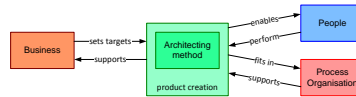


# Positioning Architecting Methods in the business

-



Gerrit Muller

University of South-Eastern Norway-NISE  
Hasbergsvei 36 P.O. Box 235, NO-3603 Kongsberg Norway  
gaudisite@gmail.com

## Abstract

The focus of architectural reasoning methods is on the technical design issues. The relation with the business context is discussed: the business itself, people aspects and process and organizational aspects.

The goal is to define architecting methods, which can be customized to the business needs, with minimal assumptions about people, process and organization. The operational stakeholders and their concerns are discussed.

### Distribution

This article or presentation is written as part of the Gaudí project. The Gaudí project philosophy is to improve by obtaining frequent feedback. Frequent feedback is pursued by an open creation process. This document is published as intermediate or nearly mature version to get feedback. Further distribution is allowed as long as the document remains complete and unchanged.

All Gaudí documents are available at:  
<http://www.gaudisite.nl/>

# 1 Introduction

Architecting methods are positioned in the business context by means of a variant of the “BAPO”-model [4], see section 2. The main assumption is that the people and organization have a learning attitude, which is required to cope with the business dynamics and uncertainties.

The art of system architecting [5] involves also many non-technical aspects, described in [1]. Architecting methods should fit in this non-technical environment. Section 3 describes the stakeholders in the operational domain with their concerns. The architecting methods described in this book do not address the design methods for the operational requirements explicitly.

## 2 Description of the business context

The business objectives of the company are the main inputs for architecting: generating market share, profit, ratio between sales and investments, et cetera. The specific business objectives depend strongly on the domain: the type of product, customers, competition, application and market. The business will set targets for the architecting methods, the architecting methods will support the business.

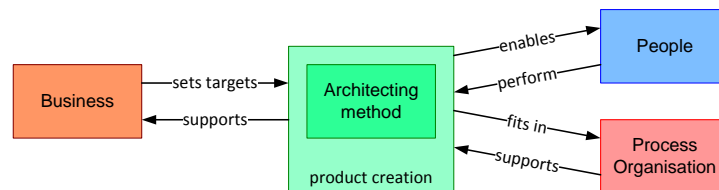


Figure 1: The business context of architecting methods

The business context is shown in figure 1, with the business as the starting point. The business is organized by means of processes, which should support the creation of new products and therefore should support the architecting. The architecting methods must fit in the other processes. People do the real work, the method should enable people to architect the desired system.

Figure 2 annotates the business context with architecting method specific comments. The business of software intensive products is a fast changing business, highly dynamic, with many uncertainties. The explanation of this rapid change is the fast change of the technology, and the fast increase in application possibilities (enabled by the fast technology development). In this dynamic context many needs, constraints et cetera are not articulated explicitly and are also changing themselves.

This dynamic context translates into the need for architecting methods will can adapt to changes in needs or constraints. The uncertainty and implicit nature

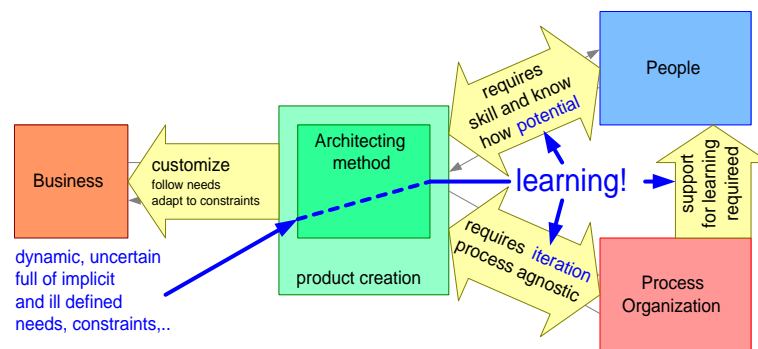


Figure 2: The relationship between the architecting methods and the business, people, process and organization aspects

necessitates a method which allows the discovery, identification and articulation of needs and constraints, but also of the solution options, which are changing rapidly. This requirement propagates also to the people and processes. The architecting methods under consideration assume a minimum potential level of skills and know how, where the potential is enabled by learning. Key to learning is iteration with short feedback cycles, which means that the processes should be iteration oriented. Waterfall type processes are not being considered, experience shows that waterfall processes and dynamic environments are contradictory.

### 3 Operational stakeholders

In the business context many stakeholders are involved in the creation, production sales and service of the products. All these operational stakeholders have their own concerns, which translate in needs with respect to the product specification. Figure 3 shows the stakeholders in terms of the company process decomposition [3].

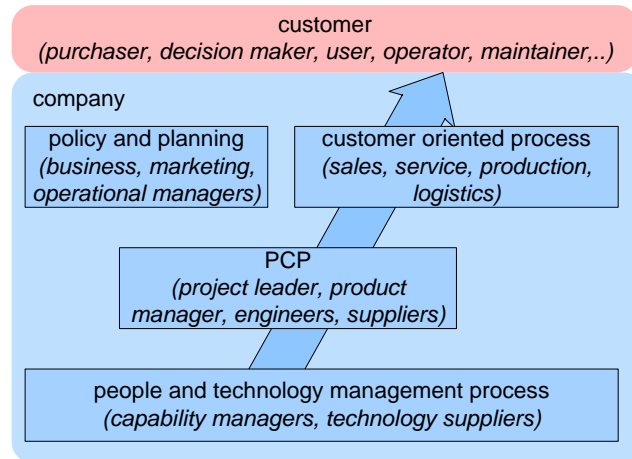


Figure 3: Internal stakeholders

The *customer-oriented process* covers the entire order realization process as well as the sales and life-cycle support (service) processes. Manufacturability, serviceability and many more requirements are determined by these stakeholders.

All specification and design work is done in the *product creation process*. The operational needs of this process, such as work breakdown, test models et cetera, also result in operational requirements, see also figure 4.

The *people, process and technology management* is concerned with methods, tools, skills et cetera. These concerns will sometimes result in operational requirements. Care should be taken that the justification of these requirements is clear, from business point of view these issues are means, which must serve the business goals, not the other way around.

The *policy and planning process* sets the strategy and anticipates on the longer term future. The scope of this process is at portfolio level, here the overview is present to make strategic decisions about product synergy and optimizations across products and product families. Also decisions about using partners, outsourcing et cetera are taken here. These internal strategic considerations translate also in operational requirements.

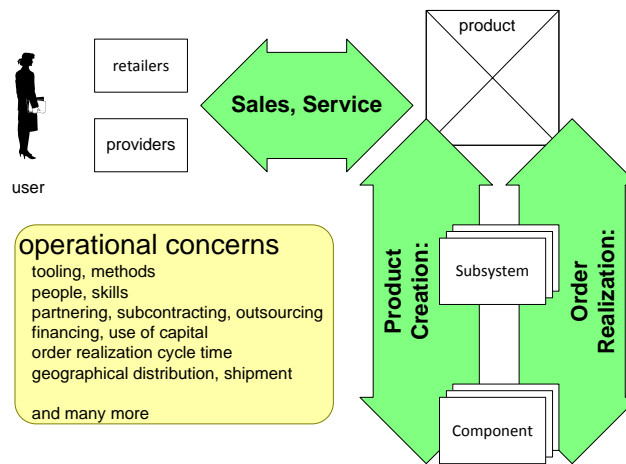


Figure 4: Operational concerns

## References

- [1] Gerrit Muller. System architecting. <http://www.gaudisite.nl/SystemArchitecting.html>, 1999.
- [2] Gerrit Muller. The system architecture homepage. <http://www.gaudisite.nl/index.html>, 1999.
- [3] Gerrit Muller. Process decomposition of a business. <http://www.gaudisite.nl/ProcessDecompositionOfBusinessPaper.pdf>, 2000.
- [4] Henk Obbink, Jürgen Müller, Pierre America, and Rob van Ommering. COPA: A component-oriented platform architecting method for families of software-intensive electronic products. [http://www.hitech-projects.com/SAE/COPA/COPA\\_Tutorial.pdf](http://www.hitech-projects.com/SAE/COPA/COPA_Tutorial.pdf), 2000.
- [5] Eberhardt Rechtin and Mark W. Maier. *The Art of Systems Architecting*. CRC Press, Boca Raton, Florida, 1997.

## History

**Version: 1.0, date: May 21 2003 changed by: Gerrit Muller**

- Added section "Operational stakeholders"

- changed status to preliminary draft

**Version: 0, date: January 17 2003 changed by: Gerrit Muller**

- Created, no changelog yet