Schaeffler KG increases storage efficiency for SAP applications with IBM DB2

Overview

■ ***The Challenge***

Automotive bearings manufacturer Schaeffler KG found that increasing use of business analysis was driving rapid growth in data storage needs. As volumes grew, application performance tended to decline, frustrating the users in their search for information. At the practical level, data storage and management expenses were rising, and Schaeffler KG sought to reduce costs, while delivering faster response times.

■ ***The Solution***

Schaeffler KG migrated the databases for its SAP NetWeaver Business Intelligence (SAP NetWeaver BI) environment to IBM DB2. The immediate impact was to reduce the SAP NetWeaver BI database volume by 43 per cent, from 8TB to 4.5TB, and other databases also benefited from significant reductions.

■ ***The Benefits***

With reduced total storage requirements, Schaeffler KG is able to deploy its existing infrastructure more effectively and avoid the need for capacity expansion. The migration to IBM DB2 has improved system performance, which allows Schaeffler KG to exploit its existing infrastructure without upgrade.

■ ***Key Solution Components***

Industry: Automotive
Applications: SAP® R/3® 4.7, SAP ERP Human Capital Management, SAP Supplier Relationship Management, SAP Advanced Planning and Optimization, SAP Records Management, SAP Global Trade Management, SAP NetWeaver® Business Intelligence, SAP NetWeaver Exchange Infrastructure, SAP Solution Manager
Hardware: IBM® Power Systems™ servers (model p5-595), IBM System Storage™ DS8300
Software: IBM DB2® version 9, IBM AIX®, IBM Tivoli® System Automation
Services: IBM Global Technology Services

The Schaeffler Group is a world-class supplier of bearings and precision components for the automotive industry. The company employs approximately 66,000 people at over 180 locations worldwide, with revenues of some €8.9 billion.

Schaeffler KG has deployed SAP applications for general business management for around 30,000 named users, and uses a wide range of logistics, personnel and financial software. Since the highly successful introduction of the SAP NetWeaver Business Intelligence component, users have been able to interrogate a vast store of product, customer and financial data, helping them understand trends, margins and processes, and make informed business decisions more rapidly.

SAP NetWeaver BI has been an enormous success and a vital tool for Schaeffler executives. The result has been greater usage than expected, and rapidly increasing data volumes. The large size of the SAP NetWeaver BI database tends to slow system response – a frustrating experience for users keen to get their hands

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Chief Information Officer
Schaeffler KG

on information – and to increase Schaeffler's data storage costs.

Harald Gießer, Chief Information Officer at Schaeffler KG, comments, "It was clear that SAP NetWeaver BI was generating significant quantities of data. To manage this data would mean investing in additional capacity, and achieving acceptable performance levels might require new storage servers or new processors, or possibly both. We were keen to solve our performance and capacity issues, while reducing our operational costs – a combination which seemed to be impossible."

Leveraging DB2 deep compression

IBM proposed replacing the Oracle database used for SAP NetWeaver BI with IBM DB2 version 9.1, which includes a range of technologies designed to reduce data volumes and improve system performance. IBM expected an achievement of 40 per cent reduction in storage demands for the SAP NetWeaver BI database based on experiences in comparable implementations.

"Schaeffler KG achieved a 43 per cent saving in total storage requirements when using IBM DB2 with Deep Compression for its SAP NetWeaver BI application, when compared with the former Oracle database," says Markus Dellermann , project manager for the migration. "The total size of the database shrank from 8TB to 4.5TB, and response times were improved by 15 per cent. Some batch applications and change runs were reduced by a factor of ten when using IBM DB2."

The direct consequence is that Schaeffler KG is able to avoid infrastructure expenditure by using IBM DB2 to leverage its existing hardware more effectively. The storage

space released gives Schaeffler KG sufficient capacity to continue to expand the SAP NetWeaver BI environment, and to allocate storage for all applications in the most cost-efficient manner. By enabling the company to avoid purchasing new storage capacity, the IBM solution will reduce IT expenditure for new equipment over the next few years.

Based on these achievements, the Schaeffler team intends to migrate additional databases to IBM DB2.

Technical innovation for business advantage

Setup and tuning services for the DB2 database were provided by experts from the IBM software group, with additional advice from the IBM SAP International Competence Center. The migration services were supplied by IBM Global Technology Services and the migration was completed with no impact on production systems.

Schaeffler KG is taking advantage of many innovative DB2 technologies, including DB2 Compression, the unique Data Partitioning Feature (DPF) for SAP NetWeaver BI and High Availability Disaster Recovery (HADR) for the other SAP systems. Collectively, these features create a highly scalable, highly resilient database infrastructure that far outperformed the existing solution.

SAP NetWeaver BI and the other SAP applications run on IBM Power Systems servers (model p5-595), each with 64 processor cores, of which 24 on each machine are active. The servers are divided into logical partitions (LPARs) that allow processor, I/O and memory to be allocated to each application, and to be adjusted automatically during production without service interruption. This virtualization of the servers' compute capacity allows Schaeffler KG to ensure each application delivers optimal response times to users, by shifting available resources to where they are needed, when they are needed, automatically.

The data for the SAP NetWeaver BI solution is stored on two IBM System Storage DS8300 storage servers. These systems provide enormous total capacities, into tens of terabytes, effectively future-proofing Schaeffler KG against massive data growth.

Schaeffler KG also took the opportunity to introduce IBM Tivoli System Automation, to provide centralized control of the infrastructure, and help to reduce administrative workload. The production databases for the SAP environment (excluding the SAP NetWeaver BI component) are protected by the HADR feature in DB2, which ensures that – should any specific storage device fail – there will be no data loss and full recovery will be possible.

Rolling out the next phase

Schaeffler KG is planning to migrate the databases for several other SAP applications to IBM DB2; the next candidate is SAP Advanced Planning and Optimization.

Harald Gießer concludes, "IBM DB2 has achieved excellent performance and capacity savings for the SAP NetWeaver BI database, contributing directly to the effective use of business analysis within Schaeffler KG. We fully intend to take advantage of DB2 for additional business benefits in the Schaeffler group."

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Markus Dellermann
Project Manager
Schaeffler KG

IBM Deutschland GmbH
D-70548 Stuttgart
ibm.com/solutions/sap

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Dietmar-Hopp-Allee 16
D-69190 Walldorf

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