IBM

IBM DB2 Warehouse

Highlights

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

■ *Streamlines business intelligence processes and enhances flexibility with powerful, analytic solution components*

■ *Boosts data warehouse performance and improves productivity with powerful DB2 9 optimization features*

Getting to a single version of the truth

Access to timely, accurate information is critical as enterprises look to drive rapid growth through innovation. Limited by typically inflexible data warehouse and business intelligence solutions, IT teams are challenged to quickly and agilely respond to business users' information needs. Datamarts and data warehouses have proliferated across enterprises. Existing solutions, however, often are not integrated and contain conflicting data. Moreover, most business intelligence solutions built on the data warehouse are constructed and maintained using multiple tools and components from various vendors. This can create integration and enterprise standardization challenges. All too often, the combination of these factors leads to frustrated end users, high development and maintenance costs, and poorly performing solutions that do not scale. IT teams must be able to support business requirements for a single

version of the truth, while containing costs, accommodating ever-increasing data volumes and dealing with the constantly changing needs of different business constituents.

IBM DB2® Warehouse software is a comprehensive platform for integrated dynamic data warehousing that provides extended capabilities, from design to analytics and visualization. DB2 Warehouse provides the tooling and infrastructure to help data warehouse architects and administrators efficiently design, deploy and maintain an enterprise data warehouse. DB2 Warehouse is open and standards based and includes database, management and delivery tools, as well as integrated analytics to help you create a powerful yet flexible and cost-effective data warehouse solution. The DB2 Warehouse solution simplifies the creation and deployment of a new data warehouse and leverages the power of the IBM DB2 9 platform.

A complete, fully integrated enterprise data warehouse solution

DB2 Warehouse is the best core platform for dynamic warehousing solutions, because it provides a powerful range of capabilities that go beyond traditional warehouses. It has also been integrated with other critical components needed to deliver dynamic business insight. The solution includes a range of capabilities and proven technologies from IBM that are described below.

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 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 DB2 software-specific SQL operations and can be run within the warehouse. This tool enables you to more efficiently prepare and populate data warehouse analytic structures necessary for data mining, multidimensional analytics and embedded analytics.

Data mining and visualization

Powerful data mining capabilities are included in DB2 Warehouse to enable integrated analytics of the data in the enterprise data warehouse. Standard data mining model algorithms (clustering, associations, classification and prediction) are supported and can be developed in the DB2 Warehouse development environment. These algorithms also may be imported in industry standard Predictive Model Markup Language (PMML) format from third-party modeling tools. The data mining models can be executed in the production environment to provide real-time scoring of data records. Additionally, rich presentation components are provided to enable visual analysis of data mining results.

Enhanced OLAP design and optimization

DB2 Warehouse provides direct support for optimized online analytical processing (OLAP) analytics against the dynamic data warehouse. DB2 Warehouse software tooling enables you to create, edit, import, export and deploy OLAP models over the relational warehouse schema. It also makes optimization recommendations to dramatically improve the performance of integrated OLAP tools. Newly enhanced features provide deep integration with the embedded analytics capabilities and relational cubing for optimized browser-based embedded OLAP analytics.

Embedded analytics

IBM DB2 Alphablox® software provides integrated, Web-deployed analytics applications that can provide true multidimensional query and calculation support across all layers of the data warehouse. A greatly enhanced relational cube server and tight integration with the DB2 Warehouse OLAP tooling and data mining features enable Alphablox software to support robust end-to-end analytics for the dynamic warehouse solution.

Advanced compression

With DB2 Warehouse, you can leverage unique storage optimization technology in DB2 9 that dramatically reduces both the space and costs associated with storing relational data. The savings from this compression can be significant: Tests on data used in the industry standard TPC-H data warehousing benchmark demonstrated between 45 and 69 percent savings in disk space. Better disk utilization and query speed improvement are added benefits of compression.

Workload control

DB2 Warehouse provides SQL query performance management and monitoring tools to more effectively control the workload of the warehouse. Through query classification and threshold profiles, SQL queries can be prioritized, scheduled and executed in a manner that optimizes available system resources and throughput.

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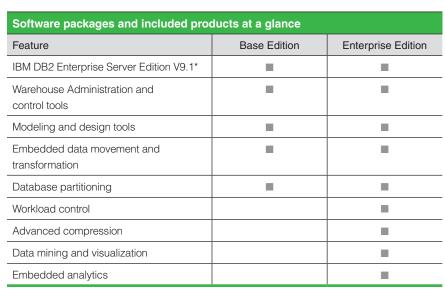
To help users understand and utilize the new environment more quickly, DB2 Warehouse includes a sample database environment and step-by-step tutorials for development and deployment of solutions that can deliver dynamic business insight.

Boost data warehouse performance with DB2 9 software features

In addition to the advanced compression capabilities described above, 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, analytic query performance. This can be further enhanced through the ability to proactively and dynamically control and prioritize the flow of queries, so critical queries are run promptly, and system resources are used efficiently.

Technical overview

The following is a summary of the features included in the different versions of DB2 Warehouse, along with high-level technical specifications. For detailed specifications, visit ibm.com/software/data/db2/dwe.

Software packages and included products at a glance

Feature	Base Edition	Enterprise Edition
IBM DB2 Enterprise Server Edition V9.1*	■	■
Warehouse Administration and control tools	■	■
Modeling and design tools	■	■
Embedded data movement and transformation	■	■
Database partitioning	■	■
Workload control		■
Advanced compression		■
Data mining and visualization		■
Embedded analytics		■

DB2 Warehouse software also supports DB2 V8.2 software.

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	
• Sun Solaris 9	
• Microsoft® Windows® Server 2003	
Supported Web browsers	
• Microsoft Internet Explorer 6	• Mozilla Firefox 1.5

Why IBM?

DB2 Warehouse enables dynamic data warehousing solutions that can scale to hundreds of terabytes. Built on proven open-standards-based IBM tools, the DB2 Warehouse solution is designed to integrate with your existing investments. And high-availability features support 24×7 availability and quick recovery from hardware or software failures. Moreover, IBM offers worldwide support for DB2 Warehouse software 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 sales representative or visit:

ibm.com/bi