

CASE STUDY: ICS COMPETENCECENTER BERTELSMANN



**ICS MIGRATES TO AN OPEN
ENVIRONMENT ACHIEVING
ENTERPRISE PERFORMANCE
AND BUSINESS AGILITY AT
HALF THE COST**

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CHALLENGE

ICS needed to migrate 19-year-old business processes to an open environment based on Windows® at low risk to achieve enterprise performance at half the cost. At the same time, storage capacity had to be increased substantially and computer run-times by a factor of four to support the needs of the business.

SOLUTION

- > Micro Focus Server™
- > Micro Focus Studio™

BENEFITS

- > Increased agility at half the cost
- > Low risk path to improved performance
- > Savings of 50,000 euros per month
- > Improved throughput with application response times of less than one second

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Chief Development Officer, ICS
CompetenceCenter

THE CUSTOMER

The DirectGroup Bertelsmann includes world-wide book and music clubs as well as a global e-Commerce-business, together comprising more than 15 million customers and members. The gross income of the group in the financial year 2008 was about 1.6 billion euro. The company has more than 11,000 employees in 16 countries.

International Cooperative Solutions (ICS) CompetenceCenter is headquartered in Vienna and was founded in 1984 as a voluntary union of international book clubs in DirectGroup Bertelsmann (Austria, Switzerland, Italy, Hungary, Czech Republic, Slovakia, Russia, Poland and Canada). The goal of ICS is the development and supply of application software and delivery of IT achievements. Based on extensive experience in the migration process of IBM mainframe systems, ICS provides all necessary services and support to partner companies.

THE CHALLENGE

The in-house enterprise resource planning package developed by ICS CompetenceCenter, based on the VM/VSE mainframe platform, was a key target for migration. The application covers the central business processes and manages approximately 3.5 million customers of book clubs in Austria, Switzerland, Italy, French Canada and Poland. As Günter Bodner, CIO of the ICS CompetenceCenter said, *“Application software for book clubs is far more complex than any ERP system. That is because of many considerations, such as profoundly distinguished products and prices, and the numerous special conditions such as free products, packages, combination products and the like. And all this must allow for the goods ‘returned’ policies for each country. In addition, language variations, such as in French Switzerland, have to be catered for.”*



Development of this application started in the 1980's. At that time, while in the process of standardizing the IT architecture within the Bertelsmann organization, a new application was written, based on IBM mainframes, for Austria, Switzerland and Italy. This solution needed to work seamlessly with the existing application and had to be applied in all countries with a uniform source code. In doing so, Bertelsmann was creating a consistent language and business solution as well as managing any legal conditions centrally.

In order to make the remodeled application as flexible as possible, a system of decision tables was developed by ICS. This enabled the application to be applied to any country without program modification. The application ran under IBM VSE and CICS and was based on a data model that was structured 100 percent in a DL1 database. This was unusual for that period, as the entire system functioned in real-time during the main business hours.

The application was developed from 1982 to 1984, with approximately 1600 man-days, completely in COBOL and contained approximately one million lines of code.

In the course of time, the demands imposed upon the application software to support

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Günter Bodner CIO,
ICS CompetenceCenter of DirectGroup
Bertelsmann

the needs of the business grew substantially. A highly differentiated market continued to develop, leading to a multilayered product structure.

“The business has become more complex,” stated Bodner. “In years past, one catalogue was enough. Today, the customer has access to a series of catalogues, both in terms of when they are delivered and the products they offer. Whenever marketing has requirements to implement, the IT department must be able to develop the appropriate business processes for it.”

The flexibility of the original application permitted regular updating to be made. Several times it was revised and by the mid 1990's the “flexibility buffer” originally built into the application was exhausted. New demands on the system could only be achieved by implementing newer technologies. *“The developed product structure could no longer be displayed within the DL1-database,”* added Bodner. *“It forced us to change to the relational technology of DB2.”*

By 1998, Bertelsmann had moved their merchandise management system across to DB2. When ICS wanted to make the corresponding adjustments for the customer administration system, they found true limitations in the existing systems. The products of the book clubs are complex in structure but their number is limited. In turn, customers have become strongly differentiated in interest areas. In addition, the data volumes also have to be considered: The 3.5 million active customers serviced by this application generate more than 100 million account transactions per year.

“Tests showed that we not only had to increase the required storage capacity substantially, but we also had to improve the computer runtimes by a factor of four,” explained Bodner. *“Implementing these*

measures on our IBM mainframe gave us no real benefits. We would spend more money without achieving any improvements or increasing market share and penetration.”

Other factors affecting the migration were that the integrity of ICS' business knowledge should also be maintained, and that the migration project should be quick, it had to be completed in less than six months. *“Two years to complete a project is too long. Such an undertaking is highly prone to failure because there are too many technology and business changes within this period,”* added Bodner. Furthermore, the new platform had to be flexible and scalable so that it could be used for smaller as well as larger book clubs. And finally, the technology platform selected needed to allow for future integration with the Internet.

THE SOLUTION

As ICS looked to the future of the application, several “truths” surrounding the choice of new technology were imperative.

First is the fact that the imminent introduction of a graphical user interface is inevitable. Second is the need to recognize the growing significance of the Web as a sales channel outlet. Third, it needed to allow a range of business processes from the supplier to the customer via the Internet.

“The basic question was: What is the appropriate platform for the future?” said Manfred Zillinger, chief development officer at ICS Competence Center. Several alternatives were evaluated. One of them, a change to the AS/400, would have meant a completely different transaction system with consequently large changes to the application software. MVS was ruled out because of cost considerations alone.

However, Micro Focus offered the possibility of transferring the programs completely

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and without any changes of code on to the Windows platform – at clearly lower costs than any other alternatives.

During the migration project, ICS decided to deviate slightly from a strict one-to-one mainframe to Windows conversion for pragmatic reasons. First, the DL1 to DB2 database transition required some program adjustments. Second, they used this opportunity to change the EBCDIC mainframe data to ASCII.

These changes were however made while still achieving their objective of not impacting their user base.

“For us, one-to-one translation means primarily that appearance and functionality remained the same for our users,” said Zillinger.

THE RESULT

All the book clubs run by the ICS system were migrated to the Windows platform in six-month stages, starting with the original ICS kernel application. The migration was not only accomplished problemfree but, as an example of how smoothly things went, the French-speaking club of Switzerland in Lausanne changed over during the busy Christmas period without any business interruption. And vital objectives of “stability and performance” were achieved problem-free on the new platform.

“We’re delighted with the fact that the stability on the Windows platform is just as high as on the large mainframe,” explained Bodner. *“We had only one stop of 10 minutes in five months of operation. And the application runs extremely well with response times of less than one second and in case of simple transactions response times are so fast that they are incapable of relevant measurement.”* This improvement in throughput was largely due to performance gains from the new server hardware, tuning

access to UDB during the transformation of the application and overall improvements in batch processing.

The performance comparison between Windows servers and the mainframe varied. Online transactions were better on the PC (70 percent of the mainframe time) and the batch jobs were, although slightly slower on some occasions, 10 percent better overall. For example, sorting 1.35 million members needs just 7 seconds under COBOL on the Windows PC. Therefore, it is not necessary to use a specially configured PC with all the bells and whistles required to maximize performance. ICS used a completely standard basic machine. Each location contains a Compaq ML-530 as production system with only a single processor, two gigabytes of RAM and a disk capacity of 800 gigabytes in the active enterprise.

Nevertheless, cost reduction is still the major objective that determines success of such a migration project. The entire project had to pay for itself from savings on the replacement of the mainframe. This goal was achieved completely. The new systems are cheaper initially and are much cheaper to operate and maintain.

“We achieved concrete savings of 50,000 euros per-month and as a result we expect to achieve an outstanding ROI,” added Bodner. *“We are convinced that the migration of our application to the Windows platform, accomplished with Micro Focus, was the correct, lowest risk path to reduced costs, with greater agility.”*

“Only a few years ago we would never have contemplated this project but the Micro Focus products, which manage the COBOL and CICS run-time platforms, have matured and become very efficient,” commented Bodner. *“This combined with the enormous progress Windows has made over the last few years provided us with the viable alternative platform we have been looking for.”*

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With more than 11,000 employees, the Bertelsmann DirectGroup is active in 16 countries.

THE FUTURE

Following the successful deployment of the re-hosted applications, ICS CompetenceCenter Bertelsmann is now moving to the next generation of Micro Focus technology to extend and deploy their migrated systems.

This is a key move for Bertelsmann, not only providing a strategic platform to deploy their

CICS applications, but also opening the way to leverage existing business logic as Web services. *"It's essential that we can evolve our systems as we expand and encounter new business requirements,"* said Zillinger.

"This also means embracing new technology such as Web services and Microsoft® .NET, with Micro Focus we really feel we have made an important and strategic move for the future."

ABOUT MICRO FOCUS

Micro Focus, a member of the FTSE 250, provides innovative software that allows companies to dramatically improve the business value of their enterprise applications. Micro Focus Enterprise Application Modernization and Management software enables customers' business applications to respond rapidly to market changes and embrace modern architectures with reduced cost and risk.

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