



Presentation

Research Pre Proposal A Framework for Process Architecture

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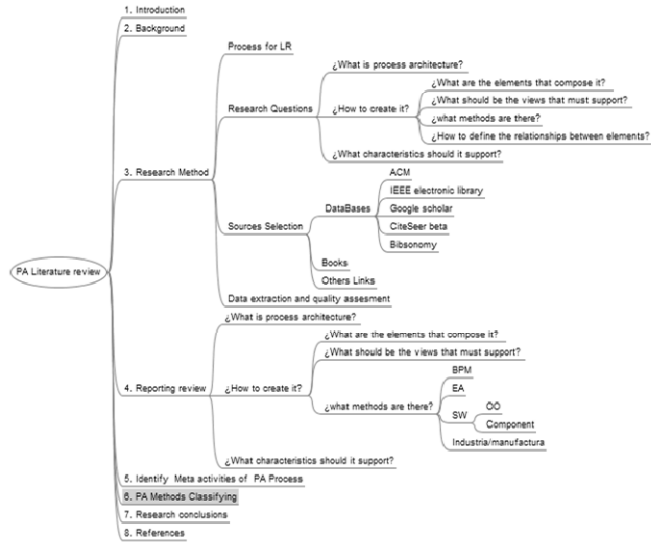


Agenda

- Literature review
 - Problem definition
 - Process architecture (PA) definition
 - PA methods
- Actual state of investigation
 - PA methods classifying
 - Flexibility approaches



Literature review

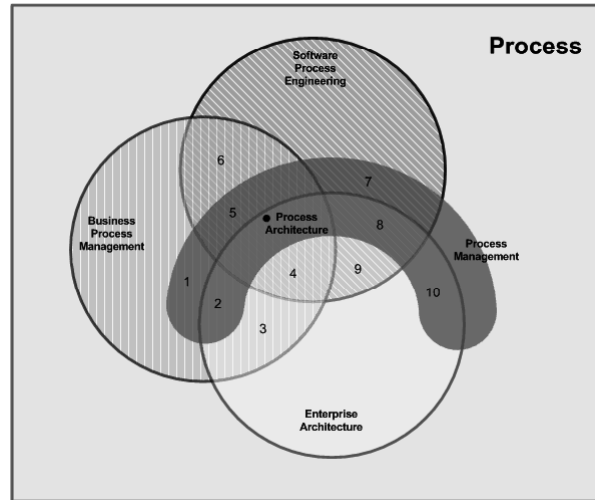


Actual Problem Definition

- No global management of the process system.
- No coherent process system structure
- No support for process execution
- No standard definitions and terminology
- Process inflexibility
- Inappropriate process documentation (tools, views)
- No support for changes in process architecture
- **There are no metrics of quality for PA**
- Scope of the architecture of processes



Research Question: ¿What is Process Architecture?



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“A conceptual framework for expressing and composing software process models. Generally a process model has to be structured into several sub models. Synonym: Process meta-model.”

Lonchamp



Research Question: Attributes of Process Architecture

The attributes that comprise good process architecture:

- There must be a set of rules, principles and models for the processes
- There must be a basis for design and realization of processes of the organization
- Processes must be related to organization strategy and objectives
- Processes must be aligned with the business architecture, and information and technical architecture, which equates to an organization driven enterprise architecture
- Processes must be easy to understand and apply by all relevant stakeholders
- The process architecture must be dynamic, that is, easily adaptable to the evolving process, business and enterprise changes



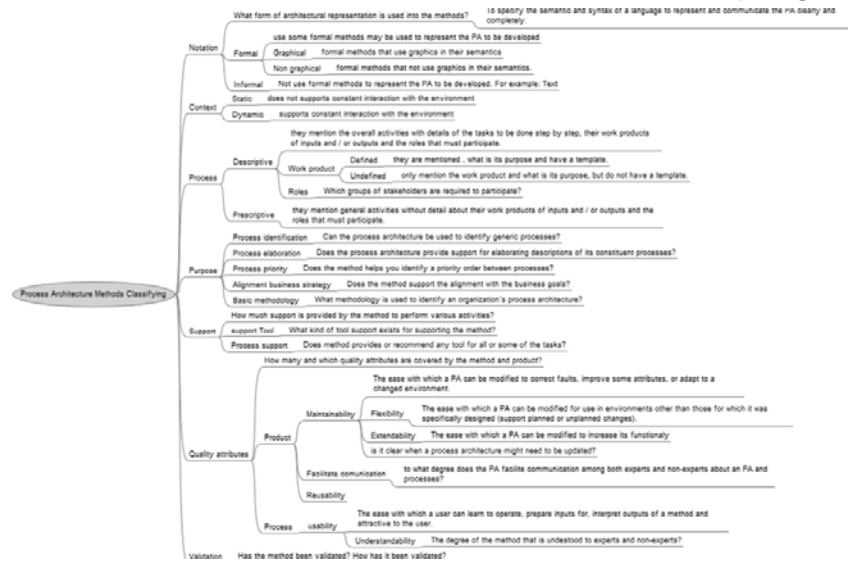
Research Question: ¿What methods are there?

Process Architecture Methods :

- 1) *Riva method*
- 2) *Maldonado and Vazquez method*
- 3) *Jeston and Nelis method*
- 4) *Object Oriented Software Process Architecture*
- 5) *Evolution Process Component composition method*



Process Architecture Methods Classifying



Process Architecture Methods Classifying

Assessment of Frameworks:

- 1) Bjorn-Anderson's Framework
- 2) Davis's Framework
- 3) Avison and Taylor's framework
- 4) Normative Information Model-Based Systems Analysis and Design (NIMSAD)



Process Architecture Methods Classifying

NIMSAD element as represented in (Forstall et al., 1999)	Questions	Applicability and the needed re-interpretations of the NIMSAD element for the proper evaluation of general problem solving approaches
Methodology Context		
Use situation	What kind of situations does the M use?	OK, but the scope is generally more restricted
Start for M use	Which incidents initiate the use of the M?	OK
Customers and problem context	Who are the customers and problem context?	OK
Context description	How is the context described?	OK, but the role of context is less salient
Culture and politics of M use	What is the culture and politics of M use?	OK, but the possible importance of this element is generally not explicit
Risks in describing context	What risks does the M identify when describing context?	OK, but the role of the context is altogether limited
Risks of methodology	What are the risks in using the M?	OK
Methodology User		
Users motives and values	What are the users' motives and values?	OK
Needed abstract reasoning	What level of abstract reasoning is required from the use of the M?	OK
Needed skills	What skills does the user of the M need to accomplish tasks required in M use?	OK
Methodology		
Problem situation and boundaries	How does the M help in understanding the particular situation and boundary setting?	OK, but is generally not deemed as very important
Diagnosis of situation	How does the M user diagnose what kind of system is needed?	OK, but is sort of present state analysis and includes as a central element the preconditions for the method application
Prognoses for system	How the M user make a prognosis for the system to be built?	<i>Prognoses for problem solution, answers to the questions: where we want to go, what are the goals?</i>
Problem defining	How the M user define problems which need to be solved?	OK, but in most cases trivial (and could be reduced to the issues already covered in the previous element)
Deriving autoreal systems	How you get systems which need to be described?	OK, but the process for describing the target state is usually not needed (and not supported)
Design (originally: logical and physical design separated)	In this phase done? How the M user implement this phase?	<i>Design: there usually is no abstract (or user-level) design, and the role of design is altogether restricted (consisting of sub-phases producing input for the next element)</i>
Implementing the design	In this phase described? What is included in it?	<i>Implementation: the actual problem solving process</i>
Evaluation		
Evaluation (originally: cases before/doing/after, intervention separated)	How are the other elements (presented by NIMSAD) evaluated?	<i>Evaluation (external, internal): these M's usually do not support internal 'reflective' or 'longitudinal' (self)evaluation</i>

Table 1. The NIMSAD framework and its interpretation in our case.



Process Architecture Methods Classifying

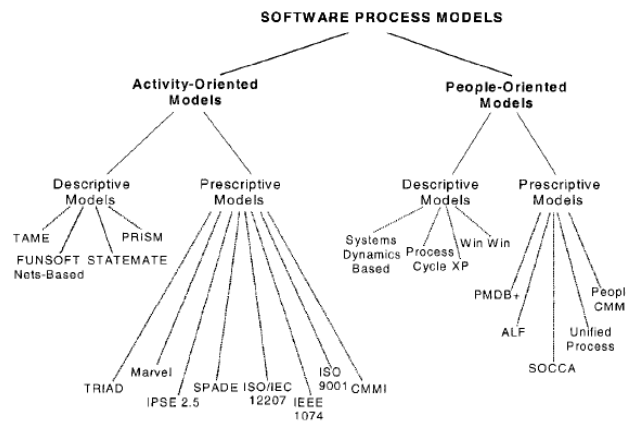


Figure 2.2. Surveyed software process models



Flexibility Approaches

- The Theory of Deferred Action
- Active Model Approach
- Beer's Viable System Model (VSM)
- Model Driven Perspective
- SOA



Thanks !!!