HP Server tc2120 Network Operating System Installation Guide

For: **Microsoft® Windows® 2000 Server and SP3**

Microsoft Windows 2000 Server and Microsoft Small Business Server 2000

Microsoft Windows 2003 Server

Novell NetWare 5.1 and Support Pack 5

Novell NetWare 6.0 and Support Pack 2

Novell NetWare 6.0 SBS

Red Hat Linux 8.0

Red Hat Linux 7.3

SUSE Linux 7.3

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Contents

Preparing the HP Server tc2120 for NOS Installation

Section 1. Hardware Setup

Prepare your HP server following the instructions in the *HP Server tc2120 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 Tower Server tc2120 comes with new hard disk drive(s) that do not need specific setup. If you install additional and 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 IDE RAID controller FastTrack100 TX2, you must connect the hard disk drives to the controller following instructions in the FastTrack User Guide. The RAID setup for this controller is performed at the BIOS level when the system starts up. When prompted, press **Ctrl-F** to get into it; **3** to define the array; **Enter** to select the array; use the space bar to change the array; the down arrow to go to the available drives and space to select which drives you want in this array. Then, **Ctrl-Y** to save it. Finally, **Esc Ctrl-Y** to exit back to the main menu and reboot.

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

Section 2. Updating the Server BIOS

HP recommends that you update your server BIOS with the latest system BIOS version to enjoy the most recent compatibility fixes.

Insert the HP Startup CD in a Windows PC and follow the on-screen instructions.

NOTE: If the Windows PC does not auto-start the Startup menu, start it by opening startup.htm, found at the root level of the Startup CD.

Section 3. Using the Startup CD

The Startup CD included with your HP Server tc2120 system may be used as follows:

Table 1: Startup CD Usage

Method 1	Method 2
Insert the CD in a PC that includes an HTML browser.	Insert the CD in the server once the NOS is running.*
Open the file startup.htm.	Open the file startup.htm.
This allows you **create drivers diskettes** (HTML menus)	This allows you **create drivers diskettes**.

* This method is not available on NetWare servers, since they do not have an HTML browser.

Installing Microsoft Windows 2000 Server and Small Business Server 2000

Prepare the Installation

Please refer to the Chapter 1 "Preparing the HP Server tc2120 for the NOS Installation" for our recommendations on server preparation. Then gather the following materials:

- HP Server tc2120 Startup CD

- Microsoft® Windows® 2000 CD-ROM, as well as the latest Microsoft Windows 2000 Service Pack (#3 or above)

  NOTE: For ease of reading, we will refer to both Windows 2000 Server and Small Business Server 2000 as Windows 2000 in this chapter.

- Six blank, formatted 3.5-inch diskettes

- Two or more clients for testing purposes (optional)

High Level Process Flow

1. Perform Windows 2000 Server installation.
2. Complete the installation (Microsoft Service Pack, HP drivers, Recovery Console).
3. Configure the system.
4. Configure the network.
5. Install additional HP accessories.

Section 1. Create the Drivers Diskettes

1. Insert one blank, formatted 3.5" diskette into the tc2120 floppy drive.

2. Insert your HP Startup CD in a Windows PC and follow the on-screen instructions to create the Windows 2000 SCSI driver diskette (HP disk W2K SCSI).

    NOTE: If the Windows PC does not auto-start the Startup menu, start it by opening startup.htm, found at the root level of the Startup CD..

Section 2. Perform Windows 2000 Installation

NOTE: Though you may install Windows 2000 from setup diskettes or directly from the Windows 2000 CD-ROM, we recommend you use the second method because it is faster.

1. Boot your new server from the Windows 2000 CD-ROM.

2. You will see a message that reads, "`Setup is inspecting your hardware configuration.`" Then the setup screen will be displayed.

3. The system will briefly show at the bottom of the display "`Press F6 if you need to install a third party SCSI or RAID controller.`"

    NOTE: Unfortunately, Windows 2000 setup only gives you a short time to press F6. If you miss it, reboot your system and start from step 1 above.

    If you have a SCSI model:

    a. Press S to specify additional SCSI adapters.

    b. When prompted, insert the HP disk W2K SCSI you created from tc2120 startup CD.

    c.   Press **Enter** to continue.

    d. Select the "`Adaptec Ultra 160 Family PCI SCSI Controller Win 2000,`" then press **Enter**.

    If you use the IDE RAID model:

    a. Press S to specify additional IDE adapters.

    b. When prompted, insert the HP disk IDE FastTrack RAID Channel driver you created from tc2120 startup CD.

c. Press **Enter** to continue.

d. Select the WIN2000 Promise FastTrack100 TX2™ Controller adapter, then press **Enter**.

4. Press **Enter** to continue at the "Windows 2000 Server Setup - Welcome to Setup" Screen.

5. Press **C** to continue Setup at the "Setup has determined that your computer's startup hard disk is new…" screen.

6. Press **F8** to accept the licensing agreement.

7. At the drives partitioning screen, select the target drive. If you want to use the entire drive to install Windows 2000 then press **Enter**. Otherwise, press **C** to create a drive a partition.

   In this example we will create a 4GB partition. Please note that Windows 2000 does not have the 2GB limitation present on NT 4.0.

   a. Press **C** to create a partition.

   b. At the "Create partition size" prompt, type **4096** and press **Enter**.

   c. HP recommends that you create all the partitions needed for each hard drive present on your system. Select unpartitioned space and press **C** again to create additional partitions.

8. Select the target drive to be used to install Windows 2000. Press **Enter**.

9. Select "Format the partition using the NTFS file system" and press **Enter**.

10. The installer will format and copy files to the hard drive.

11. The system will reboot and launch Windows 2000 graphic interface. Be sure to remove the driver diskette before the reboot.

12. At the "Installation Wizard" first dialog box, click **Next** to continue.

13. The "Installing Devices" screen will be shown with a progress bar on the display. This may take 10 to 15 minutes.

14. 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 Microsoft 2000 manuals should you need further details on network settings.

15. The "Installing Components Display" screen starts with a progress bar. It may take up to 20 minutes to complete this section.

16. The wizard will then automatically start the "Performing Final Tasks" section to complete the installation. This step in the installation may take some time as well.

    NOTE: There may be a period of time with no apparent activity at the "Saves Settings." Please be patient.

17. At the "Completing the Windows 2000 Setup Wizard" screen, remove the CD-ROM then click **Finish**. The system will automatically reboot from the hard drive.

18. Follow screen instructions to logon (press **Ctrl-Alt-Del**) as the `administrator`.

19. If you installed Windows 2000 Server, "Windows 2000 Configure Your Server" will launch. Close this window, as we will postpone the customization of your server until completion of all the installation steps.

20. If you installed Microsoft Small Business Server 2000, click **Cancel** to close the `"Setup needs the location of the Small Business server 2000 Setup files…"` window.

    NOTE: You may open the Windows 2000 Configure Your Server wizard at any point in time by clicking **Start | Programs | Administrative Tools | Configure Your Server.**

Section 3. Completing the Installation

Phase 1 – Install the Service Pack

1. How to get a copy of Windows 2000 Service Packs:

   — If your HP server is already connected to the internet, you can download the latest Service Pack from Microsoft website at:
   http://www.microsoft.com/windows2000/downloads/servicepacks/default.asp

— If you have access to a PC connected to the internet and equipped with a CD-RW drive, you may download the latest Service Pack from Microsoft at: http://www.microsoft.com/windows2000/downloads/servicepacks/default.asp then copy the Service Pack on a CD-ROM. It allows you to install the Service Pack from the CD-ROM drive of your HP server.

— You may contact Microsoft Support at (800) 936 5900 or (800) 426 9400 to have a Service Pack CD-ROM shipped to you.

2. To install the Service Pack, logon on your HP server as the "Administrator," then run the Service Pack on your system.

3. If prompted, press **OK** to accept Microsoft 2000 Publisher Certificate.

4. Select "Accept the License Agreement" then click **Install**.

5. When prompted, click **Restart** to reboot your system (remember to remove all diskettes and CD-ROM from their respective drives).

Phase 2 – Install the HP LAN Driver

During the Windows 2000 installation, the OS may not detect the embedded HP network interface card. The following procedure will help you install the driver using the HP Startup CD:

1. Insert the HP Startup CD in your new server. If CD-ROM auto-start is enabled, a menu will display. You may close this menu.

2. Open **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" to display its menu.

4. From the "Ethernet Controller Properties" dialog box, click the **Driver** tab then **Update Driver** to open the Update Device Driver Wizard. Click **Next**.

5. At the prompt "What do you want the wizard to do?," select "Search for a suitable driver for my device" and click **Next**.

6. Deselect the "Floppy disk drive" checkbox to keep only the "CD-ROM" and click **Next**.

7. Wait for the system to find the appropriate driver, and then click **Next**.

8. Click **Finish** once the LAN driver has been loaded.

9. Exit all open windows and restart your computer in order to properly initialize the LAN adapter.

10. After restarting Windows, configure the network settings for the LAN cards in order to connect to your network. Verify connectivity.

Phase 3 – Install Windows 2000 Recovery Console

Please refer to Tip#5 in the Troubleshooting section.

Section 4. Configure the System

Phase 1 – Perform Hardware Status Check

In this section you will run Windows 2000 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 band (!) or question mark (?) symbol next to it.

   — Yellow (!) means that there is a resource issue with the device.

   — Question (?) means that the device is unknown.

   If (!) or (?) symbols are reported then double click on each of the devices with (!) or (?). Use the "Device Status" message for troubleshooting. Or if a printer is available, use the **View**, **Print** from the menu to get a report.

3. Verify if the installed drivers are digitally signed.

   a. In the Device Manager, 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 2000 Publisher`" or "`Microsoft Windows Hardware Compatibility Publisher`." If the driver of the device is not digitally signed we recommend that you check the HP Website www.hp.com to install the latest driver package.

4. Exit the Device manager, System Properties and Control Panel applications.

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

   NOTE: Windows 2000 Event Viewer may have recorded network errors because your network is not configured yet. Please disregard these errors.

6. Exit event viewer.

Phase 2 – Initialize Hard Disk Drive

To manage your 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 available hard disk space on the graphic and use menus to create additional partitions.

4. Exit the Disk Administrator.

5. To complete formatting of new partitions, open My Computer, then right click on the new unformatted partition(s) and select format.

To start the disk administrator use the following procedure.

1. Click **Start | Programs | Administrative Tools | Computer Management**.

2. Double click **Storage | Disk Management** in the tree.

3. The "Write signature and Upgrade" wizard will start if you have new hard drives with no signatures on them. Follow the on-screen instructions to create this signature.

4. Select available hard disk space on the graphic and use menus to create additional partitions.

5. Format all partitions that are not already formatted.

6. Exit the "Computer Management" tool.

   NOTE: 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.

Phase 3 – Adding Terminal Server Services

1. Open **Start | Settings | Control Panel | Add Remove Programs**.

2. Click "Add/Remove Windows Components."

3. Scroll to and click "Terminal Services" checkbox then click Next.

4. Select the mode you want to use: "Remote administration mode" or "Application sever mode" then click Next.

   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 support tools and administrator tools settings.

7. If prompted, insert the Windows 2000 CD-ROM.

8. Click **Finish** to close the Wizard.

9. Click **Yes** to restart the system. (Remove the CD-ROM).

10. After the system reboots, login to the system.

11. Open **Start | Settings | Control Panel | Administrative Tools.** Check that the following services are now available: "Terminal Services Client Creator," "Terminal Services Configuration" and "Terminal Services Manager."

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. Check the number of disks required and label them as "Terminal Services for [..] Disk [x/y]." Click **OK** to proceed.

4. Follow on-screen instructions to perform the diskettes copies.

5. Click **OK** at the screen that reads, "[y] floppies were created….."

6. Click **Cancel** to end the "Create Installation disks" utility.

Install the Client Utility on a Client Workstation

1. Insert diskette 1 in the target client and run

   A:\setup.exe

2. Click **Continue** at the setup screen.

3. Complete the "Name and Organization Information" form. You will be prompted for this information only the first time the diskettes are used. Click **OK** to validate then **OK** again to confirm.

4. Click **I Agree** to accept the license agreement.

5. Click the **Large Icon** to start installation.

6. Select the installation mode you feel appropriate: all users (**Yes**) or current user only (**No**).

7. Insert following diskette(s) when prompted and follow screen instructions.

8. Click **OK** when the installation is completed then shutdown and restart workstation.

Section 5. Configure the Network

Phase 1 – Configure Server 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 HP 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 appropriate *IP address*.

4. Click the **OK** to continue, and then **OK** again to exit the "Local Area Connection Properties" window. Click **Yes** to restart your computer and take these settings into account.

Phase 2 – Attach Clients to Network and Test Network Link

1. Create shares: create a folder on your HP server hard drive then share it (right click **Sharing**).

2. Create users using Windows 2000 Computer Management utility: **Start | Programs | Administrative Tools | Computer Management | System tools | Local Users and Groups | Users**.

3. Connect clients PC 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 Windows 2000 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.

Testing the connection 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 provided on the screen.

3. Click the **Connect** button.

4. Complete the "UserID, Password" login form.

Phase 3 – Domain Controller Setup

The Windows 2000 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 2000 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 2000 to match your environment.

5. Click **Next** at the "Domain Controller Type" to accept the default: "`Domain Controller for a new Domain.`"

6. Click **Next** at the "Create Tree or Child Domain" to accept the default: "`Create a new domain tree.`"

7. Click **Next** at the "Create or Join Forest" to accept the default "`Create a new forest of domain trees.`"

8. At the text box for "Full DNS name for new domain:" 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 "`Domain NetBIOS name:`"

11. Click **Next** to accept the "`Database and Log Locations`" default directories.

12. Click **Next** to accept the default "`Shared System Volume.`"

13. The system will display a dialog box that reads, "`The Wizard can not contact the DNS Server….`" Confirm your DNS configuration, or install and configure a DNS server on this computer. Click **OK**.

14. Click **Next** to accept the installation of DNS on your new server.

15. Click **Next** to accept the default permission value: "Permissions compatible with pre-Windows2000 Server."

16. Enter and confirm the *Administrator password* and click **Next.**

17. Review the "`Summary`" display and click **Next** to continue.

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

19. If prompted, insert Windows 2000 CD-ROM and click **OK** to continue.

20. Configuring active directory display shows again. Click **Finish** to close the Wizard utility. This completes the active directory installation.

21. Click "Restart Now" to reboot the system. Remove the CD-ROM if present.

22. At the login prompt, type in the *password*. Click the **Options** button and verify that the "Log on to: HOST" appears on the dialog box. Click **OK** to start the logon process.

Section 6. Install Additional HP Accessories

The HP server tc2120 Startup CD includes the drivers for the following HP accessories:

- HP 10/100 LAN Adapter
- HP 10/100/1000 LAN Adapter
- HP Adaptec 29160 SCSI Controller
- HP Surestore DAT24i
- Promise IDE RAID PCI
- Compaq 2100S SCSI RAID Controller
- HP Modem v92 56k PCI

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

Troubleshooting

This section will help you resolve some of the most common installation problems associated with Windows 2000.

Tip #1. Windows 2000 Installation Halts about Three Minutes after Starting to Boot from CD-ROM

When installing Windows 2000 on any X86 system with more than one hard drive it is possible to experience the following error:

```
Setup has encountered an error and cannot continue.
Contact technical support for assistance. The following
status codes will assist them in diagnosing the problem.
(0x4, 0x1, 0x0, 0x0)
```

The cause of this problem is that the NTLOADER is encountering a duplicate hard drive signature. This signature is calculated by the NTLOADER code after reading a specific sector offset from the hard drive. The following list provides some of the things that can cause a hard drive to have duplicate signatures:

1. Low-level formatting the drives. We reproduced this on several systems at HP.

2. When you have a set of drives previously used with a DAC and move them to a SCSI adapter.

3. Using a disk imaging utility to duplicate a hard drive will create a duplicate signature.

At this time, Microsoft has no fix for this problem. For more information please refer to Microsoft document ID: Q226361.

HP recommends that you use the following workaround for this problem.

1. If you experience this problem, remove all drives with the exception of the target boot drive. Install Windows 2000 and then add the removed hard drives to the system after installation of the OS.

2. Run the **Disk Management** tool to prepare the remainder of the drives to be used in the system.

   a. Boot the system with a Windows 98SE recovery diskette. (This version supports FAT32, which works on larger hard drives.)

   b. Perform an **FDISK** on each drive.

   c. Install Windows 2000.

Tip #2. Configure the Parallel (LPT) Port for ECP Mode

The device manager may not show this port on the list when not configured in ECP mode.

HP recommends that you systematically configure the LPT port for ECP mode. Use the following procedure to change the setting:

1. Press **F10** during power on self-test.

2. Select **Advanced | I/O Device Configuration | Parallel Port Mode**.

3. Press **Enter** and select "ECP."

4. Press **Esc Esc Enter** and select **yes** to confirm to save and exit.

Tip #3. Windows 2000 Drivers Signatures

Windows 2000 checks for digital signatures on driver files to help maintain system integrity. During the installation or update of a driver, if there is no matching signature file Windows 2000 displays a "Digital Signature not Found" box.

- To expedite release of new products, HP may ship drivers without signature files. All Windows 2000 drivers provided by Hewlett-Packard are submitted to Microsoft for certification testing. Upon completion of testing, Microsoft produces signature files. HP then posts the revised driver package at http://www.hp.com.

- If a signature warning is displayed during installation of a driver, you may override the warning. We recommend that you check the HP Website for the latest driver package. If available, install the new driver.

- You can elect to have Windows 2000 ignore signatures: **Open Start | Settings | Control Panel | System | Hardware | Driver Signing**. This is helpful if you are setting up multiple systems.

- Digital signatures are a powerful way to ensure system integrity as you add drivers to your systems - whether provided by HP or others.

Tip #4. Windows 2000 Recovery Options

In the event that the current installation of Windows 2000 fails to boot (this might happen after installing a new driver, component, software, etc), Windows 2000 provides the following recovery options to help you gain access to your Windows 2000 installation to replace damaged files and services for troubleshooting purpose. HP therefore recommends that you install the **Recovery Console** (see option 3 below) to enhance the system configuration.

Recovery option #1: Last known good configuration

- Activated by pressing **F8** during the system process of Windows 2000 and selecting "Last Known Good Configuration" from the menu.

- This boot mode is used in the case that the system fails to boot after installing a new software or driver. The system will use the previous registry setting to initialize and boot the system.

Recovery option #2: Safe Mode Boot

Activated by pressing **F8** during the OS boot. It provides a minimal configuration with required drivers and services. The safe mode boot provides three options:

1. **Standard safe mode boot**. Provides no network services or drivers.

2. **Networking disabled**. Excludes network services and drivers.

3. **Directory services restore mode**. Brings system up with directory services disabled with the intent of recovering active directory. Safe mode boot is guided by the registry key hklm\CurrentControlSet\Control\SafeBoot with the use of the Minimal and Network subkeys. The IOManager and Service Control Manager look at the registry to load the driver and services. Such approach avoids loading a problematic driver or service.

4. **Command prompt**. Provides an alternate command shell CMD.EXE instead of the explorer. This is dictated by the registry key:

   hklm\system\CurrentControlSet\Control\SafeBoot\AlternateShell

There is a Safe-Mode boot loophole. Since NTLDR loads "Boot Load" drivers, these drivers bypass the IO Manager's Safe Mode check.

Recovery option #3: Recovery Console (RC) Boot

The Recovery Console (RC) can be used when safe boot fails. You can enter RC:

- Either by booting from Windows 2000 CD-ROM

- Or by installing the RC boot on your system.

It is recommended to install the RC immediately after installing Windows 2000.

Start RC Booting from Windows 2000 CD-ROM

If you have a need of booting the Windows 2000 recovery console but this feature is not installed on the system, use the following procedure to boot the RC from the Windows 2000 CD-ROM.

1. Insert the Windows 2000 CD-ROM and start the reboot sequence.

2. Press any key when prompted to start booting from the Windows 2000 CD-ROM.

3. Press **F10** at the `Welcome to Setup` screen.

   NOTE: This is an undocumented option. The bottom of the display is asking you to press **Enter, R,** or **F3.**

4. The system will display a menu asking to select the instance of the NOS you want to boot. For example:

   1: C:\WINNT

5. Type **1** then **Enter**.

6. Type the ***administrator password*** when prompted.

7. At the command prompt type **help** and proceed to achieve your objective.

8. Type **exit** when done troubleshooting.

Installing RC

1. Insert Windows 2000 CD-ROM. If CD-ROM auto-start is enabled, click **exit** to close the applet.

2. Open a command prompt, and type **D:\I386\WINNT32 /CMDCONS** (Where D: is the CD-ROM drive letter)

3. Follow the screen instructions to complete the RC installation.

Booting RC

1. Shutdown and Restart system.

2. Select "Windows 2000, Recovery Console" from the boot menu.

3. The system will display a menu asking to select the instance of the NOS you want to boot. For example it displays:

   1: C:\WINNT

4. Type **1** then **Enter**.

5. Type the ***administrator password*** when prompted.

6. At the command prompt type **help** and proceed to achieve your objective.

7. Type **exit** when done troubleshooting.

   NOTE: The file access security can prevent you from getting to certain files.

Tip #5. Restarting Windows 2000 installation

If you want to restart the Windows 2000 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: http://www.hp.com

- Microsoft World Wide Web access: http://www.microsoft.com

- Microsoft Product Support Services: http://support.microsoft.com/directory

- Windows NT Automated Database: Advanced Systems at (800) 936-4400

- Microsoft Software BBS: 206-936-6735 (14,400 bps)

Installing Microsoft Windows Server 2003

Prepare the Installation

Please refer to the Chapter 1 "Preparing the HP Server tc2120 for NOS Installation tc2120 for your NOS installation" for our recommendations on server preparation, then gather the following materials:

- HP Server tc2120 Startup CD

- Microsoft Windows Server 2003 CD-ROM

- Up to three blank, formatted 3.5-inch diskettes

- Two or more clients for testing purpose (optional)

NOTE: Disable SCSI Support before using ATA RAID Controller if present. Due to system resource limitations, the Promise FastTrak100 TX2 IDE RAID controller is not compatible with systems having SCSI capabilities. (The ATA and SCSI functionality cannot operate simultaneously). You must disable SCSI support in Setup before you can use the RAID controller.

To disable SCSI support, follow these steps:

1. Remove any installed SCSI HBA cards from the PCI slots.

2. Install the ATA RAID controller into PCI slot 1 and connect the IDE drives.

3. Turn on the system.

4. Press **F10** to enter Setup.

5. Select **Boot** from the menu.

6. Select **Boot Device Priority**.

7. Select **SCSI Hard Drive** and press **Enter**.

8. Select **Promise Fast Track Raid Controller \ HDD 0** and press **Enter.**

9. Press **F6** to Save and Exit. Your system is now ready to use the ATA RAID controller, but SCSI devices will not be functional.

10. On boot, press **Crtl-F** to enter the IDE RAID Configuration Utility and configure the IDE array as usual. Please refer to the Fast Track 100 Reference guide off of http://www.promise.com/ for additional information on array configuration.

High Level Process Flow

- Perform Windows Server 2003 Server installation

- Completing the installation (HP drivers, Recovery Console)

- Configure the system

- Configure the network

- Additional HP accessories

Section 1. Create the Drivers Diskettes

1. Insert a blank, formatted 3.5" diskette into a the floppy drive of a PC running Microsoft Windows.

2. Insert your HP Startup CD into the PC's CD-ROM drive and follow the on-screen instructions to create the appropriate Windows Server 2003 drivers diskette.

   NOTE: If the Windows PC does not auto-start the Startup menu, start it by opening Startup.htm, found at the root level of the Startup CD.

Section 2. Perform Windows Server 2003 Installation

1. Boot your new server from the Windows Server 2003 CD-ROM.

2. You will see a message that reads, "`Setup is inspecting your hardware configuration.`" The setup screen will be displayed.

3. The system will briefly show at the bottom of the display "`Press F6 if you need to install a third party SCSI or RAID controller.`"

   NOTE: Unfortunately, the Windows Server 2003 setup only gives you a very short time to press F6. If you missed it, you will need to reboot your system and resume from step 1, above.

4. If you are installing to the Promise FastTrak100 TX2 IDE RAID card do the following, if not skip to step 5:

   a. Press **S** to specify additional IDE adapters.

   b. When prompted, insert the Promise IDE RAID driver diskette you created from the tc2120 startup CD.

   c. Press **Enter** to continue.

   d. Select the Promise FastTrack100 TX2™ Controller adapter, and then press **Enter.**

5. If you are installing the Adaptec SCSI RAID 2100S card do the following, if not skip to step 6:

   a. Press **S** to specify additional adapters.

   b. When prompted, insert the SCSI RAID driver diskette you created from the tc2120 startup CD.

   c. Press **Enter** to continue.

   d. Select the Adaptec I2O RAID Host Adapters, and then press **Enter**.

6. If you are installing to the Adaptec 29160 PCI card do the following, if not skip to step 7:

   a. Press **S** to specify additional adapters.

   b. When prompted, insert the AHA 29160 driver diskette you created from the tc2120 startup CD.

   c. Press **Enter** to continue.

   d. Select the Adaptec Ultra160 Family PCI SCSI Controller, and then press **Enter**.

7. Press **Enter** to continue at the "Windows Server 2003 Setup - Welcome to Setup" Screen.

8. Press **F8** to accept the licensing agreement.

9. At the drives partitioning screen, select the target drive. If you want to use the entire drive to install Windows Server 2003 then press **Enter**. Otherwise, press **C** to create a partition. In this example we will create a 4GB partition.

     a. Press **C** to create a partition.

     b. At the "Create partition size" prompt, type **4096** and press **Enter**.

     c. HP recommends that you create all the partitions needed for each hard drive present on your system. Select unpartitioned space and press **C** again to create additional partitions.

10. Select the target drive to be used to install Windows Server 2003. Press **Enter**.

11. Select "`Format the partition using the NTFS file system`" and press **Enter**.

12. The installer will format and copy files to the hard drive.

13. The system will reboot and launch the Windows Server 2003 graphical interface. Be sure to remove any driver diskette before the system reboots.

14. 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. Please refer to Microsoft Server 2003 manuals should you need further details on the network settings.

15. The "Installing Windows" screen starts with a progress bar. It may take up to 20 minutes to complete this section.

16. The wizard will then automatically start the "Finalizing installation" section to complete the install. This step in the installation may take some time as well.

    NOTE: There may be a period of time with no apparent activity at the "Saving Settings" prompt. Please be patient.

17. After the installation is complete, the system will automatically reboot from the hard drive.

18. Follow the on screen instructions to logon (press **Ctrl-Alt-Del**) as *Administrator*.

19. The initial logon will automatically launch the "Manage Your Server" screen. Close this window, as we will postpone the customization of your server until completion of all the installation steps.

Section 3. Completing the Installation

Phase 1 – Install HP Supported Driver(s)

During the Windows Server 2003 installation, the OS may not install the most current HP supported drivers. The following procedure will help you to install/update the driver(s) using the HP Startup CD.

Example: Installing the Promise FastTrak100 TX2 IDE RAID Driver

1. Insert the HP tc2120 Startup CD in your new server. If CD-ROM auto-start is enabled, a menu will display. You may close this menu.

2. Open **Start | Control Panel | System | Hardware | Device Manager**.

3. Open the yellow question marked "Other Devices" tree and double-click on the appropriate "RAID Controller" to display its menu.

4. From the "RAID Controller Properties" dialog box, click the **Driver** tab then **Update Driver** to open the Update Device Driver Wizard. Click **Next**.

5. At the prompt "What do you want the wizard to do?" select "Install the software automatically," and click **Next**.

6. Wait for the system to find the appropriate driver, and then click **Next**.

7. Click **Finish** once the IDE RAID driver has been loaded.

8. Exit all open windows and restart your computer in order to properly initialize the RAID adapter, if necessary.

9. After restarting Windows .NET, configure the IDE RAID Hard Drives. (See Section 4, Phase 2 - Initialize Hard Disk Drive).

Example: Installing the Embedded Compaq NC7760 Gigabit Server Adapter Driver

1. Insert one blank, formatted 3.5" diskette into a workstation's floppy drive.

2. Insert the HP tc2120 Startup CD in your new server to create the Windows Server 2003 drivers diskette for the embedded Compaq NC7760 Gigabit Server adapter. If CD-ROM auto-start is enabled, a menu will display and follow the on-screen instructions to create the Windows Server 2003 embedded NIC drivers diskette.

3. After creating the drivers diskette, remove the HP tc2120 Startup CD.

4. Open **Start | Control Panel | System | Hardware | Device Manager**.

5. Open the "Network Adapters" tree and double click on the "BCM5703 Gigabit Ethernet Adapter" to display its menu.

6. From the "BCm5703 Gigabit Ethernet Properties" dialog box, click the **Driver** tab then **Update Driver** to open the Update Device Driver Wizard. Click **Next**.

7. Select to "Install from a list or specific location (advanced)." Click **Next**.

8. Select "Don't Search. I will choose the driver to install." Click **Next**.

9. Click on **Have Disk**.

10. Ensure **A:** is listed in the text box. Click **OK**.

11. Select **Open** to open the .inf file.

12. The Compaq NC7760 Gigabit Server Adapter should be detected, click **Next**.

    NOTE: If a message displays, stating that this driver has not passed the Windows logo-testing, click **continue anyway.**

Phase 2 – Install Windows Server 2003 Recovery Console

Refer to Tip#2 in the "Troubleshooting" section.

Section 4. Configure the System

Phase 1 – Perform Hardware Status Check

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

1. Open **Start | Control Panel | System | Hardware | Device Manager**. Verify that no devices have either a yellow band (!) or question mark (?) symbol next to it.

    — Yellow (!) means that there is a resource issue with the device.

    — Question (?) means that the device is unknown.

    If (!) or (?) symbols are reported then double click on each of the devices with (!) or (?). Use the "Device Status" message for troubleshooting. Or if a printer is available, use the View, Print from the menu to get a report.

2. Verify if the installed drivers are digitally signed.

    a. In the Device Manager, 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 not digitally signed, it will be indicated by the signer. If the driver of the device is not digitally signed we recommend that you check the HP Website www.hp.com to install the latest driver package for that device.

3. Exit the Device manager, System Properties and Control Panel applications.

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

    NOTE: Windows Server 2003 Event Viewer may have recorded network errors because your network is not configured yet. Disregard these errors.

5. Exit event viewer.

Phase 2 – Initialize Hard Disk Drive

> **NOTE:** There are two types of hard drive configurations: 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 your different drives and partitions:

1. Click **Start | All Programs | Administrative Tools | Computer Management | Disk Management**.

2. The Write signature and Upgrade wizard will start if you have new hard drives with no signatures on them. Follow the on-screen instructions to create this signature.

3. Click **OK** to proceed when notified you have a new hard disk to configure.

4. Right-click to select available hard disk space and use the New Partition wizard to create and format the additional partitions, if desired.

5. Exit the "Computer Management" tool.

Section 5. Configure the Network

Phase 1 – Configure Server 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. Click **Start | Control Panel | Network Connections | Local Area Connection** on your HP 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.

Phase 2 – Attach Clients to Network and Test Network Link

1. Create shares: create a folder on your HP server hard drive then share it (right click **Sharing**).

2. Create users using the Windows Server 2003 Computer Management utility: **Start | Programs | Administrative Tools | Computer Management | System tools | Local Users and Groups | Users**.

3. Connect clients PC 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:

   a. From one of the clients, open a command prompt and type:

   ```
   ping computername
   ```

   where *computername* is the server name you entered during the Windows 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
   ```

   Where `other_client_Ipaddress` is the IP address of another client pc on this network.

   You should get four replies from the second client.

   b. Copy files back and forth from the clients to the server.

Phase 3 – Domain Controller Setup

In order to promote your server to a domain controller, proceed with the following:

1. Click **Start | Administrative Tools | Manage Your Server** to open the "Manage Your Server" window.

2. Select "**Add or remove a role.**"

3. Windows will advise you of preliminary steps to take before proceeding with Server configuration.

4. Click **Next** to continue.

5. From the "Server Role" menu select "Domain Controller (Active Directory). Click "Next" to continue.

6. At the "Summary of Selections" screen, click "Next" to continue onto the "Active Directory Installation Wizard." Click "Next" to begin.

7. Click Next at the "Operating Systems Compatibility."

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

8. Click **Next** at the "**Domain Controller Type**" screen to accept the default: "Domain Controller for a new Domain."

9. Click **Next** at the "**Create a New Domain**" screen to accept the default: "Domain in a new forest."

10. If the current network does not contain a DNS server, choose "No, just install and configure DNS on this computer," click **Next** to continue.

11. At the text box for "Full DNS name for new domain:" type in the assigned DNS name for your server (for example: **mycompany.com**).

12. Click **Next**. The system may take a few minutes before moving to the next screen.

13. Click **Next** at the "NetBIOS Domain Name" dialog box to accept the default "Domain NetBIOS name:"

14. Click **Next** to accept the "`Database and Log Locations`" default directories.

15. Click **Next** to accept the default "`Shared System Volume`."

16. Click **Next** to accept the default permissions: "Permissions compatible only with Windows 2000 or Windows Server 2003 operating systems."

17. Enter and confirm the *Administrator password* and click **Next.**

18. Review the "`Summary`" display and click **Next** to continue.

19. The system will start configuring the active directory and DNS services, if chosen. It will take a few minutes to complete.

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

21. Configuring active directory display shows again. Click **Finish** to close the Wizard utility. This completes the active directory installation.

22. Click "`Restart Now`" to reboot the system. Remove the CD-ROM if present.

23. At the login prompt, type in the *password*. Click the **Options** button and verify that the "Log on to: HOST" appears on the dialog box. Click **OK** to start the logon process.

24. "`This Server is Now a Domain Controller`" dialog box will appear after the login, click **Finish** to close.

Section 6. Install Additional HP Accessories

The HP server tc2120 supports the following HP accessories:

- NC3123 Fast Ethernet NIC PCI 10/100

- NC7131 Gigabit server Adapter PCI 1000

- HP Adaptec 29160 SCSI Controller

- HP Adaptec 29160i SCSI Controller

- HP Surestore DAT24i

- Promise FastTrak100 TX2 IDE RAID PCI

- Compaq 2100S SCSI RAID Controller

- HP Modem v92 56k PCI

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

Troubleshooting

This section will help you resolve some of the most common installation problems associated with Windows Server 2003.

Tip #1. Windows Server 2003 Drivers Signatures

Windows checks for digital signatures on driver files to help maintain system integrity. During the installation or update of a driver, if there is no matching signature file Windows displays a dialog box advising that the driver has not passed "Windows Logo Testing," the user then has the option to "Continue anyway" or "Stop Installation."

- To expedite release of new products, HP may ship drivers without signature files. All Windows drivers provided by Hewlett-Packard are submitted to Microsoft for certification testing. Upon completion of testing, Microsoft produces signature files. HP then posts the revised driver package at http://www.hp.com/.

- If a signature warning is displayed during installation of a driver, you may override the warning. We recommend that you check the HP Website for the latest driver package. If available, install the new driver.

- You can elect to have Windows ignore signatures: Click **Start | Control Panel | System | Hardware | Driver Signing**. This is helpful if you are setting up multiple systems.

- Digital signatures are a powerful way to ensure system integrity as you add drivers to your systems - whether provided by HP or others.

Tip #2. Windows Server 2003 Recovery Options

In the event that the current installation of Windows Server 2003 fails to boot (this might happen after installing a new driver, component, software, etc), Windows provides the following recovery options to help you gain access to your Windows installation to replace damaged files and services for troubleshooting purposes. HP therefore recommends that you install the **Recovery Console** (see option 3 below) to enhance the system configuration.

Recovery option #1: Last known good configuration

- Activated by pressing **F8** during the system startup process of Windows Server 2003 and selecting `"Last Known Good Configuration"` from the menu.

- This boot mode is used in the case that the system fails to boot after installing a new software or driver. The system will use the previous registry setting to initialize and boot the system.

Recovery option #2: Safe Mode Boot

Activated by pressing **F8** during the OS boot. It provides a minimal configuration with required drivers and services. The safe mode boot provides these options:

1. **Safe Mode**. Windows only loads required files and drivers (i.e. Mouse, keyboard, base video, etc.) Excludes network services.

2. **Safe Mode with Networking**. Safe Mode that includes basic network services and drivers.

3. **Safe Mode with Command prompt**. Same as Safe Mode except that a command prompt is started replacing the default user interface.

4. **Enable Boot Logging**. This option outputs the loading of drivers and services by the system to a file. The file (ntbtlog.txt) can be located in the %systemroot% directory. This logfile can further assist in determining the exact cause of system startup problems.

5. **Directory Services Restore Mode**. This option is used to assist in restoring the SYSVOL directory and the Active Directory services on a Domain Controller.

Recovery option #3: Recovery Console (RC) Boot

The Recovery Console (RC) can be used when safe boot fails. You can enter RC:

- Either by booting from Windows Server 2003 CD-ROM

- Or by installing the RC boot on your system.

It is recommended to install the RC immediately after installing Windows Server 2003.

Start RC Booting from Windows Server 2003 CD-ROM

If you ever need to boot the Windows Server 2003 recovery console but this feature is not installed on the system, use the following procedure to boot the RC from the Windows Server 2003 CD-ROM.

1. Insert the Windows Server 2003 CD-ROM and start the reboot sequence.

2. Press any key when prompted to start booting from the Windows Server 2003 CD-ROM.

3. Press **F10** at the Welcome to Setup screen.

   NOTE: This is an undocumented option. The bottom of the display will ask you to press **Enter, R,** or **F3.**

4. The system will display a menu asking to select the instance of the NOS you want to boot. For example:

   1: C:\WINNT

5. Type **1** then **Enter**.

6. Type the *administrator password* when prompted.

7. At the command prompt type **help** and proceed to achieve your objective.

8. Type **exit** when done troubleshooting.

Installing RC

1. Insert the Windows Server 2003 CD-ROM. If CD-ROM auto-start is enabled, click **exit** to close the applet.

2. Open a command prompt, and type **D:\I386\WINNT32 /CMDCONS** (Where D: is the CD-ROM drive letter)

3. Follow the screen instructions to complete the RC installation.

Booting RC

1. Shutdown and Restart the system.

2. Select "Microsoft Windows Recovery Console" from the boot menu.

3. The system will display a menu asking to select the instance of the NOS you want to boot. For example it displays:

   1: C:\WINNT

4. Type **1** then **Enter**.

5. Type the **administrator password** when prompted.

6. At the command prompt type **help** and proceed to achieve your objective.

7. Type **exit** when done troubleshooting.

   NOTE: The file access security can prevent you from getting to certain files.

Recovery option #4: ASR (Automated System Recovery)

ASR provides a backup of all of the necessary system state data, system services and disks associated with the operating system components. Use ASR as a last resort option, only after the previous mentioned Recovery options have been exhausted.

ASR is a recovery system that contains two parts: **ASR backup** and **ASR restore**.

ASR Backup can be accessed through the Automated System Recovery Preparation Wizard located in Backup. To access Backup, click **Start | All Programs | Accessories | System Tools | Backup**. Follow the onscreen dialog windows to create the ASR set.

ASR Restore mode:

1. Boot from the Windows Server 2003 CD-ROM.

2. When prompted during the text mode portion of setup, press **F2** to initiate Automated System Recovery.

3. Insert the diskette "Windows Automated System Recovery Disk" created from the ASR Backup.

4. Follow the onscreen instructions to complete the system recovery.

Additional information regarding Automated System Recovery and the other Windows Server 2003 Recovery options discussed previously can be found within the Help and Support Center of Windows Server 2003. To access: click **Start** | **Help and Support.**

Tip #3. Restarting Windows Server 2003 installation

If you want to restart the Windows Server 2003 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: http://www.hp.com/

- Microsoft World Wide Web access: http://www.microsoft.com/

- Microsoft Product Support Services: http://support.microsoft.com/directory

- Windows NT Automated Database: Advanced Systems at (800) 936-4400

- Microsoft Software BBS: 206-936-6735 (14,400 bps)

Installing Novel NetWare 5.1

Prepare the Installation

Please refer to the Chapter 1 "Preparing the HP Server tc2120 for NOS Installation" for our recommendations on the server preparation. Then gather the following material:

- HP Server tc2120 Startup CD

- Novell NetWare 5.1 CD-ROM and latest Support Pack CD-ROM

- NetWare 5.1 licensing/cryptographic diskette

- Two or more clients for testing purpose (optional)

- Three blank diskettes for patch and driver installation

High Level Process Flow

1. Create the drivers diskette using the hp Startup CD.

2. Perform NetWare installation.

3. Install the Support Pack.

4. Install additional HP accessories.

Section 1. Create the Drivers Diskettes

1. Prepare to insert three blank, formatted 3.5-in diskettes.

2. Insert your HP Startup CD in a Microsoft Windows PC and follow the on-screen instructions to create the HP Server tc2120 NetWare SCSI drivers (HP disk NW SCSI).

   NOTE: If the Windows PC does not autorun the Startup menu, run Startup.htm, found at the root level of the Startup CD.

3. Create the second diskette for LAN drivers (HP disk NW LAN).

4. Create the third diskette for Novell 5.1 patch (HP disk NW patch). Choose the correct link for your OS language version:

— For an English-only version, click **hp server tc2120 NetWare 5.1 (English only version) processor patch**.

— For multi-languages or other languages than the English version, click **hp server tc2120 NetWare 5.1 (Non English only version) processor patch**.

IMPORTANT: This Intel® Pentium® 4/Celeron Processor patch must be used when installing the NetWare 5.1 operating system. HP also recommends checking the Novell website for the latest patch information.

Section 2. Perform NetWare 5.1 Installation

The installation of NetWare 5.1 contains several phases:

- Phase 1 – Start the Installation
- Phase 2 – Install HP Drivers
- Phase 2 – Configure the Network

Phase 1 – Start the Installation

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.

For NetWare 5.1 (Installing Pentium 4/Celeron Patch)

1. Boot your HP Server on 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 computer restarts and boots on 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: /X /S
```

— 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` (created with the Startup-CD) and enter:

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

6. Remove the diskette and insert the NW 5.1 CDROM in the drive, then reboot the server.

7. After bootup, when Netware brings you to the initial setup screen, press **Alt + F10** to exit to the command line.

8. At the command line, enter the following lines:

```
DOWN
Z:
INSTALL -lic -bootcd
```

9. Select the Appropriate Language, if prompted.

10. Press **F10** to Accept the License Agreement.

11. Press **Enter** to setup **a new server**, then scroll down to be sure that **Continue** is highlighted.

12. Press **Enter** to continue.

13. Modify or accept the server settings, the regional settings, and the mouse and video configuration.

Phase 2 – Install HP Drivers

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

2. Do one of the following:

   — If you have an IDE system, press **Enter** to continue and then proceed with to step 4.

   — 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). Proceed with step 3.

3. To install the HP SCSI driver:

   a. Scroll down, select **Modify**, and press **Enter**.

   b. Scroll down, 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.

   NOTE: Do not remove the IDEATA driver. It is used by the CD-ROM drive.

   d. Insert HP disk NW SCSI (created with the Startup CD) in the floppy drive.

   e. Press **Insert** to add a driver, and then press **Insert** again to add an unlisted driver.

   f. Press **F3** and specify the path: **A:** then press **Enter**.

   g. 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.

   h. Scroll down and select **Return to driver summary**.

   i. Scroll down and select **Continue**.

4. The next **Driver names** summary screen displays storage and network devices. You need to manually install the HP LAN driver:

   a. Scroll down to chose **Modify** and press **Enter**.

   b. Scroll down to highlight **Network boards** and press **Enter**.

   c. Insert the HP disk NW LAN (created with the Startup CD) in the floppy drive.

   d. Press **Insert** to add a driver, and then press **Insert** again to add an unlisted driver.

   e. Press **F3** and specify the path: **A:** then press **Enter**.

   f. The installation program scans the floppy drive and then automatically adds the HP LAN driver to the driver list.

   g. Scroll down and select **Return to driver summary**.

   h. Scroll down and keep **Continue** highlighted.

   i. Press **Enter** to continue.

5. The installation program displays the partitioning properties. HP recommends keeping the default value by selecting **Continue**.

6. Wait as the system performs the installation according to your settings.

Phase 3 – Configure the Network

1. The installation proceeds under a graphical interface. Follow the on-screen instructions to configure your network: server name, IP address, Host name and domain, etc.

   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. Please refer to Novell NetWare manuals, should you need further details on the networking setup fields.

2. Insert and browse the NetWare 5.1 licensing/cryptographic diskette when prompted.

3. When prompted, click **Yes** to reboot your system (remember to remove all diskettes and CD-ROM from their respective drives).

4. The system loads the NetWare GUI (Graphic User Interface).

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 intalling NW5.1 Support Pack 3 or above. (See "Section 4. Install the Support Pack."

Section 3. Install the Support Pack

1. You can get a latest copy of NetWare Consolidated Support Pack (CSP) from NetWare Website at http://support.novell.com/tools/csp/.

2. 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.

3. HP recommends you use NW 5.1 Support Pack 3 or above, which is also included in the Novell Consolidated Support Pack 5 or above version.

4. Close the GUI.

   NOTE: If your GUI is not loaded properly, press **Ctrl** plus **Esc** key simultaneously. A selection screen should come up, and select "system console."

5. Insert the NW 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**, NetWare Configuration Tool 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:\NW51SPx:**, where SSP8_CD1 is the Volume name from step 5 above and x = version of support pack).

12. Press **F10** to accept the default installation options.

> **NOTE:** If you want to be able to uninstall the Suport Pack later, you must select the option to back up files.

13. Read NetWare warnings (recommends avoiding installation during peak hours) and follow on screen instructions.

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

Section 4. Install Additional HP Accessories

The hp server tc2120 Startup CD includes the drivers for the following HP accessories:

- HP 10/100 LAN Adapter

- HP 10/100/1000 LAN Adapter

- HP Adaptec 29160 SCSI Controller

- HP Surestore DAT24i

- Promise IDE RAID PCI

- Compaq 2100S SCSI RAID Controller

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

Troubleshooting

Tip #1. Restarting 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: http://www.hp.com

- Novell World Wide Web access: http://www.novell.com

- Novell Networking BBS: 801-429-3308 (9,600 baud)

Installing Novell NetWare 6.0

Prepare the Installation

Please refer to the Chapter 1 "Preparing the HP Server tc2120 for NOS Installation" for our recommendations on server preparation. Then gather the following materials:

- HP Server tc2120 Startup CD

- Novell NetWare 6.0 CD-ROM

- Novell NetWare 6.0 licensing/cryptographic diskette

- Two or more clients for testing purpose (Optional)

- One diskette for driver installation

High Level Process Flow

1. Run HP DiagTools (optional – diagnostics)
2. Create the drivers diskette using the hp Startup CD.
3. Perform NetWare installation.
4. Install additional HP accessories.

Section 1. Run HP DiagTools (Optional)

To perform HP DiagTools hardware diagnostic on your HP Server tc2120, switch off your HP server then reboot with the Startup CD and follow the on-screen instructions. View and save the hardware inventory after the test.

Section 2. Create the Drivers Diskettes

1. Locate one blank, formatted 3.5" diskette.

2. Insert your HP Startup CD in a Windows PC and follow the on-screen instructions to create the HP Server tc2120 NetWare SCSI drivers (HP disk NW SCSI).

   NOTE: If the Windows PC does not auto-start the Startup menu, start it by opening Startup.htm, found at the root level of the Startup CD.

Section 3. Perform NetWare 6.0 Installation

The installation of NetWare 6.0 or SBS 6.0 contains several phases:

- Phase 1 – Start the Installation

- Phase 2 – Install HP Drivers

- Phase 3 – Configure the Network

- Phase 4 – Install the Support Pack

Phase 1 – Start the Installation

NOTE: If your hard drive contains data or is not new, HP recommends using a utility such as fsidk to erase all data and partitions from your hard drive.

For NetWare 6.0

1. Insert the Novell NetWare 6.0 CD-ROM and boot the system.

2. Press **Enter** to read the license agreement then press **Esc**, and select "Accept License Agreement."

3. Press **Enter** to "Create a New Boot Partition."

4. Depending on the size of the booting storage device and available memory of the server, the installation program will recommend an appropriate boot partition size. HP recommends a 1000-MB boot partition. Choose **continue** to proceed.

5. If you accept erasing all data on your disk, select **Continue**. Then **press any key** for your system to create the partition, reboot, and format that partition.

6. Press **F10** to "Accept License Agreement."

   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.

7. Change the prompt from Express to Custom, and keep the default New server option; scroll down and choose **Continue**.

8. Review the Server Settings. If you do not want the "SERVER" to automatically load after reboot, Modify the Load Server at reboot parameter to NO.

9. Go to the "Server SET Parameters" and Choose Edit. A window will pop-up and the following should be added:
   i. SET MINIMUM PACKET RECEIVE BUFFERS=2500
   ii. SET MAXIMUM PACKET RECEIVE BUFFERS=12500

10. Press Esc, save the changes.

11. Scroll down to select Continue.

12. Review the regional settings and modify if necessary.

13. Review the mouse and video settings and modify if necessary.

14. Wait a few minutes while system files are copied from the CD-ROM.

Phase 2 – Install HP Drivers

1. The installation program then detects your hardware and attempts to match the drivers to the hardware.

2. If you have an IDE only system, press Enter to continue. If you have another hardware controller, you need to install the appropriate drivers:

   a. Scroll down to **Modify** and press **Enter**.

   b. Scroll down to highlight the "Storage Adapters" item and press **Enter**.

   c. The installation program displays the drivers detected. Press **Delete** to remove the default SCSI driver. The only remaining driver should be the IDEATA.HAM driver.

NOTE: Do not remove the IDEATA driver, because it is used by the CD-ROM drive.

    d.   Insert HP driver diskette (created with the Startup CD) in the floppy drive for the appropriate controller you choose to use.

IMPORTANT: If you have a 29160 and a Promise FastTrak in the system, you must load the Promise driver first. Then, load the driver for the 29160.

    e.   Press **Insert** to add a driver and then **Insert** again to add an unlisted driver.

    f.   Press **F3** and specify the path: `A:` then press **Enter**.

    g.   The installation program scans the floppy drive and automatically adds the HP SCSI driver to the driver list.

    h.   If you have more controllers to install drivers for, repeat substeps e through g.

    i.   Scroll down and select `Return to driver summary.`

    j.   Scroll down and select **Continue**.

3. The next `Driver names` summary screen displays storage and network devices.

    a.   Scroll down to choose **Modify** and press **Enter**.

    b.   Scroll down to highlight the *"Network boards"* item and press **Enter**.

    c.   The installation program displays the drivers detected. You can press **Delete** to remove the default network driver, if present.

    d.   Insert the HP driver diskette (created with the Startup CD) in the floppy drive for the appropriate card you choose to use.

    e.   Press **Insert** to add a driver, and then **Insert** again to add an unlisted driver.

    f.   Press **F3** and specify the path: `A:` then press **Enter**.

    g.   The installation program scansthe floppy drive and then automatically adds the HP driver to the driver list.

    h.   Scroll down and select *"Return to driver summary."*

    i.   Scroll down and select **Continue**.

4. Wait while the system loads the new drivers.

5. Review the Volume SYS and Partition Properties Screen. Select **Modify** if any changes are necessary, and press the **F10** key to save any changes.

6. Select **Continue** after all changes have been applied.

7. Wait a few minutes while system files are copied and the NetWare GUI is started.

Phase 3 – Configure the Network

The installation proceeds under a graphical interface.

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

1. Enter the server name.

2. Insert the NetWare licensing/cryptographic diskette when prompted and then click **Next**.

3. Select Free Space and click **create**. Type in a Volume name and select a Volume Type for the first the partition. Click **OK**. Click **Next** to proceed.

4. Choose YES, if necessary to mount all volumes when server reboots. Click **Next** to proceed.

5. Setup your IP or IPX protocols to match your network environment.

   NOTE: NetWare 6.0 does not proceed if you do not set up an IP address for at least one of your system network devices (embedded LAN or added PCI card).

6. You may then configure the Domain Name Service. Click **Next** to proceed.

7. Select your time zone then click **Next**.

8. Select whether to create a New NDS Tree or use an Existing NDS Tree, and click **Next**.

9. To create a New NDS Tree, enter the Tree Name, the Context for Server Object, and the administrator password and click **Next**.

10. Click **Next** to validate the NDS summary.

11. Click **`Next`** at the `Licenses` window to install the license previously detected.

12. If you wish to install other items or products, do so here and click **Next**.

13. Click **Next** at the `Novell Certificate Server 2.21 Objects` window to proceed.

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

14. Review `Summary` and click **Finish**.

15. When prompted, remember to remove all diskettes and CD-ROMs from their respective drives, click **Yes** to reboot your system.

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

Section 4. Install the Support Pack

You can get a latest copy of NetWare Consolidated Support Pack (CSP) from the 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.

HP recommends you use NW 6 Support Pack 3 or above.

NOTE: To close the GUI and enter the System Console screen, press **Ctrl** plus **Esc** key simultaneously. A selection screen should come up. Select "system console."

1. Go to the text console. Press **Alt+Esc**.

2. Insert the NW 6.0 Support Pack CD-ROM.

3. At the system console prompt enter the command:

   load `cdrom`

4. 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`.

5. Enter the command:

   `nwconfig`

   The NetWare Configuration Tool will open.

6. Scroll down to select "`Product Options`."

7. Scroll up to select "Install a Product Not Listed."

8. Press **F3** and specify the path, including the volume name (for example, **NW6SPx:** where the x = version of support pack).

9. Press **Esc** to continue.

10. Press **Yes** to accept the Terms and Conditions.

11. Press **Esc** to continue.

12. Press **Yes** to accept the ConsoleOne Reporting Tool agreement.

13. Press **Enter** to continue.

    NOTE: If you want to be able to uninstall the Support Pack later, you must select the option to back up files.

14. HP recommends selecting the option to update the Storage/LAN/PSM/WAN drivers currently in use..

    IMPORTANT: Always select **No** when asked to reboot the server after copying files. If you select **Yes**, the server may not come up.

15. Read the warning displayed by the service pack and then press **Enter** to continue.

16. After the support pack installation is complete, choose **NCF files Options** and press **Enter**.

17. Select **Edit STARTUP.NCF file** and press **Enter**.

18. Add the full path to each driver displayed that was copied in the c:\drivers directory. (for example, DRIVER.HAM -> c:\drivers\DRIVER.HAM)

19. Press **F10** to save, then select **Exit**, then press **Enter**.

20. Exit out to the console.

21. Type **down** to go to the DOS prompt.

22. Create a subdirectory inside of c:\ called drivers. (for example, **md drivers)**

23. Copy all the necessary drivers from the HP drivers disks into the drivers directory (These are the drivers you installed earlier from the HP Driver Diskettes).

24. Go to the c:\nwserver directory: **cd c:\nwserver**, press **enter**, and then type: **server**.

Section 5. Install Additional HP Accessories

The HP server tc2120 Startup CD includes the drivers for the following HP accessories:

- HP-Intel 10/100 LAN Adapter

- HP-Intel 10/100/1000 LAN Adapter

- HP IDE RAID PCI

- HP 29160 SCSI Controller

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

Troubleshooting

Tip #1. Restarting 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 may then resume the installation process.

On-Line Information and Software Sources

- HP World Wide Web access: http://www.hp.com

- Novell World Wide Web access: http://www.novell.com

- Novell Networking BBS: 801-429-3308 (9,600 baud)

Installing Novell NetWare 6.0 SBS

Prepare the Installation

For recommendations on the server preparation, refer to the Chapter 1 "Preparing your HP Server tc2120 for your NOS installation." Then gather the following material:

- HP Server tc2120 Startup CD

- Novell Netware 6.0 SBS CD-ROM

- Novell Netware 6.0 SBS licensing/cryptographic diskette

- Two or more clients for testing purpose (optional)

- One diskette for driver installation

High Level Process Flow

1. Create the drivers diskette using the hp Startup CD.

2. Perform NetWare installation.

3. Install additional HP accessories.

Section 1. Create the Drivers Diskettes

1. Locate one blank, formatted 3.5" diskette.

2. Insert your HP Startup CD in a Windows PC and follow the on-screen instructions to create the HP Server tc2120 NetWare SCSI drivers and the Embedded LAN drivers.

   NOTE: If the Windows PC does not auto-start the Startup menu, start it by opening Startup.htm found at the root level of the Startup CD.

Section 2. Perform Netware 6.0 SBS Installation

The installation of Netware 6.0 SBS contains several phases:

NOTE: Select the starting Phase that best fits your configuration.

- Phase 1 – Pre-Installation
  - Phase 1a – only for Non-bootable Installation CD or IDE RAID
  - Phase 1b – Non-Multilingual bootable Installation CD without IDE RAID
  - Phase 1c –Multilingual bootable Installation CD without IDE RAID
- Phase 2 – Start the Installation

- Phase 3 – Install HP Drivers

- Phase 4 – Configure the Network

PHASE 1 – Pre-Installation

- If you are using a Non-bootable Installation CD or you have a Promise FastTrak IDE RAID controller in your system, Please proceed to **Phase 1a**

- If you are using a bootable Non Multilingual CD, Please proceed to **Phase 1b**

- If you are using a bootable Multilingual CD, Please proceed to **Phase 1c**

Phase 1a - (only for Non-bootable Installation CD or Promise FastTrak IDE RAID Controller)

1. Boot from a bootable DOS floppy disk (It is recommended that you boot from the 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** and create a 1000 MB primary DOS partition on the primary drive (C:). Remember to make it the active (bootable) partition. Then restart the computer and boot on the DOS bootable utility diskette again.

3. Format and transfer DOS system files to the partition by entering:

   — when using NetWare DOS utility, enter:

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

   — when using MSDOS utility, enter:

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

4. Reboot the server with the license diskette in the floppy drive.

5. When you get a prompt, insert the installation CD, type **Z:** then, type **Install**.

6. If using a Multilingual Installation CD, select your language and hit **Enter**.

7. Press F10 twice to Accept the License Agreement.

8. Proceed to Phase 2 to continue.

Phase 1b – (Bootable Non-Multilingual Installation CD)

NOTE: If your hard drive contains data or is not new, HP recommends using a utility such as Fdisk to erase all data and partitions from your hard drive.

1. Insert Novell Netware 6.0 SBS CD-ROM and boot the system.

2. Read the license agreement and click **Agree** if you agree with the terms and conditions within the license.

3. Click **Next** to "Create a New Boot Partition". HP recommends modifying Size of boot partition to create a 1000MB boot partition.

4. If you accept erasing all data on your disk, select **Next** for your system to create the partition, reboot, and format that partition.

5. Choose "Advanced Installation" and select "Change IP Address from default." Press **Next**, then press **Next** again to begin the installation.

6. Insert the License Diskette. Press **OK**.

7. Proceed to Phase 2 to continue.

Phase 1c – (Bootable Multilingual Installation CD)

1. Boot to the Multilingual Installation CD.

2. Select the language that you wish to use.

3. Select **Accept License Agreement** and hit **Enter**.

4. Select **Create a New Boot Partition** and hit **Enter**.

5. Select **Modify** and hit **Enter**.

6. HP recommends using 1000MB for the DOS partition size.

7. Select **Continue** and hit **Enter**.

8. Select **Continue** if you are ready to create a new partition, remove all data on the selected drive, and format the disk. Hit **Enter**.

9. Press any key to reboot.

10. When the system comes up, press **F10** to accept the license agreement.

11. Proceed to Phase 2 to continue.

Phase 2 – Start the Installation

1. Change the prompt from Express to Custom, and keep the default New server option; scroll down and choose Continue.

2. Review the Server Settings. If you do not want the "SERVER" to automatically load after reboot, Modify the `Load Server at reboot` parameter to NO.

3. Go to the "**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
   ```

4. Press **ESC**, save the changes.

5. Scroll down to select **Continue**.

6. Review the regional settings and modify if necessary.

7. Review the mouse and video settings and modify if necessary.

8. Wait a few minutes while system files are copied from the CD-ROM.

9. Proceed to Phase 3 to continue.

Phase 3 – Install HP Drivers

1. The installation program then detects your hardware and attempts to match the drivers to the hardware.

2. If you have an IDE system, press Enter to continue. If you have a SCSI model, you need to install the HP SCSI driver:

   a. Scroll down to chose **Modify** and press **Enter**.

   b. Scroll down to highlight the "`Storage Adapters`" item and press **Enter**.

c. The installation program displays the drivers detected: a SCSI driver and a generic ATA/IDE/ATAPI Adapter driver (IDEATA.HAM). Press **Delete** to remove the default SCSI driver. The only remaining driver should be the IDEATA.HAM driver.

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

d. Insert HP disk NW SCSI (created with the Startup CD) in the floppy drive.

e. Press **Insert** to add a driver and then **Insert** again to add an unlisted driver.

f. Press **F3** and specify the path: **A:** then press **Enter**.

g. The installation program takes a few seconds then automatically adds the HP driver on the driver list.

NOTE: The new HP driver may show the same device name description but is a more recent version.

h. Scroll down and select "Return to driver summary."

i. Scroll down and select **Continue**.

3. The next driver summary screen displays storage and network devices.

4. Scroll down to chose **Modify** and press **Enter**.

   a. Scroll down to highlight the "Network Boards" item and press **Enter**.

   b. The installation program displays the drivers detected. Delete the drivers you wish to replace by selecting them and pressing the **delete** key.

   c. Insert the HP LAN driver disk (created with the Startup CD) in the floppy drive.

   d. Press **Insert** to add a driver and then **Insert** again to add an unlisted driver.

   e. Press **F3** and specify the path: **A:** then press **Enter**.

   f. The installation program takes a few seconds then automatically adds the HP driver on the driver list.

   g. Scroll down and select "Return to driver summary."

   h. Scroll down and select Continue.

5. Wait while system loads the new drivers.

6. Review the Volume SYS and Partition Properties Screen. Select **Modify** if any changes are necessary, and press the **F10** key to save any changes.

7. Select **Continue** after all changes have been applied.

8. Wait a few minutes while system files are copied and Netware GUI is started.

PHASE 4 – Configure the Network

The installation proceeds under a graphical interface.

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

1. Enter the server name and click **Next**.

2. Insert the NetWare licensing/cryptographic diskette when prompted and then click **Next**.

3. Select Free Space and click **create**. Type in a Volume name and select a Volume Type for the first the partition. Click **OK**. Click **Next** to proceed.

4. Choose YES, if necessary to mount all volumes when server reboots. Click **Next** to proceed.

5. Setup your IP or IPX protocols to match your network environment.

   NOTE: NetWare 6. 0 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).

6. You may then configure the Domain Name Service. Click **Next** to proceed.

7. Select your time zone then click **Next**.

8. Select whether to create a New NDS Tree or use an Existing NDS Tree, and click **Next**.

9. To create a New NDS Tree, enter the Tree Name, the Context for Server Object, and the administrator password and click **Next**.

10. Click **Next** to validate the NDS summary.

11. Click **Next** at the `Licenses` window to install the license previously detected.

12. If you wish to install other items or products, do so here and then click **Next**.

13. Click **Next** at the `Novell Certificate Server 2.21 Objects` window. Click **OK** at the `Organizational CA Warning` screen if it comes up.

14. Select whether or not you want to allow clear text passwords and then click **Next**.

15. Select which components you wish to install and then click **Next**.

16. Set the server properties for your network, and then click **Next**.

17. Set the authentication values for your network and then click **Next**.

18. Enter any IP addresses to enable CIFS on and then click **Next**.

19. Enter your share point settings and then click **Next**.

20. Enter your context settings and then click **Next**.

21. Specify the location of the iManage container and then click **Next**.

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

22. Review `Summary` and click **Finish**.

23. Insert your `NSBSPARTNER CD` (CD number 2) when prompted and click **OK**.

24. When prompted, remember to remove all diskettes and CD-ROM from their respective drives, click **Yes** to reboot your system.

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

Section 3. Install Additional HP Accessories

The HP server tc2120 Startup CD includes the drivers for the following HP accessories:

- HP-Intel 10/100 LAN

- HP-Intel 10/100/1000 LAN

- HP IDE RAID PCI

- HP Surestore DAT24i

- HP 29160 SCSI Controller

Please refer to the product manual enclosed with your accessory for the detailed installation procedure.

Troubleshooting

Tip #1. Restarting 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. Then resume all installation process.

On-Line Information and Software Sources

- HP World Wide Web access: http://www.hp.com

- Novell World Wide Web access: http://www.novell.com

- Novell Networking BBS: 801-429-3308 (9,600 baud)

Installing Red Hat Linux 9.0

Prepare the Installation

Please refer to the Chapter 1 "Preparing the HP Server tc2120 for NOS Installation" for our recommendations on server preparation. Then gather the following materials:

- HP Server tc2120 Startup CD
- Red Hat Linux Installation Media

High Level Process Flow

1. Perform Red Hat Linux installation.
2. Install additional HP accessories.

Section 1. Perform Red Hat Linux Installation

Phase 1 — Launch the Installation

Start the Install using GUI:

1. Turn on the server and insert the Red Hat Linux installation media bootable CD-ROM.

2. The system will display a text menu. If you are installing to a Promise FastTrak card, type:

   ```
   expert ide0=0x1f0,0x3f6,14 ide1=0x170,0x376,15 ide2=0 ide3=0
   ide4=0 ide5=0 ide6=0 ide7=0 ide8=0 ide9=0"
   ```

   Press **Enter** to start installation using the graphical interface.

3. The installer will prompt you to test your installation media. If you suspect that the installation media may have been damaged or scratched, this may be a good idea. Otherwise choose **Skip** to bypass this option.

Phase 2 — Configure the Server

Welcome to Red Hat Linux

Click on **Next** to continue.

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

Language Selection

Select the appropriate language. Click **Next** to continue.

Keyboard Selection

Please note the following recommendations:

- Your HP server comes with a Generic 104-key PC keyboard and 2-Button Mouse (PS/2).

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.

Mouse Configuration

- See note above. Click **Next** to continue.

Installation Type

- HP recommends selecting a Custom installation type, because this mode allows for the most flexible installation.

Disk Partitioning Setup

- HP recommends using the default partitioning mode: Automatically partition (You will need to select the drives to install to and then select "Remove all partitions on this system" after clicking **Next**.

NOTE: If you get a message that says, "The partition table on device xyz was unreadable… click **Yes** as many times as this message pops up.

Boot Loader Installation

- GRUB is selected as the default linux bootloader. If this is acceptable, press **Next** to continue.

- HP recommends that you select **Configure advanced boot loader options** if you have IDE and SCSI drives in the system, or if you have a Promise FastTrak present in the system. You may need to do this and then select **Change Drive Order** to ensure that the drive you will be booting from is at the top. <u>If you proceed further without making this change, your system might not boot properly</u>.

Kernel Parameters

After selecting **Configure advanced boot loader options**, (and if you have a Promise FastTrak present in the system) enter:

```
ide0=0x1f0,0x3f6,14 ide1=0x170,0x376,15 ide2=0 ide3=0 ide4=0
ide5=0 ide6=0 ide7=0 ide8=0 ide9=0
```

NOTE: Depending upon which storage deice you will be booting from, will determine if you should install the bootloader record on the (MBR) Master Boot Record. Please refer to the Redhat Manuals for further information regarding installing the bootloader.

GRUB Password

- HP recommends a password to protect access to GRUB. Click **Next** to continue.

Network Configuration

NOTE: The network settings need to be customized to your environment. Please refer to Red Hat manuals should you need further details on the networking settings.

Firewall Configuration

- Review the Firewall setting and modify if necessary.

Language Support Selection

- Review the Language Support setting and modify if necessary.

Time Zone Selection

- Review and modify as necessary.

Account Configuration

- Input a root password.

Authentication Configuration

- Review and modify as necessary

Selecting Packages

- If you selected the "Custom" install option, predetermined packages have already been selected. However, depending upon your network environment, additional packages may be necessary. Review and modify as necessary.

NOTE: Remember to select appropriate package groups that matches your network settings (example: the "DNS Name Server" package may be required If you have set up your new server to be the DNS controller).

Phase 3 — Complete the Installation

- Upon completion of the customization, the installation program asks for confirmation before proceeding with the install. Click **Next** to proceed.

Boot Diskette Creation

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

Video Configuration

- Red Hat will detect your chip as an *ATI Mach64* chip. However, the HP Server tc2120 ships with an *ATI Rage XL* AGP chipset. Modify the settings in order to correctly configure the video settings.

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.

Custom X Configuration

- HP recommends selecting login type as "Graphical." Click **Next** to continue.

Congratulations

- Click **Exit** to exit the installation program. Remove the CD from the drive.

- The system reboots and loads your new Red Hat environment.

Section 2. Install Additional HP Accessories

The hp server tc2120 Startup CD includes the drivers for the following HP accessories:

- HP-Intel 10/100 LAN

- HP-Intel 10/100/1000 LAN

- HP IDE RAID

- HP v92 56k Modem

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

On-Line Information and Software Sources

- HP World Wide Web access: http://www.hp.com/

- Red Hat World Wide Web access: http://www.redhat.com

Installing Red Hat Linux 8.0

Prepare the Installation

Please refer to the Chapter 1 "Preparing the HP Server tc2120 for NOS Installation" for our recommendations on server preparation. Then gather your Red Hat Linux 8.0 Installation CD-ROMs.

High Level Process Flow

1. Perform Linux 8.0 installation.
2. Learn about special cases.

Section 1. Perform Red Hat Linux Installation

1.1 Booting

1. Insert the Red Hat 8.0 Installation CD into the CD-ROM drive. Make sure that the CD-ROM precedes any hard disks attached to the system in the boot order.
2. Boot the system from the Red Hat 8.0 Installation CD.
3. When you see the "**boot:** " prompt, hit enter.

   NOTE: If using a Promise FastTrak TX2, please see section 2.1.

4. If it has detected your correct SCSI controller, you should see a "Loading SCSI Driver" window come up, with the name of the SCSI controller in your system.
5. Next, you should see the "**Welcome to Red Hat Linux**" screen. Click **Next**.

1.2 Installation Settings

1. At the "Language Selection" screen, select **English** with the arrow keys and click **Next**.

2. At the "Keyboard Configuration" screen, select **U.S. English** and click **Next**.

3. At the "Mouse Configuration" screen, select the appropriate mouse for your system, and click **Next**.

4. At the Installation Type screen, choose the type of installation to be performed. Choose **Server** or **Custom**.

1.3 Disk Partitioning

1. At the "Disk Partitioning Setup" screen, choose **Manually partition with Disk Druid**. Click **Next**.

2. You may see a Warning box pop up that says that "the partition table on device xxx is unreadable, would you like to initialize this drive?" Click **Yes** as many times as this comes up.

3. Locate the drive you wish to install to/boot from. If there are existing partitions on this drive, select them and click **Delete**. A warning box will come up to confirm the deletion, click **Delete**. Repeat this for every partition on this drive. Note that the partitions and all data within them will be lost.

4. Create, at minimum, three new partitions for the Linux installation as follows:

Table 2: Partitions for Linux Installation

Mount Point	Partition	Type	Size
/boot	Boot Partition	Ext3	100Mb
/	Root Partition	Ext3	2Gb+
swap	Swap Partition	swap	2xRAM size

5. Click **New**.

    a. For "Mount point," enter **/boot**.

    b. Make sure "File System Type:" is set to **ext3**.

    c. Under "Allowable Drives," make sure only your boot device is selected. If you do not, you may end up with an installation that spans multiple drives.

    d. Set "Size (MB)" to **100**.

    e. Make sure "Additional Size Options" is set to **Fixed Size**.

f. Select **Force to be a primary partition**.

g. Click **OK**.

6. Click **New**.

   a. Change the "File System Type" to **swap**.

   b. Make sure that only your boot device is selected under "Allowable Drives."

   c. Set "Size (MB)" to the following formula: size = (*RAM in system*) x 2.

   d. Make sure "Additional Size Options" is set to **Fixed Size**.

   e. Select **Force to be a primary partition**.

   f. Click **OK**.

7. Click **New**.

   a. For "Mount Point," enter **/**.

   b. Make sure "File System Type:" is set to **ext3**.

   c. Make sure that only your boot device is selected under "Allowable Drives"

   d. Set "Additional Size Options" to **Fill to maximum allowable size**.

   e. Select **Force to be a primary partition**.

   f. Click **OK**.

   g. Click **Next**.

1.4 Boot Loader Configuration

1. Click the checkbox for "Configure advanced boot loader options."

2. Click **Next**.

3. Click **Change Drive Order**.

4. Highlight the drive you are booting to with the mouse and click on the up arrow to move it up to the top of the list. You may need to select the drive and click on the up arrow several times until it is on the top of the list.

5. Click **OK**.

6. You may need to enter special kernel parameters here. (See section 2.1.2.)

7. Click **Next**

1.5 Network Configuration

NOTE: The installer should have detected all of your NICs at this point. If it does not, then you may need to obtain a special NIC driver that may be installed after you have completed the Red Hat Linux installation.

1. If you are using DHCP, then click next. Otherwise, select your first NIC and click **Edit**.

2. If you chose DHCP, you can skip to step 7. Otherwise, deselect "Configure using DHCP."

3. Enter the IP address and netmask that corresponds to your network. Click **OK**.

4. Repeat steps 1 through 3 for each NIC.

5. Select "manually" for "Set the host name" and enter a host name for your machine (e.g., HP-Netserver1).

6. Enter any required addresses for Gateway, Primary, Secondary, and Tertiary DNS.

7. At the Firewall Configuration screen, choose the type of firewall configuration, or "No Firewall" for none. If configuring a firewall, you may choose to "Use default firewall rules," or "Customize." Click **Next** to continue.

NOTE: If you accidentally chose to install a firewall, and did not intend to, you can "**rm /etc/rc.d/rc[0-5].d/*iptables***" & "**iptables -F**" from the root prompt later to get rid of it.

1.6 More Installation Settings

1. On the "Additional Language Support" screen, select **English (USA)**. Click **Next**.

2. On the "Time Zone Selection" screen, select location. Click **Next**.

3. On the "Account Configuration" screen, type in the root password and confirmation. Click **Next**.

   It is also recommended that you create at least one additional user account. Click **Add** to create the additional accounts. Fill in the required information to create the account, and click **OK**. When finished creating accounts, click **Next** to continue.

   NOTE: If **Next** is grayed out, the password and confirmation do not match, or you entered an invalid password.

4. At the "Authentication Configuration" screen, choose whether or not to enable MD5 passwords or shadow passwords. Click **Next** to continue.

1.7 Package Group Selection

1. Select the appropriate package groups for your installation. Click **Next** to continue.

2. Click **Next** to begin the installation.

3. The installation should begin. Installation time will vary depending on your hardware configuration. You can monitor the progress from the "Installing Packages" screen. Depending on the packages selected, it may then eject the CD and prompt you for the next CD. Insert the next CD and click **OK**.

1.8 Post Installation Configuration

Boot Diskette Creation:

It is recommended to create a boot diskette. If you create a diskette and for some reason your system will not boot on its own, you may be able to boot it from the diskette and try to determine what went wrong. The creation of this diskette is optional.

If you choose to create the diskette, insert a diskette into the floppy drive, select **Yes, I would like to create a boot disk** and click **Next**.

Otherwise select No, I do not want to create a boot disk and click Next.

Graphical Interface Configuration:

In most cases, the installer will have automatically detected your video card configuration by this step. Simply click **Next** to continue.

Monitor Configuration:

If the system is connected to a switch box, the installer most likely will not be able to auto probe your monitor type. It is usually safe to just leave it with the default settings of "Unprobed Monitor," or if it detects your monitor type, to leave it with that. Click **Next**.

Customize Graphics Configuration:

If the installer was able to probe your video card successfully, it will most likely pick a good resolution for your system based on the information gathered. If you are using an older system with only 1Mb of video memory, you may want to select 256 Colors at 1024x768, or 16-bit colors at 800x600. In most cases it will be safe to go with the default.

You will probably want to click **Test Setting** before clicking **Next**, especially if you have graphical selected. If testing the settings works, you may wish to boot in graphical mode. If you do not want to be placed in graphical mode after boot, then select **Text**. Click **Next** to continue.

Congratulations:

Your installation is complete. You have just installed Red Hat 8.0. You may now click **Exit** to reboot the system (Be sure to remove the installation CD from the CD-ROM drive).

NOTE: You will receive a "Red Hat Setup Agent" screen after rebooting the first time. Select the correct date and time, then choose whether or not to register with the Red Hat Network (Note: this is a subscription service). You can then choose to install additional packages. Click **Forward** to continue.

Click **Forward** at the "Congratulations" screen. You will then be brought to the login screen.

Section 2. Special Cases

2.1 Booting from a Promise FastTrak TX2

2.1.1 Boot initialization string:

NOTE: If installing to a Promise FastTrak TX2, you may want to print out a copy of this reference page to keep alongside your Red hat 8.0 installation.

Instead of hitting enter at the "boot:" prompt, enter the following boot string.

Boot string:

```
linux ide0=0x1f0,0x3f6 ide1=0x170,0x376 ide2=0 ide3=0
ide4=0 ide5=0 ide6=0 ide7=0 ide8=0 ide9=0 expert
```

It is IMPORTANT that there be at least one space in between each idex=xxx statement. REACHING THE END OF THE LINE AND AUTOMATICALLY BEING PLACED AT THE NEXT LINE DOES NOT COUNT AS A SPACE.)

2.1.2 Kernel Parameters:

Enter the following in the "General kernel parameters" box:

```
ide0=0x1f0,0x3f6 ide1=0x170,0x376 ide2=0 ide3=0 ide4=0
ide5=0 ide6=0 ide7=0 ide8=0 ide9=0
```

On-Line Information and Software Sources

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

Installing Red Hat Linux 7.3

Prepare the Installation

Please refer to the Chapter 1 "Preparing the HP Server tc2120 for NOS Installation" for our recommendations on server preparation. Then gather the following materials:

- HP Server tc2120 Startup CD

- Red Hat Linux 7.3 CD-ROMs #1 #2 and #3

- Two or more clients for testing purpose (optional)

High Level Process Flow

1. Perform Linux 7.3 installation.
2. Install additional HP accessories.

Section 1. Perform Red Hat Linux Installation

Phase 1 – Launch the Installation

Start the Install using GUI

1. Turn on the server and insert the *Red Hat Linux 7.3* bootable CD-ROM.

2. The system will display a text menu. If installing to a **Promise FastTrak100** TX2 card, see note below. Otherwise press **Enter** to start installation using the graphical interface.

   NOTE: If installing to a Promise FastTrak100 TX2 card, type the following:

   ```
   expert ide0=0x1f0,0x3f6,14 ide1=0x170,0x376,15 ide2=0 ide3=0
   ide4=0 ide5=0 ide6=0 ide7=0 ide8=0 ide9=0
   ```

   Press **Enter** to start the installation using the graphical interface.

The installation program now displays a graphical interface. You can proceed through the customization of your installation. ***If you selected to install to a Promise FastTrak100 TX2 card, the installer will ask you for your driver diskette.*** The Promise FastTrak100 TX2 driver can be found on the tc2120 Startup CD.

Phase 2 – Configure the Server

Welcome to Red Hat Linux

Click on **Next** to continue.

NOTE: 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 Selection

Please note the following recommendations:

Your HP server comes with a Generic 104-key PC keyboard and a 2 Button Mouse (PS/2).

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.

Mouse Configuration

See note above. Click **Next** to continue.

Install Options

HP recommends selecting a Custom System installation type, because this mode includes the X Window graphical interface. ("`Install Options`" section)

Choose Your Partitioning Strategy

HP recommends using the default partitioning mode: Automatically partition and REMOVE DATA ("Disk Partitioning" section).

Boot Loader Installation

NOTE: For users installing to a Promise FastTrak100 TX2, HP recommends selecting LILO as the default Linux bootloader. (HP only supports LILO on systems booting from a FastTrak100 TX2.)

GRUB is selected as the default linux bootloader. If this is acceptable, press **Next** to continue.

NOTE: Upon which storage device you will be booting from will determine if you should install the bootloader record on the Master Boot Record (MBR). Please refer to the Red Hat Manuals for further information regarding the bootloader record.

NOTE: For users installing to a Promise FastTrak100 TX2, under Kernal Parameters, enter the following:

```
ide0=0x1f0,0x3f6,14 ide1=0x170,0x376,15 ide2=0
ide3=0 ide4=0 ide5=0 ide6=0 ide7=0 ide8=0 ide9=0
```

GRUB Password

HP recommends a password to protect access to GRUB. Click **Next** to continue. (Not applicable for Promise FastTrak100 TX2 installations.)

Network Configuration

NOTE: The network settings need to be customized to your environment. Please refer to Red Hat manuals, should you need further details on the networking settings.

Firewall Configuration

Review the Firewall setting and modify if necessary.

Language Support Selection

Review the Language Support setting and modify if necessary

Time Zone Selection

Review and modify as necessary

Account Configuration

Input a root password as well as additional user accounts.

Authentication Configuration

Review and modify as necessary

Selecting Packages

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. Review and modify as necessary.

> **NOTE:** Remember to select appropriate package groups that matches your network settings (example: the "DNS Name Server" package may be required if you have set up your new server to be the DNS controller) .

Video Configuration

Red Hat will detect your chip as an *ATI Mach64* chip. However, the HP Server tc2120 ships with an *ATI Rage XL* chipset. Modify the settings in order to correctly configure the video settings.

Phase 3 – Complete the Installation

1. Upon completion of the customization, the installation program asks for confirmation before proceeding with the install. Click **Next** to proceed.

2. The installation may prompt for Red Hat Linux CD-ROM #2, depending on the packages you choose to install.

Boot Diskette Creation

NOTE: HP recommends that you create a boot diskette that will allow you to boot and manage your 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.

Custom X Configuration

HP recommends selecting login type as "Graphical" ("Custom Configuration" section). Click **Next** to continue.

> ⚠ **CAUTION:** If installing to a Promise FastTrak100 TX2, these additional steps are required. Failure to follow these steps may result in the user unable to successfully boot to the Red Hat Linux 7.3 environment.

If installing to the Promise FastTrak100 TX2:

1. At the congratulations screen, after installation, press **Ctrl-Alt-F2**.

2. Enter the command: **chroot /mnt/sysimage**

If using a Linux editor such vi, edit: **/etc/lilo.conf,** add the following:

Disk=/dev/sdX

(Where /dev/sdX is the location of your Promise boot drive)

Bios=0x80

Change:

Boot=/dev/xxx

To:

Boot*=/dev/sdX* (Where */dev/sdX* is the location of your Promise boot drive)

3. Change:

   Linear

   To:

   lba32 (Lowercase L)

4. To save, enter :wq

5. Run **/sbin/lilo –v**

   NOTE: This only works with LILO.

6. Return to the GUI interface, press **Ctrl-Alt-F7.**

7. Click **Exit** to exit the installation program. Remove the CD from the drive.

8. The system reboots and loads your new Red Hat environment.

Phase 4 – Post Installation Instructions Updating the Red Hat 7.3 Kernel

NOTE: In networked environments, HP highly recommends updating the Red Hat 7.3 kernal to 2.4.18-17.

The following RPMs are required to add/upgrade to the 2.4.18.17 Red Hat kernel:

- **Modutils-2.4.18-3.7x.i386.rpm** may be found on the Web at

  ftp://ftp.redhat.com/pub/Red Hat/linux/updates/7.3/en/os/i386/modutils-2.4.18-3.7x.i386.rpm

- **Kernel-2.4.18-17.7.x.i686.rpm** may be found on the Web at

  ftp://ftp.redhat.com/pub/Red Hat/linux/updates/7.3/en/os/i686/kernel-2.4.18-18.7.x.i686.rpm

1. To update the kernel, press **Ctrl**-**Alt**-**F2**.

2. Insert the media containing the updated modutils (2.4.18-3.7) and kernel (2.4.18-17) rpms. If on a CD-ROM, mount the CD-ROM using: `mount /dev/cdrom`.

3. Use command **`rpm –Uvh modutils-2.4.18-3.7x.i386.rpm`** to update the modutils. The modutils package must be updated first in order to add the new kernel.

4. Use the command **`rpm –ivh kernel-2.4.18-17.7.x.i686.rpm`** to add the kernel to the Red Hat 7.3 installation.

5. Using an editor such as vi, add the following into /etc/lilo.conf:

   Image=/boot/vmlinuz-2.4.18-17.7.x
       label=linux-2.4.18-17
       initrd=/boot/initrd-2.4.18-17.7.x.img
       read-only
       root=/dev/hda3

6. Change the "default=..." line to default=linux-2.4.18-17. This will make the 2.4.18-17 kernel load by default.

7. Save your changes.

8. Run lilo -v.

9. Reboot the server.

Section 2. Install Additional HP Accessories

The hp server tc2120 Startup CD includes the drivers for the following HP accessories:

- HP 10/100 LAN Adapter

- HP 10/100/1000 LAN Adapter

- Modem 56k v92

- Promise IDE RAID PCI

- HP Adaptec 29160 SCSI Controller

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

On-Line Information and Software Sources

- HP World Wide Web access: http://www.hp.com

- Red Hat World Wide Web access: http://www.redhat.com

Installing SuSE Linux 7.3

Prepare the Installation

Please refer to the Chapter 1 "Preparing the HP Server tc2120 for NOS Installation" for our recommendations on server preparation. Then gather the following material:

- HP Server tc2120 Startup CD

- SuSE Linux 7.3 CD-ROM #1 #2 #3 and #4

- Two or more clients for testing purposes (Optional)

High Level Process Flow

1. Perform SuSE Linux 7.3 installation.
2. Install additional HP accessories.

Section 1. Perform SuSE Linux 7.3 Installation

Phase 1 – Launch the Installation

Installing to Promise FastTrak100 TX2

1. Turn on the server and insert the *Promise Boot Diskette* to start the installation.

2. At the installation screen, type "**promise**" and press the left **Alt** key. Press **Enter** to continue. See "Phase 2 – Configure the Server."

Start the Install using GUI

1. Turn on the server and insert the SuSE Linux 7.3 bootable CD-ROM.

2. The system will display a text menu. Select *Installation* to begin the process of loading the operating system using the graphical interface.

Phase 2 – Configure the Server

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

Welcome to YaST2

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

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

Basic Configuration

Select the keyboard layout and time zone. Your HP Server comes with a Generic 104-key PC keyboard and a 2 button mouse (PS/2). Click **Next** to continue.

Install SuSE Linux

Select **New Installation**. Click **Next** to proceed.

Suggested Partitioning

⚠ **CAUTION:** If you are installing to **Promise FastTrak100 TX2**, the boot partition and root partition must be formatted using the **ext2** file system.

Disk partitioning will vary depending on the type of services the server will provide. The amount of swap space required will also vary depending on the amount of RAM in the system. The following partitioning scheme is given as an example.

1. Select **Discard** . Press **Next**.

2. Select **Custom partitioning – for experts**.

3. Create a **boot partition**

   a. Select **Create**.

   b. Select **Primary partition**.

   c. Set the parameters for the *boot partition* as follows:

   Format (file system): **ext2**

   d. Size: Start: **0**
   End: **+20M**
   Mount point: **/boot**

4. Create a swap partition.

   a. Select **Create**.

   b. Select **Primary partition**.

   c. Set the parameters for the *boot partition* as follows:

   Format (file system): **swap**
   Size: Start: **default**
   End: **2 x amount of memory in server**
   Mount point: **swap**

5. Create a root partition.

   a. Select **Create**.

     b. Select **Primary partition**.

     c. Set the parameters for the *boot partition* as follows:

        Format (file system): **ext2**
        Size: Start: **Default**
        End: **Default**
        Mount point: **/**

6. Click **Next** to proceed.

Software Selection

Default with Office is the default selection. HP recommends selecting the **Default system** during the Software Selection. However, depending upon the role the HP tc2120 Server will serve in your network environment, additional packages may be necessary. Additional software from the other SuSE Linux 7.3 CDs can always be installed after the initial installation. Review and modify as necessary.

NOTE: Remember to select appropriate package groups that matches your network settings (example: the "DNS Name Server" package may be required if you have set up your new server to be the DNS controller).

System Boot Configuration

SuSE Linux uses LILO as its boot manager. Review and modify as necessary. Click **Next** to continue.

Password for "root"

Input a password for "root" access. Because the root user has extensive permissions, the password for "root" should be chosen carefully.

Personalize

Input as necessary. Click **Next** to continue.

Confirm Installation

1. The installation program will summarize the HDD partitioning information, boot manager installation location as well as the size of software that will be installed. Review, and if this is acceptable, click **Next** to proceed.

2. Click **Yes, install** to proceed with the installation.

Phase 3 – Complete the Installation

1. When installation of SuSE Linux 7.3 is completed, you will have the option of selecting to have the system bootup in either text or graphical mode. HP recommends booting up into a graphical desktop environment. Click **Next** to test the GUI settings, if chosen.

> △ **CAUTION:** If installing to a Promise FastTrak100 TX2, these additional steps are required. Failure to follow these additional steps may result in the user unable to successfully boot to the SuSE Linux 7.3 environment.

2. If booting to a Promise FastTrak100 TX2:

   a. Press Ctrl-Alt-F2.

   b. Using a Linux editor such as "vi," enter the command:

   vi /etc/lilo.conf

   c. Remove these two lines (if they exist):

   ```
   Disk=/dev/hda
   Bios=0x.. (Could be 0x80 or 0x81, remove either one).
   ```

   d. Add these lines (if it does not exist):

   disk=/dev/sdX
   bios=0x80

   (Where **/dev/sdX** is the location of your Promise boot drive.)

3. Return to the GUI Installation screen by pressing **Ctrl-Alt-F7**.

4. Click **Finish Installation** to proceed to the initial login screen. Remove the CD from the drive. You are now ready to enter into your new SuSE 7.3 Linux environment.

NOTE: If installing to the **Promise FastTrak100 TX2** card, the system will not boot at this point, unless you perform the kernel update procedure below. The kernel must be updated in SuSe 7.3 from **2.4.10** to **2.4.16**.

Phase 4 – Post Installation Affairs Updating the SuSE 7.3 Kernel

NOTE: In networked environments, HP highly recommends updating the SuSE 7.3 kernel to 2.4.16.

1. Insert the media containing the updated **2.4.16** kernel (**k_deflt-2.4.16-37.i386.rpm**) and drivers. If it is on CD-ROM, enter the command:

   mount /dev/cdrom

2. Use **rpm -Uvh k_deflt-2.4.16-37.i386.rpm** to install the updated kernel.

3. If using a **Promise FastTrak100 TX2**, copy driver compiled for 2.4.16 kernel, **FastTrak.o,** to **/lib/modules/2.4.16-4GB**.

4. Edit **/etc/rc.config** and change INITRD_MODULES="" to **INITRD_MODULES="FastTrak"** (only if you're using a Promise FastTrak100 TX2). Substitute FastTrak for whatever boot device you are using (e.g., aic7xxx).

5. Run **mk_initrd.**

6. Edit **/etc/lilo.conf**, after the line

   image=/boot/vmlinuz

   add:

   initrd=/boot/initrd

7. Run **lilo -v**.

8. Reboot the server.

Section 2. Install Additional HP Accessories

The hp server tc2120 Startup CD includes the drivers for the following HP accessories:

- HP 10/100 LAN Adapter

- HP 10/100/1000 LAN Adapter

- HP Modem v92 56k

- Promise IDE RAID PCI

- HP Adaptec 29160 SCSI Controller

Please refer to the product manual enclosed with your accessory for the detailed installation procedure as well as the accompanying readme.txt file included with the driver.

On-Line Information and Software Sources

- HP World Wide Web access: http://www.hp.com

- SuSE World Wide Web access: http://www.suse.com