Transform your Business with Trusted Information and Greater Insights

Accelerate your information-Led Transformation

Trust

Performance

Intelligence

Speed

Insight

Transform

Agility

Savings

- Companies that outperformed their peers are twice as likely to be able to extract and prioritize relevant information
- For SAP® customers, leveraging trusted information both inside and outside of SAP applications is instrumental to optimizing their performance
- The market-leading IBM Information Management portfolio unlocks SAP information assets for business optimization, presenting an accurate, trusted view of information managed over time for better business outcomes
- IBM adds value to SAP environments with a full breadth of services, infrastructure and software solutions
- Reduced data administration costs, improved data cleansing and warehousing practices, and world-class performance management allows SAP-enabled businesses to move forward with better decision making based on accurate reporting

In today's interconnected world, businesses are capturing more data than ever before yet know they are not keeping pace with the speed of information. SAP's enterprise solutions address virtually every aspect of business but SAP customers still struggle to manage and use information both within and without SAP applications. Combined with other legacy applications and the new installations they must deploy to keep pace, the speed of data growth means that information latency is an issue no business can afford to ignore. To extend the value of their SAP investments as well as transform information into a strategic asset that ensures competitive advantage, SAP customers can leverage the IBM Information Management portfolio.

Business data and related content is clearly of current and potential value, but all value is not truly realized unless a predictable and efficient access path to trusted information is provided which enables better business outcomes—the kind that come when an enterprise can clearly see the road ahead based on the information they have today.

Without a complete performance management solution, SAP investments can result in stranded data, limited business access and arguing over numbers. In addition, many customers find SAP IT talent squandered on low-value tasks. A smarter enterprise, where talent is deployed into the right environments, information is up-to-date and quickly accessible, and decisions are made confidently based on one version of the truth, is possible.

As business intelligence matures, organizations are eager to extend benefits to more users. To minimize the risk of dependencies and potential delays in deployment and usage, planning solutions must be SAP-version independent, yet still deeply integrated, using SAP-approved interfaces.

IBM Business Intelligence provides all enterprise users with the full range of business intelligence capabilities necessary to improve decision-making: broad reporting, deep comparative analytics, active dashboards, actionable scorecards and automated business event management.

IBM and SAP have been strategic partners for over 35 years, and IBM brings value to SAP environments with a full breadth of services, infrastructure and software solutions.

Everywhere you turn, you can spy a device capturing and transmitting information:

- **On the train, your neighbor checks his smart phone to see if his flight will be leaving on time**
- **In your doctor's office, your physician e-mails your prescription refill to your pharmacist across town from his PDA**
- **At your grocery store, shelf sensor tags inform the warehouse when your favorite cereal stock is running low**

Imagine the consequences of leveraging this information capture for competitive advantage. Assets can be routed quickly to meet changing customer service levels, sudden traffic surges and real-time weather interruptions. Inventories can be full of popular, fast-moving products. And predictive assessments of risk and reward can be more accurate.

Every Decision Needs Information

Every Decision Needs Information

Executives know where their data goes—everywhere; into manual processes and the heads of senior personnel, and siloed in hundreds of applications spread across multiple business units, creating inefficiencies and increasing costs. Yet a study conducted by IBM's Institute for Business Value found that companies who manage their information as a strategic asset can optimize their business and realize smarter business outcomes. In fact:

- Companies that outperformed their peers were twice as likely to be able to extract and prioritize relevant information.
- Early adopters of new analytic solutions were three times as likely to be able to apply information to understand risk as peers that had not thought about these solutions (IBM Institute for Business Value, April 2009).

SAP's enterprise solutions address virtually every area and level of business development, from enterprise resource planning (ERP) and supply chain management (SCM) to business continuity and customer relationship management (CRM). However, SAP customers must still support legacy applications and other secondary sources of information outside of SAP, as well as demonstrate the agility necessary to deploy new applications as market conditions demand. Combined with the continually exploding growth of data coming from all of these sources, the fact of the matter is that many SAP customers are concerned about their ability to remain fast, efficient, flexible and ahead of the market.

Data Management

- Version-optimized for SAP
- Lowering licensing costs
- Simplifying data administration via integrated SAP Cockpit
- Reducing storage requirements while boosting the speed of archiving and retrieval
- Enhancing data warehousing functionality for business intelligence performance

Enterprise Content Management

- Enabling business collaboration, reducing reliance on paper and enabling linking to electronic transactions
- Meeting and exceeding data retention, retrieval and privacy requirements for government and industry regulations
- Integrating and leveraging information across enterprise applications

Trusted Information Management

- Employing common metadata for all sources to improve data quality and reusability
- Speeding load, query and reporting times
- Streamlining business processes by improving utilization and access to information contained within SAP
- Facilitating the stewardship of information across the enterprise

Business Optimization

- Building an adaptive supply chain, including supply chain planning and collaboration, execution, visibility design and analytics
- Satisfying service level targets while minimizing system-wide cost

Business Intelligence and Performance Management

- Producing insight via a shared business intelligence platform
- Enhancing predictive capabilities to improve profitability and sustain business growth

For SAP customers, leveraging the trusted information inside and outside of SAP applications at the speed of business—as it is captured, loaded, transferred and transformed—is instrumental to the success of their business imperatives. Data integration, data cleansing and master data management are among the critical issues that must be addressed in order to unlock an organization's predictive capability, optimize a business up and down its chain, and create desired end states.

Information Management—Accelerating the Value of Enterprise Applications

Companies that leverage SAP for sustained competitive advantage have made use of the IBM Information Management portfolio to complement and extend their existing SAP information assets, helping to ensure that they will achieve the returns they expect from their SAP investments. The IBM Information Management portfolio leverages information as a strategic asset.

Industry analyst Ovum has proclaimed IBM "to be at the vanguard of the unified information management revolution" with an unparalleled portfolio of products that span every element of information management, including data management, content management, business intelligence and performance management (Ovum Unified Information Management Report, September 2008). The IBM Information Management portfolio unlocks SAP information assets, presenting an accurate, trusted view of information managed over time for better business outcomes.

"DB2® optimized for SAP software is now the main development database at SAP and the close cooperation between IBM and SAP make it an excellent choice for us. By virtualizing our SAP software environment and running it on the highly flexible IBM System p5® servers, we have seen impressive reductions in our total cost of ownership while simultaneously boosting performance and availability for the business."

Werner Rave,
Manager of IT Architecture Department
Deutscher Ring AG

Products

IBM DB2 for Linux, UNIX, and Windows

IBM DB2 for Linux®, UNIX® and Windows® is a hybrid data server for both XML and relational data. It is enabled for SOA and has been optimized for SAP. With DB2 Compression, the size of SAP databases can be reduced by up to as much as 50% or more, while user response time can improve up to 20%.

IBM DB2 for z/OS

IBM DB2 for z/OS® is IBM's flagship data server on the mainframe. It is a rich hybrid data server with support for both relational and pureXML storage and has the necessary services to support both data structures. It contains dozens of new features specifically designed to optimize the database operations for SAP applications. Customers choose DB2 for z/OS to implement key business partner solutions, such as ERP offerings from SAP, when their environment demands full security and true 24x7 access to core business data.

Case In Point: **Deutscher Ring AG**

Deutscher Ring AG reduces infrastructure costs with IBM DB2

Deutscher Ring AG, a major private insurance firm headquartered in Hamburg and with branch offices throughout Germany, supports 1,800 named users of SAP with financial accounting and controlling, materials management, SAP Insurance Collections and Disbursements, SAP Business Information Warehouse and SAP Strategic Enterprise Management.

With these SAP investments divided between various platforms and servers, Deutscher Ring's infrastructure was complex, inefficient and costly to run. There was limited flexibility in allocating resources to changing business requirements, and performance was deteriorating as workload grew.

Deutscher Ring migrated its entire SAP software landscape, both databases and applications, onto two IBM System p5 570 servers running IBM AIX 5L™ and IBM DB2, successfully reduced the number of servers in its data center, bringing down total cost of ownership while improving performance, availability and flexibility. The company also implemented IBM Tivoli® Storage Manager and IBM DB2 Content Manager with DB2 CommonStore for SAP software for automating backup, document management and systems management, which will help the company to keep long-term support costs low and keep skilled staff available for high-value work.

Better Business Outcome

- Reduced costs by around 33%
- Cut some batch runs from 90 minutes to just 30 minutes
  Delivered a 40% improvement in general SAP software response times

Doing more with less - faster

Data Management: Doing more, even faster, with less

SAP applications generate a vast amount of data in day-to-day operations, so no infrastructure component is more important than the database. IBM has pioneered the development of data management technologies that can help reduce the total cost of SAP ownership, improve performance and ensure the application and database work as a more cohesive unit, such is IBM's DB2 9 Optimized for SAP.

- DB2 Multi-Dimensional Clustering, which can boost the performance of SAP queries by factors up to 8
- DB2 Database Partitioning Feature (DBF), which 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
- Lower licensing costs; customers who migrated their SAP systems from Oracle to DB2 reported cost savings from 25% to up to 50%.
- Autonomic administrative functions, which drive down TCO by virtually eliminating the need for manual administration
- CommonStore for SAP, allowing you to leverage cost-effective storage devices but still access SAP data at any time
- DB2 Compression, which can help reduce SAP storage requirements by up to 50 percent while also improving response times by roughly 20 percent

DB2 Multi-Dimensional Clustering does more with less

Two of the biggest pain points for SAP Business Warehouse administrators are maintaining query performance and supporting custom queries. Data volumes are constantly growing while the number of users often increases over time. Both factors lead to increasing query execution times and affect the productivity of end users and administrators. To retain good query performance, SAP Business Intelligence (BI) administrators typically create Aggregates, small InfoCubes with certain characteristics eliminated. Because Aggregates are much smaller than large InfoCubes, corresponding access times are much faster. The drawback of using Aggregates is the manual effort to create and maintain them.

Multi Dimensional Clustering (MDC) is a data layout scheme incorporated in DB2 that allows a relational table to be clustered on one or more dimensional attributes. Data clustering can reduce the amount of pages that need to be read from disk when a query is executed.

Because of the MDC ability to cluster data along multiple dimensions, performance of data warehouse applications is improved. MDC is integrated completely into SAP BI and can help to dramatically improve reporting performance on InfoCubes, Aggregates and ODS (Operational Data Store) objects. MDC also provides for a continuous and automatic maintenance of the clustering over time, which reduces the need to reorganize the table to regain clustering; no ongoing DBA intervention is required which saves time and money.

These features make MDC useful for a business intelligence environment as well as a transaction-processing environment. Many major DB2 clients are realizing significant query performance gains by using MDC in their production systems, up to a factor 8 or more.

Database Partitioning Feature brings exceptional performance to SAP solutions

The Database Partitioning Feature (DPF) extends the capability of DB2 into the parallel, multi-partition environment, improving the performance and the scalability of very large databases. This allows very complex queries to execute much faster. DB2 Enterprise 9 with DPF is an ideal solution for managing data warehousing and data mining environments, but it can also be used for large online transaction processing (OLTP) workloads to maintain the manageability of its data warehouse even as the amount of data rapidly grows.

DPF is a physical database design option that uses multiple separate database partitions in a multi-processing environment. Multiple database partitions can be created within a single SMP (symmetric multiprocessing) machine or can be distributed across separate machines in a shared nothing environment where each database uses its own storage.

With DPF, your database is scalable as you can add new machines and spread your database across them. This means that your database can assess and use more CPUs, more memory and more disks as machines are added. A user will connect to the database and issue queries as usual without a need to know the database is spread among several machines.

Computing resources associated with multiple partitions can work in parallel to satisfy the original user request thus enhancing response time and making better use of resources. Linear scalability is achieved by adding new partitions as data volumes grow. The DB2 Design Advisor, a built-in administrative tool, can advise administrators about their partitioning design.

DB2 9.7 extends the DB2 database-partitioning feature (DPF) to support both XML and relational data. The data distribution allows many operations to be automatically parallelized, including loading, inserting, querying, updating, deleting, validating, and publishing XML data. In particular, complex and potentially long-running analytical queries can be divided and parallelized, which significantly improves response times.

Ready-to-use High Availability Disaster Recovery Software

DB2 High Availability Disaster Recovery (HADR) is an easy-to-use data replication feature that provides a high availability (HA) solution for both partial and complete site failures.

HADR replicates data changes from a source database (called the primary) to a target database (called the standby). Each database uses its own storage. A central tenet of HADR is that the performance and availability of the database should

not be impacted by challenges such as sudden spikes in the workload (which impacts the amount of log replay activity on the standby) or failed servers or networks (which can lead to a failover). Because HADR uses TCP/IP for communication between the primary and standby databases, they can be situated in different locations.

Administrators can switch the roles of primary and standby databases easily and quickly for scenarios such as rolling upgrade or rolling maintenance, keeping down time to a minimum. The automatic client reroute feature can be used to allow client applications to recover from a loss of communication with the server and to continue working with minimal interruption.

These features protect the customers from a production downtime in the event of a local hardware failure or a catastrophic site failure by duplicating the workload of the database to a separate site. HADR is fully integrated into DB2 database systems, requiring no special hardware or software and using a standard TCP interface to connect the primary and standby databases. When Austrian Railways migrated from Oracle to DB2, the organization improved database backup time 70%, and reduced failover time 97%.

Lower Licensing Costs with DB2

Each DB2 release is compatible with all versions of SAP software currently supported by SAP. 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.

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, 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.

Break Free from High Database Costs with Automatic Administration

Although costs for server management and administration can be hard to measure and may be less apparent than costs for servers, storage and power, they represent the largest and fastest-growing percentage of total IT spending. A database that automates and intelligently performs tasks that would otherwise be performed by DBAs frees those staff members to focus on more strategic initiatives, thus delivering a strong return on investment (ROI).

DB2 can help reduce costs for staffing and maintenance by automating a range of administrative tasks, such as memory management, storage allocation and configuration management, and many of these tasks may be put on autopilot to further reduce time and people requirements.

DB2 helps reduce administration costs with via the DBA Cockpit, which unites full DB2 and SAP administration within the SAP GUI. DB2 offers the following capabilities:

- **Self-configuring:** Automatically sets up the system and manages configuration settings
- **Self-healing:** Automatically helps resolve problems as they occur
- **Self-optimizing:** Reacts to changes in workloads and adjusts memory and other facets of the software to continuously improve performance
- **Self-protecting:** Addresses external security threats to the system by detecting and preventing unauthorized access

Low administration overhead and low license fees mean that DB2 involves extremely favorable overall costs. Customers who migrated their SAP systems from Oracle to DB2 reported cost savings from 25% to up to 50%.

- Agrium2 saved around 50% on maintenance costs by migrating to DB2
- rku.it concluded that DB2 would cost 40% less over five years, including licensing, maintenance and migration
- Austrian Railways reported a 25% reduction in TCO with DB2, compared to Oracle

When switching from Oracle to DB2, attractive migration offers are available. IBM provides end-to-end solutions on all aspect of a SAP upgrade project from planning to execution. IBM also has the broadest portfolio of servers and storage that run and deliver high performance on SAP applications.

CommonStore for SAP allows for cost-effective document management

SAP recommends archiving application data to manage database growth and maintain performance, but SAP does not provide a complete storage management solution that provides access to archived data in context.

IBM CommonStore for SAP is an SAP-certified application solution to offload data, trim the size of operational databases and improve system performance. By implementing archiving capabilities using IBM CommonStore (CSSAP) for SAP, users can access business information when they need to, and when they don't, the SAP data is transferred to lower-cost disk and tape—now leveraging SAP NetWeaver ILM support to place, monitor and enforce SAP-directed retention periods or

legal holds on the data itself. CommonStore for SAP helps improve the performance of your SAP system by routing inactive data to an external back-end archive management system, reducing the amount of data online in the production system. You can store millions of SAP objects on your choice of storage devices. Using the SAP GUI (Graphic User Interface), you can then retrieve business content from these devices and distribute it electronically.

Beyond basic data archiving, CommonStore for SAP software provides full-featured document management capabilities, so you can manage a wide range of information and document types, keeping all relevant documents associated with their corresponding SAP transactions. By linking archived documents to SAP business objects, CommonStore for SAP software is designed to make business content—from purchase orders to human resources documents to inventory reports—available to authorized users virtually anywhere on your network, instantly, even after many years.

DB2 Compression feature helps reduce storage

IBM's DB2 Compression reduces database storage requirements as much as 70-85%. Unlike typical database compression technologies, DB2 Compression technology compresses data at the table rather than the page level. The total number of pages per table is reduced and less data is written to storage devices. Since storage represents nearly 48% of the total cost of a typical enterprise IT infrastructure, cutting storage costs can dramatically affect total costs.

Furthermore, database performance often improves when compression is added. The reason is simple: DB2 Compression reads less data from disk and does not unpack the data until it is in the memory, thus making more efficient use of I/O bandwidth and memory available to the server. As a result, queries and other activities execute significantly faster.

With DB2 Compression, the reduction in capital investment continues to spread toward test and development environments and local or remote mirroring, backup copies and disaster recovery sites. The savings quickly add up as additional storage-related costs are also reduced, including rack space, cables, floor space, and cooling and power systems, making an investment in DB2 Compression very attractive.

- A German customer deploying SAP ERP reduced their total database size from 2302 GB to 1102 GB, a 52% reduction, when migrating from Oracle to DB2.
- Coca-Cola experienced a 40% reduction in their production database.
- Nestle reduced their disk storage requirements by 48% while increasing query response times by 23%.

Products

IBM Content Manager Family

The IBM Content Manager Family of software manages all types of digitized content across multiple platforms, databases and applications. Built on a multi-tier, distributed architecture, it provides the scalability to grow from a single department to a geographically dispersed enterprise. It can be used as a repository for SAP documents and data archived by IBM CommonStore for SAP, integrating SAP, SAP-related and non-SAP documents into a single archive, maximizing efficiency for both SAP system and authorized non-SAP enterprise content management (ECM) system users, and promoting faster service for customers, suppliers, partners, and internal constituents alike. CommonStore for SAP works with IBM Tivoli Storage Manager direct to TSM storage to provide an easy-to-use, rapidly deployed SAP data archiving solution that can be easily expanded to include the IBM Content Manager or IBM Content Manager OnDemand ECM repositories to handle virtually any quantity and makeup of SAP and external documents and reports.

IBM FileNet Application Connector for SAP R/3

IBM FileNet Application Connector for SAP (ASCAP), certified by SAP is a document, data archiving and SAP workflow integration application that allows IBM FileNet® Content Manager P8 platform and FileNet Image Services customers to accelerate business performance and reduce risk with a comprehensive archiving and content-enabling solution proven over 15 years. ASCAP offers easy, cost-effective access to external documents associated with SAP transactions from any desktop within your organization as well as documents and data generated by SAP itself.

IBM Optim Data Privacy Solution for SAP

The IBM Optim™ Data Privacy Solution for SAP offers comprehensive, proven capabilities for de-identifying test data, making the data appropriate for testing, but useless to identity thieves and hackers. Optim's application-aware data masking capabilities understand, capture and accurately process SAP data elements so that the masked data does not violate application logic. Masked values resemble the look and feel of the original information. Functional tests pass all application validity checks. Most importantly, Optim propagates all masked data elements accurately and consistently throughout the SAP test databases, and to other related applications and databases.

Optim's Transformation Library routines allow for accurately masking complex data elements, such as Social Security numbers and e-mail addresses. Built-in lookup tables support masking names and addresses. You can also incorporate site-specific data transformation routines that integrate processing logic from multiple related applications and databases and provide greater flexibility and creativity in supporting even the most complex data masking requirements.

The resulting implementation helps protect the organization from the penalties and embarrassment associated with a data breach.

Case In Point: **Boston Scientific Corporation**

Boston Scientific Corporation speeds mission-critical information compliance and integration with IBM FileNet Image Services

The backbone of many mission-critical business processes at Boston Scientific is its SAP ERP system, accessed by all of the company's global sites. At Boston Scientific, SAP database growth was exceeding 60GB per month, but while not cost prohibitive from a storage perspective alone, as database growth increased, system performance decreased, resulting in slow response time and significantly reduced productivity for users. While the company had an optical storage system in place, the rising costs associated with purchases of optical media and ongoing maintenance made this solution of limited benefit.

Boston Scientific clearly needed a data archiving and retrieval implementation that would reduce the burden on SAP and eliminate the reliance on its aging optical system. In addition, the company needed a solution that not only provided easy data archiving and retrieval, but also complied with strict IRS and FDA retention requirements. Even though a significant amount of the company's information was rarely accessed, everything had to be quickly and easily accessible when it was necessary to retrieve it.

Seamlessly linked to SAP through ArchiveLink by the IBM FileNet® Application Connector for SAP (ACSAP), the combined FileNet Image Services and ACSAP system streamlines the transfer of SAP objects for archiving in the FileNet repository. These objects, numbered in the millions, encompass a wide range of document types that are critical to Boston Scientific's daily business, such as invoices, purchase orders and other purchasing information, production orders, sales orders and order confirmations.

Taking into consideration system backups, mirroring and production support, Boston Scientific saves about three terabytes (TB) of disk space and about $300,000 a year in deferred purchases as a result of using the FileNet Image Services system with its ACSAP solution. Dialog response time is 1.5 to 2 seconds and has stayed steady over a recent 3 to 5 year period, even though database growth has increased by 50 to 60 percent.

Thanks to the FileNet Image Services system's flexibility, and proven production imaging performance, users at Boston Scientific locations around the world can instantly retrieve virtually any document of any kind when it's required, and they never need to know exactly where in SAP the data is located. The ACSAP-Image Services system finds it for them and delivers it to their desktops for the ultimate in efficiency and productivity. In addition regulatory compliance is easier and more efficient as FileNet archives critical information of any type on WORM-capable (write once, read many) protected storage devices to ensure that data cannot be changed.

Meeting data retention, retrieval and privacy requirements for government and industry regulations as well as business process management

Almost 80 percent of the information held by an organization is unstructured data—e-mails, text messages, Web sites, faxes, paper invoices, image files, PDFs, video and other media (Gartner Research, "Consider Three Issues When Implementing an ECM Strategy," December, 2005). More data is on the way, too: each day, 15 petabytes of new information is being generated (IBM Global Innovation Outlook, 2006).

Regulatory inertia grows apace with the speed of information. Analysts commonly point to a figure of over 20,000 information compliance regulations worldwide, across federal, state and local governments, trade organizations and other institutions. SAP customer sites are looking for solutions that reach across applications and content repositories to manage and retain records for business collaboration, regulatory compliance and legal discovery. In addition, many organizations are subject to regulations enacted to protect personal information from misuse. Nearly every U.S. state now requires that individuals be notified if their confidential data is lost, stolen or compromised. Similar statutes abound in the global marketplace.

Gaining and keeping control of data requires a document and records management solution that enables indexing, searching and finding relevant information and delivers that information in a trusted context to the users who need it, when they need it. IBM Enterprise Content Management (ECM) provides control of SAP data and related content, both in terms of volume and of retention requirements. By using the certified interfaces into SAP for archiving, including the new WebDAV Storage Interface 2.00 which enables SAP NetWeaver ILM-based retention for archived SAP objects, IBM's ECM-SAP products make it easy to move eligible documents and data from SAP into a proven ECM archive to reduce the operational database size, improve transactional performance, and enable access to content by authorized users across the organization.

Beyond the issues of compliance and legal discovery, most organizations have information that, while accessed infrequently, has long-term business value and can be unlocked to provide competitive advantage. ECM plays an integral role for indexing and searching information held in corporate archives. IBM's ECM compliance infrastructure provides a single solution to help automate and streamline business processes to simplify records management and compliance archiving for all content types, including e-mail, while enabling eDiscovery.

The IBM ECM Compliance Infrastructure helps enterprises meet regulatory requirements, reduce the costs associated with paper-based processes and increase worker effectiveness by digitizing paper materials at the front end, then records enabling and storing the digital documents in a secure content repository. Regulatory compliance and process efficiencies are attained by attaching the documents to automated business processes, with audit controls, archiving and retention policies, to make certain the background data, content and process flow are easily retrievable for regulatory and legal discovery, and destroyed when required. Integrated with IBM hardware and storage, the solution provides end-to-end compliance support.

For those organizations with data outside of SAP, IBM provides archiving solutions for all other package and custom applications through the Optim portfolio. Optim provides application-independent access to archived data so organizations can use their preferred report tool. IBM Optim enterprise archiving solutions focus on critical business issues such as data growth management and e-discovery and compliance. Optim aligns application data management with business objectives to help optimize performance, mitigate risk and control costs, while delivering capabilities that scale across enterprise applications, databases and platforms.

Protect Privacy While Supporting Development with Data De-Identification

While companies can protect private information in their SAP production transaction processing environments by securing and restricting access to underlying data, the larger issue of how to protect the data while supporting application development, testing, training, backup and other activities persists. While privacy experts maintain that application developers and testers should have zero access to personally identifiable information, developers and testers require access to valid data to accurately test and deploy their SAP applications.

Data de-identification, commonly known as data masking, provides the best way to provide privacy and support compliance while still providing realistic, application-aware data for use in development, testing, training and other legitimate business purposes. Personally identifiable information is removed from the database. Transformation algorithms are applied to produce fictional but contextually accurate data, and this information is substituted for the original source data.

As a recognized best practice, de-identifying data provides the most effective way to protect privacy and support compliance initiatives. IBM Optim Data Privacy Solution for SAP offers application-aware data masking capabilities understand, to capture and accurately process SAP data elements so that the masked data does not violate application logic. Masked values resemble the look and feel of the original information. For example, country-specific surnames are replaced with random country-specific surnames selected from proprietary lookup databases, not with meaningless text strings. Numeric fields retain the appropriate structure and pattern. Checksums remain valid, so that functional tests pass all application validity checks. Most importantly, Optim propagates all masked data elements accurately and consistently throughout the SAP test databases, and to other related applications and databases.

Optim provides sophisticated capabilities, including built-in lookup tables for masking names and addresses. Prepackaged routines allow for accurate transformation of complex data elements, such as Social Security numbers, credit card numbers and e-mail addresses. You can also incorporate site-specific data transformation routines, integrating the processing logic from multiple related applications and databases. And Optim supports all major enterprises databases and operating systems.

Products

IBM Information Server

IBM Information Server is a unified data integration platform for building and running SAP on trusted information. Having correct and consistent data is a key success criterion for SAP Go-Live projects. Failing to have such trusted data in place has been the reason for many project delays as well as project cost overruns. IBM Information Server provides the means to generate the trusted data you need for initially loading the SAP system as well as keeping the data consistent across a multitude of applications. It provides the tools to understand your data, cleanse and transform it consistently, and deliver it on a regular basis to target applications.

IBM InfoSphere Data Event Publisher

IBM InfoSphere® Data Event Publisher captures database changes or events in DB2 for Linux, UNIX or Windows, formats them into XML messages and publishes them to IBM WebSphere® MQ. It makes it easy to link data events with business processes. Any application or service that integrates with WebSphere MQ directly or supports Java™ Messaging Service can asynchronously receive the data changes as they occur. For example, it can receive changes as they occur from a DB2 database and automatically send the changes for update to an SAP application.

IBM InfoSphere Data Quality Module for SAP

IBM InfoSphere Data Quality Module for SAP provides a trusted means of searching and matching and also empowers users by preventing the creation of duplicate customer and business partner information, thus creating a perimeter defense for an SAP implementation. This solution is certified by the SAP Integration and Certification Center. The result is a powerful, seamless integration made available across the extent of an SAP implementation including mySAP, CRM, and ERP.

IBM InfoSphere DataStage

IBM InfoSphere DataStage® is an Extract, Transform and Load (ETL) solution that supports the collection, integration and transformation of large volumes of data, with data structures ranging from simple to highly complex. It integrates data on demand with a high performance parallel framework, extended metadata management, and enterprise connectivity. It integrates data across multiple and high volumes of data sources and target applications including SAP. It is available for both distributed and mainframe platforms.

IBM InfoSphere Information Server Pack for SAP R/3

IBM InfoSphere Information Server Pack for SAP enables users to both extract from, and load data to, SAP and mySAP Business Suite application modules. This ensures data can be used across the entire organization. Once extracted, InfoSphere DataStage can enrich SAP data by mapping, aggregating, and reformatting it for use in other applications. It supports three separate SAP interfaces – ABAP, IDoc and BAPI. These interfaces provide maximum flexibility and choice for extracting or loading data and using the correct method to handle the volume of data you need to manage.

Case In Point: **Forrester Single Company Analysis**

In February 2008, IBM commissioned Forrester Consulting to examine the total economic impact and potential return on investment (ROI) enterprises may realize by deploying IBM Information Server as part of an overall Master Data Management strategy for trusted data needs within SAP applications. Forrester found the use of Information Server with an effective Master Data Management strategy can produce significant cost savings that impact licensing, labor (both internal and external), business processes and others.

Forrester profiled a European manufacturing organization currently using IBM Information Server solution in conjunction with SAP. The manufacturer had embarked on a Master Data Management strategy around enterprise-wide data, to provide close integration between data quality and integration and global business processes. The manufacturer was challenged by the need to have access to relevant customer and supplier data, and looking to improve the efficiency and effectiveness of its business unit staff by reducing the time to reconcile potentially conflicting information from disparate sources.

Prior to the organization's investment in IBM Information Server, information fed into the organization's SAP platform came potentially from multiple sources. The time to integrate and manage sources of information was time consuming and costly.

The immediate benefit to the organization was to improve business and IT process efficiency within the organization's order-to-cash and purchase-to-pay operations, as well as reduced development cost in integrating different sources of siloed data In addition, implementing IBM Information Server with SAP allowed the organization to further improve additional processes allowing for deeper operational data visibility.

Among the specific benefits the manufacturer realized were an anticipated 50% cost reduction savings in development cost and a 70% reduction in cost associated with maintaining FTE's to reconcile electronic order errors. The organization also realized the flexibility of the IBM Information Server platform to drive other benefits into the future:

- Improving the accuracy and data quality for data used as part of their SAP Business Warehouse analytics
- Improving the accuracy of credit scoring of their partners
- Better management of vendor purchase order information
- Increasing the likelihood of reducing the number of sourcing vendors across global contracts
- Providing additional visibility to the overall ownership of partner organizations
- Improving the visibility and granularity of individual product specifications

Forrester concluded that the value of these integration capabilities applies to both new SAP deployments as well as providing sustainable capabilities over the existing implementations/upgrade lifecycle.

Master Data Management: Integrating and leveraging trusted information

Trusted information is a business asset driving operations, strategy and performance of the enterprise, supporting one version of truth about the organization. One version of the truth forms the basis for data quality, universal data access, latency reduction, information integration, data lineage and the introduction of governance and data control features.

To establish trusted information, data control must happen outside the application portfolio, with an information management layer inserted between applications and data employing common metadata for all data sources. The functions of the information management layer are:

- **Unified data access—**data can be accessed in a standard way from any authorized application regardless of access mode selected
- **Information integration—**information sources can be combined regardless of location and technical implementation
- **Common metadata—**the structure of all sources is commonly described and any changes are immediately effective
- **Data lineage—**the origin of data is tracked and any changes are recorded allowing detailed back-tracking
- **Implementation of governance and compliance-related rules—**allows for central control even in decentralized environments
- **Master data management—**provides joint, transaction-based management for data that is shared between multiple applications throughout the lifecycle of the data

With an information management layer inserted between SAP and other applications and data, efficient, sustainable data governance is possible by a central responsibility management. Data quality improves, greatly reducing the costs involved in scrubbing data and correcting errors; overlapping, redundant sources of data are eliminated in favor of fast, secure decision-making; reductions in downtime and easier application upgrade paths lower cost and provide for better alignment of IT with business.

With the ever-increasing pace of business and regulatory requirements changing from moment to moment, it is essential to be able to implement new measures at speed without having to wait for application changes or tricky implementation adjustments. Using an information management layer separate from data sources and applications eases compliance, increases transparency, dramatically improves flexibility and significantly reduces costs. Information becomes a freely accessible asset that can be managed uniformly and made available as a service.

Products

ILOG LogicNet Plus XE

ILOG LogicNet Plus XE is a network design and planning solution that combines advanced optimization technology with an easy-to-use graphical user interface to manage the world's most complex supply chains. ILOG LogicNet Plus XE facilitates quick analysis of the tradeoffs between production, warehousing, transportation costs, carbon footprint, and service requirements; as well as the calculation of the optimal network configuration for different cost and service objectives.

ILOG Inventory Analyst

ILOG Inventory Analyst is a Web-based, multi-echelon inventory optimization solution that provides end-to-end functionality. It handles both inbound/outbound and distribution-focused business models, allowing companies to answer a broad range of business questions—from determining the right inventory policies and strategic positioning of inventory, to the ongoing setting of safety stocks and inventory levels in operational environments.

ILOG Product Flow Optimizer

ILOG Product Flow Optimizer is a powerful and easy-to-use integrated stocking and distribution strategy solution. Businesses can analyze tradeoffs between transportation, warehousing, inventory carrying costs, and service requirements to arrive at the optimal product delivery path for customers.

ILOG Plant PowerOps

ILOG Plant PowerOps takes production planning to a new level for managing demand variability and building executable schedules. ILOG PPO offers integrated planning and detailed scheduling for the difficult production challenges associated with the fast-moving consumer goods, pharmaceutical and chemical industries.

ILOG Transportation Analyst

ILOG Transportation Analyst lets you quickly analyze many different transportation network strategies so you can promptly determine the best way to deliver your products and utilize your transportation assets. Manage your vehicle shipment assignments and determine your company's pickup and delivery sequencing to minimize costs while adhering to business constraints.

ILOG Optimization Decision Manager (ODM) Enterprise

ILOG ODM is a specialized application development tool that helps users build and deploy decision support applications, putting the power of optimization into the hands of business people. Modelers and IT collaborate to build decision support applications that planners, analysts and operations managers can trust and use quickly and comfortably.

Case in Point: **Consumer Packaged Goods Company**

One of the leading consumer packaged goods manufacturers in the world was focused on the manufacturing network for one of its main product lines. Products sourced from the company's own plants and contract manufacturers throughout the world are shipped to end customers through local and regional distribution networks.

The company sought to identify the best manufacturing locations throughout the world in order to minimize supply chain costs, identify production volumes for each product at each manufacturing location and the markets served by each plant. Finally, the company wanted to explore network expansion for growth, as well as address risks such as natural disasters, port delays and strikes.

Via an analysis of results obtained via IBM ILOG LogicNet Plus, the company was able to determine the optimal manufacturing network, identifying a cost reduction of $15 million. Cost reduction was in part due to closing expensive plants in high labor markets and reallocating some of the assets to cost-effective locations. Optimally reallocating production volumes and utilizing cheaper freight lanes helped the company reduce costs further.

Products are now manufactured in optimal locations based on local regulations, cost allocations and resources.

Mathematical Optimization: Smarter supply chain decisions

ILOG, now part of IBM, is recognized in Supply Chain Management as the provider of mathematical optimization technologies and consulting services to the leading SCM vendors, including SAP, and manufacturers and distributors looking to solve complex production and distribution problems outside of their packaged applications. IBM ILOG Optimization technologies, and optimization-based IBM ILOG Supply Chain Applications, are in use at over a thousand customer sites around the world, in many cases complementing existing SAP installations. In fact, ILOG had been an SAP software partner for supply chain network design, and its network design and planning products have a certified integration with SAP APO. Additionally, "Powered by SAP NetWeaver" certifications have been attained for IBM ILOG Supply Chain Applications for inventory positioning and optimization, and integrated production planning and detailed scheduling ILOG and SAP have also jointly delivered award-winning custom solutions to complex industry-specific production and distribution problems.

Extending the value of SAP Supply Chain Management

SAP SCM delivers a set of features and functions for building adaptive supply chain networks, including supply chain planning and collaboration, execution, visibility design and analytics. SAP SCM provides the ability to sense demand and respond to it through an adaptive supply chain network in which distribution, transportation and logistics are integrated into real-time planning processes, while enabling monitoring and analytics of the performance of the extended supply chain using predefined key performance indicators (KPIs).

However, there are some important areas where additional capabilities are required but not provided by SAP. One of these areas is strategic supply chain planning, where the ability to quickly and easily model the supply chain and run different what-if scenarios requires optimization capabilities and a different type of interface than those required for operational systems. Other areas include setting safety stock across the supply chain and providing integrated production planning and scheduling to the process industry. This end-to-end supply chain optimization, referred to as global optimization, enables your supply chain to move toward the efficiency frontier, satisfying service level targets while minimizing system wide cost.

ILOG Supply Chain Applications provide this complementary capability through the LogicTools suite of planning solutions. The LogicTools suite considers the entire network, taking into account production, warehousing, transportation and inventory costs, as well as service level requirements.

The LogicTools suite is a powerful, easy-to-use integrated set of planning solutions that allows decision makers to easily build scenarios and troubleshoot models, efficiently optimize large-scale supply chains, and effectively identify and explain key supply chain cost drivers. Optimization-based decision support and operations solutions improve the overall decision-making process for an organization's supply chain. ILOG's optimization solvers enable large and complex supply chains to be optimized in a short amount of time. These off-the-shelf advanced optimization solutions have been used in many industries, including retail, transportation and manufacturing.

ILOG LogicNet Plus complements SAP SCM and has a certified integration with SAP APO. The LogicTools suite has also received "Powered by SAP NetWeaver" certifications for ILOG Inventory Analyst and ILOG Plant PowerOps.

"Cognos® gives us ad hoc, static and formatted reporting to help us answer questions on the fly. This enhances our investment in SAP. Our business users build their own reports, rather than relying on programmers to navigate the SAP report-building environment."

Mark Sauvageau,
Chief, Operations and Matrix, Financial Management
US Army, ARDEC

Products

IBM Cognos 8

Superior investment returns can be generated from data residing in the SAP Business Warehouse through initiatives which improve the efficiency for accessing data, and improve the overall effectiveness of the data. IBM Cognos 8 delivers an industry leading performance management platform based on a consistent and modern architecture, innovative patent pending technology developed specifically for the SAP Business Warehouse, and, unique performance management knowledge and expertise.

- Improved utilization of SAP data
- Broader user reach and frequency of access
- Reduction in stranded spreadsheets and ad-hoc data marts
- Fact-based decision making using trusted data from the Business Warehouse
- Extending existing SAP skills, knowledge and expertise while reducing IT backlogs

Using IBM Cognos 8, SAP customers are able to generate a net gain in value form investments in SAP Business Warehouse by increasing data access based on in lieu of driving decisions and actions based on consistent fact and reliable information. IBM Cognos 8 uses a modern, open, and unified, performance management platform which enables Business Users to access the information they need through a Web browser, Microsoft® Office, search engines and mobile devices. As a result, specialized IT skills are no longer drained, responsiveness increased as business users directly interact with accessible, trusted, reusable, and easily customized business intelligence and performance management content.

In addition, using IBM Cognos 8 delivers value to SAP IT teams by avoiding data source dependencies and custom development associated with disparate point products. Business users are provided with a consistent browser-based interface, and the ability to seamlessly transition between performance management capabilities without having to manage around data source limitations and a lack of true interoperability between reporting, dashboarding, scorecarding, analysis, planning and forecasting capabilities.

A consistent semantic layer enables scalable enterprise access, avoids extraction of SAP Business Warehouse data into spreadsheets or custom datamarts and leverages existing SAP IT skills with a model once, use for all performance management capabilities approach. The results are reductions in IT backlogs, business users focused on decision-making, rather than data gathering, all with the use of centralized and governed data that is both secure and trusted.

iLOG Inventory Analyst for Inventory Optimization

ILOG Inventory Analyst is a multi-echelon inventory planning solution that helps companies improve their profitability by strategically positioning and optimizing inventory across the supply chain. Based on recent research in inventory management and proprietary stochastic and nonlinear optimization technology, ILOG Inventory Analyst is a revolutionary solution for optimizing inventory and service levels.

Since SAP does not have a module that can perform this type of inventory analysis, supply chain managers and executives need to complement their SAP investment with technology that can feed safety stock information to their systems. ILOG Inventory Analyst is certified for SAP NetWeaver BI.

Case In Point: **Tellabs**

Tellabs optimizes performance through better Business Intelligence

Tellabs' sales organization was drowning in data. Almost 40 different SAP reports were being circulated weekly to the sales teams, and the executive team had to sift through 19 separate daily reports. There was no easy way to look at the business, and time was being wasted juggling all the numbers. The organization sought to take the emotion and time out of business decisions, and get to one version of the truth for the entire sales organization.

Tellabs installed IBM Cognos 8 to leverage the data held in their SAP Business Warehouse and infrastructure. Cognos 8 enabled Tellabs to set up dashboard views of their data, with three primary dashboards for the entire team accessible instantly from desktops and handhelds. Each sales team member has access to Instant Entry Views for a quick snapshot of the state of the business at any given time, with simple navigation tabs which group business scenarios.

The benefits to the business were instantaneous, as Tellabs could now understand the impacts of running their business with a dashboard. Data is refreshed daily, providing analysis stability. There are no more emotional arguments over numbers, as everyone has access to one version of the truth. Users can drill down farther into reports where necessary depending upon their level of access to the system.

Countless reports, broadcasts and spreadsheets have been eliminated, replaced with a synchronized view of sales performance from the executive level down to the sales representatives. Executives have increased visibility into the information that matters, enabling faster, more precise decision-making and end-of-the-quarter nimbleness. Sales can now coordinate instantly with the supply chain to eliminate supply gaps, and growth businesses are identified earlier, enabling quicker support of the businesses that are making money. Tellabs now has a BI platform that can grow with their business.

Streamlining business processes by improving utilization and access to information contained within SAP

Organizations that have made strategic investments in SAP technology do so with expectations of tangible returns. Data residing within the SAP Business Warehouse is clearly of current and potential value, but all value is not truly realized unless a predictable and efficient access path to trusted information is provided which enables better business outcomes—the kind that come when an enterprise can clearly see the road ahead based on the information they have today.

Without a performance management solution, investments in the SAP Business Warehouse can result in stranded data, limited business access, proliferation of custom spreadsheets, excessive focus on gathering data and arguing over numbers. In addition, many customers find SAP IT talent is squandered on low-value tasks such as creation of rudimentary reports and other performance management content.

IBM Cognos 8 delivers an industry-leading performance management platform based on a consistent and modern architecture, innovative patent pending technology developed specifically for the SAP Business Warehouse, and unique performance management knowledge and expertise. The challenge of ensuring information is complete, reliable, timely and trusted is enabled with IBM Cognos 8 by ensuring:

- All relevant sources and context can be used as data inputs
- Data is factual, error free and not subject to "spreadsheet customization" or multiple interpretations
- Information is readily available and not impacted by access delays
- The data comes from a reliable source based on IT governance and security practices

IBM Cognos 8 is unique in the ability to readily combine SAP and non-SAP data and then utilize all data consistently across all performance management capabilities. This capability ensures complete information, decision context and reliability for business users. The solution can combine transactional, warehoused, relational and OLAP data as well as modern and ad-hoc sources through a single, trusted semantic layer that enables data to be modeled once, yet used everywhere.

A Unified, SAP-Certified Decision-Making Platform

With IBM Cognos 8, improving the efficiency of access and use of data residing within the SAP Business Warehouse is based on a common user experience for all performance management capabilities via a single, unified platform. A unified platform reduces the need for excessive end-user training, enhances the distribution and dissemination of timely and relevant content, reduces duplication of data modeling, and simplifies and incentivizes user adoption. Information is presented the way users understand it, on quick, efficient scorecards.

Use of the platform requires minimal involvement of specialized IT skills while leveraging existing Business Warehouse practices, processes and investments. IBM Cognos 8 provides a next generation, patent-pending, SAP-certified interface with the SAP Business Warehouse. Customers are able to extend existing InfoQueries, business rules, security, hierarchies and variables as well as access all InfoProviders and other structures consistently across performance management capabilities.

Self-service content creation, on the fly and ad hoc content customization across all performance management capabilities is made possible through a common view of content, plans and report specifications. Business users are provided

the unique flexibility to quickly change content and context without redevelopment effort and pleading for IT assistance. The results are reduced IT backlogs and top-speed decision making, all while increasing user appetite and use of data from the Business Warehouse.

The IBM and SAP Relationship

IBM and SAP have been strategic partners for more than 35 years, and IBM sees its SAP partnership as one of IBM's most important alliances. IBM adds value to SAP environments with a full breadth of services, infrastructure and software solutions.

- IBM has been a development partner of SAP since 1972
- IBM and SAP share more than 10,000 customers
- IBM's internal SAP implementation is one of the largest in the world
- SAP is IBM's premier application solution partner
- IBM maintains the largest SAP practice in the industry with more than 16,000 consultants worldwide
- IBM and SAP have jointly established Centers of Excellence and an International Competence Center to ensure success of its joint customers

IBM has stated that it will follow the strategy of supporting any ECM-related technology or interface provided by SAP with its own products. Thus, customers can combine processing of SAP business data along with the management of any related content using IBM systems.

IBM SAP International Competence Center (ISICC)

IBM has established a network of SAP Competence Centers. Headquartered in Walldorf, Germany, home of SAP, the IBM SAP International Competence Center (ISICC) serves as the Centers' central access point. At the ISICC, experts from IBM work closely together with SAP specialists to assure synergy among our products, skills and services. The Center also serves as the focal point for our clients, consultants and system integrators.

© Copyright IBM Corporation 2009

For more information

To learn more about leveraging your SAP investments for smarter business outcomes, and moving your business forward, speak with your IBM sales representative or visit **ibm.com**/solutions/sap

IBM Corporation
Route 100
Somers, NY 10589
U.S.A.

Produced in the United States of America
September 2009
All Rights Reserved

IBM, the IBM logo, ibm.com, AIX 5L, Cognos, DataStage, DB2, FileNet, ILOG, InfoSphere, Optim, System p5, Tivoli, WebSphere and z/OS are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at **ibm.com**/legal/copytrade.shtml

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft and Windows are trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Other company, product, or service names may be trademarks or service marks of IBM or others.

References in this publication to IBM products or services do not imply that IBM intends to make them available in all countries in which IBM operates.

LIB14005-USEN-00