

Real World Computing

PRACTICAL ADVICE FROM IT CONSULTANTS

Advanced Windows Jon Honeyball

Cleaning a Vista PC

WINDOWS VISTA WAS SUPPOSED TO BE THE NEMESIS OF BUGS AND VIRUSES. JON HONEYBALL DISCOVERS OTHERWISE

It was one of those phone calls I hate the most, a friend with a Vista Home machine that was in trouble. Apparently, it had started to slow down, and was now barely grinding along. My initial reaction was a loud moan of despair, followed by an uplifting thought – hold on, I thought, this is Vista, it's better at resisting attack. Surely, it must be something else. So I trundled around to visit the stricken machine and found a brand-new PC proudly installed onto the computing desk. It was still shiny, and the empty box it came in still lay in the corner of the room...

I wiggled the mouse to wake up the PC – it came round eventually, wheezing like a 40-a-day smoker. It was, indeed, running Vista Home Premium, and a quick check showed that it was fully patched up to date, but it was running at around quarter speed. At this point, armed with a fresh cup of tea and a biscuit, I made a rash decision: I concluded that since this was Vista, and a fresh purchase of a wholly new machine at that, it couldn't be a virus. It had to be a hardware problem.

After all, Vista is supposed to be so much better armoured than that rusty old colander known as Windows XP. Vista wouldn't just roll over and die like this, as it has all those new protection mechanisms in place. Senior Microsoft people had told me, with a straight face, that this time things would be different, it would be reliable and robust. So I started checking out the hardware, and the more I looked, the more it all seemed fine. Everything was good with the machine, except that it ran like a concrete mixer chewing bricks. I had to confront the inescapable truth that something smelly had got into this machine and was greedily chewing up most of its CPU cycles.

At this point, I should point out that the owner, my friend, is a typical home PC user: a do-a-bit-of-online-shopping type who browses a few websites like the BBC and some favourite shops. Had the user been a hormonally challenged 14-year-old then I'd have been taking folding fivers from him to keep his web



JON HONEYBALL
Computer journalist and consultant specialising in both client/server and office automation applications. Email jhoneyball@woodley-side.co.uk or join him in the PC Pro conference on CIX.

browser log out of enemy hands (that is, his parents'). But no, this user was innocence personified.

I downloaded a few tools and started scrubbing the machine; most of them reported that the machine was clean, but I wasn't yet convinced. It was still taking too long during that Starting Windows phase, and it just didn't feel right. I tried rebooting the machine and applying all the tools yet again, but they all professed to be seeing a happy PC. Finally, I did what I should have done to start with: I applied two tools that I'd used before in such cases (actually on the PC of the aforementioned 14-year-old, whose folding fivers had been much appreciated at the pub later that evening).

The first is HijackThis, a tool that doesn't actually do much – it just scans all the nasty areas and points out what it thinks it's found, leaving it to you to decide what to do about it, although it can remove things for you. It found some nasties and I set it to work, which helped a lot, but I still wasn't completely satisfied, so I fired up Spyware Doctor from PC Tools. Almost immediately, it found a pile of nasties, which it then deleted in short order. After one more reboot, the PC sprang back to action. A few more check scans and a further check with HijackThis, and I was convinced I had a clean machine. So it was a bunch of spyware that had gotten onto this machine.

Why am I telling you this? Because I'm frankly incandescent that this was possible on a brand-new PC in the summer of 2007, using the brand-new shiny Vista Home Premium edition, and for it to happen to a straightforward Joe Public home user. No spotty oiks had been rummaging around the world of smut on it, there was no peer-to-peer networking client present, no dodgy file downloads, and the Internet Explorer cache wasn't full of nasties. The firewall was turned on and I presume Defender was running all the time throughout this debacle (although it isn't possible to verify this). This bit of nastiness, which probably arrived as an attachment to an

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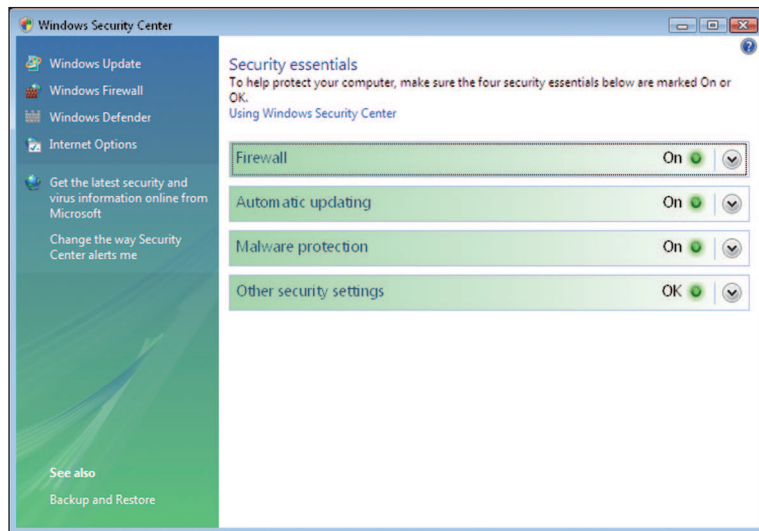
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email, shouldn't have been able to get into the machine, and that it was able to do so isn't good enough – and it's no use blaming the end user who might have accidentally said "Yes" to the wrong dialog at some point during the last month or two.

Microsoft needs to lock down Vista even tighter. This should be something that comes in Service Pack 1 – the Nuclear Bunker version of Vista. I've long been calling for the Homeland Security release of Windows, in which they make every app take its shoes off for the X-ray machine before it can come in. It's clear the antivirus companies don't see the advent of Vista as an end-of-the-road after which all their revenues will dry up. And that isn't good enough.

Now, on the subject of SP1, what can I say? The official Microsoft line is that Windows Update is presenting lots of opportunities to roll out the updates and fixes necessary to keep a Vista machine happy (hah!), and that there's no real need for a service pack just yet because it would put out the wrong message. I'm sorry, the wrong message? Ah yes, the logic goes like this – release a service pack too quickly and people will know that something was wrong with the first release. And how is that any different from the snowstorm of updates we've endured since the beginning? The advantage of a service pack is that it draws a line in the sand: we know that if we install SP1 we'll have all the patches that came before and can deal with it all in one hit. Of course, from within the reality distortion field known as Redmond, they can imagine that each and every one of us is diligently rolling up all those patches into our installation disc images, whistling a cheerful tune as we go! And that's despite the fact that the majority of home Vista machines don't come with any installation media.

↑ Vista's Security Center makes it seem like the OS is secure, but the reality is different.

The antivirus companies don't see the advent of Vista as an end-of-the-road after which their revenues will dry up

So is SP1 going to arrive this year? I doubt it. Just about everything else promised for the second half of this year has slipped, and that's a long and particularly impressive list. When the head of Microsoft says the launch event will be in late February 2008, you might be forgiven for thinking he means late February 2008. And you might also be forgiven for wondering how late February 2008 equates with, quote, "a shipping date in late 2007". You're forgetting that Q7 and Q8 are perfectly legitimate quarters in the Microsoft calendar. Actually, 28 February 2008 turns out not to be a launch. Code for Server 2008 will ship in December, it's been promised, and 28 February is a marketing launch. Or some equivalent rah-rah thing. And it's taking place in Los Angeles, so is this the first morning of the already-cancelled Professional Developers Conference? Who knows?

What else has slipped? Well, Office 2008 for Mac has vanished from "right about now" to sometime in early 2008. Apparently, the code quality wasn't good enough, whatever that means. It's been harder than expected porting from one compiler to another, and from the PPC chipset to the Intel one, despite them having had several years to get this right. And it will still ship without any Visual Basic for Applications macro language, which completely screws any attempt to maintain cross-platform application code built within Excel or Word. Anyone would think that Microsoft had comprehensively lost its ability to ship anything on time anymore. Maybe it doesn't matter to the company any more, as its corporate customers are all tied into rolling licensing contracts, so the revenue stream isn't geared to folding cash paid for real products on a release date any more.

Mathematica and NKS

And now for something completely different. Sometimes it's a fine idea "to get out of your comfort zone" and stick your toe into uncharted waters. Perhaps a little background explanation is in order. Wolfram Research is a small, privately held software company headquartered in the US, but owned and run by an ex-pat Brit called Stephen Wolfram. You can do the appropriate search to read his history: suffice to say, the man is a genius. In fact, geniuses think he's a genius. Around five years ago, he published a book called *New Kind of Science*,

a huge tome and one I strongly recommend you read because I know it will make you think, quietly ponder what he's saying and then worry deeply that maybe this is as big a leap as Einstein's.

Now the universities are full of brilliant academics, but as one business leader said to me recently, "those that can, do. Those that can't, teach. Those that can't teach, research," which is a terribly cruel comment (not to say counterproductive in a hi-tech world), but nevertheless contains a smidgen of truth. So if this was just about an academic called Wolfram who came up with a new Theory of Everything I wouldn't be interested. But since it came from Wolfram, who makes Mathematica, my interest was piqued. Piqued enough to fly myself out to Boston and then drive the 200 miles north-west to the beautiful town of Burlington in Vermont, the home of the University of Vermont, for a three-day conference on NKS and Mathematica given by the man himself. I'd guess there were about 150 attendees from all around the world, mostly academics but some business-orientated people, too, who were, like me, poking their head around the door to see what was going on.

I must apologise right away to the other attendees, because my mere presence must have considerably lowered the average IQ of the collective, and I'll confess that a number of the presentations looked impressive, used very long words in ways I'd not met before, and which went "whoosh" over my head at 30,000ft. As is almost inevitable at such an event, it was very hard for it to prevent falling into a self-interest deification session. We had our leader pronouncing from his book, backed by the unshakable belief shared by almost all the attendees that he was right. In fact, his inner sanctum of disciples from Wolfram Research could even tell you where in Chapter 12 a particular issue was discussed, and it was tempting to ask for the verse, too.

Before anyone gets a bout of the giggles, I must stress I'm not trying to trivialise this. It's through the work of people like Wolfram that our collective knowledge is increased, and it's inevitable that a deep topic such as this will attract zealots – a more accurate barometer will be to return in five years, when I sincerely hope there'll be 1,500 attendees, many from the commercial, banking and pharmaceuticals sectors, all wanting

SP1 SOON?

Apparently, Microsoft is about to release two large chunks of Vista improvements, wrapped up into two pre-SP1 upgrades. Time will tell if these make a significant difference for many users. I'm not holding my breath.

↓ **Mathematica Player is both free and astonishingly powerful – try doing this in Excel.**

Comparing Mathematica and Excel today, the reality is that Excel is a tool for dumb users to do dumb tasks

to tell their stories about how NKS changed the way they make things and do business. This will come, I'm quite convinced.

I mentioned that my interest was piqued because of Mathematica, a product that's achieved almost mythical status in the scientific and engineering world. It's an engine for solving symbolic mathematics problems, which in itself would be interesting enough. But what Wolfram has done with Mathematica is nothing short of extraordinary. Write an equation – boom, it's modelled on the screen. Want a rotatable shaded 3D graph of it? Just point and click. Want to solve some nasty equations? Type them in and press <Shift-Enter>, and in the blink of an eye it's done. This is mathematics at its purest, most educational and enlightening.

So imagine my thrill at finding out there's now a Mathematica Player that takes any old .NB Mathematica notebook and will show it onscreen. Not only that, but with the recent version 6 release, you can put sliders into the page to control input values, and the whole calculation and rendering engine works in real-time. Better still, the Player is free, and despite there being a commercial licence cost of more than £2,000 per seat, it's much cheaper for educational users. Want to go further? It's a full client-server SOAP-based information source and sink. Want to know the population of a country? It's a one-line lookup, with the data flowing in live from Wolfram's own back-end servers. Want to build a full online information system, feeding information into Mathematica notebooks? It's all there.

This is a development platform of quite staggering ability. There's no reason why all scientific, mathematical and physics coursework couldn't be represented in .NB format, and the free Player makes it viewable by anyone. Indeed, WebMathematica is an engine that renders the entire thing into a web page. I strongly suggest you take a look at this stuff: think of it as a next-generation PDF format with interactivity and a level of smarts that will blow your head off.

And then it struck me: Mathematica is 21 years old next year, which makes it about the same age as Excel. Both started out as maths engines, one based around a grid, whereas the other is more freeform. One locks you into a cell-orientated formula-based approach, whereas the other permits freeform equations. Now look at what they've both achieved over the past 20 years. The sad reality is that most people use Excel as a sort of list manager: some do equations, and a few do large-scale models. For each group, the functionality is critical to them at their usage level, although the lightweight users should probably have gone for an easier tool.

Instead, Microsoft has spent the last 20 years sugar-coating the tool. Wizard after wizard has been bolted on in an attempt to make things easier. Wolfram has taken a different approach with Mathematica, adding more world-class numerics and functionality into the core engine. Comparing Mathematica and Excel today is like comparing Concorde to a Cessna, and you're left with the inescapable reality that Excel is a tool for dumb users to do dumb tasks in a dumb way. Take a look outside the box, you might be shocked at what you find. I was. ■

