KB2010-02:   RUNNING 16-BIT APPLICATIONS

The Virtual MBX and Virtual DHX Drivers support the communication needs of DOS and 16-bit Windows applications running under 32-bit Windows operating systems. However, 64-bit Windows operating systems do not support 16-bit applications, and will not even allow you to install the Virtual Drivers.

Furthermore, while the Virtual Drivers are compatible with 32-bit Windows 7 and Vista, some 16-bit applications are not, and will not run at all under these operating systems.

This article explains a workaround that you can use to let you use these drivers and applications on your system.

Applies To:

This article applies to you if you want to run DOS or 16-bit Windows applications with the MBX or DHX drivers under either of the following conditions:

- You are using any 64-bit Windows operating system.

- You are using a 32-bit version of Windows 7 or Vista, and the application you want to run is not supported by your operating system.

Objective:

Set up the system to run Modsoft, Concept, ProWorx, A-B 6200, or another DOS or 16-bit Windows software application, using either MBX or DHX drivers.

Issues:

If you use a 64-bit Windows operating system, you will find that the legacy 16-bit applications you want to use are not supported, and the 16-bit Virtual MBX and Virtual DHX Drivers cannot be installed.

If you use 32-bit Windows 7 or Vista, you will find that the Virtual MBX and Virtual DHX Drivers will install and work normally, as will some 16-bit applications. However, you will find that some commonly-used legacy applications are not supported and will not run.

Resolution:

You will run the application under Windows XP in a Virtual PC (VPC) or Windows XP Mode under Windows 7, and then use the DHX or MBX Gateway Driver to communicate with the network devices in the host operating system environment.

The communication chain looks like this:

- Within the VPC, the 16-bit application communicates through the Virtual Driver to the Gateway Driver device.

- The Gateway Driver communicates with the Gateway Server running under the host OS.

- The Gateway Server then uses the appropriate driver (DHX/MBX Driver, Ethernet DHX/MBX Driver, Serial DHX/MBX Driver, etc.) to communicate with the PLC.

In this configuration, the host system and the virtual PC appear to the driver software as two separate systems communicating over a network. For this reason, you will need two licenses: one to activate the software in the host environment, and the other to activate it in the virtual PC environment.

Here is the procedure:

1. Under your host operating system (e.g. Windows 7), install and activate the Cyberlogic software suite that contains the device drivers for your network hardware. This will be either the DHX or MBX versions of the Driver Suite, OPC Server Suite or OPC Premier Suite, or the MBX Bridge Suite.

2. Configure the DHX or MBX Driver, Ethernet DHX or MBX Driver, or Serial DHX or MBX Driver—whichever is appropriate for your network—to communicate with your PLCs.

3. Enable the DHX or MBX Gateway Server, by setting its **Startup Type** to **Automatic** and clicking the **Start** button.

Note	If your host system does not have a network adapter or is not connected to a network, you need to install a loopback adapter to use the Gateway Server. See <u>Installing a Loopback Adapter</u> for instructions.

4. Go to Microsoft's website to download and install the Virtual PC software.

- If you use Windows 7, download Windows XP Mode and Windows Virtual PC from the link below, and then install them on your system.

  www.microsoft.com/windows/virtual-pc/default.aspx

- If you use an operating system other than Windows 7, download the Virtual PC software from the link below, and then install it on your system. You must then install a 32-bit version of Windows XP within the VPC.

  www.microsoft.com/windows/downloads/virtualpc/default.mspx

5. Install and activate the DHX or MBX Driver Suite within the Virtual PC.

Note | If you installed the loopback adapter on your host system, an additional step is required to configure VPC networking to use the loopback adapter. See Configure the VPC for a Loopback Adapter for more information.

6. In the Virtual PC, create a DHX or MBX Gateway device, and configure it to communicate through the Gateway Server to one of the configured devices on the host system.

    The VPC functions as though it is another computer networked to the host system. This allows the Gateway Driver to communicate through the Gateway Server that you set up in the host environment. The Gateway Server can then provide communication services to software in the VPC.

7. Configure the Virtual MBX or DHX Driver in the Virtual PC.

8. Install your DOS and 16-bit Windows software in the Virtual PC.

9. You will now be able to run your 16-bit application inside the Virtual PC.

Troubleshooting:

If you still cannot communicate, here are some common issues for you to check.

On the Virtual PC

*   *Check the path in the PIF:* Cyberlogic includes program information files (PIFs) for commonly-used 16-bit applications. These PIFs assume that the application is installed in its default directory. If you chose a different directory when you installed the application, you must modify the PIF to look in the correct directory.

*   *Verify 16-bit Windows support is enabled (MBX only):* If you are using the Virtual MBX Driver, you must enable support for 16-bit Windows applications before you can use them. To do this, go to the editor's **16-Bit Windows Applications** tab and check the **Support 16-Bit Windows Applications** box. Save the configuration and reboot the VPC system. This is not necessary for DOS programs, nor is it needed when configuring the Virtual DHX Driver.

*   *Check that the drivers are running:* The drivers default to automatic mode, in which they will start when Windows boots. However, the startup configuration may have been changed, or the drivers may have been stopped. Be sure that all are in Auto mode and running.

*   *Verify that the Cyberlogic software is activated:* If you don't activate the software within two weeks after installation, the drivers will enter a demo mode. They will then run for only two hours, after which the system must be rebooted to allow the drivers to restart.

- *Be sure the application and operating system are compatible:* There may be unexpected limitations to running legacy software under modern operating systems. For example, Allen-Bradley's 6200 software will not communicate with PLC-2 controllers at all when it is running under Windows. This is an incompatibility between the application and Windows, and has nothing to do with the driver.

On the Host System

- *Check that the drivers are running:* The drivers default to automatic mode, in which they will start when Windows boots. However, the startup configuration may have been changed, or the drivers may have been stopped. Be sure that all are in Auto mode and running.

- *Verify that the Cyberlogic software is activated.* If you don't activate the software within two weeks after installation, the drivers will enter a demo mode. They will then run for only two hours, after which the system must be rebooted to allow the drivers to restart.

Installing a Loopback Adapter:

A loopback adapter is required to use the Gateway Server if there is no network connected to the host system. Here are the installation steps.

1. Run the Add Hardware Wizard. In Windows 7, this is accomplished by clicking the Start menu, searching for "hdwwiz.exe", right clicking on Hdwwiz.exe, and choosing "Run as Administrator". In previous versions of Windows, go to the Control Panel and start the "Add Hardware" applet.

2. When the "Welcome to the Add Hardware Wizard" dialog appears, click Next.

3. Choose "Install the hardware that I manually select from a list. (Advanced)" and click Next.

4. Select the "Network Adapters" hardware type and click Next.

5. Choose Microsoft as the manufacturer. Then select the Microsoft Loopback Adapter and click Next.

6. Click Next and then Finish to complete the installation and exit the wizard.

Configure the VPC for a Loopback Adapter:

To use a Loopback Adapter, you must change the VPC's default network setting.

1. In the VPC, go to the Tools menu and select "Settings…"
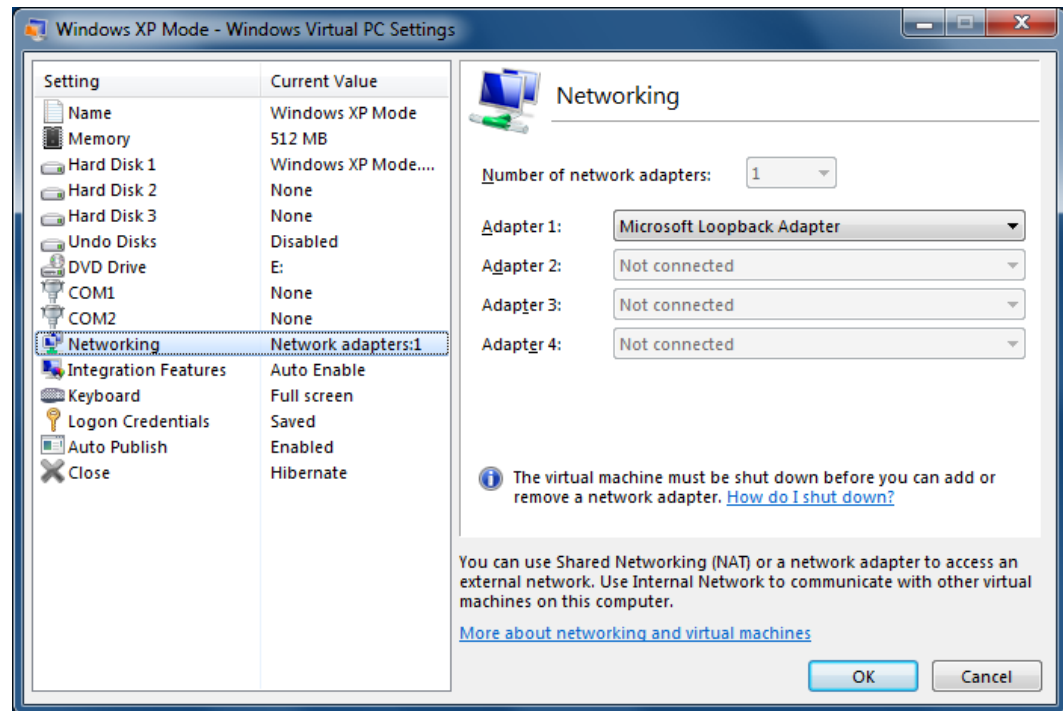
2. Select Networking.

3. Change Adapter 1 to be the Microsoft Loopback Adapter.

4. Click OK.

Technical Support:

If you have any questions or problems with these procedures, please contact Cyberlogic's Technical Support group by emailing techsupport@cyberlogic.com, or by calling 248-631-2288.