



Model Drive Your Business

Is there clarity in your enterprise technology pursuits?

In recent years, the market IBS Interprit (www.ibsinterprit.com) serves began to go through a radical transformation. IBS Interprit's flagship product provides an integrated, end-to-end, flexible and scalable BSS solution for all the Customer Care and Billing needs in the convergent pay media market. Their customers include DirecTV Latin America, Canal+ Services BV, MultiChoice Africa, Telenor AS —supporting more than 10 million subscribers across a global client base for over 15 years. During that time, needs of core customers changed only slowly. The ubiquity of broadband Internet services has created new competition (Voice over IP, IPTV), but also new opportunity for IBS Interprit's traditional IBS customers ("triple play" – offering video, telephony, and internet). With the market now in rapid transition, IBS Interprit sought a way to further improve the software development process and get an edge on the competition.

The vision as outlined by Per Grimskog, IBS Interprit's VP Technology, was to, "increase productivity and ability to change by implementing a model driven architecture that provides end to end traceability from requirements to code and back, including a central repository with all artifacts to support a high degree of automation and 'code generation.'"

When Canonica was brought in to aid IBS Interprit in revolutionizing their software development process, much of the knowledge about the business was managed and stored in documents. Although engineers made use of UML, the full potential of a model-based approach had not yet been realized. Requirements from specific customers, requirements from the Product Management team, use case descriptions, engineering architecture and design documents all had to be created, managed, and synchronized. Information was shared via an Intranet – efficient, but not efficient enough. When a change had to be made in one document, all other documents that referenced it had to be found and updated to match. The process diverted attention away from focusing on the primary objective – developing the next generation of a world-class Customer Care and Billing System. IBS Interprit's goal was to restructure its massive amount of disparate information to provide a big-picture view. When a shift in business strategy materializes, the big picture would be available that all key stakeholders could easily relate to.

Canonica's *Model Driven Business*SM Solution

Canonica applied its proprietary Model Driven BusinessSM approach to move IBS Interprit from a document-centric world to a model-centric one, creating a fact and asset perspective of management. All information about the what, how and why of IBS Interprit's business became part of a unified and extended UML-based model. The repository is a database, making it possible to link important information artifacts together (requirements, use cases, entities, interfaces, realizations and so on).

The tool selected for this implementation was Sparx Systems Enterprise Architect, one of the only Object-Oriented and Design market segments products that utilize a database for model

storage. Most UML Case tools are fairly expensive and file-based, preventing organizations from leveraging the model as an effective information system. Canonic's experience with all stakeholders who have used Enterprise Architect is a unanimous (and emphatic) view that EA is simpler to use, more productive, more powerful and much less likely to be a source of frustration than other available UML Case tools. EA also provides a per-seat cost that is *only five per cent* of the most popular UML Case tools.

Per Grimskog, IBS Interprit's VP Technology, praises Canonic's approach to their business problem: "In terms of protecting IBS Interprit's intellectual property, the model has become more valuable than even our source code."

Results: IBS Interprit's ROI

Once IBS Interprit's information was linked, it became much more powerful – and much more valuable. The information became knowledge. For the first time, instead of hunting for the source for a piece of information, anyone in the organization could look at the system from a very high level, then navigate the traceability model as far as desired to see an increasing amount of detail, until finally arriving at the source code itself. Anyone who wanted to know the business reason behind any line of code can now query the model to see what use cases and requirements necessitate the code. Managers can measure the size of the solution, individual productivity, and completeness by running their own model queries. The availability of information on every desktop in the organization stimulates a more collaborative environment, ultimately ensuring a better product.

The Model Driven BusinessSM approach was easily coupled with a Design-By-Contract Model Driven Architecture strategy. Architects can run reports against the model that ensure that architectural standards are consistently met, and software engineers can code-generate a significant amount of code from the model. In one exceptional case, due to the level of precision in the model, work that was originally budgeted to take several months of engineering effort could be reduced to 10 days because a substantial amount of code could be generated directly from the model. In fact, significant savings are realized in most cases because of the model-driven code generation.

As the model matures, the extent of the value of the repository and the Intellectual Property information system is only limited to the amount of creativity applied. Once certain questions are answered, new dimensions of the model will be realized.

Outsourced development and integration partners use the model as well. Assets produced by the vendors are retained as they are realized, saving delivery and translation time. Finally, the analysis model leaves little doubt as to what needs to be built. Buffers that outsourcing companies include for fixed-price bids were negotiated down due to the quality of information available for the bid.

IBS Interprit can now manage outsourcing – especially overseas – much more effectively. The model serves as an unambiguous description of the work to be done, greatly reducing communication barriers that usually accompany outsourcing. Because IBS Interprit can easily

slice the information, exposing only what an outsourcing partner needs to know, intellectual property is better protected.

IBS Interprit's move from a document-centric world to a model-centric one created an opportunity to turn information into knowledge, ultimately protecting the company's IP. The Canonic solution brought all-important information together into a central repository, where relationships between key pieces of information could be established and information could be queried and analyzed. This moved knowledge from the individual to the organization, forming a Model Driven BusinessSM for the organization that is available on every desktop.

On a recent round of visits with large and innovative corporations that employ EA, Ben Constable, COO of Sparx Systems, remarked that IBS Interprit is, "Significantly more advanced in their use of EA than other large firms he visited," and that IBS Interprit is, "Utilizing EA as the backbone of an enterprise-wide information platform."

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