

The Open Group[®] Architecture Tool Certification

**ArchiMate[®] 3 Conformance
Requirements**

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The Open Group[®] Architecture Tool Certification: ArchiMate[®] 3 Conformance Requirements

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1. Introduction

The Open Group Architecture Tool Certification Program (the Program) includes certification for tools supporting the ArchiMate® 3.0 Specification, an Open Group Standard, and later minor updates to the Specification.

Architecture modeling tools that support the ArchiMate language can be submitted for the Program. The certification process for tools supporting the ArchiMate 3.0 Specification assesses whether the tool implements the ArchiMate language correctly.

The Program is based on two documents:

1. The *Certification Policy*¹, which sets out the policies and processes by which a tool can be certified.
2. The *Conformance Requirements* (this document), which holds the requirements tools must meet to achieve certification. This document also recommends a set of optional capabilities for consideration by tool designers.

1.1 Terminology and Definitions

This table defines terms or clarifies the meaning of words used within this document. Where an acronym is also used, it is provided in parentheses.

| | |
|---|---|
| ArchiMate | The ArchiMate modeling language |
| ArchiMate Specification | The ArchiMate® 3.0 Specification, an Open Group Standard (Doc. No. C162, June 2016, published by The Open Group) |
| Trademark License Agreement (TMLA) | The agreement between the Supplier and The Open Group, which contains the legal commitment by the Supplier to the conditions for use of the applicable Certification Trademark. |

1.2 Levels of Certification

There is a single level of certification supported.

1.2.1 ArchiMate® 3 Tool

| Purpose | Target Audience |
|---|---|
| The purpose of the ArchiMate® 3 Tool designation is to identify tools that organizations can use to learn and evaluate the ArchiMate language, develop models for transformation initiatives, and model architectures consistently within and across domains. | <ul style="list-style-type: none">• Tool vendors planning a conforming implementation of the ArchiMate 3.0 Specification• End-user organizations seeking or evaluating tools for ArchiMate language modeling |

¹ Architecture Tool Certification: Certification Policy, Version 1.0 (X117), January 2012, published by The Open Group; refer to: www.opengroup.org/bookstore/catalog/x117.htm.

1.3 Certification Options

Besides the mandatory Conformance Requirements that a product should comply with, there can also be additional features that could be optionally supported by the product.

These options are explained in Section 2.2 of this document.

1.4 Migration

Existing certified ArchiMate[®] 2 Tools will be required to be upgraded to support the ArchiMate 3.0 Specification, and pass the full set of indicators of compliance, if they wish to become certified ArchiMate[®] 3 Tools.

1.5 Program Logo

Those certified within the Program are able to use an Open Group logo in association with their product, in proposals, in marketing materials, etc., in accordance with the Trademark License Agreement (TMLA) and Trademark Usage Guide. The label for this version of the Program is as follows:

| |
|-------------------------------|
| Label |
| ArchiMate [®] 3 Tool |

2. Conformance Requirements

2.1 Mandatory Requirements

This section contains the mandatory requirements for certification.

2.1.1 Concept Coverage

A conforming product shall support all of the concepts defined in Chapters 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, and 14 of the ArchiMate 3.0 Specification.

2.1.2 Language Element Support

Language Element Coverage

A conforming product shall support all ArchiMate language elements as defined generically in Chapter 4 (Generic Metamodel), and as further defined in Chapter 6 (Motivation Elements), Chapter 7 (Strategy Elements), Chapter 8 (Business Layer), Chapter 9 (Application Layer), Chapter 10 (Technology Layer), Chapter 11 (Physical Elements), and Chapter 13 (Implementation and Migration Elements) of the ArchiMate 3.0 Specification.

Language Element Notation

A conforming product shall implement the vocabulary, notation, syntax, and semantics of the visual modeling language for all ArchiMate language elements using the symbols defined in Section A.1 (Core Elements) and Section A.2 (Motivation, Strategy, Implementation and Migration Elements) of the ArchiMate 3.0 Specification.

A conforming product shall support nesting as an alternative representation of relationship types as described in Section 3.8 (Use of Nesting) of the ArchiMate 3.0 Specification. The conforming product shall clearly indicate which relationships are defined by each nesting instance and, in updatable views, shall enable user control of relationships to be created, modified, or deleted.

A conforming product shall ensure that the graphical notation used for ArchiMate concepts and relationships remains unambiguously compliant with the ArchiMate 3.0 Specification even after changes to the size, proportion, or color of modeling symbols.

2.1.3 Relationship Support

Relationship Coverage

A conforming product shall support all ArchiMate language relationships, as defined in Chapter 5 (Relationships) and Appendix B (Relationship Tables) of the ArchiMate 3.0 Specification. This includes relationships between two language elements, and in some cases relationships to other relationships.

Relationship Notation

A conforming product shall enable notation of all ArchiMate relationships using the symbols defined in Chapter 5 (Relationships) of the ArchiMate 3.0 Specification.

A conforming product shall enable notation of all ArchiMate structural relationships via nesting as defined in Section 5.1 (Structural Relationships) of the ArchiMate 3.0 Specification.

Relationships Symbol Reuse

For each supported ArchiMate relationship, if the relationship applies to multiple combinations of ArchiMate language elements, the user of each conforming product shall be able to reuse the same relationship symbol to connect each supported combination of concepts as denoted by their concept symbols. For example, the ArchiMate language allows the association relationship between all pairs of elements. However, the user of each conforming product shall be able to use a single symbol, in this case a plain line, to connect all pairs of ArchiMate language elements that share an association relationship.

2.1.4 Viewpoint Support

Each conforming product shall support the mechanism described in Section 14.4 (Viewpoint Mechanism) of the ArchiMate 3.0 Specification. Therefore:

- Each conforming product shall enable users to create model views using any combination of new elements and relationships and those that may already exist within the model.
- Each conforming product shall provide a comprehensive viewpoint with all standard language elements and relationship types.
- Each view shall be based on a particular viewpoint that serves as a template for the view.
- Each view may contain only the language element and relationship types specified in the definition of its viewpoint.
- Each conforming product shall enable users to present ArchiMate elements and relationships from a single underlying model in multiple views, or in multiple instances in the same view. Therefore, any changes to the content of one view shall be reflected throughout all views of the same model that share any added, changed, or deleted ArchiMate elements and relationships. This means that any changes to objects, object properties, or relationships in one view shall be reflected in all views that present the changed objects, object properties, or relationships.
- Each conforming product shall enable users to use different scaling or coloration for multiple representations of any single element or relationship in a single view or in multiple views.
- A conforming product shall track the occurrences of objects in different views.
- A conforming product shall allow for different graphical notations for an object in different views.

2.1.5 Exchange File Format Support

Each conforming product shall support the ArchiMate 3.0 Model Exchange File Format, an Open Group Standard, when available, and be able to export and import models. Once the ArchiMate 3.0 Model Exchange File Format standard is published, certified ArchiMate[®] 3 Tools shall have 12 months to

implement the required support for the format.² The ArchiMate 3 Tool Conformance Statement Questionnaire shall document whether a tool supports the Exchange File Format.

2.2 Optional Requirements

A conforming product shall support all the requirements defined in Section 2.1 (of this document). Additionally, a conformant product may support the following optional features.

2.2.1 Language Customization Mechanisms

A conforming product may support the following extensible set of requirements for language customization.

2.2.1.1 Language Element Customization

A conforming product may support customization of ArchiMate language element symbols with arbitrary scaling and coloration of all standard symbols without distortion. In other words, each conforming product shall ensure that the graphical notation used for ArchiMate concepts remains clearly recognizable to individuals familiar with the language even after changes to the size, proportion, or color of modeling symbols.

If a tool supports language element customization, it should support customization of language elements as defined in Chapter 15 (Language Customization Mechanisms) of the ArchiMate 3.0 Specification, including the definition of specialized elements that inherit the characteristics of standard elements and also have any or all of the following:

- Custom names, as defined in the Specialized Content column of the tables in Section 15.2.1 (Examples of Specializations of Business Layer Elements (Informative)) through Section 15.2.8 (Examples of Specializations of Composite Elements (Informative)) of the ArchiMate 3.0 Specification
- Custom stereotypes, as defined in Section 15.2 (Specialization of Elements and Relationships) of the ArchiMate 3.0 Specification
- Custom attribute profiles
- Custom symbols
- Custom default coloration

2.2.1.2 Relationship Customization

A conforming product may support arbitrary scaling and coloration of all ArchiMate language relationship symbols without distortion. In other words, each conforming product shall ensure that the graphical notation used for ArchiMate relationships remains clearly recognizable to individuals familiar with the language even after changes to the size, proportion, or color of modeling symbols.

If a tool supports relationship customization, it should support customization of relationship elements as defined in Chapter 15 (Language Customization Mechanisms) of the ArchiMate 3.0 Specification,

² If after 12 months a tool has not implemented the requirements, then steps are taken as documented in Section 4 of the Architecture Tool Certification Policy.

including the definition of specialized relationships that inherit the characteristics of standard relationships and also have any or all of the following:

- Custom names, as defined in the Specialized Content column of the table in Section 15.2.9 (Examples of Specializations of Relationships (Informative)) of the ArchiMate 3.0 Specification
- Custom attribute profiles
- Custom symbols
- Custom default coloration

2.2.2 Viewpoint Support

If a tool supports language element and relationship customization, it may enable users to define and name custom viewpoints consisting of any combination of standard elements and relationships along with any combination of custom elements and relationships developed using the mechanisms described in Sections 2.2.1.1 and 2.2.1.2 of this document.

2.2.3 Concept Coverage

A conforming product may provide predefined specializations of the ArchiMate concepts according to Chapter 15 (Language Customization Mechanisms) of the ArchiMate 3.0 Specification.

A conforming product may support concepts that are neither defined within the ArchiMate language nor are specializations of the ArchiMate concepts, as long as they do not obstruct use of the ArchiMate language.

2.2.4 Relationship Coverage

A conforming product may provide predefined specializations of ArchiMate relationships according to Section 15.2 (Specialization of Elements and Relationships) of the ArchiMate 3.0 Specification.

A conforming product may optionally support relationships that are not defined within the ArchiMate language, as long as the product does not require the use of such relationships to develop an ArchiMate model.

2.2.5 Language Notation

A conforming product may support alternative notations for ArchiMate concepts and relationships other than those described by the ArchiMate 3.0 Specification.

2.2.6 Other Capabilities

If a conforming product supports modeling frameworks and languages other than the ArchiMate language, it may optionally provide the same capabilities for the ArchiMate language as it does for the other supported modeling frameworks and languages.

3. Indicators of Compliance

Applicants must complete a Conformance Statement Questionnaire to describe the conformance of their tool to these Conformance Requirements.

In addition, applicants must meet the following indicators of compliance.

3.1 Evidence of Compliance

Applicants must provide the evidence of compliance following the conditions defined in Section 3.3.

The evidence that shall be provided is:

- A set of reference views according to the requirements defined in Sections 2.1.1, 2.1.2, and 2.1.3 of this document. The set of reference views should be the ones detailed as reference information in Appendix C (Example Viewpoints) of the ArchiMate 3.0 Specification.
- Evidence of compliance with Section 2.1.4 of this document regarding the viewpoint mechanism.
- Evidence of compliance with Section 2.1.5 of this document regarding Exchange File Format support.

3.2 Evidence for Additional Options

Applicants must provide the evidence of compliance following the conditions defined in Section 3.3.

The evidence that shall be provided is:

- Evidence of compliance with Section 2.2.1 of this document regarding language and relationship customization.
- Evidence of compliance with Section 2.2.2 of this document regarding viewpoint support.
- Evidence of compliance with the other features detailed in Sections 2.2.3 to 2.2.6 of this document.

3.3 Mechanisms to Provide the Compliance Evidence

Applicants shall provide evidence as follows:

- The set of reference views (evidence of compliance with Section 3.1 and 3.2) exported in the ArchiMate 3.0 Model Exchange File Format (when available)
- Evidence of successful import from a set of ArchiMate 3.0 Model Exchange File Format reference models (when available)
- Evidence of successful import from and export to two other tools in the ArchiMate 3.0 Model Exchange File Format (when available)

In addition, one of the following:

- A recorded live demo demonstrating how the tool complies (mp4 format or similar)
- A printed version of the models (pdf format)

Note that all the evidence along with all the related conformance documents will be made available on the public register of certified tools.

3.4 Mechanisms to Review the Evidence Provided

The following mechanisms will be used to review the evidence provided:

- Third-party independent assessor – independent agency
- Model checker (when available) to test the XML models exported (where applicable); for example, to verify it validates to the standard XSD
- Testing to verify compliance using the Exchange File Format to prove the model interchange between tools

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