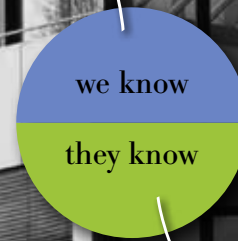




TOP TO BOTTOM



END TO END

SAP IT selects IBM DB2 as strategic database platform for internal business systems

Overview

■ The Challenge

SAP IT (the IT department of SAP AG) wanted to be able to take advantage of new SAP software functionalities while reducing the complexity and operational costs of its IT landscape. The company also wanted to move to a new database platform to deliver optimal performance.

■ The Solution

In three separate projects, SAP IT upgraded its Human Capital Management (HCM), ERP and Business Intelligence applications, simultaneously performing Unicode conversion and migrating databases from Oracle to IBM DB2.

■ The Benefits

Simultaneous upgrade/conversion/migration helps reduce business disruption without significantly increasing project complexity. Response times in the HCM environment have improved by around 40 per cent. Archiving and database reorganization have reduced the size of the ERP database by 22 per cent – and DB2 9 Deep Compression could provide further reductions. Conversion to Unicode has helped SAP IT introduce multiple-language applications, facilitating international operations. SAP's Business Intelligence system is now positioned for nearly unlimited scalability and massive growth with DB2.

■ Key Solution Components

Industry: Software

Applications: SAP® ERP 6.0, SAP ERP Human Capital Management 6.0, SAP NetWeaver® Business Intelligence 7.0

Software: IBM DB2®

SAP AG in Walldorf, Germany, is one of the world's leading business software providers. With more than 45,000 employees serving international enterprises of every conceivable type, SAP AG has people and offices on every continent, operating in multiple languages.

SAP uses its own software products to manage its internal business processes. SAP IT, the company's IT department, wanted to upgrade its existing software environment to take advantage of numerous functional enhancements in the latest versions of the SAP ERP and SAP ERP Human Capital Management (HCM) applications, as well as the SAP NetWeaver Business Intelligence component. The applications would help drive business efficiencies through advanced integration and enhanced information delivery.

"We decided to split this technology refresh into three separate projects," says Peter Boegler, Solution Architect at SAP IT. "We started with the upgrade from SAP ERP HCM 5.0 to version 6.0 in Autumn 2006, followed by the move of the main ERP systems

“The efficiency of the new IBM DB2 solution has given us headroom within our database and storage servers to grow as business workload rises, with high user productivity and great return on investment.”

Peter Boegler
Solution Architect
SAP IT

from SAP R/3® 4.6c to SAP ERP 6.0 in Spring 2007. Finally, in Summer 2007 we replaced SAP Business Information Warehouse 3.5 with SAP NetWeaver Business Intelligence 7.0.”

Besides these three application upgrades, SAP IT wanted to convert all of its systems from MDMP (multiple display, multiple processing) to Unicode, which would enable the company to support 28 different languages using a single code page – helping the company avoid compatibility issues when doing business in different countries.

“In addition to the Unicode conversion, we also had a corporate objective to migrate away from our existing Oracle database and onto IBM DB2, which is now the recommended database for SAP software,” says Peter Boegler. “Conversion and migration involve very similar processes – for example, export and import as well as cleansing and reorganization of the existing data – so we decided to do both at the same time, along with the application upgrades. In this way, we would minimize disruption to the business

without significantly increasing the complexity of the projects.”

Project one: Human Capital Management

The SAP ERP Human Capital Management upgrade project lasted a total of eight months, with the actual export and import of the data taking place over a single weekend, during a standard maintenance window. The Unicode conversion and the database migration were performed in a single step, moving 650GB of data from Oracle to IBM DB2, and the whole operation took just 18 hours.

The results were impressive, as Peter Boegler explains: “We expected an improvement of around 20 per cent in terms of system response time, but we found that the new system was actually 40 per cent faster. The DB2 database is even more efficient than we had anticipated. This means that the investments in new server and storage hardware will actually last longer than planned, contributing to a better-than-forecast return on investment, which is very pleasing.”

Project two: ERP

Next, the SAP IT team prepared for a more ambitious project – the upgrade, conversion and migration of the core ERP application to SAP ERP 6.0 and DB2.

“Again, the project went extremely smoothly, and we performed all three stages inside an extended weekend maintenance window,” says Peter Boegler. “This project was a great example of the benefits of combining Unicode conversion and database migration, because the data cleansing and archiving processes helped us reduce the size of the database by more than 22 per cent.”



At first glance, it would seem that the conversion to Unicode would increase database size, but Peter Boegler explains that this is rarely the case. The bulk of most large databases consists of numerical data, not text – and Unicode only affects the encoding of text. As a result, the increase in size tends to be minimal.

At the same time, preparing for the conversion (archiving data, removing custom coding and modifications, standardizing SQL statements and deleting unused authorizations) can remove considerable amounts of obsolete data, resulting in a net reduction in database size.

“From our own experience, and from listening to the experiences of our customers, we would definitely recommend the combination of Unicode conversion and database migration as part of an SAP software upgrade project,” says Peter Boegler. “A reduction in database size may initially seem counter-intuitive, but many companies have experienced the same thing. Moreover, performing a database migration during the Unicode upgrade adds very little to the overheads of the project, so it is more efficient to do both at once.”

Project three: Business Intelligence

The final project involved the upgrade of SAP Business Information Warehouse 3.5 to SAP NetWeaver Business Intelligence 7.0 and the migration of the database – this time from Oracle 9.2 to the newly released DB2 9.1. The 4.7TB database was reduced to 4.5TB during the course of the migration, and optimization of the solution is still ongoing.

“The main highlight of this third project is the potential of DB2 9 to reduce the storage requirements of our BI landscape,” says Peter Boegler. “With the desire for more and more detailed reporting, the amount of data in a BI environment can grow very rapidly – with a proportionate effect on storage costs.

“DB2 9 Deep Compression offers a way to counteract rapid database growth, compressing data by 40 to 50 per cent and delivering much better value from storage hardware. In addition, we expect DB2 performance improve by up to 30 per cent when utilizing the Deep Compression feature.”

SAP IT plans to trial the new Deep Compression feature early next year, and expects to upgrade to DB2 9 for its ERP and HCM environments too.

DB2 – a strategic move for SAP software

IBM’s long-term roadmap for DB2 was a significant factor in SAP IT’s strategic decision to adopt it as its standard database platform.

Peter Boegler explains: “IBM has aligned its product maintenance strategy for DB2 to the SAP approach, where products are fully supported for eight years after their initial release. This alignment means that we can be sure that support for the databases will last as long as the support for our own products – which helps us plan our IT strategy in the long term.

“Rather than being forced along a particular technology route because our database vendor has introduced software changes, with IBM we are able to set our own business strategy and not be affected by external

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changes. For a company like SAP AG, with a reputation for reliability, it is important to have a supplier that has an outlook on business that is closely aligned with our own.”

IBM develops DB2 in close partnership with the SAP development division, and Peter Boegler reports that the relationship between the two teams is very good. “The IBM DB2 engineers were fully engaged on the project, and helped us bring it to a highly successful conclusion.”

Peter Boegler concludes, “The efficiency of the new IBM DB2 solution has given us headroom within our database and storage servers to grow as business workload rises, with high user productivity and great return on investment. We now have a state-of-the-art IT landscape based on the latest SAP and IBM software, which delivers excellent performance and should help to keep storage costs low in the future.”

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SAP IT



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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