# Viewpoint Metamodel

The metamodel for viewpoints of ontological, conceptual, and physical models and the mappings between them.

## Diagram: Viewpoint Metamodel

1054974195.emf

1. Viewpoint Metamodel

## Class Constrained Property

An abstract kind of thing that defines constraints used by both properties and path steps.

Direct Supertypes

[Thing](#_d85fc9b2068aad8f1d625373a20313e6)

Attributes

1549810183.emf maxCardinality : [Integer](#_aeefbb09a8c456505ebb76cf8a103a03) [0..1]

The maximum number of values for a property for a given subject.

1549810183.emf minCardinality : [Integer](#_aeefbb09a8c456505ebb76cf8a103a03) [0..1]

The maximum number of values for a property for a given subject.

1549810183.emf isOrdered : [Boolean](#_6119a00b0834641b9fe3f5ae9f58237f) [0..1]

Assertion that the set of values is ordered.

## Class Constraint

A constraint specifies a condition that an instance of a thing must satisfy.

Direct Supertypes

[Resource](#_a56395373673207b30c301838b09ee77)

## Class Context

Context is an abstract thing with a set of constraints, capabilities, and characteristics that must be satisfies for anything contextualized by that context.

Direct Supertypes

[Thing](#_d85fc9b2068aad8f1d625373a20313e6)

## Class Data Attribute

A data attribute is a property of an information record, holding data about a characteristic of something. A data attribute may be defined by a semantic [property it represents.

Direct Supertypes

[Property](#_7d0cd769d25a6911af73f639cfbbf3d2)

Associations

1397781411.emf container : [Record](#_6a79db978122bea84d731bdeeb5bddc4) [0..1] *Subsets*: domain:[Class](#_e65367f1e38469d9781c300417de1342) subjectType:[Class](#_e65367f1e38469d9781c300417de1342)

THe container that defines the existence and fundamental characteristics of a resource. The container is considered the "systemn of record" about something but may not contain all the information about that thing.

1397781411.emf foreignKeyOf : [Property](#_7d0cd769d25a6911af73f639cfbbf3d2) [0..1]

A property that provides data to identify the opposite end of a relationship as used in typical E/R models.

## Class Domain

A domain is a context defined for a subject area or area of interest such as clinical health care or mortgage loans.

Direct Supertypes

[Context](#_5b6a434dc49b9ce419e4e6da686a3150)

## Class End

A property that defines one end of a relationship.

Direct Supertypes

[Property](#_7d0cd769d25a6911af73f639cfbbf3d2)

Attributes

1549810183.emf isSubject : [Boolean](#_6119a00b0834641b9fe3f5ae9f58237f) [0..1]

siSubject indicates that an end represents the subject, or "from" end of a directed relationship.

Associations

1397781411.emf inverseOf : [Property](#_7d0cd769d25a6911af73f639cfbbf3d2) [0..1]

The other end of a relationship, defined for convenience and OWL compatibility. if a relationship has two ends they will be inverse of each other.

## Class Entity

A type of thing with independent existence in the world. Things include physical-spacial/temporal and social constructs.

Direct Supertypes

[Class](#_e65367f1e38469d9781c300417de1342)

## Class Enumeration

A type that defines a fixed set of individuals, normally but not necessarily values.

Direct Supertypes

[Class](#_e65367f1e38469d9781c300417de1342), [Package](#_3d1c63367ff837f449baca6944f9128c)

Associations

1397781411.emf : [Value Constraint](#_e5dc32b665f509420d6646451010ed1c) [1..\*] *Subsets*: isConstrainedBy:[Constraint](#_bcd3dae50545ad03ddcf95af778ae822)

## Class Equivalent Constraint

An equivalent constraint requires that all hasEquivalent things have the same extent - that they classify the same set of things.

Direct Supertypes

[Constraint](#_bcd3dae50545ad03ddcf95af778ae822)

Associations

1397781411.emf hasEquivalent : [Thing](#_d85fc9b2068aad8f1d625373a20313e6) [2..\*]

One of a set of things that is equivalent based on an equivalent constraint.

## Class Facet

A contextual aspect of something else. This includes roles & phases. The type of things that may have this aspect is specified by facetOf, which is inherited by all subclasses of a facet.

A facet defined with withRespectTo has a lifetime corresponding the lifetime of the end, which in tern corresponds to the lifetime of the end's relationship. E.g. Joe is a pilot of a particular flight, while that flight is occurring.

A facet defined without withRespectTo has an arbitrary lifetime defined by factors outside of the model. E.g. Joe is a pilot, meaning Joe can fly airplanes.

Direct Supertypes

[Class](#_e65367f1e38469d9781c300417de1342)

Associations

1397781411.emf facetOf : [Class](#_e65367f1e38469d9781c300417de1342) [0..1]

The class of things that may have a particular kind of facet.

1397781411.emf withRespectTo : [End](#_034167e597a20e1f9a029822a01bbc1d) [0..1]

withRespectTo defines the and of a relationship that implies the existence of a facet.

## Class Package

A package is a structural context that contains the definition of resources.

Direct Supertypes

[Context](#_5b6a434dc49b9ce419e4e6da686a3150)

## Class Path Step

A path step is one node of a path that is one traversal - constrained step in a path, where the entire path defines a property that hasDefinition of the head of the path. Constraints are applied after traversal of the traverses property, if any.

Direct Supertypes

[Constrained Property](#_1ade95a6c0613a614022000bcde216ca)

Associations

1397781411.emf nextStep : [End](#_034167e597a20e1f9a029822a01bbc1d) [0..1]

the next step in a path, if any.

1397781411.emf traverses : [Property](#_7d0cd769d25a6911af73f639cfbbf3d2) [0..1]

The property traversed by a path step.

## Class Record

A data structure used for storing information about other things. Records may be semantically defined by specifying what they represent.

Direct Supertypes

[Class](#_e65367f1e38469d9781c300417de1342)

## Class Relationship

A relationship classifies how two things are connected via the ends of the relationship.

Note that a choice was made for relationships to be binary, however relationships may have attributes and participate as ends of other relationships.

Direct Supertypes

[Class](#_e65367f1e38469d9781c300417de1342)

Associations

1397781411.emf hasEnd : [End](#_034167e597a20e1f9a029822a01bbc1d) [1..2]

One end of a relationship.

## Class Representation Constraint

Constraint that the defining thing represents, is information about, the represented thing. The defining thing can be considered "epistemic" (about knowledge) where as the represented thing can be considered "ontological", about the world.

Direct Supertypes

[Constraint](#_bcd3dae50545ad03ddcf95af778ae822)

## Class Restriction

A restriction is a phudo property that places additional restrictions on the super-properties (subPropertyOf and redefines). Restrictions to not define an additional predicate but restrict other predicates. The URI for a restriction should not be used in a RDF triple.

Direct Supertypes

[Property](#_7d0cd769d25a6911af73f639cfbbf3d2)

## Class Value

A class if resources where their identity and contents are the same. Values do not change over time or have independent identity.Values may be primitive (e.g. numbers) or complex (e.g. a person's full name).

Direct Supertypes

[Class](#_e65367f1e38469d9781c300417de1342)

## Class Value Constraint

A Value Constraint is a constraint that requires that a class is one of the values specified by hasValue or one of the values contained by hasValueSet.

Direct Supertypes

[Constraint](#_bcd3dae50545ad03ddcf95af778ae822)

Associations

1397781411.emf hasValue : [Resource](#_a56395373673207b30c301838b09ee77) [0..\*]

one of a set of possible values for a value constraint.

1397781411.emf hasValueSet : [Package](#_3d1c63367ff837f449baca6944f9128c) [0..\*]

a package containing a set of values, any one of which may satisfy a value set.

## Class Viewpoint

A viewpoint is a context defined for a set of stakeholders.

Direct Supertypes

[Context](#_5b6a434dc49b9ce419e4e6da686a3150)

## Class Visibility Constraint

A visibility constraint specifies how relevant and important a concept is within a context.

Direct Supertypes

[Constraint](#_bcd3dae50545ad03ddcf95af778ae822)

Attributes

1549810183.emf visibility : [Integer](#_aeefbb09a8c456505ebb76cf8a103a03) [1]

A number indicating the relevance and importance of a concept within a context where 1 is the most important.

1549810183.emf defaultContextVisibility : [Integer](#_aeefbb09a8c456505ebb76cf8a103a03) [0..1]

A number indicating the relevance and importance of a set of concepts within a context where 1 is the most important.