

# Quest SQL Optimizer™ for DB2 UDB

COMPREHENSIVE SQL PERFORMANCE TUNING AND OPTIMIZATION

- Proactively identifies potential SQL performance problems directly from application code with batch access plan analysis
- Automatically generates all alternative SQL scenarios equivalent to the original SQL with no user intervention
- Benchmarks the SQL alternatives, quantifies performance improvement, and finds the optimal performing SQL with one click
- Highlights differences between original and optimized SQL, enhancing SQL coding and tuning skills
- Detailed index analysis functions:
  - a. generate simulated indexes
  - b. determines performance impact of new indexes across entire database
  - c. identifies unused indexes.

Quest Software knows the expectations customers have for IT investments are not always met. That is why we develop innovative products to help you get more performance and productivity from their applications. With SQL, the flexibility of the language makes it possible to write a statement in many different ways to achieve the same set of results. This flexibility can result in inefficiently written statements, and many DB2 application performance problems are the direct result of poorly written SQL. Quest SQL Optimizer for DB2 UDB offers complete SQL performance optimization with proactive detection of inefficient SQL, automated SQL rewrite and benchmarking capabilities. Quest SQL Optimizer maximizes application performance and eliminates problematic SQL before users are affected.

## Improve SQL and Application Performance

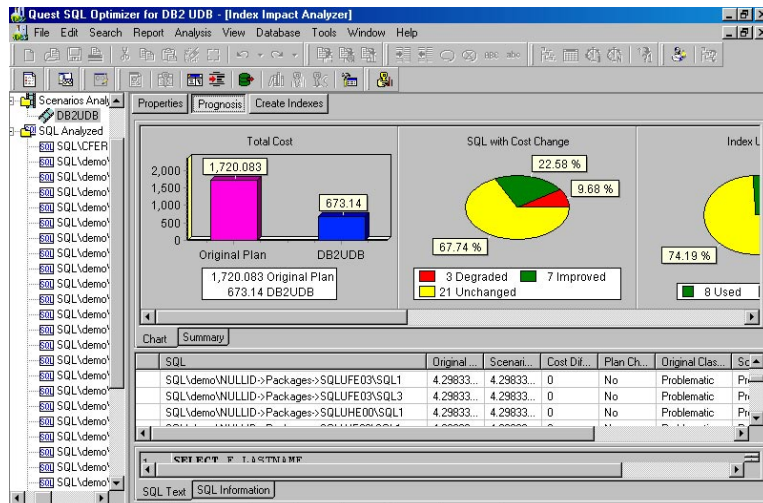
Quest SQL Optimizer for DB2 UDB revolutionizes SQL optimization by automating the identification of potential SQL performance bottlenecks and tuning them for maximum performance. By scanning for SQL without executing programs, Quest SQL Optimizer improves operational efficiency with non-intrusive SQL analysis.

With built-in Artificial Intelligence (AI) based SQL rewrite technology, Quest SQL Optimizer generates every possible semantically equivalent SQL alternative and unique access plan, ensuring the highest quality SQL statements.

## Reduce Time and Effort Needed to Develop SQL

Quest SQL Optimizer for DB2 UDB accelerates the development of SQL statements and increases the quality of code. The Argument Lookup feature facilitates procedure and function interaction while Member Lookup can be used to reference schemas, tables, views, aliases and fields. User-defined Syntax Highlight and the SQL Formatter make reading and maintenance of SQL statements easier.

Database Explorer facilitates the navigation of database objects, displaying detailed information about each object. Access plans are displayed in a user-friendly manner to aid in SQL analysis.



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## Quickly Identify Problematic SQL

The integrated SQL Scanner locates SQL statements in existing applications, database objects and files to identify any problematic SQL that requires optimization. Because the SQL Scanner does not have to execute programs to locate embedded SQL, it is non-intrusive to the database server.

## Automatically Rewrite SQL Statements

Quest SQL Optimizer's unique Artificial Intelligence-based SQL rewrite technology takes the guesswork out of optimizing SQL statements.

The Syntactical SQL Optimizer automatically generates every possible SQL alternative and access plan for a SQL statement, while guaranteeing semantic equivalence between the original and alternative SQL statements. This unique SQL transformation approach ensures optimal SQL performance.

## Benchmark SQL Statements

Quest SQL Optimizer for DB2 UDB automates the time-intensive task of testing SQL statements. It enables you to test run the SQL statements for each alternative access plan, individually or in a batch run. It then reports the response time for processing the first record and the elapsed time for processing all records. This enables you to choose the best SQL statement for your application.

Quest SQL Optimizer for DB2 UDB saves even more time by allowing you to set termination criteria that will automatically cancel test runs on any SQL statement that is running longer than the current best. This benchmarking approach allows quick identification of the highest performing SQL.

## Improve SQL Skills with "In-process Training"

Quest SQL Optimizer's In-process Training teaches developers and DBAs how to write the highest performing SQL possible by showing comparisons between source and alternative SQL statements with the SQL Comparer. More in-depth knowledge about the access plan is gained from Quest SQL Optimizer's comprehensive context-sensitive help system.

## Quest SQL Optimizer for DB2 UDB features include:

### SQL Formatter

- » Provides consistent indenting and formatting of SQL statements for easier reading and maintenance

### Database Explorer

- » Facilitates the navigation of database objects, providing detailed information about each object
- » Displays database object's definition, text, dependencies and references
- » Displays indexes, tables and view columns, keys and data

### SQL Scanner

- » Extracts embedded SQL statements from database objects, text and binary files and application source codes
- » Without physical execution of your applications or the need for manual intervention, the SQL Scanner identifies the SQL statements that need to be tuned
- » Graphically displays the access plan and classifies every SQL statement according to suspected levels of performance problems

- » Extracts SQL from database objects such as views, triggers, procedures, user-defined functions, packages and plan tables
- » Extracts SQL from application source codes such as COBOL, Java, C/C++, Perl, HTML and more

#### **Syntactical SQL Optimizer**

- » Automates the tuning of SQL statements
- » Generates all SQL statements that are semantically equivalent to the source SQL statement, finding every possible alternative access plan
- » Ability to save optimized SQL for later analysis
- » Provides benchmark testing of SQL alternatives to find the highest performing SQL for your database and application automatically
- » Rewrites SELECT, SELECT INTO, UPDATE, INSERT and DELETE statements
- » Provides In-Process Training by comparing the original and alternative SQL statements to help improve SQL coding skills
- » Accelerates SQL development with integrated lookups, auto-correction, syntax highlight, bracket pairing and it makes the SQL analysis easier by displaying result set, run time and graphical access plan

#### **Integration of DB2 Event Monitor**

- » SQL Scanner extracts SQL from DB2 Event Monitor files

#### **Detailed Index Analysis**

##### **SQL Repository**

- » Stores critical SQL statements for input into index analysis features

##### **Index Impact Analyzer**

- » Evaluates impact of new indexes across all affected SQL
- » Identifies alternative indexing for best performance gain

##### **Index Usage Analyzer**

- » Identifies unused indexes

#### **Index Expert**

- » Recommends indexes using virtual indexes.
- » Displays the recommended indexes from DB2 related to one SQL statement
- » Evaluates the impact of the recommended index from DB2 without physically creating it

#### **System Requirements Installation**

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Quest SQL Optimizer for DB2 UDB is a client-based Windows toolset that connects to the database via DB2 UDB Client software.

## Minimum System Requirements

- Windows® 95, 98, 2000, NT 4.0, XP
- 486DX or above
- 64 MB Ram (256 recommended)
- 50 MB hard disk space
- CD-ROM Drive
- Connection to DB2 UDB with DB2 UDB Client Software version 6 or higher.
- Version 7 or above required for index simulation
- Version 8.1 or above required for index generation

For more information about Quest SQL Optimizer for DB2 UDB or other Quest Software products, please call 949.754.8000 or visit us at [www.quest.com](http://www.quest.com).



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