Oracle SQL Performance Tuning And Optimization: Its All About The Cardinalities

Synopsis

After 30 years of working with the Oracle Database, this Expert teaches SQL Tuning to the masses. Not a book of quick tips or rare oddities, these pages teach real knowledge. They present a practical process for tuning badly performing SQL that works reliably in the real world of the Oracle Professional. Refined and Distilled to save you years of the hard grinding everyone else had to go through to learn how to do it, these pages will teach you:- The Power of Cardinalities (Estimated Cardinality, Actual Cardinality, Table Cardinality, Cardinality Feedback)- The Importance of Driving Table and Join Order (Join Sentence, Join Tree, Query Diagram, Query Data Model)- The use of Query Decomposition and Reconstruction in localizing the problem component of a query- How to construct a Filtered Rows Percentage Spreadsheet to learn if a query got off to a good start- How to extract useful information from Oracle Query Execution Plans (Query Modification, Cardinality Estimation, Fetch Efficiency, Join Efficiency)- How to build indexes and evaluate their value to a specific problem query (DUNSEL Columns, Inequality Predicates, Column Modification, Column Order, Predicate Selectivity)- How to build the proper set of indexes for specific problem queries when necessary using a formal process (ACCESS, FILTER, COVERAGE, POST-TABLE FILTERING, Indexing for a Driving Table, Indexing for an Inner Table in a Join)- How to make joins go faster, particularly Hash Join (2% Rule, Precision Query vs. Warehouse Query, Most Common Join Failures Scenarios, Tuning the Hash Join)- How to use hints as a discovery tool instead of a club- The Absolute Necessity of Good Database Design in Assuring top Performance (Modeling Paradigm, 3rd Normal Form, SQL Workload Types (OLTP, DSS, Analytic), Fundamentals of Statistics (NDV, Uniform Distribution, Dependence, Dynamic Sampling), Addressing Statistics Problems (Staleness, Skew, Dependence, Defaulting, Out-of-Bounds, Transiency, Bloat)- Opening Moves used in the trenches for quick diagnosis under pressure (The Typical Crisis Meeting, Query Analysis Breakdown, Three Kinds of Row Counts, Types of QEP Plan Steps, Questions used to Guide the Analysis)- As a bonus, a special chapter offers unique perspective on EXADATA and how to position yourself to exploit its opportunities as a Developer or DBA (Sales Pitch vs. Reality, How much faster will your Apps go?, 40X Speed Up?, SMARTSCAN, Column Projection, Row Filtering, iDB Messaging, Storage Indexes, Bloom Filters, What sours the Secret Sauce, EXADATA's effect on your Applications, NON-EXADATA query costs, Reality of Hybrid Columnar Compression, The Three Compression Strategies, Where you the Oracle Professional can be Unique)- How to document your work in a way that let you show others how good you are and teach them how to tune tooSupported by a dozen of Kevin's powerful SQL scripts that make it much easier for you to succeed, you will learn and apply the knowledge and processes found in this book and soon

be recognized as one of your company's top SQL Tuning Technicians.

Book Information

File Size: 11095 KB

Print Length: 568 pages

Publication Date: January 4, 2016

Sold by:Â Digital Services LLC

Language: English

ASIN: B01A6SY2LI

Text-to-Speech: Enabled

X-Ray: Not Enabled

Word Wise: Not Enabled

Lending: Not Enabled

Enhanced Typesetting: Not Enabled

Best Sellers Rank: #258,119 Paid in Kindle Store (See Top 100 Paid in Kindle Store)   #10 inÂ Books > Computers & Technology > Programming > Software Design, Testing & Engineering > Performance Optimization   #62 inÂ Books > Computers & Technology > Databases & Big Data > Oracle   #93 inÂ Books > Computers & Technology > Databases & Big Data > Data Warehousing

Customer Reviews

This is a great book on SQL tuning for Oracle. I have several years of experience yet I still have lot to learn, esp in SQL tuning. There are several books in the market which are a rehash of the manuals or just skim over this topic or too hard to follow. This book takes the basic topics related to SQL tuning and presents them in a logical and coherent manner. I learned a lot about reading the sql statements and the plans, tuning the SQLs, look for hot spots and apply a standard approach to tuning. The book lays the foundation to understand SQL, takes you through a series of journeys into the SQL world which is helpful to understand SQL tuning.Each chapter deals with specific topic. The first chapter provides a good set of basic building blocks on how to tune queries. Great ideas with the FRP method approach. After reading the first chapter I tuned a query with several underlying tables by selecting a 'driving table'.The second chapter explains cardinalities and why cardinalities are important and how the plans could go for a toss if cardinalities are off. I have read about the cardinalities in several other places on the internet, but the chapter explains the whole thing from the basics. A must read for any tuner. Chapter 3 elaborates how to choose indexes and deals with ACCESS, FILTER and post table filtering predicates.The fourth chapter is on joins. This is the best

chapter of the book in my view. The chapter deals with the most commonly used join methods such as nested loops, sort merge, etc and goes on to explain in detail the mechanisms involved under the hood. It also talks about when each case would be a best fit and its limitations and the most common problems each join method faces.

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