Frequently asked Questions

Rayon card IOP3927

1.1 . Application Note for Linux system

1.From Linux kernel version 2.4.x it is very important for system configuration setting. The OBJ file generated in different system configuration may have error message and can not be used. So we can not offer OBJ type driver from kernel 2.4.x version. Now we always offer source file type driver for user to install and compile in their system.

2.Because we only offer source file type driver for user to install, so user must have kernel source file in their system.

3. When you get new version source file driver from us, you can use following procedure to duplicate one diskette.

- a) You may get "alnxsrc.Z" from us.
- b) You can use following command to copy from DOS formatted diskette to your Linux system.
  #mcopy a:alnxsrc.Z alnxsrc.Z
- c) Now we need to uncompress such file to get original diskette image file.
  #uncompress alnxsrc
- d)Then we can use "dd" command to duplicate one diskette.
  #dd if=alnxsrc of=/dev/fd0

4. When you have source file type driver diskette in hand, you can use following procedure to install our driver.

- a)Please goto root directory.
  #cd /

- b)Please "tar" driver diskette to your system.
  #tar xvf /dev/fd0

- c) Now we can goto directory /etc/rayon to install our driver:
  #cd /etc/rayon
  #./Install

- d) Because we put all our card's driver in one diskette, so you will be asked your card type to install. Then you need to specify your Linux system's type.

- e) In the final stage the system will start to compile our driver. We may have some warning message. But we can not have error message. Then we may have OBJ file of module driver.

- f) In next boot procedure we can have two times display message about our cards. You can use "dmesg" command to check it. And you can have extra TTY device to be used now.

5. In above procedure we suggest that you may have kernel source file in directory /usr/src/linux.
If you had another name, please use "ln" command to link with name /usr/src/linux.

6. Because the run time image file may have different system configuration with your kernel source file. So you may have some error message in your boot procedure after driver installation.

- a) Because the run time image is generated in your media supplier (ex, REDHAT) for one dedicated system configuration (generally you can see information in /boot directory). Even though this system configuration is not same as your hardware plateform. There are no problem for you to run your system. Because they will be skipped in incomptible hardware device.

- b) When we install our driver and compile with your kernel source file. We will use the system configuration file in your kernel source file. If your system configuration did not set correct condition to support multi-serial port, we may have some error message and no OBJ generated.

Then you may need to modify your system configuration file (.config file with make config).If there are no error message and had OBJ file generated, you can have module driver usable in next boot procedure.

- c) If we had different system configuration file for your run time image file and kernel source file, we may have error in our module driver installation. Then you need to use your kernel source file to generate one run time image.

7. Following procedure is example to generate one new run time image file. This procedure is same as user to upgrade kernel version.

- a) Please confirm that you have kernel source file in directory /usr/src/linux.
- b) Please goto directory /usr/src/linux.
- c) We can use "make config" or "make oldconfig" to set your system configuration file (You must set to meet your real hardware environment).
- d) We will run "make dep" to fix our system dependence.
- e) Now, we can use "make zImage" to generate one new run time image.
- f) If there are no error condition, you may have image file in /usr/src/linux/arch/i386/boot/zImage.
- g) You can use this image to replace your current run time image. Generally you may have "/boot/vmlinuz" as your run time image file.

8. So user must keep in mind that the image file from media supplier may not have same system configuration in their kernel source file. When you generate one run time image from kernel source file. Then it is no problem for our source file type driver to be installed.

9. Because user may always upgrade their kernel version, so they may know the procedure to generate image file from kernel source file. Then it is no problem for user to install our source file type driver.

1.2 Can not install Driver in Windows system

1. Because we have WIN95/98/Me driver and WIN2000/XP driver in same diskette, so user may assign wrong driver to install in Windows system.

2. Please keep in mind that we have following directory for different driver.

- a) a:\WIN95 is the directory for WIN95/98/Me system.
- b) a:\WIN2000 is the directory for WIN2000/XP system.

3. Because Win95/98/Me and WIN2000/XP system is P&P system, so we may have P&P procedure for new hardware. In P&P procedure the system may find the suitable driver to install. But they may show all the driver to choose and the default one is not correct one. User may always strike "ENTER" key in such procedure. So they may have problem in driver installation.

4. In WIN2000 system:

- a) When we specify the wrong driver to install, system may show error message. Then you have "!" mark in device manager for our card.
- b) To solve this problem we need to remove our card firstly from device manager.
- c) Then we need to remove following files from directory
  c:\winnt\inf\
  (1) oemX.inf (here X may be 0 or other number)
  (2) oemX.pnf (here X may be 0 or other number)
  (3) pci.inf
  (4) pci.pnf
  (5) pci2.inf
  (6) pci2.pnf
- d) After above action you can have P&P procedure in next boot, please specify the driver path in
  a:\win2000.
  Then you can install our driver successfully.

5. In WIN95/98/Me system:

- a) When you specify the wrong driver to install, system may show error message. Then you have "!" mark in device manager for our card.
- b) To solve this problem we need to remove our card firstly from device manager.
- c) Then we need to remove following files
  (1) c:\windows\inf\r2kpci1.inf
  (2) c:\windows\inf\r2kpci2.inf
  (3) c:\windows\inf\other\rayont~1.inf
- d) After above action you can have P&P procedure in next boot, please specify the driver path in a:\win95. Then you can install our driver successfully.

1.3 The problem to install driver in WIN2000 system

1. Normally you just need to specify the correct driver path
"a:\win2000"
in P&P procedure to install PCIPORT port card's driver.

2. But you may install wrong driver or other reason to let your system with problem to install our driver.

3. Because WIN2000 system is P&P system, so you may always have problem to install correct driver (you always have error message).

4. We may need to solve problem with following procedure. We may try simple method firstly and then complex method later.

- a) The first and simplest method is
  (1) Please remove our card with "!" mark in device manager.
  (2) Please remove r2kpci*.* and oem*.* file in directory
  c:\winnt\inf\
  (3) After above action you can try to install driver in next boot.

- b) If procedure a) could not solve the problem, we need try following procedure.
  (1) Do procedure a) again firstly.
  (2) Goto <control panel> <add or remove hardware device> to remove our card. Generally you need to show the hidden device in your system. Then you can select any possible device (maybe your current installed card, may be wrong driver's card) to remove from your system.
  (3) After above action you can try to install driver in next boot.

- c) If above procedure a) and b) could not solve the problem, we need try following procedure.
  (1) Do procedure a) and b) again firstly.
  (2) run "regedit.exe" to enter registry editor.
  (3) In Following path
  \HLM\SYSTEM\CurrentControlSet\Service
  \HLM\SYSTEM\ControlSet001\Service
  \HLM\SYSTEM\ControlSet002\Service

  Note: for different system user may have other ControlSet

  (4) We need to find any service name (or key value) for

  \pciport or
  \mport or
  \nport or
  \iport or
  \pport.

  (5) Please remove all the registry for such service name.

  (6) After above action you can try to install driver in next boot.

- d) If above procedure a) and b) and c) could not solve the problem, we need to try following procedure.
  (1) Do procedure a) and b) and c) again firstly.
  (2) run "regedit.exe" to enter registry editor.
  (3) Find key word "rayon" in whole registry and delete every item with this "rayon" key value.
  (4) After above action you can try to install driver in next boot.

5. In above procedure you can solve the problem to install our driver in your WIN2000/XP system.

6. Please keep in mind that you must remove our device firstly before you need to upgrade your WINDOWS service pack. Because we can not confirm the real action for such upgrade procedure to conflict with our driver.

1.4 Linux system hung after driver installation

1. When you insert our PCIPORT card in your Linux system and install our driver successfully (no error message in OBJ generated). But the system is hung in next boot procedure. This is due to IRQ confliction problem.

2. Originally PCAT can support 16 IRQ in 8259 controller (PIC mode). In ISA bus slot IRQ can not be shared. But there are so many controllers to be used in current environment. So it is not easy to handle IRQ confliction problem.

3. Now Intel support APIC feature to remap IRQ and PCI bus slot support IRQ shared feature. But we need software to enable APIC feature and accept IRQ shared feature.

4. So it is very important for your Linux system to support APIC feature. Unfortunately some distribution media do not support APIC feature in uniprocessor mode.

5. When your system do not enable APIC feature, then your system may have IRQ conliction problem. If both controllers supportted IRQ shared feature in driver service routine and hardware structure, then it is no problem to use.

6. But some controller's driver may be changed from ISA bus product (IRQ can not share). So the PCI version of such products may not support IRQ shared feature (LAN controller is major item). So you still have problem in PCI card with IRQ confliction.

7. Firstly we can try to change our PCIPORT card's slot. Maybe your BIOS can assign different IRQ number without confliction. So you can solve your problem.

8. If you always had IRQ confliction in your system (maybe more than 16 IRQ requirement in your system), you must enable APIC feature to solve this problem.

9. You must generate new run time image with APIC feature enable. This procedure just like that you have new kernel version source file and need to generate run time image. So you need to "make config" and enable APIC feature.

10. We can use "dmesg" command to check boot procedure. If you had enabled APIC feature, you can see IRQ remap procedure. So you can solve IRQ confliction problem now.