
Installing and Upgrading to Windows XP

Although Windows XP was released many years ago, you will still see it in the field and might need to install it as well, or upgrade older Windows computers to XP. Before you can install or upgrade to Windows XP, you first need to decide which edition of XP you'll be using. Then, you should check the computer to make sure it is compatible with Windows XP. Next, you need to decide on an installation method: from CD, floppy to CD, as an image, or over the network.

Windows XP Versions

There are several editions of Windows XP:

Windows XP Home: Designed for home users, this edition has limited networking and security capabilities.

Windows XP Professional: This is the most common version of XP that you will see in the field. The A+ exams focus mostly on this edition. The XP Pro edition expands on the Home edition by offering the capability to connect to domains, make Remote Desktop connections, utilize the Encrypting File System (EFS), and support two physical CPUs. It is designed for power users, business people, and developers. There is a 64-bit version of this as well.

Windows XP Media Center: This edition was developed for people concerned with audio and video. The Windows Media Center is part of the GUI that displays well on a TV and can be controlled remotely. It is also designed to playback videos and music. Normally, the Media Center edition is found preinstalled on computers that have been purchased from an original equipment manufacturer (OEM).

Windows XP Minimum Requirements and Compatibility

When you have decided which version of XP you want to use, and before installing that operating system, you should learn as much as you can about the computer you plan to install to. Components in a computer should meet Windows XP's minimum requirements and should be listed on Microsoft's website as compatible with XP.

Windows XP Minimum Requirements

Component	XP Home/Professional Requirement	Windows XP Media Center
Processor	233 MHz	1.6 GHz

RAM	64 MB	256 MB
Free disk space	1.5 GB (2 GB partition)	2 GB partition
Other	CD-ROM or DVD-ROM	Hardware accelerated graphics card that can use DirectX 9.0 or higher

Various websites and system analysis tools can verify that a system's hardware will be compatible with Windows XP. Chances are that the computer will be, but you can use tools mentioned previously in this chapter including the System Information tool and Belarc Advisor.

If upgrading to Windows XP, You can run the Upgrade Advisor from the Windows XP CD. Click Check System Compatibility from the Welcome to Windows XP menu; then click Check My System Automatically. (Note that this upgrade advisor is no longer available for download from the Microsoft website). After the analysis is complete, the Upgrade Analyzer displays any incompatible hardware or software it finds.

Windows XP is normally installed by CD-ROM but can also be done via image or over the network. Unlike Windows 7/Vista installs, the XP installation is a mixture of text screens and graphic screens. Also, if third-party SCSI or RAID hard disk drivers are needed, you must press F6 to install them.

The network installation also differs from Windows 7/Vista. To automate the process, Windows XP can be installed from a server, for example by using the Remote Installation Services (RIS) program, which can be installed on Windows Server 2003. This program works along with Windows XP's Setup Manager program that creates the automated answer files like unattend.txt. These files are text-based, unlike the Windows 7/Vista unattend.xml. For more information on how this works, the differences between Vista and XP, and how to combine XP and Vista deployment technologies, see the following link: <http://technet.microsoft.com/en-us/library/cc765993.aspx> .

Windows XP uses the Sysprep utility to prepare unique systems for installation over the network. It is provided on the CD-ROM at \SUPPORT\TOOLS\ in a cabinet file called DEPLOY.CAB. The most recent version of Sysprep for Windows XP can also be downloaded from the Microsoft website as part of the Windows XP Service Pack 2 Deployment Tools. See the following link for more information: <http://support.microsoft.com/kb/838080> .

For a video and written step-by-step of the Windows XP installation access my website at: www.davidlprowse.com/220-801 and go to the "Videos" section.

Verifying and Troubleshooting Windows XP Installations

When you complete the clean installation or upgrade, *test it*. For example, attempt to navigate through Windows, access administrative functions, connect to the Internet, and so on. After you confirm that Windows is working normally, update the system. As of the publishing of this book, the latest service pack (SP) for Windows XP is SP3; however, some companies might still use SP2, so check your documentation, policies, and procedures to confirm. It is possible that the service pack was included on your installation media, but if not, download it and install it before going any further. Then, download any other updates that are necessary utilizing the Windows Update feature.

As mentioned previously, installations don't always go as planned. If an installation fails, first verify that your computer has met the minimum hardware requirements and that it doesn't have any hardware that will conflict with Windows XP. Also make sure that you have enough free disk space and that the installation media isn't damaged.

Now, let's talk about Windows XP log files. These files can be used to review what went wrong with an installation. In Windows XP, most of these files are plain text and are stored in the %systemroot% folder of the operating system. The %systemroot% folder is a variable that indicates the folder where the operating system was installed. In most cases this will be C:\Windows. The following table describes the most important log files you need to know for the exam and their location within the operating system.

Windows XP Installation Log Files

Log file	Description	Location
setuperr.log	Records errors (if any) during installation. This is the most important and descriptive log file for troubleshooting installation errors.	C:\Windows
setuplog.txt	Records events during the text-mode portion of installation.	C:\Windows
setupact.log	Logs all events created by the GUI-mode setup program.	C:\Windows
setupapi.log	Records events triggered by an .inf file.	C:\Windows
setup.log	The Recovery Console utilizes this to acquire information about the Windows installation during repair.	C:\Windows\Repair

NetSetup.log	Information about membership to workgroups and domains.	C:\Windows\Debug
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If the system won't start, you can still view these files. However, this depends on the type of installation and how far the installation got. Attempt to boot to the Recovery Console from a Windows XP or 2000 CD and view the log files from there.

Cram Quiz

Answer these questions. The answers follow the last question. If you cannot answer these questions correctly, consider reading this section again until you can.

220-802 Questions

1. What is the minimum CPU requirement for Windows XP?
A. 133 MHz
B. 233 MHz
C. 800 MHz
D. 1 GHz
2. Which log file records errors during the installation of Windows XP?
A. setuperr.log
B. setuplog.txt
C. setup.log
D. setupact.log
3. Which key should be pressed if you want to install a driver for a mass storage device during the Windows XP installation?
A. F2
B. F3
C. F6
D. F8
4. What program creates answer files in Windows XP?
A. Windows SIM
B. Sysprep
C. RIS
D. Setup Manager
5. How much free disk space do you need to install Windows XP?

- A. 2 GB
- B. 1.5 GB
- C. 650 MB
- D. 1 GB

Cram Quiz Answers

220-802 Answers

1. **B.** Windows XP requires a minimum 233 MHz CPU. 133 MHz is the requirement for the now unsupported Windows 2000 Professional. For Windows Vista, 800 MHz is the minimum requirement. 1 GHz is the minimum requirement for Windows 7.
2. **A.** Setuperr.log records errors that occurred during installation. Setuplog.txt records events during the text portion of the installation. Setupact.log records events during the GUI portion of the installation. Setup.log is used by the Recovery Console during repair.
3. **C.** There is a short time period during the beginning of the XP installation in which you can press F6 to install mass storage drivers. F2 invokes the Automatic System Recovery (ASR), F3 quits the installation, and F8 agrees to the EULA (license).
4. **D.** Setup Manager (setupmgr.exe) is the tool that creates answer files such as unattend.txt in Windows XP. Windows SIM (System Image Manager) is used in Win7/Vista. Sysprep helps create unique installations over the network and works with the answer file. RIS or Remote Installation Services is the server component that initiates over the network installs.
5. **B.** Windows XP requires 1.5 GB of free space within a 2 GB partition and 650 MB is the required space by the now deprecated Windows 2000 Professional.

Using Windows XP's NTBackup

Windows XP Professional offers the built-in program called NTBackup. This is accessible by opening the Run prompt and typing **ntbackup**. From here you can backup individual files and back up the System State, which includes everything that makes one installation of Windows XP different from another. Unfortunately, Windows XP does not include a Complete PC Backup option; however, the Automated System Recovery (ASR) option in NTBackup does enable you to back up and restore the system state (user accounts, settings, boot files, and so on).

To create an ASR backup with NTBackup:

1. Switch to Advanced Mode (if NTBackup starts in Wizard mode) and click the Automated System Recovery Wizard button. When the wizard's opening dialog appears, click Next to continue.
2. Specify where to store the backup, and click Next.
3. Click Finish to complete the wizard. You will be asked to provide a floppy disk to store configuration files.

Recovery Console

The Windows XP Recovery Console is the command-line interface used for repairs such as rebuilding the master boot record (MBR). It is included on the Windows XP CD-ROM. The Recovery Console can be invaluable when the system cannot start from the hard drive due to missing or corrupted files. These missing files could block the Advanced Boot Options menu.

To start Windows XP's Recovery Console, you have two options:

- Option 1: Boot the computer to the Windows XP CD-ROM, and run the Recovery Console.
- Option 2: Boot from a previously installed Recovery Console. This appears as part of the operating system boot menu but not if startup files have been affected.

To run the Recovery Console from CD-ROM:

1. Boot the system from the Windows XP CD.
2. When prompted, press R to start the Recovery Console.
3. Log into Recovery Console by selecting the installation to log into and providing the Administrator password for the operating system.

To install the Recovery Console to hard disk:

1. While in Windows, insert the Windows CD-ROM into the drive. (Close any pop-up install windows.)
2. Open the Run prompt and type **x:\i386\winnt32.exe /cmdcons**. (For this scenario, x is the drive letter for the CD-ROM drive, this is usually D: but can vary from system to system.)
3. Confirm the installation by clicking Yes and restart the computer. Now, Microsoft Windows Recovery Console should appear on the boot menu. Select it to start Recovery Console.

Windows XP Boot Errors

Windows XP uses the NTLDR (boot loader), Boot.ini, NTDETECT.COM, and Ntoskrnl.exe files during startup. If any of these files are corrupted or missing, you see one of the following error messages:

NTDETECT failed: This displays if the NTDETECT.COM file is missing or corrupt.

NTLDR is missing: This displays if the NTLDR file is missing or corrupt.

Invalid boot.ini: This displays if the boot.ini file is missing or corrupt. In some cases, the operating system boots anyway because there is usually only one disk partition on the hard disk. If not, the file needs to be recopied to the hard disk.

It should be noted that commands, such as fixboot and fixmbr, can be used in the Windows XP Recovery Console to fix issues such as "NTLDR is Missing" or other issues where a virus has infected the Master Boot Record.

To repair these issues, you can

Reboot to the Windows CD and access the Recovery Console; then recopy the file from the Windows CD-ROM or from backup media.

Repair the installation or restore Windows.

If Windows XP has startup issues, there are a couple of commands that you can use:

FIXMBR: Use this command to repair the MBR of the system partition. Use this command if a virus has damaged the MBR and Windows cannot start.

FIXBOOT: Use this command to write new Windows boot sector code to the system partition.

For an advanced description of the Recovery Console and all its commands, see the following link:

<http://support.microsoft.com/kb/314058> .
