Upgrade the hard drive safely to the system

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If you want to upgrade storage, access data faster and have a quieter system, this article can help you.

Recalling the early 1990s, many people had only 40MB of hard drives on hand. At that time, the only reason for you to upgrade your hard drive was to increase storage capacity. And the largest drive capacity you can buy is only 540MB. Today, a tiny USB memory stick has several times that amount.

That was 15 years ago. Currently, there are more reasons for you to decide to upgrade the hard drive for your system. With new storage technologies, such as SATA, Native Command Queuing (NCQ), along with the advantages of large buffers, liquid lubrication, shock-proof mechanism as well as increased density storage technology On the disk side, changing the hard drive is not only intended to increase capacity, but also to meet the requirements for speed and noise reduction in the system.

Below, we will look at tips and ways to upgrade the hard drive, transfer the data to a new drive without causing system problems.

Begin

Normally, when you add or upgrade a new disk, this drive should be configured as the primary drive C. That's because the operating system will be installed on the C drive.

However, many times people do not do so. There is a fundamental reason for the complexity of moving the operating system (along with applications and user data) from one drive to another. Some technicians also claim that the fastest way is to set up a new drive into a slave. With the right software and the necessary skills, you can see that transferring all the data - including the OS - will become much simpler.

The two most popular software you can use for this job are Norton Ghost 9.0 from Symantec and Acronis' True Image 8.0.

In this article, we use Acronis products. This is an easy-to-use, quite powerful and cheaper software from Symantec. Acronis also offers a free trial version that can be downloaded from the website, allowing users to review before deciding to buy. True Image 8.0 is also very effective in creating boot disks and SATA controller recognition capabilities.

The first step is to create a boot disk that has a simple (portable) version of True Image. You will find Acronis very good user support: the software will automatically perform this task during the installation process.

This article focuses on cloning hard drives for the purpose of upgrading. Therefore, we should create a "safe" version of the boot disk - this one has only half of the "full" version (effective in case of copying from or to a USB or SCSI drive). Loading unnecessary drivers will prolong the boot disk creation process. Moreover, the 'full' option will require larger capacity and take longer to implement. Sometimes, you may encounter compatibility issues.

Duplicate the drive

You can 'clone' any hard drive if the target drive is not smaller than the actual capacity used to store data on the original drive. For example, if you have 20GB of data on an 80GB drive, you can copy that drive to any hard disk with a capacity of at least 20GB.

In addition, it is possible to replicate between different vendors' drives; from USB to IDE; SATA to IDE; SCSI to PC Card or IEEE 1394 (Firewire). You can also easily copy from a laptop hard drive to other types of hard disks.

Destination drives do not necessarily need to be partitioned or formatted by software that will do this during the replication process. However, all data in the destination drive (if available before cloning) will be deleted. After cloning, the target drive will be the exact copy of the original disk; can only be different in free space. Therefore, before doing so, check the destination drive to make sure that you have backed up the necessary data by copying to another drive or CD.

You should also be careful when selecting the source disk (original disk). If you accidentally misconfigured, such as setting the destination drive to a source drive and vice versa, you will get a clean target drive after completion. All data will disappear!

True Image will mirror the hard drive in all formats, FAT16 / 32, NTFS, Linux Ext2, Ext3, ReiserFS or Linux SWAP file system. Version 8.0 also allows you to copy individual partitions from a RAID array to a single drive, or from a RAID array to another. You can also build a restored image file and perform a sector-to-sector copy of the damaged disks. Of course, these are features that will not be covered in this article.

Start a job

New hard disks do not necessarily need to be installed in a computer case. For example, when replacing a drive, we can simply put the drive in the upward direction (meaning the board side will be above) next to the computer. Remove the case, then attach the new drive to the mainboard with the connecting cable and place the drive that the secondary drive for the old drive will be replaced. Or we can remove the drive (if any) on the second controller on the mainboard and use its data cable and power cable for the new drive.

You must be aware of the direction for placing the drive. The purpose of this is to ensure that no metal object can come into contact with the circuit board on the disk, leading to a short-circuit risk and complete damage to the hard drive. Be especially careful, sometimes the same screwdriver you use is a threat.

Duplicate IDE to IDE

The simplest case is to replace or upgrade an IDE drive on a system with an IDE available. To do this, boot from the True Image recovery disk, select Disk Clone and select the drive you want to duplicate. Below is the interface illustrated when you boot from True Image and Disk Clone option:

Next, select the destination drive. Within minutes, or hours, depending on the amount of data duplicated, you will have an exact copy of your old drive.

IDE to SATA

Duplicate an IDE to SATA drive, and vice versa, as simple as IDE to IDE. There is only one difference between the two cases. Among the SATA controllers on the market, most of them are supplied by manufacturers of Silicon Image, VIA and Promise. The Promise controller is a RAID controller, so it is not automatically determined by True Image. However, according to actual testing, VIA and Silicon Image controllers can be automatically identified by True Image software.

Windows XP itself does not integrate SATA drivers, when you want to boot from a newly mirrored SATA hard drive, Windows XP will not load. To fix it, make sure that the BIOS controller in the BIOS has been activated and load its control files into Windows before cloning. If you forget to do this step, the system will require repair installation of Windows so you can boot without losing data. You need to have the Windows XP installation CD and the SATA driver disk (you can find it on the mainboard manufacturer's website). Boot with the XP installation CD.

As soon as the installation disc is loaded, press F6 to install a third-party SCSI or RAID driver. This option only appears within 20 seconds, so be quick. After pressing F6, it seems like there is no difference, however, please be patient. Finally, a message on the screen requires you to press the S key to download a third-party driver. Press the key, insert the SATA driver installation disc into the floppy drive and follow the on-screen instructions.

When the Windows XP installer loads the drivers, you will be asked to choose to install or repair Windows XP. It is important to note that you do not choose to edit now. The Windows XP installation process will also provide a second repair option, and that's exactly what we need.

Next, press ENTER to accept ' *Set up Windows XP now* '. Then, press the F8 key to agree to the copyright content. The next screen will give you the option to edit the operating system. After selecting, Windows will install on itself, keeping the data of users and existing applications intact.

Note: When you perform this task, you will lose all previous Windows updates. After installation is complete, the first thing to do is access the Windows Updates site, download and install all necessary updates.

Duplicate the laptop hard drive

To upgrade a laptop hard drive, you need to have a regular desktop system. Most laptops only support the installation of a hard drive. However, just an inexpensive adapter (adapter), as illustrated below, you can plug both new and old drives into a desktop.

After installation, boot from True Image disk. Perform the cloning drive as described above, then mount the newly cloned drive to the laptop. That's all there is to it.

Ideally, you should check if the system is up and running normally on your laptop, then tighten the screws and complete your work.

Now you have a system with a new hard drive without reinstalling the operating system with a dozen of software applications, and more importantly, all your data is protected. good.

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