



The Oracle Query Optimizer **TWO-DAY Seminar**

by Christian Antognini

Since 1995, *Christian Antognini* has focused on understanding how the Oracle database engine works. His main interests include logical and physical database design, the integration of databases with Java applications, the query optimizer and basically everything else related to application performance management and optimization. He is currently working as a senior principal consultant and trainer at **Trivadis** in Zürich, Switzerland.

If Christian is not helping one of his customers get the most out of Oracle, he is somewhere lecturing on application performance management or new Oracle Database features for developers. In addition to classes and seminars organized by Trivadis, he regularly presents at conferences and user-group meetings. He is a proud member of the **Trivadis Performance Team** and of the **OakTable Network**. Christian is the author of **Troubleshooting Oracle Performance** (2008) and the co-author of **Der Oracle DBA** (2011).

Abstract:

Every single SQL statement sent to the database before being processed by the SQL engine must be turned into an execution plan. In fact, an application specifies only what data must be processed through SQL statements, not how to process it. The aim of the query optimizer is not only to deliver the SQL engine execution plans describing how to process data but also, and most important, to deliver efficient execution plans. Failing to do so may lead to abysmal performance. Precisely for this reason, this seminar deals with the query optimizer. Its aim is to describe the essential features you have to know to take advantage of the query optimizer.

Day 1:

1) Key Concepts

- Life Cycle of a Cursor
- How Parsing Works
- Sharable Cursors

2) Introducing the Query Optimizer

- Purpose
- Architecture
- Logical optimization
- Physical Optimization

3) System Statistics

- What System Statistics Are Available?
- Noworkload Statistics
- Workload Statistics

4) Object Statistics

- What Object Statistics Are Available?
- Gathering, Locking, Comparing and Deleting Object Statistics
- Strategies for Keeping Object Statistics Up-to-Date

5) Configuring the Query Optimizer

- To Configure or Not to Configure
- Configuration Roadmap
- Query Optimizer Parameters
- PGA Management Parameters

Day 2:

6) Execution Plans

- Obtaining Execution Plans
- Interpreting Execution Plans
- Recognizing Inefficient Execution Plans

7) Optimizing Data Access

- SQL Statements with Poor Selectivity
- SQL Statements with Good Selectivity

8) Join Techniques

- Definitions
- Nested Loop Joins
- Merge Joins
- Hash Joins
- Outer Joins
- Choosing Join Method

Contents at a Glance

- *Chapter 1* describes the life cycle of SQL statements and when the database engine can share cursors.
- *Chapter 2* describes the aim and architecture of the query optimizer.
- *Chapter 3* and *4* discuss the statistics used by the query optimizer to carry out its work.
- *Chapter 5* describes the initialization parameters influencing the behavior of the query optimizer and how to set them.
- *Chapter 6* outlines different methods of obtaining execution plans, as well as how to read them and recognize inefficient ones.
- *Chapter 7* describes how to take advantage of available access structures in order to access data stored in a single table efficiently.
- *Chapter 8* goes beyond accessing a single table, by describing how to join data from several tables together.

Seminar Fee:

The fee is DKK. 6.600,- per person, which includes:

- * Admission and materials for the two-day seminar
- * Light breakfast and lunch on both days

Groups of three or more, registering from the same company, receive a 20% discount.

Dates & Registration:

- * Dates: **January 31 & February 1, 2012**
the seminar hours are from 9:00 a.m. to 5:00 p.m.
- * Location: Miracle A/S, Borupvang 2C, 2., DK-2750 Ballerup
- * Registration: Mogens Nørgaard - mno@miracleas.dk - tlf: +45 53 74 71 00
- * Deadline: **January 13, 2012** - www.miracleas.dk