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PARAGON SYSTEM UPGRADE UTILITIES 2010 SUITE

QUICK USER GUIDE: SMOOTH AND SECURE MIGRATION TO WINDOWS 7

SMOOTH AND SECURE MIGRATION TO WINDOWS 7

Every release of the latest operating system from Microsoft makes a huge stir within the PC world, so it's quite natural that most of us, being Windows users, just cannot stay indifferent to that event, moreover we're looking forward to it, as every new version of Windows promises to be more secure, efficient, and easier to use.

In this guide we'd like to offer you, as we consider, the most appropriate and secure way of migrating to Windows 7 from Windows XP or Vista that involves:

1. Initial backup of your current system to make sure you won't lose your data accidentally during the system migration.
2. Preparation of one of our bootable recovery environments (WinPE 2.1 or Linux/DOS based) to boot and recover the system when it fails to start up.
3. Creation of a dual boot system (Windows XP/Vista + Windows 7).
4. Conservation of your old Windows to a virtual environment (P2V).
5. Deletion of your old Windows to have Windows 7 alone on the disk, while the old Windows will still be available in a virtual environment or from the initially created backup image.

But before you start, please make sure the following conditions are met:

1. Your hard disk has enough free space to store a backup image of your current system (depends on the system), if you've preferred to use a local disk as a backup storage. Anyway we highly recommend you to use an external storage or a network share as a backup storage to stand a better chance of success in case of a hard disk failure.
2. Your hard disk has enough free space to install Windows 7 as an additional operating system (more than 10 GBs).
3. You've got a distributive DVD of Windows 7.
4. You've got drivers for your hardware compatible with Windows 7.
5. Your hard disk has enough free space to store a virtual image of your Windows (depends on the system).
6. You've got one of the supported virtualization software (MS Virtual PC, VMware Workstation, or VMware Fusion). You can get MS Virtual PC for free if you've purchased Windows 7 Professional or higher and have got a CPU with the Intel-VT or AMD-V support). As for VMware - you can purchase it online or at a local software store.

If everything is OK, we can guarantee you smooth and secure migration to Windows 7.

CREATING A BACKUP OF YOUR CURRENT SYSTEM

Our product supports basic techniques of storing backup images:

- You can place a backup image to a local mounted partition. Despite the fact that it is the most convenient way, try not to use it. You can delete your backup just by accident or lose it as a result of a hardware malfunction, or a virus attack;
- You can place a backup image to a network drive to stand a better chance of success in case of a hard disk failure. Moreover, by storing it on a special-purpose server you may be pretty sure nothing will happen to it;

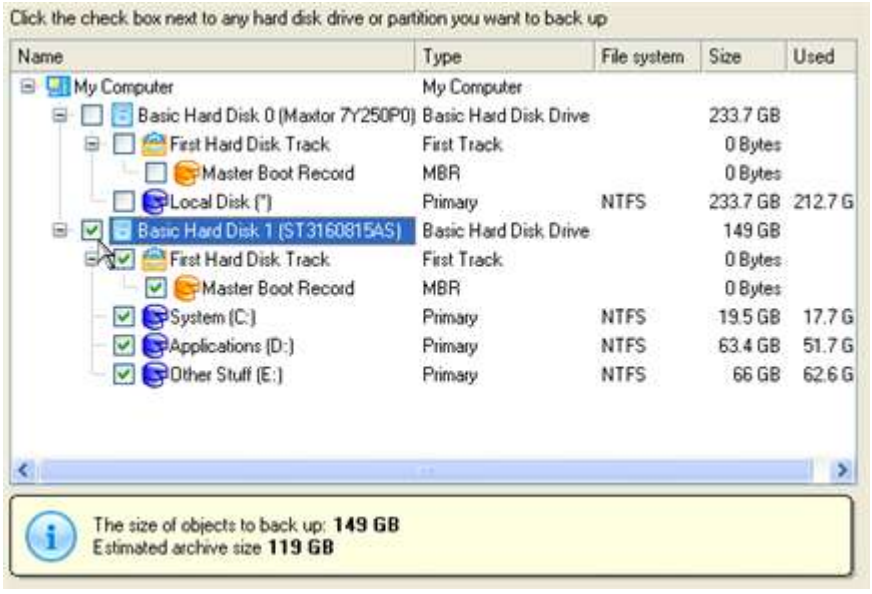
- Finally you can place a backup image to an external storage. This will help you provide for a higher level of data protection than the first option does, while always having your backup at the immediate disposal.

Below you can find how to back up your system and data and then place the resulted image to a network share:

1. Launch the **Simple Backup Wizard**.

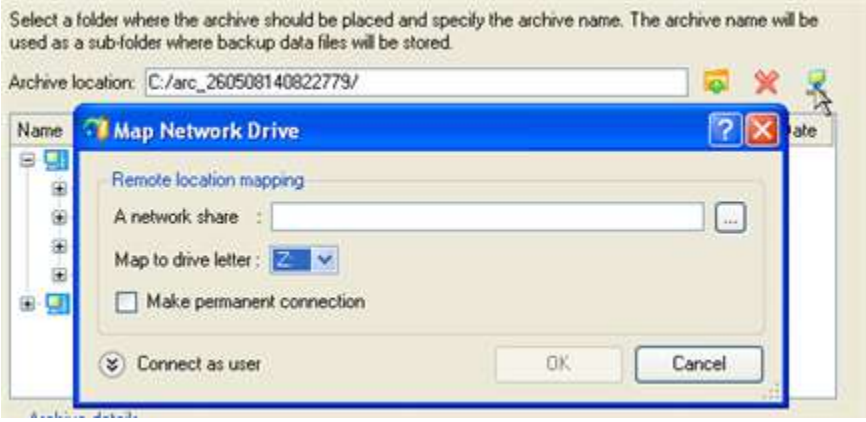
2. On the Wizard's Welcome page, click the Next button.

3. Mark a checkbox opposite your system hard disk's name to back up all data of the disk (recommended). Anyway if you've got several partitions on the disk, you can only select the one containing the operating system, thus minimizing size of the resulted backup image. In this case however, you cannot guarantee protection for the data placed on the other partitions.



4. Map a network disk to place your backup image to:

   - Call the Map Network Drive dialog by clicking the appropriate button;



- Click the standard browse button [...] to browse for the required network share or manually enter a path to it;
- Define a letter from the pull-down list of available drive letters;
- Mark the checkbox to make this connection permanent. Otherwise it will only be available for the current Windows session;
- Click the Connect as user button at the foot of the dialog page to specify a user name and password to access the selected network share if necessary.

5. Edit the archive name if necessary.

Please take into account values of the parameters Estimated archive size and Space available on backup destination - if the archive size exceeds the available space, another network drive needs to be selected.

6. Click the Next button to start the backup process.

This operation can also be accomplished with WinPE recovery environment.

BUILDING BOOTABLE RECOVERY MEDIA

Recovery Media Builder can help you accomplish the following operations:

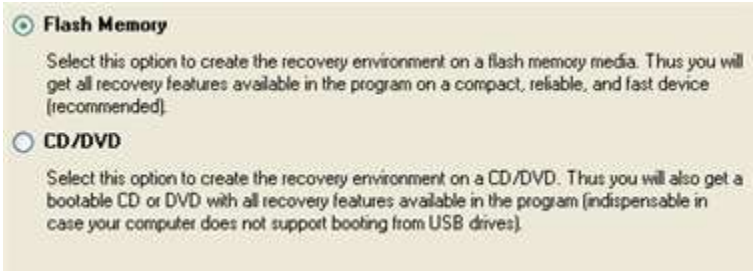
- Prepare the Linux/DOS recovery environment (included in the installation package) on external media (CD, DVD, or flash memory) to boot and run utilities under Linux or PTS DOS, and that way to get access to your hard disk for maintenance or recovery purposes (strongly recommended);

- Prepare a custom Linux/DOS recovery environment by adding any data you like to the standard image;
- Prepare a bootable recovery environment from any ISO image, including our WinPE 2.1 image (strongly recommended);
- Create from the master CD the Linux/DOS or WinPE recovery environment on a CD/DVD disc, or flash memory.

Below you can find how to build our WinPE 2.1 based recovery environment on a thumb drive:

1. Plug in a thumb drive of at least 250 MBs in size. Please note all data on that drive will be deleted.
2. Launch the **Recovery Media Builder**.

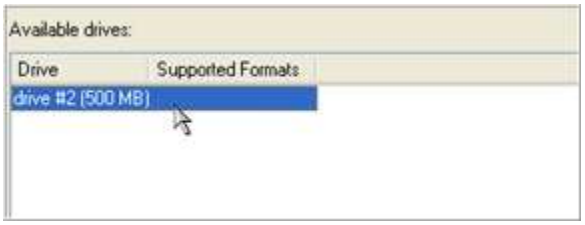
3. On the Wizard's Welcome page, click the Next button.
4. Select the **Flash Memory** option.



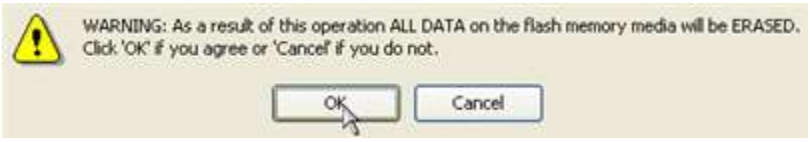
5. Select the **User specified CD/DVD image (.iso file)** option, then browse for an ISO image of our WinPE 2.1 recovery environment or manually type in a full path to it. By selecting the **Typical** option you can build our Linux/DOS recovery environment, which we highly recommend you to do as well.

You can get an ISO image of our WinPE 2.1 recovery environment through the company's web service.

6. Select the required thumb drive from the list of flash memory devices available in the system at the moment (if several).



7. You will have to confirm the operation.



CREATING A DUAL BOOT SYSTEM (WINDOWS XP OR VISTA + WINDOWS 7)

Creation of a dual boot system involves several operations:

- Getting your computer ready to install an additional OS;
- Installation of the new operating system;
- Boot management of your dual boot system.

But before you start, please make sure the following conditions are met:

1. Your hard disk has enough free space to install Windows 7 as an additional operating system (more than 10 GBs).
2. You've got a distributive DVD of Windows 7.
3. You've got drivers for your hardware compatible with Windows 7.

If everything is OK, please consult our step-by-step guide that demonstrates how to create a dual boot system (Windows XP/Vista + Windows 7).

GETTING YOUR COMPUTER READY TO INSTALL WINDOWS 7

Getting your computer ready to install a new operating system, especially when it is going to be an additional OS in the system, is a rather complicated task that implies quite a number of operations, from allocating space to create a new partition (resize, redistribution of free space) to formatting of the newly created partition to a particular file system and checking its surface for bad sectors to avoid possible data loss. Operating systems today are being supplied with basic tools of partitioning that only enable to create a partition (in case there is enough unallocated space on the disk) and then format it to the specified file system type.

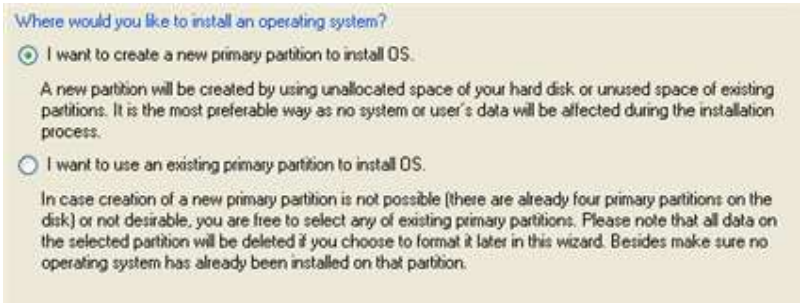
Our product offers a handy Install New OS Wizard that can help you carry out all the necessary operations to get your computer ready to install Windows XP and later operating systems from Microsoft (Windows 7 included) either as a sole or an additional OS.

Our product won't allow you to install an additional operating system on the same partition your current OS is installed. It's been done this way according to the recommendations from Microsoft to provide for better security and system independence. Moreover we will hide the first system partition before installation of the second OS to guarantee complete isolation of the two.

Below you can find how to get your computer ready to install Windows7 as an additional OS:

1. Launch the **Install New OS Wizard**.

2. On the Wizard's Welcome page, click the Next button.
3. Select the appropriate option to create a new primary partition on your hard disk.



4. On the next page of the wizard, define size of the new partition. If the selected hard disk contains blocks of free space, the wizard will automatically merge them all and allocate the resulted space to create the partition. If not, it will take 50% of the unused space of an adjacent partition, thus resizing it.

To install Windows 7 your hard disk should have at least 10 GBs of the free space.

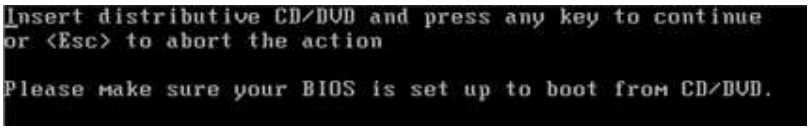
5. The next page enables to specify a file system and a number of additional parameters. Since we are going to install Windows 7, the most preferable file system is NTFS. Click the Yes button to continue.

On this page you can specify a number of additional parameters that can also be of help. However here we pay attention to the most relevant to fulfill our task.

6. Enter a label for the future partition in the textual field. It will later be used for the drive identification.

Please use a unique and catchy name to make it easier later to install Windows 7 on the right partition.

7. Complete the wizard and then apply the pending changes.
8. The program will carry out all the necessary operations and automatically restart the computer. At the end you will see the following message:



This means everything is ready to launch installation of Windows 7.

If you've changed your mind on installing a new operating system, don't insert its distributive but press ESC at this point.

All the mentioned above operations can also be accomplished with the WinPE recovery environment.

To install Windows 7 on the newly created partition, please insert its distributive DVD. We won't go into details as for its installation, as you can find all the necessary information in documentation that comes with the product. However to avoid any problems, we consider it necessary to draw your attention on the following issues:

- To automatically start your computer from this disc, please make sure the on-board BIOS is set up to boot from CD first or press F12 during the startup to select a bootable device;
- Do not forget to select the newly created partition as destination. Please check it twice before you continue not to accidentally delete your current OS.

Since all the needed partitioning tasks have already been performed with our product, it's strongly recommended not to re-partition your hard disk with the built-in facilities of the Windows 7 installer. Just select the newly created partition as destination - you can easily identify that partition by the name you've given to it earlier.

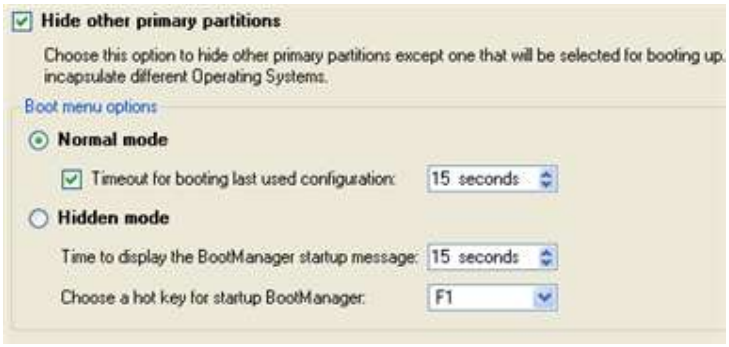
MANAGING YOUR DUAL BOOT SYSTEM

So if everything is OK, you've got to have by this moment Windows 7 successfully installed. Your Windows XP however is still non-bootable, as we've hidden its partition to guarantee complete independence of the two operating systems. To fix this issue you need to launch the Boot Manager Setup Wizard. To do that, please install the product once again, but this time in Windows 7 to activate Boot Manager.

To avoid double installation of the product, please use the WinPE recovery environment to activate Boot Manager.

1. Launch the **Boot Manager Setup Wizard**.

2. Set up the wizard. The most relevant option here is the possibility to hide other primary partitions except the one selected to boot and it is by all means should be activated to make Windows 7 and Windows XP unaware of each other. The rest of the parameters offered by default will do in our case, so just complete the wizard and it will automatically find the two operating systems and update the MBR.



3. Now restart the computer to make sure you have got a dual boot system. From this time on you will be prompted which OS to launch at every system startup.

MIGRATING YOUR OLD WINDOWS TO A VIRTUAL ENVIRONMENT

With new powerful x86 computers, system virtualization has become extremely popular. It's a software technology that enables to run several virtual machines on one physical machine, providing resources of that single computer are shared across several environments. As a result one and the same physical computer can have multiple OSs and applications operating simultaneously, thus opening up enormous opportunities for both, business and home users, exactly:

- Avoid underutilization of up-to-date powerful computers;
- Increase flexibility of a physical infrastructure;
- Provide for increased availability of hardware and applications;
- Cut expenses on hardware and energy;
- Guarantee smooth and cost saving system migration;
- Enjoy working with old applications you can't launch on your current PC;

- Take advantage of having multiple operating systems on one Windows PC, including Linux, Mac OS X, etc.;
- Forget about hunting for replacement of the failed hardware, and many more…

With our product you can easily migrate a Win2K+ physical system to a virtual environment (P2V) of a major virtualization software vendor, no matter if it's currently online or being backed up with Paragon software. This procedure involves several operations:

- Creation of a virtual disk out of your old Windows;
- Creation of a new virtual machine with the previously created virtual disk.

But before you start, please make sure the following conditions are met:

1. Your hard disk has enough free space to store a virtual image of your Windows (depends on the system).
2. You've got one of the supported virtualization software (MS Virtual PC, VMware Workstation, or VMware Fusion). You can get MS Virtual PC for free if you've purchased Windows 7 Professional or higher and have got a CPU with the Intel-VT or AMD-V support). As for VMware - you can purchase it online or at a local software store.

If everything is OK, please consult our step-by-step guide that demonstrates how to conserve your old Windows to a virtual environment of MS Virtual PC.

You're free to skip this scenario as you've got the option to virtualize your Windows from the previously created backup image any time you like. To know more on the subject, please consult the "Virtualizing System From Its Backup Image" user guide.

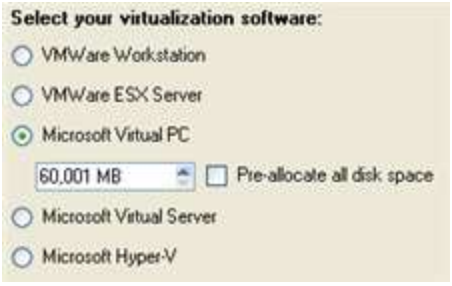
CREATING A VIRTUAL DISK OUT OF YOUR OLD WINDOWS

1. Launch the **P2V Copy Wizard**.

2. On the Wizard's Welcome page, click the Next button.
3. Select either an entire hard disk or only the system partition you want to make a virtual disk of.

It's pretty enough to select the system partition only to make your Windows start up in a virtual environment. However that doesn't guarantee all your applications will work, as they can be installed on the other partitions of the disk.

4. Choose your virtualization software vendor and a number of additional parameters, including.
   - **Type of the virtual disk.** You can either create an IDE or a SCSI virtual disk (relevant for VMware only);
   - **Create a split disk.** You can choose whether to automatically cut the resulted virtual image to files of 2 GBs or not (available for VMware only);
   - **Pre-allocate all disk space.** You can choose whether to pre-allocate all space of the future virtual disk, or do it dynamically;



Not all vendors may be available to choose. If the capacity of the selected object exceeds the maximum capacity for a certain virtual disk, its vendor will be shadowed.

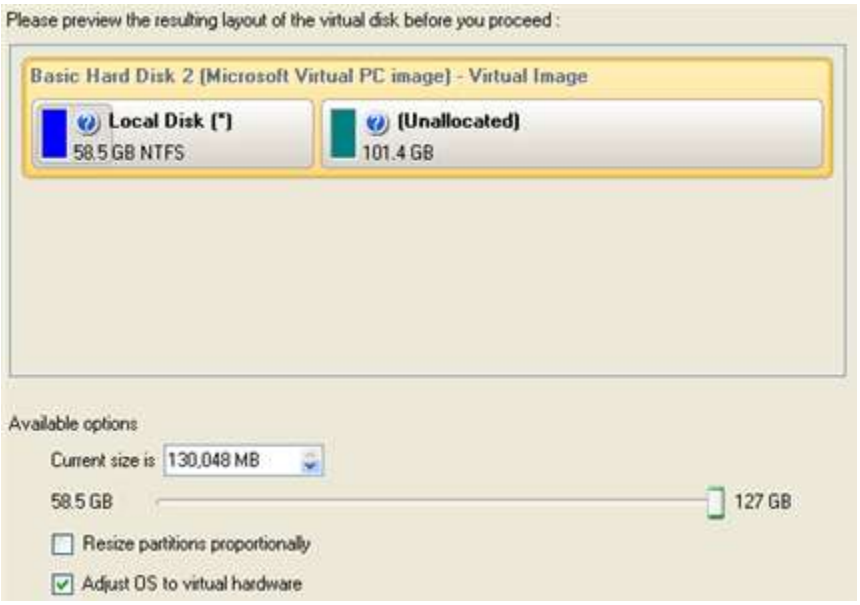
5. Depending on your choice the next page of the wizard enables to set the following parameters:

   For a separate partition

   - **Size of the virtual disk.** By default the program offers to create a virtual disk exactly the size of the selected object, which you can upsize however. Please note, you can only increase size of the resulted virtual disk;
   - **Take all space for the partition.** If you upsize the resulted virtual disk, you can choose whether to occupy the whole disk space by that partition or not;
   - **Adjust OS to virtual hardware** to make sure the operating system will be bootable after the operation.

For a hard disk

- **Size of the virtual disk.** By default the program offers to create a virtual disk exactly the size of the selected object, which you can resize however.
- **Resize partitions proportionally.** If you upsize the resulted virtual disk, you can make the program proportionally change the size of partitions keeping their relative order intact.
- **Adjust OS to virtual hardware** to make sure the operating system will be bootable after the operation.



The maximum limit you can downsize the virtual disk is the capacity of its first partition.

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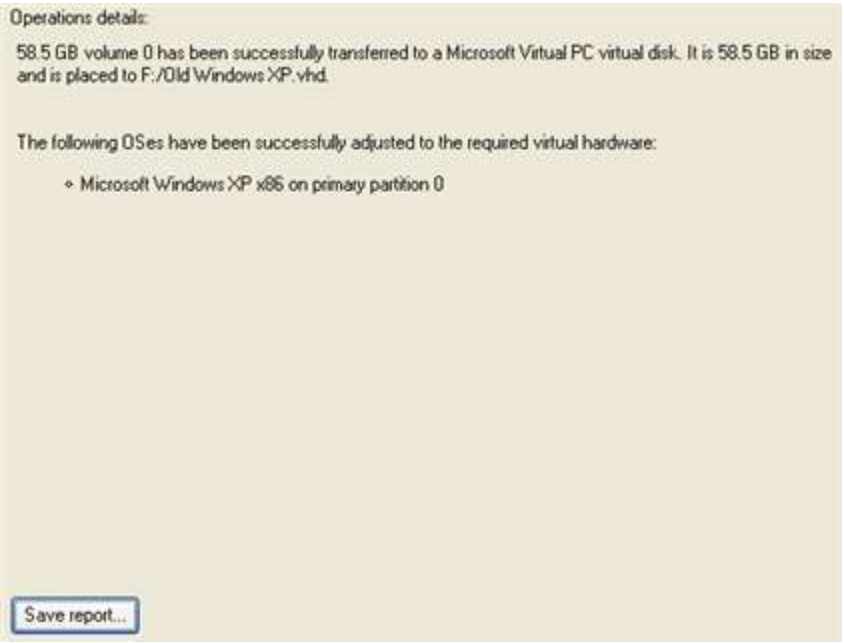
6. On the next page of the wizard set a file name for the resulted virtual disk and its location. Besides you can also provide a path to the integration package of your virtualization software (if necessary).

It's strongly recommended to provide a path to VM Tools/Additions ISO image if you transfer Windows XP to a VMware SCSI disk, otherwise your system won't boot after the operation.

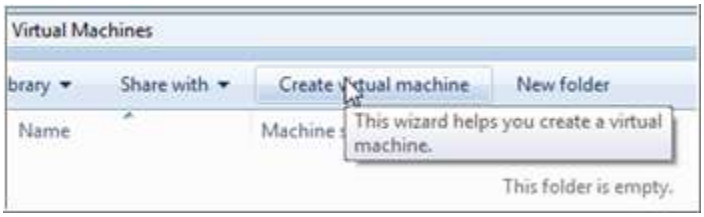
7. The wizard will provide a detailed report on successful accomplishment of the operation. You can save it by clicking the appropriate button.



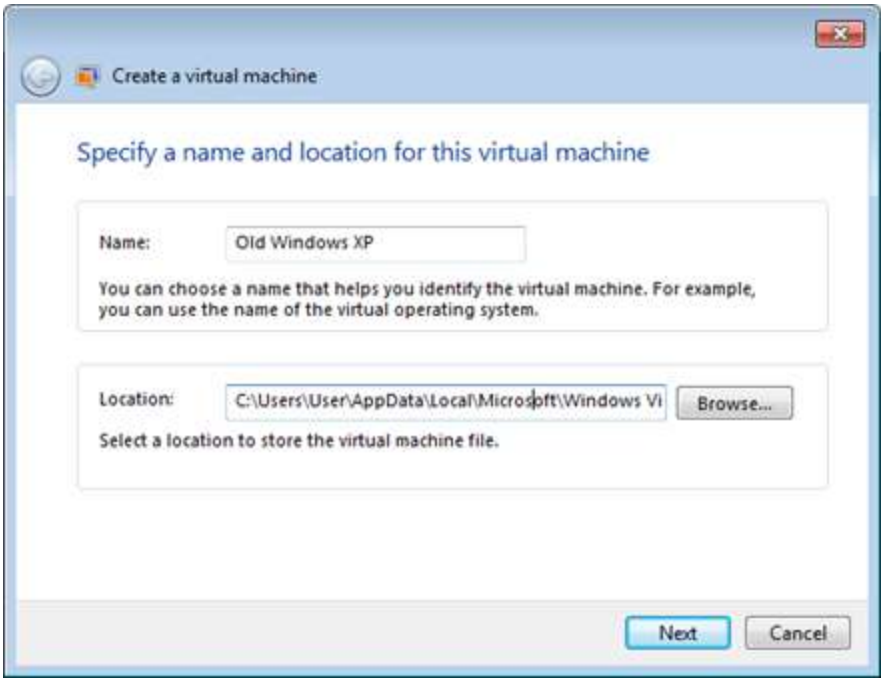
CREATING A NEW VIRTUAL MACHINE WITH THE PREVIOUSLY CREATED VIRTUAL DISK

1. Click **Start**, and then select **Windows Virtual PC**.

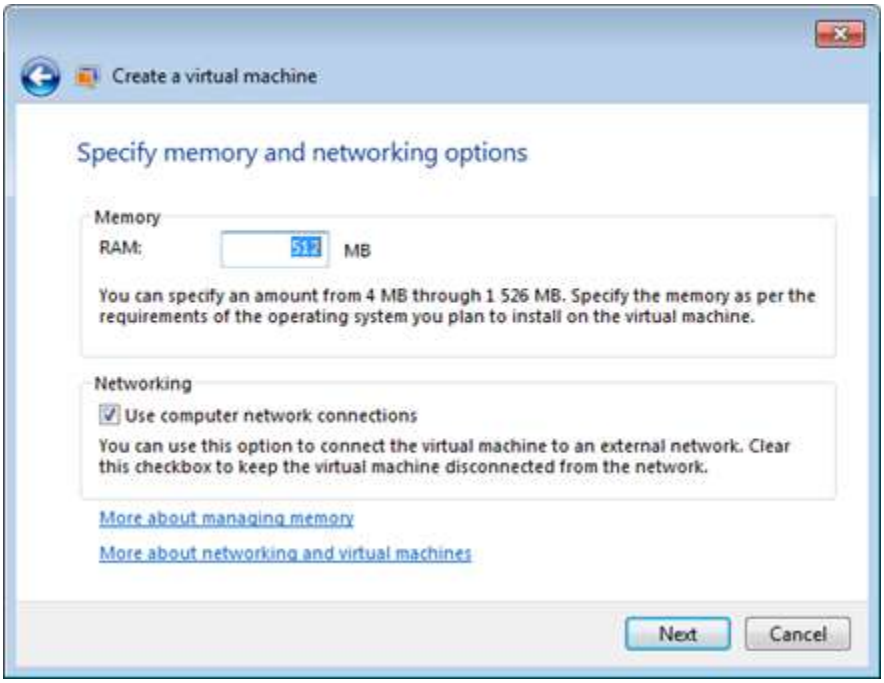
2. Click **Create virtual machine**.



3. Give a name to the new machine and modify the default location (if necessary).



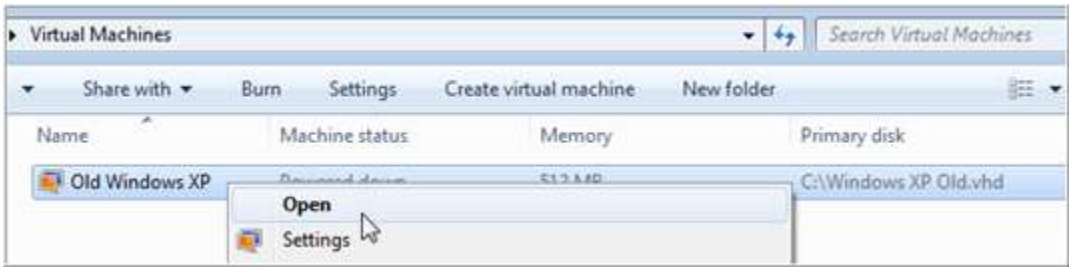
4. Specify an amount of RAM to allocate (512 MBs for Windows XP is recommended), then choose whether you need the network support or not by marking the appropriate checkbox.



To know more on the subject, please click the links on this page.

5. Select **Use an existing virtual hard disk**, then browse for the previously created virtual disk or manually type in a full path to it. Click **Create** to complete the operation.

6. Right click on the newly created virtual machine, then select **Open** to start up your Windows in a virtual environment.

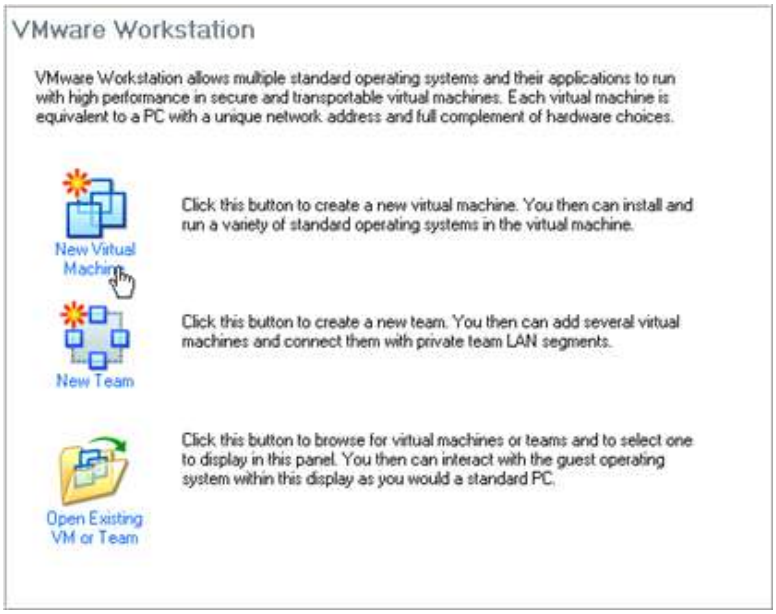


CREATING A NEW VIRTUAL MACHINE OF VMWARE WORKSTATION

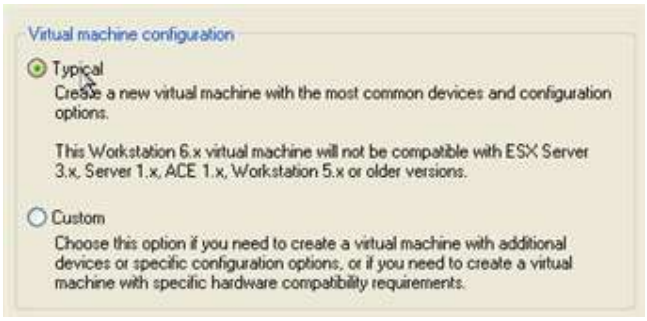
Since creation of a new virtual machine as well as connection of a virtual disk in VMware Workstation differs from that in MS Virtual PC, please consult our step-by-step guide that demonstrates how to do that:

Virtual disks of MS Virtual PC are not allowed to use with VMware Workstation. For VMware Workstation you need to redo the P2V scenario.

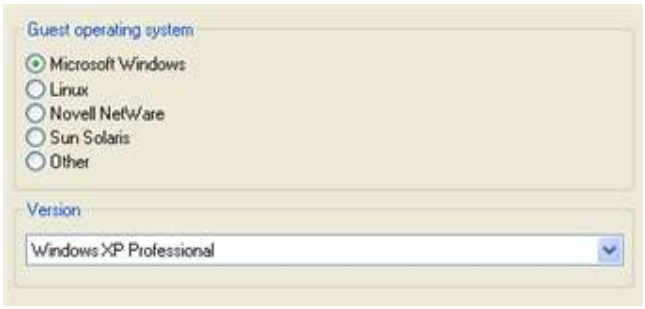
1. Click **New Virtual Machine**.



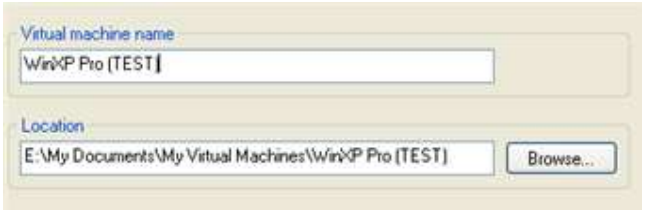
2. On the Wizard's Welcome page, click the Next button.
3. On the next page select **Typical**.



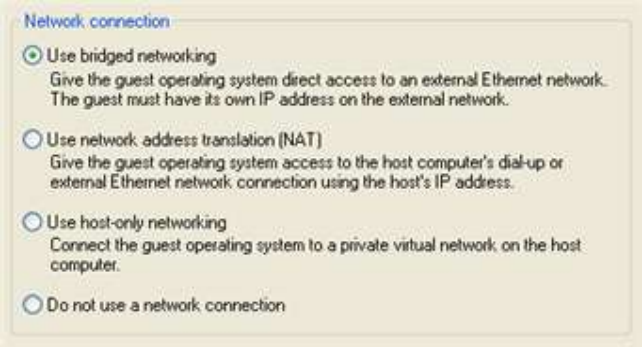
4. Select the required guest OS. Please make sure it's the same as on your virtual disk, otherwise you may face hardware incompatibility problems.



5. Provide a name and location for your virtual machine.

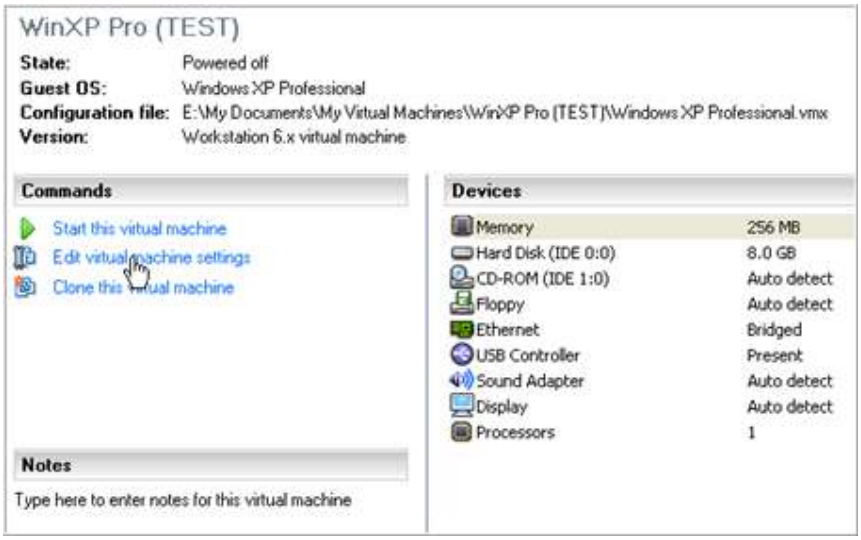


6. Select a network connection type. To know more on the subject, please consult documentation that comes with your virtual software.

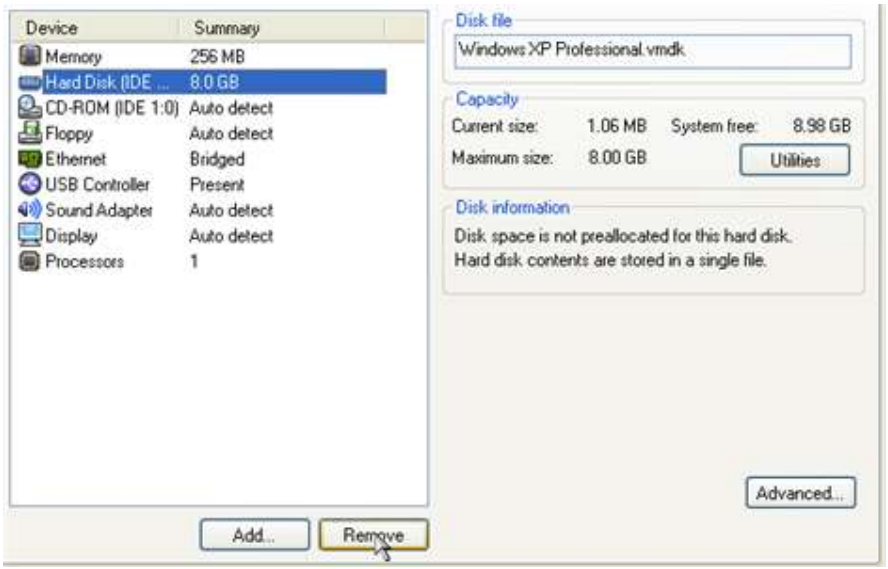


7. As the final step the wizard will offer you to create a virtual disk. As you cannot skip it, click **Finish** to complete the operation.

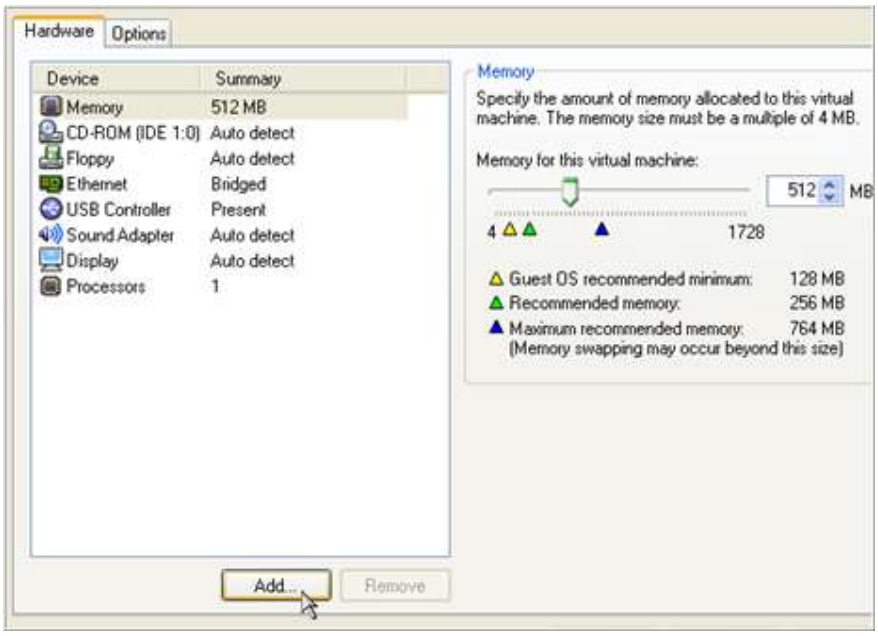
8. Edit settings of the newly created machine.



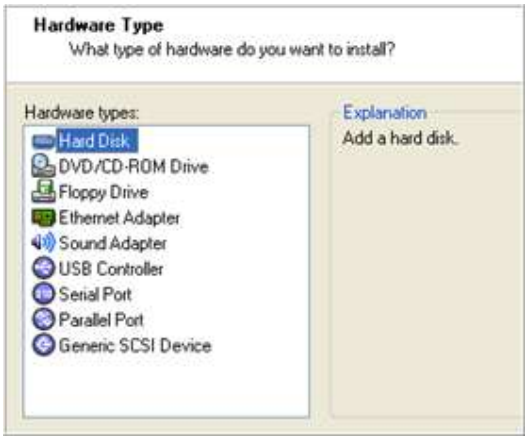
9. Select the default virtual disk and click **Remove** to delete.



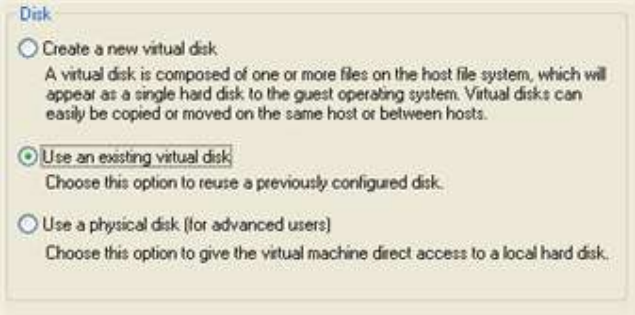
10. Click **Add…** to connect your virtual disk to the machine.



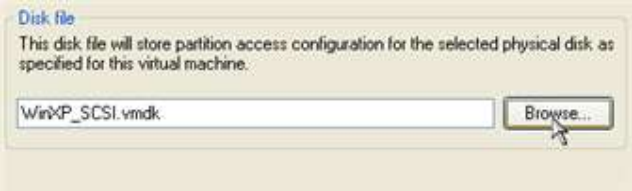
11. In the opened dialog select **Hard Disk** as the required hardware type to add.



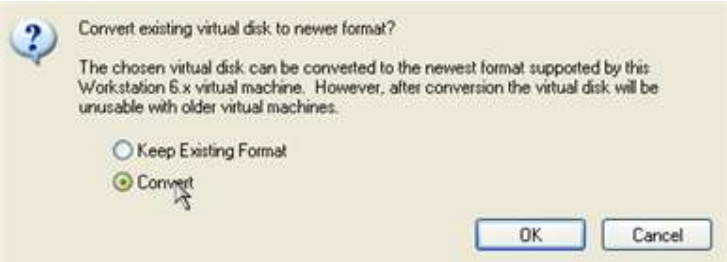
12. On the next page select **Use an existing virtual disk**.



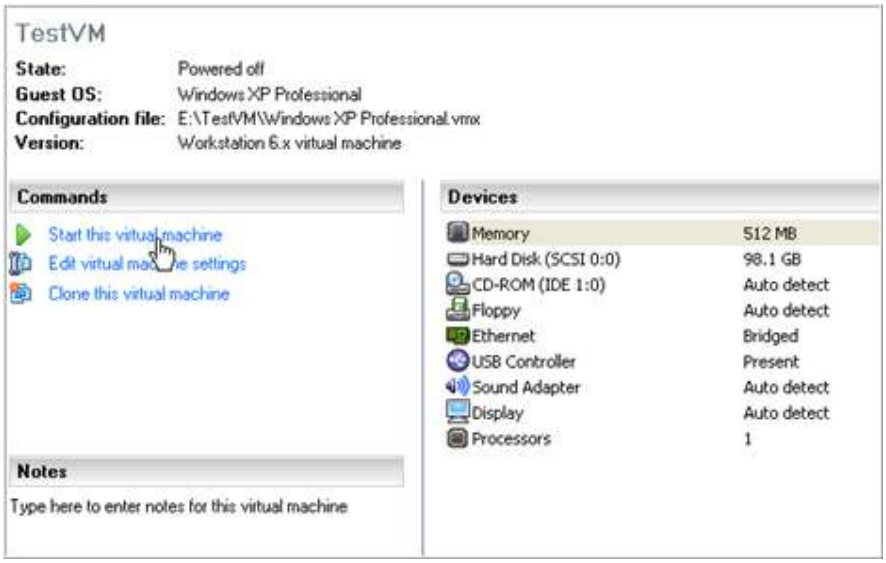
13. Browse for your virtual disk.



14. Click **Finish** to complete the operation. Most likely you will be asked to convert your virtual disk to a new format. You can update your disks, since this procedure involves change of a version only, nothing else.



15. That's all. You can now launch the virtual machine.



DELETING YOUR OLD WINDOWS TO HAVE WINDOWS 7 ALONE

If you've accomplished all the above scenarios, you should have your Windows XP or Vista backed up and virtualized by now, thus you're free to remove it from the hard disk to have Windows 7 alone, while your old Windows will still be available in a virtual environment or from the initially created backup image.

Below you can find how to delete your Windows XP partition and upsize the Windows 7 partition to all available space of the disk:

1. Launch **Paragon Partition Manager 10**.

2. Right click on the Windows XP partition on the Disk Map, then select **Delete Partition…**

Please make sure you select the right partition (use its volume label as a check point) not to accidentally delete your Windows 7 partition.

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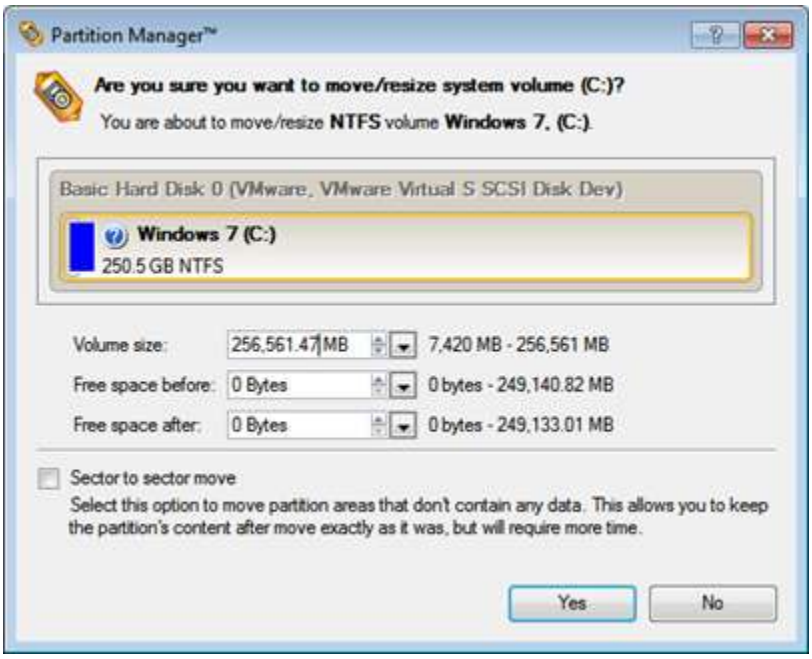
3. Either enter its volume label or mark the appropriate checkbox in the dialog window not to do that. Then click **Yes** to add the operation to the task list.

4. Click **Apply** to start the operation.
5. After the Windows XP partition is deleted, resize the Windows 7 partition to occupy all available free space of the disk.
6. Right click on the Windows 7 partition on the Disk Map, then select **Move/Resize partition…**
7. Either drag-and-drop the left corner of the partition to the left or enter the maximum available partition size in the dialog window. In both cases the partition will expand to all available free space.



8. Click **Yes** and apply the operation.
9. Update MBR to remove our Boot Manager as you don't need it any more - just right click on your hard disk on the Disk Map, then select **Update MBR**.

You can also do it with the Boot Manager Setup Wizard.

10. Click **Yes** in the dialog window, then apply the operation.
11. Now your Windows 7 partition occupies all available space of the hard disk.

KNOWN ISSUES FOR P2V SCENARIOS

1. You should install integration services (e.g. VMware Tools) on the virtual system yourself. We only guarantee its smooth startup.
2. At the startup a virtual machine (e.g. VMware Workstation) might notify you that the used virtual disks are of old format and require update. You can update your disks, since this procedure involves change of a version only, nothing else. This is done on purpose not to lose compatibility with the older versions of VMware.

3. After transferring Microsoft Vista and later versions to a virtual disk, you will need to re-activate license of the system. It's normal behavior as these systems keep tracking any change of hardware. Re-activation is legally justified in this case, as you transfer your system to another PC.

4. If you prefer to create a SCSI HDD when converting to a virtual disk of VMware Workstation or VMware ESX Server, we pick a driver for the HDD controller just the way VMware does, i.e. according to the found OS:

    - Windows 2000/Windows XP – Buslogic;
    - Windows 2003 (all editions including WinXP x64) and later versions – LSI Logic.

    Thus if you will then connect the created virtual disk to a virtual machine with another type of the adapter, the system won't start up. Please use our P2P Adjust Wizard to install the required driver.

5. If you convert a partition/hard disk with Windows XP to a SCSI virtual disk of VMware Workstation or VMware ESX, it's required to add the VMware SCSI driver from outside, since Windows XP doesn't have it. To do that we try to find an installed version of VMware Workstation on your computer to extract the necessary driver. If failed to find, we will ask you to provide a path to the VMware Tools ISO image.

6. We can smoothly convert a hard disk with several operating systems. But according to Issue 4, when converting to a SCSI virtual disk of VMware Workstation or VMware ESX Server, for different versions of OS, different controller drivers will be installed. VMware however cannot emulate different hardware for each operating system of one virtual machine. To tackle this issue, please use our P2P Adjust Wizard to install the LSI Logic driver under Windows 2000/Windows XP, then select the LSI SCSI controller for your virtual machine.