

An Introduction to ArchiMate® 2

<http://www.opengroup.org/archimate>

**The Open Group
ArchiMate Forum**

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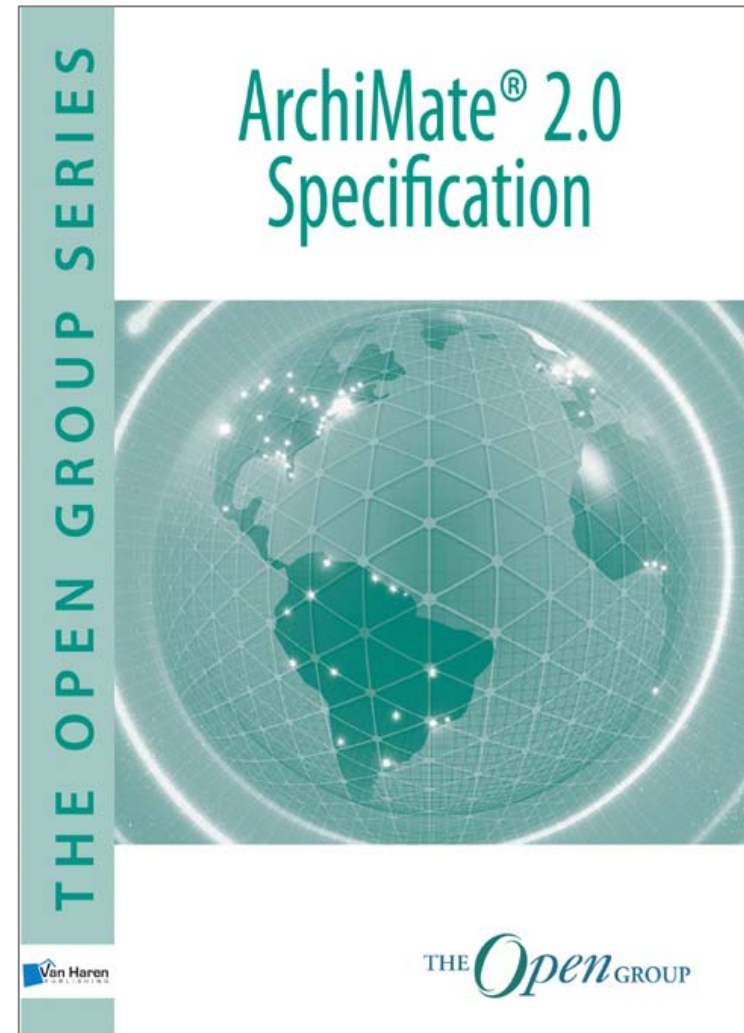
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ArchiMate, an Open Group Standard

- An open and independent modeling language for enterprise architecture
- A notation for describing, analyzing and visualizing relationships amongst business domains
- A common language



ArchiMate 2.0

- A major update to the ArchiMate standard
 - Adding new features as well as addressing feedback and comments raised
 - An upwards-compatible evolution
 - ArchiMate 2.0 now supports modeling throughout the TOGAF Architecture Development Method

ArchiMate 2.0 Certification

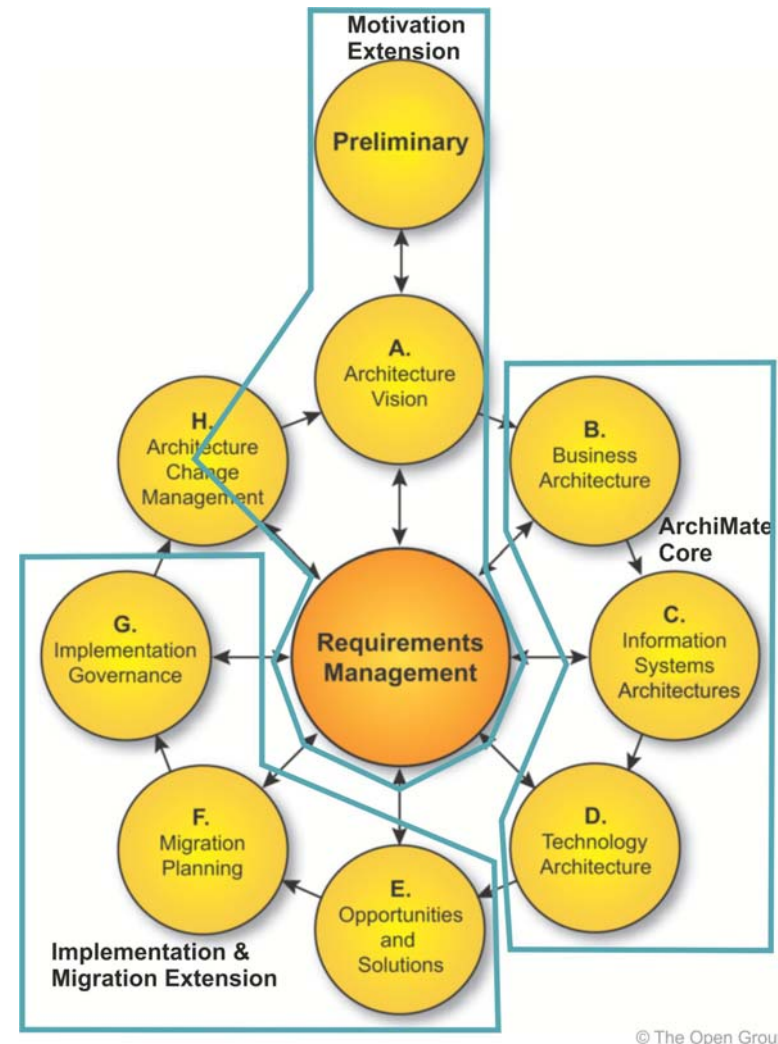
- New for ArchiMate 2
 - Certification for People
 - Accreditation for Training Courses
 - Certification for Tools

ArchiMate Certification for People

- Ensures that individuals are knowledgeable about ArchiMate
 - Have the capability to use ArchiMate for modeling
- Is a common baseline of knowledge
- Provides a visible trust mark
- Is a foundation for the emerging profession

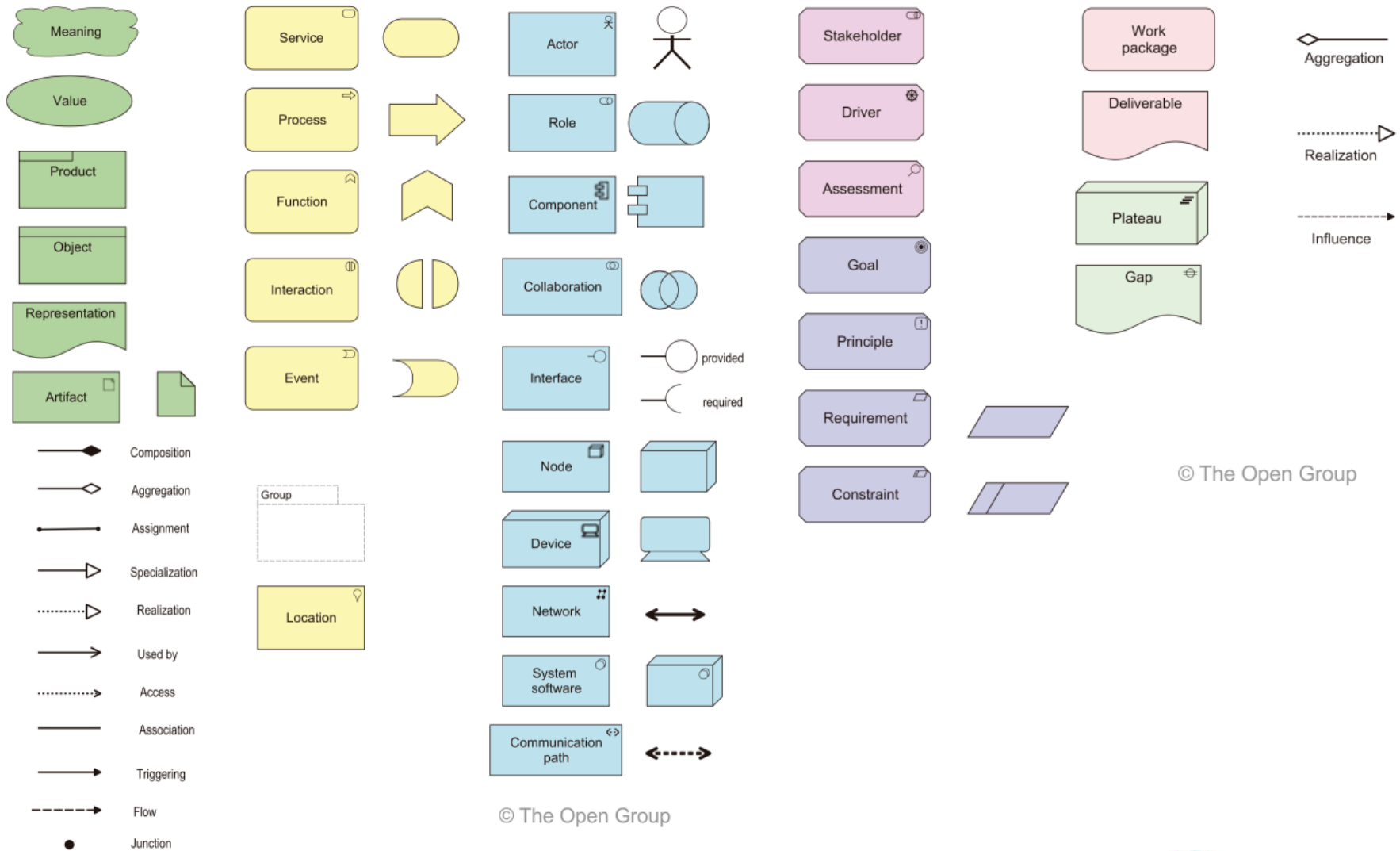
ArchiMate 2.0 and the TOGAF® ADM

- ArchiMate Core
 - Enables modeling of the architecture domains defined by TOGAF
- Motivation Extension
 - Enables modeling of stakeholders, drivers for change, business goals, principles and requirements
- Implementation and Migration Extension
 - Enables modeling of project portfolio management, gap analysis and transition and migration planning



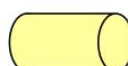
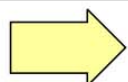
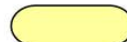
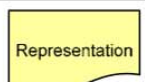
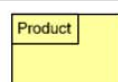
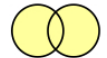




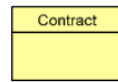

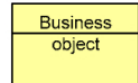


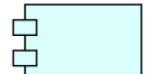




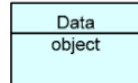
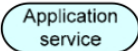
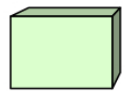


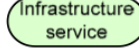



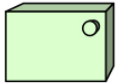




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ArchiMate 2.0 Summary



ArchiMate Core

	STRUCTURAL CONCEPTS				BEHAVIORAL CONCEPTS				INFORMATIONAL CONCEPTS	
BUSINESS	<div>Business actor</div> 		<div>Business role</div> 	<div>Business process</div> 	<div>Business service</div> 	<div>Representation</div> 	<div>Product</div> 			
	<div>Business collaboration</div> 	<div>Business interface</div> 	<div>Business function</div> 	<div>Business event</div> 	<div>Meaning</div> 	<div>Contract</div> 				
	<div>Location</div> 	<div>Business object</div> 	<div>Business interaction</div> 	<div>Value</div> 						
APPLICATION	<div>Application component</div> 	<div>Application collaboration</div> 	<div>Application function</div> 	<div>Application interaction</div> 						
	<div>Application interface</div> 	<div>Data object</div> 	<div>Application service</div> 							
TECHNOLOGY	<div>Node</div> 	<div>Device</div> 	<div>Infrastructure function</div> 	<div>Infrastructure service</div> 	<div>Artifact</div> 					
	<div>Network</div> 	<div>System software</div> 								
	<div>Communication path</div> 	<div>Infrastructure interface</div> 								

Extensions

The **Motivation Extension** adds concepts such as goal, principle, and requirement. It addresses the way the enterprise architecture is aligned to its context, as described by motivational elements.

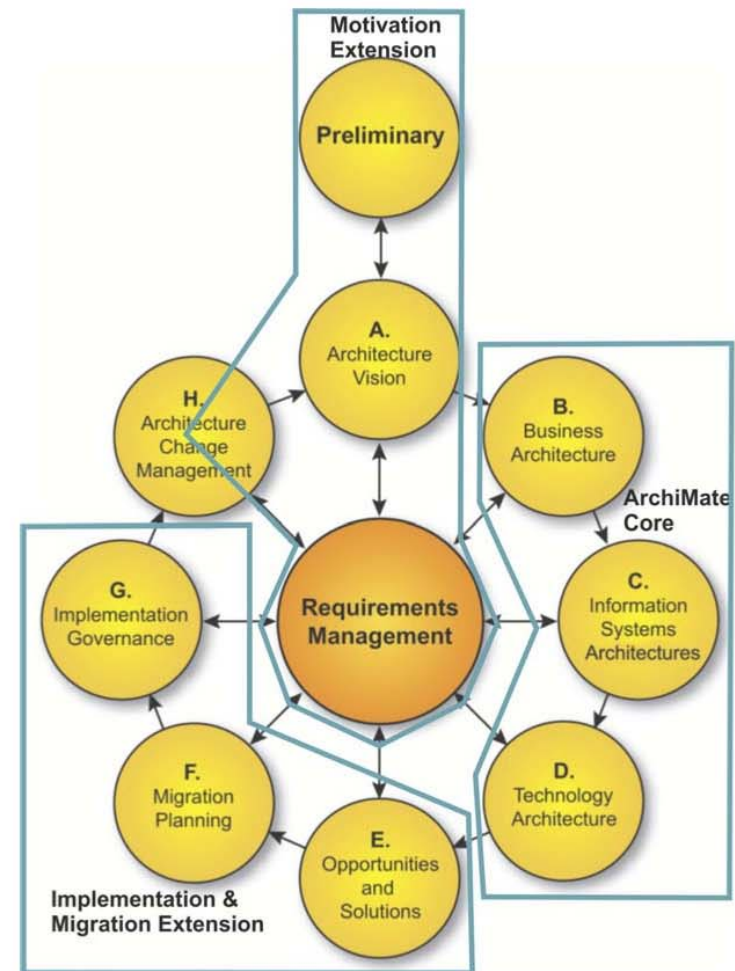
The **Implementation and Migration Extension** adds concepts to support the later ADM phases, related to the implementation and migration of architectures.

Motivation Extension

Stakeholder	Assessment
Driver	Goal
Requirement	Constraint
Principle	










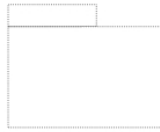


Implementation and Migration Extension

Work package	Deliverable	Plateau	Gap
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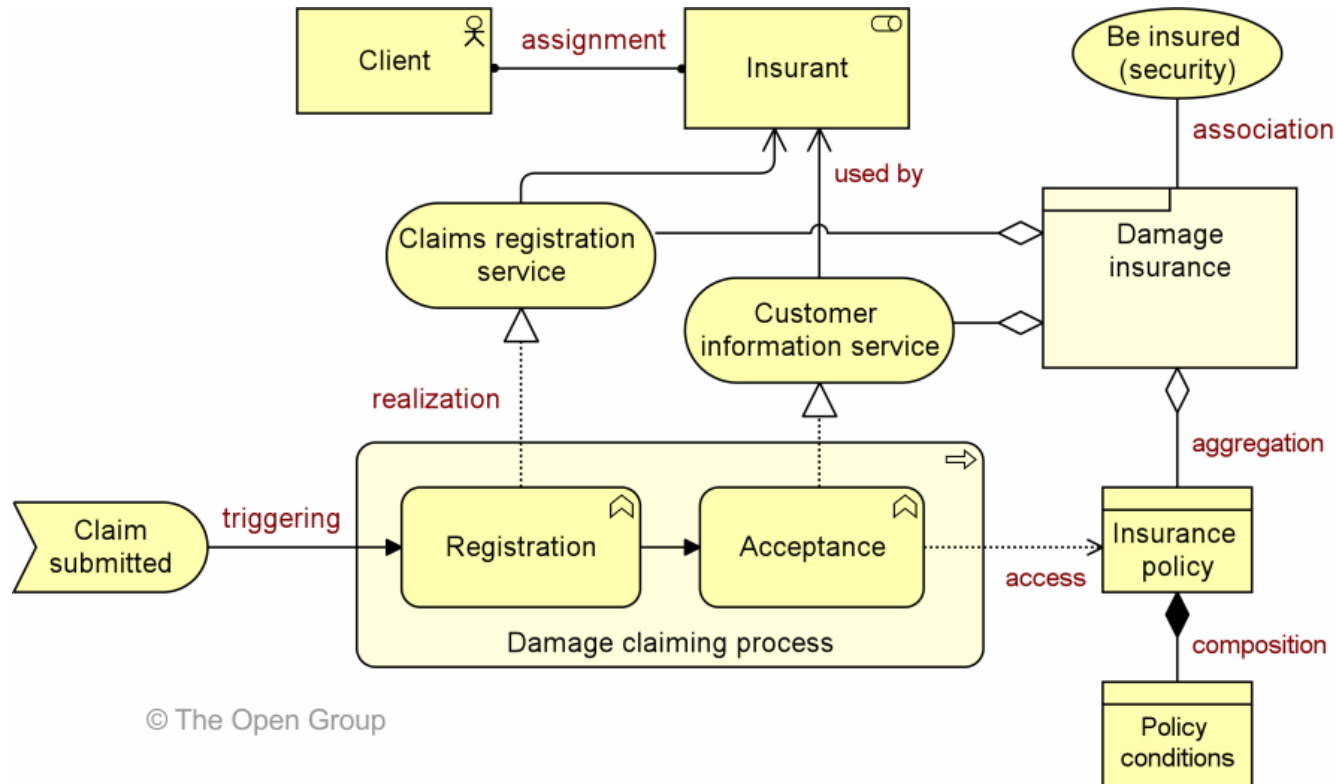


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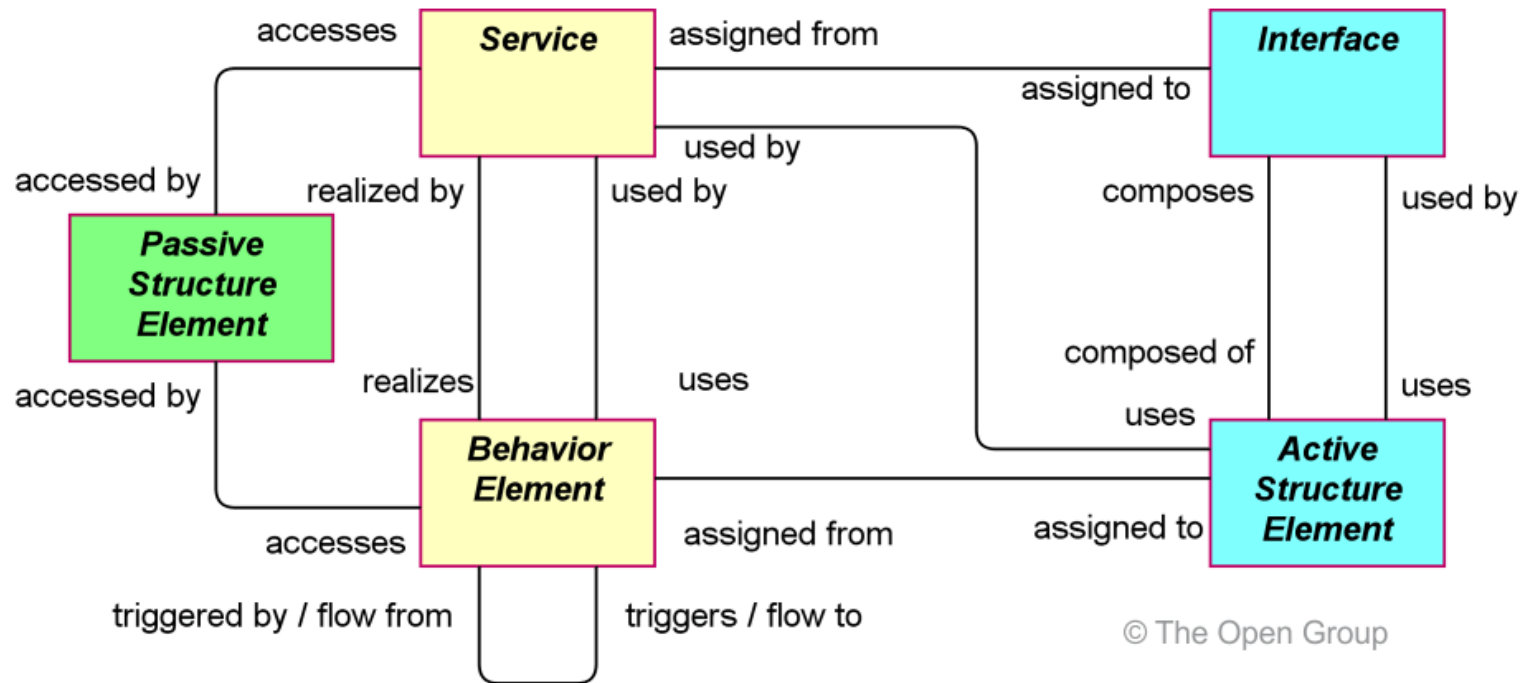
Relationships

Structural Relationships		Notation
Association	Association models a relationship between objects that is not covered by another, more specific relationship.	
Access	The access relationship models the access of behavioral concepts to business or data objects.	
Used by	The used by relationship models the use of services by processes, functions, or interactions and the access to interfaces by roles, components, or collaborations.	
Realization	The realization relationship links a logical entity with a more concrete entity that realizes it.	
Assignment	The assignment relationship links units of behavior with active elements (e.g., roles, components) that perform them, or roles with actors that fulfill them.	
Aggregation	The aggregation relationship indicates that an object groups a number of other objects.	
Composition	The composition relationship indicates that an object is composed of one or more other objects.	
Dynamic Relationships		Notation
Flow	The flow relationship describes the exchange or transfer of, for example, information or value between processes, function, interactions, and events.	
Triggering	The triggering relationship describes the temporal or causal relationships between processes, functions, interactions, and events.	
Other Relationships		Notation
Grouping	The grouping relationship indicates that objects, of the same type or different types, belong together based on some common characteristic.	
Junction	A junction is used to connect relationships of the same type.	
Specialization	The specialization relationship indicates that an object is a specialization of another object.	

Example Relationships

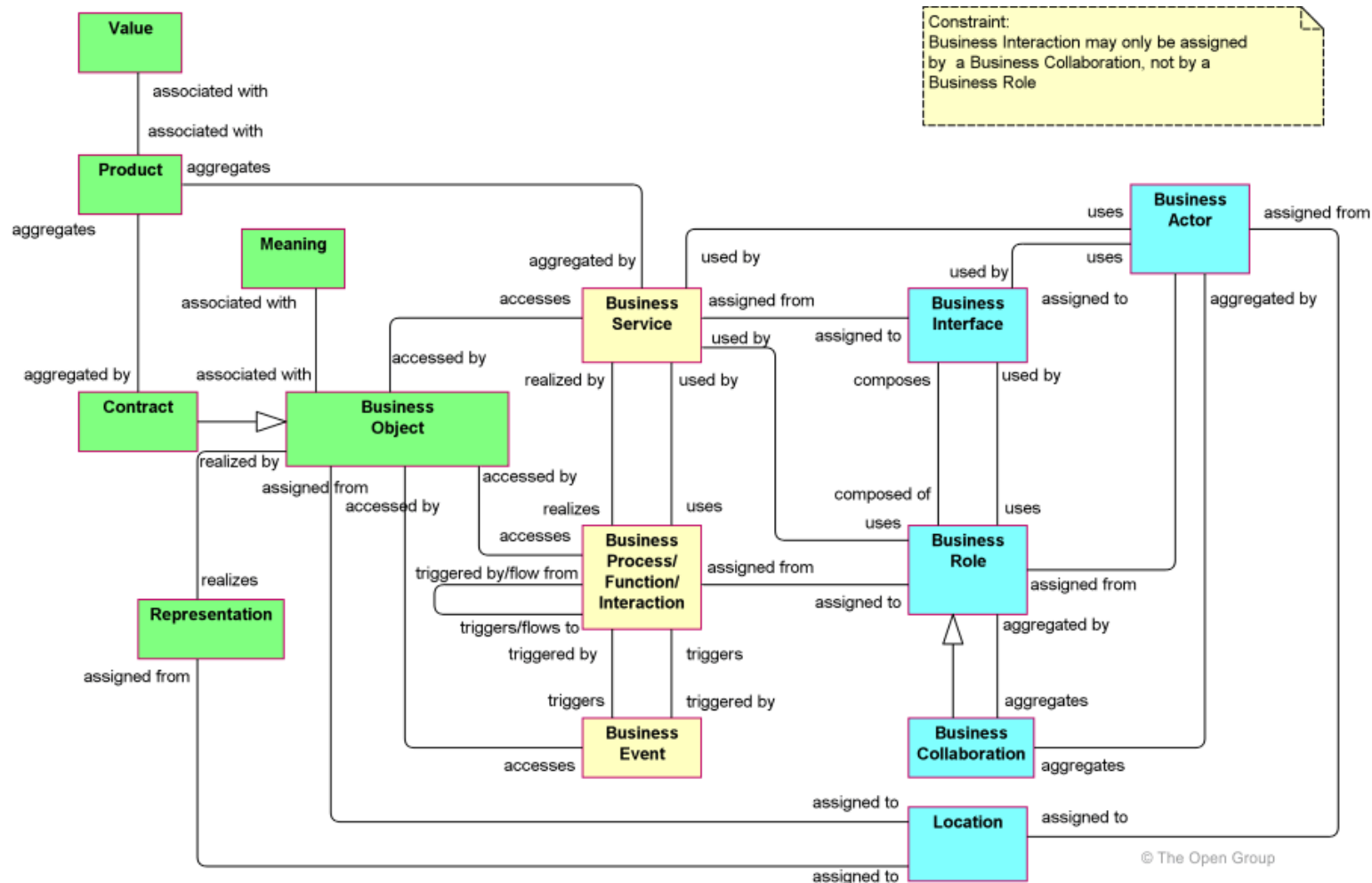


Generic Metamodel – Core Concepts of ArchiMate

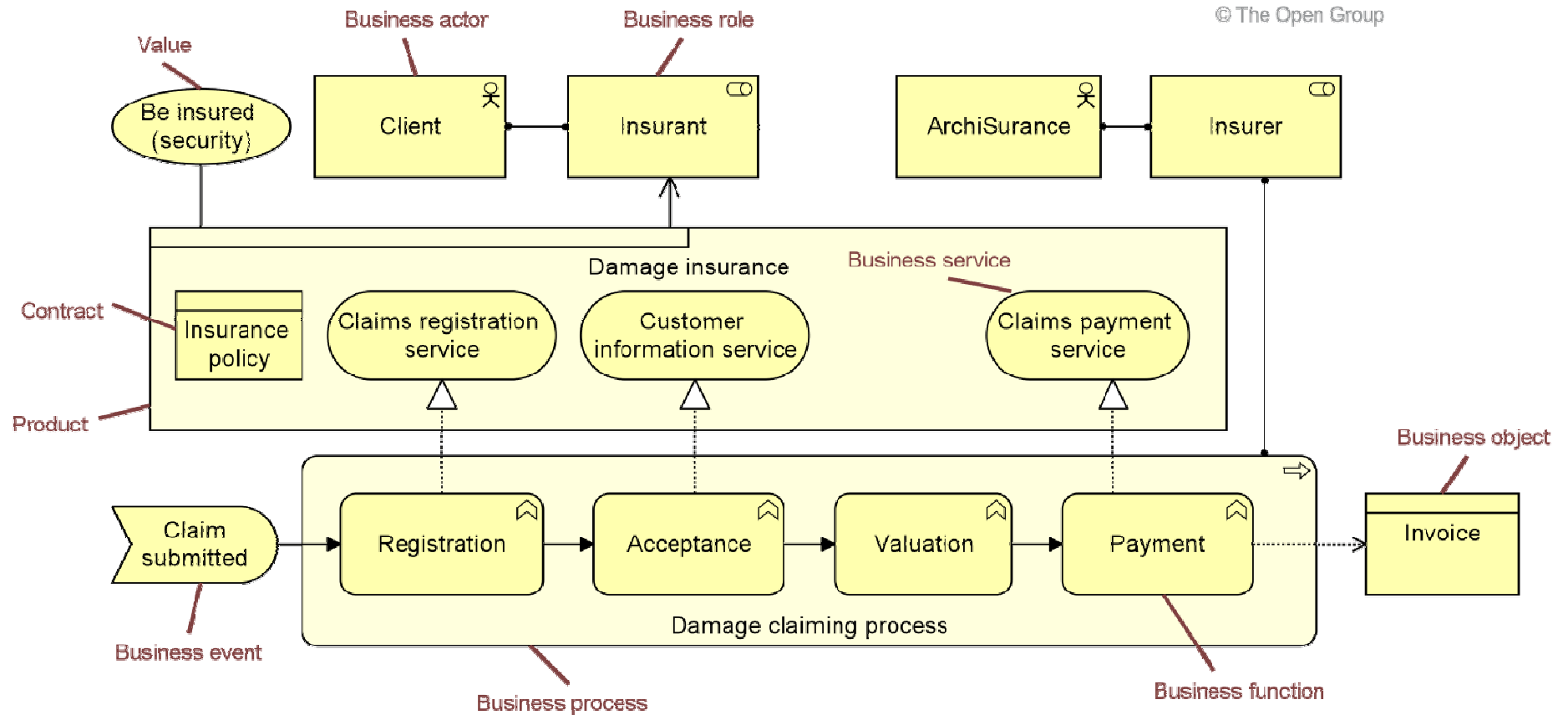


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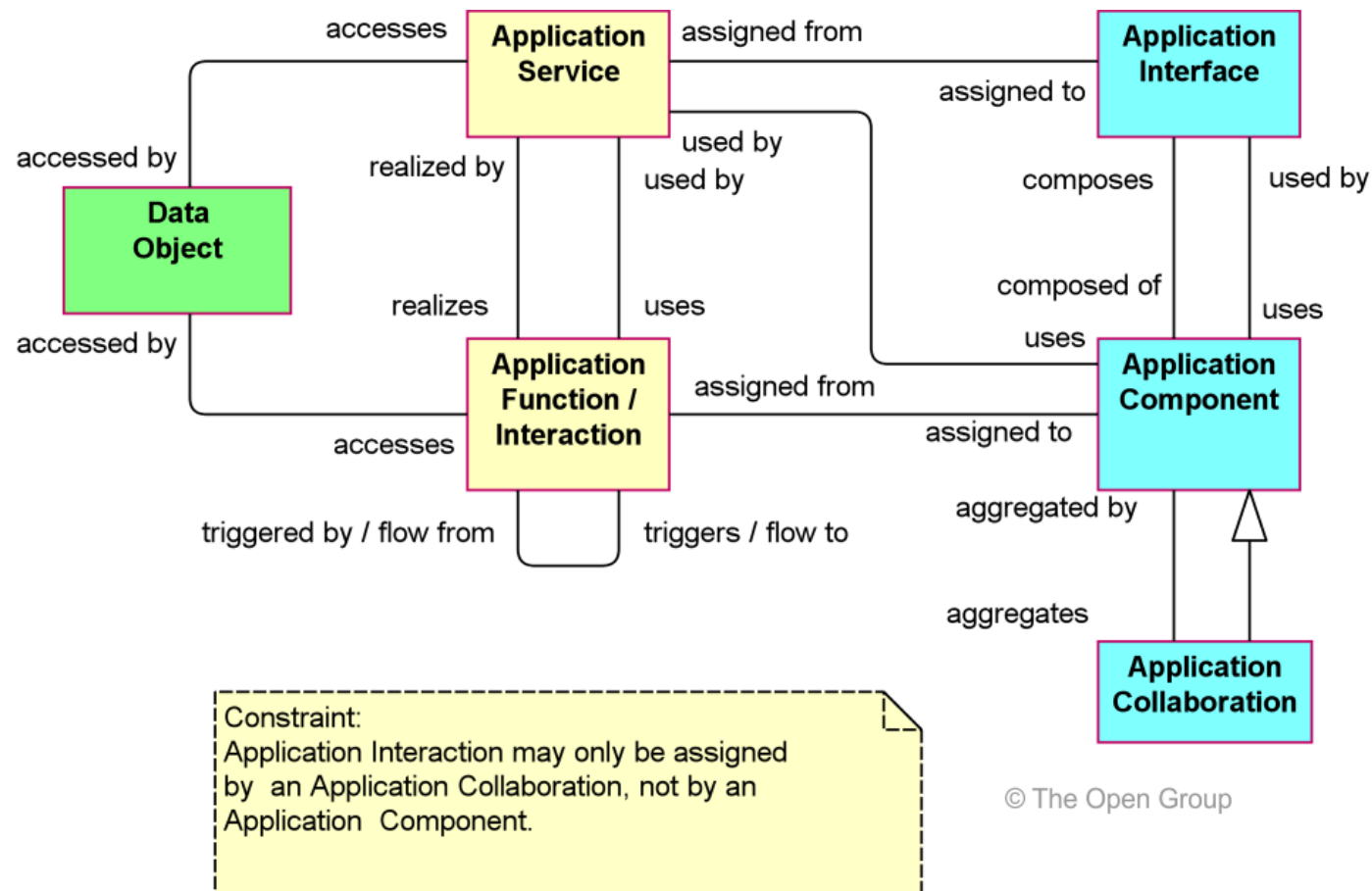
Business Layer Metamodel



Example Business Layer Model

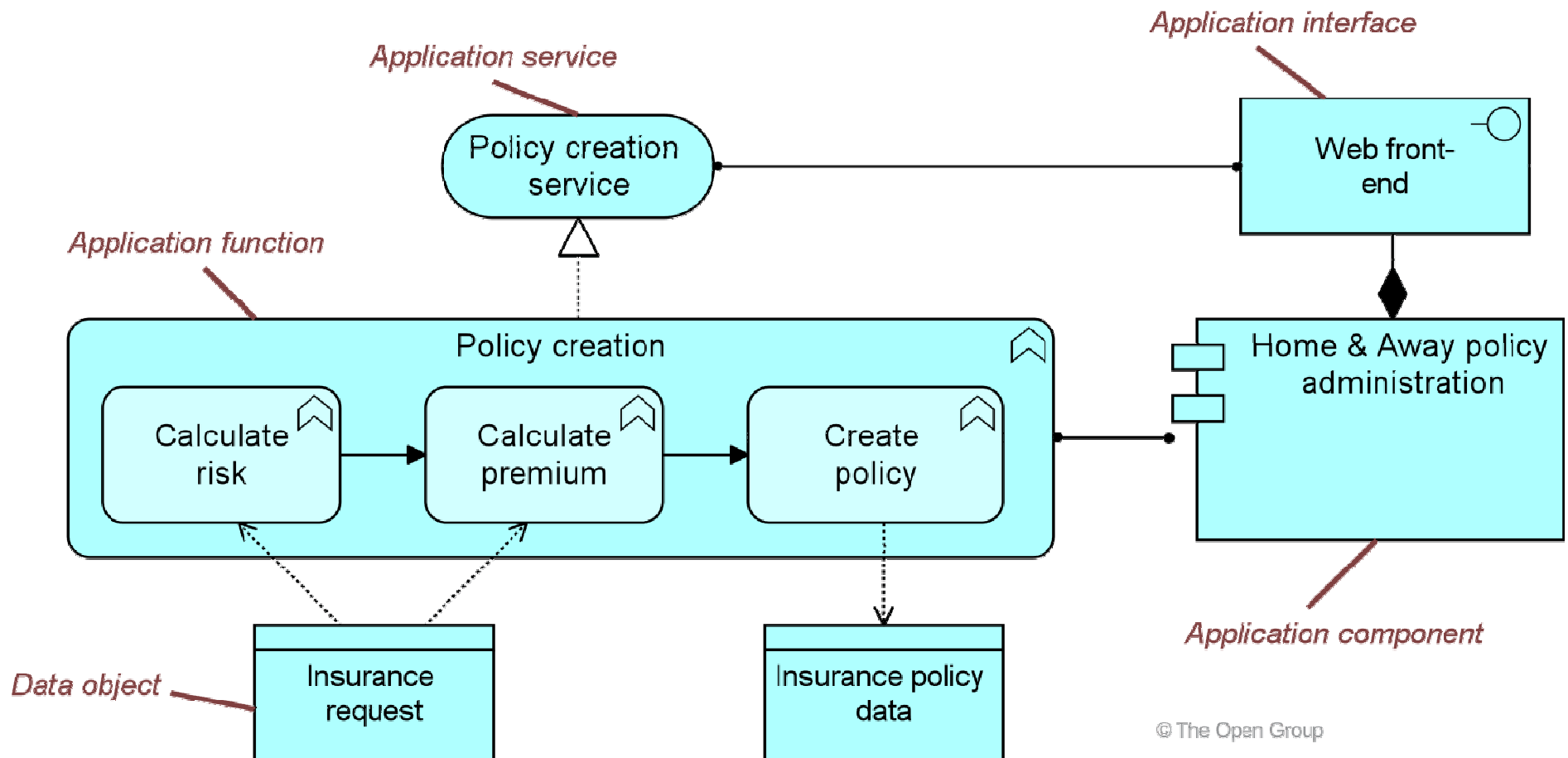


Application Layer Metamodel



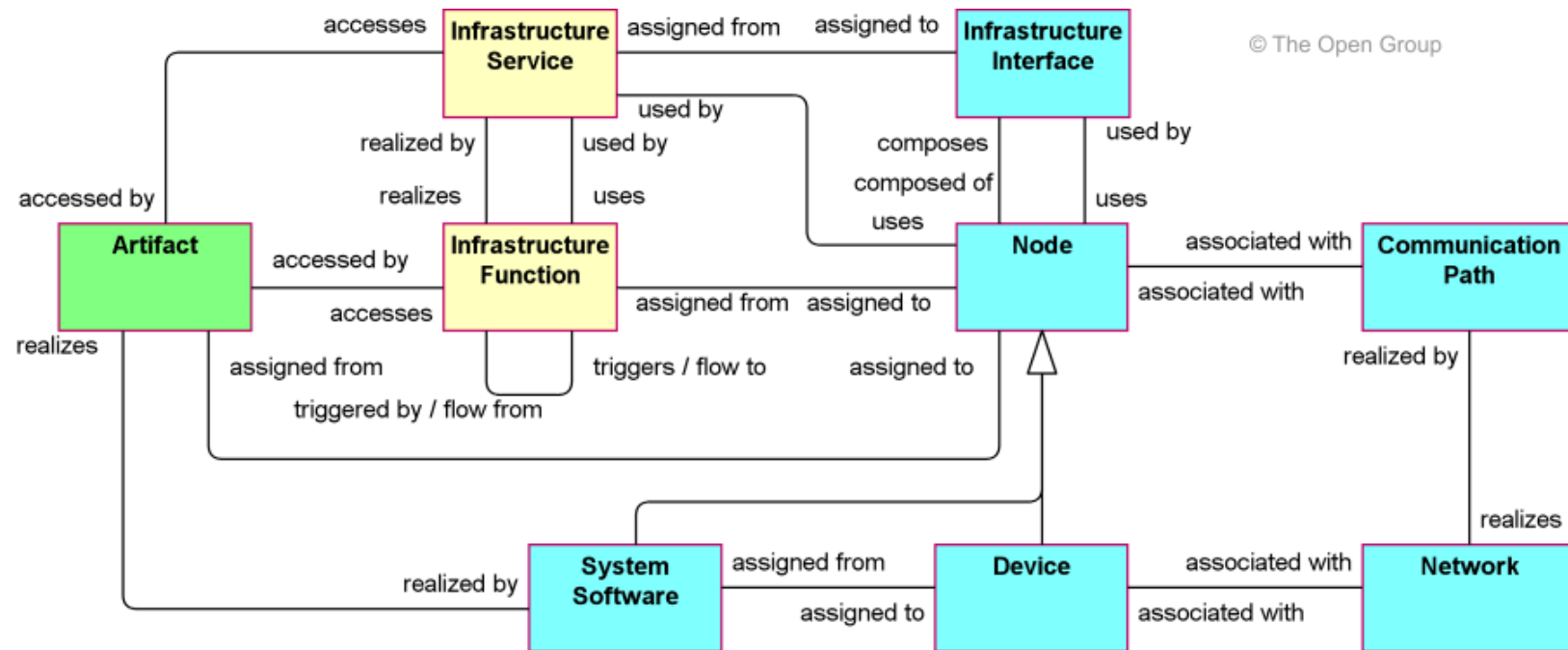
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Example Application Layer Model



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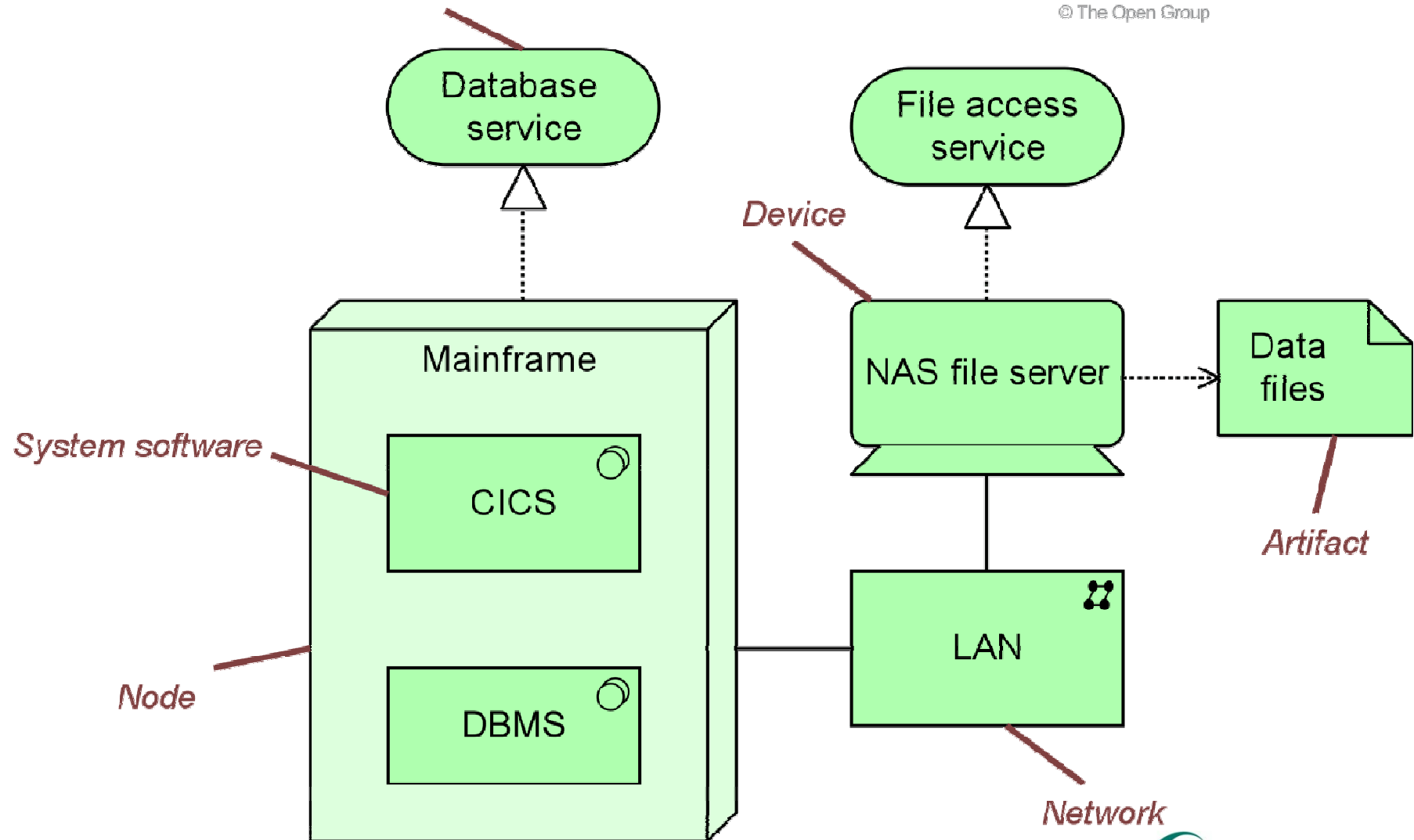
Technology Layer Metamodel



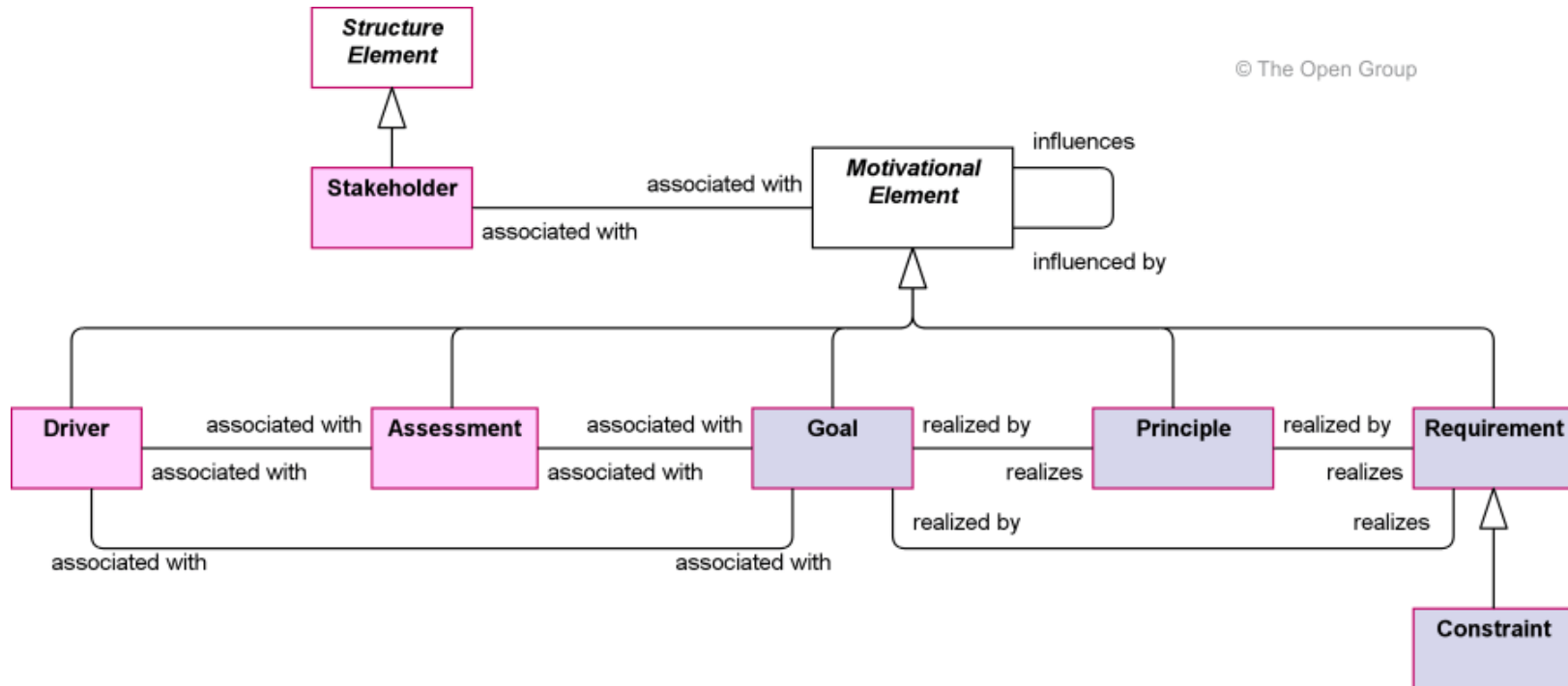
Example Technology Layer Model

Infrastructure service

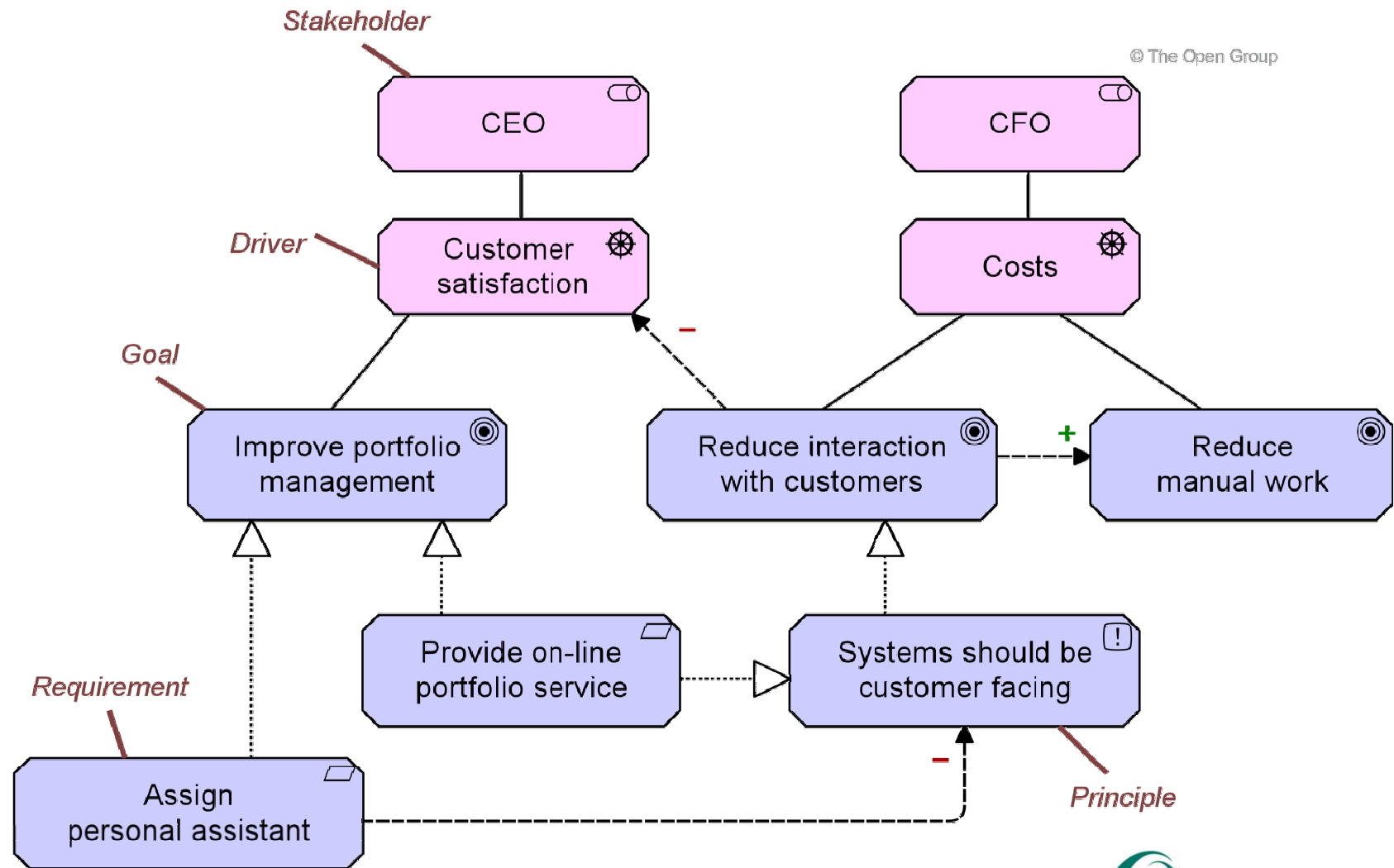
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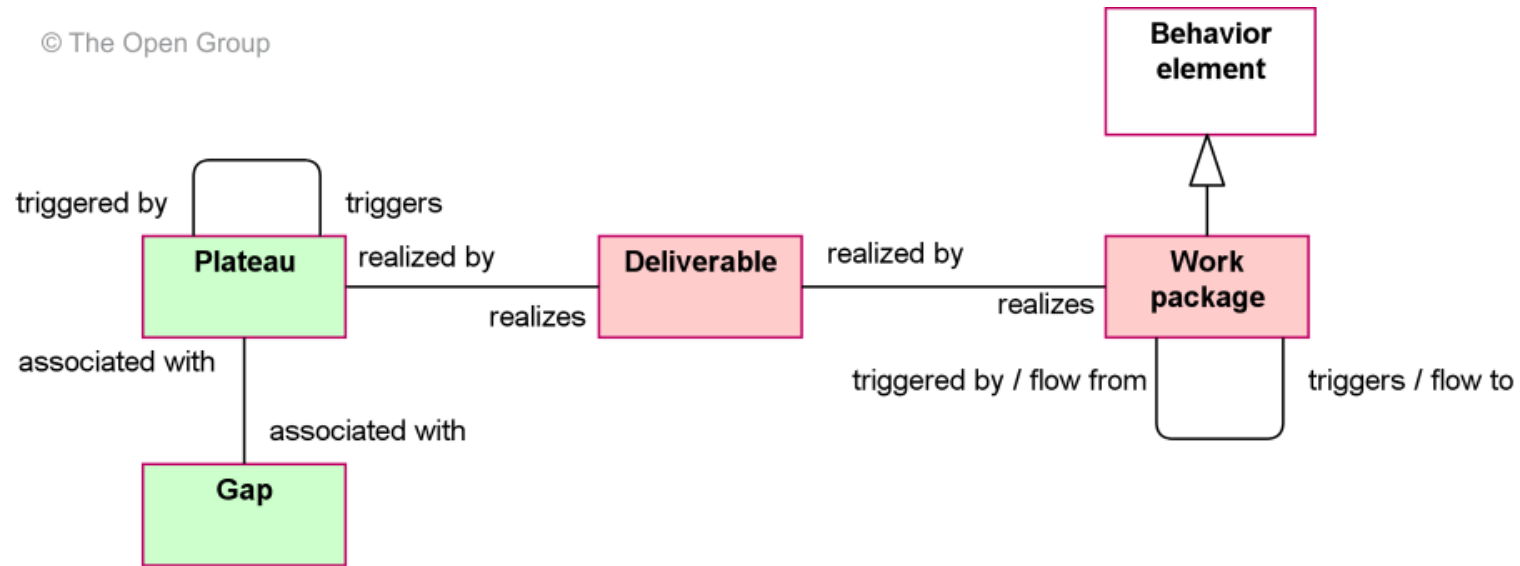
Motivation Extension Metamodel



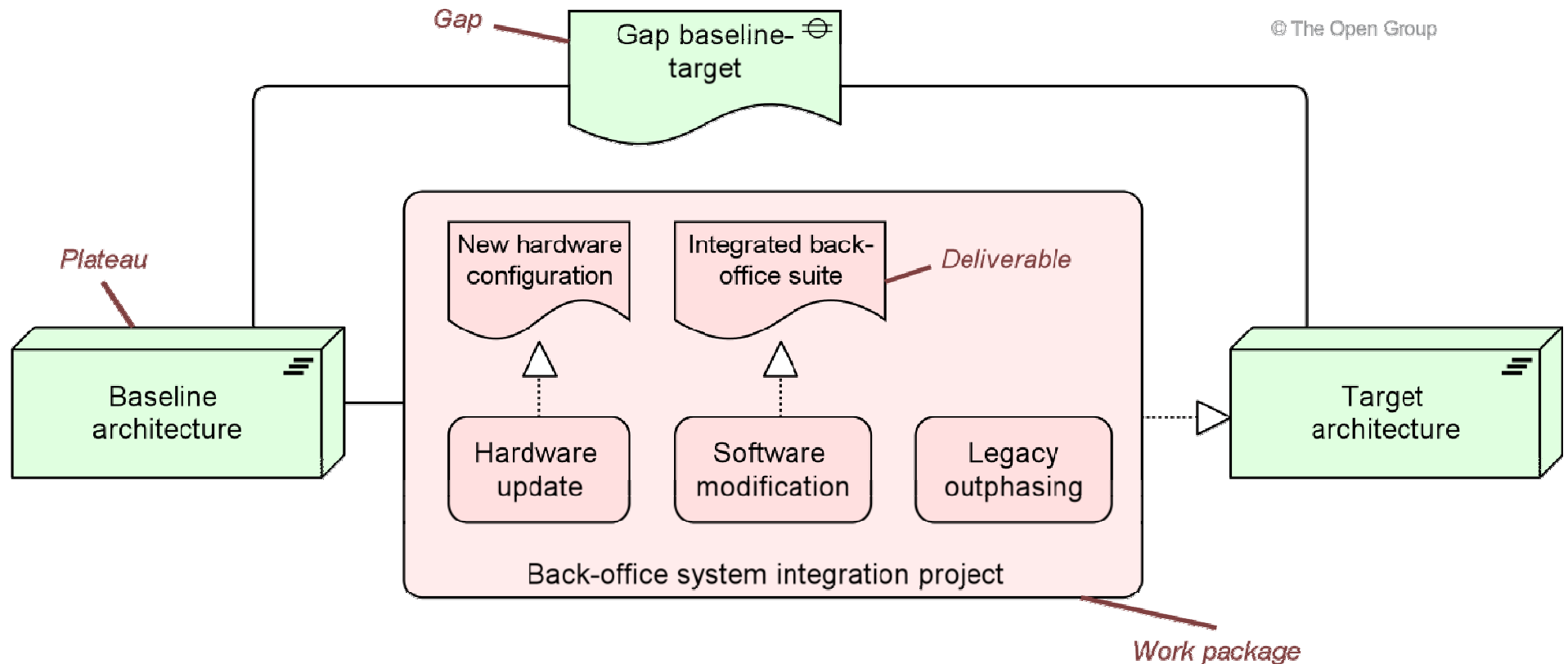
Example Motivation Extension Model



Implementation & Migration Extension Metamodel



Example Implementation & Migration Model




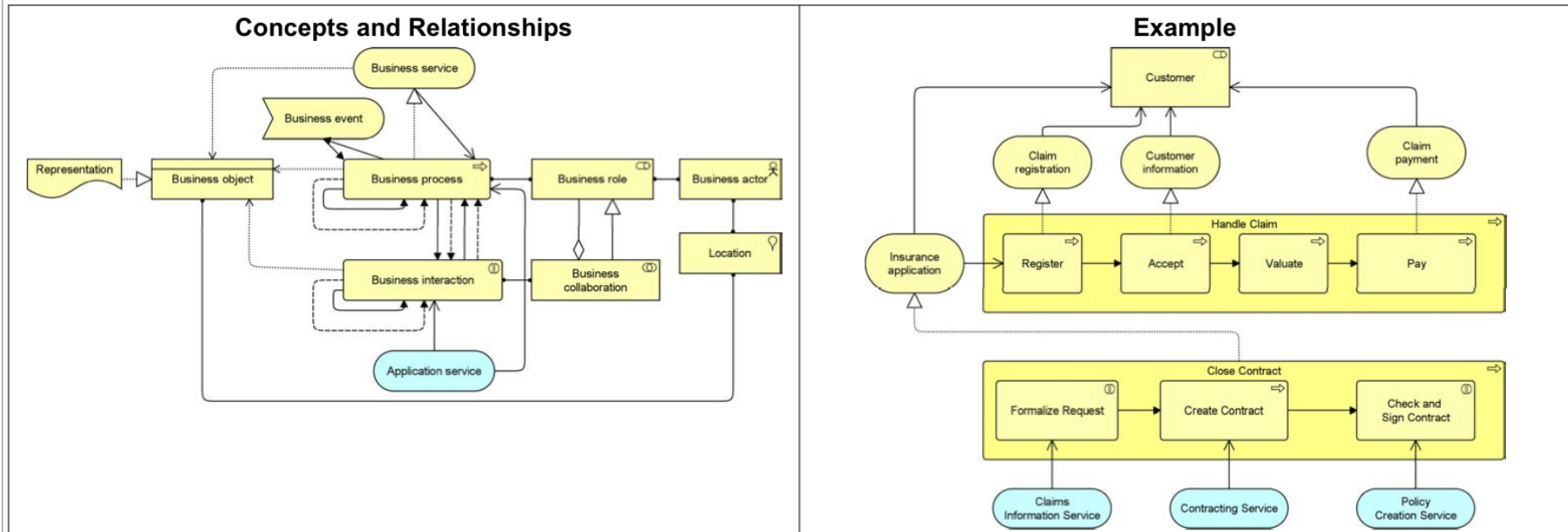
ArchiMate Standard Viewpoints

Viewpoint	Description
Introductory Viewpoint	This viewpoint uses a simplified notation to explain the essence of an architecture model to non-architects that require a simpler, more intuitive notation.
Organization Viewpoint	This viewpoint focuses on the (internal) organization of a company, a department, a network of companies, or of another organizational entity.
Actor Co-operation Viewpoint	This viewpoint focuses on the relationships of actors with each other and their environment.
Business Function Viewpoint	This viewpoint shows the main business functions of an organization and their relationships in terms of the flows of information, value, or goods between them.
Business Process Viewpoint	This viewpoint shows the high-level structure and composition of one or more business processes.
Business Process Co-operation Viewpoint	This viewpoint shows the relationships of one or more business processes with each other and/or with their environment.
Product Viewpoint	This viewpoint describes the value that one or more products offer to the customers or other external parties involved and shows the composition of one or more products in terms of the constituting (business or application) services, and the associated contract(s) or other agreements.
Application Behavior Viewpoint	This viewpoint describes the internal behavior of an application; e.g., as it realizes one or more application services.
Application Co-operation Viewpoint	This viewpoint describes the relationships between applications components in terms of the information flows between them, or in terms of the services they offer and use.
Application Structure Viewpoint	This viewpoint shows the structure of one or more applications or components.
Application Usage Viewpoint	This viewpoint describes how applications are used to support one or more business processes, and how they are used by other applications.
Infrastructure Viewpoint	This viewpoint describes the software and hardware infrastructure elements supporting the application layer, such as physical devices, networks, or system software (e.g., operating systems, databases, and middleware).

Viewpoint	Description
Infrastructure Usage Viewpoint	This viewpoint shows how applications are supported by the software and hardware infrastructure: the infrastructure services are delivered by the devices; system software and networks are provided to the applications.
Implementation and Deployment Viewpoint	This viewpoint shows how one or more applications are realized on the infrastructure.
Information Structure Viewpoint	This viewpoint shows the structure of the information used in the enterprise or in a specific business process or application, in terms of data types or (object-oriented) class structures.
Service Realization Viewpoint	This viewpoint shows how one or more business services are realized by the underlying processes (and sometimes by application components).
Layered Viewpoint	This viewpoint shows several layers and aspects of an enterprise architecture in a single diagram.
Landscape Map Viewpoint	This viewpoint uses a matrix to represent a three-dimensional co-ordinate system describing architectural relationships.

Business Process Co-operation Viewpoint


Stakeholders	Process and domain architects, operational managers	
Concerns	Dependencies between business processes, consistency and completeness, responsibilities	
Purpose	Designing, deciding	
Abstraction Level	Coherence	
Layer	Business layer, application layer	
Aspects	Behavior	



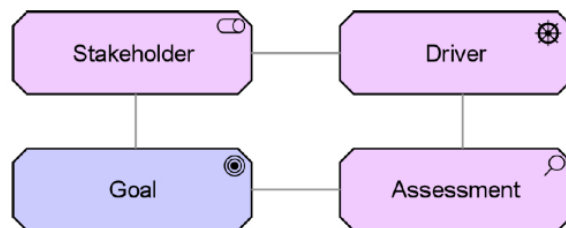
ArchiMate Extensions Viewpoints

Viewpoint	Type	Description
Stakeholder Viewpoint	Motivation Extension	This viewpoint allows the analyst to model the stakeholders, the internal and external drivers for change, and the assessments (in terms of strengths, weaknesses, opportunities, and threats) of these drivers.
Goal Realization Viewpoint	Motivation Extension	This viewpoint allows a designer to model the refinement of (high-level) goals into more concrete goals, and the refinement of concrete goals into requirements or constraints that describe the properties that are needed to realize the goals.
Goal Contribution Viewpoint	Motivation Extension	This viewpoint allows a designer or analyst to model the influence relationships between goals and requirements.
Principles Viewpoint	Motivation Extension	This viewpoint allows the analyst or designer to model the principles that are relevant to the design problem at hand, including the goals that motivate these principles.
Requirements Realization Viewpoint	Motivation Extension	This viewpoint allows the designer to model the realization of requirements by the core elements, such as business actors, business services, business processes, application services, application components, etc.
Motivation Viewpoint	Motivation Extension	This viewpoint allows the designer or analyst to model the motivation aspect, without focusing on certain elements within this aspect.
Project Viewpoint	Implementation & Migration Extension	This viewpoint is used to model the management of architecture change.
Migration Viewpoint	Implementation & Migration Extension	This viewpoint contains models and concepts that describe the transition from an existing architecture to a desired architecture.
Implementation and Migration Viewpoint	Implementation & Migration Extension	This viewpoint is used to relate programs and projects to the parts of the architecture that they implement.

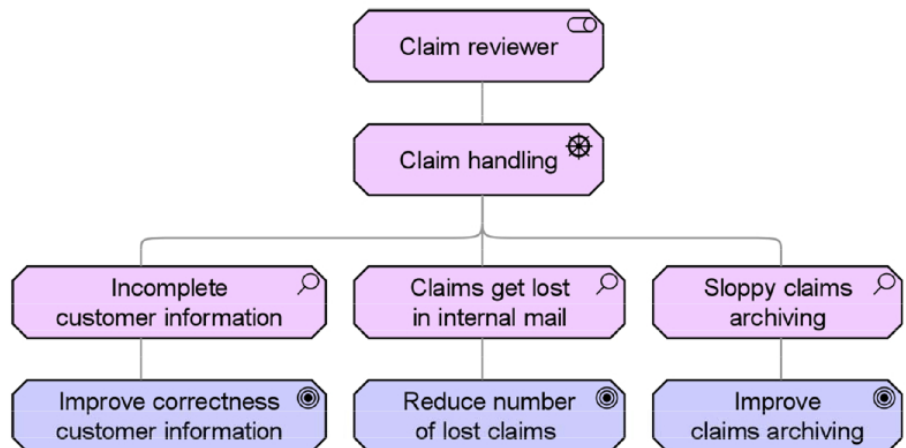
Stakeholder Viewpoint

Stakeholders	Stakeholders, business managers, enterprise and ICT architects, business analysts, requirements managers	
Concerns	Architecture mission and strategy, motivation	
Purpose	Designing, deciding, informing	
Abstraction Level	Coherence, Details	
Layer	Business, Application, and Technology layers	
Aspects	Motivation	

Concepts and Relationships



Example



The ArchiSurance Case Study

- The ArchiSurance Case Study is a fictitious example developed to illustrate the use of the ArchiMate® modeling language in the context of the TOGAF® framework.
- Document Number: Y121

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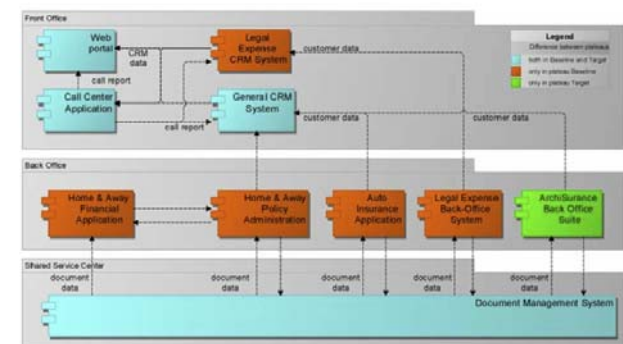
ArchiSurance Case Study

A Case Study by:

Henk Jonkers, Iver Band, Dick Quartel

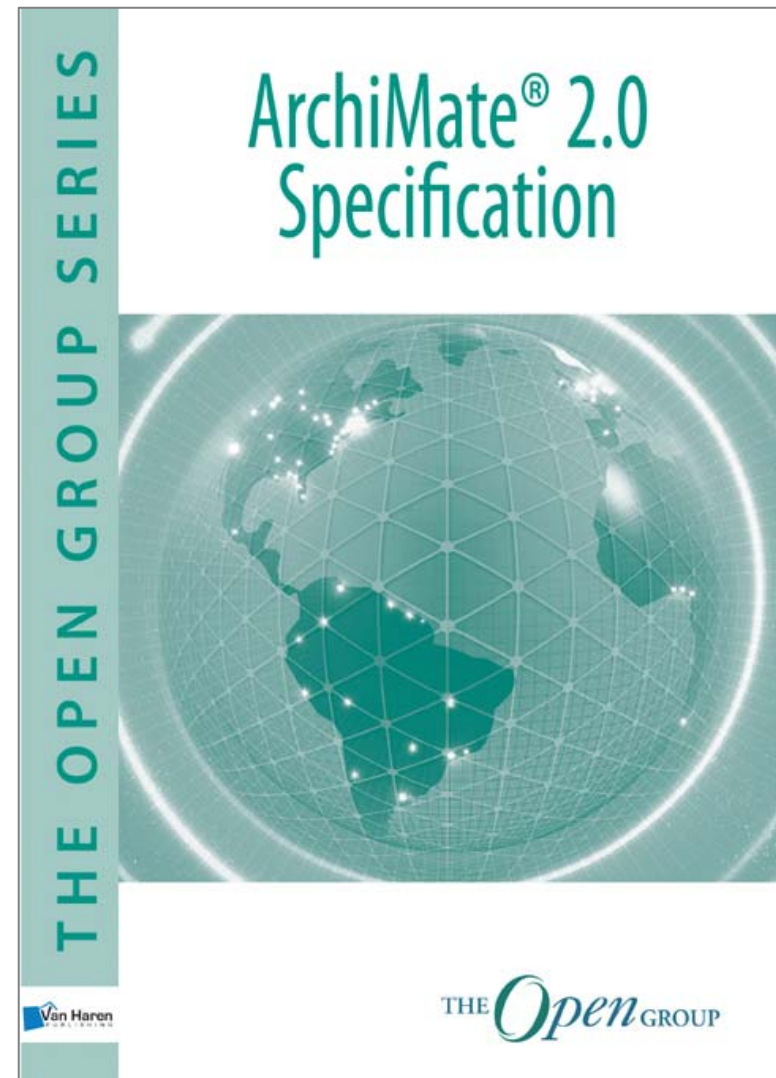
January 2012

ArchiSurance Case Study



More Information

- ArchiMate 2 Specification
- ISBN:1-937218-00-3
- Document Number:C118
- Free pdf download from The Open Group
- Hard Copy from Van Haren Publishing
- Read ArchiMate online via the web



More Information

- Reference Card sets, the ArchiMate 2 Pocket Guide, Information sheets and fact sheets are available from The Open Group

