"The database optimization feature Oracle Index Key Compression exceeded our expectations. Total index size was reduced 2.8 TB to around 875 GB, which meant considerable disk space savings. The total database volume shrank by 26.6% percent."

– Glenn Cadman, SAP Technical Manager, National Foods

Oracle Index Key Compression for SAP at National Foods Australia: Exceeding Expectations

Industry:
Food and beverage company producing household-name brands in milk and dairy beverages, juice, fresh dairy, cheese and soy

Workforce:
4,000 in Australia, New Zealand, Malaysia, and Singapore

Oracle products:
Oracle Database 10.2.04, SAP ECC size 7.6 TB before Index Key Compression

Key benefits:
Significant database size reduction of 26.6 percent, index size reduction of 70 percent, fast online implementation in 3 months, reduced backup volume, reduced number of backup tapes

SAP:
SAP ERP ECC 6.0, Netweaver BI 7.0, SCM 5.0 and others, over 1,700 named users

Infrastructure:
HP Superdome (HP-UX), HP XP24000 Storage Systems

Profile: National Foods

National Foods with headquarters in Melbourne is one of Australasia's largest food and beverage companies with a revenue of USD 3.56 billion in 2009, producing household-name brands in milk and dairy beverages, juice, fresh dairy, cheese and soy. National Foods is part of Lion Nathan National Foods, Australasia's largest food and beverage company.

Today National Foods employs more than 4,000 people. In addition to direct employment, the company makes a significant contribution to the Australian and New Zealand economies. National Foods is also a major supporter of local industry through sourcing of local raw materials and an integral part of the retail economy.

In Australia, National Foods is the only milk business servicing the entire national market and buys 2.3 billion liters of milk that comes from more than 1,000 Australian farms to produce a range of full cream, flavored and modified fresh and UHT milks. The company also produces a range of popular block and premium specialty cheeses and is prominent in the soy beverage market. Over the coming years, National Foods will make a best practice marketing investment and focus on higher potential core brands to drive revenue and mix.

Focus on optimization

Information technology has long been an essential ingredient in day-to-day business at National Foods. Recent years have seen an increase in IT use in almost every area of the company, in a trend which is still continuing. This is due in part to the acquisitions by the well-known Australian food company. National Foods is an established user of core applications such as SAP ERP ECC 6.0, Netweaver BI and SCM and has gradually increased the number of functions it uses in these solutions. At the same time, the IT infrastructure linked to these solutions has steadily expanded. In response, both the server capacities (HP Superdome) and storage systems had to be gradually enlarged.

The data volume of the database management system used for the application environment, ECC Oracle Database (Release 10.2.04), was also growing rapidly – eventually peaking at over 7.6 TB. Meanwhile, more than 1,700 users are making intensive use of the application solutions.

"The application environment and the associated IT infrastructure involve enormous costs. This means we're always looking to increase IT efficiency and use tools or technologies with an optimization effect," says Glenn Cadman, one of the team responsible for SAP at National Foods. Around five months ago the expansion-focused business found just what it was looking for in the database feature Oracle Index Key Compression. "We benefit from Oracle Key Compression in numerous ways," says Cadman.

Immediate interest

At a regular meeting with Oracle, the conversation turned to the success other customers have had with database optimization in association with SAP, and it was this that prompted the idea of using Oracle Index Key Compression. The potential for optimization offered by Index Key Compression met with immediate interest from National Foods. Oracle Index Key Compression can dramatically reduce index and disk space by shortening individual indexes within index blocks by up to 75%. The tool also offers other benefits from which business users stand to profit, including optimized I/O times, updates and backups, as well as a slimmer database.

Cadman explains: "The potential for optimization offered by Oracle Index Key Compression was exactly what we were looking for and it fitted in perfectly with National Foods' ongoing efforts to increase efficiency." An archiving project that had been in the pipeline for some time had yet to deliver the urgently required space disk savings.

The implementation and roll-out of Oracle Index Key Compression went without a hitch. Even though the company allowed itself plenty of time for the database optimization project with Oracle Index Key Compression, it took just three months from the meeting where the idea was first mooted until the tool went into productive use for the first time.

The first stage involved identifying the top 20 indexes of 10 GB or more in size. These indexes were then compressed with Oracle Index Key Compression on a test system to analyze the situation before and after compression. "The difference was striking," Cadman recalls.

"The Oracle compression feature achieved reductions of 40% - 90% on these huge indexes, one massive index: VBOX~0 reduced from 1.35 TB to 400 MB. We were very impressed."

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– Glenn Cadman, SAP Technical Manager, National Food

After these tests, optimization was extended to more indexes and performance tests were run. The Australian food giant was then finally able to roll out Oracle Index Key Compression.

Significant savings

Looking to the future

National Foods was delighted at the results achieved with Oracle Index Key Compression: "The Oracle database optimization feature exceeded our expectations. We were able to reduce the total index size from 2.8 TB to 875 GB, which meant considerable disk space savings. The database volume shrank by 26.6 percent."
The company also achieved greater efficiency in another respect. By opting for Oracle Index Key Compression, it has reduced its backup volume at the same time in terms of both business copies and disaster recovery backups. At National Foods these are stored on tapes, and thanks to Oracle Key Compression the company now needs fewer tapes than before.

In terms of compression, National Foods is already contemplating further optimization projects – in conjunction with an upgrade to Oracle Database 11*g* Release 2 for SAP planned for deployment in 2011.

Oracle Database 11*g* comes with Advanced Compression, a range of additional compression features such as OLTP Compression, SecureFiles Compression, RMAN Compression, Data Guard Network Compression and Data Pump Compression. This means that database compression can be used not only with Warehouse applications but also applications with mixed workloads and OLTP applications. Advanced Compression also provides effective support for unstructured data in the shape of SecureFiles Compression, for example in typical content management or XML applications.

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