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Ferdinand Prezenski (r.), IBM Software Sales Director of Worldwide ISV Data Server Sales and Chetan Chaturvedi (l.), IBM Information Management Worldwide SAP and SIs Initiatives Lead

The Inside Track on **DB2**

The SAP Community migrates to DB2 due to its ease of use, lower costs and greater ROI. DB2 marks the culmination of a five-year IBM development project.

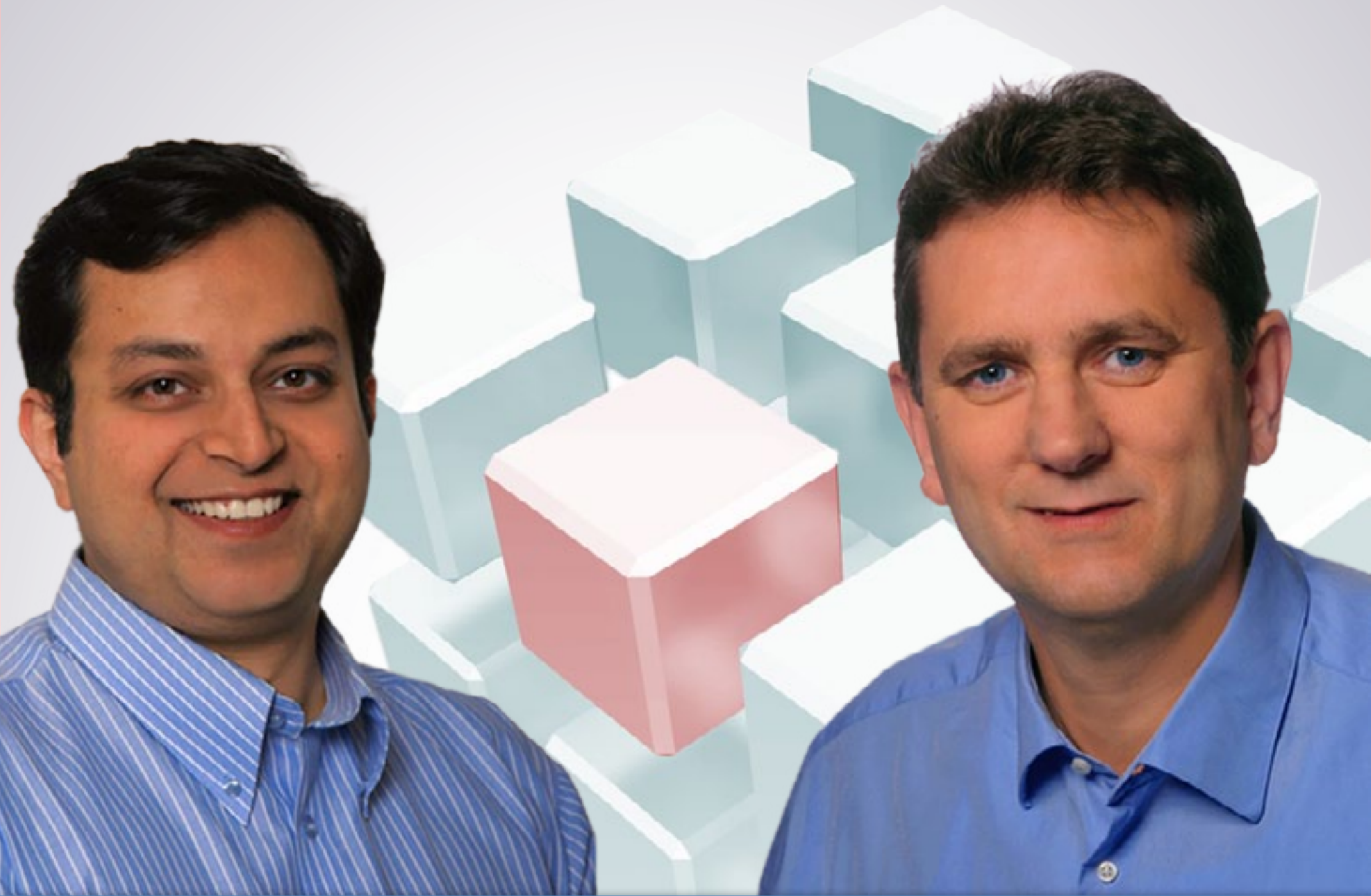
Exclusive!
We talk to Jon Erickson,
Principal Consultant
at Forrester Research



SAP FORUM MIDDLE EAST

JUST-IN-SEQUENCE

SMART GRIDS



DB2: State Of The Art

What SAP customers must know about their database: we talk to Ferdinand Prezenski, IBM Director of Worldwide ISV Data Server Sales, and Chetan Chaturvedi, IBM WW SAP and SIs Initiatives Lead, Consulting Sales Specialist.

As pressure increases on businesses to process increasing amounts of data faster, hundreds of global companies are choosing DB2 database software to address their most complex information-related management challenges. In fact, IBM is the preferred database software, ▼

across all industries, to provide more efficient and flexible support of the heavy database workload generated by SAP applications. Hundreds of clients have turned to IBM DB2 database software to manage heavy database workloads, for improved performance at a lower cost.

CIOs are looking to establish information infrastructures that are flexible and can grow with the business, as well as to simplify and automate processes, according to a recent IBM CIO study. In fact, 74 per cent of the 2,500 CIOs surveyed said that continuous business process improvement is a priority for achieving greater efficiency and increasing competitiveness. A growing roster of companies, inclu-



ding Reliance Life, 3 UK and Banco do Brasil, are turning to IBM; the aim is greater efficiencies in their IT environments, enabling them to lower costs and providing them with more energy-efficient and scalable infrastructures. For more success stories, take a look at the end of this E-3 cover story section.

IT departments are handling more data, faster than ever before, to help optimise business results. CIOs are using technology in new ways to extract the most value from data and to address business's and IT's need to eliminate wasteful costs. ▼

We talk to the leading IBM DB2 Manager - here you will find all the answers about IBM's database.

How important is the decision in favour of a given database to the overall performance of an SAP system?

Ferdinand Prezenski, IBM Director of Worldwide ISV Data Server Sales: the database selected for running SAP systems has a significant impact on three things: the overall SAP system performance; secondly, and equally importantly, the overall SAP system availability and - last but not least - the total cost of operation of the SAP environment. The database impact on the overall performance of a SAP system varies according to the type of SAP application deployed; we are seeing a high degree of performance impact for SAP BW systems and a lower performance impact for SAP APO environments.

From your point of view, what are the most important parameters for a database and why? (Price, performance, services, storage, consulting, etc.)

Ferdinand: As mentioned already, the database selection directly influences the total cost of ownership of the customer SAP environment. The key criteria our customers are looking at are: cost of database license acquisition; cost of database maintenance; overall maintenance frequency (i.e. number of patches); database administration effort and tooling needed for this (i.e. number of DBA's and SAP basis consultants needed to keep the SAP environment running); SAP system availability for both day-to-day operation and disaster recovery situations; overall downtime, driven by database administration needs, and - last but not least - the amount of storage that the database consumes. Over the last couple of years, customers are consistently reporting an average of 20 to 25 per cent annual growth rate in their SAP storage; this growth is mainly attributed to an upgrade to Unicode, expansion of SAP applications usage in the organisation, and the desire of the business to have instant access to historical SAP data, primarily in the SAP BW space. The explosion of data volumes in SAP environments provides operational challenges to the IT infrastructure provider to maintain the agreed service level agreements. IBM and SAP have recognised these challenges early on and, over the last couple of years, have jointly delivered unique DB2 technology, optimised for SAP environments, in order to address these operational challenges without undermining business benefits. ▼



What should an SAP customer know about databases?

Chetan Chaturvedi is Consulting Sales Specialist and responsible to IBM worldwide SAP and SIs Initiatives Lead: for an SAP customer end-user, the DB does not really matter. The end-user just wants to be able to use an SAP application to complete a business process; as long as the response time is good and the system provides very good availability, even in the event of IT disasters, the end-user is happy. To be able to satisfy the end-user in the SAP customer organisation, the SAP infrastructure team is the one that is needing to optimise performance whilst keeping the overall costs of the SAP ecosystem low. As DB2 is highly optimised for running SAP applications, customers who have chosen to run DB2 (and the momentum of customers migrating their SAP estates to DB2 is very high) are able not only to reduce overall total cost of ownership, but also to provide operational excellence.

What relationship exists between hardware, operating system, database, middleware like NetWeaver, and the ERP system, like ERP 6.0 or Business Suite 7?

Chetan: It is a complex yet complementary relationship between all of these elements. The SAP ERP and all Business Suite components are essentially application programs that contain business process logic designed to enable an end user to complete a transaction. The various application components talk to each other, using middleware or SAP's own NetWeaver technology, which provides the essential foundation to do so. The SAP software described above then needs to use a data server / database where the data captured subsequently reside. Historical data may sit under an SAP Business Warehouse application powered by a database, but essentially all of the application software (including non-SAP) needs some sort of a database to store/keep information. The application and DB software are then resident on a certain HW running a certain type of operating system. This is pretty fundamental to how any IT landscape can be defined. ▼



From your perspective, who decides what database to pick? Is it the CIO?

Chetan: Not really. SAP customers can be very very large enterprises but, at the same time, others can also be small or medium-sized. The person who should decide what database to pick for SAP applications is the one who owns the organisational responsibility for keeping the SAP ecosystem running in the optimum way and at the lowest possible cost of ownership. Sometimes, this responsibility is shared between the CIO and CFO; in this scenario, it is then a joint decision, based on financial implications and skills/education needed. Sometimes, in very large organisations, the SAP estate is de-centralised, and responsibility for keeping the different SAP instances running is not based on a CIO/CFO decision; rather, it is the responsibility of senior SAP basis administrator / senior DBA functions. But irrespective of who has to make the decision, it is an important decision to make – one that has both financial and strategic risk implications.

How does an SAP infrastructure affect the database decision? SAP can run on a mainframe, on a Linux server, in a virtualised environment, etc.

Ferdinand: The selection criteria for the appropriate SAP infrastructure is influenced primarily by the business's SAP performance and availability requirement, the availability of skills in the IT organisation to provide the required performance and availability, and the budget available for running the SAP environment. Over the last couple of years, we have been observing a strong virtualisation trend, whereby customers are looking to reduce the number of physical servers needed to run SAP, by virtualising their non-production SAP systems; at the same time, we are observing a trend towards more centralised SAP environments, with single global SAP instances and global SAP templates deployed at regional level. IBM DB2 optimised for SAP is the only SAP-supported database available on all SAP-supported hardware environments from Linux, Windows, UNIX, to IBM system i and IBM system z.; it provides the widest choice of support for server, storage and virtualisation technology for SAP deployments. ▼



Are there special “tricks” with DB2 which help an SAP customer?

Chetan: I would not call them “tricks” but, yes, there are some features and functions in the DB2 technology which have been highly optimised for SAP.

Deep Compression provides up to 60 per cent disk-storage savings for a table, with minimal CPU impact. In fact, most customers using Deep Compression actually see a performance gain, in addition to the storage savings, due to the decreased I/O that results from compression. So, the net effect is generally better performance, even with the CPU overhead of compression. Deep Compression is also a significant technical driver within SAP environments that are moving to Unicode databases. With DB2 and Deep Compression, the storage requirements amount to half of Oracle’s storage requirements.

High Availability Disaster Recovery (HADR) provides an integrated High Availability and/or Disaster Recovery solution and includes an integrated cluster manager (Tivoli System Automation) to handle the heartbeat and automate the fail-over between the primary and secondary servers.

The Database Partitioning capability of DB2 (DPF) is unique among the databases that support SAP; it has been fully supported by SAP BW since version 2.0. DPF provides excellent scalability for Data Warehouse/Business Intelligence types of queries; its linear scalability characteristics also enable a customer to effectively size their DB2 configuration for growth. If the workload doubles, you simply double the number of database partitions to get comparable performance. Competitive technologies cannot provide this type of scalability for a SAP BW environment.

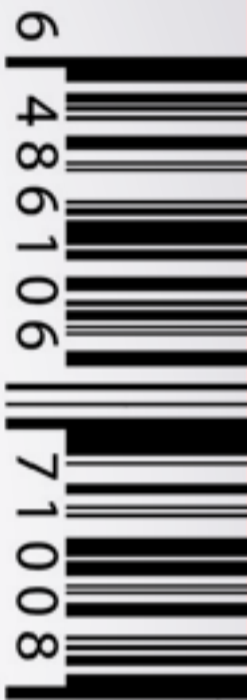
Multi-Dimensional Clustering (MDC) tables provide the capability to cluster data in blocks, based on multiple column dimensions within a table, and guarantees that this data clustering will be maintained. MDC Tables also utilise a unique block-based indexing capability that reduces index maintenance and overall index size. The data clustering and improved index-handling capabilities of MDC Tables combine to provide performance improvements in a SAP BI environment. This feature is unique to DB2 (patented technology) and other Database technologies have no equivalent capability. ▼

One-step install-and-configuration allows customers to simply “turn a knob” to let the SAP system know that DB2 is the database of choice and it will be fully installed and tuned for SAP. Because DB2 administration is integrated into the SAP tools for database maintenance and monitoring, the customer can use the SAP console to manage their database, saving significant time on behalf of the DBAs.

If we talk about the costs of a database within an SAP system, and if we look at DB2, what does the SAP customer need to know? What advantages does DB2 bring to the SAP customer?

Ferdinand: Customers are looking at the following elements when considering the „cost of a database“: database license and maintenance cost; database servicing cost (i.e the level of DBA activity needed to maintain a well-performing system); database administration cost and availability of DBA skills in the market; database upgrade cost and patching effort; database availability and total downtime needed for database maintenance; database infrastructure cost (server, memory, storage consumption) and - last but not least - performance. IBM and SAP have been working together to deliver a unique technology solution that drives down the cost of every single aspect mentioned above.

Let me mention a few of these unique capabilities that make a big difference to our clients: the DB2 Data Partitioning Feature uniquely provides a low-cost scale-out architecture for SAP BW, allowing customers to deploy high-end SAP BW solutions on commodity hardware without sacrificing performance. DB2 Compression provides industry-leading data compression capabilities for SAP that reduce the total SAP storage footprint by over 60 % while, at the same time, improving database response time by over 20 per cent on the same hardware. DB2 provides a unique SAP application value-based licensing model via SAP/OEM: this allows for unlimited DB2 consumption within the SAP environment while, at the same time, it provides investment protection and free upgrade to new versions. The DB2 HADR (high availability and disaster recovery) feature provides SAP customers with a complete SAP HA and DR solution at no extra cost, with full customer support via the SAP support structure. This out-of-the-box solution enables customers to improve their overall SAP environment availability above 99.5 per cent. IBM and SAP have jointly developed a fully integrated DB2 administration tool as part of the SAP application functionality, one which enables customers to reduce their overall database administration effort by 30 to 50 per cent. ▼



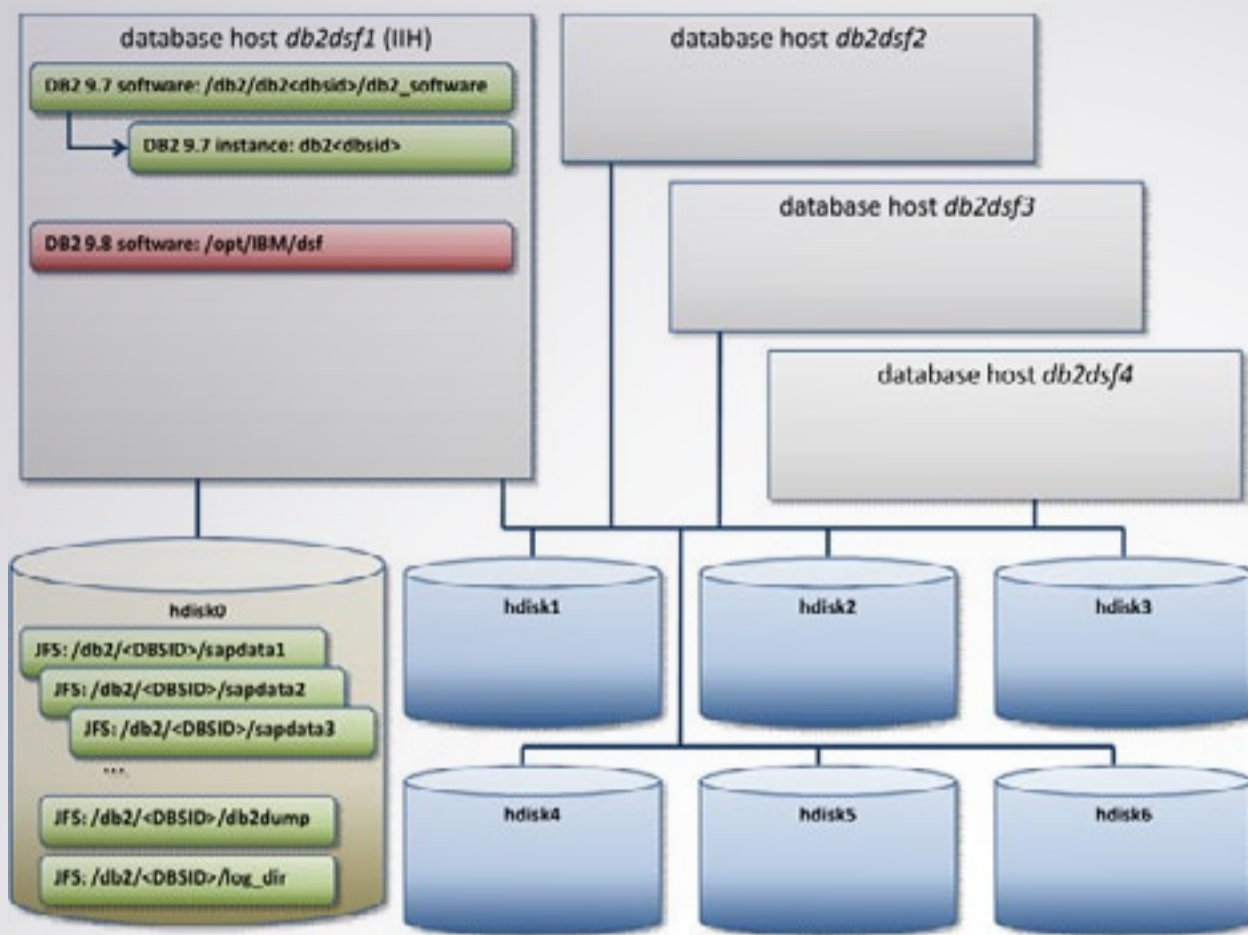


How dangerous and how difficult is it to change the database within an SAP system?

Ferdinand: Changing a database in the SAP environment is a highly automated process, well documented, guided and governed by SAP. In the last 18 months, IBM has performed over 200 SAP customer migrations from „other“ databases to DB2, by utilizing the SAP heterogeneous system copy methodology and tools, with a 100 per cent success rate. IBM and IBM partners have SAP-certified migration architects available for helping customers worldwide to migrate their SAP environment to DB2. The process and methodology is risk free for customers, IBM is offering low-cost fixed-price migration services for SAP migrations to DB2. There is absolutely no risk in moving to DB2 provided that the customer engages experienced SAP-certified migration specialists to perform the migration.

With whom do you discuss such database changes? And what is the purpose of such discussions?

Chetan: These discussions usually take place with the individual in the organisation who has the responsibility for keeping the SAP ecosystem running in the optimum way and at the lowest possible cost of ownership. The purpose of such talks is simple – to help the customer save some money but, at the same time, still optimise their performance. Also, the ability to strategically leverage the IBM/SAP relationship means that there would be less risk moving forward. In addition to the business case, most customers do realise that risk is an important component for the stability of their future business – I mean, as an SAP customer, why would anyone not want to run their SAP systems on the same DB technologies that SAP has chosen to run its own business production systems? Previous decisions for a SAP customer's existing DB platform were made at a time when market conditions were very different, but in today's environment IBM DB2 is the right choice for all SAP customers. ▼



The following figure shows a typical configuration with an installed SAP system and the shared disks in place: The DB2 9.8 software is already installed and three additional hosts are available for the DB2 pureScale cluster. The host where the DB2 installation starts (in this case db2dsf1) is called the install-initiating host (IIH).

DB2 pureScale Feature - Cluster Status

Last Refresh: 24.09.2010 15:20:38

Cluster Status

DB Name: DSJ | DB Server: db6c3p04 | Started: 21.09.2010 13:48:10
DB Release: 09.08.0002

Members and CFs

| Member | Member Type | Alert | State | Home Host | Current Host |
|--------|-------------|-------|---------|-----------|--------------|
| 0 | MEMBER | NO | STARTED | db6c1p04 | db6c1p04 |
| 1 | MEMBER | NO | STARTED | db6c3p04 | db6c3p04 |
| 128 | CF | NO | PRIMARY | db6c2p04 | db6c2p04 |
| 129 | CF | NO | PEER | db6c4p04 | db6c4p04 |

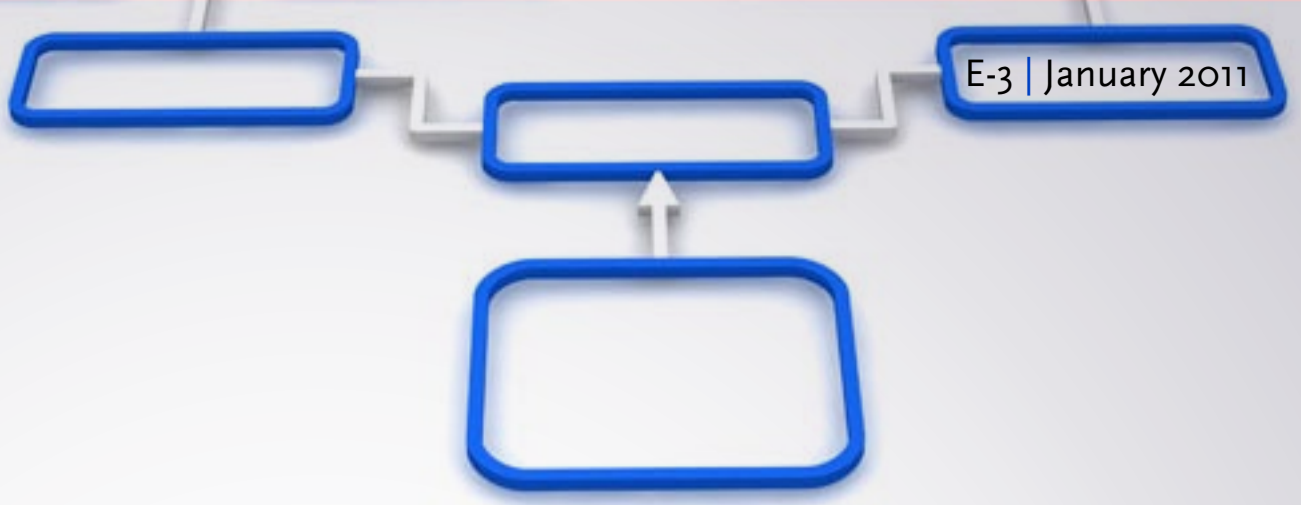
Alerts

Message

DSJ Database connection DSJ established successfully

The Cluster Status screen provides an overview of the members or CFs that are part of the current DB2 pureScale cluster. In addition, information about current or home host names and alerts per member is displayed as well as the current state of a member. You can display detailed alert messages by double-clicking the member to be analyzed in the Members and CFs overview table.





Who organises an database change within an SAP system? Is it the customer alone? Is it IBM / SAP / a consulting partner?

Chetan: Good question. To ensure the success of the migration, and to do so with minimal disruption, this should always be done by a SAP-certified consultant, i.e. someone who knows and understands what needs to be done. There are numerous tools and guidance books on how to do so; this could be someone from IBM consulting services, IBM's DB2 migration factory, SAP labs or a consulting partner.

IBM and SAP have a long term relationship. What has changed during this time, affecting DB2 and the SAP system?

Ferdinand: The relationship that IBM DB2 and SAP enjoy is unique in the industry; we have changed the partnership paradigm in the industry, from a classical support-oriented model to a partnership model that is driven by co-development and co-innovation, with the aim of delivering the „best database solution for SAP“ deployments. Let me be more specific and explain what IBM means with the „best database solution for SAP“: with DB2 optimised for SAP, we are aiming to deliver a fully integrated database for SAP applications, one that delivers the best performance at the lowest total cost of ownership and with the highest level of availability for SAP systems.

How are SAP and IBM working together in the field of database development?

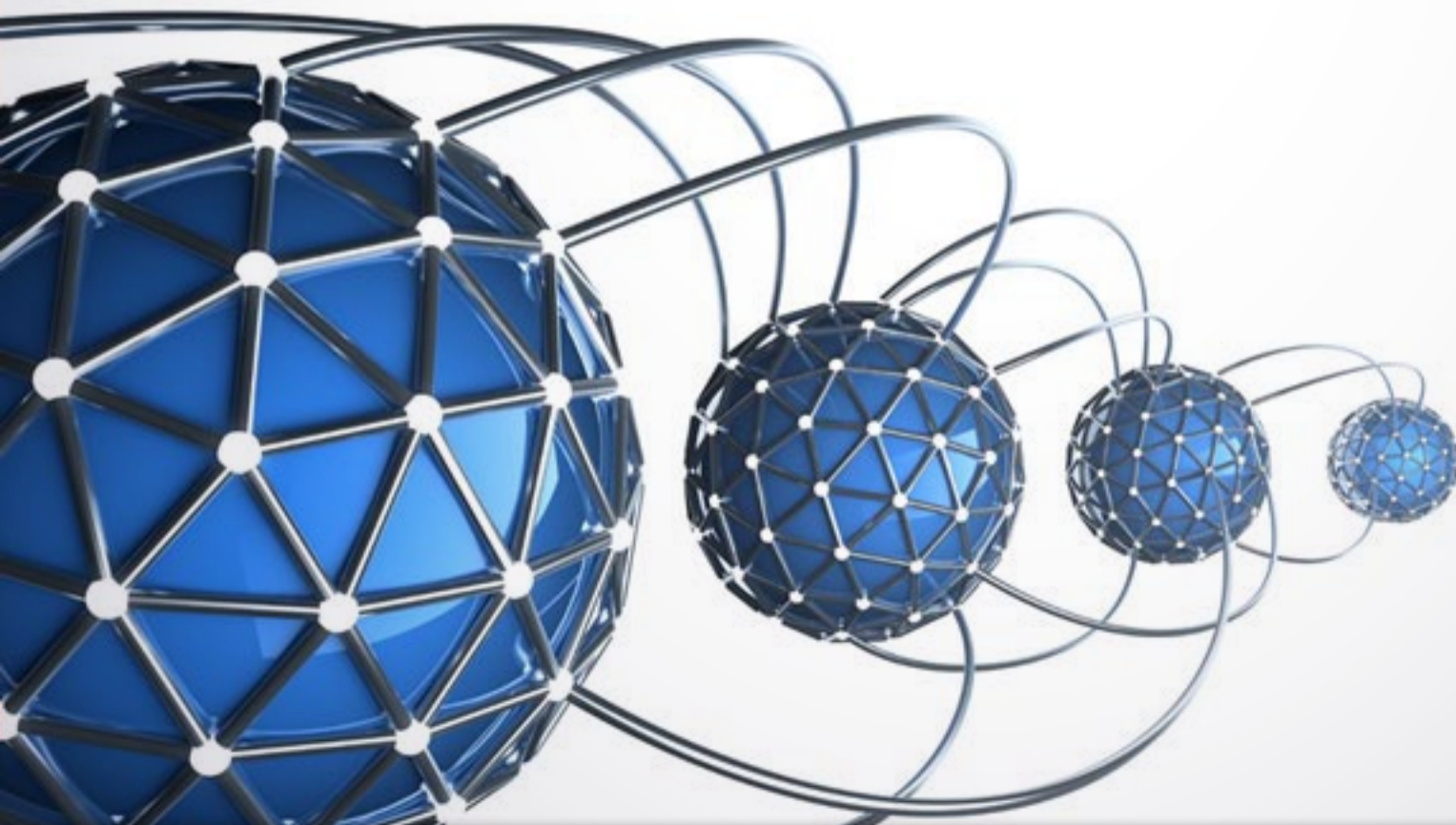
Chetan: For the last 10 years, SAP and DB2 have been working closely together to build a solution that delivers maximum value to our clients. And by value I mean something tangible in terms of dollar value-added, rather than making innovations just for the technical pleasure of doing so. This IBM DB2/SAP partnership has only strengthened over time, as each year we invest millions of dollars in joint engineering and testing, to deliver a combined solution that SAP and DB2 take to market. As a result of this integrated development between our two companies, we are able to deliver significant savings to our clients, based upon tight integration between SAP and DB2: this reduces infrastructure costs and provides significant time savings to DBAs to manage the environment. Because this investment occurs at the engineering level, we have demonstrably attained a saving ▼

of a minimum of 25 per cent on the infrastructure and DBA costs of running a SAP environment on DB2. The SAP and DB2 teams have developed a synchronised roadmap, planning several years ahead, and ensuring that our customers will receive one-stop service and support from SAP for this environment. It is already a proven fact that many customers have achieved this level of savings and performance with SAP and DB2. There are also proof points of the advanced performance of the SAP/DB2 solution, through leading benchmarks where DB2 holds the leadership position.

What will the future bring to the SAP customers, in terms of database technology?

Ferdinand: IBM and SAP are working together to further reduce the total cost of ownership of the SAP environment while, at the same time, addressing key customer database needs. Our joint development is focused on fully integrating the DB2 database in the SAP application, delivering a DB2 availability solution for SAP, one which enables customers to run their critical SAP application 24 x 7 x 365 without downtime and - last but not least - one which continues to deliver unique technology that will further reduce the hardware infrastructure required to deliver a high-performing SAP environment.

Thank you for talking this subject through with us today.





Information Agenda



Dave Laverty, Vice President
Marketing Information Management
IBM Software





DB2 Technology

for SAP

The IBM DB2 SAP Alliance is a very unique partnership that spans over 15 years and was established with a single goal: to deliver the very best database solutions to SAP customers.



The heart of the alliance is a joint development team residing in Walldorf, Germany and at the IBM DB2 development laboratory in Toronto, Canada. This team of IBM and SAP personnel are responsible for defining the technology to be implemented within DB2 for each new SAP NetWeaver release. But the definition of new technology is not enough - the team also implements, monitors and finally approves the newly available DB2 features. The basis for all this work is a multi-year spanning “Technology Roadmap”, controlled and operated by the team – known as “DB2 optimized for SAP software”. Many new DB2 features are implemented through this co-innovation process and become equally valuable for all IBM DB2 customers. But this team added more innovation targeted at SAP customers, like the recently announced DB2 based Near-line storage option for SAP NetWeaver BW.



Based on the joint testing and verification taking place throughout the whole DB2 development cycle, little additional work is required at the end of the DB2 development cycle to obtain the SAP approval for delivery to customers. This allows a very close SAP DB2 GA date after a new DB2 database version is available – usually between 4 – 8 weeks. A very fast feature availability supports customers in many ways not only from the cost perspective but often frees up resources, so that staff can instead use their time to focus on innovative projects. The bottom line is that the alliance assures that nearly all new and beneficial DB2 features for SAP software can be used immediately. ▼

Please find the guide “Running an SAP System on IBM DB2 pureScale” at the end of this article

The intensive testing done by SAP and IBM does not only speed up the availability, but also contributes to the software stability in a similar way. Database fixpacks need to be less frequently applied and therefore planned downtime and internal test effort is avoided. Finally DB2 offers the same maintenance strategy as SAP software (7+2) for customers who have licensed the database through SAP. Aligned maintenance cycles for SAP software and IBM DB2 do not force customers to release major database updates during the complete life cycle of the implemented SAP software.



A strong partnership, a well defined technology roadmap and a good implementation process is the basis for innovative and stable database technology. The key technology differentiators of DB2 for SAP customers comprise: optimized resource usage, powerful availability options, tight integration and autonomic administrative functions.

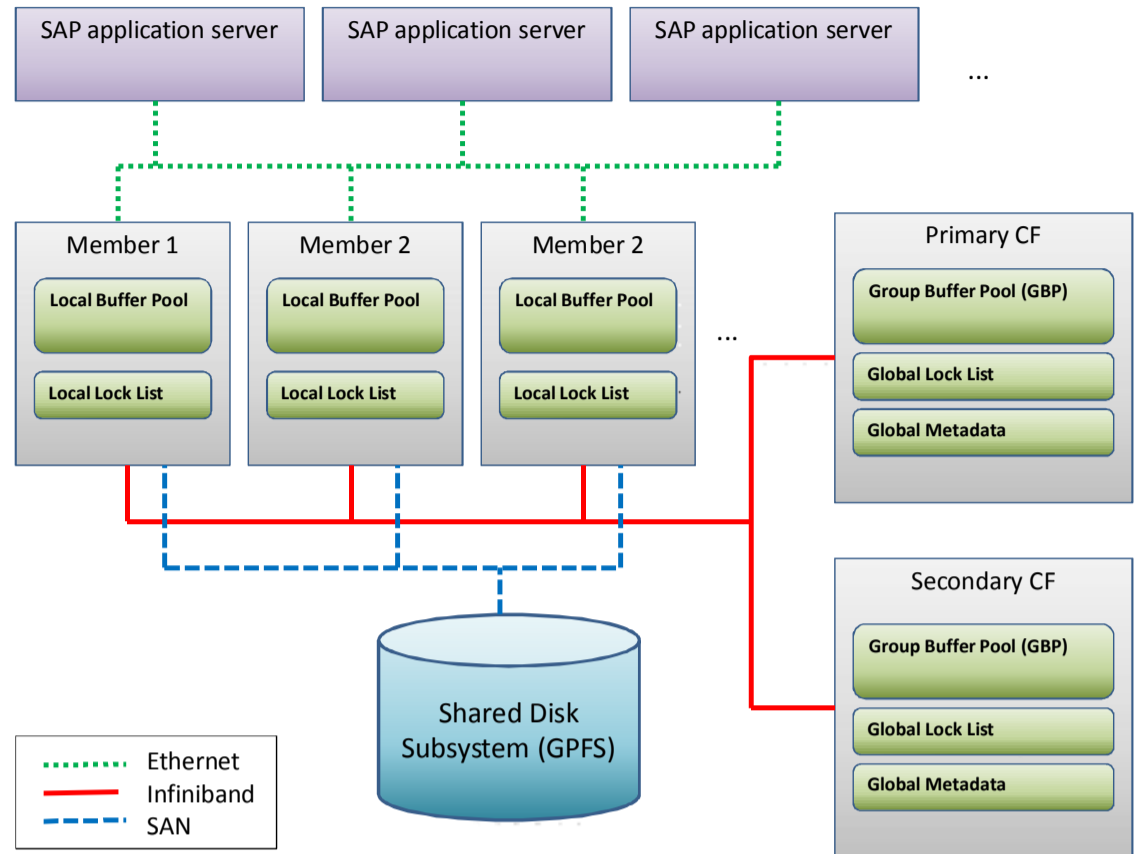
Compression and

Near-Line Storage

Storage is usually the costly part in the IT landscape, especially when taking into account that the size of the managed data is growing year on year. This is caused by various reasons, e.g. for SAP BW systems where more and more data is collected and used for meaningful decision making. Since 2006, DB2 data compression is available for SAP customers and has proven its value and stability to shrink excessive database growth. In 2009, the DB2 compression functionality was supplemented by index compression, temporary table compression and inlining of small LOBs. As a result, a database size reduction of up to 70+ percent was achievable and documented by customers. The space-saving DB2 Unicode encoding UTF-8 contributes as well to storage optimized database implementation. ▼

Using DB2 compression is an easy and risk-free undertaking and is greatly supported by various tools to avoid a negative impact on the running system. Usually, only few tables are needed to be compressed to achieve a nearly optimal compression rate.

Besides DB2 based tools there are two SAP tools that can be used to estimate the DB2 compression ratio: SAP DBA Cockpit for DB2 (single tables) and an ABAP tool described in SAP note 980067 (multiple tables). Based on the results of these tools, DB2 compression can be enabled, simply by a view more clicks in both tools. To avoid the necessary offline reorganization when lacking an adequate maintenance window, the SAP DB2 tool DB6CONV can be used (SAP note 362325). DB6CONV can simultaneously move the table to a different tablespace to take full advantage of all DB9 9.7 based compression algorithms.



IBM DB2 Near-Line Storage solution (NLS) for SAP NetWeaver BW systems is an additional choice to reduce the database size of the active database. Infrequently used and historical data can be off-loaded to a separate read-only database to accommodate the usually strong data growth. The data is still online and queries can transparently access the data. To enable modification of the data, administrators simply reload the data into the online SAP NetWeaver BW system and then transfer data back to the near-line system after changes are made.

Offloading data and reduced database sizes are only the obvious advantages DB2 compression and NLS bring to the table. After implementation, less main memory for the database is required or, if using the same amount as before, a better response time can be achieved.

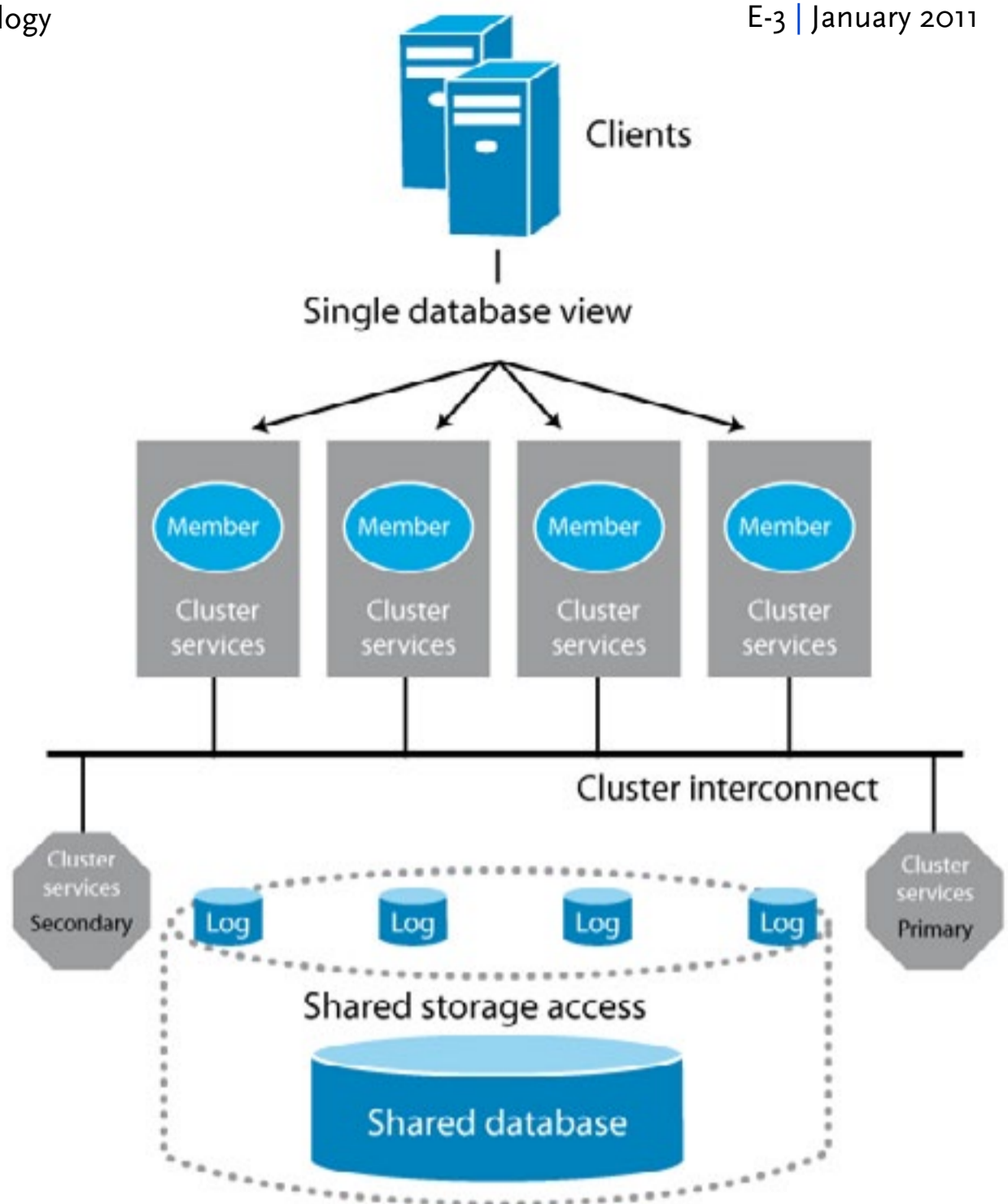
The DB2 pureScale feature is an extension to the existing DB2 for Linux, UNIX, and Windows product. You can use DB2 pureScale to create a database cluster using the shared disk approach. The main focus of DB2 pureScale is on scalability and high availability. The figure provides an overview of the architecture of DB2 pureScale in an SAP environment.

High-Availability Disaster

Recovery and pureScale

Downtime is not an option for companies running business-critical SAP applications, which is why DB2 offers several features and technologies designed to help organizations maintain high levels of database uptime and support rapid recovery in the event of an outage: IBM DB2 High-Availability Disaster Recovery (HADR) and DB2 pureScale enhanced by IBM Tivoli System Automation for Multiplatforms.

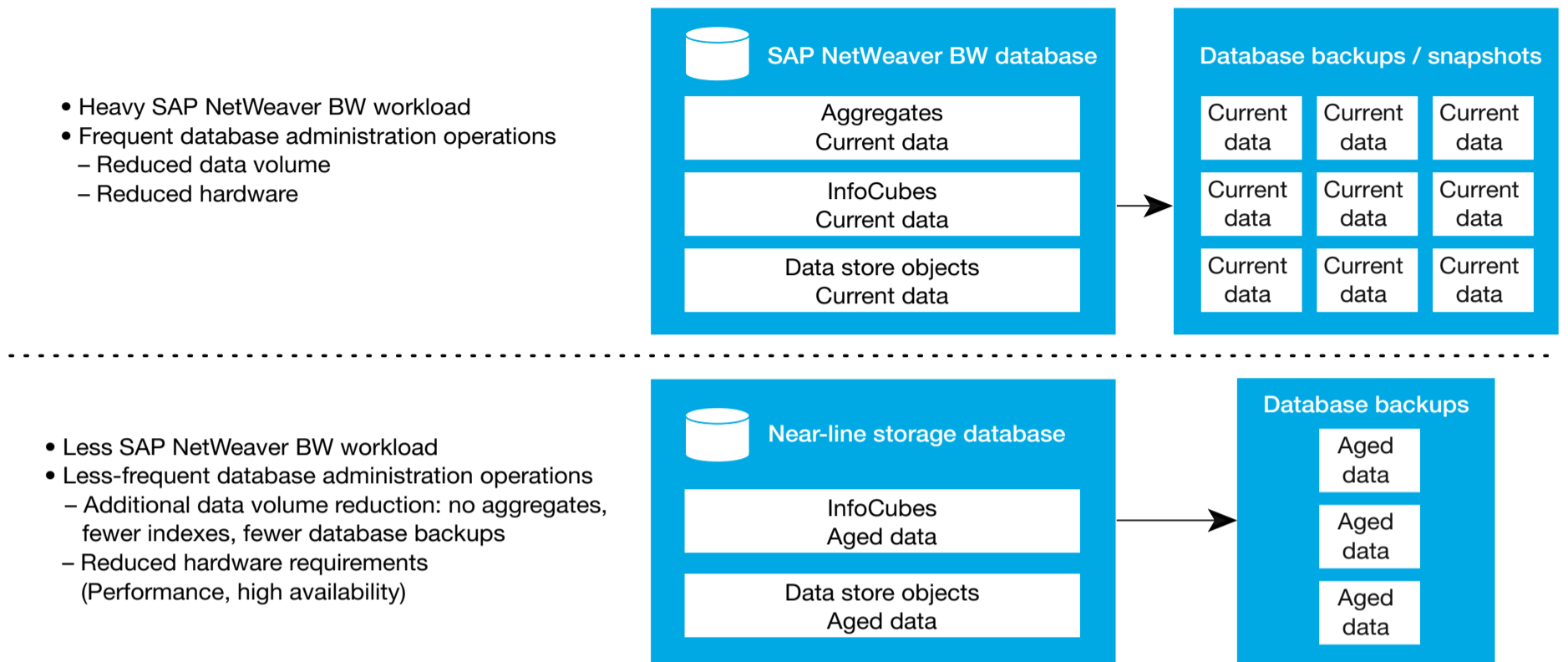
DB2 HADR is used to reduce system outages for end users to a minimum to keep the users online through an outage without the need to logon again. The implementation is possible in two ways: either as a local HA or a remote DR solution. The main difference is only the distance between the two SAP systems which are online and synchronized via log record shipping. Tivoli System Automation is used to automate the failover process in case of planned or unplanned downtime. The installation process is included into the SAPinst and fully automated, requiring only few inputs.



DB2 pureScale is the solution - even a few seconds of downtime can cause an unacceptable impact on a business. DB2 pureScale offers a cluster-based architecture with shared disk storage to enable

the database to continue processing through planned and unplanned outages. In the case of a member failure (unplanned outage), the remaining DB2 pureScale members are fully available to take over the workload of the failing member. Because, only the data that is in the process of being updated on the failing member becomes temporarily unavailable. Single database failures does not cause a cluster-wide application freeze. DB2 connections from SAP application servers fall back on the recovered member at transaction boundaries, invisible to the end users. ▼

SAP NetWeaver BW with near-line storage and DB2

**Tight Integration: DBA Cockpit**

As part of the SAP installation many DB2 features can be activated to reduce later customization effort, avoid unnecessary resource consumption and make the DB2 database SAP aware. Both DB2 compression and the use of HADR can be activated during the installation process.

All DB2 administrative functions are accomplished through the SAP DBA (Data Base Administration) Cockpit for DB2, which simplifies operations. The DBA Cockpit is a platform-independent tool to monitor and administer DB2 databases – used for SAP and non SAP workload. With just a few mouse clicks, functions such as compress-

sion can be invoked (see above), configuration parameters changed or data transferred to the NLS database (see above). All DB2 administrative functions are accomplished through the SAP DBA Cockpit.

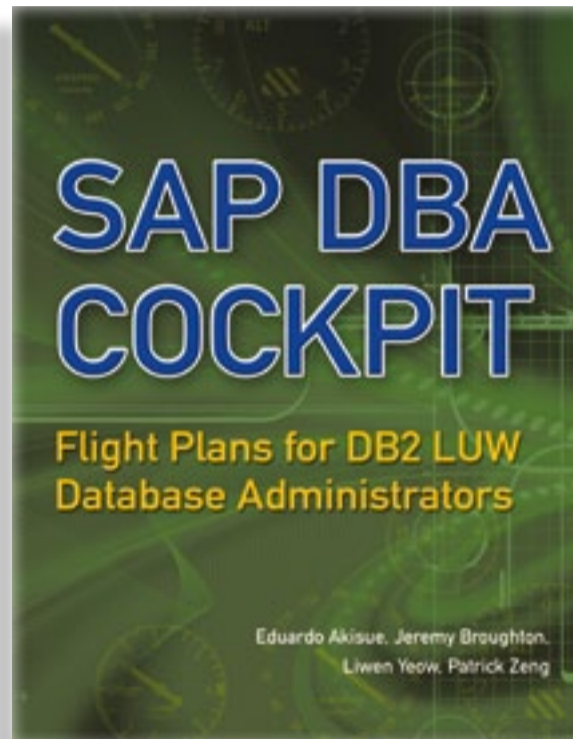
Autonomic administrative functions

DB2 automated optimization features are specifically designed for SAP environments. In fact, most DBA activities are automated, which helps to dramatically reduce operating costs. Automatic Statistics Collection and Real-Time Statistics (RTS), Self-Tuning Memory Manager (STMM) and Automatic Storage Management (ASM) are the three very essential functionalities fully supported by SAP software. ▼

Automatic Storage Management assures that administration of table spaces is handled entirely by the database manager. There is no longer a need to define container sizes or to add new containers to table spaces manually. Administrators only need to monitor the available free space in the file system and do not need to check the individual tablespaces. The only definition needed is the storage path where the data will be stored.

STMM controls the memory parameters of the database: size of the sorting area, buffer pools, lock list and more, automatically depending on the workload. In case of an SAP installation the DB2 instance memory is set to a fixed value. Within this value STMM adapts the memory distribution

close to an optimal memory tuning and therefore gives better response times. Automatic Statistics Collection is started every 2 hours and keeps the database statistics up to date. To assure that the statistic data is always accurate and appropriate the optimizer can update these statistics on the fly during query execution again – this is known as Real-Time Statistics.



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SAP DBA Cockpit

The SAP DBA Cockpit is one of many visible proof points of the excellent integration of SAP solutions with IBM DB2. This book will familiarize you with everything you need to know to operate IBM DB2 optimally with your SAP solution.

How To Guide



Running an SAP System on IBM DB2 pureScale

Document Version 1.00 – October, 2010



SAP DB2 Migrations

In many cases, IT professionals have seen and read about the advantages of IBM DB2, but are hesitant to initiate the migration due to worries that the migration is too large an undertaking to take, but nothing is further from the truth.

A team of highly experienced, SAP certified IBM consultants are available to deliver projects worldwide. This team has acquired a wealth of experience from many successful migration projects with a 100 percent success rate! The result of this effort is a long list of satisfied SAP DB2 customers who have migrated from various source databases and many of whom are now IBM reference customers. ▼

To stay on time and budget is the number one priority! In order to achieve this goal the IBM team recognizes the importance of a detailed project planning process in close collaboration with IBM and SAP customers. It is very important to understand that a migration project to SAP DB2 is a joint effort between the customer and the IBM team. Therefore the roles, responsibilities and hand-over activities are well-defined and confirmed before any work begins. By providing a standard Scope of Work (SOW) and project plan templates, IBM recognizes the importance of this part of the process and streamlines it to minimize potential problems in the planning phase.



The world we live in is now globalized, and so is the delivery of SAP DB2 migration projects. IBM migration experts are located in many countries but act as one team. This provides best possible skills and lowest possible costs to the project and also provides a smooth communication within the project team, which we have learned is one of the most critical success factors: IBM ensures that the staff always contains local resources, addressing possible language issues.

SAP Toolset

Within the framework of the migration process, an SAP toolset will be deployed in a proven process specified by SAP. In cooperation with SAP, IBM supplements the migration process to include a number of tools to accelerate the time required for the migration and in particular the reduction of downtime. ▼

IBM has defined a new migration methodology, supported by SAP, which combines CDC technology (Change Data Capture) with SAP standard tooling. This method helps customers minimize downtime, which greatly impacts their business operations. In a world of 24*7 business this is a burning issue with SAP customers and one that IBM takes very seriously. IBM has migration methods for any business downtime requirement. This puts the team in a position to carry out migrations of even large TB systems with a downtime of less than a weekend. Both – tools and experience – support the IT department in minimizing the risk and the costs of migration.

In today's technological environment, migrations are a standard process, whereby the duration and scope depend very heavily on the customer environment. An ideal point in time to change the information base is during an SAP release upgrade or a switch to Unicode. The overhead for a simultaneous change of the database during this time is very low. In addition, system consolidations, hardware or operating system changes are also suitable for a database migration: A switch to DB2 can be performed with low additional project overhead by embedding the necessary tasks into the existing project plan.

Migration planning

Experienced consultants of the IBM Software Group Services assess the customers with their existing SAP system environment in regard to the planned database migration. The first step is to provide information on the SAP DB2 Migration Questionnaire, a simple sheet to gather all required SAP landscape information, and could



be followed by a migration workshop resulting in a high level project plan. The main purpose of the analysis is to illustrate the possible individual cost savings and to provide a clear picture about the migration effort. In addition, the customers are shown other possibilities to optimize their SAP system environment. From a technical perspective, this allows IBM to enable the smooth and rapid migration of Oracle, SQL Server, Informix and MaxDB to DB2. The result of the analysis serves as a basis for planning the other activities of the migration process.

The solution proposal is made up of attractive DB2 license and maintenance terms. These are indivi-

dually tailored to the customer's needs derived from the preceding analysis of your SAP system environment. We also provide special low-cost migration services within the framework of this offer. This is made possible with the information on the current SAP environment and the extensive experience of the migration experts, based on numerous highly varied migration projects. In addition, the migration time is minimized with the help of the proven IBM DB2 migration tools.

To accompany the migration, there is a recommended course for customers who are planning or have already decided to make the DB2 migration. The purpose of the training courses is to ensure the smoothest possible transition and of course total success for our customer. The IBM SWG Services team guarantees the highest possible standards for SAP DB2 migration projects. The team consists 100 percent of SAP certified migration experts and they know DB2 for SAP best on the marketplace.

“Let's be clear - there is no migration without downtime, but by using IBM's Change Data Capture (CDC) technology we're able to significantly minimize downtime in comparison to the standard toolset.”



Total Economic Impact

Last October IBM announced that more than 700 SAP clients have turned to IBM DB2 database software to manage heavy database workloads for improved performance at a lower cost. Current economic conditions are driving companies to consolidate and standardize their IT environments with lower cost, energy-efficient, more scalable infrastructure. Companies in all industries can have up to ▼

thousands of applications and dozens of database management systems that need to interact with one another, that are either purchased or received through an acquisition. These systems create redundant hardware, software, administration -- increasing IT costs. Since the release of DB2 9.7, a growing num-

ber of clients have moved their applications from Oracle Database to DB2, in some instances, in a matter of days, to gain more efficiencies and reduce costs associated with managing their IT infrastructure. They have benefited from unique DB2 innovations such as pureScale running on IBM Power Systems, that helps clients increase their database transaction capacity while reducing the risk and cost of growing their IT systems.

E-3 Magazine: IBM has commissioned Forrester Consulting to examine the Total Economic Impact of customers moving to the DB2 solution? Can you describe the project in more detail?

Jon Erickson, Principal Consultant with Forrester Research: The project examines how current DB2 customers are looking at the value they have received from their migration to DB2. Forrester uses a methodology called Total Economic Impact to measure the ROI or Return on Investment customers received from their investment. The process is driven by customer interviews who have migrated to DB2 to understand why they made the decision to migrate, what benefits were they expecting to receive, the investment costs to move, as well as any perceived risks in moving to DB2. We then take the data from the interviews and build a common ROI model based on what we heard from the interviewed customers. The end result is a report which highlights model and findings, allowing readers to construct their own ROI based on their own unique circumstances.



E-3: Can you talk a little bit about the customers you interviewed?

Jon: We conducted a total of 6 in-depth interviews with customers from different geographies and industries. The purpose of the interviews was to uncover commonalities across customers in terms of investment cost, benefit impact, and drivers to migrate to DB2. Customers migrated from a variety of different legacy platforms, including older DB2 instances so the goal was to really see how current features found within DB2 has changed their environment. We also examined customers with different database applications with both SAP and non-SAP customers interviewed.

E-3: As part of your analysis for IBM, how did customers measure value on their investment in DB2?

Jon: I would say there are several themes that we heard within both SAP and non-SAP environments. First, for most of the organizations interviewed, cost reduction drove the business case. Cost reduction can be seen both in terms of operational and capital efficiency. Operational cost reduction included savings around ongoing administration and management through features such as Auto-Tuning and Configuration as well as and Deep Compression as well as reduced maintenance costs compared with their legacy environment. Improved capital efficiency includes reduced hardware and storage costs though higher database performance. Another theme that came out of the interviews were cases of improvements in overall database performance resulting in higher system availability within SAP and non-SAP environments. This, in turn has a tangible benefit to users of the underlying application resulting in greater end user impact around stability and performance.

E-3: Based on the IBM customers interviewed, what were some of the reasons to consider DB2 over their existing platform?

Jon: The reasons did vary but ultimately it came back to two points: cost and performance. For SAP interviewed customers, many organizations were drawn to the new features which tightly integrate the DB2 database into the SAP application resulting in a more simplified and straightforward management and administration within the environment.





Jon Erickson, Principal Consultant
Forrester Research

Research Coverage

IT Spending & Budgeting,
Total Economic Impact

Research Focus

Jon is a senior consultant for Forrester's Total Economic Impact (TEI) practice. His focus over the past seven years at Forrester has been on developing methodologies for measuring and communicating the value of technology to IT strategy and planning executives as well as product marketing professionals. Jon also covers financial risk measurement tools for technology investments.

E-3: Were there any specific features which resonated with customers?

Jon: There were a couple used by both SAP and non SAP customers. These included Deep Compression, Integrated Autonomics, Multi-Dimensional Clustering, as well as Database Partitioning.

E-3: Were there any risks mentioned by the customers as part of implementation on the IBM platform?

Jon: Many customers had to do a fair amount of upfront testing ensuring they were comfortable moving to DB2. This was in part due to the fact that most of the DBA's were not as familiar with DB2 as compared with other legacy platforms. However, customers noted that the process of ramping up existing DBA's was lower than they had expected due to the migration and training tools offered by IBM.

Previous Work Experience

In his previous position, Jon served as a senior analyst at Forrester, assisting in the development of Forrester's Total Economic Impact (TEI) methodology and processes. Jon came to Forrester through its acquisition of Giga Information Group. Prior to joining Giga, he worked for Sabre Capital, a merger and acquisitions firm in Raleigh, N.C., developing the company's external Web site and streamlining its database tools to take advantage of customer queries.

Education

Jon has B.A. degrees in economics and industrial relations from the University of North Carolina at Chapel Hill, as well as an M.S. in economics with a minor in statistics from North Carolina State University.



Rapid, risk-free **Migration** from Informix to DB2

Jebsen & Jessen SEA doubles performance and cuts 20 percent from TCO with SAP ERP 2005 software on IBM DB2 on IBM System p5. Rapid, risk-free migration of SAP R/3 4.6C software from Informix to DB2, with expert assistance from IBM; DB2 offers improved performance at low total cost of ownership; use of IBM Advanced POWER Virtualization for System p gives Jebsen & Jessen SEA much ▼

greater flexibility in allocating computing resources as business needs change; speed of data extraction to SAP NetWeaver Business Intelligence cut from twelve hours to four or five hours; total cost of ownership for entire infrastructure supporting SAP software reduced by 18 to 20 percent.

The IBM Informix database was not supported for its planned new SAP applications, so Jebsen & Jessen SEA considered its options for the future. The group needed to migrate to a new database while keeping risk and cost to a minimum, as Gopal Varutharaju, Director – Information Technology, explains: “SAP is an absolutely business-critical solution for Jebsen & Jessen, and we simply can’t afford any downtime. We reviewed several platforms before choosing IBM DB2 on AIX, both for its stability and for the low cost of ownership. IBM offered an excellent price as part of its commitment to Informix customers, and helped us to achieve a smooth, risk-free migration to DB2.”



Open approach, smooth migration

The migration of Jebsen & Jessen SEA’s SAP ERP software to IBM DB2 was part of a general refresh of its platform for SAP software. The company was running HP-UX on a total of seven HP servers, and wanted to take the opportunity to consolidate physical systems, increase performance and enhance flexibility.

“When we selected DB2 as our new strategic database for SAP software, we saw a clear advantage in also moving to an IBM operating system and hardware platform,” says Gopal Varutharaju. “IBM’s approach was highly professional, transparent and open, and the sales team took the time to really

understand our challenges.” Roy Lim, Operations Manager at Jebsen & Jessen SEA, adds: “We chose IBM DB2 first for its low total cost of ownership and second for its closeness in functional terms to our existing Informix database platform. The fact that DB2 is the strategic development platform for SAP itself was also an important factor in our decision.”

Jebsen & Jessen SEA opted to migrate from Informix to IBM DB2 optimized for SAP software, simultaneously migrating from its existing HP-UX servers to the IBM System p5 platform running IBM AIX 5L V5.3. “We felt that the IBM hardware was technically superior, particularly with regard to its virtualization capabilities,” says Roy Lim. “The IBM technical roadmap for the POWER architecture was clearer than the strategy from our existing vendor, and in addition ▼

IBM could offer a server that fitted our requirements precisely without being under- or over-powered.” Working closely with the internal team, IBM performed a successful test migration. IBM then proceeded to move all the data and systems over in the course of a single weekend, keeping the original systems running as a backup in case of any problems. “The migration ran smoothly – we were comfortable that there was no risk to normal business operations,” says Gopal Varutharaju. “The IBM consultants worked well with our own people, and the combined skills of the team made this a very successful migration.”

Virtualization on System p5

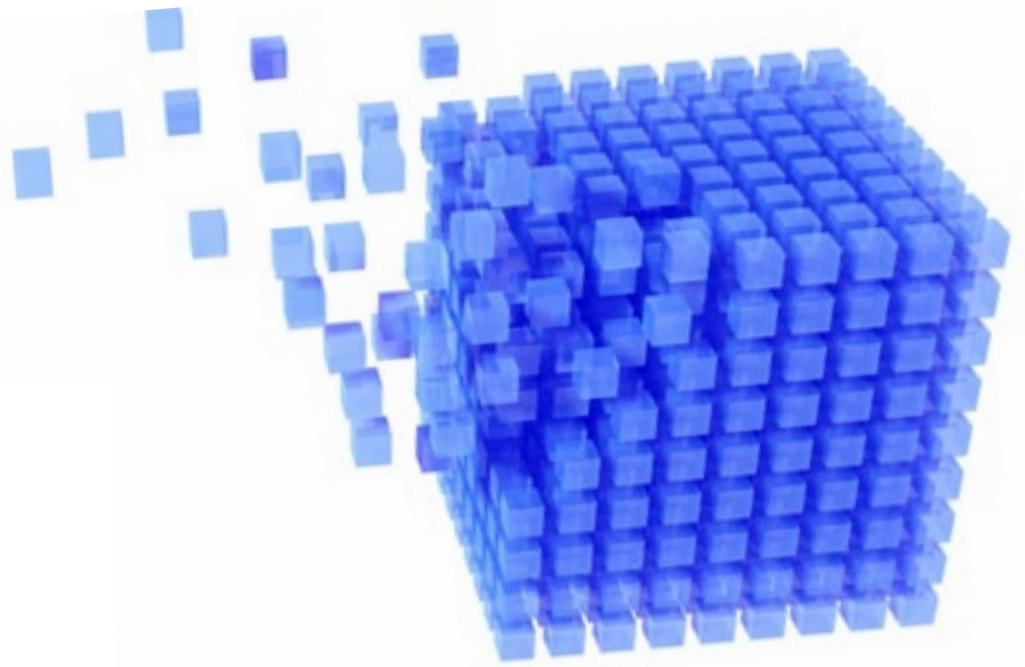
Jebsen & Jessen SEA previously had seven physical servers for its SAP solutions. The company wanted to consolidate this environment to enable more efficient utilization of computing resources and thereby reduce the total cost of ownership.

“Moving to AIX on IBM System p5 servers allowed us to use IBM Advanced POWER Virtualization features to gain a much more responsive infrastructure at reduced cost,” says Gopal Varutharaju. “We support a very diverse set of businesses, and within those businesses are a great variety of functional areas. Virtualization means we can switch resources seamlessly from one virtual system to another as priorities change, ensuring both

that the business gets excellent performance and that we squeeze the maximum value from our investment in hardware. It also allows us to minimize downtime during planned upgrades by moving workload from one physical server to the other.”

Following the migration from Informix to DB2, IBM helped Jebsen & Jessen SEA to upgrade its software to SAP ERP 2005. The company’s SAP ERP 2005 production and quality assurance environments now run on two IBM System p5 550Q Express servers, clustered using IBM High Availability Cluster Multi-Processing (HACMP). These two servers have a total of 6 Logical Partitions and support a total of 850 named users of the SAP software. An additional p5-550 server with four cores is used for the SAP software test and development environment, and Jebsen & Jessen SEA also has an IBM System x336 to run its SAP Solution Manager software. ▼

“We felt that the IBM hardware was technically superior, particularly with regard to its virtualization capabilities.” Roy Lim Operations Manager Jebsen & Jessen SEA



Performance up, TCO down

With its SAP ERP 2005 software running on AIX and DB2 on the System p5 platform, Jebsen & Jessen SEA has seen major improvements in performance at a reduced total cost of ownership. The overnight extraction of data into the SAP NetWeaver Business Intelligence application (SAP NetWeaver BI) previously took up to 12 hours, and now takes between 4 and 5 hours to complete. Says Roy Lim, “The extraction job was often still running at 8am, when many users already want to be performing analysis. It now typically finishes at midnight, so data is available to support business decisions first thing in the morning.”

Gopal Varutharaju adds, “The general system performance is much better, though it is the improved speed in delivery of data to SAP NetWeaver BI that has really had the biggest impact for the business. Most important, with the new IBM infrastructure we have improved performance while expanding our use of the SAP software – and yet the total cost of ownership is 18 to 20 percent lower than before.”

“The migration of our SAP ERP environment to IBM DB2 on IBM System p5 servers has delivered improved performance and availability, with far greater flexibility and responsiveness to changing business.”

Gopal Varutharaju Director – Information Technology Jebsen & Jessen SEA

DB2 Optimized for SAP software

Jebsen & Jessen SEA is testing several advanced features of IBM DB2 optimized for SAP software, including data compression and high availability disaster recovery (HADR) database replication, and plans to upgrade to DB2 9 in the near future. The company expects to save up to 50 per cent disk space and to enhance performance by compressing almost 1TB of data. Use of compression will make it faster to back up and restore data, enable more rapid access to data, and reduce storage costs.

Roy Lim comments, “One of the reasons that we chose DB2 was the built-in HADR database replication, which gives us high availability with no additional cost or complexity. The automatic configuration tools in DB2 optimized for SAP software are saving us time and manual work, and freeing up my team to focus on the applications rather than on database issues. We are now doing much more productive work with the same manpower as before.” ▼

ERP standardization drives business growth

Jebsen & Jessen SEA is expanding through both organic growth and corporate acquisition – the group typically buys two or three companies each year, often as a way of diversifying its portfolio of services. To manage this growing set of businesses, Jebsen & Jessen SEA has created a range of “business scenario” templates in its SAP ERP solution, designed to map easily to different types of business (for example, distribution-centric, production-centric or service-management-oriented).

“Having SAP ERP 2005 as our pan-regional ERP solution is a crucial benefit in terms of being able to grow the business easily.”

Gopal Varutharaju Director – Information Technology Jebsen & Jessen SEA

“Having SAP ERP 2005 as our pan-regional ERP solution is a crucial benefit in terms of being able to grow the business easily,” says Gopal Varutharaju. “We recently acquired a packaging company, and were able to get its 30 users onto the SAP software within three months. This meant that our top-level management very soon had

a clear view of the performance of the new business, and that the packaging company itself gained real-time information on inventory, costing, margins and so on – which had never previously been available. And of course the new company will also benefit from all of the best practices that are embedded in the SAP software.”

point of contact for technical issues, which tends to speed resolution and minimize administration, and we also have great confidence in the interoperability of all the components in the architecture. The SAP software works very well with the DB2 database, which in turn performs optimally on the IBM System p5 servers.”

Seamless interoperability

Following the migration to DB2 and the System p5 platform, Jebsen & Jessen SEA now has a single vendor – IBM – for the infrastructure that supports its SAP software. Roy Lim comments: “We have a single

Gopal Varutharaju concludes: “The migration of our SAP ERP environment to IBM DB2 on IBM System p5 servers has delivered improved performance and availability, with far greater flexibility and responsiveness to changing business requirements. The ability to automatically reallocate computing resources as demand changes means that we can focus on long-term planning rather than on reactive, short-term planning. This will make it easier for us to support the regional business as it expands.” ▼

The Challenge

Jebsen & Jessen SEA needed to migrate its business-critical SAP ERP environment to a new database platform, both to ensure continued support and to enable greater performance and availability. The company also wanted to consolidate the physical server infrastructure supporting its ERP environment, so as to improve resource utilization and drive down the total cost of ownership.

Key Solution

Components Industry: Chemicals, Telecommunications, Life Sciences, Wholesale Distribution, Electronics, Material Handling, Packaging Materials Applications: SAP R/3 4.6C, SAP ERP 2005, SAP NetWeaver Business Intelligence Hardware: IBM System p5 550Q, IBM System x 336, IBM System Storage 3583 Tape Library Software: IBM DB2, IBM AIX 5L v5.3, IBM HACMP

The Solution

Jebsen & Jessen SEA engaged IBM to migrate its SAP R/3 4.6C software from Informix to IBM DB2 optimized for SAP software. The company also took the opportunity to replace seven servers running HP-UX with three IBM System p5 servers running IBM AIX, clustered using IBM High Availability Cluster Multi-Processing (HACMP). The SAP R/3 software was then upgraded to the SAP ERP 2005 application, which now runs in multiple logical partitions across two p5-550Q servers.



Newell Rubbermaid **cleans up** with SAP based on DB2

With several independent databases supporting SAP ERP and other business solutions, Newell Rubbermaid found it difficult to report across the different operating units. With separate regional systems, the monthly, quarterly and year-end group finances required complex integration processes, and caused frequent re-work of data as figures were reconciled globally. Opportunities to rationalize procurement, supply chains and production were being missed, and without global sales order processing, it was hard to be certain of business forecasts.





Newell Rubbermaid chose to standardize on SAP Business Suite, including the core SAP ERP applications and SAP NetWeaver Business Warehouse for worldwide operations. Supporting the concept of the integrated enterprise, Newell Rubbermaid replaced its legacy databases, Oracle and Adabas, with IBM DB2 as its global standard for all SAP applications. To ensure performance, reliability and availability, Newell Rubbermaid deployed the new solution on IBM Power Systems servers. For the first time, Newell Rubbermaid has a truly global view of operations. The SAP applications allow rapid financial closing and deep analysis of business performance by brand, region, sales and much more. Specifically, the IBM Systems solution for SAP NetWeaver Business Warehouse Accelerator enables Newell Rubbermaid to process business intelligence queries on average 30 to 50 times faster, and in some cases, as much as twice as fast as before, even without specific optimization of aggregated data. DB2 deep compression has reduced average storage volumes

by 58 percent, cutting total storage costs by \$300,000 in year one. The DB2 integrated data cockpit has reduced administrative workload by 25 percent, so just one database administrator can now manage the entire landscape.

Newell Rubbermaid is a global, consumer-centric company focused on breakthrough product innovations for the home and family, office and commercial marketplaces. With sales of around \$5.7 billion and internationally recognized brands, including Rubbermaid, Sharpie, Calphalon, Dymo and Waterman Pens, the company is growing both organically and through its ongoing acquisition program.

With the purchase of other companies and a history of internal development, Newell Rubbermaid had acquired a mix of home-grown, Oracle and other business applications. With databases from many different vendors supporting these systems, Newell Rubbermaid found it difficult to report across the different operating units. With separate regional systems, monthly, quarterly and year-end group fi- ▼

nances required complex integration processes, and caused frequent re-work of data as figures were reconciled globally. Opportunities to rationalize procurement, supply chains and production were being missed, and without global sales order processing, it was hard to be certain of business forecasts.

The executive team decided that the best way to address these challenges was to introduce a single ERP solution and a single database standard, implemented as an integrated solution at the corporate headquarters in Atlanta, GA. Newell Rubbermaid selected a complete suite of SAP Business Suite components for business management, and SAP NetWeaver Business Warehouse for business analysis and reporting, with IBM DB2 as the global information standard, all deployed on IBM Power Systems servers.

Creighton Kelly, Director of IT for the SAP Infrastructure, remarks, “The SAP and IBM solutions have been the catalyst in the push to drive up efficiency. We are streamlining operations with SAP and IBM in a way that was simply not possible before.”

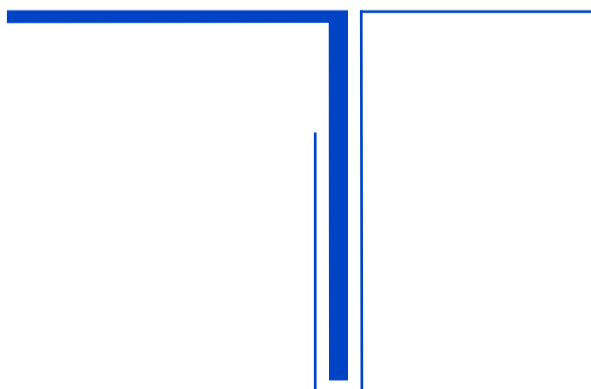


Customer focus

with SAP Business Suite

Newell Rubbermaid's stated strategy is based on developing a consumer-centric culture within the company, creating innovative, brand-focused business processes, combined with a highly collaborative, team-oriented organization of more than 23,500 people that can work as one, with global business units accessing a world-wide view of operations.

The senior management team identified key areas where the company could maximize the benefits of a single world-view of operations, namely sales order processing, finance, and supply chain. To generate a global sales order report, for example, data had first to be assembled from each system, cleaned and standardized, and then analyzed. In total, across three principal instances of SAP business software in Europe, North America and Asia Pacific and other line-of-business solutions, Newell Rubbermaid was managing more than 130TB of data. ▼



Newell Rubbermaid settled on SAP Business Suite as offering the most comprehensive range of solutions, combined with proven business analysis tools in SAP NetWeaver Business Warehouse. Components deployed include finance, controlling, materials management, SAP Supply Chain Management, SAP Supplier Relationship Management, and SAP NetWeaver Process Integration, and SAP Enterprise Portal. All the North American Newell Rubbermaid offices access the same core instances, and most of the local applications have been phased out.

Additionally, for fast business analysis and understanding, Newell Rubbermaid has implemented SAP NetWeaver Business Warehouse and the IBM Systems solution for SAP NetWeaver Business Warehouse Accelerator.



“By implementing SAP Warehouse Management and SAP Supply Chain Management, management of our physical inventory has improved significantly,” says Creighton Kelly. “Inventories have decreased an average of 30 percent, Inventory Days on Hand has decreased 15 percent, and Inventory Turns have increased by 23 percent across those businesses live on SAP solutions.”

Centralized success

with IBM DB2

Critical to project success was the choice of IBM DB2 as the standard database. “Our objectives were to optimize performance, minimize our operational risks and reduce costs,” says Creighton Kelly. “We identified that IBM DB2 would ▼

offer us greater performance with our SAP applications, particularly when using its advanced compression technology, which would result in quicker business insights for our 4,500 users. Particularly, we predicted better ad hoc query performance, which was essential for speed of global reaction.

“In centralizing our business systems, it was important to optimize the IT infrastructure and resources and ensure availability. DB2 offered the ability to scale upwards without creating complexity, justifying the strategy and helping to meet the intensive global reporting and analysis workload.”

In total, Newell Rubbermaid has 64 DB2 instances running in the environment, managed by one database administrator. DB2 covers all areas, such as production, development, test and quality assurance databases, as well as for SAP NetWeaver Business Warehouse and the related SAP BW Accelerator component, and for select other non-SAP applications.

“By using DB2 Deep Compression during the migration from Adabas, Oracle and other data sources, Newell Rubbermaid has achieved average database compression ratios of 58 percent, and average savings per SAP NetWeaver Business Warehouse instance of some 1.2TB,” says Creighton Kelly. “In production systems, Newell Rubbermaid has realized close to 80 percent reduction in size for the largest tables. “Additionally, database administration workload has been reduced by around 25 percent, with the integrated DBA Cockpit making a significant contribution to our cost-saving objectives.”

“With the IBM Systems solution for SAP NetWeaver Business Warehouse Accelerator, we can process business intelligence queries many times, on average 30 to 50 times faster, and in some cases, as much as 100 percent improvement even without specific optimization of aggregated data.”

Creighton Kelly, Director of IT for the SAP Infrastructure Newell Rubbermaid



Global operations on IBM Power Systems

The Newell Rubbermaid SAP Business Suite solutions handle some 15 million sub-second dialog steps each month, covering every aspect of the business from sales entry through payment and supplier re-order processes. It was therefore essential to choose reliable IT in- ▼

frastructure, capable of dealing with the workload, and one which would scale to deal with growth as the Newell Rubbermaid business acquisition program continues to roll onwards.

Newell Rubbermaid selected servers from the IBM Power Systems family, featuring a range of IBM POWER processors, running the IBM AIX operating system. The servers are joined in clusters using Veritas software to ensure high levels of availability, helping to achieve near-continuous operations even during planned system downtime.

IBM Systems solution

for SAP NetWeaver BWA

The IBM Systems solution for SAP NetWeaver Business Warehouse Accelerator delivers very high query response performance, even for the huge data volumes at Newell Rubbermaid. The solution is built

around IBM BladeCenter HS21 and IBM System Storage DS4700 technologies, and leverages the high performance of the IBM General Parallel File System and SUSE Linux Enterprise Server.

“With the IBM Systems solution for SAP NetWeaver Business Warehouse Accelerator, we can process business intelligence queries, on average 30 to 50 times faster, and in some cases, as much as 100 percent improvement, even without specific optimization of aggregated data,” says Creighton Kelly. “The BladeCenter infrastructure offers near-linear scalability, as we can add further blade servers to the solution to ensure that system response keeps pace with user demand.” ▼



Cost saving and performance

With the complete SAP and IBM solution in place, Creighton Kelly is able to consider results achieved and likely future developments.

With the comprehensive set of SAP solutions based on IBM DB2 and Power Systems technology, Newell Rubbermaid has, literally, a truly world-wide view of operations. Based on accurate data, the SAP applications allow rapid financial closing and deep enquiry into the exact business position globally, by brand, region, sales and much more.

“We can see already that the latest version of DB2 offers yet more features that will benefit Newell Rubbermaid, helping us cut storage requirements through advanced table space and index-level compression, and reducing administrator workload with set-it-and-forget-it automation.

“DB2 has contributed to license cost savings of around 30 percent when compared with competitive offerings. Ultimately, IBM continuously improves DB2 with functionality designed to reduce the costs of operation and enhance system performance,” says Creighton Kelly. “In our initial evaluation of IBM software and hardware, one of the selling points of IBM was the tight integration with SAP in both development and support.

“We now realize that this integration allows us to get enhancements and performance gains specific to our SAP environment. It is always difficult to place a value on integration, but it shows in the consistency, stability, and performance of our environment. “

“By using DB2 Deep Compression, Newell Rubbermaid has achieved average database compression ratios of 58 percent... Additionally, database administration workload has been reduced by around 25 percent, with the integrated DBA Cockpit making a significant contribution to our cost-saving objectives.”

Creighton Kelly, Director of IT for the SAP Infrastructure Newell Rubbermaid

Technical Landscape and Key Solution Components

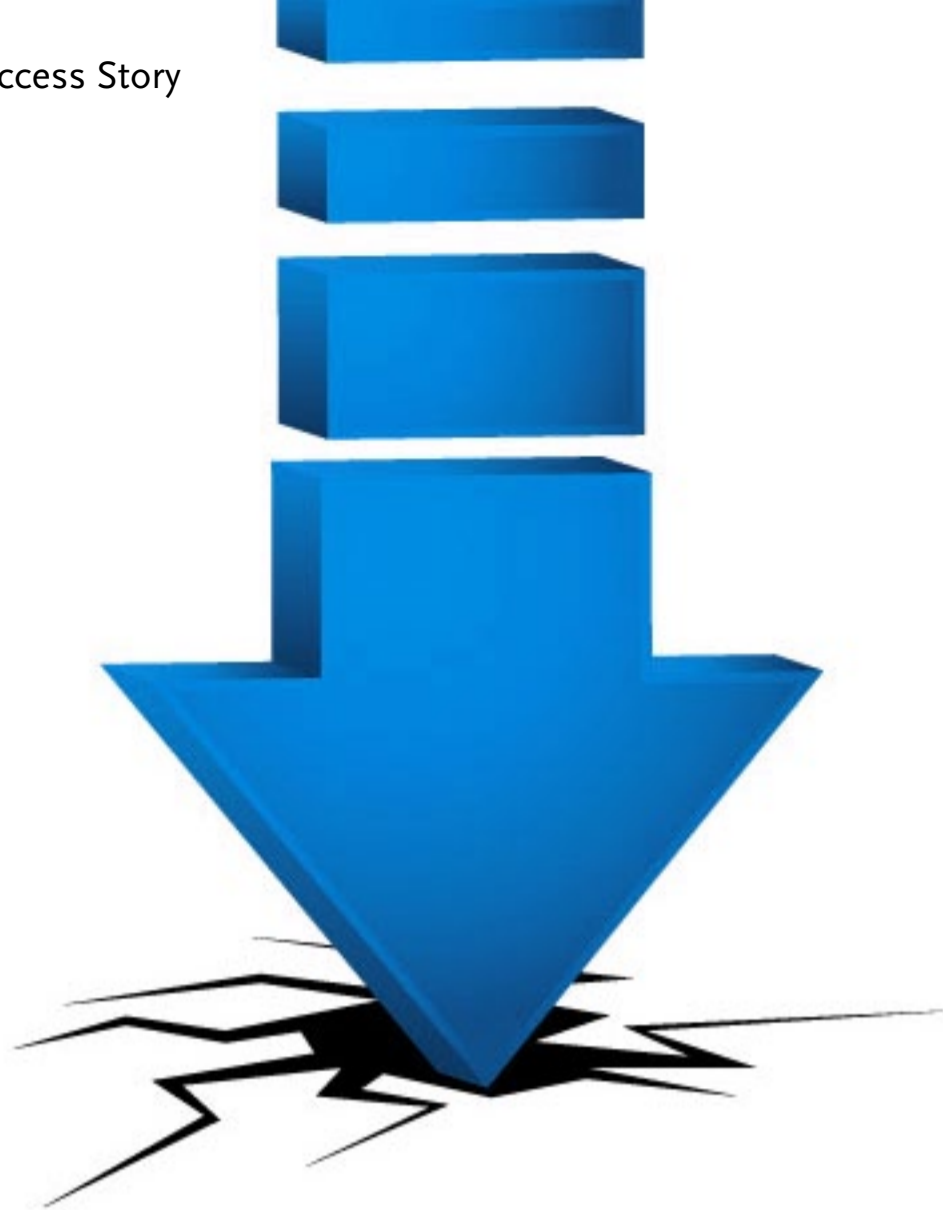
Hardware: IBM Power Systems servers (models p550, p570, p590), IBM Systems solution for SAP NetWeaver Business Warehouse Accelerator (including IBM Blade-Center HS21 and IBM System Storage DS4700 technologies)

Software: IBM AIX 5.3, IBM DB2 version 9.5 with 64 DB2 instances. SAP Business Suite components including SAP NetWeaver Business Warehouse 7.0 and IBM Systems solution for SAP NetWeaver Business Warehouse Accelerator, IBM General Parallel File System™, SUSE Linux Enterprise Server

Users: 4,500 total

Industry: Consumer Products

Applications: SAP Business Suite components including financial accounting, controlling, general ledger, SAP Supplier Relationship Management, SAP Supply Chain Management, SAP NetWeaver Business Warehouse and SAP NetWeaver Process Integration and SAP Enterprise Portal.



Database Costs Down by Migrating to DB2

Auto component supplier Sabó outsourced its SAP infrastructure and was charged according to the size of its database. In an intensely competitive marketplace, it was essential both to reduce costs and to improve customer service. A planned upgrade to its business-critical SAP applications meant Sabó needed a new database solution, one which would cut operating costs for Sabó and enhance business performance.

Sabó achieved a successful migration of its SAP database to IBM DB2 in only three months. Using IBM DB2 Deep Compression technology, Sabó were able to decrease database size by more than 50 percent from 1.4TB to 560GB. The significant data volume reductions achieved by using DB2 Deep Compression technologies have helped Sabó reduce its outsourcing costs by 18 percent, making a direct ▼

contribution to the IT bottom line. Database growth has been cut by 40 percent, from 11GB per month to 6GB, eliminating significant costs. Reduced operating expenses translate directly into enhanced competitive advantage.

Sabó had been using Informix database technology to support its applications. Informix was not certified for operation with the latest versions of SAP software, and the company could see that early action was required to continue with its established SAP upgrade path. Sabó reviewed a variety of database options including IBM DB2, Oracle and SQL Server technologies to replace Informix.

Alessandro Laurenti, IT Manager at Sabó, explains, “We considered our options very carefully, as SAP applications are central to our business. The excellent integration between SAP ERP components and IBM DB2 and the promise of up to 40 percent savings on data volumes made the IBM offering stand out. We also realized that migrating to Oracle database would have required us to purchase an additional, separate license, translating to higher final costs. “When Sabó learnt that the license fee for IBM DB2 was included in the SAP package, the choice was clear, and the combination of very high functionality and a compelling commercial proposition led us to choose DB2.”



Taking advantage of deep compression

Sabó uses an external service provider to host its SAP databases, and the provider's fees are based on total database size. IBM DB2 includes an innovative storage optimization feature, Deep Compression, which can decrease disk space requirements by an average of 40 percent. For Sabó, the prospect of reduced database volumes translates directly into cost savings. Not only can DB2 Deep Compression significantly reduce the storage space required, it can also improve performance by speeding up query processing times and freeing up memory for other operations. “The promises made by DB2 Deep Compression technology almost seemed too good to be true, but the results speak for themselves. Our database has shrunk from 1.4TB on Informix to just 560GB ▼

with DB2 – an impressive reduction of more than 50 percent,” says Alessandro Laurenti. “The monthly growth of our database has also been slashed by 40 percent from 11GB per month to only 6GB. Add to this a 10 percent reduction in hardware usage and, overall, this has delivered an 18 percent cut in maintenance costs, a significant benefit to the business.”

Completing a complex migration

Once Sabó had chosen DB2, it worked with an external infrastructure partner to create a plan for the migration project. Two employees from the external partner focused on migrating the company’s data swiftly and securely to the DB2 platform in just three months. Input from the in-house team at Sabó was minimal, with their own consultants acting in a supervisory role. “The external experts were best placed to handle the entire process – as our long-time partners they knew our systems inside-out. The migration was completed in three months, with no need for input from our employees, leaving us free to focus on meeting our business objectives. We encountered no technical problems and were very happy with the result,” says Alessandro Laurenti.

Enjoying the benefits

DB2 proves that security does not have to affect performance, with the integrated Workload Manager making it possible to handle higher volumes with minimal overhead. DB2 allows rapid backups and high availability configurations to be set up in minutes, allowing recovery in seconds as clients are seamlessly redirected to a secondary database. “Our database lies at the core of all operations, and knowing that in the event of service being disrupted our systems will automatically failover to a standby system makes us confident that our customers will not be affected in any way. “This means we can promise our customers consistently superior performance in any circumstances, a key competitive advantage,” comments Alessandro Laurenti. “It was a priority for us that the end-user perspective remained unchanged. The implementation of DB2 achieved this, and even allows us to run most database administration activities while data remains online.” ▼

“DB2 is the perfect partner for the Sabó SAP infrastructure, and it has delivered significant benefits to our organization. The 50 percent reduction in database size has led to a saving of 18 percent in outsourcing fees, and these lower costs and added benefits will contribute to our success.”

Alessandro Laurenti, IT Manager Sabó

Leveraging SAP applications

“We cannot overstate the significance of the SAP applications to our business, as they allow us to optimize use of resources by aligning supply with demand, eliminating waste, and enabling high levels of customer service.” Alessandro Laurenti concludes: “DB2 is the perfect partner for the Sabó SAP infrastructure, and it has delivered significant benefits to our organization. The 50 percent reduction in database size has led to a saving of 18 percent in outsourcing fees, and these lower costs and added benefits will contribute to our success. We see a long future with DB2 as our platform of choice.”

Solution Landscape

Software: IBM DB2 Version 9.2

Users: 275 total users

Industry: Automotive

Applications: SAP ERP applications, including materials management, production planning, sales and distribution, controlling, financial accounting, and quality management

Sabó Industria e Comércio de Autopeças Ltda (Sabó) supplies some of the largest automakers in Brazil. The company employs 3,000 people at sites in 11 countries including Brazil, USA and Argentina, and has operations in 70 countries world-wide. Founded in 1942, Sabó has won more than 250 awards and quality certifications, and is well known for its strong Corporate Social Responsibility program. Sabó relies on an extensive SAP ERP applications infrastructure to manage its supply chain, implemented at several sites. With SAP applications such as materials manager, production planning and sales and distribution all essential to operations, Sabó wanted to ensure that the company was fully aligned with the SAP roadmap for support and upgrade. This would enable Sabó to take advantage of new efficiency and productivity features.



Storage Efficiency

for SAP with IBM DB2

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.



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. 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.

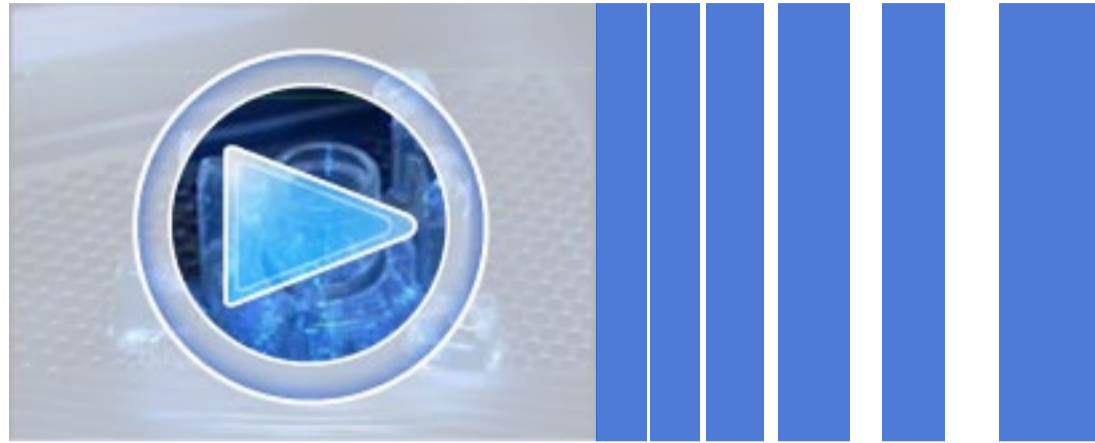
The Schaeffler Group is a world-class supplier of bearings and precision components for the automotive industry. The company employs approximately 66,000 people at over 180 locations worldwide, with revenues of some €8.9 billion.

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

Harald Gießler, 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

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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.

“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.”

Harald Gießler Chief Information Officer Schaeffler KG

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 Gießler 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.”

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