

VXI and VME Bus Interface Software

NI-VXI/NI-VISA

- *VXIplug&play*-compliant
 - Core technology of *VXIplug&play* Systems Alliance
- Standardized VXI programming interface across platforms
- Complete VXI software capabilities with VXI Resource Manager
 - Interactive VXI/VME Configuration Editor program
 - Library of VXI programming routines
 - VXI Interactive Control program
 - Interactive Spy utility for troubleshooting
- Multiple-mainframe configuration capability
- Use with VXI or VME systems

NI-VXI/NI-VISA

- Windows 2000/NT/Me/9x
- Mac OS
- Solaris 2
- HP-UX
- VxWorks
- Linux

NI-VXI

- Windows 3.1/DOS

Application Software

- LabVIEW
- Measurement Studio



Overview

The NI-VXI/NI-VISA bus interface software is a comprehensive software package for configuring, programming, and troubleshooting VXI/VME systems. NI-VXI/NI-VISA features a complete set of high-performance routines for industry-standard programming languages and intuitive tools for interacting with and troubleshooting VXI or VME systems to accelerate your development. With NI-VXI/NI-VISA, you can develop systems that are portable across a variety of controller platforms, such as embedded controllers or external computers that interface with MXI-2, MXI-3, IEEE 1394, and IEEE 488 technologies, to protect your software investment.

VISA is the industry-standard I/O software interface developed by National Instruments and standardized by the *VXIplug&play* Systems Alliance.

VISA function calls are interface independent, meaning you can use the same set of function calls to program VXI, PXI, VME, GPIB, serial, and other types of devices. Applications developed using VISA can run on any *VXIplug&play* controller platform and are portable across all VXI controller types, including embedded, MXI, 1394, and GPIB-VXI interfaces. Applications developed using NI-VXI function calls are portable across our entire VXI and VME line of embedded and MXI controller solutions.

VXIplug&play Software

The *VXIplug&play* Systems Alliance has standardized the VISA Specification. As such, VISA is the industry-standard I/O software platform on which all standard *VXIplug&play* software components, such as soft front panels and instrument drivers, are built. National Instruments offers the widest selection of

VXIplug&play-compliant controllers, on a number of operating systems including Windows 2000/NT/Me/9x, DOS, Solaris, Linux, HP-UX, Mac OS, and VxWorks (Intel only).

You can use NI-VXI/NI-VISA with a wide selection of application development environments, including LabVIEW and Measurement Studio. Contact National Instruments for more information on other application development environments and language support.

INFO CODES

For more information or to order products online, visit ni.com/info and enter:

nivxivisa

BUY ONLINE!

NI-VXI/NI-VISA Software Tools

One of the most important considerations for a VXI system is software, and it is one of the main areas on which National Instruments focuses, both in our involvement with the *VXIplug&play* Systems Alliance and in our product line. We designed the NI-VXI and NI-VISA software libraries and interactive utilities for high-performance operation and to take full advantage of the rich VXI feature set. With the intuitive and easy-to-use APIs and powerful utilities, you can build systems more quickly, without sacrificing performance.

VXI and VME Bus Interface Software

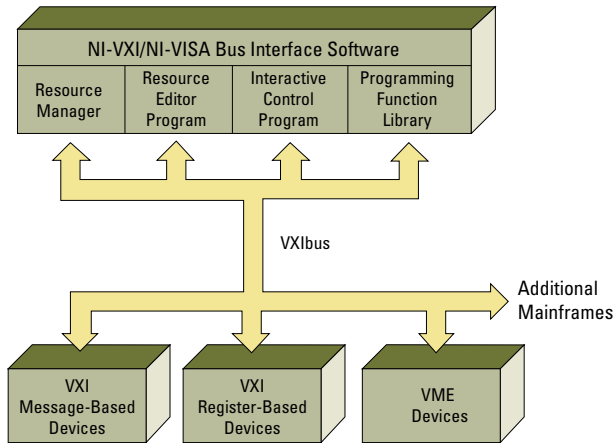


Figure 1. VXI Software Components

VXI Configuration Tools Program

Measurement & Automation Explorer provides a system view of your VXI, PXI, VME, GPIB, and serial devices. In addition, you can use it to configure key aspects of devices, such as your controller and VXI instruments. You can also integrate VME devices into the system so that the Resource Manager program can successfully configure the system. On systems where Measurement & Automation Explorer is not available, you can use the graphical VXledit or text-based VXltdit programs to configure your system hardware and maintain your databases containing VXI information.

VXI Resource Manager

The Resource Manager configures single and multiple-mainframe VXI/VME systems. You can automatically execute the Resource Manager after you boot the operating system, or you can run it interactively at any time. To smooth the integration of fully compatible VXI devices with non-VXI-compatible devices, such as VME boards, you can use Measurement & Automation Explorer or the VXltdit program to instruct the Resource Manager about preconfigured system information, such as the desired configuration of interrupt and trigger lines.

Interactive Control Program

VISAIC is a user-friendly program you can use to communicate with your VXI, GPIB, and serial devices through the NI-VISA interface. In addition, you can access other tools and the soft front panels of your VXI *plug&play* instruments. VISAIC provides full access to the VISA attribute model, the message and register-based operations, as well as the event operations for capturing events such as Service Requests (SRQ), VXI Interrupts, and VXI Triggers.

Interactive Spy Utility

NI Spy helps you troubleshoot VXI, VME, GPIB, serial, and IVI systems running Windows 2000/NT/Me/9x. With this tool, you can capture all function calls through NI-VISA, NI-VXI, and NI-488.2, see their return codes, and verify their parameters. NI Spy also logs the start and end time of each call. You can save this information to a file or print it.

Programming Function Library

The NI-VXI/NI-VISA Programming Function Library is a comprehensive collection of software routines for programming your VXI or VME system. This library includes functions for programming message-based VXI devices using the Word Serial Protocol, direct manipulation of register-based VXI devices and VME devices using high-level (protected) and low-level (unprotected) direct access VXI functions, and DMA and shared-memory communication techniques, such as high-speed 32-bit block data transfers. The library also includes numerous functions for configuring and handling interrupts, signals, and triggers within the system.

Ordering Information

NI-VXI/NI-VISA for Windows 2000/NT/Me/98

VXIpc-870/700/600 Series	777250-02
PCI-MXI-2 ² , PXI-8320 ² , or VXI-8340 ²	777187-03
VXI-1394 (Windows 2000/Me/98) ²	778118-01
VXI-1394 (Windows NT) ²	778117-01

NI-VXI/NI-VISA for Mac OS

PCI-MXI-2 ²	777187-04
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NI-VXI/NI-VISA for Solaris

PCI-MXI-2 ² , PXI-8320 ²	777187-05
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NI-VXI/NI-VISA for HP-UX

PCI-MXI-2 ²	777187-06
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NI-VXI/NI-VISA for VxWorks

VXIpc-870/700 Series ¹	777250-04
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NI-VXI for DOS/Windows 3.1

VXIpc-700 Series ¹	777250-01
PCI-MXI-2 ²	777187-01

NI-VXI for Linux

VXIpc-870 Series	778130-01
PCI-MXI-2 ² , PXI-8320 ²	778131-01

¹You can order this software with an embedded computer for installation at the factory.

²Included in the purchase corresponding MXI-2 kits.