Chapter 2

The Tools of the Trade

“Tools of trade” is a term utilized in bankruptcy law to establish what assets a person would commonly use for the purpose of making a living. To make a living as device driver developers, our “Tools of trade” are VS2008, Platform Builder (PB), and third-party tools.

Visual Studio with Smart Device support only allows you to develop applications for devices. For Windows Embedded Compact 7 (and previous versions) device driver development, Platform Builder is an absolute must. Platform Builder provides you with the device driver development kit (DDK) and the ability to build an operating system image for testing the device driver. Moreover Platform Builder provides you with the build tools necessary to build device drivers for Windows Embedded Compact 7 (CE), such as setting the build environment variables and debugging and testing tools such as kernel debugger tool and an extensive set of remote tools.

Visual Studio and Platform Builder provide a solid foundation for development, still third-party tools are available to speed up the process of creating a device driver. Two tools that device driver developers should find particularly useful are TRACE32 JTAG debugger, and the Windows CE Device Driver Wizard. This chapter provides an overview of these tools and later chapters will provide in-depth discussion and examples how to use these tools.

In this chapter:

- Visual Studio 2008
- Platform Builder
- Windows CE Build System
- The Device Driver Development Kit
- TRACE32
- The Windows CE Device Driver Wizard

Visual Studio 2008

Visual Studio 2008 is in actual fact the host of Platform Builder 2008 IDE which is a Visual Studio 2008 plugin wizard, which means that you have to install Visual Studio 2008 prior to installing Platform Builder 2008. Visual Studio 2008 together with Platform Builder 2008 provides you with a comprehensive
environment for developing OS images, subprojects, downloading the OS images to the target device and debugging capabilities all in one development tool. What is of interest to Windows Embedded Compact developers and device driver developers for this OS is the integration of Platform Builder into Visual Studio 2008 and less Visual Studio as a general developer tool.

Visual Studio 2008 and Platform Builder IDE

Platform Builder for Windows Embedded Compact 7 IDE is integrated into Visual Studio 2008. It provides the user a graphical user interface to create OS designs, connect and download OS images to target devices, a graphical interface to the kernel debugger, edit source code build subprojects, BSP components, and many more capabilities. The build results are the same results as if using command line tools to perform all development efforts, moreover results are interchangeable, meaning that you can interchange command line development and IDE development.

After installing Platform Builder, Visual Studio has specific Windows Embedded Compact related UI components, including a specific device-related menu called the “Target” menu; OS design-specific “Build” menu options; and three new “Tools” sub menus “Platform Builder,” “Windows Embedded Silverlight Tools,” and “Remote Tools.” The main feature however is the Platform Builder wizard and under the “Other Languages ➤ Visual C#” project types the “Remote Tools Framework” wizard. Figure 2-1 shows the Platform Builder Wizard in the “Project Types” tree.

![Figure 2-1. Creating an OS design using Platform Builder IDE wizard](image)