureMembership_Mapping<br>PackageURIMetadataFeatureValue_Mapping<br>PackageURIFeatureTyping_Mapping<br>PackageURIMetadataMembership_Mapping<br>Package_Mapping<br>PackageURIMetadataUsage_Mapping<br>PackageURIValue_Mapping<br>PackageURIRedefinition_Mapping<br>PackageURIMetadataReferenceUsage_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |
| PackageMerge       | Relationship                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | DirectedRelationship_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |
| Profile            | Package                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Profile_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |
| ProfileApplication | Relationship                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | DirectedRelationship_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |
| Stereotype         | OccurrenceDefinition<br>OwningMembership<br>Subclassification<br>ReturnParameterMembership<br>FeatureValue<br>FeatureTyping<br>Membership<br>Membership<br>Feature<br>FeatureReferenceExpression<br>FeatureMembership<br>FeatureMembership<br>OwningMembership<br>Redefinition<br>FeatureTyping<br>OccurrenceUsage<br>OperatorExpression<br>LiteralInfinity<br>Membership<br>FeatureMembership<br>MultiplicityRange<br>MetadataDefinition<br>ReferenceUsage<br>ReturnParameterMembership<br>Feature<br>Membership<br>Feature | StereotypeOccurrenceDefinition_Mapping<br>StereotypeMetadataDefinitionMembership_Mapping<br>StereotypeMetadataDefinitionSubclassification_Mapping<br>StereotypeOccurrenceUsageMultiplicityRangeInfinityReturnParameterMem<br>StereotypeMetadataDefinitionReferenceUsageFeatureValue_Mapping<br>StereotypeOccurrenceUsageFeatureTyping_Mapping<br>StereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpression<br>StereotypeOccurrenceUsageMembership_Mapping<br>StereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpression<br>StereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsage_M<br>StereotypeMetadataDefinitionFeatureMembership_Mapping<br>StereotypeOccurrenceDefinitionMembership_Mapping<br>StereotypeMetadataDefinitionReferenceUsageRedefinition_Mapping<br>StereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsageFe<br>StereotypeOccurrenceUsage_Mapping<br>StereotypeMetadataDefinitionReferenceUsageOperatorExpression_Mappin<br>StereotypeOccurrenceUsageMultiplicityRangeInfinity_Mapping<br>StereotypeOccurrenceUsageMultiplicityRangeMembership_Mapping<br>StereotypeMetadataDefinitionReferenceUsageFeatureMembershipReferenc<br>StereotypeOccurrenceUsageMultiplicityRange_Mapping<br>StereotypeMetadataDefinition_Mapping<br>StereotypeMetadataDefinitionReferenceUsage_Mapping<br>StereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpression<br>StereotypeOccurrenceUsageMultiplicityRangeInfinityReturnParameter_Ma<br>StereotypeOccurrenceUsageMultiplicityMembership_Mapping<br>StereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsageFe |        |

### C.2.5.9.2 UML4SysML Packages elements not mapped

Table 22. 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. |
| PackageMerge     | The concept of the PackageMerge relationship is not supported by SysML v2.                   |

### C.2.5.9.3 Mapping Specifications

#### C.2.5.9.3.1 ElementImport\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToMembership\_Mapping  
DirectedRelationship\_Mapping

##### Mapping Source

ElementImport

##### Mapping Target

Membership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::memberElement  
`ElementMain_Mapping.getMapped(from.importedElement)`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Relationship::owningRelatedElement  
`ElementMain_Mapping.getMapped(from.owner)`

- **Element::shortName**  
null
- **Relationship::target**  
Set{}
- **Element::aliasId**  
Set{}
- **Membership::visibility**  
Helper.getKerMLVisibilityKind(from.visibility)
- **Membership::aliases**  
from.alias->asSet()
- **Membership::membershipOwningPackage**  
Namespace\_Mapping.getMapped(from.importingNamespace)
- **Relationship::source**  
Set{}
- **Element::elementId**  
Helper.getID(from)
- **Element::name**  
null
- **Relationship::ownedRelatedElement**  
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain\_Map)
- **Membership::memberName**  
from.importedElement.name

#### **C.2.5.9.3.2 Package\_Mapping**

##### **Description**

A UML::Package is mapped to a SysMLv2::Package. The property "URI" is mapped to a metadata if it has a value. The expected SysML v2 textual notation of a SysMLv1::Package is as follows:

```
package ThisIsAPackageWithURI {
 metadata SysMLv1Library::PackageData {URI="https://omg.org";}
}
```

##### **General Mappings**

Namespace\_Mapping



### Mapping Source

Package

### Mapping Target

Package

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Package::ownedRelationship  
`Helper.packageOwnedRelationship(from)`
- Element::elementId  
`Helper.getID(from)`
- Element::name  
`from.name`
- Element::shortName  
`null`

#### C.2.5.9.3.3 PackageImport\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

DirectedRelationship\_Mapping

### Mapping Source

PackageImport

## Mapping Target

Import

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- **Import::importOwningPackage**  
`Namespace_Mapping.getMapped(from.importingNamespace)`
- **Element::ownedRelationship**  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- **Relationship::owningRelatedElement**  
`ElementMain_Mapping.getMapped(from.owner)`
- **Import::importedPackage**  
`Namespace_Mapping.getMapped(from.importedPackage)`
- **Element::shortName**  
`null`
- **Import::visibility**  
`Helper.getKerMLVisibilityKind(from.visibility)`
- **Relationship::target**  
`Set{ }`
- **Element::aliasId**  
`Set{ }`
- **Relationship::source**  
`Set{ }`
- **Element::elementId**  
`Helper.getID(from)`
- **Element::name**  
`null`

- Relationship::ownedRelatedElement

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain_Map
```

#### C.2.5.9.3.4 Model\_Mapping

##### Description

SysMLv2 has no explicit model element for a model. The SysMLv1::Model element is mapped to a SysMLv2::Package. The property "viewpoint" is mapped to a metadata defined in the SysML v1 library. The expected SysML v2 textual notation of a SysMLv1::Model is as follows:

```
package ThisIsAModel {
 metadata SysMLv1Library::PackageData {URI="https://omg.org";}
 metadata SysMLv1Library::ModelData {'viewpoint'="thisIsTheViewpointOfTheModel";}
}
```

##### General Mappings

Package\_Mapping

##### Mapping Source

Model

##### Mapping Target

Package

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Package::ownedRelationship

```
Helper.packageOwnedRelationship(from)->including(ModelViewpointMetadataMembership_Mapping.ge
```

- Namespace::ownedImport

```
Set{}
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name  
`from.name`
- Element::shortName  
`null`
- Namespace::ownedRelationship  
`from.ownedElement->collect(e | ElementOwningMembership_Mapping.getMapped(e))`

#### C.2.5.9.3.5 ModelViewpointMetadataUsage\_Mapping

#### C.2.5.9.3.6 ModelViewpointMetadataFeatureMembership\_Mapping

##### Description

The mapping class creates the feature membership relationship for the metadata feature to store the UML::Model::viewpoint property.

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

Model

##### Mapping Target

FeatureMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- FeatureMembership::ownedMemberFeature  
`ModelViewpointMetadataReferenceUsage_Mapping.getMapped(from)`
- Element::shortName  
`null`

- Element::elementId  
Helper.createUUID()
- Element::aliasId  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
null
- OwningMembership::ownedRelatedElement  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
KerML::VisibilityKind::public
- Element::name  
null
- Element::ownedRelationship  
Set{ }

### C.2.5.9.3.7 ModelViewpointMetadataReferenceUsage\_Mapping

#### Description

The mapping class creates the MetadataFeature for the mapping of the property UML::Model::viewpoint.

#### General Mappings

GenericToReferenceUsage\_Mapping

#### Mapping Source

Model

#### Mapping Target

ReferenceUsage

#### Owned Mappings

- modelViewpointMetadataRedefinition : ModelViewpointMetadataRedefinition\_Mapping

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction  
`null`
- Element::name  
`null`

- Feature::isDerived

false

- Feature::isComposite

false

- ReferenceUsage::ownedRelationship

Set{modelViewpointMetadataRedefinition.to, ModelViewpointMetadataFeatureValue\_Mapping.getMap

#### C.2.5.9.3.8 ModelViewpointMetadataFeatureTyping\_Mapping

##### Description

The mapping class creates the FeatureTyping relationship for the AnnotatingFeature for the metadata to store the UML::Model::viewpoint property.

##### General Mappings

GenericToFeatureTyping\_Mapping

##### Mapping Source

Model

##### Mapping Target

FeatureTyping

##### Owned Mappings

- modelViewpointMetadataUsage : ModelViewpointMetadataUsage\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Relationship::ownedRelatedElement

Set{}

- FeatureTyping::typedFeature

modelViewpointMetadataUsage.to

- Specialization::specific  
*abstract rule*
- Element::name

null

- Element::shortName

null

- Specialization::general  
*abstract rule*
- FeatureTyping::type

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

- Element::elementId

```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

#### C.2.5.9.3.9 ModelViewpointMetadataMembership\_Mapping

##### Description

The mapping class creates a membership relationship for the metadata feature value for the UML::Model::viewpoint property.

##### General Mappings

GenericToOwningMembership\_Mapping

##### Mapping Source

Model

##### Mapping Target

OwningMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement

```
Set{}
```



- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Membership::memberElement  
*abstract rule*
- OwningMembership::ownedMemberElement  
  
ModelViewpointMetadataUsage\_Mapping.getMapped(from)
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- Membership::memberName  
  
null
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{}

#### **C.2.5.9.3.10 ModelViewpointMetadataFeatureValue\_Mapping**

##### **Description**

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

##### **General Mappings**

GenericToFeatureValue\_Mapping

##### **Mapping Source**

Model

##### **Mapping Target**

FeatureValue

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- FeatureValue::value  
  
ModelViewpointValue\_Mapping.getMapped(from)
- Element::ownedRelationship  
  
Set{}

#### C.2.5.9.3.11 ModelViewpointMetadataRedefinition\_Mapping

##### Description

The mapping class creates the redefinition of the attribute for the metadata UML::Model::viewpoint.

## General Mappings

GenericToRedefinition\_Mapping

## Mapping Source

Model

## Mapping Target

Redefinition

## Owned Mappings

- modelViewpointMetadataReferenceUsage : ModelViewpointMetadataReferenceUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{ }

- Redefinition::redefinedFeature

```
let m : SYSML2::Membership = SYSML2::AttributeUsage.allInstances()->collect(dt | dt.owningRe
```

- Redefinition::redefiningFeature

modelViewpointMetadataReferenceUsage.to

- Subsetting::ownedRelatedElement

Set{ }

- Subsetting::subsettingFeature

*abstract rule*

- Element::name

null

- Subsetting::subsettingFeature

*abstract rule*

- Element::shortName

null

- Element::elementId

```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

#### **C.2.5.9.3.12 ModelViewpointValue\_Mapping**

##### **Description**

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

##### **General Mappings**

GenericToExpression\_Mapping

##### **Mapping Source**

Model

##### **Mapping Target**

LiteralString

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

```
false
```

- Type::isSufficient

```
false
```

- Feature::isUnique

```
true
```

- Element::shortName

```
null
```

- Type::isAbstract

```
false
```

- Element::elementId

```
Helper.createUUID()
```

- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction  
`null`
- Element::name  
`null`
- Feature::isDerived  
`false`
- Feature::isComposite  
`false`
- Element::ownedRelationship  
`Set{}`
- LiteralString::value  
`from.viewpoint`

#### **C.2.5.9.3.13 PackageURIMetadataUsage\_Mapping**

##### **Description**

The mapping class creates the annotating feature to annotate the generated Package element with metadata to store the UML::Package::URI property.

##### **General Mappings**

GenericToMetadataUsage\_Mapping

##### **Mapping Source**

Package

##### **Mapping Target**

MetadataUsage

## Owned Mappings

- packageURIFeatureTyping : PackageURIFeatureTyping\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- MetadataUsage::name  
`'URI'`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- Feature::isReadOnly

false

- Feature::direction

null

- MetadataUsage::ownedRelationship

Set{packageURIFeatureTyping.to, PackageURIFeatureMembership\_Mapping.getMapped(from)}

- Feature::isDerived

false

- Feature::isComposite

false

#### C.2.5.9.3.14 PackageURIFeatureMembership\_Mapping

##### Description

The mapping class creates the feature membership relationship for the metadata feature to store the UML::Package::URI property.

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

Package

##### Mapping Target

FeatureMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature

PackageURIMetadataReferenceUsage\_Mapping.getMapped(from)

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

null

- Element::shortName  
null
- Element::elementId  
Helper.createUUID()
- Element::aliasId  
Set{ }
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
null
- OwningMembership::ownedRelatedElement  
Set{ self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
KerML::VisibilityKind::public
- Element::name  
null
- Element::ownedRelationship  
Set{ }

#### C.2.5.9.3.15 PackageURIFeatureTyping\_Mapping

##### Description

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

##### General Mappings

GenericToFeatureTyping\_Mapping

##### Mapping Source

Package

##### Mapping Target

FeatureTyping



## Owned Mappings

- packageURIMetadataUsage : PackageURIMetadataUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Relationship::ownedRelatedElement

```
Set{}
```

- Specialization::specific

*abstract rule*

- FeatureTyping::type

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

- Element::name

```
null
```

- Element::shortName

```
null
```

- Specialization::general

*abstract rule*

- FeatureTyping::typedFeature

```
packageURIMetadataUsage.to
```

- Element::elementId

```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

### C.2.5.9.3.16 PackageURIMetadataReferenceUsage\_Mapping

#### Description

The mapping class creates the MetadataFeature for the mapping of the property UML::Package::URI.

#### General Mappings

GenericToReferenceUsage\_Mapping

## Mapping Source

Package

## Mapping Target

ReferenceUsage

## Owned Mappings

- packageURIMetadataFeatureValue : PackageURIMetadataFeatureValue\_Mapping
- packageURIRedefinition : PackageURIRedefinition\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`

- Usage::isVariation  
false
- Feature::isReadOnly  
false
- ReferenceUsage::ownedRelationship  
Set{packageURIRedefinition.to, packageURIMetadataFeatureValue.to}
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.5.9.3.17 PackageURIMetadataFeatureValue\_Mapping**

##### **Description**

The mapping class maps the value of the property UML::Package::URI.

##### **General Mappings**

GenericToFeatureValue\_Mapping

##### **Mapping Source**

Package

##### **Mapping Target**

FeatureValue

##### **Owned Mappings**

- packageURIMetadataReferenceUsage : PackageURIMetadataReferenceUsage\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- FeatureValue::featureWithValue  
`packageURIMetadataReferenceUsage.to`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- FeatureValue::value  
`PackageURIValue_Mapping.getMapped(from)`
- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
`null`
- OwningMembership::ownedRelatedElement  
`Set{self.ownedMemberElement() }`
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship  
`Set{}`

#### **C.2.5.9.3.18 PackageURIMetadataMembership\_Mapping**

##### **Description**

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

##### **General Mappings**

GenericToOwningMembership\_Mapping

### Mapping Source

Package

### Mapping Target

OwningMembership

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement  
`Set{}`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Membership::memberElement  
*abstract rule*
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
`PackageURIMetadataUsage_Mapping.getMapped(from)`
- Membership::memberName  
`null`
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name

null

- Element::ownedRelationship

Set{}

#### C.2.5.9.3.19 PackageURIRedefinition\_Mapping

##### Description

The mapping class creates the redefinition of the attribute for the metadata UML::Package::URI.

##### General Mappings

GenericToRedefinition\_Mapping

##### Mapping Source

Package

##### Mapping Target

Redefinition

##### Owned Mappings

- packageURIMetadataReferenceUsage : PackageURIMetadataReferenceUsage\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Redefinition::redefinedFeature

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

- Subsetting::ownedRelatedElement

Set{}

- Redefinition::redefiningFeature

```
packageURIMetadataReferenceUsage.to
```

- Subsetting::subsettingFeature  
*abstract rule*
- Element::name

null

- Subsetting::subsettingFeature  
*abstract rule*
- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

#### C.2.5.9.3.20 PackageURIValue\_Mapping

##### Description

The mapping class maps the value expression of the property UML::Package::URI.

##### General Mappings

GenericToExpression\_Mapping

##### Mapping Source

Package

##### Mapping Target

LiteralString

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- LiteralString::value

from.URI

- Feature::isEnd

false

- Type::isSufficient

false

- Feature::isUnique

- `Element::shortName`

- `Type::isAbstract`

- `Element::elementId`

- Feature::isOrdered

- `Element::aliasId`

- Feature::isPortion

- Feature::isReadOnly

- Feature::direction

- `Element::name`

- Feature::isDerived

- Feature::isComposite

- Element::ownedRelationship

#### C.2.5.9.3.21 StereotypeMetadataDefinitionFeatureMembership\_Mapping

\*\*\* not specified yet \*\*\*

## GenericToFeatureMembership\_Mapping



## Mapping Source

Stereotype

## Mapping Target

FeatureMembership

## Owned Mappings

- stereotypeMetadataDefinitionReferenceUsage : StereotypeMetadataDefinitionReferenceUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- FeatureMembership::ownedMemberFeature  
  
stereotypeMetadataDefinitionReferenceUsage.to
- Element::aliasId  
  
Set{ }
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{ self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*

- Membership::visibility  
KerML::VisibilityKind::public
- Element::name  
null
- Element::ownedRelationship  
Set{}

#### C.2.5.9.3.22 StereotypeMetadataDefinitionMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

ElementOwningMembership\_Mapping

##### Mapping Source

Stereotype

##### Mapping Target

OwningMembership

##### Owned Mappings

- stereotypeMetadataDefinition : StereotypeMetadataDefinition\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::memberShortName  
null
- Element::shortName  
null
- Element::elementId  
Helper.createUUID()
- Membership::visibility  
if (from.ocIsKindOf(UML::NamedElement)) then from.ocAsType(UML::NamedElement).visibility

- **Element::aliasId**  
`Set{ }`
- **Relationship::target**  
`OrderedSet{ElementMain_Mapping.getMapped(from) }`
- **Relationship::source**  
`OrderedSet{ElementMain_Mapping.getMapped(from.owner) }`
- **Membership::memberName**  
`null`
- **Membership::membershipOwningNamespace**  
`Set{ElementMain_Mapping(from) } -- will not be used since corresponding att is derived, but r`
- **Element::name**  
`null`
- **Relationship::ownedRelatedElement**  
`self.target()`
- **OwningMembership::ownedMemberElement**  
`stereotypeMetadataDefinition.to`
- **Membership::memberElement**  
`ElementMain_Mapping.getMapped(from)`
- **Element::ownedRelationship**  
`Set{ }`

#### **C.2.5.9.3.23 StereotypeMetadataDefinitionReferenceUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToReferenceUsage\_Mapping

##### **Mapping Source**

Stereotype

##### **Mapping Target**

ReferenceUsage

## Owned Mappings

- stereotypeMetadataDefinitionReferenceUsageFeatureValue :  
StereotypeMetadataDefinitionReferenceUsageFeatureValue\_Mapping
- stereotypeMetadataDefinitionReferenceUsageRedefinition :  
StereotypeMetadataDefinitionReferenceUsageRedefinition\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- ReferenceUsage::ownedRelationship  
`Set{stereotypeMetadataDefinitionReferenceUsageRedefinition.to, stereotypeMetadataDefinitionReferenceUsageFeatureValue.to}`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`

false

- Feature::isReadOnly

false

- Feature::direction

null

- Element::name

null

- Feature::isDerived

false

- Feature::isComposite

false

#### **C.2.5.9.3.24 StereotypeMetadataDefinitionReferenceUsageFeatureMembershipReference\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

Stereotype

##### **Mapping Target**

FeatureMembership

##### **Owned Mappings**

- stereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpression :  
StereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpression\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- FeatureMembership::visibility

KerML::VisibilityKind::private

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Element::name  
  
null
- FeatureMembership::ownedMemberFeature  
  
stereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpression.to
- Element::ownedRelationship  
  
Set{ }

#### **C.2.5.9.3.25 StereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

Stereotype

## Mapping Target

FeatureMembership

## Owned Mappings

- stereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsageFeature :  
StereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsageFeature\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- FeatureMembership::ownedMemberFeature  
  
stereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsageFeature.to
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
KerML::VisibilityKind::public

- Element::name

null

- Element::ownedRelationship

Set{}

#### **C.2.5.9.3.26 StereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsageFeature\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeature\_Mapping

##### **Mapping Source**

Stereotype

##### **Mapping Target**

Feature

##### **Owned Mappings**

- stereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsageFeatureTyping :  
StereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsageFeatureTyping\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Type::isSufficient

false

- Feature::ownedRelationship

Set{stereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsageFeatureTyping.to}

- Element::name

null

- Element::shortName



null

- Type::isAbstract

false

- Element::elementId

Helper.createUUID()

### C.2.5.9.3.27 StereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsageFeatureTyping\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToFeatureTyping\_Mapping

#### Mapping Source

Stereotype

#### Mapping Target

FeatureTyping

#### Owned Mappings

- stereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsageFeature :  
StereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsageFeature\_Mapping

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

#### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set { }

- Relationship::ownedRelatedElement

Set { }

- Specialization::specific

*abstract rule*

- FeatureTyping::typedFeature

stereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsageFeature.to

- Element::name

null

- Element::shortName

null

- FeatureTyping::type

SysMLv2::Package.allInstances()->collect(dt | dt.owningRelationship)->select(r | r.oclIsKindOf)

- Specialization::general  
*abstract rule*

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

#### C.2.5.9.3.28 StereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpression\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToExpression\_Mapping

##### Mapping Source

Stereotype

##### Mapping Target

FeatureReferenceExpression

##### Owned Mappings

- stereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpressionMembership :  
StereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpressionMembership\_Mapping
- stereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpressionReturnParameterMembership :  
StereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpressionReturnParameterMembership\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- `Type::isSufficient`  
`false`
- `Feature::isUnique`  
`true`
- `FeatureReferenceExpression::ownedRelationship`  
`Set{stereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpressionMembership.to, stereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpressionMembership.to}`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Element::elementId`  
`Helper.createUUID()`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `Feature::isReadOnly`  
`false`
- `Feature::direction`  
`null`
- `Element::name`  
`null`
- `Feature::isDerived`  
`false`
- `Feature::isComposite`  
`false`

#### **C.2.5.9.3.29**

#### **StereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpressionMembership\_Mapping**

#### **Description**

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToMembership\_Mapping

## Mapping Source

Stereotype

## Mapping Target

Membership

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Membership::memberElement  
`StereotypeOccurrenceUsageMembership_Mapping.getMapped(from)`
- Relationship::ownedRelatedElement  
`Set{}`
- Relationship::source  
`Set{}`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Relationship::target  
`Set{}`
- Element::ownedRelationship

Set{}

#### C.2.5.9.3.30

#### StereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpressionReturnParameter\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeature\_Mapping

##### Mapping Source

Stereotype

##### Mapping Target

Feature

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set{}
- Type::isSufficient  
false
- Feature::direction  
SysMLv2::FeatureDirectionKind::out
- Element::name  
null
- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId

```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

#### **C.2.5.9.3.31**

#### **StereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpressionReturnParameterMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToReturnParameterMembership\_Mapping

##### **Mapping Source**

Stereotype

##### **Mapping Target**

ReturnParameterMembership

##### **Owned Mappings**

- stereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpressionReturnParameter :  
StereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpressionReturnParameter\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace

*abstract rule*

- Membership::memberShortName

```
null
```

- ReturnParameterMembership::ownedMemberParameter

```
stereotypeMetadataDefinitionReferenceUsageFeatureReferenceExpressionReturnParameter.to
```

- Element::shortName

```
null
```

- Element::elementId

```
Helper.createUUID()
```

- Element::aliasId  
`Set{}`
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
`null`
- ParameterMembership::ownedRelatedElement  
`Set{self.ownedMemberParameter() }`
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship  
`Set{}`

#### C.2.5.9.3.32 StereotypeMetadataDefinitionReferenceUsageFeatureValue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureValue\_Mapping

##### Mapping Source

Stereotype

##### Mapping Target

FeatureValue

##### Owned Mappings

- stereotypeMetadataDefinitionReferenceUsageOperatorExpression :  
StereotypeMetadataDefinitionReferenceUsageOperatorExpression\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace

*abstract rule*

- Membership::memberShortName

null

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::aliasId

Set{}

- FeatureValue::value

*abstract rule*

- OwningMembership::ownedMemberElement

*abstract rule*

- Membership::memberName

null

- OwningMembership::ownedRelatedElement

Set{self.ownedMemberElement() }

- Membership::visibility

KerML::VisibilityKind::public

- Element::name

null

- Element::ownedRelationship

Set{}

### C.2.5.9.3.33 StereotypeMetadataDefinitionReferenceUsageOperatorExpression\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToExpression\_Mapping

#### Mapping Source



Stereotype

## Mapping Target

OperatorExpression

## Owned Mappings

- stereotypeMetadataDefinitionReferenceUsageFeatureMembershipReference :  
StereotypeMetadataDefinitionReferenceUsageFeatureMembershipReference\_Mapping
- stereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsage :  
StereotypeMetadataDefinitionReferenceUsageFeatureMembershipUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- OperatorExpression::ownedRelationship  
`Set{stereotypeMetadataDefinitionReferenceUsageFeatureMembershipReference.to, stereotypeMeta`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{ }`

- Feature::isPortion  
false
- Feature::isReadOnly  
false
- OperatorExpression::operator  
'as'
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.5.9.3.34 StereotypeMetadataDefinitionReferenceUsageRedefinition\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToRedefinition\_Mapping

##### **Mapping Source**

Stereotype

##### **Mapping Target**

Redefinition

##### **Owned Mappings**

- stereotypeMetadataDefinitionReferenceUsage : StereotypeMetadataDefinitionReferenceUsage\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Subsetting::ownedRelatedElement

Set{}

- Subsetting::subsettingFeature

*abstract rule*

- Redefinition::redefinedFeature

SysMLv2::Feature.allInstances()->collect(dt | dt.owningRelationship)->select(r | r.ocIsKindOf)

- Element::name

null

- Subsetting::subsettingFeature

*abstract rule*

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

- Redefinition::redefiningFeature

stereotypeMetadataDefinitionReferenceUsage.to

#### **C.2.5.9.3.35 StereotypeMetadataDefinitionSubclassification\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToSubclassification\_Mapping

##### **Mapping Source**

Stereotype

##### **Mapping Target**

Subclassification

## Owned Mappings

- stereotypeMetadataDefinition : StereotypeMetadataDefinition\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{ }
```

- Relationship::ownedRelatedElement

```
Set{ }
```

- Specialization::specific

*abstract rule*

- Subclassification::subclassifier

```
stereotypeMetadataDefinition.to
```

- Element::name

```
null
```

- Element::shortName

```
null
```

- Subclassification::superclassifier

```
SysMLv2::Metaclass.allInstances()->collect(dt | dt.owningRelationship)->select(r | r.ocIsKi
```

- Specialization::general

*abstract rule*

- Element::elementId

```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{ }
```

### C.2.5.9.3.36 StereotypeOccurrenceUsage\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToOccurrenceUsage\_Mapping

## Mapping Source

Stereotype

## Mapping Target

OccurrenceUsage

## Owned Mappings

- stereotypeOccurrenceUsageFeatureTyping : StereotypeOccurrenceUsageFeatureTyping\_Mapping
- stereotypeOccurrenceUsageMultiplicityMembership : StereotypeOccurrenceUsageMultiplicityMembership\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Type::isSufficient

false

- OccurrenceUsage::ownedRelationship

Set{stereotypeOccurrenceUsageFeatureTyping.to, stereotypeOccurrenceUsageMultiplicityMembership

- Feature::isUnique

true

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId

Helper.createUUID()

- Feature::isOrdered

false

- Element::aliasId

Set{}

- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.5.9.3.37 StereotypeOccurrenceDefinitionMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

ElementOwningMembership\_Mapping

##### **Mapping Source**

Stereotype

##### **Mapping Target**

OwningMembership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Membership::memberShortName

- `Element::shortName`

- `OwningMembership::ownedMemberElement`

- `Element::elementId`

- Membership::visibility

- `Element::aliasId`

- Relationship::target

- Relationship::source

- Membership::memberName

- Membership::membershipOwningNamespace

- `Element::name`

- Relationship::ownedRelatedElement

- Membership::memberElement

- Element::ownedRelationship

### C.2.5.9.3.38 StereotypeOccurrenceDefinition\_Mapping

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToOccurrenceDefinition\_Mapping

## Mapping Source

Stereotype

## Mapping Target

OccurrenceDefinition

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Type::isSufficient

```
false
```

- OccurrenceDefinition::name

```
from.name
```

- Definition::isVariation

```
false
```

- OccurrenceDefinition::ownedRelationship

```
let baseProperties : Sequence(UML::Element) = src.ownedElement->select(e | e.name.indexOf('
```

- Element::shortName

```
null
```

- Type::isAbstract

```
false
```

- Element::elementId

```
Helper.createUUID()
```

### C.2.5.9.3.39 StereotypeOccurrenceUsageFeatureTyping\_Mapping

#### Description



\*\*\* not specified yet \*\*\*

## General Mappings

GenericToFeatureTyping\_Mapping

## Mapping Source

Stereotype

## Mapping Target

FeatureTyping

## Owned Mappings

- stereotypeOccurenceUsage : StereotypeOccurenceUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{ }`
- Relationship::ownedRelatedElement  
`Set{ }`
- Specialization::specific  
*abstract rule*
- FeatureTyping::type  
`StereotypeOccurenceDefinition_Mapping.getMapped(from)`
- FeatureTyping::typedFeature  
`stereotypeOccurenceUsage.to`
- Element::name  
`null`
- Element::shortName  
`null`
- Specialization::general  
*abstract rule*
- Element::elementId

```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

#### **C.2.5.9.3.40 StereotypeOccurenceUsageMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToMembership\_Mapping

##### **Mapping Source**

Stereotype

##### **Mapping Target**

Membership

##### **Owned Mappings**

- stereotypeOccurenceUsage : StereotypeOccurenceUsage\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Relationship::ownedRelatedElement

```
Set{}
```

- Membership::memberName

```
from.name.substring(1,1).toLowerCase() + from.name.substring(2,from.name.size()) + 's'
```

- Membership::memberElement

```
self.ownedMemberElement()
```

- Relationship::source

```
Set{}
```

- Element::name

null

- Membership::ownedMemberElement

stereotypeOccurrenceUsage.to

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Relationship::target

Set{}

- Element::ownedRelationship

Set{}

#### **C.2.5.9.3.41 StereotypeOccurrenceUsageMultiplicityMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToMembership\_Mapping

##### **Mapping Source**

Stereotype

##### **Mapping Target**

Membership

##### **Owned Mappings**

- stereotypeOccurrenceUsageMultiplicityRange : StereotypeOccurrenceUsageMultiplicityRange\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Relationship::ownedRelatedElement

- Set{}
- Relationship::source
  - Set{}
- Membership::ownedMemberElement
  - stereotypeOccurenceUsageMultiplicityRange.to
- Element::name
  - null
- Membership::memberElement
  - self.ownedMemberElement()
- Element::shortName
  - null
- Element::elementId
  - Helper.createUUID()
- Relationship::target
  - Set{}
- Element::ownedRelationship
  - Set{}

#### **C.2.5.9.3.42 StereotypeOccurenceUsageMultiplicityRange\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeature\_Mapping

##### **Mapping Source**

Stereotype

##### **Mapping Target**

MultiplicityRange

##### **Owned Mappings**

- stereotypeOccurenceUsageMultiplicityRangeMembership :  
StereotypeOccurenceUsageMultiplicityRangeMembership\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- MultiplicityRange::ownedRelationship  
`Set{stereotypeOccurenceUsageMultiplicityRangeMembership.to}`

#### C.2.5.9.3.43 StereotypeOccurenceUsageMultiplicityRangeInfinity\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToExpression\_Mapping

##### Mapping Source

Stereotype

##### Mapping Target

LiteralInfinity

##### Owned Mappings

- stereotypeOccurenceUsageMultiplicityRangeInfinityReturnParameterMembership :  
StereotypeOccurenceUsageMultiplicityRangeInfinityReturnParameterMembership\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- LiteralInfinity::ownedRelationship  
`Set{stereotypeOccurenceUsageMultiplicityRangeInfinityReturnParameterMembership.to}`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction  
`null`
- Element::name

null

- Feature::isDerived

    false

- Feature::isComposite

    false

#### **C.2.5.9.3.44 StereotypeOccurrenceUsageMultiplicityRangeInfinityReturnParameter\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeature\_Mapping

##### **Mapping Source**

Stereotype

##### **Mapping Target**

Feature

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

    Set{ }

- Type::isSufficient

    false

- Feature::direction

    SysMLv2::FeatureDirectionKind::out

- Element::name

    null

- Element::shortName

    null

- `Type::isAbstract`  
`false`
- `Element::elementId`  
`Helper.createUUID()`
- `Element::ownedRelationship`  
`Set{}`

#### **C.2.5.9.3.45 StereotypeOccurenceUsageMultiplicityRangeInfinityReturnParameterMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToReturnParameterMembership\_Mapping

##### **Mapping Source**

Stereotype

##### **Mapping Target**

ReturnParameterMembership

##### **Owned Mappings**

- `stereotypeOccurenceUsageMultiplicityRangeInfinityReturnParameter :`  
`StereotypeOccurenceUsageMultiplicityRangeInfinityReturnParameter_Mapping`

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- `Membership::membershipOwningNamespace`  
*abstract rule*
- `Membership::memberShortName`  
`null`
- `ReturnParameterMembership::ownedMemberParameter`  
`stereotypeOccurenceUsageMultiplicityRangeInfinityReturnParameter.to`
- `ReturnParameterMembership::memberParameter`  
`self.ownedMemberParameter()`



- Element::shortName  
null
- Element::elementId  
Helper.createUUID()
- Element::aliasId  
Set{}
- FeatureMembership::owningType  
*abstract rule*
- ReturnParameterMembership::ownedRelatedElement  
let member: KerML::Element = self.ownedMemberParameter() inif member.ocIsUndefined() then
- Membership::memberName  
null
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
KerML::VisibilityKind::public
- Element::name  
null
- Element::ownedRelationship  
Set{}

#### C.2.5.9.3.46 StereotypeOccurenceUsageMultiplicityRangeMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToMembership\_Mapping

##### Mapping Source

Stereotype

##### Mapping Target

Membership

## Owned Mappings

- stereotypeOccurrenceUsageMultiplicityRangeInfinity :  
StereotypeOccurrenceUsageMultiplicityRangeInfinity\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Relationship::ownedRelatedElement  
`Set {}`
- Membership::memberElement  
`self.ownedMemberElement ()`
- Relationship::source  
`Set {}`
- Element::name  
`null`
- Membership::ownedMemberElement  
`stereotypeOccurrenceUsageMultiplicityRangeInfinity.to`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID ()`
- Relationship::target  
`Set {}`
- Element::ownedRelationship  
`Set {}`

### C.2.5.10 SimpleClassifiers

### C.2.5.10.1 Overview

This chapter specifies the mapping of the metaclasses defined in the UML specification in the SimpleClassifiers chapter, which are part of the UML4SysML subset.

**Table 23. List of all Overview Mapping Specifications**

| SysML v1 Concept     | SysML v2 Concept                                                                  | Mapping Class                                                                                                                                                           | Filter                                                                                  |
|----------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| BehavioredClassifier | PerformActionUsage<br>Classifier<br>FeatureTyping<br>FeatureMembership            | BehavioredClassifierToPerformActionUsage_Mapping<br>BehavioredClassifier_Mapping<br>BehavioredClassifierToFeatureTyping_Mapping<br>ClassifierBehaviorMembership_Mapping |                                                                                         |
| DataType             | AttributeDefinition                                                               | DataType_Mapping                                                                                                                                                        |                                                                                         |
| Enumeration          | EnumerationDefinition                                                             | Enumeration_Mapping                                                                                                                                                     |                                                                                         |
| EnumerationLiteral   | EnumerationUsage<br>VariantMembership                                             | EnumerationLiteral_Mapping<br>EnumerationVariantMembership_Mapping                                                                                                      | EnumerationLiteral.classifier->select( c   c.oclIsTypeOf(UML::Association))->size() = 0 |
| Interface            | PortConjugation<br>OwningMembership<br>ConjugatedPortDefinition<br>PortDefinition | InterfacePortConjugation_Mapping<br>InterfaceConjugatedPortDefinitionMembership_Mapping<br>InterfaceConjugatedPortDefinition_Mapping<br>Interface_Mapping               |                                                                                         |
| InterfaceRealization | Subclassification                                                                 | InterfaceRealization_Mapping                                                                                                                                            |                                                                                         |
| PrimitiveType        | AttributeDefinition                                                               | PrimitiveType_Mapping                                                                                                                                                   |                                                                                         |
| Reception            | FeatureTyping<br>AttributeUsage                                                   | ReceptionToFeatureTyping_Mapping<br>Reception_Mapping                                                                                                                   |                                                                                         |
| Signal               | AttributeDefinition                                                               | Signal_Mapping                                                                                                                                                          |                                                                                         |

### C.2.5.10.2 Mapping Specifications

#### C.2.5.10.2.1 Attribute\_Mapping

##### Description

An UML::SimpleClassifiers::Property is mapped to a SysMLv2::Systems::Attributes::AttributeUsage.

##### General Mappings

PropertyCommon\_Mapping  
NamedElementMain\_Mapping

##### Mapping Source

Property

##### Mapping Target

AttributeUsage

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
if src.oclIsTypeOf(UML::Property) and (src.oclAsType(UML::Property).redefinedElement->size() = 0) then
 let p: UML::Property = src.oclAsType(UML::Property) in
 p.type.oclIsKindOf(UML::DataType)
else
 false
endif
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Feature::isOrdered  
from.isOrdered
- Type::isSufficient  
false
- Feature::isAbstract  
false
- Element::shortName  
null
- Feature::ownedRelationship  
let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping\_Mapping.getMapped(from)
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Element::name  
null

- Feature::isDerived  
false
- Feature::isComposite  
false
- Feature::isUnique  
from.isUnique
- Feature::isReadOnly  
*abstract rule*

#### C.2.5.10.2.2 AttributeRedefined\_Mapping

##### Description

An UML::SimpleClassifiers::Property is mapped to a SysMLv2::Systems::Attributes::AttributeUsage.

##### General Mappings

PropertyCommon\_Mapping

##### Mapping Source

Property

##### Mapping Target

ReferenceUsage

##### Owned Mappings

- attributeRedefinedFeatureTyping : AttributeRedefinedFeatureTyping\_Mapping
- attributeRedefinedRedefinition : AttributeRedefinedRedefinition\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Feature::isOrdered  
from.isOrdered
- Type::isSufficient

- Feature::isAbstract

- ReferenceUsage::ownedRelationship

- `Element::shortName`

- Feature::ownedRelationship

- `Element::elementId`

- `Element::aliasId`

- `Feature::isPortion`

- Feature::direction

- Element::name

- Feature::isDerived

- Feature::isComposite

- Feature::isUnique

- Feature::isReadOnly

### C.2.5.10.2.3 AttributeRedefinedRedefinition\_Mapping

## Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToRedefinition\_Mapping

## Mapping Source

Property

## Mapping Target

Redefinition

## Owned Mappings

- attributeRedefined : AttributeRedefined\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Redefinition::redefiningFeature  
`attributeRedefined.to`
- Subsetting::ownedRelatedElement  
`Set{}`
- Subsetting::subsettingFeature  
*abstract rule*
- Element::name  
`null`
- Subsetting::subsettingFeature  
*abstract rule*
- Redefinition::redefinedFeature  
`from.redefinedProperty.get(0)`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`

- Element::ownedRelationship

Set{ }

#### C.2.5.10.2.4 AttributeRedefinedMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

ElementFeatureMembership\_Mapping

##### Mapping Source

NamedElement

##### Mapping Target

FeatureMembership

##### Owned Mappings

- attributeRedefined : AttributeRedefined\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

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

##### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature  
attributeRedefined.to
- FeatureMembership::ownedRelatedElement  
Set{self.ownedMemberFeature() }
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
null
- Element::shortName  
null
- Element::elementId  
Helper.createUUID()



- Element::aliasId  
`Set{}`
- FeatureMembership::ownedMemberFeature  
*abstract rule*
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
`null`
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship  
`Set{}`

#### C.2.5.10.2.5 AttributeRedefinedFeatureTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

StructuralFeatureToFeatureTyping\_Mapping

##### Mapping Source

StructuralFeature

##### Mapping Target

FeatureTyping

##### Owned Mappings

- attributeRedefined : AttributeRedefined\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
not src.type.oclIsUndefined()
and not src.oclIsKindOf(UML::ValueSpecification)
and not (src.type.oclIsKindOf(UML::Enumeration) and Helper.getSysMLv2EnumerationDefinition(src.type.oclIsKindOf(UML::Enumeration)))
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- `Element::aliasId`  
`Set{}`
- `Relationship::ownedRelatedElement`  
`Set{}`
- `FeatureTyping::typedFeature`  
`attributeRedefined.to`
- `FeatureTyping::typedFeature`  
*abstract rule*
- `Element::name`  
`null`
- `Element::shortName`  
`null`
- `Element::elementId`  
`Helper.createUUID()`
- `Element::ownedRelationship`  
`Set{}`
- `FeatureTyping::type`  
`let sysmlv1PrimitiveType : SysMLv2::DataType = if from.type.ocIsKindOf(UML::PrimitiveType)`

### C.2.5.10.2.6 BehavoredClassifier\_Mapping

#### Description

The abstract mapping class `BehavoredClassifier_Mapping` maps the abstract metaclass `UML::SimpleClassifiers::BehavoredClassifiers` to a `SysMLv2::Core::Classifiers::Classifier`. The mapping class is used by concrete mapping classes, for example, `Block_Mapping`.

#### General Mappings

`Classifier_Mapping`

#### Mapping Source

`BehavoredClassifier`

#### Mapping Target

`Classifier`

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Type::isSufficient

```
false
```

- Namespace::ownedImport

```
Set{}
```

- Classifier::ownedRelationship

```
let toElementFMS: Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Prope
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

- Type::isAbstract

```
false
```

- Namespace::ownedRelationship

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

#### C.2.5.10.2.7 ClassifierBehaviorMembership\_Mapping

##### Description

The ClassifierBehaviorMembership\_Mapping class creates a membership relationship for a PerformActionUsage element to call the transformed SysML v1 classifier behavior.

##### General Mappings

GenericToFeatureMembership\_Mapping

## Mapping Source

BehavioredClassifier

## Mapping Target

FeatureMembership

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
    null
- Element::shortName  
  
    null
- Element::elementId  
  
    Helper.createUUID()
- Element::aliasId  
  
    Set{ }
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
  
    null
- OwningMembership::ownedRelatedElement  
  
    Set{ self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- FeatureMembership::ownedMemberFeature  
  
    BehavioredClassifierToPerformActionUsage\_Mapping.getMapped(from)
- Membership::visibility

```
KerML::VisibilityKind::public
```

- Element::name

```
null
```

- Element::ownedRelationship

```
Set{}
```

#### C.2.5.10.2.8 BehavedClassifierToFeatureTyping\_Mapping

##### Description

The BehavedClassifierToFeatureTyping\_Mapping creates the relationship from the PerformActionUsage element to its type which is the transformed SysML v1 classifier behavior.

##### General Mappings

GenericToFeatureTyping\_Mapping

##### Mapping Source

BehavedClassifier

##### Mapping Target

FeatureTyping

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Relationship::ownedRelatedElement

```
Set{}
```

- Specialization::specific

*abstract rule*

- Element::name

```
null
```

- Element::shortName

```
null
```

- Specialization::general  
*abstract rule*
- Element::elementId  
  
Helper.createUUID()
- FeatureTyping::type  
  
from
- Element::ownedRelationship  
  
Set{ }

#### C.2.5.10.2.9 BehavoredClassifierToPerformActionUsage\_Mapping

##### Description

The BehavoredClassifierToPerformActionUsage\_Mapping class creates a PerformActionUsage element to call the transformed SysML v1 classifier behavior.

##### General Mappings

GenericToFeature\_Mapping

##### Mapping Source

BehavoredClassifier

##### Mapping Target

PerformActionUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
  
Set{ }
- Type::isSufficient  
  
false
- PerformActionUsage::isComposite  
  
true
- PerformActionUsage::ownedRelationship

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

- PerformActionUsage::name

```
'classifierBehavior'
```

- Element::shortName

```
null
```

- Type::isAbstract

```
false
```

- Element::elementId

```
Helper.createUUID()
```

#### **C.2.5.10.2.10 DataType\_Mapping**

##### **Description**

A UML::SimpleClassifiers::DataType is mapped to a SysMLv2::Systems::Attributes::AttributeDefinition. The mapping also cover the transformation of UML4SysML::PrimitiveType elements.

##### **General Mappings**

Classifier\_Mapping

##### **Mapping Source**

DataType

##### **Mapping Target**

AttributeDefinition

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Type::isSufficient

```
false
```

- Namespace::ownedImport

```
Set{}
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

- Type::isAbstract

```
false
```

- Namespace::ownedRelationship

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

#### **C.2.5.10.2.11 Enumeration\_Mapping**

##### **Description**

A UML4SysML::Enumeration is mapped to a SysMLv2::EnumerationDefinition.

##### **General Mappings**

DataType\_Mapping

##### **Mapping Source**

Enumeration

##### **Mapping Target**

EnumerationDefinition

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Classifier::isAbstract

```
from.isAbstract
```



- `Type::isSufficient`  
`false`
- `Namespace::ownedImport`  
`Set{}`
- `EnumerationDefinition::isVariation`  
`true`
- `Element::elementId`  
`Helper.getID(from)`
- `Element::name`  
`from.name`
- `Element::shortName`  
`null`
- `EnumerationDefinition::ownedRelationship`  
`let generalizations : Set(UML::Generalization) = from.ownedElement->select(e | e.ocIsKindOf`

#### **C.2.5.10.2.12 EnumerationLiteral\_Mapping**

##### **Description**

A `UML4SysML::EnumerationLiteral` is mapped to a `SysMLv2::EnumerationUsage`.

##### **General Mappings**

GenericToFeature\_Mapping  
InstanceSpecification\_Mapping

##### **Mapping Source**

`EnumerationLiteral`

##### **Mapping Target**

`EnumerationUsage`

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- `Feature::isEnd`  
`false`
- `Element::ownedRelationship`  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- `Type::isSufficient`  
`false`
- `Feature::isUnique`  
`true`
- `Element::name`  
`from.name`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `Usage::isVariation`  
`false`
- `Feature::isReadOnly`  
`false`
- `Feature::direction`  
`null`
- `Element::elementId`  
`Helper.getID(from)`
- `Feature::isDerived`

false

- Feature::isComposite

false

#### **C.2.5.10.2.13 EnumerationVariantMembership\_Mapping**

##### **Description**

The EnumerationVariantMembership\_Mapping class creates the variant membership relationship between the enumeration definition and a enumeration usage.

##### **General Mappings**

GenericToMembership\_Mapping

##### **Mapping Source**

EnumerationLiteral

##### **Mapping Target**

VariantMembership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set { }

- Relationship::ownedRelatedElement

Set { }

- Relationship::source

Set { }

- Element::name

null

- Element::shortName

null

- VariantMembership::ownedMemberElement

```
EnumerationLiteral_Mapping.getMapped(from)
```

- Element::elementId

```
Helper.createUUID()
```

- Relationship::target

```
Set{}
```

- Element::ownedRelationship

```
Set{}
```

#### **C.2.5.10.2.14 Interface\_Mapping**

##### **Description**

A UML4SysML::Interface is mapped to a SysMLv2::PortDefinition. The mapping also includes the generation of an appropriate ConjugatedPortDefinition. That mappings is performed by the mapping classes InterfaceConjugatedPortDefinitionMembership\_Mapping, InterfacePortConjugation\_Mapping, and InterfaceConjugatedPortDefinition\_Mapping.

##### **General Mappings**

GenericToPortDefinition\_Mapping  
Classifier\_Mapping

##### **Mapping Source**

Interface

##### **Mapping Target**

PortDefinition

##### **Owned Mappings**

- conjugatedPortDefinitionMembership : InterfaceConjugatedPortDefinitionMembership\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Type::isSufficient

```
false
```

- **Namespace::ownedImport**  
`Set{}`
- **Definition::isVariation**  
`false`
- **Element::elementId**  
`Helper.getID(from)`
- **Element::name**  
`from.name`
- **PortDefinition::ownedRelationship**  
`let properties: Set(UML::Element) = from.ownedElement->select(e | e.oclIsKindOf(UML::Property))`
- **Element::shortName**  
`null`
- **Type::isAbstract**  
`false`
- **Namespace::ownedRelationship**  
`from.ownedElement->collect(e | ElementOwningMembership_Mapping.getMapped(e))`

#### **C.2.5.10.2.15 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**

- `portConjugation : InterfacePortConjugation_Mapping`

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- `Element::aliasId`  
`Set{}`
- `Type::isSufficient`  
`false`
- `ConjugatedPortDefinition::ownedRelationship`  
`Set{portConjugation}`
- `Definition::isVariation`  
`false`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `ConjugatedPortDefinition::name`  
`'~'+from.name`
- `Element::elementId`  
`Helper.createUUID()`

#### C.2.5.10.2.16 InterfaceConjugatedPortDefinitionMembership\_Mapping

##### Description

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

##### General Mappings

GenericToOwningMembership\_Mapping

##### Mapping Source

Interface

##### Mapping Target

OwningMembership

## Owned Mappings

- conjugatedPortDefinitionMapping : InterfaceConjugatedPortDefinition\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement  
`Set{ }`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- OwningMembership::ownedMemberElement  
`conjugatedPortDefinitionMapping.to`
- Membership::memberElement  
*abstract rule*
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- OwningMembership::ownedRelationship  
`Set{portConjugation}`
- Element::aliasId  
`Set{ }`
- Membership::memberName  
`null`
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`

### C.2.5.10.2.17 InterfacePortConjugation\_Mapping

#### Description

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

#### General Mappings

GenericToRelationship\_Mapping

#### Mapping Source

Interface

#### Mapping Target

PortConjugation

(none)

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

#### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{ }

- PortConjugation::originalPortDefinition

from

- PortConjugation::conjugatedType

SysMLv2::ConjugatedPortDefinition.allInstances()->collect(cpd | cpd.owningRelationship)->sel

- Element::name

null

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{ }



#### **C.2.5.10.2.18 InterfaceRealization\_Mapping**

##### **Description**

A UML4SysML::InterfaceRealization is mapped to a SysMLv2::Superclassing.

##### **General Mappings**

GenericToSpecialization\_Mapping

##### **Mapping Source**

InterfaceRealization

##### **Mapping Target**

Subclassification

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Relationship::ownedRelatedElement  
`Set {}`
- Relationship::source  
`Set {}`
- Element::name  
`null`
- Subclassification::subclassifier  
`Classifier_Mapping.getMapped(from.specific)`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Relationship::target

Set{}

- Element::ownedRelationship

Set{}

- Subclassification::superclassifier

Classifier\_Mapping.getMapped(from.general)

#### **C.2.5.10.2.19 PrimitiveType\_Mapping**

##### **Description**

The PrimitiveType\_Mapping class maps a UML4SysML::PrimitiveType to a SysML v2 AttributeDefinition.

##### **General Mappings**

DataType\_Mapping

##### **Mapping Source**

PrimitiveType

##### **Mapping Target**

AttributeDefinition

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Classifier::isAbstract

from.isAbstract

- Type::isSufficient

false

- Namespace::ownedImport

Set{}

- Element::elementId

Helper.getID(from)

- Classifier::ownedRelationship

```
let generalizations : Set(UML::Generalization) = from.ownedElement->select(e | e.oclIsKindOf
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

#### **C.2.5.10.2.20 Reception\_Mapping**

##### **Description**

A UML4SysML::Reception is mapped to a SysMLv2::AttributeUsage with feature direction "in".

##### **General Mappings**

BehavioralFeature\_Mapping

##### **Mapping Source**

Reception

##### **Mapping Target**

AttributeUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

```
false
```

- Type::isSufficient

```
false
```

- AttributeUsage::direction

```
SysMLv2::FeatureDirectionKind::in
```

- Feature::isUnique

```
true
```

- Element::name

- from.name
- Element::shortName
  - null
- Type::isAbstract
  - false
- AttributeUsage::ownedRelationship
  - Set{ReceptionToFeatureTyping\_Mapping.getMapped(from)}
- Feature::isOrdered
  - false
- Element::aliasId
  - Set{}
- Feature::isPortion
  - false
- Usage::isVariation
  - false
- Namespace::ownedImport
  - Set{}
- Feature::isReadOnly
  - false
- Element::elementId
  - Helper.getID(from)
- Feature::isDerived
  - false
- Feature::isComposite
  - false

#### **C.2.5.10.2.21 ReceptionToFeatureTyping\_Mapping**

##### **Description**

A UML4SysML::Reception is mapped to SysMLv2::AttributeUsage. The ReceptionToFeatureTyping\_Mapping class creates the type of the AttributeUsage which is the Signal of the Reception.

##### **General Mappings**

TypedElementToFeatureTyping\_Mapping

### Mapping Source

Reception

### Mapping Target

FeatureTyping

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Relationship::ownedRelatedElement  
`Set{}`
- FeatureTyping::typedFeature  
`Reception_Mapping.getMapped(from)`
- Element::name  
`null`
- FeatureTyping::type  
`Classifier_Mapping.getMapped(from.signal)`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- FeatureTyping::type  
*abstract rule*
- FeatureTyping::typedFeature  
*abstract rule*
- Element::ownedRelationship  
`Set{}`

#### C.2.5.10.2.22 Signal\_Mapping

##### Description

A UML4SysML::Signal is mapped to a SysMLv2::AttributeDefinition.

##### General Mappings

DataType\_Mapping

##### Mapping Source

Signal

##### Mapping Target

AttributeDefinition

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Classifier::isAbstract

```
from.isAbstract
```

- Type::isSufficient

```
false
```

- Namespace::ownedImport

```
Set{}
```

- Element::elementId

```
Helper.getID(from)
```

- Classifier::ownedRelationship

```
let generalizations : Set(UML::Generalization) = from.ownedElement->select(e | e.ocIsKindOf
```

- Element::name

```
from.name
```

- Element::shortName

### C.2.5.11 StructuredClassifiers

### C.2.5.11.1 Overview

### Table 24. List of all Overview Mapping Specifications

| SysML v1 Concept | SysML v2 Concept                                                                                                                                                                                                                                                                               | Mapping Class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Filter                                                                                                                                                                                                                          |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Association      | FeatureMembership<br>FeatureMembership<br>Redefinition<br>MetadataFeature<br>FeatureTyping<br>Association<br>Feature<br>FeatureValue<br>Annotation                                                                                                                                             | AssociationToMetadataMembership_Mapping<br>AssociationToFeatureMembership_Mapping<br>AssociationToRedefinition_Mapping<br>AssociationToAnnotatingFeature_Mapping<br>AssociationToFeatureTyping_Mapping<br>AssociationCommon_Mapping<br>AssociationToMetadataFeature_Mapping<br>AssociationToMetadataFeatureValue_Mapping<br>AssociationToAnnotation_Mapping                                                                                                                                                                                                                                                     | Association.memberEnd->select( m   m.type.oclIsKindOf(UML::UseCase))->isEmpty()                                                                                                                                                 |
| AssociationClass | ConnectionDefinition                                                                                                                                                                                                                                                                           | AssociationClass_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | AssociationClass.memberEnd->select( m   m.type.oclIsKindOf(UML::UseCase))->isEmpty()<br>not<br>Helper.hasStereotypeApplied(AssociationClass, 'SysML::Blocks::Block')                                                            |
| Class            | ViewpointDefinition<br>SubjectMembership<br>FeatureTyping<br>MetadataUsage<br>FeatureValue<br>FeatureTyping<br>FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>RequirementDefinition<br>ReferenceUsage<br>OwningMembership<br>OccurrenceDefinition<br>MetadataUsage<br>Redefinition | Viewpoint_Mapping<br>ViewpointSubjectMembership_Mapping<br>EncapsulatedBlockMetadataFeatureTyping_Mapping<br>EncapsulatedBlockMetadata_Mapping<br>EncapsulatedBlockMetadataFeatureValue_Mapping<br>ViewpointPurposeMetadataFeatureTyping_Mapping<br>EncapsulatedBlockMetadataFeatureMembership_Mapping<br>ViewpointSubject_Mapping<br>ViewpointPurposeMetadataMembership_Mapping<br>Requirement_Mapping<br>EncapsulatedBlockMetadataReferenceUsage_Mapping<br>EncapsulatedBlockMetadataMembership_Mapping<br>Class_Mapping<br>ViewpointPurposeMetadata_Mapping<br>EncapsulatedBlockMetadataRedefinition_Mapping | Helper.hasStereotypeApplied(Class, 'SysML::ModelElements::Viewpoint')<br>SysML::Requirements::Requirement<br>Helper.hasStereotypeApplied(Class, 'SysML::Requirements::Requirement')<br>Class.oclIsTypeOf(UML::AssociationClass) |

| SysML v1 Concept       | SysML v2 Concept                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Mapping Class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Filter                                                                                                                                                                                           |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ConnectableElement     | FeatureMembership<br>FeatureTyping<br>FeatureTyping<br>FeatureValue<br>ParameterMembership<br>FeatureReferenceExpression<br>Membership<br>Feature<br>ReferenceUsage<br>FeatureTyping<br>FeatureTyping<br>Element<br>Feature<br>FeatureTyping<br>Relationship<br>Expression<br>OwningMembership<br>LiteralInteger<br>ReturnParameterMembership<br>ParameterMembership<br>FeatureMembership<br>FeatureTyping<br>MultiplicityRange<br>ReferenceUsage<br>Element<br>Membership<br>ReturnParameterMembership<br>ReferenceUsage | CommonReferenceUsageInFeatureMembership_Mapping<br>CommonReferenceUsageInFeatureTyping_Mapping<br>TypedElementToFeatureTyping_Mapping<br>EqualOperatorExpressionFeatureValue_Mapping<br>EqualOperatorExpressionOperand_Mapping<br>CommonFeatureReferenceExpression_Mapping<br>CommonMembership_Mapping<br>EqualOperatorExpressionFeature_Mapping<br>CommonReferenceUsageInUntyped_Mapping<br>DefaultMultiplicityBoundTyping_Mapping<br>CommonParameterReferenceUsageInFeatureTyping_Mapping<br>Mapping<br>CommonReturnParameterFeatureUntyped_Mapping<br>CommonReturnParameterFeatureTyping_Mapping<br>ElementOwnership_Mapping<br>CommonValueSpecification_Mapping<br>DefaultMultiplicityMembership_Mapping<br>DefaultMultiplicityBoundValue_Mapping<br>CommonReturnParameterFeatureMembership_Mapping<br>CommonParameterReferenceUsageInMembership_Mapping<br>DefaultMultiplicityBoundOwnership_Mapping<br>CommonReturnParameterReferenceUsageFeatureTyping_Mapping<br>DefaultMultiplicityElement_Mapping<br>CommonReturnParameterReferenceUsageUntyped_Mapping<br>ElementMain_Mapping<br>ElementMembership_Mapping<br>CommonReturnParameterReferenceUsageMembership_Mapping<br>CommonParameterReferenceUsageIn_Mapping | not<br>src.type.ocIsUndefined()<br>and not<br>src.ocIsKindOf(UML::ValueSpecification)<br>and<br>not(src.type.ocIsKindOf(UML::Enumeration))<br>and<br>Helper.getSysMLv2EnumerationDefinition(src) |
| Connector              | ConnectionUsage<br>OwningMembership                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Connector_Mapping<br>ConnectorMultiplicityMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                  |
| ConnectorEnd           | Feature<br>Subsetting<br>EndFeatureMembership<br>EndFeatureMembership                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ConnectorEndToFeatureCommon_Mapping<br>ConnectionEndToSubsetting_Mapping<br>ConnectorEndToSubsettedFeatureMembership_Mapping<br>ConnectorEndToMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                  |
| EncapsulatedClassifier | ObjectiveMembership<br>FeatureTyping<br>SubjectMembership<br>PartUsage<br>RequirementUsage<br>ReferenceUsage<br>Classifier<br>StakeholderMembership                                                                                                                                                                                                                                                                                                                                                                       | CaseObjectiveMembership_Mapping<br>CaseSubjectFeatureTyping_Mapping<br>CaseSubjectMembership_Mapping<br>StakeholderPartUsage_Mapping<br>CaseObjectiveRequirementUsage_Mapping<br>CaseEmptySubjectReferenceUsage_Mapping<br>Classifier_Mapping<br>StakeholderMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                  |



| SysML v1 Concept     | SysML v2 Concept                                                                                                                                    | Mapping Class                                                                                                                                                                                                                                                                  | Filter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Port                 | PartUsage<br>PortUsage                                                                                                                              | FullPort_Mapping<br>Port_Mapping                                                                                                                                                                                                                                               | <pre> Helper.hasStereotypeApplied(src, 'SysML::Ports&amp;Flows::FullPort') let p: UML::Property = Port.oclAsType(UML::Property) in if p.type.oclIsUndefined() then false else Helper.hasStereotypeApplied(p.type, 'SysML::Blocks::Block') endif and (p.association.oclIsUndefined() or p.association.ownedEnd- &gt;excludes(p)) and p.aggregation = UML::AggregationKind::composite  result = not Helper.hasStereotypeApplied(Port.owner, 'SysML::ConstraintBlocks::ConstraintBlock') or ((Port.type.oclIsUndefined() or Helper.hasStereotypeApplied(Port.type, 'SysML::Ports&amp;Flows::InterfaceBlock')) and not (Helper.hasStereotypeApplied(Port, 'SysML::Ports&amp;Flows::FullPort') or (Port.type.oclIsKindOf(UML::Classifier) and not Helper.hasStereotypeApplied(Port.type, 'SysML::Ports&amp;Flows::InterfaceBlock')))) </pre> |
| StructuredClassifier | ObjectiveMembership<br>FeatureTyping<br>SubjectMembership<br>PartUsage<br>RequirementUsage<br>ReferenceUsage<br>Classifier<br>StakeholderMembership | CaseObjectiveMembership_Mapping<br>CaseSubjectFeatureTyping_Mapping<br>CaseSubjectMembership_Mapping<br>StakeholderPartUsage_Mapping<br>CaseObjectiveRequirementUsage_Mapping<br>CaseEmptySubjectReferenceUsage_Mapping<br>Classifier_Mapping<br>StakeholderMembership_Mapping |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

### C.2.5.11.2 Mapping Specifications

#### C.2.5.11.2.1 AssociationCommon\_Mapping

##### Description

A UML4SysML::Association is mapped to a SysMLv2::ConnectionDefinition. The UML4SysML::Association::isDerived property is not supported in SysML v2. To preserve the information, it is stored in a metadata annotation.

## General Mappings

Classifier\_Mapping  
Relationship\_Mapping

## Mapping Source

Association

## Mapping Target

Association

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
from.memberEnd->select(m | m.type.ocIsKindOf(UML::UseCase))->isEmpty()
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement

```
Set{}
```

- Type::isSufficient

```
false
```

- Association::ownedRelationship

```
let nonOwnedEnds: OrderedSet(UML::Property) = (from.memberEnd-from.ownedEnd)->asOrderedSet()
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

- Type::isAbstract

```
false
```

- Relationship::target

```
Set{}
```

- Element::aliasId

```
Set{}
```

- Namespace::ownedImport

```
Set{}
```

- Relationship::source

```
Set{}
```

- Element::elementId

```
Helper.getID(from)
```

- Namespace::ownedRelationship

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

#### **C.2.5.11.2.2 AssociationClass\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

AssociationCommon\_Mapping

##### **Mapping Source**

AssociationClass

##### **Mapping Target**

ConnectionDefinition

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

```
not Helper.hasStereotypeApplied(from, 'SysML::Blocks::Block')
```

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Type::isSufficient

```
false
```

- Relationship::owningRelatedElement

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

- Element::name

```
from.name
```

- Element::shortName

- Relationship::target

Set { }

- `Element::aliasId`

Set { }

- Classifier::isAbstract

```
from.isAbstract
```

- Namespace::ownedImport

Set { }

- Relationship::source

Set { }

- `ConnectionDefinition::ownedRelationship`

```
let nonOwnedEnds: OrderedSet(UML::Property) = (from.memberEnd-from.ownedEnd)->asOrderedSet()
```

- `Element::elementId`

```
Helper.getID(from)
```

- Classifier::ownedRelationship

```
let generalizations : Set(UML::Generalization) = from.ownedElement->select(e | e.ocIsKindOf
```

- Relationship::ownedRelatedElement

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain Map
```

### C.2.5.11.2.3 AssociationToAnnotation\_Mapping

### Description

\*\*\* not specified yet \*\*\*

## General Mappings

## GenericToAnnotation\_Mapping

## Mapping Source

## Association

## Mapping Target

## Annotation

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set {}`
- Relationship::ownedRelatedElement  
`Set {}`
- Relationship::source  
`Set {}`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Relationship::target  
`Set {}`
- Element::ownedRelationship  
`Set {}`

#### C.2.5.11.2.4 AssociationToFeatureMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

Association

##### Mapping Target

FeatureMembership

## Owned Mappings

- associationToMetadataFeature : AssociationToMetadataFeature\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- FeatureMembership::ownedMemberFeature  
  
self.associationToMetadataFeatureValue.to
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship

Set{}

#### C.2.5.11.2.5 AssociationToFeatureTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureTyping\_Mapping

##### Mapping Source

Association

##### Mapping Target

FeatureTyping

##### Owned Mappings

- associationToAnnotatingFeature : AssociationToAnnotatingFeature\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set{}
- Relationship::ownedRelatedElement  
Set{}
- Specialization::specific  
*abstract rule*
- FeatureTyping::typedFeature  
self.associationToAnnotatingFeature.to
- Element::name  
null
- Element::shortName  
null
- Specialization::general  
*abstract rule*

- FeatureTyping::type

```
let m : SYSML2::Membership = SYSML2::AttributeDefinition.allInstances()->collect(dt | dt.own
```

- Element::elementId

```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

#### C.2.5.11.2.6 AssociationToMetadataFeature\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeature\_Mapping

##### Mapping Source

Association

##### Mapping Target

Feature

##### Owned Mappings

- associationToMetadataFeatureValue : AssociationToMetadataFeatureValue\_Mapping
- associationToRedefinition : AssociationToRedefinition\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Type::isSufficient

```
false
```

- Feature::ownedRelationship

```
Set{self.associationToRedefinition.to, self.associationToMetadataFeatureValue.to}
```

- Element::name



null

- Element::shortName

    null

- Type::isAbstract

    false

- Element::elementId

    Helper.createUUID()

#### **C.2.5.11.2.7 AssociationToMetadataFeatureValue\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureValue\_Mapping

##### **Mapping Source**

Association

##### **Mapping Target**

FeatureValue

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace

*abstract rule*

- Membership::memberShortName

    null

- FeatureValue::ownedMemberElement

    Helper.getScalarValueTypeByName('Boolean')

- Element::shortName

    null

- Element::elementId

```
Helper.createUUID()
```

- Element::aliasId

```
Set{}
```

- FeatureValue::value

```
ValueSpecification_Mapping.getMapped(from.isDerived)
```

- Membership::memberName

```
null
```

- OwningMembership::ownedRelatedElement

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

- Membership::visibility

```
KerML::VisibilityKind::public
```

- Element::name

```
null
```

- Element::ownedRelationship

```
Set{}
```

#### **C.2.5.11.2.8 AssociationToMetadataMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

Association

##### **Mapping Target**

FeatureMembership

##### **Owned Mappings**

- associationToAnnotatingFeature : AssociationToAnnotatingFeature\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- FeatureMembership::ownedMemberFeature  
  
self.associationToAnnotatingFeature.to
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{}

#### C.2.5.11.2.9 AssociationToRedefinition\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToRedefinition\_Mapping

### Mapping Source

Association

### Mapping Target

Redefinition

### Owned Mappings

- associationToMetadataFeature : AssociationToMetadataFeature\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Redefinition::redefiningFeature

```
self.associationToMetadataFeatureValue.to
```

- Redefinition::redefinedFeature

```
let m : SYSML2::Membership = SYSML2::AttributeUsage.allInstances()->collect(dt | dt.owningRe
```

- Subsetting::ownedRelatedElement

```
Set{}
```

- Subsetting::subsettingFeature

*abstract rule*

- Element::name

```
null
```

- Subsetting::subsettingFeature

*abstract rule*

- Element::shortName

```
null
```

- Element::elementId

```
Helper.createUUID()
```

- Element::ownedRelationship

```
Set{}
```

#### C.2.5.11.2.10 BehavioeredClassifier\_Mapping

##### Description

The abstract mapping class BehavioeredClassifier\_Mapping maps the abstract metaclass UML::SimpleClassifiers::BehavioeredClassifiers to a SysMLv2::Core::Classifiers::Classifier. The mapping class is used by concrete mapping classes, for example, Block\_Mapping.

##### General Mappings

Classifier\_Mapping

##### Mapping Source

BehavioeredClassifier

##### Mapping Target

Classifier

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{}
```

- Type::isSufficient

```
false
```

- Namespace::ownedImport

```
Set{}
```

- Classifier::ownedRelationship

```
let toElementFMS: Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Prope
```

- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
from.name
```

- Element::shortName

null

- Type::isAbstract

false

- Namespace::ownedRelationship

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

#### C.2.5.11.2.11 BehavioredClassifierToFeatureTyping\_Mapping

##### Description

The BehavioredClassifierToFeatureTyping\_Mapping creates the relationship from the PerformActionUsage element to its type which is the transformed SysML v1 classifier behavior.

##### General Mappings

GenericToFeatureTyping\_Mapping

##### Mapping Source

BehavioredClassifier

##### Mapping Target

FeatureTyping

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{ }

- Relationship::ownedRelatedElement

Set{ }

- Specialization::specific

*abstract rule*

- Element::name

null

- Element::shortName

null

- Specialization::general  
*abstract rule*
- Element::elementId  
`Helper.createUUID()`
- FeatureTyping::type  
`from`
- Element::ownedRelationship  
`Set{}`

#### C.2.5.11.2.12 BehavoredClassifierToPerformActionUsage\_Mapping

##### Description

The BehavoredClassifierToPerformActionUsage\_Mapping class creates a PerformActionUsage element to call the transformed SysML v1 classifier behavior.

##### General Mappings

GenericToFeature\_Mapping

##### Mapping Source

BehavoredClassifier

##### Mapping Target

PerformActionUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- PerformActionUsage::isComposite  
`true`
- PerformActionUsage::ownedRelationship

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

- PerformActionUsage::name

```
'classifierBehavior'
```

- Element::shortName

```
null
```

- Type::isAbstract

```
false
```

- Element::elementId

```
Helper.createUUID()
```

#### **C.2.5.11.2.13 Class\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

BehavioredClassifier\_Mapping

##### **Mapping Source**

Class

##### **Mapping Target**

OccurrenceDefinition

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

```
not Helper.hasStereotypeApplied(from, 'SysML::Requirements::Requirement') and not from.oclIsTypeOf(
```

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{ }
```

- Classifier::isAbstract

```
from.isAbstract
```

- Type::isSufficient



```
false
```

- Namespace::ownedImport

```
Set{}
```

- Element::elementId

```
Helper.getID(from)
```

- Classifier::ownedRelationship

```
let generalizations : Set(UML::Generalization) = from.ownedElement->select(e | e.ocIsKindOf
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

#### C.2.5.11.2.14 ClassifierBehaviorMembership\_Mapping

##### Description

The ClassifierBehaviorMembership\_Mapping class creates a membership relationship for a PerformActionUsage element to call the transformed SysML v1 classifier behavior.

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

BehavioeredClassifier

##### Mapping Target

FeatureMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

```
null
```

- Element::shortName  
null
- Element::elementId  
Helper.createUUID()
- Element::aliasId  
Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
null
- OwningMembership::ownedRelatedElement  
Set{self.ownedMemberElement() }
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- FeatureMembership::ownedMemberFeature  
BehavioredClassifierToPerformActionUsage\_Mapping.getMapped(from)
- Membership::visibility  
KerML::VisibilityKind::public
- Element::name  
null
- Element::ownedRelationship  
Set{}

#### C.2.5.11.2.15 ConnectionEndToSubsetting\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToSubsetting\_Mapping

##### Mapping Source

ConnectorEnd

##### Mapping Target

Subsetting

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Relationship::ownedRelatedElement

Set{}

- Specialization::specific

*abstract rule*

- Subsetting::subsettingFeature

```
let propertyPath: OrderedSet(UML::Property) = Helper.getTagValueAsElementColl(src, 'SysML::B
```

- Subsetting::ownedRelationship

```
let propertyPath: OrderedSet(UML::Property) = Helper.getTagValueAsElementColl(from, 'SysML::B
```

- Element::name

null

- Subsetting::subsettingFeature

```
ConnectorEndToOwnedFeature_Mapping.getMapped(from)
```

- Element::shortName

null

- Specialization::general

*abstract rule*

- Element::elementId

```
Helper.createUUID()
```

#### C.2.5.11.2.16 Connector\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

NamedElementMain\_Mapping  
GenericToConnector\_Mapping

### Mapping Source

Connector

### Mapping Target

ConnectionUsage

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement

Set {}

- Feature::isEnd

false

- Type::isSufficient

false

- Feature::isUnique

true

- Element::shortName

null

- Type::isAbstract

false

- Feature::isOrdered

false

- Relationship::target

Set {}

- Element::aliasId

Set {}

- Feature::isPortion  
false
- Feature::isReadOnly  
false
- ConnectionUsage::ownedRelationship  
from.end->collect(e | ConnectorEndToMembership\_Mapping.getMapped(e)) ->including(ConnectorEndToMembership\_Mapping.getMapped(e))
- Relationship::source  
Set{}
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### C.2.5.11.2.17 ConnectorEndToFeatureCommon\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeature\_Mapping

##### Mapping Source

ConnectorEnd

##### Mapping Target

Feature

##### Owned Mappings

- multiplicityMembership : MultiplicityMembership\_Mapping

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- Feature::isOrdered  
`from.isOrdered`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

#### C.2.5.11.2.18 ConnectorEndToMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

ConnectorEnd

##### Mapping Target

EndFeatureMembership

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- EndFeatureMembership::ownedMemberFeature  
`ConnectorEndToOwnedFeature_Mapping.getMapped(from)`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
`null`
- OwningMembership::ownedRelatedElement  
`Set{self.ownedMemberElement() }`
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship  
`Set{}`

#### C.2.5.11.2.19 ConnectorEndToOwnedFeature\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

ConnectorEndToFeatureCommon\_Mapping  
ElementMain\_Mapping

##### Mapping Source

ConnectorEnd

##### Mapping Target

Feature

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Type::isSufficient

false

- Feature::ownedRelationship

let subsetting: KerML::Subsetting = ConnectionEndToSubsetting\_Mapping.getMapped(from) in if s

- Feature::isUnique

true

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId

Helper.createUUID()



- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false
- Element::ownedRelationship  
Set{}

#### **C.2.5.11.2.20 ConnectorEndToSubsettedFeature\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

ConnectorEndToFeatureCommon\_Mapping

##### **Mapping Source**

ConnectorEnd

##### **Mapping Target**

Feature

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

```
let propertyPath: OrderedSet(UML::Property) = Helper.getTagValueAsElementColl(src, 'SysML::Blocks::N
propertyPath->notEmpty()
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Type::isSufficient

false

- Feature::ownedRelationship

```
let propertyPath: OrderedSet(UML::Property) = Helper.getTagValueAsElementColl(from, 'SysML::
```

- Feature::isUnique

true

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId

```
Helper.createUUID()
```

- Feature::isOrdered

false

- Element::aliasId

```
Set{}
```

- Feature::isPortion

false

- Feature::isReadOnly

false

- Feature::direction

null

- Feature::isDerived

false

- Feature::isComposite

false

- Feature::name

'featureChain'

#### **C.2.5.11.2.21 ConnectorEndToSubsettedFeatureMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

ConnectorEnd

##### **Mapping Target**

EndFeatureMembership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace

*abstract rule*

- Membership::memberShortName

null

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::aliasId

Set{}

- `OwningMembership::ownedMemberElement`  
*abstract rule*
- `Membership::memberName`  
  
`null`
- `OwningMembership::ownedRelatedElement`  
  
`Set{self.ownedMemberElement() }`
- `TypeFeaturing::featureOfType`  
*abstract rule*
- `TypeFeaturing::featuringType`  
*abstract rule*
- `Membership::visibility`  
  
`KerML::VisibilityKind::public`
- `Element::name`  
  
`null`
- `EndFeatureMembership::ownedMemberFeature`  
  
`ConnectorEndToSubsettedFeature_Mapping.getMapped(from)`
- `Element::ownedRelationship`  
  
`Set{ }`

#### **C.2.5.11.2.22 ConnectorMultiplicityMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

DefaultMultiplicityMembership\_Mapping

##### **Mapping Source**

Connector

##### **Mapping Target**

OwningMembership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- OwningMembership::memberName  
`from.name+'_Connector_multiplicity'`
- OwningMembership::ownedRelatedElement  
`Set{self.ownedMemberElement() }`
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

#### **C.2.5.11.2.23 ConnectorType\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

AssociationCommon\_Mapping

##### **Mapping Source**

Association

##### **Mapping Target**

## ConnectionDefinition

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
(from.memberEnd->select(m | m.type.ocIsKindOf(UML::UseCase))->isEmpty()) and
(let this: UML::Association = src.ocAsType(UML::Association) in
if this.ocIsUndefined() then
 false
else
 not this.isDerived and
 not this.ocIsTypeOf(UML::AssociationClass) and
 Helper.isConnectionDef(this)
endif)
```

### Mapping rules

The following lists the mapping rules for the target element properties.

- Type::isSufficient

false

- Relationship::owningRelatedElement

ElementMain\_Mapping.getMapped(from.owner)

- Element::name

from.name

- Element::shortName

null

- Relationship::target

Set{}

- Element::aliasId

Set{}

- Classifier::isAbstract

from.isAbstract

- Namespace::ownedImport

Set{}

- Relationship::source

Set{}

- Element::elementId

```
Helper.getID(from)
```

- Classifier::ownedRelationship

```
let generalizations : Set(UML::Generalization) = from.ownedElement->select(e | e.ocIsKindOf
```

- Relationship::ownedRelatedElement

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain_Map
```

#### **C.2.5.11.2.24 ConnectorTypeDerived\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

AssociationCommon\_Mapping

##### **Mapping Source**

Association

##### **Mapping Target**

ConnectionDefinition

##### **Owned Mappings**

- associationToMetadataMembership : AssociationToMetadataMembership\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

```
(from.memberEnd->select(m | m.type.ocIsKindOf(UML::UseCase))->isEmpty()) and
(let this: UML::Association = src.ocAsType(UML::Association) in
if this.ocIsUndefined() then
 false
else
 this.isDerived and
 not this.ocIsTypeOf(UML::AssociationClass) and
 Helper.isConnectionDef(this)
endif)
```

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Type::isSufficient

```
false
```

- Relationship::owningRelatedElement

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

- ConnectionDefinition::ownedRelationship

```
let nonOwnedEnds: OrderedSet(UML::Property) = (from.memberEnd-from.ownedEnd)->asOrderedSet()
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

- Relationship::target

```
Set{}
```

- Element::aliasId

```
Set{}
```

- Classifier::isAbstract

```
from.isAbstract
```

- Namespace::ownedImport

```
Set{}
```

- Relationship::source

```
Set{}
```

- Element::elementId

```
Helper.getID(from)
```

- Classifier::ownedRelationship

```
let generalizations : Set(UML::Generalization) = from.ownedElement->select(e | e.ocliIsKindOf)
```

- Relationship::ownedRelatedElement

```
from.relatedElement->select(e | from.ownedElement->includes(e))->collect(e | ElementMain_Map
```

#### C.2.5.11.2.25 End\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

PropertyCommon\_Mapping

##### Mapping Source

Property

##### Mapping Target



Feature

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
src.ocIsKindOf(UML::Property) and not src.ocIsType(UML::Property).association.ocIsUndefined()
```

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Feature::isOrdered  
`from.isOrdered`
- Type::isSufficient  
`false`
- Feature::isAbstract  
`false`
- Element::shortName  
`null`
- Feature::ownedRelationship  
`let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping_Mapping.getMapped(from)`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Feature::direction  
`null`
- Element::name  
`null`
- Feature::isDerived

false

- Feature::isComposite

false

- Feature::isEnd

true

- Feature::isUnique

from.isUnique

- Feature::isReadOnly

*abstract rule*

#### **C.2.5.11.2.26 EndMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

StructuralFeatureMembership\_Mapping

##### **Mapping Source**

Property

##### **Mapping Target**

EndFeatureMembership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement

Set{self.ownedMemberFeature() }

- Membership::membershipOwningNamespace

*abstract rule*

- Membership::memberShortName

null

- Element::shortName

- `Element::elementId`

- `Element::aliasId`

- FeatureMembership::ownedMemberFeature  
*abstract rule*

- FeatureMembership::owningType  
*abstract rule*

null

- `TypeFeaturing::featureOfType`  
*abstract rule*

- `TypeFeaturing::featuringType`  
*abstract rule*

- Membership::visibility

- `Element::name`

- Element::ownedRelationship

#### C.2.5.11.2.27 NonOwnedEndSubsetting\_Mapping

## Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToSubsetting\_Mapping

## Mapping Source

### Property

## Mapping Target

## Subsetting

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Relationship::ownedRelatedElement  
`Set{}`
- Subsetting::subsettingFeature  
`Property_Mapping.getMapped(from)`
- Specialization::specific  
*abstract rule*
- Element::name  
`null`
- Element::shortName  
`null`
- Specialization::general  
*abstract rule*
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

#### C.2.5.11.2.28 EndToSubsettingFeature\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

PropertyCommon\_Mapping

##### Mapping Source

Property

##### Mapping Target

Feature

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

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

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

```
false
```

- Feature::isOrdered

```
from.isOrdered
```

- Type::isSufficient

```
false
```

- Feature::isAbstract

```
false
```

- Element::shortName

```
null
```

- Feature::ownedRelationship

```
let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping_Mapping.getMapped(from)
```

- Element::elementId

```
Helper.createUUID()
```

- Element::aliasId

```
Set{}
```

- Feature::isPortion

```
false
```

- Feature::ownedRelationship

```
let chain: OrderedSet(KerML::FeatureChaining) = OrderedSet{EndToSubsettedFeatureChaining_Map
```

- Feature::direction

```
null
```

- Element::name

```
null
```

- Feature::isDerived  
false
- Feature::isComposite  
false
- Feature::isUnique  
from.isUnique
- Feature::isReadOnly  
*abstract rule*

#### C.2.5.11.2.29 EndToSubsettedFeatureChaining\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToRelationship\_Mapping

##### Mapping Source

Property

##### Mapping Target

FeatureChaining

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
Set{ }
- FeatureChaining::name  
'featureChain'
- FeatureChaining::chainingFeature  
Property\_Mapping.getMapped(from)
- Element::shortName

null

- Element::elementId

    Helper.createUUID()

- Element::ownedRelationship

    Set{}

#### **C.2.5.11.2.30 NonOnedEndToSubsettedFeatureMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureMembership\_Mapping

##### **Mapping Source**

Property

##### **Mapping Target**

FeatureMembership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

```
src.ocIsKindOf(UML::Property) and not src.ocIsType(UML::Property).association.ocIsUndefined()
```

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedMemberFeature

    EndToSubsettedFeature\_Mapping.getMapped(from)

- Membership::membershipOwningNamespace  
    *abstract rule*
- Membership::memberShortName

    null

- Element::shortName

    null

- Element::elementId

    Helper.createUUID()

- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
`null`
- OwningMembership::ownedRelatedElement  
`Set{self.ownedMemberElement() }`
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship  
`Set{}`

#### **C.2.5.11.2.31 NonOwnedEnd\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

End\_Mapping

##### **Mapping Source**

Property

##### **Mapping Target**

Feature

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**



The following lists the mapping rules for the target element properties.

- Feature::isOrdered  
`from.isOrdered`
- Type::isSufficient  
`false`
- Feature::isComposite  
`from.isComposite`
- Feature::isAbstract  
`false`
- Feature::isEnd  
`if from.association.oclIsUndefined() then false else from.association.ownedEnd->include`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Feature::ownedRelationship  
`Set{self.multiplicityMembership.to , StructuralFeatureToFeatureTyping_Mapping.getMapped(fr`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Feature::isDerived  
`from.isDerived`
- Feature::direction  
`null`
- Feature::isUnique  
`from.isUnique`
- Feature::isReadOnly  
*abstract rule*
- Feature::name  
`'nonOwnedEnd'`

### C.2.5.11.2.32 NonOwnedEndMembership\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

EndMembership\_Mapping

#### Mapping Source

Property

#### Mapping Target

EndFeatureMembership

(none)

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
src.ocIsKindOf(UML::Property)
and not src.ocAsType(UML::Property).association.ocIsUndefined()
and src.ocAsType(UML::Property).association.ownedEnd->excludes(src)
```

#### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement

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

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

```
null
```

- EndFeatureMembership::ownedMemberFeature

```
NonOwnedEnd_Mapping.getMapped(from)
```

- Element::shortName

```
null
```

- FeatureMembership::visibility

```
if (from.ocIsKindOf(UML::NamedElement)) then Helper.getKerMLVisibilityKind(from.ocAsType
```

- Element::elementId

```
Helper.createUUID()
```

- Element::aliasId  
Set { }
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
null
- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Element::name  
null
- Element::ownedRelationship  
Set { }

#### **C.2.5.11.2.33 NonOwnedEndSubsettingMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToOwningMembership\_Mapping

##### **Mapping Source**

Property

##### **Mapping Target**

OwningMembership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement  
Set { }
- Membership::membershipOwningNamespace  
*abstract rule*

- Membership::memberShortName  
null
- Membership::memberElement  
*abstract rule*
- Element::shortName  
null
- Element::elementId  
Helper.createUUID()
- Element::aliasId  
Set{}
- Membership::memberName  
null
- OwningMembership::ownedMemberElement  
NonOwnedEndSubsetting\_Mapping.getMapped(from)
- Membership::visibility  
KerML::VisibilityKind::public
- Element::name  
null
- Element::ownedRelationship  
Set{}

#### C.2.5.11.2.34 OwnedEnd\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

End\_Mapping

NamedElementMain\_Mapping

##### Mapping Source

Property

##### Mapping Target

Feature

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
let p: UML::Property = src.oclAsType(UML::Property) in
not p.oclIsUndefined() and
(not p.association.oclIsUndefined() and p.association.ownedEnd->includes(p)) and
(not p.association.memberEnd->select(m | (not m.type.oclIsUndefined()) and m.type.oclIsTypeOf(UML::
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isOrdered  
`from.isOrdered`
- Type::isSufficient  
`false`
- Feature::isComposite  
`from.isComposite`
- Feature::ownedRelationship  
`let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping_Mapping.getMapped(from)`
- Feature::isAbstract  
`false`
- Feature::isEnd  
`if from.association.oclIsUndefined() then false else from.association.ownedEnd->includes(p)`
- Element::shortName  
`null`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Feature::isDerived  
`from.isDerived`
- Feature::direction  
`null`
- Element::elementId

```
Helper.getID(from)
```

- Element::name

```
null
```

- Feature::isUnique

```
from.isUnique
```

- Feature::isReadOnly

*abstract rule*

#### C.2.5.11.2.35 Port\_Mapping

##### Description

A port which is untyped or typed by an interface block is mapped to a SysMLv2::PortUsage.

##### General Mappings

Part\_Mapping

##### Mapping Source

Port

##### Mapping Target

PortUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
result =
not Helper.hasStereotypeApplied(from.owner, 'SysML::ConstraintBlocks::ConstraintBlock') or
((from.type.ocIsUndefined() or Helper.hasStereotypeApplied(from.type, 'SysML::Ports&Flows::InterfaceBlock'))
and not (Helper.hasStereotypeApplied(from, 'SysML::Ports&Flows::FullPort') or (from.type.ocIsKindOf('SysML::Ports&Flows::FullPort'))))
```

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isOrdered

```
from.isOrdered
```

- Type::isSufficient

```
false
```

- Feature::isComposite

```
from.isComposite
```

- Feature::ownedRelationship

```
let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping_Mapping.getMapped(from)
```

- Feature::isAbstract

```
false
```

- Feature::isEnd

```
if from.association.ocllIsUndefined() then false else from.association.ownedEnd->include
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

- Element::aliasId

```
Set{}
```

- Feature::isPortion

```
false
```

- Feature::isDerived

```
from.isDerived
```

- Feature::direction

```
null
```

- Element::elementId

```
Helper.getID(from)
```

- Feature::isUnique

```
from.isUnique
```

- Feature::isReadOnly

```
abstract rule
```

#### **C.2.5.11.2.36 OwnedEndAttribute\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

OwnedEnd\_Mapping

Attribute\_Mapping

##### **Mapping Source**

Property

## Mapping Target

AttributeUsage

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
let p: UML::Property = src.oclAsType(UML::Property) in
not p.oclIsUndefined() and
(not p.association.oclIsUndefined()
and p.association.ownedEnd->includes(p))
and (not p.type.oclIsUndefined() and p.type.oclIsKindOf(UML::DataType))

,

src.oclIsKindOf(UML::Property) and not src.oclAsType(UML::Property).association.oclIsUndefined()
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isOrdered  
from.isOrdered
- Type::isSufficient  
false
- Feature::isComposite  
from.isComposite
- Feature::ownedRelationship  
let typing: KerML::FeatureTyping = StructuralFeatureToFeatureTyping\_Mapping.getMapped(from)
- Feature::isAbstract  
false
- Element::name  
from.name
- Element::shortName  
null
- Element::aliasId  
Set{}



- Feature::isPortion  
false
- Feature::isDerived  
from.isDerived
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Feature::isEnd  
true
- Feature::isUnique  
from.isUnique
- Feature::isReadOnly  
*abstract rule*

#### **C.2.5.11.2.37 OwnedEndMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

EndMembership\_Mapping

##### **Mapping Source**

Property

##### **Mapping Target**

EndFeatureMembership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

```
src.ocIsKindOf(UML::Property)
and not src.ocAsType(UML::Property).association.ocIsUndefined()
and src.ocAsType(UML::Property).association.ownedEnd->includes(src)
```

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement

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

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

```
null
```

- Element::shortName

```
null
```

- FeatureMembership::visibility

```
if (from.ocllsKindOf(UML::NamedElement)) then Helper.getKerMLVisibilityKind(from.oclAsType)
```

- Element::elementId

```
Helper.createUUID()
```

- Element::aliasId

```
Set{ }
```

- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName

```
null
```

- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Element::name

```
null
```

- EndFeatureMembership::ownedMemberFeature

```
OwnedEnd_Mapping.getMapped(from)
```

- Element::ownedRelationship

```
Set{ }
```

#### C.2.5.11.2.38 PropertyToFeatureChaining\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToRelationship\_Mapping

### Mapping Source

Property

### Mapping Target

FeatureChaining

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- FeatureChaining::chainingFeature  
`ElementMain_Mapping.getMapped(from)`
- Element::name  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

## C.2.5.12 UseCases

### C.2.5.12.1 Overview

Table 25. List of all Overview Mapping Specifications

| SysML v1 Concept | SysML v2 Concept | Mapping Class | Filter |
|------------------|------------------|---------------|--------|
| Actor            | PartDefinition   | Actor_Mapping |        |

| SysML v1 Concept | SysML v2 Concept                                                                                                         | Mapping Class                                                                                                                                                                                                                                        | Filter |
|------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Extend           | Relationship<br>FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | DirectedRelationship_Mapping<br>ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |        |
| ExtensionPoint   | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership                 | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping                                 |        |
| Include          | FeatureMembership<br>IncludeUseCaseUsage<br>FeatureTyping                                                                | IncludeMembership_Mapping<br>Include_Mapping<br>IncludeFeatureTyping_Mapping                                                                                                                                                                         |        |
| UseCase          | UseCaseDefinition                                                                                                        | UseCase_Mapping                                                                                                                                                                                                                                      |        |

### C.2.5.12.2 Mapping Specifications

#### C.2.5.12.2.1 Actor\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

ElementMain\_Mapping  
BehavioredClassifier\_Mapping

##### Mapping Source

Actor

##### Mapping Target

PartDefinition

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

- Set{}
- Classifier::isAbstract
  - from.isAbstract
- Type::isSufficient
  - false
- Namespace::ownedImport
  - Set{}
- Element::elementId
  - Helper.getID(from)
- Classifier::ownedRelationship
  - let generalizations : Set(UML::Generalization) = from.ownedElement->select(e | e.ocIsKindOf
- Element::name
  - from.name
- Element::shortName
  - null

#### **C.2.5.12.2.2 CaseActor\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToPartUsage\_Mapping

##### **Mapping Source**

Property

##### **Mapping Target**

PartUsage

##### **Owned Mappings**

- useCaseActorFeatureTyping : CaseActorFeatureTyping\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- `Feature::isEnd`  
`false`
- `Type::isSufficient`  
`false`
- `PartUsage::ownedRelationship`  
`Set{useCaseActorFeatureTyping.to}`
- `Feature::isUnique`  
`true`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Element::elementId`  
`Helper.createUUID()`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `Usage::isVariation`  
`false`
- `Feature::isReadOnly`  
`false`
- `Feature::direction`  
`null`
- `PartUsage::name`  
`from.name`
- `Feature::isDerived`

false

- Feature::isComposite

false

#### C.2.5.12.2.3 CaseActorFeatureTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureTyping\_Mapping

##### Mapping Source

Property

##### Mapping Target

FeatureTyping

##### Owned Mappings

- useCaseActor : CaseActor\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  

Set { }
- Relationship::ownedRelatedElement  

Set { }
- Specialization::specific  
*abstract rule*
- FeatureTyping::typedFeature  

useCaseActor.to
- FeatureTyping::type  

from.type
- Element::name

null

- Element::shortName

null

- Specialization::general  
*abstract rule*
- Element::elementId

Helper.createUUID()

- Element::ownedRelationship

Set{}

#### C.2.5.12.2.4 CaseActorMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToParameterMembership\_Mapping

##### Mapping Source

Property

##### Mapping Target

ActorMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  
  
Set{self.ownedMemberFeature() }
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName



- `Element::elementId`

- ActorMembership::ownedMemberParameter

- `Element::aliasId`

- FeatureMembership::ownedMemberFeature

- FeatureMembership::owningType

- Membership::memberName

- `TypeFeaturing::featureOfType`

- `TypeFeaturing::featuringType`

- Membership::visibility

- `Element::name`

- Element::ownedRelationship

#### C.2.5.12.2.5 Include\_Mapping

### Description

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToOccurrenceUsage\_Mapping

## Mapping Source

Include

## Mapping Target

## IncludeUseCaseUsage

## Owned Mappings

- includeFeatureTyping : IncludeFeatureTyping\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- Feature::isReadOnly  
`false`
- Feature::direction

null

- Element::name

    null

- Feature::isDerived

    false

- Feature::isComposite

    false

- Element::ownedRelationship

    Set{}

#### **C.2.5.12.2.6 IncludeFeatureTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeatureTyping\_Mapping

##### **Mapping Source**

Include

##### **Mapping Target**

FeatureTyping

##### **Owned Mappings**

- includeUsage : Include\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

    Set{}

- Relationship::ownedRelatedElement

    Set{}

- FeatureTyping::typedFeature

- includeUsage.to
- Specialization::specific  
*abstract rule*
- Element::name  
null
- Element::shortName  
null
- FeatureTyping::type  
from.addition
- Specialization::general  
*abstract rule*
- Element::elementId  
Helper.createUUID()
- Element::ownedRelationship  
Set{ }

#### C.2.5.12.2.7 IncludeMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

Include

##### Mapping Target

FeatureMembership

##### Owned Mappings

- includeUsage : Include\_Mapping

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

    null

- Element::shortName

    null

- Element::elementId

    Helper.createUUID()

- Element::aliasId

    Set{}

- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName

    null

- FeatureMembership::ownedMemberFeature

    includeUsage.to

- OwningMembership::ownedRelatedElement

    Set{self.ownedMemberElement() }

- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility

    KerML::VisibilityKind::public

- Element::name

    null

- Element::ownedRelationship

    Set{}

#### **C.2.5.12.2.8 UseCase\_Mapping**

##### **Description**

Currently, only one use case subject is supported by the mapping class.

##### **General Mappings**

BehavioredClassifier\_Mapping  
NamedElementMain\_Mapping

### Mapping Source

UseCase

### Mapping Target

UseCaseDefinition

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId

Set{}

- Classifier::isAbstract

from.isAbstract

- Type::isSufficient

false

- Namespace::ownedImport

Set{}

- UseCaseDefinition::ownedRelationship

let properties : Set(UML::Element) = from.ownedElement->select(e | e.ocIsKindOf(UML::Property))

- Element::elementId

Helper.getID(from)

- Classifier::ownedRelationship

let generalizations : Set(UML::Generalization) = from.ownedElement->select(e | e.ocIsKindOf(UML::Generalization))

- Element::name

from.name

- Element::shortName

null

#### C.2.5.12.2.9 CaseObjectiveMembership\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureMembership\_Mapping

##### Mapping Source

Classifier

##### Mapping Target

ObjectiveMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- OwningMembership::ownedMemberElement  
*abstract rule*
- ObjectiveMembership::ownedMemberFeature  
`CaseObjectiveRequirementUsage_Mapping.getMapped(from)`
- Membership::memberName  
`null`

- OwningMembership::ownedRelatedElement

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

- TypeFeaturing::featureOfType

*abstract rule*

- TypeFeaturing::featuringType

*abstract rule*

- Membership::visibility

```
KerML::VisibilityKind::public
```

- Element::name

```
null
```

- Element::ownedRelationship

```
Set {}
```

#### **C.2.5.12.2.10 CaseEmptySubjectReferenceUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToReferenceUsage\_Mapping

##### **Mapping Source**

Classifier

##### **Mapping Target**

ReferenceUsage

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

```
false
```

- Type::isSufficient

```
false
```



- Feature::isUnique  
true
- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false
- Element::ownedRelationship  
Set{}

#### **C.2.5.12.2.11 CaseObjectiveRequirementUsage\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToUsage\_Mapping

## Mapping Source

Classifier

## Mapping Target

RequirementUsage

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Type::isSufficient

false

- RequirementUsage::ownedRelationship

Set{CaseSubjectMembership\_Mapping.getMapped(from), CommonReturnParameterReferenceUsageMember

- Feature::isUnique

true

- Element::shortName

null

- Type::isAbstract

false

- Element::elementId

Helper.createUUID()

- Feature::isOrdered

false

- Element::aliasId

Set{ }

- Feature::isPortion

false

- Feature::isReadOnly

false

- Feature::direction

null

- Element::name

null

- Feature::isDerived

false

- Feature::isComposite

false

#### **C.2.5.12.2.12 CaseSubjectMembership\_Mapping**

##### **Description**

The current version only supports one specified subject.

##### **General Mappings**

GenericToParameterMembership\_Mapping

##### **Mapping Source**

Classifier

##### **Mapping Target**

SubjectMembership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement

Set{self.ownedMemberFeature() }

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName

null

- SubjectMembership::ownedMemberParameter

if (from.ocIsTypeOf(UML::UseCase)) and (from.ocIsType(UML::UseCase).subject->size() > 0) t

- Element::shortName

null

- Element::elementId

Helper.createUUID()

- Element::aliasId

Set{}

- FeatureMembership::ownedMemberFeature

*abstract rule*

- FeatureMembership::owningType

*abstract rule*

- Membership::memberName

null

- TypeFeaturing::featureOfType

*abstract rule*

- TypeFeaturing::featuringType

*abstract rule*

- Membership::visibility

KerML::VisibilityKind::public

- Element::name

null

- Element::ownedRelationship

Set{}

#### C.2.5.12.2.13 CaseSubjectFeatureTyping\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureTyping\_Mapping

##### Mapping Source

Classifier

## Mapping Target

FeatureTyping

## Owned Mappings

- useCaseSubjectReferenceUsage : CaseSubjectReferenceUsage\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Relationship::ownedRelatedElement  
`Set{}`
- Specialization::specific  
*abstract rule*
- FeatureTyping::type  
`if from->size() > 0 then from->get(0) else OclUndefined endif`
- Element::name  
`null`
- Element::shortName  
`null`
- Specialization::general  
*abstract rule*
- FeatureTyping::typedFeature  
`useCaseSubjectReferenceUsage.to`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

### C.2.5.12.2.14 CaseSubjectReferenceUsage\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

## General Mappings

CaseEmptySubjectReferenceUsage\_Mapping

## Mapping Source

Classifier

## Mapping Target

ReferenceUsage

## Owned Mappings

- useCaseSubjectFeatureTyping : CaseSubjectFeatureTyping\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- ReferenceUsage::ownedRelationship  
Set {useCaseSubjectFeatureTyping.to}
- Feature::isUnique  
true
- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false

- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Usage::isVariation  
false
- Feature::isReadOnly  
false
- Feature::direction  
null
- Feature::isDerived  
false
- ReferenceUsage::name  
'subject\_' + from->get(0).name
- Feature::isComposite  
false

### C.2.5.13 Values

#### C.2.5.13.1 Overview

**Table 26. List of all Overview Mapping Specifications**

| SysML v1 Concept    | SysML v2 Concept                                                                                         | Mapping Class                                                                                                                                                                                                        | Filter                          |
|---------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| Duration            | Expression<br>FeatureValue<br>FeatureValue                                                               | ValueSpecification_Mapping<br>PropertyDefaultValue_Mapping<br>SlotValue_Mapping                                                                                                                                      | src.owner.ocIsKindOf(UML::Slot) |
| DurationConstraint  | AssertConstraintUsage<br>ConstraintDefinition<br>FeatureTyping<br>FeatureMembership                      | ConstraintUsage_Mapping<br>Constraint_Mapping<br>ConstraintUsageFeatureTyping_Mapping<br>ConstrainedElementFeatureMembership_Mapping                                                                                 |                                 |
| DurationInterval    | Expression<br>FeatureValue<br>FeatureValue                                                               | ValueSpecification_Mapping<br>PropertyDefaultValue_Mapping<br>SlotValue_Mapping                                                                                                                                      | src.owner.ocIsKindOf(UML::Slot) |
| DurationObservation | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |                                 |

| SysML v1 Concept        | SysML v2 Concept                                                                                         | Mapping Class                                                                                                                                                                                                        | Filter                                                                                            |
|-------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Expression              | OperatorExpression<br>OwningMembership<br>TextualRepresentation                                          | Expression_Mapping<br>ExpressionElseMembership_Mapping<br>ExpressionElseSpecification_Mapping                                                                                                                        |                                                                                                   |
| Interval                | Expression<br>FeatureValue<br>FeatureValue                                                               | ValueSpecification_Mapping<br>PropertyDefaultValue_Mapping<br>SlotValue_Mapping                                                                                                                                      | src.owner.ocIsKindOf(UML::Slot)                                                                   |
| IntervalConstraint      | AssertConstraintUsage<br>ConstraintDefinition<br>FeatureTyping<br>FeatureMembership                      | ConstraintUsage_Mapping<br>Constraint_Mapping<br>ConstraintUsageFeatureTyping_Mapping<br>ConstrainedElementFeatureMembership_Mapping                                                                                 |                                                                                                   |
| LiteralBoolean          | LiteralBoolean                                                                                           | LiteralBoolean_Mapping                                                                                                                                                                                               |                                                                                                   |
| LiteralInteger          | LiteralInteger                                                                                           | LiteralInteger_Mapping                                                                                                                                                                                               |                                                                                                   |
| LiteralNull             | NullExpression                                                                                           | LiteralNull_Mapping                                                                                                                                                                                                  |                                                                                                   |
| LiteralReal             | LiteralRational                                                                                          | LiteralReal_Mapping                                                                                                                                                                                                  |                                                                                                   |
| LiteralSpecification    | Expression<br>FeatureValue<br>FeatureValue                                                               | ValueSpecification_Mapping<br>PropertyDefaultValue_Mapping<br>SlotValue_Mapping                                                                                                                                      | src.owner.ocIsKindOf(UML::Slot)                                                                   |
| LiteralString           | LiteralString                                                                                            | LiteralString_Mapping                                                                                                                                                                                                |                                                                                                   |
| LiteralUnlimitedNatural | LiteralInfinity<br>LiteralInteger                                                                        | LiteralUnlimitedToUnbounded_Mapping<br>LiteralUnlimitedToInteger_Mapping                                                                                                                                             | src.ocIsType(UML::LiteralUnlimitedNatural)<br>src.ocIsType(UML::LiteralUnlimitedNatural)<br><> -1 |
| Observation             | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |                                                                                                   |



| SysML v1 Concept | SysML v2 Concept                                                                                                                                                                                                                                                                                                                                                                                                      | Mapping Class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Filter                                                                                                                                                                                                          |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OpaqueExpression | OwningMembership<br>ReferenceUsage<br>ReturnParameterMembership<br>Feature<br>Membership<br>FeatureChainExpression<br>FeatureTyping<br>ParameterMembership<br>FeatureValue<br>CalculationUsage<br>FeatureValue<br>TextualRepresentation<br>FeatureReferenceExpression<br>ReferenceUsage                                                                                                                               | OpaqueExpressionMembership_Mapping<br>OpaqueExpressionReturnParameterReferenceUsage_Mapping<br>OpaqueExpressionReturnParameterMembershipReferenceUsage_Mapping<br>OpaqueExpressionFeature_Mapping<br>OpaqueExpressionFeatureValueExpressionMembership_Mapping<br>OpaqueExpressionAsValue_Mapping<br>OpaqueExpressionReturnParameterReferenceUsageFeatureTyping_Mapping<br>OpaqueExpressionParameterMembership_Mapping<br>OpaqueExpressionFeatureValue_Mapping<br>OpaqueExpression_Mapping<br>PropertyDefaultValueOpaqueExpression_Mapping<br>OpaqueExpressionSpecification_Mapping<br>OpaqueExpressionFeatureValueExpression_Mapping<br>OpaqueExpressionReturnParameterReferenceUsageUntyped_Mapping                                                                                                                                                                                                                          | <br><br><br>not<br>src.type.oclIsUndefined()<br>and not<br>src.oclIsKindOf(UML::ValueSpecification)<br>and<br>not(src.type.oclIsKindOf(UML::Enumeration))<br>and<br>Helper.getSysMLv2EnumerationDefinition(src) |
| StringExpression | OperatorExpression<br>OwningMembership<br>TextualRepresentation<br>FeatureTyping<br>FeatureTyping<br>Element<br>Feature<br>FeatureTyping<br>Relationship<br>Expression<br>OwningMembership<br>LiteralInteger<br>ReturnParameterMembership<br>ParameterMembership<br>FeatureMembership<br>FeatureTyping<br>MultiplicityRange<br>ReferenceUsage<br>Element<br>Membership<br>ReturnParameterMembership<br>ReferenceUsage | Expression_Mapping<br>ExpressionElseMembership_Mapping<br>ExpressionElseSpecification_Mapping<br>DefaultMultiplicityBoundTyping_Mapping<br>CommonParameterReferenceUsageInFeatureTyping_Mapping<br>Mapping<br>CommonReturnParameterFeatureUntyped_Mapping<br>CommonReturnParameterFeatureTyping_Mapping<br>ElementOwnership_Mapping<br>CommonValueSpecification_Mapping<br>DefaultMultiplicityMembership_Mapping<br>DefaultMultiplicityBoundValue_Mapping<br>CommonReturnParameterFeatureMembership_Mapping<br>CommonParameterReferenceUsageInMembership_Mapping<br>DefaultMultiplicityBoundOwnership_Mapping<br>CommonReturnParameterReferenceUsageFeatureTyping_Mapping<br>DefaultMultiplicityElement_Mapping<br>CommonReturnParameterReferenceUsageUntyped_Mapping<br>ElementMain_Mapping<br>ElementMembership_Mapping<br>CommonReturnParameterReferenceUsageMembership_Mapping<br>CommonParameterReferenceUsageIn_Mapping |                                                                                                                                                                                                                 |
| TimeConstraint   | AssertConstraintUsage<br>ConstraintDefinition<br>FeatureTyping<br>FeatureMembership                                                                                                                                                                                                                                                                                                                                   | ConstraintUsage_Mapping<br>Constraint_Mapping<br>ConstraintUsageFeatureTyping_Mapping<br>ConstrainedElementFeatureMembership_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                 |
| TimeExpression   | TriggerInvocationExpression                                                                                                                                                                                                                                                                                                                                                                                           | TimeExpression_Mapping                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                 |

| SysML v1 Concept   | SysML v2 Concept                                                                                         | Mapping Class                                                                                                                                                                                                        | Filter                          |
|--------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| TimeInterval       | Expression<br>FeatureValue<br>FeatureValue                                                               | ValueSpecification_Mapping<br>PropertyDefaultValue_Mapping<br>SlotValue_Mapping                                                                                                                                      | src.owner.ocIsKindOf(UML::Slot) |
| TimeObservation    | FeatureMembership<br>ReferenceUsage<br>OwningMembership<br>Element<br>Documentation<br>SubjectMembership | ElementFeatureMembership_Mapping<br>RequirementSubject_Mapping<br>RequirementDocumentationMembership_Mapping<br>NamedElementMain_Mapping<br>RequirementDocumentation_Mapping<br>RequirementSubjectMembership_Mapping |                                 |
| ValueSpecification | Expression<br>FeatureValue<br>FeatureValue                                                               | ValueSpecification_Mapping<br>PropertyDefaultValue_Mapping<br>SlotValue_Mapping                                                                                                                                      | src.owner.ocIsKindOf(UML::Slot) |

### C.2.5.13.2 Mapping Specifications

#### C.2.5.13.2.1 CommonValueSpecification\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToExpression\_Mapping

##### Mapping Source

Element

##### Mapping Target

Expression

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- Feature::isUnique

- `Element::shortName`

- `Type::isAbstract`

- `Element::elementId`

- Feature::isOrdered

- `Element::aliasId`

- Feature::isPortion

- Feature::isReadOnly

- Expression::ownedRelationship

- Feature::direction

- `Element::name`

- Feature::isDerived

- Feature::isComposite

#### C.2.5.13.2.2 EqualOperatorExpressionFeatureValue\_Mapping

\*\*\* not specified yet \*\*\*

## GenericToFeatureValue\_Mapping

## Mapping Source

TypedElement

## Mapping Target

FeatureValue

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- Element::elementId  
  
Helper.createUUID()
- Element::aliasId  
  
Set{ }
- OwningMembership::ownedMemberElement  
*abstract rule*
- Membership::memberName  
  
null
- OwningMembership::ownedRelatedElement  
  
Set{ self.ownedMemberElement() }
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- FeatureValue::value  
  
CommonFeatureReferenceExpression\_Mapping.getMapped(from)

- Element::ownedRelationship

Set {}

### C.2.5.13.2.3 Expression\_Mapping

#### Description

\*\*\* not specified yet \*\*\*

#### General Mappings

GenericToExpression\_Mapping

NamedElementMain\_Mapping

#### Mapping Source

Expression

#### Mapping Target

OperatorExpression

(none)

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

#### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Element::ownedRelationship

ElementOwnership\_Mapping.getMappedColl(from.ownedElement)

- Type::isSufficient

false

- Feature::isUnique

true

- Element::shortName

null

- Type::isAbstract

false

- Feature::isOrdered  
false
- Element::aliasId  
Set{}
- Feature::isPortion  
false
- OperatorExpression::operator  
from.symbol
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.5.13.2.4 ExpressionElse\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

Expression\_Mapping

##### **Mapping Source**

Expression

##### **Mapping Target**

OperatorExpression

## Owned Mappings

- `expressionElseMembership` : `ExpressionElseMembership_Mapping`

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
from.symbol = 'else'
```

## Mapping rules

The following lists the mapping rules for the target element properties.

- `Feature::isEnd`  
`false`
- `Type::isSufficient`  
`false`
- `Feature::isUnique`  
`true`
- `Element::name`  
`from.name`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `OperatorExpression::ownedRelationship`  
`Set{expressionElseMembership.to}`
- `Feature::isReadOnly`  
`false`
- `Feature::direction`

null

- Element::elementId

    Helper.getID(from)

- Feature::isDerived

    false

- Feature::isComposite

    false

#### **C.2.5.13.2.5 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**

- expressionElseSpecification : ExpressionElseSpecification\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement

    Set{ }

- OwningMembership::ownedMemberElement

    expressionElseSpecification.to

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName



- Membership::memberElement  
*abstract rule*
- Element::shortName

- `Element::elementId`

- `Element::aliasId`

- Membership::memberName

- Membership::visibility

- `Element::name`

- Element::ownedRelationship

#### C.2.5.13.2.6 ExpressionElseSpecification\_Mapping

Creates the textual representation for the else guard condition specification.

## GenericToTextualRepresentation\_Mapping

### Expression

## TextualRepresentation

(none)

This mapping applies only if the following (OCL) condition is verified:  
(none)

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The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Element::name  
`null`
- TextualRepresentation::language  
`'SysMLv1'`
- TextualRepresentation::body  
`'else'`
- Element::shortName  
`null`
- AnnotatingElement::annotation  
`Set{}`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`

#### **C.2.5.13.2.7 LiteralBoolean\_Mapping**

##### **Description**

Maps the UML4SysML::LiteralBoolean to the SysMLv2::LiteralBoolean.

##### **General Mappings**

ValueSpecification\_Mapping

##### **Mapping Source**

LiteralBoolean

##### **Mapping Target**

LiteralBoolean

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- `Feature::isEnd`  
`false`
- `Element::ownedRelationship`  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- `Type::isSufficient`  
`false`
- `Feature::isUnique`  
`true`
- `Element::name`  
`from.name`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `Feature::isReadOnly`  
`false`
- `Expression::ownedRelationship`  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)->append(CommonReturnParameterFeatu`
- `LiteralBoolean::value`  
`from.value`
- `Feature::direction`  
`null`

- Element::elementId  
Helper.getID(from)
- Feature::isDerived  
false
- Feature::isComposite  
false

#### C.2.5.13.2.8 LiteralBooleanTrue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

CommonValueSpecification\_Mapping

##### Mapping Source

Element

##### Mapping Target

LiteralBoolean

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- LiteralBoolean::value  
true
- Feature::isUnique  
true
- Element::shortName

- `Type::isAbstract`

- `Element::elementId`

- Feature::isOrdered

- `Element::aliasId`

- Feature::isPortion

- `Feature::isReadOnly`

- Feature::direction

- `Element::name`

- Feature::isDerived

- Feature::isComposite

- `Element::ownedRelationship`

#### C.2.5.13.2.9 LiteralInteger\_Mapping

### Description

Maps the UML4SysML::LiteralInteger to the SysMLv2::LiteralInteger.

## General Mappings

ValueSpecification\_Mapping

## Mapping Source

## LiteralInteger

## Mapping Target

LiteralInteger

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::name  
`from.name`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Feature::isReadOnly  
`false`

- Expression::ownedRelationship

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)->append(CommonReturnParameterFeatu
```

- Feature::direction

```
null
```

- Element::elementId

```
Helper.getID(from)
```

- Feature::isDerived

```
false
```

- LiteralInteger::value

```
from.value
```

- Feature::isComposite

```
false
```

#### **C.2.5.13.2.10 LiteralNull\_Mapping**

##### **Description**

Maps the UML4SysML::LiteralNull to the SysMLv2::LiteralNull.

##### **General Mappings**

ValueSpecification\_Mapping

##### **Mapping Source**

LiteralNull

##### **Mapping Target**

NullExpression

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd

```
false
```

- Element::ownedRelationship

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)
```

- Type::isSufficient

```
false
```

- Feature::isUnique

```
true
```

- Element::name

```
from.name
```

- Element::shortName

```
null
```

- Type::isAbstract

```
false
```

- Feature::isOrdered

```
false
```

- Element::aliasId

```
Set{}
```

- Feature::isPortion

```
false
```

- Feature::isReadOnly

```
false
```

- Expression::ownedRelationship

```
ElementOwnership_Mapping.getMappedColl(from.ownedElement)->append(CommonReturnParameterFeatu
```

- Feature::direction

```
null
```

- Element::elementId

```
Helper.getID(from)
```

- Feature::isDerived

```
false
```

- Feature::isComposite

```
false
```



### C.2.5.13.2.11 LiteralReal\_Mapping

#### Description

Maps the UML4SysML::LiteralReal to the SysMLv2::LiteralReal.

#### General Mappings

ValueSpecification\_Mapping

#### Mapping Source

LiteralReal

#### Mapping Target

LiteralRational

(none)

#### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

#### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- LiteralRational::value  
`from.value`
- Feature::isUnique  
`true`
- Element::name  
`from.name`
- Element::shortName  
`null`
- Type::isAbstract

- Feature::isOrdered

- `Element::aliasId`

- `Feature::isPortion`

- Feature::isReadOnly

- Expression::ownedRelationship

- Feature::direction

- `Element::elementId`

- Feature::isDerived

- Feature::isComposite

#### C.2.5.13.2.12 LiteralString\_Mapping

Maps the UML4SysML::LiteralString to the SysMLv2::LiteralString.

## ValueSpecification\_Mapping

## LiteralString

## LiteralString

(none)

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This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- Element::ownedRelationship

ElementOwnership\_Mapping.getMappedColl(from.ownedElement)

- Type::isSufficient

false

- Feature::isUnique

true

- Element::name

from.name

- Element::shortName

null

- Type::isAbstract

false

- Feature::isOrdered

false

- Element::aliasId

Set{}

- Feature::isPortion

false

- Feature::isReadOnly

false

- Expression::ownedRelationship

ElementOwnership\_Mapping.getMappedColl(from.ownedElement)->append(CommonReturnParameterFeatu

- Feature::direction

null

- Element::elementId  
`Helper.getID(from)`
- Feature::isDerived  
`false`
- Feature::isComposite  
`false`
- LiteralString::value  
`if from.value.oclIsUndefined() then '' else from.value endif`

#### **C.2.5.13.2.13 LiteralUnlimitedToUnbounded\_Mapping**

##### **Description**

Maps the UML4SysML::LiteralUnlimited to the SysMLv2::LiteralInfinity if it is the unlimited value.

##### **General Mappings**

ValueSpecification\_Mapping

##### **Mapping Source**

LiteralUnlimitedNatural

##### **Mapping Target**

LiteralInfinity

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:

```
src.oclAsType(UML::LiteralUnlimitedNatural).value = -1
```

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`

- `Feature::isUnique`  
`true`
- `Element::name`  
`from.name`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `Feature::isReadOnly`  
`false`
- `Expression::ownedRelationship`  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)->append(CommonReturnParameterFeatu`
- `Feature::direction`  
`null`
- `Element::elementId`  
`Helper.getID(from)`
- `Feature::isDerived`  
`false`
- `Feature::isComposite`  
`false`

#### **C.2.5.13.2.14 LiteralUnlimitedToInteger\_Mapping**

##### **Description**

Maps the UML4SysML::LiteralUnlimited to the SysMLv2::LiteralInteger if it is not the unlimited value.

##### **General Mappings**

ValueSpecification\_Mapping

### Mapping Source

LiteralUnlimitedNatural

### Mapping Target

LiteralInteger

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

```
src.oclAsType(UML::LiteralUnlimitedNatural).value <> -1
```

### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- LiteralInteger::value  
`from.value`
- Feature::isUnique  
`true`
- Element::name  
`from.name`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`

- Element::aliasId  
Set{}
- Feature::isPortion  
false
- Feature::isReadOnly  
false
- Expression::ownedRelationship  
ElementOwnership\_Mapping.getMappedColl(from.ownedElement)->append(CommonReturnParameterFeatu
- Feature::direction  
null
- Element::elementId  
Helper.getID(from)
- Feature::isDerived  
false
- Feature::isComposite  
false

#### C.2.5.13.2.15 OpaqueExpressionAsValue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

CommonValueSpecification\_Mapping

##### Mapping Source

OpaqueExpression

##### Mapping Target

FeatureChainExpression

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- `Feature::isEnd`  
`false`
- `Type::isSufficient`  
`false`
- `Feature::isUnique`  
`true`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Element::elementId`  
`Helper.createUUID()`
- `Feature::isOrdered`  
`false`
- `FeatureChainExpression::ownedRelationship`  
`Set{OpaqueExpressionParameterMembership_Mapping.getMapped(from), CommonReturnParameterFeatur`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `Feature::isReadOnly`  
`false`
- `Feature::direction`  
`null`
- `Element::name`  
`null`
- `Feature::isDerived`  
`false`
- `Feature::isComposite`



false

- Element::ownedRelationship

Set{}

#### C.2.5.13.2.16 OpaqueExpression\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

Action\_Mapping

ValueSpecification\_Mapping

##### Mapping Source

OpaqueExpression

##### Mapping Target

CalculationUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd

false

- CalculationUsage::ownedRelationship

Set{OpaqueExpressionMembership\_Mapping.getMapped(from), OpaqueExpressionReturnParameterMembe

- Element::ownedRelationship

ElementOwnership\_Mapping.getMappedColl(from.ownedElement)

- Type::isSufficient

false

- Feature::isUnique

true

- Element::name

- from.name
- Element::shortName
  - null
- Type::isAbstract
  - false
- Feature::isOrdered
  - false
- Element::aliasId
  - Set{}
- Feature::isPortion
  - false
- Usage::isVariation
  - false
- Feature::isReadOnly
  - false
- Expression::ownedRelationship
  - ElementOwnership\_Mapping.getMappedColl(from.ownedElement)->append(CommonReturnParameterFeatu
- Feature::direction
  - null
- Element::elementId
  - Helper.getID(from)
- Feature::isDerived
  - false
- ActionUsage::isComposite
  - true

#### **C.2.5.13.2.17 OpaqueExpressionFeature\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToFeature\_Mapping

### Mapping Source

OpaqueExpression

### Mapping Target

Feature

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- Type::isSufficient  
`false`
- Element::name  
`null`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::ownedRelationship  
`Set{OpaqueExpressionFeatureValue_Mapping.getMapped(from)}`

#### C.2.5.13.2.18 OpaqueExpressionFeatureValue\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToFeatureValue\_Mapping

### Mapping Source

OpaqueExpression

### Mapping Target

FeatureValue

(none)

### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
    null
- Element::shortName  
  
    null
- Element::elementId  
  
    Helper.createUUID()
- Element::aliasId  
  
    Set{}
- OwningMembership::ownedMemberElement  
*abstract rule*
- FeatureValue::value  
  
    OpaqueExpressionFeatureValueExpression\_Mapping.getMapped(from)
- Membership::memberName  
  
    null
- OwningMembership::ownedRelatedElement  
  
    Set{self.ownedMemberElement() }
- Membership::visibility  
  
    KerML::VisibilityKind::public
- Element::name  
  
    null
- Element::ownedRelationship

Set{}

#### C.2.5.13.2.19 OpaqueExpressionFeatureValueExpression\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToExpression\_Mapping

##### Mapping Source

OpaqueExpression

##### Mapping Target

FeatureReferenceExpression

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
false
- Type::isSufficient  
false
- Feature::isUnique  
true
- Element::shortName  
null
- Type::isAbstract  
false
- Element::elementId  
Helper.createUUID()
- Feature::isOrdered  
false

- Element::aliasId  
Set{ }
- Feature::isPortion  
false
- FeatureReferenceExpression::ownedRelationship  
Set{ OpaqueExpressionFeatureValueExpressionMembership\_Mapping.getMapped(from) }
- Feature::isReadOnly  
false
- Feature::direction  
null
- Element::name  
null
- Feature::isDerived  
false
- Feature::isComposite  
false

#### **C.2.5.13.2.20 OpaqueExpressionFeatureValueExpressionMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToMembership\_Mapping

##### **Mapping Source**

OpaqueExpression

##### **Mapping Target**

Membership

(none)

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- `Element::aliasId`  
`Set{}`
- `Relationship::ownedRelatedElement`  
`Set{}`
- `Relationship::source`  
`Set{}`
- `Membership::memberElement`  
`from`
- `Element::name`  
`null`
- `Element::shortName`  
`null`
- `Element::elementId`  
`Helper.createUUID()`
- `Relationship::target`  
`Set{}`
- `Element::ownedRelationship`  
`Set{}`

#### **C.2.5.13.2.21 OpaqueExpressionMembership\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

GenericToOwningMembership\_Mapping

##### **Mapping Source**

OpaqueExpression

##### **Mapping Target**

OwningMembership

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Relationship::ownedRelatedElement  
`Set{}`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Membership::memberElement  
*abstract rule*
- Element::shortName  
`null`
- OwningMembership::ownedMemberElement  
`OpaqueExpressionSpecification_Mapping.getMapped(from)`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{}`
- Membership::memberName  
`null`
- Membership::visibility  
`KerML::VisibilityKind::public`
- Element::name  
`null`
- Element::ownedRelationship  
`Set{}`

### C.2.5.13.2.22 OpaqueExpressionParameterMembership\_Mapping

#### Description

\*\*\* not specified yet \*\*\*



## General Mappings

GenericToParameterMembership\_Mapping

## Mapping Source

OpaqueExpression

## Mapping Target

ParameterMembership

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- FeatureMembership::ownedRelatedElement  
`Set{self.ownedMemberFeature() }`
- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
`null`
- Element::shortName  
`null`
- ParameterMembership::ownedMemberParameter  
`OpaqueExpressionFeature_Mapping.getMapped(from)`
- Element::elementId  
`Helper.createUUID()`
- Element::aliasId  
`Set{ }`
- FeatureMembership::ownedMemberFeature  
*abstract rule*
- FeatureMembership::owningType  
*abstract rule*
- Membership::memberName  
`null`

- TypeFeaturing::featureOfType  
*abstract rule*
- TypeFeaturing::featuringType  
*abstract rule*
- Membership::visibility  
  
KerML::VisibilityKind::public
- Element::name  
  
null
- Element::ownedRelationship  
  
Set{ }

#### C.2.5.13.2.23 OpaqueExpressionReturnParameterMembershipReferenceUsage\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToReturnParameterMembership\_Mapping

##### Mapping Source

OpaqueExpression

##### Mapping Target

ReturnParameterMembership

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Membership::membershipOwningNamespace  
*abstract rule*
- Membership::memberShortName  
  
null
- Element::shortName  
  
null
- Element::elementId

- Helper.createUUID()
- Element::aliasId
  - Set{}
- FeatureMembership::owningType
  - abstract rule*
- ReturnParameterMembership::ownedMemberParameter
  - if from.type.ocliIsUndefined() then OpaqueExpressionReturnParameterReferenceUsageUntyped\_Map
- Membership::memberName
  - null
- ParameterMembership::ownedRelatedElement
  - Set{self.ownedMemberParameter() }
- TypeFeaturing::featureOfType
  - abstract rule*
- TypeFeaturing::featuringType
  - abstract rule*
- Membership::visibility
  - KerML::VisibilityKind::public
- Element::name
  - null
- Element::ownedRelationship
  - Set{ }

#### C.2.5.13.2.24 OpaqueExpressionReturnParameterReferenceUsage\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToReferenceUsage\_Mapping

##### Mapping Source

OpaqueExpression

##### Mapping Target

ReferenceUsage

##### Owned Mappings

- opaqueExpressionReturnParameterReferenceUsageFeatureTyping :  
OpaqueExpressionReturnParameterReferenceUsageFeatureTyping\_Mapping

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- ReferenceUsage::direction  
`KerML::FeatureDirectionKind::_'out'`
- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Element::elementId  
`Helper.createUUID()`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Usage::isVariation  
`false`
- Feature::isReadOnly  
`false`
- ReferenceUsage::ownedRelationship

```
Set{opaqueExpressionReturnParameterReferenceUsageFeatureTyping.to}
```

- Element::name

```
null
```

- Feature::isDerived

```
false
```

- Feature::isComposite

```
false
```

#### **C.2.5.13.2.25 OpaqueExpressionReturnParameterReferenceUsageFeatureTyping\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

TypedElementToFeatureTyping\_Mapping

##### **Mapping Source**

OpaqueExpression

##### **Mapping Target**

FeatureTyping

##### **Owned Mappings**

- opaqueExpressionReturnParameterReferenceUsage :  
OpaqueExpressionReturnParameterReferenceUsage\_Mapping

##### **Applicable filters**

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### **Mapping rules**

The following lists the mapping rules for the target element properties.

- Element::aliasId

```
Set{ }
```

- Relationship::ownedRelatedElement

```
Set{ }
```

- FeatureTyping::typedFeature

```
opaqueExpressionReturnParameterReferenceUsage.to
```

- Element::name  
null
- Element::shortName  
null
- Element::elementId  
Helper.createUUID()
- FeatureTyping::type  
*abstract rule*
- FeatureTyping::typedFeature  
*abstract rule*
- Element::ownedRelationship  
Set{ }

#### C.2.5.13.2.26 OpaqueExpressionReturnParameterReferenceUsageUntyped\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

GenericToReferenceUsage\_Mapping

##### Mapping Source

OpaqueExpression

##### Mapping Target

ReferenceUsage

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- ReferenceUsage::direction  
KerML::FeatureDirectionKind::\_out'
- Feature::isEnd  
false

- `Type::isSufficient`  
`false`
- `Feature::isUnique`  
`true`
- `Element::shortName`  
`null`
- `Type::isAbstract`  
`false`
- `Element::elementId`  
`Helper.createUUID()`
- `Feature::isOrdered`  
`false`
- `Element::aliasId`  
`Set{}`
- `Feature::isPortion`  
`false`
- `Usage::isVariation`  
`false`
- `Feature::isReadOnly`  
`false`
- `Element::name`  
`null`
- `Feature::isDerived`  
`false`
- `Feature::isComposite`  
`false`
- `Element::ownedRelationship`  
`Set{}`

#### **C.2.5.13.2.27 OpaqueExpressionSpecification\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

## General Mappings

GenericToTextualRepresentation\_Mapping

## Mapping Source

OpaqueExpression

## Mapping Target

TextualRepresentation

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:

(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Element::aliasId  
`Set{}`
- TextualRepresentation::body  
`if from.body->size() = 0 then OclUndefined else from.body.get(0) endif`
- Element::name  
`null`
- TextualRepresentation::language  
`if from.language->size() = 0 then OclUndefined else from.language.get(0) endif`
- Element::shortName  
`null`
- AnnotatingElement::annotation  
`Set{}`
- Element::elementId  
`Helper.createUUID()`
- Element::ownedRelationship  
`Set{}`



#### C.2.5.13.2.28 TimeExpression\_Mapping

##### Description

\*\*\* not specified yet \*\*\*

##### General Mappings

ValueSpecification\_Mapping

##### Mapping Source

TimeExpression

##### Mapping Target

TriggerInvocationExpression

(none)

##### Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

##### Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Element::ownedRelationship  
`ElementOwnership_Mapping.getMappedColl(from.ownedElement)`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::name  
`from.name`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered

- false
- Element::aliasId
 

Set{}
- Feature::isPortion
 

false
- TriggerInvocationExpression::kind
 

SysMLv2::TriggerKind::at
- Feature::isReadOnly
 

false
- Expression::ownedRelationship
 

ElementOwnership\_Mapping.getMappedColl(from.ownedElement)->append(CommonReturnParameterFeatu
- Feature::direction
 

null
- Element::elementId
 

Helper.getID(from)
- Feature::isDerived
 

false
- Feature::isComposite
 

false

#### **C.2.5.13.2.29 ValueSpecification\_Mapping**

##### **Description**

\*\*\* not specified yet \*\*\*

##### **General Mappings**

CommonValueSpecification\_Mapping  
NamedElementMain\_Mapping

##### **Mapping Source**

ValueSpecification

##### **Mapping Target**

Expression

(none)

## Applicable filters

This mapping applies only if the following (OCL) condition is verified:  
(none)

## Mapping rules

The following lists the mapping rules for the target element properties.

- Feature::isEnd  
`false`
- Type::isSufficient  
`false`
- Feature::isUnique  
`true`
- Element::shortName  
`null`
- Type::isAbstract  
`false`
- Feature::isOrdered  
`false`
- Element::aliasId  
`Set{}`
- Feature::isPortion  
`false`
- Expression::typing  
`TypedElement_Mapping.getMapped(from)`
- Feature::isReadOnly  
`false`
- Feature::direction  
`null`
- Element::elementId  
`Helper.getID(from)`
- Element::name

null

- Feature::isDerived

false

- Expression::ownedRelationship

ElementOwnership\_Mapping.getMappedColl(from.ownedElement)->including(CommonReturnParameterFe

- Feature::isComposite

false