



**BiZZdesign**

# ArchiMate® 3.0

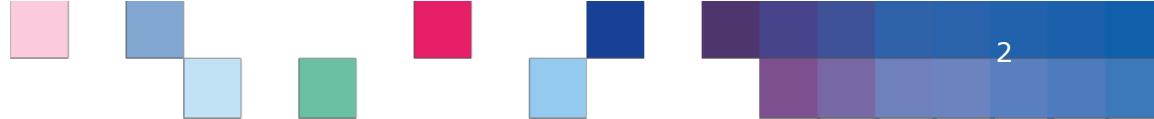
## Training course -

## Foundation

Implementation and migration  
elements

# Implementation and Migration elements

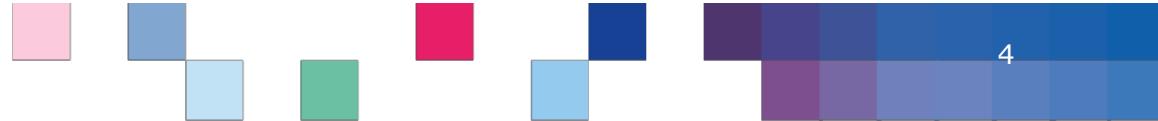
- The ArchiMate® Core describes the structure or the architectural building elements
- Realization and planning of the Core Architecture can be described using the Implementation and Migration elements



# Work Package

Work package

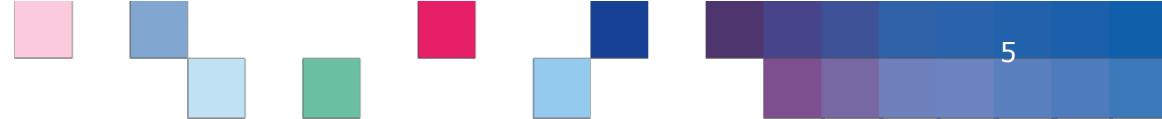
- A work package represents a series of actions identified and designed to achieve specific results within specified time and resource constraints
- Can be used to model sub-projects or tasks within a project, complete projects, programs, or project portfolios



# Deliverable

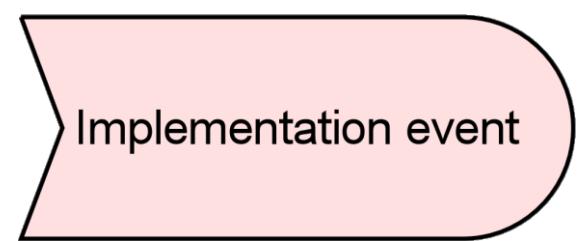
Deliverable

- A deliverable represents a precisely-defined outcome of a work package
- Work packages produce deliverables
- These may be results of any kind; e.g., reports, papers, services, software, physical products, etc., or intangible results such as organizational change

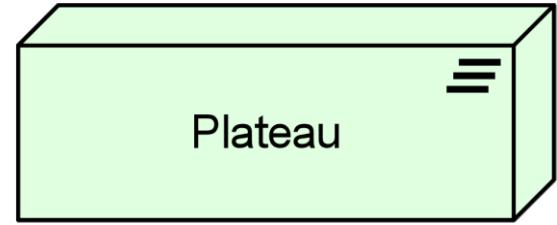


# Implementation Event

- An implementation event is a behavior element that denotes a state change related to implementation or migration
- Work packages may be triggered or interrupted by an implementation event
- Work packages may raise events that trigger other behavior

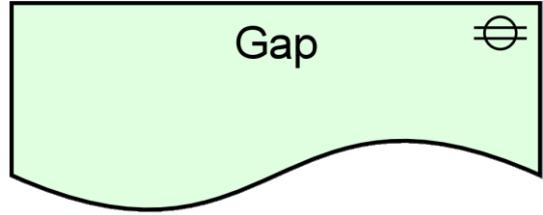


# Plateau

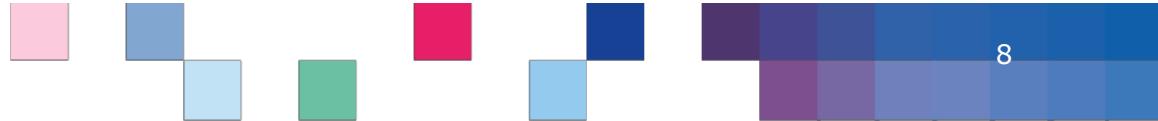


- A plateau represents a relatively stable state of the architecture that exists during a limited period of time, e.g. Baseline or Target Architecture
- Can also be used to define incremental states (transition architectures), reflecting periods of transition between the Baseline and Target Architectures

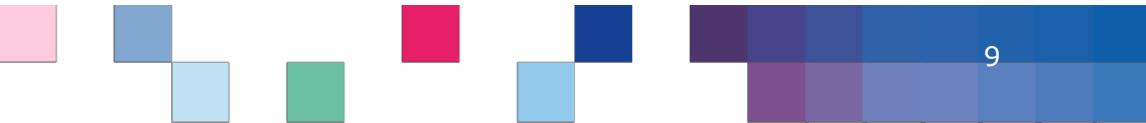
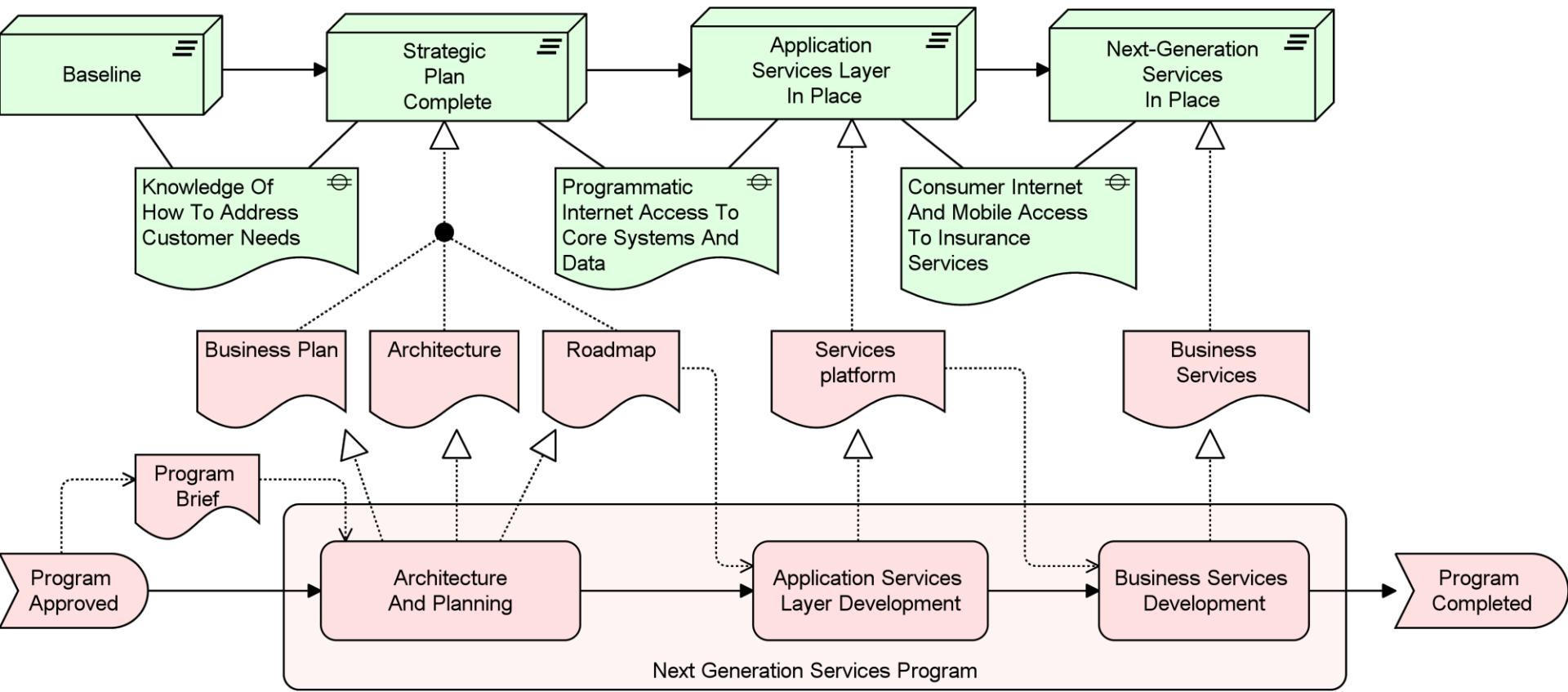
# Gap



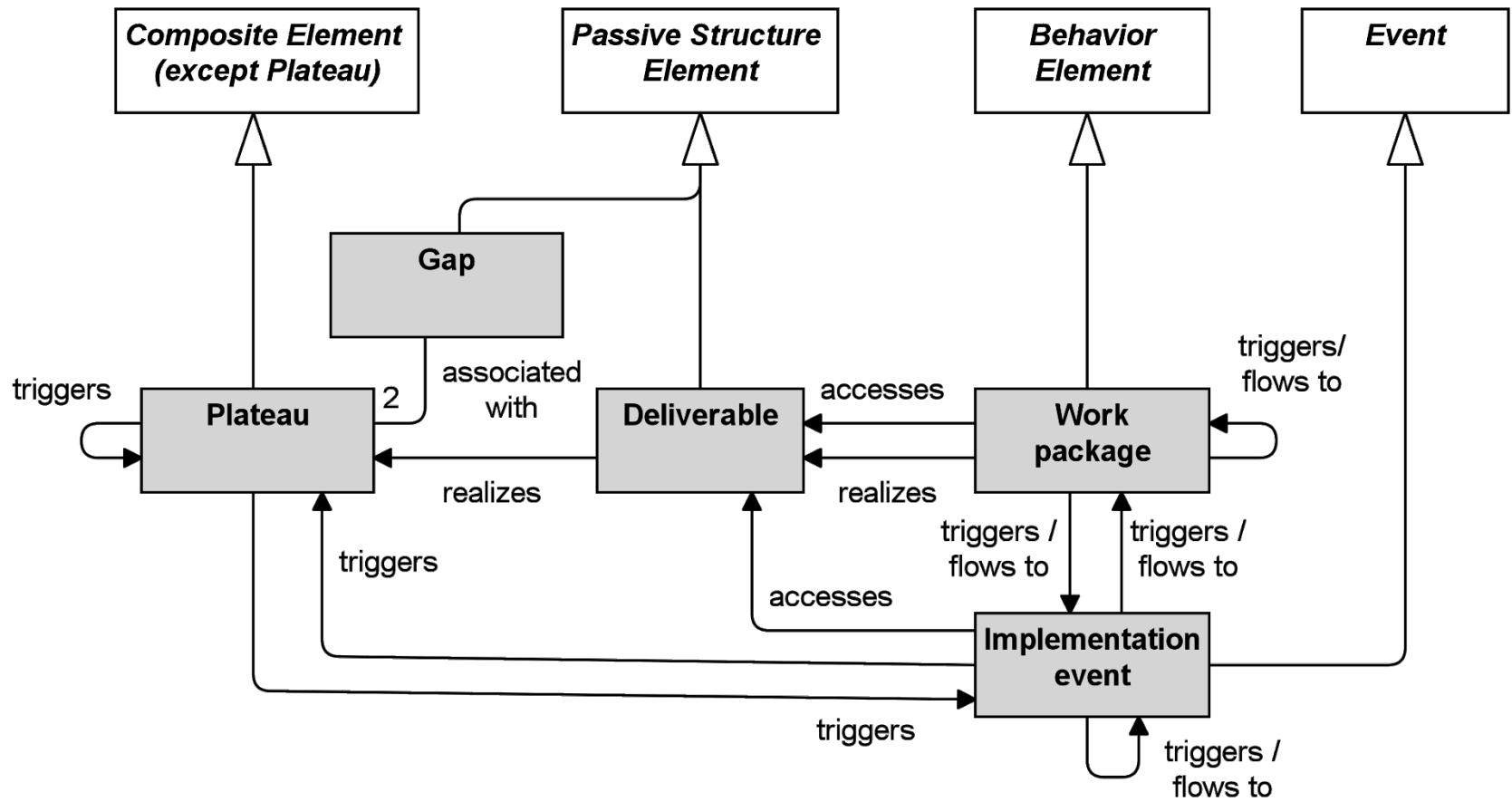
- A gap represents a statement of difference between two plateaus
- Is associated with two plateaus (e.g., Baseline and Target Architectures, or two subsequent Transition Architectures), and represents the differences between these plateaus



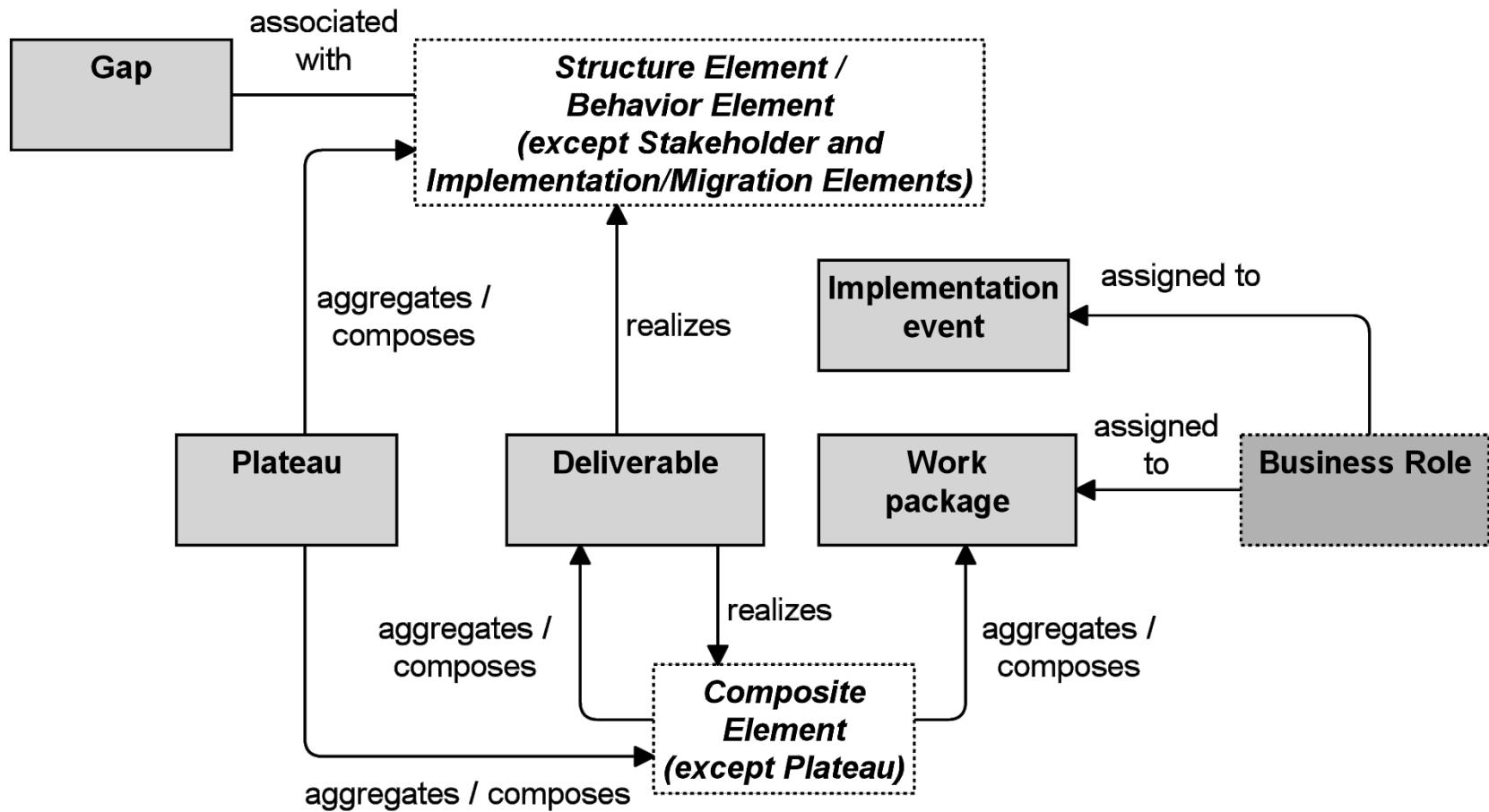
# Example Implementation and Migration elements



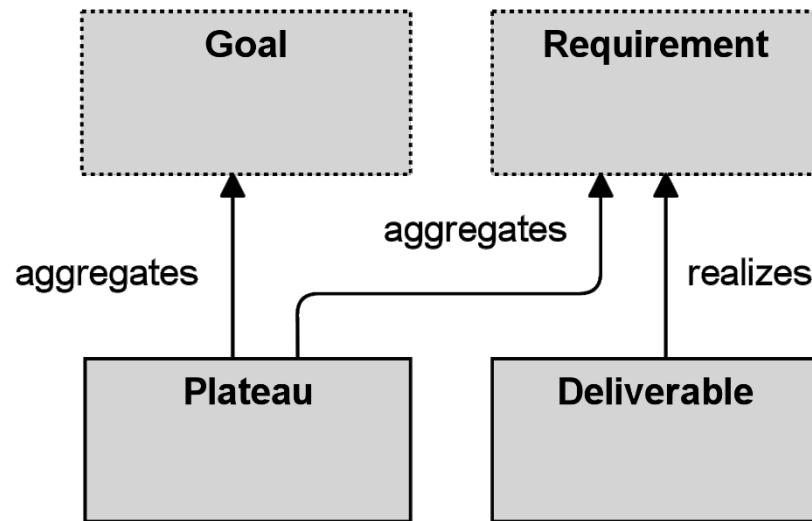
# Metamodel



# Relations with Core elements



# Relations with Motivation elements





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# ArchiMate® 3.0

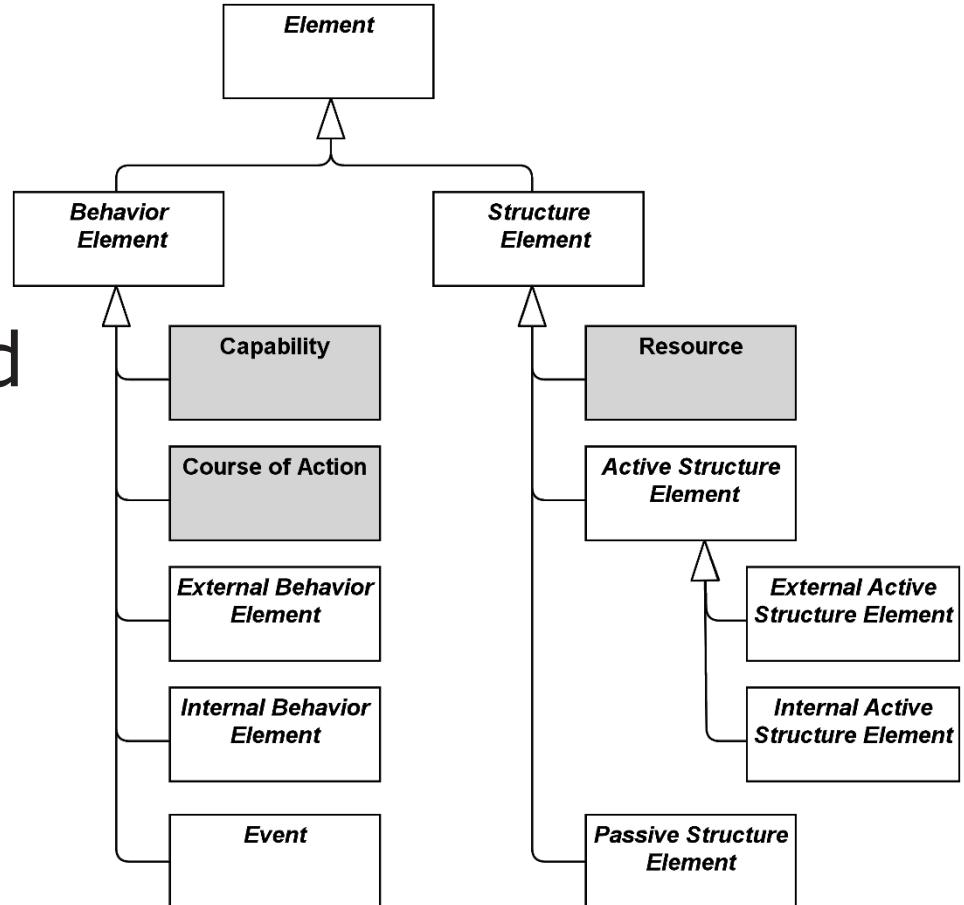
## Training course -

## Foundation

Generic metamodel

# Behavior and structure elements

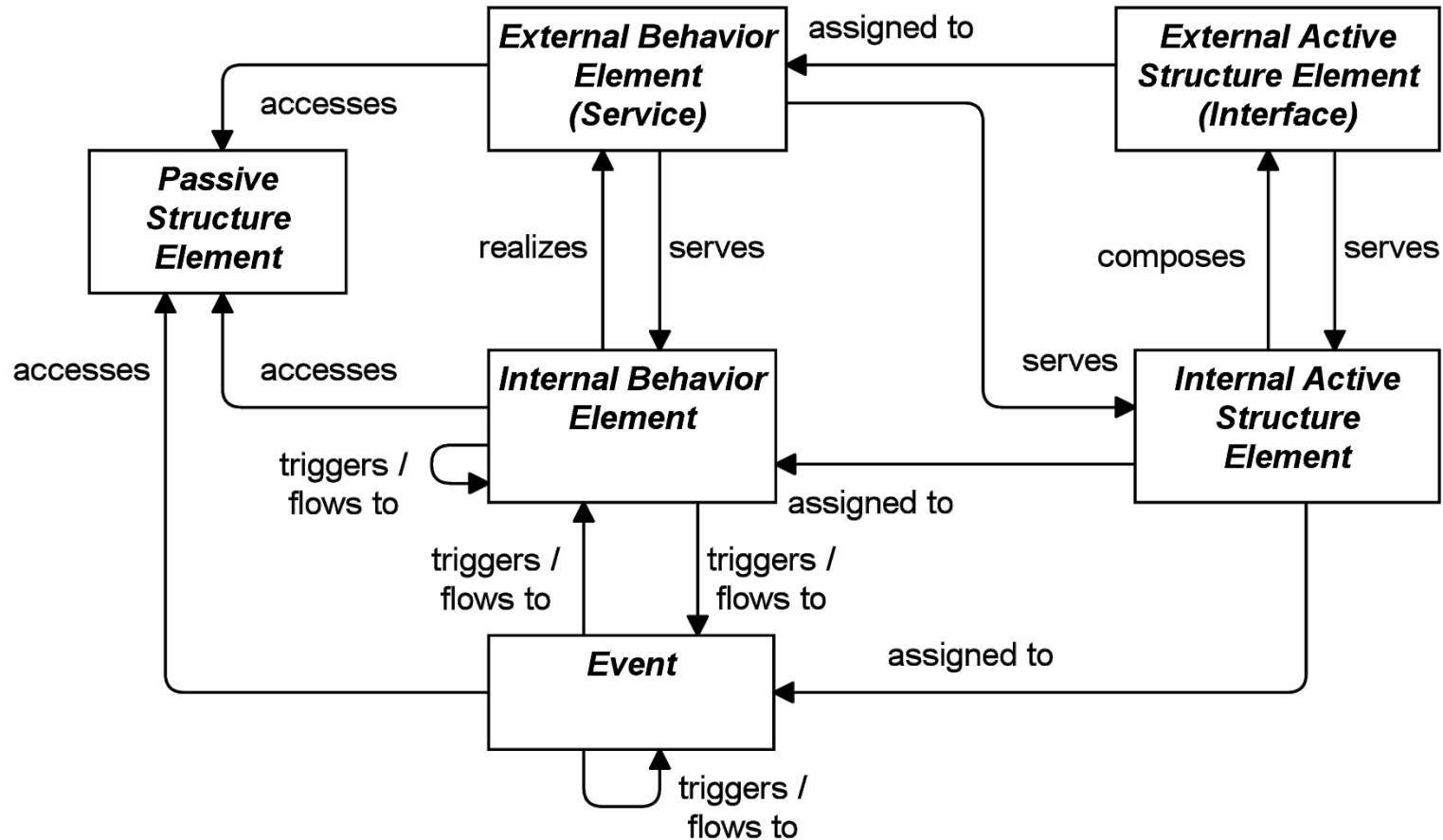
- White boxes are *abstract* metamodel elements (not used in actual models)
- Two main types: *structure* ('nouns') and *behavior* elements ('verbs')



# Behavior and structure elements

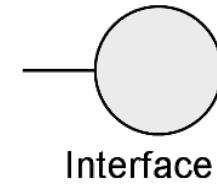
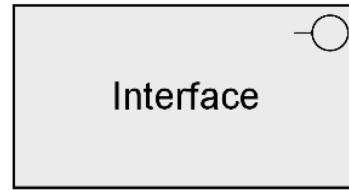
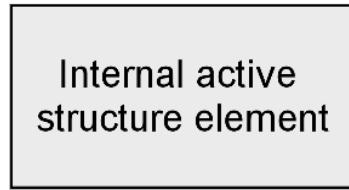
- The three aspects – active structure, behavior, and passive structure – have been inspired by natural language, where a sentence has a subject (active structure), a verb (behavior), and an object (passive structure)

# Relationships between behavior and structure



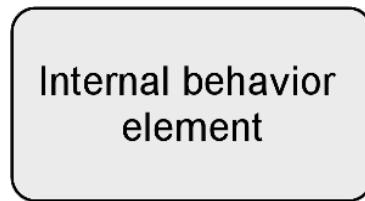
# Active structure elements

- An internal active structure element represents an entity that is capable of performing behavior
- An external active structure element, called an interface, represents a point of access where one or more services are provided to the environment



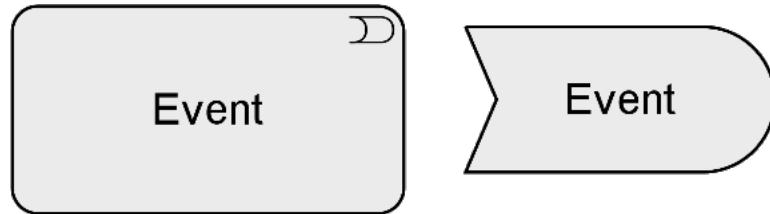
# Behavior elements

- An internal behavior element represents a unit of activity performed by one or more active structure elements
- An external behavior element, called a service, represents an explicitly defined exposed behavior



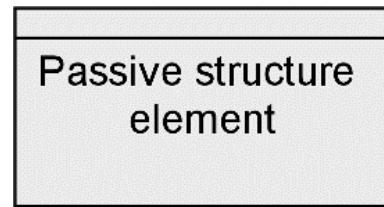
# Behavior elements

- An event is a behavior element that denotes a state change

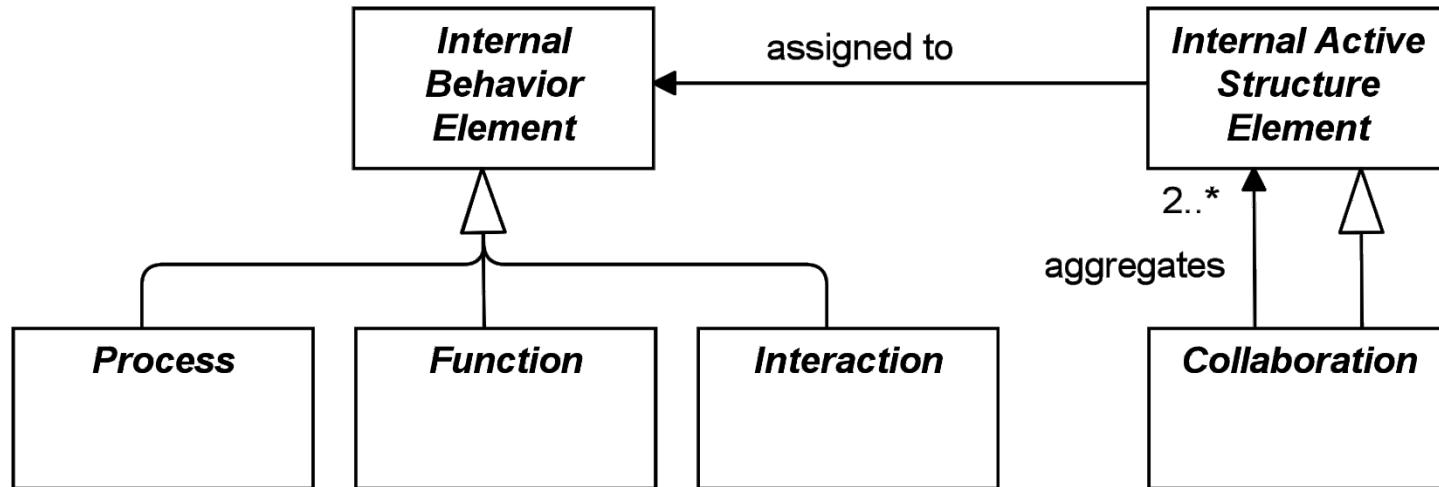


# Passive structure elements

- A passive structure element is a structural element that cannot perform behavior. Active structure elements can perform behavior on passive structure elements

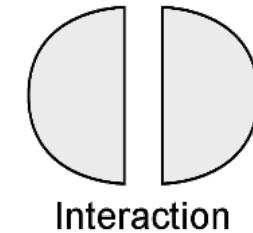
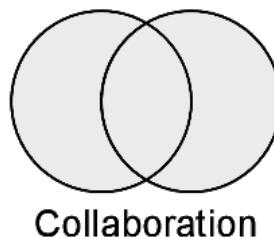
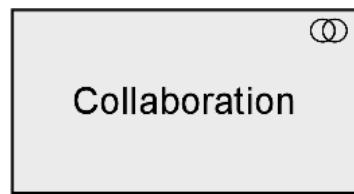


# Specializations of structure and behavior elements



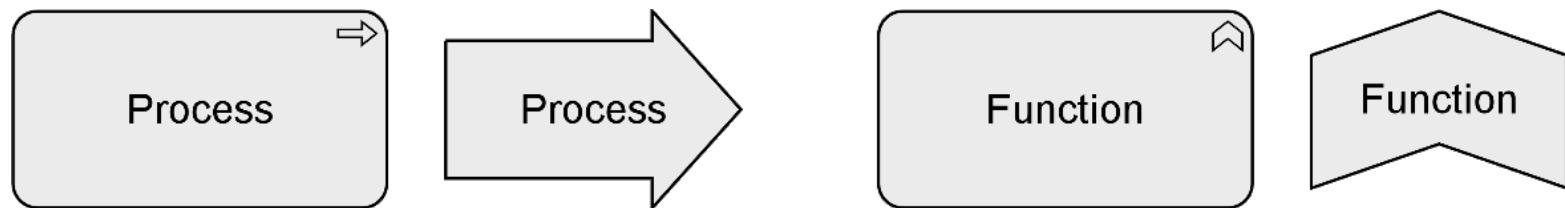
# Specializations of Structure and Behavior Elements

- A collaboration is an aggregate of two or more active structure elements, working together to perform some collective behavior
- An interaction is a unit of collective behavior performed by (a collaboration of) two or more active structure elements



# Specializations of Structure and Behavior Elements

- A process represents a sequence of behaviors that achieves a specific outcome
- A function represents a collection of behavior based on specific criteria, such as required resources, competences, or location

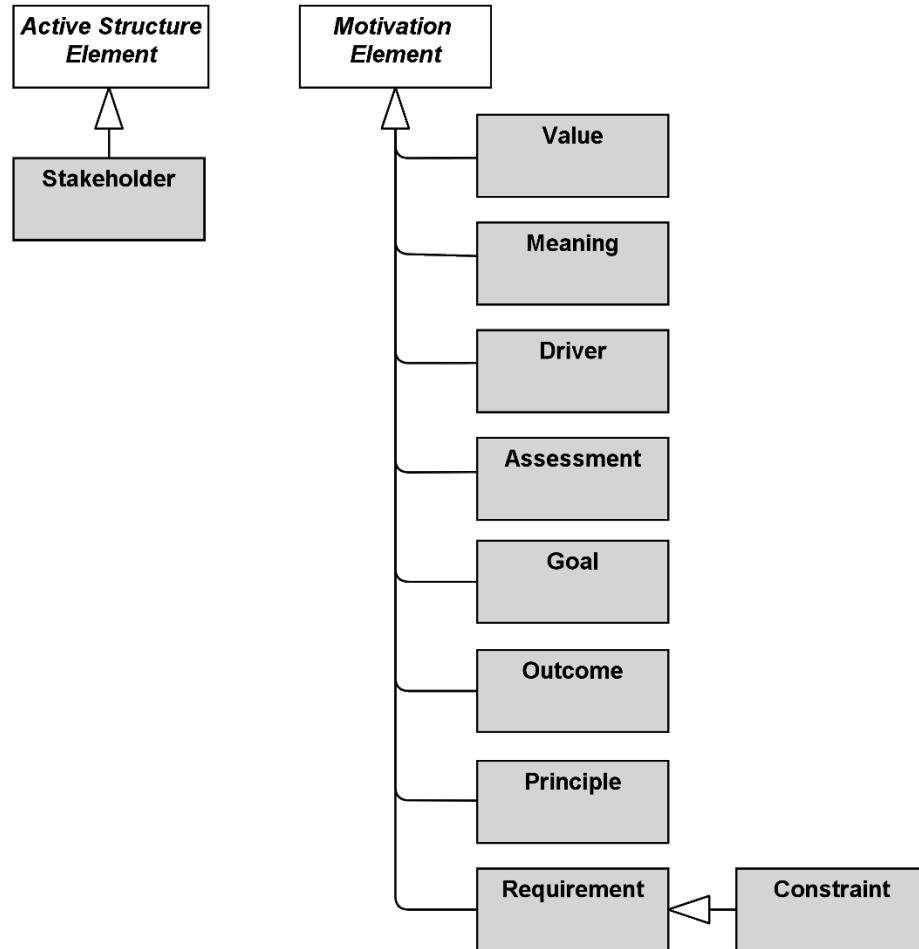
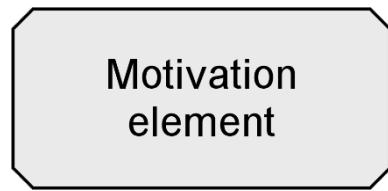


# Core, motivation, strategy and composite elements

- Generic core elements of the ArchiMate language focus on describing the architecture of systems that support the enterprise
- Motivation elements describes what *drives* the design and operation of the enterprise
- Strategy elements are specializations of the generic core behavior and structure elements
- Composite elements consist of other concepts, possibly from multiple aspects or layers of the language.

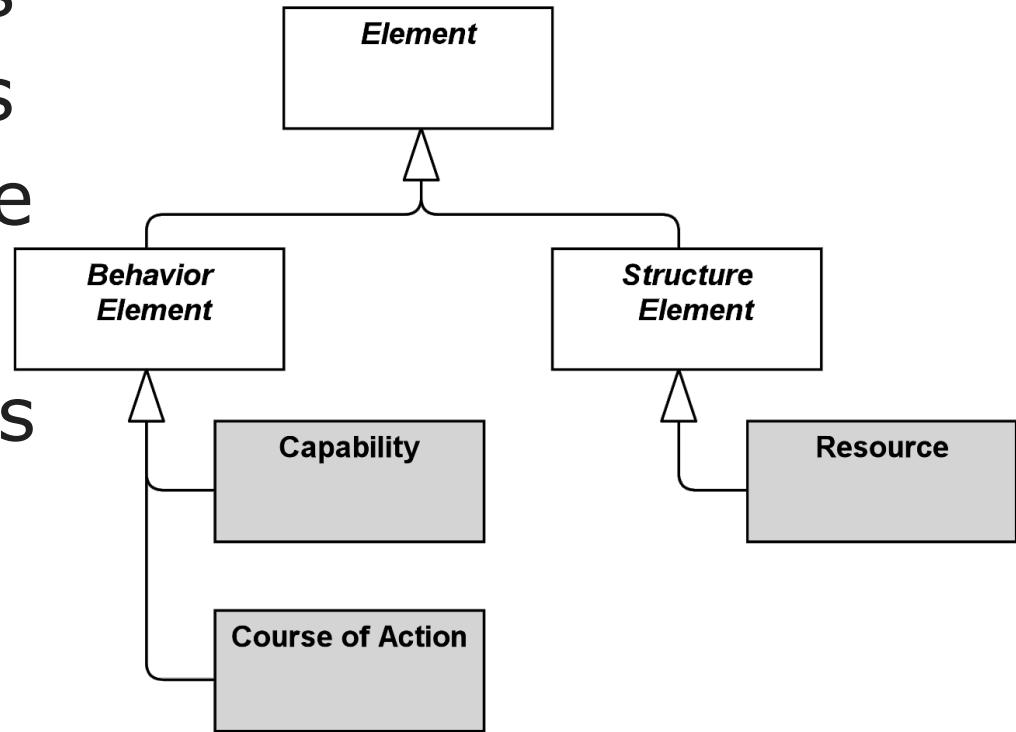
# Motivation elements

- A motivation element is an element that provides the context of or reason behind the architecture of an enterprise



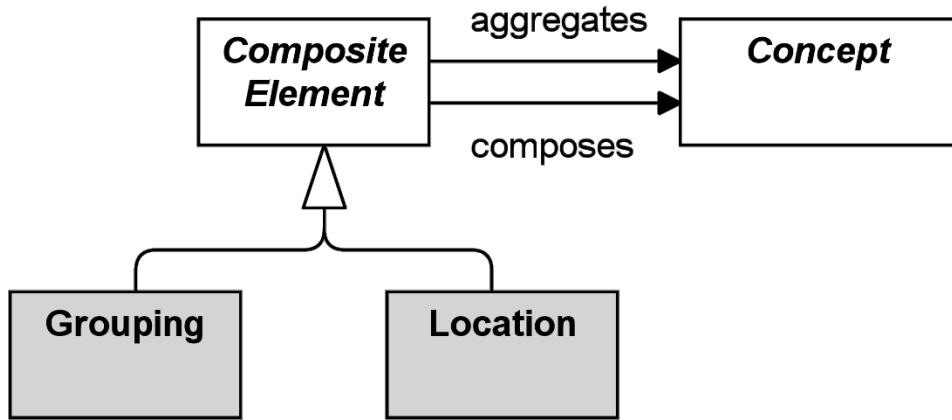
# Strategy elements

- Strategy elements are specializations of the generic core behavior and structure elements



# Composite elements

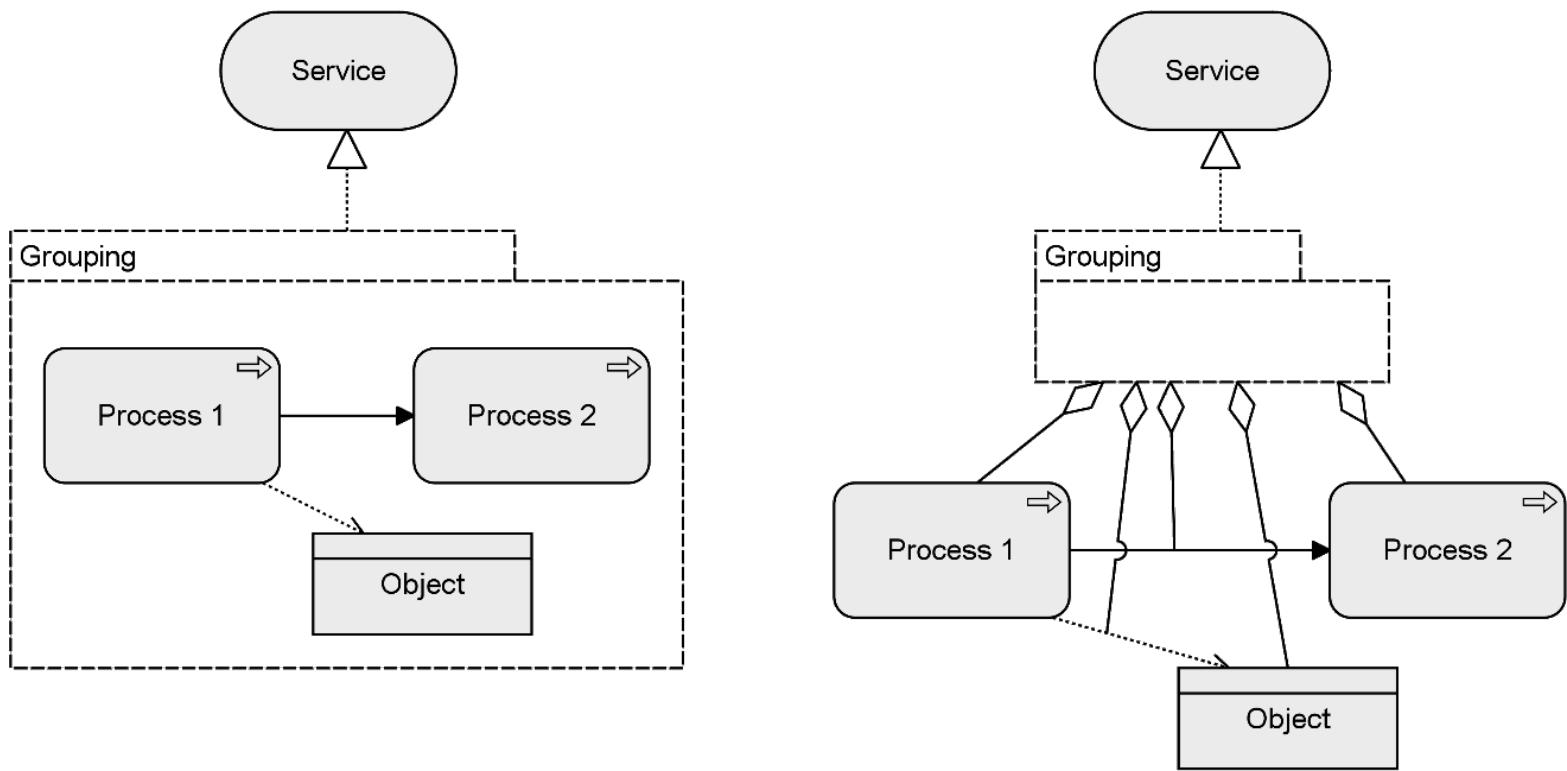
- Composite elements consist of other concepts, possibly from multiple aspects or layers of the language



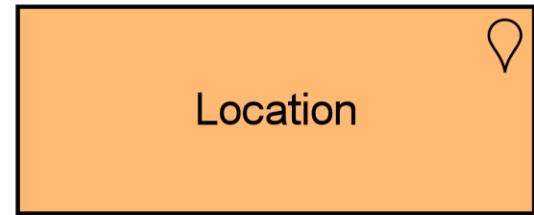
# Grouping

- The grouping element aggregates or composes concepts that belong together based on some common characteristic
- Is used to aggregate or compose an arbitrary group of concepts, which can be elements and/or relationships of the same or of different types
- An aggregation or composition relationship is used to link the grouping element to the grouped concepts

# Grouping example

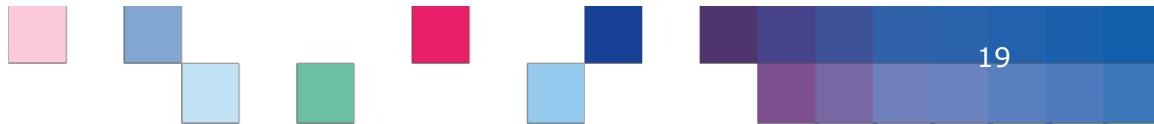
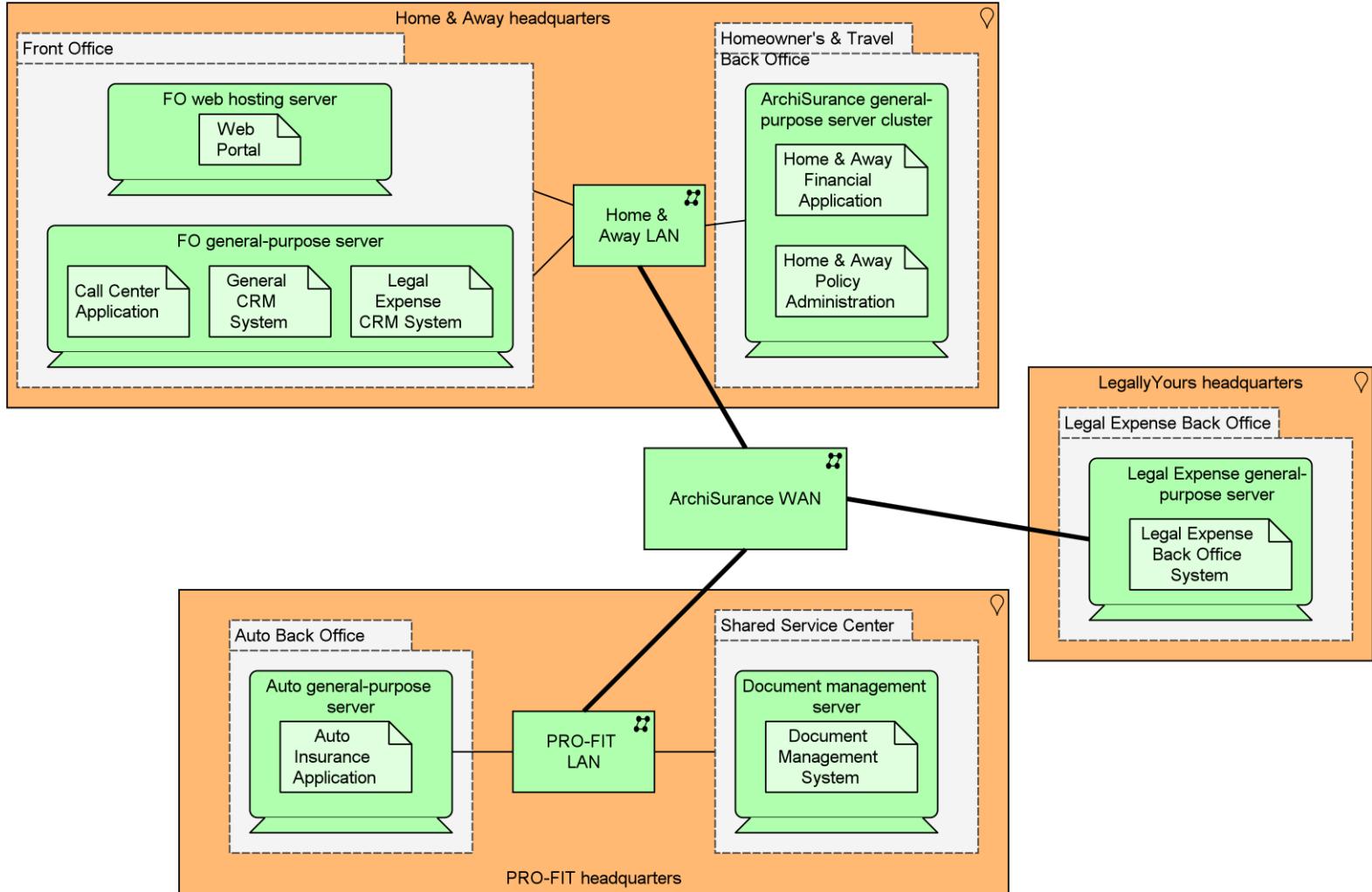


# Location

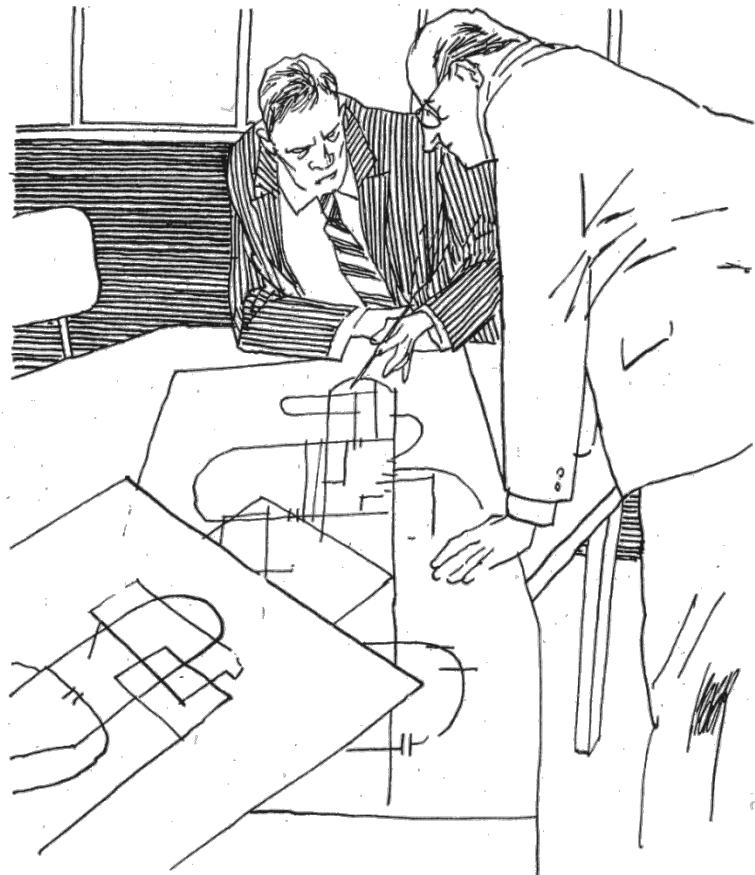


- A location is a place or position where structure elements can be located or behavior can be performed
- Used to model the places where (active and passive) structure elements such as business actors, application components, and devices are located
- Corresponds to the “Where” column of the Zachman framework

# Location example



# Insight into Architecture...



"let's ask the architect to leave out this rubbish, then we get a nice result!"

# Views and Viewpoints

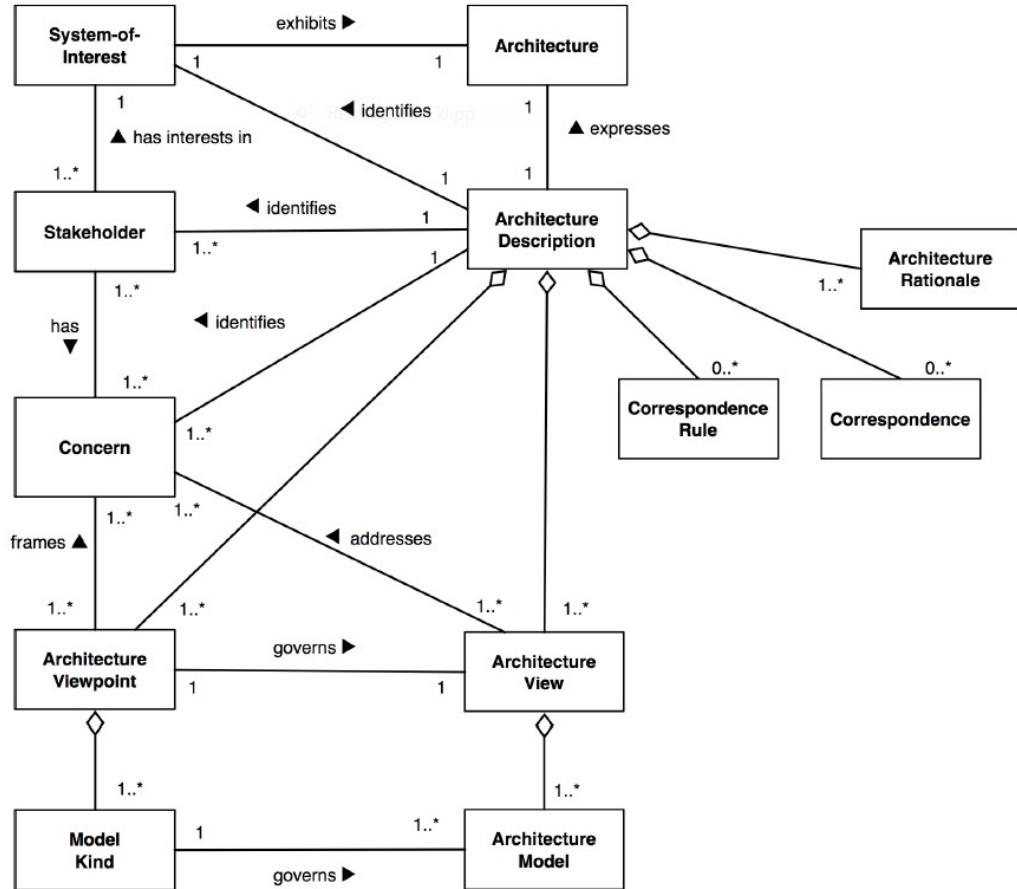
Key aspect of EA: considering the system from different points of view

- A **view** is a description of this system, and addresses a specific concern
- A **viewpoint** is the formal modeling convention for constructing a view



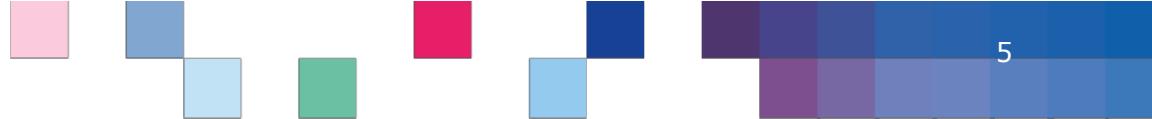
# ISO/IEC 42010 Architecture Description

- Viewpoint mechanism based on ISO 42010
- Stakeholders, concerns, viewpoints, and views are important elements in this model



# ISO/IEC 42010 standard main concepts

- An *Architecture Description* includes one or more architecture views
- An architecture *view* addresses one or more of the concerns held by a stakeholder of the system. A view is what you see
- A *viewpoint* is where you are looking from. There are two aspects to a viewpoint
  - the concerns it frames for the stakeholders
  - the conventions it establishes on views (e.g. a template)
- An architecture viewpoint frames one or more concerns. A concern can be framed by more than one viewpoint
- A view is governed by its viewpoint: the viewpoint establishes the conventions for constructing, interpreting, and analyzing the view to address concerns framed by that viewpoint



# Exercise: Viewpoints

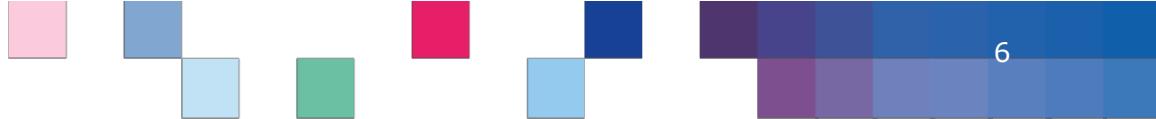
Choose an architecture or project from your own experience and provide the following information:

## 1. Who are the stakeholders?

- Who require insight in (part of) the architecture?

## 2. What are their concerns?

- Why do they require insight in the architecture?
- What is the purpose of this insight?



# Example: Rotterdam Central Station



# Example: Rotterdam Central Station

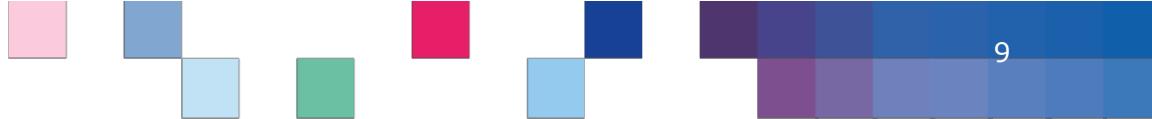


Version 1.1 – January 2017



# List of Basic ArchiMate Viewpoints (informative)

- Composition:
  - Organization
  - Application Platform
  - Information Structure
  - Technology
  - Layered
  - Physical
- Support:
  - Product
  - Application Usage
  - Technology Usage
- Cooperation:
  - Business Process Cooperation
  - Application Cooperation
- Realization:
  - Service Realization
  - Implementation and Deployment



# List of Other Viewpoints (informative)

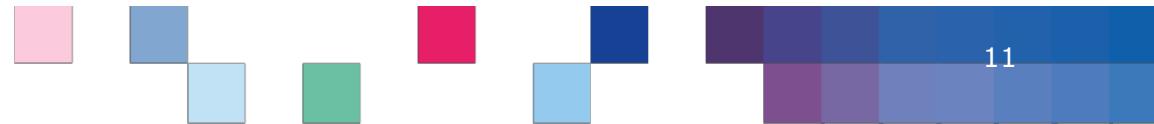
- Stakeholder
- Goal Realization
- Requirements Realization
- Motivation
- Strategy
- Capability Map
- Outcome Realization
- Resource Map
- Project
- Migration
- Implementation and Migration



# Example: Application Usage Viewpoint

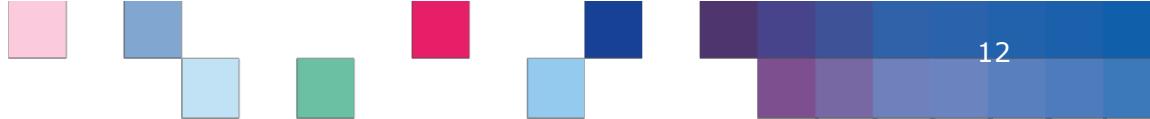
Application Usage Viewpoint	
<b>Stakeholders</b>	Enterprise, process, and application architects, operational managers
<b>Concerns</b>	Consistency and completeness, reduction of complexity
<b>Purpose</b>	Designing, deciding
<b>Scope</b>	Multiple layer/Multiple aspect

- Business actor
- Business role
- Business collaboration
- Business process/function/interaction
- Business event
- Business object
- Application component/collaboration
- Application interface
- Application process/function/interaction
- Application event
- Application service
- Data object



# Exercise

- Consider/read the basic viewpoints of ArchiMate (Appendix C.1 of the specification).
- Based on architectural challenges and stakeholders you have to cope with, pick three viewpoints that suits best
- Time: 10-15 minutes.



# Modeling and Visualizations

- Modeling and visualizations are not a goal on their own, they enable you to communicate with your stakeholders
- Let decisions about...
  - *what* you show in a model
  - and *how* you show information

...depend on your target audience

