

White Paper

Why is Business Architecture so Important for Enterprise Architecture? The Role of Business Architecture in Enterprise Architecture

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David and Roderick are passionate about helping organizations understand and document their own business processes, using frameworks such as APQC's Process Classification Framework and standards such as BPMN as well as applying simple approaches to improve and simplify these business processes.

Despite being around now for around 20 years, the term Enterprise Architecture is still often causing confusion for many people.

Wikipedia defines Enterprise Architecture as:

Enterprise architecture (EA) is the process of translating business vision and strategy into effective enterprise change by creating, communicating and improving the key requirements, principles and models that describe the enterprise's future state and enable its evolution.

TOGAF defines "enterprise" as any collection of organizations that has a common set of goals and the term "enterprise" in the context of "Enterprise Architecture" can be used to denote both an entire enterprise - encompassing all of its information and technology services, processes, and infrastructure - and a specific domain within the enterprise.

One of the significant issues relating to Enterprise Architecture that continues to cause confusion is that of its scope. Many people hold the mistaken belief that Enterprise Architecture is an alternative term for Information Technology Architecture. However this is not the case.

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Explaining why this is not case is the purpose of our White Paper. The diagram below provides a simple illustration of the typical framework used to show the composition of an Enterprise Architecture:



Figure 1: Typical Enterprise Architecture Structure

ISO/IEC 42010: 2007 defines “architecture” as:

The fundamental organization of a system, embodied in its components, their relationships to each other and the environment, and the principles governing its design and evolution.

Positioning BA within EA Frameworks Overview

To assist in illustrating how Business Architectures are positioned within the four key Enterprise Architecture Frameworks, namely:

- The Zachman Framework for Enterprise Architecture;
- The Open Group Architecture Framework (TOGAF); and
- The US Government’s Federal Enterprise Architecture (FEA) Framework;
- The Object Management Group’s emerging Business Architecture Framework as defined by the Business Architecture Working Group.

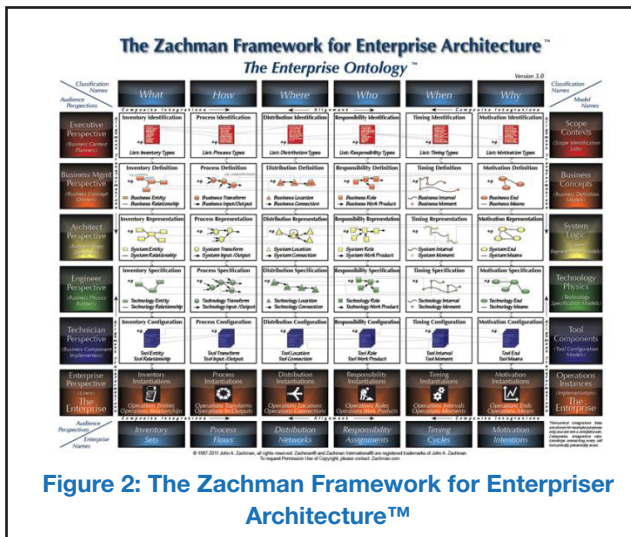


Figure 2: The Zachman Framework for Enterprise Architecture™

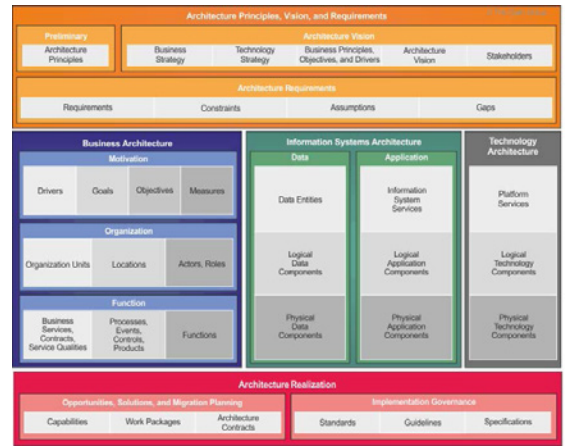


Figure 3: TOGAF 9.1 Content Meta Model

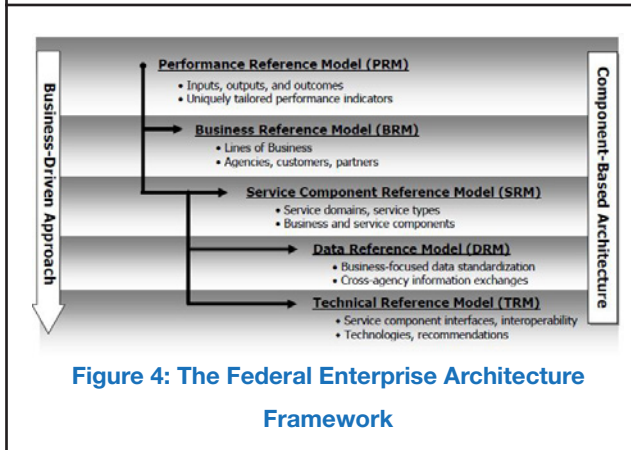


Figure 4: The Federal Enterprise Architecture Framework

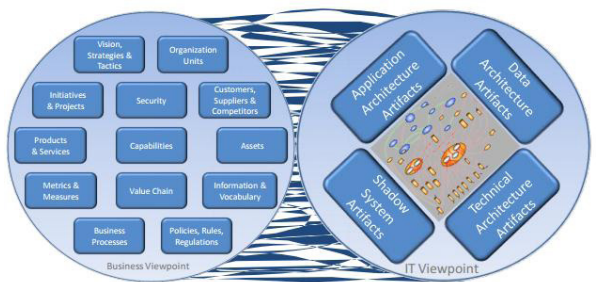


Figure 5: OMG BAWG's view of EA

Zachman Framework for Enterprise Architecture™

John Zachman describes Enterprise Architecture as “... a set of descriptive representations that are relevant for describing something you intend to create and that constitute the baseline for changing an instance of that thing once you have created it. Therefore, Enterprise Architecture is the set of descriptive representations relevant for describing an Enterprise and that constitutes the baseline for changing the Enterprise once it is created”

The Zachman Framework is the founding structure for many Enterprise Architecture frameworks which provides a formal structured way and ontology for viewing and defining an enterprise. It is a framework that includes six key questions;

1. **Why?** – motivations and intentions of the enterprise
2. **How?** – the processes that make up the enterprise
3. **What?** – the inventory sets that make up the enterprise
4. **Who?** – the responsibility assignment for each organizational unit and role
5. **Where?** – the distribution network for the enterprise
6. **When?** - list of triggers and cycles important to the enterprise

It is important to understand that the Zachman Framework is not a methodology in that it does not imply any specific method or process for collecting, managing, or using the information that it describes. The six key questions that form the basis for collecting the information to the build of the Enterprise Architecture can be used in any order.

The Open Group Architecture Framework

The Open Group Architecture Framework, or TOGAF® as it is more commonly known, is probably the most widely used Enterprise Architecture framework used today. The Open Group is a global consortium of approximately 400 members that was set up in the mid-1990's to develop TOGAF, with the first version released in 1995 that, as explained by the Open Group, was:

...based on the Technical Architecture Framework for Information Management (TAFIM). The US Department of Defense gave The Open Group explicit permission and encouragement to create TOGAF 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.ⁱ

Wikipedia defines TOGAF:

The Open Group Architecture Framework (TOGAF®) is a framework for enterprise architecture which provides a comprehensive approach for designing, planning, implementing, and governing an enterprise information architecture. TOGAF is a registered trademark of The Open Group in the United States and other countries.ⁱⁱ

Currently at Version 9.1, which was released on 1st December 2011, the Open Group defines TOGAF as an architecture framework that provides:

... the methods and tools for assisting in the acceptance, production, use, and maintenance of an enterprise architecture. It is based on an iterative process model supported by best practices and a re-usable set of existing architecture assets.ⁱⁱⁱ

TOGAF is based on a Content MetaModel which contains 3 levels of architecture, namely:

- Business Architecture;
- Information Systems Architecture, which contains views for Data and Applications; and
- Technology Architecture.

This is “topped and tailed” by:

- Architecture Principals, Vision and Requirements;
- Architecture Realization, in the form of Opportunities, Solutions and Migration Planning combined with Implementation Governance.

The high level overview of the TOGAF 9.1 Content MetaModel is shown as follows:

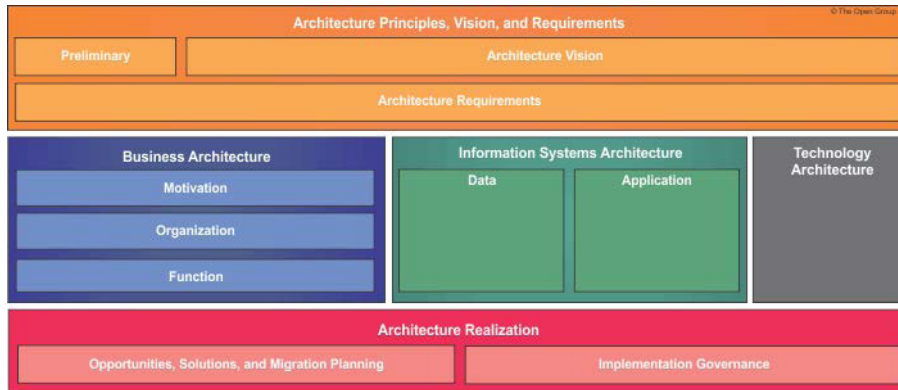


Figure 6: TOGAF 9.1 Content MetaModel Overview^{iv}

This high level overview clearly shows the Business Architecture as a core component of the TOGAF Content MetaModel. This is further illustrated by looking at the Content MetaModel at the next level of detail, as follows:

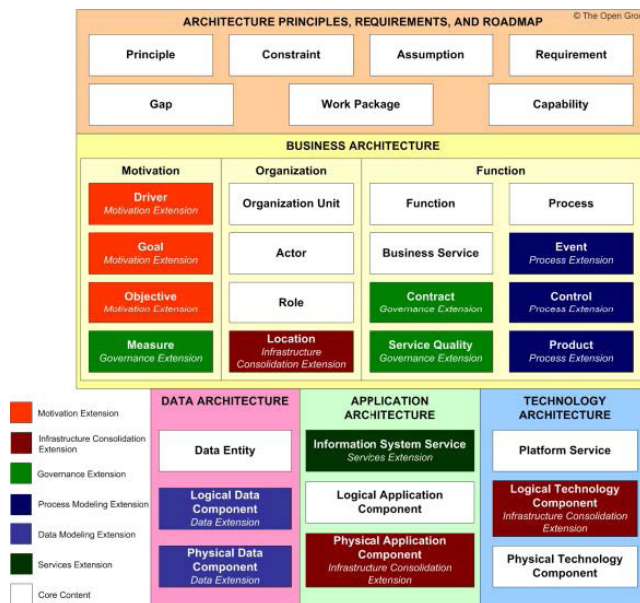


Figure 7: TOGAF 9.1 Content Meta Model with extensions

... and further illustrated by the detailed Content MetalModel showing the relationships between all the objects within the MetaModel:

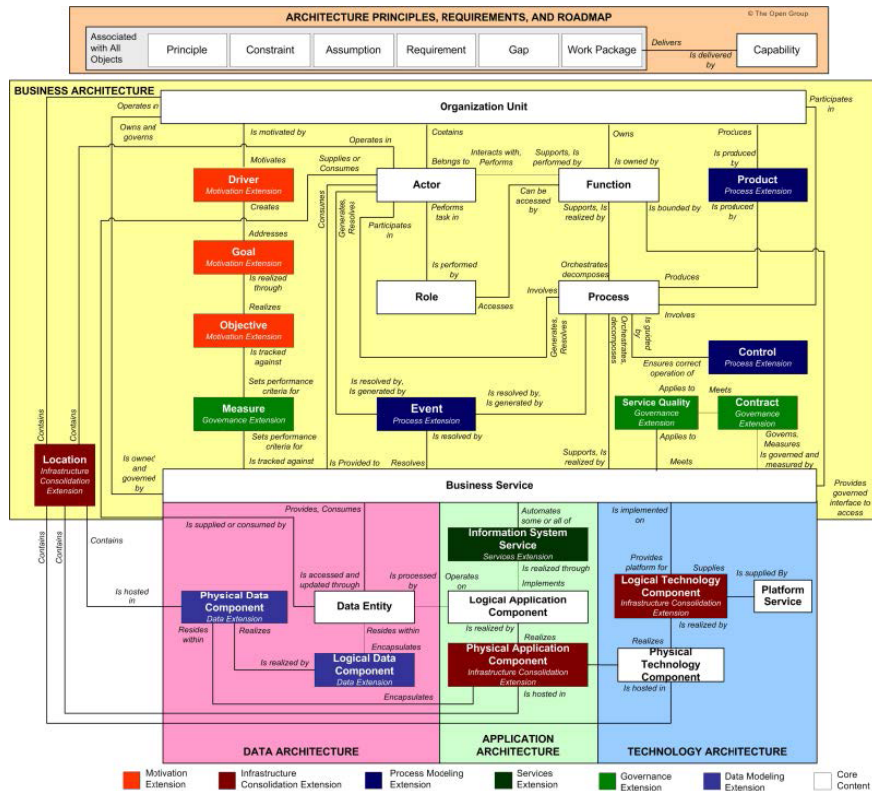


Figure 8: Relationships between Entities in the full TOGAF 9.1 MetaModel

As shown above, the Business Architecture accounts for the majority of objects within the Meta Model. The MetaModel shows that TOGAF places the Business Architecture at the core of the whole Enterprise Architecture.

The US Federal Enterprise Architecture

Before understanding the fundamentals of FEA it is important to understand how FEA views Enterprise Architecture. FEA sets out that Enterprise Architecture can be described as being concerned with identifying common or shared assets, whether they are strategies, business processes, investments, data, systems or technologies. Enterprise Architecture is driven by strategy and the alignment of an organization's mission, strategic goals and objectives.

FEA expresses the view that the primary stakeholders of an Enterprise Architecture are the senior managers and executives trusted with ensuring the organization fulfills its mission as effectively and efficiently as possible.

The practice guide, November 2007, for Federal Enterprise Architecture sets out the value that can be delivered to a business or government agency in the development of Enterprise Architecture by;

- 'Describing the current and future state of the agency and its segments;
- Defining the desired results for an agency and priority segments;

- Determining what resources are used to achieve measurable performance
- Improvements for an agency's core mission areas and common or shared services;
- Leveraging business and information management resources across the agency;
- Developing a transition strategy to achieve strategic goals and objectives and target performance improvements; and
- Measuring the value of EA products and services to inform decisions in other practice areas and support business results.'

In order to drive the value set out in the FEA practice guide one needs to appreciate the important role played by business architecture in the FEA. The practice guide encourages the Enterprise Architect to take a 'business-led approach to the architecture to be more successful in meeting strategic goals and responding to mission needs'.

The FEA has at its core that the business architecture be completed first and then this is used to inform and understand the link to the technology components. FEA, is primarily concerned with the need to identify common or shared assets. It is important to note that these 'assets' are not restricted just to systems or technology but include strategy, the organization's business processes, investments and finally the data.

Business Architecture is important as this provides the link from strategy to processes to roles and, in turn, provides an effective mechanism to include supporting data and technology.

The diagram below sets out the audience and the required detail for FEA.

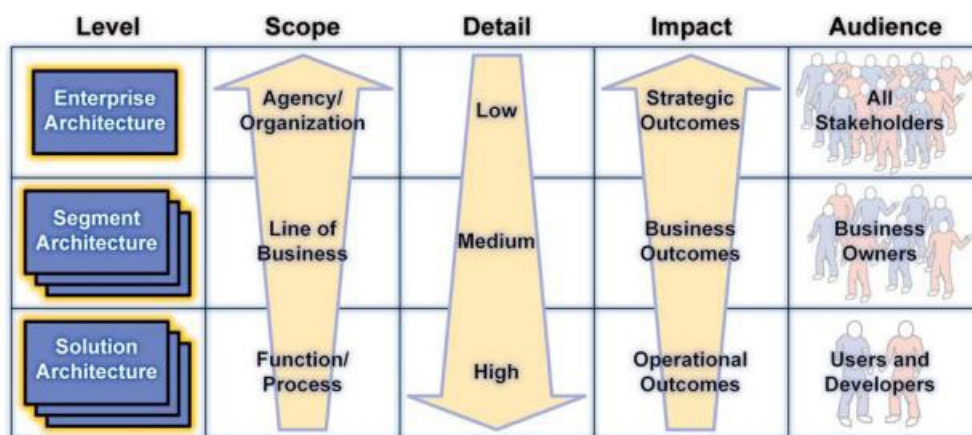


Figure 9 FEA Architectural Levels and Attributes

OMG's Business Architecture

Overview

Business Architecture defines the structure of the enterprise in terms of its governance structure, business processes, and business information. In defining the structure of the enterprise, Business Architecture considers customers, finances, and the ever-changing market to align strategic goals and objectives with decisions regarding products and services; partners and suppliers; organization capabilities; and key initiatives.

Business Architecture primarily focuses on the business motivations, business operations and business analysis frameworks and related networks that link these aspects of the enterprise together.

In order to develop an integrated view of an enterprise, many different views of an organization are typically developed. The key views of the enterprise within the Business Architecture are:

- The Business Strategy view
- The Business Capabilities view
- The Business Process view
- The Business Knowledge view
- The Organizational view

Each of these views has a defined scope and purpose within Business Architecture.

Business Strategy View

The Business Strategy view captures the tactical and strategic goals that drive an organization.

Goals are decomposed into various tactical approaches for achieving these goals and for providing traceability through the organization.

These tactical and strategic goals are mapped to metrics that provide ongoing evaluation of how successfully the organization is achieving its goals.

Capability View

The Business Capabilities view describes the primary business functions of an enterprise and the pieces of the organization that performs those functions.

This view further distinguishes between customer-facing functions, supplier-related functions, business execution, and business management functions.

Process View

The Business Process view defines the set of strategic, core and support processes that transcend functional and organizational boundaries.

The process view sets the context of the enterprise by identifying and describing external entities such as customers, suppliers, and external systems that interact with the business.

The processes also describe which people, resources and controls are involved in the process. And at the lowest level of detail describe the manual and automated tasks that make up the process flow.

Knowledge View

The Business Knowledge View establishes the shared semantics (e.g., customer, order, and supplier) within an organization and relationships between those semantics (e.g., customer name, order date, supplier name).

These semantics form the vocabulary that the organization relies upon to communicate and structure the understanding of the areas they operate within.

Organization View

The Organization View captures the relationships among roles, capabilities and business units, the decomposition of those business units, and the internal or external management of those units.

Conclusion

As we can see from the four architecture frameworks we have covered, a Business Architecture was a fundamental component of each of them. As best illustrated by the TOGAF Meta Model and the OMG's Business Architecture Working Group, an Enterprise Architecture needs to have a Business Architecture as the foundation layer on which the Data, Application and Technology Architectures need to support.

We would suggest that you spend time understanding one of the frameworks to better understand the role of Business Architecture. TOGAF is probably the most accessible and easiest to pick up because of the availability of materials.

There are also many training programs available with 2 levels of certification available from the Open Group. Orbus Software has recently partnered to launch an eLearning website (<http://www.goodelearning.com/>):

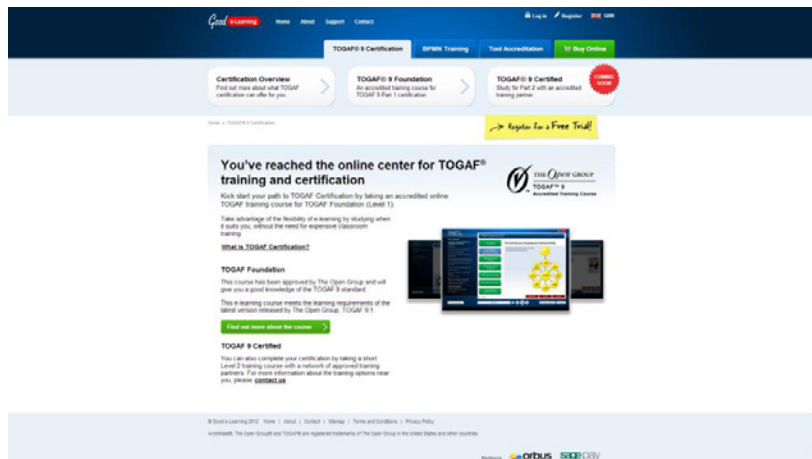


Figure 10: TOGAF 9 Certification from Good eLearning^v

Further to this, Orbus Software provide a TOGAF Starter Kit as a download as well as having a TOGAF 9 Solution available their iServer 2012 repository based modeling platform.

- i The Open Group (2011). Welcome to TOGAF® Version 9.1, an Open Group Standard.
<http://www.opengroup.org/architecture/togaf9-doc/arch/>
- ii Wikipedia (2012) - http://en.wikipedia.org/wiki/The_Open_Group_Architecture_Framework
- iii The Open Group (2011). Welcome to TOGAF® Version 9.1, an Open Group Standard.
<http://www.opengroup.org/architecture/togaf9-doc/arch/>
- iv The Open Group (2011). Welcome to TOGAF® Version 9.1, an Open Group Standard. Part IV: Architecture Content Framework - 33. Introduction <http://www.opengroup.org/architecture/togaf9-doc/arch/>
- v TOGAF 9 Certification eLearning - <http://www.goodelearning.com/togaf-certification>

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