

Creating Retail Agility

Syncsort Helps The Co-operative Group **Slash Batch Processing Times** for Crucial Store **Replenishment** and **Save £12 Million** Annually

The Art and Science of Retail Planning

With annual turnover in 2010 of approximately £7.5 billion, and approximately 2,800 stores — from convenience stores to petrol forecourts — The Co-operative Group is the U.K.'s fifth-largest food retailer and the country's largest mutual retailer. Most stores are roughly 4,000-6,000 square feet, with the largest being around 18,000, and are carefully situated in high-traffic locations, which necessitates a greater emphasis on an optimized supply chain. Following its 2009 acquisition of the 600 Somerfield stores, The Co-operative Group saw an opportunity to streamline operations by centralizing its store replenishment process, a strategy that will help the firm to save more than £12 million a year while maintaining its market-leading ethical stance.

The fundamental principle to achieve sales and growth is availability. For any large retailer, it is a continual challenge to efficiently purchase and distribute large volumes of goods while enabling store managers to provide input based on their unique knowledge of local market conditions.

To meet this need, The Co-operative Group launched Store Merchandising and Replenishment Transformation (SMART) — an ambitious multi-year program scheduled to reach full deployment by the end of 2011. For Tim Hurrell, chief executive of the organisation's Food Retail group, SMART represents a fundamental strategy for the organization. "We have a very clear vision," he

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said. "We are aiming to consistently deliver optimum availability that exceeds our customers' expectations. The SMART program has the full sponsorship of our executive team and is the single most important program taking place in the Co-operative food organisation this year."

The co-operative

INDUSTRY

- Retail

CHALLENGE

- Deliver 54 million same-day "planograms" to 2,800 retail stores every day
- Meet challenging batch windows while processing millions of records nightly

SOLUTION

- DMExpress data integration acceleration to improve sorting speeds of unloaded database tables — as large as 2 GB — by a factor of 10x

BUSINESS VALUE

- Achieved same-day distribution of planograms
- Optimized inventory levels and product placement
- £1 million per month ROI

According to Peter Chapman, SMART IS program manager, the initiative involves both art and science. “Ranging and merchandising are critical processes for any retailer,” he said. “We devote a tremendous amount of effort and resources to deciding which products to sell and how much space to dedicate to them. Given the thin margins in retailing, we absolutely have to get this right to capitalize on every opportunity and to ensure the right product is in the right place at the right time.”

Previously, The Co-operative Group relied on the acumen and experience of its store managers for daily replenishment orders. While still loosely under the direction of corporate planners, store managers had broad latitude to make key merchandising decisions for their own stores. However, relying on those thoughtful hunches created unpredictable stock outages and overages that the organisation needed to reduce or eliminate. The organisation also sought to deploy a consistent, unified set of workflow processes to underpin the technical solution.

That’s when The Co-operative Group began to scrutinize the solution used by its 600 newly acquired Somerfield stores. The Somerfield model encompassed several collaborative systems that centrally managed the range, space, promotions, abnormalities, seasonality, replenishment opportunities, and distribution network. As part of the SMART Program this solution has been re-engineered to meet the different demands and processes of the Co-operative. A key component of the SMART solution is the sophisticated general store merchandising (GSM) system that enables a central buying team to more tightly control product range and space across stores, while still enabling store managers to make key decisions regarding optional and local lines. The final product range is embodied in a space plan called a “planogram” that shows the relationship between fixtures, space and products. GSM factors in both central and store-level decisions to create store-specific space plans that best reflect the needs of each store’s unique customer preferences, local preferences, promotions, and

inventory levels further back in the supply chain.

Another key component factors in promotional sales, which represent significant sales opportunities for retailers. To manage the multitude of simultaneous promotions running across the Co-operative retail organisation, the organisation uses a separate centralized event store management (ESM) system that controls the replenishment of promotional lines to stores.

“ESM processes more than 6 million records each night — a job that must complete by a specific time so that our promotional orders reach the distribution system in time for the warehouses,” said Chapman. “That’s on top of the 45 plus interfaces that must run in a specific sequence. We have a six-hour overnight window to process all the planograms, promotional events, and order creation. That window simply wasn’t big enough if we were to satisfy the requirements of the Food business — until we discovered the power and capabilities of DMExpress. The resulting output helps us more efficiently manage the deliveries of orders to our stores and effectively modify our store plans. We must react very quickly every day to process and technical challenges. GSM and ESM must work together smoothly to ensure we have no disruptions in store inventory.”

From 24 Hours — To Two

Executed properly, centrally managed planograms are a huge benefit to both store managers and customers because every store will have what customers want. But they can present significant technical challenges. Initially, it took Somerfield’s IT group as much as 24 hours to process its large volumes of data to create planograms for 600 stores. So, as valuable as they were, those store plans were at least a full day out of date by the time they were implemented.

Prior to the acquisition by The Co-operative Group, Somerfield’s IT team turned to Syncsort DMExpress to break that processing bottleneck and bring greater speed — and accuracy — to the replenishment of its 600 stores.

Soon, Somerfield's GSM application was automatically generating 600 store-specific plans that factored in historical sales figures, derived forecasts, current stocks, and point-of-sale data — in just two hours each night. GSM created the plans from data tables in the JDA space planning application. To ensure optimal processing performance, they unloaded database tables and used DMExpress to sort those files, some of which were as big as 2 GB.

"DMExpress accelerated their batch processing by as much as five times compared to using C++ with the regular database sort," Chapman said. "And it was about 10 times faster than C++ running directly against the GSM database. What was taking them 24 hours before — they were able to complete in just two hours because of DMExpress."

DMExpress is the only data integration solution to help drive ROI through a unique library of data integration and sorting algorithms for high performance and optimized utilization of standard hardware. DMExpress is used by hundreds of organizations to bring greater levels of performance and speed to processes and applications like ETL, data warehousing, and business intelligence.

A 2,800-Store Deployment Brings Greater Speed and Impressive ROI

Recognizing that the Somerfield system for generating planograms was feasible for 600 stores in a short window, The Co-operative Group analyzed whether it was possible to deploy the same solution for its full complement of 2,800 stores — a six-fold increase in data — in the same overnight processing window. "Each of our stores manages more than 180 food categories, with each category consisting of approximately 100 individual line items," Chapman explained. "When you multiply that by 2,800 stores, you get in the region of 54 million planograms. That is an enormous volume of data to be processed to create thousands of space plans every day of the year. We have a very narrow batch window to make that happen. But we found that, with Syncsort DMExpress, we could achieve that huge volume of

processing on time for all of our stores on the same day they need them — not 24 hours later. Having that data in each store at the start of their trading day means store managers are continually aligned with the absolutely latest data, promotions, and trends. When the batch processing window closes, the planograms can be viewed and acted upon locally at the stores, while still being hosted centrally."

According to Chapman, DMExpress has delivered more than what the organisation optimistically anticipated.

"Based on the initial work with Somerfield, we knew that DMExpress had excellent functional capabilities," he said.

"And our pilot phase certainly confirmed that. But we didn't know how scalable it was. During the volume testing, DMExpress has exceeded our expectations in its ability to process huge volumes of data. Today the entire estate is reliant on GSM

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for its range and planograms, and by the end of 2011, the entire estate will be having its promotions managed by ESM."

"There have been other benefits, too. Our SMART systems rely on downstream systems for data and feed upstream systems, most of which are legacy applications of varying technologies and longevity. To provide the SMART systems with continuity, we convert hundreds of files into binary format for the C++ batch framework. DMExpress converts text to binary code that is up to four times faster than C++ or the databases. When we process large data files, the output tables are now extracted into binary in a prescribed sequence that's five times faster than when done from the database. It also helps us merge binary files, with distinct records, ready for input into other systems — which previously required multiple steps using C++ or stored procedures."

Chapman explained that GSM generates store-specific space plans using multithreading programs. To improve performance, the programs convert the database tables to binary files and sort them on specific fields using DMEExpress. Some of these datafiles are fairly large, ranging from 700MB to 2GB. "Our performance testing has shown that using C++ with DMEExpress is at least five times faster than using C++ without Syncsort and around 10 times faster than C++ running directly against the database."

A £1 Million Monthly ROI: "It Simply Works!"

Chapman also pointed to one example of the agility that these rapid planograms create. "Weather is one of the toughest variables we must deal with," he said. "So if there's warm weather forecast, we know we'll sell more cold drinks. We can influence the stores' orders centrally, over night, and dictate to the stores where to place additional drinks in their individual stores the next morning as they open. The increased volumes are then delivered in line with an increased space now allocated to the soft drinks. This helps us capitalize on emerging opportunities far more quickly than ever before."

"DMEExpress has dramatically simplified the overnight batch process for GSM to a tremendous extent. We have seen a huge performance boost from this system, which has enabled us to achieve major efficiencies and improvements to our central ordering solution. The anticipated ROI derived from implementing a centralized solution is significant — approximately £1 million per month. Without DMEExpress, we would not have been able to achieve the critical overnight batch processing that makes it all possible."

"And finally, it simply works! DMEExpress is truly an unsung hero in our IT infrastructure. We have experienced zero downtime with DMEExpress and are yet to raise a service call after a year of continuous high-demand usage."

About Syncsort

Syncsort is a global software company that helps the world's most successful organizations rethink the economics of data. Syncsort provides extreme data performance and rapid time to value through easy to use data integration and data protection solutions. With over 15,000 deployments, Syncsort has transformed decision making and delivered more profitable results to thousands of customers worldwide.

syncsort RETHINK THE ECONOMICS OF DATA*

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