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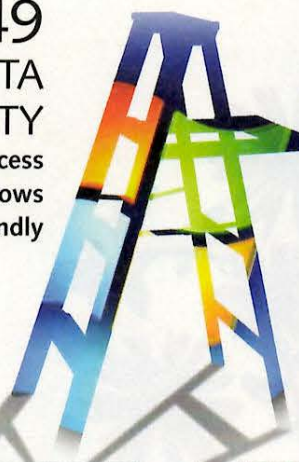
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Editorial

## Vista sales slow as Windows Home Server enters the fray

*Vista sales lack sparkle, says Kelvyn Taylor, but can Home Server give Microsoft a late Christmas present?*

**T**he media doesn't always get it right, and here at PCW we're no exception. At the beginning of 2007 we had high hopes for Windows Vista, and said as much in our editorial coverage of the launch and in our features. We still think it's a great technical improvement on XP and, as someone who uses XP at work and Vista at home on a daily basis, I'm personally still a great fan of Vista.

But for the industry at large, punters parting with their hard-earned cash is what counts. And this is something they've proved very reluctant to do with Vista. The latest figures released by Microsoft claim that by November 2007 around 88 million copies had been sold, excluding corporate volume licences.

That's a big number, but apparently a lot less than Microsoft and retailers had hoped. Indeed, DSGI, parent of PC World, Dixons and Currys, has admitted overestimating the demand for Vista, leading to the massive cut-price promotions on overstocked laptops and PCs we saw during the autumn.

So why hasn't Vista sparked a mass stampede to the shops? I believe some of the blame can be laid at the feet of the media, ourselves included. There was a lot of misinformation floating around during much of 2006, as late betas and release candidates of Vista leaked into the geek community. "Vista needs massively powerful hardware to run!". "Vista won't run old applications!". "Vista needs a dual-core CPU!". "Vista will fry your brain!". OK, I made that last one up, but the others are genuine myths that were flying around the web during 2006. And of course, most of these myths were at best misleading, at worst pure hogwash, just like the myths surrounding XP ("XP won't run Dos programs!" "NTFS doesn't support games!") when it launched.

**'Of course, most of these myths were at best misleading, at worst pure hogwash'**

All this led to confused messages in the mainstream media, and antipathy towards Vista from the general public. But there were also some genuine problems with Vista, chief of which in my humble opinion was the selling of upgrade versions. My first attempt at installing Vista as an upgrade to XP was an unmitigated disaster, as I reported at the time. And I've yet to meet anyone who can say otherwise. Quite simply, it should never have been an option – a clean install is one of the only ways to guarantee your sanity.

Another way is to buy a new PC with Vista pre-installed, but even then you still have the hassle of migrating all the data and applications to your shiny new system.

So this month we've compiled a guide to migrating your PC the easy way, which we hope will save you a bit of time and frustration. The good news is that Vista can make this process easier, and that's definitely not a myth. Find out how on page 37.

We're also getting excited this month about Microsoft's new Windows Home Server (WHS) operating system. At the risk of having to write another column like this one in a year's time, I'll say right now that I like this product even more than I like Vista. But I also think it's got more potential to be a disaster.

Microsoft has opted for a very 'soft' launch of WHS, with no big parties or marketing campaigns. So products have started appearing in the shops in front of a mystified public with very little explanation. The hope is that enthusiasts like us will lead the way, before the man on the Clapham omnibus finally realises he wants one for Christmas 2008. Whether that hope becomes a reality depends on what influential users think of it, so to get a headstart turn right now to page 44 and see what all the fuss is about. **PCW**

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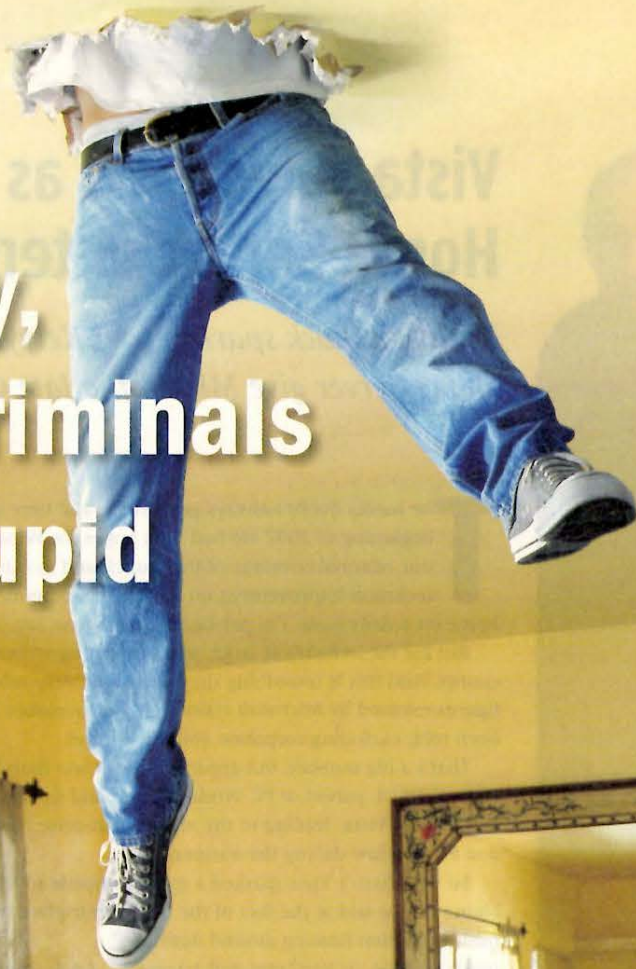
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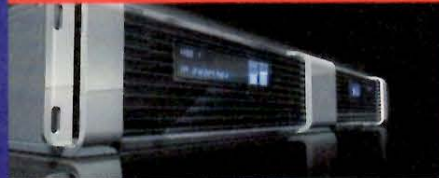
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# NEWS

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## Wimax bandwagon is rolling

At least three business groupings are poised to offer Wimax services in Britain in anticipation of a scheduled rollout of notebooks supporting the wireless broadband technology.

Intel hopes modules included as standard in mobile platforms launching in 2008 will push Wimax into the mainstream, as happened with Wifi when it was included in early Centrino notebooks. The new modules will support both technologies, giving notebooks local and wide-area wireless links.

Freedom4, a joint venture between Pipex and Intel, has already begun a rollout of Wimax services in cities, starting in Manchester. These are designed for fixed services but they can be upgraded for full roaming.

A roaming service is planned by Urban Wimax, which already offers fixed Wimax services in London as an alternative to leased lines and symmetrical DSL links for

businesses. It is putting together a consortium to bid for spectrum at 2.5GHz that Ofcom is set to auction in the first half of 2008.

Chief executive Sasha Williamson says the 2.5GHz band is more suitable for roaming Wimax than the 3.6GHz band owned by Freedom4 and he doubted if Intel would even support the higher frequencies. However, Intel has already talked of multi-band modules and seems unlikely to freeze out its own joint venture.

Urban Wimax has formed an alliance, called UK Collaboration, for building what Williamson calls an eco-system for Wimax. Members include infrastructure provider Nortel and Macropolitan, which rents roof space for masts.

The third player is UK Broadband, which owns spectrum at 3.5GHz with slightly lower frequencies than Freedom4's. It already offers wireless services under the brand Now, using data-

optimised TD-CDMA 3G links and a 'Wimax-like technology'.

Ofcom recently extended its spectrum licence for 'technology neutral' use, allowing it virtually a free rein. Chief operating officer Keith Hawkins stressed that no final decision had been made on whether to go for Wimax and the company had to test how well it worked at 3.5GHz. "It looks good, but we won't know until we try."

He would not be drawn on the specifics of where UK Broadband would start services, though it already has around 50 base stations in the Thames Valley and west London. "We will build where there is demand. There is no obligation on us to offer countrywide services," he said.

Wimax has been touted as a potential competitor to 3G cellular links but the two technologies may attract different markets: 3G was designed for voice, whereas Wimax is optimised for data. *Clive Akass*

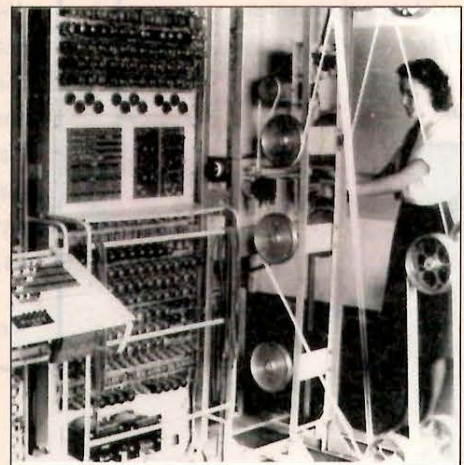
## Secrets of Colossus

A replica of Colossus, the proto-computer used to crack German codes in World War Two, was beaten in a new cipher challenge – by a German.

The competition marked the rebuilding of Colossus at the National Museum of Computing in Bletchley Park, where the original (right) was used.

Computer enthusiast Joachim Schueth, from Bonn, beat Colossus but the machine was quicker than other codebreakers.

We are marking the rebuilding with a three-part series on the little-known story of Colossus and early British computing. It starts on page 26 with the story of the man who built the machine.



## Intel trounces bug-ridden Phenom quad core

A bug in the L3 cache of AMD's first quad-core Phenom processors was discovered shortly after they went on sale.

AMD has told motherboard manufacturers to apply a Bios patch that eliminates a slight

chance of a crash but reduces performance by 10 per cent.

Phenom's performance scored lower in our benchmarks than Intel's quad cores (see page 61) and it was unclear as we went to press whether our test system used

the patch. See [www.pcw.co.uk](http://www.pcw.co.uk) for an update on this.

Intel's current fastest, the QX9770, runs at 3.2GHz but PCW has overclocked it to 4GHz using a basic air cooler (see [www.reportlabs.com](http://www.reportlabs.com)). *Emil Larsen*



# China 'in cyberwar' on West

China has been identified as the source of a wave of cyber attacks on Western businesses and governments. The accusations have been vigorously denied by the Chinese government, but they come from several sources.

Security firm Finjan claims to have uncovered groups using a network of websites, one based in a Chinese government office, used to deliver Trojans – code that can harvest information for intruders or allow them to take control of a machine or even a network.

Finjan discovered one China-based group during investigations

into a sophisticated attack using zero-day attacks that exploit known vulnerabilities before patches have been developed.

Jonathan Evans, director general of MI5, is reported to have warned 300 banks, finance and legal firms that Chinese state agencies are trying to steal personal information.

A report in *The Times* quoted "Whitehall sources" as saying China was trying to hack into government systems to discover defence and policy secrets.

The Chinese People's Liberation Army stands accused of being behind an attempt to break into a

computer in the Pentagon office of US defence secretary Robert Gates.

China is said to be the most aggressive of around 20 countries, including Russia, that are targeting Britain. It is not always clear which attacks are state sponsored.

Lord Broers, chair of a House of Lords' sub-committee investigating internet security, told *PCW* that he had been told most US denial-of-service attacks are state sponsored.

He added: "It is clear we are witnessing the emergence of a new era of cyberwarfare."

• Government ignored data fears – see page 16.

## In brief

### PCW on Facebook

Fans of social networking site Facebook will be happy to learn that *PCW* now has its own dedicated Facebook page. You'll find RSS mini-feeds for all our latest news and reviews, plus new announcements.

→ <http://tinyurl.com/2r7c5x>

### Blu Christmas

More than three times as many Blu-ray HD players have been sold in the US as rival HD DVD models – 2.7 million compared with 750,000, according to the US trade magazine *Twice*. The figures include players sold with PS3 and X-box games consoles. In the UK, Toshiba is giving five HD movies away with its new range of laptops, which include an HD DVD drive.

→ [www.toshiba.co.uk](http://www.toshiba.co.uk)

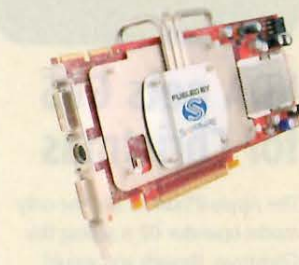
### 320GB USB drive

Buffalo Technology has launched what it says is the first 320GB portable external hard drive. The 5,400rpm HD-PS320U2 Ministation TurboUSB costs £155.

→ [www.buffalo-technology.com](http://www.buffalo-technology.com)

### Free encryption

Steganos is offering a free utility for encrypting data on USB sticks and hard drives. See *PCW* downloads at → [www.pcw.co.uk/2203624](http://www.pcw.co.uk/2203624)



### Fanless speed

Sapphire claims its new HD 3850 Ultimate Edition cards are the fastest fanless graphics cards ever. It supports DirectX 10.1 and 4x Crossfire, clocks 668MHz and has 512MB of GDDR3 memory running at 828MHz.

## £199 ultra-mobile could boost Linux

The long-awaited Asus Eee PC ultra-mobile reached *PCW* just as we went to press and, for the most part, it was not a disappointment.

The biggest breakthrough, of course, is the price – £199 inc Vat for the 2GB model and £219 for the 4GB. Asus seems to be targeting it at the education market, but first impressions are that it looks like a good second machine for people who need to work on the move.

It is no substitute for a fully fledged notebook or PC, which is why it did not enthuse some in the office. The 7in screen is too small for comfort and the processor, described as 'Intel mobile', will not



The Eee PC's 7in screen and processor will be adequate for most tasks

win prizes for performance.

Both are adequate for most tasks, however. So is the Linux operating system and the open-source applications it comes with. Asus says it will run XP, which we will try out.

The 4GB solid-state drive provides little capacity by today's standards, but with three USB2 drives and an SD card slot to play with, you can always plug in more.

The keyboard is a little tacky and repeats the mistake, seen in portables year after year, of having a raised lip near the space bar, so you keep hitting your thumb on it – something easily avoided with some simple reshaping.

If more manufacturers follow Asus' lead, Windows could price itself out of the market for machines of this class, and Linux could finally make it as a mainstream general-purpose operating system. *Clive Akass*

• Gordon Laing's view – page 31.

## Bling and buy... the crystal clear headphones

*PCW*'s fashion consultants assure us that we should be impressed by the fact that these £299 HD25 headphones were designed by Crystal Roc and are covered in Swarovski crystals. More impressive to us is the fact that the workings are from Sennheiser, which should ensure that the

sound really is crystal clear.

The fact that headsets are becoming fashion items could also be important because it may encourage people to leave their phones and players in their bags or pockets, which could drive sales of larger devices.

→ [www.crystalroc.co.uk](http://www.crystalroc.co.uk)





## New 11n chip shows its paces

Broadcom has demonstrated a next-generation 11n products, a mini-PCI Express card using its BCM4322 chip which supports operation at 5GHz, as well as the 2.4GHz band used by 11b and 11g.

Product manager Gordon Lindsay demonstrated the product streaming two MPEG2-based HD videos with a combined bandwidth of 30Mbps/sec across three hotel rooms using a 40MHz channel at 5GHz, with a theoretical throughput of around 200Mbps/sec. At 2.4GHz, with other Wifi networks within range, the channel width should drop to 20MHz.

Lindsay reckoned he could see about 20 Wifi networks from where the demonstration was held. What he could not demonstrate was what would happen if they all tried to pump out HD video over 11n at the same time.

→ [www.broadcom.com](http://www.broadcom.com)



## XDA gets GPS for Christmas

The Apple iPhone is not the only model operator O2 is selling this Christmas, though you would hardly guess as much from all the publicity. It has released a new version of XDA smartphone called Stellar, which comes with Copilot Live 7 satellite navigation, a business card reader and a three-megapixel camera. It runs Windows Mobile 6. Prices are subject to tariff.

→ [www.o2.co.uk](http://www.o2.co.uk)

# BBC says Wifi report misled

The BBC has admitted that a *Panorama* programme on the supposed radiation danger of Wifi was misleading.

PCW criticised the programme for its lack of scientific rigour, though we agreed that *Panorama* was right to raise the issue.

Two viewers complained that *Panorama* exaggerated the grounds for concern and wrongly suggested that Wifi installations give off higher levels of radiation than radiation masts.

Professor Michael Repacholi, who appeared in the programme, complained that it was unbalanced and unfair to him.

The BBC ruled it was legitimate

for *Panorama* to raise the concerns of Sir William Stewart, chairman of the Health Protection Agency, and that an experiment suggesting some people are hypersensitive to radiation was correctly represented as inconclusive.

But it said the fact that Professor Repacholi's was the only dissenting voice "gave a misleading impression of the state of scientific opinion on the issue".

In fact the professor was introduced dismissively as having worked for the Wifi industry, as if this coloured his views.

Stewart's point was that Wifi radiation from laptops at short range could be as high as that from

wireless masts at greater range, and so worries about mast radiation should be extended to Wifi. He argued that no-one knows the long-term effects, which would be worse on children, and that schools should therefore think twice about installing Wifi links.

The claims prompted one London council to call for Wifi use to be suspended in schools pending an investigation.

PCW pointed out that those worried about health could find common cause with engineers, as minimising transmit power and reducing cell sizes saves battery power and makes the most efficient use of scarce spectrum.

## Mobiles invade the office

Company staff are beginning to use standard mobile phones even to make calls within offices, according to IP special Swyx.

Ralf Ebbinghaus, vice-president for marketing, said people prefer to use a single handset for all calls and flat-rate charging means they feel freer to use cellular links, rather than mess with fusion phones and unreliable Wifi coverage.

Swyx 6.10, the latest version of the company's Voice over IP (VoIP) software, includes a fixed-mobile convergence feature that

Swyx also sells standard VoIP models like this S315. It supports Power-over-Ethernet and so can run off a single compliant network link



gives staff on the move functionality like call forwarding, recording and conferencing that they would normally get only on landline calls.

Calls can be routed to staff

wherever they are, and colleagues can know whether someone is available to take a call.

● Free Windows IP switchboard – see Test Bed (<http://tinyurl.com/yvep77l>)

## Plastic optical fibre hits 2.5Gbits/sec

Korean researchers have created plastic optical fibre capable of passing 2.5Gbits/sec, making it a more viable alternative to glass.

Glass fibre can shunt data around at least four times faster and over far longer distances, but plastic is more robust, bendable and easier to join or terminate.

But other plastic fibre on the market has data rates on a par with the fastest copper links, which rarely exceed 1Gbit/sec, except over short distances. Another benefit of optical links is that they are clean,

producing no 'cross talk' between adjacent links and no radio noise.

A team led by Hwang Seung-sang at the Korea Institute of Science and Technology (KIST) has created a home network using the new fibre. A KIST press release said the fibre is better than rival Japanese products and a third of the price.

The new fibre is seen as ideal for 'last mile' cable linking homes to a local exchange on which speeds over copper lines are generally far slower.

If KIST's claims turn out to be justified, it could also find a place in the home. Mitsubishi has developed a promising system in which plastic fibre is embedded in power cable, allowing new buildings to be wired up for data at the same time as for power.

The fibre used in that system can pass 'only' 800Mbps/sec – still much cleaner and an order of magnitude faster than data-over-mains systems currently being touted by BT for its video-on-demand services.

# Home Server hits the shops

**H**P's long-awaited Windows Home Server (WHS) products, the Mediasmart Server EX470 and EX475, have finally gone on sale in Britain after a succession of delays.

The diminutive Mediasmart Server, priced from £399 (inc Vat), was shown off at a low-key demo in London. HP has added features such as Photo Webshare, which allows you to use the built-in web server to share images over the internet.

The server also provides remote access to your data and remote control of your PC.

WHS, based on Windows Server 2003, is intended primarily to give home users a robust and foolproof



Size doesn't matter when it comes to HP's new Mediasmart Server EX470

(£499 inc Vat) has two. There are four internal hot-swap drives bays and four USB2 ports for adding external storage, giving a maximum capacity of nine terabytes, according to HP.

Both models are powered by an AMD Sempron 1.8GHz processor.

It remains to be seen how well Microsoft's 'soft launch' of WHS works. WHS is a difficult product to explain to the uninitiated, sitting as it does between a network-attached storage (Nas) device and a traditional file or application server. *Kelvyn Taylor*

● See our feature on WHS, p44.

way of backing up networked PCs. It also allows you to stream music and video over your network, and provides iTunes synchronisation.

The EX470 (£399 inc Vat) has a single 500GB drive and the EX475

## Gibson banishes bum notes with self-tuning guitar

The day when concerts have to stop for instruments to be retuned could be coming to an end, thanks to manufacturer Gibson which has launched the world's first self-tuning guitar.

The £1,400 Gibson Robot Les Paul has two microprocessors, one in the body near the bridge and the other at the other end of the fretboard, buried among the machine heads used for tuning the strings.

The heads have tiny servomotors that can tighten or loosen strings to a choice of several different tunings – and

the system can remember others if you wish. One processor analyses the output of the guitar's twin Humbucker pickups to establish the current tuning, and sends the information to the second processor controlling the heads. The data is transferred through the strings, so no wires pass through the neck.

The self-tuning guitar was already sold out when it went on sale on 7 December.

→ [www.pcw.co.uk/2204874](http://www.pcw.co.uk/2204874)

Hitting the right note: the Gibson Robot and (left) the electric machine head



## In brief

### Google local

Google has launched a custom search platform targeted at small businesses that allows them to add its technology to their websites. Google reckons that it takes only three steps and few minutes to sign up. A free version is supported by ads. Prices for the business edition start at around £50 per year for searching up to 5,000 pages.

→ [www.pcw.co.uk/2203993](http://www.pcw.co.uk/2203993)

### A cool terabyte

Samsung has launched a 3.5in, 7,200rpm, 1TB drive with only three platters, which it says is the highest-yet data density. The \$399 (£192) drive's power-management features also make it the coolest drive of its class, Samsung says.

→ [www.pcw.co.uk/2204625](http://www.pcw.co.uk/2204625)

### France blocks P2P

Peer-to-peer users in France could be cut off if they continue to share files illegally, under a deal between service providers, the recording industry and the government. Providers will hand details of file sharers to a new government agency.

→ [www.pcw.co.uk/2204332](http://www.pcw.co.uk/2204332)

### EZ does it

The £49 DX-20A4PU drive (below) is the first of a new range of DVD burners from PLDS, a joint venture between Philips and Lite-on, and includes an updated version of the EZ-DUB that backs up files or copies a disk at the touch of a button.

→ [www.liteonit.eu](http://www.liteonit.eu)



# Wifi piggybacking widespread in Britain

More than half of UK internet users have 'borrowed' other people's Wifi networks without permission to get web access, according to a survey by security firm Sophos.

Many home users fail to protect their wireless connection with passwords and encryption, allowing passers-by and neighbours to use their link.

Sophos warns that if these people are working from home they could prove to be a weak

link in corporate defences.

Graham Cluley, senior technology consultant at Sophos, said it might seem like a victimless crime, but Wifi freeloaders are depriving service providers of valuable revenue.

"If you've hopped onto your next door neighbour's wireless broadband connection to illegally download movies and music from the web, chances are you are also slowing down their internet access

and impacting on their download limit," he said.

A 39-year-old man was arrested in August on suspicion of stealing a Wifi connection when he was found using a laptop outside a house in London.

The first case of Wifi theft in the UK to make it to court was in 2005 after an Ealing man was given a 12-month conditional discharge and fined £500 for using a neighbour's Wifi. *Ian Williams*

## In brief



### Second Eden

The Eden Project has erected a version of its next project, called The Edge, in the Second Life virtual world at co-ordinates SGI 184,155,40.

→ [www.theedge.org](http://www.theedge.org)

### Fraud block

A new utility, So Protect Me, is designed to reduce a little-reported growth area in crime – domestic fraud. One in five people told a YouGov survey that a relative or housemate had illicitly used their bank card. The utility prevents a card being used online without authorisation from the owner. It can also stop access to gambling, retail and auction sites.

→ [www.pcw.co.uk/2203420](http://www.pcw.co.uk/2203420)

### Abu AMD

The government of Abu Dhabi has taken an 8.1 per cent stake in AMD, paying roughly £300m for 49 million shares.

→ [www.pcw.co.uk/2203709](http://www.pcw.co.uk/2203709)

### Vanity pair

Lindy has tried to make two new pocket gadgets more attractive to women buyers – by building in a vanity mirror. The £14.99 57-in-1 Mirror Card Reader and £9.99 four Port Mirror Hub are available now from the website.

→ [www.lindy.co.uk](http://www.lindy.co.uk)



# Labour dismissed data fears

The loss by HM Revenue & Customs (HMRC) of the personal details of 25 million people – in the past – is a reminder that old-fashioned con tricks, physical theft and incompetence, remain a greater threat to data security than hackers.

It came just three weeks after the government dismissed most of the recommendations of a report called *Personal Internet Security* from a House of Lords Science and Technology sub-committee.

The report focussed on online security – and, ironically the HMRC data would probably have been safer sent over the internet. But in hearings over several weeks, the Lords sub-committee was told of the importance of encrypting data to make unauthorised access virtually impossible, something

that was not done with the lost HMRC data.

One of the report's recommendations read: "The steps currently being taken by many businesses... to protect their customers' personal information are inadequate. The refusal of the financial services sector, in particular, to accept responsibility for the security of personal information is disturbing and is compounded by apparent indifference at government level."

Written responses from Home Secretary Jacqui Smith make embarrassing reading for the Government. She said she did not accept that the loss of personal data was on the increase. And, almost inviting the subsequent furore, she added: "The Government believes that the

market incentives provided by the impact of adverse publicity surrounding breaches of security are powerful drivers to apply appropriate protection."

On a call in the report for an urgent look at "the effectiveness of the Information Commissioner's Office in enforcing good standards of data protection," the Home Secretary said the Government believed it was "fit for purpose".

Committee member Lord Erroll complained at the time that the "Government dismissed every recommendation out of hand, and their approach seems to consist of putting their head in the sand."

He said after that HMRC breach that the recommendations were highly relevant. "The principles are the same – however, the personal information is lost."

## Amazon ebook receives mixed reviews

Amazon's new electronic book, called the Kindle, has had a mixed reception in the US where it has gone of sale for \$400 (£193).

Like the Sony e-reader, now selling in the US for \$300 it uses a 6in monochrome bi-stable screen from E-ink. But it differs in not needing to be hooked up to a PC.

The Kindle downloads books at around £5 a title using its built-in cellular link, and can hold about 200 books in memory. The device will also pull in electronic versions of a choice of 11 newspapers for between £3-£7.50 a month; several magazines are also available.



Walter Mossberg at *The Wall Street Journal* said the screen was good enough to allow him to forget that he was not reading paper, but he had to pay for

Rekindling interest in the ebook: Amazon's Kindle

publications that could be viewed free in a web browser.

The software had some good touches but navigation buttons were confusing and easy to press accidentally, Mossberg said.

Steven Levy at *Newsweek* had similar reservations, but he judged the Kindle to be the best ebook yet to hit the market. "I'd say that any voluminous reader would be delighted with a Kindle," he said.

Amazon UK could not say when the Kindle would go on sale here.

## Lapsed domain names 'bought in seconds'

Website owners have been warned to keep their registration up to date because lapsed domain names are being snapped up within seconds of becoming available.

Re-registration, which has to be done every two years, can cost as little as £5, but you can pay 10 times as much to get an address

back – and sometimes far more. Names are regularly sold for more than £100,000, and some for as much as £1m.

Owners are warned by email, but often they do not inform their registrar of a change of address. There is a 60-day grace period after the expiry date but then

the name is up for grabs.

A report from Nominet, the not-for-profit company that controls .co.uk registration, says there is a growing secondary market in domain names with some organisations hoarding large numbers of them.

→ [www.pcw.co.uk/2204115](http://www.pcw.co.uk/2204115)