

A Model-Driven Architecture for Electronic Service Management Systems

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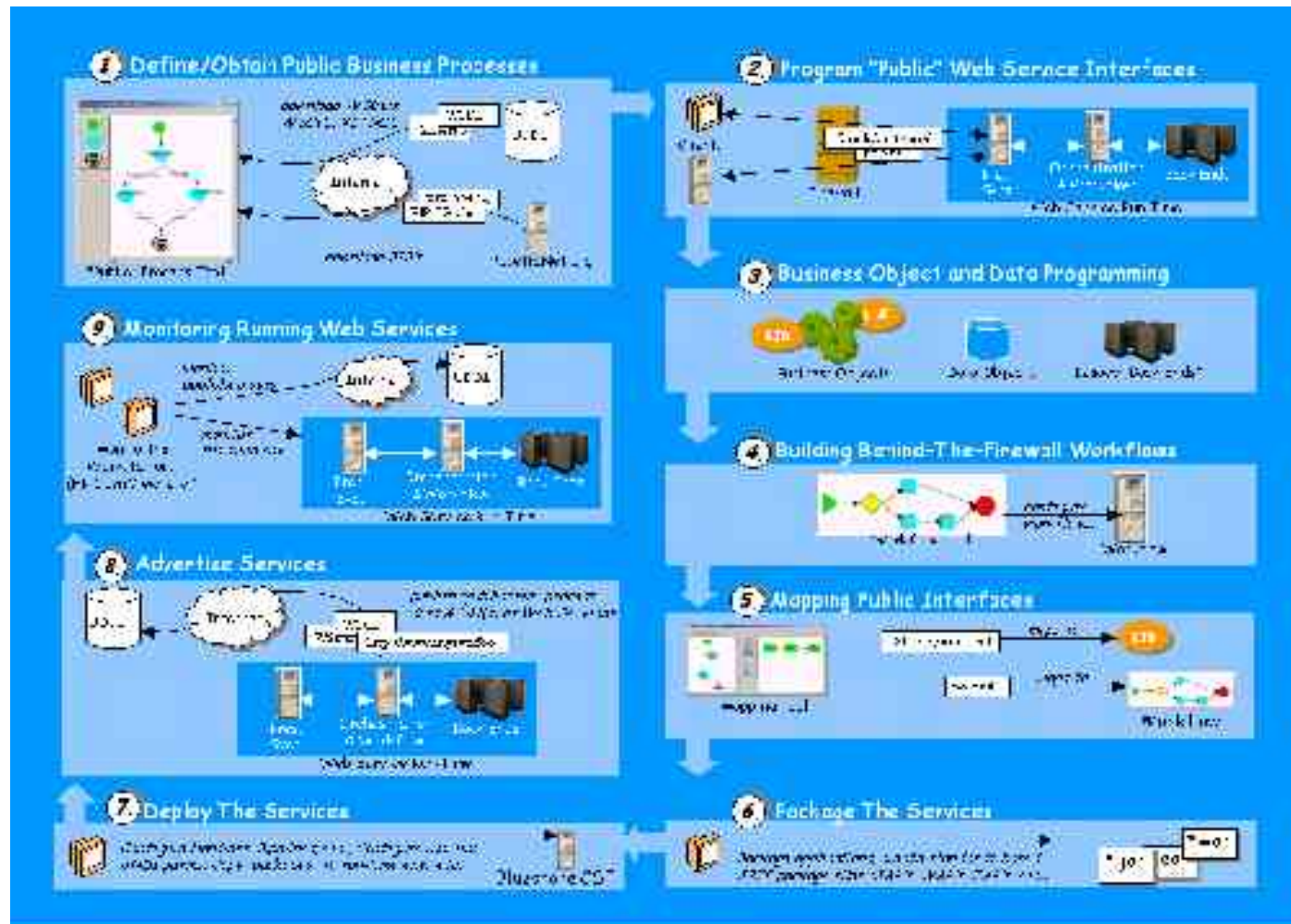




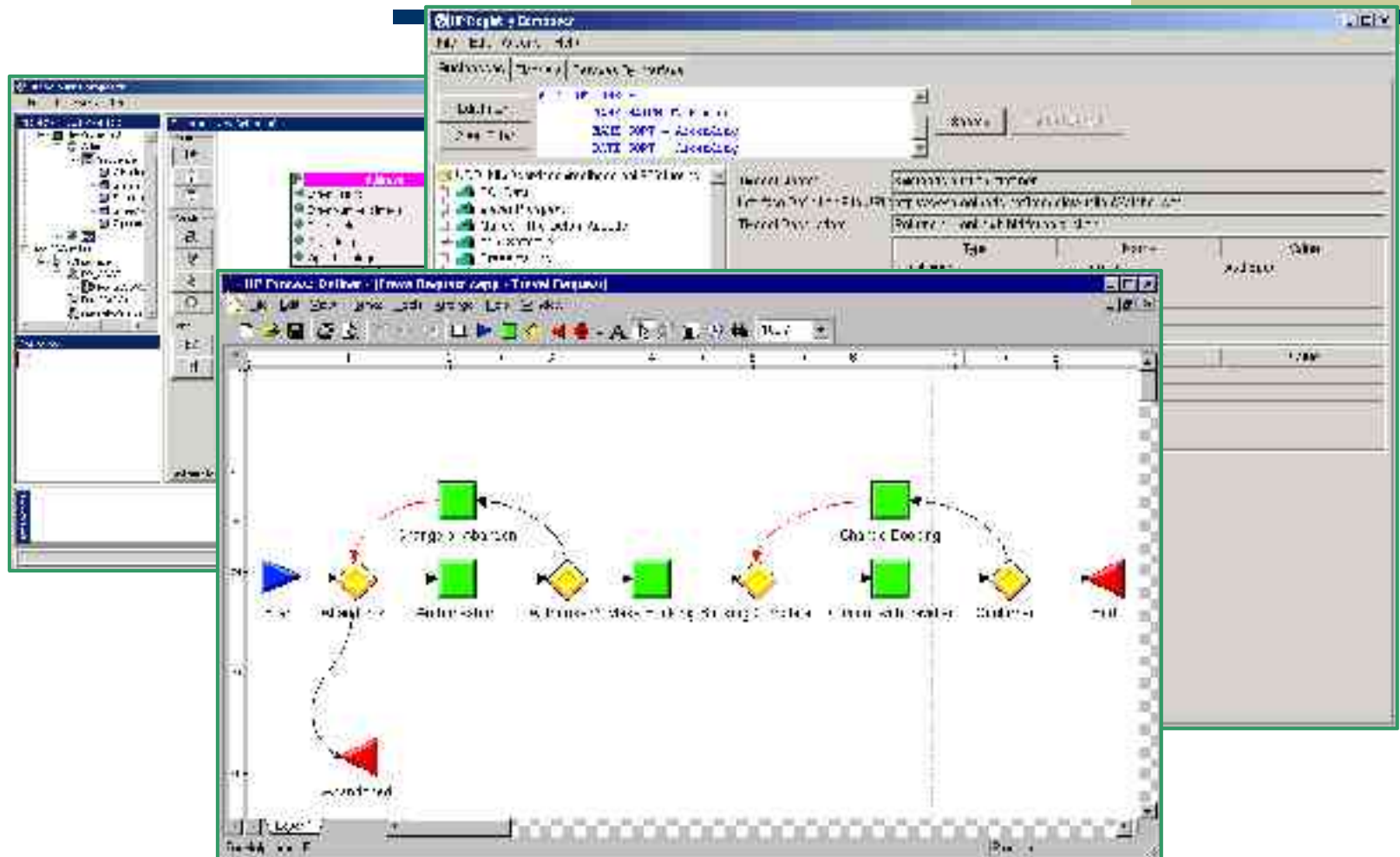
Content Outline

- ◆ **Lifecycle of Electronic Services**
- ◆ **Electronic Service Management Systems**
- ◆ **ESMS and Model-Driven Architecture**

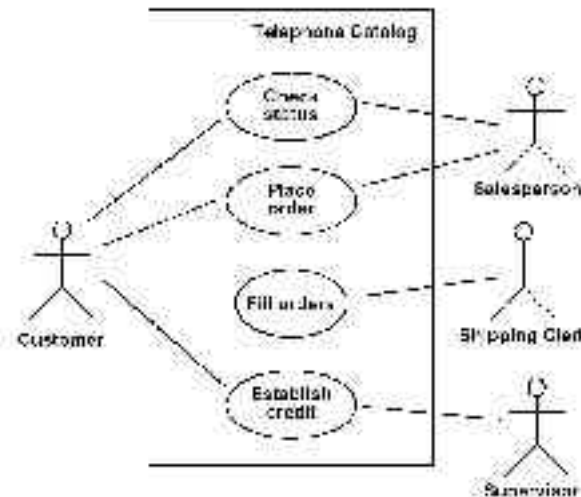
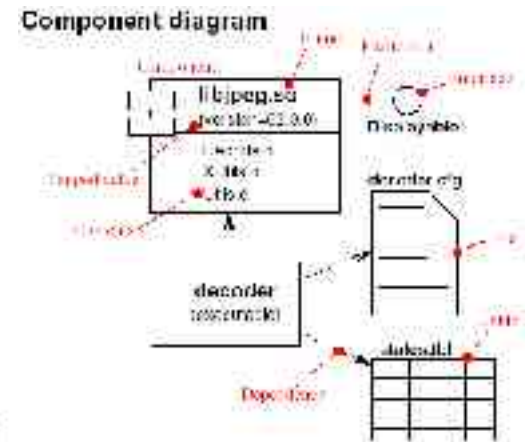
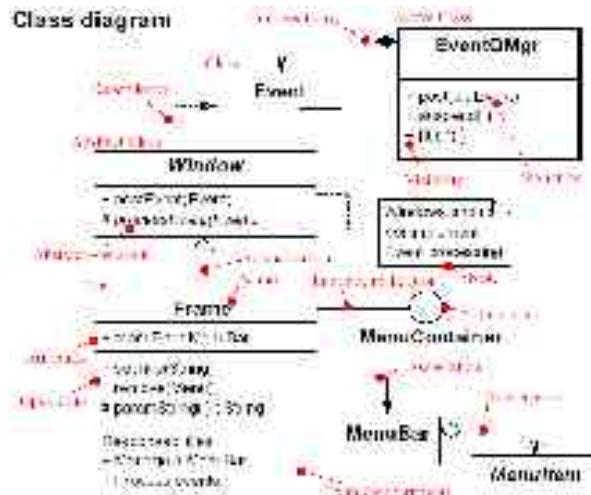
E-Service Lifecycle



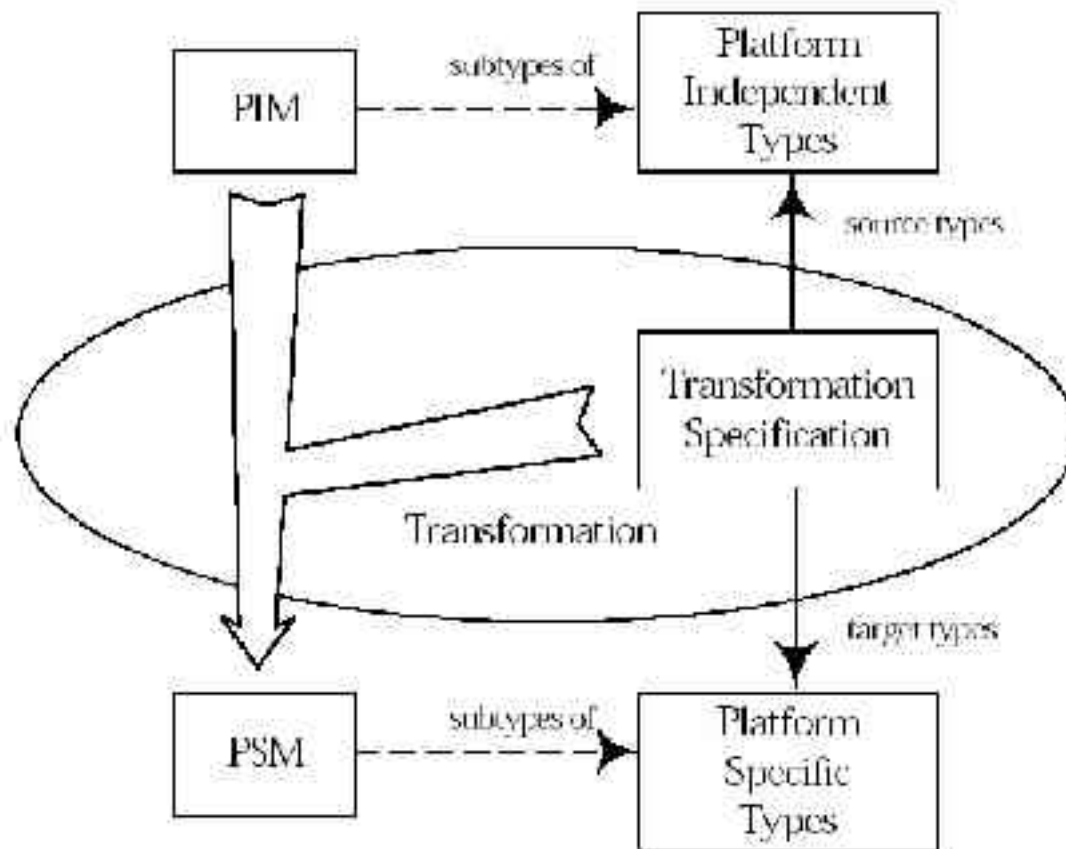
Development Tools



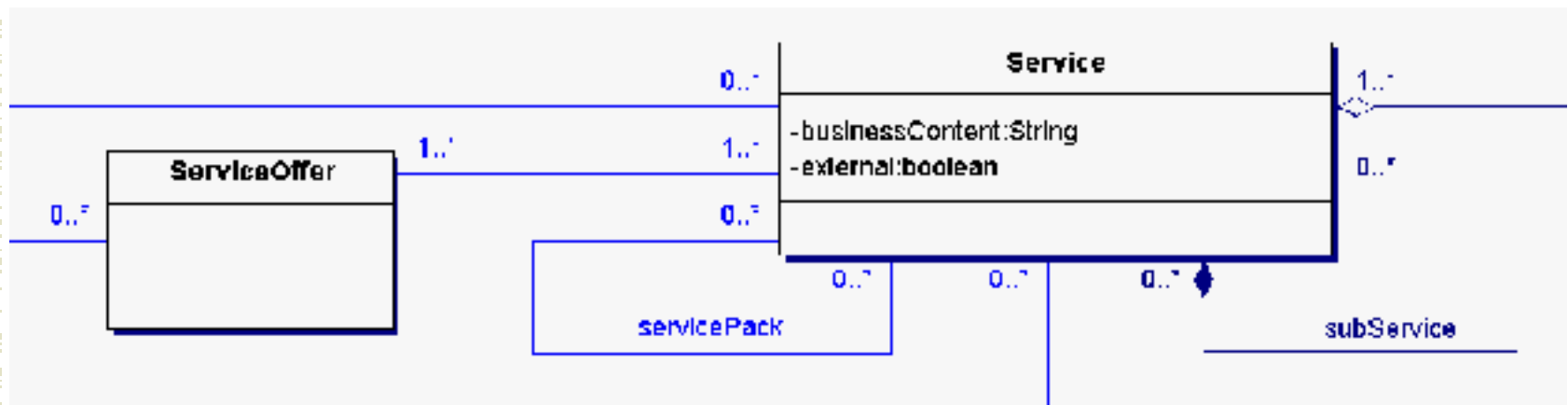
Unified Modelling Language



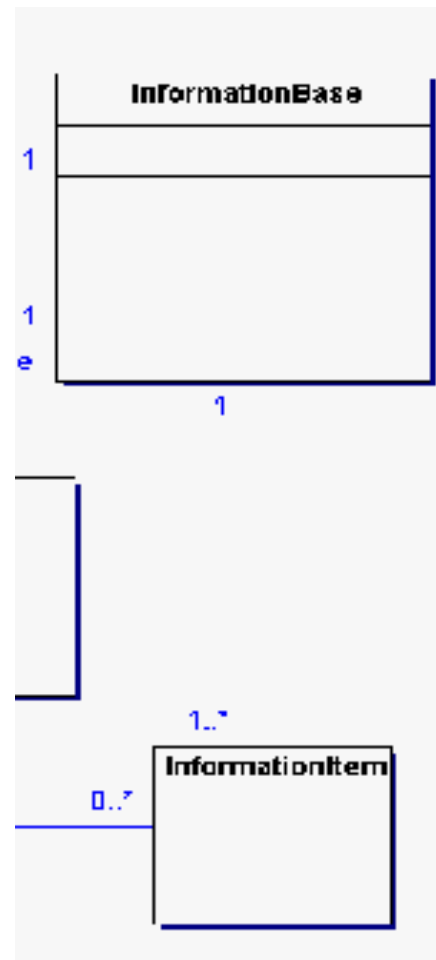
Model-Driven Architecture



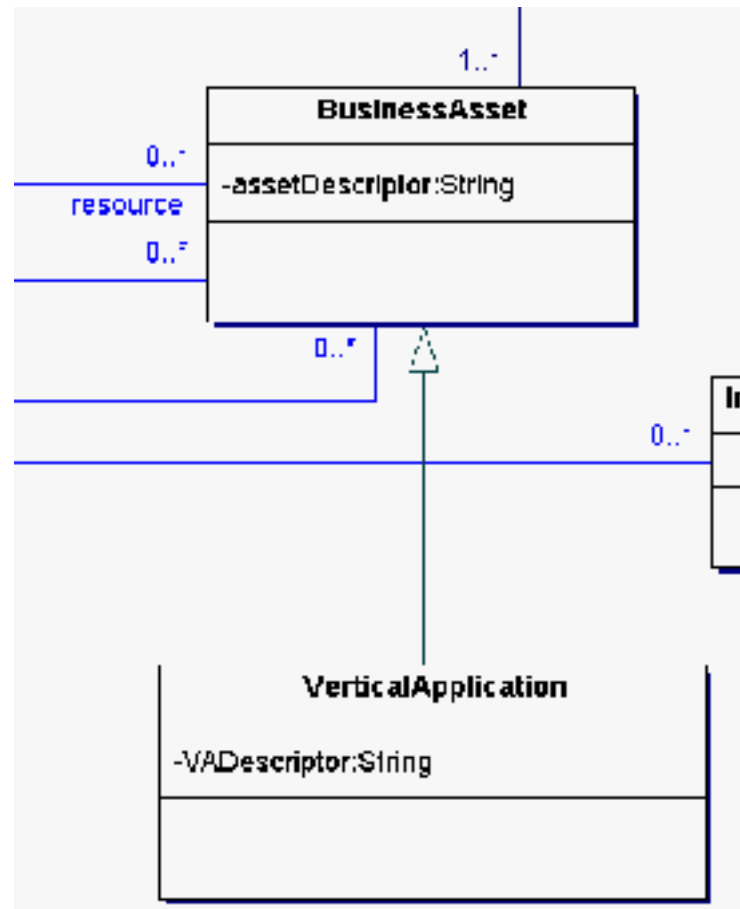
ESMS Model (detail)



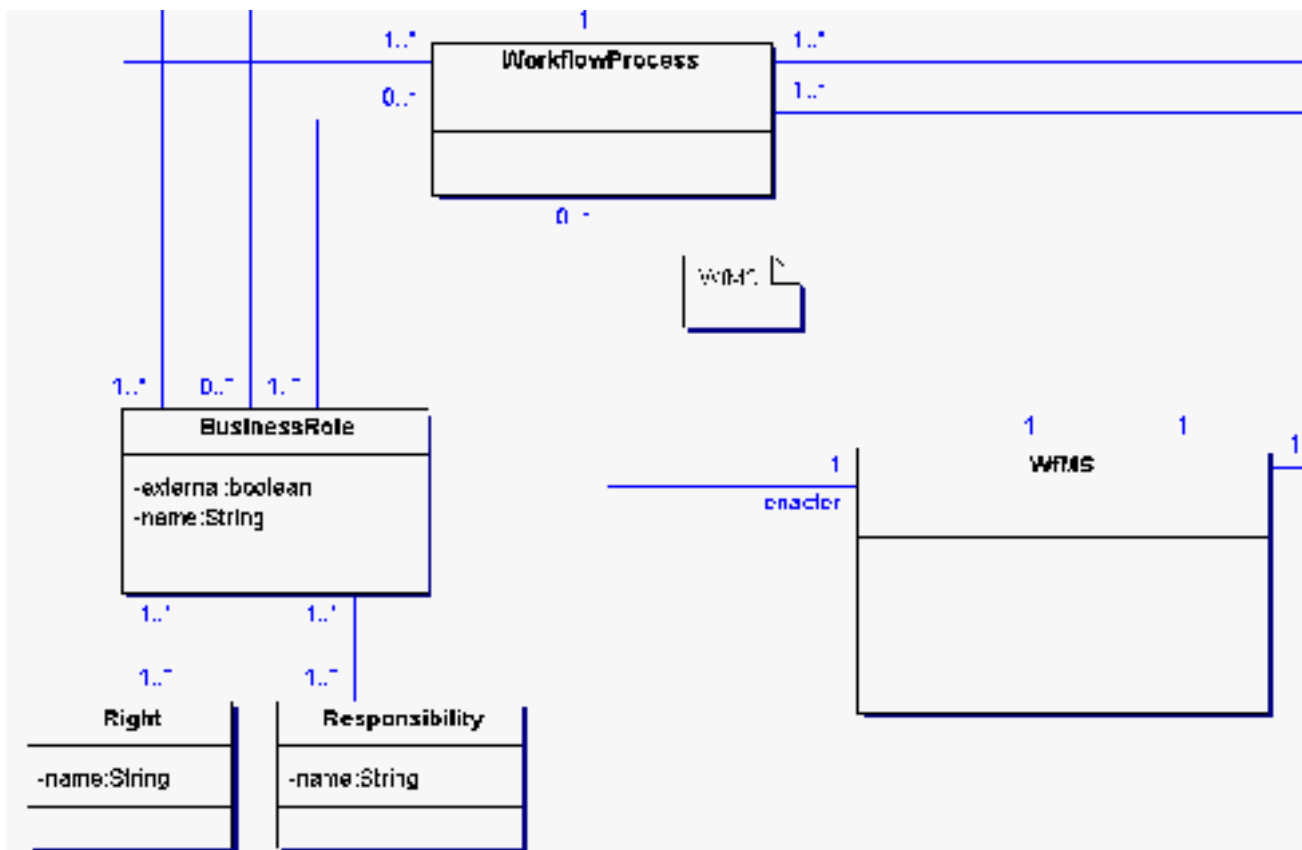
ESMS Model (detail)



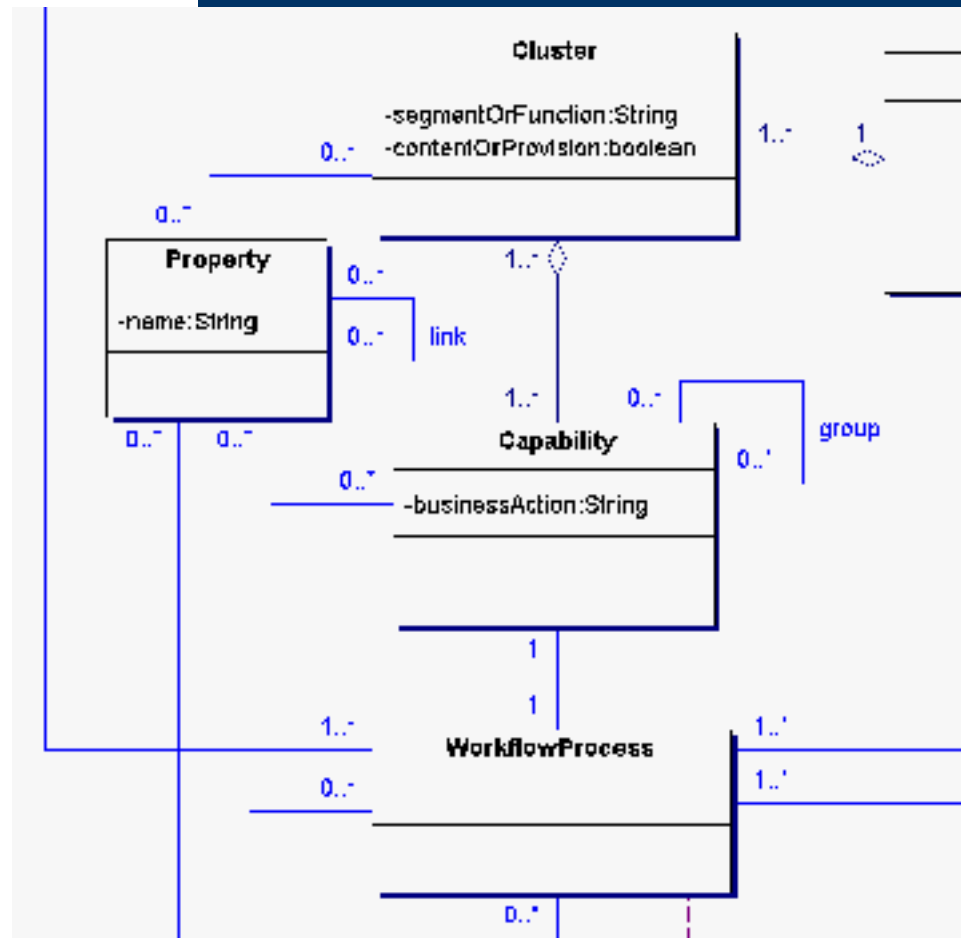
ESMS Model (detail)



ESMS Model (detail)



ESMS Model (detail)



UML Profile

Metamodel element name	Stereotype name	UML Base Class	Parent	Tags	Constraints
BusinessAsset	BusinessAsset	Class	N/A	assetDescriptor	
BusinessRole	BusinessRole	Class	N/A	name external	
Capability	Capability	Class	N/A	businessAction	
InformationBase	InformationBase	Class	N/A		
InformationItem	InformationItem	Class	N/A		
Property	Property	Class	N/A	name	
Right	Right	Class	N/A	name	
Responsibility	Responsibility	Class	N/A	name	
Service	Service	Class	N/A	external businessContent	
ServiceOffer	ServiceOffer	Class	N/A		
ESMS	ESMS	Class	N/A		
Cluster	Cluster	Class	N/A	businessFunction	
VerticalApplication	VerticalApplication	Class	BusinessAsset	VADescriptor	
WMS	WMS	Class	N/A		
WorkflowProcess	WorkflowProcess	Class	N/A		

UML Profile (cont.)

Metamodel attribute name	Tag	Stereotype	Type	Multiplicity	Description
assetDescriptor	assetDescriptor	Business:Asset	String	1	
businessAction	businessAction	Capability	String	1..*	
businessContent	businessContent	Service	String	1..*	
contentOrProvision	contentOrProvision	Cluster	Boolean	1	
external	external	BusinessRole	Boolean	1	default = false
external	external	Service	Boolean	1	default = true
name	name	BusinessRole	String	1	
name	name	Property	String	1	
name	name	Right	String	1	
name	name	Responsibility	String	1	
segmentOrFunction	segmentOrFunction	Cluster	String	1	
VADescriptor	VADescriptor	VerticalApplication	String	1	

UML Profile (cont.)

context Property **inv:**

-- a Property must be related to at least one
Stripe or Capability

```
self.stripe->notEmpty() or self.capability-  
>notEmpty()
```

```
self.association.association.connection.particip  
ant
```

```
->excluding(self).stereotype
```

```
->exist(name = "stripe" or name="capability")
```

context Service **inv:**

-- a Service must be connected to the Shell



Summary

- ◆ **Electronic Services**
- ◆ **Model-Driven Architecture**
- ◆ **ESMS Model & UML Profile**