



Future Technology Devices International Ltd.

Technical Note TN_101

Implementing Custom FTDI VID and PID Codes using Linux

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This FTDI technical note gives details on how to configure the FTDI Virtual COM port driver on Linux to handle customized Vendor ID (VID) and Product ID (PID).

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1 Introduction

Many of FTDI's Linux users have been searching for an easy way to modify the Linux FTDI Virtual COM port driver (FTDI_SIO) to handle additional Vendor ID & Product ID codes (VID/PID). The default FTDI_SIO driver supports the standard FTDI VID/PID plus a handful of other specialized VID/PID combinations.

The previous method used to modify VID/PID assignments in Linux was to edit kernel source files and to re-build the kernel. This is very time consuming and error prone.

This applications note describes a quicker and more convenient way to add a unique VID/PID combination for FTDI devices.

2 Procedure

The following procedure should be followed to modify the VID and/or PID in Linux. The FTDI client device should not be connected until indicated by the procedure.

1. Open a terminal window in Linux.
2. Go to the `/etc/udev/rules.d` directory.
The "sudo" command can be used here to create files.
3. Using the preferred Linux text editor, create a new file with the following name:
99-usbftdi.rules
4. Enter the following Linux code, then save and close the file:

```
# For FTDI FT232 & FT245 USB devices with Vendor ID = 0x0403, Product ID = 0xabc
SYSFS{idProduct}=="abcd", SYSFS{idVendor}=="0403", RUN+="/sbin/modprobe -q ftdi-
sio product=0xabcd vendor=0x0403"
```

Note that "0xabcd" is a dummy value for the PID; you will enter the PID assigned to you from FTDI.
For a VID assigned by the USB-IF, also modify the "idVendor" value above to match the assigned VID.

5. Save and close the rules file.
6. To instantiate, run the following command:
sudo udevcontrol_reload rules <CR>

(It is only necessary to run this command once. The rule file will always be executed at system start up.)

7. Connect the FTDI device with the customized VID/PID and enter:
dmesg | grep FTDI <CR>

This command will confirm a successful driver load. You should see the following:

```
[ 15.768872] drivers/usb/serial/usb-serial.c: USB Serial support registered
for FTDI USB Serial Device
[ 15.768927] ftdi_sio 4-1:1.0: FTDI USB Serial Device converter detected
[ 15.769177] usb 4-1: FTDI USB Serial Device converter now attached to ttyUSB0
```

The new VID/PIDs will stay resident on the Linux PC after shutdown and restart.

Communication with the FTDI device can be set up by using a simple Linux TTY terminal and pointing it to `/dev/ttyUSB0`.

8. To confirm the new VID/PID combination is present enter the following :



```
lsusb <CR>
```

```
Bus 002 Device 001: ID 0000:0000
```

```
Bus 004 Device 004: ID 0403:abcd Future Technology Devices International, Ltd
```

```
Bus 004 Device 001: ID 0000:0000
```

```
Bus 003 Device 001: ID 0000:0000
```

(Note 1: lsusb does not confirm that driver is successfully loaded, only that hardware has been attached to the computer.)

(Note 2: At the time of writing this application note, the only method available to modify the hardware (on-chip) PID/VID values is to use the Mprog3.0 application. This application only runs on Microsoft Windows)

If FTDI's standard VID code is being used, then this MUST be used with a PID code allocated by FTDI. It is not permissible to create user defined PID codes. In this case, please request a block of 8 unique PIDs from FTDI (at no cost). All you need is a phone call or email to FTDI Support (refer to Contact Information section). These allocated PIDs must be used with the standard FTDI VID of 0x0403.

If a custom VID is used (available to current members of the USB Implementers Forum USB-IF), then users can choose any PID code. (This option has a cost associated with it).

Additional note for Ubuntu users:

It is not possible to access the Virtual COM port in Ubuntu until the "brltty" port is removed. This is done as follows:

```
sudo apt-get remove brltty <CR>
```

2.2 Acronyms and Abbreviations

Terms	Description
VID/PID	Vendor ID/Product ID
FTDI_SIO	FTDI Virtual Com Port driver for Linux Operating Systems
sudo	Linux “Substitute User” command, gives administrator privileges
kernel	Code that forms the heart of a Linux Operating System
Terminal Window	A Linux application similar to Windows’ “Command Prompt”
dmesg	Linux “Message of the day” – shows a log of events for the Linux PC.

Table 2.1 Acronyms and Abbreviations

3 Contact Information

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