GPIB PRODUCTS

GPIB AnyWhere

Remote Control Software for GPIB Instruments

- Remote control of GPIB instruments via the Internet or over in-house network. *Control GPIB and HP-IB devices from anywhere.*
- Gives Unix/Linux users control of a WIN32 PC and GPIB Controller. *Inexpensive GPIB bus Access for Unix/Linux users.*
- Debug test programs on production hardware. *Work from your desk rather than in production.*
- Compatible with most VISAs. *Supports VEE, LabVIEW and all programs that can make VISA calls.*
- RPC over TCP/IP capable communication. *Unix/Linux tools can easily communicate through RPC.*
- Includes ICS's VXI-11 Keyboard program for interactive control of GPIB devices. *Lets you try out commands and verify instrument control using the VXI-11 Service.*

DESCRIPTION

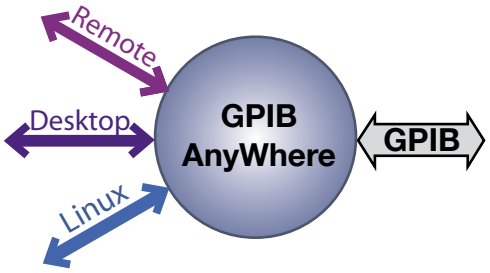
ICS's GPIB AnyWhere™ is a VXI-11 Service Software that lets you control your GPIB instruments from anywhere over the Internet or over an in-house network. GPIB AnyWhere™ makes it easy to share GPIB equipment or to run remote tests from your desktop.

ICS's GPIB AnyWhere's VXI-11 Service converts a an Intel type PC with a compatible GPIB Controller into a network accessible GPIB Controller. ICS's GPIB AnyWhere™ VXI-11 Service can be installed on any PC with a WIN32 operating system and a compatible GPIB Controller. The VXI-11 Service becomes a system service that is active at all times. It provides a VXI-11.2 Service accessible on the network, thereby allowing any networked computer to access the GPIB Controller through it. The installation of the VXI-11 Service does not impact existing GPIB applications on the computer. Locking techniques avoid interference with the existing test programs.

VXI-11 Communication

Communication to a VXI-11 Service can be easily accomplished through the VISA layer that comes with graphical programming languages such as LabVIEW or VEE. These graphical language VISA layers support TCP/IP VISA resources. There are also a number of VISA packages for Unix and Linux (*nix) systems. No special configuration utilities or drivers are needed since TCP/IP resources are supported by nearly all VISA packages. Existing programs that make VISA calls can communicate with ICS's VXI-11 Service by redefining the VISA TCP/IP resource name for each instrument.

Non-VISA applications like Visual Basic and C/C++ Applications can also be written to make VISA calls instead of directly calling the GPIB-32.DLL. This does require some program modifications but it greatly improves program portability and expands the number and type of GPIB Controllers that can be used by the program.



Computers with Unix or Linux like operating systems can also access ICS's GPIB AnyWhere™ VXI-11 Service through RPC over TCP/IP. RPC provides an invisible communication medium allowing the developer to concentrate on his program. This means that computers running Linux, SunOS, IBM-AIX, HP-UX, Apple OS X and all other Unix variants can now have inexpensive control of GPIB instruments through a spare WIN32 PC.

Compatibility

ICS's GPIB AnyWhere™ was designed to work with any GPIB-32.DLL library which accesses the user's GPIB Controller hardware. The GPIB-32.DLL library is a de-facto industry standard created by National Instruments and copied by several companies. Because all GPIB-32.DLL libraries use the same standardized calls, ICS's GPIB AnyWhere™ works with any GPIB controller that provides a National Instruments compatible GPIB-32.DLL for a WIN32 operating system. This includes GPIB Controllers from National Instruments, Ines, and Measurement Computing as well as from ICS Electronics.

VXI-11 Keyboard Controller

GPIB AnyWhere™ includes ICS's VXI-11 Keyboard Controller program for Windows which provides interactive control of GPIB devices through GPIB AnyWhere's VXI-11 Service. The Keyboard Controller program is the ideal utility program for testing the GPIB AnyWhere™ installation, for trying out VXI-11 instrument links, for exercising GPIB devices or for trying out device commands before using them in a program.

*nix includes all varieties of Unix including Linux, Sun OS, HP-UX, MAC OS X and IBM AIX.

VEE Pro

LabVIEW

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GPIB AnyWhere APPLICATIONS

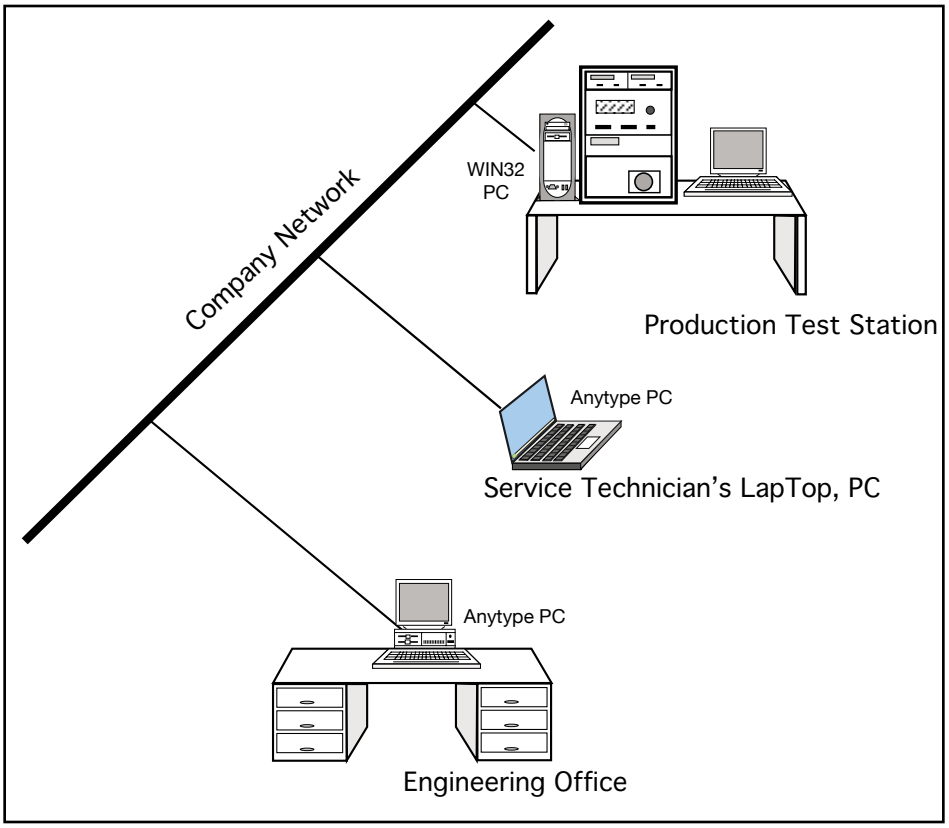
Applications

Figure 1 on the right shows a typical company network that links Engineering and Production Work Stations. GPIB AnyWhere's VXI-11 Service is installed on the Production Test Station Computer. While active, the VXI-11 Service does not interfere with running Production test Programs.

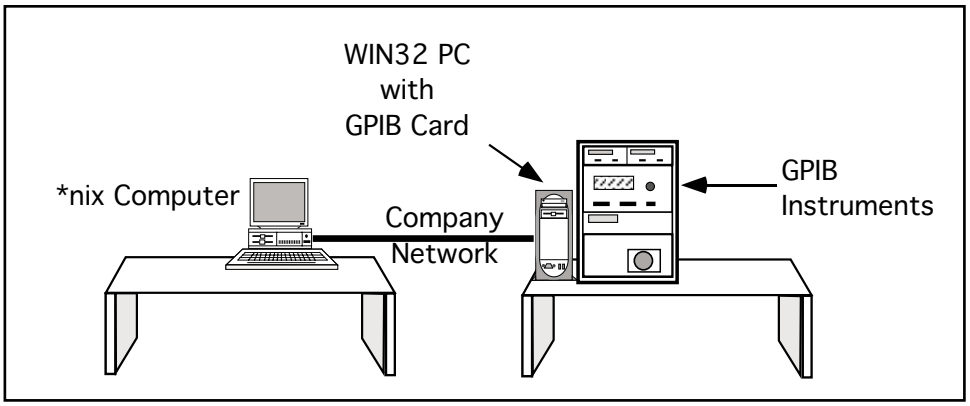
The Production Test Programs can be written in LabVIEW, VEE or whatever programming language the company programmers prefer. When debugging a new test program or solving a problem on an existing program, the programmer can access the Production Test Station through its VXI-11 Service by running the application from his desk without having to work in the Production area. This gives him more working time since he no longer has to go down to the production floor to run a test or to debug a problem. In large companies this can be a substantial time savings not to mention interruptions to the manufacturing work flow or loss of station availability on the test floor.

If your company has large instruments like spectrum analyzers that have to be serviced in house, then GPIB AnyWhere's VXI-11 Service gives you some additional service options. The Service technician can plug his laptop into the company network or directly into the equipment to test it using the VXI-11 Service. If he needs assistance, the factory expert can expert can remotely assist the Service Technician in solving the problem from the factory. If security issues prevent him from using the company's network, he can always make a wireless connection with his cell phone.

In cases where it will take several hours or days for the Service Technician to arrive and your manufacturing line is shut down, the VXI-11 Service will let the manufacturer's factory expert run his test remotely and potentially get the equipment back on the air quickly, saving your manufacturing people days of downtime.



Typical Company Network



***nix Computer controlling GPIB Instruments**

GPIB for *nix Systems

If your company likes to run computers with Linux or Unix operating systems, then GPIB AnyWhere's VXI-11 Service provides a way to inexpensively add a GPIB Controller to them. GPIB AnyWhere™ and a compatible GPIB Controller can be installed on a spare WIN32 computer which then acts as a network controlled GPIB Controller for the *nix systems. The spare WIN32 PC and GPIB Controller combination makes an inexpensive VXI-11.2 Interface to run a GPIB test system.

Linux/Unix systems can communicate to the VXI-11 Service with RPC or through one of many *nix compatible VISAs. As a bonus, *nix VISAs usually include VXI-11.2 capability which gives the Linux/Unix user more control of the GPIB Interface (Controller) than that provided by WIN32 VISAs to the LabVIEW or VEE user.

Timesharing Expensive Equipment

If your company has developers in multiple locations or time zones, they can use GPIB AnyWhere's VXI-11 Service to share control of a test system or a prototype GPIB device. Sharing eliminates the need to duplicate the setup in each location. The VXI-11 Service lets engineers at different locations access the equipment on a 24 hour basis. Built-in locking protects instruments while they are performing atomic operations and prevents program conflicts from interfering with each other.

GPIB AnyWhere™ SPECIFICATIONS

Supported Standards

VXI-11 Capabilities:
Provides VXI-11.2 Interface (GPIB Controller) and VXI-11.3 Instrument (GPIB Device) control functions.

Communication:
Uses RPC over TCP/IP for remote communication. The VXI-11 Standard includes the structure definitions necessary for rpcgen usage.

VXI-11 Keyboard Controller Program
Runs on the local WIN32 computer and interactively sends user inputs from the PC Keyboard to bus device, reads back device responses and executes other bus commands. Also operates on a remote WIN32 system to control the GPIB bus over the company network or Internet.

Compatible Software

GPIB AnyWhere's VXI-11 Service is compatible with the following applications:

NI LabVIEW (4.0 thru 7.1)
Agilent VEE
MathWorks MATLAB
Argonne Labs EPICS

Compatible VISAs

GPIB AnyWhere's VXI-11 Service is compatible with any VISA that supports TCP/IP VISA resources.

VXI-11.2 and VXI-11.3 capable VISAs:
Linux VISA
Unix VISA

VXI-11.3 capable VISAs
Agilent VISA
National Instruments VISA

Compatible GPIB-32.DLLs

GPIB AnyWhere's VXI-11 Service is compatible with GPIB-32.DLLs from the following companies:

Agilent
ICS Electronics
Ines
Measurement Computing
National Instruments

System Requirements

Local Computer
An Intel type PC with:
GPIB Controller and a GPIB-32.DLL installed.
WIN32 Operating System (Win 2K or XP)
3Mbytes of free Hard Disk space. Figure 3 shows how a VXI-11 Service fis into a WIN32 PC

Remote Computer
Virtually any computer with an operating system that can make RPC protocol calls or has a VXI-11 compatible VISA installed.

Included Accessories

Instruction Manual
GPIB AnyWhere Installer and VXI-11 Keyboard Controller program on CD-ROM.

VXI-11 KeyBoard Controller Program Panel

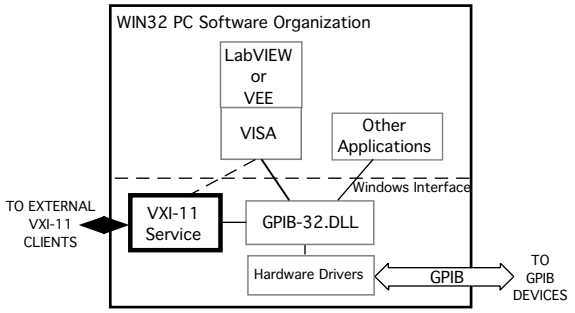


Figure 3 VXI-11 Service installed in a WIN32 PC

ORDERING INFORMATION

	Part Number
GPIB ANyWhere VXI-11 Service including manual and example programs	123026