The TOGAF® Standard

10th Edition

Introduction and Core Concepts

The TOGAF®
Standard — 10th Edition

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The TOGAF® Standard, 10ᵗʰ Edition — Introduction and Core Concepts

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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.

The mission of The Open Group is to drive the creation of Boundaryless Information Flow™ achieved by:

- Working with customers to capture, understand, and address current and emerging requirements, establish policies, and share best practices

- Working with suppliers, consortia, and standards bodies to develop consensus and facilitate interoperability, to evolve and integrate specifications and open source technologies

- Offering a comprehensive set of services to enhance the operational efficiency of consortia

- Developing and operating the industry's premier certification service and encouraging procurement of certified products

Further information on The Open Group is available at www.opengroup.org.

The Open Group publishes a wide range of technical documentation, most of which is focused on development of Standards and Guides, but which also includes white papers, technical studies, certification and testing documentation, and business titles. Full details and a catalog are available at www.opengroup.org/library.

This Document

This is the TOGAF Standard — Introduction and Core Concepts.

This document is part of the TOGAF Standard, and provides an introduction to the standard, including an executive overview of Enterprise Architecture, a description of how the standard is organized, and a summary of core concepts. It also contains the material common to the individual documents that comprise the standard, such as the definitions, as well as document references and abbreviations.

The TOGAF Documentation

The TOGAF documentation set comprises a portfolio of documents, built around the TOGAF Standard.

The TOGAF® Standard

The TOGAF® Standard is an open, industry consensus framework for Enterprise Architecture.

It is a foundational framework, which means that it is applicable to the development of any kind of architecture in any context. This foundational framework is supplemented by The Open Group TOGAF Library,[1] an extensive and growing portfolio of guidance material, providing practical guidance in the application of the TOGAF framework in specific contexts.

The TOGAF Standard is presented as a series of free-standing, but closely linked documents and is supplemented by an extensive and growing portfolio of guidance material, providing practical guidance in the application of the TOGAF Standard in specific contexts.

The TOGAF Standard is a standard of The Open Group. The Open Group works with customers and suppliers of technology products and services, and with consortia and other standards organizations to capture, clarify, and integrate current and emerging requirements, establish standards and policies, and share best practices. Standards ensure openness, interoperability, and consensus.

At the time of publication, the TOGAF Standard comprises the following documents:

- TOGAF Standard — Introduction and Core Concepts
- TOGAF Standard — Architecture Development Method
- TOGAF Standard — ADM Techniques
- TOGAF Standard — Applying the ADM
- TOGAF Standard — Architecture Content
- TOGAF Standard — Enterprise Architecture Capability and Governance
- TOGAF Standard — TOGAF Series Guides (set of documents)

Intended Audience

The TOGAF Standard is intended for Enterprise Architects, Business Architects, IT Architects, Data Architects, Systems Architects, Solution Architects, and anyone responsible for the architecture function within an organization.

Other audiences are Digital and Agile Practitioners, Product Managers, and C-Suite. These audiences will find more detailed guidance on how to apply the standard to fulfill specific needs in the TOGAF Series Guides set of documents.

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1. The TOGAF Library is a publicly-accessible resource located at www.opengroup.org/togaf-library.

Keywords

architecture, architecture framework, architecture development method, architect, architecting, enterprise architecture, enterprise architecture framework, enterprise architecture method, method, methods, open, group, technical reference model, standards library

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Participants

The TOGAF Standard, 10th Edition was prepared by The Open Group Architecture Forum. When The Open Group approved this standard for publication in April 2022, the Architecture Forum Officers were as follows:

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Paul Homan, IBM, Co-Chair (2018-2021)
Céline Lescop, AXA, Co-Chair (from March 2021)
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Technical reviewers are those individuals who have submitted comments during the Company Review, or participated in an issue resolution meeting during the development of the TOGAF Standard, 10th Edition (arranged in alphabetical order).

(Please note affiliations were current at the time of approval.)

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Architecture Forum Members

An up-to-date list of Forum members can be found at: www.opengroup.org/architecture.

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The Open Group gratefully acknowledges the significant contribution to the evoluation of this release of the TOGAF Standard by Mike Lambert, Fellow of The Open Group and Paul Homan, IBM.

The Open Group gratefully acknowledges those past and present members of the Architecture Forum who have served as its Officers (Chairs and Vice-Chairs) since its inception. In alphabetical order:

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Paul Homan	Jane Varnus
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David Jackson	Robert Weisman
Mike Lambert	Hal Wilson

Chapter 1: Introduction

The TOGAF Standard is a framework for Enterprise Architecture. It may be used freely by any organization wishing to develop an Enterprise Architecture for use within that organization (see Section 1.3.1).

The TOGAF Standard is developed and maintained by members of The Open Group, working within the Architecture Forum (refer to www.opengroup.org/architecture). The original development of TOGAF Version 1 in 1995 was based on the Technical Architecture Framework for Information Management (TAFIM), developed by the US Department of Defense (DoD). The DoD gave The Open Group explicit permission and encouragement to create Version 1 of the TOGAF Standard by building on the TAFIM, which itself was the result of many years of development effort and many millions of dollars of US Government investment.

Starting from this sound foundation, the members of The Open Group Architecture Forum have developed successive versions of the TOGAF Standard and published each one on The Open Group public website.

This version builds on previous versions of the TOGAF Standard and updates the material available to architecture practitioners to assist them in building a sustainable Enterprise Architecture. Work on White Papers and Guides describing how to integrate and use this standard with other frameworks and architectural styles has highlighted the universal framework parts of the standard, as well as industry, architecture style, and purpose-specific tools, techniques, and guidance. This work is embodied in the TOGAF Library.[1]

Although all of the TOGAF documentation works together as a whole, it is expected that organizations will customize it during adoption, and deliberately choose some elements, customize some, exclude some, and create others. For example, an organization may wish to adopt the TOGAF metamodel, but elect not to use any of the guidance on how to develop an in-house Technology Architecture because they are heavy consumers of cloud services.

You are recommended to first read the Executive Overview (see Section 1.1), which includes an outline of The Open Group understanding of Enterprise Architecture and answers to fundamental questions, such as:

- Why is an Enterprise Architecture needed?
- Why use the TOGAF Standard as a framework for Enterprise Architecture?

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1. The TOGAF Library provides an online publicly available structured list of Guides, White Papers, and other resources. Refer to TOGAF Library at www.opengroup.org/togaf-library.

1.1   Executive Overview

This section provides an executive overview of Enterprise Architecture, the basic concepts of what it is (not just another name for IT Architecture), and why it is needed. It provides a summary of the benefits of establishing an Enterprise Architecture and adopting the TOGAF approach to achieve that.

What is an enterprise?

The TOGAF Standard considers an "enterprise" to be any collection of organizations that have common goals.

For example, an enterprise could be:

- A whole corporation or a division of a corporation
- A government agency or a single government department
- A chain of geographically distant organizations linked together by common ownership
- Groups of countries, governments, or governmental organizations (such as militaries) working together to create common or shareable deliverables or infrastructures
- Partnerships and alliances of businesses working together, such as a consortium or supply chain

The term "Enterprise" in the context of "Enterprise Architecture" can be applied to either an entire enterprise, encompassing all of its business activities and capabilities, information, and technology that make up the entire infrastructure and governance of the enterprise, or to one or more specific areas of interest within the enterprise. An enterprise may include partners, suppliers, and customers as well as internal business units. In all cases, the architecture crosses multiple systems, and multiple functional groups within the enterprise.

The enterprise operating model concept is useful to determine the nature and scope of the Enterprise Architecture within an organization. Many organizations may comprise multiple enterprises, and may develop and maintain a number of independent Enterprise Architectures to address each one. These enterprises often have much in common with each other including processes, functions, and their information systems, and there is often great potential for wider gain in the use of a common architecture framework. For example, a common framework can provide a basis for the development of common building blocks and solutions, and a shareable Architecture Repository for the integration and re-use of business models, designs, information, and data.

Why is an Enterprise Architecture needed?

The purpose of Enterprise Architecture is to optimize across the enterprise the often fragmented legacy of processes (both manual and automated) into an integrated environment that is responsive to change and supportive of the delivery of the business strategy.

The effective management and exploitation of information and Digital Transformation are key factors to business success, and indispensable means to achieving competitive advantage. An Enterprise Architecture addresses this need, by providing a strategic context for the evolution and reach of digital capability in response to the constantly changing needs of the business environment.

Furthermore, a good Enterprise Architecture enables you to achieve the right balance between business transformation and continuous operational efficiency. It allows individual business units

to innovate safely in their pursuit of evolving business goals and competitive advantage. At the same time, the Enterprise Architecture enables the needs of the organization to be met with an integrated strategy which permits the closest possible synergies across the enterprise and beyond.

And lastly, much of the global privacy legislation demands that processes around personal data are fully documented in a way that can be easily understood by untrained readers — such as the data subjects and judges and lawyers. The penalties for failing to have this can be very significant. Clearly the creation of this basic documentation arises from the changed fundamental considerations and this is now crucial.

What are the benefits of an Enterprise Architecture?

An effective Enterprise Architecture can bring important benefits to the organization. Potential benefits of an Enterprise Architecture include:

- More effective strategic decision-making by C-Level executives and business leaders:
  - Quick response to change and support for enterprise agility aligned with the organization strategy
  - Organizational transformation, adopting new trends in business and technology
  - Organizational change to support Digital Transformation
  - Organizational and operating model changes to improve efficiency and effectiveness
- More effective and efficient business operations:
  - Lower business operation costs
  - More agile organization
  - Business capabilities shared across the organization
  - Lower change management costs
  - More flexible workforce
  - Improved business productivity
  - Improved organization integration in support of mergers and acquisitions
- More effective and efficient Digital Transformation and operations:
  - Extending effective reach of the enterprise (e.g., through digital capability)
  - Bringing all components of the enterprise into a harmonized environment
  - Lower development, deployment, operations, support, and maintenance costs
  - Improved interoperability
  - Improved system management
  - Improved ability to address critical enterprise-wide issues (e.g., security)
  - Easier upgrade and exchange of system components

- Better return on existing investment, reduced risk for future investment:
    - Reduced complexity in the business and IT
    - Maximized return on investment in existing business and IT
    - The flexibility to make, buy, or outsource business and IT solutions
    - Understanding how return on investment changes over time
- Faster, simpler, and cheaper procurement:
    - Buying decisions are simpler, because the information governing procurement is readily available in a coherent plan
    - The procurement process is faster — maximizing procurement speed and flexibility without sacrificing architectural coherence
    - The ability to procure heterogeneous, multi-vendor open systems
    - The ability to secure more economic capabilities

What specifically would prompt the development of an Enterprise Architecture?

The reasons for embarking on an Enterprise Architecture review or development are varied, including:

- Business-driven initiatives to enable business transformation; for example, to leverage digital services and products as revenue generating assets
- Technology-driven initiatives for efficiency and cost reduction; for example, technology consolidation initiatives, where the consolidation destination can be physical, virtual, or a combination
- Merger or acquisition, where the return on investment is only realized after technology efficiencies are realized
- Management of technical debt accrued by agile development initiatives

In all of these situations, Enterprise Architecture review or development is needed to manage complexity when change involves multiple systems with multiple inter-dependencies.

Often key people identify areas of change required in order for new business goals to be met. Such people are commonly referred to as the "stakeholders" in the change. The role of the architect is to address their concerns by:

- Identifying and refining the requirements of the stakeholders
- Developing views of the architecture that show how the concerns and requirements are going to be addressed
- Showing the trade-offs that are going to be made in reconciling the potentially conflicting concerns of different stakeholders

Without the Enterprise Architecture, it is highly unlikely that all the concerns and requirements will be considered and met.

What is an architecture framework?

An architecture framework is a foundational structure, or set of structures, which can be used for developing a broad range of different architectures. It should include a method for describing both a baseline and target state of the enterprise, in terms of a set of building blocks for showing how the building blocks fit together and planning the evolution from baseline to target states.

A framework is typically tailored to meet the specific needs of the organization. Tailoring of the framework should establish a set of tools and a common vocabulary.

Why use the TOGAF Standard as a framework for Enterprise Architecture?

The TOGAF Standard has been developed through the collaborative efforts of the whole community. Using the TOGAF Standard results in Enterprise Architecture that is consistent, reflects the needs of stakeholders, employs best practice, and gives due consideration both to current requirements and the perceived future needs of the business.

Developing and sustaining an Enterprise Architecture is a technically complex process which involves many stakeholders and decision processes in the organization. The TOGAF Standard plays an important role in standardizing and de-risks the architecture development process. The TOGAF Standard provides a best practice framework for adding value, and enables the organization to build workable and economic solutions which address their business issues and needs.

The TOGAF Standard value proposition is to enable organizations to operate in an efficient and effective way using a proven and recognized set of best practices, across the enterprise and in different sectors to address specific business and technology trends.

A key consideration is that guidance provided by the standard is intended to be adapted to address different needs and particular use-cases. That means it can be used to create a sustainable Enterprise Architecture for a broad range of use-cases, including agile enterprises and Digital Transformation.

Who would benefit from using the TOGAF Standard?

Any organization undertaking, or planning to undertake, the development and implementation of an Enterprise Architecture for the support of business transformation will benefit from use of the TOGAF Standard.

Organizations seeking Boundaryless Information Flow™ can use the TOGAF Standard to define and implement the structures and processes to enable access to integrated information within and between enterprises.

Organizations that design and implement Enterprise Architectures using the TOGAF Standard are assured of a design and a procurement specification that can facilitate an open systems implementation, thus enabling the benefits of open systems with reduced risk.

Organizations that need to adapt to face new business and market challenges, to improve value propositions to their customers as part of Digital Transformation.