PART 4

Optimization

Performance is your reality. Forget everything else.

—Harold Geneen[1]

Only once you have identified the root cause of a performance problem should you try to solve it. As described in Chapter 3, several kinds of problems exist. Regardless of the problem you are facing, the essential goal to achieve is reducing—or, even better, eliminating—the time spent by the most time-consuming operation. Note that a single operation may be composed of many actions that are executed one by one. For example, many fetches are necessary in order to fully process a query returning a lot of data.

Chapter 8 describes how parsing works, how to identify parsing problems, and how to minimize its impact without jeopardizing performance. Chapter 9 describes how to take advantage of available access structures in order to access data stored in a single table efficiently. Chapter 10 goes beyond accessing a single table, by describing how to join data from several tables together. Chapter 11 deals with parallel processing and the techniques used for speeding up stream inserts and for minimizing the interactions between components. Finally, Chapter 12 describes how some physical storage parameters may also have an observable impact on performance. Simply put, the aim of the chapters in this part is to show how to improve the response time of operations interacting with the SQL engine by taking advantage of the many features provided by the database engine for that purpose.

1. You can find this quote at `http://www.quotationspage.com/quote/4442.html`.