

# ActiveBase Tuning Robot™

Automated and Continuous Optimization of your Oracle applications



Quality of Service and Business Productivity - determining factors of competitiveness - are often related to the performance of enterprise applications and their associated databases. Downtime and poor response time penalize the company's business, undermine its image and cause significant expenses to overcome the ineffectiveness of performance degrading database access, mainly because most of existing solutions necessitate modifying the application source code or the database.

As volume and usage grow exponentially and DBA experts are often busy with more important tasks, many companies have learned to 'live with' poor performance -- until the non-acceptable point, or they engage in costly platform (hardware / software) upgrades.

ActiveBase's products bring **cost-effective** solutions for solving Oracle performance problems caused by penalizing SQL queries. They are characterized by quick implementation and no modification to application source code or database structure. This datasheet presents ActiveBase Tuning Robot™ (see also the 'Productivity Gains' flyer).

- ❖ **ActiveBase Tuning Robot™** is a simple and powerful solution for **automating** and continuously improving the execution time of your SQL queries, with **DBA productivity gains over 10-fold!**
- ❖ **ActiveBase Tuning Robot™** will **free up** valuable **DBA** and **experts' time**, allowing you to reallocate them to more critical tasks.

*«We managed to optimize over fifty SQL Requests in two days!  
For some of them execution time was divided by ten.»  
Mr D. PERF Manager*

## ActiveBase Tuning Robot™

The ActiveBase Tuning Robot™ software **has been designed to automate** the search of optimization for Oracle SQL queries. Parameters settings make it easy to adjust its execution to various configurations, for **efficiency**.

**ActiveBase Tuning Robot™** proceeds in two steps:

- ◆ **Identification** and **Selection** of SQL statements to be optimized.
  - For Oracle version 10 or higher, the Robot collects SQL queries and their bind variables from AWR. For versions prior to Oracle 10, queries and their execution variables are read from an external file.
  - The Robot then automatically identifies and selects the queries to be analyzed and classifies them into categories by execution time (e.g. long - > 10 seconds, medium - between 1 and 10 seconds, short - < 1 second) and/or according to criteria such as duration, frequency etc., as provided in the settings file.
- ◆ **Optimization** – For each query complying with defined categories and parameters, the Robot: will:
  - **Automatically Search** for Hints producing different implementation plans,
  - **Serially Benchmark** each Hint found by running the query and the Hint against the Oracle database in order to determine which Hint provides the best execution time.
  - **Automatically create log files and the rules** to be incorporated into ActiveBase Performance™ server. These Rules will apply the Hints on-the-fly to the queries passing through the server, for validation or for Real-time fixing.

The Robot's execution parameters are highly **configurable**: you can set the Robot to run in parallel execution mode, you can define the number of iterations per query, threshold optimization etc.

### Multiple Filtering Options

Thanks to the Rules Engine supplied with ActiveBase Tuning Robot™, the user can create sophisticated filters to:

- **Include / exclude** requests from certain applications or from monitoring, reporting, or query tools.
- **Exclude:** Queries that run against system tables or are irrelevant to the optimization process, requests that have already been processed by ActiveBase Tuning Robot™
- **Include:** Queries executed in a defined time period, queries whose execution time is included in a fixed time interval
- etc..

Print Screen of ActiveBase SQL Expert™, the manual equivalent of ActiveBase Tuning Robot™

## Immediate and Long Term Benefits

- **Improved Execution Time** of reports and databases queries (up to 10+ x faster) improves internal productivity of developers and DBAs.

*"When data volumes change, some of Hints are not relevant any more. I get regular Hints updates from ActiveBase Tuning Robot™ that I could not ask my DBAs for!!!"*

- **Immediate implementation** of SQL optimization without changing the applications or the databases, by using ActiveBase Performance™.
- Placed between applications and Oracle database, it intercepts requests from applications to the database and **applies** the optimization Hints found by ActiveBase Tuning Robot™ **on-the-fly**.

*"While waiting for the developers to integrate the Hints into the application code, I use ActiveBase Performance™ to achieve the same results immediately."*

- **Preventive Procedures for Improved performance: optimization** of your application becomes a **background scheduled task** applied to your applications (ERP, CRM, DWH, BI ...).
- **Policy of Continuous Improvement of Quality of Service** to increase the productivity of your IT systems and their users.
- Optimizing your applications with ActiveBase Tuning Robot™ does not monopolize your **Expert resources** any more, **freeing them to work on more added value or critical tasks**. Thus, in addition to **time savings** you **reduce** your **development** and **DBA costs**.

*"With ActiveBase Tuning Robot™ and ActiveBase Performance™ I improve my applications' performance NOW, including those for which I have no access to source code."*

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## Features

- Can be installed on Windows, Unix or Linux platform and is applicable to Oracle database versions 8 or higher.
- Different instances of the Robot can process, in parallel, batches of long, medium and short requests.
- Iterative executions of queries to average results.
- Possibility of setting the Hints search depth, the percentage of improvement desired, the frequency of reading data from AWR and more...
- Suggests usage of indexes.
- Takes into account the characteristics of the Oracle version accessed.
- Generates execution statistics: SQL statements, best Hint found, execution time before / after, and more.

