

# XP support expires April 8, 2014.

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## You are not entirely alone.

About 30 per cent of Australia's PCs and most of Australia's 30,222 and the World's 2.2 million ATMs currently run XP. To ensure protection for their XP machines, many banks and large businesses have opted to pay Microsoft ~~protection money~~ for extended XP support until their machines are upgraded.

## What are your options?

**Step 1. dont panic!** Act in haste, regret at leisure.

Hasty and/or ill considered action can result in

- loss of valuable data,
- large and unnecessary expenditure,
- being stuck with unsuitable hardware and/or software

**Step 2. Protect your data.** do what you should have done already, if you haven't already done it,

- clone your C: drive or at a minimum, back up your valued, irreplaceable data to an external device.
- make ongoing regular back-ups of your data.
- make sure your XP machine is running a reliable and current anti-virus program.

If you don't want to pay for an Anti-Virus (AV) program, install a free one.

Wikipedia has a list of 15 different free or freemium anti-virus products for Windows.

PC Magazine gave their "Editor's Choice" award for best free Windows anti-virus to

Malwarebytes Anti-Malware 1.70 in 2013 and AVG Anti-Virus Free in 2012.

**Step 3. Operate XP as an ordinary user,** not as the admin.

**Step 4.** Do not use Windows Internet Explorer Explorer it will be too insecure. Firefox and Chrome for XP will be supported for at least 12 months after the Microsoft XP expiry date.

**Step 5. your Personal Computer is all about you, so:-**

- list your most common uses for your computer.
- list the software programs that are most important to you.
- identify and list your irreplaceable 'must preserve at all costs' data.
- list all your hardware and collect all the applicable manuals and driver disks.

You are now in a position to think about what to do next. Your two main options are

## 1. Continue to use your current hardware.

a) Stick with XP for the time being and hope your backups and AV will protect you! Be mindful that newer software may not run on XP; new peripheral devices may not have XP drivers; and no new XP security updates means XP will become increasingly vulnerable to viruses, spyware etc.

b) Install windows 7 if your hardware can handle it. You may run into driver problems for some older peripheral devices and Windows 7 may not run some of your favourite XP programs. Your current hardware is probably not suited to Windows 8

c) Switch to a Linux distribution such as Kubuntu Linux Mint or Ubuntu or a lite version such as Lubuntu. **Wine** is a Linux program that will facilitate running a wide range of Windows software on Linux. Switching to linux is the most **cost-friendly option**, but it means that you will need spend time getting to know the new system. However bear in mind that Win 7 also has a learning curve.

## 2. Bust the bank, Buy a new system.

To quote Bob Dylan "The times they are a changin'" Desktop PC shipments shrunk 10% in 2013, an historic downturn. Android and Apple iOS-powered tablets are attracting consumers' dollars and Windows 8 has received an apathetic, and at times an antagonistic, reception.

**Chromebooks** are the new kids on the block, popular and inexpensive cloud computing devices.

### **Some things to consider if you are buying new hardware.**

**Desktops** have large keyboards and screens, just the ticket if your manual dexterity and/or vision are not the same as when you were eighteen. Desktops are more powerful and faster (more responsive), have more hard-drive storage than other devices; and are relatively easy to maintain and repair. If you want Win7 pre-installed get in soon because it will not be available pre-installed for much longer. Win8 has a very steep learning curve and a large touch screen may not be 'your cup of tea', or match your budget. Hint: if you want portability, 'stick it on a stick', then use OP computers. (OP = Other Peoples).

**Small Portable Devices.** (SPD i.e. Books/Laptops/Pads) generally have a shorter lifespan because they are difficult if not impossible to repair, and are prone to damage or loss by dropping, sitting on, theft etc. Ports for external peripherals i.e. USB, ethernet, video, audio etc. may be limited or non-existent. Many SPDs are limited to Wifi and a headphone socket, which means most if not all external connections must be made via Wifi to the 'cloud'. Many of these devices have very limited (and non-extendable disk storage) which means most of your data will need to be stored in the 'cloud'. Some devices require access to the 'cloud' to run many applications such as office software. Currently most of these devices run Android, Apple or Chrome.

**Cloud Storage.** has pros and cons

- pros:**
- your data can be backed up and accessible by you, from almost any computer.
  - you can save files to a folder that is automatically mirrored to the cloud, for effortless backups.
- cons:**
- poor security and privacy, all your data belongs to the cloud provider and can probably be accessed by the NSA, CIA, FBI, ASIO etc."
  - the cost of bandwidth and hiring cloud space.
  - what happens to your data if you forget to pay the bill or your cloud provider is shut down?  
google "wikipedia megaupload"

**Printers.** many SPDs do not have USB ports for printers; some SPDs will enable you to print to a local network printer, others will require a 'cloud' printer or another computer that has a shareable attached printer and access to the cloud. If you buy a new SPD you may also need to buy a Wifi router if you do not already have one and a 'cloud printer'

**Will your data files be readable on a new computer?** This will depend upon the file format and the software in use on your new computer. Common file formats such as .jpg image files are readable on most systems but other formats may be more restricted. Linux has programs that will read/convert most file formats but is restricted in reading and/or writing a few proprietary formats because of licensing.

### **Some Web sites worth a visit**

<http://www.teachparentstech.org/watch>

Shortened <http://goo.gl/Rct38>

<http://betanews.com/2014/03/20/avast-here-is-what-might-happen-after-microsoft-drops-windows-xp-support/>

Shortened <http://goo.gl/VL736Q>

<http://www.pcworld.com/article/2107641/3-easy-linux-alternatives-for-windows-xp-refugees-who-dont-want-a-new-pc.html>

<http://goo.gl/ZBO2yg>

### **Apple Footnote**

Apple has quietly pulled the plug on Mac OS X Snow Leopard after just four and a half years.

This effectively ends the life of the old PowerPC machines, and 32 bit iMacs as the newer versions of Mac OS X are not designed for these older machines, Figures published by Computerworld put the proportion of Mac OS X Snow Leopard users at 19 percent,

**What to do after April 8 2014 when XP support expires?  
Nothing will exactly align with XP.**



You can try to keep running forever on an unsupported XP (good luck with that) or you can upgrade to something else. . Whatever system you choose next **there will be a miss-match and a learning curve.** So why not **try Linux?** **It costs a lot less** than any other option (it's free) **and it will run on your existing hardware** (which you have already paid for).

<http://blogs.technet.com/b/security/archive/2014/03/24/cyber-threats-to-windows-xp-and-guidance-for-small-businesses-and-individual-consumers.aspx>

## Tools and Tips for Installing Linux on Old Hardware

**Physical Address Extension (PAE)** is a CPU hardware feature that allows 32-bit CPUs to access a physical address space larger than 4 gigabytes. The Intel Pentium Pro introduced PAE in 1995.

[http://en.wikipedia.org/wiki/Physical\\_Address\\_Extension](http://en.wikipedia.org/wiki/Physical_Address_Extension)

To use PAE, the CPU and motherboard must support PAE and a PAE-enabled Linux kernel is required. Conversely a PAE-enabled Linux kernel requires that the hardware supports PAE, if not it won't work!

Is PAE enabled in your CPU? Use `cat /proc/cpuinfo` or `# dmidecode` and look for the 'pae' flag

Linux distributions now commonly use a PAE-enabled kernel as the default, a trend that began in 2009. As of 2012 many, including Red Hat Enterprise Linux / CentOS, Ubuntu (and derivatives like Linux Mint), have stopped distributing non-PAE kernels - this makes PAE hardware mandatory for many recent distro releases.

Distributions that still provide a non-PAE option, including Debian (and derivatives like LMDE), Slackware, and LXLE typically do so with "i386", "i486" or "retro" labels.

For Ubuntu 12.04 LTS (expires 2017) a PAE kernel is automatically downloaded and installed if a network connection is available and the system has more than 3 GB of RAM installed. Otherwise, the generic kernel is used.

### **NX bit** (Non-Executable Memory)

The NX bit feature requires a kernel built with PAE support.

Most modern CPUs protect against executing non-executable memory regions (heap, stack, etc) to help block the exploitation of security vulnerabilities. This feature is called either "eXecute-Disable" (XD) or "Non-eXecute" (NX) or EDB (Execute Disable Bit), depending on your BIOS manufacturer.

The CPU flags displayed by the command `cat /proc/cpuinfo | grep nx` will show **nx** if the CPU is NX-capable and the BIOS is not disabling the NX feature. Nearly all 64-bit CPUs are NX-capable. If the `flags` line contains **pae**, usually the CPU will support NX:

<https://wiki.ubuntu.com/Security/CPUFeatures>

## Some Precautions before you start.

What specialised software is on the XP machine?

Can you get it to run using Wine or a DOS emulator?

Can you Linux copy across emails, bookmarks etc?

Can Linux handle all the different file types?

Don't place yourself or your data in harms way, backup, backup, backup,

My preferred mode of operation is to get a new drive for the Linux system.

(The XP drive is probably a bit long in the tooth anyway).

That way you can keep the original drive in case something goes wrong

Use a 'lite' distro if the hardware is a bit on the 'gutless' side; Linux is good, but using a 'heavy' distro won't convert a a sow's ear into a silk purse.

## Some Commands to explore the hardware

Note: Some of these commands require root permissions

### **dmidecode**

`dmidecode` is a tool for dumping a computer's DMI (Desktop Management Interface) or SMBIOS (System Management BIOS) table

The presented information is from the SMBIOS table so does not require probing the actual hardware. While this is good in terms of report speed and device safety, it does mean the information may not be totally reliable.

**lshw** list hardware  
**lscpu** display information on CPU architecture  
**hdparm** get/set SATA/IDE device parameters example `hdparm -I /dev/sda`  
**blkid** locate/print block device attributes  
**df** - report file system disk space usage example `df -hT`  
**dmesg** - print or control the kernel ring buffer  
**ls /dev/disk/by-id** example output `ata-ST3250310NS_9SF0000TH`  
model number\_serial number

**inxi** a hardware and system information tool. It is frequently used as a debugging tool, to quickly ascertain user system configuration and hardware. inxi shows system hardware, CPU, drivers, Xorg, Desktop, Kernel, GCC version(s), Processes, RAM usage, and a wide variety of other useful information.

## Using Bash to Copy and/or Clone.

### dd

dd the well known data destroyer, that can convert and copy, 'nuff said.

**dd if=/dev/sdX of=/directoryforbackups/backup\_02.04.2014.img bs=512**

Where "X" is the disk. i.e. /dev/sdc This backups up the entire /dev/sdc disk, partition, boot sector and all. You can also copy individual partitions using a command like:

**dd if=/dev/sdb6 of=/directoryforbackups/part6backup\_02.04.2014 .img bs=512**

### dcfldd

- On-the-fly hashing of the transmitted data.
- Progress bar of how much data has already been sent.
- Wiping of disks with known patterns.
- Verification that the image is identical to the original drive, bit-for-bit.
- Simultaneous output to more than one file/disk is possible.
- The output can be split into multiple files.
- Logs and data can be piped into external applications.

### dc3dd

dc3dd and dcfldd are functionally similar but are based on slightly different code bases. dcfldd is a fork of GNU dd, whereas dc3dd is a patch to the current version of GNU dd. This means that dc3dd will be updated every time GNU dd is updated, whereas dcfldd has its own release schedule. Certain features added to GNU dd after dcfldd forked, such as direct input/output mode, are not found in dcfldd.

On the other hand, dcfldd supports more hashing algorithms than dc3dd, allows the user greater control over how hashes are displayed, supports wiping output files with random patterns, and is supported on the Cygwin platform.

**rsync** is a fast and extraordinarily versatile file copying tool.

## Cloning and/or Copying 'Live' CDs/USBs

[http://en.wikipedia.org/wiki/List\\_of\\_disk\\_cloning\\_software](http://en.wikipedia.org/wiki/List_of_disk_cloning_software)

**Clonezilla** a partition and disk imaging/cloning Live CD for system deployment, bare metal backup and recovery <http://clonezilla.org/>

**Redo** Live CD makes Backup and Recovery so simple that anyone can use it. <http://redobackup.org/>

**Plop** Plop is a small distro that enables booting from CD, DVD, USB flash drive (UFD), USB hard disk or from network with PXE. It's designed to rescue data from a damaged system, backup and restore operating systems, automate tasks and more. If you have an old machine that cannot boot from a USB Plop is a 'must have'. Pop in a Plop CD and ask it to boot from your USB and you are away – hoo-ray.

<http://www.plop.at/en/ploplinux/intro.html>

