

Initiative for developing eProcurement Ontology

Transformation of UML models to OWL ontologies

Deliverable WP 1.3

Eugeniu Costetchi

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Author(s)	Eugeniu Costetchi
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Abstract

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1 Introduction

2 Transformation rules

2.1 Classes

UML represents atomic classes as named elements of type *Class* without further features. In OWL, the atomic class, `owl:Class`, has no intension. It can only be interpreted by its name that has a meaning in the world outside the ontology. The atomic class is a class description that is simultaneously a class axiom. [Kiko2008]



(a) UML class



(b) OWL class

Figure 1: Visual representation in UML and OWL of a prototypical class

```
Class: C
  skos:prefLabel "label"[en]
  skos:definition "definition"
```

Listing 1: OWL Class

Rule 1 (Class transformation). Given an UML element E of type *Class* with a name and optionally with a description create an OWL class C .

- The name is transformed into URI and the label of C .
- The description of E is transformed into

2.2 Generalisation

...

3 Final word