THERE ARE ALL KINDS OF Visual Basic developers who make a decent living writing production applications. Many of these folks want to write better applications more quickly—that’s what drew them to Visual Basic in the first place. Microsoft has attempted to make the process of writing typical applications easier and with less code. The Visual Database Tools (a.k.a. Da Vinci Tools) were included in Visual Basic 6.0 to this end—to make creating applications easier. However, sometimes these tools rob you of design choices that can make your code faster, more robust, and work with fewer problems.

If you’re contemplating use of these tools—especially the Data Environment Designer—be sure to read this chapter thoroughly. There are a number of issues it raises that will save you a lot of grief later on. If you’ve already committed to the Data Environment Designer (or your boss has), you especially need to read this chapter to see what problems can be avoided or repaired. Hopefully, you can gain enough understanding to convince your boss that the Data Environment Designer might not be the best solution for your problem—no matter how easy it looks.

NOTE This chapter is not intended to be a Visual Database Tools bash. On the contrary, this chapter is designed to help developers and their customers get the most out of what’s there—to let them know what’s working and what can make their job easier, without getting hung up on the rough edges.

I’ve been writing and talking about the Visual Database Tools for several years now. Visual Basic version 5.0 introduced the first of these tools: the User Connection Designer. It was originally designed to make the process of creating an RDO application easier, and that it did. It reduced forty-some-odd lines of code to about four. It had the ability to deal with most of the fundamental issues associated with executing SQL Server or Oracle stored procedures. However, the User Connection Designer stopped short of many of the features exposed in the Visual Basic 6.0 Data View window, Data Environment Designer, or the new data wizards.
My *Hitchhiker's Guide to Visual Basic and SQL Server*\(^1\) discusses these tools in the context of accessing SQL Server from Visual Basic in far more detail than does this chapter. The Visual Basic 6.0 Visual Database Tools are all capable of accessing more than just SQL Server. Because they leverage the latest providers exposed by OLE DB and ADO, they can be used to access Jet (3.5 and 4.0), Oracle, DB2, and many other data sources. While functionality varies dramatically from provider to provider, many support at least the basic functionality of the Visual Database Tools.

The Visual Database Tools were reborn in Visual Studio 6.0, and instead of being installed and run as a separate application, the tools are now fully integrated into Visual Basic's user interface (IDE) as the Data View window, Data Environment Designer, and Visual Query Designer. These tools appear in both Professional and Enterprise editions of Visual Basic; the Pro version does not have many of the more important features, so you probably won't be happy without the Enterprise Edition. Visual Database Tools also appear in one form or another in versions of SQL Server since 7.0, Visual InterDev (VI), and most of the other Visual Studio languages. This chapter walks you through the Data View window, the Data Environment Designer, and the Data Object Wizard.

Visual Basic 6.0's Visual Database Tools were intended to revolutionize the way developers work with database tables and stored procedures. They were intended to make both developers and applications more productive and yield better performance. Whether they met that goal or not is an unanswered question. While the Visual Database Tools have eliminated the need to use Microsoft Access to build queries, and have exposed a great deal of new, useful functionality, some of the implementation details leave something to be desired. In my opinion, the tools give the impression of being unpolished. After having worked with the tools and with customers trying to do the same, the development community and I have found too many uncompleted features, incompatibilities, problematic interfaces, and downright bugs. Because many of the Visual Database Tools were released in their “1.0” version, we have (sadly) grown to expect somewhat limited functionality.

### Using the Data View Window

The Data View window is extremely handy; at least in the ways that I use it. I don't bother to use the drag-and-drop features to bind tables, but I do use many of its other features. For example, the Data View window can be used to display the tables, views, stored procedures, and data schema (graphically) for any selected data source—at least those that support more sophisticated OLE DB providers. I find the Database Diagrams an invaluable tool to manage tables, indexes, and relationships. SQL Server uses this same tool and it appears as the Server Explorer.

---