July 2016

ArchiMate® 3.0 - Trick or Treat?

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EA Forum
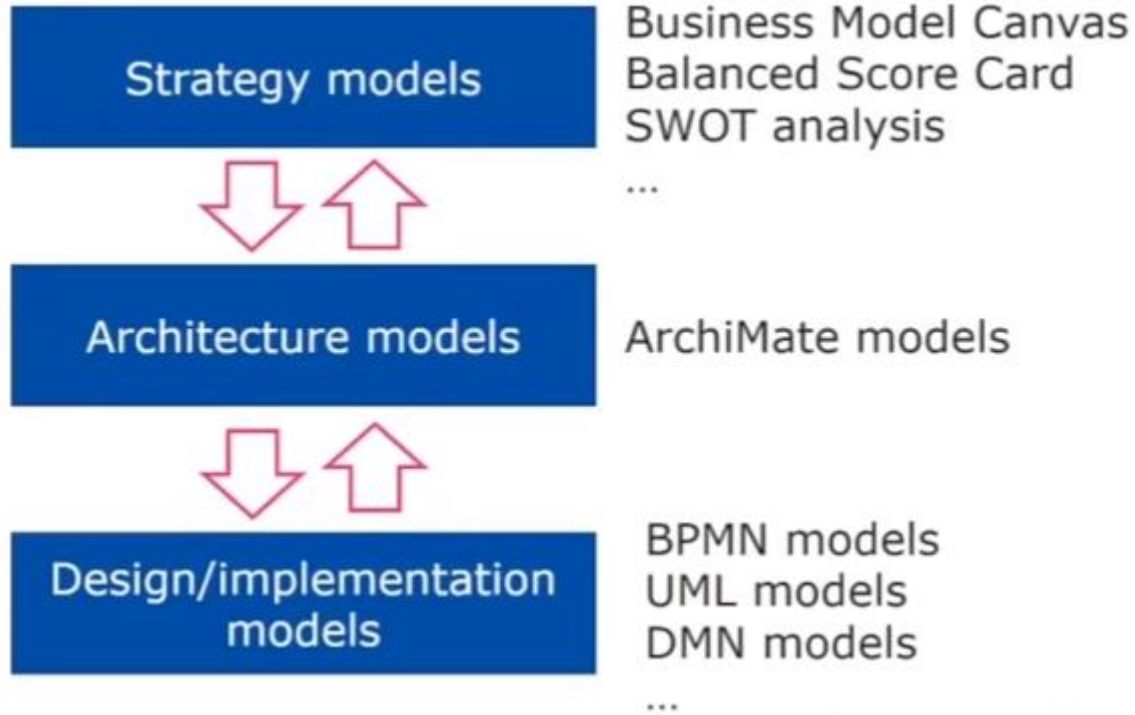
Contents
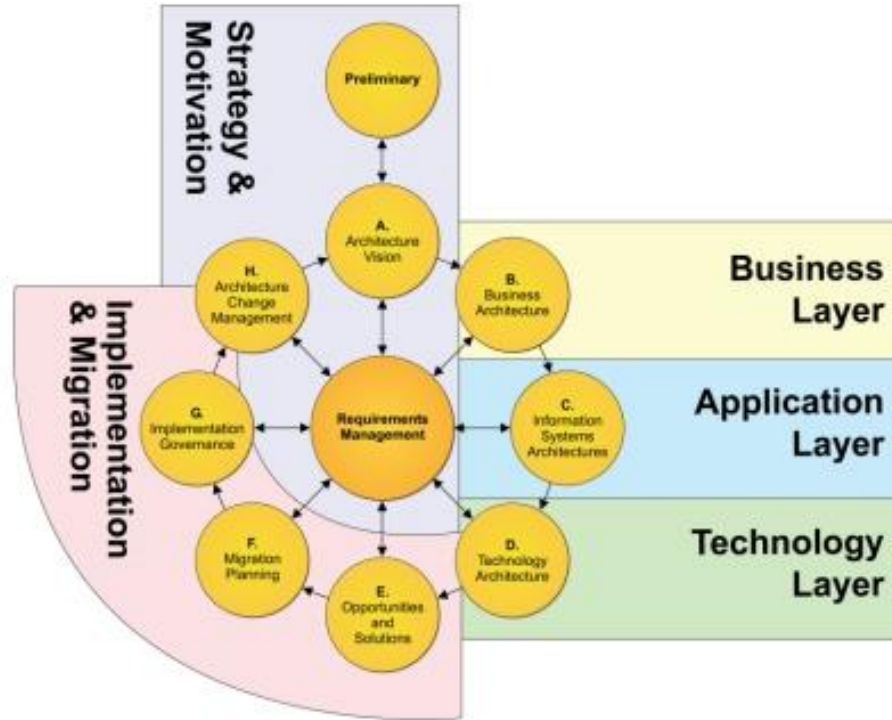
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What is ArchiMate®?

- ❏ A **language** with concepts to describe enterprise architectures

- ❏ A **framework** to organise these concepts

- ❏ A **graphical notation** for these concepts

- ❏ A vision on **visualisations** for different stakeholders

- ❏ An **open standard** maintained by The Open Group

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Where is ArchiMate® used?

Strategy models	Business Model Canvas Balanced Score Card SWOT analysis ...
⬇ ⬆	
Architecture models	ArchiMate models
⬇ ⬆	
Design/implementation models	BPMN models UML models DMN models ...

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ArchiMate® and TOGAF®

Contents

- Introduction

- **Why ArchiMate® 3.0 ?**

- What is new, has changed, or improved?

- Conclusion

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Why ArchiMate® 3.0 ?

- ❏ There has been an increasing demand for relating EA to **business strategy**
  - ❏ EA is not only about IT, but also a way of realising the business strategy

- ❏ There are a lot of innovations that mix IT and the **physical world**
  - ❏ for example the Internet of Things (IOT)

- ❏ There is an increased usage of EA in **new domains**
  - ❏ for example manufacturing, logistics, energy, transport

- ❏ There were some **inconsistencies** in ArchiMate® 2.1

- ❏ There has been a need to improve the **alignment** with other standards such as the TOGAF standard

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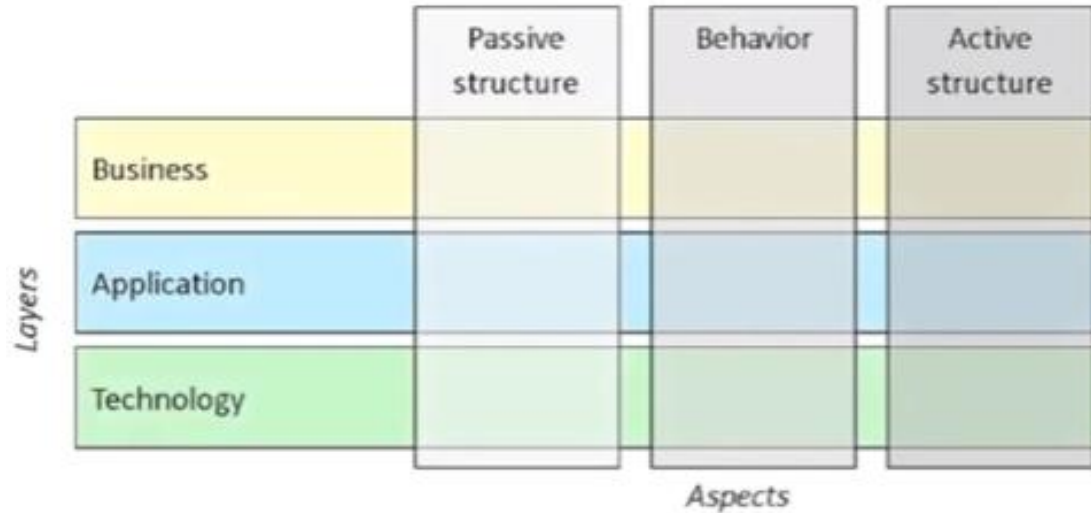
What's new in ArchiMate® 3.0?

- ❏ There are now **strategy** elements

- ❏ There are now **physical** elements

- ❏ **Relationships to relationships** are now possible

- ❏ The meaning of **grouping** has changed

- ❏ There are new and changed **notations**
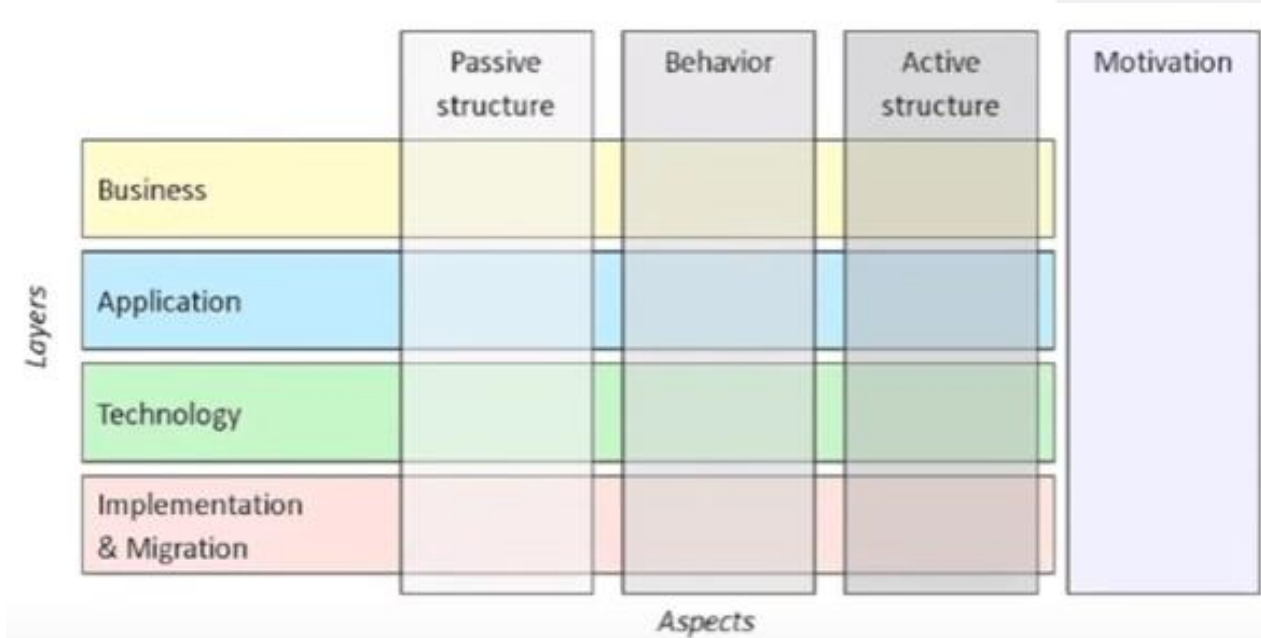
- ❏ The language is more **consistent**
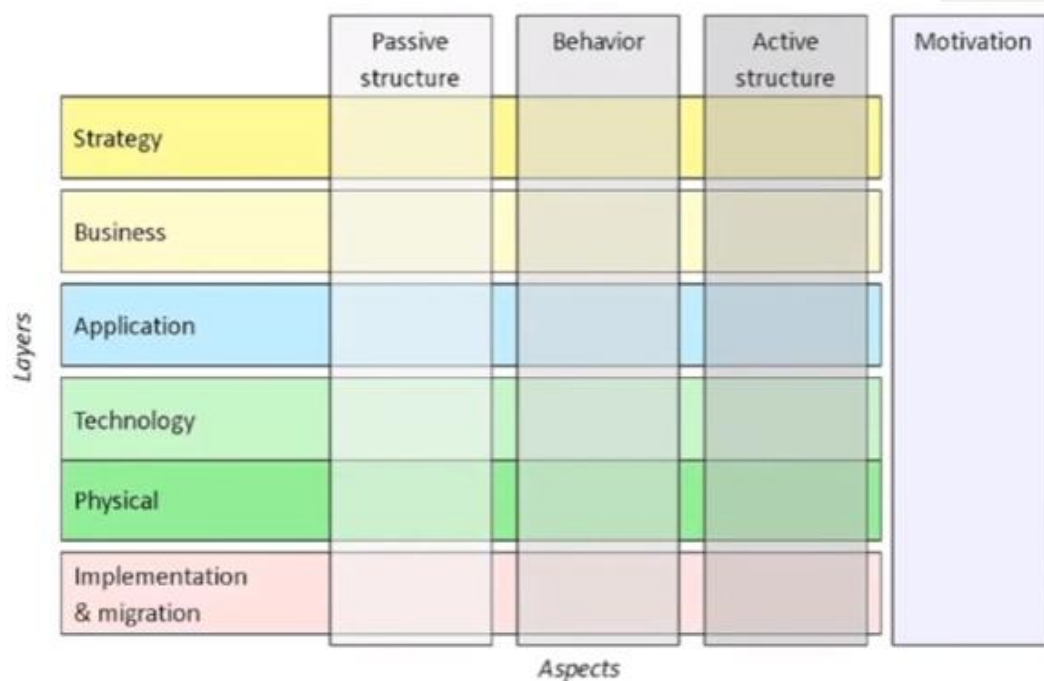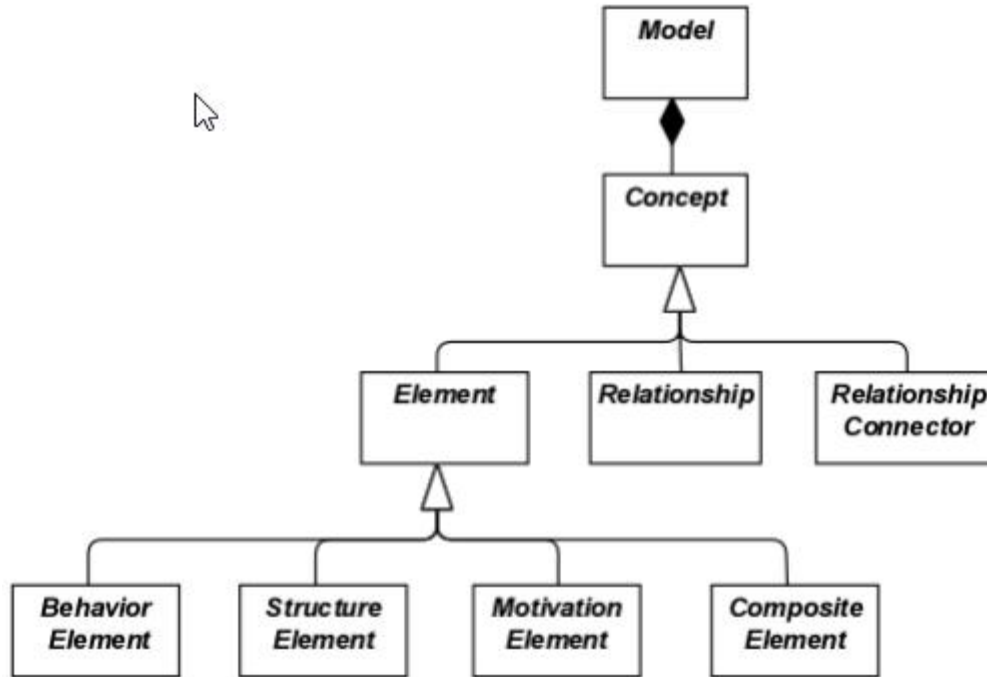
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ArchiMate® 1
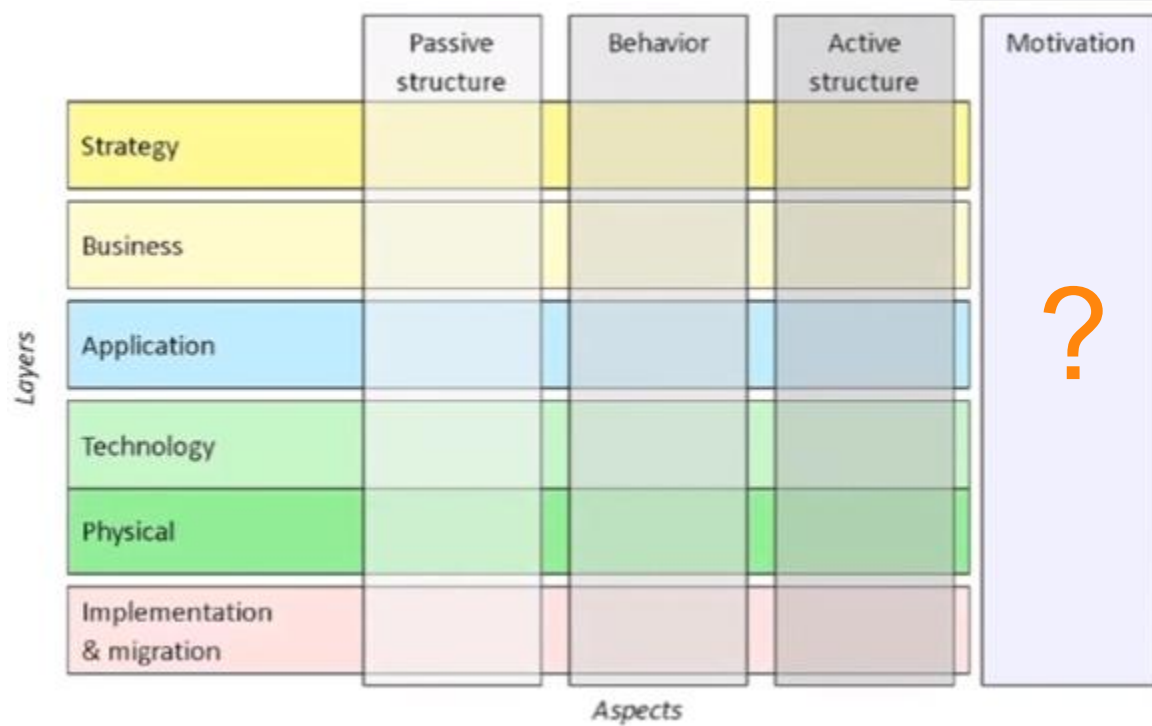
The Framework

ArchiMate® 2

The Framework
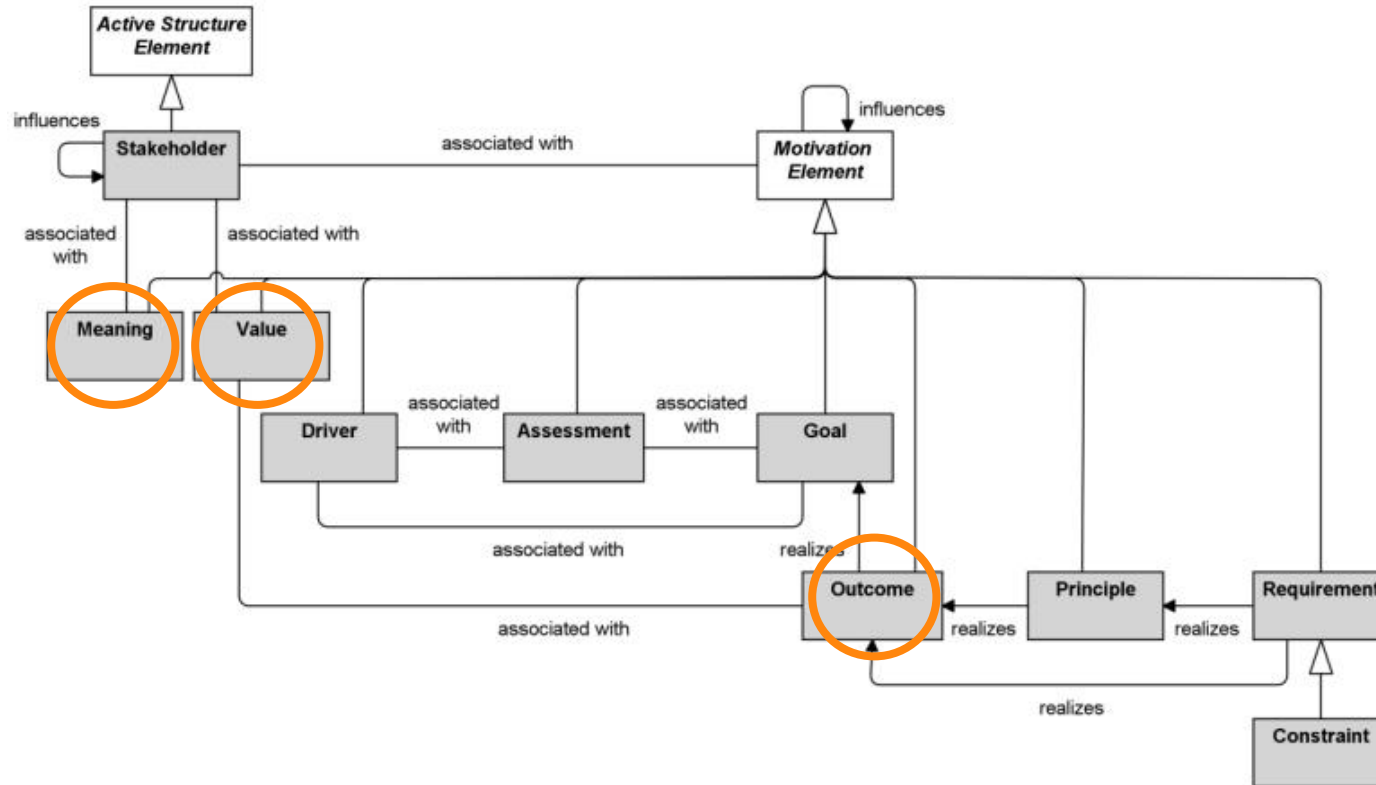
ArchiMate® 3

The Language

Note that these are abstract concepts; they are not intended to be used directly in models. To signify this, they are depicted in white with labels in italics.
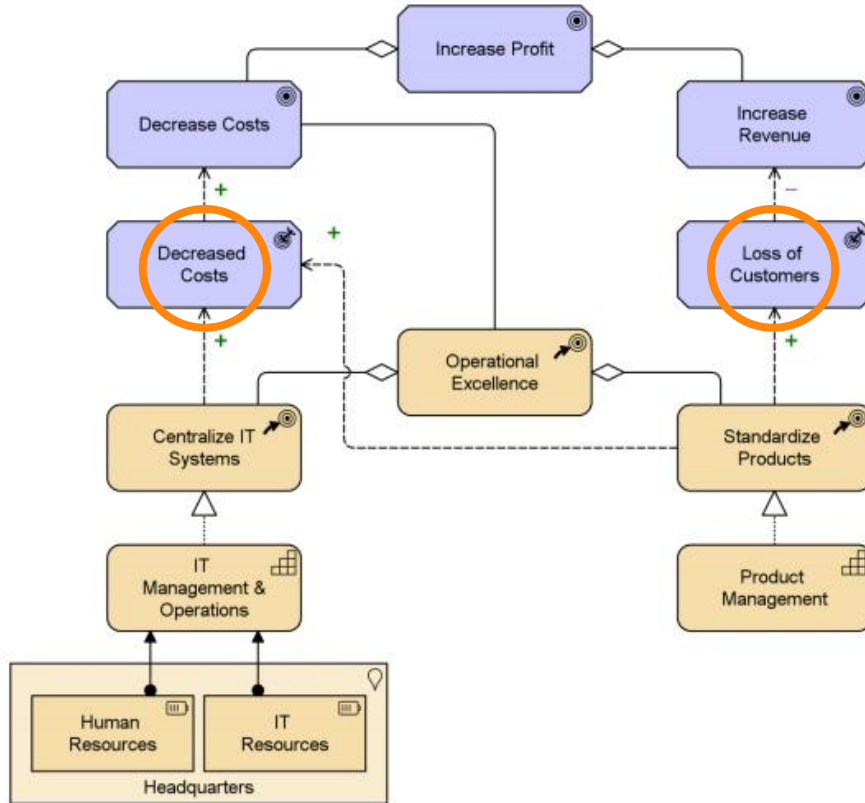
What is new, has changed, or improved?

What's new in the Motivation aspect?

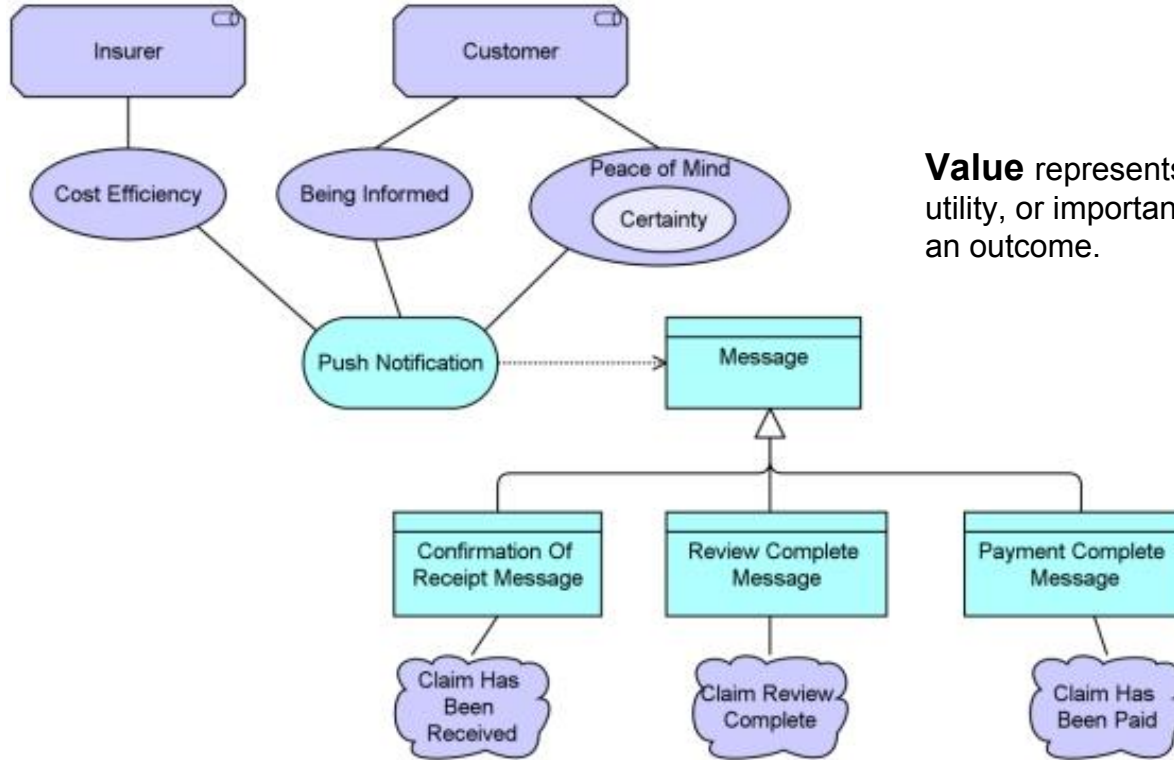# Archimate® 3.0 - Motivation Metamodel

Example

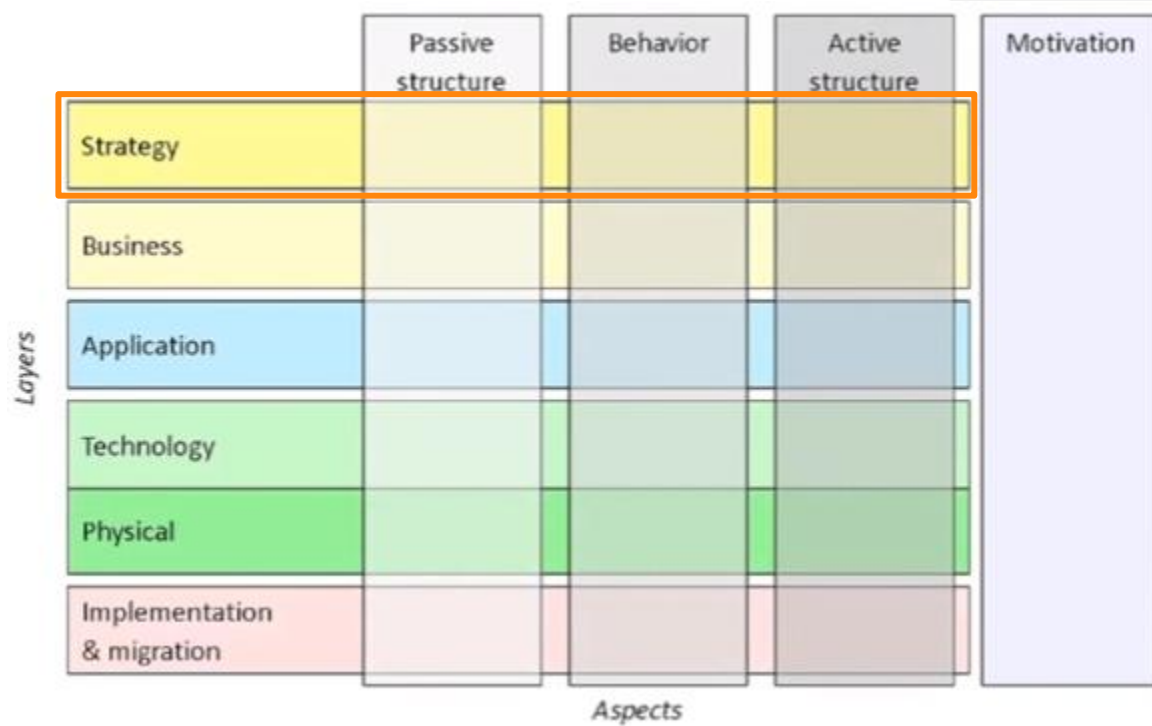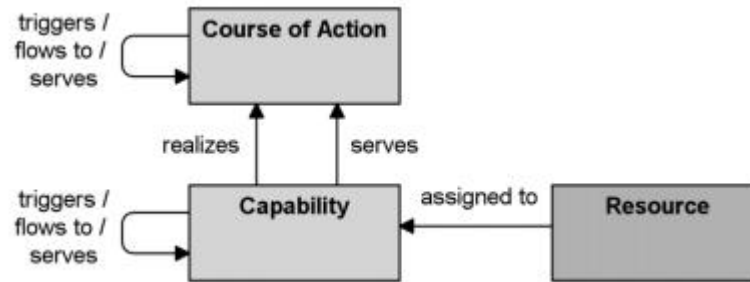An **outcome** represents an end result that has been achieved.

Example

Value represents the relative worth, utility, or importance of a core element or an outcome.

Meaning represents the knowledge or expertise present in, or the interpretation given to, a core element in a particular context.
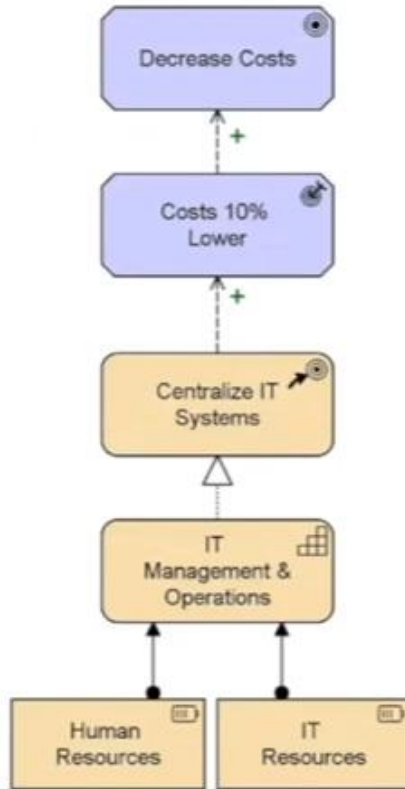
The Strategy Layer

	Passive structure	Behavior	Active structure	Motivation
Strategy				
Business				
Application				
Technology				
Physical				
Implementation & migration				

Layers

Aspects

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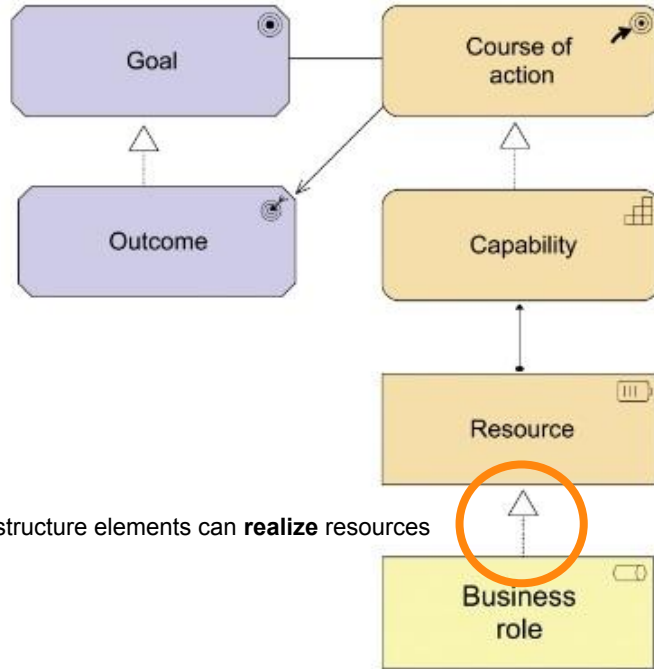
Archimate® 3.0 - Strategy Metamodel

Example

A **course of action** is an approach or plan for configuring some capabilities and resources of the enterprise, undertaken to achieve a goal (behavior)

A **capability** represents an ability that an active structure element, such as an organization, person, or system, possesses (behavior)
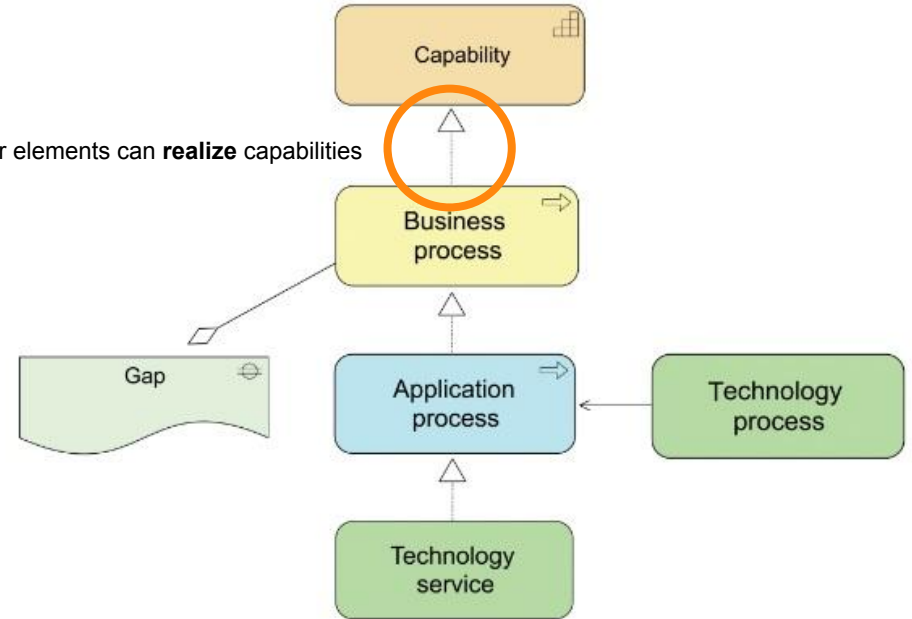
A **resource** represents an asset owned or controlled by an individual or organization (structure)

behavior elements can **realize** capabilities
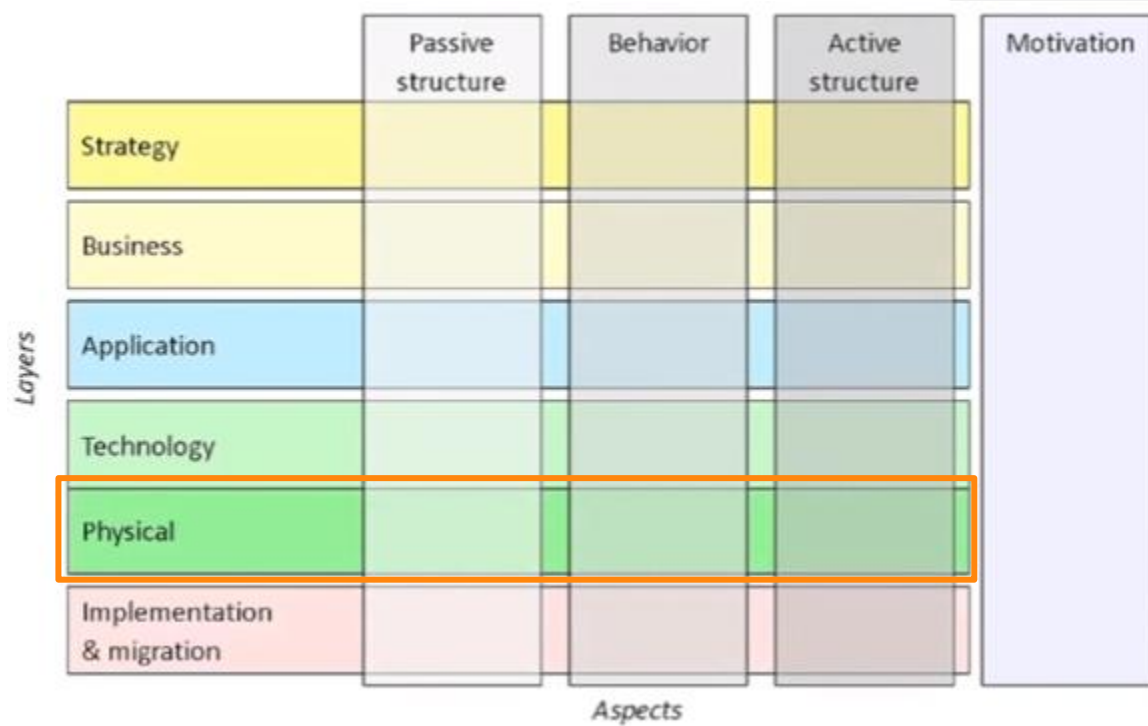
structure elements can **realize** resources

	Passive structure	Behavior	Active structure	Motivation
Strategy				
Business				
Application				
Technology				
Physical				
Implementation & migration				

Layers / Aspects

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Archimate® 3.0 Physical Layer Metamodel

What is new, has changed, or improved?

Example

A **facility** represents a physical structure or environment.
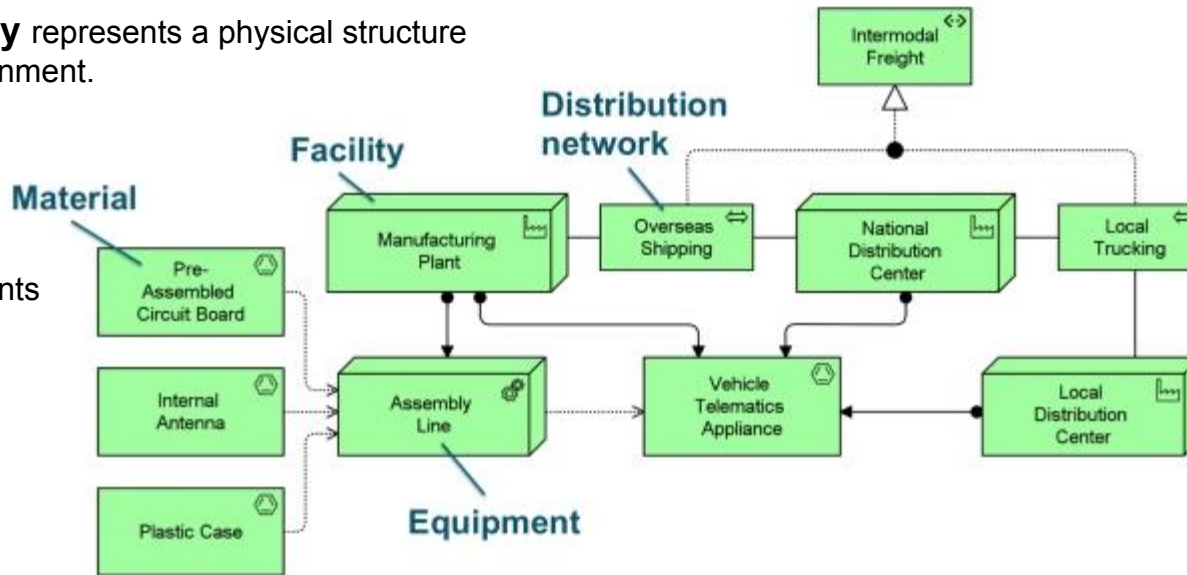
Material represents tangible physical matter or physical elements.

A **distribution network** represents a physical network used to transport materials or energy.

Equipment represents one or more physical machines, tools, or instruments that can create, use, store, move, or transform materials.
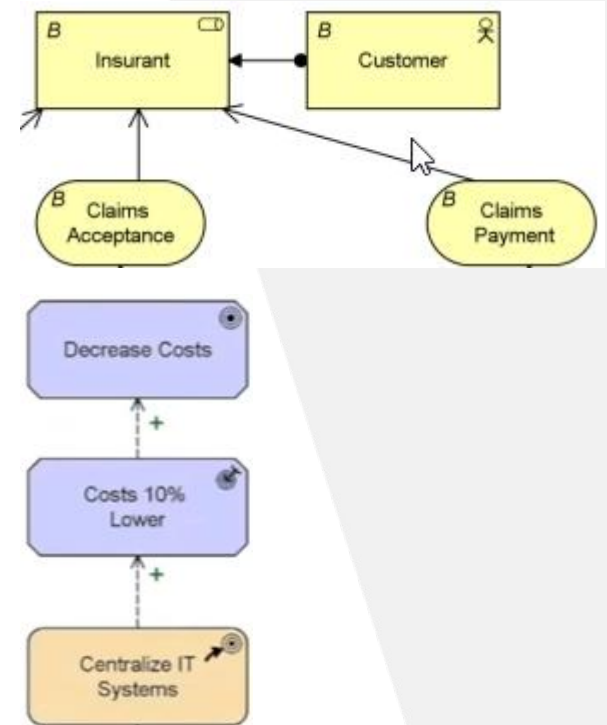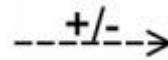
Relationship changes

v 2.1   **v 3.0**

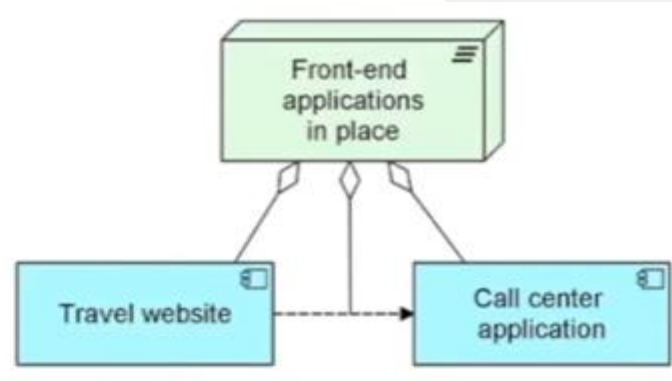●————————●   assignment   ●————————▶

————————▶   used by / serving   ————————▶

- - - - - - ▶   influence   - - -+/-- ▶

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Relationships to Relationships

associating objects to flows
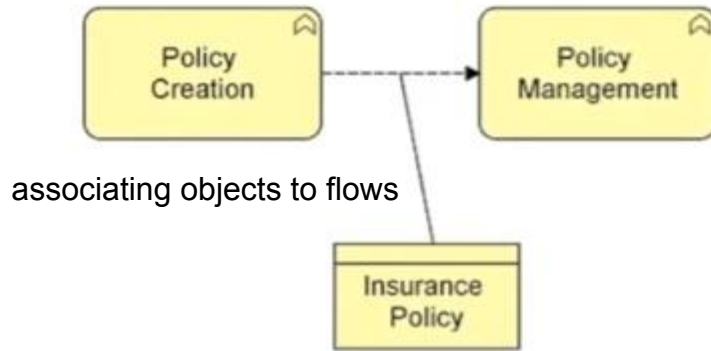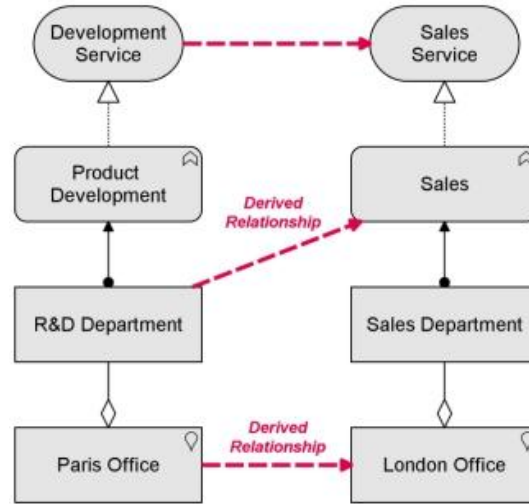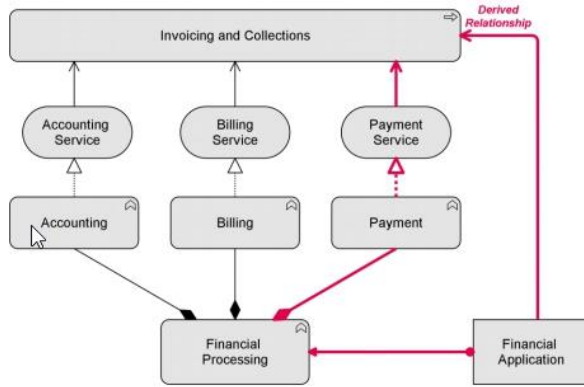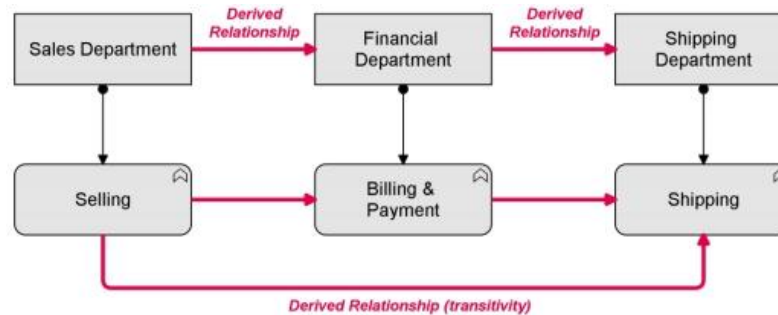
a relationship can be part of a plateau

Relationship Derivation Rules

Derived Structural and Dependency Relationship
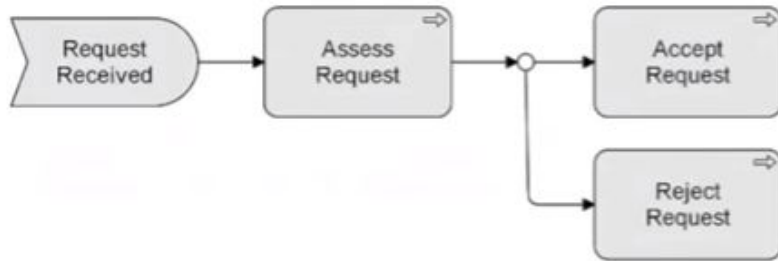
Derived Flow Relationships
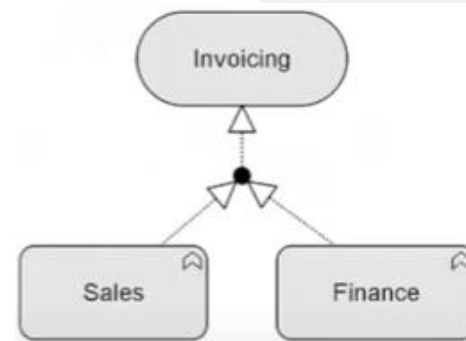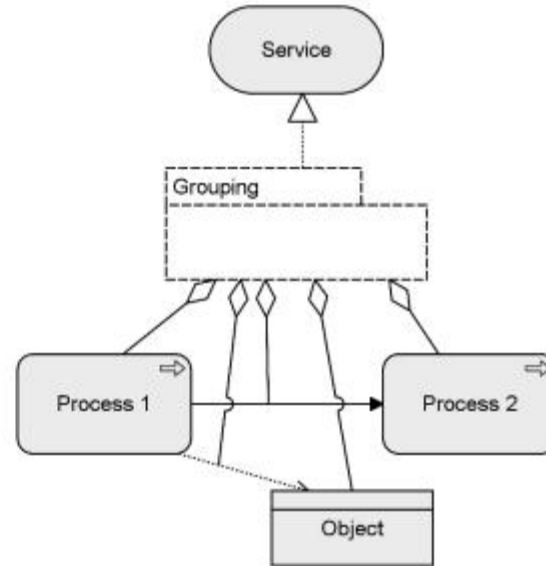
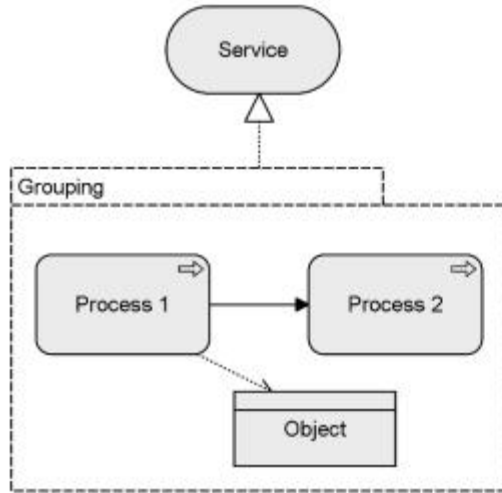**Derived Triggering Relationships**

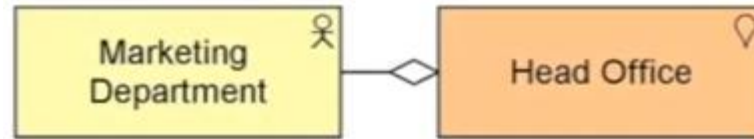# Junctions

the or-junction (**new**)

junction is now **possible on more relationships,** for example the realization relationship

Grouping

# Location

Other Improvements and Changes

- ❏ Some concept definitions were simplified and more aligned across the language and with TOGAF

- ❏ The consistency of the language was improved. Eg renamed *infrastructure x* to *technology x*

- ❏ Process, interaction and collaboration elements can now be found in all layers

- ❏ Events can now be found in all layers and also in the Implementation and Migration

- ❏ No more 'extensions' (motivation and implementation & migration are an integral part of the language)

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Notation Changes

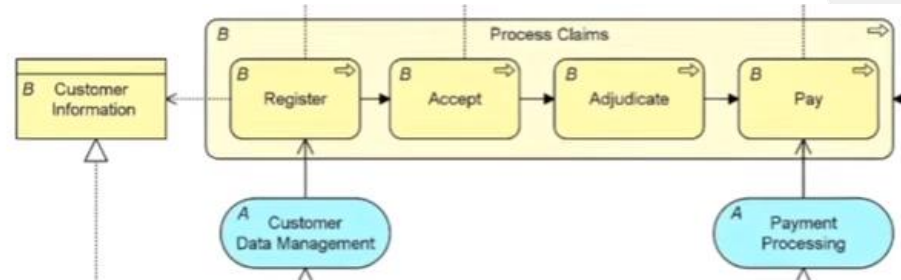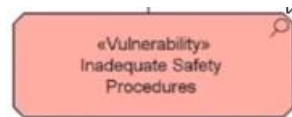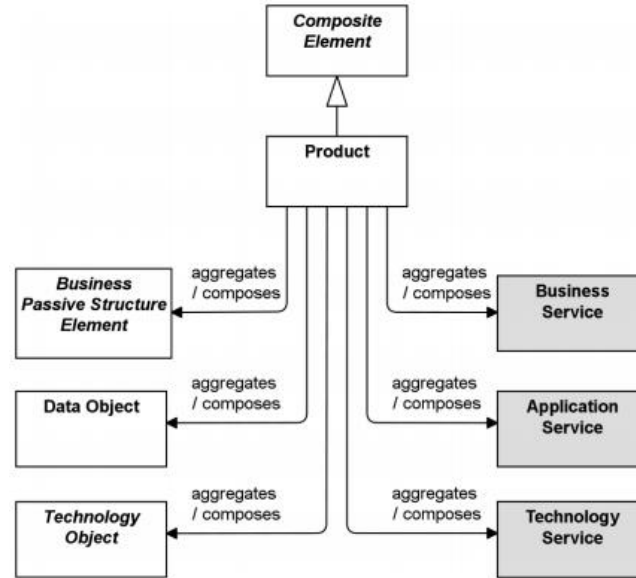★ **Business Layer**
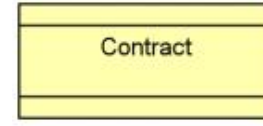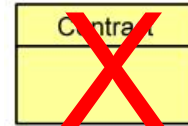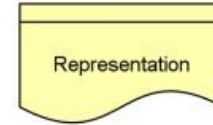
★ **Notational cues: a letter 'M', 'S', 'B', 'A', 'T', 'P', or 'I' in the top-left corner of an element**

★ **Stereotyping**

The Business Layer

A product represents a coherent collection of services and/or passive structure elements, accompanied by a contract/set of agreements, which is offered as a whole to (internal or external) customers.

The Application Layer

An **application process** represents a sequence of application behaviors that achieves a specific outcome (behavior) - **NEW**

An **application event** is an application behavior element that denotes a state change (behavior) - **NEW**
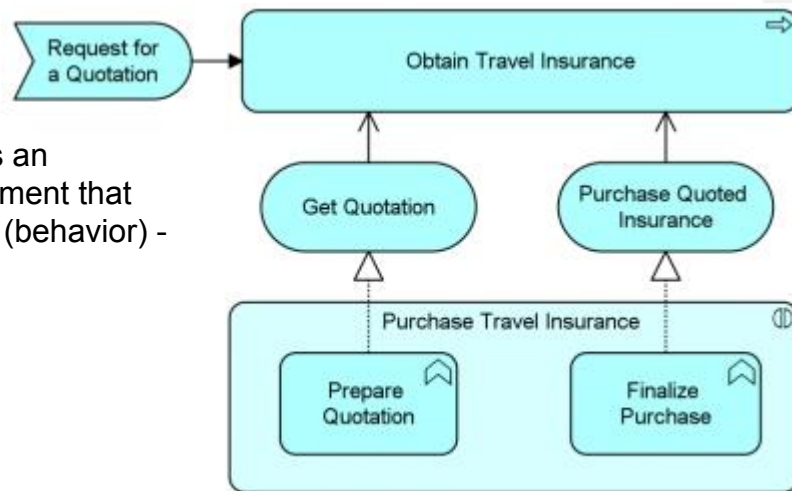
The Technology Layer

A **technology event** is a technology behavior element that denotes a state change (behavior) - **NEW**
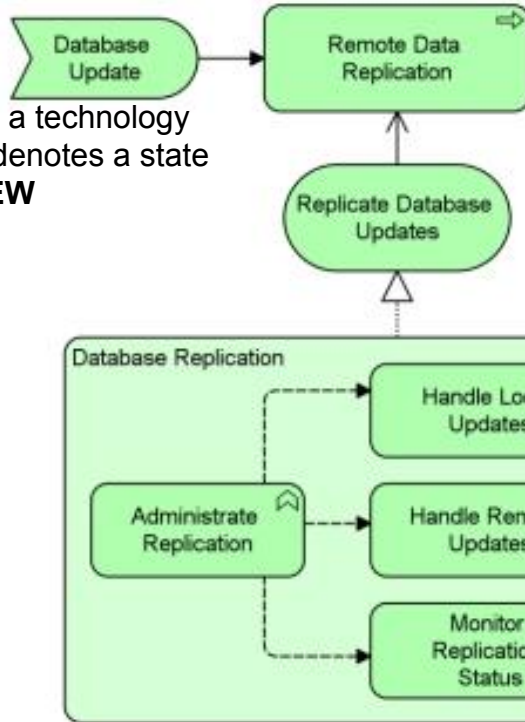
A **technology process** represents a sequence of technology behaviors that achieves a specific outcome (behavior) - **NEW**

A **technology interaction** represents a unit of collective technology behavior performed by (a collaboration of) two or more nodes (behavior) - **NEW**

The Technology Layer
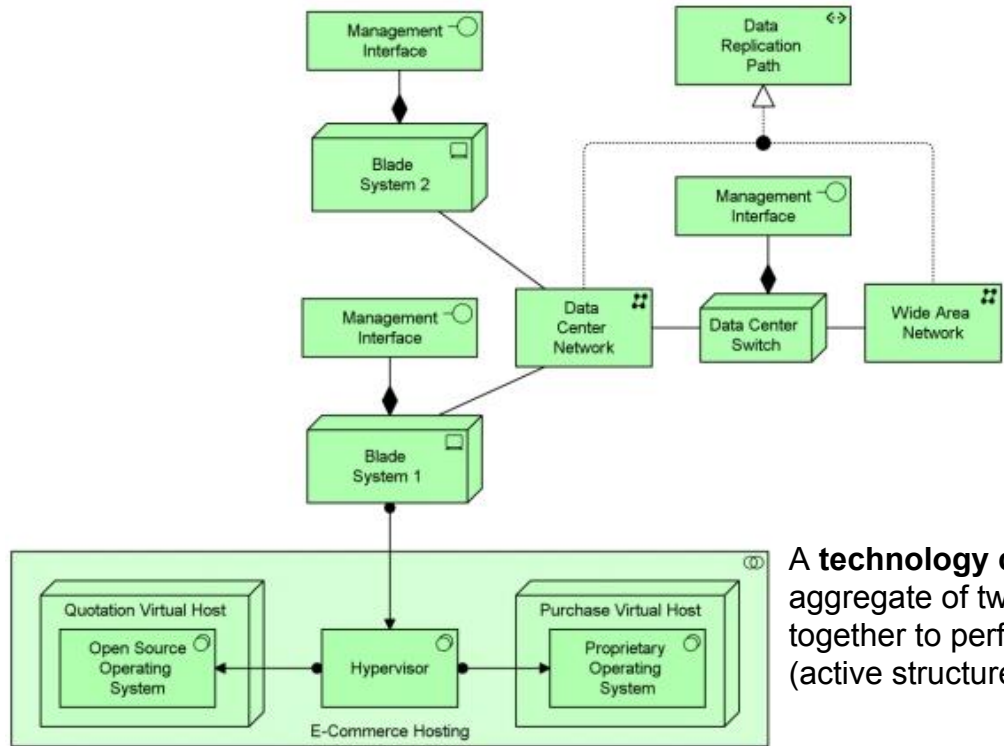
A **technology collaboration** represents an aggregate of two or more nodes that work together to perform collective technology behavior (active structure) - **NEW**

Cross-Layer Dependencies
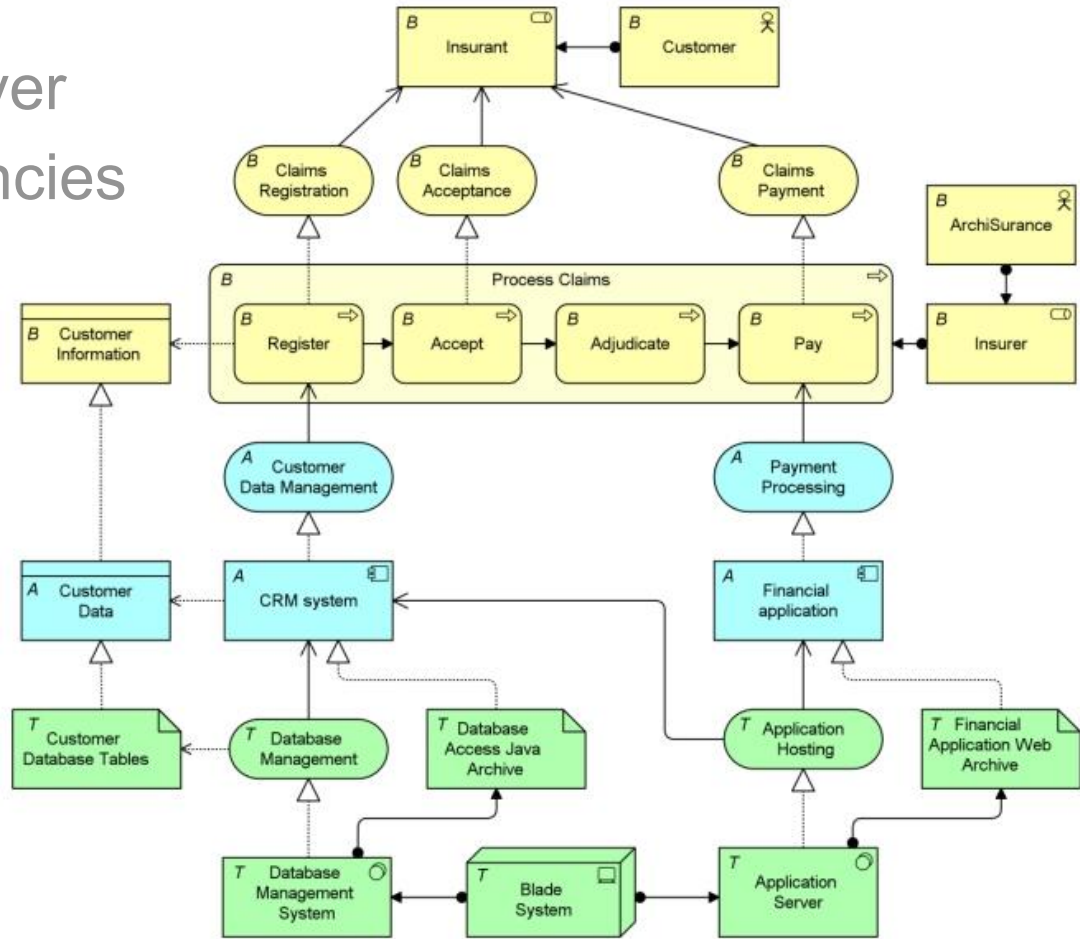
Implementation & Migration Layer
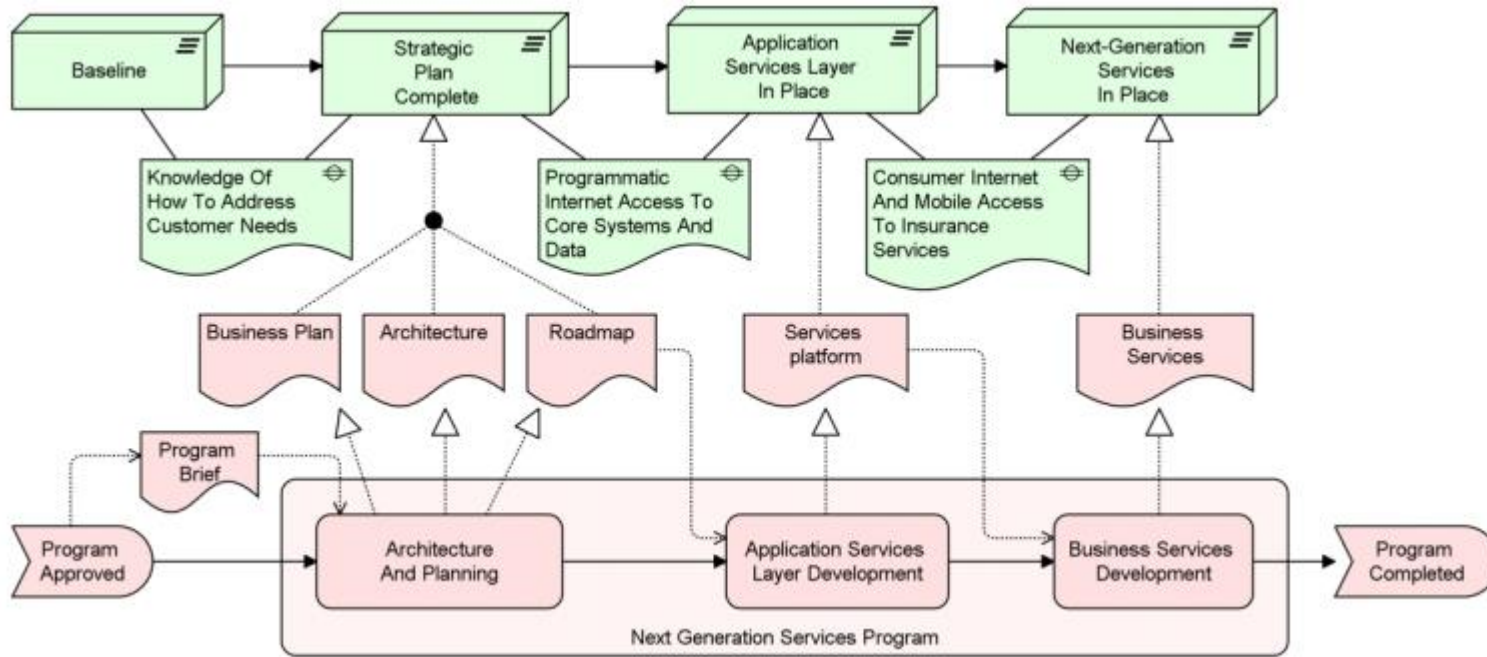
An **implementation event** is a behavior element that denotes a state change related to implementation or migration - **NEW**

Viewpoint changes

❏ The list of viewpoints is no longer part of the standard but is included as an informative appendix.

❏ The description of viewpoints and the viewpoint mechanism has been improved.

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Viewpoint Mechanism

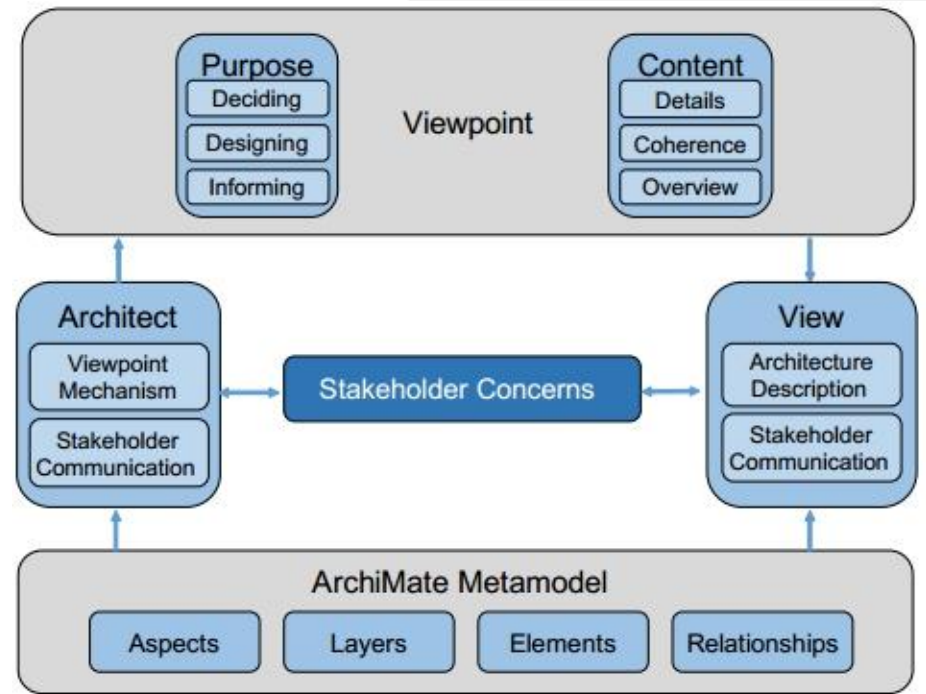A framework for the definition and classification of viewpoints.

The framework is based on two dimensions:
★   purpose
★   content.

Creating an ArchiMate® viewpoint consists of two steps:

1. Selecting a subset of relevant concepts (elements and relationships) from the ArchiMate® metamodel
2. Defining a representation to depict these concepts

Contents

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- **Conclusion**

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Conclusion

- ❏ ArchiMate® addresses a need in the market, a need for a common framework and language that can be used to accelerate the fast and accurate development of architectural views.

- ❏ Year upon year, ArchiMate® is becoming more popular as a language to create enterprise architecture description. We also see this in South Africa, especially in the banking sector.

- ❏ The introduction of the physical layer will make it easier for other industries, like manufacturing, to adopt ArchiMate®.

- ❏ Whether ArchiMate® addressed all needs in the best possible way, remains debatable, but as this need grows and redefines itself, I believe ArchiMate® will also grow and redefine itself.

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