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# Preface

## The Open Group

The Open Group is a global consortium that enables the achievement of business objectives through technology standards. With more than 870 member organizations, we have a diverse membership that spans all sectors of the technology community – customers, systems and solutions suppliers, tool vendors, integrators and consultants, as well as academics and researchers.

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## This Document

This document is the ArchiMate® 3.2 Specification, a standard of The Open Group. It has been developed and approved by The Open Group.

This edition of the standard includes a number of corrections, clarifications, and improvements to the previous edition, as well as several additions.

## Intended Audience

The intended audience of this standard is threefold:

- Those working to shape and implement complex organization change  
Typical job titles include Enterprise Architecture practitioners, Business Architects, IT architects, application architects, data architects, information architects, process architects, infrastructure architects, software architects, systems architects, solutions architects, product/service managers, senior and operational management, project leaders, and anyone working within the reference framework defined by an Enterprise Architecture.

- Those who intend to implement the ArchiMate language in a software tool  
They will find a complete and detailed description of the language in this document.
- The academic community, on which we rely for amending and improving the language based on state-of-the-art research in the architecture field.

## Structure

The structure of this standard is as follows:

- Chapter 1, Introduction, provides the introduction to this standard, including the objectives, a brief overview, conformance requirements, and terminology
- Chapter 2, Definitions, defines the general terms used in this standard
- Chapter 3, Language Structure, describes the structure of the ArchiMate modeling language, including the top-level structure, layering, the ArchiMate Core Framework, and the ArchiMate Full Framework
- Chapter 4, Generic Metamodel, describes the structure and elements of the ArchiMate generic metamodel
- Chapter 5, Relationships and Relationship Connectors, describes the relationships in the language
- Chapter 6, Motivation Elements, describes the concepts for expressing the motivation for an architecture, together with examples
- Chapter 7, Strategy Layer, provides elements for modeling the enterprise at a strategic level, together with examples
- Chapter 8, Business Layer, covers the definition and usage of the Business Layer elements, together with examples
- Chapter 9, Application Layer, covers the definition and usage of the Application Layer elements, together with examples
- Chapter 10, Technology Layer, covers the definition and usage of the Technology Layer elements, together with examples
- Chapter 11, Relationships Between Core Layers, covers the relationships between different layers of the language
- Chapter 12, Implementation and Migration Layer, describes the language elements for expressing the implementation and migration aspects of an architecture (e.g., projects, programs, plateaus, and gaps)
- Chapter 13, Stakeholders, Architecture Views, and Viewpoints, describes the ArchiMate viewpoint mechanism
- Chapter 14, Language Customization Mechanisms, describes how to customize the ArchiMate language for specialized or domain-specific purposes
- Appendix A, Summary of Language Notation, is an informative appendix

- Appendix B, Relationships (Normative), is a normative appendix detailing the required relationships between elements of the language and the rules to derive these
- Appendix C, Example Viewpoints, presents a set of architecture viewpoints, developed in ArchiMate notation based on practical experience  
All viewpoints are described in detail. The appendix specifies the elements, relationships, usage guidelines, goals, and target groups for each viewpoint.
- Appendix D, Relationship to Other Standards, Specifications, and Guidance Documents, describes the relationships of the ArchiMate language to other standards and specifications, including the TOGAF® framework, the BIZBOK® Guide, BPMN™, UML®, and BMM™
- Appendix E, Changes from Version 2.1 to Version 3.2, is an informative appendix outlining the changes in the standard between Version 2.1 and Version 3.2

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## Referenced Documents

The following documents are referenced in this standard. These references are informative.

(Please note that the links below are good at the time of writing but cannot be guaranteed for the future.)

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# 1 Introduction

---

## 1.1 Objective

This standard is the specification of the ArchiMate Enterprise Architecture modeling language, a visual language with a set of default iconography for describing, analyzing, and communicating many concerns of Enterprise Architectures as they change over time. The standard provides a set of entities and relationships with their corresponding iconography for the representation of Architecture Descriptions. The ArchiMate ecosystem also supports an exchange format in XML which allows model and diagram exchange between tools [20].

## 1.2 Overview

An Enterprise Architecture is typically developed because key people have concerns that need to be addressed by the business and IT systems within an organization. Such people are commonly referred to as the “stakeholders” of the Enterprise Architecture. The role of the architect is to address these concerns by identifying and refining the motivation and strategy expressed by stakeholders, developing an architecture, and creating views of the architecture that show how it addresses and balances stakeholder concerns. Without an Enterprise Architecture, it is unlikely that all concerns and requirements are considered and addressed.

The ArchiMate Enterprise Architecture modeling language provides a uniform representation for diagrams that describe Enterprise Architectures. It includes concepts for specifying inter-related architectures, specific viewpoints for selected stakeholders, and language customization mechanisms. It offers an integrated architectural approach that describes and visualizes different architecture domains and their underlying relations and dependencies. Its language framework provides a structuring mechanism for architecture domains, layers, and aspects. It distinguishes between the model elements and their notation, to allow for varied, stakeholder-oriented depictions of architecture information. The language uses service-orientation to distinguish and relate the Business, Application, and Technology Layers of Enterprise Architectures, and uses realization relationships to relate concrete elements to more abstract elements across these layers.

## 1.3 Conformance

The ArchiMate language may be implemented in software used for Enterprise Architecture modeling. For the purposes of this standard, the conformance requirements for implementations of the language given in this section apply. A conforming implementation:

1. Shall support the language structure, generic metamodel, relationships, layers, cross-layer dependencies, and other elements as specified in Chapters 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12
2. Shall support the standard iconography as specified in Chapters 4, 5, 6, 7, 8, 9, 10, and 12, and summarized in Appendix A
3. Shall support the viewpoint mechanism as specified in Chapter 13

4. Shall support the language customization mechanisms as specified in Chapter 14 in an implementation-defined manner
5. Shall support the relationships between elements as specified in Appendix B
6. May support the example viewpoints described in Appendix C

Readers are advised to check The Open Group website for additional conformance and certification requirements referencing this standard.

## 1.4 Normative References

None.

## 1.5 Terminology

For the purposes of this standard, the following terminology definitions apply:

**Can** Describes a possible feature or behavior available to the user.

**Deprecated** Items identified as deprecated may be removed in the next version of this standard.

**Implementation-defined**

Describes a value or behavior that is not defined by this standard but is selected by an implementor of a software tool. The value or behavior may vary among implementations that conform to this standard. A user should not rely on the existence of the value or behavior. The implementor shall document such a value or behavior so that it can be used correctly by a user.

**May** Describes a feature or behavior that is optional. To avoid ambiguity, the opposite of “may” is expressed as “need not”, instead of “may not”.

**Obsolescent** Certain features are obsolescent, which means that they may be considered for withdrawal in future versions of this standard. They are retained because of their widespread use, but their use is discouraged.

**Shall** Describes a feature or behavior that is a requirement. To avoid ambiguity, do not use “must” as an alternative to “shall”.

**Shall not** Describes a feature or behavior that is an absolute prohibition.

**Should** Describes a feature or behavior that is recommended but not required.

**Will** Same meaning as “shall”; “shall” is the preferred term.

## 1.6 Future Directions

None.

## 2 Definitions

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For the purposes of this standard, the following terms and definitions apply. The TOGAF® framework [4] should be referenced for Enterprise Architecture-related terms not defined in this chapter. Merriam-Webster’s Collegiate Dictionary (11<sup>th</sup> Edition) should be referenced for all other terms not defined in this chapter.

Any conflict between definitions described here and the TOGAF framework is unintentional. If the definition of a term is specific to the ArchiMate modeling language, and a general definition is defined by the TOGAF framework, then this is noted in the definition.

### 2.1 ArchiMate Core Framework

A reference structure used to classify elements of the ArchiMate core language. It consists of three layers and three aspects.

Note: The ArchiMate Core Framework is defined in detail in Section 3.4.

### 2.2 ArchiMate Core Language

The central part of the ArchiMate language that defines the concepts to model Enterprise Architectures. It includes concepts from three layers: Business, Application, and Technology (including Physical).

### 2.3 Architecture View

A representation of a system from the perspective of a related set of concerns.

Note: In some sections of this standard, the term “view” is used as a synonym for “architecture view”.

### 2.4 Architecture Viewpoint

A specification of the conventions for a particular kind of architecture view.

Note: In some sections of this standard, the term “viewpoint” is used as a synonym for “architecture viewpoint”.

### 2.5 Aspect

Classification of elements based on layer-independent characteristics related to the concerns of different stakeholders. Used for positioning elements in the ArchiMate metamodel. See also Section 2.9.

Note: Aspects are described in Section 3.4.

## **2.6 Attribute**

A property associated with an ArchiMate language element or relationship.

## **2.7 Composite Element**

An element consisting of other elements from multiple aspects or layers of the language.

## **2.8 Concept**

Either an element, a relationship, or a relationship connector. See also Section 2.12 and Section 2.14.

Note: The top-level language structure is defined in detail in Section 3.2.

## **2.9 Conformance**

Fulfillment of specified requirements.

## **2.10 Conforming Implementation**

An implementation which satisfies the conformance requirements defined by the conformance clause of this standard. See Section 1.3.

## **2.11 Core Element**

A structure or behavior element in one of the core layers of the ArchiMate language.

Note: Core elements are described in detail in Section 3.4.

## **2.12 Element**

Basic unit in the ArchiMate metamodel. Used to define and describe the constituent parts of Enterprise Architectures and their unique set of characteristics.

## **2.13 Layer**

An abstraction of the ArchiMate framework at which an enterprise can be modeled.

## **2.14 Model**

A collection of concepts in the context of the ArchiMate language structure.

Note: The top-level language structure is defined in detail in Section 3.2.

For a general definition of model, see the TOGAF framework [4].

## **2.15 Relationship**

A connection between a source and target concept. Classified as structural, dependency, dynamic, or other.

Note: Relationships are defined in detail in Chapter 5.

## **2.16 Relationship Connector**

A concept that connects two or more relationships of the same type.

## 3 Language Structure

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This chapter describes the structure of the ArchiMate Enterprise Architecture modeling language. The detailed definition and examples of its standard set of elements and relationships follow in Chapter 4 to Chapter 12.

### 3.1 Language Design Considerations

A key challenge in the development of a general metamodel for Enterprise Architecture is to strike a balance between the specificity of languages for individual architecture domains and a very general set of architecture concepts, which reflects a view of systems as a mere set of inter-related entities.

The design of the ArchiMate language started from a set of relatively generic concepts. These have been specialized towards application at different architectural layers, as explained in the following sections. The most important design restriction on the language is that it has been explicitly designed to be as small as possible, but still usable for most Enterprise Architecture modeling tasks. Many other languages try to accommodate the needs of all possible users. In the interest of simplicity of learning and use, the ArchiMate language has been limited to the concepts that suffice for modeling the proverbial 80% of practical cases.

This standard does not describe the detailed rationale behind the design of the ArchiMate language. The interested reader is referred to [1], [2], and [3], which provide a detailed description of the language construction and design considerations.

### 3.2 Top-Level Language Structure

Figure 1 outlines the top-level hierarchical structure of the language:

- A model is a collection of *concepts* – a concept is either an *element* or a *relationship*
- An element is either a behavior element, a structure element, a motivation element, or a composite element

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. See Chapter 4 for an explanation of the notation used in Figure 1.

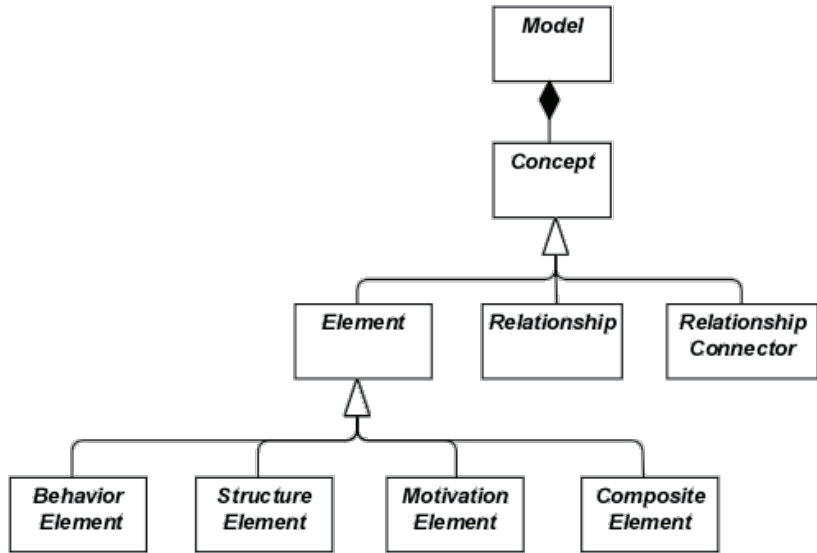


Figure 1: Top-Level Hierarchy of ArchiMate Concepts

### 3.3 Layering of the ArchiMate Language

The ArchiMate core language defines a structure of generic elements and their relationships, which can be specialized in different layers. Three layers are defined within the ArchiMate core language as follows:

1. The *Business Layer* depicts business services offered to customers, which are realized in the organization by business processes performed by business actors.
2. The *Application Layer* depicts application services that support the business, and the applications that realize them.
3. The *Technology Layer* comprises both information and operational technology. You can model, for example, processing, storage, and communication technology in support of the application world and Business Layers, and model operational or physical technology with facilities, physical equipment, materials, and distribution networks.

The general structure of models within the different layers is similar. The same types of elements and relationships are used, although their exact nature and granularity differ. In the next chapter, the structure of the generic metamodel is presented. In Chapter 8, Chapter 9, and Chapter 10 these elements are specialized to obtain elements specific to a particular layer.

In alignment with service-orientation, the most important relationship between layers is formed by “serving”<sup>1</sup> relationships, which show how the elements in one layer are served by the services of other layers. (Note, however, that services need not only serve elements in another layer, but also can serve elements in the same layer.) A second type of link is formed by realization relationships: elements in lower layers may realize comparable elements in higher layers; e.g., a

<sup>1</sup> Note that this was called “used by” in previous versions of the standard. For the sake of clarity, this name has been changed to “serving”.