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January 2008

Information Management software

IBM DB2 Optimized for SAP software

Database excellence through a partnership that spans 30 years

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Executive summary

IBM and SAP® have a unique partnership that was established with the goal of delivering the very best enterprise IT solutions to SAP customers. Both companies are leaders in their field: SAP brings industry-leading applications and IBM brings world-class infrastructure components, including hardware and software. It all began more than 30 years ago—and SAP solutions based on IBM® DB2® software have been available since 1995. This first version of DB2 Optimized for SAP software was introduced in 2005.

Considering the vast amount of data kept within SAP applications, no infrastructure component is more important than the database. Extreme reliability and availability are essential. IBM has pioneered the development of data management technology that can help reduce the total cost of SAP ownership and improve performance so users are more productive. Today, these ground-breaking technologies—some are unique to SAP applications—are incorporated into DB2.

Several highlights of the DB2 versions called "DB2 Optimized for SAP software," which is designed for use in SAP environments, include:

- ***Deep Compression*** *can help reduce SAP storage requirements by up to 50 percent while also improving response times by roughly 20 percent*
- ***DB2 Multi-Dimensional Clustering*** *can boost the performance of SAP NetWeaver® BI queries by factors (measurements have shown factors up to 8)*
- ***DB2 Database Partitioning Feature*** *provides proven linear scale-out capability that is virtually unlimited—up to 1,000 nodes—to improve database query performance*

- ***High Availability Disaster Recovery (HADR)*** *software, available with DB2 at no charge, helps protect the database environment from software and hardware failures*
- ***Autonomic administrative functions*** *drive down total cost of ownership (TCO) by virtually eliminating the need for manual administration*

Many of these capabilities would not be possible without a close partnership between the two companies, which has resulted in close integration between DB2 and SAP software. The two companies have succeeded in making DB2 and SAP applications appear to be one system as viewed by users and administrators. This close integration is the fundamental reason why DB2 brings such exceptional value to SAP customers compared to other databases.

Ordering, deployment, administration and service/support functions also are all integrated—SAP is the one contact for all aspects of SAP installations that include the DB2 database. Users have no question about who to call. There is no finger pointing between vendors—just one responsive organization backed by two of the world's technology leaders.

Selecting a database is a long-term decision. By choosing DB2 Optimized for SAP software, you can be assured that you have chosen first-rate database software for SAP applications for today and tomorrow.

"The close cooperation between IBM and SAP is unique in the tech industry, extending from the development teams and go-to-market plans to our service and support offerings."
—**Torsten Ziegler**
SAP DB2 Development Manager

A brief history of DB2 Optimized for SAP software

Work on the SAP-optimized version of DB2 began in 2004. The first product—DB2 version 8.2.2—was released in April 2005 and thus began a partnership between IBM and SAP that has grown continuously ever since. New versions of DB2 have typically been released every year or so. DB2 9.1 was released in 2006 and DB2 9.2 became available in 2007.

A partnership to better serve customer needs

DB2 Optimized for SAP software is the result of a unique strategic partnership between SAP and IBM. Today, the two companies have more than 10,000 joint customers worldwide, making the partnership one of the most successful in the computer industry. The amount of information sharing, team collaboration, integration of product features and customer support is unprecedented. Technical experts from SAP and IBM work as one to determine customer requirements, develop and test combined solutions and support customers.

Product plans are customer-driven

When IBM and SAP ask their customers to list their highest priority needs, the most common are performance, TCO and high availability. These needs became the priority goals of the development team and the resulting capabilities speak for themselves—a set of functions that are unmatched by any other database vendor (see sidebar "Overview of unique DB2 functionality for SAP environments").

Overview of unique DB2 functionality for SAP environments

Performance: DB2 Self-Tuning Memory Manager (STMM) is designed to automatically optimize memory usage. Testing has shown that STMM can deliver significantly better transaction throughput than a default configuration.

DB2 Multi-Dimensional Clustering can boost the performance of SAP NetWeaver BI queries by factors; DB2 Database Partitioning Feature provides proven linear scale-out capability that is virtually unlimited—up to 1,000 nodes—to improve database query performance.

Performance improvements in DB2 9 helped it achieve the world record SAP 3-tier SD benchmark on May 5, 2005 with 168,300 SAP SD benchmark users[1]. More information can be found on the SAP benchmark site: sap.com/benchmark

Total cost of ownership: A multitude of features within DB2 Optimized for SAP software help reduce TCO. For example:

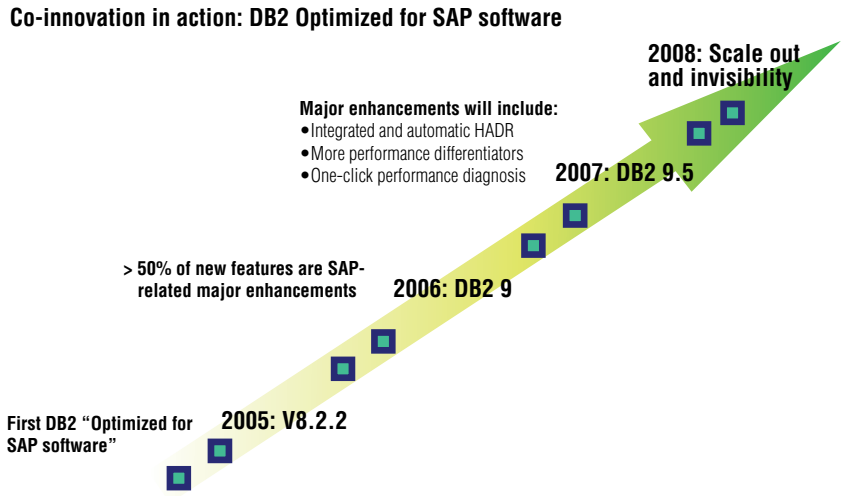
- DB2 Deep Compression can reduce SAP storage requirements by up to 50 percent while also improving response times by roughly 20 percent.
- Autonomic administrative functions further drive down TCO by virtually eliminating the need for manual administration.
- The SAP DBA Cockpit helps boost administrative productivity.

Compared to Oracle 10*g*, DB2 9 has significantly lower license costs as a percentage of SAP Application Value (SAV). The cost benefits of DB2 stem from not only the database software, but also from database servers, disk and tape storage systems, as well as database- and storage-related administrative processes. These savings more than offset costs of large-scale migration from Oracle to DB2 9.[2]

Stability, availability and resiliency: Integrated functions such as High Availability Disaster Recovery (HADR) help protect the database environment from software and hardware failures.

The DB2 Optimized for SAP roadmap (see Figure 1) looks out through four releases into the future, so both companies can introduce new capabilities in a planned way with smooth migrations from one version to the next.

Figure 1: This roadmap shows the vision of an optimal database shared by both companies

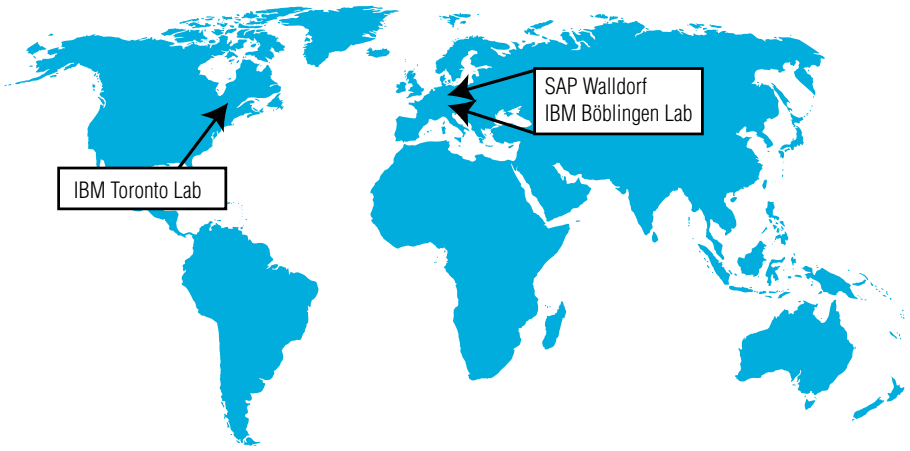


Joint development speeds the introduction of new capabilities

DB2 Optimized for SAP software has much more than just technology that differentiates it from other databases. Because the product is the result of the close partnership between IBM and SAP, customers gain the advantages of new DB2 releases very quickly. The core DB2 database software is developed by IBM, but all development work for DB2 Optimized for SAP software is conducted in a collaborative environment by teams at the joint SAP-IBM

Integration Center in Toronto and the joint SAP and IBM development team in Walldorf, Germany (see Figure 2). With joint testing and verification taking place throughout the DB2 development cycle, little additional work is required at the end of the DB2 development cycle to obtain SAP approval for delivery to customers.

Figure 2: Teams from Toronto and Walldorf have a tight development collaboration



Therefore, as DB2 has evolved, the SAP-optimized versions of DB2 are generally released about the same time as new versions of DB2 are made available to customers. The same is true for every DB2 fix pack. For example, SAP approved DB2 9 within one month of its release for general use. The quick introduction of new features into DB2 helps accelerate the value received by SAP customers, providing a significant advantage over other database vendors whose new database releases have taken many months to become supported by SAP.

DB2 compatibility with SAP is maintained over time

Each DB2 release is compatible with all versions of SAP software that are supported by SAP at the time. Customers can upgrade to the most recent release of DB2 without upgrading their SAP software. With the continual influx of new performance-enhancing and TCO-lowering capabilities, upgrading to the latest version of DB2 can help improve the value received from an investment in SAP software.

DB2 is ready when new SAP versions are introduced

DB2 Optimized for SAP software has always been available at the time SAP introduces a new release of its software. Thus, customers do not have to wait for updates to DB2 to gain the advantages of the latest SAP software.

Again, this is possible because of the close working relationship that facilitates continual testing of DB2 against new versions of SAP software during development. This testing helps ensure that all components of the combined system are well integrated and that DB2 Optimized for SAP software is certified for use with the new SAP software when it is released.

Integration of services makes two products appear as one

The tight integration between DB2 and SAP software provides customers with an experience that is very close to "one product, with one maintenance strategy, backed up by one-stop service."

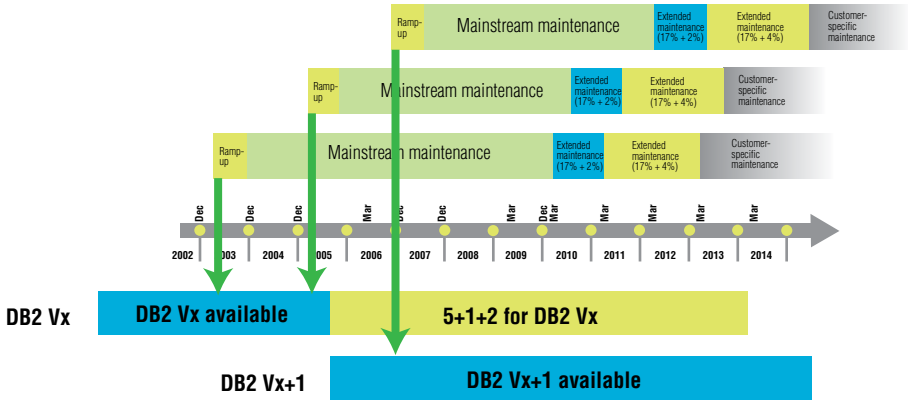
All customers receive one-stop service through SAP: The SAP services team is the single point of contact for service for both products. Customers do not need to determine the source of the issue to obtain support from the appropriate vendor. As a result, issues are resolved quickly and completely without hassle. Behind the scenes, the IBM Toronto Lab is fully integrated into the SAP services process.

The maintenance policies for DB2 Optimized for SAP software coincide with the SAP "5+1+2" maintenance philosophy. That is, SAP maintains releases for five years, followed by one- and two-year extended maintenance terms. Because DB2 mirrors that approach (see Figure 3), customers can be assured that the DB2 version originally deployed with their SAP application will be supported for the same length of time as their SAP software.

While there are many reasons to upgrade DB2 over the life of an SAP application, customers are not forced to perform an upgrade—or required to purchase DB2 upgrades. This helps significantly lower the overall cost of the combined SAP–DB2 solution, simplify administration and provide a stable and well-known environment.

Figure 3: DB2 supports the SAP maintenance strategy

DB2 supports SAP maintenance strategy



SAP runs DB2, IBM runs SAP

The long-term relationship between the two companies has led to each company using the other's software. Today, SAP is a satisfied DB2 customer that has standardized on DB2 for its major business systems. Likewise, IBM is an SAP customer with nearly 30,000 users.

The SAP IT group knows that SAP applications run best on DB2. SAP has adopted DB2 as a strategic platform for its software development and major production business systems. Combined, SAP now has more than 1,100 SAP systems running on DB2. This massive DB2 deployment also provides feedback to the development teams working on both DB2 and SAP software (see sidebar "Case in point: SAP").

Case in point: SAP

When SAP IT wanted to upgrade its own human resources (HR) production system to SAP ERP 2005, there was an opportunity to also review the database strategy. As Peter Boegler, Solution Architect at SAP IT, explains, "We wanted to demonstrate the power and flexibility of SAP software for high-workload, mission-critical systems. We selected IBM DB2 as the strategic database platform. Moving the in-house human resources management solution to SAP ERP 2005, which requires Unicode support, presented itself as the ideal opportunity to migrate from Oracle to DB2."

A compelling return on investment

"Our planned system response improvement was around 20 percent, whereas in reality we have observed a 40 percent cut in response times with DB2," says Boegler. "If we look at the DB2 database itself, it 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."

Positive outlook

The long-term "DB2 Optimized for SAP" roadmap was a significant factor that influenced the decision to select IBM DB2 as its strategic enterprise database. According to Boegler, "IBM has aligned its product maintenance strategy for DB2 with the SAP 5-1-2 approach. This alignment means that we can use both the current and also the newer DB2 versions as long as we deploy the SAP ERP 2005 product, which helps us plan the business strategy. Rather than be forced along a particular technology route because of vendor-introduced software changes, with IBM we are able to set our own business strategy and not be affected by external changes. For a company such as SAP AG with a reputation for reliability, it is important to have a supplier that has a closely aligned business outlook."

Room to grow

Looking toward the future, Boegler observes, "The efficiency and performance of the new IBM DB2 database gives us the headroom within our database and storage servers to grow as the workload rises, with high user productivity and great return on investment."

Unique DB2 capabilities for SAP BI environments

Business intelligence (BI) and analytics solutions are a mission-critical part of today's SAP environments. More SAP applications rely on BI infrastructure elements than ever before—business intelligence has become a central element of SAP solutions. As a result, customers are facing challenges in BI environments, including how to support the growing number of users who require access to these functions and how to manage the exploding data volumes needed for "near real-time" analytics.

DB2-exclusive features for business intelligence initiatives

- DB2 Database Partitioning
- DB2 Multi-Dimensional Clustering
- Deep Compression

IBM developers work with the SAP Business Information Warehouse development team to provide DB2 functions that increase the value to customers from business intelligence initiatives. One innovative example is the DB2 Database Partitioning Feature (DPF), a shared-nothing architecture with proven linear scale-out capability. In fact, scalability is virtually unlimited—up to 1,000 nodes.

With DPF, the DB2 database is distributed across multiple servers. Each node operates independently in a shared-nothing architecture, communicating with others over the network. DB2 assigns a portion of each query to these servers and the results are combined before providing them back to the originator. This division of work speeds up queries within SAP Business Information Warehouse.

Most large SAP business intelligence installations use DPF, which has been fully supported since SAP Business Information Warehouse 2.0 was introduced in 1999. Even today, DPF is a major differentiator for DB2. By comparison, other databases have much more limited scalability.

Multi-Dimensional Clustering, another unique DB2 capability, helps to significantly boost the performance of SAP queries. Stored data is sorted in a way that makes it very fast to respond to the most common SAP BI queries by factor. While other database vendors offer a capability called *range partitioning* on only one dimension of data, DB2 can optimize around as many dimensions as desired. Therefore, queries such as "Tell me the sales of product xyz in the U.S. in 2001" can be dramatically faster.

Multi-Dimensional Clustering is self managing, so no ongoing DBA intervention is required. On the other hand, the range partitioning feature provided by other databases requires significantly more DBA activity.

Case in point: Siemens

Siemens is one of the largest technologies companies. We have six major business divisions: communications, automation, power, transportation, medical and lighting. Siemens is headquartered in Munich, Germany, as well as in Berlin. We employ 480,000 people in more than 190 countries. We reported global sales of 87 billion euros in fiscal year 2006.

Here we operate one of six application management centers. We operate global applications like our SAP portal and local applications like finance, control, logistics, and supply chain and business intelligence.

Siemens uses SAP applications to run our business. We are migrating our SAP business intelligence landscape from a competing database onto DB2. There are three main reasons we chose to move our SAP applications onto DB2: better performance, a less expensive hardware infrastructure and a lower SAP total cost of ownership.

We tested SAP Business Information Warehouse on DB2 and on a major competitor. And DB2 performance was significantly better. In the future, with DB2 9, we expect the performance to be even faster.

We were limited by the performance of our existing database and we expect that our SAP business warehouse will grow tremendously. We moved to DB2 9 to gain improved performance. With our previous database, we could only run our SAP Business Information Warehouse on a dedicated server—so when we reached our performance limits we had to move to a bigger server, which is a major cost. With the Database Partitioning Feature of DB2 9, we can use several smaller servers in a cluster. When we need more power, we just add another server. So we will have nearly unlimited scalability and a significant savings.

We were able to reduce the total cost of ownership of SAP by building an optimized infrastructure. In the future, we expect savings on our SAP total cost of ownership of 25 percent. We believe we will recover our return on investment (ROI) within the first year. This kind of positive ROI is very important for companies like Siemens.

IBM did the migration for us. It was an easy migration, and it was finished on time and within budget. We had great support. IBM flew in experts from the U.S. and Germany to tell us about the combined IBM/SAP development roadmap. We are getting great business benefits from the strategic partnership between IBM and SAP.

—Norbert Boehner, Director of Operations Services, Siemens Corporate Information Office

A complete video entitled "Siemens chooses DB2 and SAP" can be found at **ibm.com**/software/info/ibmtv/siemens

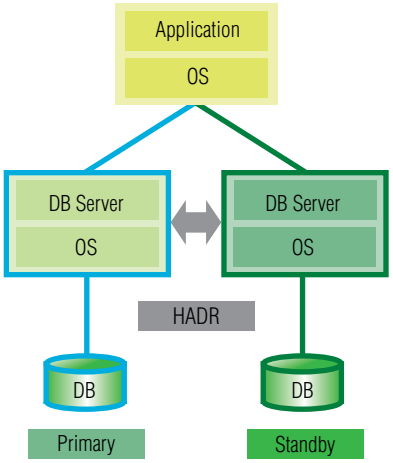
IBM DB2 9 Deep Compression is another DB2 function that can help drive down TCO in large BI environments. Deep Compression helps dramatically reduce storage costs while also boosting SAP application performance.

DB2 provides a solid foundation for transaction processing

Because SAP applications are most often at the heart of critical enterprise operations, the database underlying SAP software is a critical component. The utmost in reliability, scalability and stability are essential.

To protect the database environment from software or hardware failures, DB2 includes a no-charge feature called High Availability Disaster Recovery. Exclusive to DB2, HADR enables two independent database servers to jointly provide services to an SAP application (see Figure 4). The primary database server processes transactions during normal operations and the standby maintains a cloned image of the database, ready to take over should something go wrong with the primary server.

Figure 4: High Availability Disaster Recovery is exclusive to DB2



Using a technique called *record log shipping*, the primary and standby systems execute the same transactions. Thus, if the primary server fails, the standby can quickly take over the workload. When that happens, client workstations are automatically routed to the standby system, so no action is required by users. When the primary system is restored to service, it quickly resynchronizes with the standby system—all without having to copy data from one system to the other. Client workstations automatically switch to interface with the primary database server.

Case in point: Teleflex

Teleflex, a global manufacturing and engineering company, built a new IT infrastructure to support centralized SAP ERP based on the IBM System p5™ 570 platform. By using the DB2 HADR feature to mirror SAP systems to standby and tertiary servers, Teleflex now has a highly resilient SAP environment that gives management a clear view of operations and offers new ways to cut costs and enhance business efficiency.

DB2 HADR helps eliminate planned downtime for maintenance as well as unplanned downtime resulting from system failures, enabling worldwide operations to be continuously supported in all time zones. At the primary data center in Europe, Teleflex uses HADR to switch production between systems and to prevent any interruption to business in case of system failure. IT staff can shift the production workload seamlessly from the primary to the standby server, enabling disruption-free maintenance of either server with no loss of transactional data.

Teleflex also uses HADR to protect against more serious failures. All SAP data is mirrored across the Atlantic to a second data center in the U.S. In the case of the loss of one data center, the surviving one will take over the work within minutes without any substantial loss of data.

According to Jochen Guther, general manager of Teleflex IT Europe, "HADR enables us to offer zero downtime for maintenance and gives us the ability to deal with small problems and local outages automatically. This has made it possible to build a truly centralized infrastructure for our global operations, capable of supporting users whenever they need to log in to our SAP applications."

"The combination of IBM System p™, IBM AIX®, DS4800 storage systems, IBM HACMP and DB2 Optimized for SAP software gives us all the service and support advantages of a single-vendor solution at a 20 percent lower total cost of ownership," explains Guther.

Compared to other high availability approaches that require the database software to be restarted, HADR provides ultra-fast switchovers from the primary to standby systems—typically less than a minute. In an SAP test environment with 600 users, services were resumed within 11 seconds.

HADR has the flexibility to support several configurations, depending on the degree of protection desired. The standby system can be located in the same data center as the primary (a high availability configuration) or in a remote data center (a disaster recovery configuration). Thus, SAP administrators can provide the degree of system protection that is most appropriate for each situation.

Case in point: Pilz GmbH & Company

Engineering automation specialist Pilz wanted to consolidate its SAP servers onto a virtualized environment. Part of the challenge was to find a cost-efficient way to provide very high system availability and protect data.

IBM helped Pilz create a fully redundant SAP infrastructure composed of a high availability cluster of two IBM System p5 550s and IBM Tivoli System Automation software. Pilz also deployed the IBM SAN Volume Controller to virtualize the storage environment.

Tivoli System Automation software not only protects data using mirroring techniques, but it also actively monitors and manages all the SAP applications and infrastructure to provide enhanced reliability. According to Jörg Stubbe, CIO, "DB2 is fully integrated into the DBA Cockpit within the SAP Computing Center Management System, which makes it much easier to use—it's an ideal platform for our SAP software environment and reduces our administrators' workload by around 10 percent."

Stubbe adds, "We found it very easy to rapidly acquire the necessary skills to operate and maintain our new DB2 database for the SAP software environment. And in addition, the difference in licensing costs will save around €100,000 over a five year period."

HADR helps ensure business continuity with an integrated HA and DR solution. The software is easy to set up and administer. Not only is it fully supported by SAP, but a two-node license for Tivoli® System Automation (TSA) is also included with DB2. TSA provides the management functions to minimize the involvement of administrators in day-to-day operations.

Data protection is built into DB2

DB2 helps keep TCO low by including backup, restore and recovery functions in the core database software. These are not stripped-down functions with limited applicability, but robust capabilities, fully tested in the IBM SAP Integration Center as part of the DB2 certification. Thus, there is no need for any other external backup/restore tools.

> "We chose DB2 for our SAP implementation because it was a better value than Oracle. With administrative and other costs figured into the total cost of ownership, DB2 is 25 percent less expensive than Oracle."
>
> —**Gustav Elias**
> *Database Administrator and System Programmer for DB2 Austrian Railways*

Backup and logfile management are fully automated, eliminating DBA intervention to also help keep operating costs low. Once configured, DB2 manages everything associated with backups.

DB2 9.5 also includes fully integrated IBM FlashCopy® support that can dramatically reduce backup windows. A quick disk-to-disk copy (snapshot) of DB2 files can be made as frequently as desired to protect data, which can be backed up to tape or archived as required. DB2 automates the steps required to back up and restore with FlashCopy so administrators can focus their efforts on higher value tasks.

Deep Compression helps lower TCO

IBM DB2 9 Deep Compression is another unique DB2 function to help drive down TCO. Tightly integrated with SAP applications, Deep Compression helps dramatically reduce storage costs while also boosting SAP system performance, which can help users get their work done more quickly.

IBM Deep Compression technology can reduce the size of database tables up to 90 percent with an average of approximately 75 percent. With massive amounts of data in enterprise SAP environments, this technology can have a significant impact on the amount of storage equipment required. For example, if an SAP environment has a production database of 2TB, there is probably another 10TB in supporting databases, including test and development, backup copies of the database and perhaps a copy residing on a high availability system. Thus, the total amount of stored data for a 2TB production system could be 12TB or more. If storage requirements are cut in half, that could save 6TB in an environment with a 2TB production database.

Case in point: INTER Versicherungen

To compete more effectively in the competitive German health and life insurance marketplace, the INTER Versicherungen IT staff wanted to make more effective use of its IT resources—hardware, software and personnel. Better database management could help reduce costs and increase efficiency.

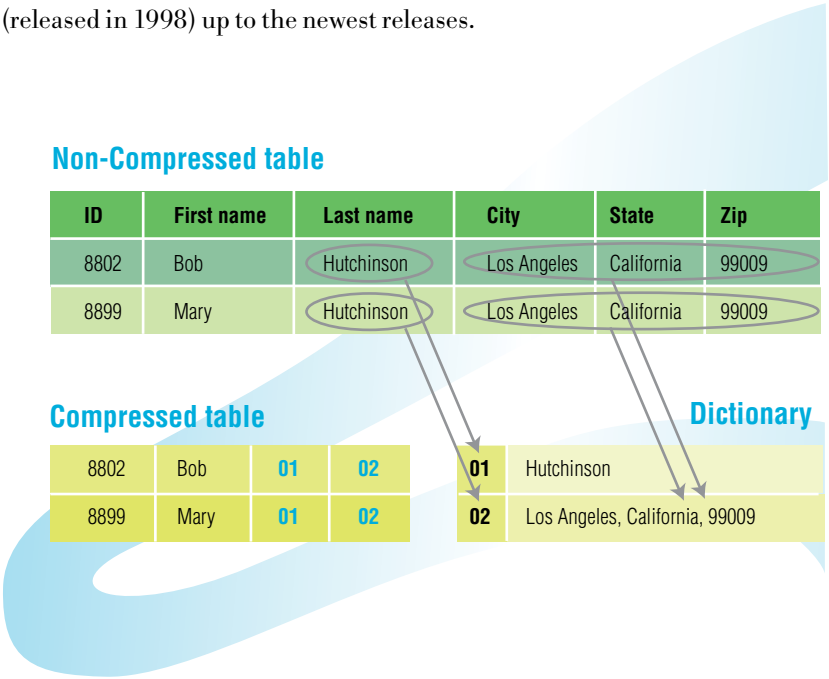
INTER upgraded its SAP environment to IBM DB2 9 to exploit new features such as Deep Compression. As a result, some of the largest database tables have been reduced by up to 70 percent. Overall database size was reduced by 43 percent, freeing storage capacity for further growth without any new investment. Responsive times for the company's most important online transactions were improved by 20 percent with the new version of DB2.

In practice, IBM customers have experienced overall data storage reductions up to 50 percent from implementing DB2 9 compression. With storage representing nearly 48 percent[3] of the total cost of a typical enterprise IT infrastructure, cutting storage costs can dramatically affect total costs.

Some IBM customers have seen SAP response time improvements of more than 20 percent after implementing Deep Compression (see Figure 5). These improvements result from more efficient use of the existing SAP infrastructure—more data fits in the DB2 memory cache and there is less I/O traffic to disk systems.

DB2 9 is the only database offering such significant savings from compression. IBM DB2 9 Deep Compression capability is easily added to existing SAP systems because it operates transparent to applications. Deep Compression supports all previous SAP releases and applications, from SAP R/3 3.1I (released in 1998) up to the newest releases.

Figure 5: DB2 Deep Compression helps lower TCO with storage savings



Automated administration helps lower TCO

DB2 automated optimization features are specifically designed for SAP environments. In fact, most DBA activities are automated, which helps to dramatically reduce operating costs compared to other databases. DB2 constantly adjusts itself to the workload, which adds to operational stability compared to results from manual tuning. Examples of DB2 automation include automatic storage, collection of database statistics, backup and logfile management, table and index reorganization, memory tuning and configuration.

For example, to simplify the management of table spaces, the automatic storage table space feature creates containers automatically on storage paths specified by the DBA when the database was created. As these automatic storage table spaces are filled up, DB2 automatically extends the containers or creates new ones.

Another example of DB2 automation is the automatic statistics collection feature also known as "automatic RUNSTATS" that determines which statistics to collect and when to update them. With this feature enabled, DB2 automatically runs the RUNSTATS utility in the background as required to ensure that up-to-date statistics are available. The DB2 optimizer uses these statistics to choose the best access plan so query resolution runs at optimal performance.

Case in point: INTER Versicherungen

German insurance company, INTER Versicherungen, uses the DB2 Self-Tuning Memory Manager (STMM) to automatically optimize main memory database parameters, saving database administrator time. STMM dynamically distributes available resources to dynamically optimize the performance of changing workloads. According to Roland Heim, SAP Basis Administrator, "With the STMM, we can tune the buffer pool automatically, which saves considerable time for our database administrators—reducing their workload by around 10 percent."

Good database performance depends on how the workloads use the various DB2 subsystems—especially memory. For example, the performance of a workload having many ORDER BY queries may gain more benefits from greater sort space than greater bufferpool space. DBAs know that memory tuning is critical to good system performance. But manual memory tuning requires specialized skills, careful data collection, workload analysis, database analysis and so on. That kind of analysis takes time; yet with today's dynamically changing workloads, conditions may change so rapidly that there is not time to adequately adjust the database.

To address this need, a DB2 feature called Self-Tuning Memory Manager (STMM) is designed to automatically optimize memory usage (see Figure 6). Testing by IBM and SAP has shown that STMM can deliver significantly better transaction throughput than a default configuration. More impressive, STMM delivered slightly better performance than a system tuned by an expert DBA.

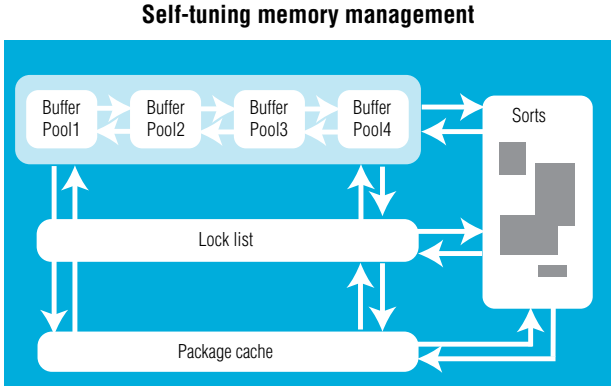


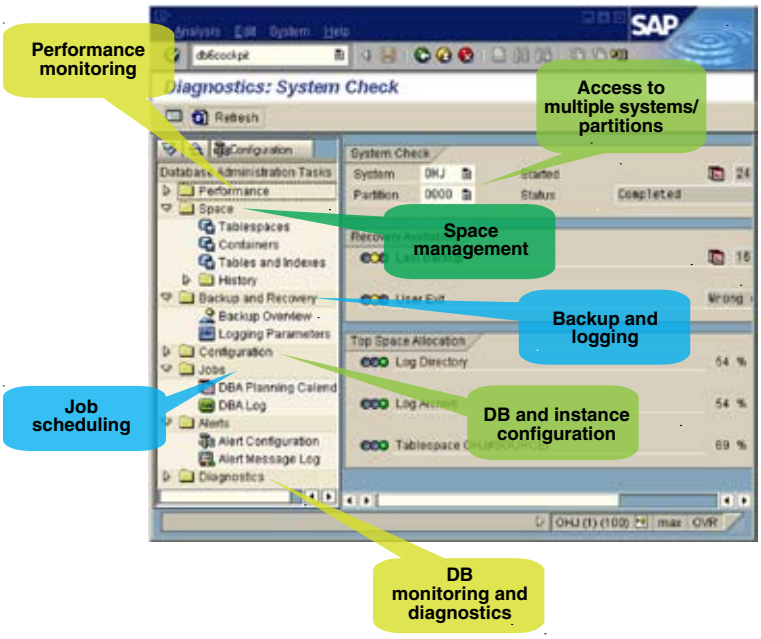
Figure 6: Self-Tuning Memory Manager helps to automatically optimize memory usage

These built-in automation functions take care of day-to-day management tasks so DBAs have more time to focus on value-added activities. All DB2 automation functions are fully supported by SAP, so there is only one point of contact for questions or assistance.

Administration through the SAP DBA Cockpit simplifies operations

All DB2 administrative functions are accomplished through the SAP DBA Cockpit, which simplifies operations. The DBA Cockpit (see Figure 7) is a platform-independent tool that administrators use to remotely monitor and administer their databases. It has a graphical user interface that helps DBAs stay productive and minimizes training needs.

Figure 7: The DB2 Cockpit enables database administration to be easily done within SAP



Always working within the SAP environment not only enhances administrator productivity, but it also eliminates the need for technical staff to learn and use another application. With just a mouse click, functions such as compression or the Index Advisor can be invoked. All DB2 administrative functions are accomplished through the SAP DBA Cockpit.

For more information

To learn more about DB2 and SAP, contact your local IBM sales account executive, send e-mail to the IBM SAP International Competence Center at isicc@de.ibm.com or visit www.ibm-sap.com and **ibm.com**/software/data/db2/sap

For a detailed description of DB2 9 functionality, visit publib.boulder.**ibm.com**/infocenter/db2luw/v9/index.jsp

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Produced in the United States of America
January 2008

[1]The benchmark was performed by IBM in Beaverton, OR, USA on May 11, 2005 and May 13, 2005, certified with the following data: 168,300 SAP SD users; 1.95 seconds average response time; 16,896,670 processed order line items/hour; OS: AIX 5.3; RDBMS: DB2 UDB 8.2; SAP R/3 Release 4.70; database server: IBM System p5 Model 595, 32-way SMP, POWER5, 1.9GHz, 32KB(D) + 64KB(I) L1 cache per processor, 1,92MB L2 cache and 36MB L3 cache per 2 processors, 256GB main memory (Cert #2005021).

[2]Value Proposition for IBM DB2 9, International Technology Group, October 2007. Available at **ibm.com**/software/data/information/db29-sap-itg.html.

[3]IBM research. 2007.

TAKE BACK CONTROL WITH **Information Management**

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