



**Information Management** software

## Delivering simplified access to business insights with IBM DB2 Warehouse



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As globalization gains momentum and the world of business becomes increasingly “flat,” geographic and regulatory advantages are becoming less relevant. Thanks to similar technology and innovations, new ideas can be copied quickly—so companies cannot differentiate themselves with their products alone. Infrastructure and personnel costs are spiraling, and ensuring compliance with strict regulations is costly but required. To stand out, companies must use the information collected throughout the enterprise to provide better service and more highly targeted product offerings.

Valuable information—whether structured or unstructured, operational or transactional, real-time or historical—is scattered throughout every enterprise. This information may reside in databases and data warehouses, e-mails and transaction logs, customer call logs, shopper behavior or repair orders. When leveraged properly, it can be used to make better decisions and drive sales, improve processes and services, boost team productivity, reduce the risks inherent in doing business and streamline relationships with customers, trading partners and suppliers.

To accomplish these objectives, companies must reach farther into critical business data and look more deeply to find hidden relationships, patterns and trends. They must also act more quickly using reliable, timely insight to drive sales, improve productivity and strengthen relationships with customers, partners and suppliers—all while keeping risks in check. However, barriers between information sources can make it difficult for people and applications to quickly and cost-effectively use information to solve business challenges.

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Highlights

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*Status quo data warehousing solutions often cannot meet business requirements.*

**Limited reach, depth and responsiveness hamper access to actionable information**

A variety of technological barriers may limit the types of information that businesses can leverage, the groups of people who can access the right information and the speed at which it can be accessed. These barriers are the result of both historical IT system limitations and the way institutional processes are designed.

Because customer demands and competitive threats are evolving more rapidly than ever, status quo data warehousing solutions often cannot meet business requirements. These requirements may include helping employees gain insight from relevant real-time and historical information sources, using information to optimize strategic and tactical decision making or transforming key business information—and the way it is accessed, analyzed and acted upon—into competitive advantage.

To make better use of information, organizations must overcome limitations within existing environments. Current infrastructures typically have limited reach—which means that with the proliferation of transaction systems, business users must cast a wider net over the types of information they can combine and analyze to support better decision making. Unstructured information such as call center notes, product information or customer information as well as structured information that resides in databases should be analyzed. Access to business intelligence (BI) tools and analytics should not be limited to high-level decision makers and specialized analysts. Instead, enterprises must deliver useful information to more people as part of everyday business processes.

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Highlights

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*Businesses have a significant advantage over competitors if they can quickly analyze all types of information and deliver actionable insights to executives and frontline decision makers.*

In addition, existing information infrastructures often have limited depth. Business users must be able to get answers to more intuitive and complex ad hoc questions. IT teams require more flexible tools that can capture and deliver more types of information in the way that users need it—without driving up costs or creating management challenges.

Limited responsiveness also inhibits the effectiveness of many existing information infrastructures. Businesses have a significant advantage over competitors if they can quickly analyze all types of information and deliver actionable insights to executives and frontline decision makers. However, in older BI systems, only select users have access to limited types of data. Creating new information views requires technical expertise, which can restrict the speed at which tools can be modified to support business strategy. From a technical perspective, part of the challenge of supporting large numbers of users is enabling them to customize how they receive information based on their specific needs.

By overcoming these challenges and achieving access to insight on demand, businesses can achieve several critical objectives. They can microtarget small consumer segments and communicate with them about their individual needs and wants, as well as identify microtrends that can transform the enterprise. They may also be able to detect relatively small patterns of behavior that can have a significant influence on business. Most importantly, they can build competitive strategies around data-driven insights and generate impressive business results.

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Highlights

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*IBM DB2 Warehouse is designed to be the first comprehensive data server that enables businesses to centrally, accurately and securely analyze and deliver information as part of operational and strategic business applications.*

**Achieve insight without boundaries with IBM DB2 Warehouse**

Through dynamic warehousing, IBM can help companies extract insight from virtually any type of data—helping to deliver the right information at the right time so business leaders can make the right decisions. The IBM dynamic warehousing solution integrates data warehousing and business analytics to help define a company's central business concepts and the data required to support those concepts from an enterprise-wide perspective. It allows organizations to pull data from source systems that traditional business intelligence and data warehousing solutions cannot access, which can make it easier for IT organizations to support business requirements for actionable information—not just raw data, but data with intelligence behind it to help people take action and make sound business decisions.

IBM® DB2® Warehouse is a complete, multipurpose environment that allows companies to access, analyze and act on operational and historical information—whether structured or unstructured—enabling them to get the insight and agility they need to consistently generate new opportunities, contain costs and satisfy customers. It is designed to be the first comprehensive data server that enables businesses to centrally, accurately and securely analyze and deliver information as part of operational and strategic business applications. Unlike traditional data warehouses and BI approaches that are complex, nonintegrated and rigid, DB2 Warehouse solutions help simplify the processes of selecting, deploying and maintaining an affordable information management infrastructure that delivers the flexibility required by organizations to dynamically integrate and transform data into actionable business insight.

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Highlights

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*DB2 Warehouse is available as a stand-alone software solution or as part of preconfigured, preintegrated, pretested IBM Balanced Warehouse solutions.*

From a technical perspective, the DB2 Warehouse platform provides a fully integrated environment built around IBM DB2 9.5 server technology on Linux®, UNIX® and Microsoft® Windows® platforms. Common development and management user interfaces are designed to support application development, data modeling and mapping, SQL transformation, online application processing (OLAP) and data mining functionality. These features help to support the needs of business users to access, analyze and act on insights from virtually all types of information.

DB2 Warehouse is available as a stand-alone software solution or as part of preconfigured, preintegrated, pretested IBM Balanced Warehouse™ solutions, which combine the simplicity of warehousing appliances with greater flexibility and reusability, better performance characteristics and greater functionality. Companies can choose from five versions—starter through developer—that can help them to easily and flexibly grow the environment.

DB2 9.5 Enterprise Data Server, the core engine of DB2 Warehouse, can be deployed on servers of any size, from a single CPU or server to hundreds of CPUs and servers. It offers a highly scalable and robust architecture combined with a comprehensive set of availability capabilities. Data partitioning features give businesses the scalability to support very large databases as well as complex workloads and increased parallelism for administration tasks. Advanced workload distribution, partitioning and data awareness also help to ensure optimized query execution and resource utilization.

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Highlights

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***Companies can use DB2 9.5 Enterprise Data Server to consolidate and migrate physical datamarts throughout the organization into a single warehouse environment and model.***

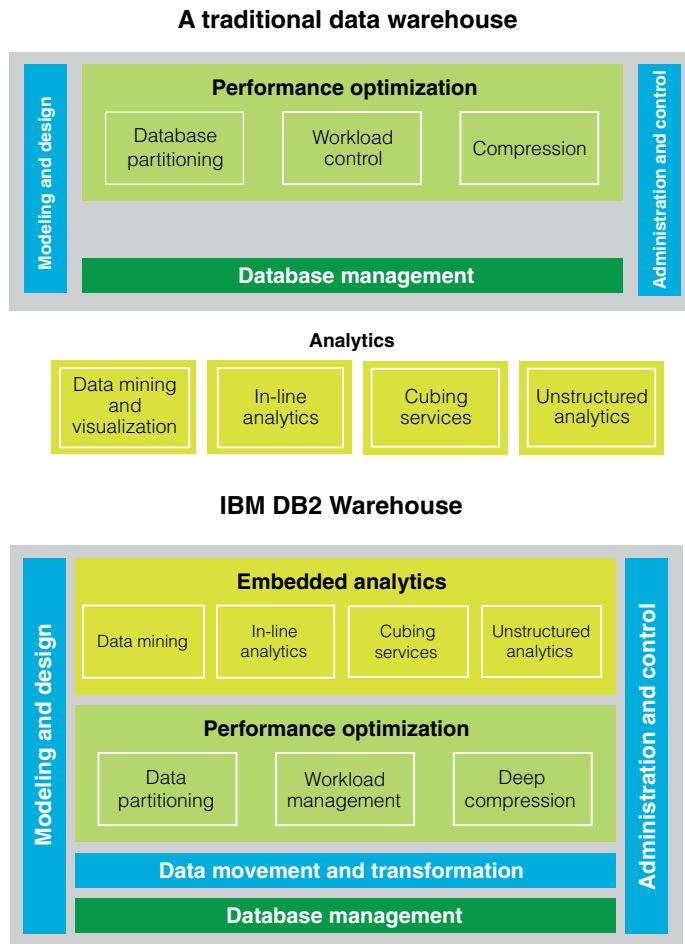
Companies can use DB2 9.5 Enterprise Data Server to consolidate and migrate physical datamarts throughout the organization into a single warehouse environment and model. The platform facilitates logical or physical implementations of the datamarts—thus placing it ahead of competing products that typically need dependent datamarts or highly denormalized data models, aided by SQL hints for high-performance reporting. Enterprise Data Server also helps to minimize storage, management and processing overhead while preserving user functionality and performance.

**Using embedded analytic services for enhanced insight**

Traditional business intelligence tools are separate from the data warehouse, which creates two significant challenges:

- *Data analysis requires that data be copied out of the warehouse, which introduces serious risks and limitations. The process may not capture all of the data or the most current data—and it requires copying the data again for every query, which is time-consuming and does not allow for real-time analysis.*
- *Companies must maintain a set of tools that is separate from their data warehouse. They must upgrade or add new tools to the database and maintain the integration as the infrastructure evolves.*

Figure 1: Unlike traditional data warehouses, IBM DB2 Warehouse embeds analytics functions within its architecture for enhanced insight, performance and simplified management



DB2 Warehouse eliminates these challenges by building BI tools directly into the platform (see Figure 1). Because this model eliminates the need to create and maintain duplicate copies of data along with the additional overhead necessary



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Highlights

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*By enabling businesses to extract knowledge and insights from previously untapped information, the unstructured analytics capabilities built into DB2 Warehouse can help to broaden the scope of information used in decision making.*

to maintain those copies, users are always working with the most complete and up-to-date information. Users can even access analytics tools from frequently used applications such as Web browsers or spreadsheets. This capability makes it easy to assemble applications, dashboards and other analytic views that deliver actionable information without requiring technical expertise.

DB2 Warehouse also enables native processing in the warehouse and includes two basic annotators—dictionary and pattern-based extractors—out of the box. It is designed to simplify the process for assembling in-line analytics applications with point-and-click functionality. The platform also provides analytics application code that can be quickly modified and extended to address emerging business needs.

**Reach farther with unstructured analytics**

In the past, BI systems could only collect and analyze structured information. By enabling businesses to extract knowledge and insights from previously untapped information, the unstructured analytics capabilities built into DB2 Warehouse can help to broaden the scope of information used in decision making. Analysis of unstructured data such as call center notes can help organizations predict customer interest in associated or new products to generate cross-sell opportunities and growth.

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Highlights

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***DB2 Warehouse allows companies to extract interrelated knowledge from both structured and unstructured data.***

DB2 Warehouse allows companies to extract interrelated knowledge from both structured and unstructured data by combining a set of search, text analytics and visualization capabilities with unstructured analytics using existing tools and advanced search, text analytics and visualization capabilities. The platform automates key processes, making it easier to find issues in unstructured data and perform causal analysis relating them to associated structured data. Through this capability, companies can gain a better understanding of both immediate and long-term business issues and opportunities.

Unstructured analytics capabilities are preintegrated and tested within DB2 Warehouse to help simplify implementation and maintenance and improve user adoption and return on investment (ROI). With a better understanding of the customer experience, companies can more effectively address issues encountered by their most profitable customers to reduce loyal-customer churn. In addition, these capabilities can help businesses avoid costly recalls and lawsuits with early warning reports.

**Look deeper with integrated OLAP cubing services**

Historically, access to business intelligence tools and reports has been limited to select “power” users and groups of decision makers. However, cubing services OLAP in DB2 9 allows companies to provide any employee with tools designed to help analyze business data and generate business insights.

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Highlights

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*DB2 Warehouse offers outstanding scalability to handle large cubes of up to 11TB while also maintaining high performance and keeping costs down.*

Using cubing services OLAP, users can ask intuitive and ad hoc questions that require multiple perspectives on data. This feature enables the exchange of information between systems, allowing business users to link multiple business variables together to perform deeper analyses than previously possible. In addition, rich presentation components allow visual analysis of data mining results, which can then be embedded into Web-based applications, customized and distributed to a broad range of users.

DB2 Warehouse offers outstanding scalability to handle large cubes of up to 11TB while also maintaining high performance and keeping costs down. Through this feature, IT managers can maintain better control over unexpected resource consumption. The platform also uses standard interfaces to connect various analytic tools and support deep, multidimensional analysis of business information to generate insight while reducing costs. The platform supports mixed-mode environments with predictable results, helping to ensure that the database execution environment matches allocation of resources and active work to business priorities.

**Act faster with extreme workload management**

Data warehousing environments can be complicated, requiring specialized software and powerful hardware to deliver on service level agreements (SLAs). As the number of users who must access real-time business intelligence grows over time, enterprises often have difficulty balancing system performance, administrative workloads and costs. IBM helps companies address these challenges with DB2 Warehouse extreme workload management capabilities, which are designed to help companies consolidate the workloads from all business areas while better meeting business service level requirements for each group.

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Highlights

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*Extreme workload management capabilities help deliver real-time insight to large numbers of users without compromising performance.*

**IBM DB2 Warehouse in the real world**

The New York Police Department's (NYPD's) innovative information management approach focuses on delivering relevant, comprehensive, insightful information to police officers from the moment they receive a new case. Today, NYPD uses DB2 Warehouse to help deliver crucial information to officers within moments of a reported crime—a brief window during which the right information can potentially lead to faster arrests. Officers now have unprecedented fingertip access to information—such as 911 call logs, parole and probation files and recent crime reports—from scores of systems nationwide, plus the details on possible suspects in the vicinity. The ability to more easily explore all existing relevant information using analytics—including insight that is not captured in a typical data warehouse or transaction system—enables officers to act more quickly to save lives.

Extreme workload management capabilities help deliver real-time insight to large numbers of users without compromising performance. By allowing users to rank database queries according to business priority and allocate resources accordingly, the platform helps ensure that SLAs for key departments, customers and users are met while supporting the needs of all users.

DB2 Warehouse provides a high degree of control and workload monitoring with minimal overhead to achieve stable, predictable delivery of data to applications according to service level priorities. No additional hardware or software is required to support more people or to add applications. This means that IT managers can consolidate multiple solutions into a single environment without compromising performance—helping to reduce administrative workloads and costs.

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Highlights

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*IBM DB2 Warehouse can help streamline compliance through audit management features.*

Ultimately, companies can save money as a result of providing users with a more holistic view of the company, a consistent view of information across functions and the ability to better analyze performance across divisions and activities. DB2 Warehouse includes robust monitoring and automation capabilities designed to help businesses proactively diagnose and resolve database issues to maintain optimum performance. In this manner, the platform can help companies apply business intelligence more broadly to improve operational business processes throughout the organization.

**Enable IT managers to support the needs of the business through enhanced management capabilities**

Complex environments like data warehouses often mean complicated system administration, which reduces the time that IT managers can spend focusing on strategic projects to support business objectives. DB2 Warehouse helps organizations address this challenge by simplifying administration of data environments with an integrated software package that incorporates tools for deploying, managing and supporting data mining, modeling and analytics capabilities.

DB2 Warehouse is designed to allow IT employees to spend more time on activities that add value rather than managing the data warehouse and BI systems. It can help streamline compliance through audit management features designed to simplify the process of determining who accessed or changed sensitive financial data and when. In addition, the platform can help organizations balance heavy data loads and query times by providing a quick, security-rich means for archiving historical data on an archived database.

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Highlights

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*Performance management features can help reduce support costs and maximize performance as warehouse deployments expand and new BI applications are added.*

Through new DB2 Warehouse Performance Management Suite features such as workload management, IT managers can better understand the effects of different applications and users on resources and performance to optimize system configuration. In addition, performance management features can help reduce support costs and maximize performance as warehouse deployments expand and new BI applications are added.

Graphical tools for complex transformations, native connectivity to non-DB2 sources, advanced workflow control, and scheduling and automating data mining can help simplify warehouse integration. In addition, unique storage optimization technology can dramatically reduce the space associated with storing relational data—helping to reduce costs and improve disk utilization and query speed.

**For more information**

To learn more about IBM DB2 Warehouse, please contact your IBM representative or IBM Business Partner or visit [ibm.com/software/data/db2bi](https://ibm.com/software/data/db2bi)



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