

HP Windows Server 2003 for IA-32 General Installation Guide

(This document is only available in English.)

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Preparing your HP Server for your NOS installation

Hardware Setup

Prepare your HP server following the instructions in the HP Installation Guide provided for your server model.

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 your Hard Disk Drives

Your HP Server comes with new hard disk drive(s) that do not need specific setup. If you install additional and/or USED hard disk drives in your new server HP recommends you perform one of the following:

- If you have an HP SCSI RAID card then you must setup the Logical Drives following the procedures outlined by the HP Installation Guide provided with the card.
- If you are using the IDE RAID controller FastTrack 100 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 <CNTRL>F to get into it, **3** to define the array, <ENTER> to select the array <SPACE> to change the array, 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:
 - Perform a media check
 - Use a utility such as fdisk to erase all data and partitions from your hard drive.

Updating your Server BIOS

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

On the Internet you can obtain the latest BIOS for your system at:

http://welcome.hp.com/country/us/eng/software_drivers.htm by entering your product model number and downloading. Follow the instructions for making a bootable floppy diskette and flashing the BIOS, if it is newer than your existing BIOS.

Installing Microsoft Windows Server 2003, Enterprise Edition

Prepare the Installation

Please refer to the Chapter 1 "Preparing your HP Server or your NOS installation" for our recommendations on the server preparation.

Then gather the following material:

- Microsoft Windows Server 2003 CD-ROM as well as the latest Microsoft Windows Server 2003 Service Pack (if available).
- Blank formatted 3.5-inch diskettes (if needed for drivers update).
- Two or more clients for testing purpose (Optional)

High Level Process Flow

- Perform Windows Server 2003 Installation.
- Complete the Installation (Microsoft Service Pack (if available), HP drivers, Recovery Console).
- Configure the System.
- Configure the Network.
- Install additional HP accessories.

Create the Driver Diskettes

- Locate your blank, formatted 3.5" diskettes.
- From the following Internet location; http://welcome.hp.com/country/us/eng/software_drivers.htm find any drivers that are applicable to your system's configuration for Windows Server 2003 (if available), and create the diskettes.

Perform Windows Server 2003 Installation

Note: If you are attempting to upgrade from a previous version of Windows, some drivers may not automatically upgrade to currently supported versions. Please visit <http://welcome.hp.com/country/us/eng/support.html>, locate and reinstall all of the available drivers.

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

1. If you have any updated HBA drivers diskettes from the HP then perform the following, otherwise skip to step 3.
 - 1.1. 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 Server 2003 Setup only gives you a very short time to press F6. If you missed it, you should reboot your system and resume this step.
 - 1.2. Press "S" to Specify Additional Device.
 - 1.3. When prompted, insert the HP diskette(s) that you created earlier in this document.
 - 1.4. If you have more HBA driver diskettes repeat this process from 1.2.
 - 1.5. Press **Enter** to continue.
2. Press **Enter** to continue at the "Windows Server 2003 – Setup Notification:" window.
3. Press **Enter** to continue at the "Windows Server 2003 Setup – Welcome to Setup" window.
4. Press **F8** to accept the licensing agreement.
5. At the drives partitioning screen, select the target drive. If you want to use the entire drive to install Windows Server 2003 then press **Enter**. Otherwise, press **C** to create a drive a partition.

In this example we will create a 8GB partition.

- 5.1. Press **C** to create a partition.
- 5.2. At the "Create partition size" prompt, type **8192** and press **Enter**.
- 5.3. 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.
- 5.4. Select the target drive to be used to install Windows Server 2003. Press **Enter**.
- 5.5. Select "Format the partition using the NTFS file system" and press **Enter**.
6. The installer will format and copy files to the hard drive.
7. The system will reboot and launch Windows Server 2003 graphic interface. Be sure to remove any driver diskettes before the reboot.
8. At the "Windows Setup – Regional and Language Options" first dialog box, click **Next** to continue.

9. At the "Windows Setup – Personalize Your Software" window enter your name, organization and click "Next".
10. At the "Windows Setup – Your Product Key" enter your Microsoft Windows Server 2003 product key.

Example: ABCDE-12345-FGHIJ-67890-KLMNO

11. At the "Windows Setup – Licensing Modes" select the appropriate licensing mode according to your licensing for this server (default: per server number of concurrent connections 5) and click "Next".
12. At the "Windows Setup – Computer Name and Administrator Password" window.
 - 12.1. Computer name: Enter a unique name to your network or keep the default one generated by the setup.
 - 12.2. **Administrator password:** Enter a password to be used by the administrator to log in.
 - 12.3. **Confirm password:** Confirm by entering the same password again.
 - 12.4. Click "Next" to continue.
13. At the "Windows Setup – Date and Time Settings" window enter the correct date and time, if necessary and the correct time zone for your localization and click "Next" to continue.
14. The Setup will continue several more minutes. .

At the "Windows Setup – Network Settings" window, select either **Typical Settings** or **Custom Settings**.

Typical Settings will setup TCP/IP with an automatic IP address. This assumes that you have a DHCP Server already on your network.

Custom Settings will allow you to configure TCP/IP to static IP address (desirable if this is your only server on the LAN, or you are setting up outside on the Internet).

On the "Windows Setup – Network Components" window, highlight "Internet Protocol TCP/IP" and click on the "Properties" button.

On the "Internet Protocol TCP/IP Properties" window click on "Use the following IP address and Input per the following example.

Note: The following addresses are examples only. You should enter the addresses supplied by your Internet Service Provider.

IP Address: 100.1.1.101	Unique address for your server.
Subnet Mask: 255.255.255.0	Determines how many nodes can be on your network subnet.
Gateway: 100.1.1.101	Usually used to point to the route to the Internet or another network.
Preferred DNS Server:	Points to an Internet server that is running BIND, that translates domain names URLs to IP addresses. Necessary for MS Internet Explorer to work!
Alternate DNS Server:	Points to an alternate BIND Server.

Note: If you select an IP Address it must be unique, and within the Subnet range of your LAN.

Note: The network settings can be postponed until after the installation has finished.

15. At the "Windows Setup – Workgroup or Domain" window select and name your workgroup (default – WORKGROUP), unless you are adding this server to an already existing domain.

Note: Naming your workgroup can be changed after installation has completed. The default is WORKGROUP.

Note: If you are adding to an existing domain, then you must have an Administrator's password to that Domain's Server in order to successfully join that domain.

16. Click "Next" to continue.
17. Windows will continue to install for several minutes and reboot.
18. At the "Welcome to Windows" window holding the Alt+Ctrl keys press the Delete key.

19. At the "Logon to Windows" window enter the Administrator's password.
20. Click the "OK" button.
21. At the "Manage Your Server" window right click on the black X box at the top right of the screen. This will close this window, as we will postpone the customization of your server until completion of all the installation steps.

Note: You may open "Manage Your Server" by clicking **Start | Control Panel | Administrative Tools | Manage Your Server**

Completing the Installation

Install the Service Pack

1. How to get a copy of Windows Server 2003 Service Packs:

At the time of the publishing of this document – there were no service packs available. If your HP server is already connected to Internet, you can check to see if one is available by opening the Internet Explorer and clicking on **Tools | Windows Update** to see if there is a service pack available.

2. To install the Service Pack, logon on your HP server as the Administrator in order to install the Service Pack on your system.
3. If prompted, press "**OK**" to accept Microsoft 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).

Installing HP Drivers

If you have made any drivers diskettes that you haven't previously installed then do the following for each driver update.

1. Click on **Start | Control Panel | Administrative Tools | Computer Management**.
2. In the left pane of the **Computer Management** window click on **Device Manager**.
3. Select and expand the device type in the right pane of the Device Manager by clicking on the plus (+) sign.
4. Right click on the device to be upgraded and select **Update Driver**.
5. At the "**Hardware Update Wizard**" window click on "**Install from a list or specific location (Advanced)**".
6. Click on the "**Next**" button to continue.
7. At the "**Hardware Update Wizard – Please choose your search and installation options**" click on "**Don't search. I will choose the driver to install.**"
8. Click on the "**Next**" button to continue.
9. At the "**Hardware Update Wizard – Select**" window click on the "**Have Disk..**" button.
10. At the "**Install from Disk**" window browse, if necessary, to the directory containing your driver's INF file.
11. Click on the "**Next**" button to continue.
12. At the "**Hardware Update Wizard – Completing Hardware Update Wizard**" window click on the "**Finished**" button.

Configure the System

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**.
2. Verify that no devices have either a yellow bang (!) 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.

Note: 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.

3.1. In the Device Manager, select the **device** (e.g. HP AHA-29160) that you want to verify.

3.2. Right click **Properties | Driver**.

3.3. Locate the "Digital Signer:" If the driver of that device is not digitally signed, it will be so 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.

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

3.5. 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. Please disregard these errors.

4. Exit event viewer.

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.

Configure the Network

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 | Properties** 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 the **OK** to continue, and then Close to exit the "Local Area Connection Properties" window.

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

To verify the server and clients can communicate properly:

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

5.1 **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.

6. You may test the link further by doing a ping between two clients. At the same command prompt, type:

6.1 **ping other_client_IPaddress** (Where *other_client_IPaddress* is the IP address of another client pc on this network)

6.2 You should get four replies from the second client.

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

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)".
6. Click "Next" to continue.
7. At the "**Summary of Selections**" screen, click "**Next**" to continue onto the "**Active Directory Installation Wizard**".
8. Click "**Next**" to begin.
9. 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.

10. Click **Next** at the "**Domain Controller Type**" to accept the default: "Domain Controller for a new Domain".
11. Click **Next** at the "**Create a New Domain**" to accept the default: "Domain in a new forest".
12. If the current network does not contain a DNS server, choose "No, just install and configure DNS on this computer", click **Next** to continue.
13. At the text box for "Full DNS name for new domain:" type in the assigned DNS name for your server (for example: *mycompany.com*).
14. Click **Next**. The system may take a few minutes before moving to the next screen.
15. Click **Next** at the "NetBIOS Domain Name" dialog box to accept the default "Domain NetBIOS name:"
16. Click **Next** to accept the "Database and Log Locations" default directories.
17. Click **Next** to accept the default "Shared System Volume".

18. Click **Next** to accept the default permissions: "Permissions compatible only with Windows 2000 or Windows 2003 server operating systems".
19. Enter and confirm the *Administrator password* and click **Next**.
20. Review the "Summary" display and click **Next** to continue.
21. The system will start configuring the active directory and DNS services, if chosen. It will take a few minutes to complete.
22. If prompted, insert the Windows Server 2003 CD-ROM and click **OK** to continue.
23. Configuring active directory display shows again. Click **Finish** to close the Wizard utility. This completes the active directory installation.
24. Click "Restart Now" to reboot the system. Remove the CD-ROM if present.
25. At the login prompt, press ctrl+alt+del and then enter 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.
26. The "This Server is Now a Domain Controller" dialog box will appear after the login, click **Finish** to close.

Additional HP Accessories

For a list of the Accessories that your server supports Please refer to the following URL:
<http://welcome.hp.com/country/us/eng/support.html>

Also, 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".

1. 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://welcome.hp.com/country/us/eng/support.html>.
2. 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.
3. 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.
4. 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

1. Activated by pressing **F8** during the system process of Windows Server 2003 and selecting "Last Known Good Configuration" from the menu.
2. 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 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:

1. Either by booting from Windows Server 2003 CD-ROM
2. Or by installing the RC boot on your system.

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

Start RC Booting from Windows Server 2003 CD-ROM

If you 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 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; 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. 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.

Tip #4 – Upgrading From Windows 2000

If you are upgrading from a previous version of windows there is no guarantee that the device drivers will upgrade to the currently supported version. If you have upgraded Windows Server 2003 from a previous version - please visit <http://welcome.hp.com/country/us/eng/support.html>, locate and reinstall all of the available drivers.

On-Line Information and Software Sources

1. HP World Wide Web access: <http://www.hp.com/>

2. Microsoft World Wide Web access: <http://www.microsoft.com/>

3. Microsoft Product Support Services: <http://support.microsoft.com/default.aspx>