

# Legal refinement of the LADM standard

- More classes or extended code lists with better defined types of Rights, Restrictions and Responsibilities?

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# Generic benefits of standards



- Standardization condition for interoperability, use parts together (meaningful exchange of data and building SDI)
- Standardization quality enhancing (based on knowledge and experience of global community)
- Standardization cost effective (components do fit better, industry+open source solutions)



# Land Administration Domain Model (LADM) ISO 19152

- A standard for land administration
- Published as global standard by ISO (International Organisation for Standardization) December 2012
- Accepted as European CEN standard in December 2012
- Accepted as several national standards
- Describes relations in land (and water / air)

# Motivation LADM

## Expressed at 5<sup>th</sup> FIG LADM workshop

- Some quotes from Kalantari (et al, 2013):
  1. International compliance
  2. Cross jurisdictional data exchange
  3. Upgrading or new versions for existing systems
  4. Existing institutions ('do fit in well')
  5. Semantic Compliance (definition of key concepts)
  6. Structural Compliance (agreed model patterns)
  7. Feedback and improvements (during standard development, and after)
  8. Capacity building (LADM included in various curriculums).
- Thompson (2013) added: LADM provides excellent growth path from text, sketch and point parcels to full topology and 3D (and same range of options available in administrative side of model)
- LADM workshop slides (and papers) available at <http://isoladm.org>

# Relations in land are between a “party” and land

For example:



## Real property ownership

*Owner - ownership right – land relation*



## Right of way

*Right holder – use right – land relation*



## Public planning regulations

*Municipality - regulation-land relation*

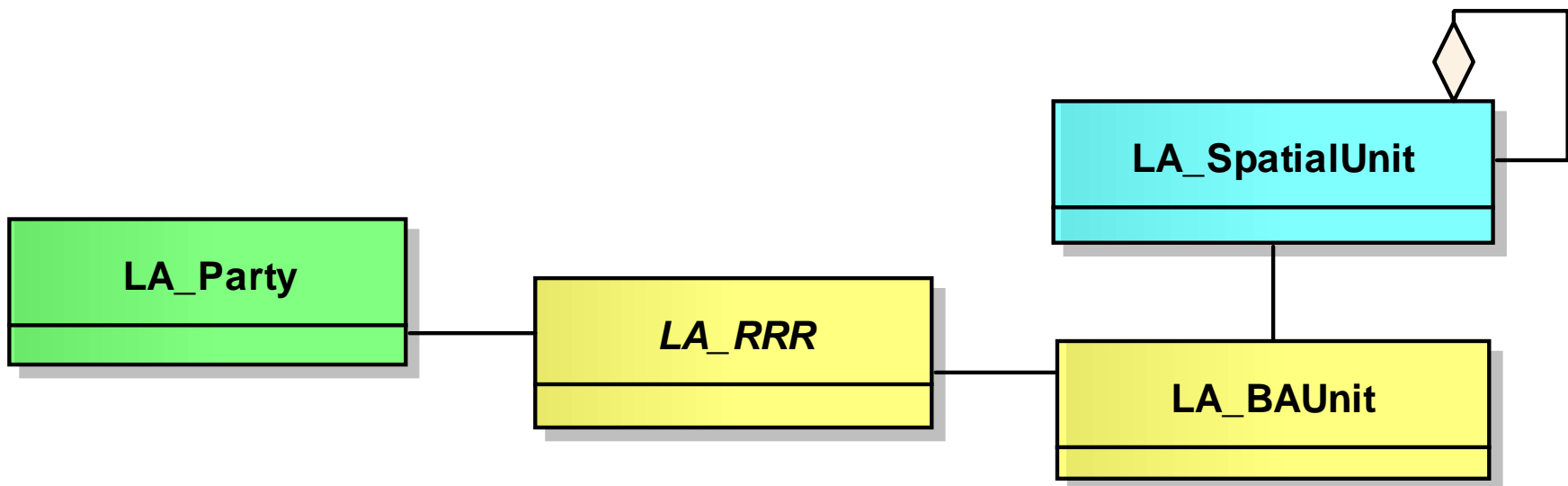


# LADM structure

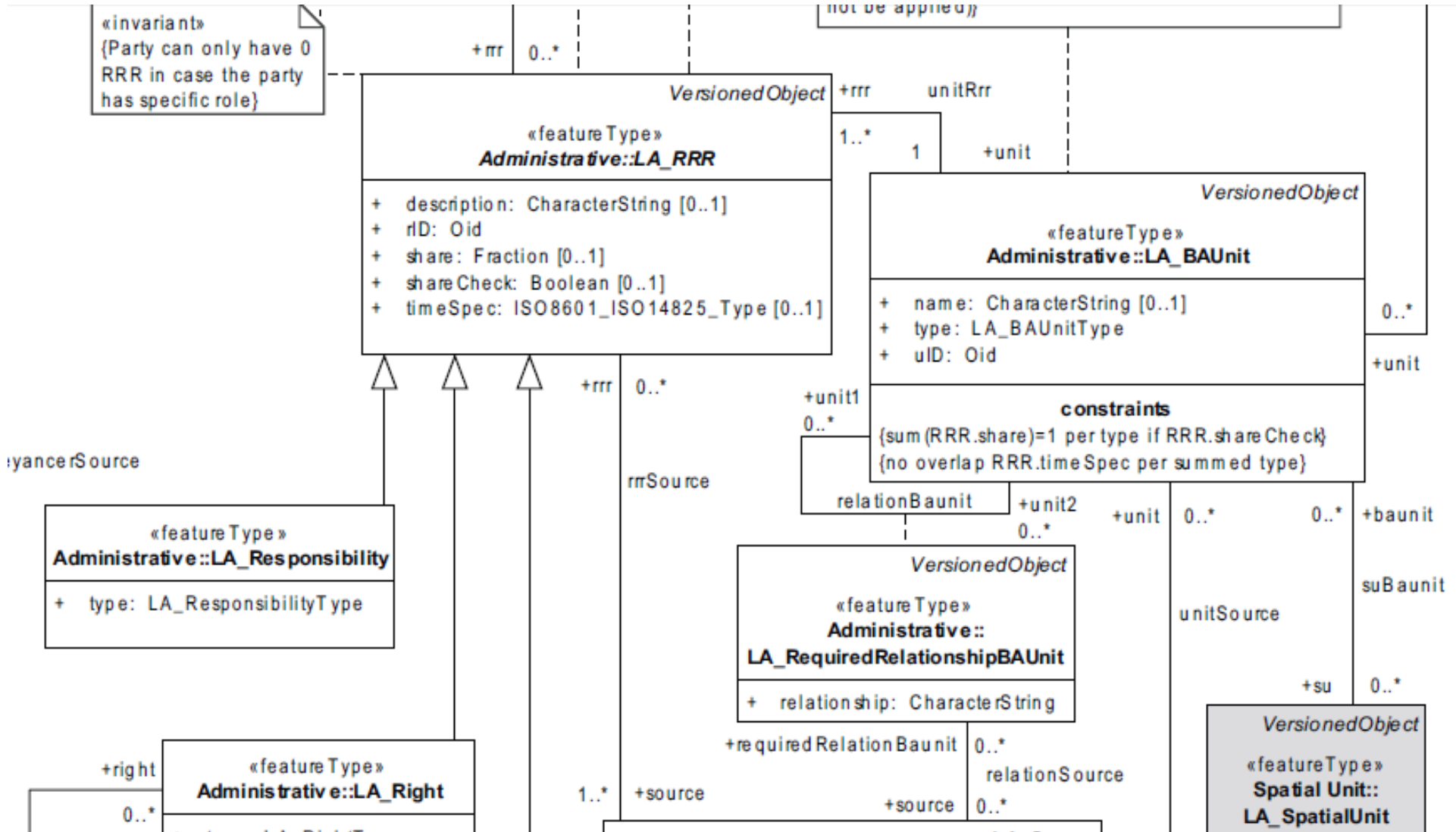
LADM is a conceptual model with four core parts:

- Description of right holder(s) (“Party”)
- Legal/admin parts (“RRR”)
- Objects subject for registration (“Basic Administrative Unit”)
- Spatial extension (geometry, topology)

ISO 19152:2012. Land Administration Domain Model (LADM)



# Example of LADM content

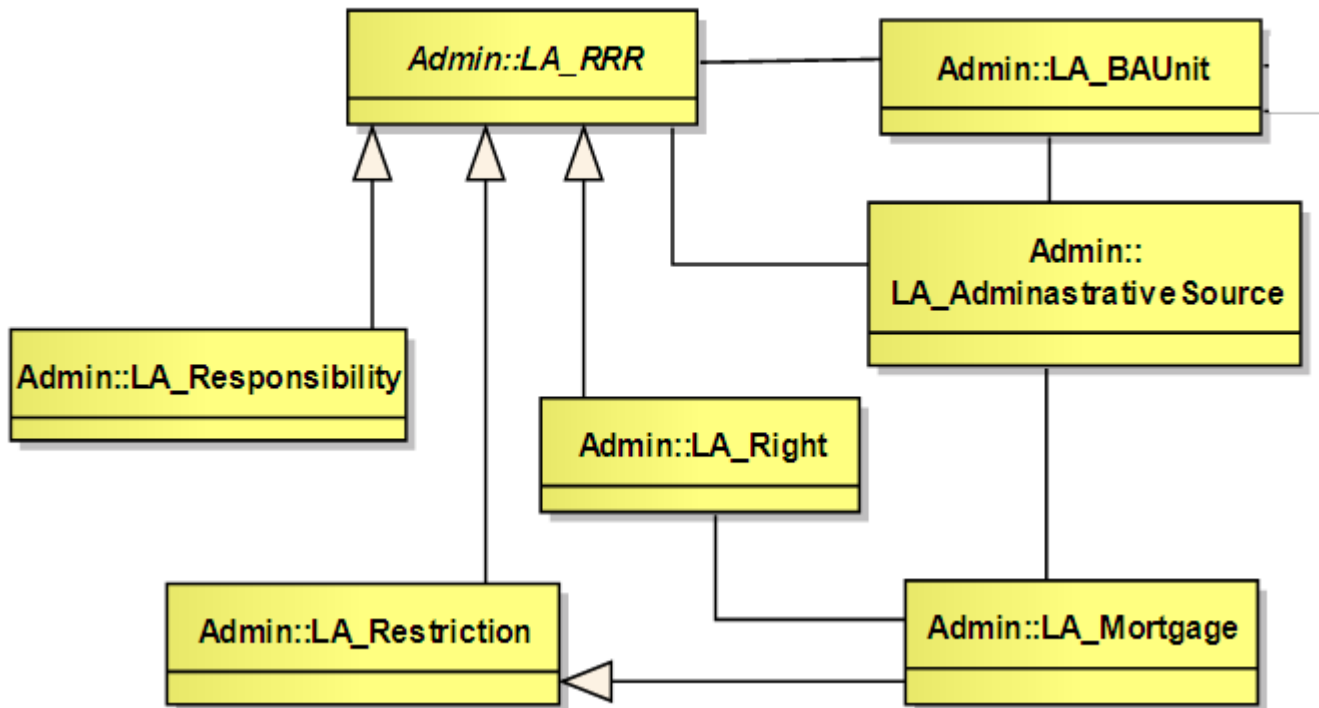




# The LADM provides a standardized classification of *rights, restrictions and responsibilities (RRR)* in land

- Right  
"action, activity or class of actions that a system participant may perform on or using an associated resource"
- Restriction  
"formal or informal obligation to refrain from doing something"
- Responsibility  
"formal or informal obligation to do something"

# RRR = Administrative (legal) relations



# Current LADM code lists of RRRs (informative)

«codeList» Administrative:: LA_RightType
+ agriActivity
+ commonOwnership
+ customaryType
+ fireWood
+ fishing
+ grazing
+ informalOccupation
+ lease
+ occupation
+ ownership
+ ownershipAssumed
+ superficies
+ usufruct
+ waterrights
+ tenancy

«codeList» Administrative:: LA_MortgageType
+ linear
+ levelPayment
+ microcredit

«codeList» Administrative:: LA_AdministrativeSourceType
+ agriLease
+ agriNotaryStatement
+ deed
+ mortgage
+ title
+ agriConsent

«codeList» Administrative:: LA_ResponsibilityType
+ monumentMaintenance
+ waterwayMaintenance

«codeList» Administrative:: LA_AvailabilityStatusType
+ archiveConverted
+ archiveDestroyed
+ archiveIncomplete
+ archiveUnknown
+ docAvailable

«codeList» Administrative:: LA_BAUnitType
+ basicPropertyUnit
+ leasedUnit
+ rightOfUseUnit

«codeList» Administrative:: LA_RestrictionType
+ adminPublicServitude
+ monument
+ monumentPartly
+ mortgage
+ noBuilding
+ servitude
+ servitudePartly

# Future development of LADMs RRR classification "LADM version 2"

LADM

2



# Many ways to classify RRRs

E.g. into:

- Private and public
- Active or latent
- How they influence ownership
- ...

One proposed system for classification is published in Paasch, J.M. (2012) *Standardization of Real Property Rights – the Legal Cadastral Domain Model*

### ***Private law relations***

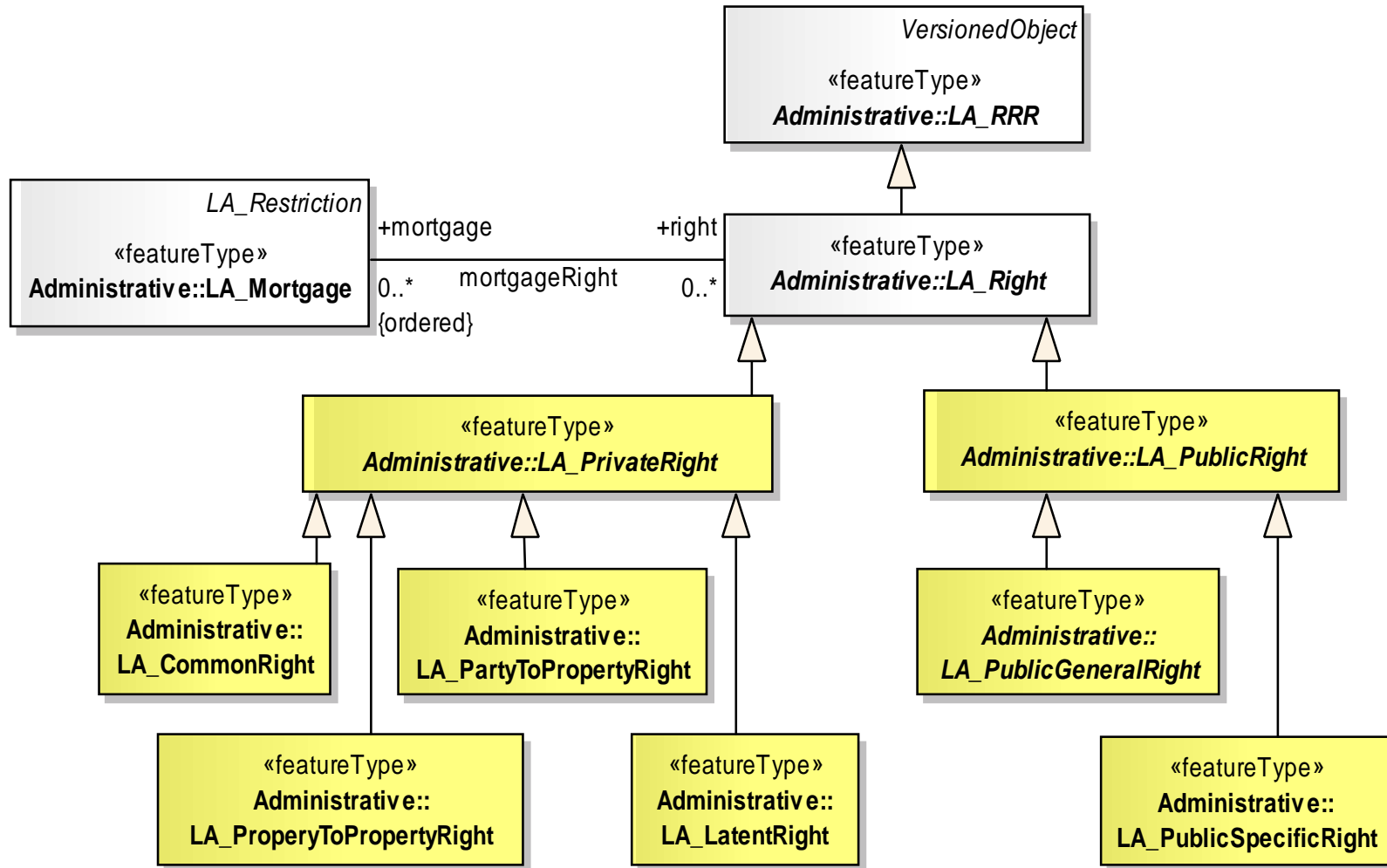
- Common (ownership) (e.g. *joint ownership*)
- Property to property right (e.g. *an easement*)
- Person to property right (e.g. *a usufruct*)
- Latent right (e.g. *a mining concession*)
- Monetary liability (e.g. *financial claim, such as mortgage*)

### ***Public law relations***

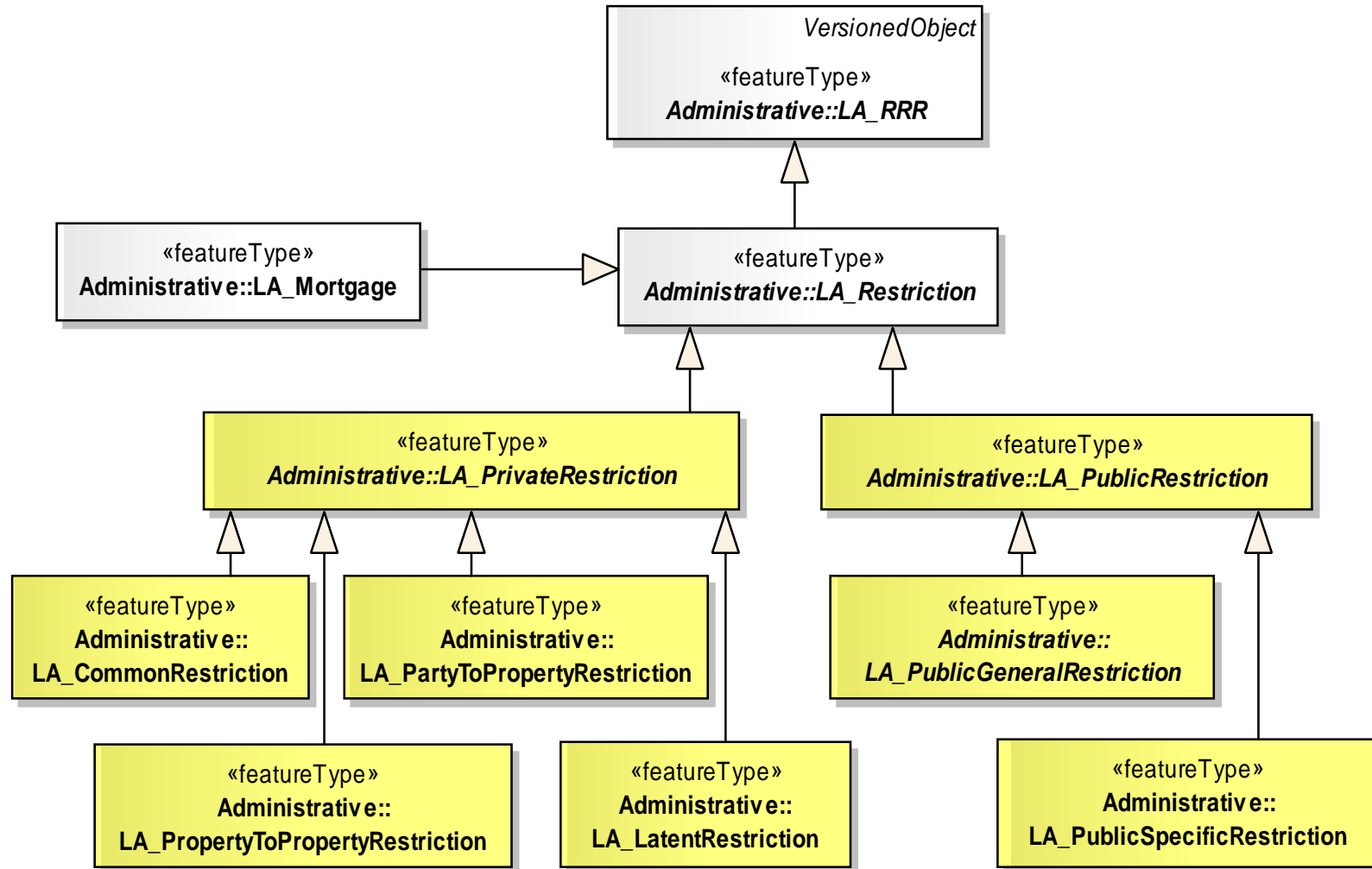
- Advantages (e.g. *a permission from a regulation*)
- Prohibitions (e.g. *to build near the seashore*)
- Obligations (e.g. *duty of maintenance of buildings*)

→ More classes or code list values

# Proposed specialization of rights

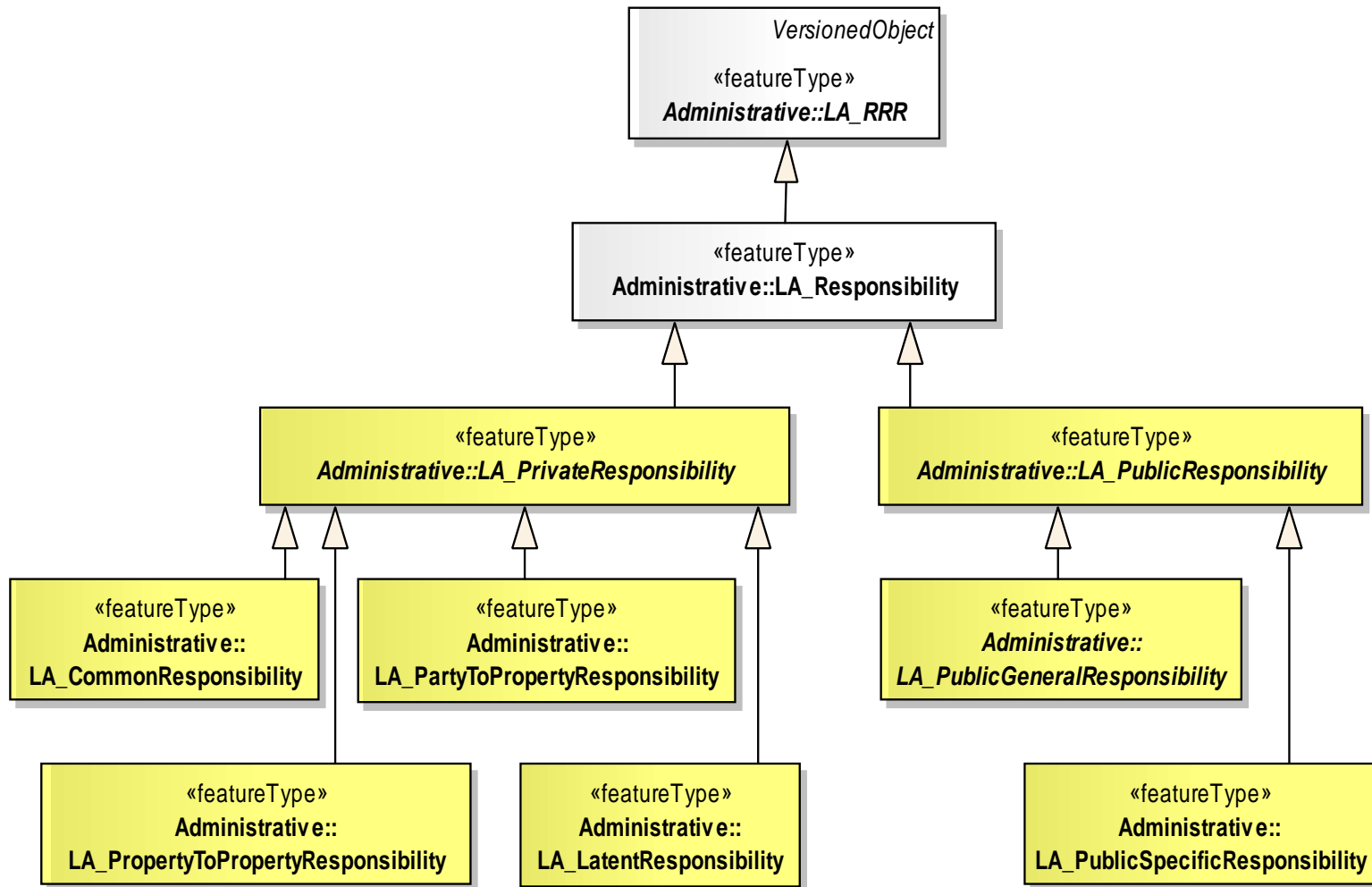


# Proposed specialization of restrictions





# Proposed specialization of responsibilities



# Or more RRRs defined via the code list values

## Example of formal and non-formal rights code list

<<codeList>> Administrative:: LA_RightType
1_1_Ownership 1_2_Lease ect
2_1_Tenancy 2-2_Grazing etc

**Formal**

**Non-formal**



(FAO)

Hierarchy in the code list values is a way to better define the values.

# Semantic technologies

- Semantic technologies (ontology, etc.) can be used to further provide explicit meaning to code list values in more refined manner than just a hierarchy
- RDF (Resource Description Format) vocabulary SKOS (Simple Knowledge Organization System) has semantic relations between concepts; such as: broader, narrower, related, closeMatch, exactMatch, broadMatch narrowMatch, relatedMatch,...
- SKOS example 'Cadastre and Land Administration Thesaurus' (CaLAThe by Erik Stubkjær and Volkan Cagdas), LADM related/inspired;  
<http://cadastralvocabulary.org/>

## Ownership

Alternative label:

Broader terms:

[Real property right](#)

Narrower terms:

[Shared ownership](#)

[Individual ownership](#)

[Public ownership](#)

[Adverse possession](#)

Related terms:

**Definition:**

Collection of rights to use and enjoy property, including right to transmit it to others. The complete dominion, title, or proprietary right in a thing or claim (Source: BLACK).

**Scope Note:**

GEMET term

**Identifier:**

<http://www.cadastralvocabulary.org/CaLAThe/Ownership>

**Exact match:**

<http://www.eionet.europa.eu/gemet/concept/5971>

# Conclusions

- The LADM is an important contribution to land administration
- Basis for “neutral” classification of RRRs in land
- A basic classification into rights, restrictions and responsibilities
- It is possible to provide a more detailed RRR classification than in the current version
- More detailed classifications need to be standardized to facilitate structured development and information exchange
- More research is needed in terminology and structures of RRRs