Enumeration Options for Win98

Introduction

A problem that can be encountered with VCP drivers running on Windows 98 and Windows ME systems is a delay of approximately 30 seconds during device enumeration. FTDI's VCP driver includes a serial enumerator. The function of this enumerator is to detect a Plug-and-Play enabled device (such as a serial mouse or serial modem) that is attached to the USB serial port. If at first the enumerator does not detect an attached device, it may, under certain circumstances, continue to try to detect an attached device for up to 30 seconds. Some installations do not require enumeration, so options are provided to turn this feature off, and this note describes these options.

Controlling Enumeration

Enumeration is controlled from the EEPROM and from the driver's configuration settings.

The "Plug and Play" bit in the EEPROM determines if enumeration is required: if this bit is set, enumeration is enabled; if this bit is not set, enumeration is disabled.

Configuration settings are provided in the driver that may override the EEPROM setting. In ConfigData, if Bit 0 in Byte 1 (i.e. the second byte of ConfigData, because bytes are indexed from 0) is not set, then the EEPROM setting is used. However, if Bit 0 in Byte 1 is set, then the EEPROM setting is ignored and Bit 1 in Byte 1 controls enumeration: if Bit 1 is set, enumeration is disabled; if Bit 1 is not set, enumeration is enabled.

INF File Changes

These remarks are made with reference to the Windows 98 section of FTDI VCP file, FTDIPORT.INF, and are provided as a guide for OEMs to update the equivalent sections of their .INF files.

The device can be installed with enumeration disabled by changing FTDIPORT.INF as shown in the following fragment.

```
[FtdiPort232.HW.AddReg]
HKR,,"ConfigData",1,01,03,3F,3F ...
```

where the second byte of ConfigData is set to 03, and therefore enumeration is disabled.

Registry Changes

Enumeration control can be configured in the Registry. The ConfigData field is contained in the information under FTDIBUS. A typical path to a device's information is

HKEY_LOCAL_MACHINE\Enum\FTDIBUS\VID_0403+PID_6001+xxxxxxxx\0000\

where xxxxxxxx is the device's serial number or location ID.

Use REGEDIT to change the second byte of the ConfigData field. For example, set it to 03 to override the EEPROM setting and disable enumeration. Unplug then replug the device for the change to take effect.

Properties Page

With the introduction of VCP version 1.08.06, the Properties Page Advanced Port Settings form includes a "Disable PNP" checkbox that controls enumeration via the bits in Config Data. If this option is checked, enumeration is disabled. If this option is not checked, enumeration is controlled by the state of the "Plug and Play" bit in the Device's EEPROM as described above. Unplug then replug the device for the change to take effect.

Document Revision History

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