



A complete, multipurpose data warehouse environment that enables you to access, analyze and act on information in real time

Information Management software

IBM DB2 Warehouse 9.5



Getting to a single version of the truth

Access to accurate, trusted information in real time could give your company an edge over the competition. However, IT teams are challenged to react quickly to business users' information needs and are hampered by traditional, inflexible data warehouses and separate business intelligence solutions. Many enterprises have multiple datamarts and data warehouses, and this can lead to disparate, conflicting data. Moreover, most analytics solutions are separate from the data warehouse, which creates maintenance challenges and requires you to copy all of your data out of the warehouse before you can work with it. IT teams need a solution that will enable them to support business requirements for a single version of the truth, while containing costs, accommodating ever-increasing data volumes and managing demands for real-time insights from a growing pool of business users.

The IBM DB2® Warehouse solution is a complete, multipurpose environment that allows you to access, analyze and act on virtually any type of information—structured and unstructured, operational and transactional, real time and historical. DB2 Warehouse provides the tooling and infrastructure to help data warehouse architects and administrators efficiently design, deploy and maintain an enterprise data warehouse. Plus, it's open and standards based and includes database, management and delivery tools, as well as embedded analytics to help you create a powerful yet flexible and cost-effective data warehouse solution. The solution enables you to reach farther into all of your business data; look deeper to find hidden relationships, patterns and trends; and act faster with reliable, real-time insights.

A complete, fully integrated enterprise data warehouse solution

DB2 Warehouse is an ideal platform for dynamic warehousing solutions, because it provides powerful capabilities that go beyond traditional warehouses. It also has critical components that you need to deliver dynamic business insight—integrated right into the warehouse. The solution includes a range of capabilities and proven technologies from IBM.

■ **Simplifies enterprise data warehouse development, deployment and maintenance with a comprehensive, integrated solution**

■ **Streamlines analysis of information by enabling you to perform analytics directly within the warehouse**

■ **Boosts data warehouse performance and improves productivity with extreme workload management capabilities**

Powerful DB2 database foundation

The IBM DB2 9 platform is the foundation for the DB2 Warehouse solution. With its massively scalable, shared-nothing, distributed architecture, DB2 9 provides high performance for mixed workload query processing against both relational and native XML data. Advanced features such as data partitioning, new row compression, multidimensional clustering and materialized query tables (MQTs) make DB2 9 a powerful engine for dynamic warehousing.

Modeling and design tools

DB2 Warehouse includes modeling and design tools that are based on and interoperable with IBM Rational® Data Architect software, enabling you to design, model and reverse engineer physical database schemas. It provides a range of capabilities, including physical data modeling for one database or the whole enterprise; model validation; compliance analysis; impact analysis; and change management.

Embedded data movement and transformation

A powerful graphical tool for data warehouse construction and administration is included in DB2 Warehouse. The tool provides a palette of data flow, control and transformation operators that are compiled into SQL operations, specific to DB2, and can be run within the warehouse. This tool enables you to more efficiently prepare and populate data warehouse analytics structures necessary for data mining and for multi-dimensional and embedded analytics.

Data partitioning

DB2 Warehouse provides advanced capabilities for data partitioning that give you multiple ways to distribute data across servers for large-scale parallelism and ultimate linear scalability. And the shared-nothing architecture helps ensure that performance won't degrade as your warehouse grows. Because DB2 Warehouse can physically cluster data on multiple dimensions, order data by value range and limit I/O to relevant data partitions, it dramatically reduces the work needed to resolve many queries. In addition, grouping data by multiple attributes supplants the need for indexes on those attributes, reducing storage requirements and lowering update costs.

Deep compression

With DB2 Warehouse, you can leverage unique storage optimization technology in DB2 9 that not only dramatically reduces the space and costs associated with storing relational data, but also improves query performance. The savings from this compression can be significant: tests on data used in the industry standard TPC-H data warehousing benchmark demonstrated 45 to 69 percent savings in disk space. And now the compression capabilities are even easier to use. DB2 Warehouse enables you to automatically compress data when it's loaded into the warehouse, which can help drive down your maintenance costs.

Extreme workload management

IBM DB2 Warehouse features a set of extreme workload management capabilities that can enable real-time delivery of business insights while continuing to support all of your traditional needs for information access, analysis and

reporting—without compromising performance. With traditional data server solutions, it's difficult to deliver information in real time to a broad set of users and applications, because more users running queries puts a technological strain on the underlying infrastructure. In addition, large batch-oriented data loading or reporting jobs and highly analytical processes driven by strategic and tactical planning efforts could have an impact on requests requiring prompt response times, such as requests from users interacting with customers. With the advanced workload management capabilities now available in DB2 Warehouse, however, you can prioritize queries coming from different users and applications, and you can control the amount of underlying resources dedicated to those processes, helping ensure that service level agreements for key departments, customers and users are met.

Embedded analytics

Part of IBM DB2 Warehouse software, IBM embedded analytics capabilities deliver a sophisticated, yet easy-to-use, set of tools embedded within the data warehouse. With DB2 Warehouse, IBM has done the integration work for you, helping to simplify implementation and maintenance, and improve both user adoption and your return on investment. Advanced cubing for online analytical processing (OLAP), unstructured analytics, in-line analytics, and data mining and visualization capabilities can enable you to take advantage of previously untapped sources of information about your business. And these capabilities work together, forming a robust end-to-end analytics solution that can help deliver valuable business intelligence to a wider pool of users.

Data mining, modeling and scoring

In the past, when you wanted to perform data mining on a set of data, you had to extract the data from your warehouse, independently analyze it and then send the results back to the warehouse. DB2 Warehouse provides embedded data mining, modeling and scoring capabilities that allow you to perform segmentation and predictive analysis directly within the database. This means you're working with current data, delivering analytics in real time. DB2 Warehouse supports standard data mining model algorithms such as clustering, associations, classification and prediction; additional algorithms may be imported in industry standard Predictive Model Markup Language format from third-party modeling tools.

Unstructured analytics

Most business intelligence solutions are unable to access the majority of information captured across the organization, such as call center notes, customer feedback, technician comments and other free-form text fields, along with documents and Web pages. DB2 Warehouse now provides the ability to analyze this unstructured data and extract knowledge from this previously untapped information. Unstructured data can now be accessed along with structured data, providing additional insights into customer and product issues.

Cubing services for OLAP

DB2 Warehouse includes advanced cubing services for OLAP that enable multidimensional analysis of data, allowing you to link multiple business variables together to perform deeper analyses than previously possible. Specifically,

DB2 Warehouse cubing services gives you the ability to analyze business data using intuitive multidimensional and hierarchical navigation—without having to extract the data from your warehouse.

In-line analytics and visualization

DB2 Warehouse includes features for visual analysis of data mining results, along with display and navigation of multidimensional analysis. These capabilities are delivered as rich presentation components—rather than via a stand-alone application—which can be easily customized and embedded directly into Web-based applications. In this way, you can deliver insights to a broader range of users via the applications and portals they are already using.

Leverage powerful analytics tools to increase flexibility and process efficiency

DB2 Warehouse simplifies data warehouse and analytics development and deployment through the delivery of common integrated design, administration and analytics tooling. These interfaces enable you to do everything from designing the warehouse and populating data structures to performing analytics and managing data mining and multidimensional cubing through common interfaces.

DB2 Warehouse tooling is built on open and extensible Eclipse technology and provides the design-time environment for building, testing and debugging the elements of a dynamic warehouse. A familiar graphical development environment allows users to drag and drop or cut

and paste intuitive warehouse operators and entities. Easy integration of common code management repositories, such as IBM Rational ClearCase® software and Concurrent Versions System tools, supports collaborative team development. The Web-based administration console feature provides database administrators and architects with the tooling to deploy and manage DB2 Warehouse operations in a production run-time environment.

To help users understand and utilize the new environment more quickly, DB2 Warehouse includes a sample database environment and step-by-step tutorials for development and deployment of solutions that can deliver dynamic business insight.

Boost data warehouse performance with DB2 9 database features

In addition to the advanced compression capabilities previously described, DB2 9 MQTs and multidimensional clusters also help to boost performance. An MQT is a presummarized, preaggregated table that stores query results as data. The DB2 software optimizer transparently redirects queries from base tables to matching MQTs, significantly improving the performance of complex aggregate queries. Regular tables and MQTs in DB2 can be organized across multidimensional clusters, to help optimize disk I/O and load/unload operations and, thus, analytics query performance.

IBM DB2 Warehouse at a glance¹

Software packages and included products

Feature	Base Edition	Enterprise Edition
IBM DB2 Enterprise Server Edition V9.11 ²	•	•
Warehouse administration and control tools	•	•
Modeling and design tools	•	•
Embedded data movement and transformation	•	•
Cubing services for OLAP	•	•
Data partitioning	•	•
Extreme workload management		•
Deep compression		•
Data mining, modeling and scoring		•
Unstructured analytics		•
In-line analytics and visualization		•

Supported operating systems

DB2 Warehouse database server and application server	DB2 Warehouse client
IBM AIX® 5L	Microsoft Windows 2000
Red Hat Enterprise Linux® 3 and 4	Microsoft Windows XP
SUSE Linux Enterprise Server 9 and 10	
Sun Solaris 9	
Microsoft® Windows® Server 2003	

Supported Web browsers

Microsoft Internet Explorer 6	Mozilla Firefox 1.5
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Why IBM?

DB2 Warehouse enables dynamic warehousing solutions that can scale to hundreds of terabytes. Built on proven open standards-based tools, the DB2 Warehouse solution is designed to integrate with your existing investments. And high-availability features support 24x7 availability and quick recovery from hardware or software failures. Moreover, IBM offers worldwide support for DB2 Warehouse implementations, so all of the

necessary tools and resources are readily available to help make your enterprise data warehouse a reality.

For more information

To learn more about IBM DB2 Warehouse, contact your IBM representative or visit:

ibm.com/bi



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¹ For detailed specifications, visit ibm.com/software/data/db2/dwe.

² DB2 Warehouse software also supports DB2 V8.2 software.

