



BUSINESS CHALLENGE

Tesco was faced with the problem of providing sufficient mainframe capacity in order to handle its processing peaks, especially during the busy Christmas period. It was also important to avoid the additional cost of loaning or purchasing new hardware and to incorporate performance management into future systems development.

TRANSFORMATION

An initial review of Tesco's mainframe environment using Macro 4's performance management software identified a wide range of opportunities where changes to databases, systems software and applications could generate MIPS savings. A second, more detailed performance assessment enabled Tesco to achieve further capacity savings and avoid the need for extra CPU capacity or loan machines. Now performance management is embedded as a standard part of Tesco's development lifecycle.



We avoided spending a substantial sum of money and were able to maintain our service levels for mainframe applications despite all the extra activity at that time of year.

John Westnedge,
IT Director, Tesco



TESCO: BOOSTING MAINFRAME PERFORMANCE TO HANDLE THE CHRISTMAS PEAK

Tesco is the world's third largest grocery retailer, with operations in thirteen international markets. In the UK, where Tesco is known as the country's favorite retailer, the company has 280,000 employees and over 2,100 stores.

Like any large retailer, one of the keys to the company's success is being able to get the right products to the right stores in time to ensure that customers can always find what they need on the shelves. In the UK this supply chain challenge involves coordinating the movement of a portfolio of 780,000 products in the larger stores, from 32 distribution centers, with up to 34,000 store deliveries a day, most days of the year.

BUSINESS BENEFITS

10-15% REDUCTION IN MIPS CONSUMPTION

allowing Tesco to avoid purchasing new hardware

MAINTENANCE OF IMPRESSIVE SERVICE LEVELS for all mainframe applications

LOWER ONGOING SOFTWARE COSTS AND FEWER FUTURE CPU UPGRADES

by developing more efficient application code

THE CHALLENGE

Tesco's supply chain operation is supported by a number of key business applications residing on their corporate mainframe computers. These systems collate daily product-level sales figures and selective stock counts from the stores and churn out round-the-clock sales and order forecasts and actual orders that need to be delivered. Not surprisingly, great importance is placed on the efficient running of the mainframe hardware, system software and business applications, as John Westnedge, an IT Director at Tesco, emphasized:

"Any disruption could delay the communication of order data to our distribution centers and suppliers. This would disrupt their operations, which costs us money, but more importantly we may not deliver to our stores on time and impact availability for our customers."

A major concern is making sure that there is enough mainframe processing capacity, measured in million instructions per second (MIPS), to power the mainframes' 'number crunching' batch calculations. This is particularly challenging during the frenetic Christmas period when retail activity peaks.

MIPS consumption generally increases over time as a result of functional changes to business applications and many mainframe users spend millions of pounds every year on CPU upgrades and increasing software costs to keep pace. This is compounded by business growth driving higher transaction volumes. Without additional expenditure on capacity growth, application response times will gradually deteriorate, resulting in poorer service levels and erosion of customer service.

"In the past it has been necessary to bring in loan machines or to buy expensive CPU upgrades in a bid to cope with the additional retail activity and maintain our impressive service levels during the festive season," explained John Westnedge.



We were impressed by the number of opportunities we found where we could save processing power.

John Westnedge,
IT Director, Tesco



THE SOLUTION

As part of the Step Change programme, an initiative to drive savings and efficiencies throughout Tesco's IT operations, John Westnedge was tasked with bringing about a reduction in mainframe MIPS utilization.

The immediate objective was to avoid the significant costs associated with additional loan machines or hardware upgrades before Christmas, without affecting service levels. The longer-term objective was to introduce application tuning and performance management processes as a fundamental component of Tesco's systems development methodology.

John Westnedge concluded that this was a specialist task for which his in-house team would benefit from external guidance and expertise. Among those he approached were the key mainframe hardware and services vendors that already supply Tesco. Having evaluated these larger companies, the retailer selected performance experts CPT Global and a suite of performance management software tools from Macro 4.

IMPLEMENTATION AND RESULTS

The initial phase of the MIPS reduction project lasted three weeks. CPT's experts conducted a review of Tesco's mainframe environment using the Macro 4 tool set.

"We were impressed by the number of opportunities we found where we could save processing power. One was a date routine which wasn't written efficiently and was being used billions of times a day. Having implemented CPT's initial recommendations, we saw a reduction in peak usage which more than paid for the first phase. This convinced us that we could meet our objectives by moving to the next phase," said John Westnedge.

In the second phase, which lasted approximately three months, CPT provided a more detailed assessment of how further capacity savings could be achieved, working closely with Tesco's own people, who were now also using the Macro 4 software.

The exercise enabled Tesco to reduce MIPS consumption by between ten and fifteen per cent. This meant that the retailer was able to meet its main objective of avoiding purchases of extra CPU capacity or loan machines.



Everything ran very smoothly, which meant no disruption to our supply chain and retail operations.

John Westnedge,
IT Director, Tesco



KEEPING MIPS USAGE UNDER CONTROL

“We avoided spending a substantial sum of money and were able to maintain our service levels for mainframe applications despite all the extra activity at that time of year,” continued John Westnedge. “Everything ran very smoothly, which meant no disruption to our supply chain and retail operations.”

As part of the project, Tesco’s in-house team received training on Macro 4’s software as well as training from CPT on performance management processes. This included a CPT consultant visiting Tesco’s Support Center in Bangalore to help the retailer’s development staff who are based there become self-sufficient in the software and embed performance management into the development process.

“In the future we want to be able to gain ongoing benefits, including fewer upgrades and reduced software costs, by delivering more efficient applications. By making performance a standard part of our development lifecycle we hope to be able to resolve performance issues before any new systems or changes go into production. Our view is that in order to keep control of MIPS usage we need to be writing efficient code from the start and Macro 4’s solution will help us to do this,” concluded John Westnedge.



THE NEXT STEP

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