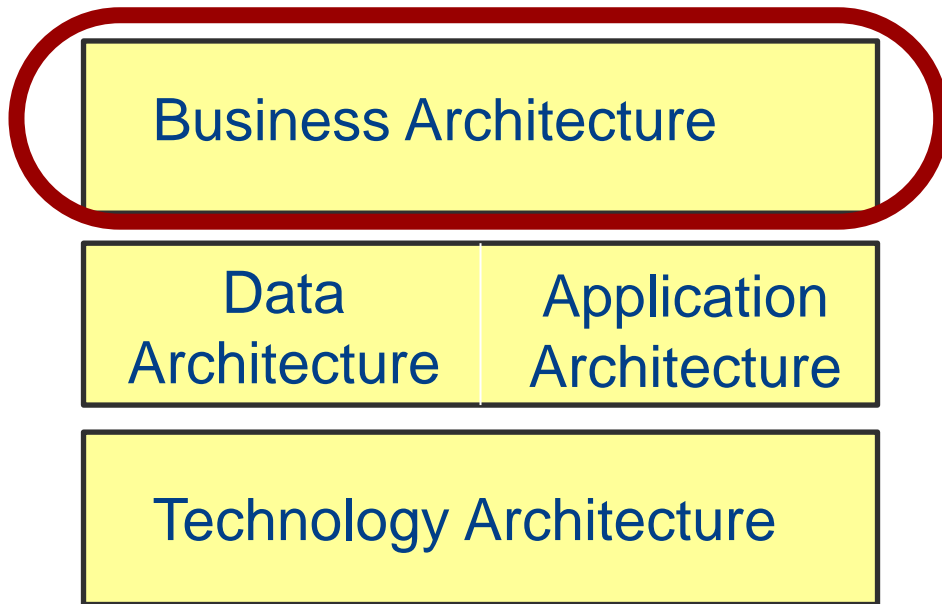


Modeling Business Architecture

Knut Hinkelmann



Business Architecture



Modeling Business Architecture

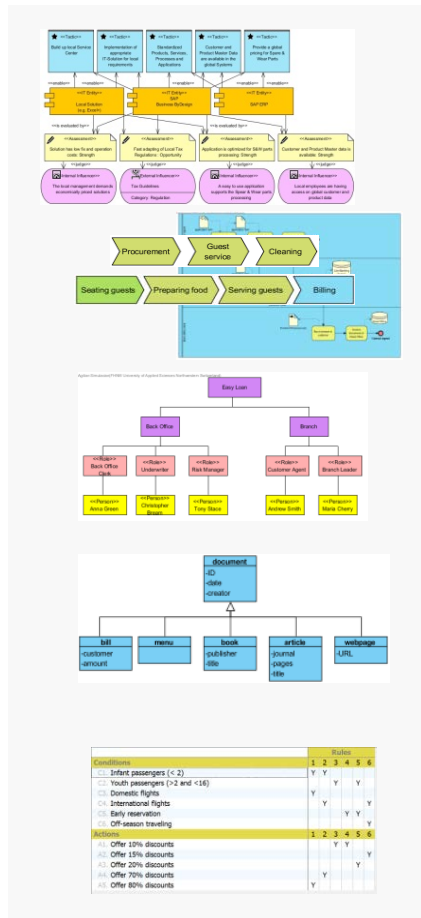
- The Business Architecture comprises all the structures and relationships which are essential for the business
- It should help answer questions like:
 - ◆ What are the *business goals*? How are they to be accomplished? (*Business Motivation*)
 - ◆ Which *business processes* or *products* are critical for the company or for a particular environment in which it operates?
 - ◆ Which *business process* is responsible for which *business objects*?
 - ◆ Which *organisational structures* are relevant for the business? Which *business processes* are assigned to which *business units*?
 - ◆ Which *business objects* are used in which manner (reading, creating, modifying) by which *business processes* or *business functions*?
 - ◆ How is the business changing in which business segment? Which *products, business processes or functionality* will be needed in future?

(Hanschke 2010, p. 70f)



Models of the Business Architecture

■ We will learn how to model



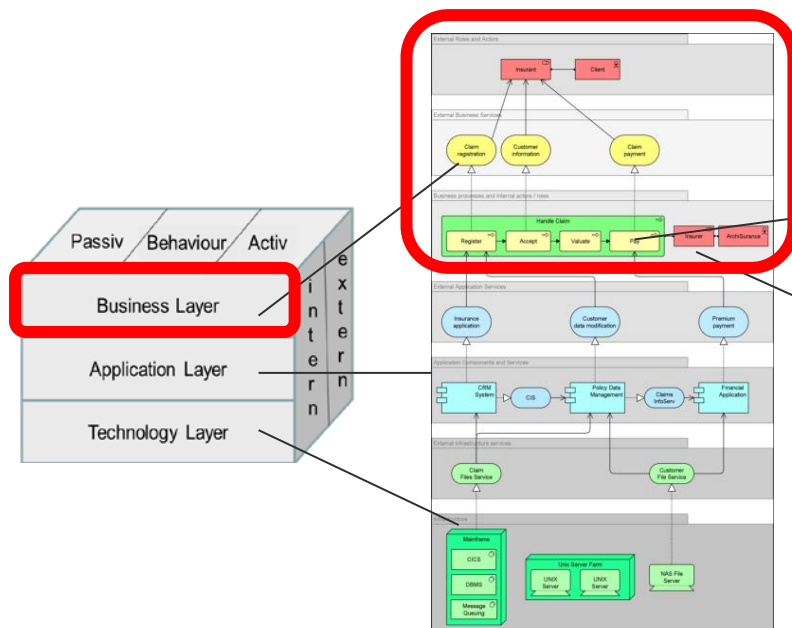
- ◆ Business Motivation (OMG Business Motivation Model)
- ◆ Business Processes (Process maps, BPMN)
- ◆ Organisation
- ◆ Data/Document (UML Class Diagrams)
- ◆ Products (UML Class Diagrams)
- ◆ Business Rules
- ◆ Applications

and the relations between them

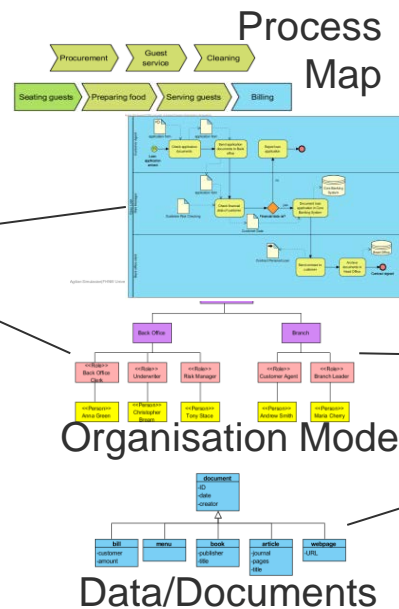
Modeling Business Architecture

- Model elements and models can
 - ◆ be related to the cells of the Zachman Framework
 - ◆ represent details of elements in an ArchiMate model

Overview: ArchiMate

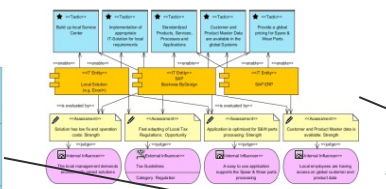


Detailed Models



Overview: Zachman

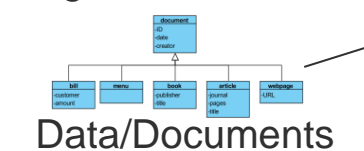
Business Motivation



BPMN



Organisation Model



Data/Documents



Business Rules

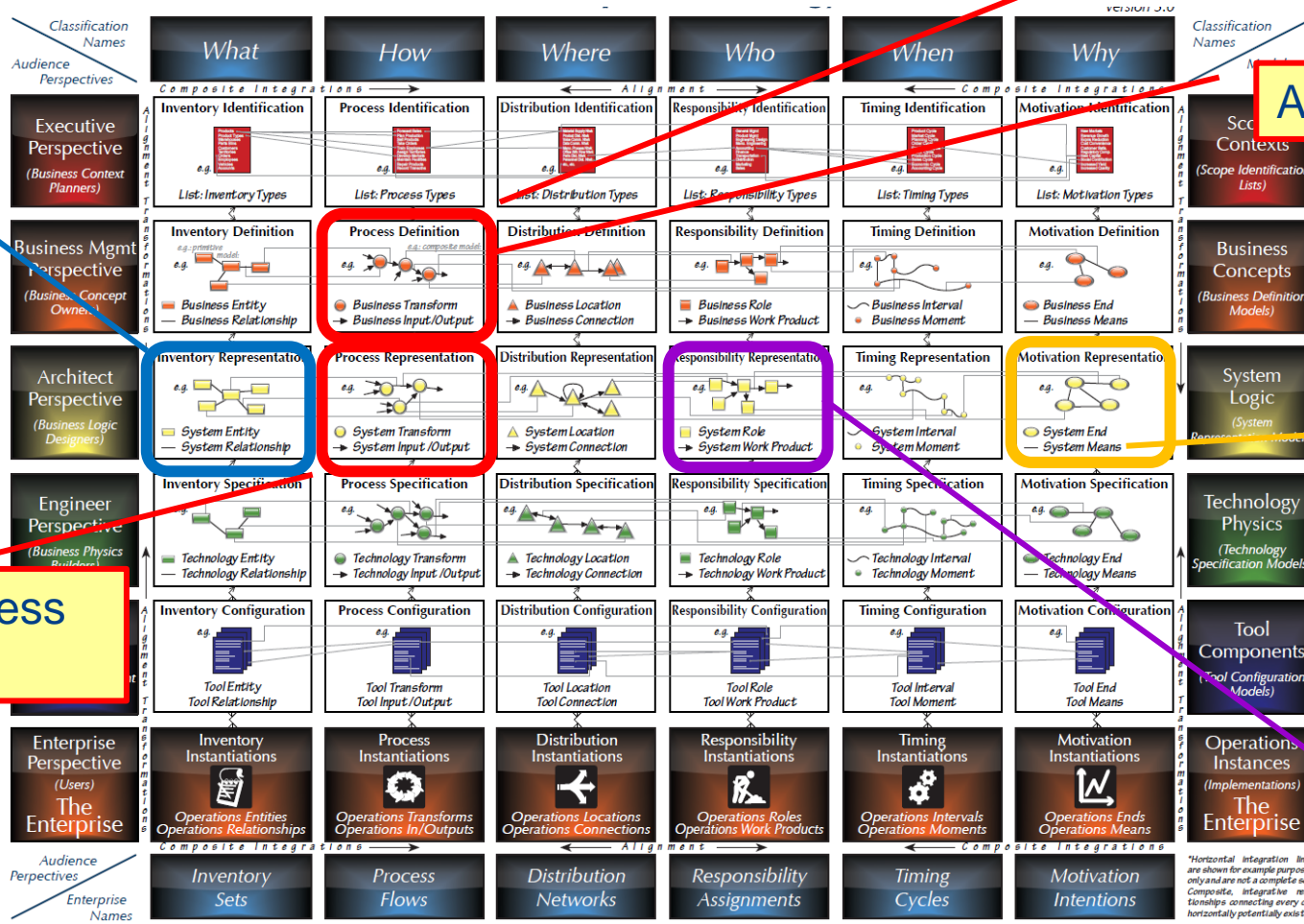
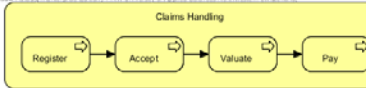


Referencing Detail Models from the Business Perspective of the Zachman Framework

process maps

data models

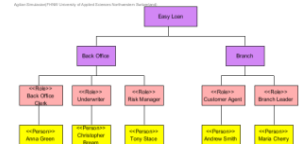
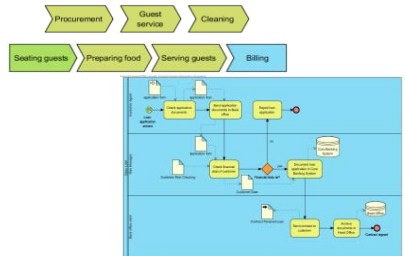
ArchiMate overview



business process models

business motivation models

organisation models

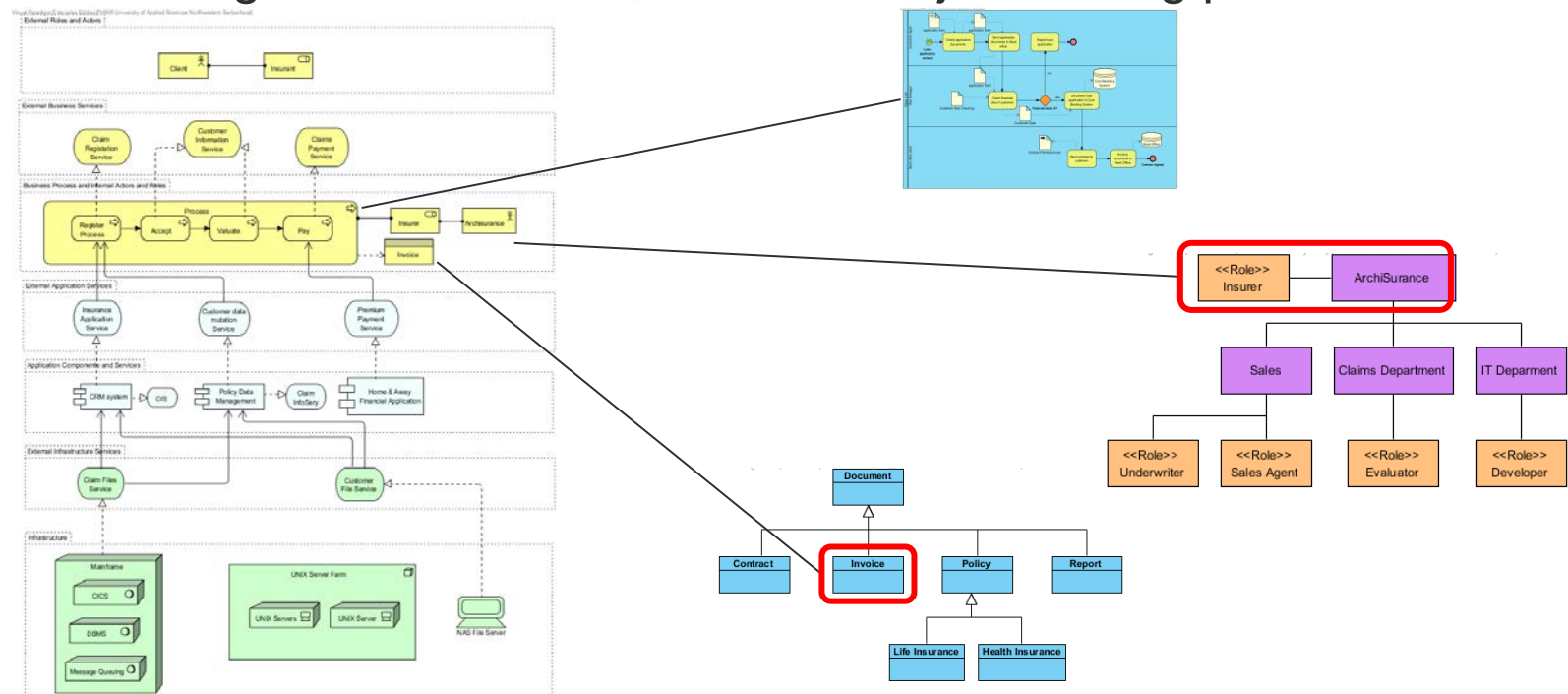


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Referencing Detail Models from ArchiMate

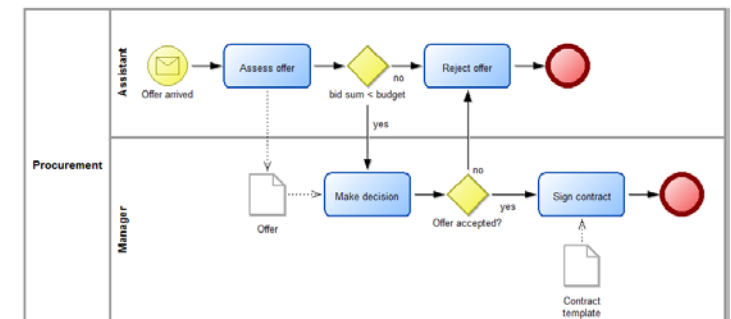
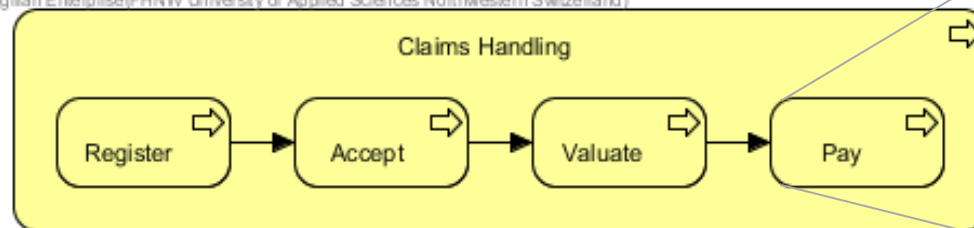
- ArchiMate represents an overall architecture
- Elements in an ArchiMate model can be
 - ◆ modeled more detailed in a separate model (e.g. modeling conditional flows and events of a business process in BPMN)
 - ◆ reference to elements in a model showing their context (e.g. actors and roles being part of an organisation model, business objects being part of a data model)



Business Process Models and ArchiMate

- An ArchiMate Model is an overall representation of an Enterprise Architecture
- To model details of elements (e.g. conditional flows and events of a process) one can use specific models
- Example: Modeling the flow of a process in BPMN

Agilian Enterprise (FHNW University of Applied Sciences Northwestern Switzerland)



Relationships

- Dependencies can exist between elements of the business architecture
 - ◆ Example: a business unit is responsible for the business object "customer" and maintain customer data in the business process "customer management"
- Each model should represent only one abstraction: → primitives
- Composites are represented by relationships between models/elements of different columns

(Hanschke 2010, p. 71f)



Representing Relationships

- Relationships can be represented in different ways and on different levels of granularity
 - ◆ **Business Conceptual Model:** References between models and model elements
 - ◆ **Mapping tables** present functional dependencies between two building blocks
 - ◆ **Landscape diagrams** representing dependencies between three building blocks

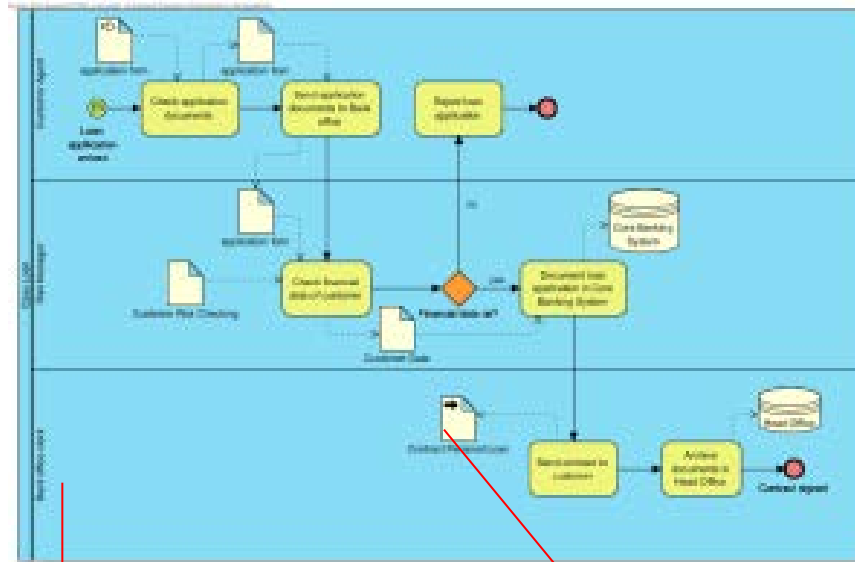
(Hanschke 2010, p. 71f)



Horizontal Relations between Processes and other Aspects on the Business Perspective

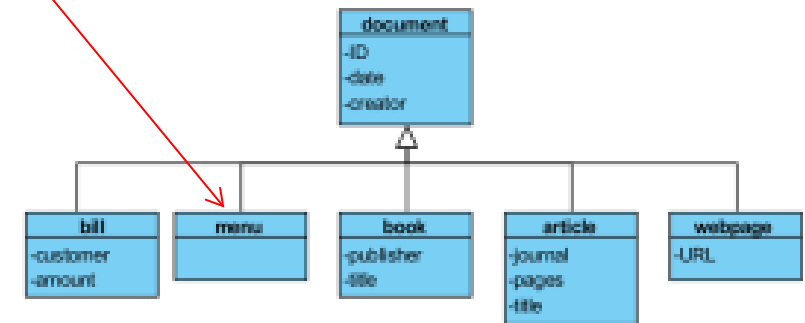
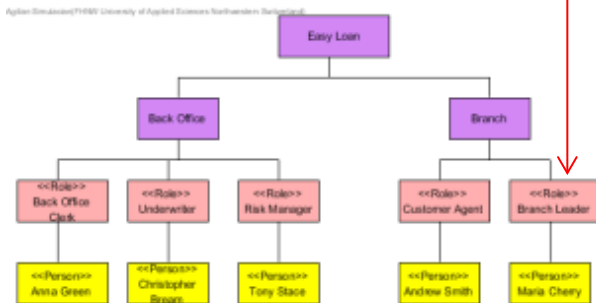


Relations between Models and Model Elements of different Abstractions



Lanes refer to elements in an organisational model

Data objects are linked to elements in da data model or document model



Representing Relationships with a Mapping Diagramm

This mapping table assigns business objects to business processes. The mnemonic “CRUD” summarises the ways in which business objects are used in business processes

		Business processes				
		Disposition	Production management	Factory planning	Resource planning	...
		BP1	BP2	BP3	BP4	...
Business objects						
Sales order	BO1	R				
Production order	BO2	CUD	CUD	R		
Factory order	BO3			CUD	R	
Stock location	BO4	R	R	R		
Goods receipt doc.	BO5			R		
Storekeeper	BO6				R	
...	...					

CUD Create, Update, Delete
R Read



Example: Representing Relationships with a Business Landscape Diagramm



In this business landscape diagramm

- business functions (cells of the matrix) are assigned to
- Business Processes (x-axis))
- Organisational Units (y-axis)