

Representing Variability in Enterprise Architecture

A Case Study

Nino Rurua, Rik Eshuis, Maryam Razavian

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Appendix (available online via <http://link.springer.com>)

Interview questions

The questions used during the evaluation sessions are given below:

1. Is the approach consistent with the stakeholder community who's going to use it (enterprise, business, IT architects, business process owners and experts)?
2. Is the approach consistent itself?
 - a. Are the mappings between different steps, elements of the approach provided?
 - b. Are there any ambiguities, redundancy, limitations?
3. Does the documentation adhere to the standards and templates that it claims to follow?
4. Is the approach consistent with the purpose it describes?
5. Will you consider using the proposed variability extension elements in the architecture design?

Evaluation Results

A short summary of the evaluation feedback from the interviewed stakeholders is provided below:

Expert 1: Transformation Architect

1. The approach is consistent with the stakeholder needs: the problem reflects the company's current needs and is highly relevant to the issues faced in the design of enterprise architecture. The proposed approach is in line with architecture methodology used at Philips.
2. The concepts about variability are clear, the steps for variation identification are easy to follow, and there are no redundancies. The reasoning behind the selection of variability modeling approaches is understandable but not clearly explained.
3. The documentation complies with the Philips modeling standards and is applicable with the tools used for documenting enterprise architecture.
4. The purpose was to understand how to analyze and document variability, and what are the ways to do it, and the proposed approach provides it. However, it gives one example of how it can be applied in practice.
5. The suggested variability concepts are very useful. They give the content and substance to the issues the company faces which was not clearly defined before.

Expert 2: Business Architect (Order-to-Cash)

1. The approach is consistent with the stakeholder community and is a big step further to solve problems the company has in the design, particularly unstructured and dispersed approaches how to manage variations. It shows how the company can adapt its current classification of the processes in the architecture which can be the next stage of the current architecture maturity.

2. The structure and the options are clear, and also the process how to follow variability management from its identification to modeling. It would be helpful to see more generalized overview of the pros and cons of modeling approaches which cover other cases of variability as well.
3. The documentation of the models is consistent and follows the company's modeling standards. It would be easier for the stakeholders to read the proposed process of variability management if modeled using BPMN notation since the same language is used for business process modeling.
4. The proposed approach is consistent with the purpose and how it deals with the e-invoicing case. But it will be interesting to have more understanding how the same approach can be applied to more customer/user-specific variability issues which can be more complex in nature than finance processes.
5. The proposed solution guides the designers to make decisions about variations and which steps to take further to embed it in the current modeling techniques. Especially, having the classification of the variation drivers and constraints that have to be considered during the design of business architecture. Classified causes of variation enables more standardized approach and reduces redundancies in the modeling which is common across domains currently. The aspect which would help the architects more and could be the next step is to define the ways how to execute the identified variants.

Expert 3: Enterprise Architect

1. The approach is consistent with the stakeholders who are going to use it. The metamodel gives a formal way of describing the issue and that should help to easily apply it to the work. But the question is if all the stakeholders are able to recognize and read the metamodel. For example, during communication giving more concrete examples of variation drivers and textual explanation could help the business process experts or owners (who are less familiar with ArchiMate language) to understand the purpose of the elements.
2. The overall approach is useful and consistent. Having variation drivers and variation points seems redundant, as they seem to capture the same context. Instead of variation points, it would also be possible to have variation sub-drivers to capture more specific variability cause/location.
3. The approach adheres to the modeling language (ArchiMate) and the viewpoints used in the enterprise architecture. There are some differences with the current labels of the objects, but that is due to the recent switch to a new tool.
4. The approach for enterprise architecture is consistent overall but the application layer is not covered as extensively as the other layers. However, variability affects application architecture in a different way (configuration templates) and is not that important for this approach.
5. The proposed approach is useful to have a formal way of analyzing and describing variation issues for business processes and technology component support, but the application layer support is weak, so can be left out.