

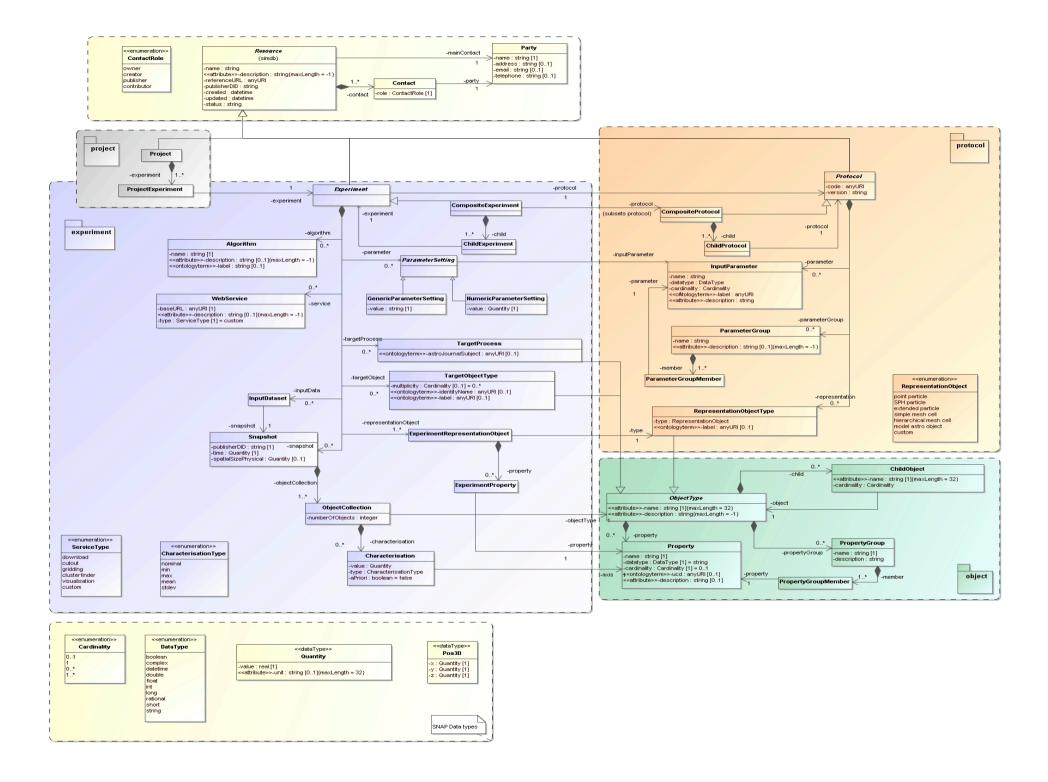
IVOA interop, theory session 1 Trieste, 2008-05-20





SimDB

- Specification for a Simulation (meta-)Database with protocols for accessing/querying it.
- Based on a (logical) data model, fully specified in UML.
- Physical models for use in their respective contexts:
 - Relational data model, for ADQL-based access protocol. Corresponding TAP metadata...
 - XML schema
 - UTYPEs.
- Fully automated translation using XSLT from UML/ XMI
 - UML profile+pre-defined mapping rules (DM WG?)





<<ontologyterm>>

- Valid values obtained from ontology/ vocabulary
- Indicated by Tag: ontology
- Assumed to be a machine readable document (spec-d by Semantics, RDF/ XML?)
 - use Accept:application/rdf ??

TargetProcess	ObjectType
< <ontologyterm>>-astroJournalSubject : anyURI [01]{ontologyURI = "http://"}</ontologyterm>	< <attribute>>-name : string [1]{maxLength = 32} <<attribute>>-description : string{maxLength = -</attribute></attribute>
	· ↓
TargetObje	ctType
multiplicity : Cardinality [01] = 0* < <ontologyterm>>-identityName : anyURI [01] <<ontologyterm>>-label : anyURI [01]{ontologyURI = "http://volute.googlecode.c</ontologyterm></ontologyterm>	com/svn/trunk/projects/theory/snapdm/input/vocabularies-1.0/AUT93.rdf"}
Repr	esentationObjectType
-type : RepresentationObject < <ontologyterm>>-label : anyURI [01]{ontologyURI = "http://volute.g</ontologyterm>	googlecode.com/svn/trunk/projects/theory/snapdm/input/vocabularies-1.0/AUT93.rdf"}
	0*
	Property
-name : string [1] -datatype : DataType [1] = string -cardinality : Cardinality [1] = 01 < <ontologyterm>>-ucd : anyURI [01]{ontologyURI = "ht <<attribute>>-description : string [01]{maxLength = -1]</attribute></ontologyterm>	ttp://volute.googlecode.com/svn/trunk/projects/theory/snapdm/input/vocabularies-1.0/UCD.rdf"} }

Physics
-name : string -description : string [01] -texForm : string < <ontologyterm>>-physicslabel : anyURI</ontologyterm>

Algorithm

-name : string [1] <<attribute>>-description : string [0..1]{maxLength = -1} <<ontologyterm>>-label : string [0..1]

	InputParameter
-	name : string
-	datatype : DataType
-	cardinality : Cardinality
-	<contologyterm>>-label : anyURI{ontologyURI = ""}</contologyterm>
-	<attribute>>-description : string{maxLength = -1}</attribute>
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Semantics in SimDB

- We need a common vocabulary for describing contents of simulations
- "label" attributes on:
 - TargetObjectType: identity, label
 - TargetProcess: label
 - RepresentationObjectType: type (yet an enumeration, but ...)
 - Property (child of object types): ucd
 - Algorithm: label
 - InputParameter: label
 - Physics: physicsLabel
- Units?



Issues for discussion

- Valid values for <<ontologyterm>>: URI or name
 - other name for <<ontologyterm>> and "ontologyURI" TAG
- Which vocabularies?
 - Semantics WG
 - IAU93,...
 - journal keywords familiar.
 - Other?
 - to be proposed this group
- Can we/do we want to use narrower/broader in ADQL?
 - needs loading vocabularies in RDB(?)

SimDB for micro-physics?

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SimDB/DM

- SimDB/DM generic
- Explicit statements about observables, parameters, properties etc.
- Applicable to other types of simulations.



Possible issue(s)

- DM contents
 - Snapshot only Result type
 - implies time
 - implies spatial extent
 - others??
- Are use cases the same?
 - microphysics only wants to have discovery?
 - might do more, not covered by SimDB.