

## Trouble-free triple play

Belgacom uses Solvatio diagnostic solution for problem handling with its HDTV service

The communication services that once came separately are increasingly being made available to end-users from one source, which is to say one and the same telephony, Internet access and TV provider. Experts use buzzwords such as convergence and triple play to describe this new set-up. Belgacom Group in Brussels – Belgium’s leading telecom operator posting annual revenues in 2006 of EUR 6.1 billion – has also moved with this development and is rapidly expanding its services portfolio. After entering the market in 2005 with the IPTV offering, Belgacom TV launched a high definition digital TV service in April 2008 – boasting in the meantime 14 HDTV channels and video-on-demand in high definition. The HDTV offered by Belgacom TV is accessible to about half of Belgium’s population today. This puts the Belgians well ahead of Germany, say, in terms of HDTV coverage. The technical basis for the HDTV service is a network infrastructure with high speed and bandwidth – for which Belgacom uses VDSL2 technology. The second generation of the Very High Speed Digital Subscriber Line, VDSL2 permits very high transmission speeds of up to 200Mbit/s, meeting prerequisites for Belgacom’s triple play service with TV channels in high definition quality.

The end-customer of Belgacom TV wishing to experience digital television in high definition resolution essentially needs only a decoder in the form of a set-top box on his TV – and a connection permitting reception of the VDSL2 signal. High definition TV is technically sophisticated because of the demands it makes with regard to bandwidth. This made it all the more important for Belgacom to launch the new HDTV service along with a solution for efficiently handling customer problems. Belgacom wanted a whole new intelligent system architecture that would enable automated fault diagnosis. Eventually, Belgium’s reference provider found the answer at Germany’s iisy AG. In time for the launch of Belgacom’s digital HDTV service in April 2008, a system was implemented for the automated measurement of connection quality based on iisy’s solution **SOLVATIO®**. **SOLVATIO®** is an expert system which iisy developed specifically to allow telecom companies to isolate, identify and remedy problems experienced by subscribers – better, faster and by using less manpower. Belgacom has dubbed the project DARE: Diagnosis, Analysis & Recovery Engine.

“We first came across iisy AG and their solution **SOLVATIO®** at the TM Forum at the end of 2006,” recalls Paul Schollier, Senior Development Engineer of the Integrated Assurance Department at Belgacom’s headquarters in Brussels. “Just at that time we at Belgacom were in the process of defining DARE.” The aim behind DARE was

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to create a concept and application capable of analyzing customers' technical problems and supporting the necessary measurements for that. "Basically speaking, DARE was to be our service assurance program," Paul Schollier explains. Belgacom began the actual selection process for the suitable solution provider in 2007. After the shortlist was compiled, a proof of concept phase ran from April to June 2007, during which the shortlisted providers had to demonstrate that their solution was capable of being integrated into Belgacom's architecture. iisy AG was eventually awarded the contract in October 2007. The DARE application features other systems besides, but the actual core is **SOLVATIO**®.

iisy – intelligente Informationssysteme AG – came into being as a spin-off of Würzburg university. Since 1996 the company has specialized in the development of expert systems primarily for diagnosis support, with focus on the telecommunication sector. The central benefit of **SOLVATIO**® lies in the areas of service assurance (notably in problem handling) as well as in fulfillment (above all in service configuration & activation). **SOLVATIO**® is an expert system for bundling the know-how of a telecom company's experts in identifying and remedying possible technical problems at the customer's end. Thus, the solution gives vital support to the call center agents and service technicians. **SOLVATIO**® helps to pinpoint the technical problems customers are having and to resolve them more quickly. With **SOLVATIO**® support, telecommunication companies can reduce the average handling time for customer problems to a fraction of the time previously needed. The bottom line: substantial cuts in staff costs and processing for the telecom businesses, while customer satisfaction increases.

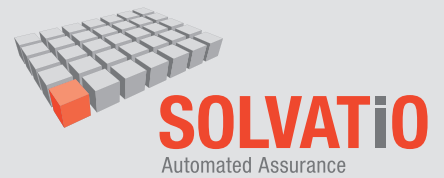
For the most part the **SOLVATIO**® software is standardized. However, the implementation involves an adjustment to the company's individual diagnostics setup, the knowledge base and the IT infrastructure at the subscriber's end. The company's technical specialists act as knowledge editors for **SOLVATIO**®. With the help of the **SOLVATIO**® Workbench Tool, the knowledge editors define the company-specific diagnostic procedures and the respective processes that are needed for remedying technical faults. **SOLVATIO**® makes it possible to link up a wide variety of data sources and measurement systems. Thus, the company's knowledge that is bundled within **SOLVATIO**® resolves the technical problems which typically arise at the subscriber's end, and answers questions such as: What problem description provided by the customer indicates which cause? What are the processes and procedures that result in a pinpointing of the technical problem? What measurements, for instance of the connection quality, can be automated – perhaps even before the call center agent actually speaks to the subscriber? How must the information be prepared for screens of the call center agents or the technical customer service? What instructions must the system give them for what problems involving which devices and

which services? When is it appropriate to send a technician out to the customer? **SOLVATIO**® enables a telecom company to carry out, manage and as far as possible automate – according to its specific needs – all the relevant diagnostic, measurement and customer dialog processes.

Belgacom itself saw to most of the work in implementing **SOLVATIO**®, as it did the IT integration and the hooking up of the different measurement systems to check the VDSL2 connection quality, as well as the later definition of the diagnostic processes and their realization in **SOLVATIO**®. “However, iisy did give us valuable assistance with implementation, particularly in the knowledge area,” comments Toni Iacobellis, who is responsible at Belgacom for the IT side of **SOLVATIO**®. With its diagnostic solution **SOLVATIO**®, iisy proved to be the ideal partner for the DARE project. “We really came to appreciate iisy’s flexibility,” Toni Iacobellis adds. “The way iisy works quite simply convinced us.”

Within less than three months Belgacom completed the first phase of the DARE and **SOLVATIO**® implementation, in time for the launch of Belgacom’s digital HDTV service in mid April 2008. When a new VDSL2 customer of Belgacom registers with the system today, this initiates a measurement of the interference-free bandwidth available for that customer. This measurement is added to the customer profile. At the same time, on the basis of the measurement **SOLVATIO**® triggers a message to the new VDSL2 customer – via digital TV banner, e-mail or SMS – explaining how and to what extent he can use the VDSL2 service. For sometimes, a bandwidth reduction is necessary, in which case HDTV is available to a limited extent only.

The second phase of the DARE project was launched in June 2008. “During this time we hooked up the measuring system to our IVR voice portal and realized the diagnosis flows in **SOLVATIO**®,” explains Paul Schollier of Belgacom. Depending on the problem as described by the customer using Belgacom’s interactive voice response system, Solavtio now automatically triggers the relevant measurements, even before the calling customer gets through to the call center operator. **SOLVATIO**® always ascertains whether the problem lies with Belgacom or with the end-user and, if necessary, arranges for a service technician to resolve the fault. “We are already planning the third expansion stage of DARE and **SOLVATIO**® for October/November 2008,” remarks Paul Schollier. “DARE will then have even more functions. Then, the call center agent will be able to initiate **SOLVATIO**® on the basis of his trouble ticket. At the same time DARE will support even more services provided by Belgacom, such as HDSL2 Internet access.” HDSL2 is the second generation of the High bit-rate Digital Subscriber Line. But even that will not be the end of the DARE expansion,” Paul Schollier continues. “The last phase of DARE will be implemented at end 2010. One of our biggest objectives then will be self repair.”



Belgacom has devoted a great deal of time and care into checking and developing the business case for the DARE project. And Belgacom is convinced the DARE project will pay off. “It’s basically a win-win situation,” says Paul Schollier. “DARE reduces the average call time for the operators at the call center, and at the same time has the effect of raising customer satisfaction. In a nutshell, DARE and **SOLVATIO**<sup>®</sup> improves the entire repair process.”

<sup>1</sup> This success story is based on the Interview of 18th September, 2008. Interviewees: Paul Schollier, Senior Development Engineer of the Integrated Assurance Department at Belgacom’s headquarters in Brussels and Toni Iacobellis responsible at Belgacom for the IT side of Solvatio. Realization: Möller Horcher Public Relations GmbH, Offenbach/Germany

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