

HP ProLiant ML110 Server Network Operating System Installation Guide



January 2004 (First Edition)
Part Number 344-535-001
Regulatory Model Number HSTNS-3100

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Contents

About This Guide

Audience Assumptions	v
Where to Go for Additional Help	vi
Telephone Numbers	vi

Chapter 1

Preparatory Procedures for NOS Installation

NOS Installation Highlights	1-1
Pre-NOS Installation Procedures	1-2
Hardware Setup	1-2
Preparing the Hard Disk Drives	1-2
BIOS Update	1-4
BIOS Update Notes	1-4

Chapter 2

Installing Microsoft Windows Server 2003 and Windows Small Business Server 2003

Windows 2003 Pre-installation Instructions	2-1
Windows 2003 Installation Flow	2-1
Section 1. Creating the Driver Diskettes	2-2
Section 2. Installing Windows 2003	2-2
Section 3. Completing the Installation	2-3
Section 4. Configuring the System	2-4
Section 5. Configuring the Network	2-7
Section 6. Installing Additional HP Accessories	2-10
On-Line Information and Software Sources	2-10

Chapter 3

Installing Novell NetWare 5.1

Novell NetWare 5.1 Pre-installation Instructions	3-1
Novell NetWare 5.1 Installation Flow	3-1
Section 1. Creating the Driver Diskettes	3-1
Section 2. Installing Novell NetWare 5.1	3-2
Section 3. Installing the NetWare 5.1 Support Pack	3-4
Section 4. Installing the PSM4B Patch	3-5
Section 5. Installing Additional HP Accessories	3-6
Troubleshooting	3-6
On-line Information and Software Sources	3-6

Chapter 4

Installing Novell NetWare 6.0 and Novell Small Business Suite

Novell NetWare 6.0 Pre-installation Instructions	4-1
Novell NetWare 6.0 Installation Flow	4-1
Section 1. Creating the Driver Diskettes	4-2
Section 2. Installing NetWare 6.0.....	4-2
Section 3. Installing the NetWare 6.0 Support Pack	4-6
Section 4. Installing the PSM4B Patch.....	4-7
Section 5. Installing Additional HP Accessories.....	4-8
Troubleshooting	4-8
On-line Information and Software Sources	4-8

Chapter 5

Installing Novell NetWare 6.5

Novell NetWare 6.5 Pre-installation Instructions	5-1
Novell NetWare 6.5 Installation Flow	5-1
Section 1. Creating the Driver Diskettes	5-1
Section 2. Installing Novell NetWare 6.5.....	5-2
Section 3. Installing Additional HP Accessories.....	5-4
On-line Information and Software Sources	5-4

Chapter 6

Installing Red Hat Linux 9.0

Red Hat Linux 9.0 Pre-installation Instructions.....	6-1
Red Hat Linux 9.0 Installation Flow.....	6-1
Section 1. Installing Red Hat Linux 9.0	6-1
Section 2. Installing Additional HP Accessories.....	6-5
On-line Information and Software Sources	6-5

Chapter 7

Installing Red Hat Enterprise Linux ES 2.1

Red Hat Enterprise Linux ES 2.1 Pre-installation Instructions.....	7-1
Red Hat Enterprise Linux ES 2.1 Installation Flow.....	7-1
Section 1. Installing Red Hat Enterprise Linux ES 2.1	7-1
Section 2. Installing Additional HP Accessories.....	7-5
On-line Information and Software Sources	7-5

Index

About This Guide

This NOS guide can be used for reference when servicing HP ProLiant ML110 servers.

Audience Assumptions

This guide is for service technicians. HP assumes you are qualified in the servicing of computer equipment and trained in recognizing hazard in products with hazardous energy levels and are familiar with weight and stability precautions for rack installations.



WARNING: To reduce the risk of personal injury from electric shock and hazardous energy levels, only authorized service technicians should attempt to repair this equipment. Improper repairs can create conditions that are hazardous.



WARNING: To reduce the risk of electric shock or damage to the equipment:

- Disconnect power from the system by unplugging all power cords from the power supplies.
 - Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
 - Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
-



CAUTION: To properly ventilate the system, you must provide at least 7.6 cm (3.0 in.) of clearance at the front and back of the server.



CAUTION: The computer is designed to be electrically grounded (earthed). To ensure proper operation, plug the AC power cord into a properly grounded AC outlet only.

NOTE: Any indications of component replacement or printed wiring board modifications may void any warranty.

Where to Go for Additional Help

In addition to this guide, the following information sources are available:

- User documentation
- *Service Quick Reference Guide*
- Service training guides
- Service advisories and bulletins
- QuickFind information services

Telephone Numbers

For the name of your nearest HP authorized reseller:

- In the United States, call 1-800-345-1518.
- In Canada, call 1-800-263-5868.

For HP technical support:

- In the United States and Canada, call 1-800-652-6672.
- Outside the United States and Canada, refer to www.hp.com

Preparatory Procedures for NOS Installation

NOS Installation Highlights

This section is for **expert users** who are familiar with the standard installation process of their NOS. HP recommends taking into account the following **specific information in order to adapt your usual NOS installation** to the particularities of your HP ProLiant ML110 server.

Listed below are the HP drivers required for specific NOSs. These drivers are provided on the *HP ProLiant ML110 Server Startup CD-ROM*.

Microsoft® Windows® Server 2003 and Windows Small Business Server 2003	HP drivers	Chipset driver LAN driver SCSI driver RAID driver
Novell® NetWare® 5.1	HP drivers	LAN driver SCSI driver
Novell NetWare 6.0 and Small Business Suite	HP drivers	LAN driver SCSI driver
Novell NetWare 6.5	HP drivers	None
Red Hat® Linux® 9.0	HP drivers	None
Red Hat Enterprise Linux ES 2.1	HP drivers	None

NOTE: The *HP ProLiant ML110 Server Startup CD-ROM* is not bootable.

The detailed instructions relative to each specific step (location of drivers, workarounds) are provided in the respective NOS chapters (Chapters 2 to 7).

Pre-NOS Installation Procedures

Perform the two pre-NOS installation steps in this section before installing the NOS of your choice. These include:

1. Configure the hardware aspect of the server.
2. Update the server BIOS.

Hardware Setup

Prepare the server following the instructions in the *HP ProLiant ML110 Server Installation Sheet*.

It is recommended that you do not install any third party adapter until you verify that the HP equipment is functioning properly and you complete the NOS installation.

Preparing the Hard Disk Drives

The HP ProLiant ML110 server comes with new hard disk drive(s) that do not need specific setup. However, if you install additional *used* hard disk drives in your new server:

- Note that most NOS installations remove all data from the hard disk they are installed on. If you wish to use your additional hard disk drives to access existing data in you new server, HP recommends that you install and configure this (these) hard disk drive(s) AFTER completing the NOS installation.
- If you are using the Promise FastTrak TX4000 IDE RAID controller, connect the hard disk drives to the controller following the instructions in the FastTrak User Guide. The RAID setup for this controller is performed at the BIOS level when the system starts up.
 1. Turn on the monitor and the server.

If the server is already turned on, save your data and exit all open applications, then restart the server.
 2. When the HP logo banners on-screen, press **Esc** to shift to text mode boot.
 3. Press **Ctrl + F** when prompted to access the FastBuild utility.

The utility's Main Menu page will be displayed.
 4. Press **3** to define the array.

A list of available arrays is shown on-screen.
 5. Use the **Up/Down** arrow keys to select an available array then press **Enter**.
 6. Use the **Down** arrow key to view all available drives and the space bar to select which drives you want in the selected array.
 7. Depending on the drives you have selected, you can change the RAID mode using the space bar to make the selection.
 8. Press **Ctrl + Y** to save the changes you made.

9. Press **Esc** to revert back the Main Menu page.
10. Press **Esc** again to close the utility.

The server will automatically reboot.

- If you are using the Adaptec 2120S controller, connect the hard disk drive to the controller following the instructions in the Adaptec 2120S User Guide. The RAID setup for this controller is performed at the BIOS level when the system starts up.

1. Turn on the monitor and the server.

If the server is already turned on, save your data and exit all open applications, then restart the server.

2. When the HP logo banners on-screen, press **Esc** to display the Summary and Boot Progress screen.

3. Press **Ctrl + A** when prompted to access the Adaptec RAID Configuration Utility.

The utility's Options page appears with Array Configuration Utility option highlighted.

4. Press **Enter** to select the current option.

This will display the Main Menu page.

5. Use the **Up/Down** arrow keys to select the Create Array menu then press **Enter**.

6. Use the **Ins** key to select the drive you want to add in the array then press **Enter**.

This will display the Array Properties page.

7. Use the **Up/Down** arrow keys to define the Array Type field then press **Enter**.

8. Enter an array label then press **Enter**.

9. Enter an array size then press **Enter**.

10. Use the **Up/Down** arrow keys to define the array size unit then press **Enter**.

11. Use the **Up/Down** arrow keys to define the stripe size unit then press **Enter**.

12. Press **Y** to enable the Read Caching function, or **N** if you do not want to, then press **Enter**.

13. Use the **Up/Down** arrow keys to define the Write Caching field then press **Enter**.

14. Use the **Up/Down** arrow keys to define the Create RAID via field then press **Enter**.

15. Press **Enter** to save the settings you made.

A message prompt appears stating the status of the selected array.

16. Press any key to continue.

17. Press the **Esc** key twice to display the Exit Utility prompt.

18. Use the **Up/Down** arrow keys to select Yes then press **Enter**.

The server will automatically reboot.

- If you wish to recycle used hard disk drives, use a utility such as *fdisk* to erase all data and partitions from that particular hard drive.

BIOS Update

For detailed procedures, refer to Chapter 5 of the *HP ProLiant ML110 Server Operations and Maintenance Guide*.

BIOS Update Notes

- HP recommends that you update the server BIOS with the latest system BIOS version to take advantage of the most recent compatibility fixes.
- You can download the latest HP ProLiant ML110 server BIOS at HP's website at www.hp.com.

Installing Microsoft Windows Server 2003 and Windows Small Business Server 2003

Windows 2003 Pre-installation Instructions

NOTE: For ease of reading, both “Microsoft Windows Server 2003” and “Microsoft Windows Small Business Server 2003” will be referred to as “Windows 2003” in this chapter; the *HP ProLiant ML110 Server Startup CD-ROM* will be simply referred to as the *Startup CD*.

1. Complete the pre-NOS installation procedures listed in Chapter 1.
2. Have the following installation requirements on hand:
 - HP ProLiant ML110 Server Startup CD-ROM
 - Microsoft Windows 2003 CD-ROM
 - Six blank, formatted 3.5-inch diskettes
 - A Windows PC that has a:
 - Floppy drive
 - CD-ROM drive
 - Browser that supports HTML
 - Two or more clients for testing purpose (optional)

Windows 2003 Installation Flow

1. Create the driver diskettes using the *Startup CD*.
2. Install Microsoft Windows 2003.
3. Complete the installation—install the drivers for the Intel and LAN chipsets.
4. Configure the system.
5. Configure the network.
6. Install additional HP accessories.

Section 1. Creating the Driver Diskettes

Create the appropriate Windows 2003 driver diskette to be labeled *HP disk W2003*.

1. Insert one blank, formatted 3.5" diskette into the PC's floppy drive.
2. Insert the *Startup CD* into the PC's CD-ROM drive.

By default, the *Startup CD* will automatically run displaying the Welcome page. However, if this does not occur, double-click the Startup.htm file located on the root directory of the *Startup CD*.

3. Follow the on-screen instructions to create the Windows 2003 driver diskette.
4. Label, date, and save the driver diskette as *HP disk W2003*.

Section 2. Installing Windows 2003

NOTE: Though you may install Windows 2003 from setup diskettes or directly from the *Windows 2003 CD-ROM*, we recommend you use the second method because it is faster.

1. Boot the server from the *Windows 2003 CD-ROM*.

The message "Setup is inspecting your hardware configuration" displays; afterwards the Setup screen is displayed.

The message prompt "Press F6 if you need to install a third party SCSI or RAID controller" will be briefly displayed on the bottom of the Setup screen.

Press **F6** if you wish to install a third party controller; otherwise proceed to step 2.

NOTE: If you missed pressing **F6** before the message is invalidated, you will need to reboot the system to display the message prompt again.

2. Follow the procedures corresponding to the type of hard disk that is installed in server.
3. At the Welcome to Setup screen, press **Enter** to continue.
4. Press **F8** to accept the licensing agreement.
5. At the drives partitioning screen, select the target drive. If you want to use the entire drive to install Windows 2003 then press **Enter**. Otherwise, press **C** to create a drive a partition.

In this example we will create a 4-GB partition. Please note that Windows 2003 does not have the 2-GB limitation present in Windows NT 4.0.

- a. Press **C** to create a partition.
- b. At the Create partition size prompt, type **4096**, then press **Enter**.
- c. Select **unpartitioned space** and press **C** again to create additional partitions.

HP recommends that you create all the partitions needed for each hard drive present on your system.

6. Select the target drive to be used to install Windows 2003, then press **Enter**.
7. On the next screen, select **Format the partition using the NTFS file system**, then press **Enter**.

The installer will format and copy files to the hard drive, after which the system will reboot and launch the Windows 2003 graphic interface. Be sure to remove the driver diskette before rebooting.

You can now proceed through the customization of your installation using the graphical interface.

NOTE: The network settings may need to be customized to your environment. Refer to the Windows 2003 manuals should you need further details on the networking settings.

8. After completing the customization phase, click **Next** to proceed with the installation.
The installation status is indicated by the Install Network progress bar. This may take some time. After installation is completed, the system will automatically reboot.
9. At the Welcome to Windows dialog box, press **Ctrl-Alt-Del**, then log on as *Administrator*.
 - If you installed Windows Server 2003, the Windows 2003 Configure Your Server wizard will be launch. Close this window, as we will postpone the customization of the server until completion of all the installation steps.
You may open the Windows 2003 Configure Your Server wizard at any point by clicking **Start | Programs | Administrative Tools | Configure Your Server**.
 - If you installed Microsoft Small Business Server 2003, click **Cancel** to close the Setup needs the location of the Small Business Server 2003 Setup files... window.

Section 3. Completing the Installation

Phase 1 - Installing the Intel Chipset driver

1. Insert the *Startup CD* in the server's CD-ROM drive.
By default, the *Startup CD* will automatically run displaying the Welcome page. However, if this does not occur, double-click the Startup.htm file located on the root directory of the Startup CD.
2. Click the **HP ProLiant ML110 server drivers for chipset, LAN, and SCSI controller** link.
3. Select the Intel chipset driver option for Windows 2003.
The File Download dialog box displays.
4. Click **Open** to download the driver.
The Security Warning dialog box displays.
5. Click **Yes**.
The installation menu for the selected driver will be displayed.
6. Follow the on-screen instructions to install the Intel chipset driver.
7. After completing the installation, reboot the server.

Phase 2 - Installing the HP LAN Driver

During the Windows 2003 installation, the OS may not detect the embedded HP network interface card. The following procedure will help you install the LAN driver using the *Startup CD*.

1. Insert the *Startup CD* in the server's CD-ROM drive.
By default, the *Startup CD* will automatically run displaying the Welcome page. Close this window.
2. Click **Start | Settings | Control Panel | System | Hardware | Device Manager**.
3. Open the yellow question marked **Other Devices** tree and double-click on the appropriate **Ethernet Controller** option to display its menu.
4. Follow the installation wizard for additional configuration.
5. Wait for the system to find the appropriate driver, and then click **Next**.
6. Click **Finish** once the LAN driver has been loaded.
7. Close all open windows and restart the server in order to properly initialize the LAN adapter.
8. After restarting Windows, configure the network settings for the LAN card in order to connect to your network. Verify connectivity.

Section 4. Configuring the System

Phase 1 - Performing a Hardware Status Check

In this section you will run the Windows 2003 *Device Manager* tool to identify any issues with the installed devices or resource conflicts.

1. Click **Start | Settings | Control Panel | System | Hardware | Device Manager**.
2. Verify that no devices have either a yellow exclamation mark (!) or question mark (?) symbol next to it.
 - Exclamation mark (!) means that there is a resource issue with the device.
 - Question mark (?) means that the device is unknown.

If (!) or (?) symbols are reported then double-click on each of the devices with (!) or (?).

Refer to the "Device Status" message for troubleshooting. Or if a printer is available, use the **View, Print** command from the menu to get a report.

3. Verify if the installed drivers are digitally signed.
 - a. In the Device Manager window, select the device (e.g. HP AHA-29160) that you want to verify.
 - b. Right click **Properties | Driver**.

c. Locate the **Digital Signer**.

If the driver of that device is digitally signed then it will display "MS Windows 2003 Publisher" or "Microsoft Windows Hardware Compatibility Publisher".

If the driver of the device is not digitally signed we recommend that you check HP's website at www.hp.com to install the latest driver package.

Close the Device Manager, System Properties and Control Panel windows.

4. Click **Start | Programs | Administrative tools | Event viewer** to make sure that there are no errors in the log.

NOTE: Windows 2003 *Event Viewer* may have recorded network errors because your network is not yet configured. Please disregard these errors.

5. Close the Event Viewer window.

Phase 2 - Initializing the Hard Disk Drive

There are two types of hard drive configuration: Dynamic and Basic. You can select the appropriate type by right clicking on the disk drive icon.

- Dynamic drives are used to create volumes, which can contain more than one physical hard drive.
- Basic drives are used to create primary or local partitioned drives.

To manage different drives and partitions:

1. Click **Start | Programs | Administrative Tools | Disk Administrator**.
2. Click **OK** to proceed when notified you have a new hard disk to configure.
3. Select the available hard disk space on the graphic and use menus to create additional partitions.
4. Close the Disk Administrator window.
5. To complete the formatting of new partitions, open **My Computer**, then right click on the new unformatted partition(s) and select **Format**.

To start Disk Administrator:

1. Click **Start | Programs | Administrative Tools | Computer Management**.
2. Double-click **Storage | Disk Management** in the tree.

The Write Signature and Upgrade wizard will start if you have new hard drives with no signatures on them.

3. Follow the on-screen instructions to create the signature.
4. Select the available hard disk space on the graphic and use menus to create additional partitions.
5. Format all partitions that are not yet formatted.
6. Close the Computer Management window.

Phase 3 - Adding Terminal Server Services

1. Click **Start | Settings | Control Panel | Add Remove Programs**.
2. Click **Add/Remove Windows Components**.
3. Locate then select the [Terminal Services] checkbox then click **Next**.
4. Select the mode you want to use then click **Next**.

There are two mode options: **Remote administration** mode and **Application server** mode.

NOTE: The following instructions are based on the **Application server mode**. Please note the licensing requirement listed on the screen for this mode. Consult with your Microsoft representative for setting the licensing server.

5. Select the default permissions for application compatibility then click **Next**.
6. Click **Next** to accept the support tools and administrator tools settings.
7. If prompted, insert the *Windows 2003 CD-ROM*.
8. Click **Finish** to close the wizard.
9. Click **Yes** to restart the system.

Be sure to remove the *Windows 2003 CD-ROM* from the drive.

10. After the system reboots, log on to the system.
11. Click **Start | Settings | Control Panel | Administrative Tools**.
12. Check that the following services are now available:
 - Terminal Services Client Creator
 - Terminal Services Configuration
 - Terminal Services Manager

To create Client Installation diskettes:

1. Double-click **Terminal Services Client Creator**.
2. Select the appropriate client type for your environment.
3. Click **Format disk** if needed.
4. Check the number of disks required and label them as *Terminal Services for [...] Disk [x/y]*.
5. Click **OK** to proceed.
6. Follow the on-screen instructions to create the diskettes copies.
7. Click **OK** at the *[y] floppies were created...* screen.
8. Click **Cancel** to close the **Create Installation Disks** utility.

To install Client Utility on a client workstation:

1. Insert the *Client Installation diskette 1* in the floppy drive of the target workstation.
2. Run the **setup.exe** file in the diskette.
3. Click **Continue** at the Setup screen.
4. Complete the Name and Organization Information form.
You will only be prompted to provide this information during the first time the diskettes are used.
5. Click **OK** to validate then **OK** again to confirm.
6. Click **I Agree** to accept the license agreement.
7. Click **Large Icon** to start installation.
8. Select the appropriate installation mode.
There are two options: all users (**Yes**) or current user only (**No**).
9. Follow the on-screen instructions to continue with the installation.
10. Insert the rest of the *Client Installation* diskettes when prompted.
11. Click **OK** when the installation is completed.
12. Restart the workstation.

Section 5. Configuring the Network

Phase 1 - Configuring the Server's IP Address

During the installation process the system was configured to use DHCP. If no DHCP server is found on the network the system will auto-configure a random IP address to start functioning. It is important that you configure the proper IP address to be able to communicate with the clients:

1. Right-click **My Network Places | Properties | Local Area Connection** on your server.
NOTE: If your HP server hosts several network adapters, the window will show one **Local Area Connection** icon for each network adapter present in the system. Identify the proper adapter by browsing each one.
2. Click **Internet Protocol (TCP/IP) | Properties | Use the following IP address**.
3. Enter an appropriate IP address.
4. Click **OK** to continue, and then **OK** again to exit the Local Area Connection Properties window.
5. Click **Yes** to restart your server and apply these settings.

Phase 2 - Attaching Clients to the Network and Testing the Network Link

1. Create a new folder in your server's hard drive and set it as a shared folder (right-click the folder then select **Sharing...**).
2. Create users using the Windows 2003 *Computer Management* utility.
To open the utility, click **Start | Programs | Administrative Tools | Computer Management | System Tools | Local Users and Groups | Users**.
3. Connect the client PCs to the network your HP server operates on.
4. Open a command prompt window to verify the TCP/IP configuration and enter the command:

```
ipconfig /all
```
5. To verify the server and clients can communicate properly:
 - From one of the clients, open a command prompt and type:

```
ping computername
```


where *computername* is the server name you entered during the Windows 2003 installation.
You should get four replies from your new server. If there is a link problem it must be fixed before going any further.
 - You may test the link further by doing a ping between two clients. At the same command prompt type:

```
ping other_client_IPaddress
```


You should get four replies from the second client.
6. Copy files back and forth from the clients to the server.

To test network link using Terminal Services:

1. Click **Start | Programs | Terminal Services Client | Terminal Services Client** on a client you installed *Terminal Services* on.
2. Select the target server from the Available Servers list displayed on the screen.
3. Click the **Connect** button.
4. Complete the UserID, Password login form.

Phase 3 - Configuring the Domain Controller Setup

The Windows 2003 reference guide calls this process "Promoting the server to a domain controller".

1. Click **Start | Programs | Administrative Tools | Configure Your Server** to open the Windows 2003 Configure Your Server window.
2. Select **Active Directory**.
3. Scroll down and click **Start the Active Directory wizard**.
4. Click **Next** to continue.

NOTE: The following instructions correspond to the standard steps for new domain creation. You may customize the options proposed by Windows 2003 to match your environment.

5. Click **Next** at Domain Controller Type to accept the default setting—**Domain controller for a new domain**.
6. Click **Next** at Create Tree or Child Domain to accept the default setting—**Create a new domain tree**.
7. Click **Next** at Create or Join Forest to accept the default setting—**Create a new forest of domain trees**.
8. At the [Full DNS name for new domain] text box type in the assigned DNS name for your server (for example: *mycompany.com*).

9. Click **Next**.

The system may take a few minutes before moving to the next screen.

10. Click **Next** at the NetBIOS Domain Name dialog box to accept the default setting—**Domain NetBIOS name**.
11. Click **Next** at Database and Log Locations to accept the default directories.
12. Click **Next** at Shared System Volume to accept the default settings.
The system will display a dialog box that reads: "The Wizard can not contact the DNS Server..."
13. Confirm your DNS configuration, or install and configure a DNS server on this computer.
14. Click **OK**.
15. Click **Next** to accept the installation of DNS on your new server.
16. Click **Next** to accept the default permission value—**Permissions compatible with pre-Windows 2003 Server**.
17. Enter and confirm an administrator password and then click **Next**.
18. Review the Summary display and click **Next** to continue.

The system will start configuring the active directory display. It will take a few minutes to complete.

19. If prompted, insert the *Windows 2003 CD-ROM* and click **OK** to continue.

The Configuring active directory display shows again.

20. Click **Finish** to close the Wizard utility.

This completes the active directory installation.

21. Click **Restart Now** to reboot the system.

Remove the *Windows 2003 CD-ROM* if it is present.

22. At the login prompt:
 - a. Type in the administrator password you set.
 - b. Click the **Options** button and verify that the Log on to: HOST displays on the dialog box.
 - c. Click **OK** to start the login process.
23. The This Server is Now a Domain Controller dialog box will display after the login, click **Finish** to close.

Section 6. Installing Additional HP Accessories

The *HP ProLiant ML110 Server Startup CD-ROM* includes the drivers for accessories compatible to your server.

Refer to the product manual enclosed with the accessory for the detailed installation procedure and/or to the attached readme.txt file associated with the driver. The readme.txt file can be found on the appropriate driver diskette.

On-Line Information and Software Sources

- HP World Wide Web access: www.hp.com
- Microsoft World Wide Web access: www.microsoft.com
- Microsoft Product Support Services: <http://support.microsoft.com/directory>
- Microsoft Software BBS: 206-936-6735 (14,400 bps)

Installing Novell NetWare 5.1

Novell NetWare 5.1 Pre-installation Instructions

1. Complete the pre-NOS installation procedures listed in Chapter 1.
2. Have the following installation requirements on hand:
 - HP ProLiant ML110 Server Startup CD-ROM (will be subsequently referred to as *Startup CD*)
 - Novell NetWare 5.1 CD-ROM and latest Support Pack CD-ROM
 - NetWare 5.1 licensing/cryptographic diskette
 - Four blank, formatted 3.5-in diskettes for patch and driver installation
 - A Windows PC that has a:
 - Floppy drive
 - CD-ROM drive
 - Browser that supports HTML
 - Two or more clients for testing purpose (optional)

Novell NetWare 5.1 Installation Flow

1. Create the driver diskettes using the *Startup CD*.
2. Install Novell NetWare 5.1.
3. Install the NetWare 5.1 Support Pack.
4. Install the PSM4B patch.
5. Install additional HP accessories.

Section 1. Creating the Driver Diskettes

1. Prepare four blank, formatted 3.5-in diskettes.
2. Insert the *Startup CD* into the PC's CD-ROM drive.

By default, the *Startup CD* will automatically run displaying the Welcome page. However, if this does not occur, double-click the Startup.htm file located on the root directory of the *Startup CD*.

3. Follow the on-screen instructions to create the HP ProLiant ML110 server NetWare SCSI driver diskette to be labeled *HP disk NW SCSI*.
4. Use the second diskette to create the LAN driver diskette to be labeled *HP disk NW LAN*.
5. Use the third diskette to create the Novell 5.1 patch to be labeled *HP disk NW patch*.
6. Use the fourth diskette to create the PSM4B diskette to be labeled *HP disk PSM4B patch*.

NOTE: To create the *HP disk PSM4B patch*, download first the `psm4b.exe` file from Novell's web site at www.novell.com.

Section 2. Installing Novell NetWare 5.1

Phase 1 - Installing the Pentium™ 4/Celeron™ Patch

NOTE: If your hard drive contains data or is not new, HP recommends backing up the data and then using a utility such as *fdisk* to erase all data and partitions from your hard drive.

1. Boot the server to a DOS bootable utility diskette.

NOTE: You can boot from the NetWare SBS 5 License diskette. Novell DOS 7 and all required DOS utilities (*fdisk*, *format*, *edit*) are included on the diskette.

2. Type **FDISK** to create a 100 MB primary DOS partition on the primary drive (C:).
Remember to make it the active (bootable) partition.

The server restarts and boots to the DOS bootable utility diskette again.

3. From the drive A: prompt, format and transfer DOS system files to the hard disk DOS boot partition by entering one of the following commands:

- When using the NetWare DOS utility, enter:

```
A:\>FORMAT C: /S /X
```

- When using the MSDOS utility, enter:

```
A:\>FORMAT C: /S
```

4. Create the appropriate directories and copy the necessary drivers and files to the DOS boot partition by issuing the following commands at the DOS prompt:

```
C:
```

```
MD \NWUPDATE
```

```
CD \NWUPDATE
```

5. Insert the *HP disk NW patch* diskette you created earlier and enter:

```
COPY A:\*.*
```

6. Remove the *HP disk NW patch* diskette and insert the *Novell NetWare 5.1 CD-ROM* in the drive, then reboot the server.

7. Press **Enter** to setup a **new server** then scroll down to make sure that **Continue** is highlighted.

8. Press **Enter** to continue.
9. Modify or accept the server settings, the regional settings, and the mouse and video configuration.

Phase 2 - Installing the HP Drivers

The installation program then detects your hardware and attempts to match the drivers to the hardware. It displays a Driver names summary screen.

1. If you have an IDE system, press **Enter** to continue.

If you have a SCSI model, you need to install the HP SCSI driver (the SCSI driver proposed by default by NetWare does not install properly):

- a. Scroll down to choose **Modify** and press **Enter**.
- b. Scroll down to highlight the **Storage Adapters** item and press **Enter**.

The installation program displays the drivers detected: a SCSI driver and a generic ATA/IDE/ATAPI Adapter driver (`IDEATA.HAM`).

- c. Press **Delete** to remove the default SCSI driver.

The only remaining driver should be the `IDEATA.HAM` driver.



CAUTION: Do NOT remove the `IDEATA` driver because it is used by the CD-ROM drive.

- d. Insert the *HP disk NW SCSI* diskette you created earlier in the floppy drive.
- e. Click **Insert** to add a driver, and then click **Insert** again to add an unlisted driver.
- f. Press **F3** and specify the path: `A:` then press **Enter**.

The installation program will scan the floppy drive for compatible drivers and then automatically add the HP SCSI driver to the driver list.

NOTE: The new HP driver may show the same device name description, however it is an updated version.

- g. Scroll down and select **Return to driver summary**.
 - h. Scroll down and select **Continue**.
2. The next Driver names summary screen displays storage and network devices. You need to manually install the HP LAN driver:
 - a. Scroll down to choose **Modify** and press **Enter**.
 - b. Scroll down to highlight the **Network boards** item and press **Enter**.
 - c. Insert the *HP disk NW LAN* diskette you created earlier in the floppy drive.
 - d. Click **Insert** to add a driver, and then click **Insert** again to add an unlisted driver.
 - e. Press **F3** and specify the path: `A:` then press **Enter**.

The installation program will scan the floppy drive and then automatically add the HP LAN driver to the driver list.

- f. Scroll down and select **Return to driver summary**.
 - g. Scroll down and keep **Continue** highlighted.
 - h. Press **Enter** to continue.
3. The installation program displays the partitioning properties. HP recommends keeping the default value by selecting **Continue**.
 4. Wait as the system performs the installation according to your settings.

Phase 3 - Configuring the Network

The installation proceeds under a graphical interface.

NOTE: Some settings can be defined by using the tree icon at the right side of the field. The network settings need to be customized to your environment. Refer to the Novell NetWare manuals should you need further details on the networking setup fields.

1. Follow the on-screen instructions to configure your network: server name, IP address, Host name and domain, etc.
2. Insert and browse the *NetWare 5.1 licensing/cryptographic* diskette when prompted.
3. When prompted, click **Yes** to reboot the server (remember to remove all diskettes and CD-ROMs from their respective drives).

The system will load the NetWare GUI.

NOTE: It is possible that during the initial reboot of the NetWare 5.1 OS, the GUI mode may not load properly. This can be resolved by installing NW5.1 Support Pack 3 or above. Refer to the instructions on the next section.

Section 3. Installing the NetWare 5.1 Support Pack

1. Get the latest copy of NetWare Consolidated Support Pack (CSP) from NetWare's website at <http://support.novell.com/tools/csp/>.

You can either subscribe to the Novell Support Connection CD program or download CSP files individually. You will need to mount the Novell Consolidated Support Pack as a NetWare volume.

HP recommends you use NetWare 5.1 Support Pack 3 or above.

2. Close the GUI.
3. Press **Ctrl + Esc**.
A selection screen will be displayed.
4. Select **system console**.
5. Insert the *NetWare 5.1 Support Pack CD-ROM*.
6. At the system console prompt enter the command:
`load cdrom`

7. Wait for about 15 seconds for the CD to be automatically mounted as a volume. After it is completely mounted the system should say:
"Volume name" mounted successfully.
Note the volume name (example: CSP8_CD1).
8. Type **nwconfig**.
The NetWare Configuration Tool screen displays.
9. Scroll down to select **Product Options**.
10. Scroll up to select **Install a Product Not Listed**.
11. Press **F3** and specify the path, including the volume name.
For example:
CSP8_CD1:\NW51SPx\
where CSP8_CD is the volume name from step 7 and x is the version of the Support Pack.
12. Press **F10** to accept the default installation options.

NOTE: If you want to be able to uninstall the Support Pack later, you must select the option to back up files.
13. Read the NetWare warnings (recommends avoiding installation during peak hours) and follow the on-screen instructions.

The system will automatically restart the GUI upon completion of the Support Pack installation.

Section 4. Installing the PSM4B Patch

1. Insert the *HP disk PSM4B patch* diskette you created earlier in the floppy drive.
2. Load NWCONFIG.NLM to the server that is to be updated.
You can use RCONSOLE.
3. Go to Product Options and select **Install a product not listed**, then press **Enter**.
4. Select the drive. Since you are using the *HP disk PSM4B patch* diskette, press **Enter**.
5. Select the proper path containing the INSTALL.ips file.
6. Press **F10** to accept the selection and initialize file copying.
7. Go to **NCF File Options** and select **Edit Startup.ncf File**, then press **Enter**.
8. Modify the *startup.ncf* file by entering the command lines below:
; LOAD MPS14.PSM
LOAD ACPIDRV.PSM
9. Save the changes you made.
10. Reboot the system.

Section 5. Installing Additional HP Accessories

The *HP ProLiant ML110 Server Startup CD-ROM* includes the drivers for accessories compatible to your server.

Refer to the product manual enclosed with the accessory for the detailed installation procedure and/or to the attached `readme.txt` file associated with the driver. The `readme.txt` file can be found on the appropriate driver diskette.

Troubleshooting

This section will help you resolve some of the most common installation problems associated with Novell NetWare 5.1.

How do I restart the NetWare installation?

If you want to restart NetWare installation from the very beginning, use a utility such as *fdisk* to erase all data and partitions from your hard drive. You can then resume the installation process.

On-line Information and Software Sources

- HP World Wide Web access: www.hp.com
- Novell World Wide Web access: www.novell.com
- Novell Networking BBS: 801-429-3308 (9,600 baud)

Installing Novell NetWare 6.0 and Novell Small Business Suite

Novell NetWare 6.0 Pre-installation Instructions

NOTE: For ease of reading, both “Novell NetWare 6.0” and “Novell Small Business Suite” will be referred to as “NetWare 6.0” in this chapter; the *HP ProLiant ML110 Server Startup CD-ROM* will be simply referred to as the *Startup CD*.

1. Complete the pre-NOS installation procedures listed in Chapter 1.
2. Have the following installation requirements on hand:
 - HP ProLiant ML110 Server Startup CD-ROM
 - Novell NetWare 6.0 CD-ROM and latest Support Pack CD-ROM
 - Novell NetWare 6.0 licensing/cryptographic diskette
 - Four blank, formatted 3.5-in diskettes for patch and driver installation
 - A Windows PC that has a:
 - Floppy drive
 - CD-ROM drive
 - Browser that supports HTML
 - Two or more clients for testing purpose (optional)

Novell NetWare 6.0 Installation Flow

1. Create the driver diskettes using the *Startup CD*.
2. Install Novell NetWare 6.0.
3. Install the NetWare 6.0 Support Pack.
4. Install the PSM4B patch.
5. Install additional HP accessories.

Section 1. Creating the Driver Diskettes

1. Prepare three blank, formatted 3.5-in diskettes.
2. Insert the *Startup CD* into the PC's CD-ROM drive.
By default, the *Startup CD* will automatically run displaying the Welcome page. However, if this does not occur, double-click the Startup.htm file located on the root directory of the *Startup CD*.
3. Follow the on-screen instructions to create the HP ProLiant ML110 server NetWare SCSI driver diskette to be labeled *HP disk NW SCSI*.
4. Use the second diskette to create the LAN driver diskette to be labeled *HP disk NW LAN*.
5. Use the third diskette to create the NetWare 6.0 patch to be labeled *HP disk NW patch*.
6. Use the fourth diskette to create the PSM4B diskette to be labeled *HP disk PSM4B patch*.

NOTE: To create the *HP disk PSM4B patch*, download first the psm4b.exe file from Novell's web site at www.novell.com.

Section 2. Installing NetWare 6.0

Phase 1 - Installing the Pentium 4/Celeron Patch

NOTE: If your hard drive contains data or is not new, HP recommends backing up the data and then using a utility such as *fdisk* to erase all data and partitions from your hard drive.

1. Boot the server to a DOS bootable utility diskette.

It is recommended that you boot from a license disk.

NOTE: You can boot from the NetWare SBS 6 License diskette. Novell DOS 7 and all required DOS utilities (FDISK, FORMAT, EDIT) are included on the diskette.

2. Type **FDISK** to create a 1000 MB primary DOS partition on the primary drive (C:).
Remember to make it the active (bootable) partition.
3. Restart the server and boot to the DOS bootable utility diskette again.
4. Format and transfer DOS system files to the partition by entering one of the following commands:
 - When using the NetWare DOS utility, enter:
A:\>FORMAT C: /S /X
 - When using the MSDOS utility, enter:
A:\>FORMAT C: /S

5. Create the appropriate directories and copy the necessary drivers and files to the DOS boot partition by issuing the following commands at the DOS prompt:
C:
MD \NWUPDATE
CD \NWUPDATE
6. Insert the *HP disk NW patch* diskette you created earlier and enter:
COPY A:*.*
7. Remove the *HP disk NW patch* diskette and insert the *Novell NetWare 6.0 CD-ROM* in the drive, then reboot the server.
8. Select **Continue with Existing Partition**.
9. Press **F10** to accept the license agreement.

Phase 2 - Starting the Installation

1. Change the prompt from **Express** to **Custom**, and keep the default **New server** option.
2. Scroll down and choose **Continue**.
3. Review the Server Settings page.
If you do not want the server to automatically load after reboot, change the Load Server at Reboot parameter to **NO**.
4. Go to Server Set Parameters and choose **Edit**.
A window will pop-up and the following should be added:
SET MINIMUM PACKET RECEIVE BUFFERS=2500
SET MAXIMUM PACKET RECEIVE BUFFERS=12500
5. Press **Esc** to save the changes.
6. Scroll down to select **Continue**.
7. Review the regional settings and modify if necessary.
8. Review the mouse and video settings and modify if necessary.
9. Wait a few minutes while system files are copied from the CD-ROM.
10. Proceed to Phase 3.

Phase 3 - Installing the HP Drivers

The installation program then detects your hardware and attempts to match the drivers to the hardware. It displays a Driver names summary screen.

1. If you have an IDE system, press **Enter** to continue.

If you have a SCSI, SCSI RAID, or IDE RAID model, you need to install the corresponding HP driver for such model (the SCSI driver proposed by default by NetWare does not install properly):

- a. Scroll down to choose **Modify** and press **Enter**.
- b. Scroll down to highlight the **Storage Adapters** item and press **Enter**.

The installation program displays the drivers detected: a SCSI driver and a generic ATA/IDE/ATAPI Adapter driver (IDEATA.HAM).

- c. Press **Delete** to remove the default SCSI driver.

The only remaining driver should be the IDEATA.HAM driver.



CAUTION: Do NOT remove the IDEATA driver because it is used by the CD-ROM drive.

- d. Insert the *HP disk NW SCSI* diskette you created earlier in the floppy drive.
- e. Click **Insert** to add a driver, and then click **Insert** again to add an unlisted driver.
- f. Press **F3** and specify the path: **A:** then press **Enter**.

The installation program will scan the floppy drive for compatible drivers and then automatically add the HP SCSI driver to the driver list.

NOTE: The new HP driver may show the same device name description, however it is an updated version.

- g. Scroll down and select **Return to driver summary**.
 - h. Scroll down and click **Continue**.
2. The next Driver names summary screen displays storage and network devices. You need to manually install the HP LAN driver:
- a. Scroll down to choose **Modify** and press **Enter**.
 - b. Scroll down to highlight the **Network boards** item and press **Enter**.
The installation program displays the drivers detected.
 - c. Delete the drivers you wish to replace by selecting them and pressing the **Delete** key.
 - d. Insert the *HP disk NW LAN* diskette you created earlier in the floppy drive.
 - e. Click **Insert** to add a driver, and then click **Insert** again to add an unlisted driver.
 - f. Press **F3** and specify the path: **A:** then press **Enter**.
The installation program will scan the floppy drive and then automatically add the HP LAN driver to the driver list.
 - g. Scroll down and select **Return to driver summary**.
 - h. Scroll down and select **Continue**.

3. Wait while the system loads the new drivers.
4. Review the Volume SYS and Partition Properties screen.
Click **Modify** if you want to make any changes, then press **F10** to save your changes.
5. Click **Continue** after all changes have been applied.
6. Wait for a few minutes while system files are copied and the Novell NetWare 6.0 GUI is displayed.

Phase 4 - Configuring the Network

The installation proceeds under a graphical interface.

NOTE: The network settings need to be customized to your environment. Please refer to the NetWare 6.0 manuals should you need further details on the networking setup fields.

1. Enter the server name and then click **Next**.
2. Insert the *Novell NetWare 6.0 licensing/cryptographic* diskette when prompted and then click **Next**.
3. Select **Free Space** and click **create**.
4. Type in a volume name and select a volume type for the first partition.
5. Click **OK** then click **Next** to proceed.
6. Choose **YES**, if it is necessary to mount all volumes when server reboots.
7. Click **Next** to proceed.
8. Setup your IP or IPX protocols to match your network environment.
The NetWare 6.0 installation will not proceed if you don't setup an IP address for at least one of your system network devices (embedded LAN or added PCI card).
9. Configure the Domain Name Service settings.
10. Click **Next** to proceed.
11. Select your time zone and then click **Next**.
12. Select whether to create a New NDS Tree or use an Existing NDS Tree and then click **Next**.
To create a New NDS Tree, enter the Tree Name, the Context for Server Object, and the Administrator Password and then click **Next**.
13. Click **Next** to validate the NDS summary.
14. Click **Next** at the Licenses window to install the license previously detected.
If you wish to install other items or products, do so here and then click **Next**.
15. Click **Next** at the Novell Certificate Server 2.21 Objects window.
16. Click **OK** at the Organizational CA Warning screen if it comes up.

17. Select whether or not you want to allow clear text passwords and then click **Next**.
18. Select which components you wish to install and then click **Next**.
19. Set the server properties for your network and then click **Next**.
20. Set the authentication values for your network and then click **Next**.
21. Enter any IP addresses to enable CIFS on and then click **Next**.
22. Enter your share point settings and then click **Next**.
23. Enter your context settings and then click **Next**.
24. Specify the location of the *iManage* container and then click **Next**.

Depending on the options you have chosen, you may receive additional prompts. Enter the required information and click **Next**.

25. Review the Summary page and click **Finish**.
26. When prompted click **Yes** to reboot the system.

Remember to remove all diskettes and CD-ROMs from their respective drives,

If you choose not to load the server on reboot, you can load it manually. When the server reboots, shift to the startup directory containing the NetWare server files (C:\NWSERVER) and enter `server`.

Section 3. Installing the NetWare 6.0 Support Pack

1. Get the latest copy of NetWare Consolidated Support Pack (CSP) from NetWare website at <http://support.novell.com/tools/csp/>.

You can either subscribe to the Novell Support Connection CD program or download CSP files individually. You will need to mount the Novell Consolidated Support Pack as a NetWare volume.

HP recommends you use NetWare 6.0 Support Pack 4 or above.

2. Close the GUI.
3. Press **Ctrl + Esc**.

A selection screen will be displayed.

4. Select **system console**.
5. Insert the *NetWare 6.0 Support Pack CD-ROM*.
6. At the system console prompt enter the command:

```
load cdrom
```

7. Wait for about 15 seconds for the CD to be automatically mounted as a volume. After it is completely mounted the system should say:

```
"Volume name" mounted successfully.
```

Note the volume name (example: CSP8_CD1).

8. Type **nwconfig**.
The NetWare Configuration Tool screen will open.
9. Scroll down to select **Product Options**.
10. Scroll up to select **Install a Product Not Listed**.
11. Press **F3** and specify the path, including the volume name.
For example:
CSP8_CD1:\NW6SPx:\
where CSP8_CD is the volume name from step 7 and x is the version of support pack.
12. Press **F10** to accept the default installation options.
NOTE: If you want to be able to uninstall the Support Pack later, you must select the option to back up files.
13. Read the NetWare warnings (recommends avoiding installation during peak hours) and follow the on-screen instructions.
The system will automatically restart the GUI upon completion of the Support Pack installation.
14. Scroll up to select **Install a Product Not Listed**.
15. Press **Enter** to continue.
16. Press **F10** to accept the default installation options.

Section 4. Installing the PSM4B Patch

There are two ways to install the PSM4B patch:

- Loading the NWCONFIG.NLM file to the server via the Product Options window
- Manually copying the files to the server

NOTE: If you are not using a PSM (Packet Switch Module) for multi-processor support, it is necessary to edit the STARTUP.NCF file to include loading the appropriate PSM. If you already using the MPS14.PSM, you simply need to replace that line with the new one. (e.g. Load ACPIDRV.PSM). Use the ACPIDRV.PSM driver instead of the MPS14.PSM.

Method 1

1. Insert the *HP disk PSM4B patch* diskette you created earlier in the floppy drive.
2. Load NWCONFIG.NLM to the server that is to be updated.
You can use RCONSOLE.
3. Go to Product Options and select **Install a product not listed**, then press **Enter**.
4. Select the drive. Since you are using the *HP disk PSM4B patch* diskette, press **Enter**.

5. Select the proper path containing the INSTALL.ips file.
6. Press **F10** to accept the selection and initialize file copying.
7. Go to **NCF File Options** and select **Edit Startup.ncf File**, then press **Enter**.
8. Modify the *startup.ncf* file by entering the command lines below:
; LOAD MPS14.PSM
LOAD ACPIDRV.PSM
9. Save the changes you made.
10. Reboot the system.

Method 2

1. Insert the *HP disk PSM4B patch* diskette you created earlier in the floppy drive.
2. Locate the folder appropriate for the system, ACPIDRV\5.x or CPIDRV\6.x, and copy its contents to the startup directory (C:\NWSERVER).
3. Reboot the system.

Section 5. Installing Additional HP Accessories

The *HP ProLiant ML110 Server Startup CD-ROM* includes the drivers for accessories compatible to your server.

Refer to the product manual enclosed with the accessory for the detailed installation procedure and/or to the attached readme.txt file associated with the driver. The readme.txt file can be found on the appropriate driver diskette.

Troubleshooting

This section will help you resolve some of the most common installation problems associated with Novell NetWare 6.0.

How do I restart the NetWare installation?

If you want to restart NetWare installation from the very beginning, use a utility such as *fdisk* to erase all data and partitions from your hard drive. You can then resume the installation process.

On-line Information and Software Sources

- HP World Wide Web access: www.hp.com
- Novell World Wide Web access: www.novell.com
- Novell Networking BBS: 801-429-3308 (9,600 baud)

Installing Novell NetWare 6.5

Novell NetWare 6.5 Pre-installation Instructions

1. Complete the pre-NOS installation procedures listed in Chapter 1.
2. Have the following installation requirements on hand
 - HP ProLiant ML110 Server Startup CD-ROM
 - Novell NetWare 6.5 CD-ROMs (2 discs)
 - Novell NetWare 6.5 license diskette
 - Two blank, formatted 3.5-in diskettes for driver installation
 - A Windows PC that has a:
 - Floppy drive
 - CD-ROM drive
 - Browser that supports HTML
 - Two or more clients for testing purpose (optional)

Novell NetWare 6.5 Installation Flow

1. Create the driver diskettes using the *Startup CD*.
2. Install Novell NetWare 6.5.
3. Install additional HP accessories.

Section 1. Creating the Driver Diskettes

1. Prepare two blank, formatted 3.5-in diskettes.
2. Insert the *Startup CD* into the PC's CD-ROM drive.

By default, the *Startup CD* will automatically run displaying the Welcome page. However, if this does not occur, double-click the Startup.htm file located on the root directory of the *Startup CD*.
3. Follow the on-screen instructions to create the HP ProLiant ML110 server NetWare SCSI driver diskette to be labelled *HP disk NW SCSI*.
4. Use the second diskette to create the LAN driver diskette to be labelled *HP disk NW LAN*.

Section 2. Installing Novell NetWare 6.5

Phase 1 - Launching the Novell NetWare 6.5 Installer

1. Turn on the server and insert the *NetWare 6.5 CD 1*.
2. The system will display a text menu.
3. Press **I** to perform new server installation.
4. Press **A** to set installation from the CD-ROM.
5. Press **A** for floppy restore method.
6. Press **A** for run mode to launch the installer.
7. Select the language you want to use for installation.
8. Review the regional setting and modify if necessary, then click **Continue**.
9. Press **F10** twice to accept all license agreements.
10. Change the prompt from Default to Manual, then click **Continue**.
11. Scroll up to select Free space, then press **Enter**.
12. Enter a value for the DOS partition size, then click **Continue**.
It is recommended that the value be not less than 200 MB.
13. Review the server settings and modify them if necessary, then click **Continue**.
The installer would initialize file copying.
14. Click **Continue** after completing the file copy.

Phase 2 - Installing the HP Drivers

The installation program then detects the system hardware and attempts to match the drivers to the hardware. It displays a Driver names summary screen.

1. If you have an IDE system, press **Enter** to continue.
If you have a SCSI model, you need to install the HP SCSI driver (the SCSI driver proposed by default by NetWare does not install properly):
 - a. Scroll down to choose **Modify** and press **Enter**.
 - b. Scroll down to highlight the **Storage Adapters** item and press **Enter**.
The installation program displays the drivers detected: a SCSI driver and a generic ATA/IDE/ATAPI Adapter driver (`IDEATA.HAM`).
 - c. Press **Delete** to remove the default SCSI driver.
The only remaining driver should be the `IDEATA.HAM` driver.



CAUTION: Do NOT remove the `IDEATA` driver because it is used by the CD-ROM drive.

- d. Insert the *HP disk NW SCSI* diskette you created earlier in the floppy drive.

- e. Click **Insert** to add a driver, and then click **Insert** again to add an unlisted driver.
- f. Press **F3** and specify the path: **A :** then press **Enter**.

The installation program will scan the floppy drive for compatible drivers and then automatically add the HP SCSI driver to the driver list.

NOTE: The new HP driver may show the same device name description, however it is an updated version.

- g. Scroll down and select **Return to driver summary**.
 - h. Scroll down and click **Continue**.
 - i. Check the storage device, then scroll down and click **Continue**.
2. The next Driver names summary screen displays network devices. You need to manually install the HP LAN driver:

- a. Scroll down to choose **Modify** and press **Enter**.
 - b. Scroll down to highlight the **Network boards** item and press **Enter**.
- The installation program displays the drivers detected.
- c. Delete the drivers you wish to replace by selecting them and pressing the **Delete** key.
 - d. Insert the *HP disk NW LAN* diskette you created earlier in the floppy drive.
 - e. Click **Insert** to add a driver, and then click **Insert** again to add an unlisted driver.
 - f. Press **F3** and specify the path: **A :** then press **Enter**.

The installation program will scan the floppy drive and then automatically add the HP LAN driver to the driver list.

- g. Scroll down and select **Return to driver summary**.
- h. Scroll down and select **Continue**.

Phase 3 - Completing the Installation

1. Modify the SYS volume size, then scroll down and click **Create**.
2. Scroll down and click **Continue Installation**.

The installer would initialize file copying, after which it would shift to display a graphical interface. You can then proceed through the customization of the installation.

3. After completing the installation, remove the *NetWare 6.5 CD 2* and the *NetWare 6.5 license diskette*, then click **Yes** to reboot the server.

Section 3. Installing Additional HP Accessories

The *HP ProLiant ML110 Server Startup CD-ROM* includes the drivers for accessories compatible to your server.

Refer to the product manual enclosed with the accessory for the detailed installation procedure and/or to the attached readme.txt file associated with the driver. The readme.txt file can be found on the appropriate driver diskette.

On-line Information and Software Sources

- HP World Wide Web access: www.hp.com
- Novell World Wide Web access: www.novell.com
- Novell Networking BBS: 801-429-3308 (9,600 baud)

Installing Red Hat Linux 9.0

Red Hat Linux 9.0 Pre-installation Instructions

1. Complete the pre-NOS installation procedures listed in Chapter 1.
2. Have the following installation requirements on hand:
 - HP ProLiant ML110 Server Startup CD-ROM
 - Red Hat Linux 9.0 CD-ROMs (3 discs)
 - A Windows PC that has a:
 - Floppy drive
 - CD-ROM drive
 - Browser that supports HTML

This requirement is for when you need to create driver diskettes from the *Startup CD*.

- Two or more clients for testing purpose (optional)

Red Hat Linux 9.0 Installation Flow

1. Install Red Hat Linux 9.0.
2. Install additional HP accessories.

Section 1. Installing Red Hat Linux 9.0

Phase 1 - Launching the Red Hat Linux 9.0 Installer

1. Turn on the server and insert the *Red Hat Linux 9.0 CD 1*.

The system will display a text menu.

If you are using the Promise FastTrak TX4000 IDE RAID controller, refer to the *readme.txt* file in the Promise FastTrak TX4000 driver disc for instructions.

If you do not have a driver disc, proceed to step 2.

If you have a driver disk:

- a. Type the parameter below and then press **Enter**.
`linux dd`
 - b. Press **Yes**.
 - c. Select the driver disk source, then press **OK**.
 - d. Insert the driver disk, then press **OK**.
 - e. Press **No** if you don't want to load any additional driver disks.
 - f. Press **Skip** to cancel CD media testing.
 - g. Proceed to Phase 2 to continue with the installation.
2. Press **Enter** to start installation using the graphical interface.

The installation program now displays a graphical interface. You can proceed through the customization of your installation.

Phase 2 - Customizing the Installation

Using the GUI installation, you will have an on-screen description of each possible selection displayed on the left of the screen.

Welcome to Red Hat Linux

Click **Next** to continue.

Language Selection

Default is **English**. Click **Next** to continue.

Keyboard Configuration

Your HP server comes with a Generic 104-key PC keyboard.

NOTE: If you wish to change your keyboard type after you have booted your Red Hat Linux system, you may use the `/usr/sbin/kbdconfig` command.

After selecting the appropriate option for the keyboard layout type, click **Next** to continue.

Mouse Configuration

Your HP server comes with a 2-button PS/2 mouse.

After selecting the appropriate option for the mouse type, click **Next** to continue.

Installation Type

HP recommends selecting the **Custom** installation option, because this mode includes the Graphical Interface (X) Configuration window.

Disk Partitioning Setup

HP recommends using the default partitioning mode—**Automatically partition**, then click **Next** to continue.

Automatic Partitioning

Select **Remove all partitions on this system**, then click **Next** to continue.

A Warning dialog box will display. Click **Yes**.

Disk Setup

Review the partition settings and modify it if necessary, then click **Next** to continue.

Boot Loader Installation

Review the boot loader configuration and modify it if necessary.

GRUB is selected as the default Linux boot loader.

HP recommends a password to prevent access to GRUB. Select the [Use a boot loader password] check box, then click **Change Password** to set the password.

After setting the GRUB password, click **Next** to continue with the installation.

Network Configuration

Review the Network settings and see to it that they fit your environment, then click **Next** to continue.

Refer to Red Hat manuals should you need further details on the networking settings.

Firewall Configuration

Review the Firewall settings and modify it if necessary.

HP recommends that you select all options on the Allow incoming list.

After defining the Firewall settings, click **Next** to continue with the installation.

Additional Language Support

Review the Language Support setting and modify it if necessary, then click **Next** to continue.

Time Zone Selection

Review the Time Zone setting and modify if it necessary, then click **Next** to continue.

Set Root Password

Enter a root password, then click **Next** to continue.

Authentication Configuration

Review and modify the configuration as necessary, then click **Next** to continue.

Package Group Selection

If you selected the **Custom** install option, pre-determined packages have already been selected. However, depending upon your network environment additional packages may be necessary.

NOTE: Remember to select appropriate package groups that match your network settings (e.g. The DNS Name Server package may be required if you have set-up your new server to be the DNS controller.).

Review and modify the selection as necessary, then click **Next** to initialize installation.

Phase 3 - Completing the Installation

About to Install

Once you complete the customization, the installation program asks for confirmation before proceeding with the install. Click **Next** to proceed.

You may be prompted to insert the *Red Hat Linux 9.0 CD 2* or *CD 3*, depending on the packages you have chosen to install.

Boot Diskette Creation

HP recommends that you create a boot diskette that will allow you to boot and manage the server should you experience problems in loading your Red Hat environment.

Graphical Interface (X) Configuration

Your HP server ships with an ATI Rage XL chipset. Select this option from the list of video hardware, then click **Next** to continue.

Monitor Configuration

The installation program will attempt to detect the monitor being used; otherwise you can find HP monitor references on the back of your monitor. Click **Next** to continue.

Customize Graphics Configuration

Review the Graphics Configuration settings and modify them as necessary, then click **Next** to finalize the installation.

After completing the installation, click **Exit** to close the installation program. The system reboots and loads your new Red Hat environment.

Section 2. Installing Additional HP Accessories

The *HP ProLiant ML110 Server Startup CD-ROM* includes the drivers for accessories compatible to your server.

Refer to the product manual enclosed with the accessory for the detailed installation procedure and/or to the attached readme.txt file associated with the driver. The readme.txt file can be found on the appropriate driver diskette.

On-line Information and Software Sources

- HP World Wide Web access: www.hp.com
- Red Hat World Wide Web access: www.redhat.com

Installing Red Hat Enterprise Linux ES 2.1

Red Hat Enterprise Linux ES 2.1 Pre-installation Instructions

1. Complete the pre-NOS installation procedures listed in Chapter 1.
2. Have the following installation requirements on hand:
 - HP ProLiant ML110 Server Startup CD-ROM
 - Red Hat Enterprise Linux ES 2.1 CD-ROMs (2 discs)
 - A Windows PC that has a:
 - Floppy drive
 - CD-ROM drive
 - Browser that supports HTML

This requirement is for when you need to create driver diskettes from the *Startup CD*.

- Two or more clients for testing purpose (optional)

Red Hat Enterprise Linux ES 2.1 Installation Flow

1. Install Red Hat Enterprise Linux ES 2.1.
2. Install additional HP accessories.

Section 1. Installing Red Hat Enterprise Linux ES 2.1

Phase 1 - Launching the Red Hat Enterprise Linux ES 2.1 Installer

1. Turn on the server and insert the *Red Hat Enterprise Linux ES 2.1 CD 1*.

The system will display a text menu.

If you are using the Promise FastTrak TX4000 IDE RAID controller, refer to the *readme.txt* file in the Promise FastTrak TX4000 driver disc for instructions.

If you do not have a driver disc, proceed to step 2.

If you have a driver disk:

- a. Type the parameter below and then press **Enter**.
`linux dd`
 - b. Press **Yes**.
 - c. Insert the driver disk, then press **OK**.
 - d. Proceed to Phase 2 to continue with the installation.
2. Press **Enter** to start installation using the graphical interface.

The installation program now displays a graphical interface. You can proceed through the customization of your installation.

Phase 2 - Customizing the Installation

Using the GUI installation, you will have an on-screen description of each possible selection displayed on the left of the screen.

Language Selection

Default is **English**. Click **Next** to continue.

Keyboard Configuration

Your HP server comes with a Generic 104-key PC keyboard.

NOTE: If you wish to change your keyboard type after you have booted your Red Hat Linux system, you may use the `/usr/sbin/kbdconfig` command.

After selecting the appropriate option for the keyboard layout type, click **Next** to continue.

Mouse Configuration

Your HP server comes with a 2-button PS/2 mouse.

After selecting the appropriate option for the mouse type, click **Next** to continue.

Welcome to Red Hat Enterprise Linux ES

Click **Next** to continue.

Install Options

HP recommends selecting the **Custom** installation option.

Choose Your Partitioning Strategy

HP recommends selecting the default partitioning mode—**Have the installer automatically partition for you**, then click **Next** to continue.

Automatic Partitioning

A Warning dialog box will display. Click **Yes**.

Partitions

Review the Partition settings and modify it if necessary, then click **Next** to continue.

Boot Loader Installation

Review the Boot Loader configuration and modify it if necessary, then click **Next** to continue.

GRUB Password

Enter a GRUB password, then click **Next** to continue.

Network Configuration

Review the Network settings and see to it that they fit your environment, then click **Next** to continue.

Refer to Red Hat manuals should you need further details on the networking settings.

Firewall Configuration

Review the Firewall settings and modify it if necessary.

HP recommends that you select all options on the [Allow incoming] list.

After defining the Firewall settings, click **Next** to continue with the installation.

Language Support Selection

Review the Language Support setting and modify it if necessary, then click **Next** to continue.

Time Zone Selection

Review the Time Zone setting and modify it if necessary, then click **Next** to continue.

Account Configuration

Enter a root password and create additional user accounts, then click **Next** to continue.

Authentication Configuration

Review and modify the configuration as necessary, then click **Next** to continue.

Selecting Package Groups

If you selected the **Custom** install option, pre-determined packages have already been selected. However, depending upon your network environment additional packages may be necessary.

NOTE: Remember to select appropriate package groups that match your network settings (e.g. The DNS Name Server package may be required if you have set-up your new server to be the DNS controller.).

Review and modify the selection as necessary, then click **Next** to continue.

Video Configuration

Your HP server ships with an ATI Rage XL chipset. Select this option from the list of video hardware, then click **Next** to initialize the installation.

Phase 3 - Completing the Installation

About to Install

Once you complete the customization, the installation program asks for confirmation before proceeding with the install. Click **Next** to proceed.

You may be prompted to insert the *Red Hat Enterprise Linux ES 2.1 CD 2*, depending on the packages you have chosen to install.

Boot Disk Creation

HP recommends that you create a boot diskette that will allow you to boot and manage the server should you experience problems in loading your Red Hat environment.

Monitor Selection

The installation program will attempt to detect the monitor being used; otherwise you can find HP monitor references on the back of your monitor. Click **Next** to continue.

Custom (X) Configuration

Review the Custom (X) Configuration settings and modify them as necessary, then click **Next** to finalize the installation.

After completing the installation, click **Exit** to close the installation program. The system reboots and loads your new Red Hat environment.

Section 2. Installing Additional HP Accessories

The *HP ProLiant ML110 Server Startup CD-ROM* includes the drivers for accessories compatible to your server.

Refer to the product manual enclosed with the accessory for the detailed installation procedure and/or to the attached `readme.txt` file associated with the driver. The `readme.txt` file can be found on the appropriate driver diskette.

On-line Information and Software Sources

- HP World Wide Web access: www.hp.com
- Red Hat World Wide Web access: www.redhat.com

G

grounding v
grounding plug v

H

help resources vi
HP authorized reseller vi

N

NOS installation highlights 1-1
Novell NetWare 5.1
 HP drivers 3-3
 installation flow 3-1
 installation procedures 3-2
 installation requirements 3-1
 network configuration 3-4
 on-line resources 3-6
 PSM4B patch 3-5
 Support Pack 3-4
 troubleshooting 3-6
Novell NetWare 6.0
 HP drivers 4-3, 5-2
 installation flow 4-1
 installation procedures 4-2
 installation requirements 4-1
 network configuration 4-5
 on-line resources 4-8
 PSM4B patch 4-7
 Support Pack 4-6
 troubleshooting 4-8
Novell NetWare 6.5
 installation flow 5-1
 installation procedures 5-2
 installation requirements 5-1
 on-line resources 5-4

P

pre-NOS installation steps
 BIOS update 1-4
 hardware setup 1-2

R

Red Hat Enterprise Linux ES 2.1
 installation flow 7-1
 installation procedures 7-1
 installation requirements 7-1
 on-line resources 7-5
Red Hat Linux 9.0
 installation flow 6-1
 installation procedures 6-1
 installation requirements 6-1
 on-line resources 6-5

T

telephone numbers vi

V

ventilation clearances v

W

warranty v
Windows 2003
 installation flow 2-1
 installation procedures 2-2
 installation requirements 2-1
 network configuration 2-7
 on-line resources 2-10
 system configuration 2-4