

# ActiveBase SQL Expert™

## SQL improvement made easy™

### The Challenges

**Business applications** suffer from long response times of business transactions and overall performance degradation often caused by problematic SQL requests. These requests require much more time to complete and waste precious database CPU and I/O resources because the Oracle database is choosing the wrong execution plan for their lengthier execution. With SQL complexities as well as changing Oracle behaviors and ever growing data volumes, it is sometimes necessary to add 'hints' to Oracle, in order to influence the optimizer's choices to improve response time and minimize resource waste.

Finding the proper Hint for a given SQL statement can be a long and tedious task, given the many possibilities and combinations to take into consideration, and requires extensive DBA expertise.

### The Solution:

**ActiveBase SQL Expert™** helps the DBA and SQL developer by automating the process of finding the right Hint, for a given SQL statement. The "right Hint" is the one that, when added to the original SQL statement, produces the lowest result (shortest elapsed time or the least CPU or I/O). It does not propose 'SQL rewrite' to guarantee that the SQL request results will always produce the same results as without the Hint.

### How it works:

Through its simple graphic interface, ActiveBase SQL Expert™ for Oracle improves SQL requests using five simple steps:

1. Enter manually (from your source-code) or select untuned SQL request from Oracle SGA using 'Hotspot' viewer.
2. **Analyze:** Find different alternatives (SQL + 'Hints') generating unique execution plans.
3. **Set benchmark options:** Select alternatives to execute, total benchmark time, automatic cancelling, session and parallel degree settings.
4. **Run Benchmark:** execute the alternatives against a database to find the best result.
5. **Analyze results:** Detailed benchmark audit trail and colored summary view allows to quickly identify the best improvement.

”

*With ActiveBase I easily*

*improved SQL requests x50*

*and more*”

James B. DBA,  
Leading telecom

## Highlights

- Identify long or resource intensive SQL statements by viewing statements in the Oracle SGA
- Simplify and automate the process of optimizing SQL statements
- Ensure that you are using the best SQL optimization for your environment
- Enable non-DBAs to tune and deploy optimized SQL within application source code



ActiveBase SQL Expert™ provides an intuitive interface for improving SQL requests

Copy SQL optimize into the **text area**  
*Ctrl-C / Ctrl-V*

**Analyzer level** defines the number of hint combinations investigated on the SQL statement objects and access options

Click on **Session Parameters** for manually changing benchmark session parameters.

Click on **Find Alternatives** button to start the Analyzer work

Add an **alternative** for testing SQL rewrites (type your own SQL or modify the one in text area).

Click **Find Hotspots** to copy and paste a 'Select' request from Oracle SGA

Click on the **Cost** column for sorting execution order, based on increasing Oracle cost value.

Click **Plan** or **Compare** to view Execution Plan for a given Hint

Check/Uncheck Alternatives to Benchmark execution.

Click on **Options** to set the benchmark execution parameters

The **Run** button starts the benchmark which executes the checked alternatives in the order of appearance in the screen.

The best time alternative is colored in **blue**.

Completed executed alternatives are colored in **green**.

Automatically cancelled alternatives are colored in **red**.

No.	Exec.	Hint	Cost	Plan	Elapsed	Buffer ...	Disk Re...	Disk Wri...	Rows	Stats
1	<input checked="" type="checkbox"/>	Original	78		17.156	25985	0	0	4999	
2	<input checked="" type="checkbox"/>	RULE	0		1.047	117270	1	0	60	
3	<input checked="" type="checkbox"/>	USE_NL(B...	81		0.156	30115	0	0	4999	
4	<input checked="" type="checkbox"/>	ORDERED	80		0.148	30908	0	0	4999	
5	<input checked="" type="checkbox"/>	INDEX(AC...	417		0.152	31966	0	0	4999	
6	<input checked="" type="checkbox"/>	LEADING(...	81		0.156	32766	0	0	4999	
7	<input checked="" type="checkbox"/>	INDEX(BU...	417		0.16	34321	0	0	4999	
8	<input checked="" type="checkbox"/>	INDEX(BU...	258		0.16	35722	0	0	4999	
9	<input checked="" type="checkbox"/>	FULL(CUS...	80		0.14	36520	0	0	4999	
10	<input checked="" type="checkbox"/>	INDEX(CO...	77		0.152	37324	0	0	4999	
11	<input checked="" type="checkbox"/>	LEADING(...	80		0.148	38122	0	0	4999	

Note: For requests with *bind values* click on the **Set bind** button to enter typical bind values.

ActiveBase Performance software suite includes complementary products for ensuring superior performance to your business applications. These products include:

### **ActiveBase Tuning Robot™**

Built on the ActiveBase SQL Expert™ analysis engine, it delivers a fully automatic and continuous SQL improvement process on your production environments. It automatically identifies top-SQL requests from Oracle AWR, analyzes the SQL request, identifies quality execution alternatives and benchmarks them in a tightly controlled process, ensuring best possible performance for your environment.

### **ActiveBase Performance™**

Most packaged applications and reporting environments do not allow quick fixing of SQL source code. In these applications, the SQL improvements identified by the ActiveBase SQL Expert™ cannot be applied.

ActiveBase Performance™ allows immediate SQL fixing.

It is an in-line database proxy, intercepting in real-time the inefficient SQL requests submitted by applications and reporting tools, automatically replacing them with the improved SQL - without touching source-code or database configurations.

### **ActiveBase Priority™**

The exponential growth of data and business requirements create database server resource peaks causing SLA deterioration and productivity loss.

ActiveBase Priority software gives you the power to align in real-time computer resources with business objectives and priorities to optimize performance, mitigate risk and reduce costs.

Using operational dashboards and automatic resource management rules, it dynamically identifies resource contention and allocates server CPU and I/O resources to important business transactions, jobs, batches, cycles, modules and even Oracle instances.

[www.active-base.com](http://www.active-base.com)

400-00101-033 | 10/09 | © 2009 ActiveBase, Ltd. All rights reserved. All other third-party trademarks are the property of their respective owners.

