

Lab - Dual Boot - Vista & Windows XP

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After completing this lab activity, you will be able to:

- Install and configure a dual boot Windows XP and Vista operating systems.
- Explain the dual boot requirement for separate partitions/volumes
- Create a partition during the operating system installation.
- Format a partition as FAT or NTFS.

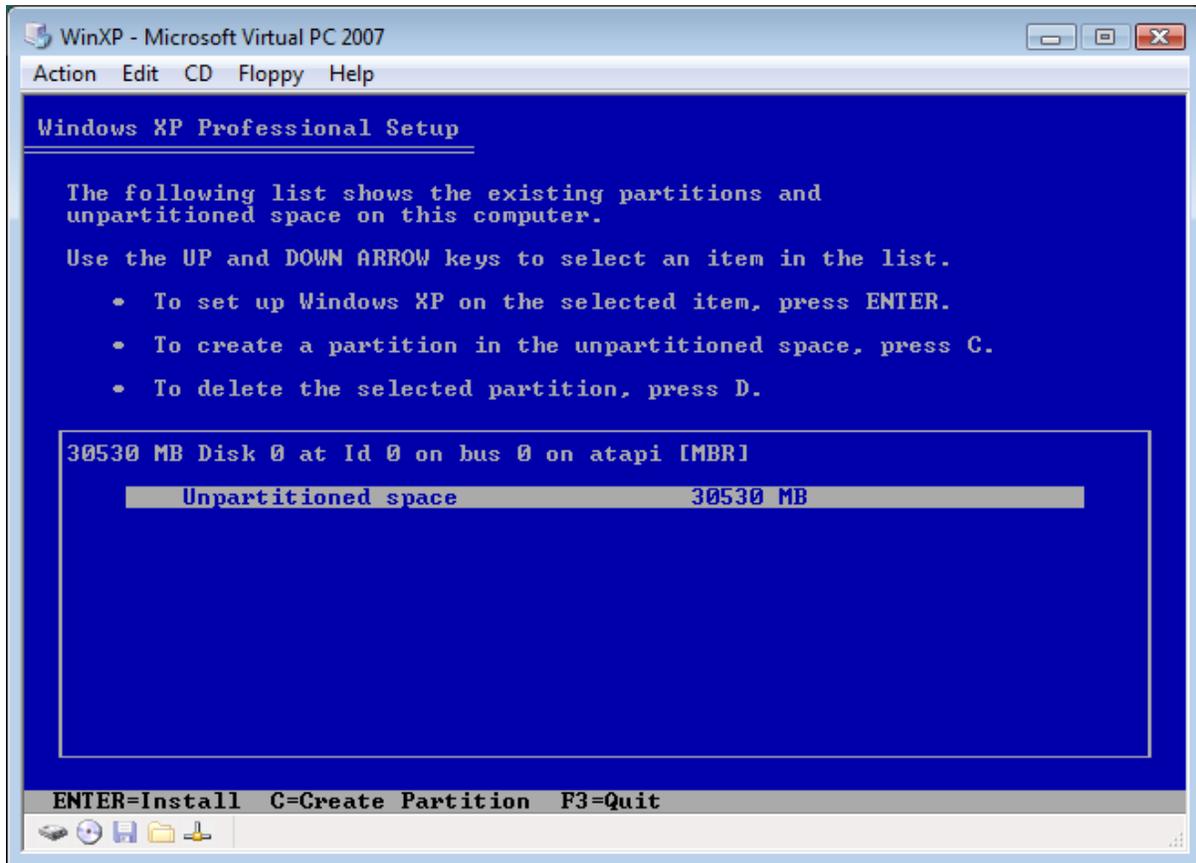
In this lab activity, you will configure a computer as a dual boot operating system. A dual boot also known as a multi-boot system. A dual boot allows you to select from two different operating systems during the boot process. For example, when you are finished with this lab activity, you will be able to start the computer running either Windows XP or Windows Vista operating system. A dual boot operating system is often used during the transition period of one operating system to another. For example, a user or company may want to gradually convert to the newest operating system while still maintaining their present operating system software applications. Often when a new operating system is released, many versions of existing software applications will not function properly. A dual boot system will allow a user to run either operating system from the same physical computer thus allowing the user to run their existing software applications until the software application develops a version of their software that is compatible with the newest operating system.

Normally, when installing an operating system a single partition/volume is created using the entire hard disk drive. When you create a dual boot system you must use two separate partitions/volumes, one partition/volume for each operating system. If you were going to create a multi-boot system using three different operating systems you would need three separate partitions/volumes.

In the first half of this lab you will install Windows XP on a partition while leaving room for a second partition on the same physical drive. If you have already installed Windows XP on a hard disk drive and have used the entire hard drive as one large partition you cannot install Vista on the same partition. In the case of using the entire hard drive as one partition for Windows XP you will be forced to install a second hard disk drive.

The second hard disk drive can be used to accommodate Vista thus creating a dual boot system. This lab activity will be presented as a clean install of Windows XP leaving room for a second partition that will contain Vista.

Look at the screen capture below to see the critical step in the Windows XP installation that requires using only a portion of the entire hard disk drive for the Windows XP operating system installation.



Step 3

This is the critical step of the dual boot installation process. You are presented with three choices here. First, you could press the “ENTER” key which would result in installing Windows XP using the entire hard disk drive area as one large partition/volume. There would be no room to install Vista, and you would be forced to install a second hard disk drive to create a dual boot system using XP and Vista.

Your second choice is press “C” which would create a partition using only a portion of the hard disk drive area and leaving sufficient space for the installation of Vista on the same hard disk drive. This will be your choice during the installation process.

Your third choice is to delete the existing partition(s) by pressing “D”. Since you will likely be using equipment in a computer lab that other students have used, it is not unusual to have a hard disk drive with existing partitions on it. If this is the case, you can use the delete partition option to remove unwanted existing partitions from the hard disk drive.

There are some unique problems you may encounter when using a training-lab computer and lab hard disk drives. In training labs, the hard disk drives are used many times by different students with different classes for many different purposes. Some students may not follow their instructors instructions and do not remove all existing files, partitions/volumes when they are finished using the

hard disk drive. Operating system partitions/volumes can be found on the disk drive after it is returned to the instructor. Problems can arise from using a hard disk drive that contained previous versions of operating systems, especially Linux operating systems. Linux uses a partition/volume format known as “ext” file system or one of its versions. Windows operating systems do not recognize the “ext” file format. If a disk has been used in a previous class for installing a Linux operating system, then you will most likely encounter a problem and not be able to successfully boot into the Windows operating system even though no problem occurred during the install process of the dual boot system. Often, the symptom encountered resemble that the new operating system is corrupt or has failed to successfully install. When this occurs you must re-format the entire hard disk drive. If you are familiar with Linux, you can start the Linux installation procedure, and then delete all partitions form the hard disk drive, and lastly abort the Linux installation procedure.

Another option is to download a utility to perform a low level format of the hard disk drive from the disk drive manufacturer’s web site. You may also find a number of different tools located at the disk manufacturer web site that will identify the existing Linux partitions/volumes and provide a means to remove the partitions. After the Linux type partitions have been removed, and then you can install the Windows operating system in a dual boot configuration.

Materials Required

- Windows XP installation CD/DVD
- 128 MB RAM recommended 64 MB Minimum
- 1.5 GB Partition, in some instances 2 GB is required.
- Processor 300 MHz recommended or higher, 233 MHz is minimum.

Windows Vista installation DVD

Complete User Name _____

Organization _____

User Name _____

Password _____

XP 26 character Product key _____ - _____ - _____ - _____ - _____

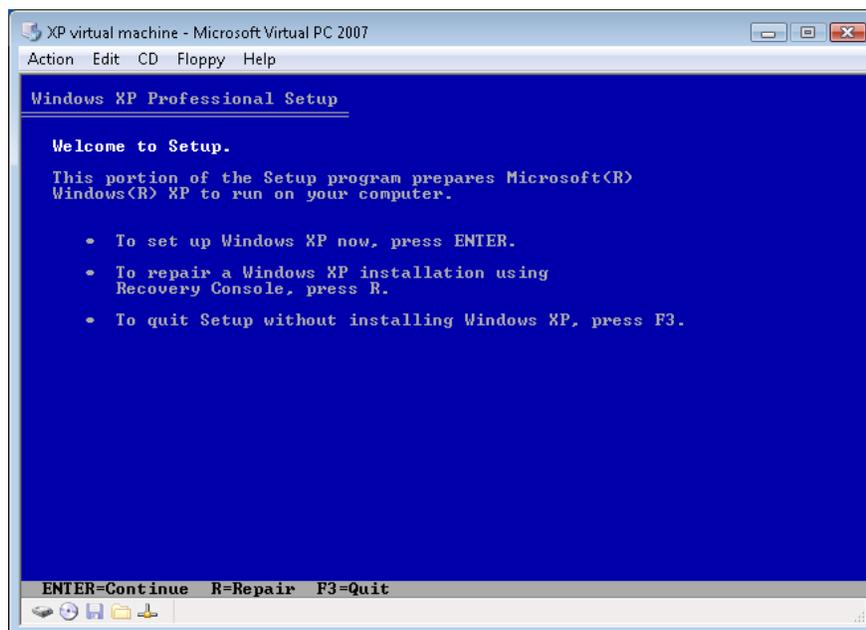
Computer Name _____

Administrative Password _____

Work Group Name _____ or Domain Name _____

Check the Vista system requirements in Part II before continuing the lab activity. If the system will not support Vista, then a dual boot Windows XP and Vista system is not possible.

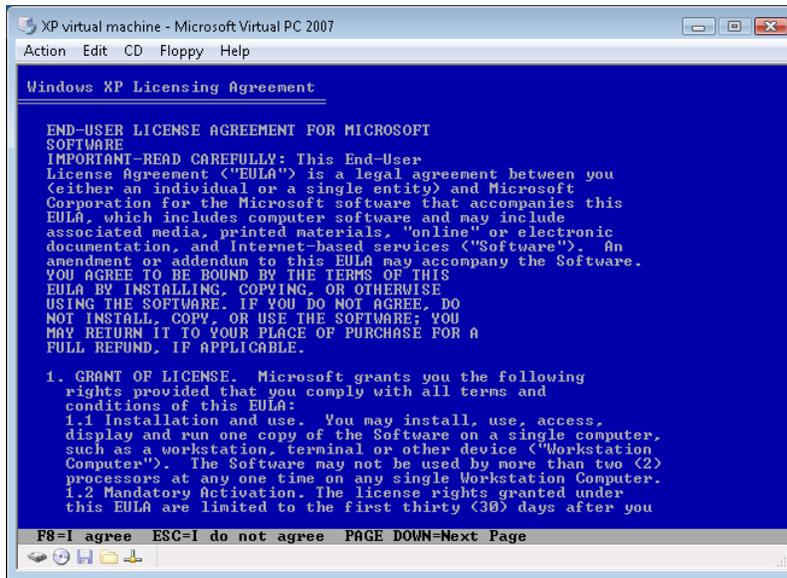
1. ___ Report to you assigned workstation. The workstation may or may not have an operating system presently installed. If the workstation does have an operating system already installed, you can still install Windows XP.
2. ___ Place the Windows XP installation disc into the disc drive and then reboot the computer. The Windows XP disc should automatically begin the installation process. If the computer fails to start the Windows XP installation process you will need to reconfigure the system BIOS. The system BIOS boot device sequence needs to be changed so that the first boot device is the CD/DVD drive. If you need assistance reconfiguring the BIOS, ask your instructor for assistance.
3. ___ After the Windows XP installation CD starts; you should see the Windows XP Setup window similar to the one in the screen capture below.



Welcome to Setup XP Screen 2

You are presented with three choices, “To setup Windows XP now press ENTER”, “To repair a Windows XP installation using Recovery Console, press R.” and “To quit Setup without installing Windows XP, press F3”. You will select the setup option by pressing the ENTER key now.

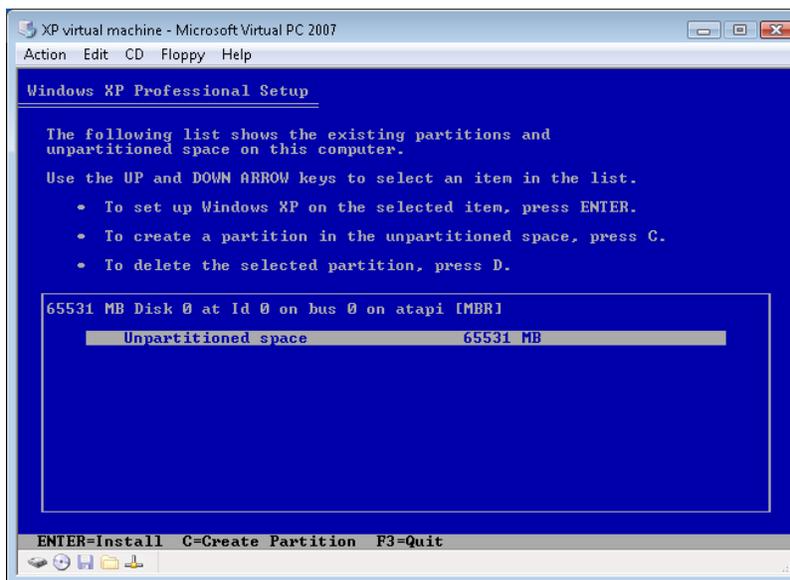
4. ___ Next, the Microsoft Windows XP license agreement will appear similar to the one below.



Windows XP License Agreement XP screen 3

Simply press the F8 function key to accept the license agreement.

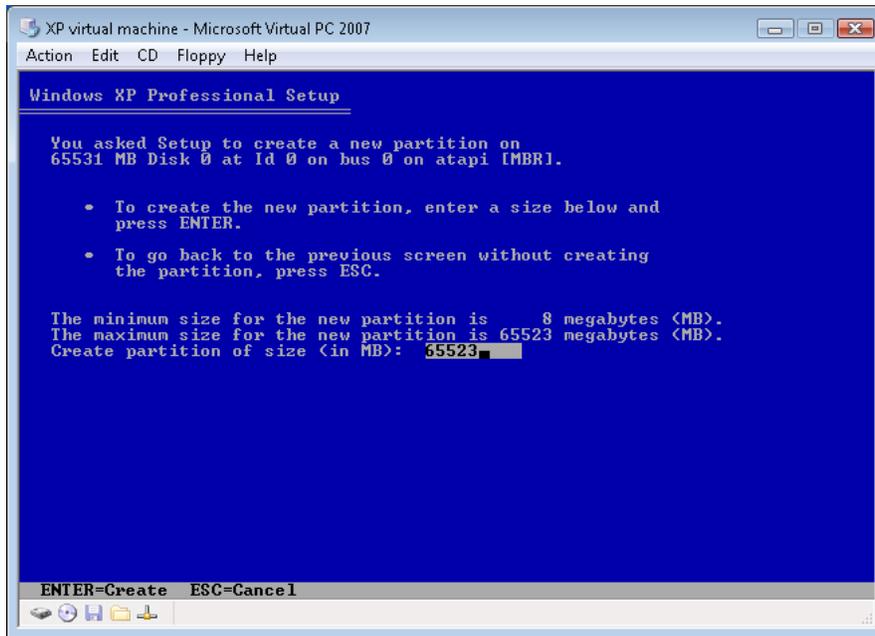
5. ____ Now the most important screen of the dual boot process will appear. The



Create a partition XP screen 4

You have three options at this time. Pressing ENTER will install Windows XP using the entire disk as one large partition. Pressing "C" will create a partition on the hard disk drive. This is the choice you need to make so that you can make a partition for Windows XP, and still leave ample room on the hard disk drive to create a separate partition for Windows Vista.

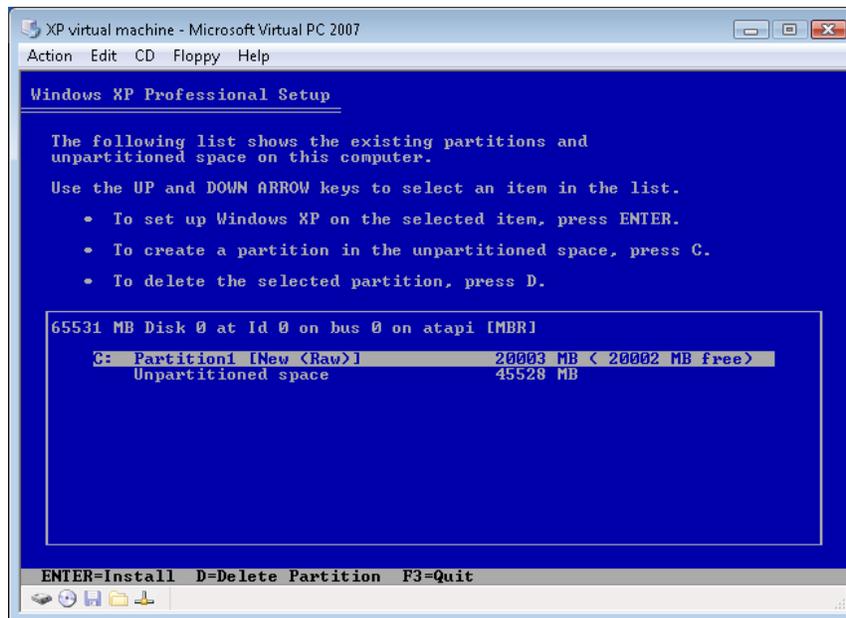
6. ____ The next screen to appear will prompt you to choose the size of partition you will create.



Partition Size XP screen 5

Create a partition of 20000 MB for the Windows XP operating system. This should still leave adequate space for Windows Vista.

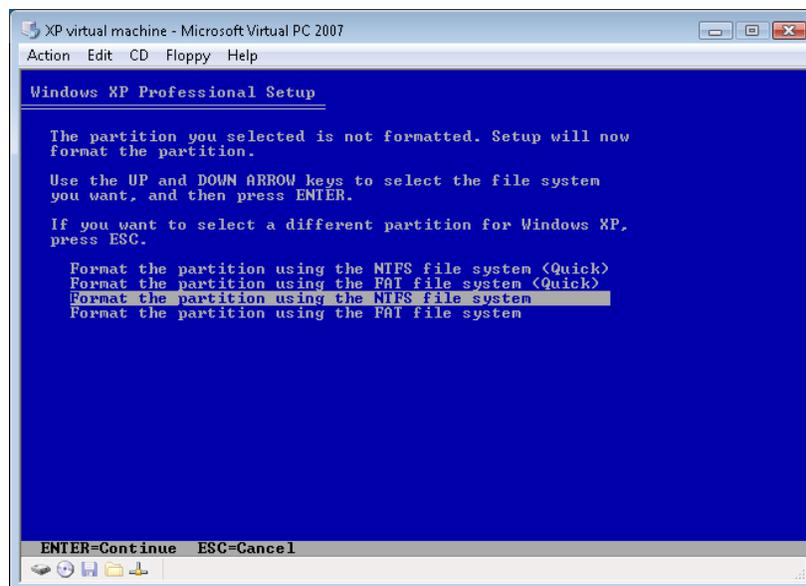
7. ____ The next screen will prompt you to verify the creation of the new partition and will look similar to the one in the screen capture below.



Verify Partition XP screen 6

Now you will press the "ENTER" key to install Windows XP on the selected partition.

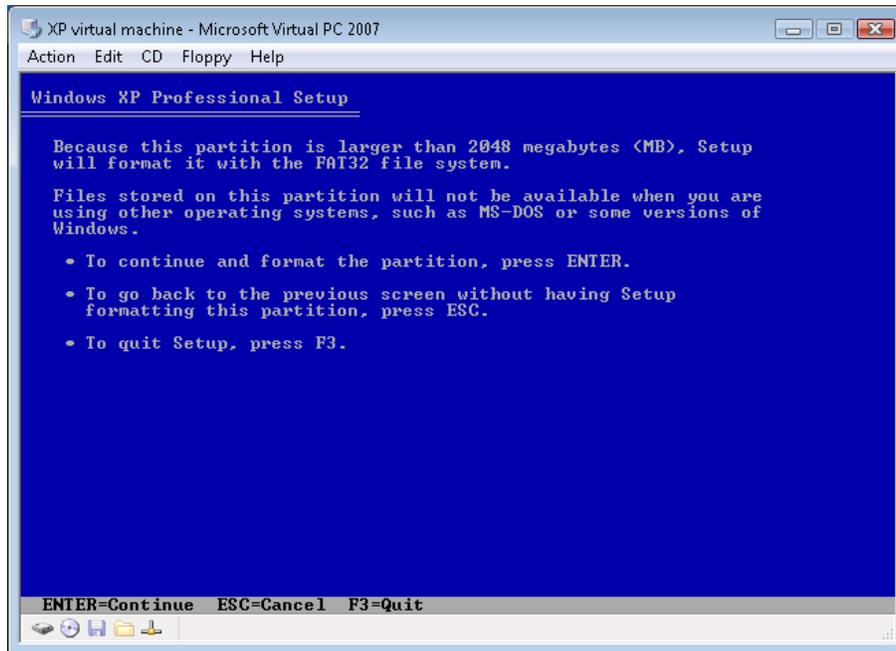
8. ____ The next screen will provide you with four file format options, NTFS (Quick), FAT (Quick), NTFS and Fat. The difference between performing a regular format and a quick format is the fact that a quick format does not check for bad sectors. Also a quick format can only be performed on a previously formatted partition.



Format Select Screen 7

The Windows default choice is NTFS file system. But for this lab activity, you will select the FAT file system, not the FAT (Quick) option. Use the bottom choice which will do a complete format using FAT32. Choosing FAT32 for Windows XP, and later choosing NTFS for the Vista installation, will provide you with an opportunity to compare each file format. You will be able to compare security features and user permissions. You will also be able to perform a file conversion from FAT32 to NTFS.

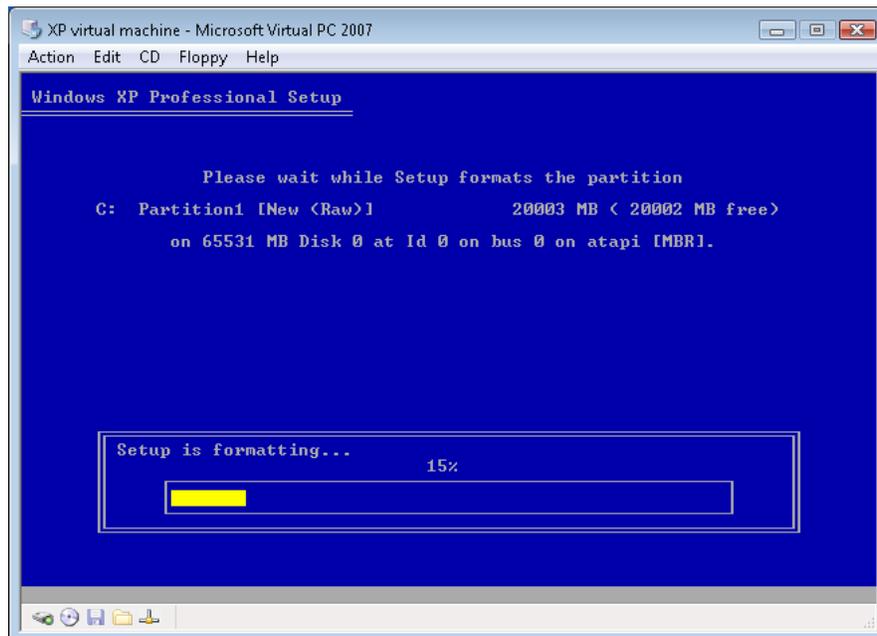
9. ____ The next screen to appear will verify your choice of FAT file format.



Verify FAT XP screen 8

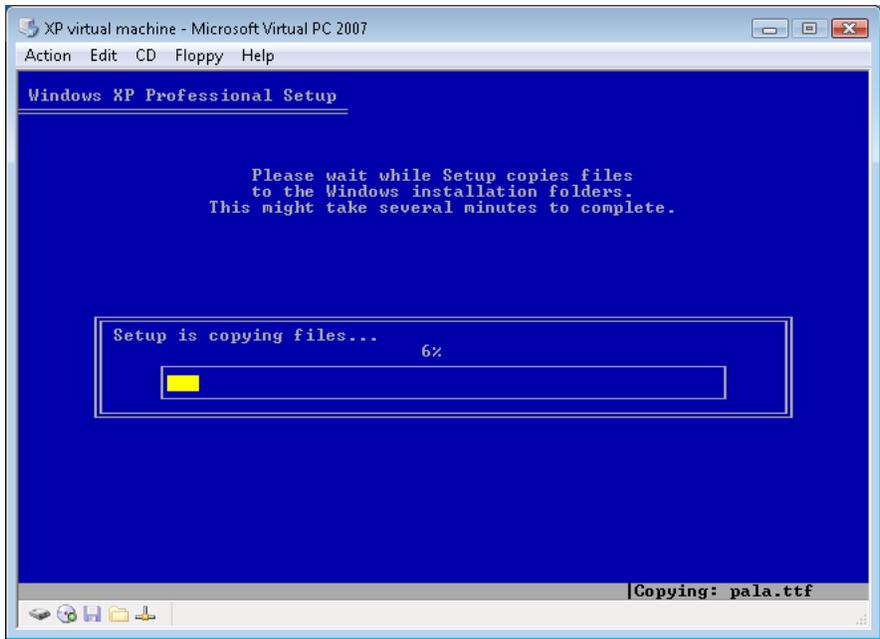
Notice the message that appears informing you that the partition is larger than 2048 megabytes (MB), setup will format it with the FAT32 file system. This is because the largest FAT16 partition is 2 MB, anything larger requires FAT32.

Press the “Enter” key to verify your choice of FAT32 for the Windows XP partition. You will see the format process being displayed similar to the screen capture below.



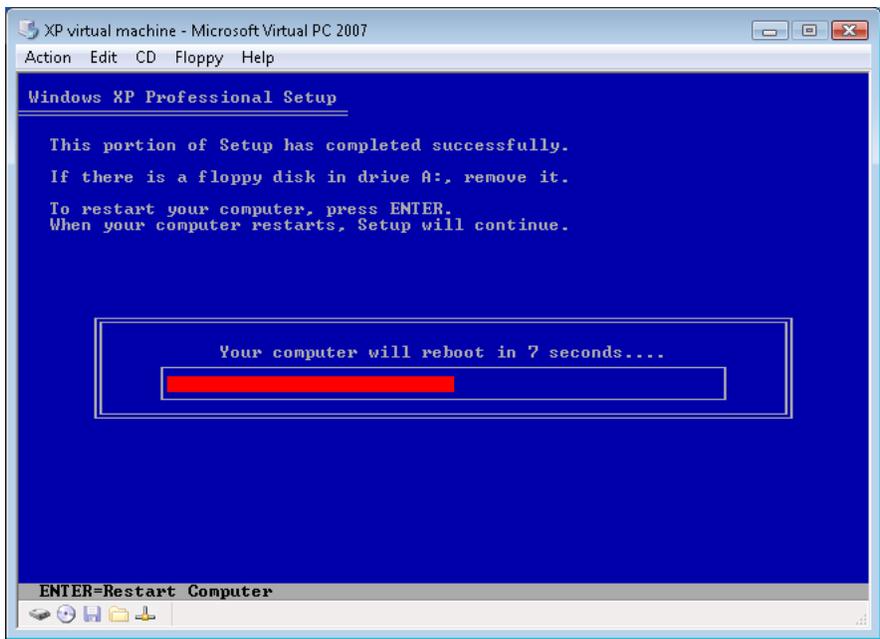
XP screen 9

As you can see, the format progress is displayed as a bar graph and percentage. The larger the partition, the longer the format process will take. After the format process is complete, the next screen to appear notifies you that the installation files are being copied from the installation cd. See a sample screen display below.



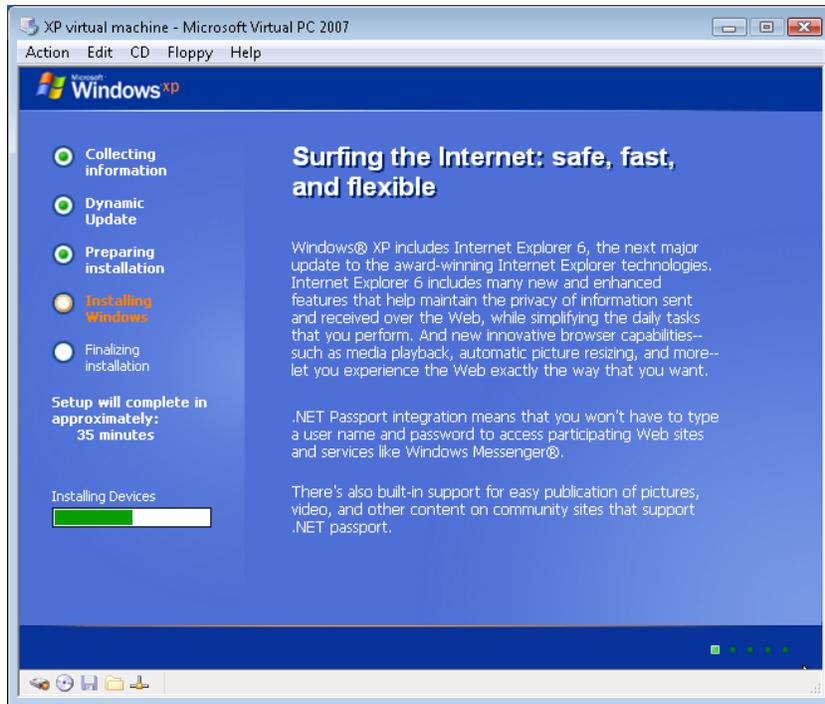
XP Screen 10

The next screen to appear will warn you that the computer is about to reboot and to remove any floppy disk from drive A. You also have the option to reboot the computer without the delay by pressing the ENTER key.



XP Screen 11

After the computer reboots, the text command line input portion of the installation ends and the graphical user input portion begins. Look at the screen capture below of the start of the graphical user installation portion beginning.

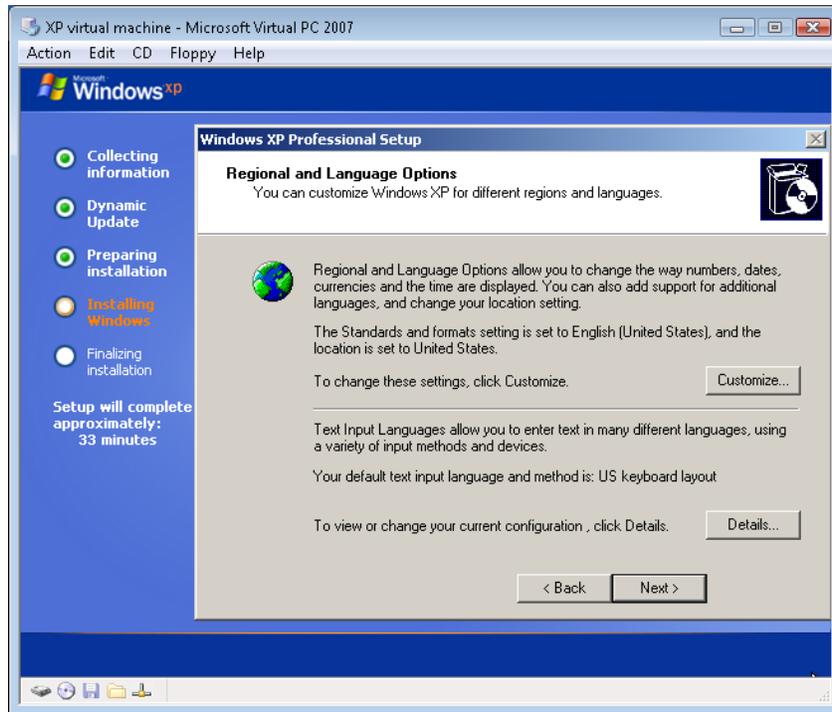


XP screen 12

You can view the progress of the installation by viewing the progress bar and or watching the major installation portion indicated by the radial buttons on the left. Right now, the “Preparing installation” portion has ended and the “Installing Windows” has begun.

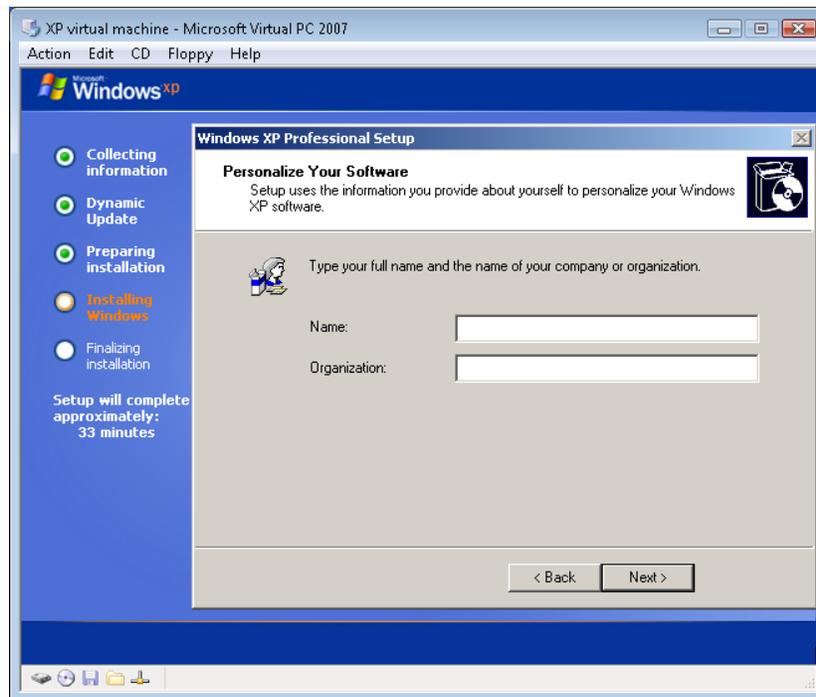
The next series of dialog boxes to appear will request user information to complete the installation process. You may also experience a system reboot several times during this portion of the installation process.

10. ____ The next dialog box informs you of the default region and language selection. You can choose different languages and regional settings at this point if you desire. In most instances, you will simply select the default English (United States) configuration.



XP screen 13

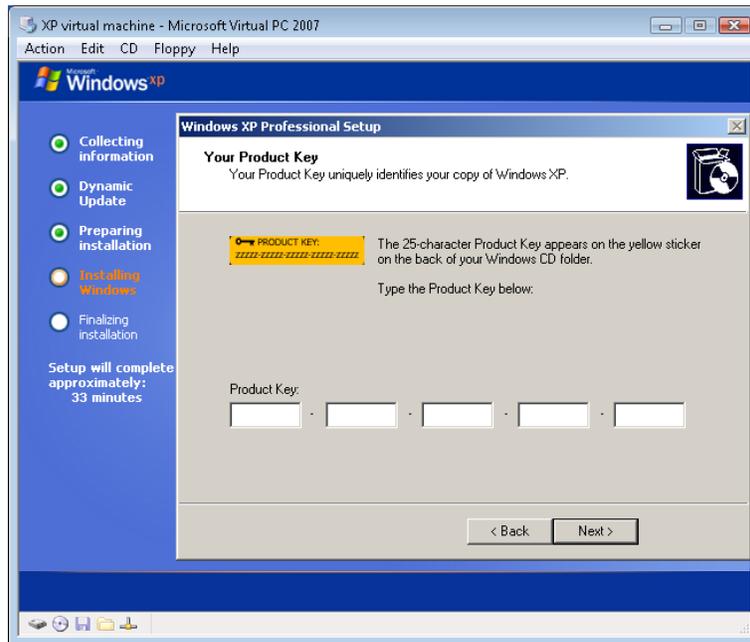
11. ____ Next, you are prompted for your full user name and organization. These are actually optional but filling them in will provide information used in many Microsoft Windows software applications such as Microsoft Office.



XP Screen 14

Input the user name and organization provided in the required materials section.

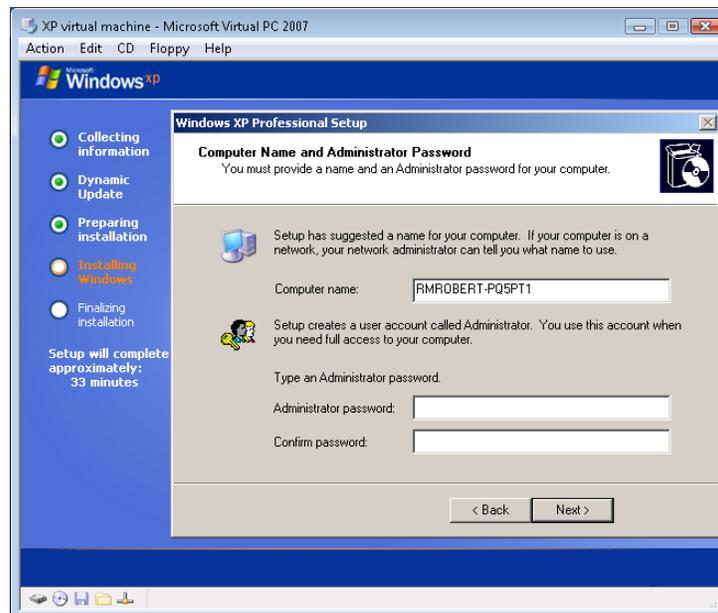
12. ____ Next you are prompted for the 25 character product key.



XP Screen 15

As stated in the dialog box the product key is typically on the back of the Windows CD case. You may also receive the product CD key from your instructor. Enter the product key now.

13. ____ The next dialog box to appear prompts you for the computer name and administrative password.

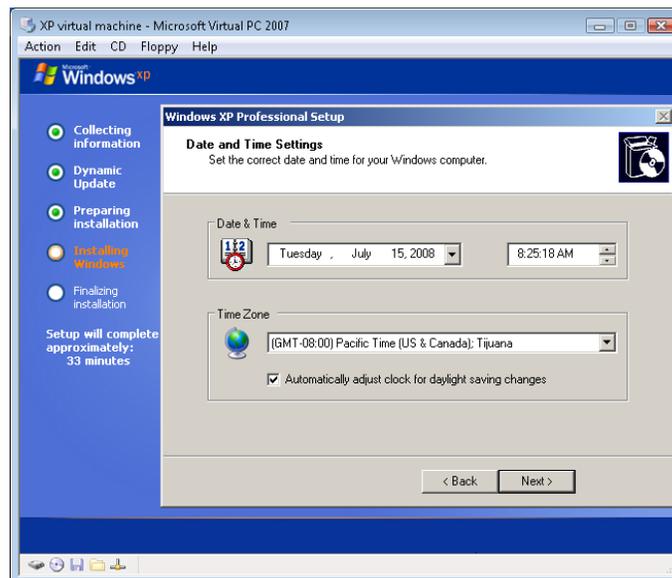


XP Screen 16

As you can see in the screen capture, Windows XP will automatically generate a suggested computer name based on previously input information and a randomly generated set of characters. Each computer name should be unique to insure proper networking communication and workstation identification. Computers identified with the same name will prove to be confusing.

The administrator password is entered twice to insure that when the first password is entered that it does not contain a typo. Use the administrator password provided by your instructor in the Required Materials list.

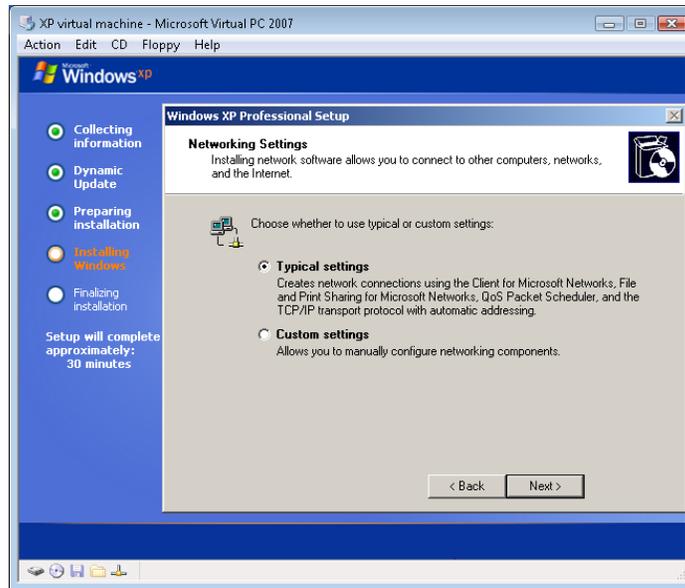
14. ____ The next dialog box to appear prompts you for the date and time, as well as the time zone.



XP Screen 17

The correct time is typically already entered based on the system BIOS. You will most likely need to identify the correct Time Zone.

15. ____ The next dialog box to appear prompts you for the network settings.

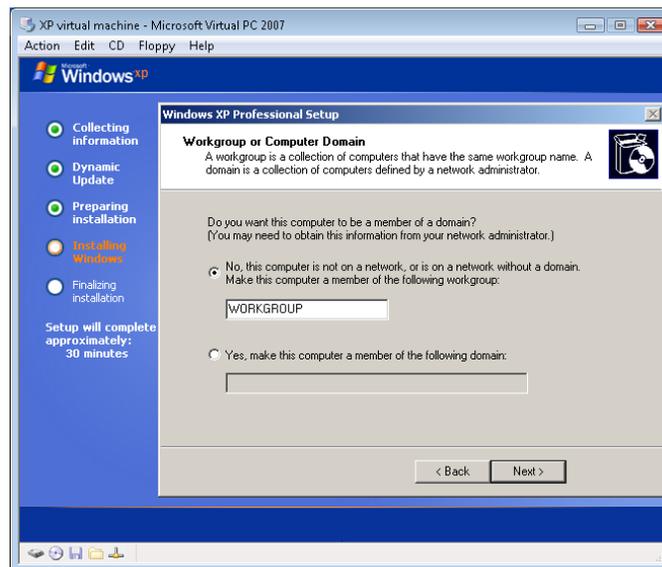


XP Screen 18

In most instances, you will accept the default “Typical settings”. The “Custom settings” allows you to configure the network settings manually. For example you can assign a static IP address for the computer rather than accept the default DHCP setting which means that the computer will receive an IP address automatically from a network server or service provider.

Simply accept the typical settings now.

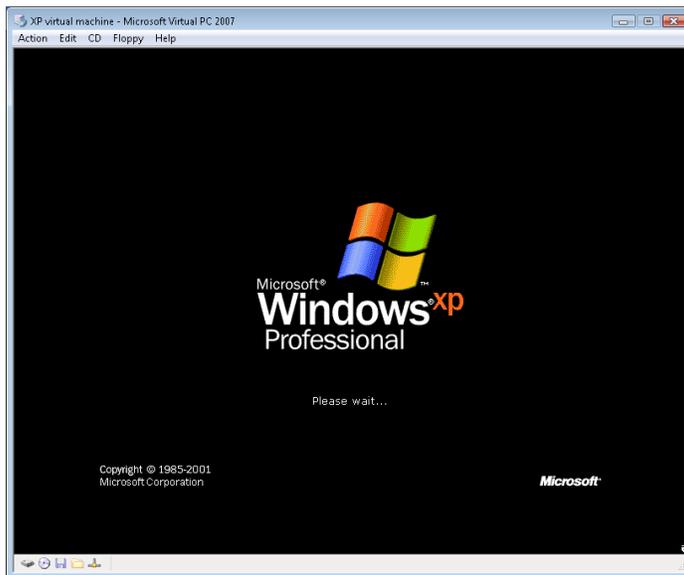
16. ____ The next dialog box to appear is another question concerning network configuration.



XP Screen 19

Here you can leave the default selection identifying the computer as part of a network not controlled by a domain administrator and server. The default name is “workgroup” and should be left as is for this lab unless otherwise instructed by your instructor. If you are going to make this computer part of a domain you must look back to the required material list to see the domain name issued by the instructor.

17. ____ The next screen to appear automatically is the Widows XP splash screen similar to the one in the screen capture below.



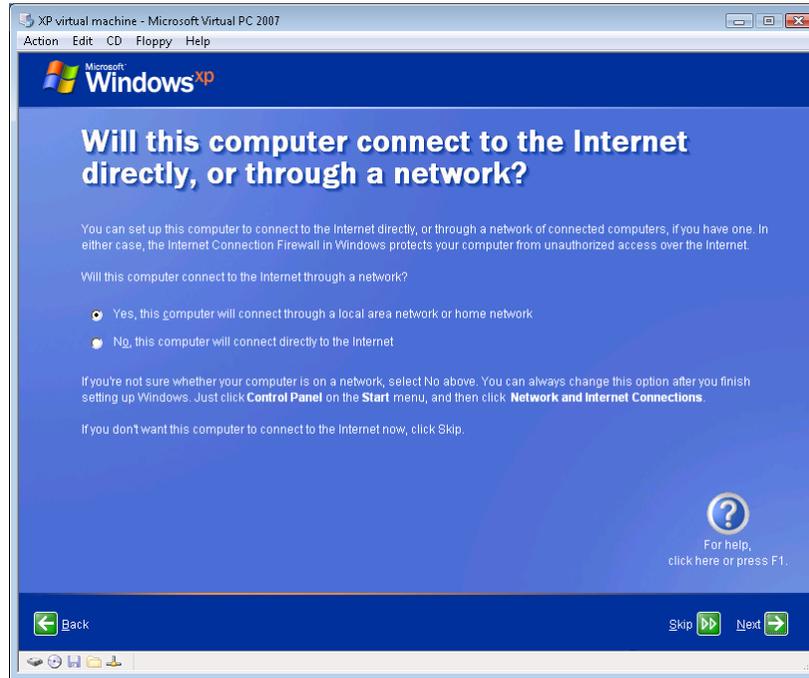
XP Screen 20

18. ____ After a few seconds the “Welcome to Microsoft Windows” will appear. Select the “Next button to proceed.



XP Screen 21

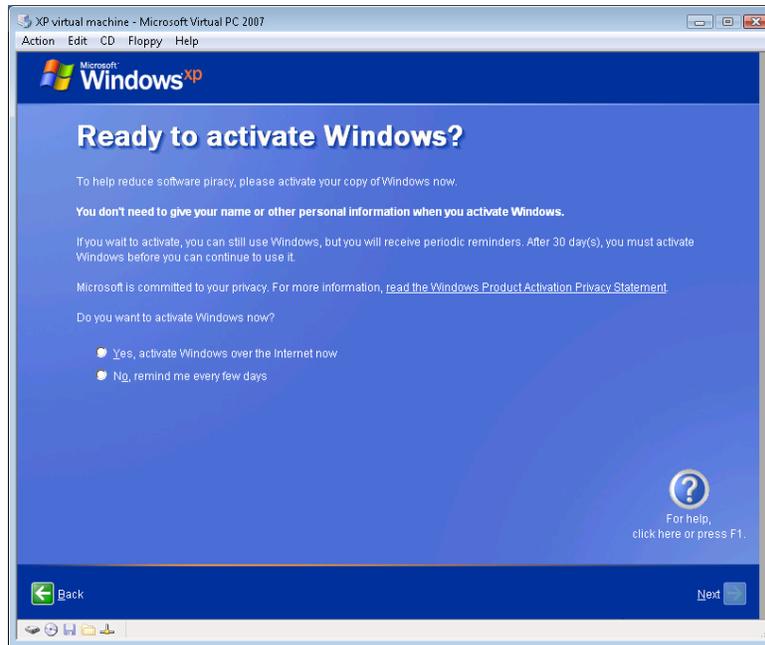
19. ____ The next screen to appear will ask if the computer will connect to the Internet.



XP Screen 22

You can select the “No” option at this time. Windows XP can be configured to connect to the Internet at a later time.

20. ____ Now you will be prompted to activate Windows XP. You do not need to activate Windows XP at this time. You have 30 days to activate Windows XP.



XP Screen 23

You can activate Windows XP at some future date, but not during this lab activity.

21. ___ You will be prompted to register with Microsoft at this time.



XP Screen 24

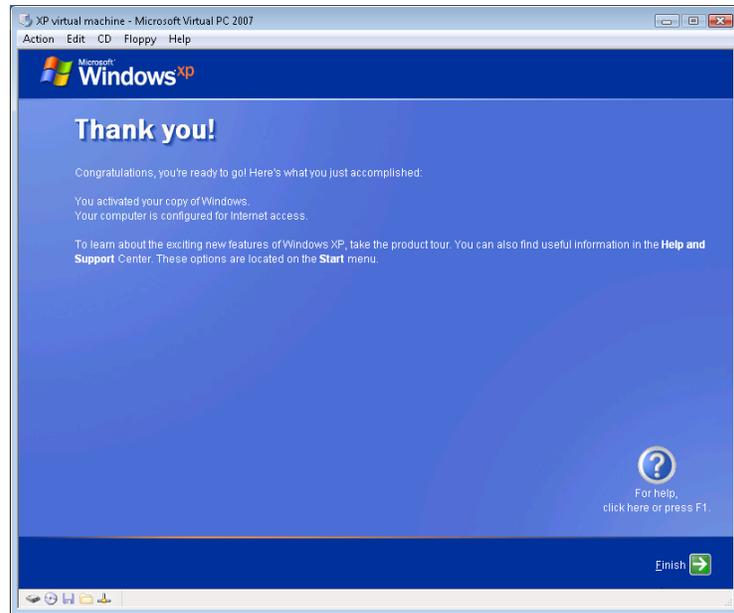
Select the "No" option at this time. Do not register with Microsoft.

22. ___ Now you will be prompted to add additional user who will use the computer.



XP Screen 25

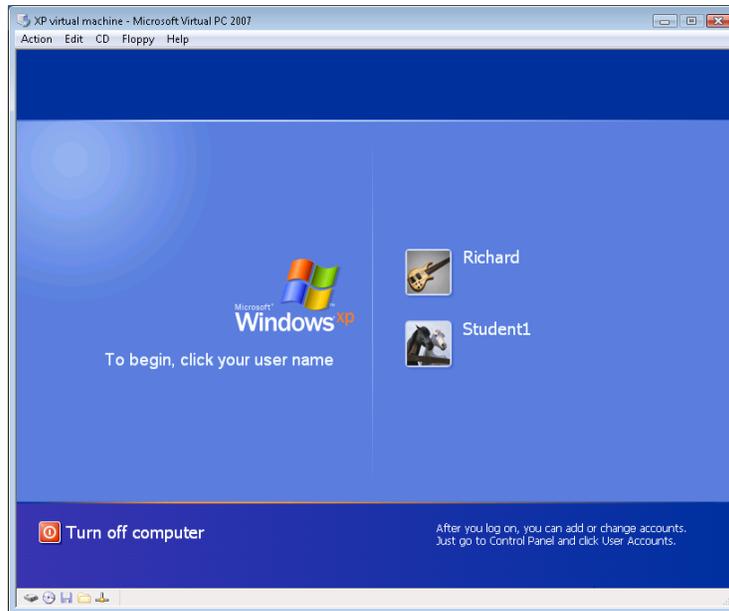
Do not add any additional users at this time. The next screen will appear automatically.



XP Screen 26

Simply select the "Next" button to continue the finalization of the setup.

23. ____ The system logon screen will appear next similar to the one below.



XP Screen 27

Logon and verify that Windows XP has been successfully installed and is running properly.

24. ___ Shut down the computer and then boot the computer once more to verify the Windows XP system is working.

25. ___ Have your instructor inspect your computer now.

Part II Vista

In the second half of this lab activity, you will install Windows Vista in a separate partition.

Vista System Requirements for Home Premium, Business, or Ultimate Editions.

- GHz processor
- 40 GB Hard drive (at least 15 GB of free space)
- 1 GB RAM, (512 GB minimum)

You can download Windows Vista Upgrade Advisor from the Microsoft website to determine if the hardware system will support Vista.

You will be performing a clean install, not an upgrade. If you are presented with an upgrade option, then you are most likely installing the Vista operating system in the same partition as the Windows XP

operating system. You do not want to install Vista in the same partition as the Windows XP system. The Vista must be installed in its own separate partition. Vista will detect the presence of another operating system such as Windows XP and it will ask if you want to install an upgrade version over the existing Windows XP operating system. You will select not to install over the existing system. If there is ample space on the hard disk drive, you will be automatically directed to use the unused disk space. You may need to install a second hard disk drive to have an area in which to install Windows Vista.

Information you will need to complete the Vista installation.

User Name _____

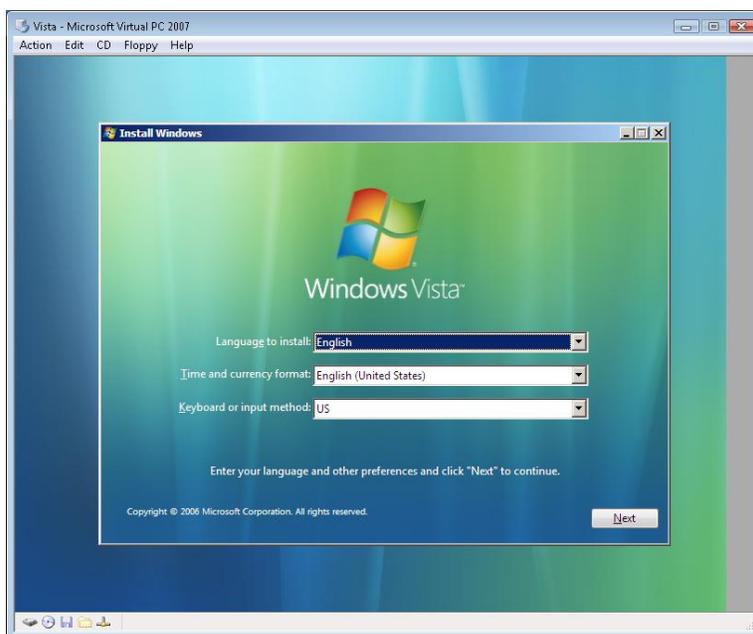
Password _____

Product ID _____ - _____ - _____ - _____ - _____

Computer Name _____

Location type Public, Private or Work. _____

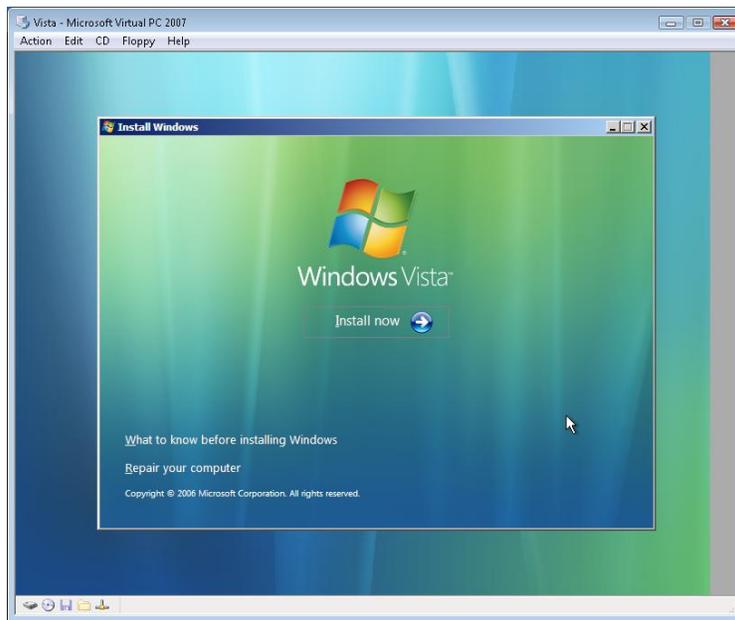
1. ____ Boot the work station, insert Vista installation DVD and then restart the system. When the system boots it will automatically start the Vista installation DVD.
2. ____ The first screen to appear is similar to the screen capture below.



Dual Boot Vista 1

Vista is set for the default English language as well as the time and currency formats. You will accept the defaults in most cases.

3. ____ the next dialog box to appear prompts you to either install or repair an existing system.



Dual Boot Vista 2

You also have an option to view material about what you should know before installing Windows.

Simply select "Install now" option.

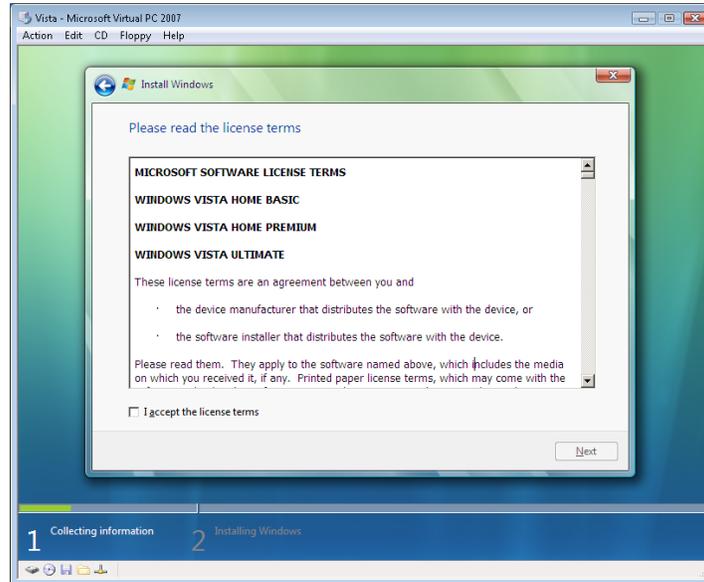
4. ____ The next dialog prompts you for the 25 character product key.

Dual Boot Vista 3

Uncheck the default "Automatically activate Windows when I'm online. You can activate Vista anytime in the next 30 days. The reason you should not activate at this time is the possibility that you may experience a problem. And then must reinstall after changing some hardware device. If you do activate Vista, it typically waits three days before performing the actual activation.

Enter the product key carefully. Some characters are often incorrectly read such as the upper case letter B and number 8, the upper case letter Q and upper case letter O, and so forth.

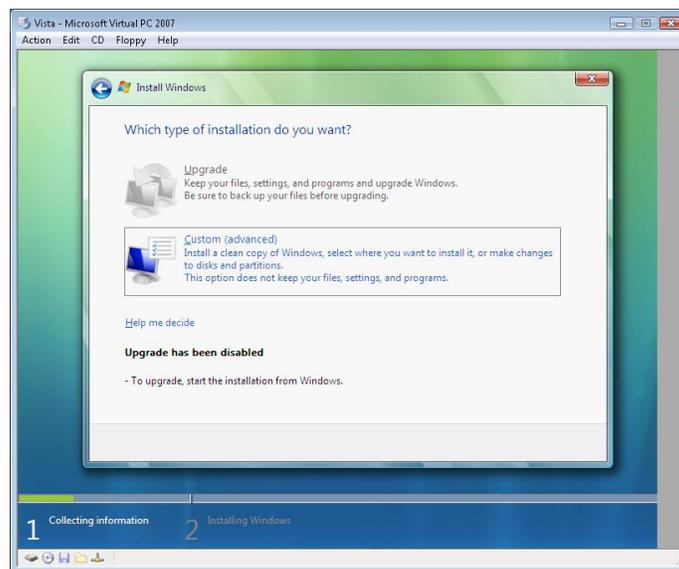
5. ____ Next, you are prompted to accept the license agreement.



Dual Boot Vista 4

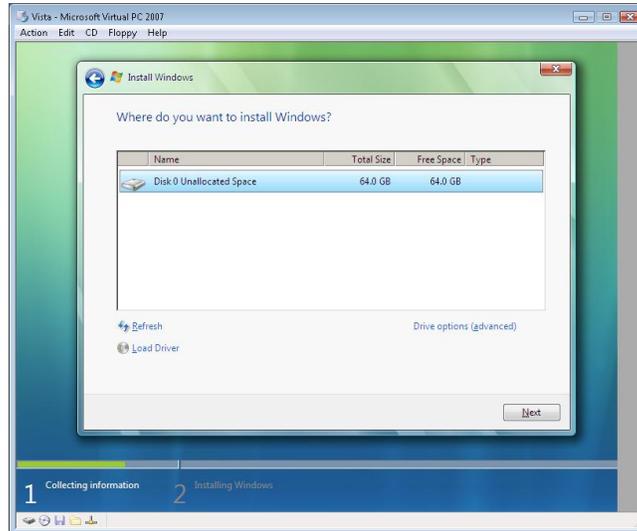
Select “I accept the license terms” and then select “Next”.

6. ___ Next select the option to perform a clean installation.



Dual Boot Vista 5

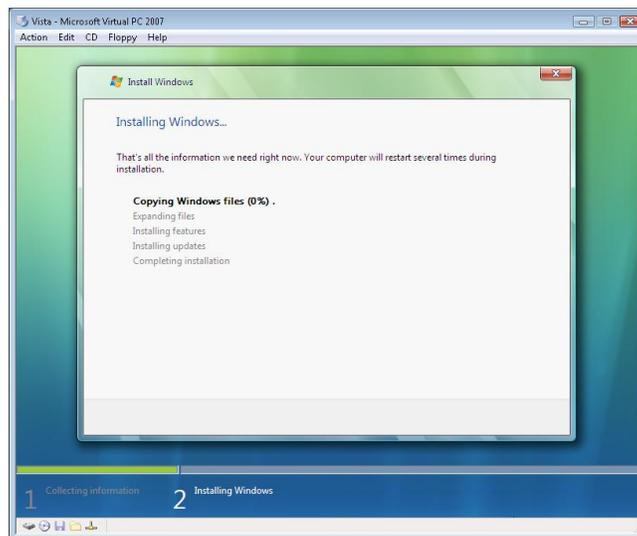
7. ___ The next dialog box to appear will present the layout of any existing partitions and unused disk space. The screen capture below was taken from a Virtual Pc system and does not reflect a true screen capture of what you might see in a real dual boot scenario.



Dual Boot Vista 6

Your view should show the previously installed Windows XP partition, as well as the unused portion of the hard disk drive. Selecting the “Drive options (advanced)” will provide you with the tools necessary to create a partition in the unused space of the hard disk drive. You will install Vista in the unused section of the hard disk drive. You will also limit the size for the Vista partition to 40 GB. A large partition will take significantly longer to format. Your lab time is most likely very limited and formatting a very large drive could take hours.

8. ___ The next dialog box will present the progress of the installation.

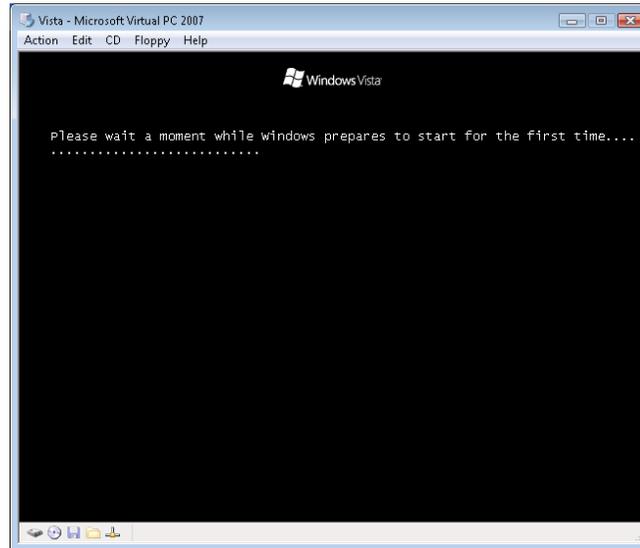


Dual Boot Vista 7

The series starts with the “Copying files...” through the “Completing installation”. You may see the computer reboot during this section of the install process.

Then screen displays “please wait a moment while Windows prepares to start for the first time.”

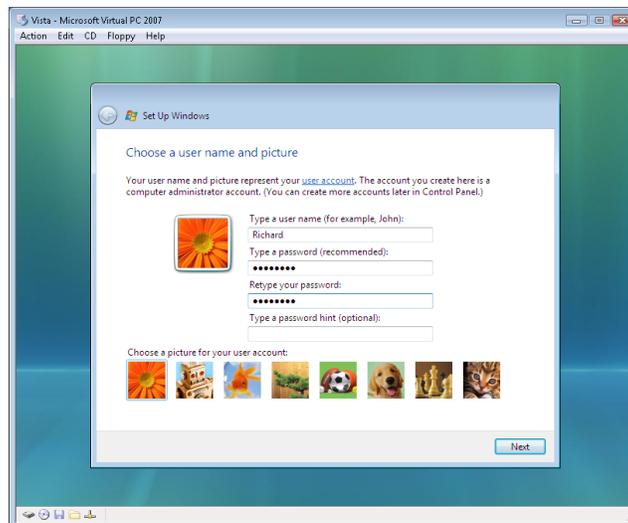
Now the same progress screen appears showing the last step Completing installation.



Please Wait 2

At the end of the series of screen presenting the progress you will see a black screen with the notice “Please wait a moment while windows prepares to start for the first time.....” . This portion can take quite a while, much more than a few moments. Please be patient.

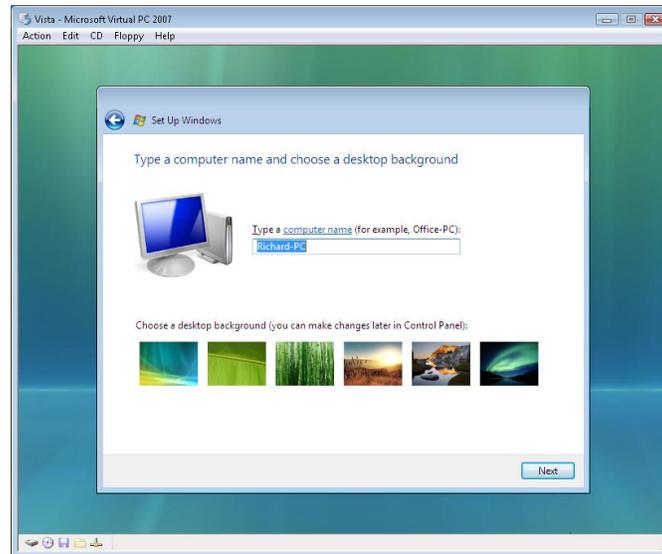
9. ____ The next dialog box to appear after Windows Vista starts for the first time will prompt you for a user name and password.



Dual Boot vista 12

You will need to enter the password twice. The option to enter a password hint is optional and generally not used. You may also pick an icon for the user account at this time.

10. ____ Next, you are prompted to choose a computer name and a desktop image.

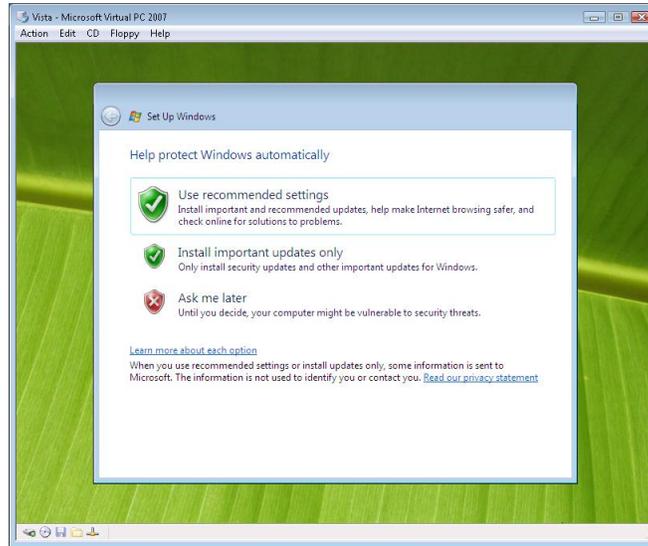


Dual Boot Vista 13

When choosing a computer name you should use a name that does not match the previous Windows XP name. Using the same name for the same computer (in a dual boot scenario) can cause some security problems. The security system detects the same name used for two different operating systems and may interpret this as an attempt to hack into a network. I have seen many times that a computer has a difficult time connecting to a network share when the same computer name is used for both dual boot operating system.

In the case of Vista, you will notice that it does not generate a random set of characters the way Windows XP did. Accepting the default name should be alright for this lab activity. You should use the computer name issued by your instructor for the lab.

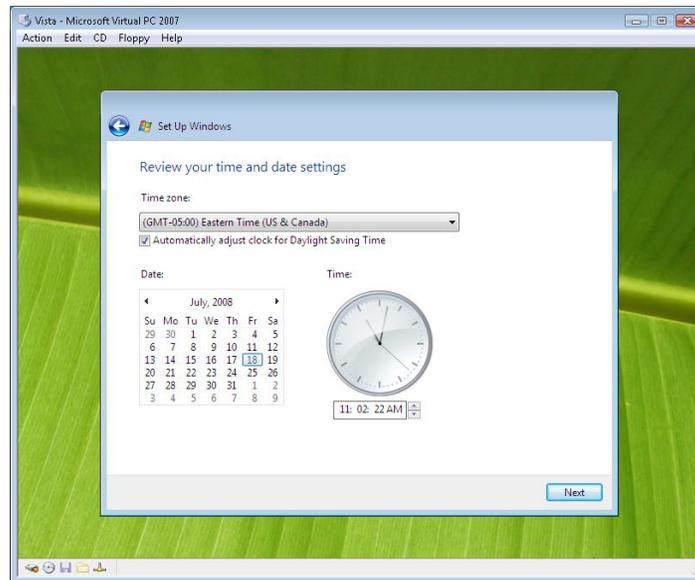
11. ____ The next dialog box prompts you for information about automatic updates.



Dual Boot Vista 14

Simply select “Ask me later” to save lab time. You can always install updates later.

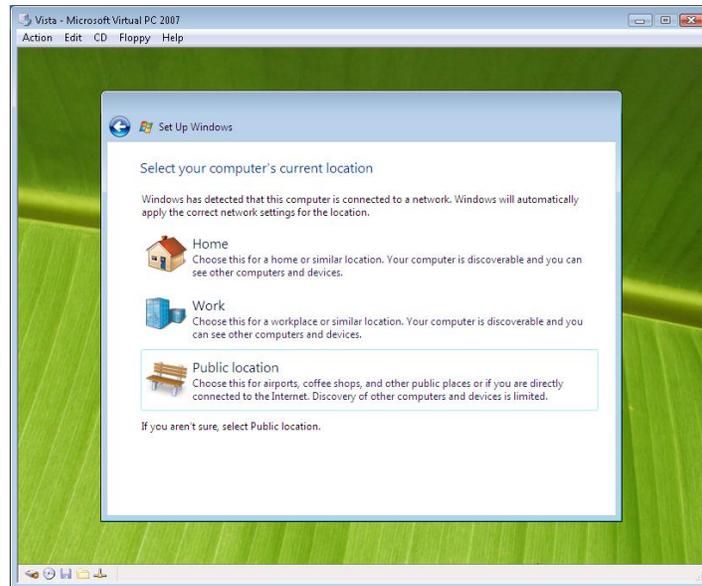
12. ____ The next dialog box prompts you for information concerning the date, time and time zone.



Dual Boot Vista 15

Complete or verify the information to match your setting.

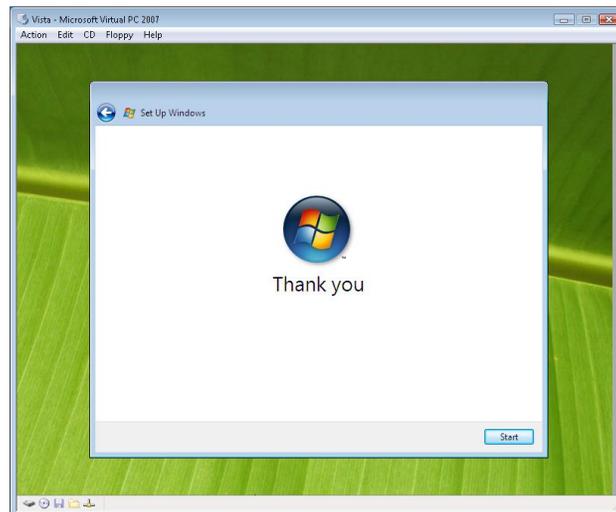
13. ____ Now you must select the type of setting your computer is used in.



Dual Boot Vista 16

The three choices will determine how to configure network discovery and the Microsoft firewall. For this lab activity simply select "Public Location" unless otherwise indicated by your instructor.

14. ____ Next, the Vista thank you will appear followed by the logon screen.



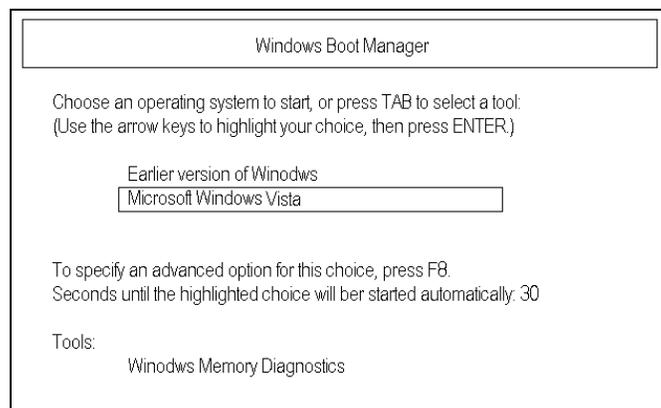
Dual Boot Vista 17



Dual Boot Vista 18

That's it, you're done.

When you restart the computer you will see the Windows boot manager a screen similar to the one below.



Vista Boot Manager

The boot manager refers to the Windows XP operating system as "Earlier version of Windows".

You will have 30 seconds maximum time to make a choice otherwise the boot manager will automatically select the Vista operating system.

Thanks it. You have completed the lab activity and created a dual boot system. Go on to answer the review questions at this time.

Review Questions

1. How many partitions are required for a dual boot operating system installation? **Two.**
2. What is the largest FAT16 partition? **2MB.**
3. What is the default partition format for Windows XP? **NTFS**
4. What is the default partition format for Windows Vista? **NTFS**
5. How long do you have before you must activate Vista? **30 days.**
6. What is the recommended and minimal partition size for Vista?
7. What is the recommended and minimal RAM for Vista?
8. What is the recommended minimal hard disk drive space for Windows XP? **1.5 GB**
9. What is the minimal RAM and recommended amount of RAM for Windows XP? **64 MB minimum, 128 MB recommended.**
10. What is the name of the program that controls which operating system is selected during the boot operation? **Boot manager.**