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ArchiMate® 2.0

A Pocket Guide

Andrew Josey et al.

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ArchiMate® 2.0

A POCKET GUIDE

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In the event of any discrepancy between text in this document and the official ArchiMate documentation, the ArchiMate documentation remains the authoritative version for certification, testing by examination, and other purposes. The official ArchiMate documentation can be obtained online at http://www.opengroup.org/archimate/

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Preface

This Document

This is the Pocket Guide to ArchiMate 2.0, an Open Group Standard. It is intended to help architects by providing a reference for the ArchiMate graphical modeling language and also assist managers in understanding the basics of ArchiMate. It is organized as follows:

- Chapter 1 provides a high-level introduction to ArchiMate and its relationship to enterprise architecture.
- Chapter 2 describes the construction of the ArchiMate language, including an introduction to the core concepts, relationships, layering, and the ArchiMate framework.
- Chapter 3 describes the Business Layer, which includes the modeling concepts relevant in the business domain.
- Chapter 4 describes the Application Layer, which includes modeling concepts relevant for software applications.
- Chapter 5 describes the Technology Layer, which includes modeling concepts relevant for system software applications and infrastructure.
- Chapter 6 describes the relationships that the ArchiMate language includes to model the links between elements, and also the relationships to model the cross-layer dependencies between the Business, Application, and Technology Layers.
- Chapter 7 describes the Motivation Extension, which adds motivational concepts such as goal, principle, and requirement to the language.
- Chapter 8 describes the Implementation and Migration Extension, which adds concepts to support the implementation and migration of enterprise architectures.
- Chapter 9 describes the ArchiMate framework for defining and classifying ArchiMate viewpoints, and provides a summary of the viewpoints included in the ArchiMate 2.0 Standard.

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- Chapter 10 includes the ArchiSurance Case Study, a fictitious example developed to illustrate use of the ArchiMate modeling language in the context of the TOGAF framework.

The audience for this document is:

- Enterprise architects, business architects, IT architects, application architects, data architects, software architects, systems architects, solutions architects, infrastructure architects, process architects, domain architects, product managers, operational managers and senior managers seeking a first introduction to the ArchiMate modeling language.

After reading this document, the reader seeking further information should refer to the ArchiMate documentation[1] available online at www.opengroup.org/archimate.

Conventions Used in this Document

The following conventions are used throughout this document in order to help identify important information and avoid confusion over the intended meaning:

- Ellipsis (…)
  Indicates a continuation; such as an incomplete list of example items, or a continuation from preceding text.
- **Bold**
  Used to highlight specific terms.
- *Italics*
  Used for emphasis. May also refer to other external documents.

1 ArchiMate 2.0 (ISBN: 978 90 8753 692 3, C118); refer to www.opengroup.org/bookstore/catalog/c118.htm.

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In addition to typographical conventions, the following convention is used to highlight segments of text:

A Note box is used to highlight useful or interesting information.

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The Open Group is a global consortium that enables the achievement of business objectives through IT standards. With more than 400 member organizations, The Open Group has a diverse membership that spans all sectors of the IT community – customers, systems and solutions suppliers, tool vendors, integrators, and consultants, as well as academics and researchers – to:

- Capture, understand, and address current and emerging requirements, and establish policies and share best practices
- Facilitate interoperability, develop consensus, and evolve and integrate specifications and open source technologies
- Offer a comprehensive set of services to enhance the operational efficiency of consortia
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Chapter 1
Introduction

This chapter provides an introduction to ArchiMate, an Open Group Standard.

Topics addressed in this chapter include:

- An introduction to ArchiMate
- A brief overview of ArchiMate
- ArchiMate and its relationship to enterprise architecture and TOGAF

1.1 Introduction to ArchiMate

ArchiMate, an Open Group Standard, is an open and independent modeling language for enterprise architecture that is supported by different tool vendors and consulting firms. ArchiMate provides a notation to enable enterprise architects to describe, analyze, and visualize the relationships among business domains in an unambiguous way.

Just as an architectural drawing in classical building architecture describes the various aspects of the construction and use of a building, ArchiMate offers a common language for describing the construction and operation of business processes, organizational structures, information flows, IT systems, and technical infrastructure. This insight helps stakeholders to design, assess, and communicate the consequences of decisions and changes within and between these business domains.

ArchiMate was created in the period 2002-2004 in the Netherlands by a project team from the Telematica Instituut in co-operation with several partners from government, industry, and academia, including Ordina, Radboud Universiteit Nijmegen, the Leiden Institute for Advanced Computer Science (LIACS), and the Centrum Wiskunde & Informatica (CWI). The development included tests in organizations such as ABN

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AMRO, the Dutch Tax and Customs Administration, and the Stichting Pensioenfonds ABP. In 2008, the ownership and stewardship of ArchiMate was transferred from the ArchiMate Foundation to The Open Group. It is now managed by The Open Group ArchiMate Forum. In February 2009, The Open Group published ArchiMate 1.0 as an Open Group Standard.

The ArchiMate 2.0 Specification
This document provides an introduction to the ArchiMate 2.0 specification, referred to simply as "ArchiMate" within the main text of this document. The ArchiMate 2.0 specification was approved as an Open Group Standard in October 2011 and published in January 2012.

1.2 ArchiMate Specification Overview

The ArchiMate 2.0 specification is The Open Group standard for the ArchiMate Architecture Modeling Language. The standard contains the formal definition of ArchiMate as a visual design language, together with concepts for specifying inter-related architectures, and specific viewpoints for typical stakeholders. The standard also includes a chapter addressing considerations regarding language extensions.

The contents of the standard include the following:

- The overall modeling framework that ArchiMate uses
- The structure of the modeling language
- A detailed breakdown of the constituent elements of the modeling framework covering the three layers (Business/Application/Technology), cross-layer dependencies and alignment, and relationships within the framework
- Architectural viewpoints including a set of standard viewpoints
- Optional extensions to the framework
- Commentary around future direction of the specification
- Notation overviews and summaries

ArchiMate 2.0 is an evolution of ArchiMate 1.0 in that it includes corrections, improvements, and clarifications to the original published

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specification as well as the addition of two optional extensions (Motivation and Implementation and Migration).

The standard is complemented by additional documents including the ArchiSurance Case Study, an abridged version of which is included in this Pocket Guide, and the ArchiMate certification program, which covers People Certification, Training Course Accreditation, and Tools Certification.

1.3 ArchiMate and Enterprise Architecture

The role of the ArchiMate standard is to provide a graphical language for the representation of enterprise architectures over time (i.e., including transformation and migration planning), as well as their motivation and rationale. The ArchiMate modeling language provides a uniform representation for diagrams that describe enterprise architectures, and offers an integrated approach to describe and visualize the different architecture domains together with their underlying relations and dependencies.

The design of the ArchiMate language started from a set of relatively generic concepts (objects and relations), which have been specialized for application at the different architectural layers for an enterprise architecture. The most important design restriction on ArchiMate is that it has been explicitly designed to be as compact as possible, yet still usable for most enterprise architecture modeling tasks. In the interest of simplicity of learning and use, ArchiMate has been limited to the concepts that suffice for modeling the proverbial 80% of practical cases.

1.3.1 ArchiMate Core, Extensions, and the TOGAF ADM

ArchiMate 2.0 consists of the ArchiMate Core (the core language), that focuses on the description of the four architecture domains defined

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by the TOGAF standard (business, data, application, and technology architectures, as well as their inter-relationships), and extensions to model the motivations for the architecture, and its implementation and migration planning. Figure 1 shows how the ArchiMate Core, the Motivation Extension, and the Implementation and Migration Extension relate to the phases of the TOGAF ADM.

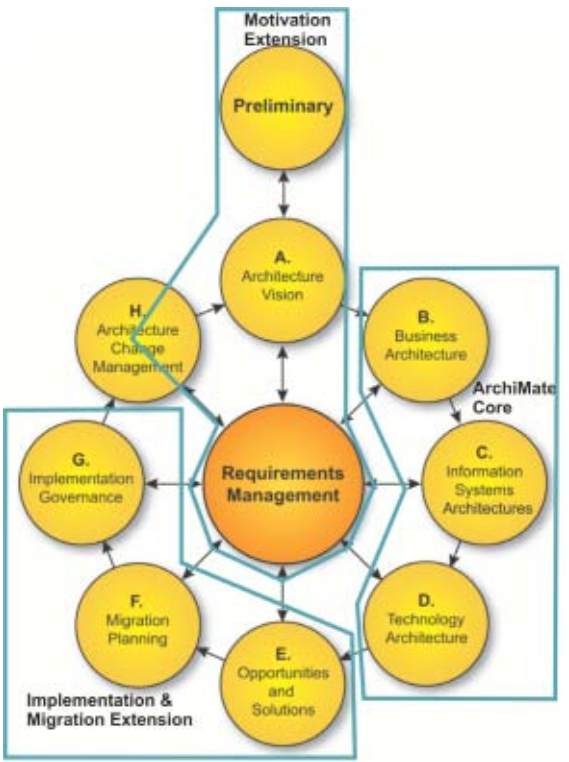

Figure 1: The Relationship between ArchiMate Core, Extensions, and the TOGAF ADM

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The Motivation Extension concepts in ArchiMate support the Requirements Management, Preliminary Phase, and Architecture Vision phases of the TOGAF ADM, which establish the high-level business goals, architecture principles, and initial business requirements. It is also relevant to the Architecture Change Management phase of the TOGAF ADM, since the phase deals with changing requirements.

The Implementation and Migration Extension of ArchiMate adds concepts to support the implementation and migration of architectures through the Opportunities and Solutions, Migration Planning, and Implementation Governance phases of the TOGAF ADM.

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