



Windmüller & Hölscher: IT Resources made by IBM for special machine construction.

Tradition and innovation

No shopping trip without a shopping bag, no construction site without sacks of cement, no supermarket shelves without bags of chips: hardly any area of life can do without flexible packaging. One of the oldest and at the same time most innovative manufacturers of machines for the packaging industry is Windmüller & Hölscher. From three large factories at the headquarters in Lengerich, Tecklenburger Land, Windmüller & Hölscher builds machinery for paper and plastics processing, engineering, controls and control systems – and even entire packaging factories. Subsidiaries and sales offices are located around the world, and Windmüller & Hölscher machines are used in more than 130 countries. The 2,000 employees generate sales of approximately Euro 340 million in this intensely competitive field.

Accompanied by IBM since 1958

Machines for manufacturing packaging are very complex, highly specialized machines. "We need to be able to act and react very quickly regarding both new orders and worldwide service," says Annette Freude, Division Manager Central IT, responsible for the IT infrastructure at Windmüller & Hölscher. "Our competitive advantages are good service, high quality, constant innovation, and direct communications with customers. For this we need reliable, efficient IT with high availability, run cost-effectively." Windmüller & Hölscher has supported its business processes with an in-house information technology department since 1958, working with IBM. "Long-term partnership offers the advantage that the suppliers can familiarize themselves with the complex environment of our unusual products, and provide us with skilled, cost-effective, and efficient advice," says Annette Freude of this relationship.

Overview

■ The challenge

Resilience, consolidation, and virtualization of the IT infrastructure for critical business applications

■ The solution

Industry: Manufacturing

Application: SAP R/3 4.6c modules CO, FI, AA, HR, SD, CS, PS, MM, PP

Software: SAP Web Application Server 6.20, SAP Enterprise Portal 6.0, SAP™ Business Information Warehouse 3.1, IBM DB2® Universal Database V8 for Linux, Unix and Windows®, AIX V5.2, VMWare ESX Server 2

Hardware: IBM @server® pSeries® 670, IBM @server® xSeries® 445, IBM TotalStorage ESS 800 Enterprise Storage Server, IBM LTO Ultrium Tape Library, SAN Infrastructure

Services: becom Informationssysteme GmbH, Schwerte; IBM Global Services-Strategic Outsourcing

■ The benefit

Elegant, secure on demand business environment; optimal resource exploitation, flexible expandability; proven product configuration, offering cost reduction potential.



No alternatives to SAP R/3

At the end of the 1990s, the previous environment – a PPS system on an IBM mainframe with a proprietary database and many satellite systems – was on its way out. “We could no longer have coped with the interfaces to the increasingly client-server-based applications,” says Paul Bunzel, IT Manager at Windmüller & Hölscher. The old system was made Y2K compliant and the euro conversion was carried out. However, the decision to adopt SAP R/3 had already been made. The goal was to create a homogenous IT infrastructure; information was to be provided quickly across the entire company, modern communication systems were to be integrated, and database-supported evaluations carried out. Additionally, secure 24x7 operation had to be feasible.

Order throughput times for complex products – sheet extrusion equipment, flexo, rotogravure, finishing machines, and sack, bag, and carrier bag machines – are, as a rule, four to six months. “This main business process, up to start-up at the customer site,” according to Paul Bunzel, “had to be supported elegantly, that is, well integrated, from order placement, right on through to start-up at the customer’s location. Our strategy was to be able to map as much as possible into the ERP system, and for this, there was no alternative to SAP R/3.” He adds: “We see further advantages of

SAP R/3 in its performance, its constant further development, the homogeneity of its interfaces, its openness thanks to standard interfaces, and its easy configurability.”

Outsourcing makes space for own projects

Management, IT departments, and IT management thus decided on the introduction of SAP R/3. Cost advantages gained from three-shift operation and the short project implementation time led to the decision, for reasons of security, to operate six SAP R/3 systems (separate systems for logistics and HR) through IBM Global Services-Strategic Outsourcing. SAP R/3 4.6.c runs all modules except WM, QM, and PM.

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Paul Bunzel, IT Manager,
Windmüller & Hölscher, Lengerich

Windmüller & Hölscher used the existing expertise of its own IT department personnel to focus intensively on the replacement of the mainframe and the numerous in-house subsystems. A total of eight SAP R/3 systems with IBM DB2 Universal Database (DB2 UDB) are running on the newest IT technology at the company: SAP Web Application Server with supplier and customer portals, SAP Business Information Warehouse for logistics and HR, and storage management computers, each as a production and a test system. The storage management computer is integrated with SAP R/3 via an SAP Web Application server. Operational data collected is also processed in the SAP R/3 system.

“Cooperation with IBM Global Services - Strategic Outsourcing is very friendly, open, and constructive on the employee level,” notes Annette Freude. “The good common support of the SAP R/3 systems and the significant cost advantages through the mySAP systems were reason enough to implement our own SAP systems here and keep them running.”

With 1,000 named users and a total of 1,800GB of SAP R/3 data in outsourcing and 2,500GB at the company, the implementation is already very demanding. Windmüller & Hölscher has used DB2 for a long time because of its experience with good performance. “With the conversion to DB2 UDB Version 8 and the 64-bit mode, the response times for SAP R/3 applications improved by 30 percent,” reports Annette Freude. SAP R/3 also opens up new opportunities to integrate Windmüller & Hölscher’s subsidiaries. W&H Ausbildungs GmbH, a service company, has already been set up with its own accounting area for this purpose.

The company network keeps growing

An essential reason why Windmüller & Hölscher has radically modernized its IT is that the demands made of information and communication and of responsiveness will increase with worldwide presence. The subsidiaries and a production location in Brazil are connected to headquarters via the Internet, and have access to SAP and other systems. Thus the data remains within the company, and is always up-to-date.

A one-time set-up of a firewall in Lengerich is sufficient for remote access, which helps reduce costs. The portal, which was built with SAP Enterprise Portal 6.0, plays an increasingly important role. “In the future, we would like to provide

external users, be they sales reps, customers, or suppliers, with more information more quickly,” emphasizes Annette Freude. The SAP Web Application Server makes available externally precisely the data that is required, from different subsystems and from SAP R/3. For sales reps it is important to have quick access worldwide to complete machine control software or current updates, as well as Windmüller & Hölscher information. Customers can be provided with information in a more targeted manner via the portal, too – after all, customers also depend on their Windmüller & Hölscher machines 24 x 7, too.

New, ultra-modern IT environment required

With the introduction of SAP R/3, the existing infrastructure was questioned in its entirety. “Our physical network structure had to be consolidated and become more homogeneous and secure,” summarizes Annette Freude. AIX 5L was selected as the new operating system; CISCO network technology and Ethernet topology were brought in. “The high demands of integration and 24 x 7 operation require that we work with the newest hardware, as efficiently as possible, and with very high performance. Currently, this is only possible with an IBM infrastructure.”

Windmüller & Hölscher is working according to a multi-stage plan to introduce and expand the appropriate technology with the help of server and storage virtualization for highest availability, for disaster recovery, and to consolidate the server and network landscape. In short: to create an easily administered, high-availability IT environment able to handle business processes efficiently. “At IBM, we can get everything we need for this from one source,” says Annette Freude. “That helps us to reduce costs and guarantee secure operation.”

Consolidation, virtualization, SAN

Various SAP R/3 systems and subsystems were consolidated onto two IBM **@server** pSeries model 670 machines at the heart of the infrastructure, an 8-way/32 GB central storage array and a 16-way/48 GB server. By 2005, the Intel server landscape will be consolidated on two IBM **@server** xSeries model 445 machines with VMWare ESX Server 2 virtualization software. All data is stored on two IBM TotalStorage Enterprise Storage Server (ESS) storage servers, with a capacity of 4,8 TB. Disaster recovery arrangements include two locations on company grounds each with a pSeries and xSeries server, and an ESS system. The data is backed up automatically in the backup center using IBM LTO Ultrium Tape Library. The entire installation is coupled several times over in the Storage Area Network (SAN). This ensures high availability and quick access to data within the network, and also reduces the time taken for data backup, ensuring greater availability for other operations, for example external access. Two doubled SAN connection units (switches) link the systems, and a fiber-optic cables with extremely high data transmission speeds connects the remote locations. Server and storage virtualization permits the allocation of CPU power and disk space to applications on demand, and also enables high availability, even in case of the failure of individual server or storage components. From 2005, doubled SAN Volume Controllers, storage virtualization components, under Linux will ensure that resilience scenarios can be realized even more flexibly. Annette Freude: “With virtualization, we are saving approximately 20 percent on hardware resources and the accompanying costs.” Tivoli was already used in the mainframe era for automatic data backup with IBM 3490 Tape Library,

which has been migrated to AIX and converted to IBM Ultrium LTO Tapes. Combined with the management functions in SAP, Tivoli Systems Management ensures a high degree of automation of system control and monitoring, especially important outside normal office hours. In addition, Tivoli Systems Management offers many monitoring functions that allow preventative measures to be taken in timely fashion.

For this, threshold values can be set; in case of malfunctions, the responsible employees are notified automatically via e-mail and/or SMS. The incorporation of the alarm function is easy and problem-free.

HACMP is used as a high-availability solution for the SAP R/3 system in the warehouse. There is a three-level server infrastructure: SAP R/3, the storage management system implemented on SAP Web Application Server, and connected to this, the control for the conveyor technology. Because stock moves 24 x 7, especially spare parts, it is important that the application is protected effectively against the failure of hardware components. “At IBM there are consolidation functions and similar functionalities on all levels,” summarizes Annette Freude.



„We must work with the newest hardware, be efficient, and maintain peak capacity. At the moment, this is only possible with IBM infrastructure“

Annette Freude, Division Manager Central IT,
Windmüller & Hölscher, Lengerich

“This means less training expense for employees, lower maintenance and licensing expenditures, and less connection effort within the SAN. The resilience also has a relaxing aspect for the employees: this type of innovation makes their work easier.”

The implementation partner: becom Informationssysteme

The planning and implementation of the expansion of the p670 and SAN, the distribution over two locations in Lengerich, and the consolidation of the PC servers, are largely in the hands of a proven partner: the IBM Premier Business Partner becom Informationssysteme GmbH in Schwerte, Westfalia. “We obtain the IBM products and services from becom, from the first consultations all the way to implementation,” says Annette Freude. Windmüller & Hölscher is extremely satisfied. “We appreciate becom as a very capable service provider with whom we have worked for many years. We can rely on good cooperation, jointly developed solution concepts and recommendations from becom.”

IBM and becom will continue to accompany Windmüller & Hölscher in order to further optimize the entire disk and server structure with respect to virtualization and consolidation. In order to realize appropriate resilience by 2006, both pSeries 670 machines will be expanded to the same performance level for optimal availability. Furthermore, the ESS systems will be expanded in order to mirror absolutely business-critical data. Business-relevant information and economical handling of resources are the first priority – delivered by SAP and IBM architectures, software and technologies.



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