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ask apc

ASK THE *APC* TRIBE FOR IT HELP AND ADVICE

HARDWARE   WINDOWS   SECURITY   LINUX

# EXPERTS SOLVE YOUR COMPUTING PROBLEMS

The combined staff and readership of *APC* Magazine, apcmag.com, and *APC* partner publications is like one giant helpdesk! If you have a technical problem, chances are one of us knows how to fix it.

WINDOWS

TIP!

HOW MUCH HARD DISK SPACE DOES VISTA NEED?

When preparing for an enterprise-wide Vista roll out, it's important that the target PCs have enough free disk space for the new operating system. The amount of free disk space can be found in many ways, from an SMS (System Management Server) report, through specialist network management software, or even from a simple batch file containing a couple of key commands. By default, the root of each logical drive is shared with a hidden share name such as '\\ mypc\c$'. The dollar sign at the end of the share prevents the share from appearing in a browse list but can be mapped explicitly. With this knowledge it's simple to map a network drive to the root of the target PC and use 'dir' to reveal the amount of existing hard disk space. Use the net command as follows: 'net use g: \\ mypc\c$'. Alternatively, use the MMC and connect to the remote disk management service. An upgrade installation requires 1,170MB, a standalone installation requires 5,445MB and an integrated installation requires a whopping 15GB.
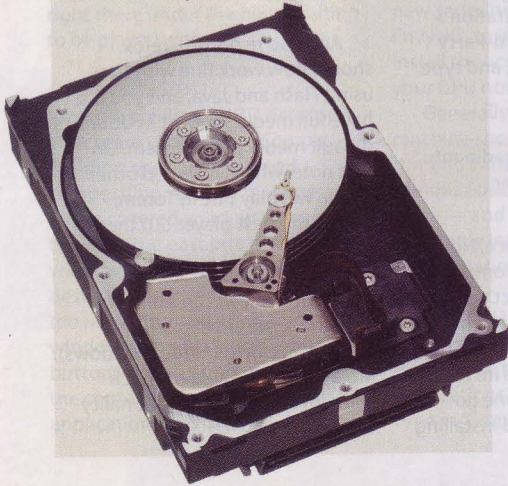
HARDWARE

WHY ARE DRIVES FORMATTED IN FAT32?

Q Why is it that when you buy a hard drive (particularly USB external hard drives) they are formatted as FAT32 and not NTFS? After all, by far the majority of computers run operating systems that support NTFS, so this means the drive has to be reformatted. No real problem, except that I recently bought a 500GB drive and it took a couple of hours to reformat the drive.

Ian A. White

A¹ Compatibility is the main reason. FAT32 is well supported, it works under Windows, Mac, Linux and even on some PVRs that have external plugs for USB. It also works with OTG bridges and photoframes and even MP3-playing USB units! The problem is not so much why not NTFS, but what else is suitable? NTFS certainly isn't, since it's a Microsoft-based file system with specifications withheld. It needs Mac OS and Linux people to run either drivers made through reverse engineering (or by breaking the EULA and repackaging Microsoft's NTFS driver).

The best advice is to format for your needs. Use NTFS if you're limiting yourself to Windows only, FAT32 if you're using it on different systems, ext2/3 or others if you want to run on Linux.
Gough Lui (apcmag.com/forums)

A² It's also due to people who yank drives out without using the 'Safe to Remove' function. FAT32 doesn't get as rattled as NTFS can.
Lost Benji (apcmag.com/forums)

A³ Mac OS X has supported read operations on NTFS file systems since 10.3. The same applies to many Linux distros. Write support can often be added by way of third-party add-ons or kernel patching, but these are things that many users don't want to do. However, they all support FAT32.
*Jarrod Spiga (apcmag.com/forums).*

HARDWARE

PC FORGETS THE TIME

Q My computer has recently begun losing its time and date settings. It's also started running very slowly. I'm wondering if I have a virus that may be taking up processor time and meddling with my system settings. What should I do?

Eric Hicks

A It sounds like your CMOS or BIOS battery is flat. The BIOS battery keeps the BIOS memory working when your PC is turned off. The BIOS stores a number of settings such as the time and date, which drive Windows boots from, what ports are enabled and also critical processor and RAM configurations. All motherboards come with a BIOS battery installed, but this does, of course, run down over time. If you find that your time and date settings are not saved, then this is a good indication that the battery needs replacing. It's usually a CR2032 type.
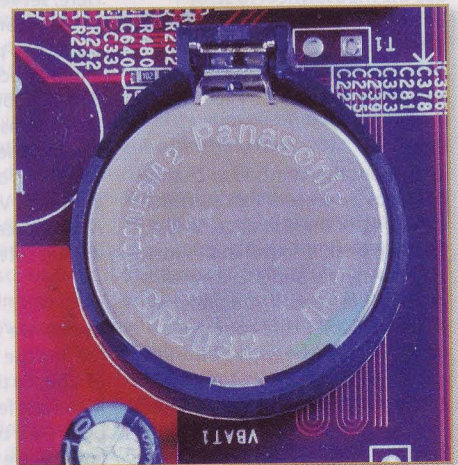
The BIOS battery ensures that all your BIOS settings are retained.

NETWORKING

TIP!

RESTRICT YOUR WI-FI TO NAMED PCS ONLY

In the good old days, securing your Wi-Fi was as simple as choosing a strong password. However, WEP can be cracked in a few seconds and WPA-2 is becoming easier to crack by the day. An additional layer of security can easily be installed if the router is told only to accept connections from known devices.

Use the router management software to add the MAC (Media Access Control) address of each network card that's used to connect to the router. The router will then refuse to connect to any device not already known to it. Finding MAC addresses is very simple. Drop down to a command prompt and enter the command 'arp –a' to produce a list of IP addresses and their associated MAC addresses. These are stored in the ARP cache; a dynamic list of the IP addresses and associated Ethernet MAC addresses that the host PC has communicated with. MAC addresses can certainly be spoofed, but the hacker would need to know the MAC address of a device on your network to do this.

NETWORKING

TIP!

### PRELOADING PINGS FOR QUICKER RESULTS

Simple though it appears on the surface, ping is quite a powerful tool. Packets are sent out and returned, and the round trip time is measured in microseconds. By monitoring pings carefully, you can tell when things have changed on a network — for example if it's someone changing a patch cord. Pinging at one ping per second does take time, but there are ways of speeding things up. If you use the '-l' switch, you can preload up to three packets, releasing them as fast as they will go. If you're sending out three packets to see if a machine is up, you can get a result in less than a second.

Preloading pings for quicker results: this makes sense if you want a program to run smoothly.
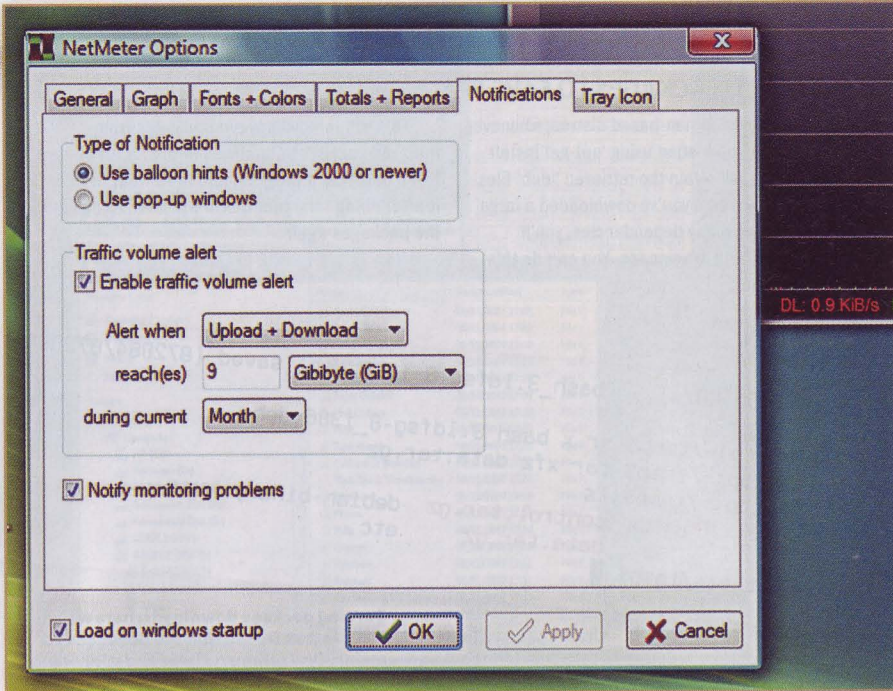
Monitor bandwidth usage: if your ISP sets bandwidth limits on your usage, ensure that you stick within them using the free NetMeter utility.

option would be to downgrade to Adobe Reader 7 or use Foxit Reader instead, but this solution definitely fixes the problem for good.
Tommy Sailing (apcmag.com/forums)

A² Not a bad solution, but I rather you rename the exe file instead of deleting it, in the rare case you might need it again. My solution was based on the fact I had a firewall that detected the outbound connection, and I just selected to block the connections permanently. This also prevents updating but is a less elegant solution as the updater sits in the background attempting to update ad infinitum whenever an Adobe package is open.
GoughLui (apcmag.com/forums)

INTERNET

MONITOR YOUR BANDWIDTH USAGE

Q Although my broadband plan gives me an allowance of 10GB each month, that isn't really enough and I keep getting billed for going over. Rather than upgrade to the next option, is there any way I can track my usage to help me stay under the 10GB limit?
Barry Caufield

A There's a very handy free utility called NetMeter, which you can get from **http://www.metal-machine.de/readerror/**. It comes with many useful options including exactly the one you need — bandwidth alerts.

These can be set to warn you if you go over a preset limit. By default, it installs to load at Windows startup — and you need to keep that checkbox ticked so that all of your computer's usage is monitored. A word of warning, though: if you have more than one PC connected to your broadband, you should install NetMeter on each of them and set the alerts according to how much of your bandwidth you wish to allocate to each computer.

INTERNET

TIP!

SWAPPING SITE

This week I came across this really nice platform online which allows you to swap your stuff for cash or for other products and even services, I thought it was cool so I would love for you to guys to review it properly and tell me if it's worth it. The URL is **www.ourswaps.com**.
Linda Jones