Migros: Guaranteed fresh with retail applications from SAP

Overview

■ ***Business Challenge***

Migros Aare and other cooperatives in the Migros Group need to process large volumes of data on sales of fresh goods within strictly limited time frames. After the retail stores close in the evening, all data must be processed rapidly to allow enough time for the re-stock quantities to be calculated and the orders picked in the distribution center before the trucks arrive to replenish the stores. Any delays in this process could mean late deliveries to the stores, resulting in lost sales.

■ ***Solution***

Migros Aare implemented the SAP for Retail® solution portfolio as a group-wide solution for Migros. Computing performance and high availability are both at a premium, so the company chose an infrastructure based on the advanced IBM POWER5™ processors. Advanced virtualization technologies on the IBM System p5™ platform enable Migros to make optimal utilization of available computing resources and respond automatically to changing patterns of demand—re-allocating power from one virtual environment to another as required.

With SAP software running on the IBM System p™ infrastructure, Migros Aare can deliver the right products to the right stores on time, helping customers find the fresh produce they need, and giving Migros Aare a competitive edge.

■ ***Key Benefits***

- *Reduction in hardware acquisition, maintenance costs and software licensing fees*
- *Improved stock replenishment processes*
- *Lower total cost of ownership*
- *Improved responsiveness to changing patterns of demand*

Migros is the largest supermarket and food and nonfood retailer in Switzerland. Founded in 1925 in Zurich with the simple idea of creating a direct sales organization linking producers and consumers, the company has since established its own production facilities and factories, and created new retail brands.

In 1941, the company was formed as a single cooperative; today, the Migros group encompasses ten cooperatives operating throughout Switzerland. All of the cooperatives act autonomously but are united under the umbrella of the Zurich-based Migros-Genossenschafts-Bund (Federation of Migros Cooperatives).

Business Benefits

- Reduction in hardware acquisition, maintenance costs and software licensing fees
- Lower total cost of ownership of IT infrastructure
- Centralized logistics management enables improved stock replenishment processes.
- Improved responsiveness to changing patterns of demand
- Better customer service
- Easier sharing of information

The group, boasting about 81,000 employees, is the largest employer in Switzerland and recorded sales of approximately 20.4 billion Swiss francs (approximately €12.9 billion) for 2005.

To maintain sales momentum, Migros is focused both on expanding its existing markets and on developing new marketing channels such as e-commerce, convenience stores and new retail concepts that blend commerce, food services and entertainment.

In recent years, all of the IT solutions developed in-house at Migros have been consolidated into a homogeneous IT landscape using standard solutions. Migros Aare acts as the SAP Competence Center for the Migros cooperatives participating in this SAP for Retail software project (called "gmSAPfrische"). Migros Aare together with three other cooperatives make up the MIZU association, which accounts for two-thirds of the total group sales.

Migros refreshes its IT infrastructure

The fresh foods area is grouped into different categories at Migros: dairy, produce (vegetables, fruit and flowers), meat, bread and convenience, and office supplies – all together around 19,000 products.

Migros Aare and other cooperatives in the Migros group need to process large volumes of sales data within strictly limited overnight windows. After the retail stores close in the evening, all data must be processed rapidly to allow enough time for the re-stock quantities to be calculated and the orders picked in the warehouse, so that the delivery trucks can then replenish the stores before they open the following morning. Any delays in this process could mean late deliveries to the stores, resulting in lost sales.

"The System p5 servers offer superb performance, and our total costs of ownership have dropped since we now run just two centralized physical servers."

– Urs Furrer, head of information processing, Migros Aare Cooperative

To ensure rapid, centralized logistics management for all of its cooperatives, Migros selected SAP for Retail software. The SAP for Retail software project at Migros started at the beginning of 1999 and has been continually optimized ever since. In 2004, Migros upgraded to SAP R/3® Enterprise and to Oracle® 9.2, then upgraded to version 5.3 of the IBM AIX 5L™ operating system in 2005.

"The teamwork between Migros, IBM and SAP has contributed significantly to the overall success of the project," says Urs Furrer, head of information processing, Migros Aare Cooperative. "The SAP consultants were very flexible in meeting our business needs, and relatively little customization of the SAP software was required."

System p offers continuous operation

To provide greater speed and availability for its SAP for Retail software implementations, Migros implemented just two IBM System p5 570 servers for the production environment. As the Migros group consolidates more and more cooperatives into the "gmSAPfrische" environment, the organization is taking advantage of IBM virtualization technologies on the System p5 servers to handle the growth in workload. To date, seven cooperatives, each with its own logistics system, have been consolidated to the group-wide system, and three more plan to join it.

For its core business, every Migros cooperative has its own SAP for Retail production system or client. In addition to the production systems, Migros Aare hosts the central test, development and quality assurance environments, and the shadow databases for the whole group. Most of the systems are implemented in different partitions managed by IBM Advanced POWER™ Virtualization on the IBM System p5 570 servers. The production systems are divided into separate logical SAP databases and application servers for each cooperative, and spread across two data centers in partitions linked using IBM HACMP™ (High Availability Cluster Multi-Processing), which offers very high availability.

"The System p5 servers offer superb performance, and our total costs of ownership have dropped since we now run just two centralized physical servers instead of the multiple distributed servers we ran previously," says Urs Furrer.

Virtualization enables the hardware resources of the System p5 570 servers to be pooled and shared between the virtual servers running on them. If a particular system requires more power to cope with a peak in demand, the IBM technology can seamlessly adapt, re-allocating spare resources from a different partition to meet the temporary need. Combined with the capability to assign fractions of CPUs (IBM Micro-Partitioning™) for smaller SAP instances, this highly dynamic virtualization enables far better utilization of the available resources, and improved cost-effectiveness.

Says Urs Furrer, "Virtualization on the System p5 platform is a great advantage for Migros, particularly since we wanted to run multiple independent systems for our member cooperatives. Instead of needing to provide a whole processor for each cooperative – which in many cases would then be under-used most of the time – we can invest in a smaller number of processors and make full use of their resources with virtualization. This reduces our hardware acquisition and maintenance costs, and also our licensing fees for some software."

Key Components

Software

- IBM Tivoli® Storage Manager
- IBM HACMP
- SAP for Retail
- Oracle database on IBM AIX 5L

Servers

- IBM System p5 570
- IBM TotalStorage® 3494 Tape Library

Services

- IBM Global Technology Services

Transformation at a glance

Migros teamed with IBM and SAP to revise its stock replenishment processes. The company was able to improve responsiveness to changing patterns of demand, increase customer service levels and lower operational costs through the implementation of a single, standardized hardware and software platform across its diverse business.

IBM Global Technology Services developed the partition layout and backup concepts, working in close partnership with Migros. This process included the transfer of skills and know-how to other Migros cooperatives, ensuring that the business is able to maintain its SAP software and IBM systems with minimal help from IBM.

Optimum data availability is guaranteed by mirroring the data between the data centers. In addition, a shadow database is used to enable the data backup, which is achieved using IBM Tivoli Storage Manager. Data is backed up to an IBM TotalStorage 3494 Tape Library, with the tapes taken offsite.

"With its easy scalability and high availability, the IBM System p5 platform has brought true enterprise computing within the reach of our cooperatives," says Urs Furrer. "The combination of SAP for Retail software and IBM System p5 ultimately helps Migros to guarantee freshness to our customers, by ensuring that our stock replenishment processes run smoothly, reliably and efficiently."

A fresher future

The Migros group's "gmSAPfrische" project will be completed by 2008, by the time all Migros cooperatives are expected to be in full production with SAP for Retail software. With a single, standardized hardware and software platform across the entire diverse business, Migros will reduce costs by achieving greater economies of scale, and will enable easier sharing of information internally.

"The SAP for Retail software gives us true standardization, and enables us to adopt industry best practices easily," says Urs Furrer. "With the highly flexible and reliable IBM System p5 technology and the appropriate support from IBM and SAP, SAP for Retail software has given Migros a world-class logistics management system. This translates into lower operational costs, improved responsiveness to changing patterns of demand, and better customer service."

For more information

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