A brief oveview of NamesforLife DOI mediated semantic services

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My goals today...

Historical

Rationale

IP Portfolio
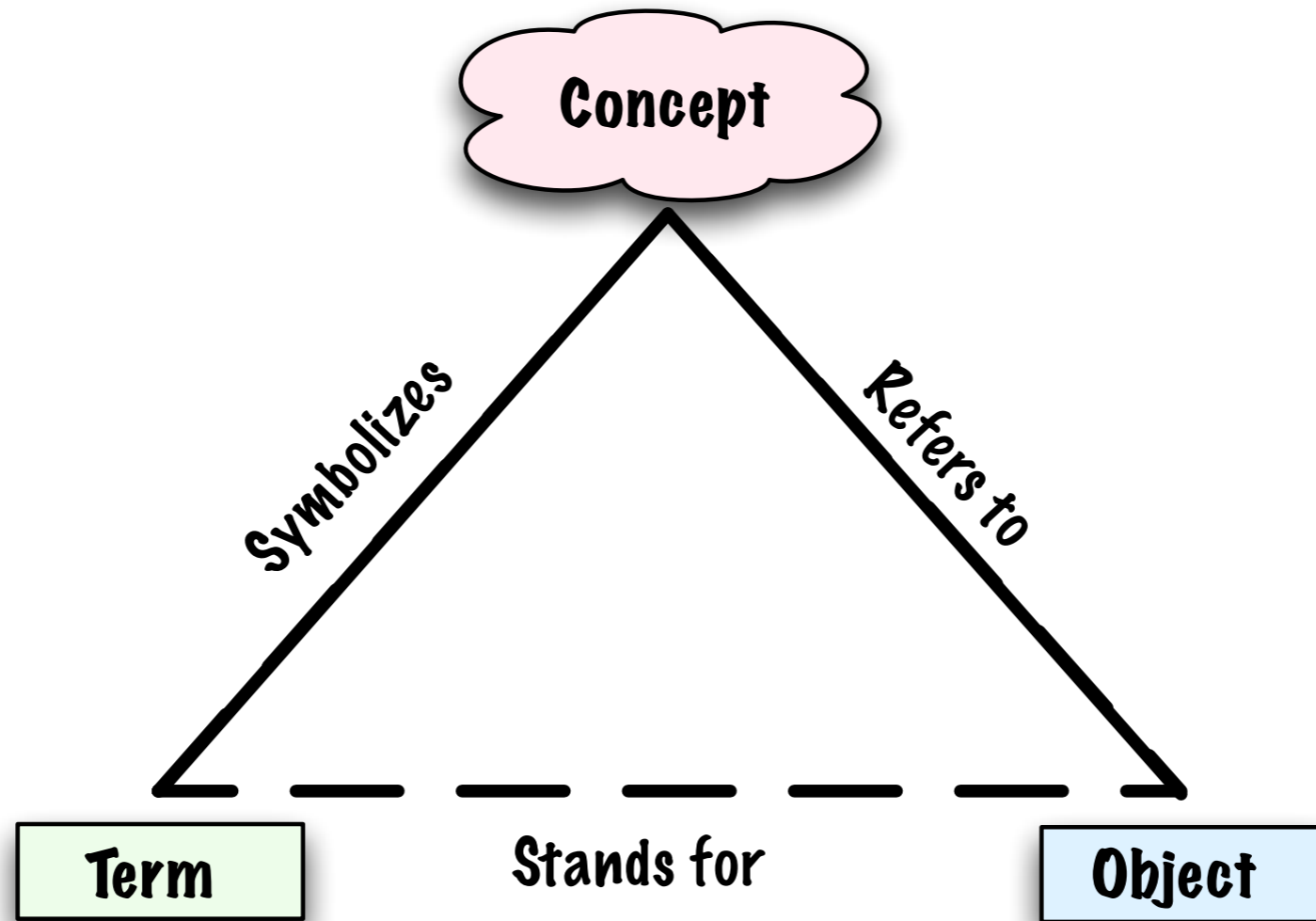Copyrights
Patents
Trademark
DOIs
Domain names
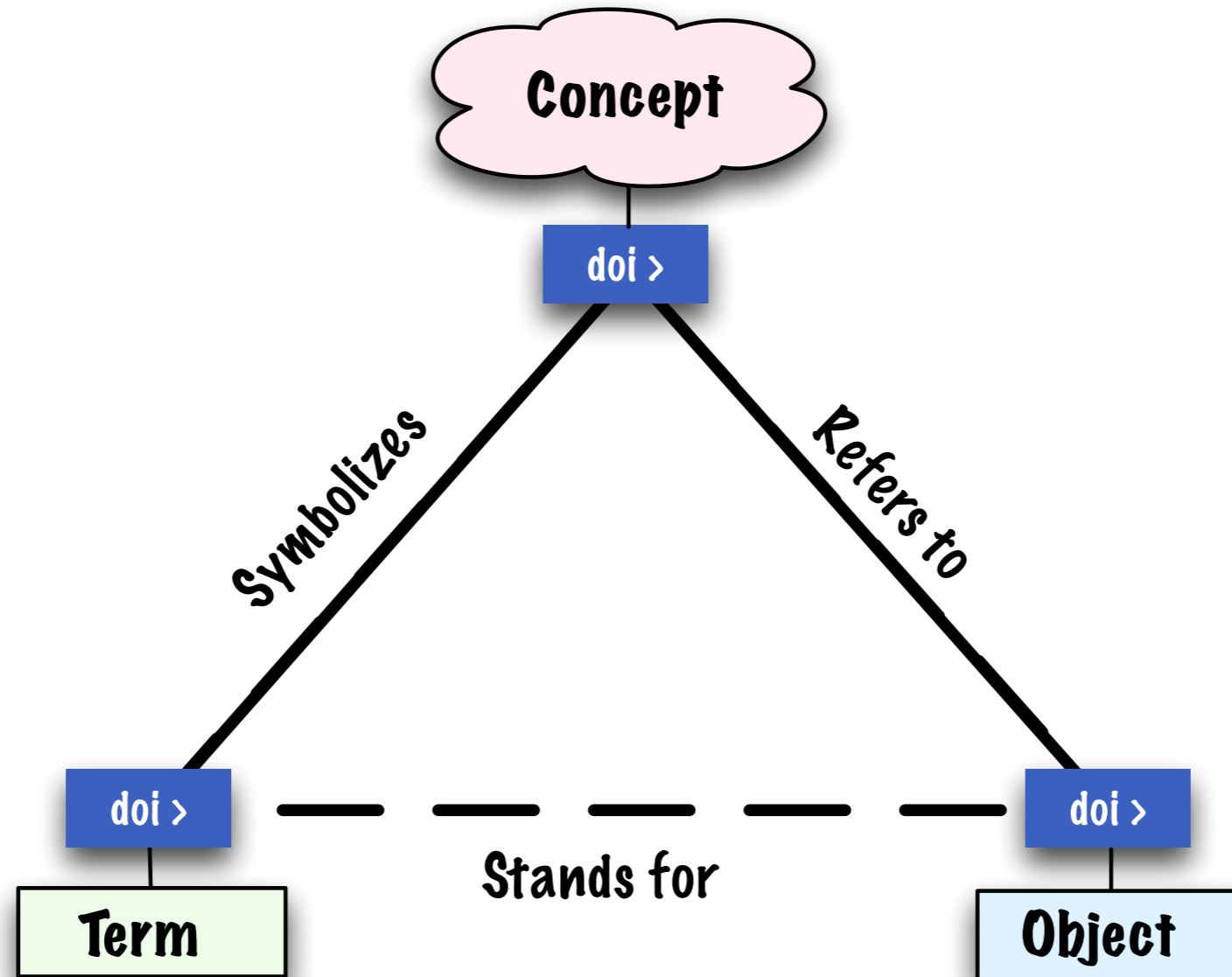Complete taxonomy of bacteria and archaea

Licensing

The NamesforLife IP timeline

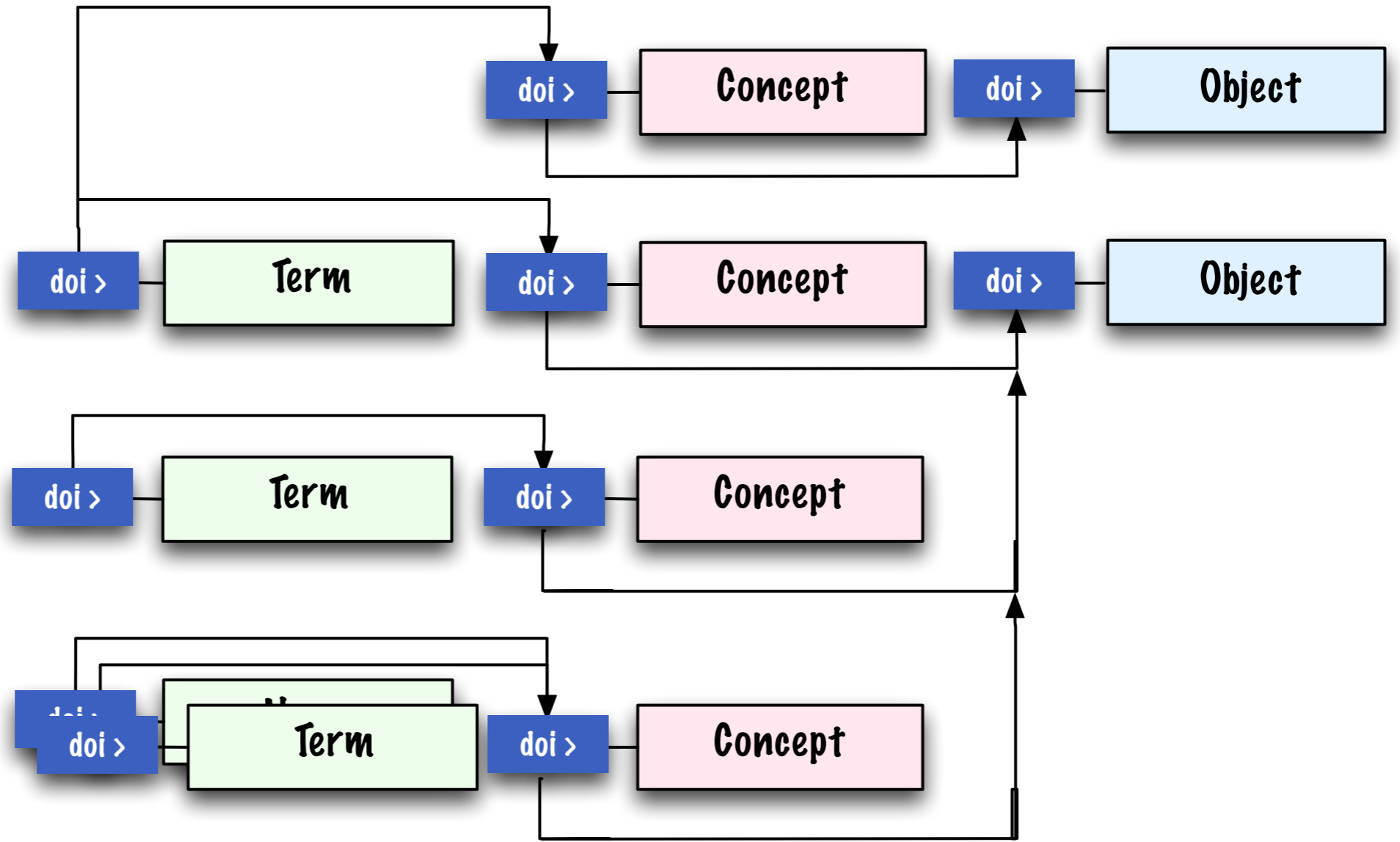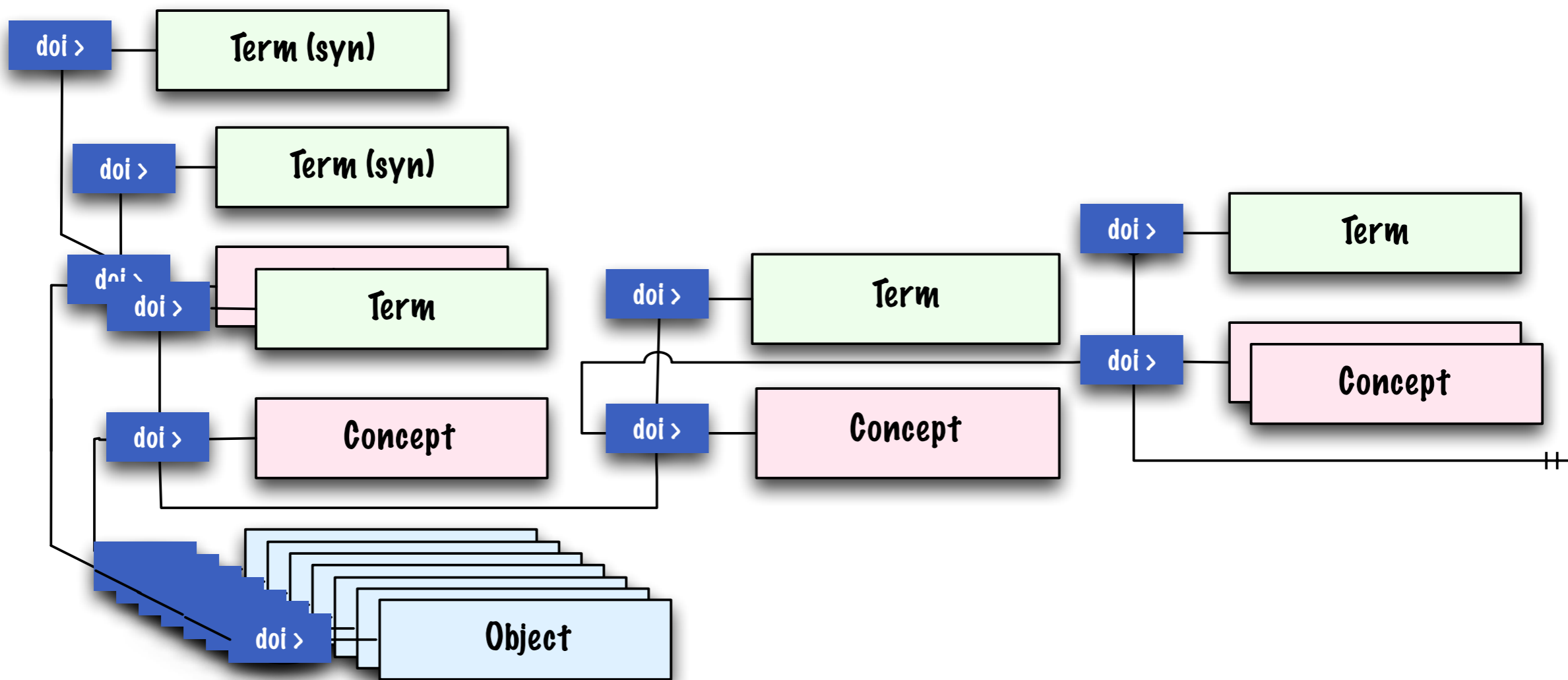|	Key events	Patents	Papers and presentations
2003	Conception of N4L model	7,925,444 patent disclosed	The Taxonomic Outline Release 3
2004	Public disclosure NamesforLife, LLC formed	7,925,444 patent filed 8,036,997 patent disclosed	NIH/NSF Workshop `OMICS paper The Taxonomic Outline Release 4
2005	Conversion of Taxonomic Outline to first implementation of N4L model	7,925,444 patent published '8,036,997 patent filed	ASM presentation The Taxonomic Outline Releaase 5
2006	MUCI funding for prototyping Company joins IDF	8,036,997 published	Release of N4L alpha test (enablement of '997)
2007	DOE Phase I STTR		TOBA Release 7.7
2008	DOE Phase II STTR / MSU partner		First commercially-available implementation of N4L::Guide
2009		2010198841 patent filed	
2010	UNL STTR partnership	2010198841 published	Patent mining paper Microbiology Today Article Public Beta Test begins
2011	DOE Phase I STTR Company restructured	2010198841 WIPO filed, SFP provisional filed 7,925,444 and 8,036,997 patents issued	PIUG presentation XUG presentation Van Neil lecture
2012	DOE Phase II STTR MSU licensing completed Commercialization begins	US20130013503 patent filed	Release of N4L enhanced IJSEM content
2013	Establishment of NFP entity (?) First release of N4L phenotypic ontology	US20130013503 published	Demonstration of N4L enablement of content hosted on PubMed Central

The Ogden-Richards Semiotic Triangle (1923)

Concept

Symbolizes

Refers to

Term

Stands for

Object

The NamesforLife Semiotic Triangle (2003)

Terminal level   Level 1   Level 2

Name Object

Attributes	**Methods**
name	getNameAuthority
authority	getEffectiveReference
validation	getvalidationReference
List<Event>	getTaxon
List<Synonym>	getSynonymy
List<Correction>	getBibliography
taxon	getContextualIndex
	getTimeTravel
	getXML

Taxon Object

Attributes	**Method**
rank	getName
isTypeTaxon	getParent
parent	getChildren
typeExemplar	getTypeExemplar
List<NonType>	getNonTypeExemplars

Exemplar Object

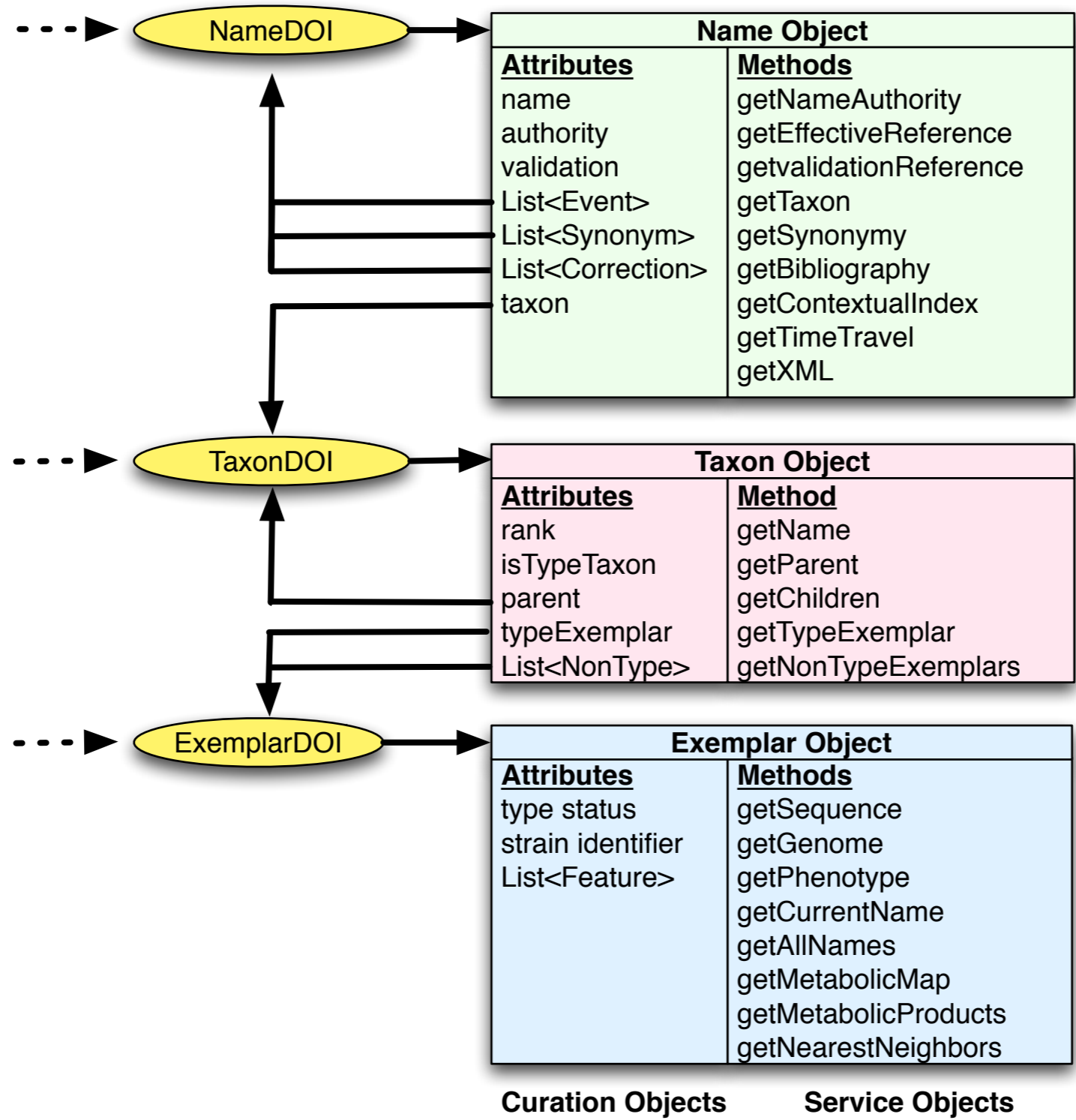| **Attributes**	**Methods**
type status	getSequence
strain identifier	getGenome
List<Feature>	getPhenotype
	getCurrentName
	getAllNames
	getMetabolicMap
	getMetabolicProducts
	getNearestNeighbors

Curation Objects   **Service Objects**

NameDOI

TaxonDOI

ExemplarDOI

Web services for editorial offices

Designed to have minimal impact on workflow
Multiple access points
Multiple output formats

Consulting services in terminology and taxonomy development

Application of externally managed terminologies
quality assurance/quality control
data cleaning
linking to related data
registration with N4L::DOIs
Ab initio development of terminologies

A method to serve terms, names and associateed information

Thorny issues and ways forward...

Who owns the content?

Who owns other relevant IP?

Is the problem plagiarism?

Moral rights and provenance

We offer a solution