Installing EtherSeries Product Firmware
Step-By-Step Instructions
8/4/2005

Overview:

The EtherSeries product firmware may be updated in the field. The firmware is stored in flash RAM, and is replaced by running an update program on a Windows computer located on the same sub-net as the target EtherPath. The update occurs over the ethernet. A serial connection is not required or used. This note describes the process in detail.

EtherSeries Products: The procedure is the same for all EtherSeries products. You should have the appropriate firmware images for your product. EtherPath images are normally named EtherPath_V##.bin . EtherPoll iamges are named EtherPoll_V##.bin, etc. **To prevent hardware damage, do not attempt to install firmware from one EtherSeries product model into the hardware designated as another. Although the hardware platforms may look the same, there may be internal component and boot ROM differences. If you mistakenly tried this and damaged the hardware or overwrote the boot ROM, it may (or may not) be repairable by returning the unit to the factory. If it is repairable, there is a charge for re-initializing the hardware at the factory.**

In this application note, the name "EtherPath" will be used as a generic name for all EtherSeries products.

Hardware and Software Requirements:

The target EtherPath and Windows workstation must be on the same ethernet LAN. The workstation should have enough free space (several meg) to hold the firmware image and the update program. The update program is installed on the workstation along with the firmware image. It is good practice to also have a copy of the existing version firmware image on the workstation in case the target will not accept the update.

Contact DCB Technical Support to obtain the latest firmware version for your product. The firmware image may be downloaded via the Internet or supplied as an email attachment.

There are separate UPDATE programs for older Windows versions (Windows 95, Windows 95SE, Windows 98, and Windows ME), newer Windows (Windows XP, XPPro, 2000, NT), and UNIX.

Procedure:
WARNING!
Please read the entire instructions thoroughly, and if you are unsure about the process don't start it... return the units to your vendor or DCB for the upgrade operation. When storing new programs into flash RAM, there is always some risk that the process may fail and leave the unit inoperable. If this is a critical unit and you can't take that risk, you should return the unit for upgrade at the factory. As with all Windows application installations, it is better to have no other programs running on the workstation during the install.

There are several versions of the hardware platform in service. Different hardware platforms require different firmware.

1. **The oldest hardware was released in late 1997. It will only support firmware versions lower than 1.4. Version 1.4 firmware will NOT operate on this hardware. If your unit has firmware older than 1.4, then there is no update available for it.**

2. **In 2000, the second hardware version was released with additional RAM and ROM. This unit is easily distinguished from newer hardware by its BNC connector and dip switches. This hardware will accept firmware from version 1.4 up to 3.99 . It will not accept 4.0 or any newer versions. The Version 3.x series is still being improved, but only minor changes which are easily ported from the current version are being implemented.**

3. **The newest hardware version released in January 2002 is distinguished by the absence of a BNC connector and dip switches. Instead of the switches, there is a small hole in the side which allows access to a reset button. This hardware accepts firmware versions 4.0 and higher.**

4. **There are other similar hardware platforms in use that do not require the UPDATE program for firmware installation. These products use a web browser process to upgrade the installed firmware. Products in the ET and IP family use this method.**

If in doubt, run the terminal or telnet configuration screen. The first few lines of the screen should display the current firmware version.
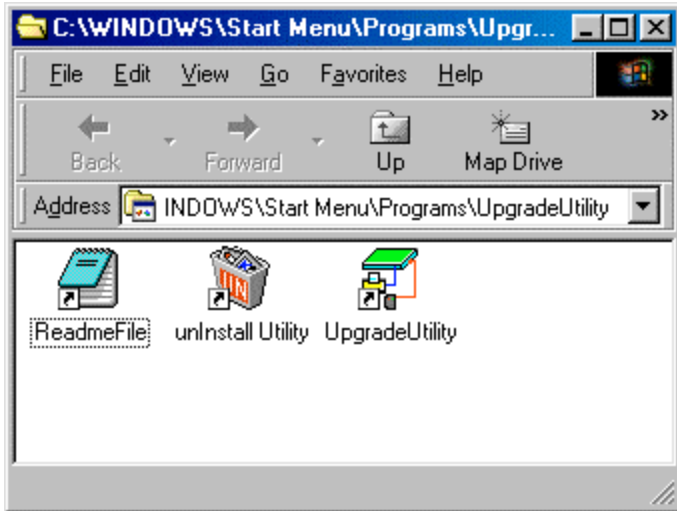
A. Upgrade Program Installation:

The Windows Upgrade program is illustrated. The UNIX/Linux version is similar.

1. Copy all files from the email, download, or CDROM to a temporary directory on the workstation.
2. Install the upgrade.exe program by highlighting it in Windows Explorer and double clicking or finding it with the RUN command and running it.
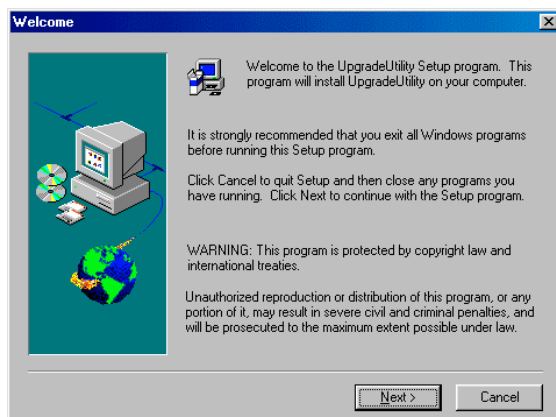
Startup Screen for Upgrade Install

The installation will proceed with the usual options. Take the defaults for everything and the upgrade program will be installed in a subdirectory c:\program files\upgrade\program along with all necessary .dll files. A program group and icons will be created as shown.

Program Group

3. Copy the firmware image files to the newly created subdirectory (C:\program files\upgrade\program\ )

The upgrade program and all necessary files are now installed on the workstation.

B: Upgrade Process

The upgrade occurs over the LAN. The protocol doesn't use IP, so it isn't necessary to have a valid IP address in the EtherPath Select the upgrade program icon from the window above or run c:\program files\upgrade\program\upgrade.exe from Windows Explorer. The sign-on screen will be displayed:
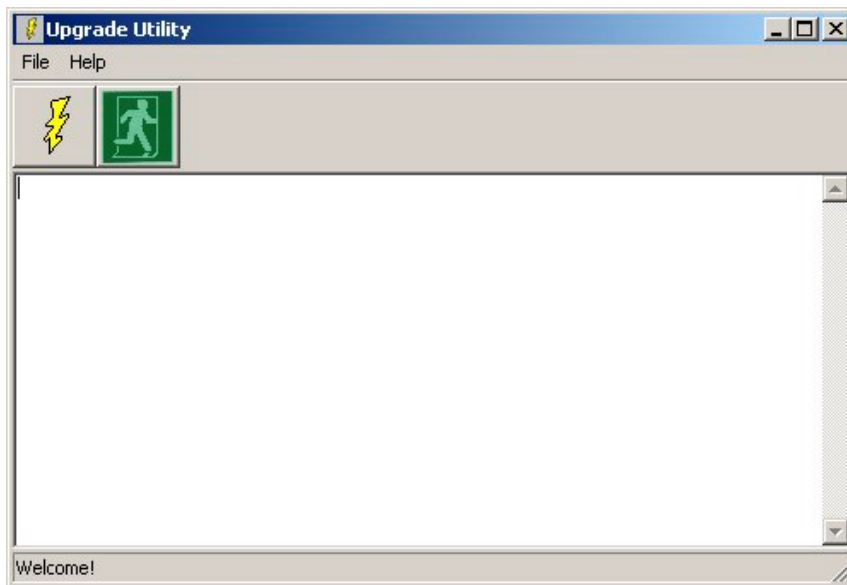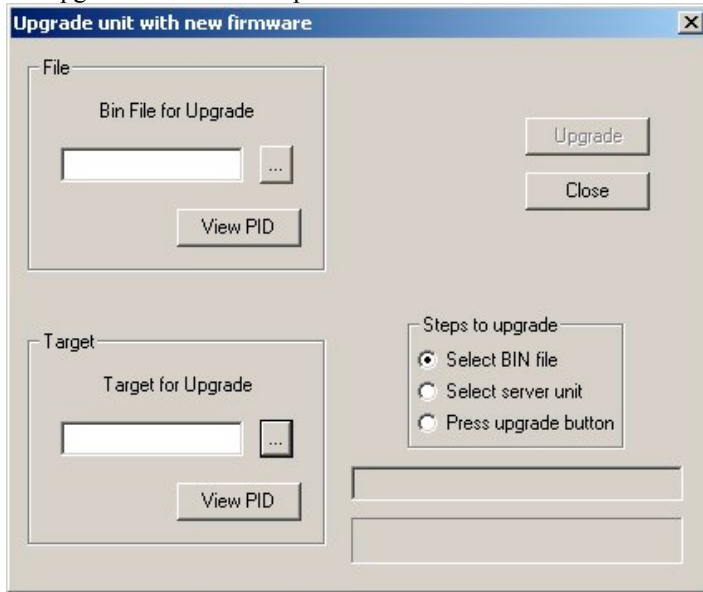

Signon   Screen

1.   From the menu bar, select Upgrade/Upgrade or click on the first command button

2. The Upgrade window will open.

3. It contains windows for selecting the Target hardware and the bin file, as well as buttons to start the upgrade, view device and file information, and close the application.


4. Click on the browse (…) button and upgrade will search your local ethernet segment for "targets" that it recognizes as EtherPath devices. (If your workstation has more than one Ethernet interface, a window dialog will ask you to select the proper one.) MAC addresses for the discovered devices will be displayed in a drop-down menu. Select the appropriate device and click on OK. The MAC address is printed on the bottom of the EtherPath. To see more details about that device, press the "View PID" button.

5. Click on the browse button in the "Bin File for Upgrade" window to see a list of available firmware image files. These are the files located in the directory where upgrade.exe resides. Select the desired firmware image and press "OK".
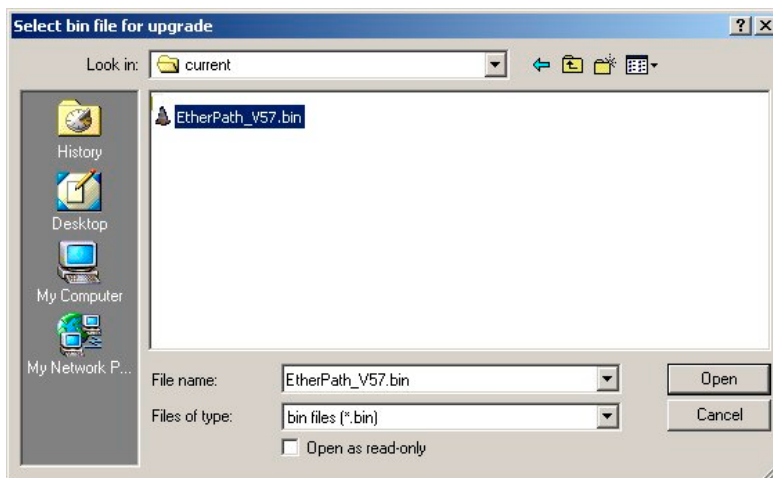
6. You are now ready to actually upgrade the target firmware. The next screen shows the upgrade button highlighted…
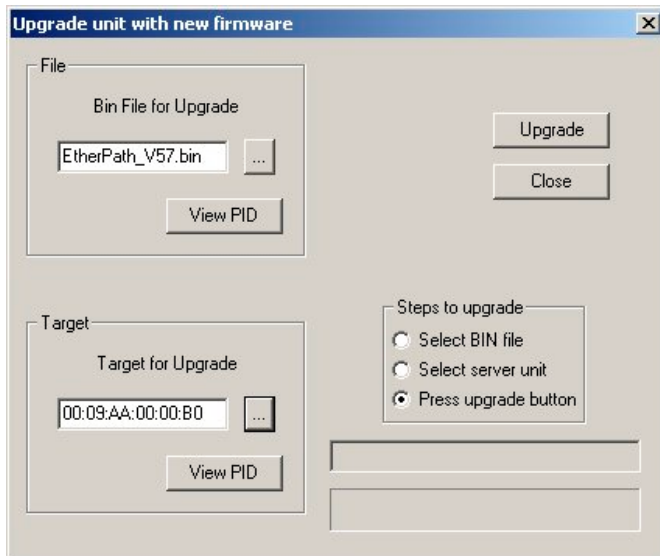
7. Click on the "Upgrade" button. If the firmware file does not match the hardware, the "Cardnumber mismatch" error window opens, and you should correct the problem. This might indicate an incorrect firmware file for the hardware in use, although it isn't failsafe… one can still attempt to overwrite an incorrect firmware load on the hardware, resulting in hardware or boot ROM damage. Make sure that you are using the correct firmware before clicking this button.
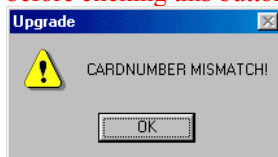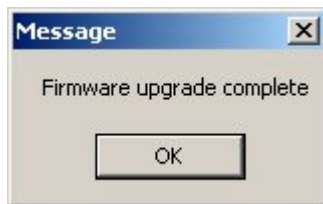

8. If all is well, the upgrade process begins. The EtherPath's memory will be erased, and new code downloaded. The EPROM is then tested for a proper checksum to verify a good download.
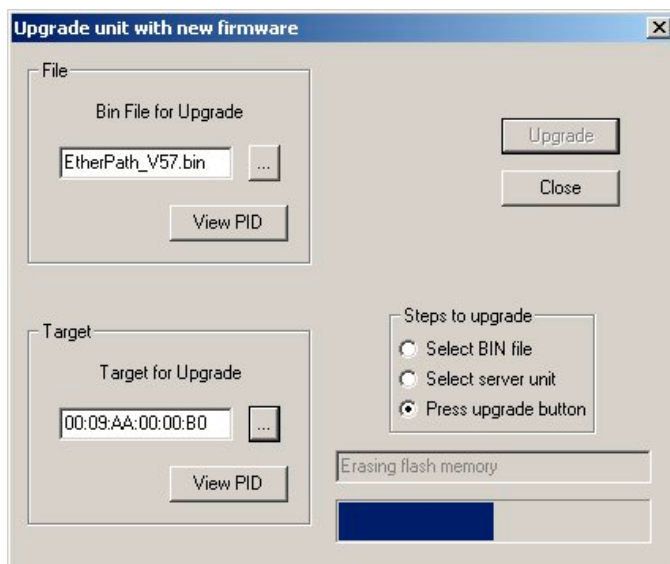
Progress Screen

If all went well, the completion message is displayed and the EtherPath can now reboot with the new firmware version. If it doesn't boot with the new version, or there is a verify error, the unit should be returned to DCB to have the boot partition erased and new firmware loaded. You might try the operation again before sending the unit in.

Click the Exit button to finish.