



**Figure 4-1:** Pentaho BI stack

In a sense, the diagram not only displays the Pentaho BI stack at a high level, but the Pentaho BI architecture as well. An architecture defines the structure and outline of a solution, but doesn't exactly prescribe *how* the structure should be built. In the case of Pentaho, the architecture defines the layers and building blocks but doesn't necessarily force you to use everything from the stack, or, to take this one step further, from Pentaho. Although there are several advantages in using Pentaho software to build the stack, you're free to mix in other components as well. For instance, Pentaho has two ways of creating reports, the web-based Ad Hoc Query and Reporting component and the Pentaho Report Designer, but the platform can run both Jasper and BIRT reports as well. Even in the Pentaho world, a multitude of alternatives are available, mostly initiated by community projects and later adopted by the company. We'll cover all the currently available options but you should be aware of the fact that new projects are started regularly, sometimes covering a