Driver::Works Windows Device Driver Development Kit Version 2.0
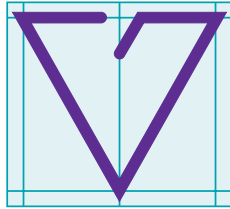
Vireo Software

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Introduction

To facilitate rapid development of PCI Designs using the Xilinx LogiCORE PCI32 Interface, Vireo is providing the Driver::Works Windows Device Driver Development Kit. This kit includes an interactive GUI Wizard that runs in conjunction with the Microsoft Visual C++ 4.2 and later. Provided at no extra cost with the Xilinx PCI Design Kit, is a full-featured version of Driver::Works licensed for prototyping fully functional drivers and testing them with the HotPCI board. An unrestricted license is available directly from Vireo.

Support

Support for Driver::Works is provided only from Vireo. See Vireo's home page for contact instructions and other details.

Features

- Windows NT support
- Windows 98 support
- Driver::Wizard™, Vireo's Code Generation Wizard Interface. The Wizard includes automated support for all PCI functions, including:
  - PCI Configuration
  - DMA
  - Mapped Memory
  - Interrupt handling
  - IO Ports
  - Application interface
  - Registry interface
  - Plug and Play handling
- Support for MSVC++ 4.2 and later
- C++ Class Library for NT/WDM driver development
- Full library source code is included
- Dozens of sample drivers, with full source code
- Full Plug and Play support
- Driver Access Architecture (DAA) supports portability between Windows NT, Windows 95, Windows 98, and Win32 Driver Model (WDM)
- Driver::Monitor™ - monitor driver activity without a debugger.
- Ready-to-use examples tested on real-world hardware
- Full technical support through Vireo
- RISC platform support
- More than 700 pages of printed and online documentation

Description

Driver::Works is a next-generation environment for device driver development based on a powerful and flexible C++ class library coupled with a powerful code generation wizard.

Over time, Windows application development has evolved to class libraries such as MFC and development tools such Microsoft's Application Wizard. Vireo provides a similar environment for Windows NT and WDM device driver development.
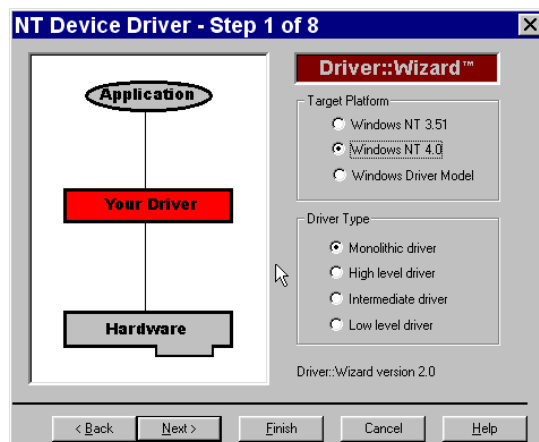

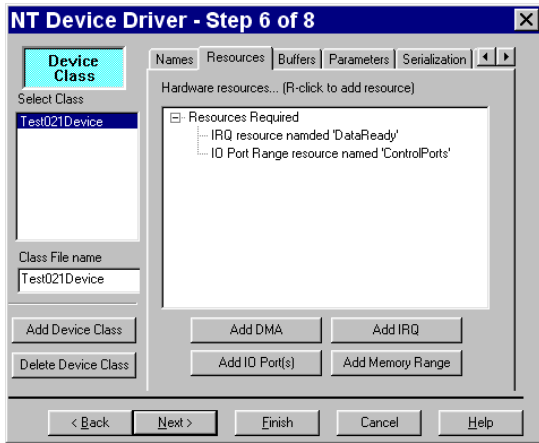**Figure 1:   Driver::Wizard GUI (earlier version shown)**

Figure 2:   Driver::Wizard GUI (earlier version shown)

The Driver::Works class library offers thousands of lines of tested code that reduce many complex tasks to simple library calls. In fact, Driver::Works offers by far the most complete device driver library available.

Driver::Works also ships with complete examples that are designed to be used as a basis for further development.

Driver::Works also includes Vireo's unique Driver::Wizard technology, shown in Figures 1 & 2. Driver::Wizard guides you through a series of steps that identify many characteristics of your device. Driver::Wizard then generates source code tailored to your driver. The Driver::Works class library, framework, and Wizard provide access to tens of thousands of lines of working, debugged code that will allow you to develop your device drivers quickly.

Driver::Works implements Vireo's Device Access Architecture (DAA) interfaces. Using DAA, device driver source code can be easily ported between Windows 95, Windows 98, and all versions of Windows NT. Drivers written with DAA provide optimal performance on each platform while at the same time offering a common set of objects and interfaces that provide source code portability with no limitations or overhead.

Driver::Works requires Microsoft Visual C++ version 4.2 or later, and the Microsoft NT DDK, or the Windows 98 DDK. Driver::Works drivers have been tested on both Alpha and Intel single and dual processor platforms.

Driver::Works incorporates years of class-library design experience into a clean, object-oriented system that accurately reflects the underlying system architecture while avoiding the use of arcane C++ language features.

The Driver::Monitor tool, shown in Figure 3, provides a unique workbench for loading, testing, tracing, and unloading your device driver.
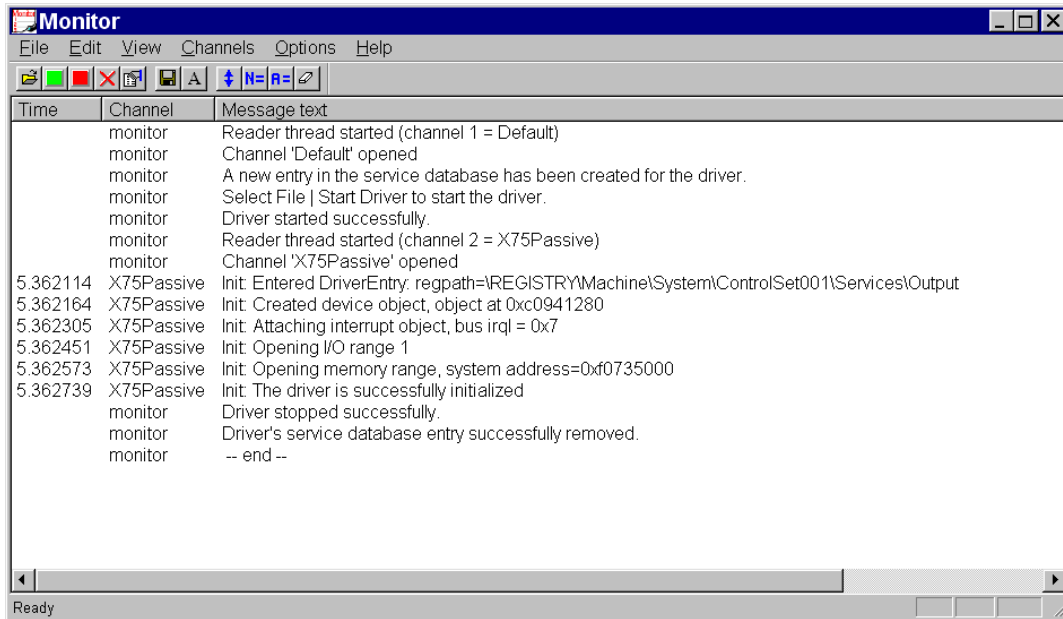

Figure 3:   Driver::Monitor Interface

Licensing

The version of Driver::Works included in the Xilinx PCI Design Kit is fully functional and includes all libraries and software. It is licensed for use in driver development and prototyping only. Vireo offers Xilinx PCI customers the opportunity to purchase a royalty-free distribution license. Contact Vireo for pricing and details.

Vireo provides free bug fixes available for immediate download. Timely new versions provide support for a new compiler versions, and operating system revisions. Vireo also provides new examples and bug fixes on a regular basis.

Technical support on this product is available *only* through Vireo Software Inc.

Notes: