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Installing a second OS

Need to upgrade your operating system but afraid to make the leap? Relax, installing a second OS could be the answer. Ben Camm-Jones talks you through the advantages of running both

When you've been using a particular OS for a while it's easy to become so comfortable with it that you see no reason to upgrade – provided it can still perform all the tasks you need it to. However, if you're tempted to upgrade to a newer version or try out an alternative to Microsoft's offerings then you can do so without discarding your trusty old favourite.

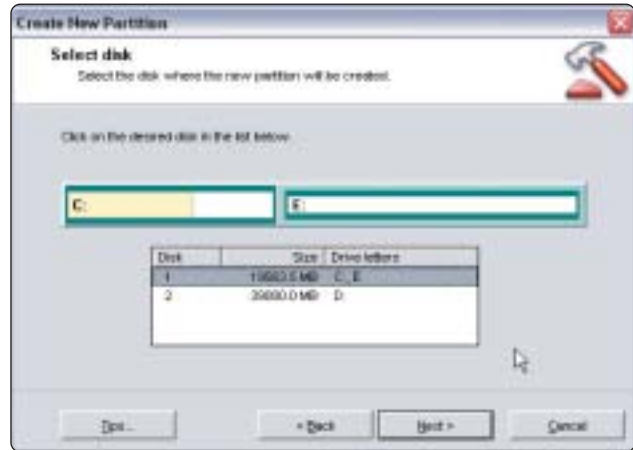
Even if you don't want to change your operating system you might find you have no choice. In June this year Microsoft canned support for one of its most popular and widely used operating systems, Windows 98. Another problem is that newer software isn't designed

with the old operating systems in mind – Microsoft's Office 11.0 was programmed for Windows 2000 and XP only.

The installation of a second OS is straightforward – it's the preparation that's the hard part. But follow our advice and we're confident that you'll be able to enjoy the benefits of two operating systems with minimum fuss.

In terms of costs, you'll need to buy the new OS and disk partitioning software or a new hard drive, depending on how much free disk space you currently have. To fit a new hard drive you'll need to know your way around the inside of a PC fairly well, though the installation process only requires a moderate level of expertise.

Partition your hard drive using PartitionMagic



1 If you're not installing a second hard drive because you have enough space on your existing disk, you will still need to partition it. Install PartitionMagic by simply inserting the CD-ROM and following the relevant installation instructions for your operating system. Once up and running, PartitionMagic shows you information on all your hard drive's existing partitions and the file systems they use

2 Start the Create New Partition Wizard to set up a partition for your second operating system. Be sure not to destroy any existing partitions or what is on them. If necessary the wizard can also resize and merge existing partitions, as well as redistribute free hard drive space. Once you have created the new partitions, you're ready to install the second OS

Open all hours

Adding a second flavour of Windows to your setup is an option that will give you access to a wider range of applications, but it's not the only choice. Linux has become a viable alternative to Windows in recent years, although at the moment it doesn't seriously challenge Microsoft's market dominance.

Linux is an open-source operating system which, unusually, means its code is available for users and developers. (Traditionally software programmers have been careful to keep their code secret – Microsoft guards its operating systems as closely as Coca-Cola does its recipes.)

Linux is freely available so improvements and modifications can be made and shared among users. It's also cheaper than Windows XP – a boxed edition costs around £40 and, if you're prepared to forgo the manual and product support, some download versions are free. Popular paid-for solutions include Red Hat, Suse, Mandrake and Lindows. Linux also supports many commonly used file types including PDF, MP3, HTML, Jpeg, GIF and bitmap.

There's one major disadvantage of Linux, however – many of your favourite

programs won't run on it. It makes sense then, rather than getting rid of your existing Microsoft OS, to set up two operating systems on your PC. Sun Microsystems' StarOffice (www.sun.com or follow the link on the cover disc) is an open-source productivity package that, along with providing its own applications, is compatible with Microsoft Office components. Install this low-budget suite on top of your Linux OS and you'll be able to open, edit and save Word documents, Excel spreadsheets and PowerPoint presentations.

Hardware compatibility is another issue you'll need to consider when installing Linux. Ask your hardware vendor directly or type 'Linux drivers' into a search engine along with the make and model number of your device.

Backup, backup, backup

So you've decided on your second operating system – either a Windows upgrade or the open-source Linux. The next step is preparing your PC for the new OS. Make sure you have backups of all your important documents and files; at the very least, burn critical data on to a CD-R

disc. However, we'd recommend backing up your entire hard drive using a program such as PowerQuest's Drive Image 7.0 (£35; www.amazon.co.uk). You'll find a trial version of Drive Image on this month's cover disc.

It's gettin' tight in here

If there isn't enough free space on your original hard disk then you'll need to invest in a second one. Windows XP will use up about 2GB of hard disk space, while Linux installations vary.

Purchase the highest capacity hard drive that you can afford – you'll pay roughly £1 per gigabyte but look around for the best deal. A drive that spins at 7,200rpm (rotations per minute) is preferable to one that spins at 5,400rpm as it will access data faster. Also, look for a drive with a data buffer of at least 8MB.

If your machine is a few years old, it's worthwhile turning your older hard drive into the secondary (or Slave) disk and making the newer, faster drive the primary (or Master) disk. To do this you must adjust the drives' jumper settings accordingly (see *Install a second hard drive* on page 120 for more information).

Install a second hard drive



1 Set the jumpers on the primary drive to 'Master' or 'Master with Slave present' and those on the secondary drive to 'Slave'. Decide which operating system is going to be on which drive – we recommend Linux installations go on the Slave drive. If you're installing another Windows OS, the version that you are going to use the most should sit on the Master drive



2 Once you've adjusted the jumper settings, refit the drives. Turn off your PC and remove the cover. Wear an antistatic wriststrap and connect it to the casing of the PC. Keep this on all the time you have the PC case open or are touching any system components. Check there is a power connector free for the second hard drive – there should be one coming from the power supply unit. If not, you will need a Y-adaptor to split the existing connector

Bags of room

Of course, you may have plenty of space on your original hard drive and not need to install an extra one. If this is the case, the next stage is creating a new hard drive partition. We recommend using a utility such as PartitionMagic 8.0 (£25; www.amazon.co.uk) or Partition Commander (£30; www.dabs.com). You'll find a trial version of these programs on the cover disc. Both applications are easy to use, leading you step-by-step through the partitioning process.

Before you begin work out how you want to organise your hard drive. It's a good idea to create two further partitions when installing a second operating system – one for the OS itself and another for applications and files.

Prepare for Linux

If you're installing a second hard drive and have opted for Linux as your second operating system then we recommend installing it on the Slave drive.

1. Image maker First, take an image of your old hard drive using either PowerQuest's Drive Image 7.0 or the

hard drive's bundled software. Copy the image to your new hard drive.

2. Cable layer Mount the hard drives in the PC's casing, ensuring the jumper settings are correct (see *Install a second hard drive* above). Connect the ribbon cable to both hard drives, checking that the other end of the ribbon cable is firmly inserted into the motherboard. The cable on the edge of the ribbon is usually painted red – this denotes that it is cable one. Ensure that it connects with pin one of the hard drive.

3. Setting up Insert the new hard drive's bundled floppy disk and power up your PC. Enter the setup program – usually this can be done by pressing F2 or Del but check your manual. The Bios settings for hard drives one and two should be set to auto.

4. Ready for action Save, exit setup and reboot from the floppy disk. Follow the directions for copying all the data from the old drive to the new one. Finally, reformat your old hard drive ready for the Linux installation.

Prepare for Windows

Windows' installation – XP's in particular – is much more straightforward. Let's

assume that you're installing a second drive and are going to use the newer version of Windows as your primary OS. You don't need to create an image of your older hard drive as you're not going to copy it to the Master drive. However, this doesn't mean that you can skip backup – make sure you have copies of all your important data.

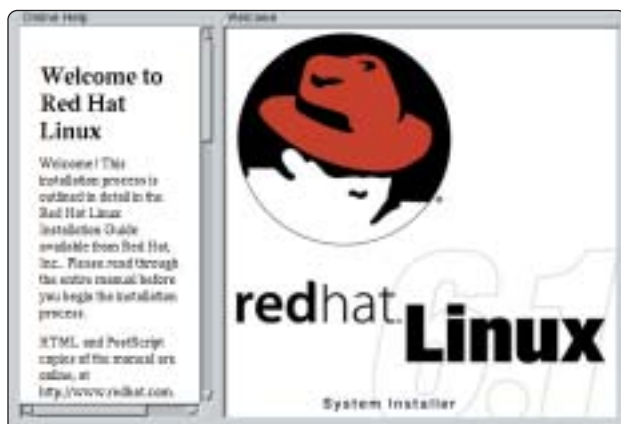
1. Bios business Install the two hard drives inside your PC. Insert the floppy disk that came with your new drive and enter the setup program. Set the Bios to auto on both hard drives. Save, exit and reboot from the floppy.

2. Just like that Follow the floppy disk's instructions but remember that there's no need to copy the data from the old drive to the new one. Power down the PC, reboot from the Windows installation disc and follow the simple instructions. Just make sure you install the operating system on the correct hard drive or partition. ■

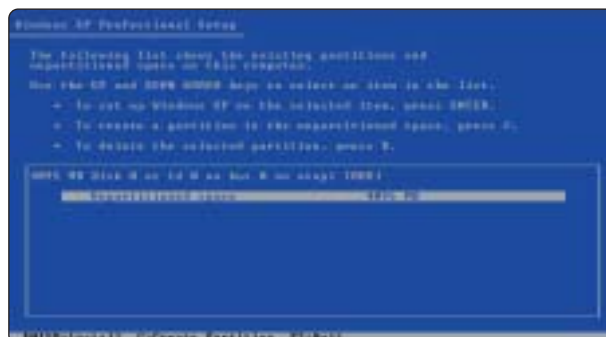


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Install the operating system



- 1 Linux setup programs vary from version to version – now is the time you might need to read the comprehensive manuals provided in boxed copies of Linux. Once you've reformatted the old hard drive, shut down the PC and reboot from the Linux installation CD. Do not perform a takeover installation as this will wipe out any operating system on your PC. Instead, choose advanced installation. Make sure you install Linux on the correct hard drive or partition. If in doubt, consult the manual

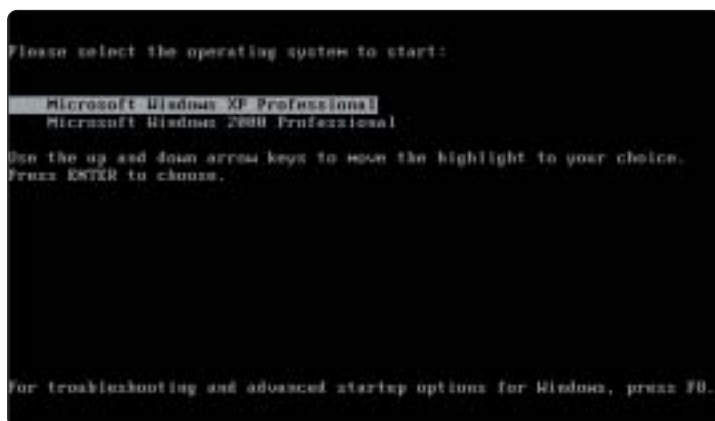


- 2 Installing XP is quite straightforward. Simply boot from the Windows XP disc and follow the instructions. Be careful which partition you choose to install XP on to, and make sure you have the packaging that the Windows XP disc came in as you'll need to type in the product key code

Set up a dual-boot system



- 1 Once you've installed the second operating system, boot up your PC using what is to be your primary OS. If you've chosen Windows XP as the main operating system, go to Start, Control Panel, System and click on the Advanced tab. Choose Startup and Recovery and select Settings. Here you can change which operating system is the default and set a bootup time delay to allow you to choose the secondary operating system when you want to



- 2 Power up the PC and you will enter the normal startup phase. The names of the installed operating systems will be displayed on screen. You can choose between the two by pressing the up or down arrow. In Windows XP's Startup and Recovery dialog box you can set how long you have to make your choice – 10 seconds should be plenty. Remember that it's not possible to change between the two operating systems without rebooting