Faced with growing complexity

Information systems play an increasing role in the economy and in social life. We ask them for more openness, more interoperability, more services… and all this in an environment constrained by resources and regulations. Technology continually offers new opportunities but, at the same time, brings with it new risks. Users are more and more demanding and the owners keep careful watch. New phenomena are changing everything for IT departments: the trend towards ERP packages, outsourcing and cloud computing to name but a few. In short, our projects are not going to get any simpler. We are surrounded by existing systems, weighed down by age, with which we have to coexist. What means do we have at our disposal to face this growing complexity and to keep control of our systems?

An industrial asset… now lost

In the eighties and at the beginning of the nineties, one word immediately came to mind in answer to this question: method. Back then, the term had a positive connotation. It was a time when we could lean on reference methods. In France, notably, government investments were made to provide the market with a design method: Merise. For a long time, Merise was a compulsory part of any public invitation to tender and widely disseminated in higher education. This situation had the advantage of creating a community of language and perception, which promoted cooperation between partners or with service providers. It represented a considerable industrial asset. We are no longer in this situation: our reference methods have become obsolete, either because they did not know how to change and incorporate developments in technology and practices (object

[RESTORE COMPETENCY IN MODELING TO HELP TRANSFORM ENTERPRISES]

oriented approach, SOA…), or they fell victim to exogenous factors such as the acceleration of technological advancement and the loss of interest shown by management for these questions.

An initiative founded on the pooling of investments

From this observation, several enterprises and organizations joined forces with the aim of developing an open method that would meet their requirements. And so the initiative for an open method saw the light of day, giving rise to the Praxeme method. Today, nobody expects government financing in this domain, and so the contributors to this initiative have adopted the principle of pooling the investments made. *SAGEM* (Defense branch) needed a method to urbanize IT in its drone-control stations. This led to the initial writing of nine methodological guides. Then, the *SMABTP*, an underwriter specialized in the construction industry, needed a method to reshape its information systems in SOA. It reused the guides and financed the creation of procedures specific to the design and development of services. After, the *Caisses d'allocations familiales* (Office of Family Assistance) enabled the method to be based on a true metamodel. From the outset, the French Army had accompanied the movement, sanctioned by the French General Directorate for State Modernization (*DGME*)[1]. And so on, step by step, the method continues to develop in the same open and rigorous mentality. Recently, a research project with the RATP has enabled the method to be adapted to physical systems.

Applications in all sectors of activity

Praxeme proposes a systemic approach that applies to both enterprises and organizations as well as information systems

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[1] Please refer specifically to the "General Repository for Interoperability", published by the DGME, cf. http://www.references.modernisation.gouv.fr/rgi-interoperabilite.

and technical systems. Indeed, all these systems comprise human, sociocultural and technical components, in variable proportions. They can all be considered as socio-technical systems and analyzed using the same framework. Among the known applications are:

- In Belgium, the Walloon administration for its electronic administration projects;
- SOA projects in different sectors of activity (energy, distribution, insurance);
- Database integration on a multinational level (e.g., Celesio, pharmaceutical distribution);
- Modeling of transport systems (research project for the RATP);
- Applications in armament systems (in particular, upstream engineering with Thales);
- Business architecture approaches (AXA Group)…
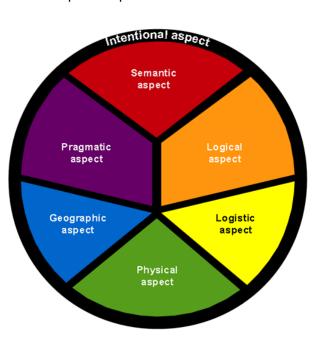
A widely disseminated method

The method, with guides available in English, is also used in the United States and is suited to international groups. It provides, among other things, a multi-system approach that enables organizations to deal with system mergers and integration. It benefits from involvement from the university community. In particular, it is taught at the *Ecole Centrale de Paris*. The *Ecole Polytechnique* has signed the Enterprise Transformation Manifesto, a brief guide for the responsible enterprise, aimed at decision makers[2]. The French government has adopted it as a reference method for its civil service modernization programs.

The components of the method are accessible free of charge from the Praxeme Institute[3] website. They are protected by a Creative Commons license, in line with the method's spirit of openness.

Covering all aspects of the enterprise

Praxeme is an enterprise methodology, that is to say its aim is to cover all aspects of the enterprise. Thus, it organizes the areas of expertise and processes, from strategy to deployment. From a management point of view, this is indisputably its chief contribution: the ability to organize all contributions, to serialize all decisions and to create synergy between specialties. In so doing, it gives a concrete meaning to both enterprise and business architecture, positioning these disciplines in its framework of reference and equipping them with precise techniques[4]. Aside from this holistic and interdisciplinary approach, one of its features lies in the role it gives to semantic modeling. Upstream from processes and the organization, semantic modeling allows the business fundamentals and knowledge to be captured in such a way as to make them easily exploitable. Usually, this essential

The Enterprise System Topology, framework for complex systems

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[2] Cf. http://www.enterprisetransformationmanifesto.org.

[3] The Praxeme Institute is a not-for-profit association, which aims to develop and promote the Praxeme open method. Its official website: http://www.praxeme.org.

[4] For example, Praxeme is orthogonal to TOGAF: it provides processes and techniques that can be inserted into the process described in the Architecture Development Method.

knowledge is deep within the description of the processes and mixed with the organizational choices. By isolating it, the method extracts the stable core which can be widely shared. It becomes the base upon which processes are rebuilt and from where the IT solution is rethought.

A complete approach to transformation

Praxeme does not stop at defining the necessary models for enterprise transformation and the development of its systems: by defining the derivation channels, in compliance with the MDA (Model Driven Architecture[5]) standard, the method carefully links these models together. That is why Praxeme sets great store by the UML[6] notation, for which it provides an instruction manual, including one for modeling the business knowledge and processes.

Conclusion

Resulting from a collective effort, the Praxeme open method gives the market the ingredients needed for a fresh start and increased control in the design and transformation of organizations and their systems. It is still a work in progress and contributions are welcome. The methodological guides and training supports that the Praxeme Institute has put on line can nevertheless help enterprises right now to consolidate their modeling and design competences and to control their projects.

To keep abreast of the latest news on the open method or to participate in the work of the Praxeme Institute
Mailing list, LinkedIn group, Twitter account, wiki, membership of the Praxeme Institute, a not-for-profit association, recognized as serving a public interest…

See: http://wiki.praxeme.org/index.php?n=Chorus.Join

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[5] MDA is a standard of the OMG, which offers the requisite techniques to transform a more abstract model into one closer to the development underway. Cf. www.omg.org.
[6] Unified Modeling Language, another standard from the OMG. Above all else, the notational choice is guided by the need to link the models among themselves, so as to cover the entire description of the enterprise.

The figure below represents the activities and work produced by the Praxeme Institute. It is based on the Organum, a structure developed to administrate the documentation of the projects. "EST" refers to "Enterprise System Topology" (as presented on page 2).