

# OMV - Ontology Metadata Vocabulary for the Semantic Web: OntologyDocument concept

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**Abstract.** This document presents the description of the ontologyDocument concept of the proposal for a metadata standard for annotating ontologies, so called OMV, which is based on discussions and agreement in the EU IST thematic network of excellence Knowledge Web.

## 1 ontologyDocument

Aspects of specific realizations are covered modular (and extendable) by the class *Ontology Document (OD)*.

docName	
Name	docName
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation required	
Category	General
Definition	The name by which an instance is formally known.
Domain	omv:OntologyDocument
Range	xsd:string
Cardinality	1:1
OMV version	0.1
Comments	none

**Table 1.** Property: docName

<b>docAcronym</b>	
Name	docAcronym
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation required	
Category	General
Definition	A short name by which an instance is informally known.
Domain	omv:OntologyDocument
Range	xsd:string
Cardinality	1:1
OMV version	0.1
Comments	none

**Table 2.** Property: docAcronym

<b>docDescription</b>	
Name	docDescription
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation required	
Category	General
Definition	Descriptive text about an instance.
Domain	omv:OntologyDocument
Range	xsd:string
Cardinality	1:1
OMV version	0.1
Comments	none

**Table 3.** Property: docDescription

<b>docDocumentation</b>	
Name	docDocumentation
Type	ObjectProperty
Identifier	Used Identifier for this element.
Appropriation	optional
Category	General
Definition	Is a URL for further documentation.
Domain	omv:OntologyDocument
Range	xsd:string
Cardinality	0:1
OMV version	0.2
Comments	none

**Table 4.** docDocumentation

<b>docKeyword</b>	
Name	docKeyword
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	General
Definition	Set of keywords related to an instance. Typically this set includes names of the classes, properties, etc.
Domain	omv:OntologyDocument
Range	xsd:string
Cardinality	0:n
OMV version	0.1
Comments	none

**Table 5.** Property: docKeyword

<b>docLicense</b>	
Name	docLicense
Type	ObjectProperty
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	General
Definition	Encompasses the underlying license model.
Domain	omv:OntologyDocument
Range	xsd:string (omv:LicenseModel)
Cardinality	0:1
OMV version	0.1
Comments	Reference to a concrete LicenseModel.

**Table 6.** Property: docLicense

<b>status</b>	
Name	docStatus
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	General
Definition	It specifies the tracking information for the contents of the ontology. , i.e. Draft, Reviewed, Final.
Domain	omv:OntologyDocument
Range	xsd:string
Cardinality	1:1
OMV version	0.1
Comments	none

**Table 7.** Property: docStatus

<b>creationDate</b>	
Name	creationDate
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation required	
Category	General
Definition	Is the date when the Ontology Document was initially created.
Domain	omv:OntologyDocument
Range	xsd:string (xsd:date)
Cardinality	1:1
OMV version	0.1
Comments	none

**Table 8.** Property: creationDate

<b>modifiedDate</b>	
Name	modifiedDate
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	General
Definition	Date of the last modification made to the Ontology Document.
Domain	omv:OntologyDocument
Range	xsd:string (xsd:date)
Cardinality	0:1
OMV version	0.1
Comments	none

**Table 9.** Property: modifiedDate

<b>docContributor</b>	
Name	docContributor
Type	ObjectProperty
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	Provenance
Definition	An entity responsible for making contributions to an individual.
Domain	omv:OntologyDocument
Range	omv:Party (omv:Person U omv:Organisation)
Cardinality	0:n
OMV version	0.1
Comments	none

**Table 10.** Property: docContributor

<b>docCreator</b>	
Name	docCreator
Type	ObjectProperty
Identifier	Used Identifier for this entity.
Appropriation	required
Category	Provenance
Definition	The main responsible for an instance.
Domain	omv:OntologyDocument
Range	omv:Party (omv:Person U omv:Organisation)
Cardinality	1:n
OMV version	0.1
Comments	none

**Table 11.** Property: docCreator

<b>docReviewer</b>	
entity Name	docReviewer
Type	ObjectProperty
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	Provenance
Definition	An individual responsible for the revision of an ontology.
Domain	omv:OntologyDocument
Range	omv:Party (omv:Person U omv:Organisation)
Cardinality	0:n
OMV version	0.1
Comments	none

**Table 12.** Property: docReviewer

<b>docSubject</b>	
Name	docSubject
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	Applicability
Definition	Specifies the domain topic of an ontology. Typically, the subject can be expressed as classification against established topic hierarchies such as the general purpose topic hierarchy DMOZ or the domain specific topic hierarchy ACM for the computer science domain. The idea is to recommend one classification scheme, but allow relating to others as well.
Domain	omv:OntologyDocument
Range	xsd:string
Cardinality	1:n
OMV version	0.1
Comments	none

**Table 13.** Property: docSubject

<b>docType</b>	
Name	docType
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation required	
Category	Applicability
Definition	The nature of the content of the ontology. This type refers to the ontology and it should be one of the predefined.
Domain	omv:OntologyDocument
Range	xsd:string (omv:ontologyType:OneOf{Generic, Upper-Level, Domain, Application, Task, Foundational, Linguistic})
Cardinality	1:1
OMV version	0.1
Comments	See section ontologyTypes for details.

**Table 14.** Property: docType

<b>language</b>	
Name	language
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	Applicability
Definition	The language of the intellectual content of the Ontology Document, i.e. English, German, etc.
Domain	omv:OntologyDocument
Range	xsd:string
Cardinality	0:n
OMV version	0.1
Comments	none

**Table 15.** Property: language

<b>appliedBy</b>	
Name	appliedBy
Type	ObjectProperty
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	Applicability
Definition	Declares where the ontology has been applied.
Domain	omv:OntologyDocument
Range	omv:Party (omv:Person U omv:Organisation)
Cardinality	0:n
OMV version	0.6
Comments	none

**Table 16.** Property: appliedBy

<b>usedTool</b>	
Name	usedTool
Type	ObjectProperty
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	Format
Definition	The name of the tool used to create the Ontology Document.
Domain	omv:OntologyDocument
Range	xsd:string (omv:OntologyEngineeringTool)
Cardinality	0:n
OMV version	0.1
Comments	none

**Table 17.** Property: usedTool

<b>usedKMMethod</b>	
Name	usedKMMethod
Type	ObjectProperty
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	Format
Definition	The name of the method model used to create the Ontology Document.
Domain	omv:OntologyDocument
Range	xsd:string (omv:KM-Method)
Cardinality	0:n
OMV version	0.1
Comments	none

**Table 18.** Property: usedKMMethod

<b>ontologyLanguage</b>	
Name	ontologyLanguage
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation	required
Category	Format
Definition	It specifies the ontology mark-up language. i.e. RDF(S), OIL, DAML+OIL, and OWL.
Domain	omv:OntologyDocument
Range	xsd:string (omv:ontologyLanguage:OneOf{OWL-Light, OWL DL, OWL Full, DLP, DAML+OIL,...})
Cardinality	1:1
OMV version	0.1
Comments	none

**Table 19.** Property: ontologyLanguage

<b>ontologySyntax</b>	
Name	ontologySyntax
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation	required
Category	Format
Definition	It specifies the presentation syntax for the ontology language. , i.e. RDF/XML.
Domain	omv:OntologyDocument
Range	xsd:string (omv:ontologySyntax:OneOf{OWL XML, RDF(S), ...})
Cardinality	1:1
OMV version	0.1
Comments	none

**Table 20.** Property: ontologySyntax

<b>ontologyURL</b>	
Name	ontologyURL
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation	required
Category	Availability
Definition	Is the URL where the Ontology Document can be found.
Domain	omv:OntologyDocument
Range	omv:string
Cardinality	1:1
OMV version	0.1
Comments	none

**Table 21.** Property: ontologyURL

<b>versionInfo</b>	
Name	versionInfo
Type	ObjectProperty
Identifier	Used Identifier for this entity.
Appropriation	required
Category	Availability
Definition	Specifies the version information of the Ontology Document. Versioning could be useful for tracking, comparing and merging ontologies The number could be incremented by 1, or a smaller or larger value, depending on the personal preference of the author. It would be recommended to use a standard.
Domain	omv:OntologyDocument
Range	xsd:string
Cardinality	1:1
OMV version	0.1
Comments	none

**Table 22.** Property: versionInfo

<b>imports</b>	
Name	imports
Type	ObjectProperty
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	Relationship
Definition	References another Ontology Document containing definitions, whose meaning is considered to be part of the meaning of the importing ontology. Each reference consists of a URI specifying from where the ontology document is to be imported.
Domain	omv:OntologyDocument
Range	omv:OntologyDocument
Cardinality	0:n
OMV version	0.1
Comments	none

**Table 23.** Property: imports

<b>priorVersion</b>	
Name	priorVersion
Type	ObjectProperty
Identifier	Used Identifier for this entity.
Appropriation	required
Category	Relationship
Definition	Contains a reference to another ontology document. This identifies the specified ontology document as a prior version of the containing ontology document. It may be used to organize ontology documents by versions.
Domain	omv:OntologyDocument
Range	omv:OntologyDocument
Cardinality	1:1
OMV version	0.1
Comments	Might be NULL for initial ontology.

**Table 24.** Property: priorVersion

<b>backwardCompatibleWith</b>	
Name	backwardCompatibleWith
Type	ObjectProperty
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	Relationship
Definition	This property identifies the specified ontology document as a prior version of the containing ontology document, and further indicates that it is backward compatible with it. This also indicates that all identifiers from the previous version have the same intended interpretations in the new version.
Domain	omv:OntologyDocument
Range	omv:OntologyDocument
Cardinality	0:n
OMV version	0.1
Comments	none

**Table 25.** Property: backwardCompatibleWith

<b>incompatibleWith</b>	
Name	incompatibleWith
Type	ObjectProperty
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	Relationship
Definition	This ObjectProperty indicates that the containing ontology is a later version of the referenced ontology, but is not backward compatible with it. It can be used to explicitly state that ontology documents cannot upgrade to use the new version without checking whether changes are required.
Domain	omv:OntologyDocument
Range	omv:OntologyDocument
Cardinality	0:n
OMV version	0.1
Comments	none

**Table 26.** Property: incompatibleWith

<b>numClasses</b>	
Name	numClasses
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation	required
Category	Statistic
Definition	Is the number of classes in the ontology document.
Domain	omv:OntologyDocument
Range	xsd:unsignedLong
Cardinality	1:1
OMV version	0.1
Comments	none

**Table 27.** Property: numClasses

<b>numProperties</b>	
Name	numProperties
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation	required
Category	Statistic
Definition	Is the number of properties in the ontology document.
Domain	omv:OntologyDocument
Range	xsd:unsignedLong
Cardinality	1:1
OMV version	0.1
Comments	none

**Table 28.** Property: numProperties

<b>numIndividuals</b>	
Name	numIndividuals
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation	required
Category	Statistic
Definition	Is the number of Individuals in the ontology document.
Domain	omv:OntologyDocument
Range	xsd:unsignedLong
Cardinality	1:1
OMV version	0.1
Comments	none

**Table 29.** Property: numIndividuals

<b>numAxioms</b>	
Name	numAxioms
Type	DatatypeProperty
Identifier	Used Identifier for this entity.
Appropriation	required
Category	Statistic
Definition	Is the number of Axioms in the ontology document. Note that this could have different meanings depending on the ontology language.
Domain	omv:OntologyDocument
Range	xsd:unsignedLong
Cardinality	1:1
OMV version	0.1
Comments	none

**Table 30.** Property: numAxioms

<b>realizes</b>	
Name	realizes
Type	ObjectProperty, inverseOf hasRealisation
Identifier	Used Identifier for this entity.
Appropriation	optional
Category	General
Definition	Relation to an OB.
Domain	omv:OntologyDocument
Range	omv:OntologyBase
Cardinality	0:1
OMV version	0.1
Comments	Normally every OD should have one OB. Only for practical reasons we allow a cardinality of null. NOT YET IMPLEMENTED IN OYSTER.

**Table 31.** realizes