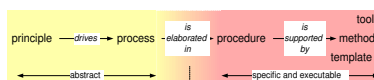


What is a Process?

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Abstract

This article is defining the concept of a "process" for the context of the Gaudí project, since this word is heavily overloaded and heavily used in the Gaudí articles. It also discusses the relationship of processes with organizations and the drive for process improvement.

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/>

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1 Introduction

The notion of a process is heavily used in the Gaudí articles. This intermezzo is defining "process" for the context of the Gaudí project, since this word is heavily overloaded. It also discusses the relationship of processes with organizations and the drive for process improvement.

2 What is a process

A process in Gaudí context is seen as an abstracted way of working. A process can be characterized by the following attributes:

Purpose What is to be achieved and why

Structure How will the goal be achieved

Rationale What is the reasoning behind this process

Roles Which roles are present, which responsibilities are associated, which incentives are present, what are the criteria for these roles

Ordering Which phasing or sequence is applied

In [1] the following definition is given:

A process is an activity which takes place over time and which has a precise aim regarding the result to be achieved. The concept of a process is hierarchical which means that a process may consist of a partially ordered set of subprocesses.

This definition parallels the characterization above. It adds explicitly the potential hierarchical decomposition of the process itself.

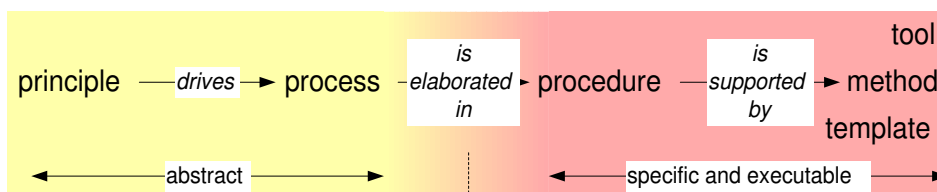


Figure 1: A process within an abstraction hierarchy

The notion of a process can be seen as one step in an abstraction hierarchy, as shown in 1. The most abstract notion in this hierarchy is the "principle". In

the context of the Gaudí project it is planned to explain this notion further in an intermezzo, see also [2].

A process is rather abstract. It describes the essentials of the purpose, structure, rationale, roles and timing, leaving plenty of implementation freedom. The power of a process is its abstraction, which enables its application in a wide range of applications, by tailoring its implementation to the specific application.

A process can be tailored and elaborated in one or more procedures, which describe cookbook-like what need to be done when and by whom. The why in a procedure has often disappeared. The implementation of a procedure is supported by tools, methods, templates and other means.

3 The relation between Processes and Organizations

Traditional management is focused on "organizations". Where organization stands for:

- Which functions are needed
- Who is responsible for this function
- What is the hierarchical relation between the functions
- Which meeting structure is required

This management views is insufficient in todays fast moving complex world. The weak spots of this view are:

- Many activities cut arbitrarily through the 1-dimensional hierarchy, causing:
 - no ownership, unclear responsibilities
 - high impedance transitions at organizational boundaries
- Functions are a combination of tasks, in most cases no human exists which matches the required skills
- Meeting structures are insufficient to get things done

Processes are more modern instruments for management. Many processes are required to ensure the effective functioning of an organization. These processes are interrelated and overlapping. Processes are non-orthogonal and don't fit in a strict hierarchical structure.

Most complex product developments don't fit in the classical hierarchical organization model, but require a much more dynamic organization model, such as the currently popular chaos based network organization. Processes are the means

which help to ensure the output of dynamic organization models such as a chaos based network organization.

Processes can be seen as the blueprint for the behaviour of the people within the organization. People will fulfill multiple roles in multiple processes. The process description is intended to give them an hold on what is expected from them.

All important activities will be covered by a process, requiring the definition of ownership, relation with other processes et cetera. The allocation of roles to people is much more dynamic. This enables a better match between personal capabilities and required skills. In practice this leads to more distribution of responsibilities, making it more feasible to match capabilities and skills.

The 80/20 rule is also valid for processes: 80% of the behaviour is covered by the processes, while 20% requires independent creative behaviour. An organization without processes drowns in chaos, while an organization which blindly implements them will be killed by its own inertia, its inability to adapt to the fast changing world.

For reasons of continuity and stability an hierarchical organization will remain. The least frequently changing dimension is mostly used as a basis for this hierarchy. This hierarchy functions as anchorpoint for people in the continuously changing process world, but should play only a minor role in the entire operation.

The **Centurion** turn around operation within Philips, orchastrated by Jan Timmer in the early nineties, urged the Philips managers and employees to change from an introvert organization point of view to an external result oriented process point of view.

4 Process Improvement

Urged by competitive pressure organizations look for ways to improve their efficiency. A huge amount of opportunities for improvement have a strong process component.

The 7S model by McKinsey gives a practical way to improve an organization in a balanced way. The message behind this model is that at least 7 views must be balanced when changing an organization. These 7 views are:

- System
- Structure
- Strategy
- Staff
- Skills
- Style

- Shared Value

The most common pitfall in improvement programs is the over-emphasis on the process component, or worse the isolation of the process improvement. Quite often this happens in organizations which assess their maturity level, for instance by Maturity Models [3].

The Process Improvement Officer¹ is focused on process issues only. Hence where the process view is introduced as an extrovert result oriented approach, it suddenly turns into an introvert improvement program, where business goals and drivers are unknown.

This is a quite sad situation: The opportunities for improvement are ample with a strong process component, however due to the wrong focus a contraproductive effect is obtained (such as rigid procedures).

Recommendation: Process improvements should originate from the directly involved people, for instance project leaders, engineers, architects et cetera. Invite participation by this group in such a way that they feel the ownership.

5 Acknowledgements

Discussions with and critical comments from Rard de Leeuw, Jürgen Müller, Henk Obbink, Ben Pronk and Jan Stadius Muller helped to shape, to improve the structure and to sharpen the contents of the article "Positioning the System Architecture Process". This intermezzo is based on the first sections of this article. I am grateful for their contribution.

References

- [1] Klaus Kronlöf, editor. *Method Integration; Concepts and Case Studies*. Wiley, Chichester, England, 1993. a useful introduction is given in Chapter 1, The Concept of Method Integration.
- [2] Gerrit Muller. The system architecture homepage. <http://www.gaudisite.nl/index.html>, 1999.
- [3] Carnegie Mellon Software Engineering Institute SEI. Software engineering management practices. <http://www.sei.cmu.edu/managing/managing.html>, 2000.

¹The existence of this function in itself is quite dangerous, it invites the unbalanced isolated "improvement" behaviour

History

Version: 0.3, date: August 5, 2002 changed by: Gerrit Muller

- minor changes

Version: 0.1, date: December 18, 2001 changed by: Gerrit Muller

- abstract added, layout updated

Version: 0, date: February 23, 2000 changed by: Gerrit Muller

- Created by taking the first sections of the article "Positioning the System Architecture Process" and adding more Process specific information to it.