

# Embarcadero® DB Optimizer™

## SQL Profiling and Tuning IDE



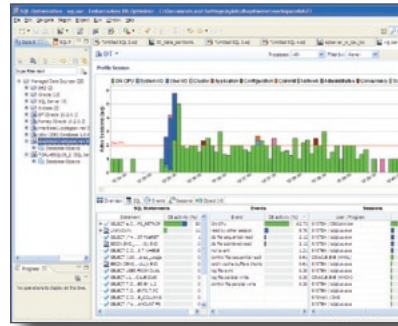
Embarcadero® DB Optimizer™ maximizes database and application performance by enabling DBAs and developers to quickly discover, diagnose, and optimize poor-performing SQL. DB Optimizer eliminates performance bottlenecks by identifying data intensive or frequently executed queries, focusing on specific SQL statements through query statistics (CPU, I/O, wait times), and fine-tuning problematic statements.

- Optimize SQL performance throughout the development lifecycle
- Eliminate performance bottlenecks in production databases and applications
- Develop, test, profile, and tune SQL in a single, easy-to-use IDE

### OPTIMIZE SQL PERFORMANCE THROUGHOUT THE DEVELOPMENT LIFECYCLE

More responsibility for the quality and performance of SQL code is being pushed to development and quality assurance teams.

DB Optimizer allows you to profile and tune SQL code throughout the development process, rather than discovering costly performance bottlenecks after they've reached Production. You can either profile a single stored routine or continuously profile an entire database instance. Continuous profiling lets you monitor performance within a configurable span of time so you can see the effects of your tuned statements immediately, and take snapshots that can be saved and shared between developers, QA, and DBAs for more focused diagnosis and increased productivity.



Graphical profiling with details on SQL statements, events, and sessions make it easy to find the SQL that most impacts performance.

### ELIMINATE PERFORMANCE BOTTLENECKS IN PRODUCTION DATABASES AND APPLICATIONS

Production DBAs are tasked with maximizing database performance and availability. A key concern is meeting Service Level Agreements (SLAs.) DB Optimizer helps production DBAs quickly profile Oracle, Microsoft SQL, Sybase, and DB2 LUW databases to easily identify and correct the SQL causing performance bottlenecks.

Hint	SQL Rewrite	Impact
Use index on table	SELECT * FROM table WHERE column = value	High
Use index on table	SELECT * FROM table WHERE column > value	High
Use index on table	SELECT * FROM table WHERE column < value	High
Use index on table	SELECT * FROM table WHERE column <= value	High
Use index on table	SELECT * FROM table WHERE column >= value	High

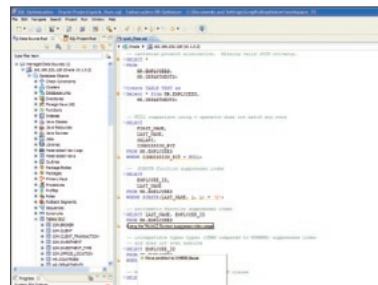
Hints and SQL rewrites help tune SQL by suggesting and implementing the optimal execution path.

Once you identify the poor performing SQL, DB Optimizer lets you add SQL to a tuning job directly from a profiling session, or add stored routines and SQL files from the data source explorer or file system.

### DEVELOP, TEST, PROFILE, AND TUNE SQL IN A SINGLE EASY-TO-USE IDE

DB Optimizer provides a full SQL IDE by embedding Embarcadero Rapid SQL® Developer, including code assist, real-time error checking, explain plans, and on-the-fly tuning. The Rapid SQL® Developer quick fixes works as you type your SQL to identify potential performance issues and provides suggested best practices that can be implemented with the click of a button.

DB Optimizer develops quality code faster by filling in object names as you type. This provides real-time syntactic and semantic error checking, making it easy to find objects across databases and manage SQL projects efficiently. When you add this to DB Optimizer's real-time profiling and tuning you get high quality, optimized code, written in less time.



Quick fixes offer performance improvements as you type your SQL code.

### Related Products

**Embarcadero® J Optimizer™**  
Comprehensive environment for optimizing application performance and managing application quality.

**Embarcadero® Performance Center™**  
24/7 database performance monitoring for maximum database availability and performance.

**Rapid SQL®**  
Write high-performance, quality SQL in an integrated cross-platform database development environment.

**DBArtisan®**  
The leading cross-platform database administration solution, helps DBAs maximize performance, availability, and security.

**Embarcadero® Change Manager™**  
A complete set of schema, data, and configuration tools to manage the database change management lifecycle.

**Embarcadero® All-Access™**  
Instant access to the languages, tools, and technologies to design, build, and run your software applications and database systems.

Features	Description
<b>DB Optimizer</b>	
<b>General Features</b>	
DBMS Support	Full support for DB2 for LUW, Oracle, SQL Server and Sybase ASE.
Unicode	Offers full Unicode support
Command-Line API	Launch profiling sessions remotely
<b>Profiling</b>	
Sampling	Identify and diagnose performance bottlenecks and problematic SQL without agents or placing a significant load on the target database.
Continuous Profiling	Continuously profile an entire data source within a configurable span of time.
Profiling a Stored Routine	When fine tuning or testing SQL, profile the execution of a single stored routine when profiling an entire data source is not desired.
Live Data	Show data in real-time while profiling is in progress.
Sharing Profile Sessions	All data and metadata pertaining to a profile session can be saved as a single entity into an archive file. Profiles can be shared across multiple workspaces and machines for collaboration purposes.
<b>Reporting</b>	
Profile Chart	Shows the CPU, I/O, and other wait activity over the course of the session. Zoom in/out functionality available. (Wait categories vary by platform.)
Execution Statistics	Detailed information on the profiled SQL and wait categories, broken down by SQL statements, events, and sessions.
Profiling Details	Drill down into the execution details for any given statement, including the SQL text, events, sessions, child cursors, and SQL details.
Predicate Analysis	SQL statements are rolled up for a true analysis of the number of executions in real-time
Explain Plans	The Explain Plan for each SQL statement can be computed on demand via a context menu item in the Execution Statistics table. The Explain Plan appears in a separate view as a tree with columns and collapsible column groups.
Cropping	Highlights a time interval in the profile chart to instantly change the data displayed, making it easier to see the details.
<b>Tuning</b>	
Tuning job	Create and run tuning jobs for a single statement or batch of statements.
Batch Tuning	Tune all DML statements, stored routines, and entire SQL files.
Case generation	Quick fixes and hint injection are used to generate all possible cases and find the best alternative to a given SQL statement.
Quick fixes	SQL rewrites are suggested as part of the Case generation in the SQL tuner. SQL rewrites are also suggested as you type in the SQL IDE.
Hint injection	Customize the subset of hints to be considered for hint injection and alternative execution paths.
Cost generation	Compute the explain plan cost for each original statement and each generated case to help the user determine which suggested cases are suitable and worth running.
Support for bind variables	Support for resolving bind variables and supplying input allow tuning of SQL extracted from a procedure.
Execution statistics	Run the SQL with alternative execution paths to discover the fastest running SQL statement, and apply the change at the click of a button.
Textual comparison of cases	A visual diff viewer helps the user spot the textual differences between any two SQL statements.

#### DBMS Support

- Oracle® 8i-11g
- Sybase® 12.5 - 15.0
- IBM® DB2® for LUW 8.0 - 9.0
- Microsoft® SQL Server 2000, 2005 and 2008

#### System Requirements

- Microsoft Windows 2003, XP, Vista (32 bit), Red Hat Enterprise Linux 5.0 (32 bit), or SUSE Linux Enterprise Server 10 (32 bit)
- Sun Java 2 Standard Edition 5.0 Update 11 for Microsoft Windows or Linux: Sun Java 2 Standard Edition 5.0 Update 11 for Linux x86
- 1024 MB memory
- 500 MB disk space

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Corporate Headquarters | Embarcadero Technologies | 100 California Street, 12th Floor | San Francisco, CA 94111 | [www.embarcadero.com](http://www.embarcadero.com) | [sales@embarcadero.com](mailto:sales@embarcadero.com)