



BiZZdesign

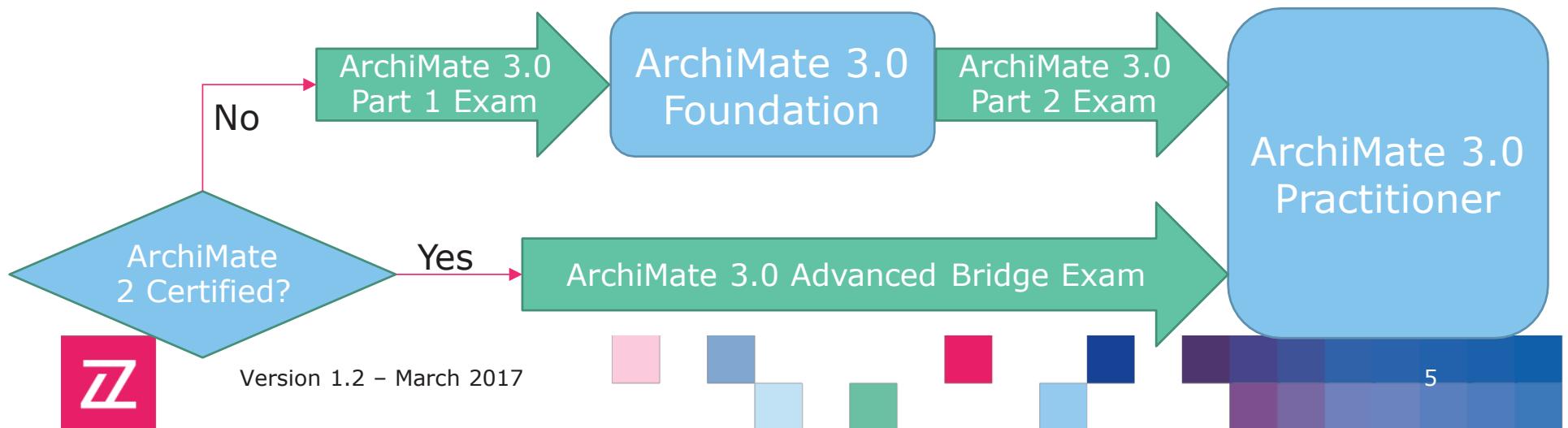
ArchiMate® 3.0

Training course - Foundation

Introduction

Overview: ArchiMate® 3.0 Certification Levels

- ArchiMate® 3.0 Foundation
 - 2 days training
 - Basic knowledge about Enterprise Architecture as a prerequisite
 - Preparation for the knowledge-based multiple choice exam
- ArchiMate® 3.0 Practitioner
 - 1 day training
 - Requires experience with and in-depth knowledge of ArchiMate
 - Case-based multiple choice exam after the course



Overview: ArchiMate® Foundation (Level 1)

Day 1 – Core and relations

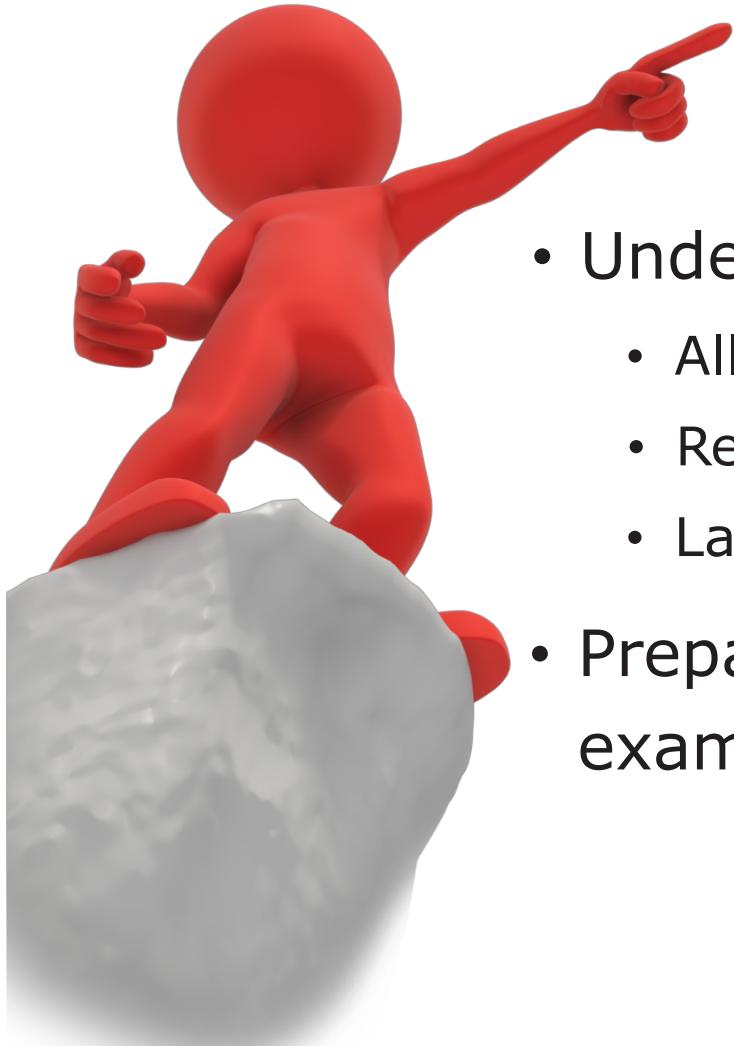
- u Introduction
- u Language structure
- u ArchiMate Core
- u Relationships
- u Cross layer dependencies
- u Collaboration and interaction
- u Physical layer

Day 2 – Additions, generic, exam preparation

- u Recap
- u Motivation elements
- u Strategy layer
- u Implementation & migration elements
- u Generic metamodel
- u Viewpoints
- u Practice exam



Goals for This Course



- Understand ArchiMate® 3.0 language
 - All concepts
 - Relations
 - Language structure and generic metamodel
- Preparation for ArchiMate® 3.0 level 1 exam



INTRODUCING: THE OPEN GROUP



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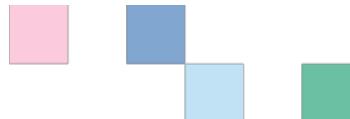
The Open Group

- A vendor-neutral and technology-neutral consortium
- > 500 member organisations in various sizes and industries
- > 8000 active participants in 41 countries
- End-users
 - Financial services industry
 - Government departments and agencies
 - Manufacturers and retailers
- Suppliers
 - System and solution suppliers
 - Tool vendors
 - Integrators and consultants
- Academics and researchers

THE *Open* GROUP



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ENTERPRISE ARCHITECTURE



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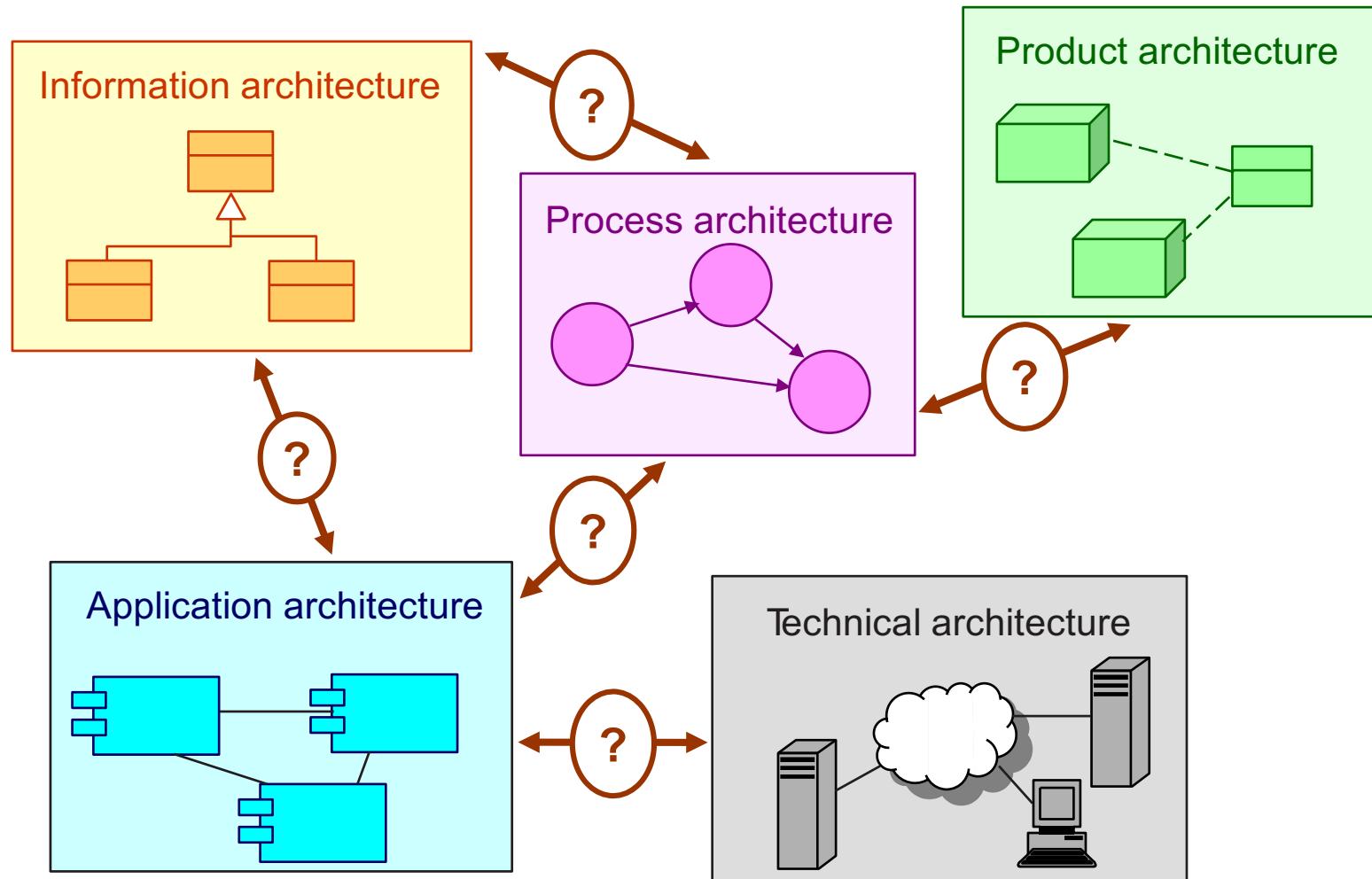
Why Enterprise Architecture?

Take 5 minutes and think about

1. What is the added value of (Enterprise) Architecture?
2. What are the challenges for making (Enterprise) Architecture successful?



EA as a product

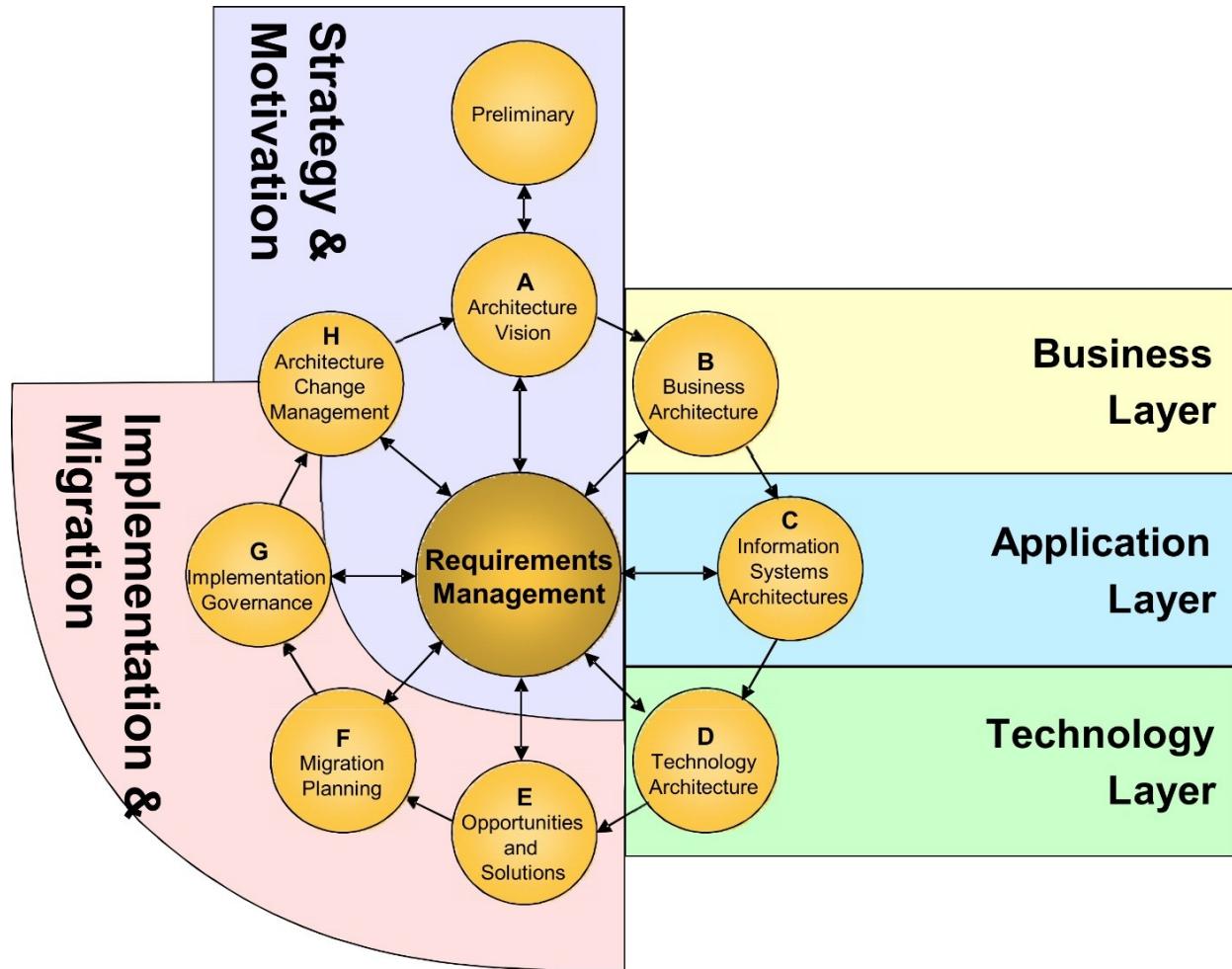


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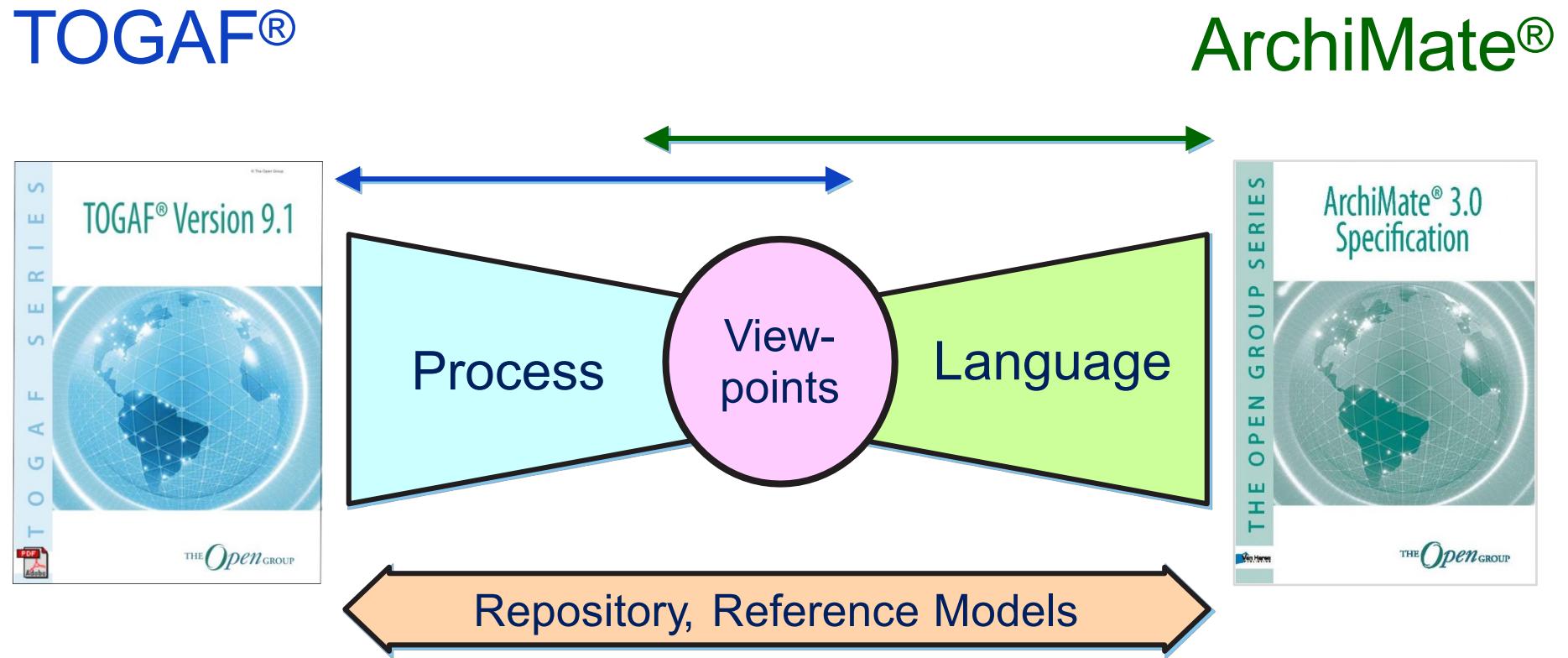


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The process of EA



Ingredients for Successful EA



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ARCHIMATE® 3.0



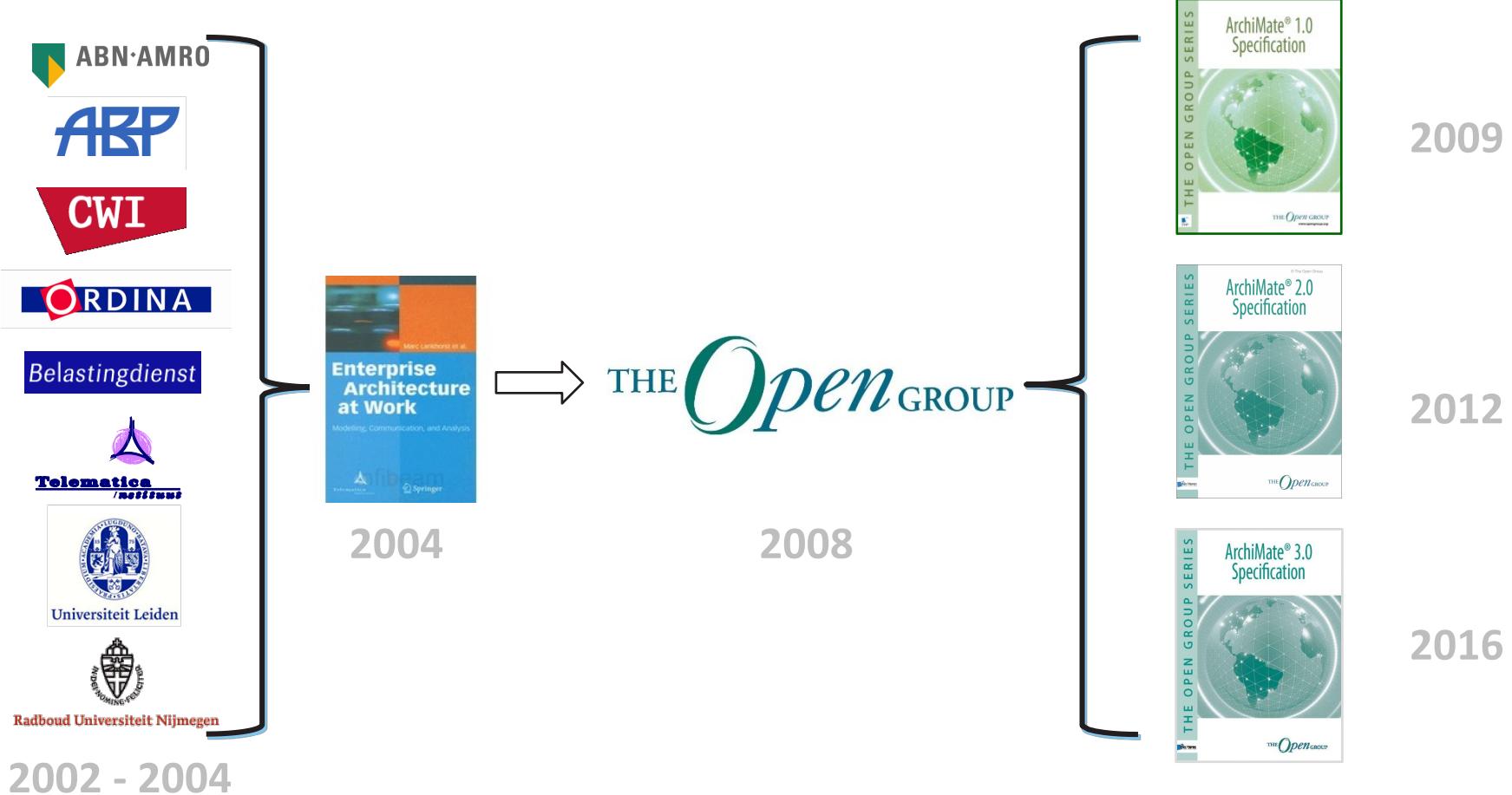
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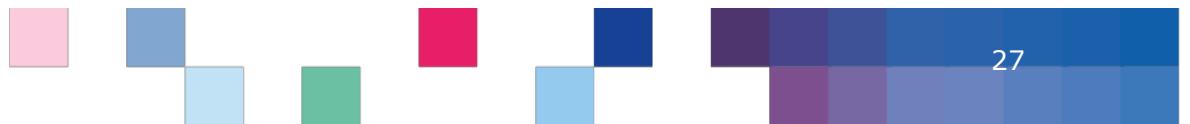
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History of ArchiMate®

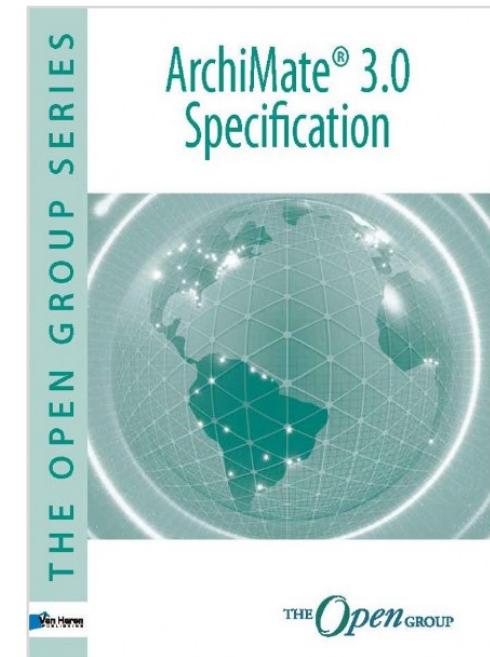


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ArchiMate® 3.0

- A **Language** to describe Architectures
- **Framework** describes the business layer, application layer, and technology layer
 - With **Relations** between the layers
- **Graphical** language with formal semantics
- Techniques for **Visualizations** and **Analyses** for different stakeholders
- **Open standard** maintained by The Open Group



- www.opengroup.org/archimate
- www.archimate.org



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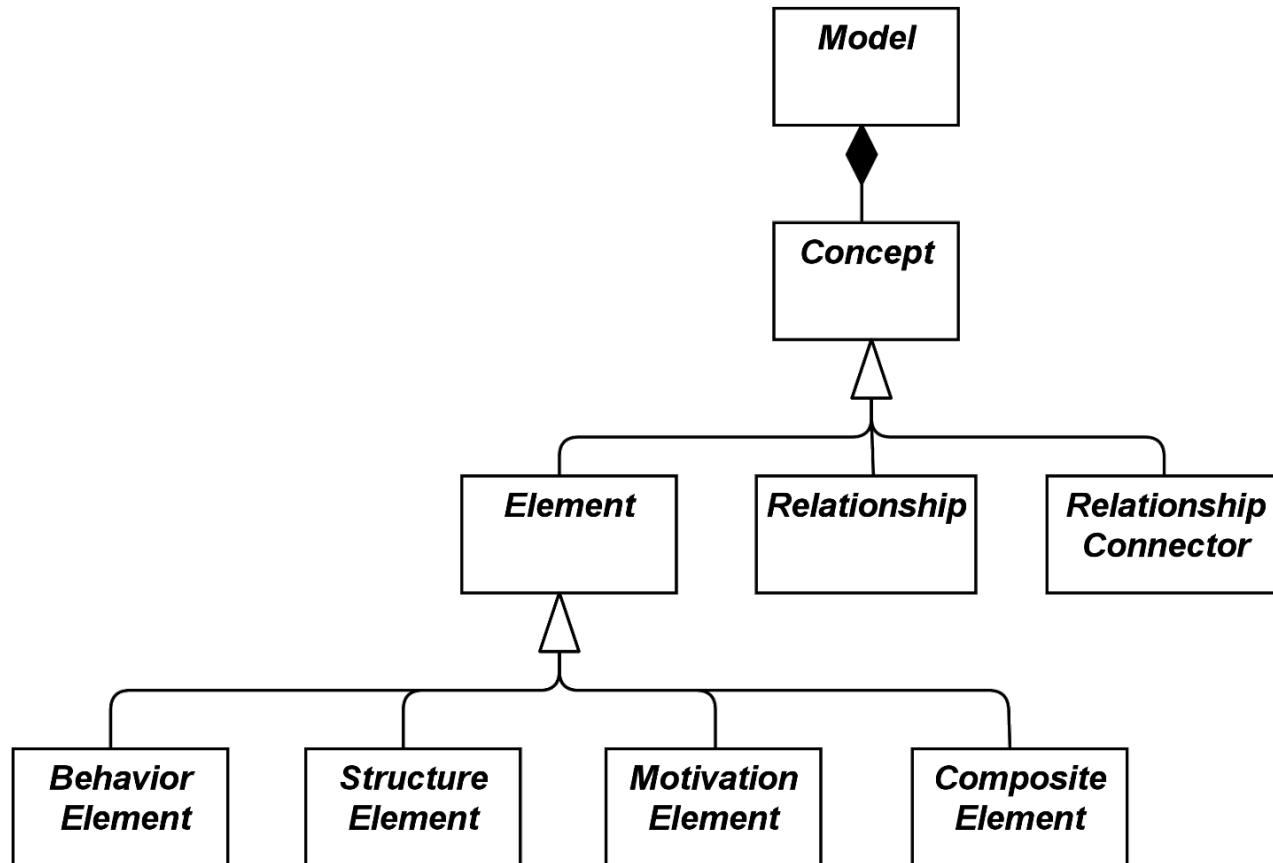


General Language Structure

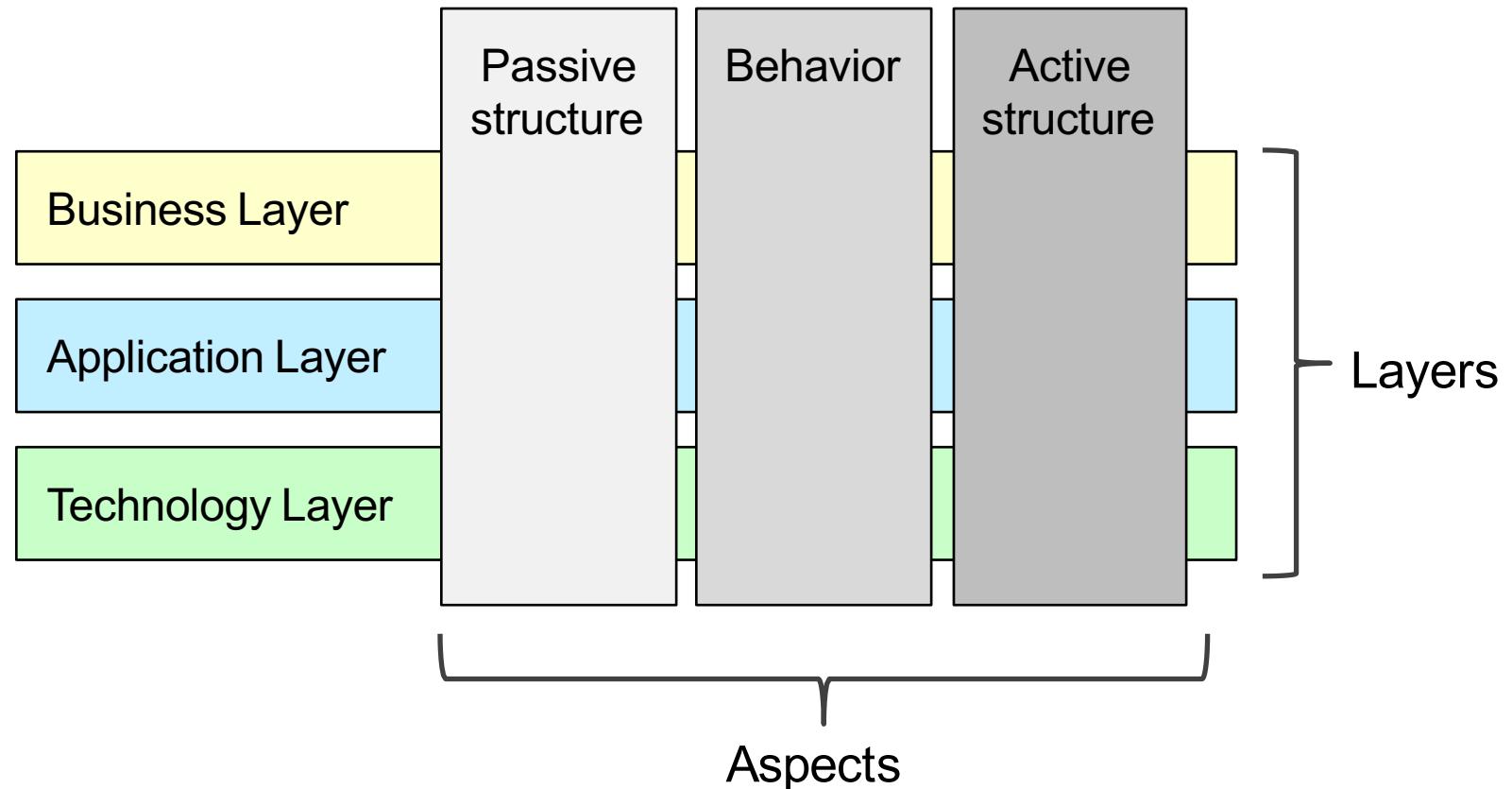
- Before learning the language it helps to understand its structure
- This is necessary, because the language is quite extensive
 - 6 layers, 4 aspects, 59 concepts, 93 notations for concepts, 13 relation types and over 13.250 possible relations between concepts



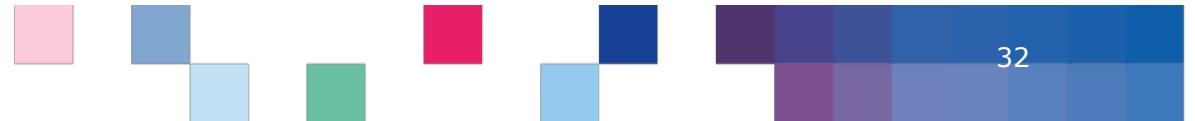
Top level structure



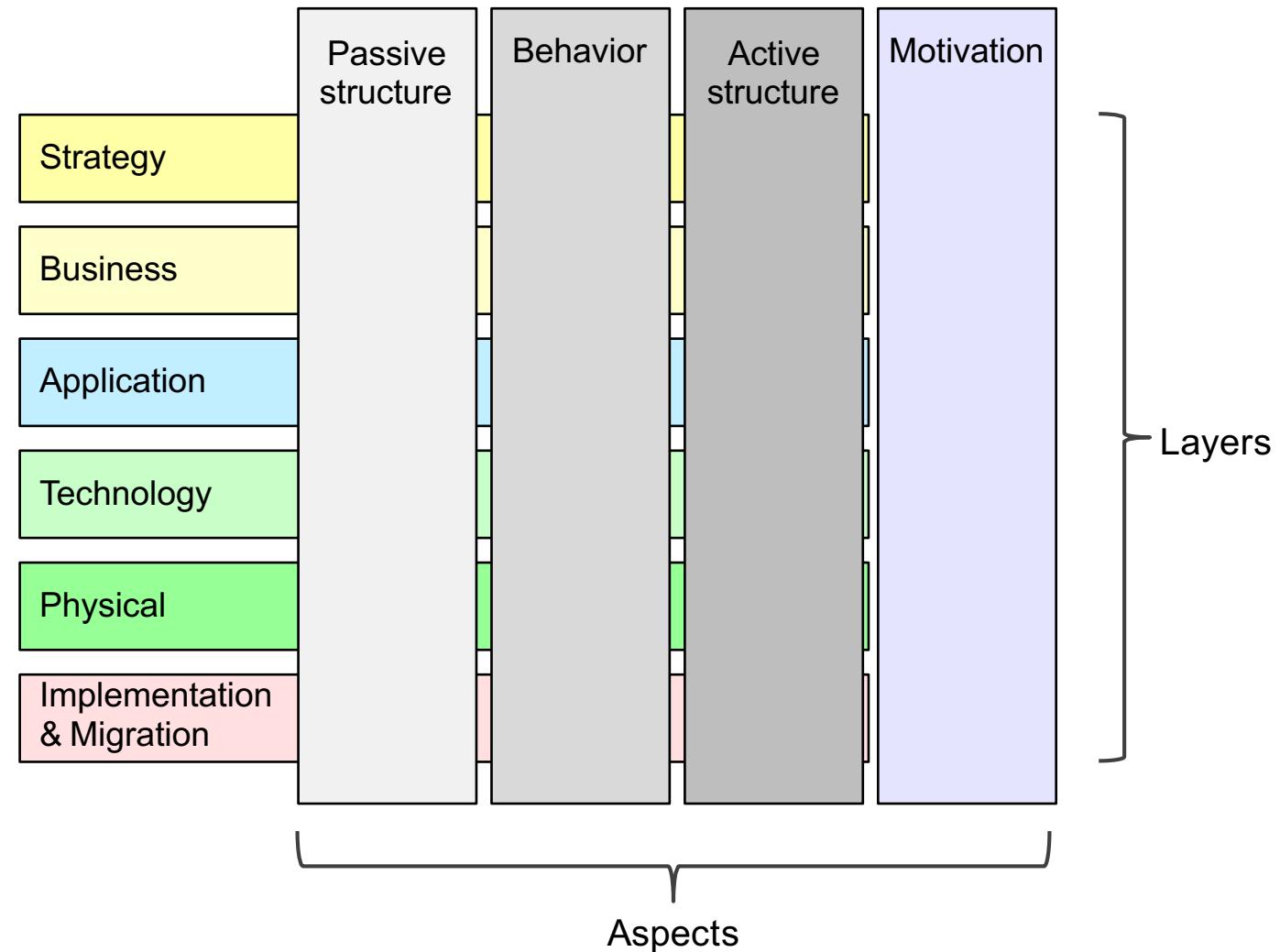
Core framework



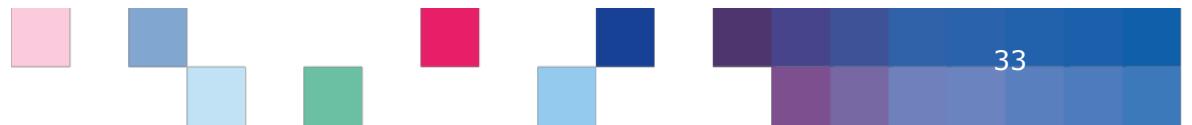
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Full Framework



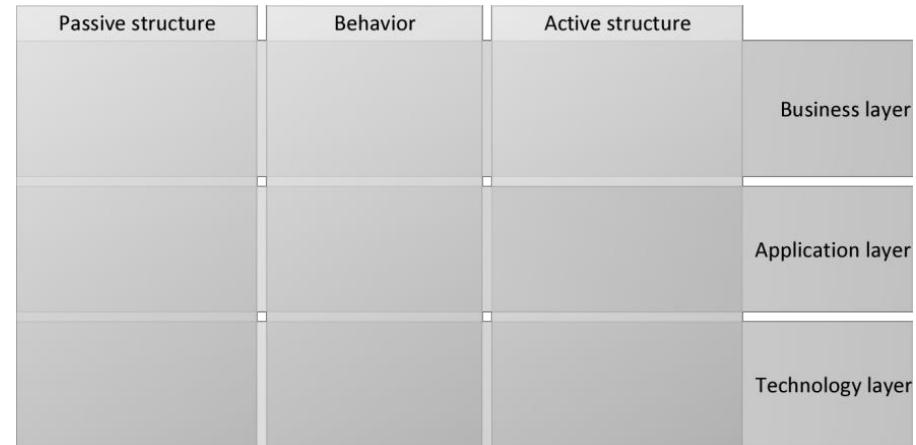
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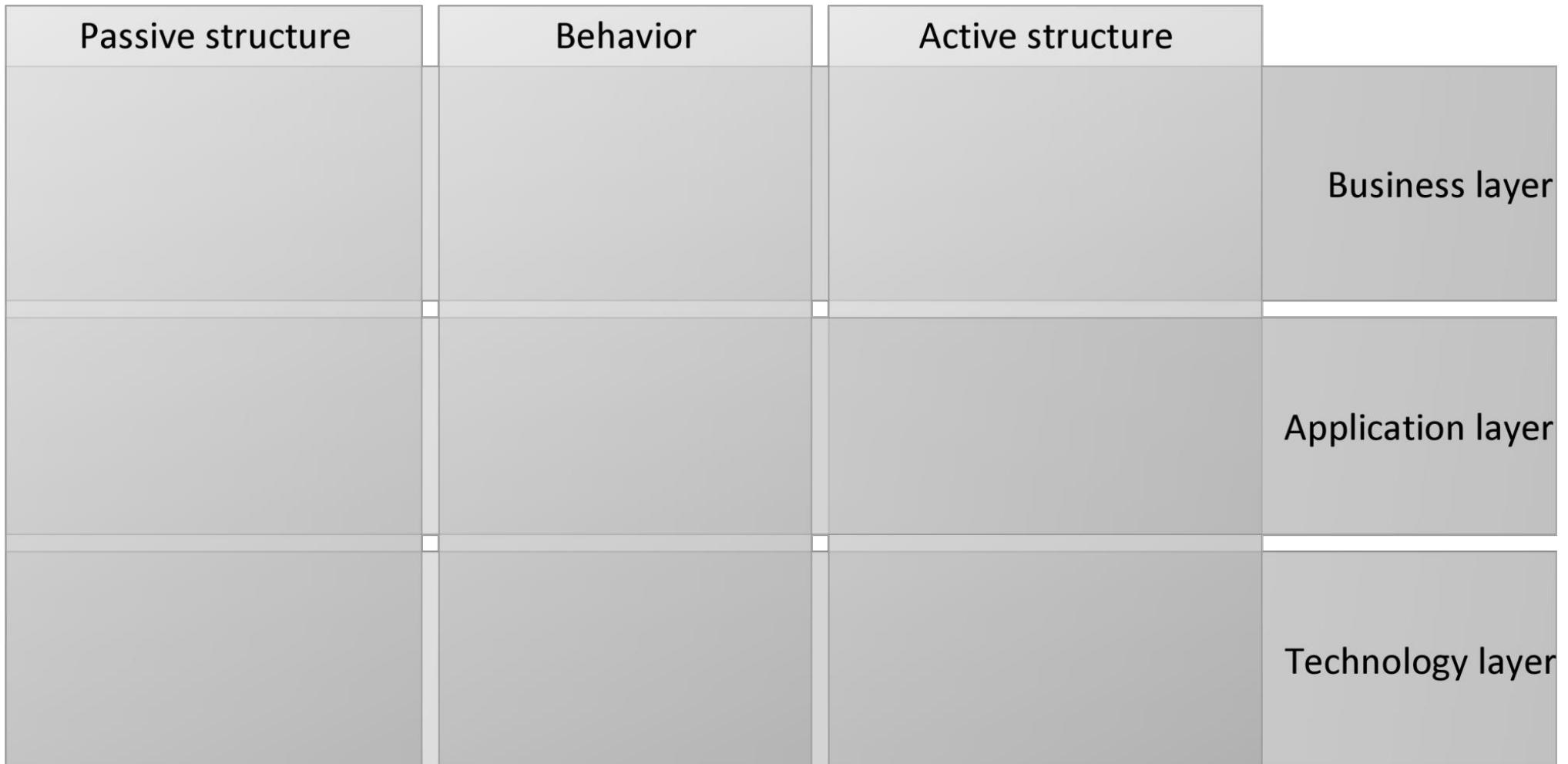
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The ArchiMate® Core

- Three *layers*:
 - Business
 - Application
 - Technology
- Three *aspects*:
 - Active structure: *An entity capable of performing behavior.*
 - Behavior: *Activity performed by one or more structure elements.*
 - Passive structure: *An object on which behavior is performed.*
- *Composite elements*



ArchiMate® Core



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Exercise – “Game of concepts”

- Interpret these concepts and position them in the framework. Per correct answer your group earns 1 point
- Use the list of concepts from assignment X in your reader
- Present the results in a 3x3 matrix on flip chart
- One composite element can not be placed in the 3x3 framework
- Concepts grouped with [the dotted line] can earn you a maximum of 1 point
 - If correct in one layer, we expect them to be correct in all layers



Game of concepts

- Business actor
- Business role
- Business object

- Business process
- Application process
- Technology process

• Contract

- Business event
- Application event
- Technology event

- Business interface
- Application interface
- Technology interface

- Application component
- Product
- Representation
- Data object

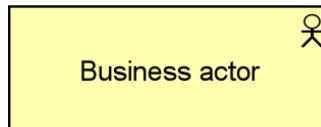
- Business service
- Application service
- Technology service

- Business function
- Application function
- Technology function

- Node
- Artifact
- System software
- Device
- Communication network
- Path

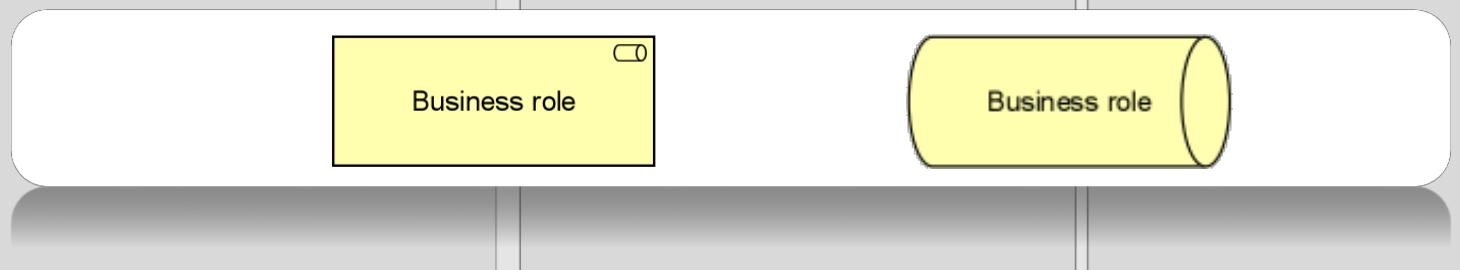


Business Actor

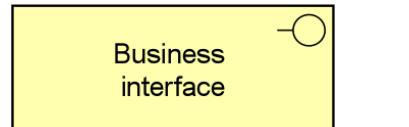
Passive structure	Behavior	Active structure	
		A business entity that is capable of performing behavior.	Business layer
		With the modeling of actors you can indicate which departments, functions, people and/or machines are involved in the execution of behavior and how they can communicate or cooperate.	Application layer
		 	Technology layer



Business Role

Passive structure	Behavior	Active structure	
		The responsibility for performing specific behavior, to which an actor can be assigned, or the part an actor plays in a particular action or event	Business layer
		Roles are used to describe the organization from a process perspective. They are associated with the tasks an actor fulfills. An actor can fulfill multiple roles while a role generally has only one function within the organization.	Application layer
			Technology layer
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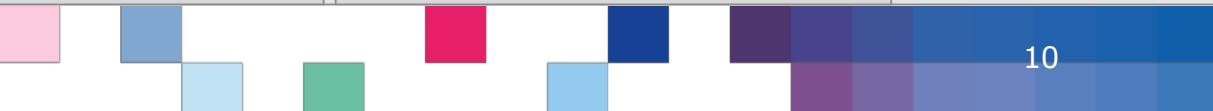
Business Interface

Passive structure	Behavior	Active structure	
		A point of access where a business service is made available to the environment.	Business layer
		The manner in which active structure is able to communicate with the environment. Examples of business interfaces are counter, phone, e-mail, forms and internet.	Application layer
			Technology layer
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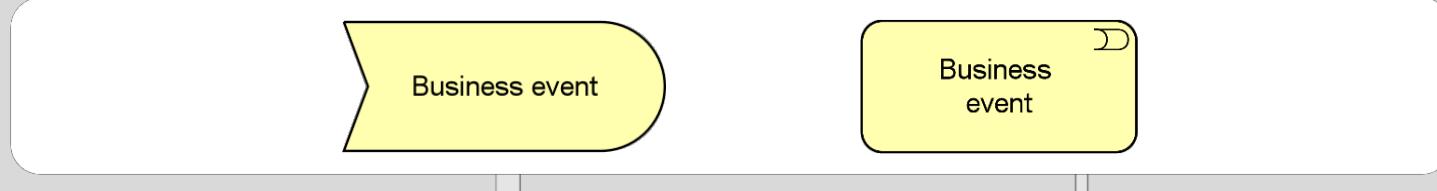
Business Process

Passive structure	Behavior	Active structure	
			Business layer
		A sequence of business behaviors that achieves a specific outcome such as a defined set of products or business services.	
		A process describes the internal behavior of an organization 'end to end'.	Application layer
			Technology layer
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Business Function

Passive structure	Behavior	Active structure	
			Business layer
		A collection of business behavior based on a chosen set of criteria, closely aligned to an organization, but not necessarily explicitly governed by the organization.	
		Typically required business resources and/or competences.	Application layer
		 Two yellow rounded rectangles, each containing the text "Business function". The left one has a small upward-pointing arrow icon above it. The right one has a small downward-pointing arrow icon below it.	Technology layer
	Version 1.2 – May 2017	 A horizontal bar composed of several colored squares in shades of pink, blue, red, and purple.	10

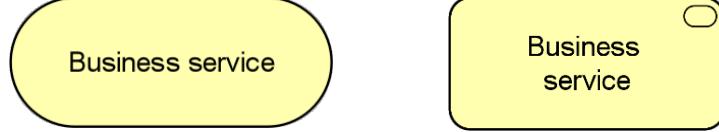
Business Event

Passive structure	Behavior	Active structure	
		A business behavior element that denotes an organizational state change. It may originate from and be resolved inside or outside the organization.	Business layer
		Business processes and other business behavior may be triggered or interrupted by a business event. Also, business processes may raise events that trigger other business processes, functions, or interactions	Application layer
			Technology layer

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Business Service

Passive structure	Behavior	Active structure	
			Business layer
	An explicitly defined exposed business behavior		Application layer
	A business service should provide a unit of behavior that is meaningful from the point of view of the environment		Technology layer

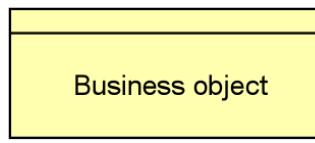


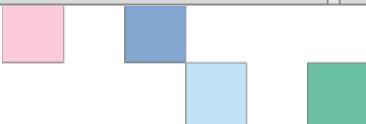
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Business Object

Passive structure	Behavior	Active structure	
			Business layer
		A concept used within a particular business domain	
		Business objects represent the important “informational” or “conceptual” elements in which the business thinks about a domain.	Application layer
			Technology layer



Contract

Passive structure	Behavior	Active structure	
		<p>Formal or informal specification of an agreement that specifies the rights and obligations associated with a product and establishes functional and non-functional parameters for interaction.</p>	Business layer
		<p>The contract concept may be used to model a contract in the legal sense, but also a more informal agreement associated with a product. It may also be or include a Service Level Agreement (SLA). A contract is a specialization of a business object.</p>	Application layer
			Technology layer

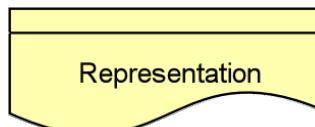


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Representation

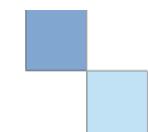
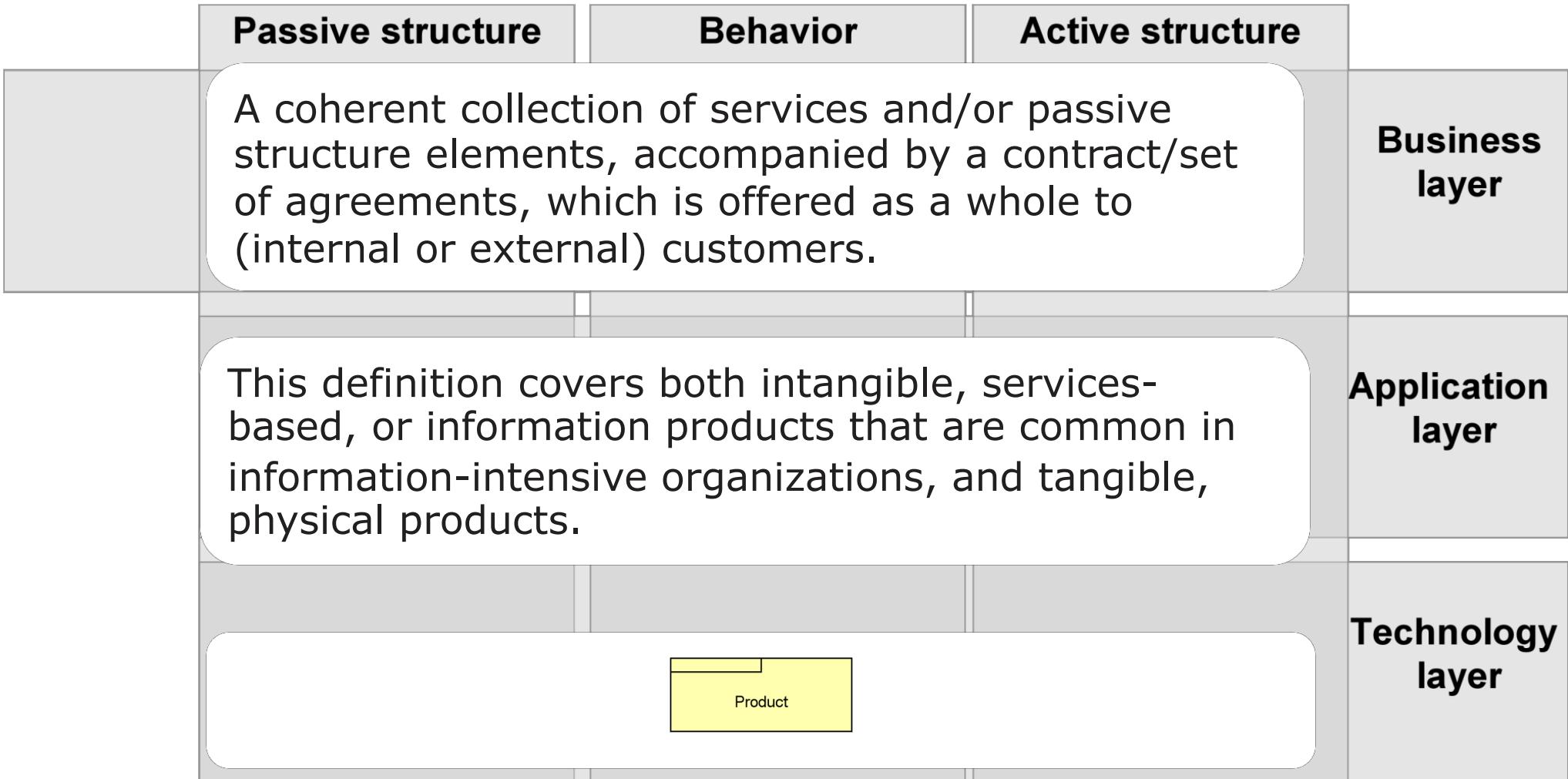
Passive structure	Behavior	Active structure	
			Business layer
A perceptible form of the information carried by a business object.			Application layer
	If relevant, representations can be classified in various ways; for example, in terms of medium (electronic, paper, audio, etc.) or format (HTML, ASCII, PDF, RTF, etc.).		Technology layer



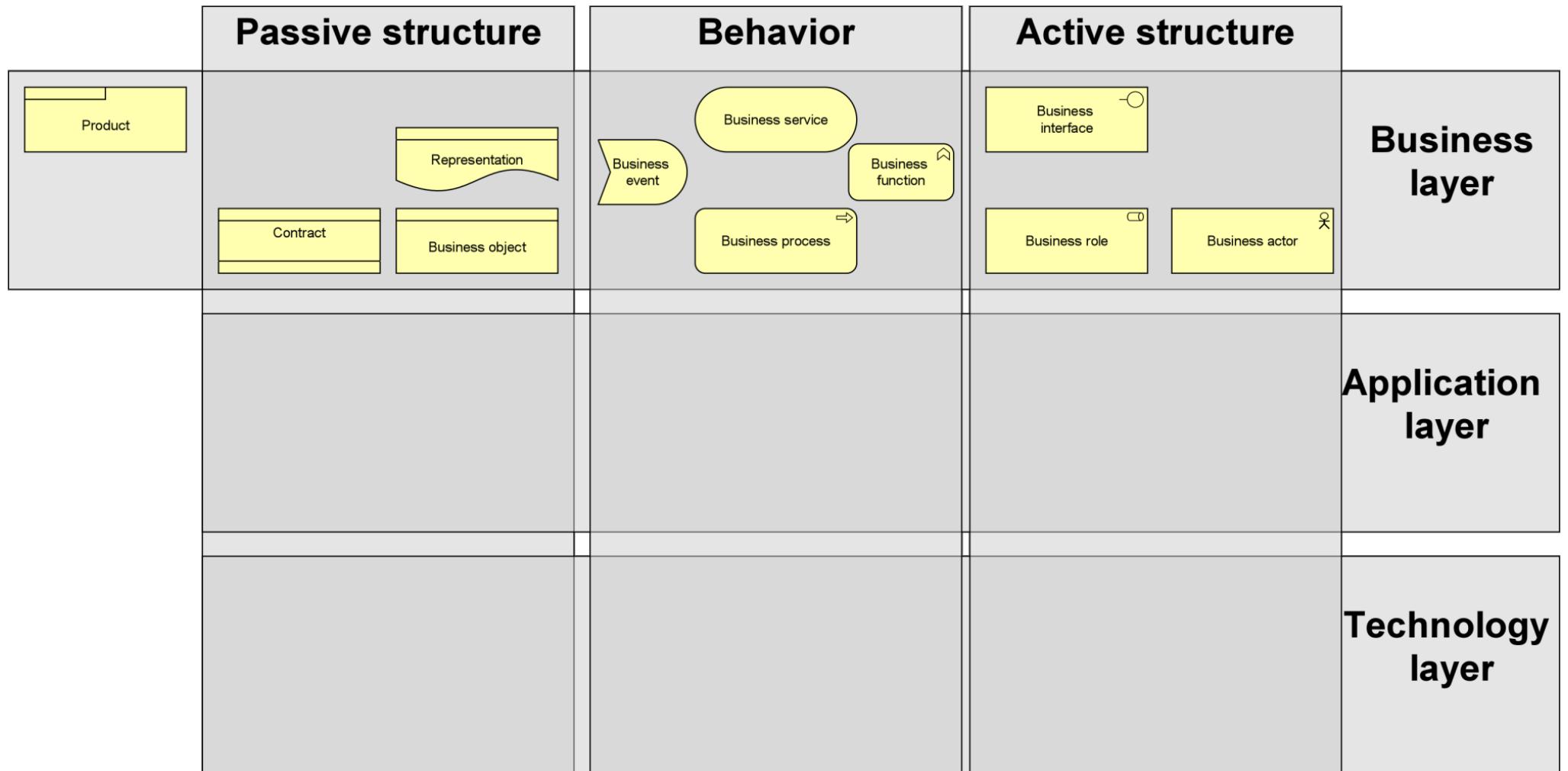

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Product



Business Layer



Application Interface

Passive structure	Behavior	Active structure	
	A point of access where application services are made available to a user, another application component, or a node		Business layer
	An application interface specifies how the functionality can be accessed or which functionality an application component requires from its environment.		Application layer
	An application interface exposes an application service to the environment. The same application service may be exposed through different interfaces.		Technology layer
			
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Application Component

Passive structure	Behavior	Active structure	
			Business layer
		<p>Represents an encapsulation of application functionality aligned to implementation structure, which is modular and replaceable. It encapsulates its behavior and data, exposes services, and makes them available through interfaces.</p>	
		<p>An application component is a self-contained unit of functionality. As such, it is independently deployable, re-usable, and replaceable.</p>	Application layer
			Technology layer
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Application Function

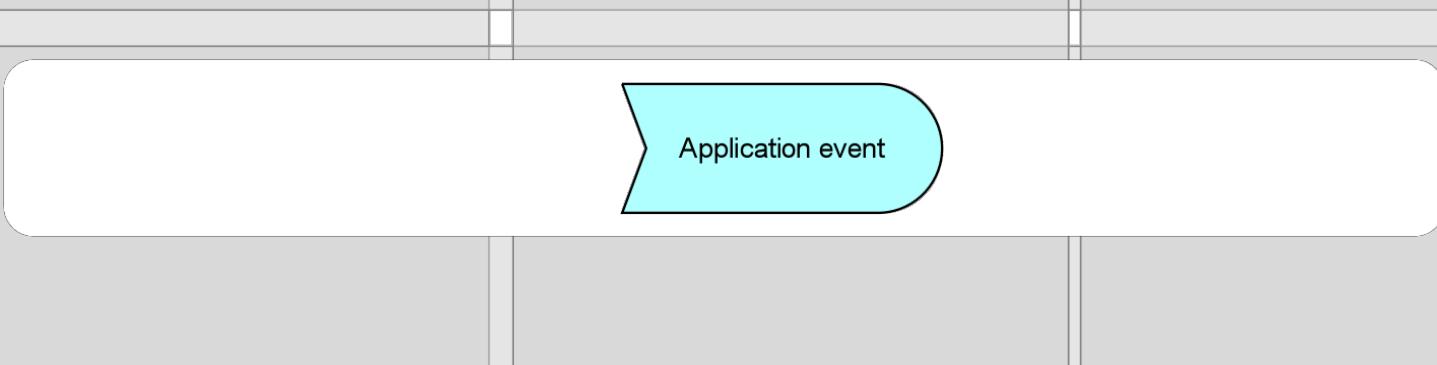
Passive structure	Behavior	Active structure	
			Business layer
		Automated behavior that can be performed by an application component.	
		An application function abstracts from the way it is implemented. Only the necessary behavior is specified.	Application layer
			Technology layer
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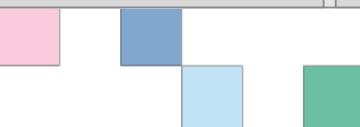
Application Process

Passive structure	Behavior	Active structure	
		A sequence of application behaviors that achieves a specific outcome.	Business layer
		An application process describes the internal behavior performed by an application component that is required to realize a set of services. An application component may be assigned to an application process (which means that this component performs the process).	Application layer
			Technology layer

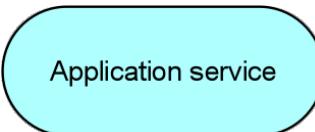


Application Event

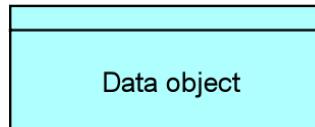
Passive structure	Behavior	Active structure	
			Business layer
	An application behavior element that denotes a state change		Application layer
	An event is instantaneous; it does not have duration. Events may originate from the environment of the organization, but also internal events may occur.		Technology layer



Application Service

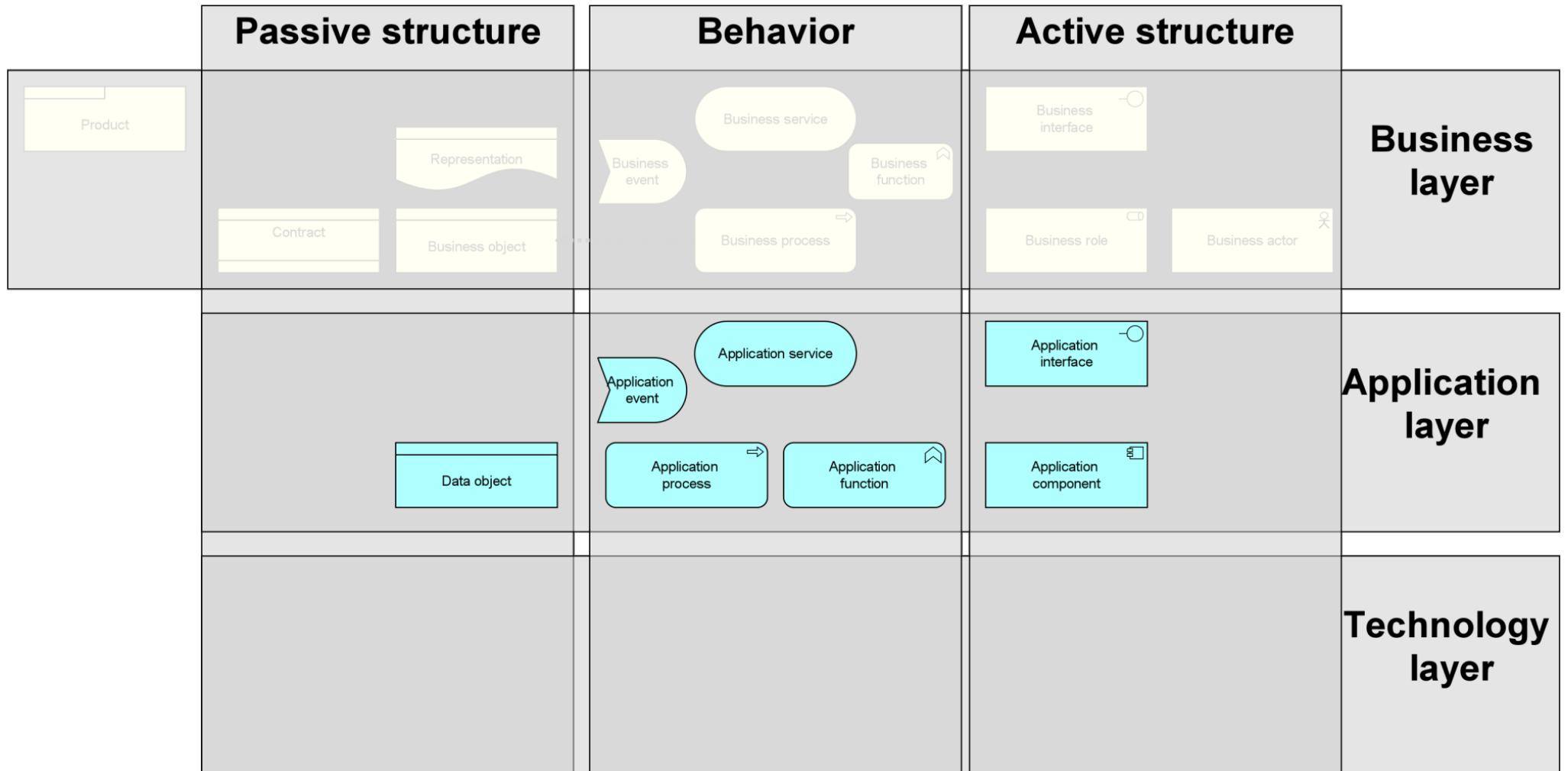
Passive structure	Behavior	Active structure	
			Business layer
		An explicitly defined exposed application behaviour.	
	An application service should be meaningful from the point of view of the environment; it should provide a unit of functionality that is, in itself, useful to its users. It has a purpose.		Application layer
			Technology layer
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Data Object

Passive structure	Behavior	Active structure	
			Business layer
A passive element that represents data structured for automated processing.			Application layer
	<p>It should be a self-contained piece of information with a clear meaning to the business, not just to the application level. Typical examples of data objects are a customer record, a client database, or an insurance claim.</p>	 A light blue rectangular box labeled "Data object" is centered in the Business layer column, positioned above the text description.	Technology layer



Application Layer



Technology Interface

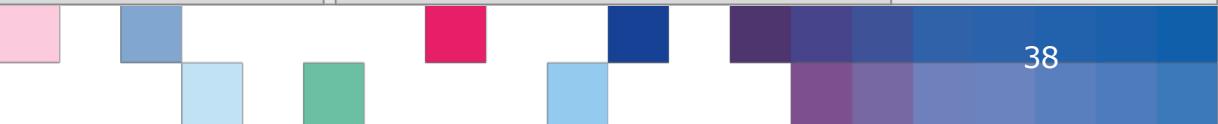
Passive structure	Behavior	Active structure	
			Business layer
		A point of access where technology services offered by a node can be accessed.	
	An technology interface specifies how the technology services of a node can be accessed.		Application layer
			Technology layer

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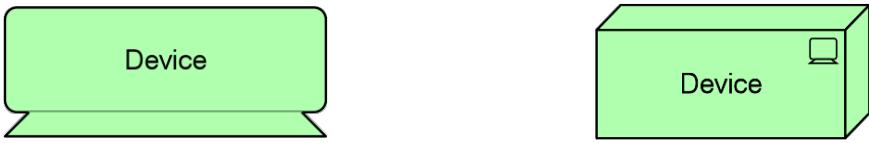
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Node

Passive structure	Behavior	Active structure	
		A computational or physical resource that hosts, manipulates, or interacts with other computational or physical resources.	Business layer
		Nodes are active structure elements that perform technology behavior and process technology objects such as artifacts. Nodes can be used to model application servers, database servers, or client workstations.	Application layer
		 A diagram showing two green rectangular boxes labeled "Node". The first box is a simple rectangle, and the second box has a small icon in the top right corner.	Technology layer



Device

Passive structure	Behavior	Active structure	
			Business layer
A physical IT resource upon which system software and artifacts may be stored or deployed for execution			Application layer
	A device is a specialization of a node that represents a physical IT resource with processing capability. For example PC's and routers.		Technology layer

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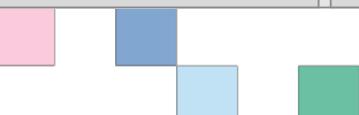
System Software

Passive structure	Behavior	Active structure	
		<p>Software that provides or contributes to an environment for storing, executing, and using software or data deployed within it.</p>	Business layer
		<p>System software is a specialization of a node that is used to model the software environment in which artifacts run. This can be, for example, an operating system, a JEE application server, a database system etc.</p>	Application layer
			Technology layer

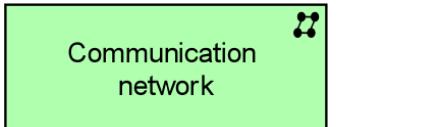


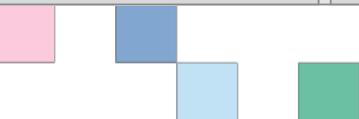
Path

Passive structure	Behavior	Active structure	
		A link between two or more nodes, through which these nodes can exchange data or material.	Business layer
		A path is used to model the logical communication (or distribution) relations between nodes. It is realized by one or more networks, which represent the physical communication (or distribution) links.	Application layer
			Technology layer



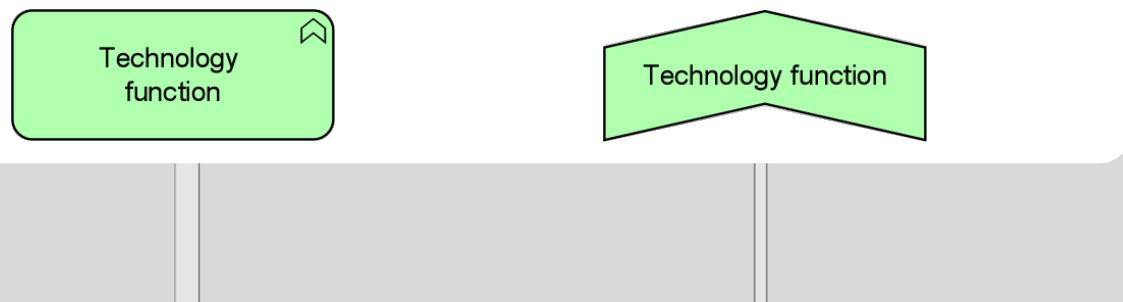
Communication Network

Passive structure	Behavior	Active structure	
		A set of structures and behaviors that connects computer systems or other electronic devices for transmission, routing, and reception of data or data-based communications such as voice and video.	Business layer
		A communication network represents the physical communication infrastructure.	Application layer
			Technology layer



Technology Function

Passive structure	Behavior	Active structure	
			Business layer
	A collection of technology behavior that can be performed by a node.		Application layer
	A technology function describes the internal behavior of a node; for the user of a node that performs an technology function, this function is invisible. An technology function abstracts from the way it is implemented.		Technology layer



The diagram illustrates the concept of a technology function across three layers. In the Business layer, a rounded rectangle represents a collection of technology behavior. In the Application layer, a rounded rectangle represents a technology function described by a node. In the Technology layer, two green pentagonal shapes represent the internal behavior of a node, which is abstracted from its implementation.



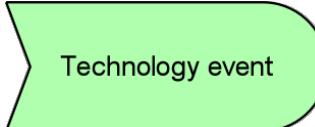
Technology Process

Passive structure	Behavior	Active structure	
		A sequence of technology behaviors that achieves a specific outcome.	Business layer
	A technology process describes internal behavior of a node. It can use technology objects as input and use or transform these to produce other technology objects as output		Application layer
			Technology layer

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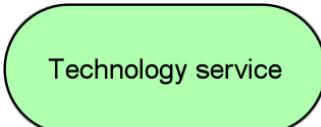
Technology Event

Passive structure	Behavior	Active structure	
		A technology behavior element that denotes a state change.	Business layer
		Technology functions and other technology behavior may be triggered or interrupted by a technology event. Also, technology functions may raise events that trigger other technology behavior. An event is instantaneous: it does not have duration.	Application layer
			Technology layer

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Technology Service

Passive structure	Behavior	Active structure	
			Business layer
		An explicitly defined exposed technology behavior.	
	A technology service exposes the functionality of a node to its environment. It should provide a unit of behavior that is, in itself, useful to its users, such as application components and nodes. Typical technology services may, for example, include messaging, storage, naming, and directory services		Application layer
		 	Technology layer
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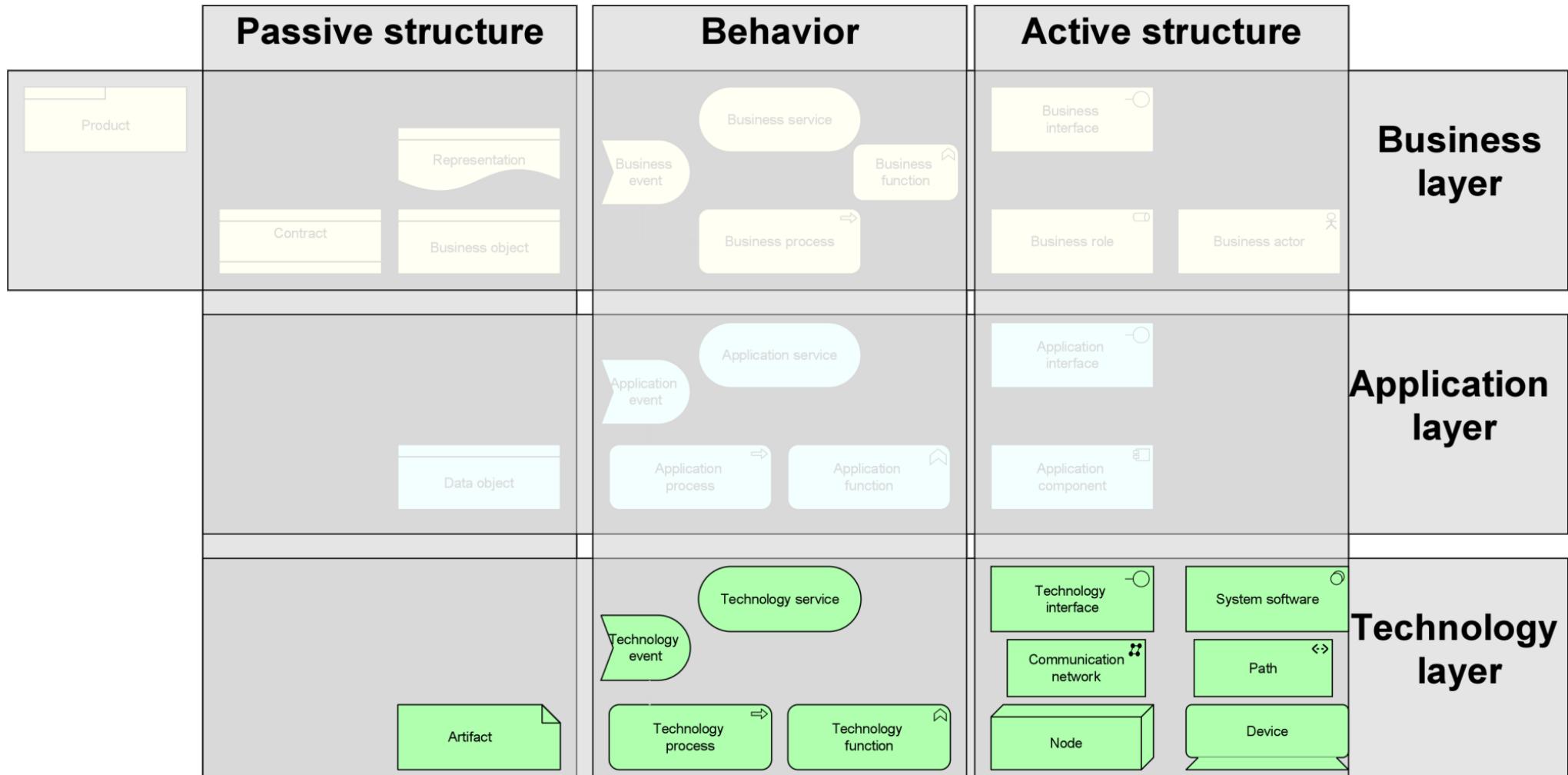
Artifact

Passive structure	Behavior	Active structure	
		A physical piece of data that is used or produced in a software development process, or by deployment and operation of an IT system.	Business layer
		An artifact represents a tangible element in the IT world. It is typically used to model (software) products such as source files, executables, scripts, database tables, messages, documents, specifications, and model files. An artifact could be used to represent a physical data component that realizes a data object.	Application layer
		 	Technology layer

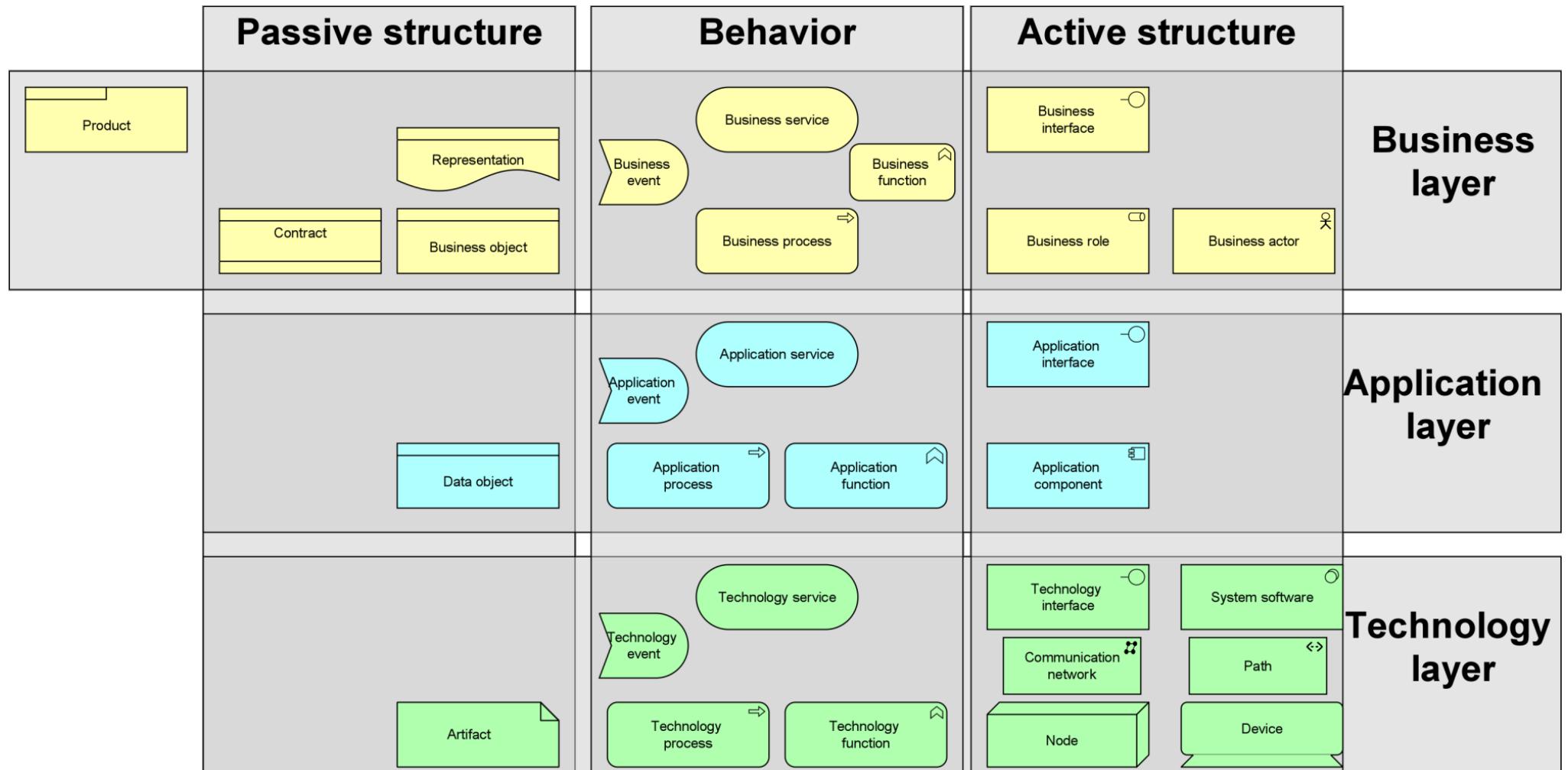
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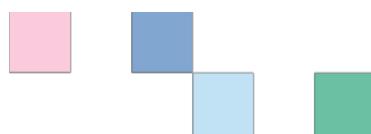
Technology Layer



Core Concepts



Note: excluding collaboration and interaction concepts, which follow later in the training course



Example

