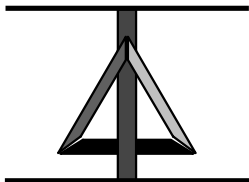


Data Model Patterns: A Metadata Map

East Coast DAMA 2006

David C. Hay

May-June, 2006



Essential Strategies, Inc.

13 Hilshire Grove Lane, Houston, TX 77055

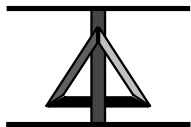
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The Architecture Framework . . .

	Data (What)	Activities (How)	Locations (Where)	People (Who)	Time (When)	Motivation (Why)
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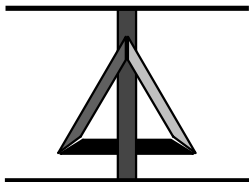


The kinds of question we ask are as many as the kinds of things which we know. They are in fact four: (1) whether the connexion of an attribute with a thing is a fact, (2) what is the reason of the connexion, (3) whether a thing exists, (4) what is the nature of the thing. Thus when our question concerns a complex of thing and attribute and we ask whether the thing is thus or otherwise qualified--whether, e.g., the sun suffers eclipse or not--then we are asking as to the fact of a connexion.

Aristotle

Posterior Analytics

Column 1: Data



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





























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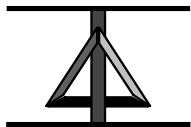
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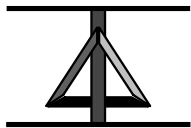
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	Converted data	Executable programs	Communications facilities	Trained people	Business events	Enforced rules



Row Two:
The business owner's View



WORD USAGE

in

of

*composed
of*

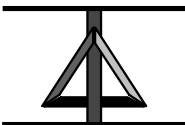
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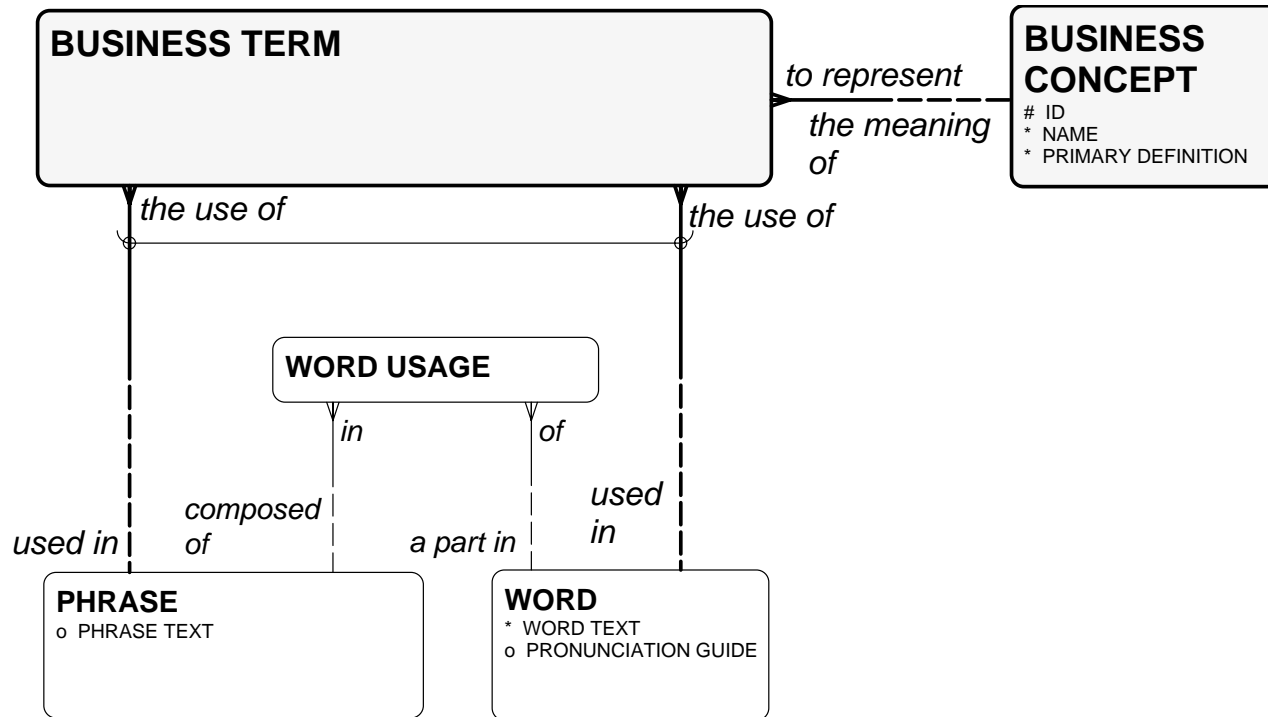
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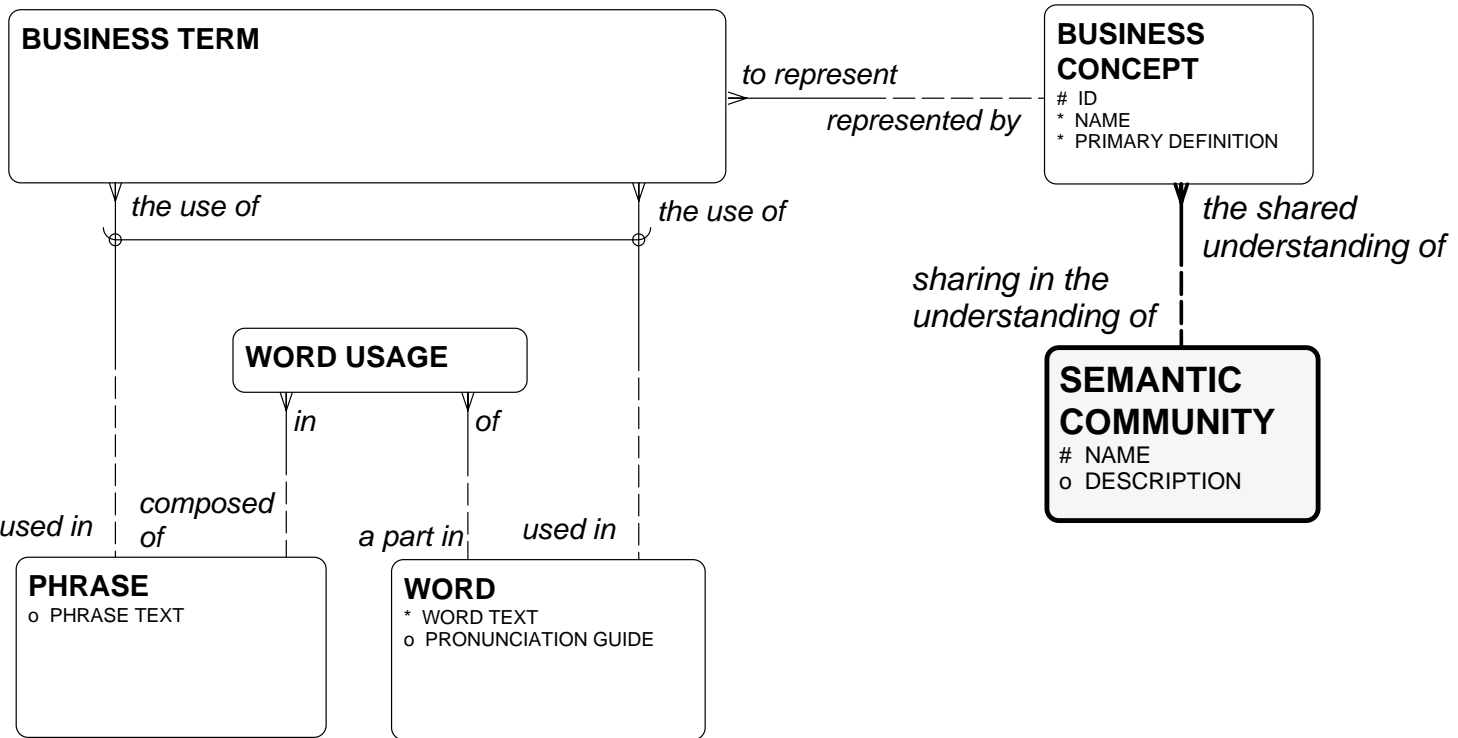
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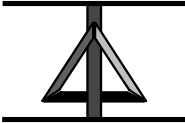
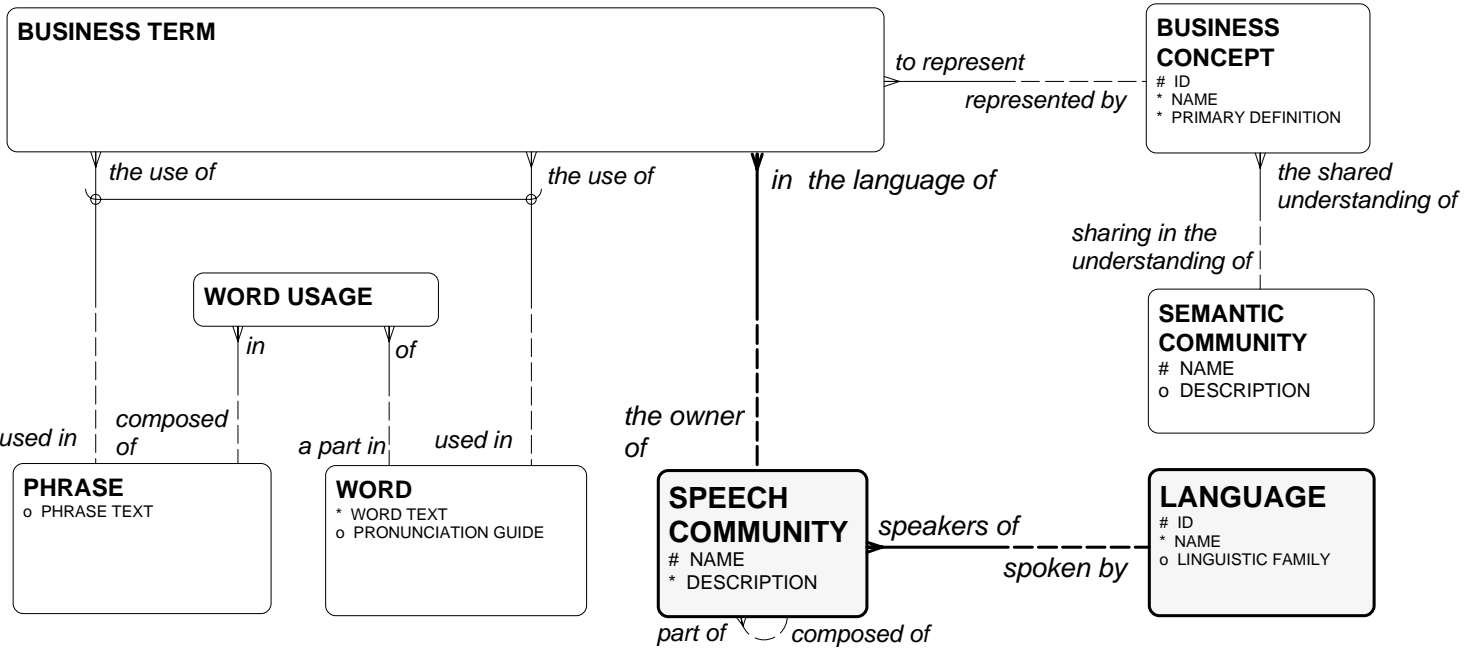
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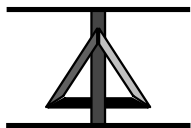
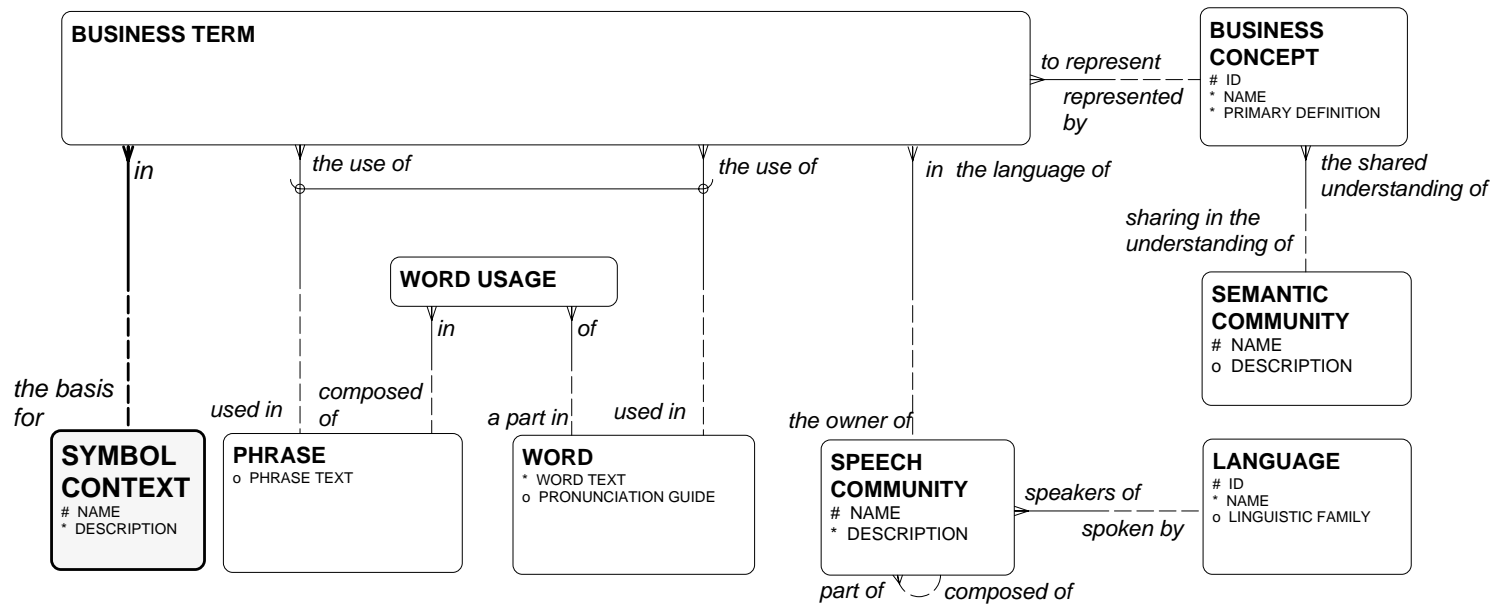
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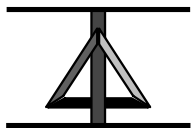
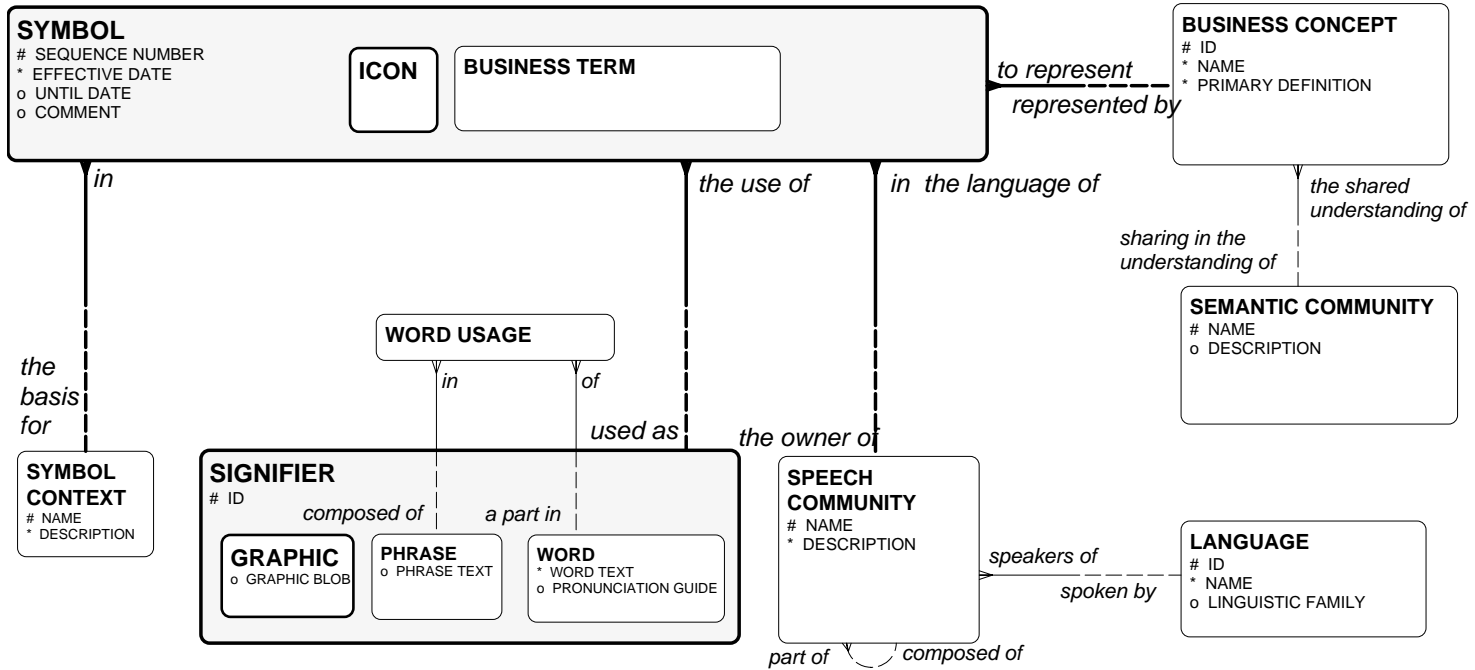


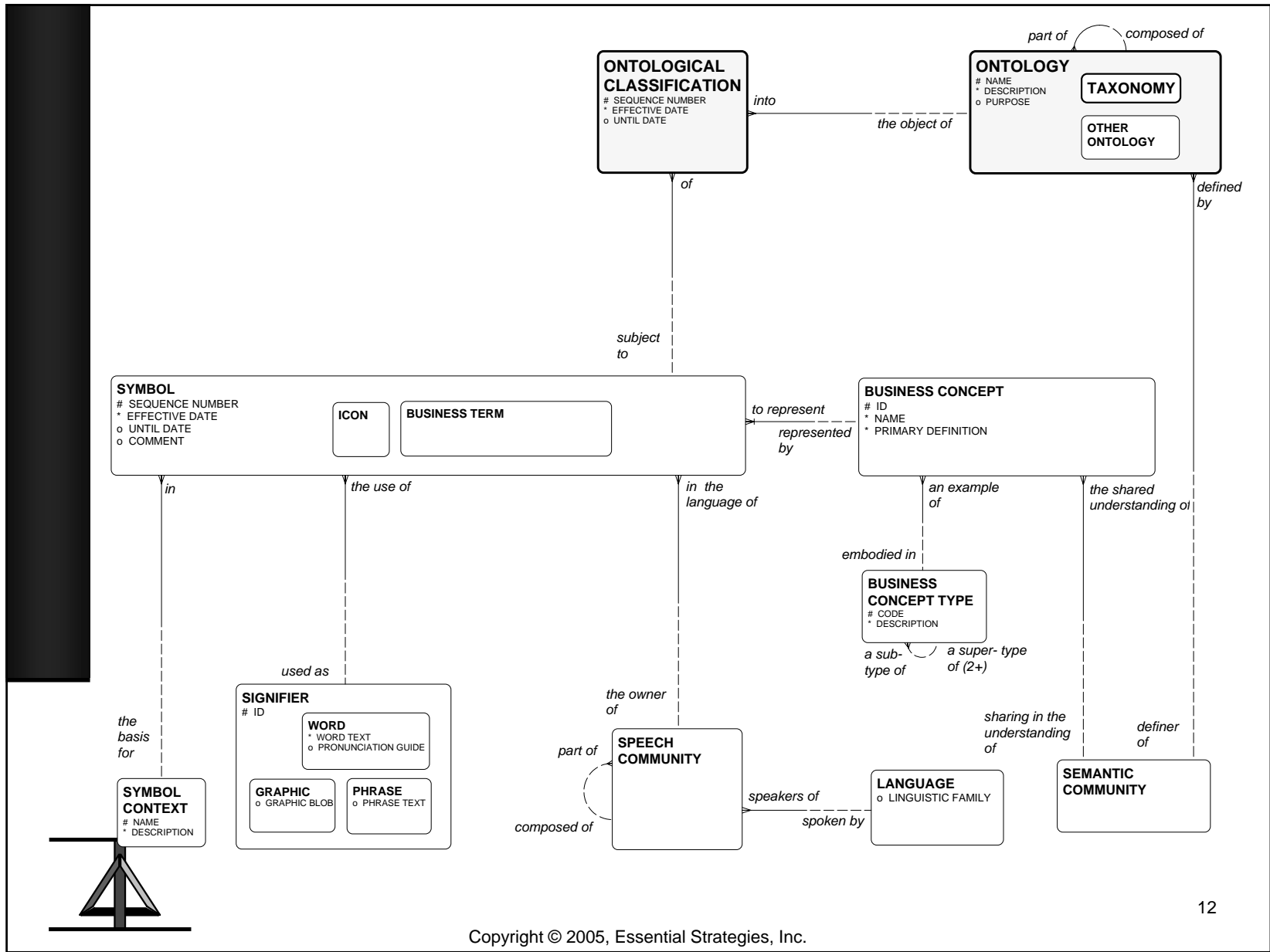


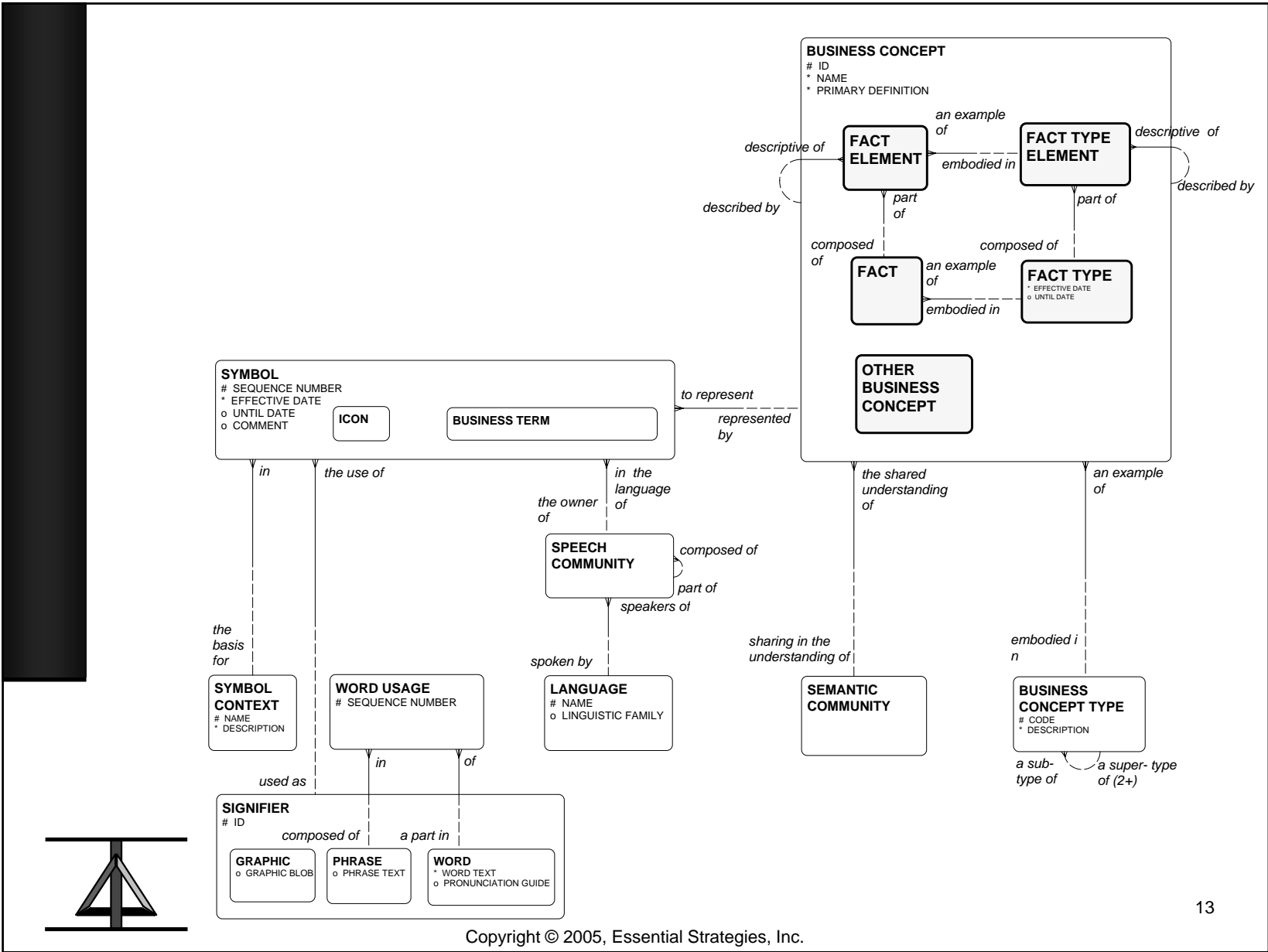


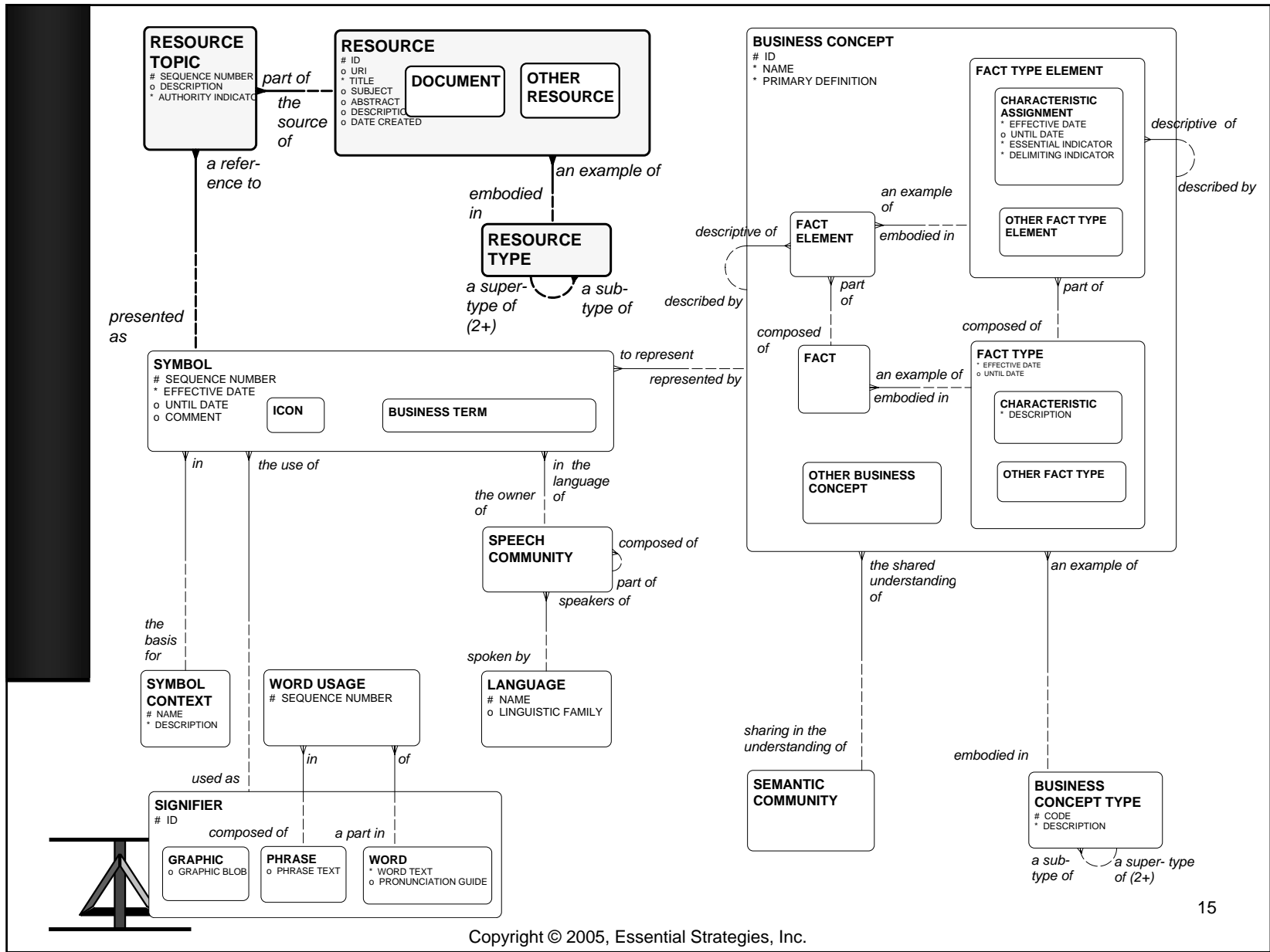


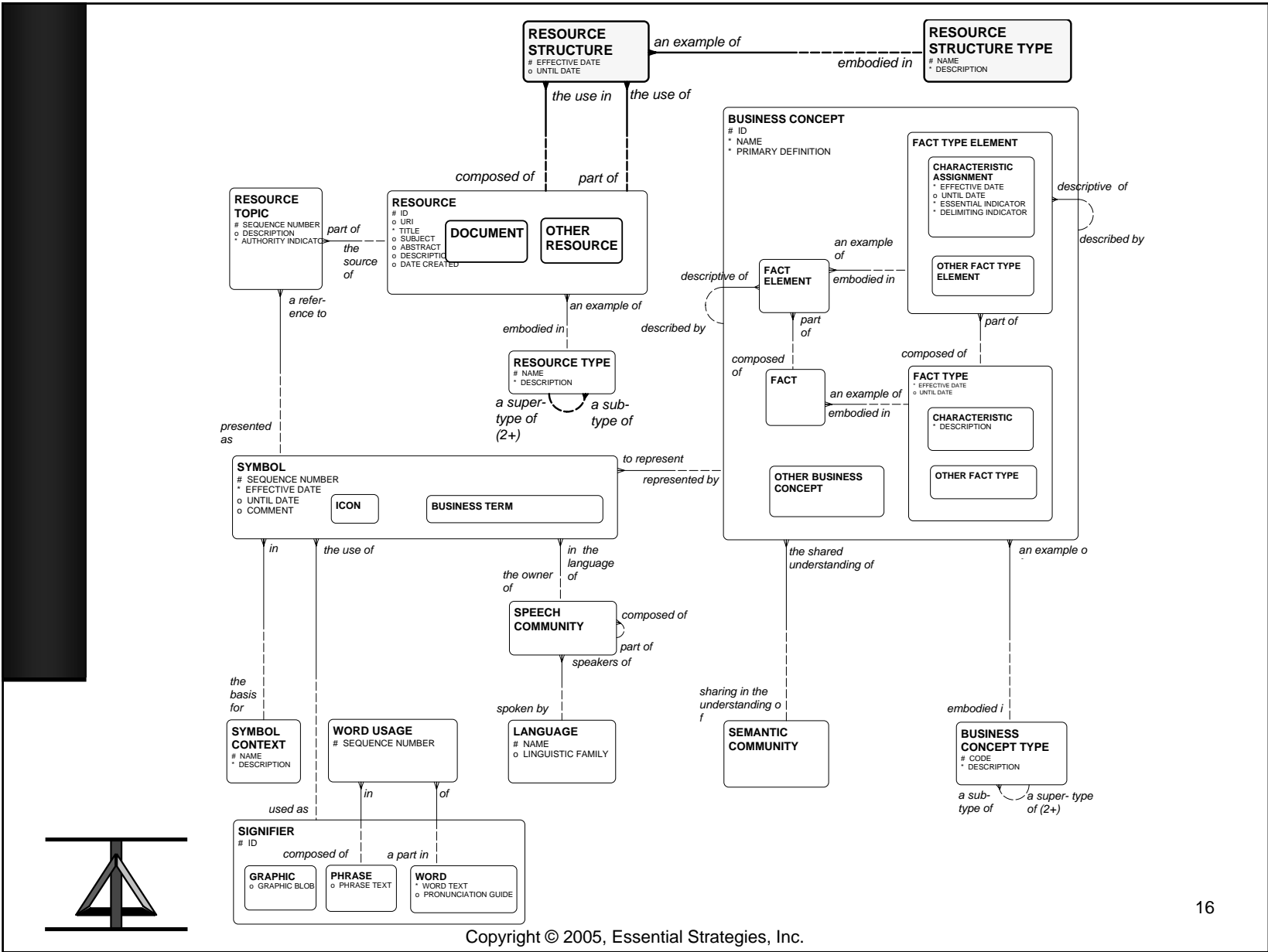


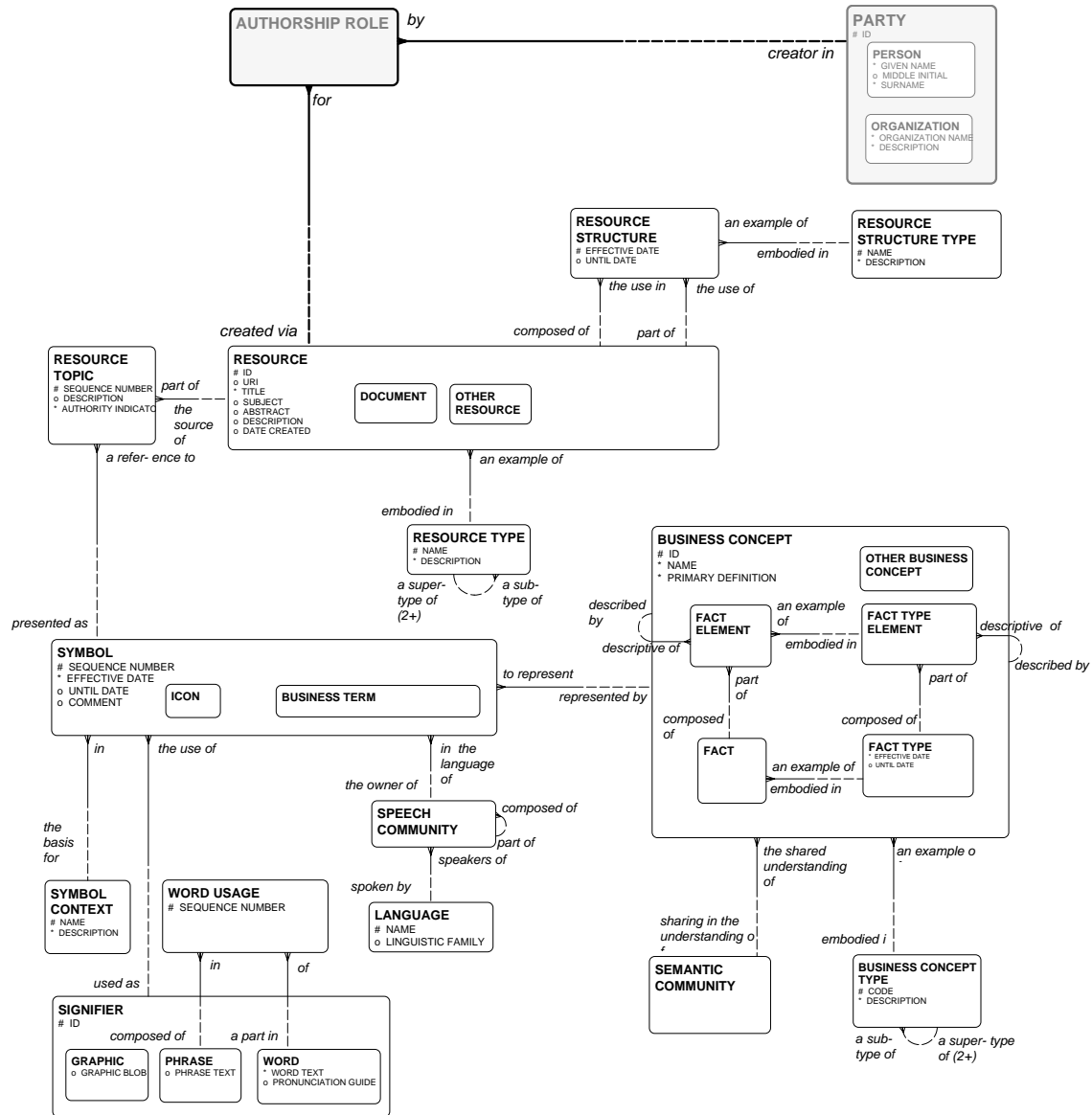


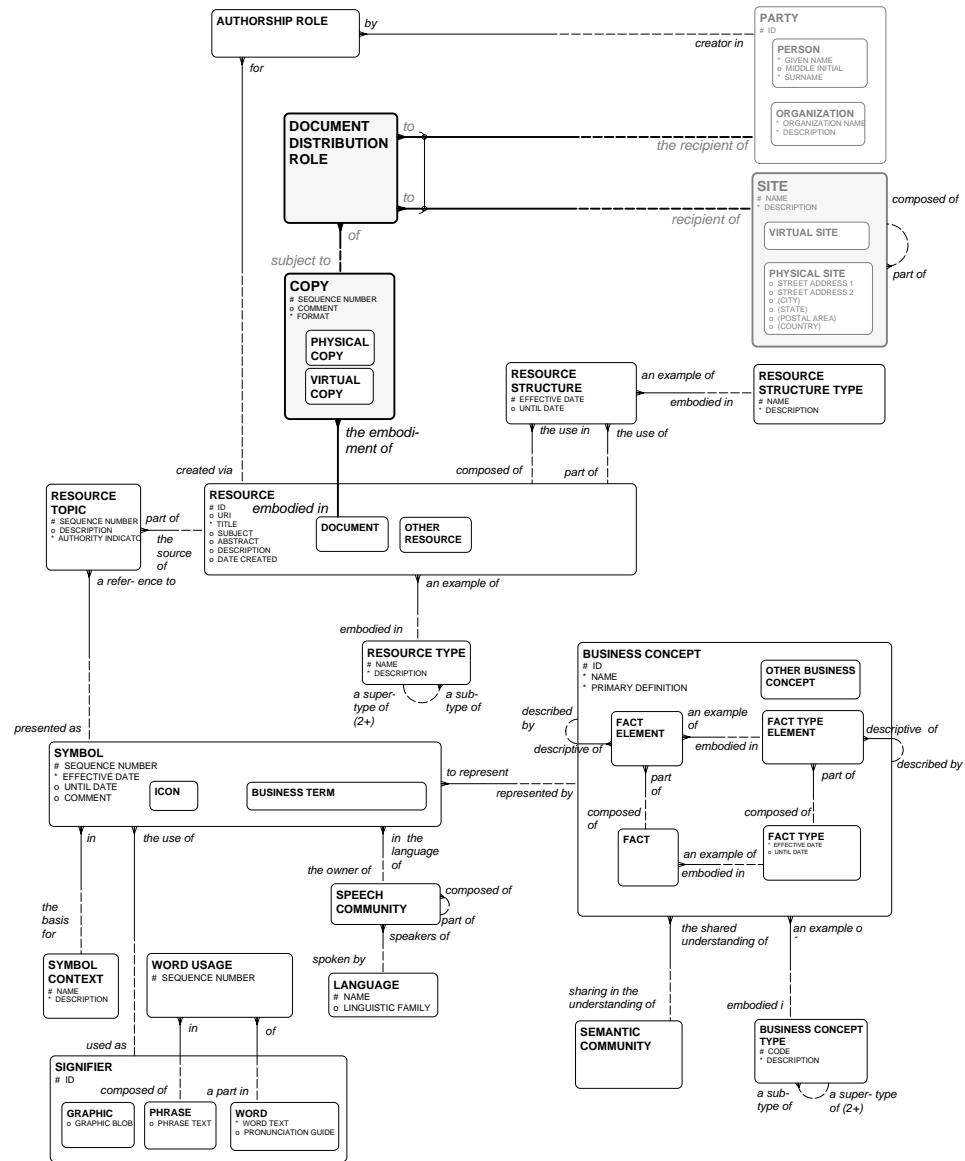




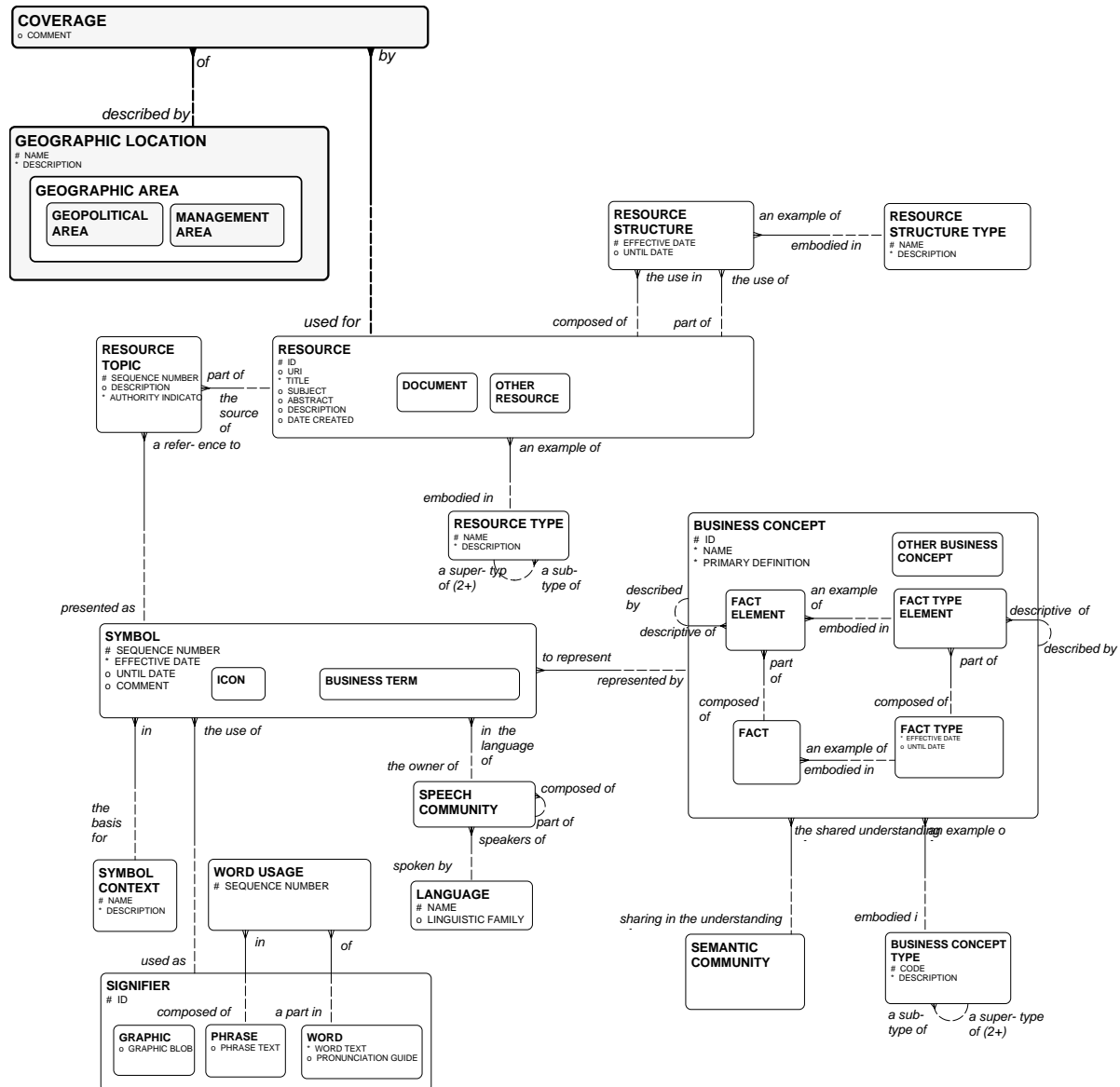






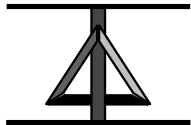


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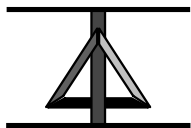
The Dublin Core . . .

Dublin Core Term	Metadata Element
Contributor	<i>created via authorship role/ an example of authorship role type "Contributor"</i>
Coverage	<i>to describe an aspect of coverages / of a geographic location.</i>
Creator	<i>created via authorship roles/ an example of authorship role type "Creator"</i>
Date	resource: "Date Created"
Description	resource: "Description"
Format	<i>embodied in copy: "Format"</i>
Identifier	resource: "ID"; resource: "URI"
Language	<i>the source of resource elements/ a reference to a symbol/ in the language of a speech community/ speaker of a language*</i>
Publisher	<i>created via authorship roles/ an example of authorship role type "Publisher"</i>
Relation	<i>part of a resource structure/ the use of another resource</i>
Rights	<i>created via authorship roles/ an example of authorship role type "Rights holder"</i>
Source	<i>part of resource structure/ an example of resource structure type "Source"</i>
Subject	resource: "Subject"
Title	resource: "Title"
Type	resource type: "Name"

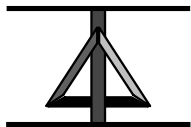
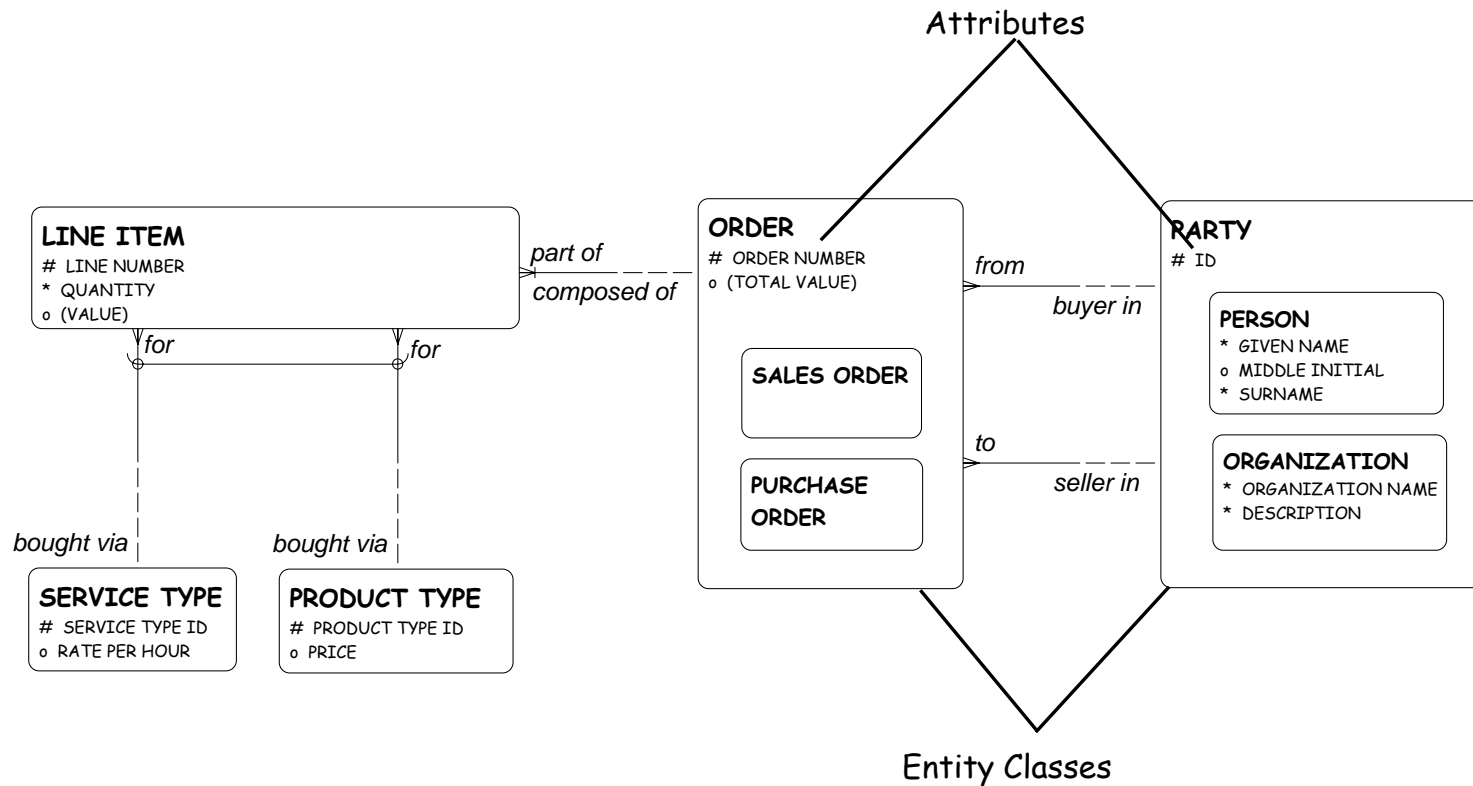


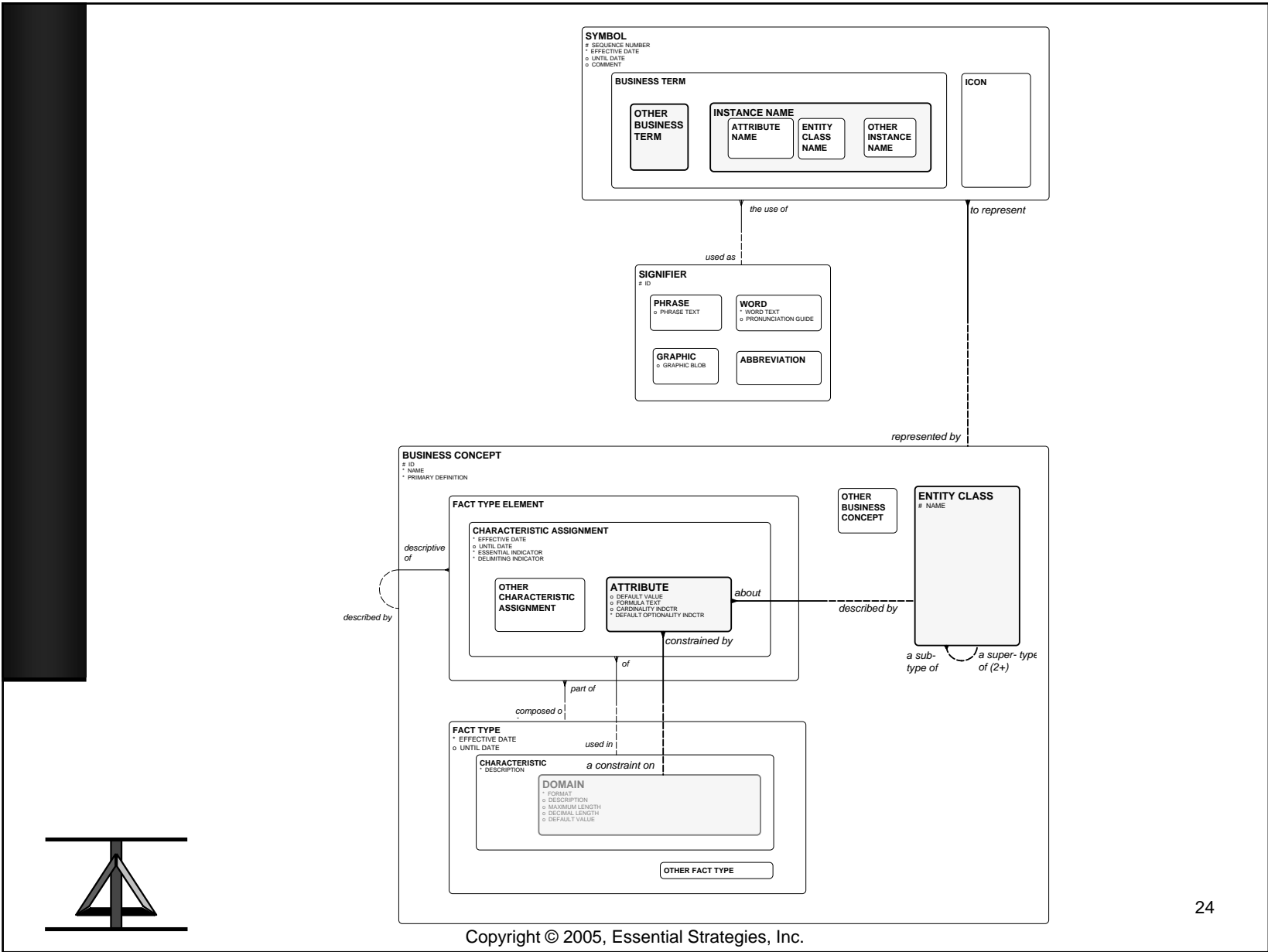
* Read "/" as "that is (are)..."

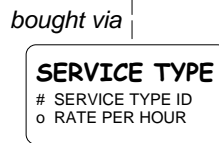
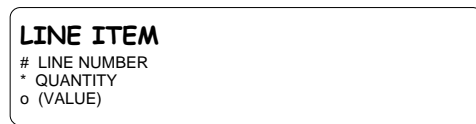
Row Three:
The architect's View



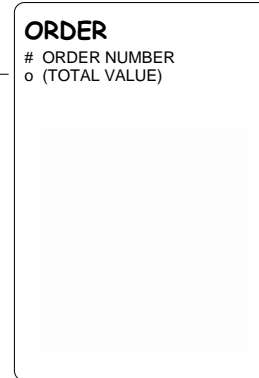
Sample Entity / Relationship Diagram . . .



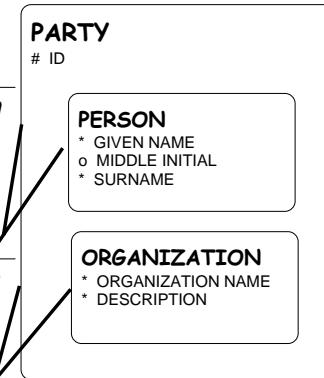
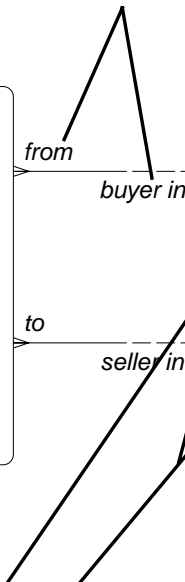




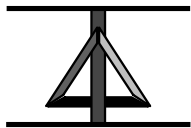
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composed of

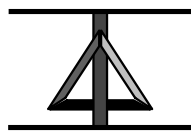
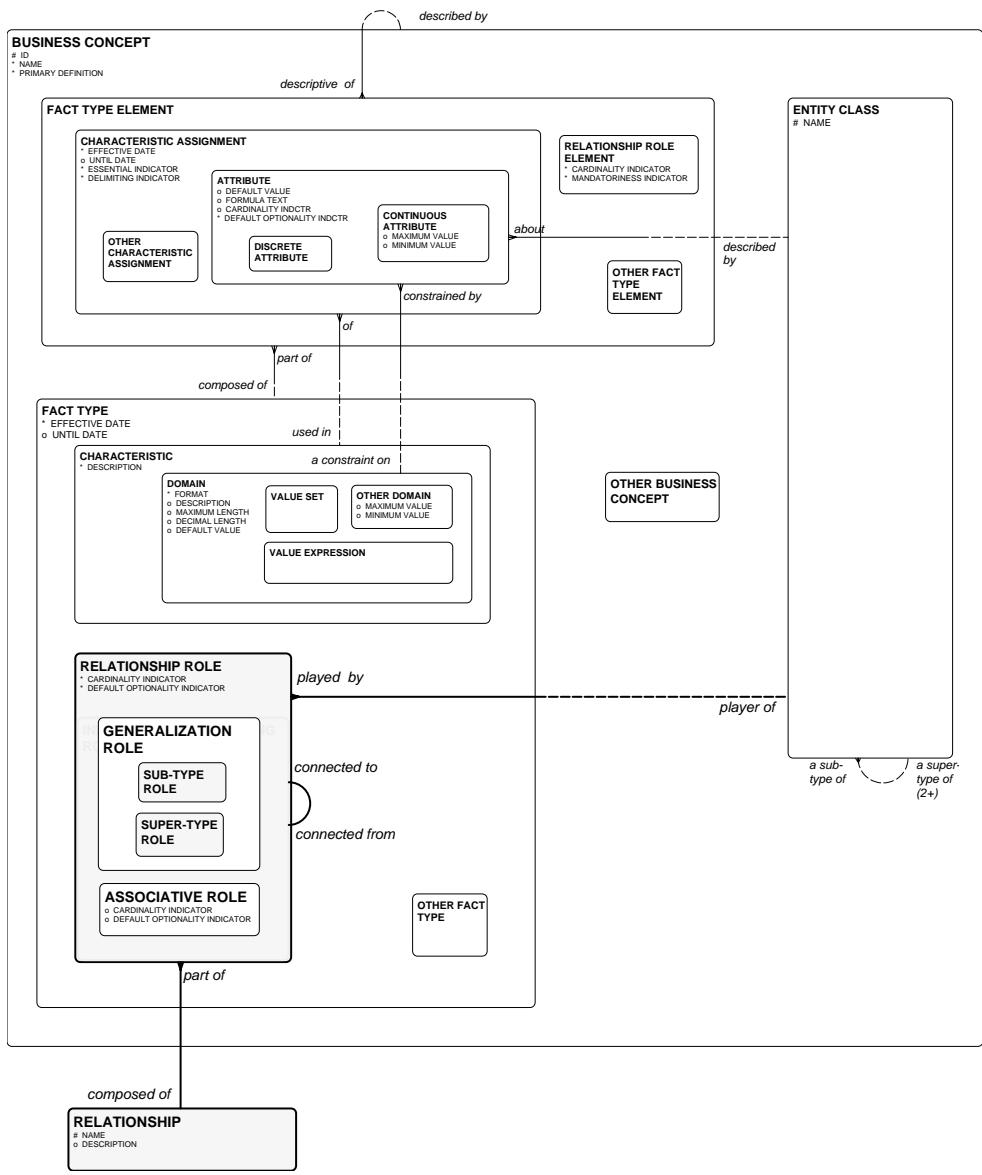


Associative Roles

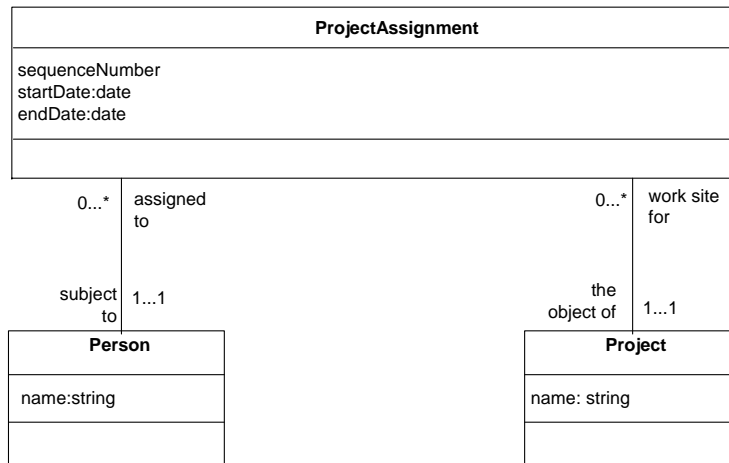


Generalization Roles

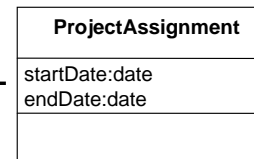




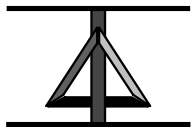
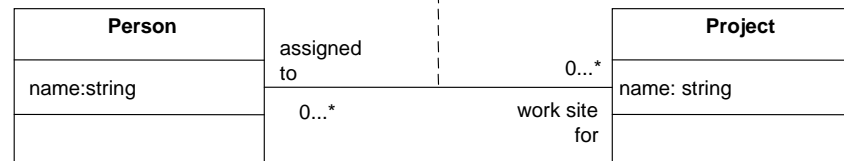
Sample Intersect Entity Classes . . .

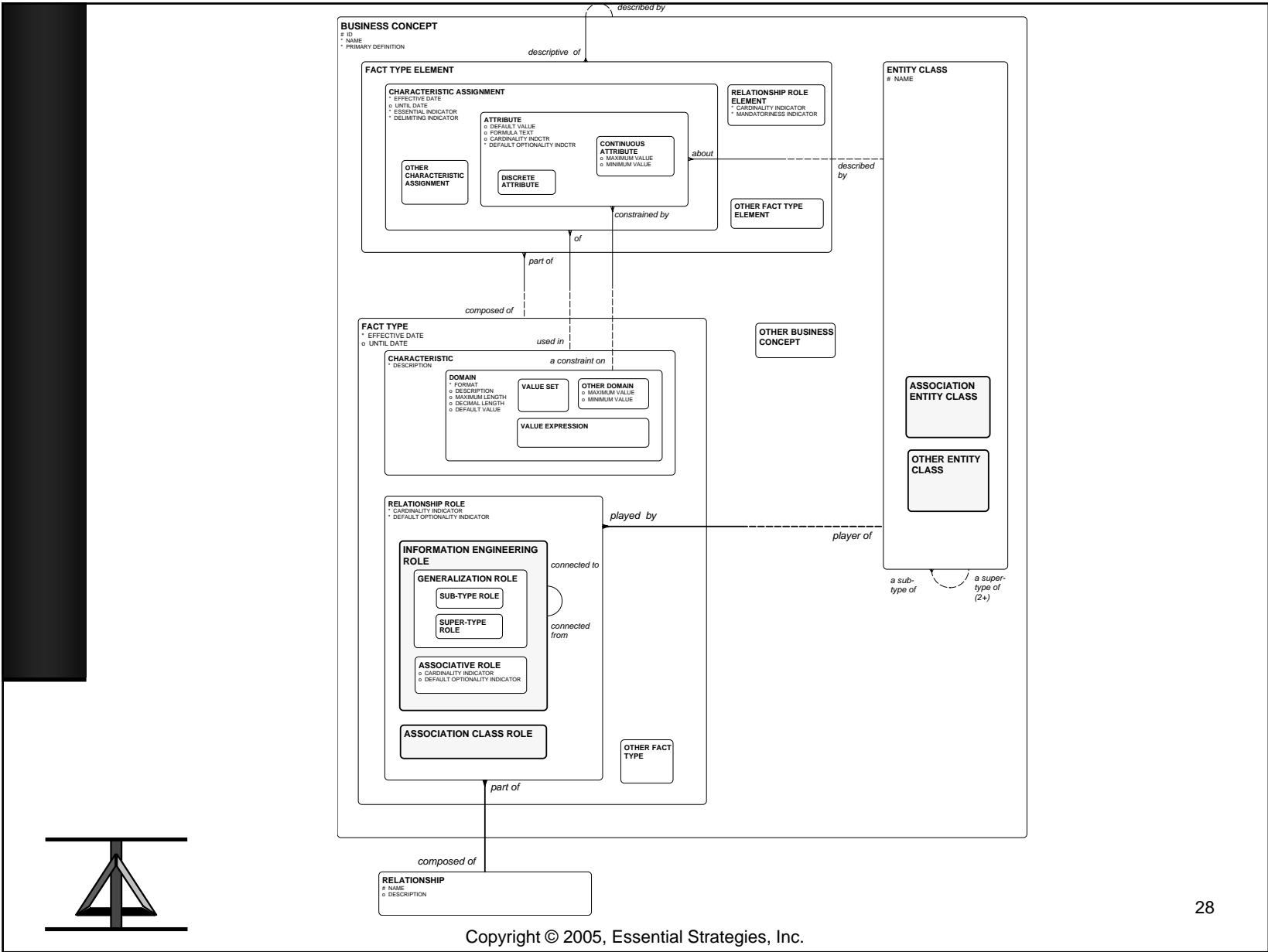


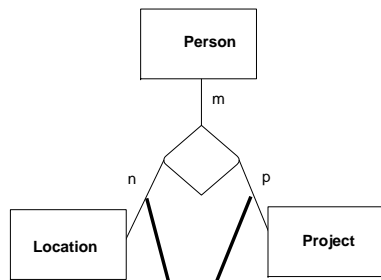
Association
Entity Class



Association
Class Role



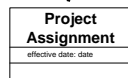




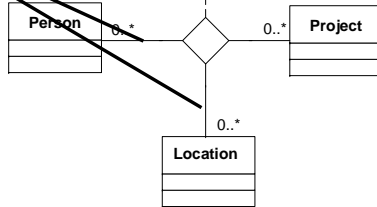
Class Notation

N-ary Roles

Association Entity Class

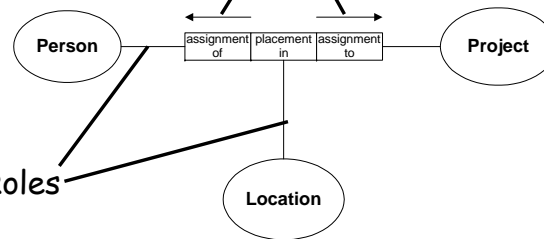


Association Class Role



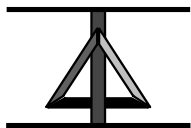
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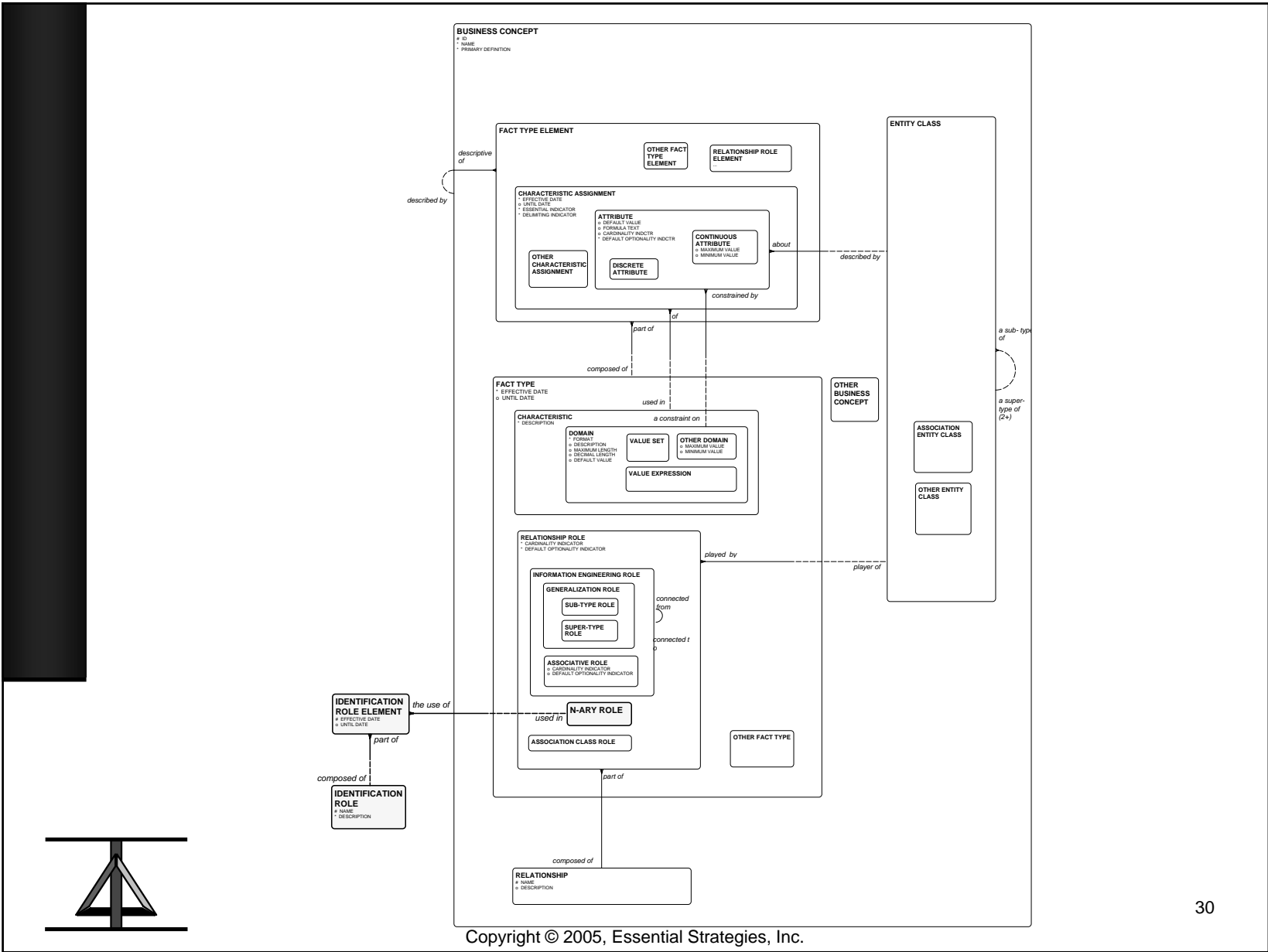
Identification Role

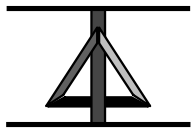
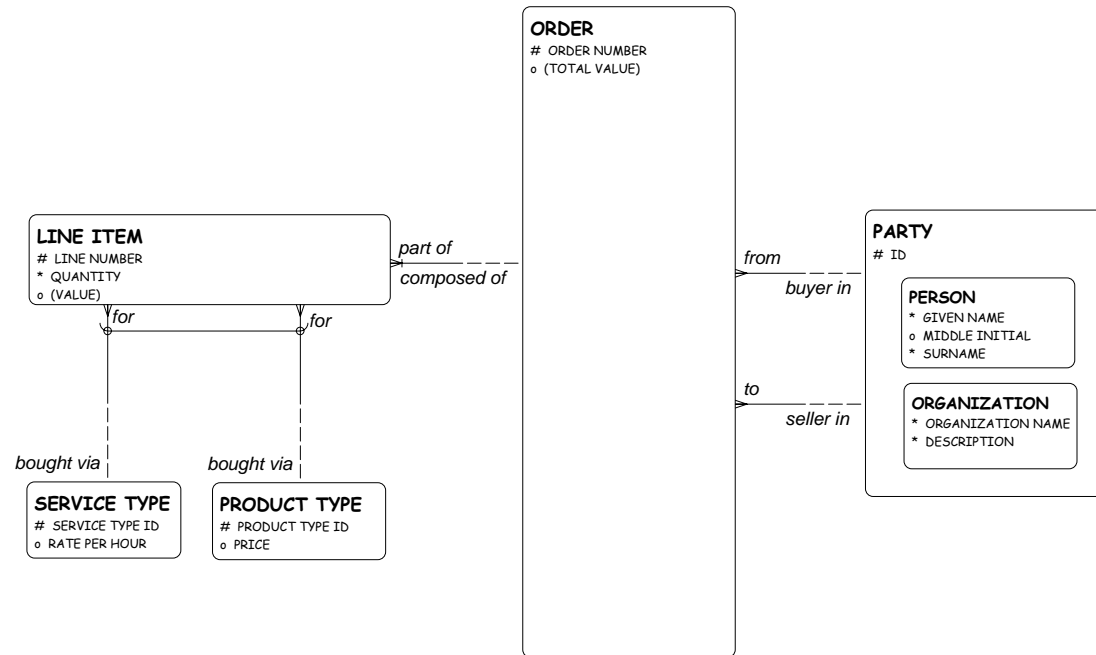


N-ary Roles

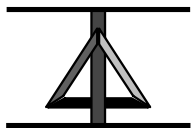
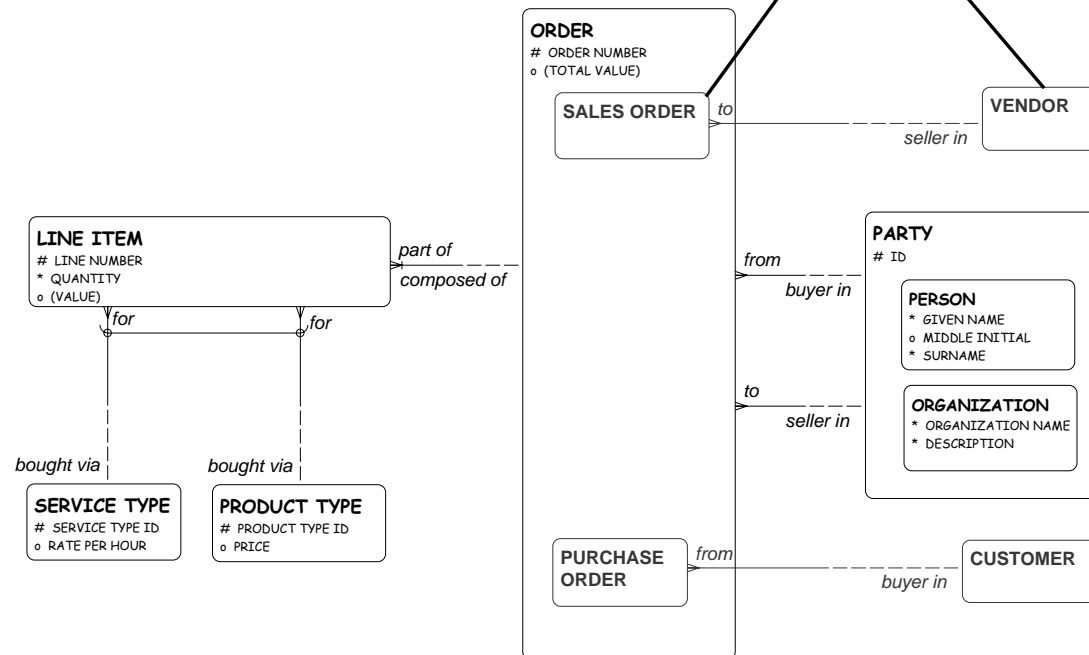
ORM Notation

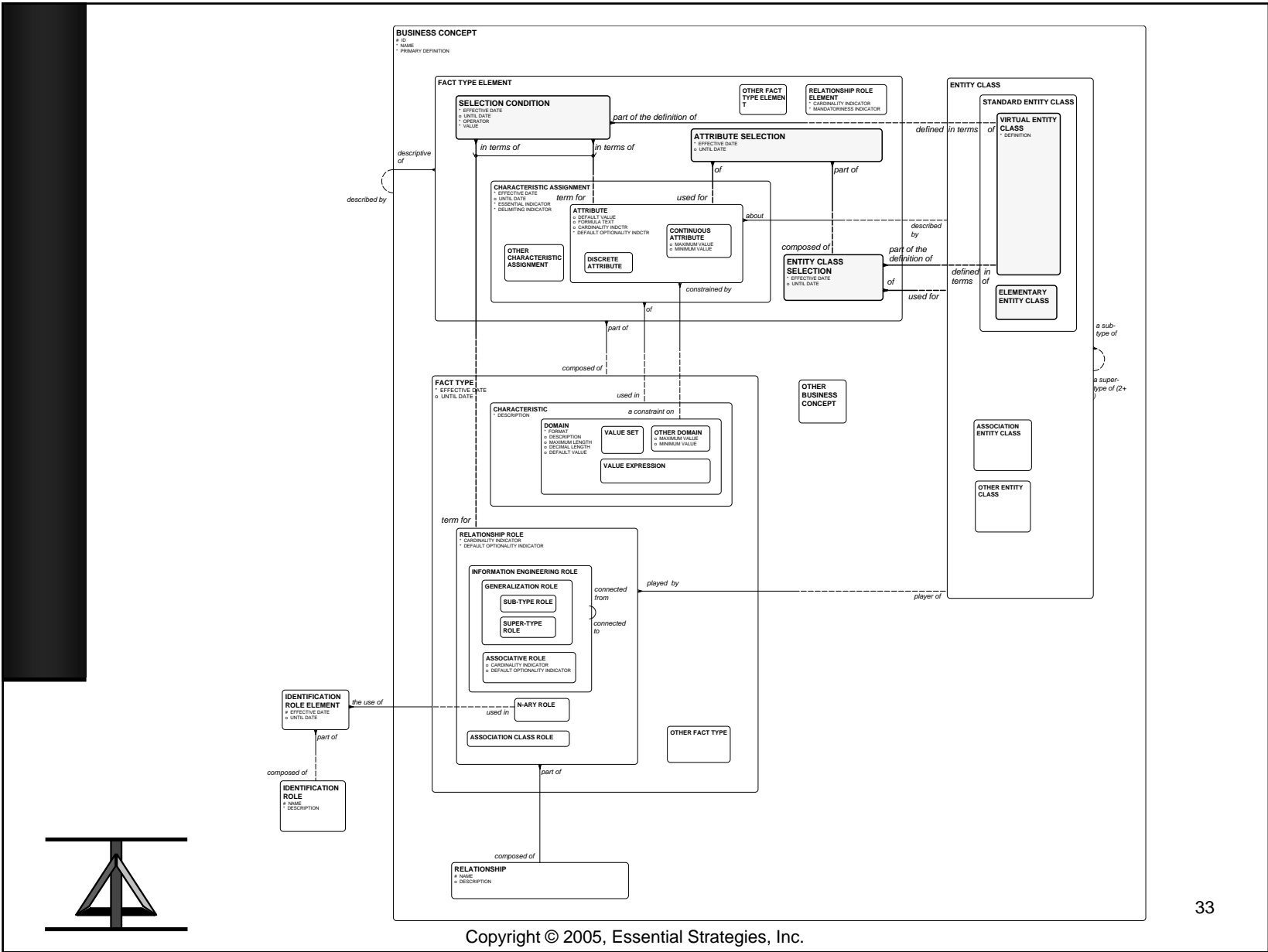




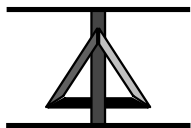


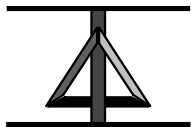
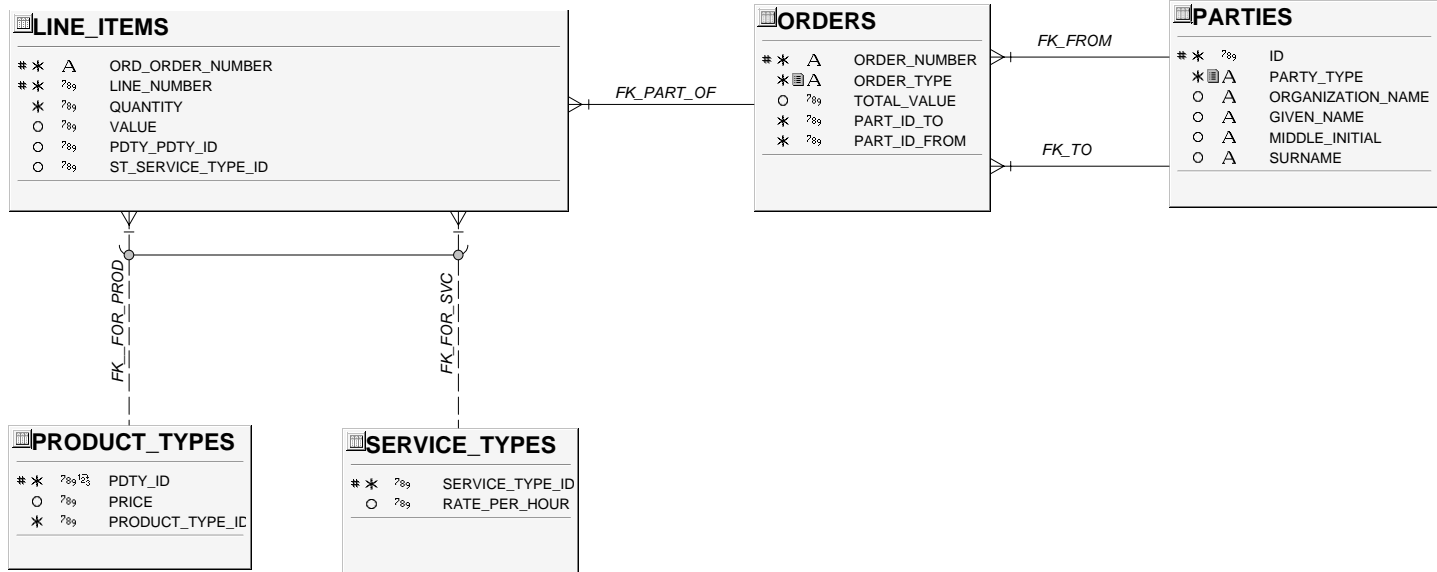
Virtual Entity Classes

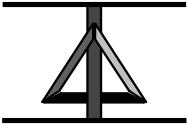
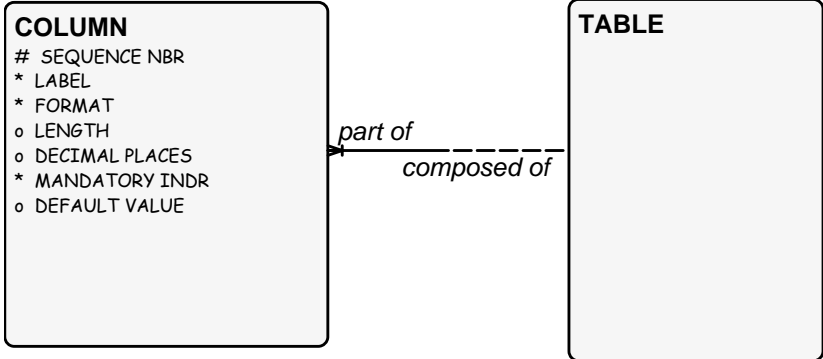




Row Four: The Designer's View

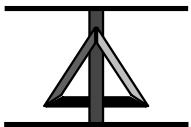


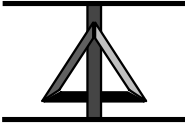
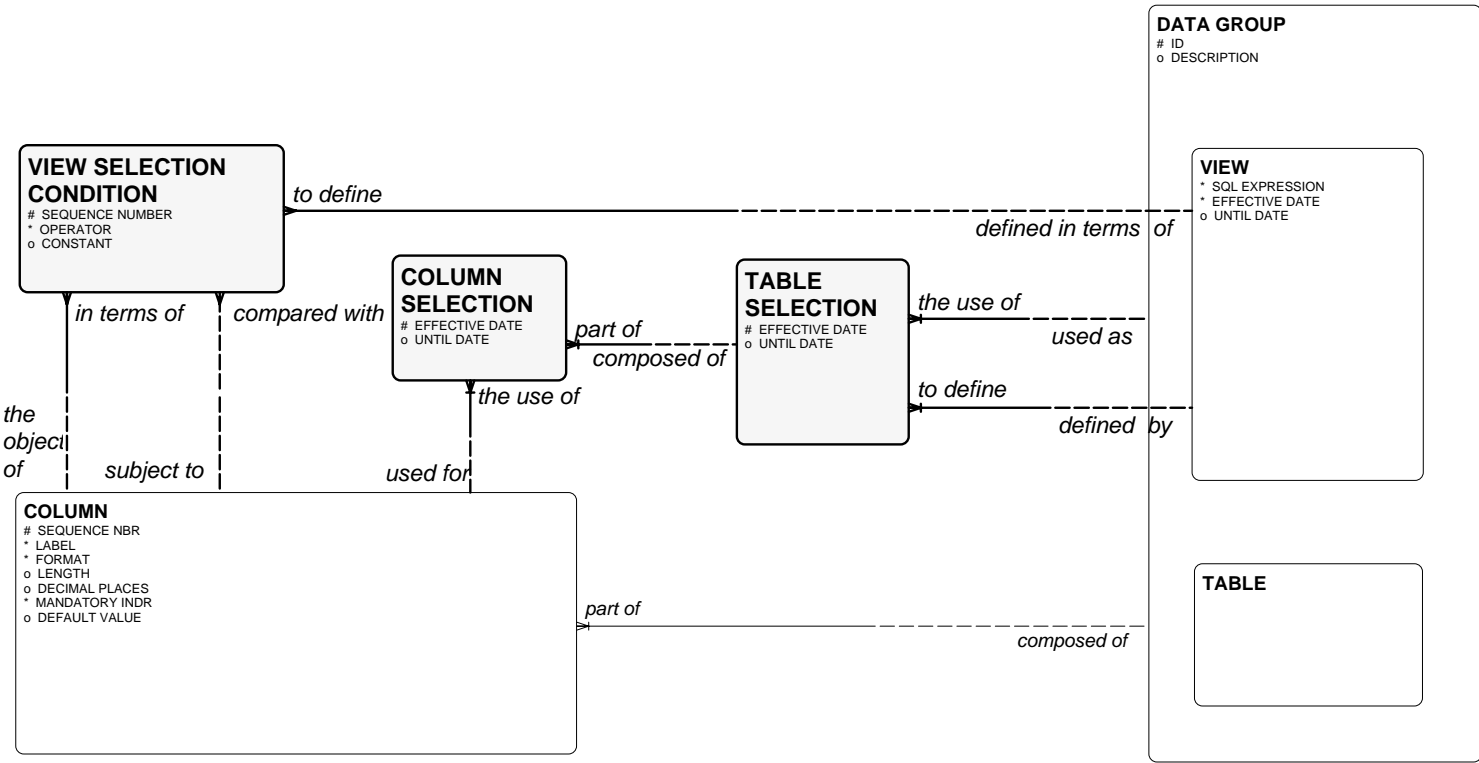


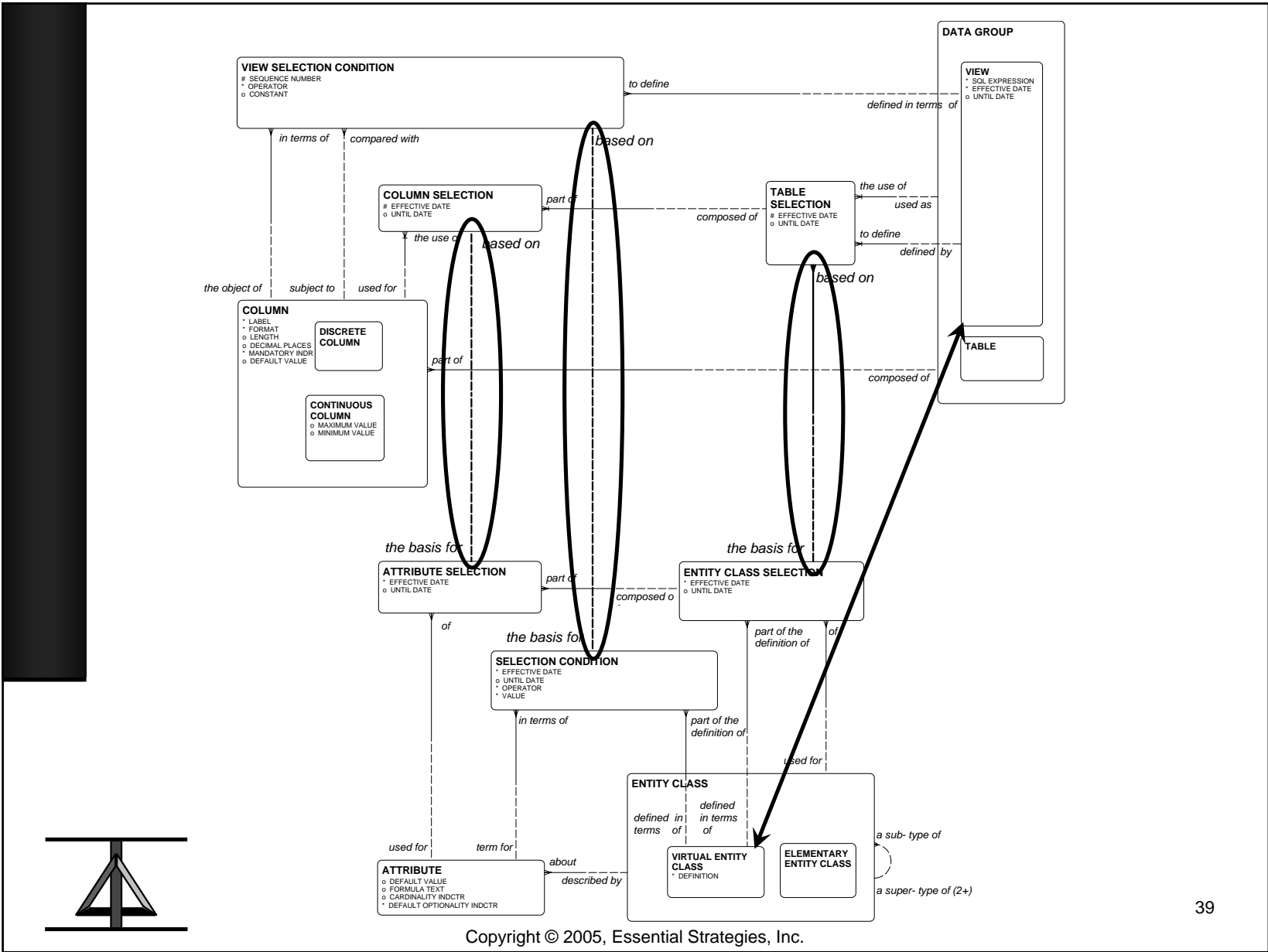


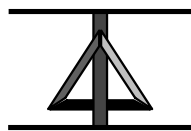
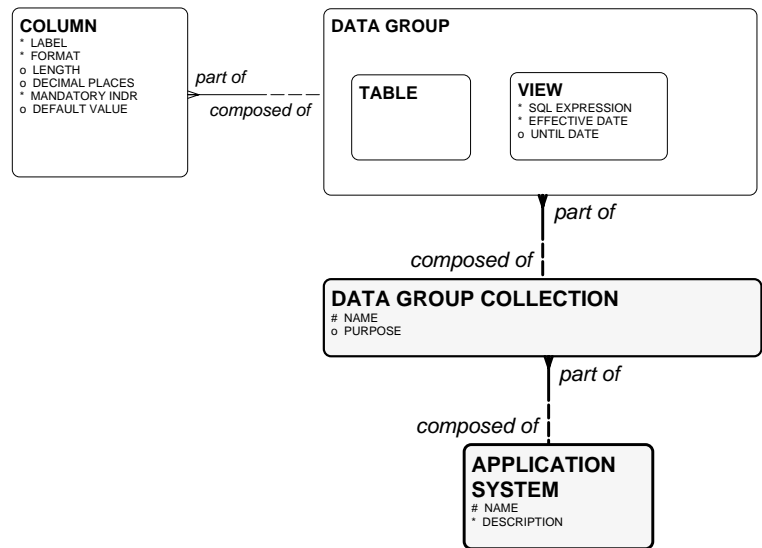
A View (in SQL) . . .

```
CREATE VIEW CUSTOMER AS
SELECT P.ID,P.PARTY_TYPE,P.ORGANIZATION_NAME,P.
       GIVEN_NAME,P.MIDDLE_INITIAL, P.SURNAME
FROM ORDERS O, PARTIES P
WHERE O.PART_ID_TO = <the 'party id' of our company>
       AND O.PART_ID_FROM = P.ID
       AND O.PART_ID_FROM <> <the 'party id' of our company>
```

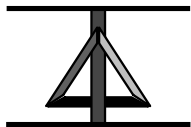
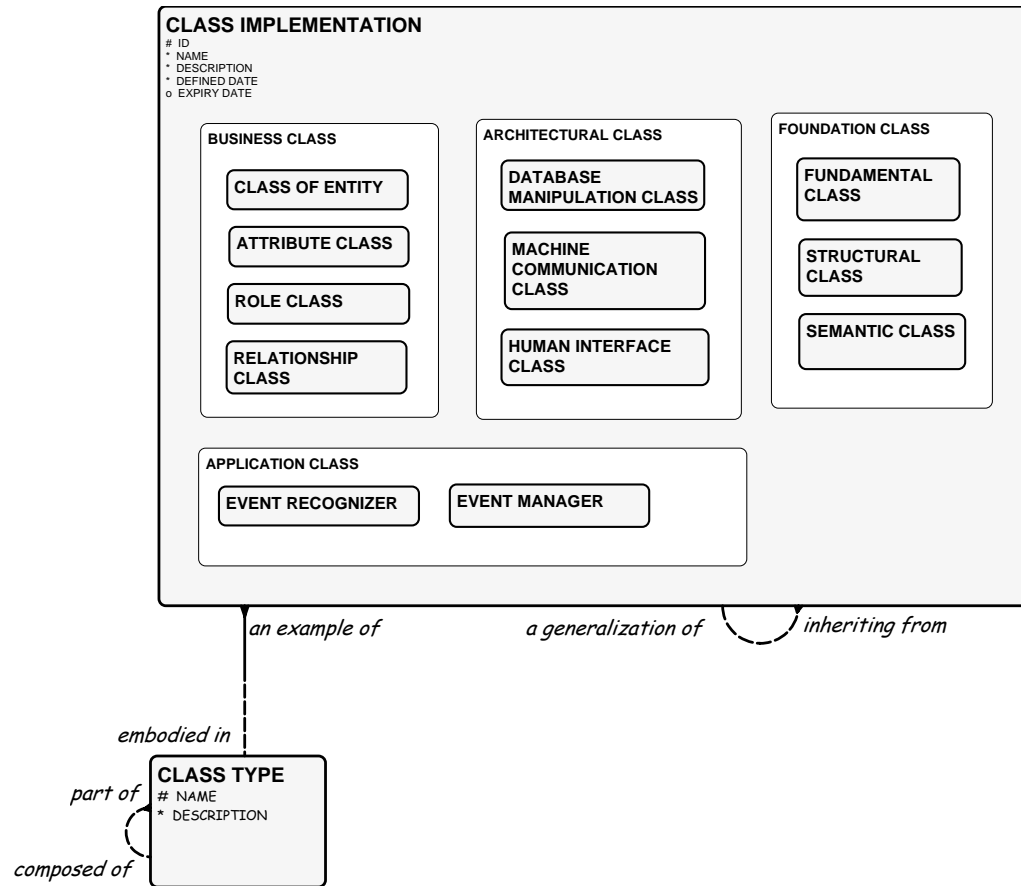


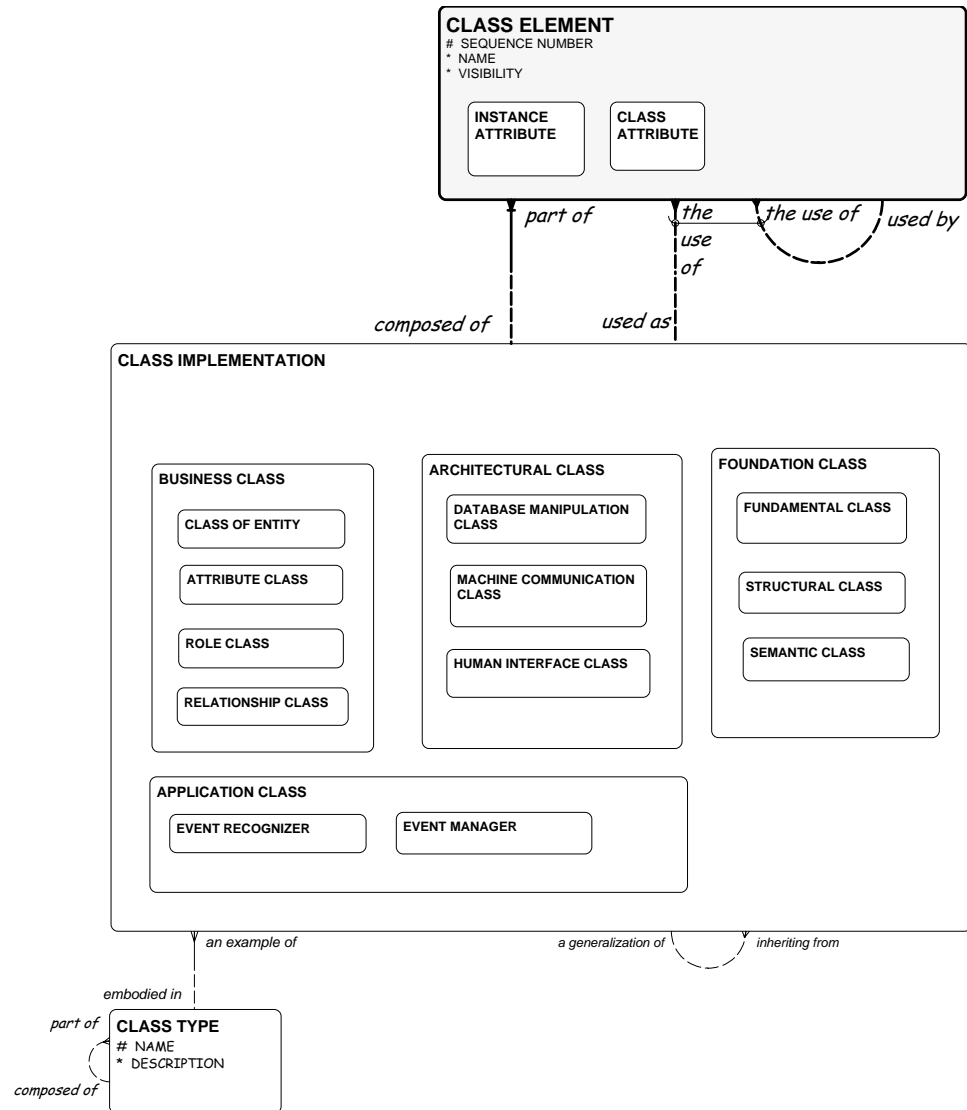






The Object-oriented Version . . .



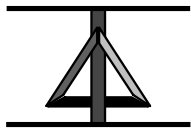


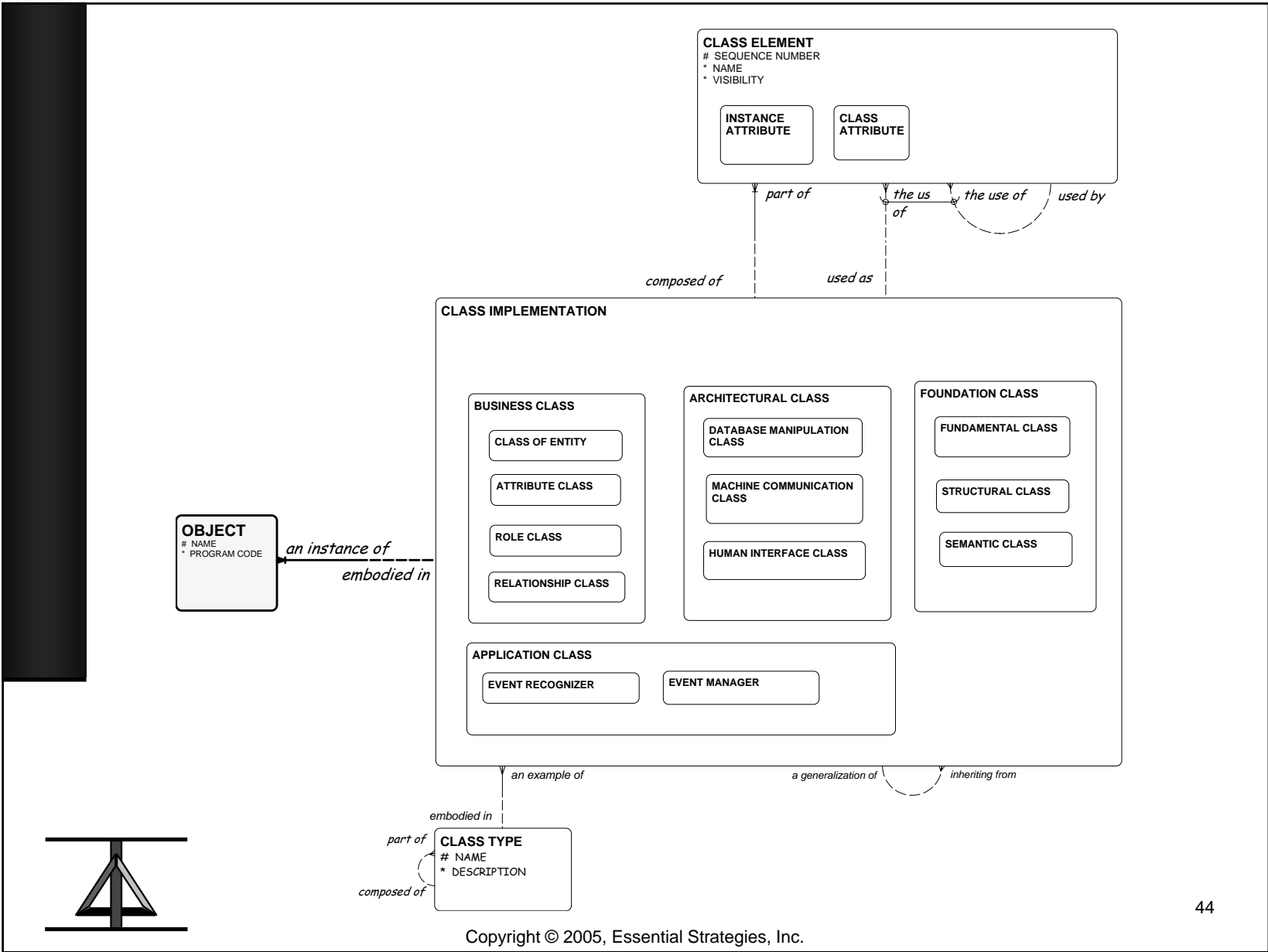
An object-oriented program . . .

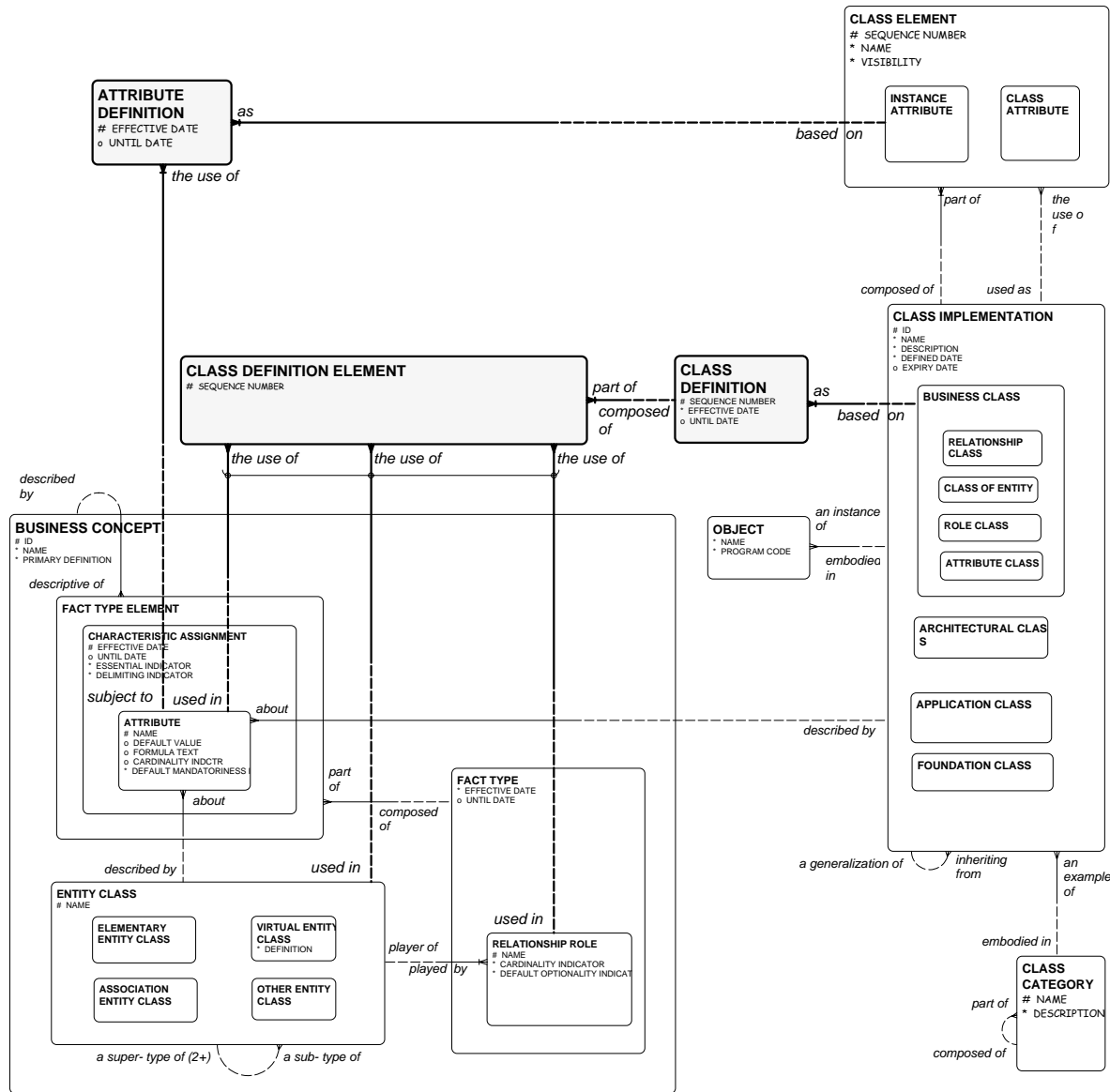
Hominoid

New: Hominoid

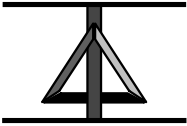
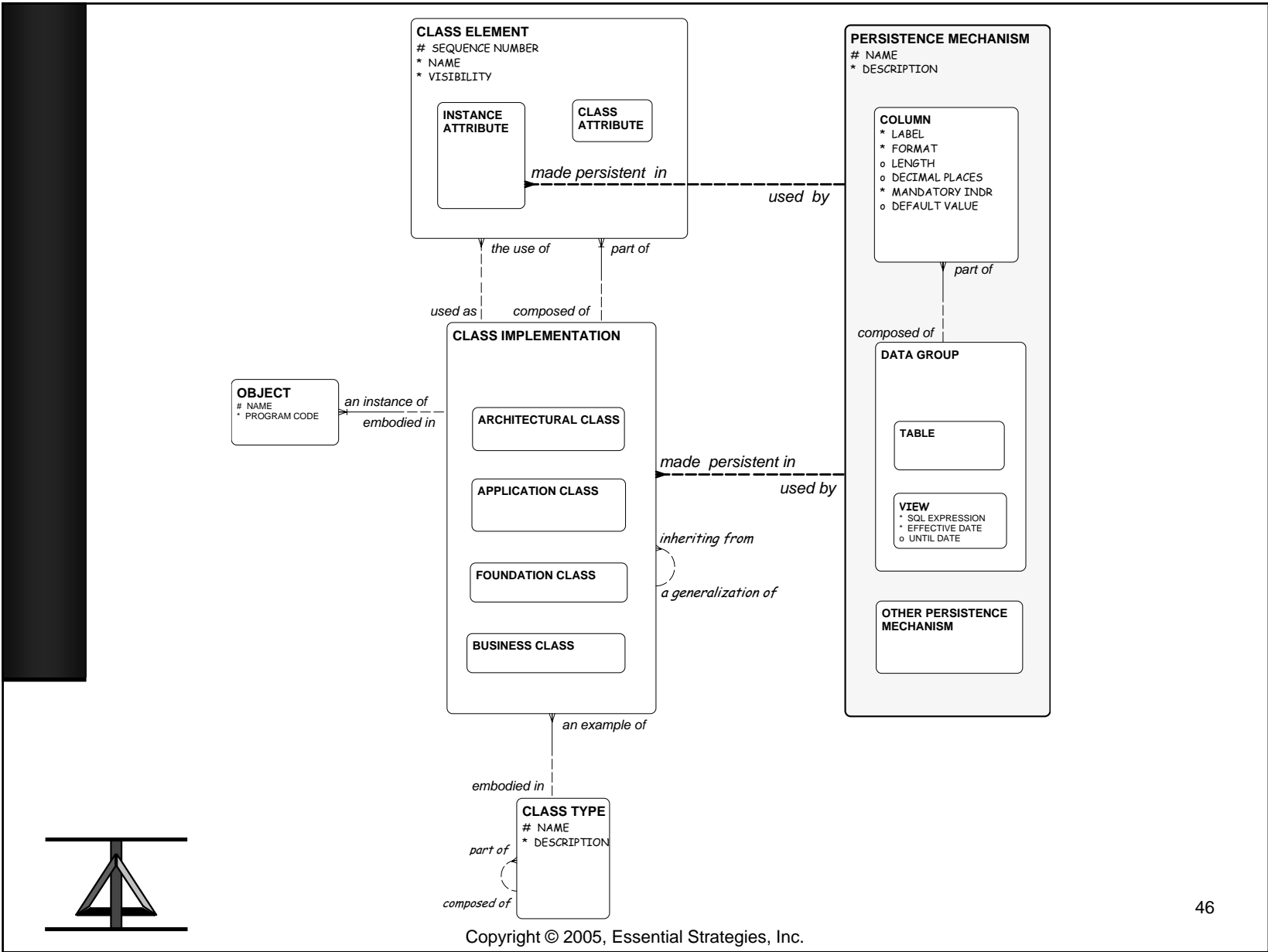
// creates and returns a new instance of Hominoid

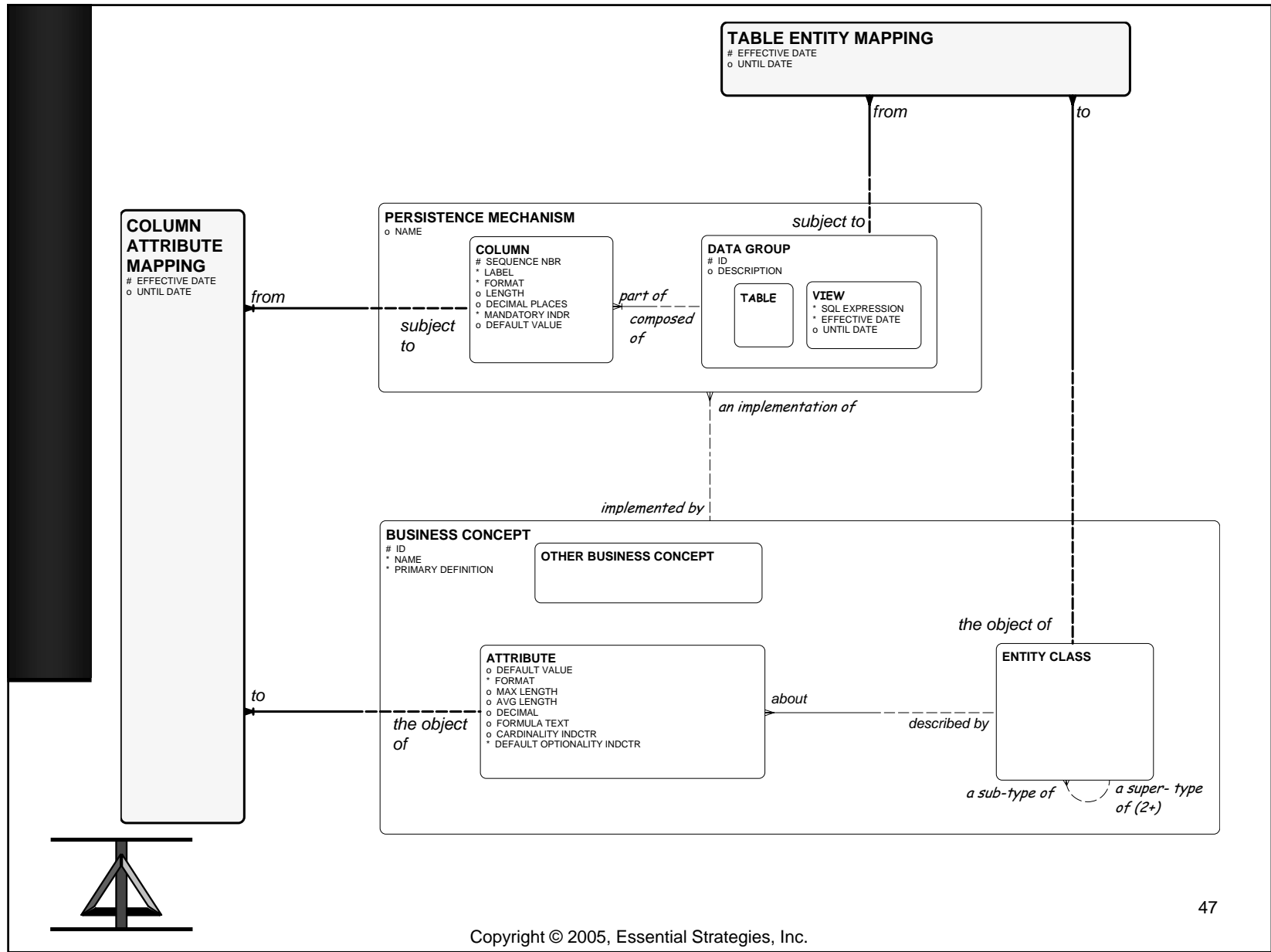






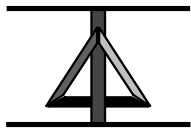
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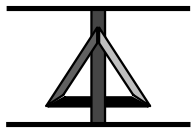
Sample XML . . .

```
<?XML version="1.0"?>
```



Sample XML . . .

```
<?XML version="1.0"?>  
<!--      **** Basket ****      -->  
[ <PRODUCT>  
  </PRODUCT>
```



Sample XML . . .

```
<?XML version="1.0"?>
```

```
<!--      **** Basket ****      -->
```

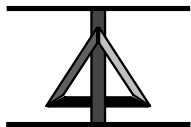
```
<PRODUCT>
```

```
  <product_id>98756</product_id>
```

```
  <product_name>basket</product_name>
```

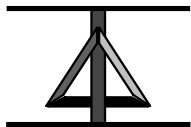
```
  <unit_of_measure>each</unit_of_measure>
```

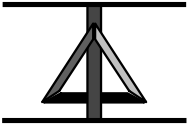
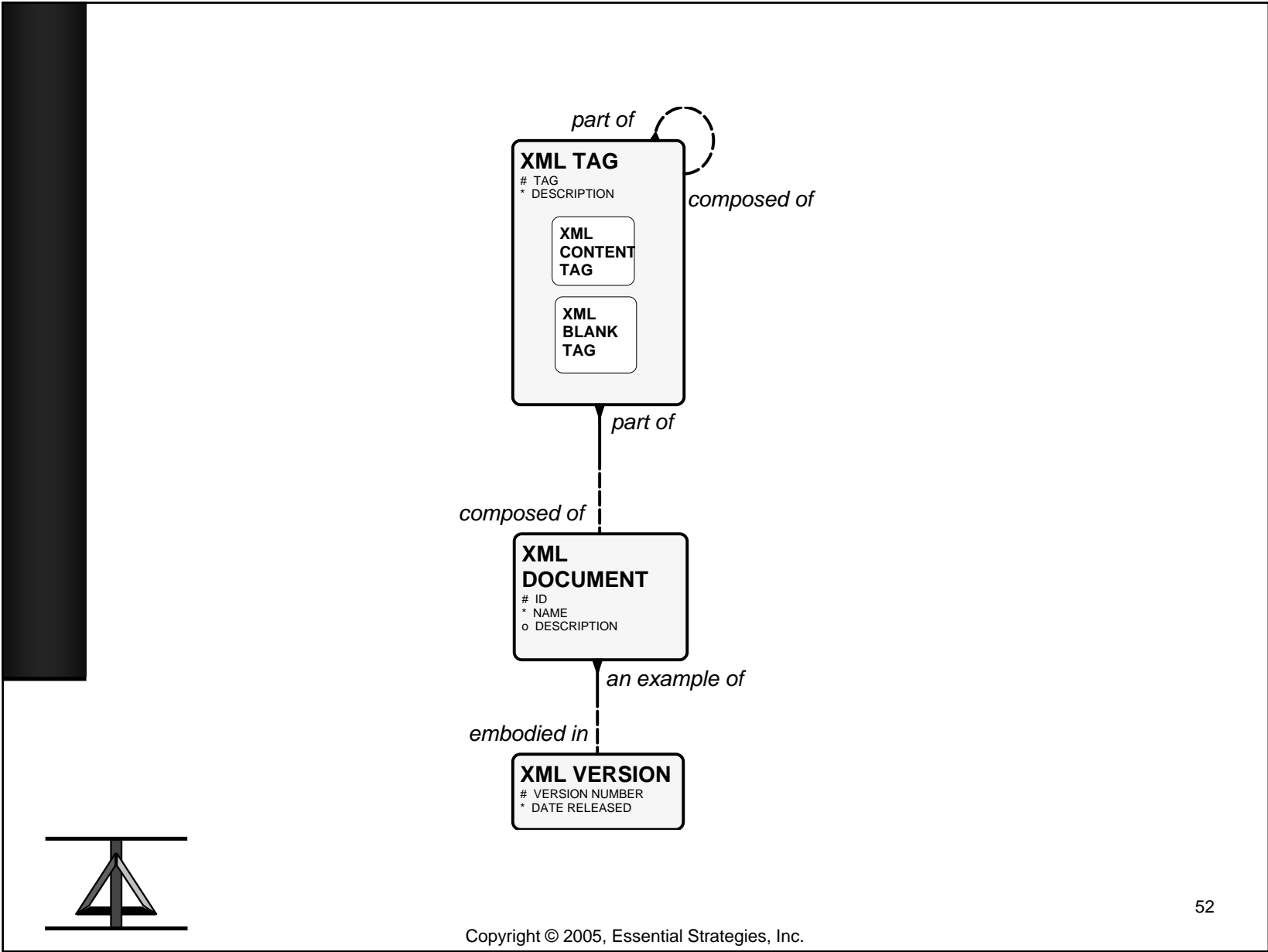
```
</PRODUCT>
```

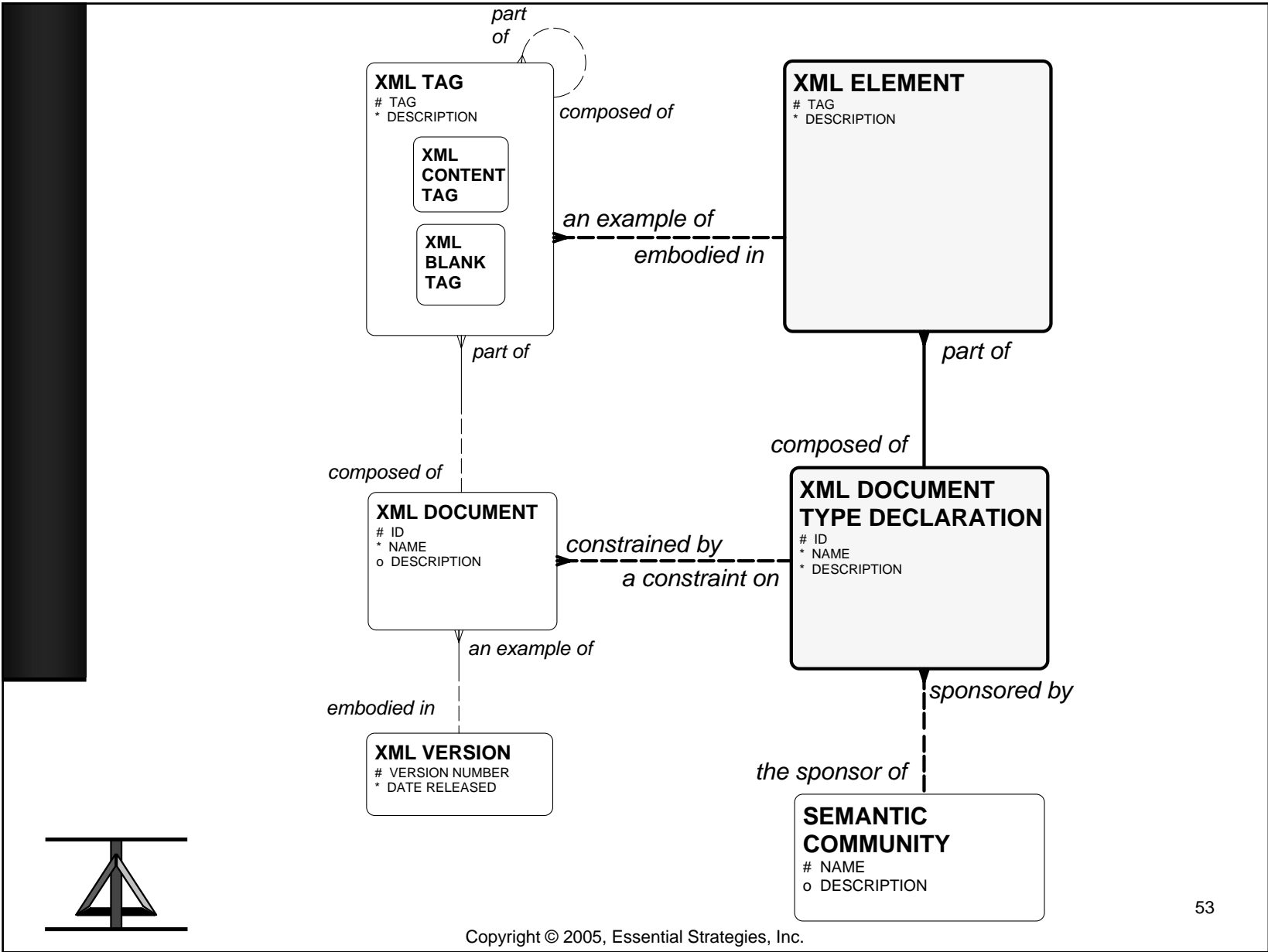


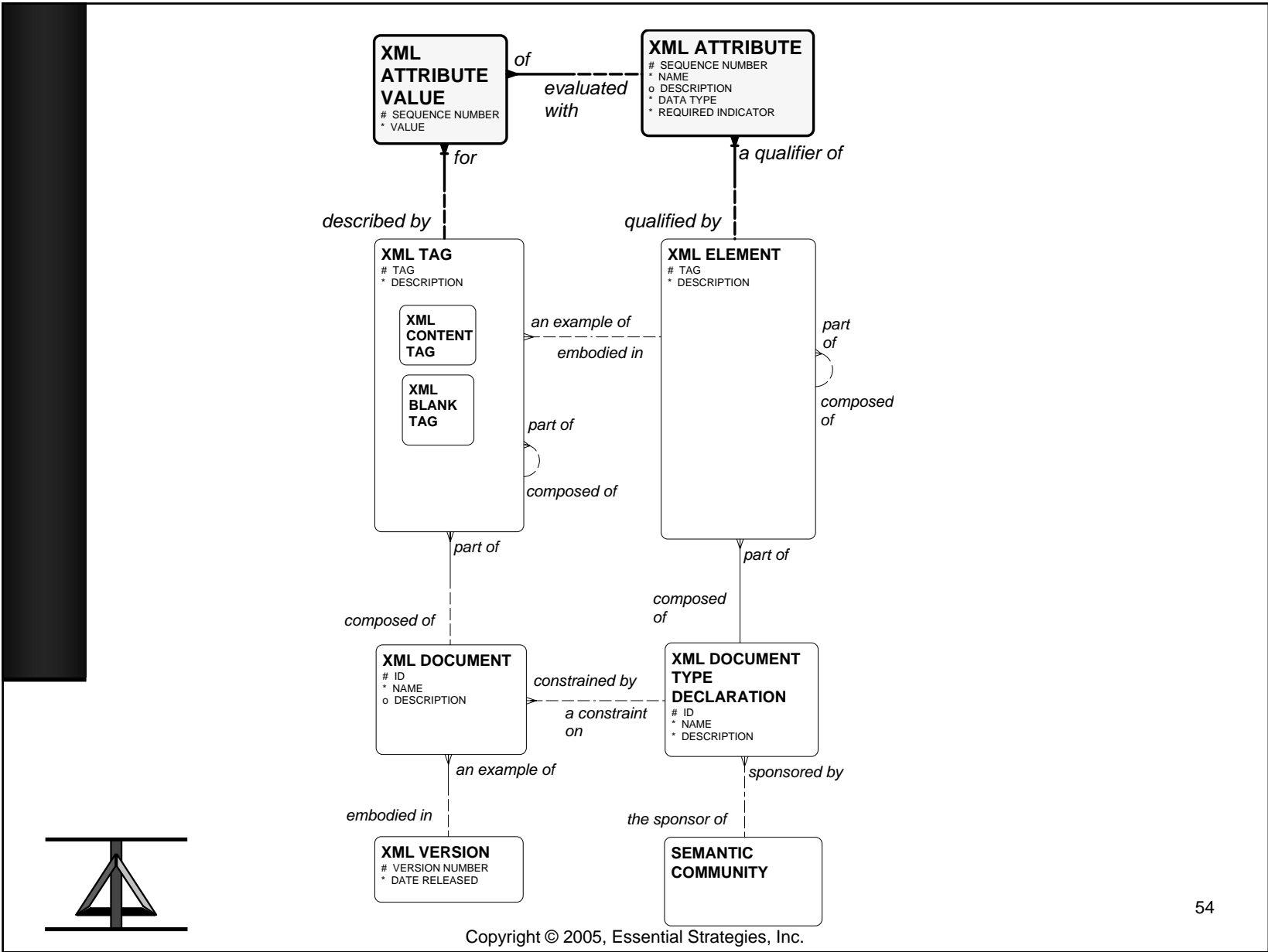
Sample XML . . .

```
<?XML version="1.0"?>
<!--      **** Basket ****      -->
<PRODUCT>
  <product_id>98756</product_id>
  <product_name>basket</product_name>
  <unit_of_measure>each</unit_of_measure>
  <specification>
    <variable>color</variable>
    <value>blue</value>
  </specification>
  <specification>
    <variable>size</variable>
    <value>large</value>
  </specification>
  <specification></specification>
  <specification/>
</PRODUCT>
```

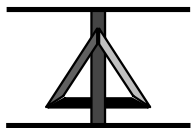


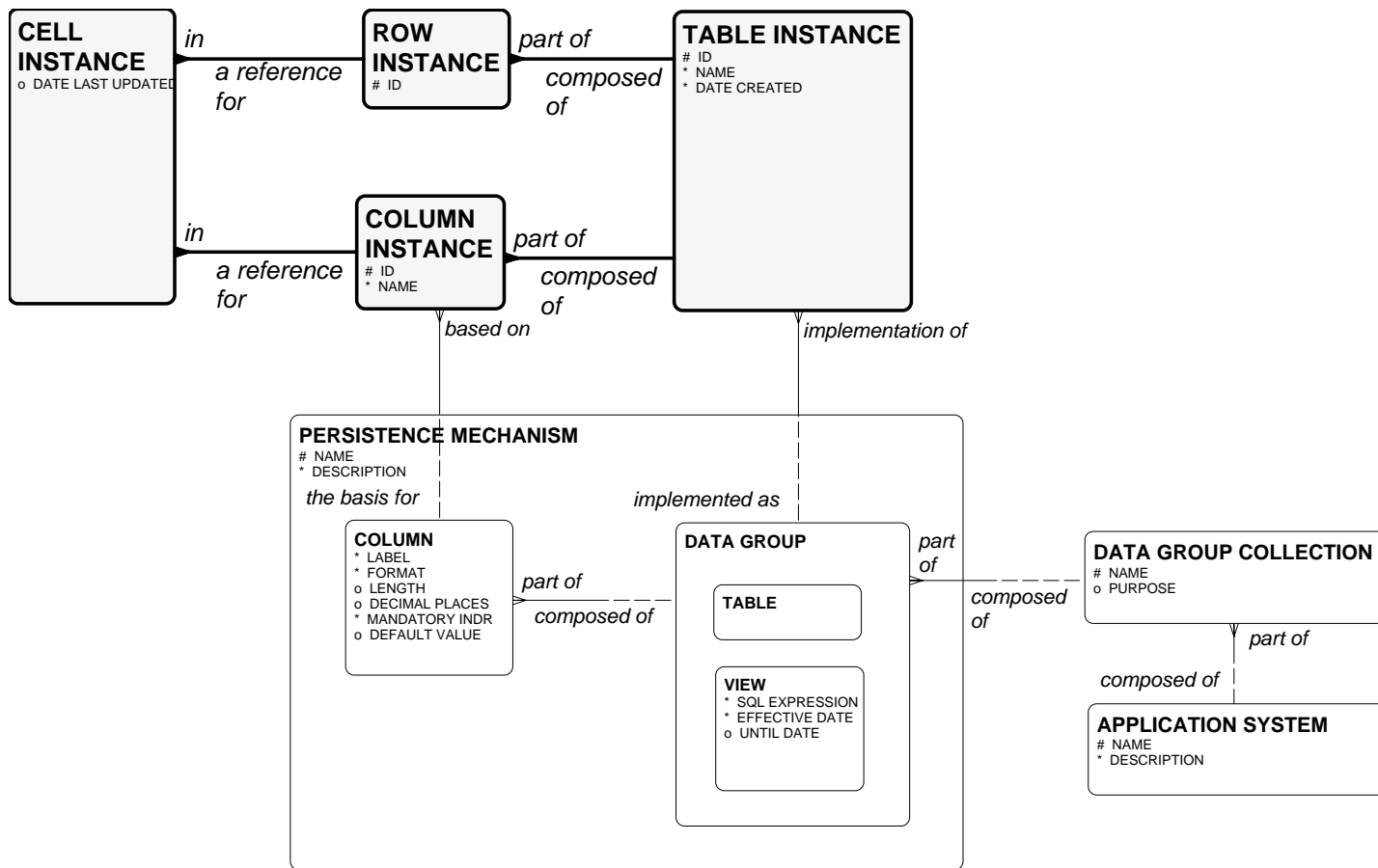


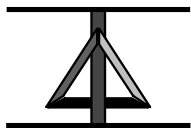
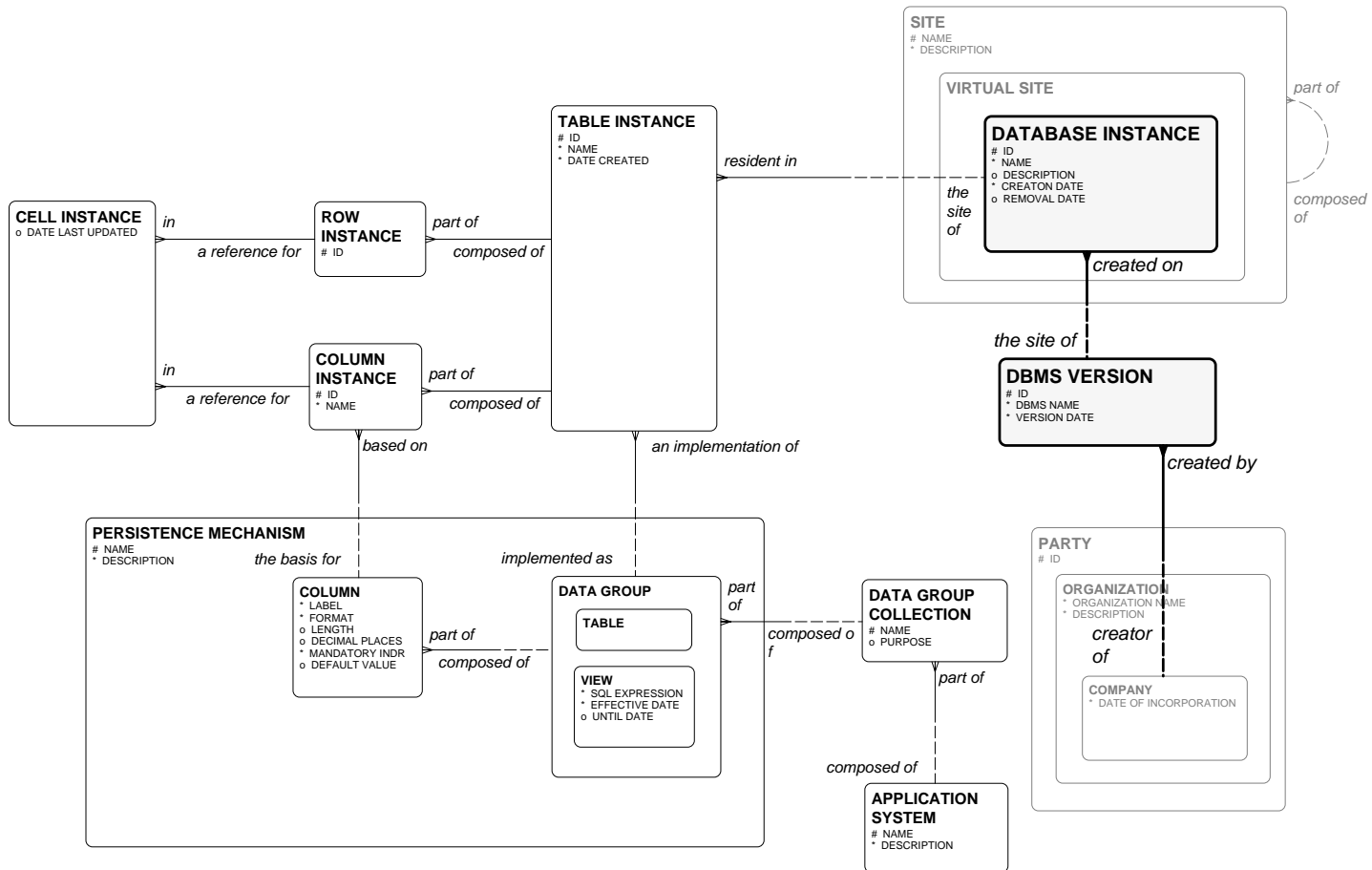




Row SIX:
The FUNCTIONING SYSTEM







... to be continued ...

