

Reducing the Cost of IT:



Boosts Mainframe Performance to Handle Christmas Peak



Performance management programme helps drive down retailer's mainframe MIPS utilisation

“From our point of view, mainframe performance management is a very specialist task and it made sense to go with a performance specialist organisation such as CPT Global, who ‘lives and breathes’ this area.”

John Westnedge,
Tesco

Tesco is the world's third largest grocery retailer with operations in 13 international markets. The Company prides itself on providing increasing choice to its customers through its expanding international presence, innovative retail services and its growing non-food offering. In the UK, where Tesco is known as the country's favourite retailer, the company has 280,000 employees and over 2,100 stores.

The Challenge

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 co-ordinating the movement of a portfolio of 780,000 products in the larger stores, from 32 distribution centres, with up to 34,000 store deliveries a day, most days of the year.

This operation is supported by a number of key business applications residing on Tesco's 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 centres 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 Westnedge.

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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 utilisation. 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.

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.

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The 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. During this exercise they identified a wide range of opportunities where changes to databases, systems software and applications could generate MIPS savings.

“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 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 10 and 15 per cent. This meant that the retailer was able to meet its main objective of avoiding purchases of extra CPU capacity or loan machines.

“In fact the issue of processing power did not come up at all during the busy Christmas season,” recalled Westnedge. “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. Everything ran very smoothly, which meant no disruption to our supply chain and retail operations.”

The Results

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 Centre 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 life-cycle 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 Westnedge.

CPT Global

CPT Global Limited (CPT) is an established and proven IT consulting services company operating in the Australian, European and USA markets. CPT is a market leader in the provision of independent IT services associated with its core competencies of Performance Tuning, Capacity Management, Performance Testing and IT Management Consulting.

CPT's methodology identifies areas where system and application performance can be enhanced, therefore reducing costs and improving customer service. CPT uses a 'quick hit' review combined with a range of tuning tools and proven processes to go beyond a theoretical saving and achieve real, measurable results.

All of CPT's Technical Consulting services are aimed at reducing ICT costs. Through expert performance tuning, CPT can identify opportunities for immediate and sustainable cost reductions in both mainframe and midrange environments as well as contribute to Green IT goals as a by product.

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