

Fixing Wireless PC Card 16550A UART Serial Device Assignment

Source: <http://linux.derkeiler.com/Mailing-Lists/Debian/2004-07/4541.html>

From: Michael G. Morey (*mmorey_at_optivel.com*)

Date: 07/30/04

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To: Debian User List <debian-user@lists.debian.org>, Debian Backports List <backports@lists.backports.org>

All,

I'm running Debian GNU/Linux 3.0r1 with hotplug, modutils, pciutils, and usbutils back-ports from www.backports.org, on a Dell Latitude D800 laptop. I'm running a custom Linux 2.4.26 kernel I've built from a Debianized back-port, configured for 16550A UART support for PC card devices. I have a wireless modem PC card device, which maps alternately to /dev/ttyS01 and /dev/ttyS02, seemingly at random. I have a total of three serial UART devices, and would like to have devices assigned accordingly:

/dev/ttyS0: built-in serial port

/dev/ttyS1: Conexant HSF Softmodem with Linuxant driver

/dev/ttyS2: Sony Ericsson EDGE PC Card GC82 wireless modem

On a good boot, the devices are assigned as follows:

ttyS00 at 0x03f8 (irq = 4) is a 16550A

ttySHSF0 at I/O 0xb400 (irq = 11) is a Conexant HSF softmodem

ttyS02 at port 0x03e8 (irq = 3) is a 16550A

However, occasionally, the devices are assigned as follows:

ttyS00 at 0x03f8 (irq = 4) is a 16550A

ttySHSF0 at I/O 0xb400 (irq = 11) is a Conexant HSF softmodem

ttyS01 at port 0x03e8 (irq = 3) is a 16550A

My dmesg output is attached. I apologize if the attachment is not accessible to some.

Does anyone know of a way that I fix the PC Card serial device assignment permanently, to /dev/ttyS02?

In general, could anyone offer suggestions as how to fine-tune the loading of device driver modules using the hotplug and/or modutils

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packages? When is hotplug appropriate, and when is it not? Which modules should be pre-loaded through /etc/modules?

Please advise me if I'm omitting any pertinent details regarding my configuration.

Thanks in advance.

Michael

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Michael Morey
Consultant
Optivel
Phone: 317.275.2306
E-mail: mmorey@optivel.com
Web: www.optivel.com

Linux version 2.4.26-d800 (mmorey@turing) (gcc version 2.95.4 20011002 (Debian prerelease)) #1 Sat Jul 24 22:26:53 EST 2004

BIOS-provided physical RAM map:

BIOS-e820: 0000000000000000 - 000000000009f000 (usable)
BIOS-e820: 000000000009f000 - 00000000000a0000 (reserved)
BIOS-e820: 0000000000100000 - 000000001ffae000 (usable)
BIOS-e820: 000000001ffae000 - 0000000020000000 (reserved)
BIOS-e820: 00000000fed00000 - 00000000fee00000 (reserved)
BIOS-e820: 00000000ffb00000 - 0000000100000000 (reserved)

511MB LOWMEM available.

On node 0 totalpages: 130990

zone(0): 4096 pages.

zone(1): 126894 pages.

zone(2): 0 pages.

ACPI: RSDP (v000 DELL) @ 0x000fd00

ACPI: RSDT (v001 DELL CPi R 0x27d4041a ASL 0x00000061) @ 0x1fff0000

ACPI: FADT (v001 DELL CPi R 0x27d4041a ASL 0x00000061) @ 0x1fff0400

ACPI: ASF! (v016 DELL CPi R 0x27d4041a ASL 0x00000061) @ 0x1fff0800

ACPI: DSDT (v001 INT430 SYSFexxx 0x00001001 MSFT 0x0100000e) @ 0x00000000

Kernel command line: auto BOOT_IMAGE=Linux-2.4 ro root=306

Initializing CPU#0

Detected 1598.667 MHz processor.

Console: colour VGA+ 80x25

Calibrating delay loop... 3191.60 BogoMIPS

Memory: 515888k/523960k available (1230k kernel code, 7684k reserved, 495k data, 68k init, 0k highmem)

Dentry cache hash table entries: 65536 (order: 7, 524288 bytes)

Inode cache hash table entries: 32768 (order: 6, 262144 bytes)

Mount cache hash table entries: 512 (order: 0, 4096 bytes)

Buffer cache hash table entries: 32768 (order: 5, 131072 bytes)

Page-cache hash table entries: 131072 (order: 7, 524288 bytes)

CPU: L1 I cache: 32K, L1 D cache: 32K

CPU: L2 cache: 1024K

Intel machine check architecture supported.

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ide: Assuming 33MHz system bus speed for PIO modes; override with idebus=xx
ICH4: IDE controller at PCI slot 00:1f.1
PCI: Enabling device 00:1f.1 (0005 -> 0007)
ICH4: chipset revision 1
ICH4: not 100% native mode: will probe irqs later
 ide0: BM-DMA at 0xbfa0-0xbfa7, BIOS settings: hda:DMA, hdb:pio
 ide1: BM-DMA at 0xbfa8-0xbfaf, BIOS settings: hdc:DMA, hdd:pio
hda: HITACHI_DK23FB-60, ATA DISK drive
blk: queue c02eac80, I/O limit 4095Mb (mask 0xffffffff)
hdc: QSI CD-RW/DVD-ROM SBW-242, ATAPI CD/DVD-ROM drive
ide0 at 0x1f0-0x1f7,0x3f6 on irq 14
ide1 at 0x170-0x177,0x376 on irq 15
hda: attached ide-disk driver.
hda: 117210240 sectors (60012 MB) w/8192KiB Cache, CHS=7296/255/63, UDMA(100)
Partition check:
 hda: hda1 hda2 hda3 hda4 < hda5 hda6 hda7 hda8 hda9 hda10 hda11 hda12 >
Linux Kernel Card Services 3.1.22
 options: [pci] [cardbus] [pm]
PCI: Enabling device 02:01.0 (0000 -> 0002)
Initializing Cryptographic API
NET4: Linux TCP/IP 1.0 for NET4.0
IP: routing cache hash table of 4096 buckets, 32Kbytes
TCP: Hash tables configured (established 32768 bind 32768)
NET4: Unix domain sockets 1.0/SMP for Linux NET4.0.
Yenta ISA IRQ mask 0x04f8, PCI irq 11
Socket status: 30000811
Yenta ISA IRQ mask 0x04f8, PCI irq 11
Socket status: 30000047
FAT: bogus logical sector size 0
reiserfs: found format "3.6" with standard journal
reiserfs: checking transaction log (device ide0(3,6)) ...
for (ide0(3,6))
ide0(3,6):Using r5 hash to sort names
VFS: Mounted root (reiserfs filesystem) readonly.
Freeing unused kernel memory: 68k freed
Adding Swap: 2000052k swap-space (priority -1)
i8k: unable to get SMM Dell signature
i8k: unable to get SMM BIOS version
Dell laptop SMM driver v1.13 14/05/2002 Massimo Dal Zotto (dz@debian.org)
ACPI: AC Adapter [AC] (on-line)
ACPI: Battery Slot [BAT0] (battery present)
ACPI: Battery Slot [BAT1] (battery absent)
ACPI: Lid Switch [LID]
ACPI: Power Button (CM) [PBTN]
ACPI: Sleep Button (CM) [SBTN]
ACPI: Processor [CPU0] (supports C1 C2 C3, 8 performance states, 8 throttling states)
ACPI: Thermal Zone [THM] (58 C)
tg3.c:v2.9 (March 8, 2004)
eth0: Tigon3 [partno(BCM95705A50) rev 3001 PHY(5705)] (PCI:33MHz:32-bit) 10/100/1000BaseT
Ethernet 00:0d:56:3a:3d:ad
NTFS driver v1.1.22 [Flags: R/O MODULE]

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reiserfs: found format "3.6" with standard journal
reiserfs: checking transaction log (device ide0(3,5)) ...
for (ide0(3,5))
ide0(3,5):Using r5 hash to sort names
reiserfs: found format "3.6" with standard journal
reiserfs: checking transaction log (device ide0(3,7)) ...
for (ide0(3,7))
ide0(3,7):Using r5 hash to sort names
reiserfs: found format "3.6" with standard journal
reiserfs: checking transaction log (device ide0(3,8)) ...
for (ide0(3,8))
ide0(3,8):Using r5 hash to sort names
reiserfs: found format "3.6" with standard journal
reiserfs: checking transaction log (device ide0(3,10)) ...
for (ide0(3,10))
ide0(3,10):Using r5 hash to sort names
reiserfs: found format "3.6" with standard journal
reiserfs: checking transaction log (device ide0(3,11)) ...
for (ide0(3,11))
ide0(3,11):Using r5 hash to sort names
reiserfs: found format "3.6" with standard journal
reiserfs: checking transaction log (device ide0(3,12)) ...
for (ide0(3,12))
ide0(3,12):Using r5 hash to sort names
driverloader: stack=8192/1448/0
02:03.0: cache line size not set; forcing 8
eth1: New link status: Disconnected (0002)
eth1: WEP128, WEP64 supported
eth1: at 02:03.0 (MAC address 00:90:4B:17:BC:3C) ready
ohci1394: $Rev: 1045 $ Ben Collins <bcollins@debian.org>
ohci1394_0: OHCI-1394 1.1 (PCI): IRQ=[11] MMIO=[fafef800-fafeffff] Max Packet=[2048]
ieee1394: Host added: ID:BUS[0-00:1023] GUID[394fc0003705d061]
PCI: Setting latency timer of device 00:1f.6 to 64
ttySHSF0 at I/O 0xb400 (irq = 11) is a Conexant HSF softmodem
Intel 810 + AC97 Audio, version 0.24, 22:29:47 Jul 24 2004
PCI: Setting latency timer of device 00:1f.5 to 64
i810: Intel ICH4 found at IO 0xbc40 and 0xb800, MEM 0xf4fff800 and 0xf4fff400, IRQ 11
i810: Intel ICH4 mmio at 0xe0faa800 and 0xe0fac400
i810_audio: Primary codec has ID 0
i810_audio: Audio Controller supports 6 channels.
i810_audio: Defaulting to base 2 channel mode.
i810_audio: Resetting connection 0
i810_audio: Connection 0 with codec id 0
ac97_codec: AC97 Audio codec, id: 0x8384:0x7650 (Unknown)
i810_audio: AC'97 codec 0 supports AMAP, total channels = 2
i810_rng hardware driver 0.9.8 loaded
usb.c: registered new driver usbdevfs
usb.c: registered new driver hub
PCI: Setting latency timer of device 00:1d.7 to 64
ehci_hcd 00:1d.7: Intel Corp. 82801DB USB2
ehci_hcd 00:1d.7: irq 11, pci mem e0fc6c00
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usb.c: new USB bus registered, assigned bus number 1
ehci_hcd 00:1d.7: enabled 64bit PCI DMA
PCI: cache line size of 32 is not supported by device 00:1d.7
ehci_hcd 00:1d.7: USB 2.0 enabled, EHCI 1.00, driver 2003–Dec–29/2.4
hub.c: USB hub found
hub.c: 6 ports detected
usb–uhci.c: $Revision: 1.275 $ time 22:29:56 Jul 24 2004
usb–uhci.c: High bandwidth mode enabled
PCI: Setting latency timer of device 00:1d.0 to 64
usb–uhci.c: USB UHCI at I/O 0xbf80, IRQ 11
usb–uhci.c: Detected 2 ports
usb.c: new USB bus registered, assigned bus number 2
hub.c: USB hub found
hub.c: 2 ports detected
PCI: Setting latency timer of device 00:1d.1 to 64
usb–uhci.c: USB UHCI at I/O 0xbf40, IRQ 11
usb–uhci.c: Detected 2 ports
usb.c: new USB bus registered, assigned bus number 3
hub.c: USB hub found
hub.c: 2 ports detected
PCI: Setting latency timer of device 00:1d.2 to 64
usb–uhci.c: USB UHCI at I/O 0xbf20, IRQ 11
usb–uhci.c: Detected 2 ports
usb.c: new USB bus registered, assigned bus number 4
hub.c: USB hub found
hub.c: 2 ports detected
usb–uhci.c: v1.275:USB Universal Host Controller Interface driver
hub.c: new USB device 00:1d.7–6, assigned address 2
hub.c: USB hub found
hub.c: 4 ports detected
hub.c: new USB device 00:1d.7–6.1, assigned address 3
usb.c: USB device 3 (vend/prod 0x46d/0xc025) is not claimed by any active driver.
usb.c: registered new driver hiddev
usb.c: registered new driver hid
input: USB HID v1.10 Mouse [Logitech USB–PS/2 Optical Mouse] on usb1:3.0
hid–core.c: v1.8.1 Andreas Gal, Vojtech Pavlik <vojtech@suse.cz>
hid–core.c: USB HID support drivers
mice: PS/2 mouse device common for all mice
tg3: eth0: Link is up at 100 Mbps, full duplex.
tg3: eth0: Flow control is off for TX and off for RX.
guessnet uses obsolete (PF_INET,SOCK_PACKET)
tg3: eth0: Link is up at 100 Mbps, full duplex.
tg3: eth0: Flow control is off for TX and off for RX.
cs: IO port probe 0x0100–0x04ff: excluding 0x378–0x37f 0x4d0–0x4d7
cs: IO port probe 0x0a00–0x0aff: clean.
cs: IO port probe 0x0c00–0x0cff: clean.
cs: memory probe 0xa0000000–0xa0ffffff: clean.
ttyS02 at port 0x03e8 (irq = 3) is a 16550A
/dev/vmmon: Module vmmon: registered with major=10 minor=165
/dev/vmmon: Module vmmon: initialized
parport0: PC–style at 0x378 (0x778) [PCSPP,TRISTATE]
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parport0: irq 7 detected
/dev/vmnet: open called by PID 3635 (vmnet–bridge)
/dev/vmnet: hub 0 does not exist, allocating memory.
/dev/vmnet: port on hub 0 successfully opened
bridge–eth0: up
bridge–eth0: attached
/dev/vmnet: open called by PID 3647 (vmnet–natd)
/dev/vmnet: hub 8 does not exist, allocating memory.
/dev/vmnet: port on hub 8 successfully opened
0: nvidia: loading NVIDIA Linux x86 NVIDIA Kernel Module 1.0–5336 Wed Jan 14 18:29:26 PST 2004
Linux agpgart interface v0.99 (c) Jeff Hartmann
agpgart: Maximum main memory to use for agp memory: 439M
agpgart: unsupported bridge
agpgart: no supported devices found.
0: NVRM: AGPGART: unable to retrieve symbol table
/dev/vmnet: open called by PID 3693 (vmnet–netifup)
/dev/vmnet: port on hub 8 successfully opened
/dev/vmnet: open called by PID 3694 (vmnet–netifup)
/dev/vmnet: hub 1 does not exist, allocating memory.
/dev/vmnet: port on hub 1 successfully opened
/dev/vmnet: open called by PID 3719 (vmnet–dhcpd)
/dev/vmnet: port on hub 1 successfully opened
/dev/vmnet: open called by PID 3720 (vmnet–dhcpd)
/dev/vmnet: port on hub 8 successfully opened
SCSI subsystem driver Revision: 1.00
ide–cd: ignoring drive hdc
hdc: attached ide–scsi driver.
scsi0 : SCSI host adapter emulation for IDE ATAPI devices
  Vendor: QSI Model: CDRW/DVD SBW–242 Rev: UD22
  Type: CD–ROM ANSI SCSI revision: 02
Attached scsi CD–ROM sr0 at scsi0, channel 0, id 0, lun 0
sr0: scsi3–mmc drive: 4x/24x writer cd/rw xa/form2 cdda tray
Uniform CD–ROM driver Revision: 3.12
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