

# DB Optimizer

## AUTOMATED SQL PROFILING AND TUNING FOR OPTIMIZED CODE PERFORMANCE

DB Optimizer™ is an automated SQL optimization tool that maximizes database and application performance by quickly discovering, diagnosing, and optimizing poor-performing SQL code. DB Optimizer empowers DBAs and database developers to eliminate performance bottlenecks by graphically profiling key metrics inside the database, relating resource utilization to specific queries, and helping to visually tune problematic SQL.

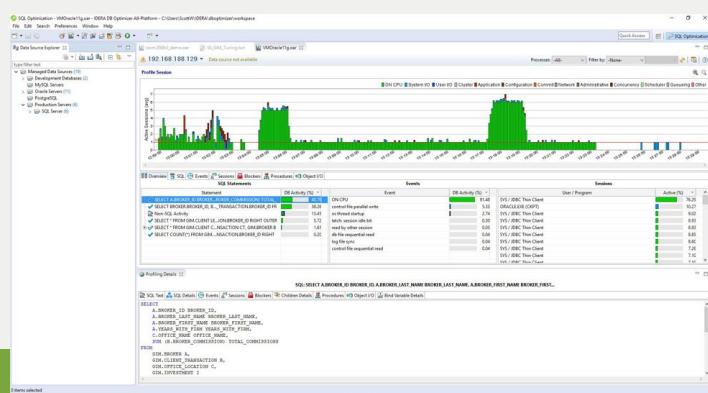
### WHY DB OPTIMIZER?

Today's database professional is short on time when it comes to performance tuning and maintaining database availability. Both DBAs and database developers face similar challenges as they are continuously asked to do more with less. IT staffs continue to shrink, leaving database professionals to work with a growing database infrastructure.

The result is that only short-term and immediate tasks are completed while long-term sustainable solutions are missed, leading to inevitable performance problems in production databases. The business impact varies by industry as companies lose up to millions of dollars for each hour a key database is not available. These database professionals face three distinct challenges:

- Maximizing existing staff and IT infrastructure
- Quickly understanding and identifying performance bottlenecks
- Resolving performance problems with sustainable solutions

DB Optimizer is a SQL optimization tool that maximizes database and application performance by quickly discovering, diagnosing, and optimizing poor-performing SQL. These capabilities allow DBAs and developers to reduce costs by maximizing productivity and IT infrastructure, improve productivity quickly through ease of use and a consistent interface, and connect their organization with reporting capabilities. Whether or not you are a performance tuning specialist, DB Optimizer enables you to tune like a pro!



### BENEFITS

#### IDENTIFY PERFORMANCE BOTTLENECKS IMMEDIATELY

Database profiling provides a graphical visualization of wait-time analysis, making the SQL that is causing poor database performance easy to pinpoint. Continuous profiling monitors an entire data source within a configurable span of time. Also, explain plans are provided for a better understanding of SQL execution and performance costs. Reports share information captured during the profiling process.

**TUNE SQL LIKE A PRO** The SQL tuning wizard automatically suggests solutions and provides essential context in tuning SQL code. Color-coded Index Analysis shows used, not used, or missing indexes and offers recommendations for optimum performance. Case Generation is used to generate all possible cases and to find the best alternative to a given SQL statement by including SQL rewrites and hint injections.

**VISUALLY TACKLE COMPLEX SQL QUERIES** Unique in the industry, Visual SQL Tuning (VST) diagrams turn text-based SQL code into graphical SQL diagrams. This approach helps DBAs and developers understand the impact of SQL statements on the database using these diagrams instead of more complex execution plans. The VST diagram displays the tables and views used in the queries, as well as the relationships defined in those queries.

**SIMULATE PRODUCTION ENVIRONMENTS** Load testing verifies performance of existing and alternative SQL queries against the database. Configure queries to run multiple times in parallel and see how they respond to your simulated production environment without the risk of actually testing in production.

#### BECOME PROACTIVE IN DATA GOVERNANCE COMPLIANCE

DB Optimizer's ability to identify bottlenecks via database profiling, tune SQL, and load test gives organizations an advantage in ensuring database optimization, uptime, and availability. This functionality gives you the ability to be proactive in identifying performance problems and complying with Data Governance performance and availability standards.

**Start for FREE!**

The AWR reports from the native Oracle tools didn't lead us to the cause of the problem, because they weren't detailed enough. DB Optimizer allowed us to pinpoint the culprit as the eviction occurred. Without it, we would never have been able to catch — or fix— the problem.

Karen Morton, **Oracle ACE**



## PRODUCT HIGHLIGHTS

- Identify previously undetected performance issues
- Accelerate SQL tuning and optimization
- Visually understand complex SQL queries
- Maintain database uptime and availability
- Align with data governance principles

## GENERAL FEATURES

**MULTI-PLATFORM SUPPORT** Manage all major DBMSs (SQL Server, Oracle Database, Sybase ASE, and Db2 LUW, and PostgreSQL) from a single interface. Ability to use the tools on all supported platforms from a single license.

**REPOSITORY CAPTURE** Stream profiling data into a central repository for your open session.

**FILE CAPTURE** Save an entire profiling session to a file for future analysis and reference or to share with others.

**UNICODE** Offers full Unicode support.

**COMMAND-LINE API** Launch profiling and tuning sessions remotely.

## VISUAL DIAGNOSTICS

**PROFILE CHART** Shows the CPU, I/O, and other wait activity over the course of the session.

**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, blockers, procedures, 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.

## SQL PROFILING

**SAMPLING** Identify and diagnose performance bottlenecks and problematic SQL without agents or placing a significant load on the target database.

**LOAD EDITOR** SQL stress testing simulates a number of parallel users and executions over a specific period of time or execution cycle.

**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.

## SQL TUNING

**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** SQL rewrites and hint injection are used to generate all possible cases and find the best alternative to a given SQL statement.

**SQL REWRITES** 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** Display the explain plan cost for each original statement and each generated case to give the user the expected cost given the execution path utilized by the database.

**VISUAL SQL TUNING** The Visual SQL Tuning (VST) diagram turns text-based SQL code into graphical SQL diagrams that display the tables and views used in the queries, as well as the relationships defined in those queries.

**INDEX ANALYSIS** The color-coded Index Analysis feature shows indexes that are used (green), not used (blue), or missing (orange) and offers indexing recommendations for optimum performance.

**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.