

Foreword

The process of Oracle SQL tuning is a critical aspect of many Oracle databases. If the database fails to service its queries in an efficient manner, the system will bog down with additional disk I/O and unnecessary CPU and RAM consumption.

Hence, it is a primary goal of all administrators to understand Oracle SQL statements. As Oracle has evolved into one of the world's most complex database management systems, it is imperative that all Oracle professionals understand the internal workings of Oracle's Cost Based Optimizer, and how it is used to choose the optimal access path to data.

This book was created in order to meet that need. Drawing from some of the World's most highly respected experts on Oracle SQL tuning, this text explores issues deep inside Oracle's Cost Based Optimizer, and provides insight into the successful optimization and tuning of SQL within your Oracle database.

SQL Tuning is approached from five functional areas. In this text we will explore System Tuning, Statement Tuning, Index Tuning, Diagnostics, and Advance SQL.

The first section delves into System Tuning by exploring such topics as parsing, SQL Optimizer Plan stability, and the *dbms_stats* utility. Section two, Statement Tuning, provides tips and tricks to writing more efficient SQL statements. Section three, Index Tuning, reviews bitmap indexes, star transformations, and the internals of bitmap joins. The next section on Diagnostics goes into tracing SQL statements, embedding SQL in Java and PL/SQL, and matrix

transposition. The text concludes with a discussion of advanced SQL topics such as keyword searches, using SQL with web databases, and calculated columns.

The tips and tricks in this handbook come from some of the World's more renown Oracle experts and we hope we have provided you with the tools and knowledge to write and optimize your SQL code.