# Installing Red Hat Enterprise Linux AS 4 Update 3 on the IBM System p5 185 or IBM Intellistation POWER 185

A change in the IBM<sup>(R)</sup> System p5<sup>(TM)</sup> 185 and IBM Intellistation<sup>(R)</sup> POWER<sup>(TM)</sup> 185 requires changes to the standard installation procedures as described in this document.

These instructions explain how to use the serial console to install Red Hat Enterprise Linux AS 4 Update 3 on the IBM System p5 185 or IBM Intellistation POWER 185. These procedures describe a CD installation and a network installation of the operating system.

### Installation using a graphical display

If your system has a graphics adapter, you can perform a normal installation using a display, keyboard, and mouse attached to your system. If your system doesn't have a graphics adapter, you will need to perform the installation using a serial console as described in this document.

#### CD installation using a serial console

1. Plug the serial cable into the serial port immediately adjacent to the USB ports. On the rack mounted system, this is the bottom serial port. On a deskside system, this is the serial port on the left side when you are looking at the back of the system. Use baud rate 9600.

Note: If you are using the incorrect serial port, you will see the early stages of the boot process but it will stop after the "returning from prom init" message. If this occurs, power off the system and attach the serial cable to the correct serial port before you restart the installation process.

- 2. Power the system on and insert the RHEL4 U3 installation CD.
- 3. Follow the on-screen prompts until you see the following screen:

```
ΙBΜ
IBM
1 = SMS Menu5 = Default Bo8 = Open Firmware Prompt6 = Stored Boot List
    5 = Default Boot List
  Network SCSI Speaker
Memory Keyboard
```

- 4. Select **SMS Menu**. When the SMS Main Menu is displayed, select **Select Boot Options** and configure the system to boot from the CD.
- 5. At the Select Task menu, select **Normal Mode Boot**, and then exit from SMS. The system will prepare to load the operating system.
- 6. At the **boot:** prompt, enter the following command: linux console=ttyS4

The operating system will boot from the CD and start the RHEL4 U3 installation process. The installation will proceed normally until you get to the Network Configuration dialog.

7. Configure a network device to connect to your local network.

Note: It is recommended to configure a network device. If the prompt to configure new hardware times out (described in step 10), you will need a configured network device to complete the post-installation configuration for the serial console. If the prompt times out and you do not have a network device configured, you will need to restart the installation process.

- 8. After you have completed your network configuration, you will be prompted to decide whether you want to enable a firewall. If you choose to enable the firewall, which is the default, perform the following steps so you can connect using SSH if necessary (as described in step 10):
  - A) Select Enable firewall (this is selected by default) and then select Customize.
  - B) At the **Customize Firewall Configuration** screen, select **Remote Login (SSH)** to allow incoming SSH connections and then select **OK**.
  - C) You will return to the prompt to enable the firewall. Select **OK**.
- 9. Follow the remaining prompts to complete the installation. When the installation is complete, the system will reboot.

Note: If the reboot stops when the **boot:** prompt appears, you may need to enter linux at the **boot:** prompt in order to proceed with the boot process.

10. When the installation is complete, the system will reboot. After the operating system starts, Kudzu, the Hardware Discovery Utility, will prompt you to press a key to start configuring new hardware. Press a key immediately; there is a 29 second time limit on this prompt.

If the prompt times out, you must complete the following steps after the system finishes booting (when new lines of information stop printing on the screen):

- A) From another system with an SSH client installed, use ssh to log in as the root user to the server *hostname* (the system where you are installing Linux). For example, if you were going to connect to *hostname* from another system running Linux, you could use the following command: ssh root@hostname
- B) Open the file /etc/inittab for editing. After the line, '# Rungettys in standard runlevels', add the following line:

co:2345:respawn:/sbin/agetty ttyS4 9600 vt100-nav

C) Open the file /etc/securetty for editing. Add the following as the last line of the file:  $\tt ttyS4$ 

- D) Run the command **telinit q**. This completes the configuration of your system. Your system will show the login screen.
- 11. Select **Configure**. Follow the on screen prompts until you see the following message: "Your /etc/inittab is not suitable for serial console operation. Would you like to update it?" Select **Yes**.
- 12. The next prompt will be, "Your /etc/securetty does not contain 'ttyS4' device, which means root won't be able to log in on console. Would you like to update it?" Select **Yes**. When the configuration of the system is finished, you will get a login prompt on the serial console.

#### Network installation using a serial console

1. Plug the serial cable into the serial port immediately adjacent to the USB ports. On the rack mounted system, this is the bottom serial port. On a deskside system, this is the serial port on the left side when you are looking at the back of the system. Use baud rate 9600.

Note: If you are using the incorrect serial port, you will see the early stages of the boot process but it will stop after the "returning from prom init" message. If this occurs, power off the system and attach the serial cable to the correct serial port before you restart the installation process.

2. Power the system on and follow the on-screen prompts until you see the following screen:

1 = SMS Menu5 = Default Bo8 = Open Firmware Prompt6 = Stored Boot List 5 = Default Boot List Memory Keyboard Network SCSI Speaker

- 3. Select Open Firmware Prompt.
- 4. Set the boot parameter for the serial console by entering the following command: setenv boot-file console=ttyS4
- 5. Return to the start up menu by entering the following command: dev packages/gui obe
- 6. When the start up menu appears, select **SMS Menu**. When the SMS Main Menu is displayed, select **Setup Remote IPL (Initial Program Load)**.

- 7. Select the appropriate network adapter. Then, select **IP Parameters**, and enter the appropriate settings for your network configuration.
- 8. Return to the main menu and select **Select Boot Options -> Select Install/Boot Device** -> **Network**.
- 9. Select the network adapter that you configured in step 7 as your boot device.
- 10. At the Select Task menu, select **Normal Mode Boot**, and then exit from SMS. The system will proceed to install RHEL4 U3.
- 11. After you have completed your network configuration, you will be prompted to decide whether you want to enable a firewall. If you choose to enable the firewall, which is the default, perform the following steps so you can connect using SSH if necessary (as described in step 13):
  - A) Select Enable Firewall (this is selected by default) and then select Customize.
  - B) At the **Customize Firewall Configuration** screen, select **Remote Login (SSH)** to allow incoming SSH connections and then select **OK**.
  - C) You will return to the prompt to enable the firewall. Select **OK**.
- 12. Follow the remaining prompts to complete the installation. When the installation is complete, the system will reboot.

Note: If the reboot stops when the **boot:** prompt appears, you may need to enter linux at the **boot:** prompt in order to proceed with the boot process.

13. After the operating system starts, Kudzu, the Hardware Discovery Utility, will prompt you to press a key to start configuring new hardware. Press a key immediately; there is a 29 second time limit on this prompt.

If the prompt times out, you must complete the following steps after the system finishes booting (when new lines of information stop printing on the screen):

- A) From another system with an SSH client installed, use **ssh** to log in as the root user to the server *hostname* (the system where you are installing Linux). For example, if you were going to connect to *hostname* from another system running Linux, you could use the following command: ssh root@hostname
- B) Open the file /etc/inittab for editing. After the line, '# Rungettys in standard runlevels', add the following line: co:2345:respawn:/sbin/agetty ttyS4 9600 vt100-nav
- C) Open the file /etc/securetty for editing. Add the following as the last line of the file: ttyS4
- D) Run the command **telinit q**. This completes the configuration of your system. Your system will show the login screen.
- 14. Select **Configure**. Follow the on screen prompts until you see the following message: "Your /etc/inittab is not suitable for serial console operation. Would you like to update it?" Select **Yes**.
- 15. The next prompt will be, "Your /etc/securetty does not contain 'ttyS4' device, which means root won't be able to log in on console. Would you like to update it?" Select **Yes**. When the configuration of the system is finished, you will get a login prompt on the serial console.

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