

Towards Licenses Compatibility and Composition in the Web of Data

OUR GOAL

Attach the licensing terms to the data under the form of a **composite license**

ENABLING TECHS

Named Graphs  Licenses are constraints over named graphs

Creative Commons  Licenses anatomy defined following CC schema

RDF  Machine-readable format for obligations, permissions and requirements

Query results  SPARQL XML format using the <link> element

MAIN FEATURES

 Pluggable to any RDF store

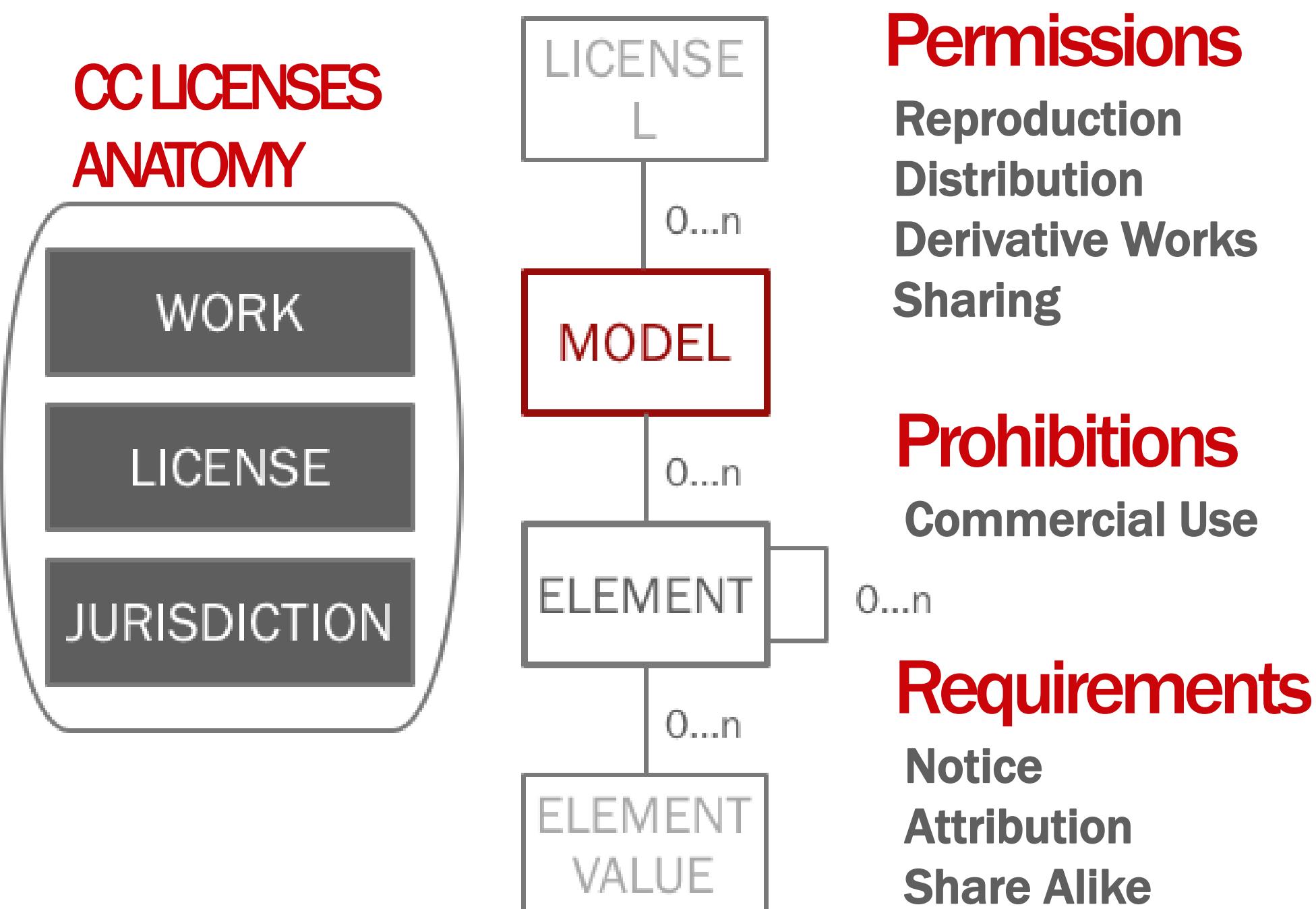
 Composite license for the query result

 Granularity: from triples to whole graphs

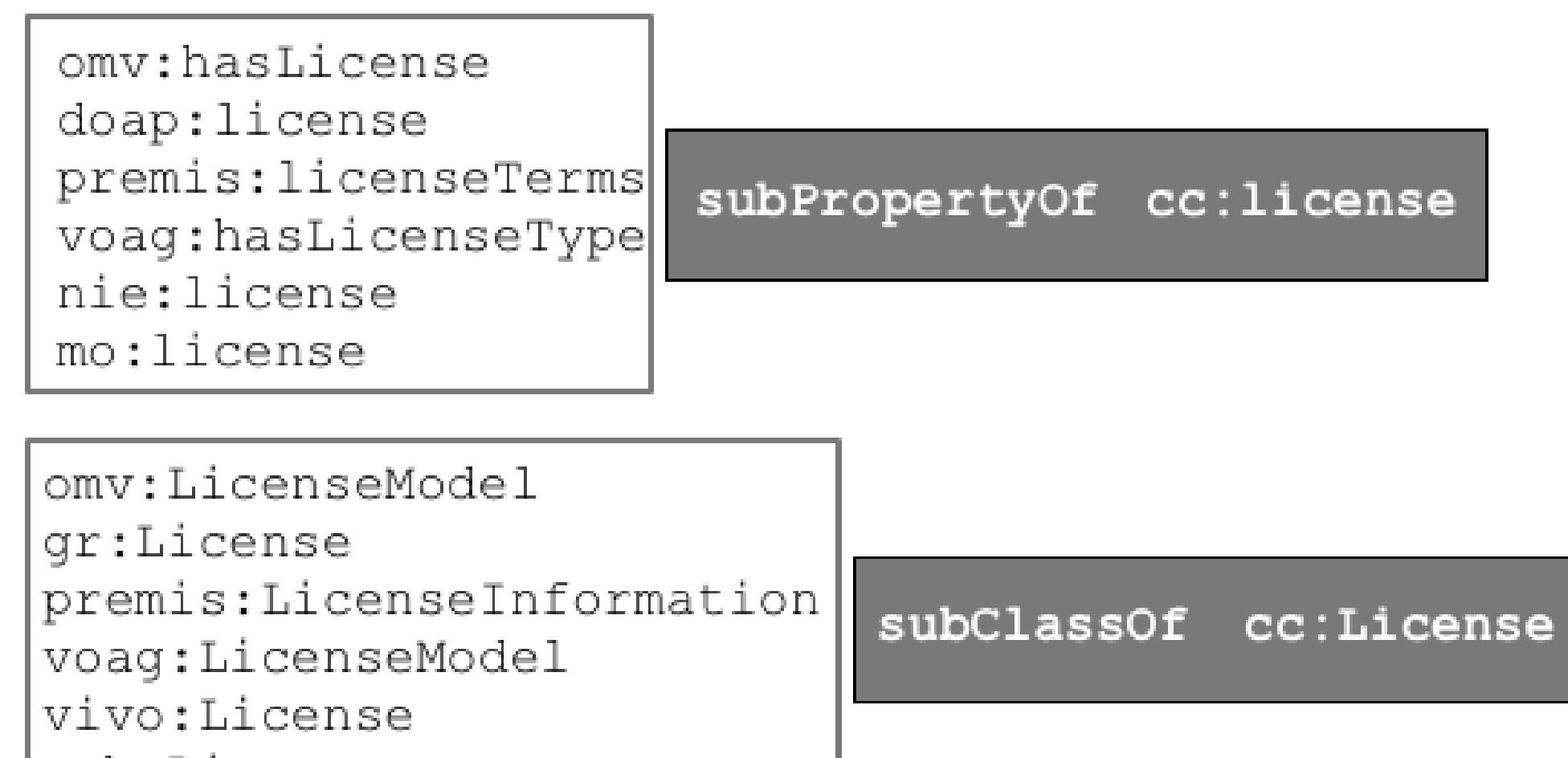
 Semantic Web languages only

HOW IT WORKS

LICENSES STRUCTURE



LICENSES ALIGNMENT



1. LICENSES COMPATIBILITY EVALUATION

COMPATIBILITY EVALUATION AND LICENSES COMPOSITION



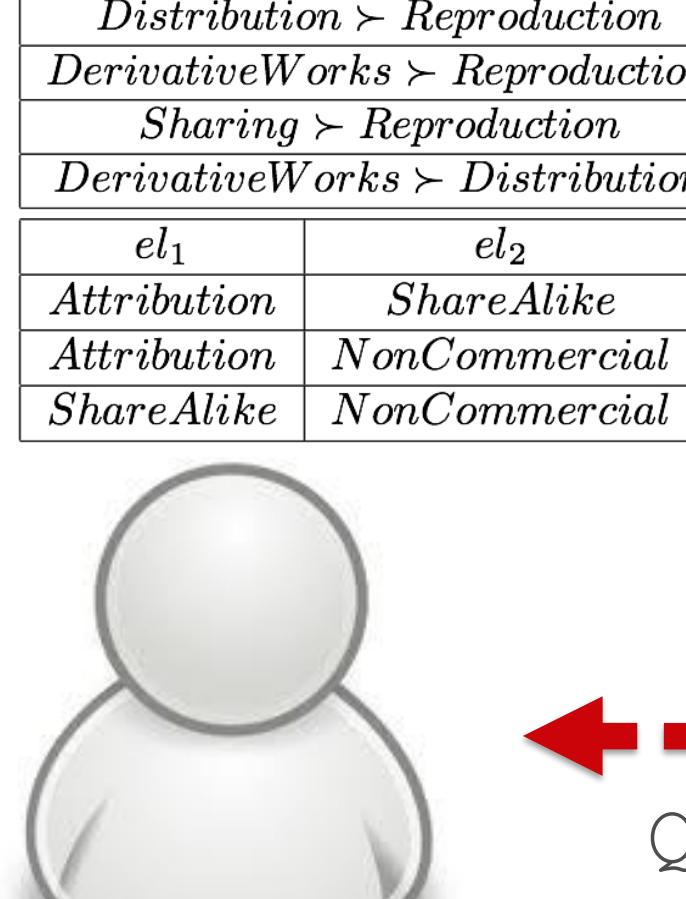
SELECT ...
WHERE { ... }

el ₁	el ₂	el ₁ ⊕ el ₂
Sharing	DerivativeWorks	T
Reproduction	Distribution	T
Reproduction	DerivativeWorks	T
Reproduction	Sharing	T
Distribution	DerivativeWorks	T
Sharing	Distribution	F

el ₁	el ₂	el ₁ ⊕ el ₂
Notice	Unspecified	T
Attribution	Unspecified	T
ShareAlike	Unspecified	T
SourceCode	Unspecified	T
CopyLeft	Unspecified	T
NonCommercial	Unspecified	F
HighIncomeNationUse	Unspecified	F
Reproduction	Unspecified	F
Distribution	Unspecified	F
DerivativeWorks	Unspecified	F
Sharing	Unspecified	F

Heuristics
OR-composition
AND-composition
Constraining-value

2. LICENSES COMPOSITION



QUERY RESULT +
<link URI_{CompositeLic}>

Subsumption	More permissive	Less permissive
DerivativeWorks > Sharing	DerivativeWorks	Sharing
Distribution > Reproduction	Distribution	Reproduction
DerivativeWorks > Reproduction	DerivativeWorks	Reproduction
Sharing > Reproduction	Sharing	Reproduction
DerivativeWorks > Distribution	DerivativeWorks	Distribution

el ₁	el ₂	el ₁ ⊕ el ₂
Attribution	ShareAlike	T
Attribution	NonCommercial	T
ShareAlike	NonCommercial	T

3. QUERY RESULT

EXAMPLE

```

@prefix cc: http://creativecommons.org/ns.
@prefix : http://example/licenses.

:lic1 a cc:License;
cc:permits cc:Reproduction;
cc:requires cc:Notice.

@prefix cc: http://creativecommons.org/ns.
@prefix : http://example/licenses.

:lic2 a cc:License;
cc:permits cc:Reproduction;
cc:prohibits cc:CommercialUse.

```



```

@prefix cc: http://creativecommons.org/ns.
@prefix : http://example/licenses.

:lic1 a cc:License;
cc:permits cc:Reproduction;
cc:requires cc:ShareAlike.

@prefix cc: http://creativecommons.org/ns.
@prefix : http://example/licenses.

:lic2 a cc:License;
cc:permits cc:DerivativeWorks;
cc:prohibits cc:CommercialUse.

```



```

@prefix cc: http://creativecommons.org/ns.
@prefix : http://example/licenses.

:licComposite a cc:License;
cc:permits cc:DerivativeWorks;
cc:requires cc:ShareAlike;
cc:prohibits cc:CommercialUse.


```

MODELS

ELEMENTS

//TODO LIST



Legal evaluation of the composite license



Relate non CC licenses to CC licenses in a legal way



Qualitative evaluation



Quantitative evaluation